APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

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

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

February 16, 2023

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

RE: Red Hill AFFF Assessment Sampling
23B0091

Enclosed are the results of analyses for samples received by our laboratory on 2/11/2023. 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: 02/16/2023 15:45

Data Validatable Report

Analysis Case Narrative

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

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

The analyte 3:3FTcA recovered above the upper control limit in the SC00636-LCV1.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
23B0091-01	AF-RHMW17-WGN01LF-2302W1	Water	02/10/2023 11:00	02/11/2023
23B0091-02	AF-RHMW17D-WGN01LF-2302W1	Water	02/10/2023 12:15	02/11/2023
23B0091-03	AF-RHMW17D-WQFB01-2302W1	Water	02/10/2023 11:30	02/11/2023
23B0091-04	AF-RHMW225401-WGN01B-2302W1	Water	02/10/2023 08:55	02/11/2023

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: 02/16/2023 15:45

Containers Received

Lab ID	Container Type	Count	Preservation Check
23B0091-01			
	500mL P	2	
23B0091-02			
	500mL P	2	
23B0091-03			
	500mL P	2	
23B0091-04			
	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: 02/16/2023 15:45

Sample Results

Sample: AF-RHMW17-WGN01LF-2302W1
23B0091-01 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	2.1		1.4	0.71	0.18	ng/L	02/14/23	1	EPA 1633	BCB0232
PFPEA	5.3		0.71	0.35	0.057	ng/L	02/14/23	1	EPA 1633	BCB0232
PFHXA	2.5		0.35	0.18	0.048	ng/L	02/14/23	1	EPA 1633	BCB0232
PFHPA	0.44		0.35	0.18	0.036	ng/L	02/14/23	1	EPA 1633	BCB0232
PFOA	0.27 J		0.35	0.18	0.13	ng/L	02/14/23	1	EPA 1633	BCB0232
PFNA	0.18 U		0.35	0.18	0.072	ng/L	02/14/23	1	EPA 1633	BCB0232
PFDA	0.18 U		0.35	0.18	0.089	ng/L	02/14/23	1	EPA 1633	BCB0232
PFUnA	0.18 U		0.35	0.18	0.14	ng/L	02/14/23	1	EPA 1633	BCB0232
PFDOA	0.18 U		0.35	0.18	0.099	ng/L	02/14/23	1	EPA 1633	BCB0232
PFTRDA	0.26 U		0.35	0.26	0.18	ng/L	02/14/23	1	EPA 1633	BCB0232
PFTEDA	0.18 U	IR2,	0.35	0.18	0.17	ng/L	02/14/23	1	EPA 1633	BCB0232
PFBS	0.22 J		0.35	0.18	0.032	ng/L	02/14/23	1	EPA 1633	BCB0232
PFPES	0.18 U		0.35	0.18	0.055	ng/L	02/14/23	1	EPA 1633	BCB0232
PFHXS	0.18 U		0.35	0.18	0.028	ng/L	02/14/23	1	EPA 1633	BCB0232
PFHPS	0.18 U		0.35	0.18	0.045	ng/L	02/14/23	1	EPA 1633	BCB0232
PFOS	0.19 J	MI5,	0.35	0.18	0.056	ng/L	02/14/23	1	EPA 1633	BCB0232
PFNS	0.18 U		0.35	0.18	0.11	ng/L	02/14/23	1	EPA 1633	BCB0232
PFDS	0.18 U		0.35	0.18	0.13	ng/L	02/14/23	1	EPA 1633	BCB0232
PFDOS	0.18 U		0.35	0.18	0.11	ng/L	02/14/23	1	EPA 1633	BCB0232
4:2FTS	0.71 U		1.4	0.71	0.26	ng/L	02/14/23	1	EPA 1633	BCB0232
6:2FTS	0.49 J		1.4	0.71	0.28	ng/L	02/14/23	1	EPA 1633	BCB0232
8:2FTS	0.71 U		1.4	0.71	0.073	ng/L	02/14/23	1	EPA 1633	BCB0232
PFOSA	0.18 U		0.35	0.18	0.092	ng/L	02/14/23	1	EPA 1633	BCB0232
NMeFOSA	0.71 U		1.4	0.71	0.42	ng/L	02/14/23	1	EPA 1633	BCB0232
NEtFOSA	0.71 U		1.4	0.71	0.36	ng/L	02/14/23	1	EPA 1633	BCB0232
NMeFOSAA	0.18 U		0.35	0.18	0.093	ng/L	02/14/23	1	EPA 1633	BCB0232
NEtFOSAA	0.18 U		0.35	0.18	0.10	ng/L	02/14/23	1	EPA 1633	BCB0232
NMeFOSE	1.1 U		1.4	1.1	0.89	ng/L	02/14/23	1	EPA 1633	BCB0232
NEtFOSE	1.1 U		1.4	1.1	0.92	ng/L	02/14/23	1	EPA 1633	BCB0232
HFPO-DA	0.35 U		0.71	0.35	0.15	ng/L	02/14/23	1	EPA 1633	BCB0232
ADONA	0.35 U		0.71	0.35	0.11	ng/L	02/14/23	1	EPA 1633	BCB0232
PFEESA	0.35 U		0.71	0.35	0.096	ng/L	02/14/23	1	EPA 1633	BCB0232
PFMPA	0.35 U		0.71	0.35	0.048	ng/L	02/14/23	1	EPA 1633	BCB0232
PFMBA	0.35 U		0.71	0.35	0.080	ng/L	02/14/23	1	EPA 1633	BCB0232
NFDHA	0.35 U		0.71	0.35	0.27	ng/L	02/14/23	1	EPA 1633	BCB0232
9CL-PF3ONS	0.35 U		0.71	0.35	0.18	ng/L	02/14/23	1	EPA 1633	BCB0232
11CL-PF3OUDS	0.35 U		0.71	0.35	0.18	ng/L	02/14/23	1	EPA 1633	BCB0232
3:3FTCA	0.71 U		1.4	0.71	0.51	ng/L	02/14/23	1	EPA 1633	BCB0232
5:3FTCA	0.71 U		1.4	0.71	0.39	ng/L	02/14/23	1	EPA 1633	BCB0232
7:3FTCA	0.71 U		1.4	0.71	0.49	ng/L	02/14/23	1	EPA 1633	BCB0232
Surrogate: 13C4-PFBA	*83.0%*		*10-130*				*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFPEA	*91.0%*		*35-150*				*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFHXA	*86.3%*		*55-150*				*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C4-PFHPA	*81.7%*		*55-150*				*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOA	*82.7%*		*60-140*				*02/14/23*	1	*EPA 1633*	*BCB0232*

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Sample Results
(Continued)

Sample: AF-RHMW17-WGN01LF-2302W1 (Continued)
23B0091-01 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*81.7%*			*55-140*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C6-PFDA	*84.3%*			*50-140*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C7-PFUnA	*86.7%*			*30-140*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFDOA	*91.2%*			*10-150*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFTEDA	*80.2%*			*10-130*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFBS	*84.9%*			*55-150*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFHXS	*82.9%*			*55-150*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOS	*84.5%*			*45-140*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-4:2FTS	*182%*			*60-200*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-6:2FTS	*67.8%*			*60-200*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-8:2FTS	*69.1%*			*50-200*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOSA	*77.8%*			*30-130*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSA	*63.6%*			*15-130*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSA	*59.9%*			*10-130*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSAA	*72.9%*			*45-200*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSAA	*81.4%*			*10-200*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D7-NMEFOSE	*52.6%*			*10-150*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D9-NETFOSE	*70.8%*			*10-150*			*02/14/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-HFPO-DA	*90.1%*			*25-160*			*02/14/23*	1	*EPA 1633*	*BCB0232*

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1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Sample Results

(Continued)

Sample: AF-RHMW17D-WGN01LF-2302W1
23B0091-02 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.60	J	1.4	0.70	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
PFPEA	0.13	J	0.70	0.35	0.057	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXA	0.27	J IR2,	0.35	0.18	0.048	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPA	0.045	J IR2,	0.35	0.18	0.036	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOA	0.18	U	0.35	0.18	0.13	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNA	0.18	U	0.35	0.18	0.072	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDA	0.18	U	0.35	0.18	0.089	ng/L	02/15/23	1	EPA 1633	BCB0232
PFUnA	0.18	U	0.35	0.18	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOA	0.18	U	0.35	0.18	0.098	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTRDA	0.26	U	0.35	0.26	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTEDA	0.18	U	0.35	0.18	0.17	ng/L	02/15/23	1	EPA 1633	BCB0232
PFBS	0.081	J	0.35	0.18	0.032	ng/L	02/15/23	1	EPA 1633	BCB0232
PFPES	0.18	U	0.35	0.18	0.055	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXS	0.052	J	0.35	0.18	0.028	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPS	0.18	U	0.35	0.18	0.045	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOS	0.12	J IR2,	0.35	0.18	0.056	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNS	0.17	J IR1,	0.35	0.18	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDS	0.18	U	0.35	0.18	0.13	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOS	0.18	U	0.35	0.18	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
4:2FTS	0.70	U	1.4	0.70	0.26	ng/L	02/15/23	1	EPA 1633	BCB0232
6:2FTS	6.1		1.4	0.70	0.28	ng/L	02/15/23	1	EPA 1633	BCB0232
8:2FTS	0.70	U	1.4	0.70	0.072	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOSA	0.18	U	0.35	0.18	0.091	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSA	0.70	U	1.4	0.70	0.42	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSA	0.70	U	1.4	0.70	0.36	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSAA	0.18	U	0.35	0.18	0.093	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSAA	0.18	U	0.35	0.18	0.10	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSE	1.1	U	1.4	1.1	0.89	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSE	1.1	U	1.4	1.1	0.92	ng/L	02/15/23	1	EPA 1633	BCB0232
HFPO-DA	0.35	U	0.70	0.35	0.15	ng/L	02/15/23	1	EPA 1633	BCB0232
ADONA	0.35	U	0.70	0.35	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
PFEESA	0.35	U	0.70	0.35	0.096	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMPA	0.35	U	0.70	0.35	0.047	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMBA	0.35	U	0.70	0.35	0.080	ng/L	02/15/23	1	EPA 1633	BCB0232
NFDHA	0.35	U	0.70	0.35	0.26	ng/L	02/15/23	1	EPA 1633	BCB0232
9CL-PF3ONS	0.35	U	0.70	0.35	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
11CL-PF3OUDS	0.35	U	0.70	0.35	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
3:3FTCA	0.70	U	1.4	0.70	0.50	ng/L	02/15/23	1	EPA 1633	BCB0232
5:3FTCA	0.70	U	1.4	0.70	0.39	ng/L	02/15/23	1	EPA 1633	BCB0232
7:3FTCA	0.70	U	1.4	0.70	0.49	ng/L	02/15/23	1	EPA 1633	BCB0232
Surrogate: 13C4-PFBA	*81.8%*		*10-130*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFPEA	*63.6%*		*35-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFHXA	*76.2%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C4-PFHPA	*74.6%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOA	*90.3%*		*60-140*				*02/15/23*	1	*EPA 1633*	*BCB0232*

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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-RHMW17D-WGN01LF-2302W1 (Continued)
23B0091-02 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*85.9%*			*55-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C6-PFDA	*90.4%*			*50-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C7-PFUnA	*152%*	*S2*		*30-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C7-PFUnA	*71.8%*			*30-140*			*02/15/23*	10	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFDOA	*126%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFTEDA	*129%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFBS	*80.9%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFHXS	*73.5%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOS	*78.2%*			*45-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-4:2FTS	*190%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-6:2FTS	*165%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-8:2FTS	*110%*			*50-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOSA	*67.0%*			*30-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSA	*52.1%*			*15-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSA	*51.2%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSAA	*63.8%*			*45-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSAA	*99.3%*			*10-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D7-NMEFOSE	*41.3%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D9-NETFOSE	*59.1%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-HFPO-DA	*79.1%*			*25-160*			*02/15/23*	1	*EPA 1633*	*BCB0232*

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Sample Results

(Continued)

Sample: AF-RHMW17D-WQFB01-2302W1
23B0091-03 (Water)

Per- and Polyfluoroalkyl Substances

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
PFBA	0.72	U	1.4	0.72	0.19	ng/L	02/15/23	1	EPA 1633	BCB0232
PFPEA	0.36	U	0.72	0.36	0.058	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXA	0.18	U	0.36	0.18	0.049	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPA	0.18	U	0.36	0.18	0.037	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOA	0.18	U	0.36	0.18	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNA	0.18	U	0.36	0.18	0.073	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDA	0.18	U	0.36	0.18	0.091	ng/L	02/15/23	1	EPA 1633	BCB0232
PFUnA	0.18	U	0.36	0.18	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOA	0.18	U	0.36	0.18	0.10	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTRDA	0.27	U	0.36	0.27	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTEDA	0.18	U	0.36	0.18	0.18	ng/L	02/15/23	1	EPA 1633	BCB0232
PFBS	0.18	U	0.36	0.18	0.033	ng/L	02/15/23	1	EPA 1633	BCB0232
PFPES	0.18	U	0.36	0.18	0.056	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXS	0.18	U	0.36	0.18	0.028	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPS	0.18	U	0.36	0.18	0.046	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOS	0.17	J MI5,	0.36	0.18	0.057	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNS	0.18	U	0.36	0.18	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDS	0.18	U	0.36	0.18	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOS	0.18	U	0.36	0.18	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
4:2FTS	0.72	U	1.4	0.72	0.26	ng/L	02/15/23	1	EPA 1633	BCB0232
6:2FTS	0.72	U	1.4	0.72	0.28	ng/L	02/15/23	1	EPA 1633	BCB0232
8:2FTS	0.72	U	1.4	0.72	0.074	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOSA	0.18	U	0.36	0.18	0.093	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSA	0.72	U	1.4	0.72	0.42	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSA	0.72	U	1.4	0.72	0.37	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSAA	0.18	U	0.36	0.18	0.095	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSAA	0.18	U	0.36	0.18	0.10	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSE	1.1	U	1.4	1.1	0.91	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSE	1.1	U	1.4	1.1	0.94	ng/L	02/15/23	1	EPA 1633	BCB0232
HFPO-DA	0.36	U	0.72	0.36	0.16	ng/L	02/15/23	1	EPA 1633	BCB0232
ADONA	0.36	U	0.72	0.36	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
PFEESA	0.36	U	0.72	0.36	0.098	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMPA	0.36	U	0.72	0.36	0.048	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMBA	0.36	U	0.72	0.36	0.081	ng/L	02/15/23	1	EPA 1633	BCB0232
NFDHA	0.36	U	0.72	0.36	0.27	ng/L	02/15/23	1	EPA 1633	BCB0232
9CL-PF3ONS	0.36	U	0.72	0.36	0.19	ng/L	02/15/23	1	EPA 1633	BCB0232
11CL-PF3OUDS	0.36	U	0.72	0.36	0.19	ng/L	02/15/23	1	EPA 1633	BCB0232
3:3FTCA	0.72	U	1.4	0.72	0.52	ng/L	02/15/23	1	EPA 1633	BCB0232
5:3FTCA	0.72	U	1.4	0.72	0.40	ng/L	02/15/23	1	EPA 1633	BCB0232
7:3FTCA	0.72	U	1.4	0.72	0.50	ng/L	02/15/23	1	EPA 1633	BCB0232
Surrogate: 13C4-PFBA	*86.7%*		*10-130*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFPEA	*95.5%*		*35-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFHXA	*88.7%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C4-PFHPA	*88.4%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOA	*88.2%*		*60-140*				*02/15/23*	1	*EPA 1633*	*BCB0232*

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Sample Results

(Continued)

Sample: AF-RHMW17D-WQFB01-2302W1 (Continued)

23B0091-03 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*89.7%*			*55-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C6-PFDA	*79.7%*			*50-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C7-PFUnA	*78.6%*			*30-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFDOA	*93.2%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFTEDA	*90.7%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFBS	*89.6%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFHXS	*88.1%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOS	*83.8%*			*45-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-4:2FTS	*178%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-6:2FTS	*80.7%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-8:2FTS	*70.5%*			*50-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOSA	*72.7%*			*30-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSA	*54.7%*			*15-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSA	*52.2%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSAA	*69.1%*			*45-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSAA	*69.7%*			*10-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D7-NMEFOSE	*45.2%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D9-NETFOSE	*65.8%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-HFPO-DA	*89.8%*			*25-160*			*02/15/23*	1	*EPA 1633*	*BCB0232*

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Sample Results

(Continued)

Sample: AF-RHMW225401-WGN01B-2302W1
23B0091-04 (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	02/15/23	1	EPA 1633	BCB0232
PFPEA	1.3		0.76	0.38	0.062	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXA	1.0		0.38	0.19	0.052	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPA	0.83		0.38	0.19	0.039	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOA	1.0		0.38	0.19	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNA	0.17	J IR1,	0.38	0.19	0.078	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDA	0.19	U	0.38	0.19	0.096	ng/L	02/15/23	1	EPA 1633	BCB0232
PFUnA	0.19	U	0.38	0.19	0.15	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOA	0.19	U	0.38	0.19	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTRDA	0.28	U	0.38	0.28	0.19	ng/L	02/15/23	1	EPA 1633	BCB0232
PFTEDA	0.19	U	0.38	0.19	0.19	ng/L	02/15/23	1	EPA 1633	BCB0232
PFBS	0.76		0.38	0.19	0.035	ng/L	02/15/23	1	EPA 1633	BCB0232
PFPES	0.16	J	0.38	0.19	0.059	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHXS	1.2		0.38	0.19	0.030	ng/L	02/15/23	1	EPA 1633	BCB0232
PFHPS	0.19	U	0.38	0.19	0.049	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOS	1.1		0.38	0.19	0.060	ng/L	02/15/23	1	EPA 1633	BCB0232
PFNS	0.19	U	0.38	0.19	0.12	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDS	0.19	U	0.38	0.19	0.14	ng/L	02/15/23	1	EPA 1633	BCB0232
PFDOS	0.19	U	0.38	0.19	0.12	ng/L	02/15/23	1	EPA 1633	BCB0232
4:2FTS	0.76	U	1.5	0.76	0.28	ng/L	02/15/23	1	EPA 1633	BCB0232
6:2FTS	0.76	U	1.5	0.76	0.30	ng/L	02/15/23	1	EPA 1633	BCB0232
8:2FTS	0.76	U	1.5	0.76	0.078	ng/L	02/15/23	1	EPA 1633	BCB0232
PFOSA	0.19	U	0.38	0.19	0.099	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSA	0.76	U	1.5	0.76	0.45	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSA	0.76	U	1.5	0.76	0.39	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSAA	0.19	U	0.38	0.19	0.10	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSAA	0.19	U	0.38	0.19	0.11	ng/L	02/15/23	1	EPA 1633	BCB0232
NMeFOSE	1.1	U	1.5	1.1	0.96	ng/L	02/15/23	1	EPA 1633	BCB0232
NEtFOSE	1.1	U	1.5	1.1	0.99	ng/L	02/15/23	1	EPA 1633	BCB0232
HFPO-DA	0.38	U	0.76	0.38	0.17	ng/L	02/15/23	1	EPA 1633	BCB0232
ADONA	0.38	U	0.76	0.38	0.12	ng/L	02/15/23	1	EPA 1633	BCB0232
PFEESA	0.38	U	0.76	0.38	0.10	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMPA	0.38	U	0.76	0.38	0.051	ng/L	02/15/23	1	EPA 1633	BCB0232
PFMBA	0.38	U	0.76	0.38	0.086	ng/L	02/15/23	1	EPA 1633	BCB0232
NFDHA	0.38	U	0.76	0.38	0.29	ng/L	02/15/23	1	EPA 1633	BCB0232
9CL-PF3ONS	0.38	U	0.76	0.38	0.20	ng/L	02/15/23	1	EPA 1633	BCB0232
11CL-PF3OUDS	0.38	U	0.76	0.38	0.20	ng/L	02/15/23	1	EPA 1633	BCB0232
3:3FTCA	0.76	U	1.5	0.76	0.54	ng/L	02/15/23	1	EPA 1633	BCB0232
5:3FTCA	0.76	U	1.5	0.76	0.42	ng/L	02/15/23	1	EPA 1633	BCB0232
7:3FTCA	0.76	U	1.5	0.76	0.52	ng/L	02/15/23	1	EPA 1633	BCB0232
Surrogate: 13C4-PFBA	*84.7%*		*10-130*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFPEA	*96.5%*		*35-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C5-PFHXA	*91.5%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C4-PFHPA	*90.0%*		*55-150*				*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOA	*91.8%*		*60-140*				*02/15/23*	1	*EPA 1633*	*BCB0232*

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Sample Results
(Continued)

Sample: AF-RHMW225401-WGN01B-2302W1 (Continued)
23B0091-04 (Water)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
Surrogate: 13C9-PFNA	*94.9%*			*55-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C6-PFDA	*87.1%*			*50-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C7-PFUnA	*97.5%*			*30-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFDOA	*95.2%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-PFTEDA	*82.0%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFBS	*96.3%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-PFHXS	*89.7%*			*55-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOS	*88.0%*			*45-140*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-4:2FTS	*190%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-6:2FTS	*82.8%*			*60-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C2-8:2FTS	*96.5%*			*50-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C8-PFOSA	*72.5%*			*30-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSA	*47.9%*			*15-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSA	*47.7%*			*10-130*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D3-NMEFOSAA	*90.3%*			*45-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D5-NETFOSAA	*119%*			*10-200*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D7-NMEFOSE	*42.9%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: D9-NETFOSE	*59.4%*			*10-150*			*02/15/23*	1	*EPA 1633*	*BCB0232*
Surrogate: 13C3-HFPO-DA	*90.3%*			*25-160*			*02/15/23*	1	*EPA 1633*	*BCB0232*

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Quality Control

Per- and Polyfluoroalkyl Substances

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Method: EPA 1633										
Batch: BCB0232 - EPA 1633										
Blank (BCB0232-BLK1)										
	ng/L									
PFBA	0.80 U	1.6	0.80	0.21						
PFPEA	0.40 U	0.80	0.40	0.065						
PFHXA	0.0870 J	0.40	0.20	0.055						
PFHPA	0.20 U	0.40	0.20	0.041						
PFOA	0.20 U IR2,	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	0.112 J MI5,	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 IR2,	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	*25.7*				*32.0*		*80.4*	*10-130*		
13C5-PFPEA	*13.4*				*16.0*		*83.5*	*35-150*		
13C5-PFHXA	*5.93*				*8.00*		*74.1*	*55-150*		

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: 02/16/2023 15:45

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Blank (BCB0232-BLK1)						Prepared: 02/13/23 07:19 Analyzed: 02/14/23 20:59				
	ng/L									
Surrogates										
13C4-PFHPA	*6.25*				*8.00*		*78.1*	*55-150*		
13C8-PFOA	*5.97*				*8.00*		*74.7*	*60-140*		
13C9-PFNA	*2.73*				*4.00*		*68.3*	*55-140*		
13C6-PFDA	*3.01*				*4.00*		*75.3*	*50-140*		
13C7-PFUnA	*3.04*				*4.00*		*75.9*	*30-140*		
13C2-PFDOA	*3.62*				*4.00*		*90.6*	*10-150*		
13C2-PFTEDA	*3.29*				*4.00*		*82.4*	*10-130*		
13C3-PFBS	*5.99*				*8.00*		*74.9*	*55-150*		
13C3-PFHXS	*6.80*				*8.00*		*85.0*	*55-150*		
13C8-PFOS	*5.95*				*8.00*		*74.4*	*45-140*		
13C2-4:2FTS	*29.0*				*16.0*		*181*	*60-200*		
13C2-6:2FTS	*10.9*				*16.0*		*68.3*	*60-200*		
13C2-8:2FTS	*11.2*				*16.0*		*70.3*	*50-200*		
13C8-PFOSA	*6.05*				*8.00*		*75.7*	*30-130*		
D3-NMEFOSA	*4.00*				*8.00*		*50.0*	*15-130*		
D5-NETFOSA	*4.25*				*8.00*		*53.1*	*10-130*		
D3-NMEFOSAA	*10.6*				*16.0*		*66.2*	*45-200*		
D5-NETFOSAA	*10.5*				*16.0*		*65.7*	*10-200*		
D7-NMEFOSE	*38.7*				*80.0*		*48.3*	*10-150*		
D9-NETFOSE	*60.9*				*80.0*		*76.1*	*10-150*		
13C3-HFPO-DA	*26.7*				*32.0*		*83.4*	*25-160*		
LCS (BCB0232-BS1)						Prepared: 02/13/23 07:19 Analyzed: 02/14/23 21:12				
	ng/L									
PFBA	16.7				16.0		105	58-148		
PFPEA	8.53				8.00		107	54-152		
PFHXA	4.36				4.00		109	55-152		
PFHPA	4.01				4.00		100	54-154		
PFOA	4.30				4.00		108	52-161		
PFNA	4.02				4.00		100	59-149		
PFDA	4.62				4.00		116	52-147		
PFUnA	4.11				4.00		103	48-159		
PFDOA	3.92				4.00		98.1	64-142		
PFTRDA	4.08				4.00		102	49-148		
PFTEDA	4.34				4.00		108	47-161		
PFBS	3.92				3.54		111	62-144		
PFPES	3.94				3.76		105	59-151		
PFHXS	3.70				3.66		101	57-146		
PFHPS	4.10				3.82		107	55-152		
PFOS	3.80				3.72		102	58-149		
PFNS	4.06				3.84		106	52-148		
PFDS	3.98				3.86		103	51-147		
PFDOS	3.84				3.88		98.9	36-145		
4:2FTS	16.0				15.0		107	67-146		
6:2FTS	18.0				15.2		119	61-151		
8:2FTS	17.2				15.4		112	63-152		
PFOSA	4.63				4.00		116	61-148		

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
LCS (BCB0232-BS1)						Prepared: 02/13/23 07:19		Analyzed: 02/14/23 21:12		
	ng/L									
NMeFOSA	16.1				16.0		101	63-145		
NEtFOSA	18.2				16.0		113	65-139		
NMeFOSAA	4.43				4.00		111	58-144		
NEtFOSAA	4.08				4.00		102	59-146		
NMeFOSE	18.5				16.0		116	71-136		
NEtFOSE	16.1				16.0		101	69-137		
HFPO-DA	8.21				8.00		103	63-144		
ADONA	7.95				7.56		105	68-146		
PFEESA	8.03				7.12		113	56-151		
PFMPA	8.03				8.00		100	51-145		
PFMBA	7.76				8.00		96.9	55-148		
NFDHA	8.99				8.00		112	48-161		
9CL-PF3ONS	7.63				7.48		102	56-156		
11CL-PF3OUDS	7.70				7.56		102	46-156		
3:3FTCA	16.9				16.0		106	62-129		
5:3FTCA	17.6				16.0		110	63-134		
7:3FTCA	16.0				16.0		99.8	50-138		
Surrogates										
13C4-PFBA	*29.0*				*32.0*		*90.6*	*10-130*		
13C5-PFPEA	*14.8*				*16.0*		*92.4*	*35-150*		
13C5-PFHXA	*6.82*				*8.00*		*85.3*	*55-150*		
13C4-PFHPA	*7.15*				*8.00*		*89.4*	*55-150*		
13C8-PFOA	*7.12*				*8.00*		*89.1*	*60-140*		
13C9-PFNA	*3.43*				*4.00*		*85.8*	*55-140*		
13C6-PFDA	*3.17*				*4.00*		*79.2*	*50-140*		
13C7-PFUnA	*3.34*				*4.00*		*83.4*	*30-140*		
13C2-PFDOA	*3.35*				*4.00*		*83.8*	*10-150*		
13C2-PFTEDA	*3.04*				*4.00*		*76.1*	*10-130*		
13C3-PFBS	*6.76*				*8.00*		*84.5*	*55-150*		
13C3-PFHXS	*6.76*				*8.00*		*84.5*	*55-150*		
13C8-PFOS	*7.12*				*8.00*		*89.0*	*45-140*		
13C2-4:2FTS	*29.1*				*16.0*		*182*	*60-200*		
13C2-6:2FTS	*11.7*				*16.0*		*72.8*	*60-200*		
13C2-8:2FTS	*11.3*				*16.0*		*70.8*	*50-200*		
13C8-PFOSA	*6.81*				*8.00*		*85.1*	*30-130*		
D3-NMEFOSA	*4.68*				*8.00*		*58.6*	*15-130*		
D5-NETFOSA	*4.92*				*8.00*		*61.5*	*10-130*		
D3-NMEFOSAA	*12.1*				*16.0*		*75.6*	*45-200*		
D5-NETFOSAA	*12.4*				*16.0*		*77.8*	*10-200*		
D7-NMEFOSE	*41.7*				*80.0*		*52.1*	*10-150*		
D9-NETFOSE	*65.5*				*80.0*		*81.8*	*10-150*		
13C3-HFPO-DA	*29.0*				*32.0*		*90.8*	*25-160*		

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MRL Check (BCB0232-MRL1)						Prepared: 02/13/23 07:19		Analyzed: 02/14/23 21:25		
	ng/L									
PFBA	1.89				1.60		118	44-157		
PFPEA	1.01				0.800		126	57-148		
PFHXA	0.544				0.400		136	62-149		
PFHPA	0.599				0.400		150	56-150		
PFOA	0.515 IR2				0.400		129	57-161		
PFNA	0.510				0.400		128	53-157		
PFDA	0.446				0.400		112	43-158		
PFUnA	0.495				0.400		124	50-155		
PFDOA	0.475 IR2				0.400		119	60-141		
PFTRDA	0.498				0.400		124	52-140		
PFTEDA	0.546				0.400		137	52-156		
PFBS	0.385 J				0.354		109	63-145		
PFPES	0.477				0.376		127	58-144		
PFHXS	0.505				0.366		138	44-158		
PFHPS	0.419				0.382		110	51-150		
PFOS	0.526				0.372		141	43-162		
PFNS	0.430				0.384		112	46-151		
PFDS	0.455				0.386		118	50-144		
PFDOS	0.418				0.388		108	30-138		
4:2FTS	1.90				1.50		127	52-158		
6:2FTS	1.84				1.52		121	48-158		
8:2FTS	2.25				1.54		147	46-165		
PFOSA	0.542				0.400		136	47-163		
NMeFOSA	2.01				1.60		126	54-155		
NEtFOSA	1.89				1.60		118	49-156		
NMeFOSAA	0.495				0.400		124	32-160		
NEtFOSAA	0.488				0.400		122	51-154		
NMeFOSE	1.97				1.60		123	56-151		
NEtFOSE	1.77				1.60		111	60-147		
HFPO-DA	0.940				0.800		118	58-154		
ADONA	0.915				0.756		121	61-148		
PFEESA	0.810				0.712		114	56-144		
PFMPA	0.996				0.800		125	48-150		
PFMBA	0.903				0.800		113	49-154		
NFDHA	0.858				0.800		107	47-160		
9CL-PF3ONS	0.966				0.748		129	44-167		
11CL-PF3OUDS	0.935				0.756		124	36-158		
3:3FTCA	1.90				1.60		119	32-161		
5:3FTCA	1.66				1.60		104	39-156		
7:3FTCA	1.48 J				1.60		92.8	36-149		
Surrogates										
13C4-PFBA	*28.6*				*32.0*		*89.4*	*10-130*		
13C5-PFPEA	*15.6*				*16.0*		*97.7*	*35-150*		
13C5-PFHXA	*7.70*				*8.00*		*96.3*	*55-150*		
13C4-PFHPA	*7.26*				*8.00*		*90.8*	*55-150*		
13C8-PFOA	*6.72*				*8.00*		*84.0*	*60-140*		
13C9-PFNA	*3.50*				*4.00*		*87.4*	*55-140*		

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Quality Control
(Continued)

Per- and Polyfluoroalkyl Substances (Continued)

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
MRL Check (BCB0232-MRL1)						Prepared: 02/13/23 07:19		Analyzed: 02/14/23 21:25		
	ng/L									
Surrogates										
13C6-PFDA	*3.59*				*4.00*		*89.8*	*50-140*		
13C7-PFUnA	*3.51*				*4.00*		*87.7*	*30-140*		
13C2-PFDOA	*3.47*				*4.00*		*86.8*	*10-150*		
13C2-PFTEDA	*3.52*				*4.00*		*88.1*	*10-130*		
13C3-PFBS	*6.83*				*8.00*		*85.4*	*55-150*		
13C3-PFHXS	*6.57*				*8.00*		*82.2*	*55-150*		
13C8-PFOS	*7.35*				*8.00*		*91.8*	*45-140*		
13C2-4:2FTS	*28.4*				*16.0*		*177*	*60-200*		
13C2-6:2FTS	*11.2*				*16.0*		*70.0*	*60-200*		
13C2-8:2FTS	*11.2*				*16.0*		*70.1*	*50-200*		
13C8-PFOSA	*7.12*				*8.00*		*89.0*	*30-130*		
D3-NMEFOSA	*5.07*				*8.00*		*63.4*	*15-130*		
D5-NETFOSA	*5.48*				*8.00*		*68.5*	*10-130*		
D3-NMEFOSAA	*13.4*				*16.0*		*83.5*	*45-200*		
D5-NETFOSAA	*14.1*				*16.0*		*88.3*	*10-200*		
D7-NMEFOSE	*43.3*				*80.0*		*54.1*	*10-150*		
D9-NETFOSE	*68.4*				*80.0*		*85.5*	*10-150*		
13C3-HFPO-DA	*30.9*				*32.0*		*96.5*	*25-160*		

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

AECOM Honolulu	Project: Red Hill AFFF Assessment Sampling	
1001 Bishop Street, Suite 1600	Project Number: Red Hill AFFF Assessment Sampling	
Honolulu, HI 96813	Project Manager: Watson Tanji	Reported: 02/16/2023 15:45

Notes and Definitions

Item	Definition
CV2	Calibration verification recovered above the upper control limit
IR1	Ion ratio below the lower control limit
IR2	Ion ratio above the upper control limit
J	Estimated value
MI2	Manual integration, non-target peak interference
MI5	Manual integration, whole peak was not integrated
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

23B0091

Printed: 02/16/2023 3:45 pm

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

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

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

Date Received: 02/11/2023 11:05 AM
Date Due: 02/20/2023 (5.00 day TAT)

Logged In By: Megan Horne
Received By: Megan Horne

Analysis		Comments
23B0091-01 AF-RHMW17-WGN01LF-2302W1 [Water] Sampled 2/10/2023 11:00:00AM		
1633	NONE	"Report relevant surrogates"
23B0091-02 AF-RHMW17D-WGN01LF-2302W1 [Water] Sampled 2/10/2023 12:15:00PM		
1633	NONE	"Report relevant surrogates"
23B0091-03 AF-RHMW17D-WQFB01-2302W1 [Water] Sampled 2/10/2023 11:30:00AM		
1633	NONE	"Report relevant surrogates"
23B0091-04 AF-RHMW225401-WGN01B-2302W1 [Water] Sampled 2/10/2023 8:55:00AM		
1633	NONE	"Report relevant surrogates"

23B0091 **Sample Receipt Log**

Default Cooler

Samples Received at: **1.0°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

23B0091

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. 2302W1AFAL10

Report to: PLEASE PRINT

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

Invoice to: PLEASE PRINT

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

Project Name/Number: CTO N6274223F0104 / 60697810
Purchase Order Number:
Sampler (Print): Matt Yim
Sampler (Signature): Matt Yim

Date Shipped: 2/10/23
Carrier: FEDEX
Waybill No.:
Comments: EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: PFAS EPA Draft 1633
AF-RHMW17-WGN01LF-2302W1	RHMW17	2/10/23	1106	HST	2	✓			✓

MY 2/10/23

MY 2/10/23

Shuttle Temperature: R1: 2.1°C

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

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

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Matt Yim	2/10/23	1315	Miranda DeGarmo	Miranda DeGarmo	2/10/23	1330	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/11/23	1105	Meyerhenne

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. 2302W1AFAL11

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

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

Project Name/Number: CTO N6274223F0104 / 60697810
Purchase Order Number:
Sampler (Print): NOAH TURNER
Sampler (Signature):

Date Shipped: 2/10/23
Carrier: FEDEX
Waybill No.:
Comments: EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: PFAS EPA Draft 1633
AF-RHMW17D-WGN01LF-2302W1	RHMW RD	2/10/23	1215	HST	2	✓			✓
AF-RHMW17D-WQFB01-2302W1	RHMW 17D	2/10/23	1130	HST	2	✓			✓

NJ 2/10/2023

NJ 2/10/2023

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:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	2/10/23	1315	Miranda DeGarmo	Miranda DeGarmo	2/10/23	1330	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/11/23	1105	

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. 2302W1AFAL013

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

Project Name/Number	Sampler (Print)	Date Shipped: 2/10/23
CTO N6274223F0104 / 60697810	Chris Hayden	Carrier: FEDEX
Purchase Order Number	Sampler (Signature)	Waybill No.:
		Comments: EDMS upload database: JBPHE
		EDMS Coverage: AFFF Assessment Sampling GW

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: PFAS EPA Draft 1633
AF-RHMW225401-WGN01B-2302W1	RHMW225401-01	2.10.23	0855	HST	2	✓			✓

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:
	2.10.23	1315	Miranda DeFiarmo	Miranda DeFiarmo	2/10/23	1330	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/11/23	1105	Meganleene

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

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PFAS

SAMPLE DATA

FORM I
ANALYSIS DATA SHEET

AF-RHMW17-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-01	File ID:	S2023-02-14D (20)
Sampled:	02/10/23 11:00	Prepared:	02/13/23 07:19	Analyzed:	02/14/23 23:47
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	566.32 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	2.1	1.4	0.71	0.18	
PFPEA	5.3	0.71	0.35	0.057	
PFHXA	2.5	0.35	0.18	0.048	
PFHPA	0.44	0.35	0.18	0.036	
PFOA	0.27 J	0.35	0.18	0.13	
PFNA	0.18 U	0.35	0.18	0.072	
PFDA	0.18 U	0.35	0.18	0.089	
PFUnA	0.18 U	0.35	0.18	0.14	
PFDOA	0.18 U	0.35	0.18	0.099	
PFTRDA	0.26 U	0.35	0.26	0.18	
PFTEDA	0.18 U	0.35	0.18	0.17	IR2,
PFBS	0.22 J	0.35	0.18	0.032	
PFPES	0.18 U	0.35	0.18	0.055	
PFHXS	0.18 U	0.35	0.18	0.028	
PFHPS	0.18 U	0.35	0.18	0.045	
PFOS	0.19 J	0.35	0.18	0.056	MI5,
PFNS	0.18 U	0.35	0.18	0.11	
PFDS	0.18 U	0.35	0.18	0.13	
PFDOS	0.18 U	0.35	0.18	0.11	
4:2FTS	0.71 U	1.4	0.71	0.26	
6:2FTS	0.49 J	1.4	0.71	0.28	
8:2FTS	0.71 U	1.4	0.71	0.073	
PFOSA	0.18 U	0.35	0.18	0.092	
NMeFOSA	0.71 U	1.4	0.71	0.42	
NEtFOSA	0.71 U	1.4	0.71	0.36	
NMeFOSAA	0.18 U	0.35	0.18	0.093	
NEtFOSAA	0.18 U	0.35	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.89	
NEtFOSE	1.1 U	1.4	1.1	0.92	
HFPO-DA	0.35 U	0.71	0.35	0.15	

FORM I
ANALYSIS DATA SHEET

AF-RHMW17-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-01	File ID:	S2023-02-14D (20)
Sampled:	02/10/23 11:00	Prepared:	02/13/23 07:19	Analyzed:	02/14/23 23:47
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	566.32 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

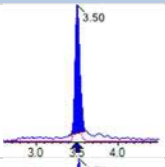
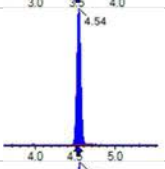
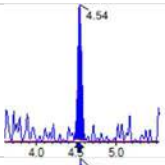
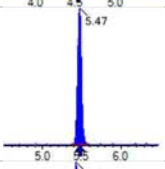
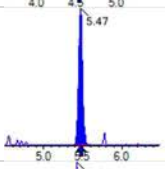
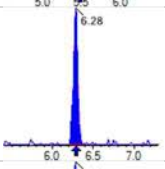
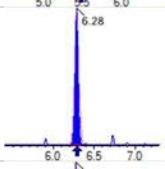
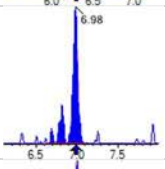
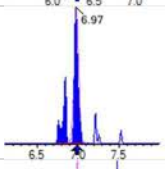
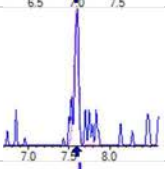
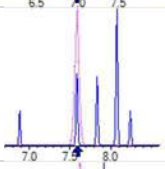
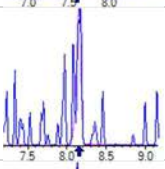
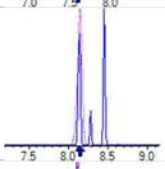
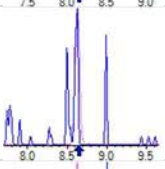
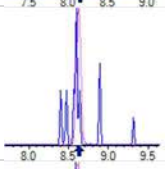
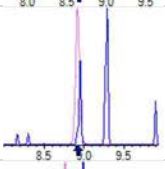
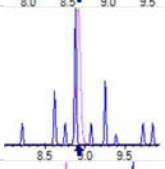
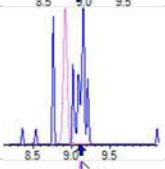
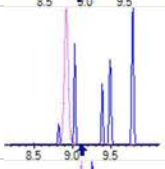
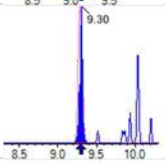
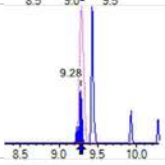
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.35 U	0.71	0.35	0.11	
PFEESA	0.35 U	0.71	0.35	0.096	
PFMPA	0.35 U	0.71	0.35	0.048	
PFMBA	0.35 U	0.71	0.35	0.080	
NFDHA	0.35 U	0.71	0.35	0.27	
9CL-PF3ONS	0.35 U	0.71	0.35	0.18	
11CL-PF3OUDS	0.35 U	0.71	0.35	0.18	
3:3FTCA	0.71 U	1.4	0.71	0.51	
5:3FTCA	0.71 U	1.4	0.71	0.39	
7:3FTCA	0.71 U	1.4	0.71	0.49	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	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) 150786	(3.50 , 1.00) (0.00 , N/A , 0.0)	95.0	N/A 0.0 0.0	0.6076	N/A			
PFPeA	(263.0 / 219.0) 745047 (263.0 / 69.0) 7609	(4.54 , 1.00) (0.00 , N/A , 0.1)	1284.7 30.5	0.0102 95.4 92.7	1.4904	N/A			
PFHxA	(313.0 / 269.0) 457210 (313.0 / 119.0) 47304	(5.47 , 1.00) (0.00 , N/A , 0.0)	1020.2 894.3	0.1035 103.9 108.7	0.7213	N/A			
PFHpA	(363.0 / 319.0) 62846 (363.0 / 169.0) 23932	(6.28 , 1.00) (0.00 , N/A , 0.1)	1557.0 66890.5	0.3808 118.8 119.1	0.1258	N/A			
PFOA	(413.0 / 369.0) 49309 (413.0 / 169.0) 18316	(6.98 , 1.00) (0.00 , N/A , 0.4)	2174.5 24169.9	0.3714 111.0 102.8	0.0777	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) 6601 (713.0 / 169.0) 2141	(9.30 , 1.00) (0.02 , N/A , 1.7)	92.1 471.6	0.3244 157.0 156.9	0.0139	N/A			IR2,

APPL
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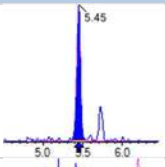
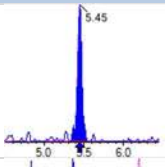
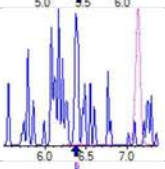
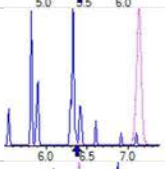
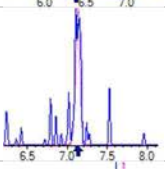
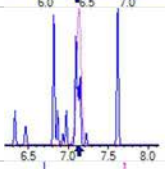
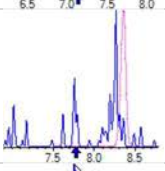
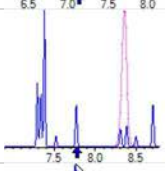
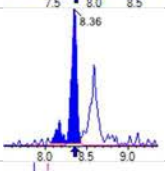
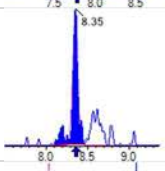
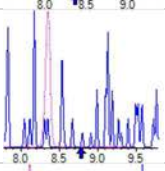
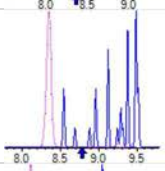
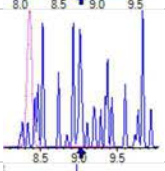
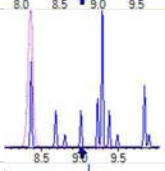
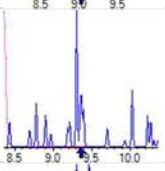
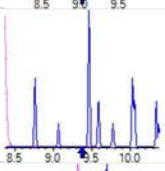
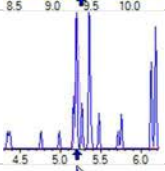
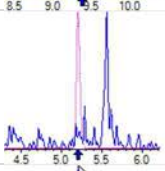
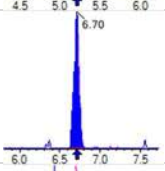
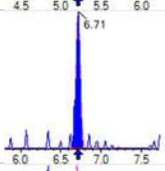
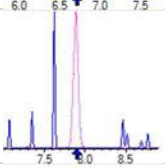
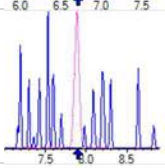
Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

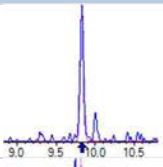
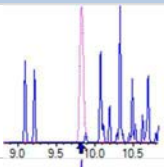
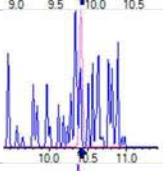
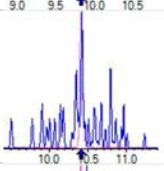
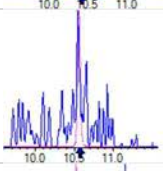
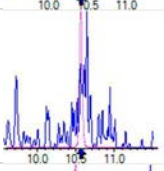
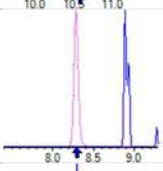
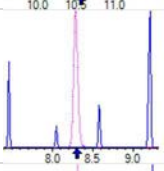
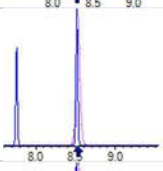
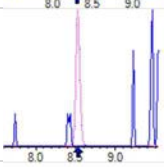
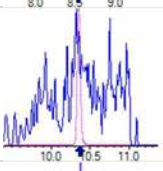
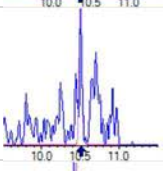
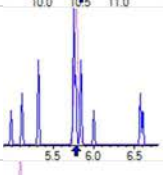
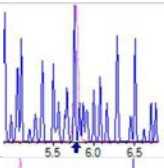
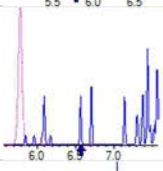
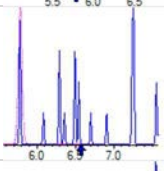
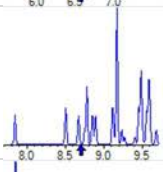
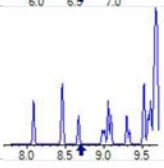
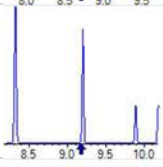
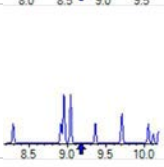
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 76818 (299.0 / 99.0) 51689	(5.45 , 1.00) (0.00 , N/A , 0.0)	141.6 109.9	0.6729 104.1 108.8	0.0635	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) 123559 (499.0 / 99.0) 38788	(8.36 , 1.00) (0.00 , N/A , 0.2)	76.6 117.1	0.3139 141.8 148.1	0.0546	N/A			MI5 DG 2023-02-15
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) 18411 (427.0 / 81.0) 17663	(6.70 , 1.00) (-0.01 , N/A , -0.5)	7993.4 86.1	0.9594 115.9 124.2	0.1377	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.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

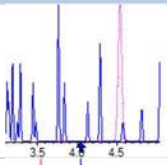
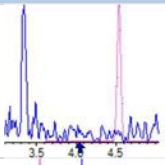
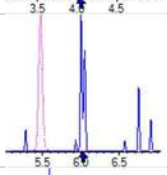
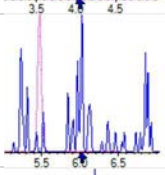
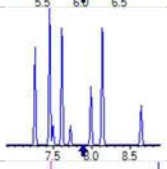
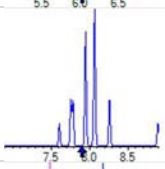
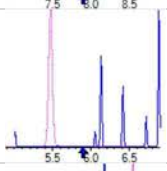
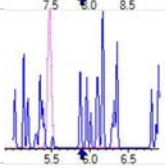
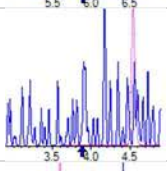
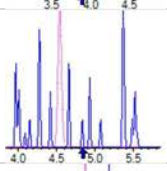
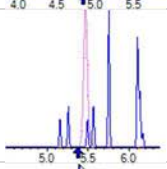
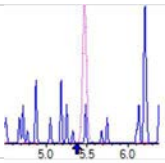
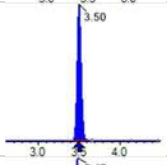
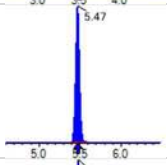
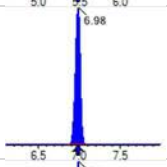
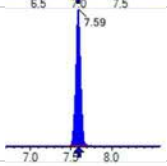
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

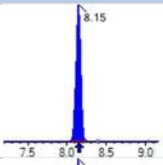
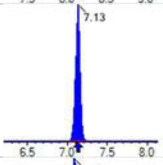
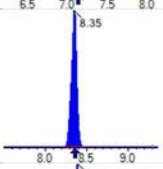
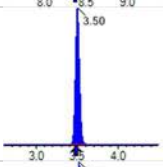
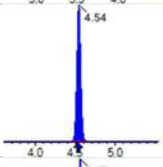
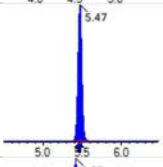
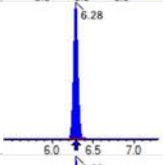
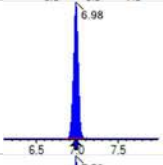
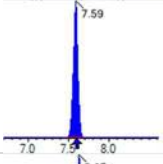
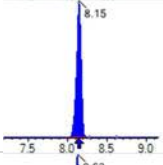
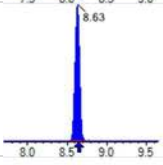
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 303297	(3.50 , N/A) (N/A , 0.00 , N/A)	1301.7	N/A	1.3541 [1.0000]	135.4% { 138.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 610047	(5.47 , N/A) (N/A , 0.00 , N/A)	2443.8	N/A	1.2085 [1.0000]	120.8% { 126.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 761645	(6.98 , N/A) (N/A , -0.01 , N/A)	3883.7	N/A	1.2018 [1.0000]	120.2% { 124.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 729264	(7.59 , N/A) (N/A , 0.00 , N/A)	2463.1	N/A	1.2069 [1.0000]	120.7% { 129.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

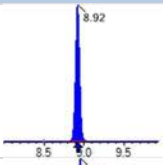
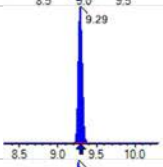
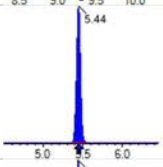
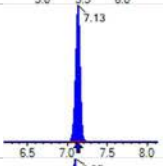
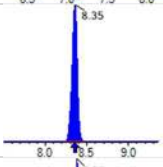
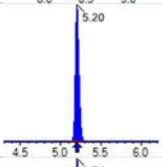
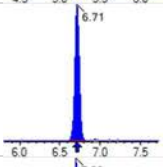
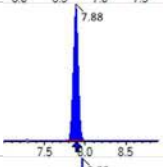
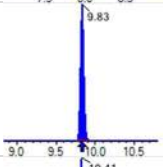
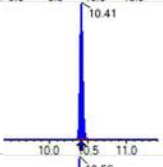
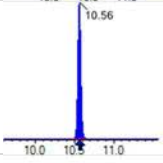
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 693382	(8.15 , N/A) (N/A , 0.00 , N/A)	1623.2	N/A	1.1983 [1.0000]	119.8% { 129.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1094985	(7.13 , N/A) (N/A , 0.00 , N/A)	4080.0	N/A	1.2786 [1.0000]	127.9% { 130.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1850620	(8.35 , N/A) (N/A , 0.00 , N/A)	1594.3	N/A	1.2293 [1.0000]	122.9% { 138.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2396744	(3.50 , N/A) (N/A , 0.00 , N/A)	6379.5	N/A	6.6434 [8.0000]	83.0% { 104.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2430362	(4.54 , N/A) (N/A , 0.00 , N/A)	4070.7	N/A	3.6411 [4.0000]	91.0% { 105.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1442085	(5.47 , N/A) (N/A , 0.00 , N/A)	2966.7	N/A	1.7258 [2.0000]	86.3% { 101.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1183417	(6.28 , N/A) (N/A , -0.01 , N/A)	4310.9	N/A	1.6346 [2.0000]	81.7% { 100.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1426121	(6.98 , N/A) (N/A , 0.00 , N/A)	2526.8	N/A	1.6533 [2.0000]	82.7% { 100.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 631651	(7.59 , N/A) (N/A , 0.00 , N/A)	1600.2	N/A	0.8175 [1.0000]	81.7% { 103.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 737180	(8.15 , N/A) (N/A , 0.00 , N/A)	1082.7	N/A	0.8432 [1.0000]	84.3% { 98.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 753656	(8.63 , N/A) (N/A , 0.00 , N/A)	1256.7	N/A	0.8669 [1.0000]	86.7% { 113.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

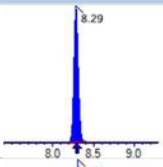
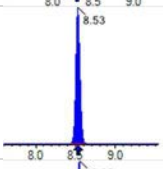
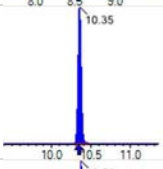
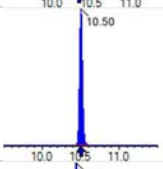
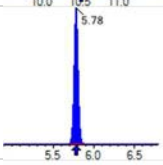
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 679973	(8.92 , N/A) (N/A , 0.00 , N/A)	3742.5	N/A	0.9120 [1.0000]	91.2% { 103.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 548053	(9.29 , N/A) (N/A , 0.00 , N/A)	1562.3	N/A	0.8022 [1.0000]	80.2% { 93.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3893288	(5.44 , N/A) (N/A , 0.00 , N/A)	3915.1	N/A	1.6989 [2.0000]	84.9% { 102.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1973009	(7.13 , N/A) (N/A , 0.00 , N/A)	1864.8	N/A	1.6575 [2.0000]	82.9% { 100.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4291630	(8.35 , N/A) (N/A , 0.00 , N/A)	1641.6	N/A	1.6892 [2.0000]	84.5% { 101.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 919440	(5.20 , N/A) (N/A , 0.00 , N/A)	1800.1	N/A	7.2685 [4.0000]	181.7% { 264.8% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 376828	(6.71 , N/A) (N/A , -0.01 , N/A)	609.4	N/A	2.7138 [4.0000]	67.8% { 90.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 542384	(7.88 , N/A) (N/A , -0.01 , N/A)	1232.4	N/A	2.7648 [4.0000]	69.1% { 89.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7336212	(9.83 , N/A) (N/A , 0.00 , N/A)	3915.5	N/A	1.5556 [2.0000]	77.8% { 88.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1413226	(10.41 , N/A) (N/A , 0.00 , N/A)	2501.3	N/A	1.2719 [2.0000]	63.6% { 73.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1190414	(10.56 , N/A) (N/A , 0.00 , N/A)	2565.2	N/A	1.1973 [2.0000]	59.9% { 66.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-01
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (20)
Acquired: 2023/02/14 - 23:47

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	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) 1198772	(8.29 , N/A) (N/A , 0.00 , N/A)	2133.4	N/A	2.9157 [4.0000]	72.9% { 90.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1096548	(8.53 , N/A) (N/A , 0.00 , N/A)	13503.9	N/A	3.2572 [4.0000]	81.4% { 103.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 4264171	(10.35 , N/A) (N/A , 0.00 , N/A)	1804.9	N/A	10.5268 [20.0000]	52.6% { 57.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7345636	(10.50 , N/A) (N/A , 0.00 , N/A)	2155.8	N/A	14.1601 [20.0000]	70.8% { 78.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3668778	(5.78 , N/A) (N/A , 0.00 , N/A)	3341.0	N/A	7.2110 [8.0000]	90.1% { 102.3% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW17D-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-02	File ID:	S2023-02-14D (22)
Sampled:	02/10/23 12:15	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 00:13
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	569.47 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.60 J	1.4	0.70	0.18	
PFPEA	0.13 J	0.70	0.35	0.057	
PFHXA	0.27 J	0.35	0.18	0.048	IR2,
PFHPA	0.045 J	0.35	0.18	0.036	IR2,
PFOA	0.18 U	0.35	0.18	0.13	
PFNA	0.18 U	0.35	0.18	0.072	
PFDA	0.18 U	0.35	0.18	0.089	
PFUnA	0.18 U	0.35	0.18	0.14	
PFDOA	0.18 U	0.35	0.18	0.098	
PFTRDA	0.26 U	0.35	0.26	0.18	
PFTEDA	0.18 U	0.35	0.18	0.17	
PFBS	0.081 J	0.35	0.18	0.032	
PFPES	0.18 U	0.35	0.18	0.055	
PFHXS	0.052 J	0.35	0.18	0.028	
PFHPS	0.18 U	0.35	0.18	0.045	
PFOS	0.12 J	0.35	0.18	0.056	IR2,
PFNS	0.17 J	0.35	0.18	0.11	IR1,
PFDS	0.18 U	0.35	0.18	0.13	
PFDOS	0.18 U	0.35	0.18	0.11	
4:2FTS	0.70 U	1.4	0.70	0.26	
6:2FTS	6.1	1.4	0.70	0.28	
8:2FTS	0.70 U	1.4	0.70	0.072	
PFOSA	0.18 U	0.35	0.18	0.091	
NMeFOSA	0.70 U	1.4	0.70	0.42	
NEtFOSA	0.70 U	1.4	0.70	0.36	
NMeFOSAA	0.18 U	0.35	0.18	0.093	
NEtFOSAA	0.18 U	0.35	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.89	
NEtFOSE	1.1 U	1.4	1.1	0.92	
HFPO-DA	0.35 U	0.70	0.35	0.15	

FORM I
ANALYSIS DATA SHEET

AF-RHMW17D-WGN01LF-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-02	File ID:	S2023-02-14D (22)
Sampled:	02/10/23 12:15	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 00:13
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	569.47 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

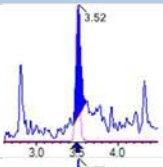
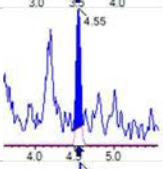
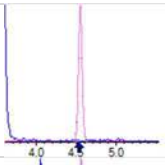
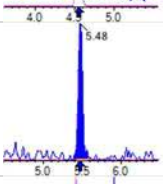
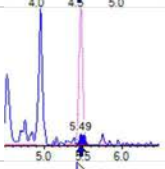
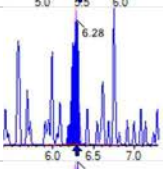
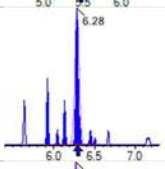
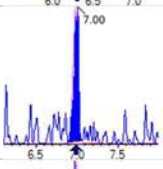
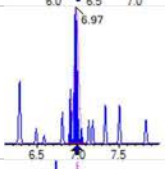
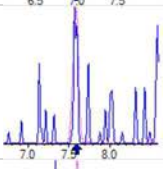
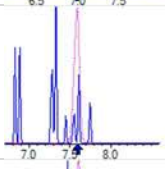
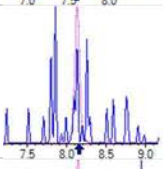
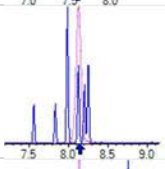
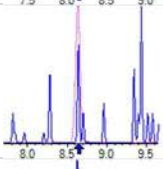
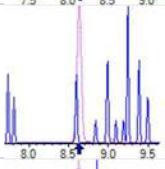
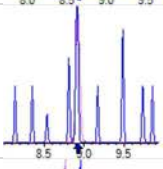
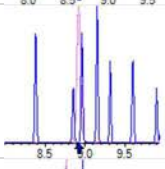
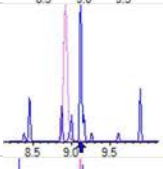
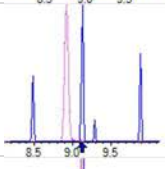
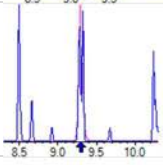
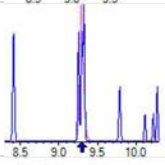
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.35 U	0.70	0.35	0.11	
PFEESA	0.35 U	0.70	0.35	0.096	
PFMPA	0.35 U	0.70	0.35	0.047	
PFMBA	0.35 U	0.70	0.35	0.080	
NFDHA	0.35 U	0.70	0.35	0.26	
9CL-PF3ONS	0.35 U	0.70	0.35	0.18	
11CL-PF3OUDS	0.35 U	0.70	0.35	0.18	
3:3FTCA	0.70 U	1.4	0.70	0.50	
5:3FTCA	0.70 U	1.4	0.70	0.39	
7:3FTCA	0.70 U	1.4	0.70	0.49	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

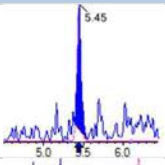
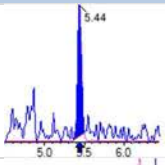
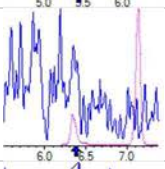
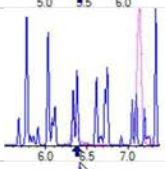
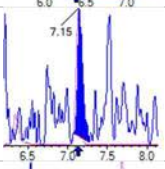
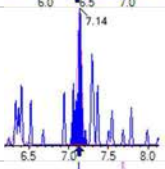
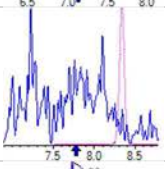
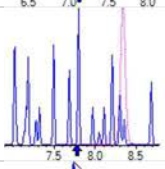
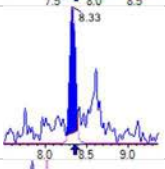
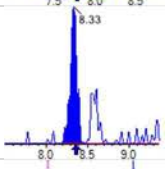
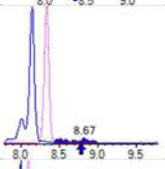
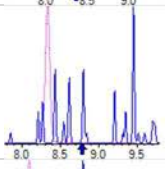
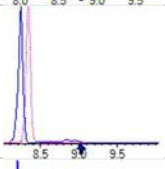
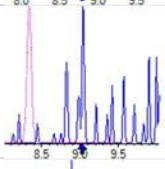
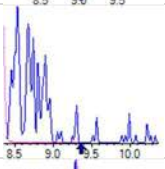
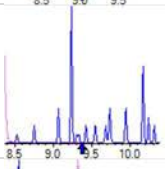
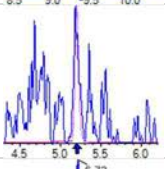
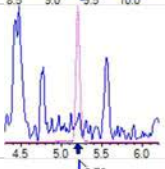
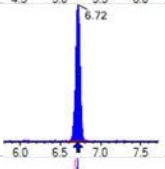
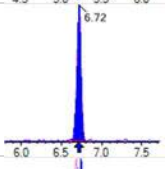
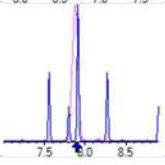
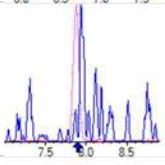
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 24025	(3.52 , 1.00) (0.01 , N/A , 0.0)	22.8	N/A 0.0 0.0	0.1698	N/A			
PFPeA	(263.0 / 219.0) 13917 (263.0 / 69.0) N/A	(4.55 , 1.00) (0.00 , N/A , #Value!)	24.8 N/A	N/A 0.0 0.0	0.0375	N/A			
PFHxA	(313.0 / 269.0) 45112 (313.0 / 119.0) 7149	(5.48 , 1.00) (0.01 , N/A , -0.5)	112.9 10.6	0.1585 159.1 166.5	0.0760	N/A			IR2,
PFHpA	(363.0 / 319.0) 6218 (363.0 / 169.0) 7655	(6.28 , 1.00) (-0.01 , N/A , -0.1)	37.0 3318878.0	1.2311 384.0 385.0	0.0128	N/A			IR2,
PFOA	(413.0 / 369.0) 16617 (413.0 / 169.0) 6684	(7.00 , 1.00) (0.01 , N/A , 1.5)	41.8 7370.3	0.4022 120.2 111.3	0.0238	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.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

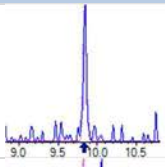
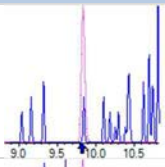
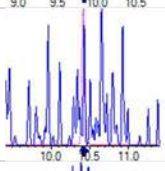
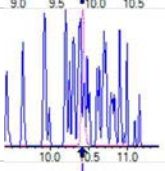
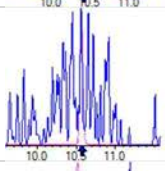
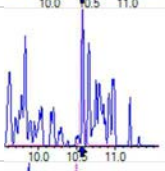
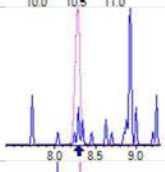
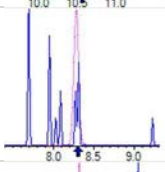
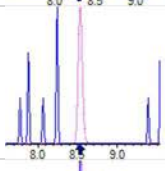
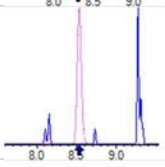
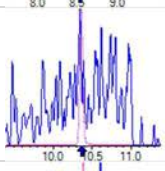
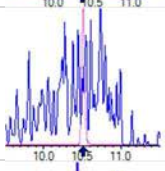
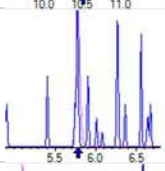
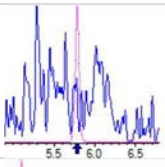
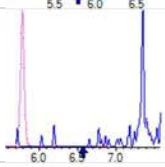
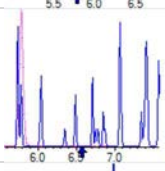
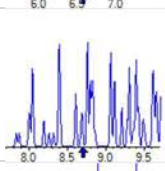
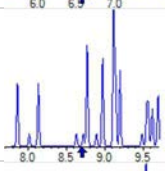
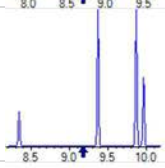
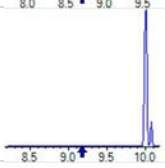
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 30239 (299.0 / 99.0) 24898	(5.45 , 1.00) (0.01 , N/A , 0.7)	26.4 29.3	0.8234 127.3 133.1	0.0231	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) 22596 (399.0 / 99.0) 8888	(7.15 , 1.00) (0.02 , N/A , 0.8)	18.9 7014.0	0.3933 121.1 120.7	0.0148	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) 73474 (499.0 / 99.0) 25441	(8.33 , 1.00) (0.00 , N/A , -0.1)	35.8 73.7	0.3463 156.5 163.3	0.0333	N/A			IR2,
PFNS	(549.0 / 80.0) 118235 (549.0 / 99.0) N/A	(8.67 , 1.04) (N/A , -0.11 , #Value!)	20.6 N/A	N/A 0.0 0.0	0.0476	N/A			IR1,
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) 642678 (427.0 / 81.0) 494592	(6.72 , 1.00) (0.00 , N/A , -0.1)	1308.5 642.2	0.7696 93.0 99.6	1.7432	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.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

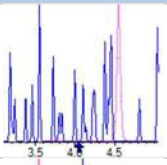
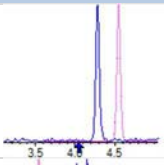
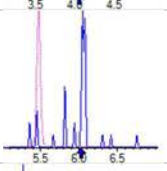
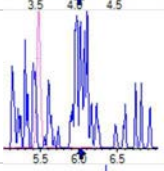
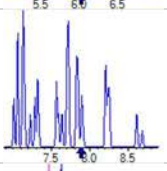
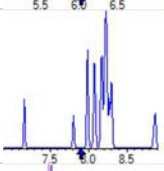
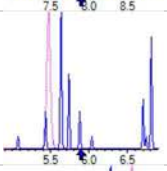
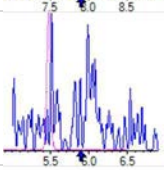
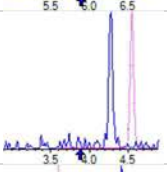
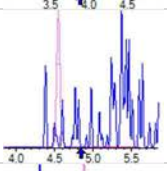
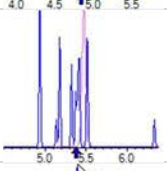
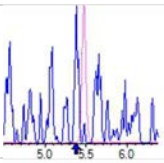
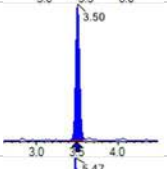
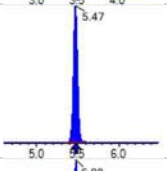
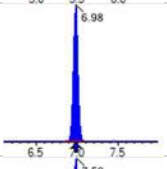
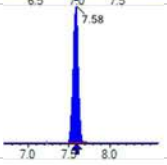
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

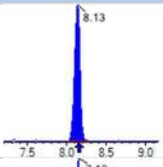
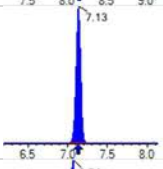
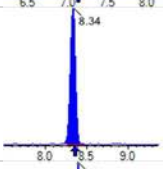
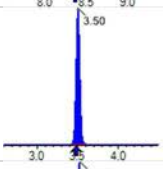
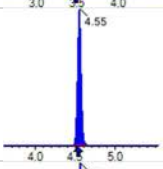
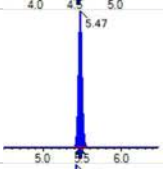
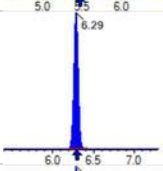
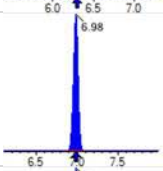
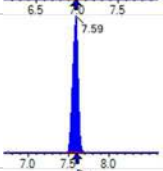
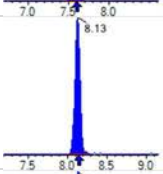
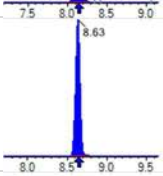
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 175515	(3.50 , N/A) (N/A , 0.00 , N/A)	670.4	N/A	0.7836 [1.0000]	78.4% { 80.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 647640	(5.47 , N/A) (N/A , 0.00 , N/A)	2628.7	N/A	1.2830 [1.0000]	128.3% { 134.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 766471	(6.98 , N/A) (N/A , -0.01 , N/A)	1156.2	N/A	1.2094 [1.0000]	120.9% { 125.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 600707	(7.58 , N/A) (N/A , -0.01 , N/A)	1636.7	N/A	0.9941 [1.0000]	99.4% { 106.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

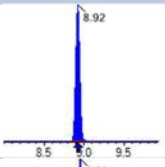
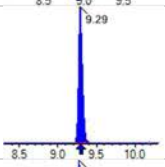
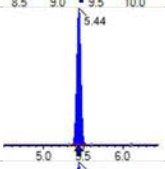
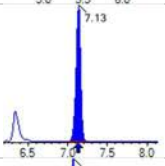
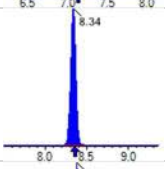
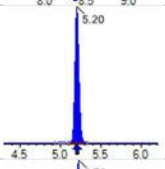
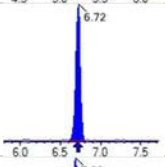
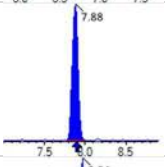
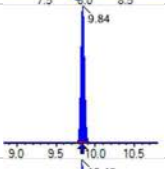
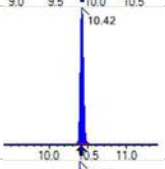
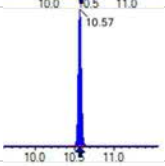
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 433817	(8.13 , N/A) (N/A , -0.01 , N/A)	1338.3	N/A	0.7497 [1.0000]	75.0% { 81.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1241954	(7.13 , N/A) (N/A , 0.00 , N/A)	1485.7	N/A	1.4503 [1.0000]	145.0% { 147.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1951122	(8.34 , N/A) (N/A , -0.02 , N/A)	645.7	N/A	1.2961 [1.0000]	129.6% { 145.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1366449	(3.50 , N/A) (N/A , 0.01 , N/A)	4414.8	N/A	6.5451 [8.0000]	81.8% { 59.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1803518	(4.55 , N/A) (N/A , 0.01 , N/A)	2218.8	N/A	2.5452 [4.0000]	63.6% { 78.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1351134	(5.47 , N/A) (N/A , 0.00 , N/A)	2159.5	N/A	1.5231 [2.0000]	76.2% { 94.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1147520	(6.29 , N/A) (N/A , 0.00 , N/A)	1067.9	N/A	1.4930 [2.0000]	74.6% { 97.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1568350	(6.98 , N/A) (N/A , 0.00 , N/A)	1879.2	N/A	1.8067 [2.0000]	90.3% { 110.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 546819	(7.59 , N/A) (N/A , 0.00 , N/A)	1655.4	N/A	0.8591 [1.0000]	85.9% { 89.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 494565	(8.13 , N/A) (N/A , -0.01 , N/A)	705.8	N/A	0.9042 [1.0000]	90.4% { 66.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 826806	(8.63 , N/A) (N/A , 0.00 , N/A)	1273.4	N/A	1.5201 [1.0000]	152.0% { 124.1% }			S2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

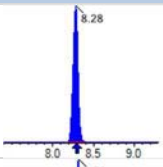
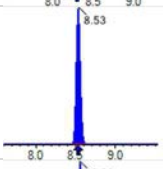
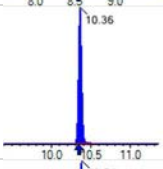
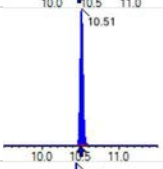
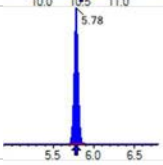
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 585909	(8.92 , N/A) (N/A , 0.00 , N/A)	1192.5	N/A	1.2560 [1.0000]	125.6% { 89.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 549953	(9.29 , N/A) (N/A , 0.00 , N/A)	1182.1	N/A	1.2866 [1.0000]	128.7% { 93.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 4207576	(5.44 , N/A) (N/A , 0.00 , N/A)	1249.1	N/A	1.6187 [2.0000]	80.9% { 110.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1983919	(7.13 , N/A) (N/A , 0.00 , N/A)	342.9	N/A	1.4694 [2.0000]	73.5% { 100.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4189834	(8.34 , N/A) (N/A , -0.02 , N/A)	1256.4	N/A	1.5642 [2.0000]	78.2% { 98.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 1089157	(5.20 , N/A) (N/A , -0.01 , N/A)	813.7	N/A	7.5913 [4.0000]	189.8% { 313.6% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 1039339	(6.72 , N/A) (N/A , 0.00 , N/A)	620.7	N/A	6.5993 [4.0000]	165.0% { 249.8% }			S2,
13C2_8:2FTS_EIS	(529.0 / 81.0) 981420	(7.88 , N/A) (N/A , -0.01 , N/A)	723.4	N/A	4.4108 [4.0000]	110.3% { 162.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 6667246	(9.84 , N/A) (N/A , 0.01 , N/A)	2634.0	N/A	1.3409 [2.0000]	67.0% { 80.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1220987	(10.42 , N/A) (N/A , 0.00 , N/A)	2204.9	N/A	1.0423 [2.0000]	52.1% { 63.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1072476	(10.57 , N/A) (N/A , 0.01 , N/A)	2767.3	N/A	1.0231 [2.0000]	51.2% { 60.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (22)
Acquired: 2023/02/15 - 00:13

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) 1106094	(8.28 , N/A) (N/A , -0.01 , N/A)	1469.8	N/A	2.5517 [4.0000]	63.8% { 83.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1410510	(8.53 , N/A) (N/A , 0.00 , N/A)	20863.1	N/A	3.9740 [4.0000]	99.3% { 133.7% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3529153	(10.36 , N/A) (N/A , 0.01 , N/A)	1940.0	N/A	8.2635 [20.0000]	41.3% { 47.5% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6468596	(10.51 , N/A) (N/A , 0.01 , N/A)	2188.0	N/A	11.8271 [20.0000]	59.1% { 68.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3417394	(5.78 , N/A) (N/A , 0.00 , N/A)	3009.8	N/A	6.3271 [8.0000]	79.1% { 95.3% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW17D-WGN01LF-2302W1

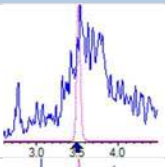
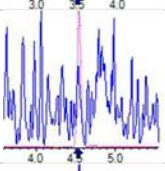
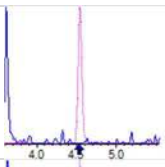
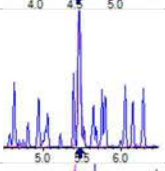
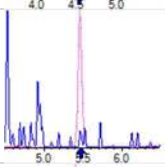
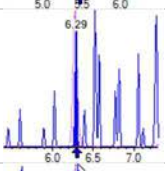
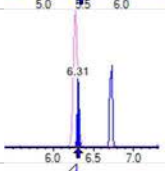
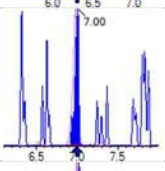
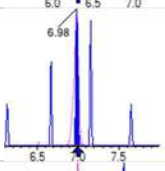
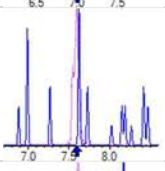
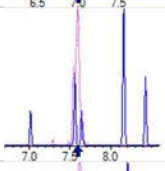
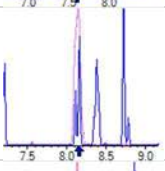
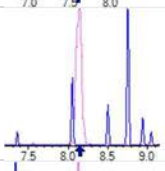
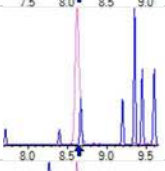
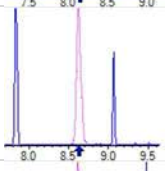
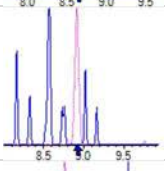
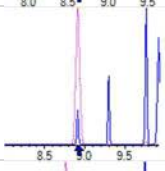
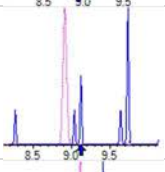
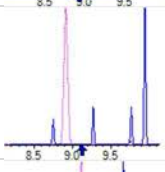
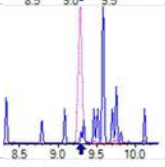
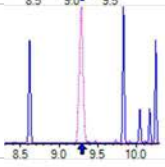
Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-02RE1	File ID:	S2023-02-14D (23)
Sampled:	02/10/23 12:15	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 00:26
Solids:		Preparation:	EPA 1633	Dilution:	10
Initial/Final:	569.47 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

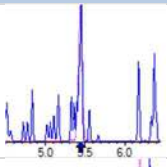
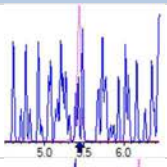
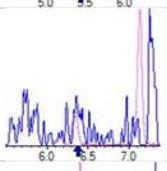
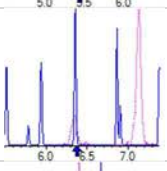
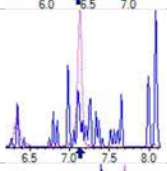
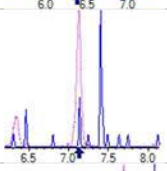
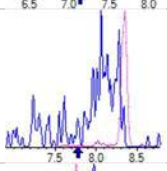
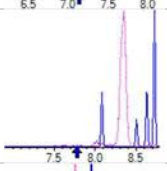
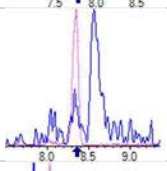
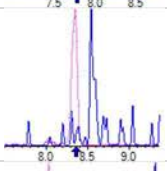
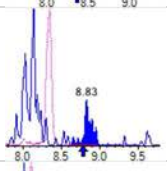
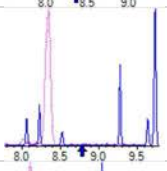
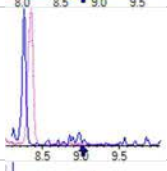
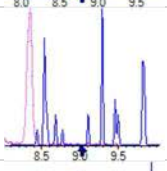
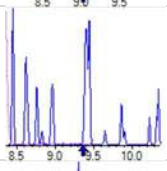
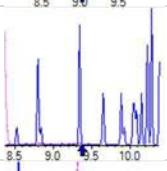
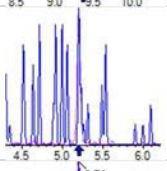
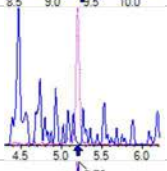
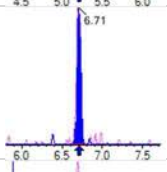
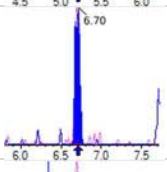
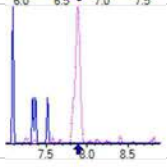
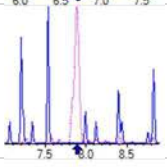
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 1190 (363.0 / 169.0) 493	(6.29 , 1.00) (0.01 , N/A , -1.6)	865.7 407.2	0.4146 129.3 129.7	0.0022	N/A			
PFOA	(413.0 / 369.0) 3706 (413.0 / 169.0) 1678	(7.00 , 1.00) (0.02 , N/A , 1.0)	5603.2 80549.7	0.4526 135.3 125.3	0.0060	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.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

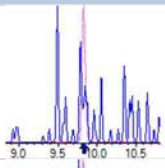
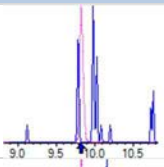
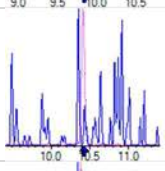
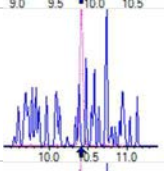
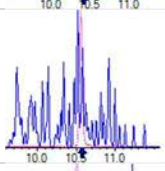
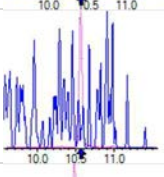
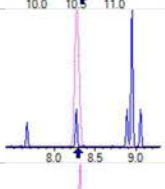
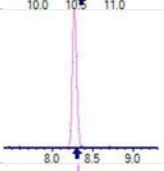
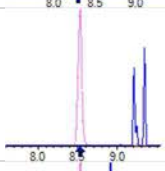
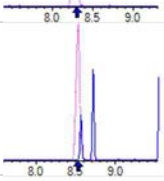
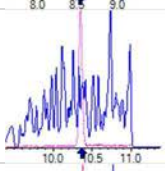
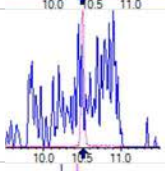
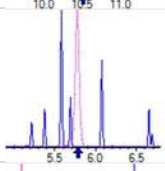
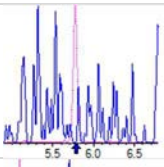
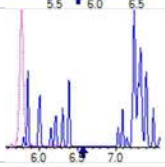
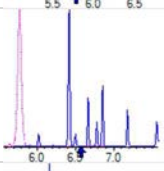
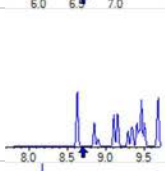
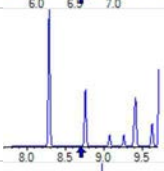
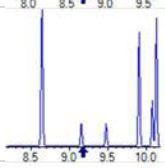
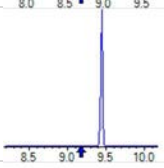
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) N/A (499.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFNS	(549.0 / 80.0) 15454 (549.0 / 99.0) N/A	(8.83 , 1.06) (N/A , 0.06 , #Value!)	70.8 N/A	N/A 0.0 0.0	0.0062	N/A			IR1,
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) 33509 (427.0 / 81.0) 14889	(6.71 , 1.00) (0.00 , N/A , 0.7)	1070.8 243.0	0.4443 53.7 57.5	0.2899	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.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

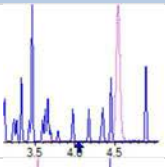
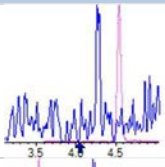
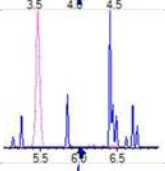
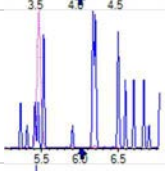
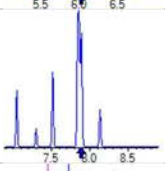
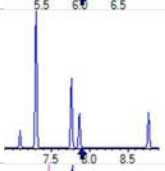
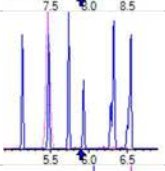
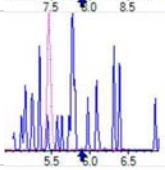
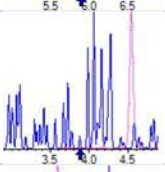
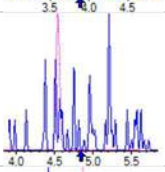
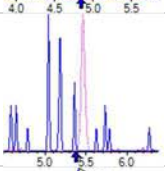
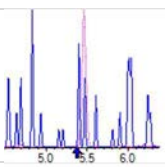
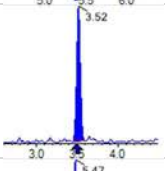
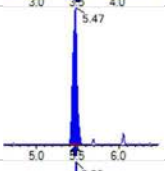
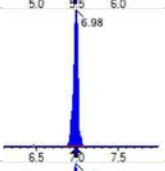
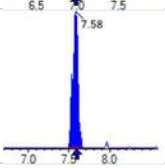
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

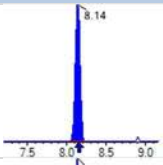
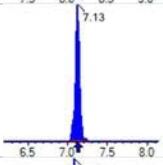
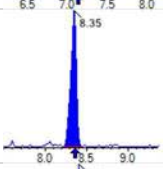
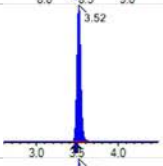
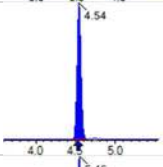
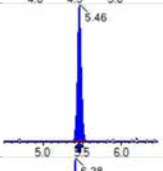
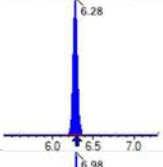
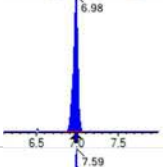
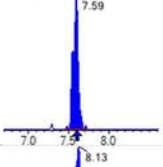
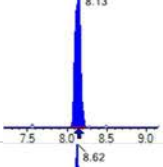
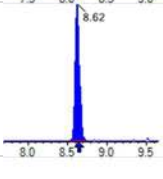
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 30788	(3.52 , N/A) (N/A , 0.02 , N/A)	178.4	N/A	1.3745 [1.0000]	137.5% { 14.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 62060	(5.47 , N/A) (N/A , -0.01 , N/A)	801.5	N/A	1.2294 [1.0000]	122.9% { 12.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 73422	(6.98 , N/A) (N/A , -0.01 , N/A)	34298689.2	N/A	1.1585 [1.0000]	115.8% { 12.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 82086	(7.58 , N/A) (N/A , -0.01 , N/A)	4582.8	N/A	1.3584 [1.0000]	135.8% { 14.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

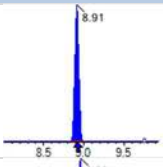
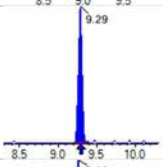
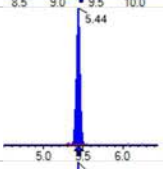
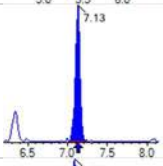
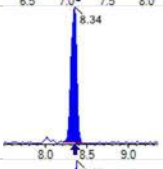
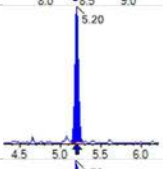
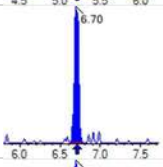
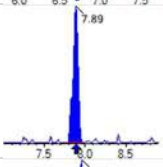
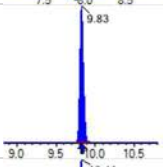
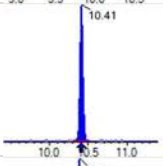
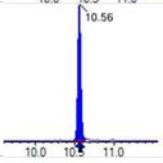
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 87706	(8.14 , N/A) (N/A , -0.01 , N/A)	24791741.1	N/A	1.5157 [1.0000]	151.6% { 16.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 114686	(7.13 , N/A) (N/A , -0.01 , N/A)	208186.5	N/A	1.3392 [1.0000]	133.9% { 13.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 207621	(8.35 , N/A) (N/A , -0.01 , N/A)	215.3	N/A	1.3792 [1.0000]	137.9% { 15.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 249290	(3.52 , N/A) (N/A , 0.02 , N/A)	1603.0	N/A	0.6807 [0.8000]	85.1% { 10.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 246199	(4.54 , N/A) (N/A , 0.00 , N/A)	828.8	N/A	0.3626 [0.4000]	90.6% { 10.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 143605	(5.46 , N/A) (N/A , -0.01 , N/A)	604.0	N/A	0.1689 [0.2000]	84.5% { 10.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 129417	(6.28 , N/A) (N/A , -0.01 , N/A)	2034.4	N/A	0.1757 [0.2000]	87.9% { 11.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 139203	(6.98 , N/A) (N/A , 0.00 , N/A)	19493.0	N/A	0.1674 [0.2000]	83.7% { 9.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 69816	(7.59 , N/A) (N/A , 0.00 , N/A)	45818.9	N/A	0.0803 [0.1000]	80.3% { 11.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 92369	(8.13 , N/A) (N/A , -0.01 , N/A)	941.6	N/A	0.0835 [0.1000]	83.5% { 12.4% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 78924	(8.62 , N/A) (N/A , -0.01 , N/A)	995.2	N/A	0.0718 [0.1000]	71.8% { 11.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

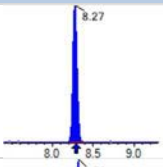
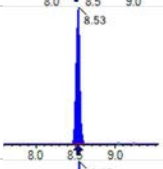
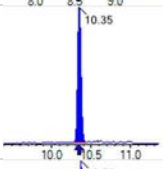
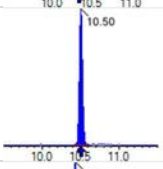
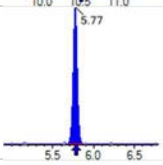
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 70495	(8.91 , N/A) (N/A , -0.01 , N/A)	113227.1	N/A	0.0747 [0.1000]	74.7% { 10.7% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 64762	(9.29 , N/A) (N/A , 0.00 , N/A)	571.0	N/A	0.0749 [0.1000]	74.9% { 11.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 409334	(5.44 , N/A) (N/A , -0.01 , N/A)	749.9	N/A	0.1705 [0.2000]	85.3% { 10.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 201384	(7.13 , N/A) (N/A , -0.01 , N/A)	214.0	N/A	0.1615 [0.2000]	80.8% { 10.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 424068	(8.34 , N/A) (N/A , -0.01 , N/A)	282.6	N/A	0.1488 [0.2000]	74.4% { 10.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 75192	(5.20 , N/A) (N/A , -0.01 , N/A)	246.6	N/A	0.5675 [0.4000]	141.9% { 21.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 32583	(6.70 , N/A) (N/A , -0.01 , N/A)	148.4	N/A	0.2240 [0.4000]	56.0% { 7.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 70887	(7.89 , N/A) (N/A , 0.00 , N/A)	188.4	N/A	0.3450 [0.4000]	86.2% { 11.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 669689	(9.83 , N/A) (N/A , -0.01 , N/A)	1852.7	N/A	0.1266 [0.2000]	63.3% { 8.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 139739	(10.41 , N/A) (N/A , 0.00 , N/A)	671.5	N/A	0.1121 [0.2000]	56.0% { 7.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 114383	(10.56 , N/A) (N/A , 0.00 , N/A)	809.3	N/A	0.1025 [0.2000]	51.3% { 6.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-02RE1@10
DF , IV: 1 , 1.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (23)
Acquired: 2023/02/15 - 00:26

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) 209086	(8.27 , N/A) (N/A , -0.01 , N/A)	901.8	N/A	0.4533 [0.4000]	113.3% { 15.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 112026	(8.53 , N/A) (N/A , 0.00 , N/A)	4842646.8	N/A	0.2966 [0.4000]	74.2% { 10.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 458190	(10.35 , N/A) (N/A , 0.00 , N/A)	399.1	N/A	1.0082 [2.0000]	50.4% { 6.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 729184	(10.50 , N/A) (N/A , 0.00 , N/A)	937.2	N/A	1.2529 [2.0000]	62.6% { 7.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 321442	(5.77 , N/A) (N/A , -0.01 , N/A)	845.4	N/A	0.6211 [0.8000]	77.6% { 9.0% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW17D-WQFB01-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-03	File ID:	S2023-02-14D (24)
Sampled:	02/10/23 11:30	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 00:39
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	556.9 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.72 U	1.4	0.72	0.19	
PFPEA	0.36 U	0.72	0.36	0.058	
PFHXA	0.18 U	0.36	0.18	0.049	
PFHPA	0.18 U	0.36	0.18	0.037	
PFOA	0.18 U	0.36	0.18	0.14	
PFNA	0.18 U	0.36	0.18	0.073	
PFDA	0.18 U	0.36	0.18	0.091	
PFUnA	0.18 U	0.36	0.18	0.14	
PFDOA	0.18 U	0.36	0.18	0.10	
PFTRDA	0.27 U	0.36	0.27	0.18	
PFTEDA	0.18 U	0.36	0.18	0.18	
PFBS	0.18 U	0.36	0.18	0.033	
PFPES	0.18 U	0.36	0.18	0.056	
PFHXS	0.18 U	0.36	0.18	0.028	
PFHPS	0.18 U	0.36	0.18	0.046	
PFOS	0.17 J	0.36	0.18	0.057	MI5,
PFNS	0.18 U	0.36	0.18	0.11	
PFDS	0.18 U	0.36	0.18	0.14	
PFDOS	0.18 U	0.36	0.18	0.11	
4:2FTS	0.72 U	1.4	0.72	0.26	
6:2FTS	0.72 U	1.4	0.72	0.28	
8:2FTS	0.72 U	1.4	0.72	0.074	
PFOSA	0.18 U	0.36	0.18	0.093	
NMeFOSA	0.72 U	1.4	0.72	0.42	
NEtFOSA	0.72 U	1.4	0.72	0.37	
NMeFOSAA	0.18 U	0.36	0.18	0.095	
NEtFOSAA	0.18 U	0.36	0.18	0.10	
NMeFOSE	1.1 U	1.4	1.1	0.91	
NEtFOSE	1.1 U	1.4	1.1	0.94	
HFPO-DA	0.36 U	0.72	0.36	0.16	

FORM I
ANALYSIS DATA SHEET

AF-RHMW17D-WQFB01-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-03	File ID:	S2023-02-14D (24)
Sampled:	02/10/23 11:30	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 00:39
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	556.9 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

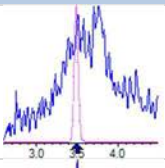
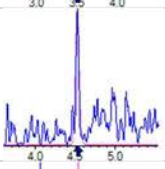
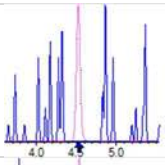
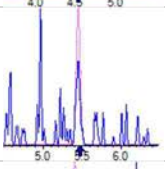
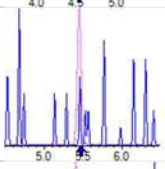
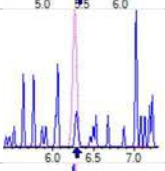
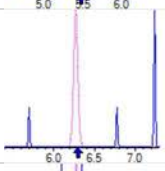
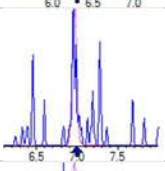
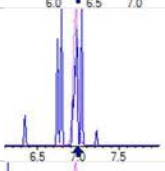
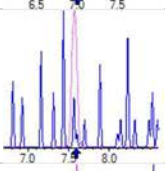
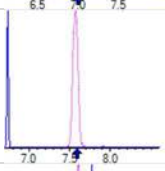
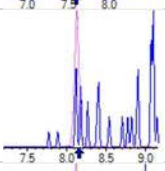
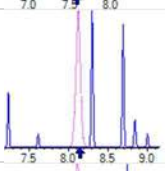
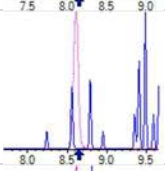
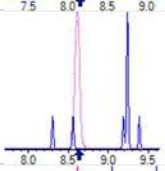
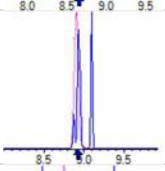
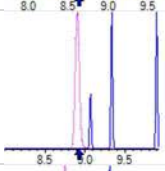
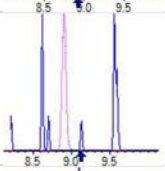
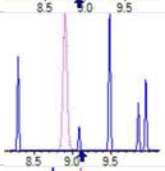
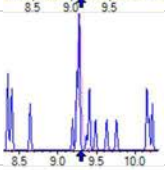
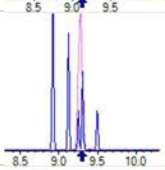
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.36 U	0.72	0.36	0.11	
PFEESA	0.36 U	0.72	0.36	0.098	
PFMPA	0.36 U	0.72	0.36	0.048	
PFMBA	0.36 U	0.72	0.36	0.081	
NFDHA	0.36 U	0.72	0.36	0.27	
9CL-PF3ONS	0.36 U	0.72	0.36	0.19	
11CL-PF3OUDS	0.36 U	0.72	0.36	0.19	
3:3FTCA	0.72 U	1.4	0.72	0.52	
5:3FTCA	0.72 U	1.4	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.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

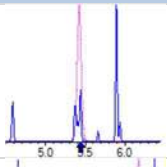
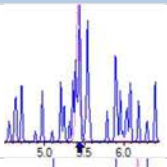
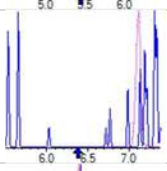
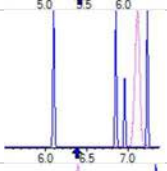
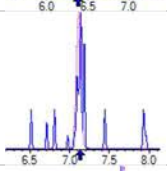
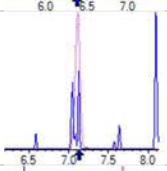
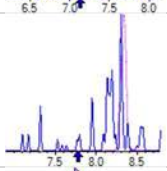
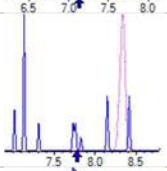
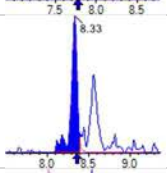
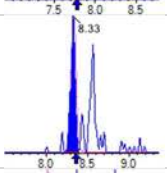
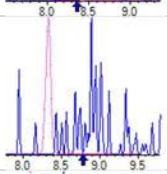
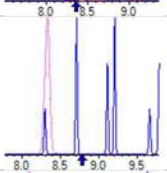
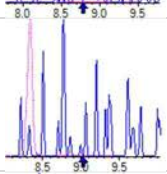
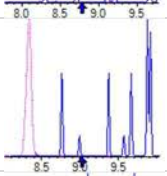
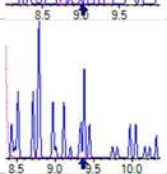
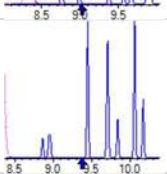
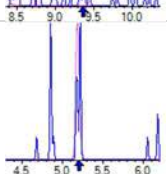
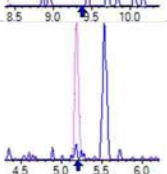
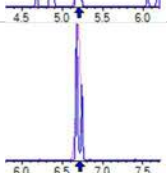
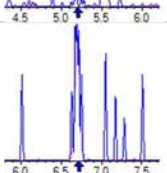
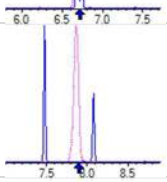
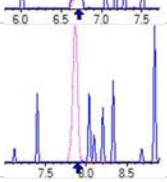
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

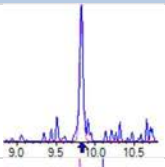
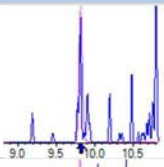
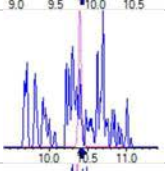
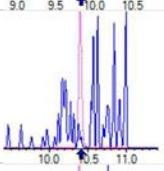
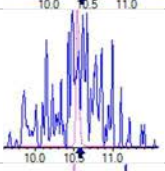
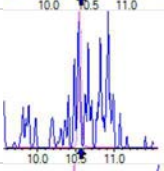
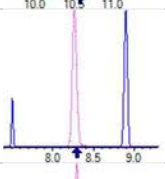
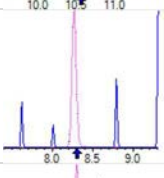
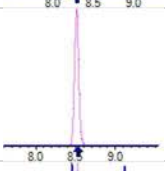
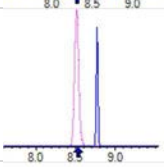
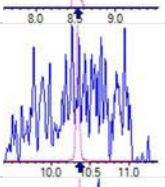
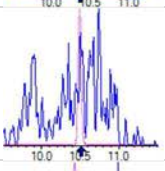
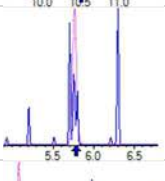
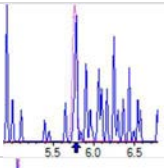
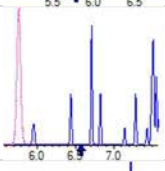
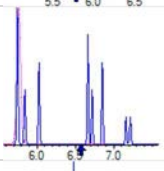
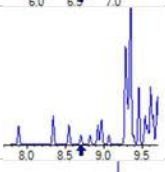
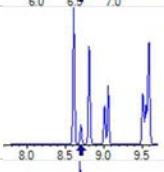
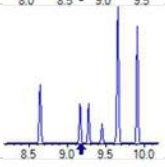
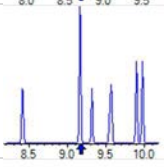
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 113179 (499.0 / 99.0) 22773	(8.33 , 1.00) (0.00 , N/A , 0.3)	91.7 105.7	0.2012 90.9 94.9	0.0476	N/A			MI5 DG 2023-02-15
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.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

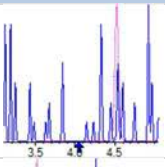
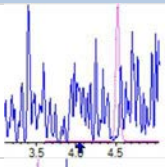
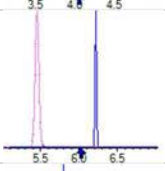
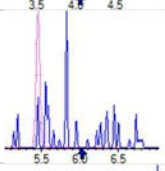
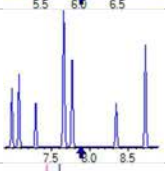
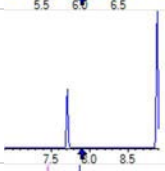
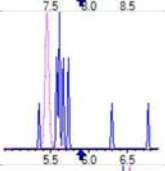
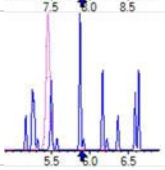
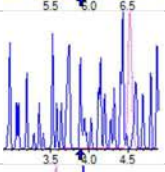
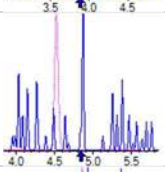
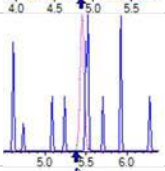
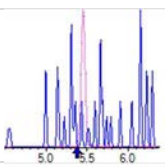
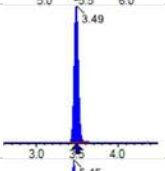
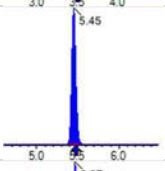
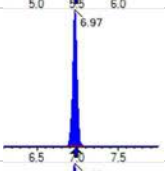
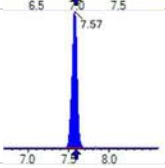
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

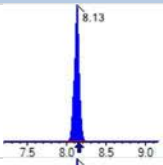
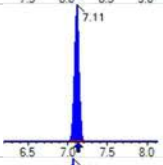
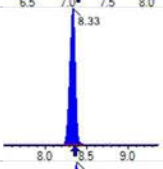
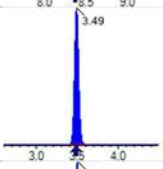
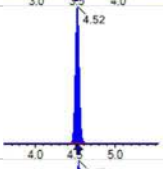
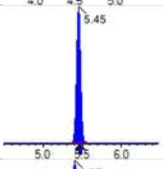
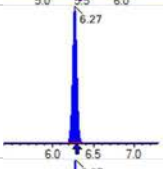
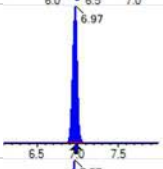
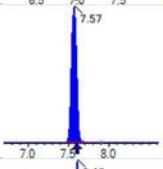
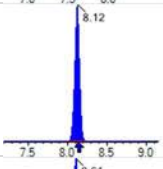
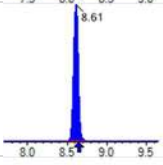
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 297640	(3.49 , N/A) (N/A , -0.01 , N/A)	1348.0	N/A	1.3288 [1.0000]	132.9% { 135.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 583935	(5.45 , N/A) (N/A , -0.02 , N/A)	1731.4	N/A	1.1568 [1.0000]	115.7% { 121.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 730818	(6.97 , N/A) (N/A , -0.02 , N/A)	34039.5	N/A	1.1531 [1.0000]	115.3% { 119.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 667133	(7.57 , N/A) (N/A , -0.02 , N/A)	1303.8	N/A	1.1040 [1.0000]	110.4% { 118.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

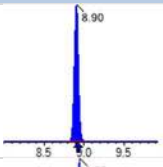
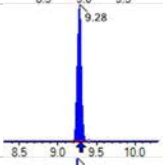
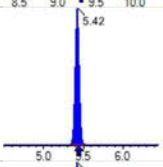
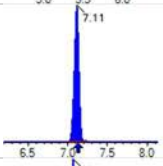
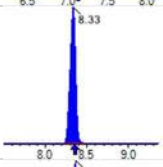
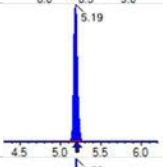
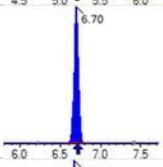
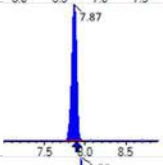
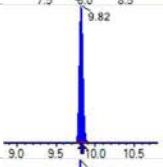
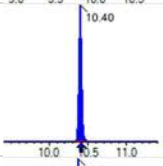
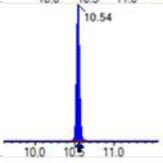
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 728704	(8.13 , N/A) (N/A , -0.02 , N/A)	303.4	N/A	1.2593 [1.0000]	125.9% { 136.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1057329	(7.11 , N/A) (N/A , -0.02 , N/A)	2296.6	N/A	1.2347 [1.0000]	123.5% { 125.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1959790	(8.33 , N/A) (N/A , -0.02 , N/A)	1457.9	N/A	1.3018 [1.0000]	130.2% { 146.1% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2456217	(3.49 , N/A) (N/A , -0.01 , N/A)	5693.9	N/A	6.9377 [8.0000]	86.7% { 106.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2441137	(4.52 , N/A) (N/A , -0.02 , N/A)	3740.4	N/A	3.8208 [4.0000]	95.5% { 105.9% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1418282	(5.45 , N/A) (N/A , -0.02 , N/A)	3023.1	N/A	1.7732 [2.0000]	88.7% { 99.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1225509	(6.27 , N/A) (N/A , -0.02 , N/A)	2836.9	N/A	1.7684 [2.0000]	88.4% { 104.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1460484	(6.97 , N/A) (N/A , -0.02 , N/A)	1347.9	N/A	1.7646 [2.0000]	88.2% { 102.8% }			
13C9_PFNA_EIS	(472.0 / 427.0) 634157	(7.57 , N/A) (N/A , -0.02 , N/A)	1263.0	N/A	0.8972 [1.0000]	89.7% { 104.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 732702	(8.12 , N/A) (N/A , -0.02 , N/A)	3762.3	N/A	0.7975 [1.0000]	79.7% { 98.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 718205	(8.61 , N/A) (N/A , -0.02 , N/A)	6348.5	N/A	0.7861 [1.0000]	78.6% { 107.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

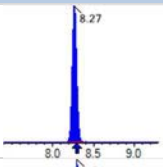
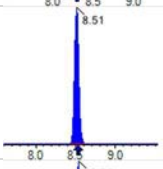
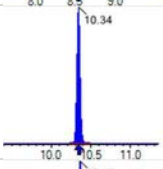
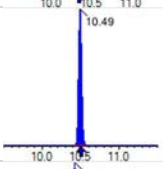
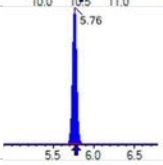
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 730421	(8.90 , N/A) (N/A , -0.01 , N/A)	3033.9	N/A	0.9321 [1.0000]	93.2% { 111.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 651427	(9.28 , N/A) (N/A , -0.01 , N/A)	1478.8	N/A	0.9073 [1.0000]	90.7% { 111.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3963429	(5.42 , N/A) (N/A , -0.02 , N/A)	4154.9	N/A	1.7911 [2.0000]	89.6% { 104.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2025389	(7.11 , N/A) (N/A , -0.02 , N/A)	1804.3	N/A	1.7621 [2.0000]	88.1% { 103.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4508729	(8.33 , N/A) (N/A , -0.02 , N/A)	1813.6	N/A	1.6758 [2.0000]	83.8% { 106.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 871156	(5.19 , N/A) (N/A , -0.02 , N/A)	2786.6	N/A	7.1321 [4.0000]	178.3% { 250.9% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 433054	(6.70 , N/A) (N/A , -0.02 , N/A)	1703.8	N/A	3.2298 [4.0000]	80.7% { 104.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 534249	(7.87 , N/A) (N/A , -0.02 , N/A)	1413.5	N/A	2.8203 [4.0000]	70.5% { 88.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7259414	(9.82 , N/A) (N/A , -0.01 , N/A)	2757.7	N/A	1.4535 [2.0000]	72.7% { 87.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1286443	(10.40 , N/A) (N/A , -0.02 , N/A)	2189.4	N/A	1.0933 [2.0000]	54.7% { 66.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1098308	(10.54 , N/A) (N/A , -0.02 , N/A)	2594.1	N/A	1.0431 [2.0000]	52.2% { 61.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-03
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (24)
Acquired: 2023/02/15 - 00:39

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) 1203370	(8.27 , N/A) (N/A , -0.02 , N/A)	1396.8	N/A	2.7638 [4.0000]	69.1% { 90.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 993867	(8.51 , N/A) (N/A , -0.02 , N/A)	8058.6	N/A	2.7877 [4.0000]	69.7% { 94.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3876289	(10.34 , N/A) (N/A , -0.01 , N/A)	1228.6	N/A	9.0362 [20.0000]	45.2% { 52.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7229919	(10.49 , N/A) (N/A , -0.01 , N/A)	2343.6	N/A	13.1607 [20.0000]	65.8% { 76.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3499731	(5.76 , N/A) (N/A , -0.02 , N/A)	3540.7	N/A	7.1864 [8.0000]	89.8% { 97.6% }			

FORM I
ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-04	File ID:	S2023-02-14D (26)
Sampled:	02/10/23 08:55	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 01:04
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	527.55 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
PFBA	0.60 J	1.5	0.76	0.20	
PFPEA	1.3	0.76	0.38	0.062	
PFHXA	1.0	0.38	0.19	0.052	
PFHPA	0.83	0.38	0.19	0.039	
PFOA	1.0	0.38	0.19	0.14	
PFNA	0.17 J	0.38	0.19	0.078	IR1,
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	0.76	0.38	0.19	0.035	
PFPES	0.16 J	0.38	0.19	0.059	
PFHXS	1.2	0.38	0.19	0.030	
PFHPS	0.19 U	0.38	0.19	0.049	
PFOS	1.1	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	0.28	
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	0.099	
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	0.96	
NEtFOSE	1.1 U	1.5	1.1	0.99	
HFPO-DA	0.38 U	0.76	0.38	0.17	

FORM I
ANALYSIS DATA SHEET

AF-RHMW225401-WGN01B-2302W1

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Laboratory ID:	23B0091-04	File ID:	S2023-02-14D (26)
Sampled:	02/10/23 08:55	Prepared:	02/13/23 07:19	Analyzed:	02/15/23 01:04
Solids:		Preparation:	EPA 1633	Dilution:	1
Initial/Final:	527.55 mL / 2 mL			Instrument:	Saphira
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007

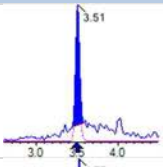
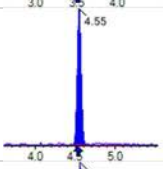
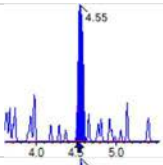
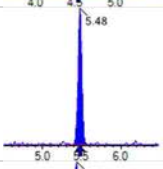
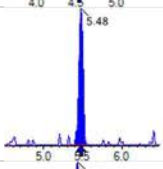
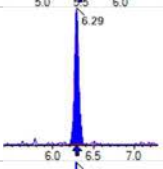
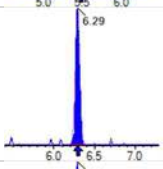
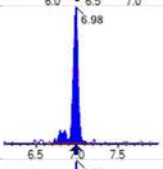
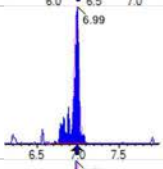
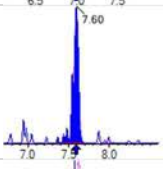
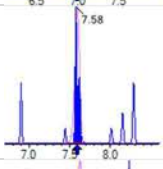
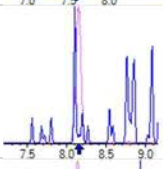
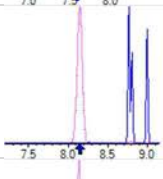
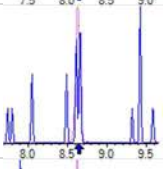
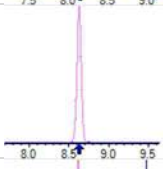
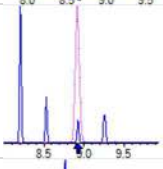
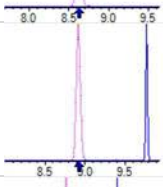
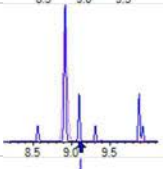
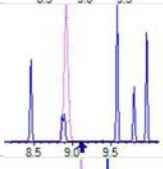
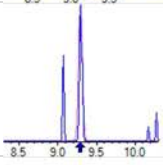
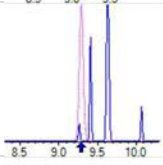
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.38 U	0.76	0.38	0.12	
PFEESA	0.38 U	0.76	0.38	0.10	
PFMPA	0.38 U	0.76	0.38	0.051	
PFMBA	0.38 U	0.76	0.38	0.086	
NFDHA	0.38 U	0.76	0.38	0.29	
9CL-PF3ONS	0.38 U	0.76	0.38	0.20	
11CL-PF3OUDS	0.38 U	0.76	0.38	0.20	
3:3FTCA	0.76 U	1.5	0.76	0.54	
5:3FTCA	0.76 U	1.5	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.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

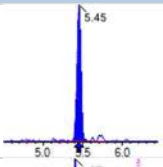
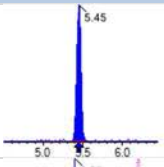
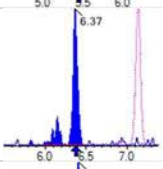
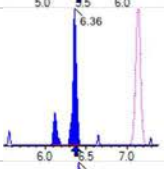
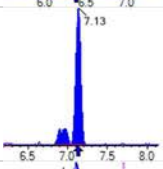
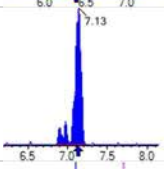
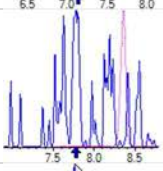
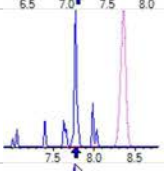
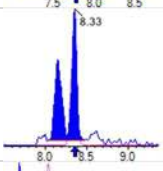
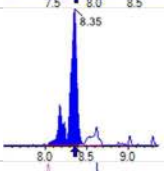
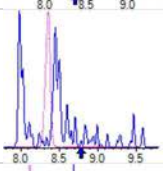
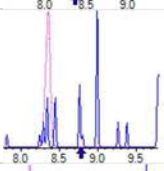
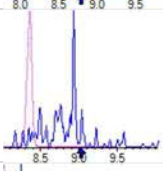
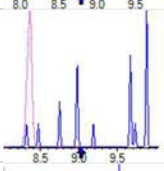
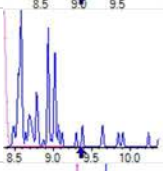
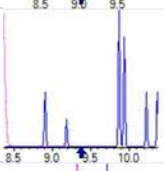
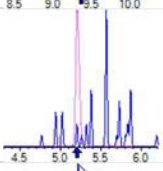
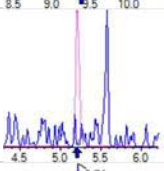
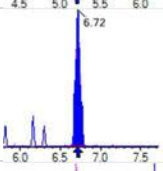
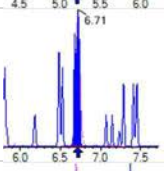
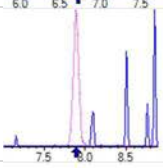
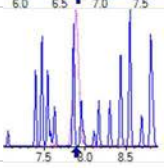
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 40576	(3.51 , 1.00) (0.00 , N/A , 0.0)	53.4	N/A 0.0 0.0	0.1578	N/A			
PFPeA	(263.0 / 219.0) 181220 (263.0 / 69.0) 3237	(4.55 , 1.00) (0.00 , N/A , -0.2)	467.0 29.4	0.0179 166.8 162.1	0.3522	N/A			
PFHxA	(313.0 / 269.0) 175493 (313.0 / 119.0) 22074	(5.48 , 1.00) (0.00 , N/A , -0.1)	445.3 4118.6	0.1258 126.3 132.2	0.2687	N/A			
PFHpA	(363.0 / 319.0) 116486 (363.0 / 169.0) 35687	(6.29 , 1.00) (0.00 , N/A , 0.2)	573.8 1413.0	0.3064 95.6 95.8	0.2178	N/A			
PFOA	(413.0 / 369.0) 180144 (413.0 / 169.0) 60264	(6.98 , 1.00) (0.00 , N/A , -0.3)	435.6 4111.9	0.3345 100.0 92.6	0.2757	N/A			
PFNA	(463.0 / 419.0) 26611 (463.0 / 169.0) 2888	(7.60 , 1.00) (0.00 , N/A , 1.1)	2495.5 1191.4	0.1085 48.5 49.1	0.0458	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.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

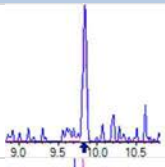
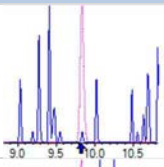
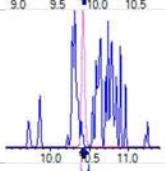
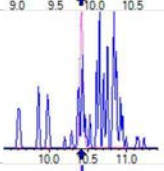
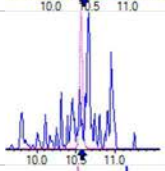
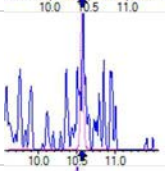
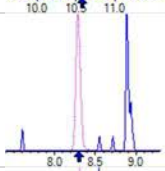
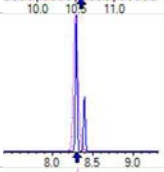
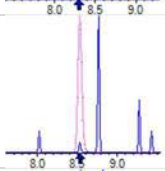
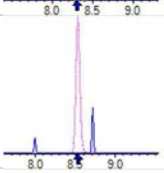
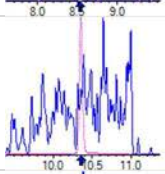
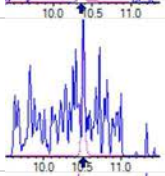
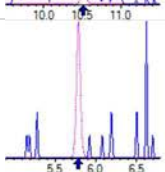
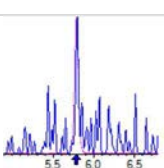
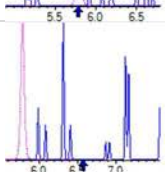
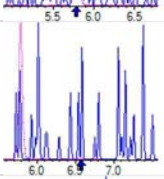
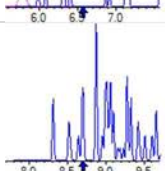
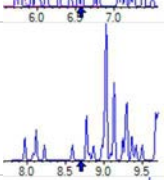
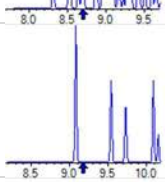
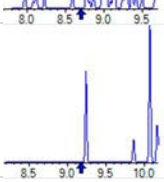
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 250224 (299.0 / 99.0) 131433	(5.45 , 1.00) (0.00 , N/A , 0.2)	308.2 402.8	0.5253 81.2 84.9	0.1997	N/A			
PFPeS	(349.0 / 80.0) 80181 (349.0 / 99.0) 16925	(6.37 , 0.89) (N/A , -0.01 , 0.3)	11770.7 4521.8	0.2111 59.1 61.3	0.0426	N/A			
PFHxS	(399.0 / 80.0) 473103 (399.0 / 99.0) 149135	(7.13 , 1.00) (0.00 , N/A , 0.0)	6258.1 2109.0	0.3152 97.1 96.8	0.3152	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) 735295 (499.0 / 99.0) 143824	(8.33 , 1.00) (-0.03 , N/A , -1.6)	79.7 212.6	0.1956 88.4 92.3	0.2786	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) 7152 (427.0 / 81.0) 3877	(6.72 , 1.00) (0.00 , N/A , 0.3)	11642.7 30.6	0.5421 65.5 70.2	0.0480	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.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

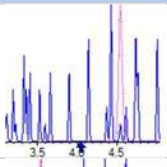
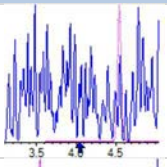
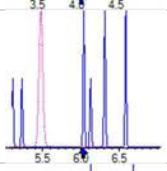
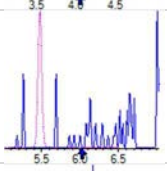
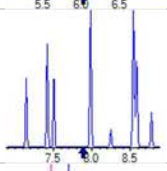
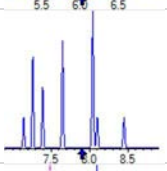
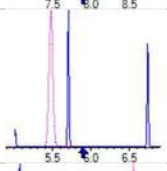
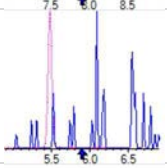
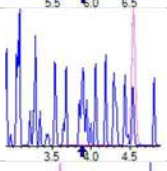
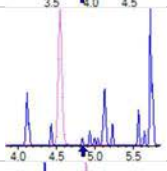
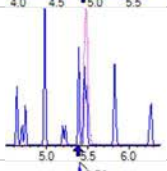
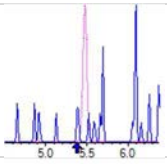
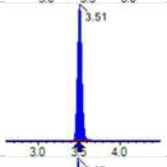
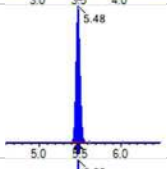
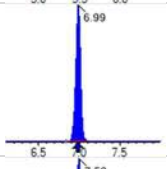
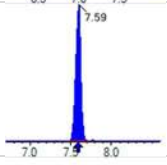
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

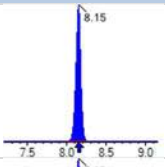
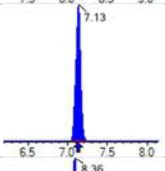
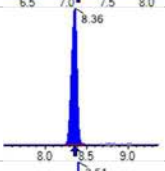
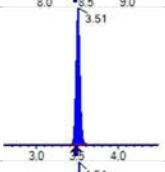
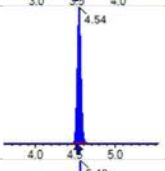
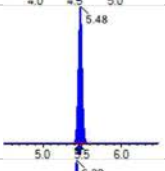
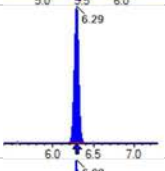
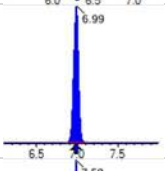
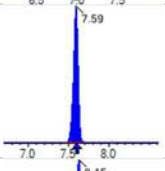
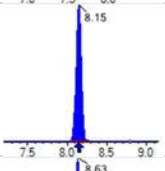
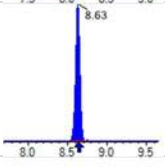
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 308013	(3.51 , N/A) (N/A , 0.01 , N/A)	1408.4	N/A	1.3751 [1.0000]	137.5% { 140.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 592652	(5.48 , N/A) (N/A , 0.00 , N/A)	1544.7	N/A	1.1740 [1.0000]	117.4% { 123.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 705559	(6.99 , N/A) (N/A , 0.00 , N/A)	1597.1	N/A	1.1133 [1.0000]	111.3% { 115.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 653697	(7.59 , N/A) (N/A , 0.00 , N/A)	7650.5	N/A	1.0818 [1.0000]	108.2% { 115.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

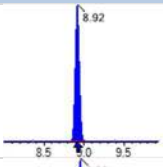
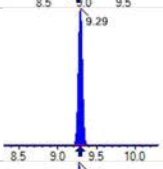
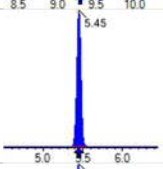
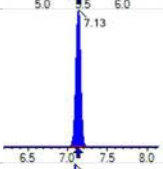
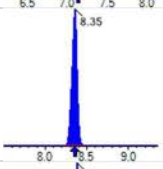
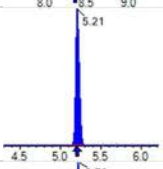
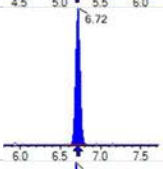
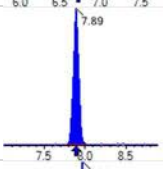
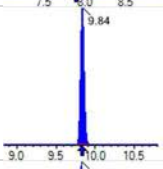
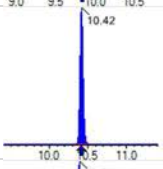
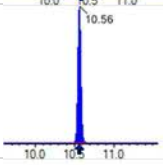
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 774426	(8.15 , N/A) (N/A , 0.00 , N/A)	2647.0	N/A	1.3384 [1.0000]	133.8% { 144.7% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1000660	(7.13 , N/A) (N/A , 0.00 , N/A)	5868.6	N/A	1.1685 [1.0000]	116.8% { 118.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 2072436	(8.36 , N/A) (N/A , 0.00 , N/A)	952.5	N/A	1.3767 [1.0000]	137.7% { 154.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2483715	(3.51 , N/A) (N/A , 0.01 , N/A)	6145.9	N/A	6.7791 [8.0000]	84.7% { 108.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2501775	(4.54 , N/A) (N/A , 0.00 , N/A)	2905.1	N/A	3.8581 [4.0000]	96.5% { 108.5% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1485717	(5.48 , N/A) (N/A , 0.00 , N/A)	2954.7	N/A	1.8302 [2.0000]	91.5% { 104.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1266447	(6.29 , N/A) (N/A , 0.00 , N/A)	2007.7	N/A	1.8006 [2.0000]	90.0% { 107.5% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1467632	(6.99 , N/A) (N/A , 0.00 , N/A)	1390.5	N/A	1.8367 [2.0000]	91.8% { 103.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 657313	(7.59 , N/A) (N/A , 0.00 , N/A)	1837.3	N/A	0.9490 [1.0000]	94.9% { 108.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 850878	(8.15 , N/A) (N/A , 0.00 , N/A)	1546.6	N/A	0.8714 [1.0000]	87.1% { 114.1% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 947170	(8.63 , N/A) (N/A , 0.00 , N/A)	1516.0	N/A	0.9755 [1.0000]	97.5% { 142.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

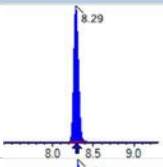
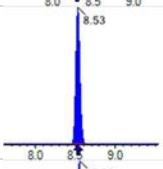
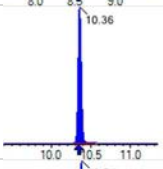
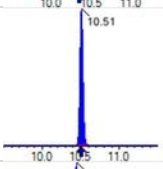
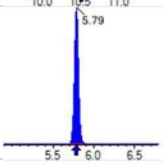
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 793120	(8.92 , N/A) (N/A , 0.00 , N/A)	2366.9	N/A	0.9524 [1.0000]	95.2% { 120.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 625573	(9.29 , N/A) (N/A , 0.00 , N/A)	11883.9	N/A	0.8198 [1.0000]	82.0% { 106.8% }			
13C3_PFBS_EIS	(302.0 / 80.0) 4032385	(5.45 , N/A) (N/A , 0.00 , N/A)	3050.2	N/A	1.9254 [2.0000]	96.3% { 106.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1952312	(7.13 , N/A) (N/A , 0.00 , N/A)	1642.9	N/A	1.7947 [2.0000]	89.7% { 99.3% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5005565	(8.35 , N/A) (N/A , 0.00 , N/A)	1638.6	N/A	1.7593 [2.0000]	88.0% { 118.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 880169	(5.21 , N/A) (N/A , 0.00 , N/A)	1567.3	N/A	7.6140 [4.0000]	190.3% { 253.4% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 420156	(6.72 , N/A) (N/A , 0.00 , N/A)	760.1	N/A	3.3111 [4.0000]	82.8% { 101.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 692188	(7.89 , N/A) (N/A , 0.00 , N/A)	799.8	N/A	3.8610 [4.0000]	96.5% { 114.7% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7654815	(9.84 , N/A) (N/A , 0.00 , N/A)	4530.1	N/A	1.4494 [2.0000]	72.5% { 92.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1191968	(10.42 , N/A) (N/A , 0.00 , N/A)	2075.0	N/A	0.9579 [2.0000]	47.9% { 61.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1061267	(10.56 , N/A) (N/A , 0.00 , N/A)	3052.8	N/A	0.9531 [2.0000]	47.7% { 59.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: 23B0091-04
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (26)
Acquired: 2023/02/15 - 01:04

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1663563	(8.29 , N/A) (N/A , 0.00 , N/A)	3470.3	N/A	3.6131 [4.0000]	90.3% { 125.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1792074	(8.53 , N/A) (N/A , 0.00 , N/A)	627829.8	N/A	4.7534 [4.0000]	118.8% { 169.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3888993	(10.36 , N/A) (N/A , 0.00 , N/A)	1403.2	N/A	8.5730 [20.0000]	42.9% { 52.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 6903037	(10.51 , N/A) (N/A , 0.00 , N/A)	1890.0	N/A	11.8826 [20.0000]	59.4% { 73.3% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3572249	(5.79 , N/A) (N/A , 0.00 , N/A)	3773.8	N/A	7.2274 [8.0000]	90.3% { 99.6% }			

QUALITY CONTROL

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW17-WGN01LF-2302W1 (23B0091-01) ng/L	Lab File ID: S2023-02-14D (20)			Analyzed: 02/14/23 23:47
13C4-PFBA	28.3	83.0	10 - 130	
13C5-PFPEA	14.1	91.0	35 - 150	
13C5-PFHXA	7.06	86.3	55 - 150	
13C4-PFHPA	7.06	81.7	55 - 150	
13C8-PFOA	7.06	82.7	60 - 140	
13C9-PFNA	3.53	81.7	55 - 140	
13C6-PFDA	3.53	84.3	50 - 140	
13C7-PFUnA	3.53	86.7	30 - 140	
13C2-PFDOA	3.53	91.2	10 - 150	
13C2-PFTEDA	3.53	80.2	10 - 130	
13C3-PFBS	7.06	84.9	55 - 150	
13C3-PFHXS	7.06	82.9	55 - 150	
13C8-PFOS	7.06	84.5	45 - 140	
13C2-4:2FTS	14.1	182	60 - 200	
13C2-6:2FTS	14.1	67.8	60 - 200	
13C2-8:2FTS	14.1	69.1	50 - 200	
13C8-PFOSA	7.06	77.8	30 - 130	
D3-NMEFOSA	7.06	63.6	15 - 130	
D5-NETFOSA	7.06	59.9	10 - 130	
D3-NMEFOSAA	14.1	72.9	45 - 200	
D5-NETFOSAA	14.1	81.4	10 - 200	
D7-NMEFOSE	70.6	52.6	10 - 150	
D9-NETFOSE	70.6	70.8	10 - 150	
13C3-HFPO-DA	28.3	90.1	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW17D-WGN01LF-2302W1 (23B0091-02) ng/L	Lab File ID: S2023-02-14D (22)			Analyzed: 02/15/23 00:13
13C4-PFBA	28.1	81.8	10 - 130	
13C5-PFPEA	14.0	63.6	35 - 150	
13C5-PFHXA	7.02	76.2	55 - 150	
13C4-PFHPA	7.02	74.6	55 - 150	
13C8-PFOA	7.02	90.3	60 - 140	
13C9-PFNA	3.51	85.9	55 - 140	
13C6-PFDA	3.51	90.4	50 - 140	
13C7-PFUnA	3.51	152	30 - 140	*
13C2-PFDOA	3.51	126	10 - 150	
13C2-PFTEDA	3.51	129	10 - 130	
13C3-PFBS	7.02	80.9	55 - 150	
13C3-PFHXS	7.02	73.5	55 - 150	
13C8-PFOS	7.02	78.2	45 - 140	
13C2-4:2FTS	14.0	190	60 - 200	
13C2-6:2FTS	14.0	165	60 - 200	
13C2-8:2FTS	14.0	110	50 - 200	
13C8-PFOSA	7.02	67.0	30 - 130	
D3-NMEFOSA	7.02	52.1	15 - 130	
D5-NETFOSA	7.02	51.2	10 - 130	
D3-NMEFOSAA	14.0	63.8	45 - 200	
D5-NETFOSAA	14.0	99.3	10 - 200	
D7-NMEFOSE	70.2	41.3	10 - 150	
D9-NETFOSE	70.2	59.1	10 - 150	
13C3-HFPO-DA	28.1	79.1	25 - 160	
AF-RHMW17D-WGN01LF-2302W1 (23B0091-02RE1) ng/L	Lab File ID: S2023-02-14D (23)			Analyzed: 02/15/23 00:26
13C7-PFUnA	3.51	71.8	30 - 140	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW17D-WQFB01-2302W1 (23B0091-03) ng/L	Lab File ID: S2023-02-14D (24)			Analyzed: 02/15/23 00:39
13C4-PFBA	28.7	86.7	10 - 130	
13C5-PFPEA	14.4	95.5	35 - 150	
13C5-PFHXA	7.18	88.7	55 - 150	
13C4-PFHPA	7.18	88.4	55 - 150	
13C8-PFOA	7.18	88.2	60 - 140	
13C9-PFNA	3.59	89.7	55 - 140	
13C6-PFDA	3.59	79.7	50 - 140	
13C7-PFUnA	3.59	78.6	30 - 140	
13C2-PFDOA	3.59	93.2	10 - 150	
13C2-PFTEDA	3.59	90.7	10 - 130	
13C3-PFBS	7.18	89.6	55 - 150	
13C3-PFHXS	7.18	88.1	55 - 150	
13C8-PFOS	7.18	83.8	45 - 140	
13C2-4:2FTS	14.4	178	60 - 200	
13C2-6:2FTS	14.4	80.7	60 - 200	
13C2-8:2FTS	14.4	70.5	50 - 200	
13C8-PFOSA	7.18	72.7	30 - 130	
D3-NMEFOSA	7.18	54.7	15 - 130	
D5-NETFOSA	7.18	52.2	10 - 130	
D3-NMEFOSAA	14.4	69.1	45 - 200	
D5-NETFOSAA	14.4	69.7	10 - 200	
D7-NMEFOSE	71.8	45.2	10 - 150	
D9-NETFOSE	71.8	65.8	10 - 150	
13C3-HFPO-DA	28.7	89.8	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
AF-RHMW225401-WGN01B-2302W1 (23B0091-04) ng/L	Lab File ID: S2023-02-14D (26)			Analyzed: 02/15/23 01:04
13C4-PFBA	30.3	84.7	10 - 130	
13C5-PFPEA	15.2	96.5	35 - 150	
13C5-PFHXA	7.58	91.5	55 - 150	
13C4-PFHPA	7.58	90.0	55 - 150	
13C8-PFOA	7.58	91.8	60 - 140	
13C9-PFNA	3.79	94.9	55 - 140	
13C6-PFDA	3.79	87.1	50 - 140	
13C7-PFUnA	3.79	97.5	30 - 140	
13C2-PFDOA	3.79	95.2	10 - 150	
13C2-PFTEDA	3.79	82.0	10 - 130	
13C3-PFBS	7.58	96.3	55 - 150	
13C3-PFHXS	7.58	89.7	55 - 150	
13C8-PFOS	7.58	88.0	45 - 140	
13C2-4:2FTS	15.2	190	60 - 200	
13C2-6:2FTS	15.2	82.8	60 - 200	
13C2-8:2FTS	15.2	96.5	50 - 200	
13C8-PFOSA	7.58	72.5	30 - 130	
D3-NMEFOSA	7.58	47.9	15 - 130	
D5-NETFOSA	7.58	47.7	10 - 130	
D3-NMEFOSAA	15.2	90.3	45 - 200	
D5-NETFOSAA	15.2	119	10 - 200	
D7-NMEFOSE	75.8	42.9	10 - 150	
D9-NETFOSE	75.8	59.4	10 - 150	
13C3-HFPO-DA	30.3	90.3	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
Blank (BCB0232-BLK1) ng/L	Lab File ID: S2023-02-14D (7)			Analyzed: 02/14/23 20:59
13C4-PFBA	32.0	80.4	10 - 130	
13C5-PFPEA	16.0	83.5	35 - 150	
13C5-PFHXA	8.00	74.1	55 - 150	
13C4-PFHPA	8.00	78.1	55 - 150	
13C8-PFOA	8.00	74.7	60 - 140	
13C9-PFNA	4.00	68.3	55 - 140	
13C6-PFDA	4.00	75.3	50 - 140	
13C7-PFUnA	4.00	75.9	30 - 140	
13C2-PFDOA	4.00	90.6	10 - 150	
13C2-PFTEDA	4.00	82.4	10 - 130	
13C3-PFBS	8.00	74.9	55 - 150	
13C3-PFHXS	8.00	85.0	55 - 150	
13C8-PFOS	8.00	74.4	45 - 140	
13C2-4:2FTS	16.0	181	60 - 200	
13C2-6:2FTS	16.0	68.3	60 - 200	
13C2-8:2FTS	16.0	70.3	50 - 200	
13C8-PFOSA	8.00	75.7	30 - 130	
D3-NMEFOSA	8.00	50.0	15 - 130	
D5-NETFOSA	8.00	53.1	10 - 130	
D3-NMEFOSAA	16.0	66.2	45 - 200	
D5-NETFOSAA	16.0	65.7	10 - 200	
D7-NMEFOSE	80.0	48.3	10 - 150	
D9-NETFOSE	80.0	76.1	10 - 150	
13C3-HFPO-DA	32.0	83.4	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
LCS (BCB0232-BS1) ng/L	Lab File ID: S2023-02-14D (8)			Analyzed: 02/14/23 21:12
13C4-PFBA	32.0	90.6	10 - 130	
13C5-PFPEA	16.0	92.4	35 - 150	
13C5-PFHXA	8.00	85.3	55 - 150	
13C4-PFHPA	8.00	89.4	55 - 150	
13C8-PFOA	8.00	89.1	60 - 140	
13C9-PFNA	4.00	85.8	55 - 140	
13C6-PFDA	4.00	79.2	50 - 140	
13C7-PFUnA	4.00	83.4	30 - 140	
13C2-PFDOA	4.00	83.8	10 - 150	
13C2-PFTEDA	4.00	76.1	10 - 130	
13C3-PFBS	8.00	84.5	55 - 150	
13C3-PFHXS	8.00	84.5	55 - 150	
13C8-PFOS	8.00	89.0	45 - 140	
13C2-4:2FTS	16.0	182	60 - 200	
13C2-6:2FTS	16.0	72.8	60 - 200	
13C2-8:2FTS	16.0	70.8	50 - 200	
13C8-PFOSA	8.00	85.1	30 - 130	
D3-NMEFOSA	8.00	58.6	15 - 130	
D5-NETFOSA	8.00	61.5	10 - 130	
D3-NMEFOSAA	16.0	75.6	45 - 200	
D5-NETFOSAA	16.0	77.8	10 - 200	
D7-NMEFOSE	80.0	52.1	10 - 150	
D9-NETFOSE	80.0	81.8	10 - 150	
13C3-HFPO-DA	32.0	90.8	25 - 160	

SURROGATE SUMMARY SHEET

EPA 1633

Client: AECOM
Work Order: 23B0091
Project: Red Hill AFFF Assessment Sampling

Surrogate Compound	Spike level	% Recovery	Recovery Limits	Q
MRL Check (BCB0232-MRL1) ng/L	Lab File ID: S2023-02-14D (9)			Analyzed: 02/14/23 21:25
13C4-PFBA	32.0	89.4	10 - 130	
13C5-PFPEA	16.0	97.7	35 - 150	
13C5-PFHXA	8.00	96.3	55 - 150	
13C4-PFHPA	8.00	90.8	55 - 150	
13C8-PFOA	8.00	84.0	60 - 140	
13C9-PFNA	4.00	87.4	55 - 140	
13C6-PFDA	4.00	89.8	50 - 140	
13C7-PFUnA	4.00	87.7	30 - 140	
13C2-PFDOA	4.00	86.8	10 - 150	
13C2-PFTEDA	4.00	88.1	10 - 130	
13C3-PFBS	8.00	85.4	55 - 150	
13C3-PFHXS	8.00	82.2	55 - 150	
13C8-PFOS	8.00	91.8	45 - 140	
13C2-4:2FTS	16.0	177	60 - 200	
13C2-6:2FTS	16.0	70.0	60 - 200	
13C2-8:2FTS	16.0	70.1	50 - 200	
13C8-PFOSA	8.00	89.0	30 - 130	
D3-NMEFOSA	8.00	63.4	15 - 130	
D5-NETFOSA	8.00	68.5	10 - 130	
D3-NMEFOSAA	16.0	83.5	45 - 200	
D5-NETFOSAA	16.0	88.3	10 - 200	
D7-NMEFOSE	80.0	54.1	10 - 150	
D9-NETFOSE	80.0	85.5	10 - 150	
13C3-HFPO-DA	32.0	96.5	25 - 160	

METHOD BLANK SUMMARY

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Blank ID:	BCB0232-BLK1	Batch:	BCB0232
Prepared:	02/13/2023 07:19		

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BCB0232-BS1	S2023-02-14D (8)	21:12
MRL Check	BCB0232-MRL1	S2023-02-14D (9)	21:25
AF-RHMW17-WGN01LF-2302W1	23B0091-01	S2023-02-14D (20)	23:47
AF-RHMW17D-WGN01LF-2302W1	23B0091-02	S2023-02-14D (22)	00:13
DF10	23B0091-02RE1	S2023-02-14D (23)	00:26
AF-RHMW17D-WQFB01-2302W1	23B0091-03	S2023-02-14D (24)	00:39
AF-RHMW225401-WGN01B-2302W1	23B0091-04	S2023-02-14D (26)	01:04

ANALYSIS DATA SHEET

Blank

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BLK1	File ID:	S2023-02-14D (7)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 20:59
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
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	0.0870 J	0.40	0.20	0.055	J
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.20 U	0.40	0.20	0.15	IR2, 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	0.112 J	0.40	0.20	0.064	MI5, 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:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BLK1	File ID:	S2023-02-14D (7)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 20:59
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
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	IR2, 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:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCB0232	Laboratory ID:	BCB0232-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
PFBA	16.0	16.7	105	58 - 148
PFPEA	8.00	8.53	107	54 - 152
PFHXA	4.00	4.36	109	55 - 152
PFHPA	4.00	4.01	100	54 - 154
PFOA	4.00	4.30	108	52 - 161
PFNA	4.00	4.02	100	59 - 149
PFDA	4.00	4.62	116	52 - 147
PFUnA	4.00	4.11	103	48 - 159
PFDOA	4.00	3.92	98.1	64 - 142
PFTRDA	4.00	4.08	102	49 - 148
PFTEDA	4.00	4.34	108	47 - 161
PFBS	3.54	3.92	111	62 - 144
PFPES	3.76	3.94	105	59 - 151
PFHXS	3.66	3.70	101	57 - 146
PFHPS	3.82	4.10	107	55 - 152
PFOS	3.72	3.80	102	58 - 149
PFNS	3.84	4.06	106	52 - 148
PFDS	3.86	3.98	103	51 - 147
PFDOS	3.88	3.84	98.9	36 - 145
4:2FTS	15.0	16.0	107	67 - 146
6:2FTS	15.2	18.0	119	61 - 151
8:2FTS	15.4	17.2	112	63 - 152
PFOSA	4.00	4.63	116	61 - 148
NMeFOSA	16.0	16.1	101	63 - 145
NEtFOSA	16.0	18.2	113	65 - 139
NMeFOSAA	4.00	4.43	111	58 - 144
NEtFOSAA	4.00	4.08	102	59 - 146
NMeFOSE	16.0	18.5	116	71 - 136
NEtFOSE	16.0	16.1	101	69 - 137
HFPO-DA	8.00	8.21	103	63 - 144
ADONA	7.56	7.95	105	68 - 146
PFEESA	7.12	8.03	113	56 - 151
PFMPA	8.00	8.03	100	51 - 145
PFMBA	8.00	7.76	96.9	55 - 148

LCS / LCS DUPLICATE RECOVERY

EPA 1633

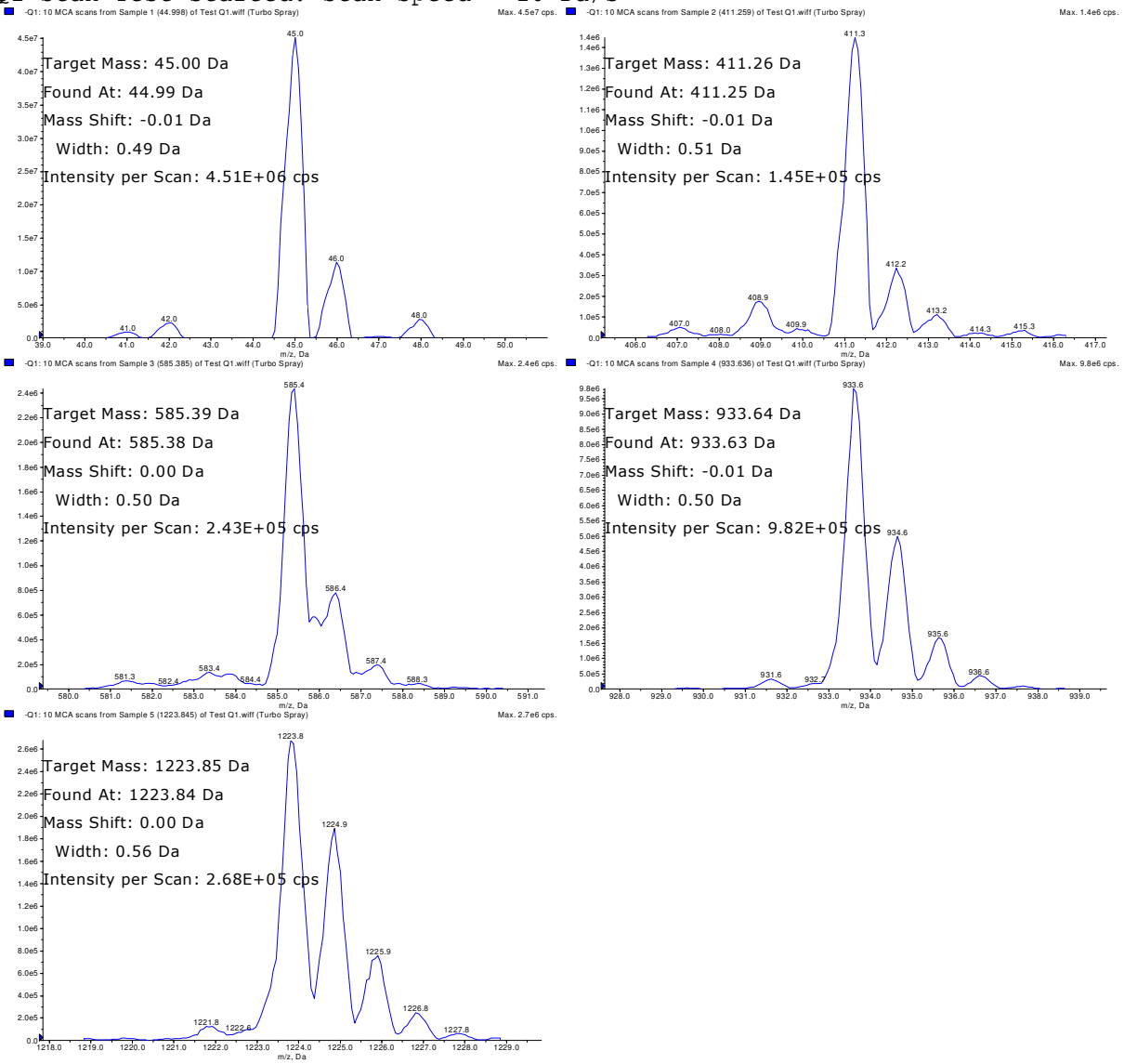
Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Matrix:	Water	Preparation:	EPA 1633
Batch:	BCB0232	Laboratory ID:	BCB0232-BS1
Column:			

ANALYTE	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC.	QC LIMITS REC.
NFDHA	8.00	8.99	112	48 - 161
9CL-PF3ONS	7.48	7.63	102	56 - 156
11CL-PF3OUDS	7.56	7.70	102	46 - 156
3:3FTCA	16.0	16.9	106	62 - 129
5:3FTCA	16.0	17.6	110	63 - 134
7:3FTCA	16.0	16.0	99.8	50 - 138

CALIBRATION SUMMARY

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

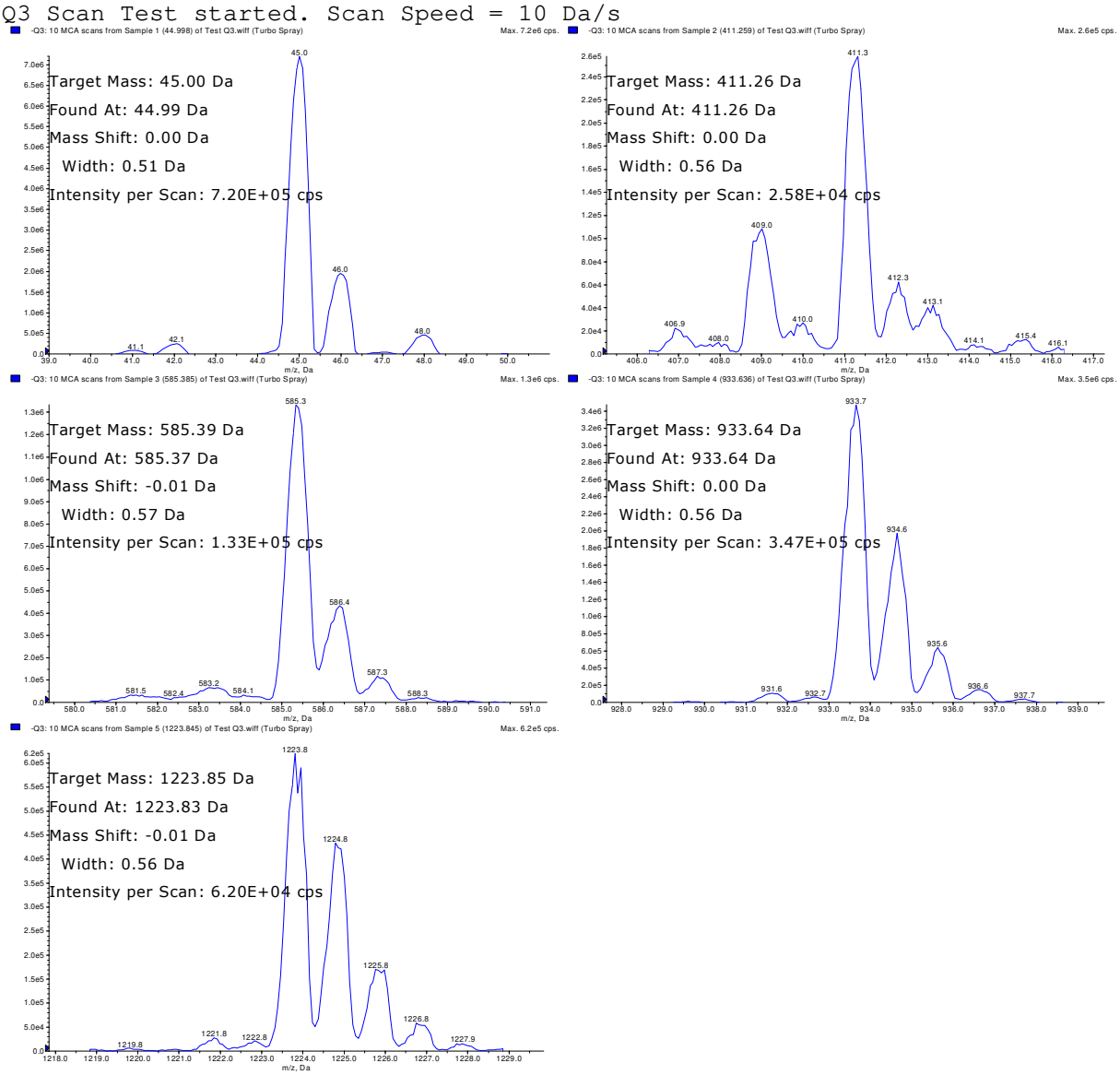
Q1 Scan Test started. Scan Speed = 10 Da/s



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

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

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



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

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Quant Method: 1633 - S2023-02-14C

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
PFBA	(213.0 / 169.0)	13C4_PFBA_EIS	4.0000	1.0000	y = 0.41417 x (std. dev. = 0.03642) (weighting: None)	%RSE=8.8
PFPeA	(263.0 / 219.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.41137 x (std. dev. = 0.03924) (weighting: None)	%RSE=9.5
PFHxA	(313.0 / 269.0)	13C5_PFHxA_EIS	1.0000	1.0000	y = 0.43957 x (std. dev. = 0.04840) (weighting: None)	%RSE=11.0
PFHpA	(363.0 / 319.0)	13C4_PFHpA_EIS	1.0000	1.0000	y = 0.42221 x (std. dev. = 0.04136) (weighting: None)	%RSE=9.8
PFOA	(413.0 / 369.0)	13C8_PFOA_EIS	1.0000	1.0000	y = 0.44519 x (std. dev. = 0.03337) (weighting: None)	%RSE=7.5
PFNA	(463.0 / 419.0)	13C9_PFNA_EIS	1.0000	1.0000	y = 0.88477 x (std. dev. = 0.05485) (weighting: None)	%RSE=6.2
PFDA	(513.0 / 469.0)	13C6_PFDA_EIS	1.0000	1.0000	y = 0.87964 x (std. dev. = 0.08735) (weighting: None)	%RSE=9.9
PFUnA	(563.0 / 519.0)	13C7_PFUnA_EIS	1.0000	1.0000	y = 0.83084 x (std. dev. = 0.10366) (weighting: None)	%RSE=12.5
PFDoA	(613.0 / 569.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.87937 x (std. dev. = 0.06795) (weighting: None)	%RSE=7.7
PFTrDA	(663.0 / 619.0)	13C2_PFDoA_EIS	1.0000	1.0000	y = 0.79619 x (std. dev. = 0.07839) (weighting: None)	%RSE=9.8
PFTeDA	(713.0 / 669.0)	13C2_PFTeDA_EIS	1.0000	1.0000	y = 0.86535 x (std. dev. = 0.04299) (weighting: None)	%RSE=5.0
PFBS	(299.0 / 80.0)	13C3_PFBS_EIS	1.0000	0.8847	y = 0.27491 x (std. dev. = 0.02287) (weighting: None)	%RSE=8.3
PFPeS	(349.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9384	y = 0.90486 x (std. dev. = 0.09986) (weighting: None)	%RSE=11.0
PFHxS	(399.0 / 80.0)	13C3_PFHxS_EIS	1.0000	0.9110	y = 0.70041 x (std. dev. = 0.05642) (weighting: None)	%RSE=8.1
PFHpS	(449.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9514	y = 0.36246 x (std. dev. = 0.04648) (weighting: None)	%RSE=12.8
PFOS	(499.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9275	y = 0.48901 x (std. dev. = 0.04989) (weighting: None)	%RSE=10.2
PFNS	(549.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9599	y = 0.56877 x (std. dev. = 0.05568) (weighting: None)	%RSE=9.8
PFDS	(599.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9631	y = 0.62077 x (std. dev. = 0.05855) (weighting: None)	%RSE=9.4
PFDoS	(699.0 / 80.0)	13C8_PFOS_EIS	1.0000	0.9696	y = 0.39858 x (std. dev. = 0.05576) (weighting: None)	%RSE=14.0
4:2FTS	(327.0 / 307.0)	13C2_4:2FTS_EIS	4.0000	0.9345	y = 2.55237 x (std. dev. = 0.26579) (weighting: None)	%RSE=10.4
6:2FTS	(427.0 / 407.0)	13C2_6:2FTS_EIS	4.0000	0.9490	y = 1.34660 x (std. dev. = 0.14334) (weighting: None)	%RSE=10.6
8:2FTS	(527.0 / 507.0)	13C2_8:2FTS_EIS	4.0000	0.9583	y = 1.04382 x (std. dev. = 0.12314) (weighting: None)	%RSE=11.8
PFOSA	(498.0 / 78.0)	13C8_PFOSA_EIS	1.0000	1.0000	y = 0.39991 x (std. dev. = 0.04179) (weighting: None)	%RSE=10.4
NMeFOSA	(512.0 / 219.0)	D3_NMeFOSA_EIS	4.0000	1.0000	y = -0.01499 x^2 + 1.74034 x + -0.02935 (r = 0.99892) (weighting: 1 / x)	%RSE=7.9
NEtFOSA	(526.0 / 219.0)	D5_NEtFOSA_EIS	4.0000	1.0000	y = 1.86847 x (std. dev. = 0.19576) (weighting: None)	%RSE=10.5
NMeFOSAA	(570.0 / 419.0)	D3_MeFOSAA_EIS	1.0000	1.0000	y = 0.19619 x (std. dev. = 0.01798) (weighting: None)	%RSE=9.2
NEtFOSAA	(584.0 / 419.0)	D5_EtFOSAA_EIS	1.0000	1.0000	y = 0.20998 x (std. dev. = 0.01387) (weighting: None)	%RSE=6.6
NMeFOSE	(616.0 / 59.0)	D7_NMeFOSE_EIS	4.0000	1.0000	y = 0.19995 x (std. dev. = 0.01319) (weighting: None)	%RSE=6.6
NEtFOSE	(630.0 / 59.0)	D9_NEtFOSE_EIS	4.0000	1.0000	y = 0.19033 x (std. dev. = 0.01474) (weighting: None)	%RSE=7.7
HFPO-DA	(285.0 / 169.0)	13C3_HFPODA_EIS	2.0000	1.0000	y = 0.19770 x (std. dev. = 0.01992) (weighting: None)	%RSE=10.1
ADONA	(377.0 / 85.0)	13C3_HFPODA_EIS	2.0000	0.9427	y = 0.64094 x (std. dev. = 0.09352) (weighting: None)	%RSE=14.6
9Cl-Pf3ONS	(531.0 / 351.0)	13C3_HFPODA_EIS	2.0000	0.9333	y = -0.04473 x^2 + 2.10957 x + -0.05721 (r = 0.99774) (weighting: 1 / x)	%RSE=10.3
11Cl-PF3OUDS	(631.0 / 451.0)	13C3_HFPODA_EIS	2.0000	0.9432	y = 1.04469 x (std. dev. = 0.11673) (weighting: None)	%RSE=11.2
3:3FTCA	(241.0 / 177.0)	13C5_PFPeA_EIS	4.0000	1.0000	y = 1.86535e-4 x^2 + 0.01946 x + -4.63779e-5 (r = 0.99934) (weighting: 1 / x)	%RSE=7.1
5:3FTCA	(341.0 / 236.7)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.24044 x (std. dev. = 0.03492) (weighting: None)	%RSE=14.5
7:3FTCA	(441.0 / 317.0)	13C5_PFHxA_EIS	4.0000	1.0000	y = 0.44417 x (std. dev. = 0.05674) (weighting: None)	%RSE=12.8
PFEESA	(315.0 / 135.0)	13C5_PFHxA_EIS	2.0000	0.8925	y = 0.94250 x (std. dev. = 0.11701) (weighting: None)	%RSE=12.4
PFMPA	(229.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.08985 x (std. dev. = 0.01015) (weighting: None)	%RSE=11.3
PFMBA	(279.0 / 85.0)	13C5_PFPeA_EIS	2.0000	1.0000	y = 0.37681 x (std. dev. = 0.03401) (weighting: None)	%RSE=9.0
NFDHA	(295.0 / 201.0)	13C5_PFHxA_EIS	2.0000	1.0000	y = 0.48796 x (std. dev. = 0.05376) (weighting: None)	%RSE=11.0
13C3_PFBA_IIS	(216.0 / 172.0)	13C3_PFBA_IIS	1.0000	1.0000	y = 223990.8344 x	%RSD=15.7
13C2_PFHxA_IIS	(315.0 / 270.0)	13C2_PFHxA_IIS	1.0000	1.0000	y = 504804.2832 x	%RSD=8.3
13C4_PFOA_IIS	(417.0 / 372.0)	13C4_PFOA_IIS	1.0000	1.0000	y = 633776.3615 x	%RSD=10.0
13C5_PFNA_IIS	(468.0 / 423.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 604267.6924 x	%RSD=7.7

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Quant Method: 1633 - S2023-02-14C

Analyte	(Q1 / Q3)	Internal Standard	Multiplier	AcidFactor	Function	Qualifier
13C2_PFDA_IIS	(515.0 / 470.1)	13C2_PFDA_IIS	1.0000	1.0000	y = 578638.3434 x	%RSD=6.0
18O2_PFHxS_IIS	(403.0 / 83.9)	18O2_PFHxS_IIS	1.0000	1.0000	y = 856363.7448 x	%RSD=5.6
13C4_PFOS_IIS	(503.0 / 79.9)	13C4_PFOS_IIS	1.0000	1.0000	y = 1505389.7322 x	%RSD=6.7
13C4_PFBA_EIS	(217.0 / 172.0)	13C3_PFBA_IIS	8.0000	1.0000	y = 9.5160 x	%RSD=6.0
13C5_PFPeA_EIS	(268.0 / 223.0)	13C2_PFHxA_IIS	4.0000	1.0000	y = 4.3765 x	%RSD=12.0
13C5_PFHxA_EIS	(318.0 / 273.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.7395 x	%RSD=10.4
13C4_PFHpA_EIS	(367.0 / 322.0)	13C2_PFHxA_IIS	2.0000	1.0000	y = 2.3736 x	%RSD=9.3
13C8_PFOA_EIS	(421.0 / 376.0)	13C4_PFOA_IIS	2.0000	1.0000	y = 2.2651 x	%RSD=10.4
13C9_PFNA_EIS	(472.0 / 427.0)	13C5_PFNA_IIS	1.0000	1.0000	y = 1.0595 x	%RSD=8.0
13C6_PFDA_EIS	(519.0 / 474.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2608 x	%RSD=10.3
13C7_PFUnA_EIS	(570.0 / 525.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.2538 x	%RSD=12.9
13C2_PFDoA_EIS	(615.0 / 570.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 1.0753 x	%RSD=12.1
13C2_PFTeDA_EIS	(715.0 / 670.0)	13C2_PFDA_IIS	1.0000	1.0000	y = 0.9853 x	%RSD=8.1
13C3_PFBS_EIS	(302.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 4.1858 x	%RSD=8.8
13C3_PFHxS_EIS	(402.0 / 80.0)	18O2_PFHxS_IIS	2.0000	1.0000	y = 2.1742 x	%RSD=6.1
13C8_PFOS_EIS	(507.0 / 80.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 2.7457 x	%RSD=8.1
13C2_4:2FTS_EIS	(329.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.4621 x	%RSD=6.6
13C2_6:2FTS_EIS	(429.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.5072 x	%RSD=8.2
13C2_8:2FTS_EIS	(529.0 / 81.0)	18O2_PFHxS_IIS	4.0000	1.0000	y = 0.7166 x	%RSD=12.2
13C8_PFOSA_EIS	(506.0 / 78.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 5.0967 x	%RSD=12.6
D3_NMeFOSA_EIS	(515.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.2008 x	%RSD=7.5
D5_NEtFOSA_EIS	(531.0 / 169.0)	13C4_PFOS_IIS	2.0000	1.0000	y = 1.0745 x	%RSD=15.8
D3_MeFOSAA_EIS	(573.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.8887 x	%RSD=7.4
D5_EtFOSAA_EIS	(589.0 / 419.0)	13C4_PFOS_IIS	4.0000	1.0000	y = 0.7277 x	%RSD=6.9
D7_NMeFOSE_EIS	(623.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 4.3778 x	%RSD=11.4
D9_NEtFOSE_EIS	(639.0 / 58.9)	13C4_PFOS_IIS	20.0000	1.0000	y = 5.6063 x	%RSD=15.4
13C3_HFPODA_EIS	(287.0 / 169.0)	13C2_PFHxA_IIS	8.0000	1.0000	y = 6.6719 x	%RSD=9.1

x=Concentration Analyte

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

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

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

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

EPA 1633

Initial Calibration: SC00647

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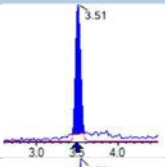
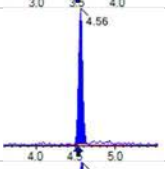
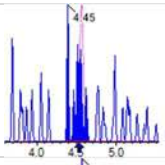
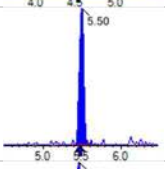
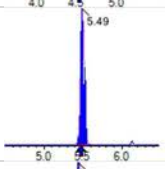
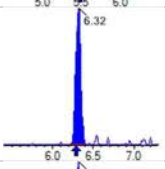
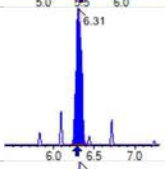
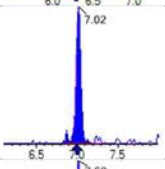
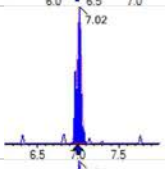
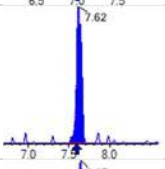
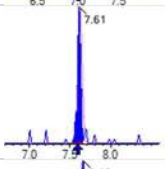
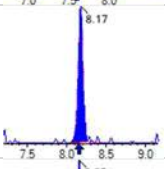
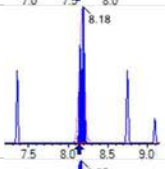
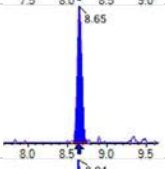
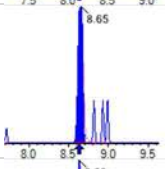
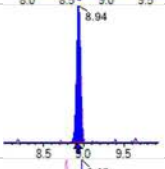
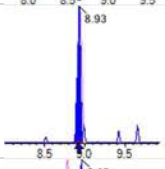
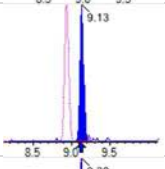
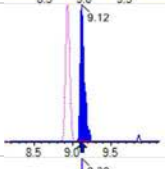
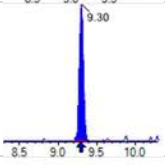
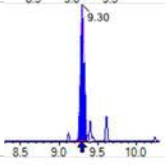
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

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

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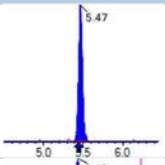
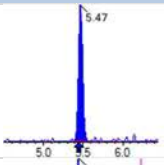
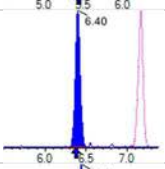
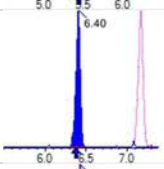
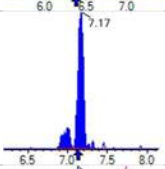
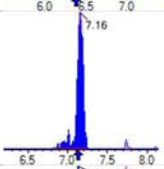
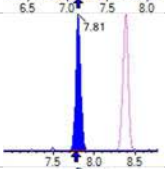
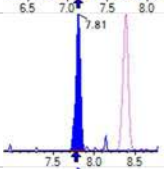
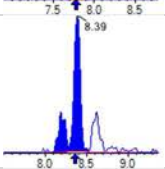
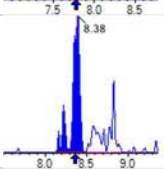
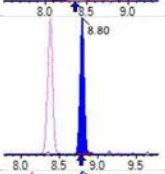
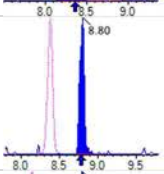
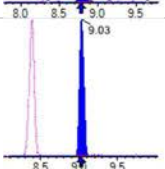
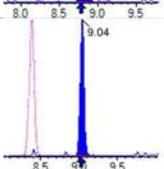
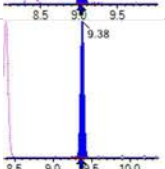
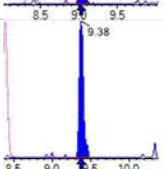
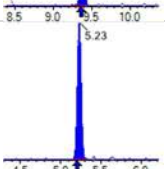
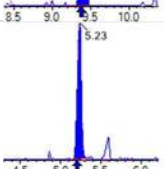
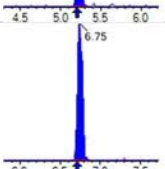
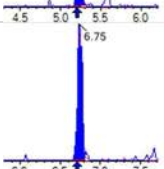
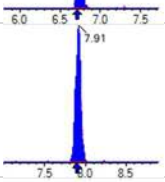
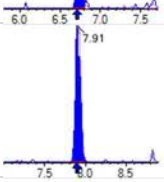
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

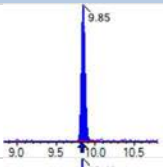
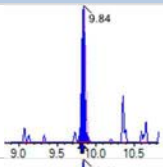
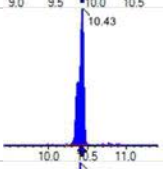
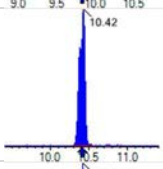
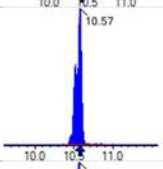
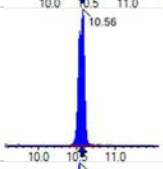
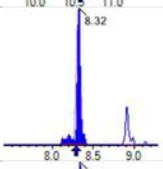
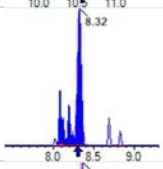
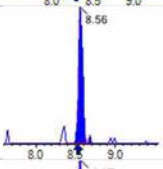
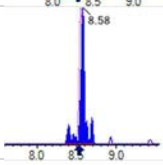
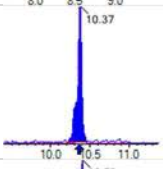
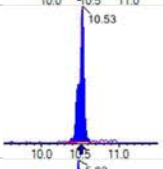
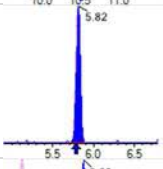
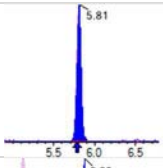
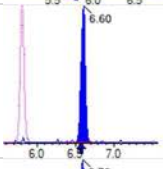
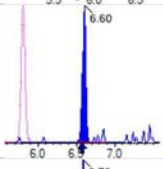
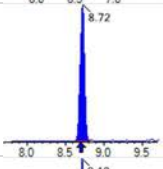
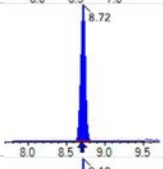
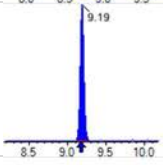
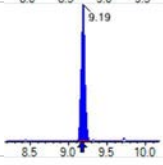
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 104864 (299.0 / 99.0) 61681	(5.47 , 1.00) (0.00 , N/A , 0.0)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

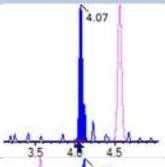
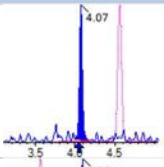
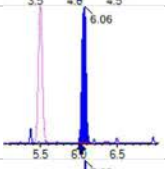
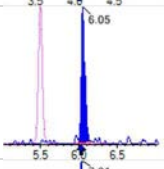
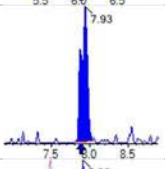
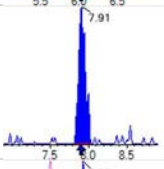
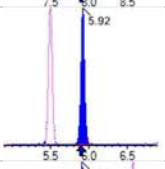
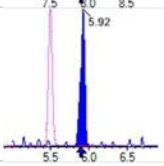
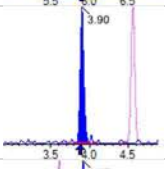
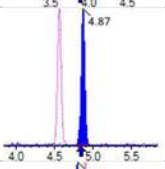
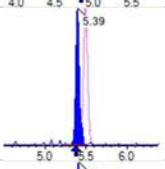
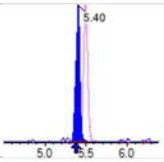
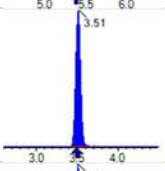
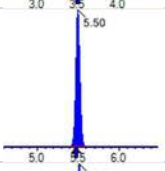
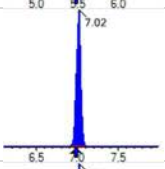
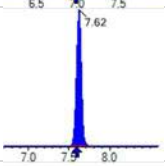
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 326059 (498.0 / 478.0) 6395	(9.85 , 1.00) (0.00 , N/A , 0.5)	435.1 92.9	0.0196 95.5 95.5	0.0981 [0.1000]	98.1%			
NMeFOSA	(512.0 / 219.0) 311700 (512.0 / 169.0) 251496	(10.43 , 1.00) (0.00 , N/A , 0.8)	910.7 988.1	0.8069 98.5 98.5	0.4355 [0.4000]	108.9%			
NEtFOSA	(526.0 / 219.0) 325495 (526.0 / 169.0) 402906	(10.57 , 1.00) (0.00 , N/A , 0.8)	1489.9 1292.0	1.2378 97.5 97.5	0.3950 [0.4000]	98.7%			
NMeFOSAA	(570.0 / 419.0) 31281 (570.0 / 483.0) 12615	(8.32 , 1.00) (0.01 , N/A , 0.0)	81874.8 66.4	0.4033 85.0 85.0	0.1066 [0.1000]	106.6%			
NEtFOSAA	(584.0 / 419.0) 23406 (584.0 / 526.0) 18199	(8.56 , 1.00) (0.01 , N/A , -0.8)	455204.0 175.6	0.7775 152.4 152.4	0.0995 [0.1000]	99.5%			IR2,
NMeFOSE	(616.0 / 59.0) 145674	(10.37 , 1.00) (0.01 , N/A , 0.0)	321.7	N/A 0.0 0.0	0.4009 [0.4000]	100.2%			
NEtFOSE	(630.0 / 59.0) 156006	(10.53 , 1.00) (0.01 , N/A , 0.0)	279.4	N/A 0.0 0.0	0.4008 [0.4000]	100.2%			
HFPO-DA	(285.0 / 169.0) 66037 (285.0 / 185.0) 177079	(5.82 , 1.00) (0.01 , N/A , 0.3)	708.1 472.4	2.6815 97.4 97.4	0.1832 [0.2000]	91.6%			
ADONA	(377.0 / 85.0) 224483 (377.0 / 251.0) 22053	(6.60 , 1.14) (N/A , 0.03 , 0.0)	373.1 122.9	0.0982 111.4 111.4	0.1811 [0.1885]	96.0%			
9Cl-Pf3ONS	(531.0 / 351.0) 629773 (533.0 / 353.0) 194028	(8.72 , 1.50) (N/A , 0.03 , 0.2)	557.7 584.4	0.3081 88.5 88.5	0.2039 [0.1867]	109.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 362238 (633.0 / 453.0) 128996	(9.19 , 1.58) (N/A , 0.02 , -0.1)	784.7 5104.8	0.3561 98.4 98.4	0.1793 [0.1886]	95.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

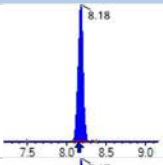
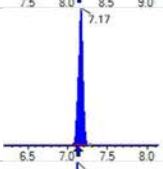
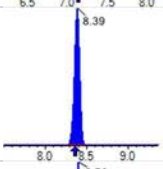
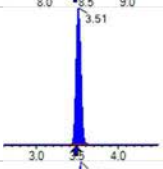
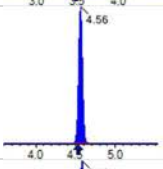
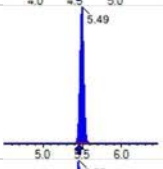
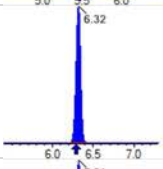
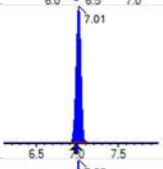
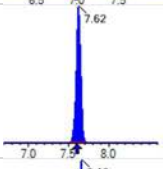
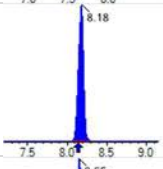
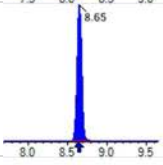
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 4574 (241.0 / 117.0) 6911	(4.07 , 0.89) (N/A , 0.03 , -0.1)	137.7 66.2	1.5109 95.7 95.7	0.3879 [0.4000]	97.0%			
5:3FTCA	(341.0 / 236.7) 36025 (341.0 / 217.0) 50605	(6.06 , 1.10) (N/A , 0.04 , 0.9)	289.4 119.0	1.4047 82.4 82.4	0.4014 [0.4000]	100.3%			
7:3FTCA	(441.0 / 317.0) 64735 (441.0 / 337.0) 54368	(7.93 , 1.44) (N/A , 0.05 , 0.7)	93.1 99.2	0.8399 97.6 97.6	0.3904 [0.4000]	97.6%			
PFEESA	(315.0 / 135.0) 130937 (315.0 / 83.0) 37471	(5.92 , 1.08) (N/A , 0.03 , -0.2)	767.3 153.5	0.2862 112.0 112.0	0.1661 [0.1785]	93.0%			
PFMPA	(229.0 / 85.0) 18495	(3.90 , 0.86) (N/A , 0.02 , 0.0)	183.4	N/A 0.0 0.0	0.1658 [0.2000]	82.9%			
PFMBA	(279.0 / 85.0) 92630	(4.87 , 1.07) (N/A , 0.03 , 0.0)	415.5	N/A 0.0 0.0	0.1980 [0.2000]	99.0%			
NFDHA	(295.0 / 201.0) 67723 (295.0 / 85.0) 57064	(5.39 , 0.98) (N/A , 0.02 , -0.5)	301.0 266.7	0.8426 84.2 84.2	0.1859 [0.2000]	93.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 254010	(3.51 , N/A) (N/A , 0.02 , N/A)	1726.7	N/A	1.1340 [1.0000]	113.4% { 112.7% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 577490	(5.50 , N/A) (N/A , 0.03 , N/A)	3009.2	N/A	1.1440 [1.0000]	114.4% { 120.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 690977	(7.02 , N/A) (N/A , 0.04 , N/A)	1738.7	N/A	1.0903 [1.0000]	109.0% { 116.4% }			
13C5_PFNA_IIS	(468.0 / 423.0) 636163	(7.62 , N/A) (N/A , 0.03 , N/A)	4733.4	N/A	1.0528 [1.0000]	105.3% { 107.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

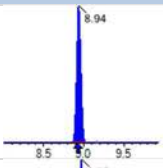
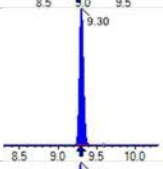
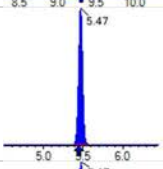
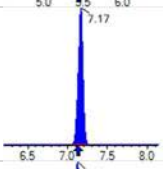
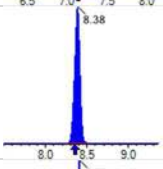
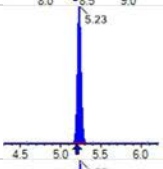
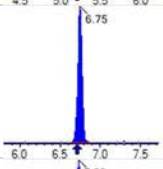
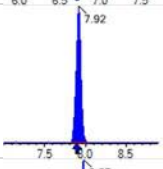
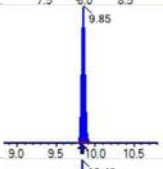
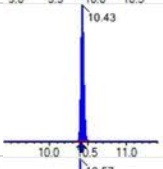
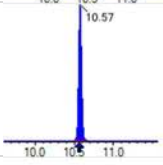
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 593318	(8.18 , N/A) (N/A , 0.03 , N/A)	1103.0	N/A	1.0254 [1.0000]	102.5% { 109.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 870629	(7.17 , N/A) (N/A , 0.04 , N/A)	3746.4	N/A	1.0167 [1.0000]	101.7% { 103.1% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1609689	(8.39 , N/A) (N/A , 0.03 , N/A)	1109.3	N/A	1.0693 [1.0000]	106.9% { 106.5% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2449883	(3.51 , N/A) (N/A , 0.02 , N/A)	4854.2	N/A	8.1084 [8.0000]	101.4% { 104.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2482651	(4.56 , N/A) (N/A , 0.03 , N/A)	4201.2	N/A	3.9292 [4.0000]	98.2% { 102.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1493141	(5.49 , N/A) (N/A , 0.03 , N/A)	4148.5	N/A	1.8876 [2.0000]	94.4% { 97.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1272791	(6.32 , N/A) (N/A , 0.03 , N/A)	2795.4	N/A	1.8571 [2.0000]	92.9% { 100.7% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1503687	(7.01 , N/A) (N/A , 0.03 , N/A)	2224.2	N/A	1.9215 [2.0000]	96.1% { 97.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 661416	(7.62 , N/A) (N/A , 0.03 , N/A)	1339.6	N/A	0.9813 [1.0000]	98.1% { 94.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 728048	(8.18 , N/A) (N/A , 0.03 , N/A)	2745.6	N/A	0.9732 [1.0000]	97.3% { 93.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 829502	(8.65 , N/A) (N/A , 0.02 , N/A)	2125.0	N/A	1.1151 [1.0000]	111.5% { 107.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

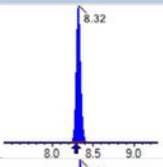
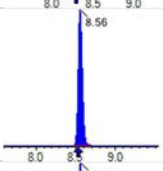
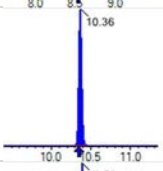
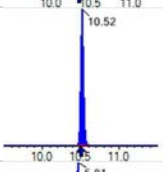
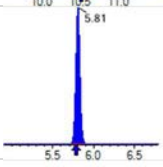
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 751841	(8.94 , N/A) (N/A , 0.02 , N/A)	1472.4	N/A	1.1784 [1.0000]	117.8% { 114.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 598593	(9.30 , N/A) (N/A , 0.01 , N/A)	1534.2	N/A	1.0239 [1.0000]	102.4% { 98.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3748603	(5.47 , N/A) (N/A , 0.03 , N/A)	3158.7	N/A	2.0572 [2.0000]	102.9% { 94.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1946389	(7.17 , N/A) (N/A , 0.03 , N/A)	2265.9	N/A	2.0565 [2.0000]	102.8% { 97.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4369903	(8.38 , N/A) (N/A , 0.03 , N/A)	2552.8	N/A	1.9775 [2.0000]	98.9% { 98.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 405361	(5.23 , N/A) (N/A , 0.03 , N/A)	1641.7	N/A	4.0303 [4.0000]	100.8% { 99.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 454861	(6.75 , N/A) (N/A , 0.04 , N/A)	1114.4	N/A	4.1199 [4.0000]	103.0% { 99.3% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 665899	(7.92 , N/A) (N/A , 0.03 , N/A)	1555.4	N/A	4.2691 [4.0000]	106.7% { 110.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8308651	(9.85 , N/A) (N/A , 0.02 , N/A)	3294.2	N/A	2.0255 [2.0000]	101.3% { 96.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1948846	(10.43 , N/A) (N/A , 0.02 , N/A)	3119.7	N/A	2.0165 [2.0000]	100.8% { 106.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1764295	(10.57 , N/A) (N/A , 0.02 , N/A)	2916.1	N/A	2.0400 [2.0000]	102.0% { 102.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00647-CAL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14C (1)
Acquired: 2023/02/14 - 17:19

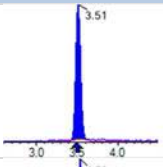
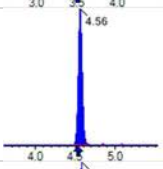
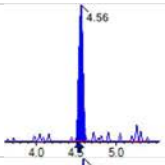
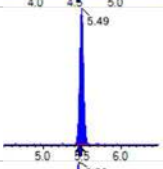
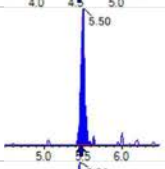
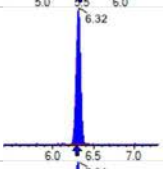
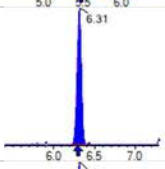
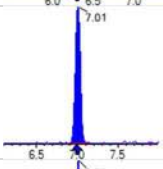
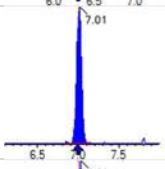
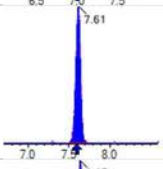
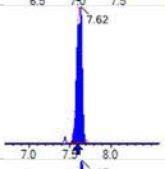
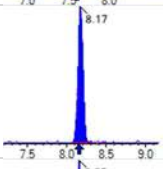
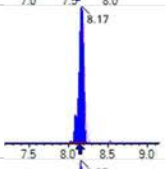
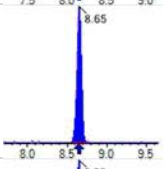
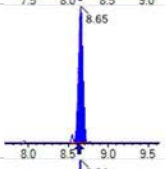
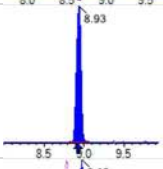
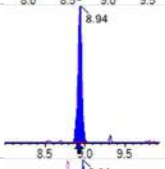
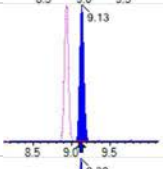
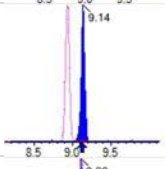
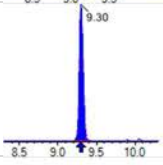
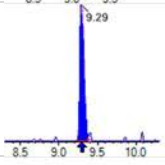
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1495876	(8.32 , N/A) (N/A , 0.03 , N/A)	2110.6	N/A	4.1829 [4.0000]	104.6% { 100.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1120624	(8.56 , N/A) (N/A , 0.02 , N/A)	4180.6	N/A	3.8269 [4.0000]	95.7% { 99.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7269308	(10.36 , N/A) (N/A , 0.02 , N/A)	1974.3	N/A	20.6314 [20.0000]	103.2% { 101.1% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8179426	(10.52 , N/A) (N/A , 0.02 , N/A)	2057.8	N/A	18.1274 [20.0000]	90.6% { 85.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3647056	(5.81 , N/A) (N/A , 0.03 , N/A)	3400.0	N/A	7.5725 [8.0000]	94.7% { 99.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

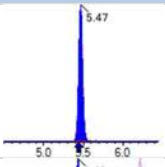
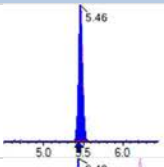
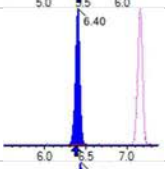
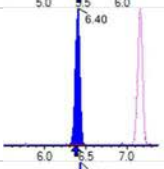
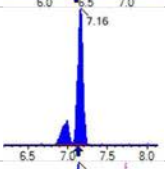
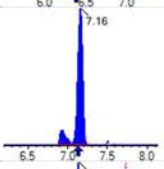
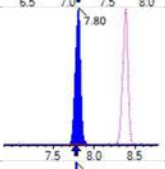
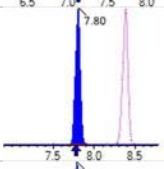
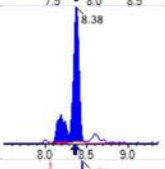
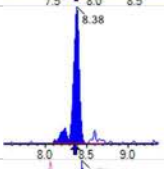
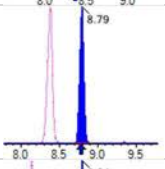
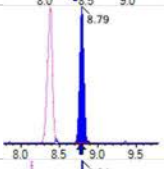
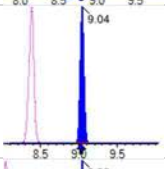
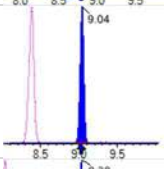
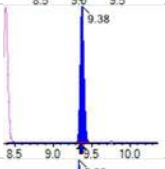
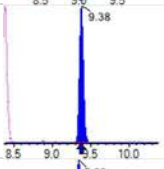
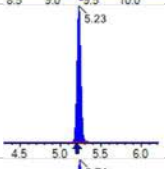
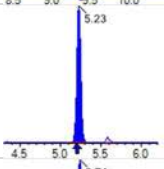
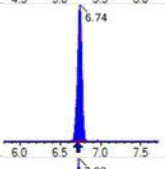
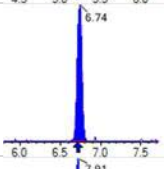
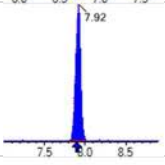
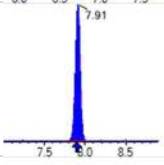
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 451149	(3.51 , 1.00) (0.00 , N/A , 0.0)	144.9	N/A 0.0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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

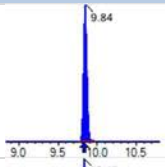
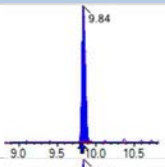
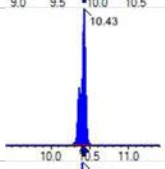
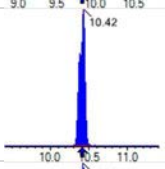
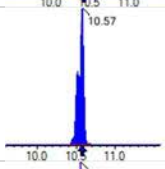
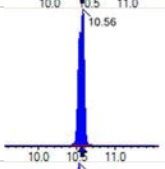
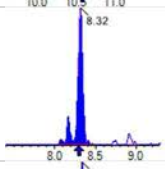
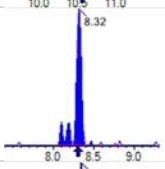
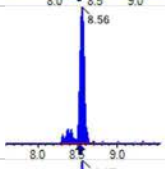
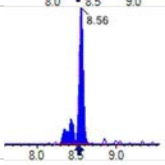
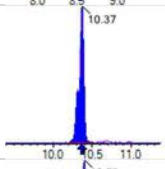
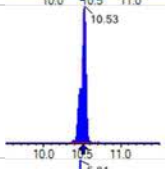
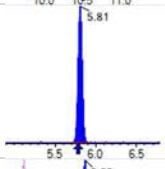
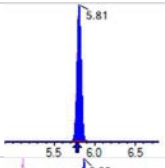
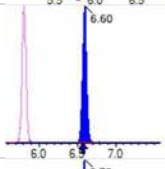
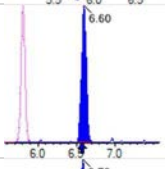
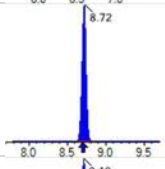
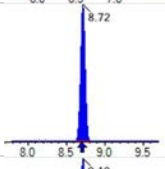
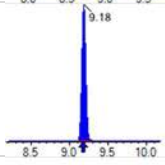
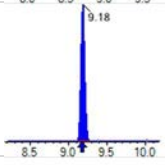
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 488992 (299.0 / 99.0) 318173	(5.47 , 1.00) (0.00 , N/A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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

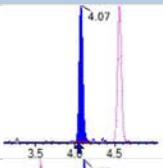
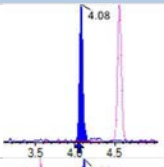
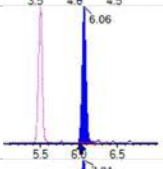
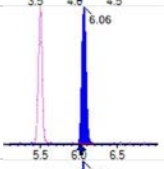
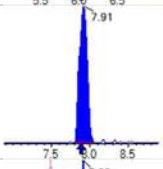
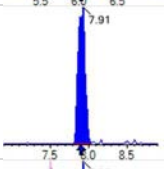
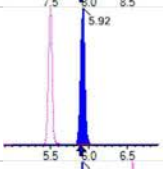
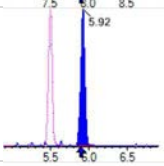
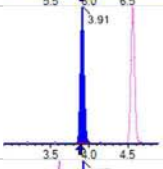
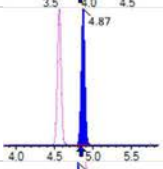
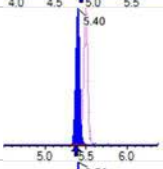
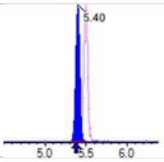
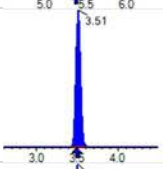
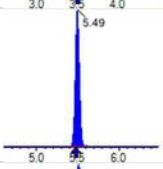
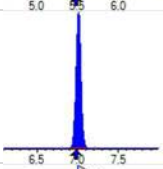
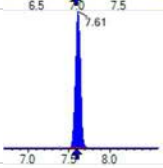
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 1656779 (498.0 / 478.0) 33096	(9.84 , 1.00) (0.00 , N/A , 0.2)	1723.9 736.7	0.0200 97.3 97.3	0.4992 [0.5000]	99.8%			
NMeFOSA	(512.0 / 219.0) 1474591 (512.0 / 169.0) 1275492	(10.43 , 1.00) (0.00 , N/A , 0.7)	2716.9 2319.6	0.8650 105.6 105.6	1.7977 [2.0000]	89.9%			
NEtFOSA	(526.0 / 219.0) 1722014 (526.0 / 169.0) 2236482	(10.57 , 1.00) (0.00 , N/A , 1.0)	3690.3 4294.5	1.2988 102.3 102.3	1.9274 [2.0000]	96.4%			
NMeFOSAA	(570.0 / 419.0) 108171 (570.0 / 483.0) 55304	(8.32 , 1.00) (0.01 , N/A , 0.1)	2008.1 6004.0	0.5113 107.7 107.7	0.4261 [0.5000]	85.2%			
NEtFOSAA	(584.0 / 419.0) 98385 (584.0 / 526.0) 67969	(8.56 , 1.00) (0.00 , N/A , -0.2)	8363.3 1160.0	0.6908 135.4 135.4	0.4314 [0.5000]	86.3%			
NMeFOSE	(616.0 / 59.0) 669858	(10.37 , 1.00) (0.01 , N/A , 0.0)	1001.5	N/A 0.0 0.0	1.8949 [2.0000]	94.7%			
NEtFOSE	(630.0 / 59.0) 888349	(10.53 , 1.00) (0.01 , N/A , 0.0)	857.4	N/A 0.0 0.0	1.9103 [2.0000]	95.5%			
HFPO-DA	(285.0 / 169.0) 321441 (285.0 / 185.0) 865673	(5.81 , 1.00) (0.00 , N/A , 0.0)	1278.5 1204.7	2.6931 97.8 97.8	0.9265 [1.0000]	92.6%			
ADONA	(377.0 / 85.0) 1107868 (377.0 / 251.0) 118038	(6.60 , 1.14) (N/A , 0.03 , -0.3)	1437.6 728.1	0.1065 120.8 120.8	0.9285 [0.9427]	98.5%			
9Cl-Pf3ONS	(531.0 / 351.0) 3303252 (533.0 / 353.0) 984795	(8.72 , 1.50) (N/A , 0.02 , 0.1)	2197.8 1257.6	0.2981 85.6 85.6	0.8924 [0.9333]	95.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 1784838 (633.0 / 453.0) 612728	(9.18 , 1.58) (N/A , 0.01 , 0.0)	1962.5 1840.4	0.3433 94.9 94.9	0.9182 [0.9432]	97.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

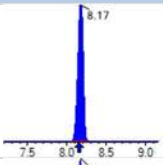
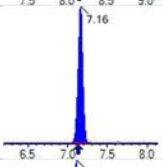
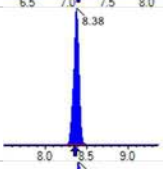
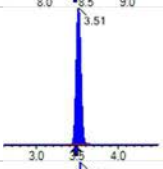
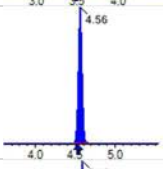
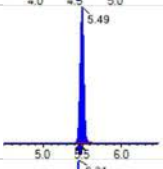
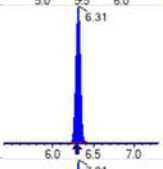
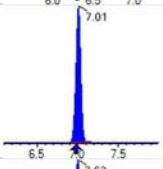
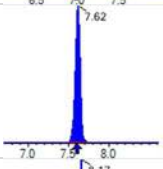
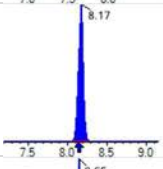
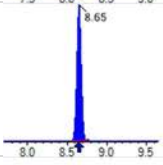
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 22880 (241.0 / 117.0) 36417	(4.07 , 0.89) (N/A , 0.03 , -0.1)	390.3 261.9	1.5917 100.9 100.9	1.9481 [2.0000]	97.4%			
5:3FTCA	(341.0 / 236.7) 155711 (341.0 / 217.0) 279237	(6.06 , 1.10) (N/A , 0.04 , 0.1)	515.7 785.8	1.7933 105.2 105.2	1.8024 [2.0000]	90.1%			
7:3FTCA	(441.0 / 317.0) 303061 (441.0 / 337.0) 252225	(7.91 , 1.44) (N/A , 0.03 , 0.2)	412.3 382.9	0.8323 96.7 96.7	1.8990 [2.0000]	94.9%			
PFEESA	(315.0 / 135.0) 668291 (315.0 / 83.0) 182692	(5.92 , 1.08) (N/A , 0.03 , -0.1)	2261.2 359.4	0.2734 107.0 107.0	0.8806 [0.8925]	98.7%			
PFMPA	(229.0 / 85.0) 101708	(3.91 , 0.86) (N/A , 0.03 , 0.0)	888.8	N/A 0.0 0.0	0.9376 [1.0000]	93.8%			
PFMBA	(279.0 / 85.0) 405237	(4.87 , 1.07) (N/A , 0.03 , 0.0)	1278.3	N/A 0.0 0.0	0.8908 [1.0000]	89.1%			
NFDHA	(295.0 / 201.0) 315461 (295.0 / 85.0) 324582	(5.40 , 0.98) (N/A , 0.03 , 0.0)	1056.6 916.7	1.0289 102.8 102.8	0.8996 [1.0000]	90.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 237086	(3.51 , N/A) (N/A , 0.02 , N/A)	1428.1	N/A	1.0585 [1.0000]	105.8% { 105.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 474334	(5.49 , N/A) (N/A , 0.03 , N/A)	5166.1	N/A	0.9396 [1.0000]	94.0% { 98.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 597727	(7.01 , N/A) (N/A , 0.03 , N/A)	1166.1	N/A	0.9431 [1.0000]	94.3% { 100.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 600355	(7.61 , N/A) (N/A , 0.03 , N/A)	4826.5	N/A	0.9935 [1.0000]	99.4% { 101.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

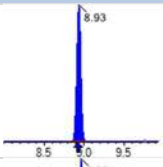
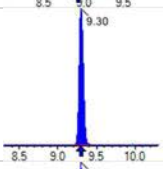
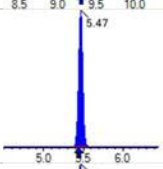
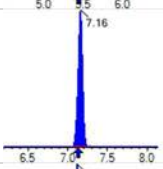
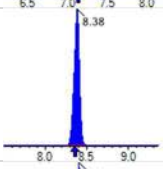
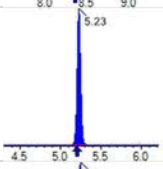
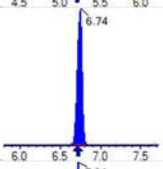
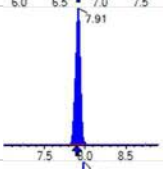
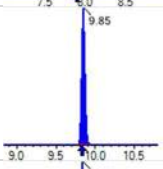
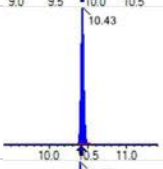
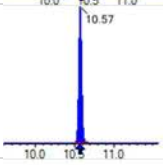
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 537002	(8.17 , N/A) (N/A , 0.02 , N/A)	10203.3	N/A	0.9280 [1.0000]	92.8% { 98.6% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 872778	(7.16 , N/A) (N/A , 0.03 , N/A)	1067.1	N/A	1.0192 [1.0000]	101.9% { 103.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1485383	(8.38 , N/A) (N/A , 0.02 , N/A)	1347.5	N/A	0.9867 [1.0000]	98.7% { 98.2% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2356057	(3.51 , N/A) (N/A , 0.02 , N/A)	5406.3	N/A	8.3544 [8.0000]	104.4% { 100.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2414394	(4.56 , N/A) (N/A , 0.03 , N/A)	3420.2	N/A	4.6522 [4.0000]	116.3% { 99.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1437224	(5.49 , N/A) (N/A , 0.03 , N/A)	2433.0	N/A	2.2121 [2.0000]	110.6% { 93.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1306373	(6.31 , N/A) (N/A , 0.03 , N/A)	2350.6	N/A	2.3206 [2.0000]	116.0% { 103.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1549605	(7.01 , N/A) (N/A , 0.03 , N/A)	3163.0	N/A	2.2891 [2.0000]	114.5% { 100.6% }			
13C9_PFNA_EIS	(472.0 / 427.0) 638082	(7.62 , N/A) (N/A , 0.02 , N/A)	2377.6	N/A	1.0031 [1.0000]	100.3% { 90.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 773492	(8.17 , N/A) (N/A , 0.03 , N/A)	2146.3	N/A	1.1424 [1.0000]	114.2% { 99.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 771164	(8.65 , N/A) (N/A , 0.02 , N/A)	2481.9	N/A	1.1454 [1.0000]	114.5% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

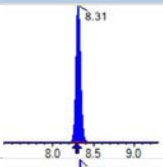
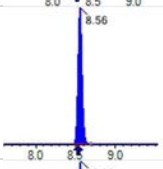
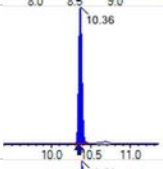
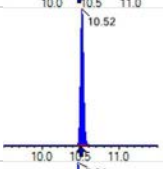
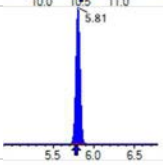
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 633220	(8.93 , N/A) (N/A , 0.02 , N/A)	1548.4	N/A	1.0966 [1.0000]	109.7% { 96.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 548363	(9.30 , N/A) (N/A , 0.01 , N/A)	1640.3	N/A	1.0363 [1.0000]	103.6% { 89.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3836135	(5.47 , N/A) (N/A , 0.03 , N/A)	4222.9	N/A	2.1001 [2.0000]	105.0% { 97.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1967780	(7.16 , N/A) (N/A , 0.03 , N/A)	2175.8	N/A	2.0740 [2.0000]	103.7% { 98.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4341643	(8.38 , N/A) (N/A , 0.03 , N/A)	2646.7	N/A	2.1291 [2.0000]	106.5% { 98.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 389814	(5.23 , N/A) (N/A , 0.03 , N/A)	2328.3	N/A	3.8662 [4.0000]	96.7% { 95.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 448065	(6.74 , N/A) (N/A , 0.03 , N/A)	1550.7	N/A	4.0484 [4.0000]	101.2% { 97.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 579858	(7.91 , N/A) (N/A , 0.03 , N/A)	1886.6	N/A	3.7084 [4.0000]	92.7% { 95.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8299727	(9.85 , N/A) (N/A , 0.02 , N/A)	2955.9	N/A	2.1926 [2.0000]	109.6% { 96.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1966659	(10.43 , N/A) (N/A , 0.01 , N/A)	2317.1	N/A	2.2052 [2.0000]	110.3% { 107.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1912622	(10.57 , N/A) (N/A , 0.01 , N/A)	3094.7	N/A	2.3966 [2.0000]	119.8% { 111.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

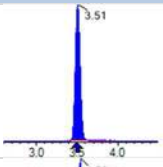
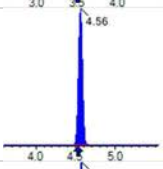
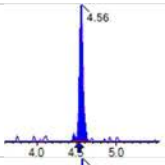
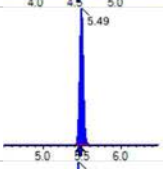
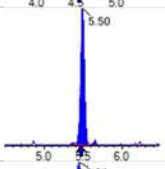
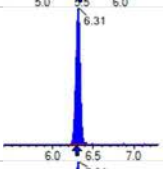
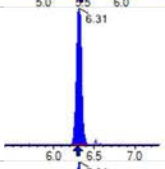
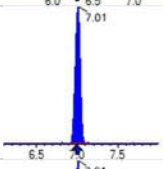
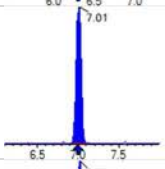
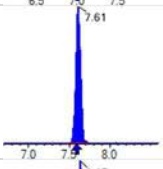
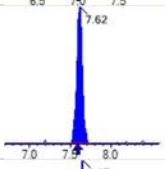
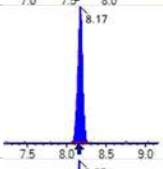
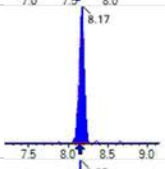
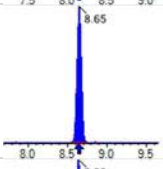
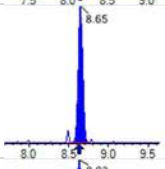
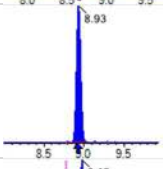
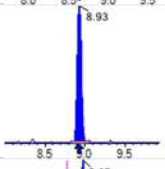
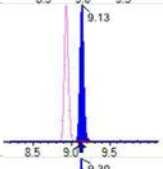
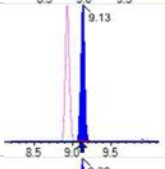
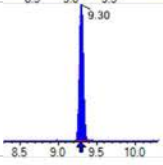
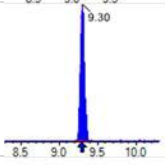
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1294019	(8.31 , N/A) (N/A , 0.03 , N/A)	2109.7	N/A	3.9213 [4.0000]	98.0% { 86.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1086211	(8.56 , N/A) (N/A , 0.02 , N/A)	9289.8	N/A	4.0198 [4.0000]	100.5% { 96.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7071882	(10.36 , N/A) (N/A , 0.01 , N/A)	1362.0	N/A	21.7507 [20.0000]	108.8% { 98.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9773335	(10.52 , N/A) (N/A , 0.01 , N/A)	2205.6	N/A	23.4725 [20.0000]	117.4% { 102.6% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3509898	(5.81 , N/A) (N/A , 0.03 , N/A)	3188.3	N/A	8.8726 [8.0000]	110.9% { 95.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

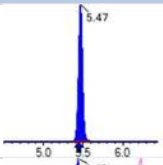
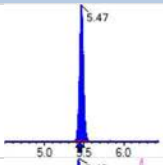
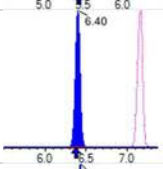
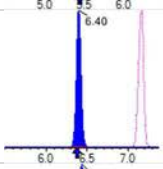
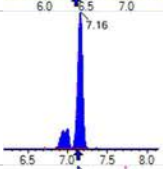
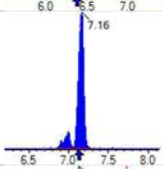
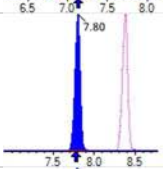
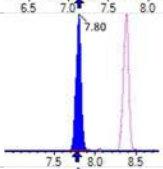
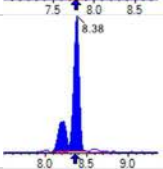
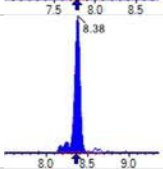
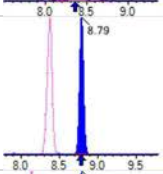
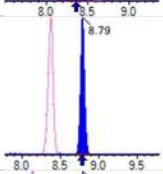
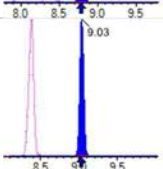
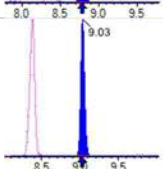
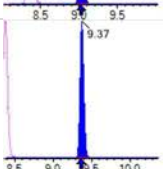
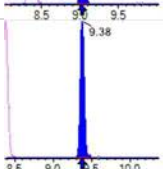
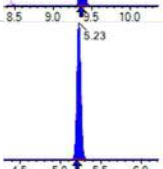
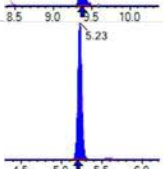
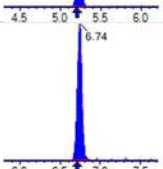
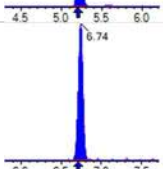
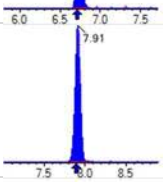
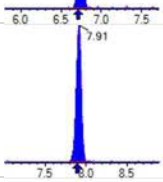
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 992985	(3.51 , 1.00) (0.00 , N/A , 0.0)	192.4	N/A 0.0 0.0	4.0401 [4.0000]	101.0%			
PFPeA	(263.0 / 219.0) 995190 (263.0 / 69.0) 13200	(4.56 , 1.00) (0.00 , N/A , 0.3)	2220.7 225.4	0.0133 123.9 123.9	2.0489 [2.0000]	102.4%			
PFHxA	(313.0 / 269.0) 632186 (313.0 / 119.0) 57415	(5.49 , 1.00) (0.00 , N/A , -0.1)	2410.2 171374.7	0.0908 91.2 91.2	0.9528 [1.0000]	95.3%			
PFHpA	(363.0 / 319.0) 507737 (363.0 / 169.0) 157722	(6.31 , 1.00) (0.00 , N/A , 0.0)	26405.3 2125592.4	0.3106 96.9 96.9	0.9408 [1.0000]	94.1%			
PFOA	(413.0 / 369.0) 622937 (413.0 / 169.0) 205185	(7.01 , 1.00) (0.00 , N/A , 0.1)	6482.6 6529.1	0.3294 98.4 98.4	0.9571 [1.0000]	95.7%			
PFNA	(463.0 / 419.0) 570086 (463.0 / 169.0) 115433	(7.61 , 1.00) (0.00 , N/A , -0.3)	4299.3 26480.6	0.2025 90.5 90.5	0.9731 [1.0000]	97.3%			
PFDA	(513.0 / 469.0) 667559 (513.0 / 169.0) 85346	(8.17 , 1.00) (0.00 , N/A , -0.1)	713.4 2307.5	0.1278 105.1 105.1	0.9768 [1.0000]	97.7%			
PFUnA	(563.0 / 519.0) 656549 (563.0 / 169.0) 83205	(8.65 , 1.00) (0.00 , N/A , 0.1)	1652.5 448.0	0.1267 120.9 120.9	1.0212 [1.0000]	102.1%			
PFDoA	(613.0 / 569.0) 556848 (613.0 / 169.0) 102128	(8.93 , 1.00) (0.00 , N/A , 0.1)	675.4 232.8	0.1834 112.1 112.1	0.9839 [1.0000]	98.4%			
PFTrDA	(663.0 / 619.0) 522444 (663.0 / 169.0) 151041	(9.13 , 1.02) (N/A , 0.01 , -0.1)	1144.8 8191.0	0.2891 121.0 121.0	1.0195 [1.0000]	101.9%			
PFTeDA	(713.0 / 669.0) 522743 (713.0 / 169.0) 134113	(9.30 , 1.00) (0.00 , N/A , 0.0)	1196.0 1042.9	0.2566 124.1 124.1	0.9899 [1.0000]	99.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

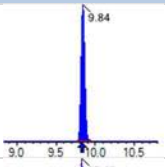
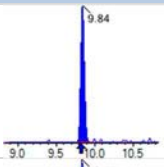
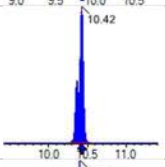
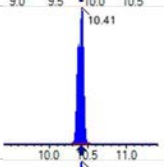
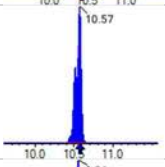
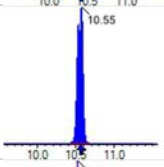
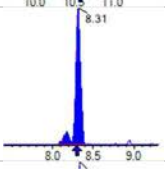
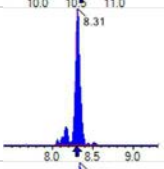
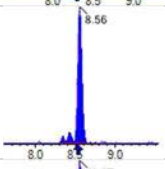
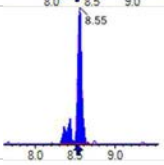
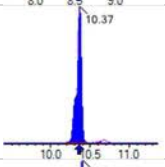
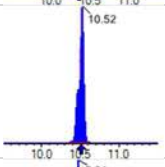
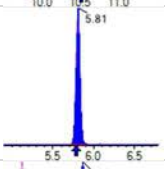
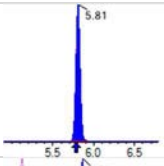
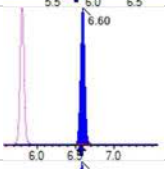
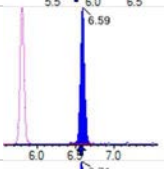
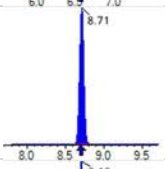
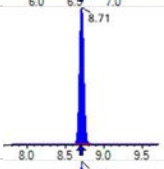
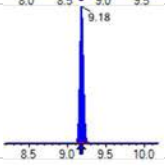
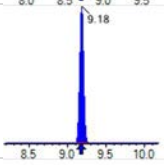
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1115761 (299.0 / 99.0) 660695	(5.47 , 1.00) (0.00 , N/A , 0.1)	3318.3 1288.5	0.5921 91.6 91.6	0.9169 [0.8847]	103.6%			
PFPeS	(349.0 / 80.0) 1898329 (349.0 / 99.0) 641927	(6.40 , 0.89) (N/A , 0.03 , 0.1)	28058.9 8629.1	0.3382 94.7 94.7	0.9722 [0.9384]	103.6%			
PFHxS	(399.0 / 80.0) 1346938 (399.0 / 99.0) 485366	(7.16 , 1.00) (0.00 , N/A , 0.0)	7988.0 934.1	0.3603 111.0 111.0	0.8651 [0.9110]	95.0%			
PFHpS	(449.0 / 80.0) 1649623 (449.0 / 99.0) 406605	(7.80 , 0.93) (N/A , 0.02 , 0.0)	831232.4 8656.3	0.2465 90.5 90.5	0.9551 [0.9514]	100.4%			
PFOS	(499.0 / 80.0) 2103149 (499.0 / 99.0) 460724	(8.38 , 1.00) (0.00 , N/A , 0.0)	307.7 265.9	0.2191 99.0 99.0	0.8798 [0.9275]	94.9%			
PFNS	(549.0 / 80.0) 2497676 (549.0 / 99.0) 597897	(8.79 , 1.05) (N/A , 0.02 , 0.0)	26410.0 39648.2	0.2394 109.2 109.2	0.9297 [0.9599]	96.9%			
PFDS	(599.0 / 80.0) 2775816 (599.0 / 99.0) 601185	(9.03 , 1.08) (N/A , 0.01 , 0.1)	2370.9 1333.7	0.2166 99.4 99.4	0.9499 [0.9631]	98.6%			
PFDoS	(699.0 / 80.0) 1869304 (699.0 / 99.0) 376149	(9.37 , 1.12) (N/A , 0.01 , -0.1)	1682.1 879.2	0.2012 96.7 96.7	1.0029 [0.9696]	103.4%			
4:2FTS	(327.0 / 307.0) 1102979 (327.0 / 81.0) 700459	(5.23 , 1.00) (0.00 , N/A , 0.0)	2554.0 1188.0	0.6351 94.1 94.1	3.7263 [3.7381]	99.7%			
6:2FTS	(427.0 / 407.0) 551597 (427.0 / 81.0) 491370	(6.74 , 1.00) (0.00 , N/A , 0.0)	4455.6 936.5	0.8908 107.6 107.6	3.5034 [3.7962]	92.3%			
8:2FTS	(527.0 / 507.0) 648567 (527.0 / 81.0) 536762	(7.91 , 1.00) (0.00 , N/A , -0.1)	1501.8 2426.4	0.8276 99.6 99.6	4.3681 [3.8332]	114.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

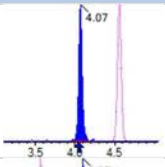
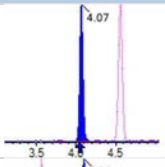
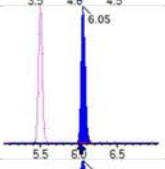
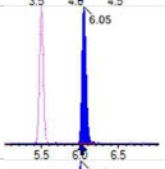
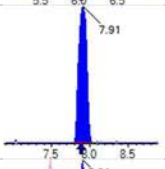
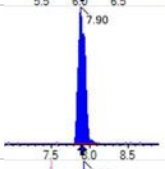
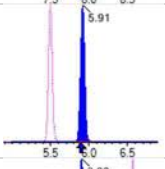
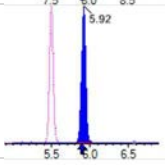
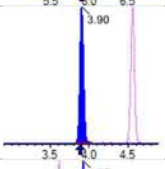
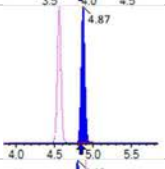
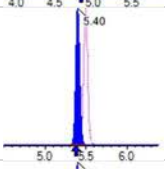
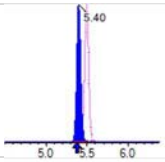
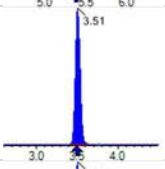
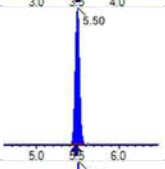
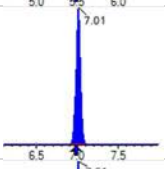
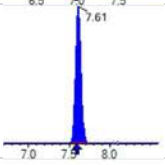
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3648720 (498.0 / 478.0) 66647	(9.84 , 1.00) (0.00 , N/A , 0.0)	3061.1 348.5	0.0183 88.9 88.9	1.0638 [1.0000]	106.4%			
NMeFOSA	(512.0 / 219.0) 3232329 (512.0 / 169.0) 2709837	(10.42 , 1.00) (0.00 , N/A , 0.9)	4031.3 4123.4	0.8384 102.3 102.3	3.8883 [4.0000]	97.2%			
NEtFOSA	(526.0 / 219.0) 3650558 (526.0 / 169.0) 4758356	(10.57 , 1.00) (0.00 , N/A , 1.0)	6399.0 5545.6	1.3035 102.7 102.7	4.0961 [4.0000]	102.4%			
NMeFOSAA	(570.0 / 419.0) 279159 (570.0 / 483.0) 118936	(8.31 , 1.00) (0.00 , N/A , 0.0)	4984.7 185484.6	0.4261 89.7 89.7	1.0227 [1.0000]	102.3%			
NEtFOSAA	(584.0 / 419.0) 257131 (584.0 / 526.0) 141719	(8.56 , 1.00) (0.00 , N/A , 0.1)	2290.5 2169.6	0.5512 108.0 108.0	0.9982 [1.0000]	99.8%			
NMeFOSE	(616.0 / 59.0) 1483945	(10.37 , 1.00) (0.01 , N/A , 0.0)	1605.1	N/A 0.0 0.0	3.9770 [4.0000]	99.4%			
NEtFOSE	(630.0 / 59.0) 1945357	(10.52 , 1.00) (0.01 , N/A , 0.0)	1205.3	N/A 0.0 0.0	4.1721 [4.0000]	104.3%			
HFPO-DA	(285.0 / 169.0) 702936 (285.0 / 185.0) 2029139	(5.81 , 1.00) (0.00 , N/A , 0.1)	1495.7 2469.1	2.8867 104.8 104.8	1.9094 [2.0000]	95.5%			
ADONA	(377.0 / 85.0) 2546378 (377.0 / 251.0) 217566	(6.60 , 1.14) (N/A , 0.03 , 0.2)	2490.7 407.3	0.0854 96.9 96.9	2.0112 [1.8854]	106.7%			
9Cl-Pf3ONS	(531.0 / 351.0) 6975004 (533.0 / 353.0) 2111294	(8.71 , 1.50) (N/A , 0.02 , 0.1)	2422.7 1747.7	0.3027 86.9 86.9	1.7421 [1.8665]	93.3%			
11Cl-PF3OUDS	(631.0 / 451.0) 3820731 (633.0 / 453.0) 1412412	(9.18 , 1.58) (N/A , 0.01 , -0.1)	2015.7 2421.3	0.3697 102.2 102.2	1.8524 [1.8864]	98.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

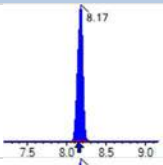
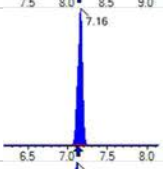
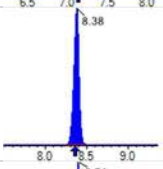
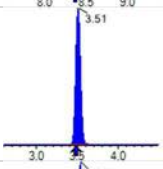
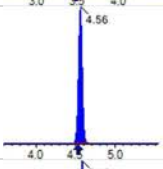
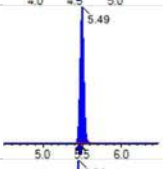
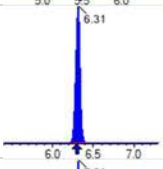
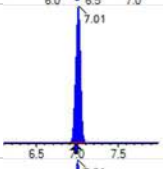
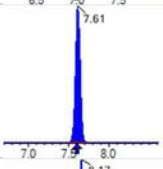
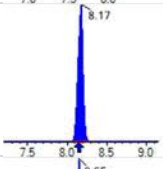
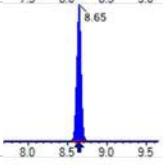
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 49606 (241.0 / 117.0) 73731	(4.07 , 0.89) (N/A , 0.02 , 0.1)	645.5 531.6	1.4863 94.2 94.2	4.2828 [4.0000]	107.1%			
5:3FTCA	(341.0 / 236.7) 307972 (341.0 / 217.0) 563339	(6.05 , 1.10) (N/A , 0.02 , 0.1)	1195.2 949.5	1.8292 107.3 107.3	3.3942 [4.0000]	84.9%			
7:3FTCA	(441.0 / 317.0) 606609 (441.0 / 337.0) 509153	(7.91 , 1.44) (N/A , 0.03 , 0.5)	637.1 611.4	0.8393 97.5 97.5	3.6190 [4.0000]	90.5%			
PFEESA	(315.0 / 135.0) 1415175 (315.0 / 83.0) 430101	(5.91 , 1.08) (N/A , 0.03 , -0.1)	2671.2 1261.5	0.3039 119.0 119.0	1.7755 [1.7849]	99.5%			
PFMPA	(229.0 / 85.0) 210517	(3.90 , 0.86) (N/A , 0.02 , 0.0)	1653.4	N/A 0.0 0.0	1.9842 [2.0000]	99.2%			
PFMBA	(279.0 / 85.0) 870406	(4.87 , 1.07) (N/A , 0.03 , 0.0)	2115.8	N/A 0.0 0.0	1.9563 [2.0000]	97.8%			
NFDHA	(295.0 / 201.0) 737616 (295.0 / 85.0) 776112	(5.40 , 0.98) (N/A , 0.03 , 0.0)	2100.7 2541.0	1.0522 105.1 105.1	2.0028 [2.0000]	100.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 247463	(3.51 , N/A) (N/A , 0.02 , N/A)	1430.4	N/A	1.1048 [1.0000]	110.5% { 109.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 545767	(5.50 , N/A) (N/A , 0.03 , N/A)	7771.3	N/A	1.0811 [1.0000]	108.1% { 113.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 680981	(7.01 , N/A) (N/A , 0.03 , N/A)	2337.2	N/A	1.0745 [1.0000]	107.4% { 114.8% }			
13C5_PFNA_IIS	(468.0 / 423.0) 635510	(7.61 , N/A) (N/A , 0.02 , N/A)	1046.2	N/A	1.0517 [1.0000]	105.2% { 107.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

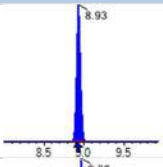
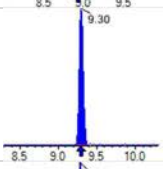
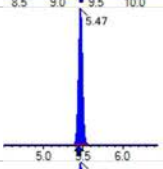
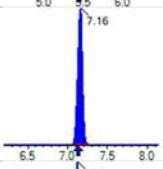
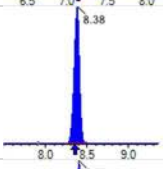
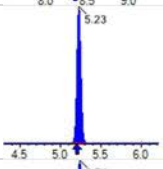
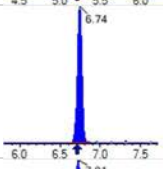
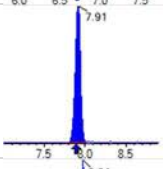
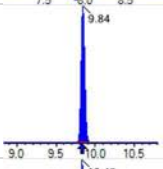
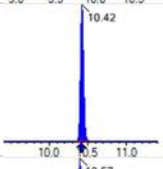
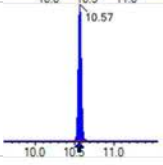
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 586872	(8.17 , N/A) (N/A , 0.02 , N/A)	1991.3	N/A	1.0142 [1.0000]	101.4% { 107.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 877200	(7.16 , N/A) (N/A , 0.03 , N/A)	2151.0	N/A	1.0243 [1.0000]	102.4% { 103.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1527312	(8.38 , N/A) (N/A , 0.02 , N/A)	1792.9	N/A	1.0146 [1.0000]	101.5% { 101.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2373686	(3.51 , N/A) (N/A , 0.02 , N/A)	4602.1	N/A	8.0640 [8.0000]	100.8% { 101.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2361531	(4.56 , N/A) (N/A , 0.03 , N/A)	3090.6	N/A	3.9547 [4.0000]	98.9% { 97.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1509504	(5.49 , N/A) (N/A , 0.03 , N/A)	2234.0	N/A	2.0193 [2.0000]	101.0% { 98.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1278281	(6.31 , N/A) (N/A , 0.03 , N/A)	2293.3	N/A	1.9735 [2.0000]	98.7% { 101.2% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1461964	(7.01 , N/A) (N/A , 0.03 , N/A)	2029.4	N/A	1.8956 [2.0000]	94.8% { 94.9% }			
13C9_PFNA_EIS	(472.0 / 427.0) 662113	(7.61 , N/A) (N/A , 0.02 , N/A)	2039.6	N/A	0.9833 [1.0000]	98.3% { 94.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 776912	(8.17 , N/A) (N/A , 0.02 , N/A)	9707.2	N/A	1.0499 [1.0000]	105.0% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 773791	(8.65 , N/A) (N/A , 0.01 , N/A)	2173.1	N/A	1.0516 [1.0000]	105.2% { 100.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

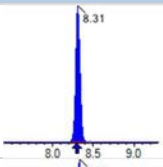
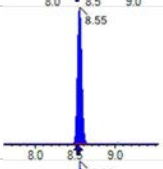
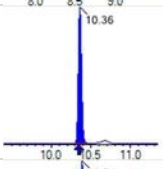
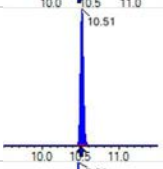
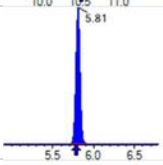
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 643629	(8.93 , N/A) (N/A , 0.01 , N/A)	2450.6	N/A	1.0199 [1.0000]	102.0% { 98.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 610224	(9.30 , N/A) (N/A , 0.01 , N/A)	802.3	N/A	1.0553 [1.0000]	105.5% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3916474	(5.47 , N/A) (N/A , 0.03 , N/A)	3181.3	N/A	2.1333 [2.0000]	106.7% { 99.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2025045	(7.16 , N/A) (N/A , 0.02 , N/A)	1903.3	N/A	2.1236 [2.0000]	106.2% { 101.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4533818	(8.38 , N/A) (N/A , 0.02 , N/A)	2062.8	N/A	2.1623 [2.0000]	108.1% { 102.6% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 433513	(5.23 , N/A) (N/A , 0.03 , N/A)	1584.2	N/A	4.2779 [4.0000]	106.9% { 105.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 443849	(6.74 , N/A) (N/A , 0.03 , N/A)	630.4	N/A	3.9901 [4.0000]	99.8% { 96.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 545242	(7.91 , N/A) (N/A , 0.03 , N/A)	949.4	N/A	3.4694 [4.0000]	86.7% { 90.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8576988	(9.84 , N/A) (N/A , 0.01 , N/A)	3982.4	N/A	2.2037 [2.0000]	110.2% { 100.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1961100	(10.42 , N/A) (N/A , 0.01 , N/A)	2880.3	N/A	2.1386 [2.0000]	106.9% { 107.5% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1907916	(10.57 , N/A) (N/A , 0.01 , N/A)	3172.4	N/A	2.3251 [2.0000]	116.3% { 110.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

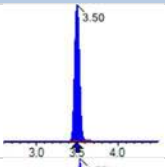
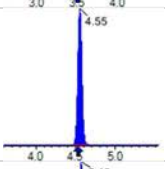
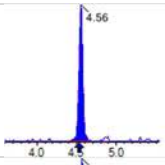
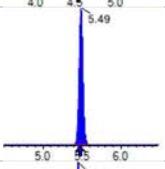
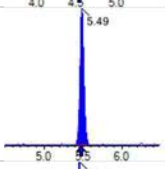
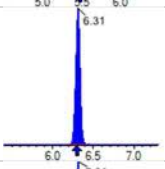
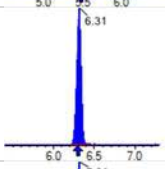
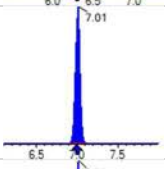
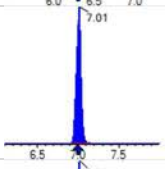
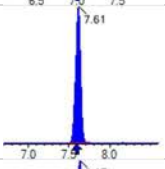
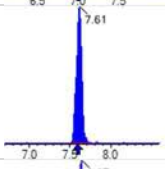
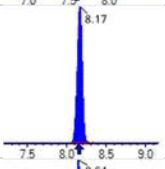
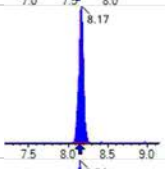
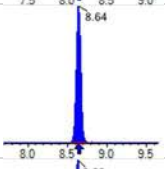
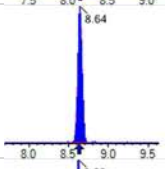
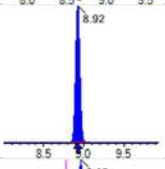
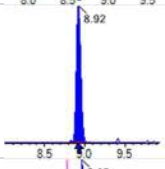
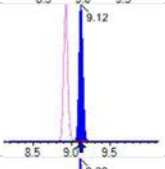
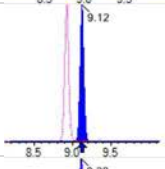
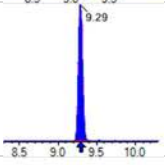
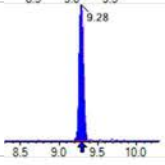
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1391320	(8.31 , N/A) (N/A , 0.02 , N/A)	1765.7	N/A	4.1004 [4.0000]	102.5% { 93.5% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1226806	(8.55 , N/A) (N/A , 0.02 , N/A)	33894.6	N/A	4.4155 [4.0000]	110.4% { 109.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7464643	(10.36 , N/A) (N/A , 0.01 , N/A)	1414.6	N/A	22.3284 [20.0000]	111.6% { 103.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9799462	(10.51 , N/A) (N/A , 0.01 , N/A)	2582.9	N/A	22.8891 [20.0000]	114.4% { 102.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3724342	(5.81 , N/A) (N/A , 0.03 , N/A)	3728.1	N/A	8.1824 [8.0000]	102.3% { 101.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

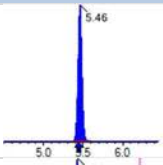
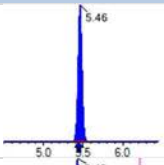
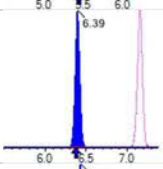
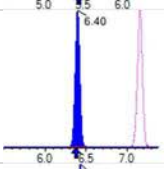
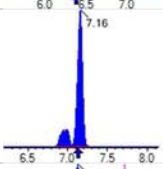
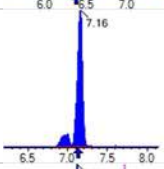
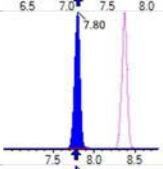
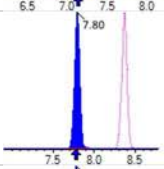
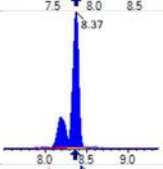
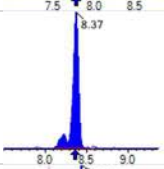
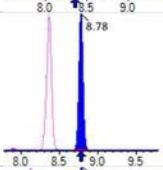
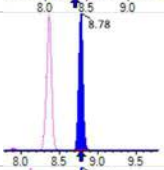
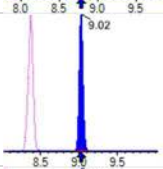
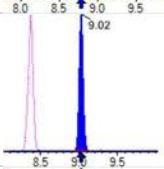
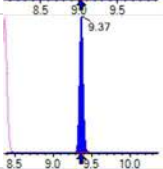
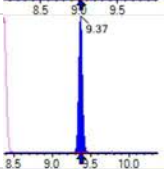
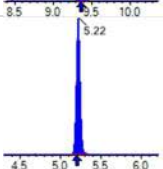
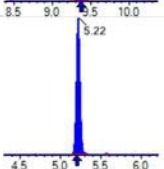
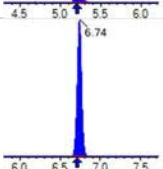
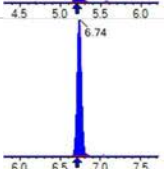
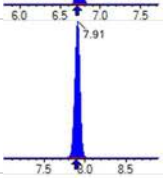
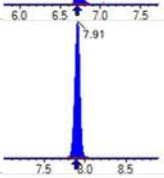
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 2040417	(3.50 , 1.00) (0.00 , N/A , 0.0)	222.5	N/A 0.0 0.0	8.2532 [8.0000]	103.2%			
PFPeA	(263.0 / 219.0) 2041470 (263.0 / 69.0) 23902	(4.55 , 1.00) (0.00 , N/A , -0.2)	2800.6 239.1	0.0117 109.3 109.3	4.0952 [4.0000]	102.4%			
PFHxA	(313.0 / 269.0) 1336473 (313.0 / 119.0) 125042	(5.49 , 1.00) (0.00 , N/A , 0.1)	5541.8 2724595.8	0.0936 93.9 93.9	2.0232 [2.0000]	101.2%			
PFHpA	(363.0 / 319.0) 1046730 (363.0 / 169.0) 341278	(6.31 , 1.00) (0.00 , N/A , -0.1)	16010.9 7246.9	0.3260 101.7 101.7	1.9309 [2.0000]	96.5%			
PFOA	(413.0 / 369.0) 1332664 (413.0 / 169.0) 469250	(7.01 , 1.00) (0.00 , N/A , 0.0)	6220.3 2713549.8	0.3521 105.2 105.2	2.0866 [2.0000]	104.3%			
PFNA	(463.0 / 419.0) 1137106 (463.0 / 169.0) 290595	(7.61 , 1.00) (0.00 , N/A , 0.0)	8852.4 4937.2	0.2556 114.2 114.2	2.0394 [2.0000]	102.0%			
PFDA	(513.0 / 469.0) 1436390 (513.0 / 169.0) 173502	(8.17 , 1.00) (0.00 , N/A , -0.2)	1533.1 2906.4	0.1208 99.3 99.3	2.1390 [2.0000]	107.0%			
PFUnA	(563.0 / 519.0) 1214746 (563.0 / 169.0) 160306	(8.64 , 1.00) (0.00 , N/A , 0.1)	1539.9 3496.0	0.1320 125.9 125.9	1.9413 [2.0000]	97.1%			
PFDoA	(613.0 / 569.0) 1115680 (613.0 / 169.0) 230062	(8.92 , 1.00) (0.00 , N/A , 0.2)	1334.3 600.4	0.2062 126.1 126.1	2.0539 [2.0000]	102.7%			
PFTrDA	(663.0 / 619.0) 1066226 (663.0 / 169.0) 270733	(9.12 , 1.02) (N/A , 0.00 , -0.1)	1920.4 3654.3	0.2539 106.2 106.2	2.1679 [2.0000]	108.4%			
PFTeDA	(713.0 / 669.0) 1064969 (713.0 / 169.0) 204784	(9.29 , 1.00) (0.00 , N/A , 0.2)	1633.8 783.2	0.1923 93.0 93.0	2.0298 [2.0000]	101.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

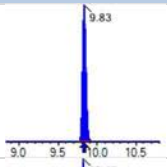
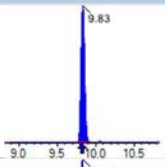
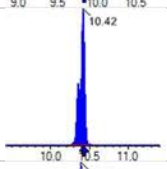
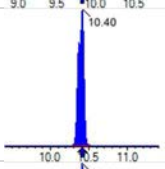
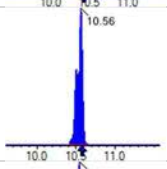
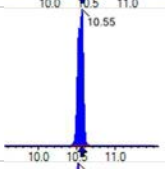
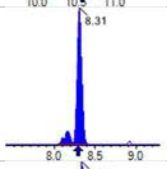
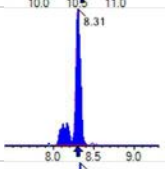
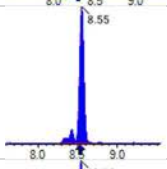
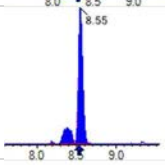
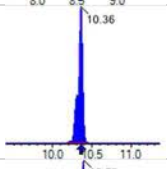
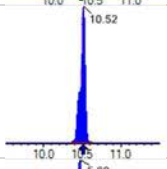
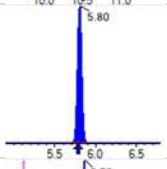
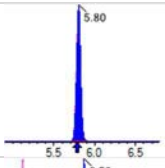
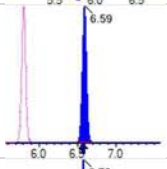
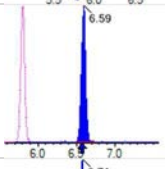
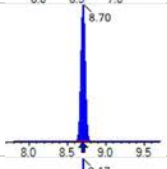
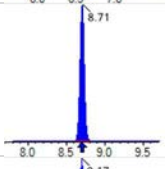
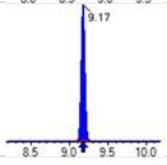
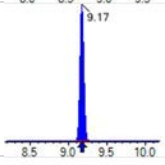
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 2223132 (299.0 / 99.0) 1362361	(5.46 , 1.00) (0.00 ,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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

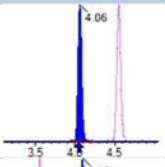
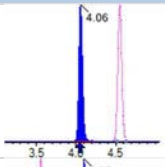
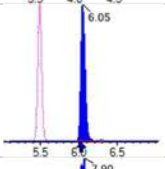
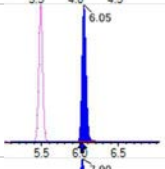
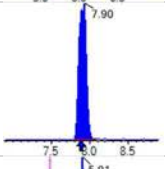
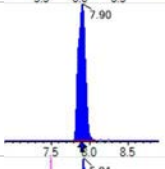
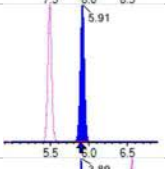
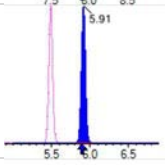
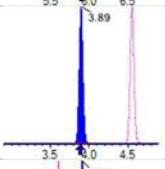
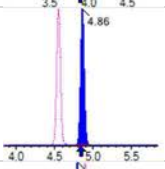
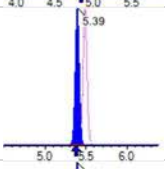
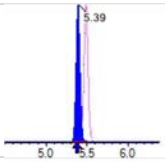
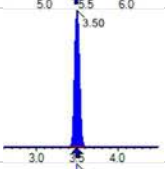
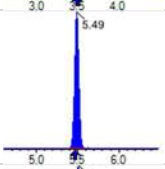
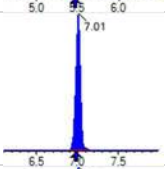
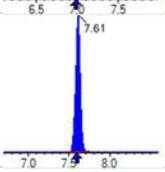
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 7454165 (498.0 / 478.0) 153863	(9.83 , 1.00) (0.00 , N/A , 0.1)	3632.9 1289.8	0.0206 100.5 100.5	2.1877 [2.0000]	109.4%			
NMeFOSA	(512.0 / 219.0) 6581539 (512.0 / 169.0) 5434702	(10.42 , 1.00) (0.00 , N/A , 0.9)	4400.8 4035.5	0.8257 100.8 100.8	8.0911 [8.0000]	101.1%			
NEtFOSA	(526.0 / 219.0) 7369810 (526.0 / 169.0) 9562461	(10.56 , 1.00) (0.00 , N/A , 0.9)	10194.3 8766.4	1.2975 102.2 102.2	8.3766 [8.0000]	104.7%			
NMeFOSAA	(570.0 / 419.0) 558224 (570.0 / 483.0) 249670	(8.31 , 1.00) (0.00 , N/A , -0.1)	3385.1 183.6	0.4473 94.2 94.2	2.1736 [2.0000]	108.7%			
NEtFOSAA	(584.0 / 419.0) 468621 (584.0 / 526.0) 259589	(8.55 , 1.00) (0.01 , N/A , 0.2)	253752.3 16601.7	0.5539 108.6 108.6	1.9370 [2.0000]	96.9%			
NMeFOSE	(616.0 / 59.0) 2915088	(10.36 , 1.00) (0.01 , N/A , 0.0)	2699.4	N/A 0.0 0.0	7.9620 [8.0000]	99.5%			
NEtFOSE	(630.0 / 59.0) 3776358	(10.52 , 1.00) (0.01 , N/A , 0.0)	1374.9	N/A 0.0 0.0	8.1217 [8.0000]	101.5%			
HFPO-DA	(285.0 / 169.0) 1383460 (285.0 / 185.0) 4010692	(5.80 , 1.00) (0.00 , N/A , 0.0)	2428.0 3386.2	2.8990 105.3 105.3	4.0649 [4.0000]	101.6%			
ADONA	(377.0 / 85.0) 4962626 (377.0 / 251.0) 457532	(6.59 , 1.14) (N/A , 0.02 , -0.1)	3737.6 918.9	0.0922 104.6 104.6	4.2400 [3.7708]	112.4%			
9Cl-Pf3ONS	(531.0 / 351.0) 14406479 (533.0 / 353.0) 4641144	(8.70 , 1.50) (N/A , 0.01 , -0.1)	3319.3 3063.0	0.3222 92.5 92.5	3.9280 [3.7330]	105.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 8500924 (633.0 / 453.0) 2975725	(9.17 , 1.58) (N/A , 0.00 , 0.2)	3323.4 2149.4	0.3500 96.7 96.7	4.4584 [3.7728]	118.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

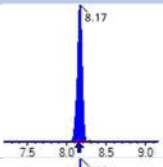
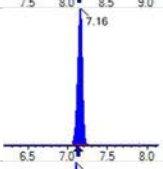
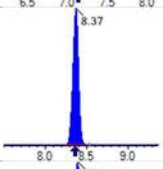
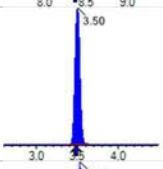
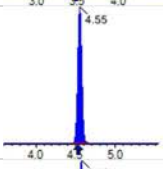
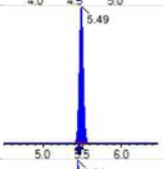
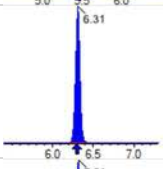
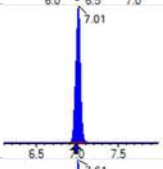
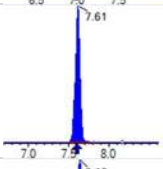
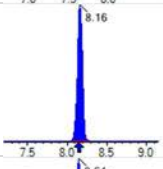
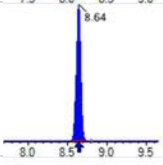
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 98166 (241.0 / 117.0) 149343	(4.06 , 0.89) (N/A , 0.02 , 0.1)	980.2 901.4	1.5213 96.4 96.4	8.1739 [8.0000]	102.2%			
5:3FTCA	(341.0 / 236.7) 659057 (341.0 / 217.0) 1151481	(6.05 , 1.10) (N/A , 0.02 , -0.1)	1706.3 1760.2	1.7472 102.5 102.5	7.2959 [8.0000]	91.2%			
7:3FTCA	(441.0 / 317.0) 1221396 (441.0 / 337.0) 1047529	(7.90 , 1.44) (N/A , 0.02 , 0.2)	612.9 919.3	0.8576 99.7 99.7	7.3193 [8.0000]	91.5%			
PFEESA	(315.0 / 135.0) 2916970 (315.0 / 83.0) 815959	(5.91 , 1.08) (N/A , 0.02 , -0.1)	3510.3 2085.3	0.2797 109.5 109.5	3.6759 [3.5698]	103.0%			
PFMPA	(229.0 / 85.0) 425241	(3.89 , 0.86) (N/A , 0.01 , 0.0)	2450.5	N/A 0.0 0.0	3.9053 [4.0000]	97.6%			
PFMBA	(279.0 / 85.0) 1832503	(4.86 , 1.07) (N/A , 0.02 , 0.0)	3046.2	N/A 0.0 0.0	4.0131 [4.0000]	100.3%			
NFDHA	(295.0 / 201.0) 1471114 (295.0 / 85.0) 1539319	(5.39 , 0.98) (N/A , 0.02 , 0.2)	2648.0 2571.6	1.0464 104.5 104.5	4.0123 [4.0000]	100.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 258935	(3.50 , N/A) (N/A , 0.01 , N/A)	1459.6	N/A	1.1560 [1.0000]	115.6% { 114.9% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 527362	(5.49 , N/A) (N/A , 0.02 , N/A)	2491.9	N/A	1.0447 [1.0000]	104.5% { 109.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 724530	(7.01 , N/A) (N/A , 0.03 , N/A)	1417.5	N/A	1.1432 [1.0000]	114.3% { 122.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 687055	(7.61 , N/A) (N/A , 0.02 , N/A)	10320.7	N/A	1.1370 [1.0000]	113.7% { 115.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

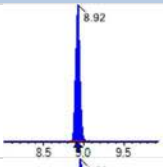
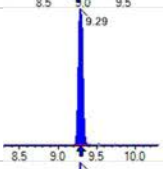
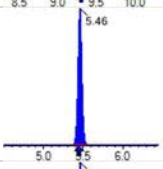
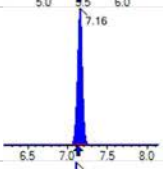
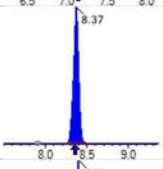
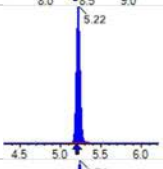
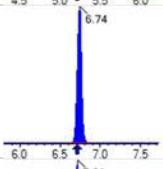
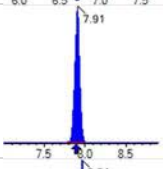
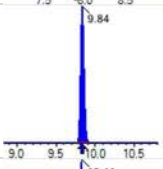
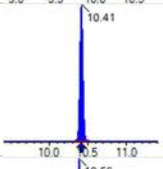
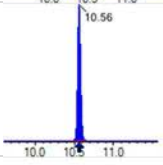
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 642605	(8.17 , N/A) (N/A , 0.02 , N/A)	3000.0	N/A	1.1105 [1.0000]	111.1% { 118.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 945086	(7.16 , N/A) (N/A , 0.03 , N/A)	1162.6	N/A	1.1036 [1.0000]	110.4% { 111.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1662514	(8.37 , N/A) (N/A , 0.01 , N/A)	1471.1	N/A	1.1044 [1.0000]	110.4% { 109.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2387665	(3.50 , N/A) (N/A , 0.01 , N/A)	5160.5	N/A	7.7521 [8.0000]	96.9% { 102.3% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2423641	(4.55 , N/A) (N/A , 0.02 , N/A)	3349.2	N/A	4.2004 [4.0000]	105.0% { 100.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1502798	(5.49 , N/A) (N/A , 0.02 , N/A)	3626.2	N/A	2.0804 [2.0000]	104.0% { 97.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1283933	(6.31 , N/A) (N/A , 0.02 , N/A)	2445.9	N/A	2.0514 [2.0000]	102.6% { 101.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1434645	(7.01 , N/A) (N/A , 0.03 , N/A)	2756.5	N/A	1.7484 [2.0000]	87.4% { 93.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 630189	(7.61 , N/A) (N/A , 0.02 , N/A)	1674.8	N/A	0.8657 [1.0000]	86.6% { 89.7% }			
13C6_PFDA_EIS	(519.0 / 474.0) 763399	(8.16 , N/A) (N/A , 0.02 , N/A)	2225.3	N/A	0.9422 [1.0000]	94.2% { 98.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 753151	(8.64 , N/A) (N/A , 0.01 , N/A)	13028.6	N/A	0.9348 [1.0000]	93.5% { 97.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

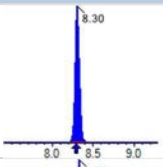
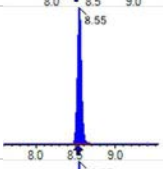
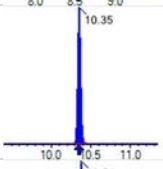
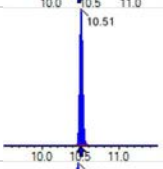
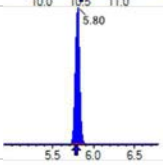
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 617721	(8.92 , N/A) (N/A , 0.01 , N/A)	2492.7	N/A	0.8939 [1.0000]	89.4% { 94.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 606299	(9.29 , N/A) (N/A , 0.00 , N/A)	1178.7	N/A	0.9575 [1.0000]	95.8% { 99.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3958718	(5.46 , N/A) (N/A , 0.02 , N/A)	3417.7	N/A	2.0014 [2.0000]	100.1% { 100.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1989400	(7.16 , N/A) (N/A , 0.02 , N/A)	2679.8	N/A	1.9364 [2.0000]	96.8% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4487002	(8.37 , N/A) (N/A , 0.02 , N/A)	1488.1	N/A	1.9659 [2.0000]	98.3% { 101.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 392697	(5.22 , N/A) (N/A , 0.02 , N/A)	1473.7	N/A	3.5968 [4.0000]	89.9% { 95.9% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 415946	(6.74 , N/A) (N/A , 0.03 , N/A)	1899.8	N/A	3.4707 [4.0000]	86.8% { 90.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 605135	(7.91 , N/A) (N/A , 0.02 , N/A)	1540.6	N/A	3.5739 [4.0000]	89.3% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8520316	(9.84 , N/A) (N/A , 0.00 , N/A)	3894.3	N/A	2.0111 [2.0000]	100.6% { 99.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1919031	(10.41 , N/A) (N/A , 0.00 , N/A)	2947.3	N/A	1.9225 [2.0000]	96.1% { 105.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1883486	(10.56 , N/A) (N/A , 0.00 , N/A)	3509.4	N/A	2.1087 [2.0000]	105.4% { 109.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

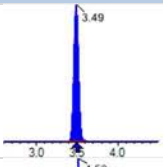
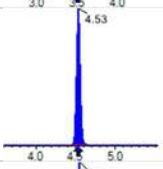
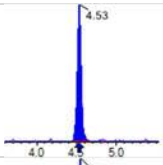
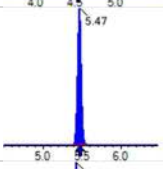
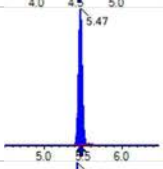
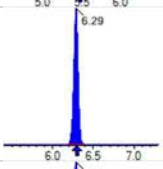
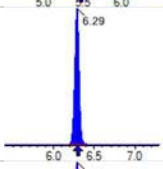
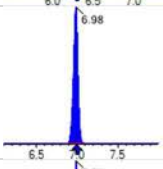
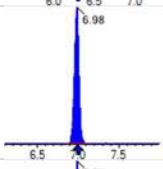
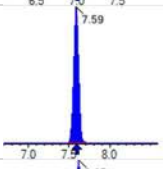
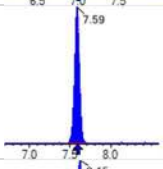
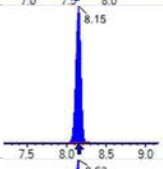
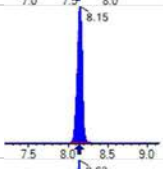
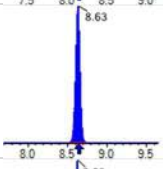
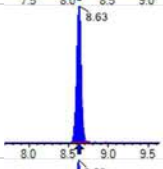
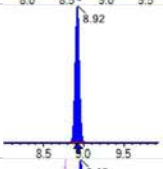
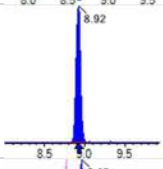
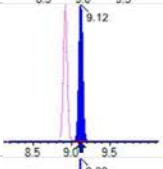
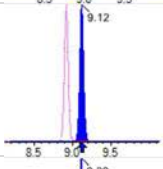
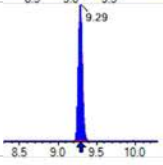
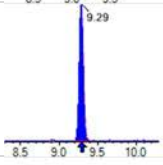
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1309006	(8.30 , N/A) (N/A , 0.02 , N/A)	1009.4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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

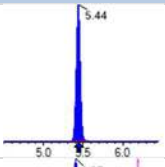
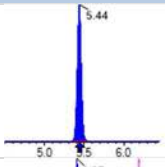
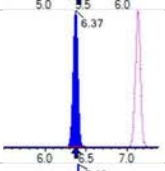
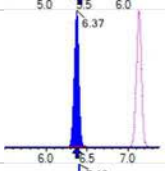
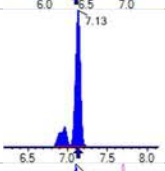
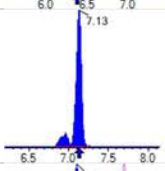
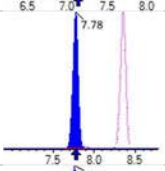
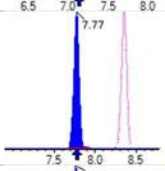
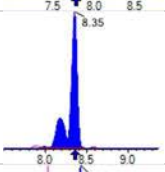
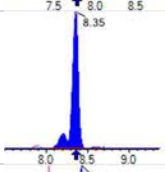
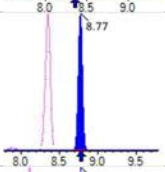
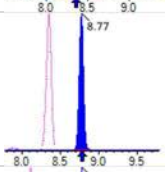
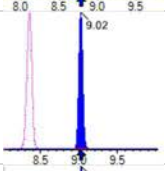
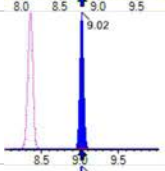
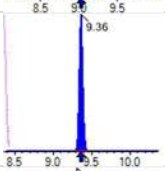
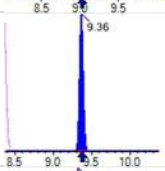
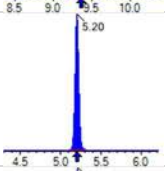
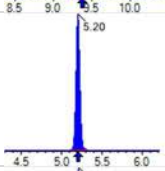
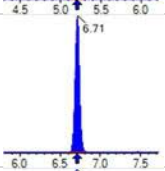
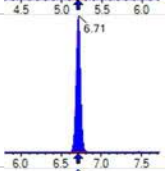
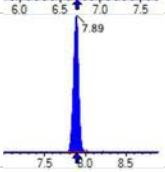
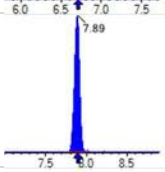
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4625962	(3.49 , 1.00) (0.00 , N/A , 0.0)	269.9	N/A 0.0 0.0	19.1353 [20.0000]	95.7%			
PFPeA	(263.0 / 219.0) 4849452 (263.0 / 69.0) 51930	(4.53 , 1.00) (0.00 , N/A , 0.1)	6300.0 525.7	0.0107 100.0 100.0	9.7482 [10.0000]	97.5%			
PFHxA	(313.0 / 269.0) 3231153 (313.0 / 119.0) 321815	(5.47 , 1.00) (0.00 , N/A , 0.0)	7539.0 569520.8	0.0996 100.0 100.0	4.7905 [5.0000]	95.8%			
PFHpA	(363.0 / 319.0) 2374219 (363.0 / 169.0) 761184	(6.29 , 1.00) (0.00 , N/A , 0.0)	27517.9 4626.3	0.3206 100.0 100.0	4.4501 [5.0000]	89.0%			
PFOA	(413.0 / 369.0) 3119950 (413.0 / 169.0) 1043952	(6.98 , 1.00) (0.00 , N/A , 0.1)	11212.8 2366.5	0.3346 100.0 100.0	4.5495 [5.0000]	91.0%			
PFNA	(463.0 / 419.0) 2777308 (463.0 / 169.0) 621436	(7.59 , 1.00) (0.00 , N/A , 0.1)	143516.6 7999265.7	0.2238 100.0 100.0	4.4669 [5.0000]	89.3%			
PFDA	(513.0 / 469.0) 3288150 (513.0 / 169.0) 399859	(8.15 , 1.00) (0.00 , N/A , -0.2)	2295.7 8100.9	0.1216 100.0 100.0	4.8121 [5.0000]	96.2%			
PFUnA	(563.0 / 519.0) 2957188 (563.0 / 169.0) 310031	(8.63 , 1.00) (0.00 , N/A , 0.2)	2421.9 3060.8	0.1048 100.0 100.0	4.6144 [5.0000]	92.3%			
PFDoA	(613.0 / 569.0) 2625478 (613.0 / 169.0) 429428	(8.92 , 1.00) (0.00 , N/A , 0.0)	2165.7 1615.7	0.1636 100.0 100.0	4.5454 [5.0000]	90.9%			
PFTrDA	(663.0 / 619.0) 2589019 (663.0 / 169.0) 618790	(9.12 , 1.02) (N/A , 0.00 , 0.1)	2797.5 1841.7	0.2390 100.0 100.0	4.9505 [5.0000]	99.0%			
PFTeDA	(713.0 / 669.0) 2457334 (713.0 / 169.0) 507818	(9.29 , 1.00) (0.00 , N/A , 0.1)	3479.2 625.2	0.2067 100.0 100.0	4.6552 [5.0000]	93.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

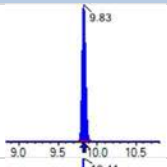
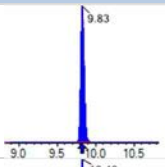
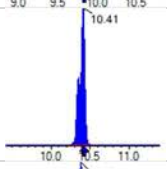
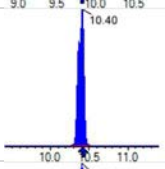
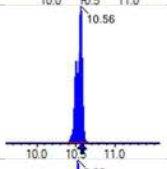
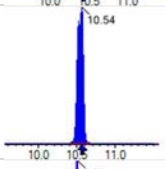
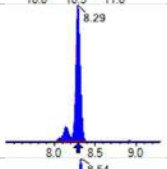
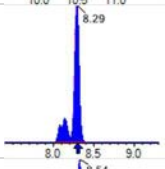
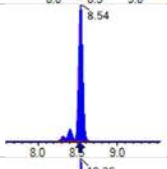
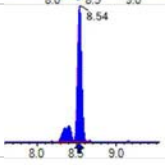
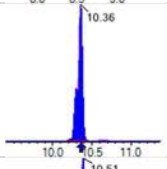
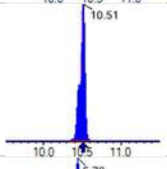
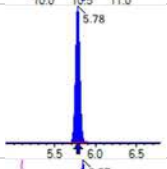
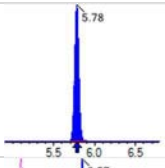
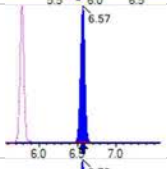
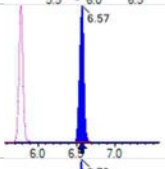
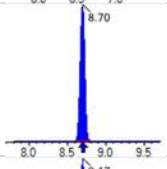
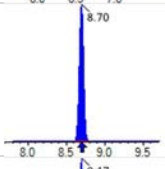
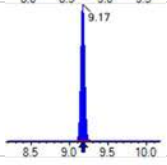
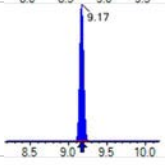
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5078337 (299.0 / 99.0) 3283985	(5.44 , 1.00) (0.00 , N/A , 0.0)	4191.7 3173.0	0.6467 100.0 100.0	4.1378 [4.4237]	93.5%			
PFPeS	(349.0 / 80.0) 8825978 (349.0 / 99.0) 3150960	(6.37 , 0.89) (N/A , 0.00 , 0.0)	52478.2 43714.8	0.3570 100.0 100.0	4.5997 [4.6919]	98.0%			
PFHxS	(399.0 / 80.0) 6499323 (399.0 / 99.0) 2110618	(7.13 , 1.00) (0.00 , N/A , 0.1)	4671.8 15342595.9	0.3247 100.0 100.0	4.2481 [4.5549]	93.3%			
PFHpS	(449.0 / 80.0) 7537575 (449.0 / 99.0) 2051876	(7.78 , 0.93) (N/A , 0.00 , 0.1)	18633.8 4259.7	0.2722 100.0 100.0	4.4756 [4.7570]	94.1%			
PFOS	(499.0 / 80.0) 10091750 (499.0 / 99.0) 2233382	(8.35 , 1.00) (0.00 , N/A , 0.0)	1680.0 1507.9	0.2213 100.0 100.0	4.3298 [4.6375]	93.4%			
PFNS	(549.0 / 80.0) 12319974 (549.0 / 99.0) 2701138	(8.77 , 1.05) (N/A , 0.00 , 0.0)	41212.2 30751.4	0.2192 100.0 100.0	4.7034 [4.7994]	98.0%			
PFDS	(599.0 / 80.0) 13893059 (599.0 / 99.0) 3028577	(9.02 , 1.08) (N/A , 0.00 , 0.0)	4249.5 2452.4	0.2180 100.0 100.0	4.8759 [4.8155]	101.3%			
PFDoS	(699.0 / 80.0) 9237910 (699.0 / 99.0) 1922828	(9.36 , 1.12) (N/A , 0.00 , -0.1)	3957.0 2185.3	0.2081 100.0 100.0	5.0833 [4.8478]	104.9%			
4:2FTS	(327.0 / 307.0) 4991486 (327.0 / 81.0) 3368015	(5.20 , 1.00) (0.00 , N/A , 0.0)	4068.6 2907.8	0.6748 100.0 100.0	17.8604 [18.6906]	95.6%			
6:2FTS	(427.0 / 407.0) 2761537 (427.0 / 81.0) 2285757	(6.71 , 1.00) (0.00 , N/A , 0.0)	1751.6 2382.2	0.8277 100.0 100.0	16.9949 [18.9808]	89.5%			
8:2FTS	(527.0 / 507.0) 3235546 (527.0 / 81.0) 2689124	(7.89 , 1.00) (0.00 , N/A , 0.0)	2836.4 1954.5	0.8311 100.0 100.0	19.6365 [19.1658]	102.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

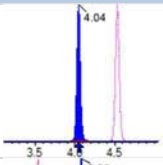
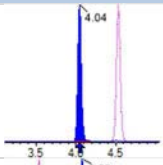
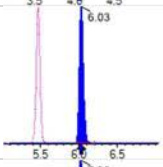
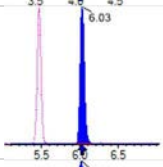
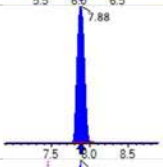
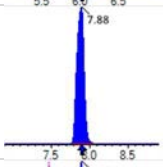
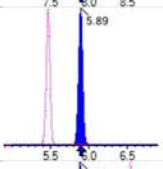
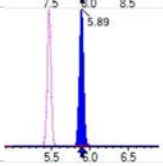
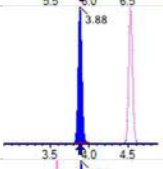
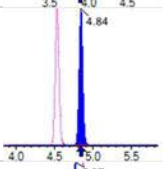
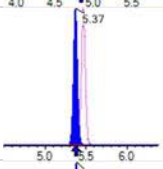
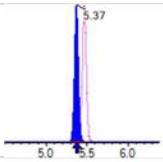
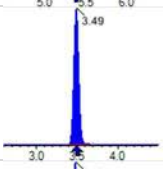
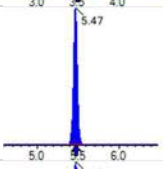
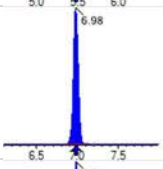
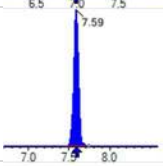
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 16873776 (498.0 / 478.0) 346600	(9.83 , 1.00) (0.00 , N/A , 0.1)	3623.3 1365.4	0.0205 100.0 100.0	4.9230 [5.0000]	98.5%			
NMeFOSA	(512.0 / 219.0) 15062148 (512.0 / 169.0) 12339105	(10.41 , 1.00) (0.00 , N/A , 1.0)	4316.3 4090.2	0.8192 100.0 100.0	19.8909 [20.0000]	99.5%			
NEtFOSA	(526.0 / 219.0) 16221852 (526.0 / 169.0) 20591347	(10.56 , 1.00) (0.00 , N/A , 0.8)	12815.2 15235.1	1.2694 100.0 100.0	20.1464 [20.0000]	100.7%			
NMeFOSAA	(570.0 / 419.0) 1293168 (570.0 / 483.0) 613882	(8.29 , 1.00) (0.00 , N/A , -0.2)	3254.9 276085.0	0.4747 100.0 100.0	4.4279 [5.0000]	88.6%			
NEtFOSAA	(584.0 / 419.0) 1211099 (584.0 / 526.0) 617983	(8.54 , 1.00) (0.01 , N/A , 0.1)	1922.1 7076.5	0.5103 100.0 100.0	5.1422 [5.0000]	102.8%			
NMeFOSE	(616.0 / 59.0) 6860263	(10.36 , 1.00) (0.01 , N/A , 0.0)	3314.5	N/A 0.0 0.0	19.0869 [20.0000]	95.4%			
NEtFOSE	(630.0 / 59.0) 8750560	(10.51 , 1.00) (0.01 , N/A , 0.0)	1947.4	N/A 0.0 0.0	19.3134 [20.0000]	96.6%			
HFPO-DA	(285.0 / 169.0) 3384631 (285.0 / 185.0) 9322395	(5.78 , 1.00) (0.00 , N/A , 0.0)	3354.6 4730.4	2.7543 100.0 100.0	9.3521 [10.0000]	93.5%			
ADONA	(377.0 / 85.0) 11635291 (377.0 / 251.0) 1025920	(6.57 , 1.14) (N/A , 0.00 , -0.1)	5483.9 2252.2	0.0882 100.0 100.0	9.3484 [9.4270]	99.2%			
9Cl-Pf3ONS	(531.0 / 351.0) 31179230 (533.0 / 353.0) 10857577	(8.70 , 1.50) (N/A , 0.00 , 0.0)	3496.7 3130.1	0.3482 100.0 100.0	8.3839 [9.3325]	89.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 18911923 (633.0 / 453.0) 6842706	(9.17 , 1.59) (N/A , 0.00 , 0.0)	2197.8 3639.0	0.3618 100.0 100.0	9.3273 [9.4321]	98.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

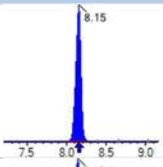
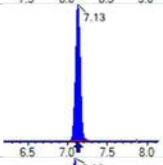
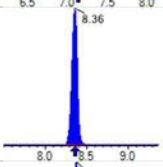
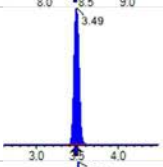
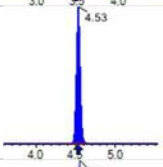
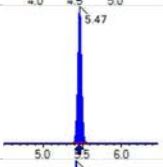
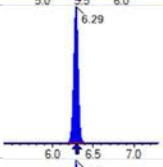
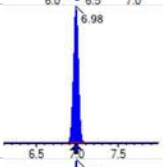
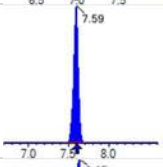
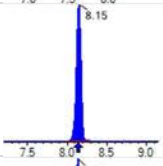
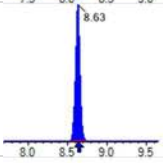
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 221117 (241.0 / 117.0) 348920	(4.04 , 0.89) (N/A , 0.00 , 0.0)	1710.7 1270.6	1.5780 100.0 100.0	18.0210 [20.0000]	90.1%			
5:3FTCA	(341.0 / 236.7) 1559646 (341.0 / 217.0) 2659637	(6.03 , 1.10) (N/A , 0.00 , 0.0)	1471.7 2247.5	1.7053 100.0 100.0	16.9094 [20.0000]	84.5%			
7:3FTCA	(441.0 / 317.0) 2829193 (441.0 / 337.0) 2434614	(7.88 , 1.44) (N/A , 0.00 , -0.2)	1104.9 1471.1	0.8605 100.0 100.0	16.6044 [20.0000]	83.0%			
PFEESA	(315.0 / 135.0) 6867136 (315.0 / 83.0) 1753875	(5.89 , 1.08) (N/A , 0.00 , 0.1)	4733.3 2624.5	0.2554 100.0 100.0	8.4754 [8.9246]	95.0%			
PFMPA	(229.0 / 85.0) 1012996	(3.88 , 0.86) (N/A , 0.00 , 0.0)	4456.4	N/A 0.0 0.0	9.3225 [10.0000]	93.2%			
PFMBA	(279.0 / 85.0) 4261572	(4.84 , 1.07) (N/A , 0.00 , 0.0)	4291.0	N/A 0.0 0.0	9.3520 [10.0000]	93.5%			
NFDHA	(295.0 / 201.0) 3469986 (295.0 / 85.0) 3474472	(5.37 , 0.98) (N/A , 0.00 , 0.0)	3832.4 3353.4	1.0013 100.0 100.0	9.2688 [10.0000]	92.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 225438	(3.49 , N/A) (N/A , 0.00 , N/A)	1151.4	N/A	1.0065 [1.0000]	100.6% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 480171	(5.47 , N/A) (N/A , 0.00 , N/A)	1976.3	N/A	0.9512 [1.0000]	95.1% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 593445	(6.98 , N/A) (N/A , 0.00 , N/A)	1655.7	N/A	0.9364 [1.0000]	93.6% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 592832	(7.59 , N/A) (N/A , 0.00 , N/A)	3326.2	N/A	0.9811 [1.0000]	98.1% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

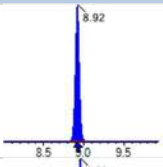
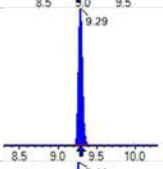
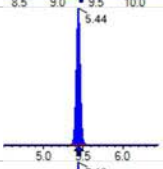
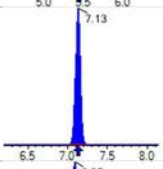
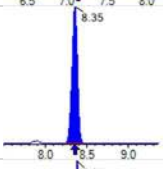
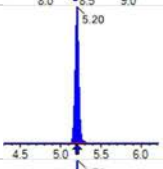
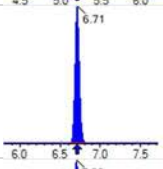
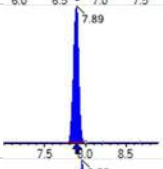
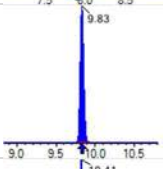
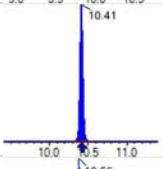
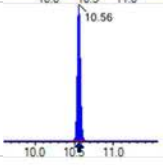
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 544568	(8.15 , N/A) (N/A , 0.00 , N/A)	905.1	N/A	0.9411 [1.0000]	94.1% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 844212	(7.13 , N/A) (N/A , 0.00 , N/A)	1879.8	N/A	0.9858 [1.0000]	98.6% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1512102	(8.36 , N/A) (N/A , 0.00 , N/A)	1058.0	N/A	1.0045 [1.0000]	100.4% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2334765	(3.49 , N/A) (N/A , 0.00 , N/A)	4444.3	N/A	8.7067 [8.0000]	108.8% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2418611	(4.53 , N/A) (N/A , 0.00 , N/A)	3591.2	N/A	4.6036 [4.0000]	115.1% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1534443	(5.47 , N/A) (N/A , 0.00 , N/A)	3297.1	N/A	2.3330 [2.0000]	116.7% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1263643	(6.29 , N/A) (N/A , 0.00 , N/A)	2333.7	N/A	2.2174 [2.0000]	110.9% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1540426	(6.98 , N/A) (N/A , 0.00 , N/A)	3544.1	N/A	2.2920 [2.0000]	114.6% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 702736	(7.59 , N/A) (N/A , 0.00 , N/A)	1753.9	N/A	1.1188 [1.0000]	111.9% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 776808	(8.15 , N/A) (N/A , 0.00 , N/A)	1570.3	N/A	1.1314 [1.0000]	113.1% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 771339	(8.63 , N/A) (N/A , 0.00 , N/A)	4873.0	N/A	1.1297 [1.0000]	113.0% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

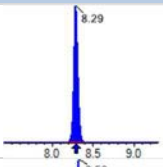
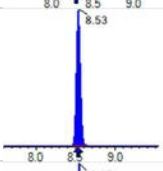
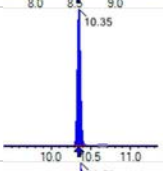
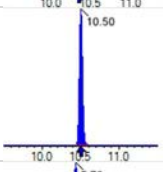
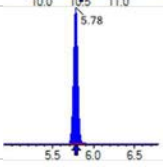
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 656853	(8.92 , N/A) (N/A , 0.00 , N/A)	1995.2	N/A	1.1217 [1.0000]	112.2% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 610004	(9.29 , N/A) (N/A , 0.00 , N/A)	1873.5	N/A	1.1368 [1.0000]	113.7% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3949791	(5.44 , N/A) (N/A , 0.00 , N/A)	3731.4	N/A	2.2355 [2.0000]	111.8% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1989895	(7.13 , N/A) (N/A , 0.00 , N/A)	2011.6	N/A	2.1683 [2.0000]	108.4% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4420657	(8.35 , N/A) (N/A , 0.00 , N/A)	1390.6	N/A	2.1295 [2.0000]	106.5% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 409305	(5.20 , N/A) (N/A , 0.00 , N/A)	1608.0	N/A	4.1969 [4.0000]	104.9% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 458078	(6.71 , N/A) (N/A , 0.00 , N/A)	1511.4	N/A	4.2789 [4.0000]	107.0% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 605084	(7.89 , N/A) (N/A , 0.00 , N/A)	1458.0	N/A	4.0006 [4.0000]	100.0% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8570962	(9.83 , N/A) (N/A , 0.00 , N/A)	2834.2	N/A	2.2243 [2.0000]	111.2% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1824778	(10.41 , N/A) (N/A , 0.00 , N/A)	2895.5	N/A	2.0100 [2.0000]	100.5% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1723765	(10.56 , N/A) (N/A , 0.00 , N/A)	3505.4	N/A	2.1218 [2.0000]	106.1% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

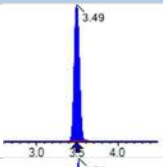
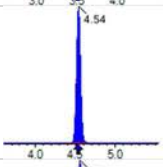
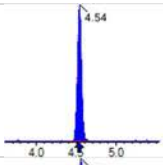
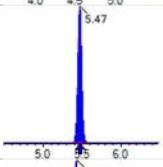
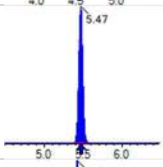
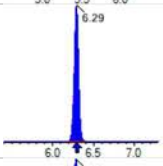
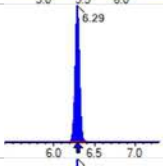
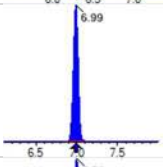
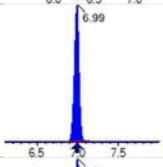
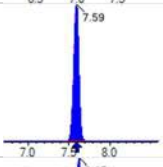
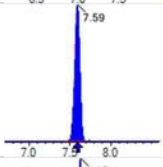
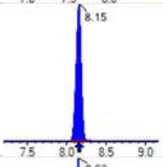
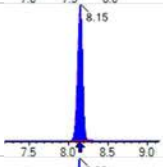
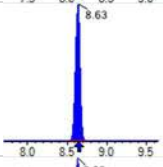
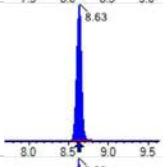
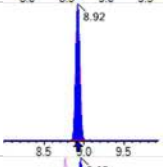
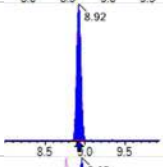
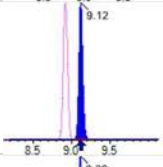
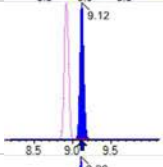
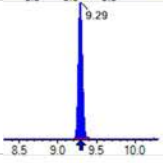
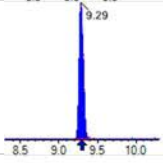
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1488594	(8.29 , N/A) (N/A , 0.00 , N/A)	1552.1	N/A	4.4312 [4.0000]	110.8% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1121658	(8.53 , N/A) (N/A , 0.00 , N/A)	3086.8	N/A	4.0777 [4.0000]	101.9% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7190335	(10.35 , N/A) (N/A , 0.00 , N/A)	1480.1	N/A	21.7243 [20.0000]	108.6% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9522239	(10.50 , N/A) (N/A , 0.00 , N/A)	2110.5	N/A	22.4653 [20.0000]	112.3% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3661243	(5.78 , N/A) (N/A , 0.00 , N/A)	3134.5	N/A	9.1427 [8.0000]	114.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

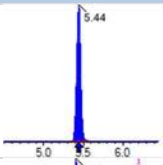
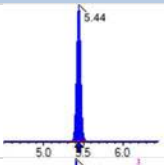
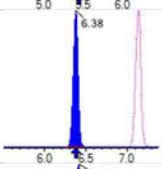
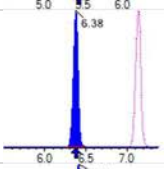
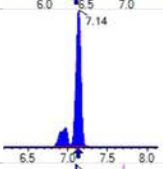
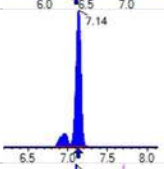
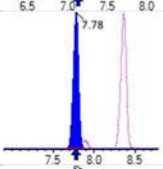
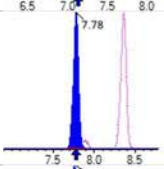
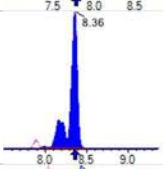
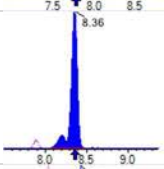
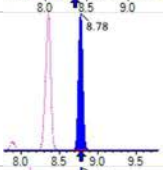
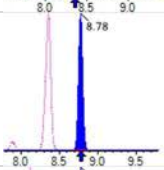
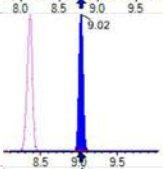
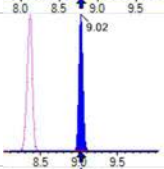
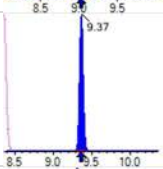
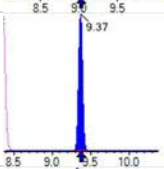
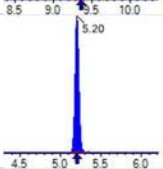
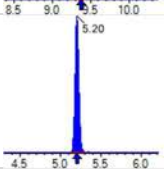
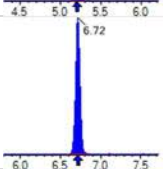
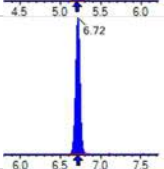
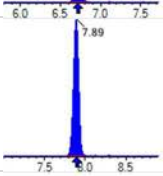
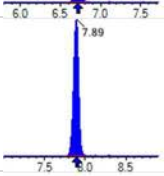
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 9233467	(3.49 , 1.00) (0.00 , N/A , 0.0)	224.3	N/A 0.0 0.0	46.9444 [40.0000]	117.4%			
PFPeA	(263.0 / 219.0) 9531366 (263.0 / 69.0) 126268	(4.54 , 1.00) (0.00 , N/A , 0.0)	6000.9 942.8	0.0132 123.7 123.7	23.8670 [20.0000]	119.3%			
PFHxA	(313.0 / 269.0) 6393140 (313.0 / 119.0) 631426	(5.47 , 1.00) (0.00 , N/A , 0.0)	8330.5 54939.1	0.0988 99.2 99.2	12.4668 [10.0000]	124.7%			
PFHpA	(363.0 / 319.0) 5097470 (363.0 / 169.0) 1520229	(6.29 , 1.00) (0.00 , N/A , 0.1)	8366.5 19589.4	0.2982 93.0 93.0	11.2965 [10.0000]	113.0%			
PFOA	(413.0 / 369.0) 6305799 (413.0 / 169.0) 2127178	(6.99 , 1.00) (0.00 , N/A , 0.1)	9194.0 1722.9	0.3373 100.8 100.8	10.4049 [10.0000]	104.0%			
PFNA	(463.0 / 419.0) 5831024 (463.0 / 169.0) 1289232	(7.59 , 1.00) (0.00 , N/A , 0.0)	7838.8 3394.3	0.2211 98.8 98.8	10.4692 [10.0000]	104.7%			
PFDA	(513.0 / 469.0) 6609858 (513.0 / 169.0) 772819	(8.15 , 1.00) (0.00 , N/A , -0.1)	2492.5 1306.9	0.1169 96.1 96.1	11.9377 [10.0000]	119.4%			
PFUnA	(563.0 / 519.0) 6120046 (563.0 / 169.0) 718714	(8.63 , 1.00) (0.00 , N/A , 0.0)	2434.2 1645.4	0.1174 112.0 112.0	12.5450 [10.0000]	125.4%			
PFDoA	(613.0 / 569.0) 5503400 (613.0 / 169.0) 936186	(8.92 , 1.00) (0.00 , N/A , 0.0)	2937.9 2305.5	0.1701 104.0 104.0	11.5680 [10.0000]	115.7%			
PFTrDA	(663.0 / 619.0) 4864186 (663.0 / 169.0) 1198575	(9.12 , 1.02) (N/A , 0.00 , 0.0)	2848.6 2088.0	0.2464 103.1 103.1	11.2925 [10.0000]	112.9%			
PFTeDA	(713.0 / 669.0) 4740592 (713.0 / 169.0) 999348	(9.29 , 1.00) (0.00 , N/A , 0.2)	3599.3 1036.6	0.2108 102.0 102.0	10.7960 [10.0000]	108.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

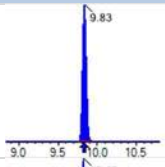
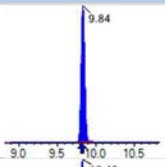
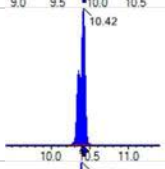
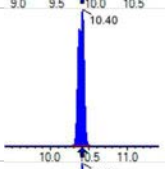
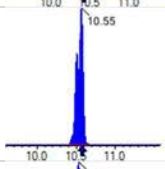
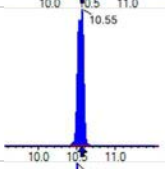
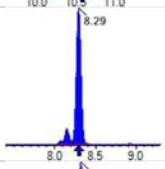
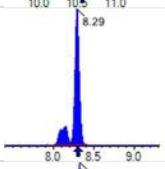
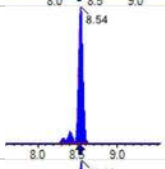
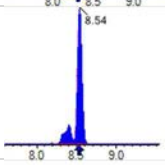
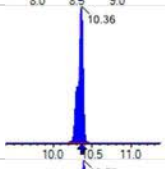
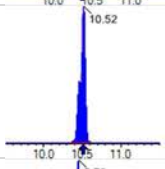
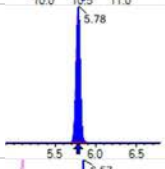
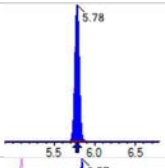
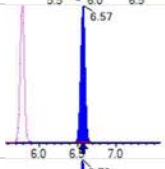
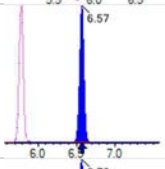
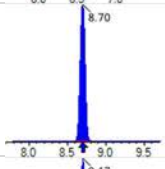
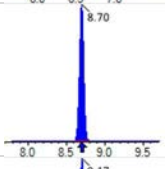
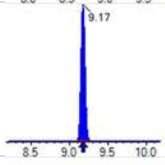
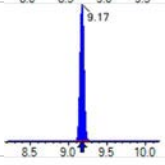
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 10390212 (299.0 / 99.0) 6605887	(5.44 , 1.00) (0.00 , N/A , 0.0)	4357.0 4771.2	0.6358 98.3 98.3	10.2872 [8.8473]	116.3%			
PFPeS	(349.0 / 80.0) 17873849 (349.0 / 99.0) 6341955	(6.38 , 0.89) (N/A , 0.00 , -0.1)	64324.3 304115.8	0.3548 99.4 99.4	11.1269 [9.3838]	118.6%			
PFHxS	(399.0 / 80.0) 13307133 (399.0 / 99.0) 4364301	(7.14 , 1.00) (0.00 , N/A , 0.0)	6437.0 4162.2	0.3280 101.0 101.0	10.3896 [9.1098]	114.0%			
PFHpS	(449.0 / 80.0) 16488908 (449.0 / 99.0) 4352074	(7.78 , 0.93) (N/A , 0.00 , -0.1)	14934.5 33644616.2	0.2639 97.0 97.0	12.2275 [9.5141]	128.5%			
PFOS	(499.0 / 80.0) 20346672 (499.0 / 99.0) 4392227	(8.36 , 1.00) (0.00 , N/A , 0.1)	1739.1 2878.9	0.2159 97.5 97.5	10.9024 [9.2749]	117.5%			
PFNS	(549.0 / 80.0) 23660442 (549.0 / 99.0) 5643402	(8.78 , 1.05) (N/A , 0.00 , 0.0)	25366.7 18550.7	0.2385 108.8 108.8	11.2811 [9.5989]	117.5%			
PFDS	(599.0 / 80.0) 26146019 (599.0 / 99.0) 6144955	(9.02 , 1.08) (N/A , 0.00 , 0.1)	4520.9 3068.3	0.2350 107.8 107.8	11.4601 [9.6311]	119.0%			
PFDoS	(699.0 / 80.0) 17995927 (699.0 / 99.0) 3844433	(9.37 , 1.12) (N/A , 0.00 , 0.0)	3280.7 2642.6	0.2136 102.6 102.6	12.3673 [9.6956]	127.6%			
4:2FTS	(327.0 / 307.0) 10683219 (327.0 / 81.0) 7205169	(5.20 , 1.00) (0.00 , N/A , 0.0)	6478.7 5055.2	0.6744 100.0 100.0	44.2283 [37.3811]	118.3%			
6:2FTS	(427.0 / 407.0) 5942947 (427.0 / 81.0) 4683835	(6.72 , 1.00) (0.00 , N/A , -0.1)	3868.4 3031.6	0.7881 95.2 95.2	44.0754 [37.9617]	116.1%			
8:2FTS	(527.0 / 507.0) 6511862 (527.0 / 81.0) 5633982	(7.89 , 1.00) (0.00 , N/A , 0.0)	2935.1 2349.4	0.8652 104.1 104.1	42.5374 [38.3315]	111.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

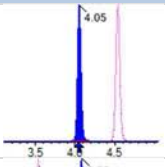
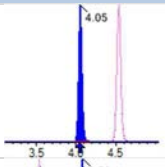
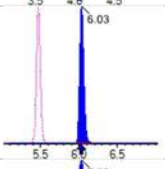
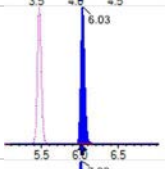
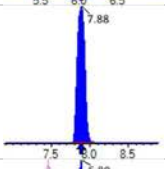
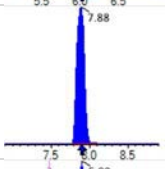
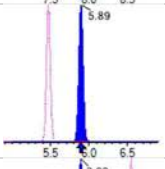
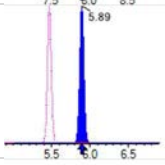
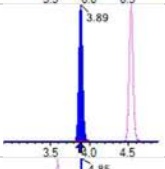
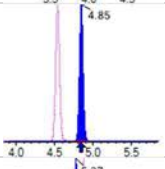
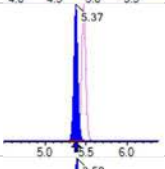
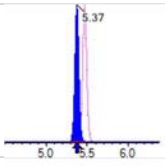
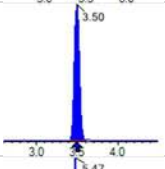
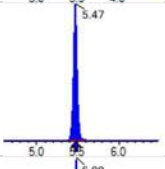
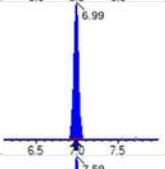
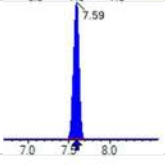
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 28496764 (498.0 / 478.0) 688439	(9.83 , 1.00) (0.00 , N/A , -0.1)	3755.5 1485.3	0.0242 117.6 117.6	10.8845 [10.0000]	108.8%			
NMeFOSA	(512.0 / 219.0) 27427411 (512.0 / 169.0) 23151406	(10.42 , 1.00) (0.00 , N/A , 1.0)	3933.1 5131.3	0.8441 103.0 103.0	43.4554 [40.0000]	108.6%			
NEtFOSA	(526.0 / 219.0) 30152734 (526.0 / 169.0) 36496875	(10.55 , 1.00) (-0.01 , N/A , 0.5)	12529.4 13453.4	1.2104 95.4 95.4	47.2706 [40.0000]	118.2%			
NMeFOSAA	(570.0 / 419.0) 2565724 (570.0 / 483.0) 1265795	(8.29 , 1.00) (0.00 , N/A , 0.2)	2950.6 2120.3	0.4933 103.9 103.9	10.9996 [10.0000]	110.0%			
NEtFOSAA	(584.0 / 419.0) 2217053 (584.0 / 526.0) 1367295	(8.54 , 1.00) (0.00 , N/A , 0.0)	2737.6 1586.6	0.6167 120.9 120.9	10.9014 [10.0000]	109.0%			
NMeFOSE	(616.0 / 59.0) 13103112	(10.36 , 1.00) (0.01 , N/A , 0.0)	3716.4	N/A 0.0 0.0	45.6930 [40.0000]	114.2%			
NEtFOSE	(630.0 / 59.0) 16273237	(10.52 , 1.00) (0.01 , N/A , 0.0)	1832.3	N/A 0.0 0.0	45.8199 [40.0000]	114.5%			
HFPO-DA	(285.0 / 169.0) 7145918 (285.0 / 185.0) 18638748	(5.78 , 1.00) (0.00 , N/A , 0.1)	3242.8 4909.2	2.6083 94.7 94.7	24.4771 [20.0000]	122.4%			
ADONA	(377.0 / 85.0) 22877224 (377.0 / 251.0) 2187719	(6.57 , 1.14) (N/A , 0.00 , 0.1)	4690.0 2291.0	0.0956 108.5 108.5	22.7861 [18.8540]	120.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 52552445 (533.0 / 353.0) 20544699	(8.70 , 1.50) (N/A , 0.00 , 0.0)	3095.8 2832.2	0.3909 112.3 112.3	20.6280 [18.6651]	110.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 33770888 (633.0 / 453.0) 12872268	(9.17 , 1.59) (N/A , 0.00 , 0.0)	2732.6 2758.3	0.3812 105.3 105.3	20.6476 [18.8642]	109.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

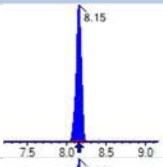
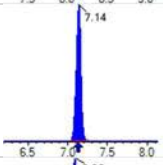
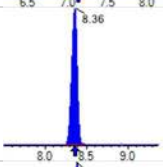
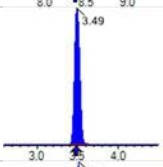
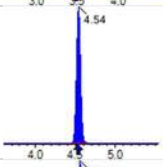
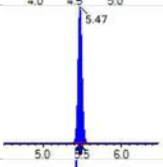
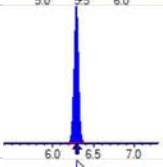
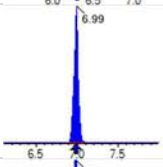
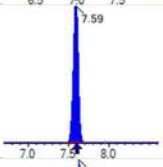
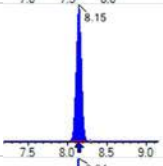
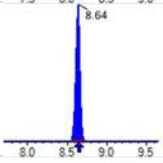
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 453435 (241.0 / 117.0) 709343	(4.05 , 0.89) (N/A , 0.01 , 0.0)	1696.2 1830.7	1.5644 99.1 99.1	43.4779 [40.0000]	108.7%			
5:3FTCA	(341.0 / 236.7) 3202760 (341.0 / 217.0) 5838898	(6.03 , 1.10) (N/A , 0.01 , 0.0)	1874.5 2496.4	1.8231 106.9 106.9	45.6716 [40.0000]	114.2%			
7:3FTCA	(441.0 / 317.0) 6044367 (441.0 / 337.0) 5231397	(7.88 , 1.44) (N/A , 0.00 , 0.0)	1248.9 1229.4	0.8655 100.6 100.6	46.6584 [40.0000]	116.6%			
PFEESA	(315.0 / 135.0) 13856058 (315.0 / 83.0) 3611442	(5.89 , 1.08) (N/A , 0.00 , 0.1)	4699.3 3584.0	0.2606 102.1 102.1	22.4929 [17.8492]	126.0%			
PFMPA	(229.0 / 85.0) 2074408	(3.89 , 0.86) (N/A , 0.01 , 0.0)	4384.2	N/A 0.0 0.0	23.7810 [20.0000]	118.9%			
PFMBA	(279.0 / 85.0) 8783910	(4.85 , 1.07) (N/A , 0.00 , 0.0)	5239.5	N/A 0.0 0.0	24.0123 [20.0000]	120.1%			
NFDHA	(295.0 / 201.0) 7069388 (295.0 / 85.0) 7165355	(5.37 , 0.98) (N/A , 0.00 , 0.0)	5626.6 4988.4	1.0136 101.2 101.2	24.8368 [20.0000]	124.2%			
13C3_PFBA_IIS	(216.0 / 172.0) 224891	(3.50 , N/A) (N/A , 0.01 , N/A)	1167.6	N/A	1.0040 [1.0000]	100.4% { 99.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 503477	(5.47 , N/A) (N/A , 0.00 , N/A)	2210.5	N/A	0.9974 [1.0000]	99.7% { 104.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 642862	(6.99 , N/A) (N/A , 0.01 , N/A)	2214.2	N/A	1.0143 [1.0000]	101.4% { 108.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 572418	(7.59 , N/A) (N/A , 0.00 , N/A)	11193.0	N/A	0.9473 [1.0000]	94.7% { 96.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

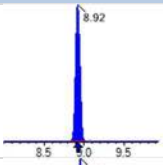
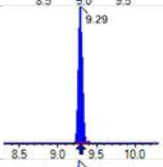
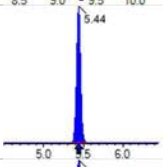
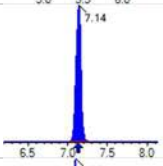
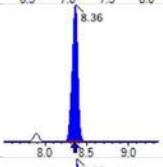
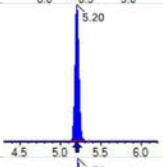
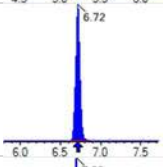
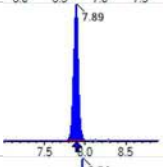
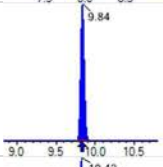
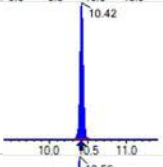
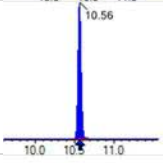
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 590795	(8.15 , N/A) (N/A , 0.00 , N/A)	2371.5	N/A	1.0210 [1.0000]	102.1% { 108.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 837150	(7.14 , N/A) (N/A , 0.01 , N/A)	1125.2	N/A	0.9776 [1.0000]	97.8% { 99.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1482150	(8.36 , N/A) (N/A , 0.00 , N/A)	1109.8	N/A	0.9846 [1.0000]	98.5% { 98.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1899580	(3.49 , N/A) (N/A , 0.01 , N/A)	4448.0	N/A	7.1011 [8.0000]	88.8% { 81.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1941584	(4.54 , N/A) (N/A , 0.01 , N/A)	3195.2	N/A	3.5246 [4.0000]	88.1% { 80.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1166626	(5.47 , N/A) (N/A , 0.00 , N/A)	3846.9	N/A	1.6917 [2.0000]	84.6% { 76.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1068755	(6.29 , N/A) (N/A , 0.00 , N/A)	2525.5	N/A	1.7886 [2.0000]	89.4% { 84.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1361303	(6.99 , N/A) (N/A , 0.01 , N/A)	1818.4	N/A	1.8698 [2.0000]	93.5% { 88.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 629508	(7.59 , N/A) (N/A , 0.00 , N/A)	3985.1	N/A	1.0379 [1.0000]	103.8% { 89.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 629459	(8.15 , N/A) (N/A , 0.00 , N/A)	1155.8	N/A	0.8450 [1.0000]	84.5% { 81.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 587177	(8.64 , N/A) (N/A , 0.00 , N/A)	3704.7	N/A	0.7927 [1.0000]	79.3% { 76.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

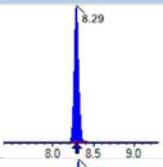
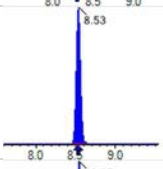
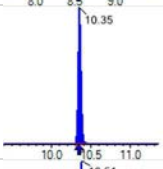
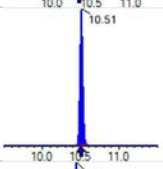
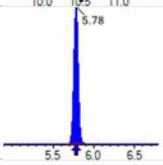
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 541005	(8.92 , N/A) (N/A , 0.00 , N/A)	53274.1	N/A	0.8516 [1.0000]	85.2% { 82.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 507428	(9.29 , N/A) (N/A , 0.00 , N/A)	1491.2	N/A	0.8717 [1.0000]	87.2% { 83.2% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3250497	(5.44 , N/A) (N/A , 0.00 , N/A)	3936.3	N/A	1.8552 [2.0000]	92.8% { 82.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1665870	(7.14 , N/A) (N/A , 0.00 , N/A)	2186.2	N/A	1.8305 [2.0000]	91.5% { 83.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3539645	(8.36 , N/A) (N/A , 0.01 , N/A)	1147.9	N/A	1.7396 [2.0000]	87.0% { 80.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 353761	(5.20 , N/A) (N/A , 0.00 , N/A)	1744.3	N/A	3.6579 [4.0000]	91.4% { 86.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 380113	(6.72 , N/A) (N/A , 0.01 , N/A)	1460.9	N/A	3.5806 [4.0000]	89.5% { 83.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 562167	(7.89 , N/A) (N/A , 0.00 , N/A)	1081.9	N/A	3.7482 [4.0000]	93.7% { 92.9% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 6546821	(9.84 , N/A) (N/A , 0.00 , N/A)	2955.2	N/A	1.7333 [2.0000]	86.7% { 76.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1603154	(10.42 , N/A) (N/A , 0.00 , N/A)	2177.9	N/A	1.8015 [2.0000]	90.1% { 87.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1365559	(10.56 , N/A) (N/A , 0.00 , N/A)	2826.0	N/A	1.7149 [2.0000]	85.7% { 79.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

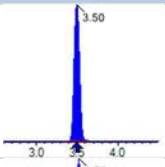
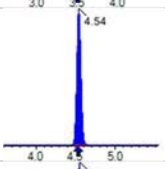
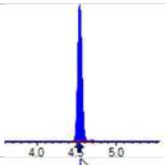
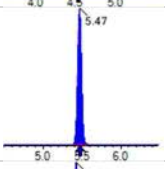
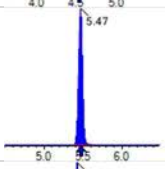
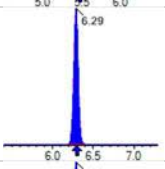
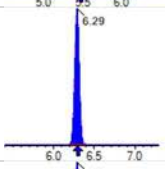
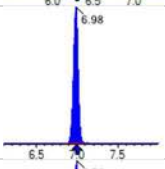
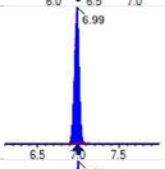
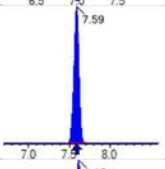
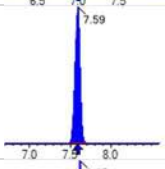
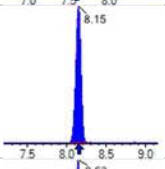
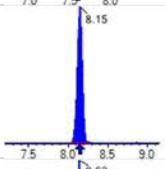
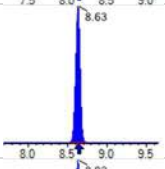
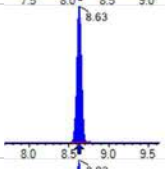
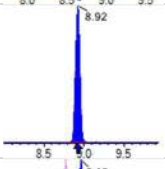
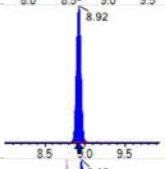
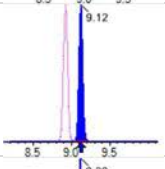
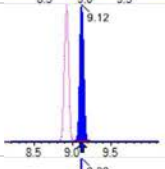
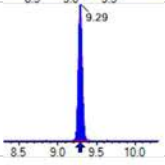
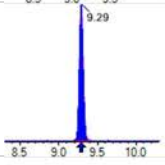
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1188918	(8.29 , N/A) (N/A , 0.00 , N/A)	1548.6	N/A	3.6106 [4.0000]	90.3% { 79.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 968558	(8.53 , N/A) (N/A , 0.00 , N/A)	1321416.8	N/A	3.5922 [4.0000]	89.8% { 86.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 5736778	(10.35 , N/A) (N/A , 0.00 , N/A)	1892.8	N/A	17.6829 [20.0000]	88.4% { 79.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7464155	(10.51 , N/A) (N/A , 0.00 , N/A)	2307.6	N/A	17.9656 [20.0000]	89.8% { 78.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 2953400	(5.78 , N/A) (N/A , 0.00 , N/A)	2802.1	N/A	7.0337 [8.0000]	87.9% { 80.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

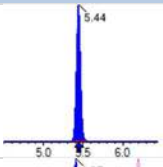
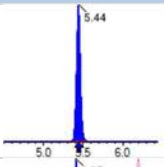
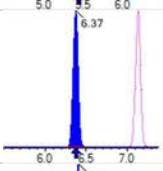
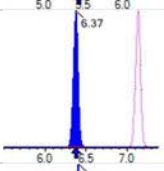
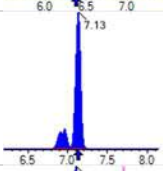
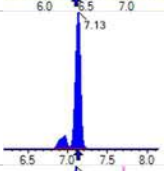
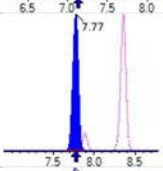
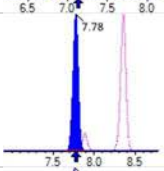
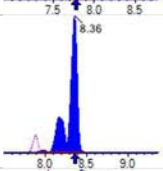
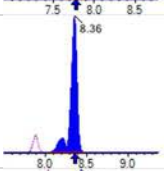
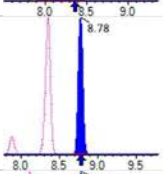
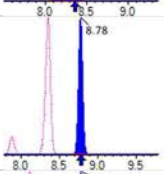
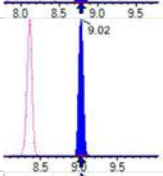
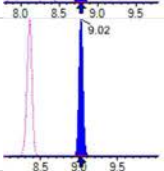
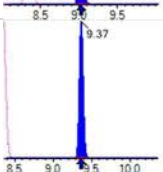
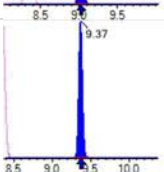
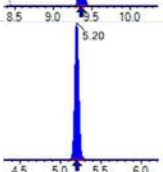
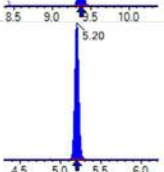
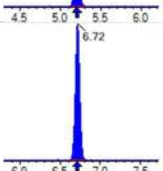
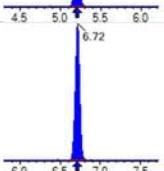
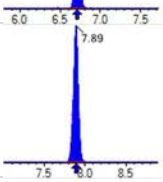
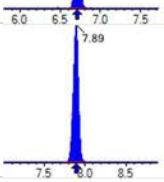
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 15337689	(3.50 , 1.00) (0.00 , N/A , 0.0)	202.8	N/A 0.0 0.0	82.1737 [80.0000]	102.7%			
PFPeA	(263.0 / 219.0) 16682791 (263.0 / 69.0) 214318	(4.54 , 1.00) (0.00 , N/A , 0.1)	7620.4 1415.7	0.0128 120.0 120.0	40.3999 [40.0000]	101.0%			
PFHxA	(313.0 / 269.0) 11582071 (313.0 / 119.0) 1164126	(5.47 , 1.00) (0.00 , N/A , 0.0)	10132.7 83880.5	0.1005 100.9 100.9	20.9265 [20.0000]	104.6%			
PFHpA	(363.0 / 319.0) 10236624 (363.0 / 169.0) 2996363	(6.29 , 1.00) (0.00 , N/A , 0.0)	9527.2 83284.9	0.2927 91.3 91.3	22.4112 [20.0000]	112.1%			
PFOA	(413.0 / 369.0) 12773098 (413.0 / 169.0) 3940700	(6.98 , 1.00) (0.00 , N/A , -0.1)	9301.8 8448.1	0.3085 92.2 92.2	22.4084 [20.0000]	112.0%			
PFNA	(463.0 / 419.0) 11486325 (463.0 / 169.0) 2596327	(7.59 , 1.00) (0.00 , N/A , -0.1)	9149.1 1094562.3	0.2260 101.0 101.0	20.8564 [20.0000]	104.3%			
PFDA	(513.0 / 469.0) 13202559 (513.0 / 169.0) 1478374	(8.15 , 1.00) (0.00 , N/A , 0.0)	3679.6 1643.9	0.1120 92.1 92.1	20.3910 [20.0000]	102.0%			
PFUnA	(563.0 / 519.0) 12098447 (563.0 / 169.0) 1401009	(8.63 , 1.00) (0.00 , N/A , 0.2)	3830.9 1876.5	0.1158 110.5 110.5	21.9467 [20.0000]	109.7%			
PFDoA	(613.0 / 569.0) 9962922 (613.0 / 169.0) 1708344	(8.92 , 1.00) (0.00 , N/A , 0.0)	3464.3 2061.8	0.1715 104.8 104.8	19.4226 [20.0000]	97.1%			
PFTrDA	(663.0 / 619.0) 8892680 (663.0 / 169.0) 2243556	(9.12 , 1.02) (N/A , 0.00 , 0.1)	3771.0 1929.7	0.2523 105.6 105.6	19.1473 [20.0000]	95.7%			
PFTeDA	(713.0 / 669.0) 9909351 (713.0 / 169.0) 1996611	(9.29 , 1.00) (0.00 , N/A , 0.0)	4270.0 1672.9	0.2015 97.5 97.5	21.0189 [20.0000]	105.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

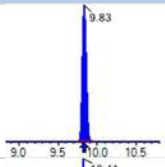
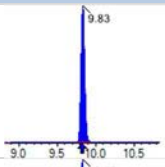
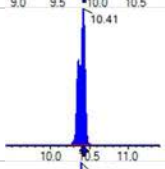
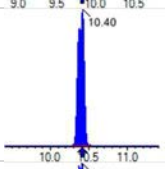
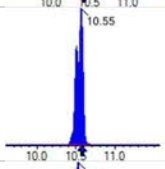
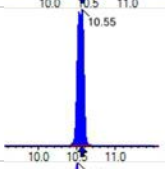
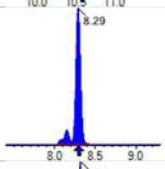
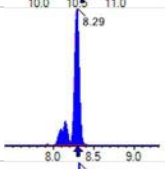
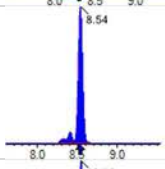
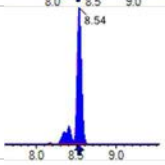
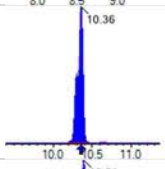
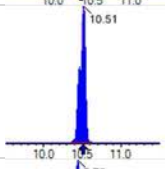
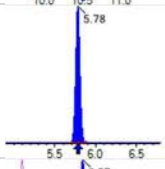
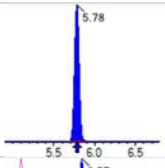
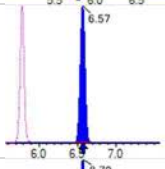
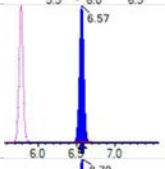
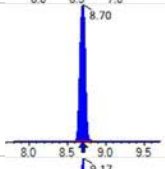
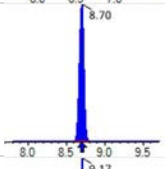
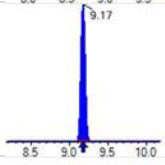
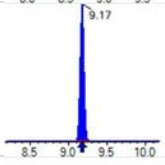
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 18432508 (299.0 / 99.0) 11551282	(5.44 , 1.00) (0.00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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

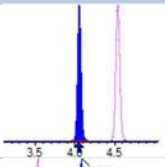
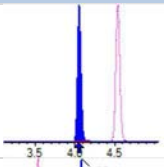
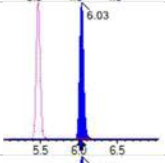
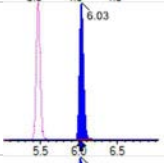
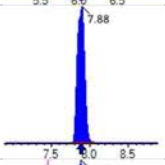
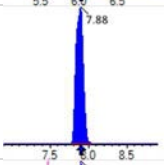
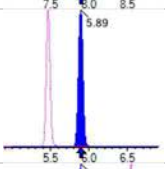
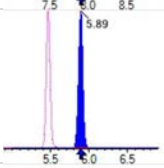
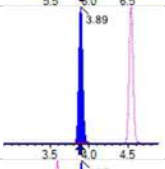
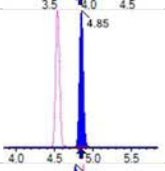
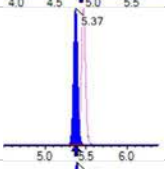
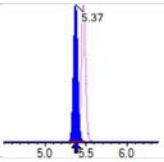
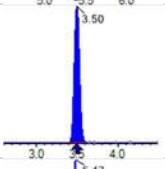
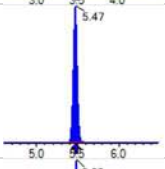
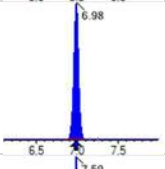
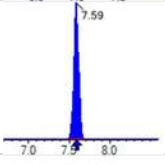
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 45374007 (498.0 / 478.0) 1211984	(9.83 , 1.00) (0.00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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

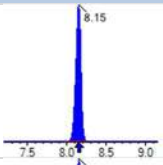
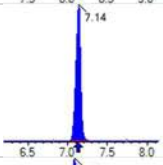
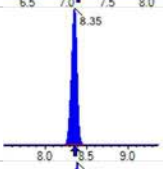
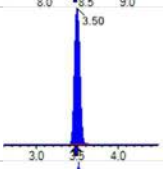
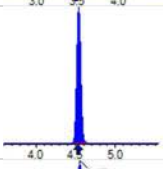
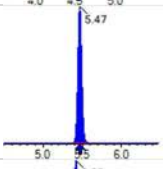
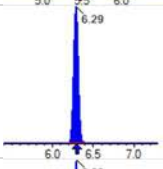
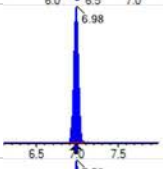
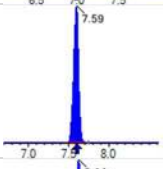
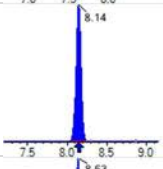
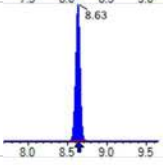
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 902077 (241.0 / 117.0) 1433216	(4.05 , 0.89) (N/A , 0.01 , 0.1)	2153.7 2284.4	1.5888 100.7 100.7	77.8383 [80.0000]	97.3%			
5:3FTCA	(341.0 / 236.7) 6878497 (341.0 / 217.0) 11289214	(6.03 , 1.10) (N/A , 0.01 , 0.1)	3227.4 2937.3	1.6412 96.2 96.2	90.8834 [80.0000]	113.6%			
7:3FTCA	(441.0 / 317.0) 12072417 (441.0 / 337.0) 10707762	(7.88 , 1.44) (N/A , 0.00 , 0.0)	1547.1 2006.4	0.8870 103.1 103.1	86.3460 [80.0000]	107.9%			
PFEESA	(315.0 / 135.0) 24328200 (315.0 / 83.0) 6999908	(5.89 , 1.08) (N/A , 0.00 , 0.0)	5805.7 4209.3	0.2877 112.7 112.7	36.5918 [35.6984]	102.5%			
PFMPA	(229.0 / 85.0) 3687422	(3.89 , 0.86) (N/A , 0.01 , 0.0)	5387.3	N/A 0.0 0.0	40.8816 [40.0000]	102.2%			
PFMBA	(279.0 / 85.0) 15245914	(4.85 , 1.07) (N/A , 0.00 , 0.0)	6035.2	N/A 0.0 0.0	40.3060 [40.0000]	100.8%			
NFDHA	(295.0 / 201.0) 12950881 (295.0 / 85.0) 12829443	(5.37 , 0.98) (N/A , 0.00 , 0.0)	4942.1 5261.9	0.9906 98.9 98.9	42.1582 [40.0000]	105.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 185676	(3.50 , N/A) (N/A , 0.01 , N/A)	986.1	N/A	0.8289 [1.0000]	82.9% { 82.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 474941	(5.47 , N/A) (N/A , 0.00 , N/A)	6192.6	N/A	0.9408 [1.0000]	94.1% { 98.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 608223	(6.98 , N/A) (N/A , 0.01 , N/A)	3392.9	N/A	0.9597 [1.0000]	96.0% { 102.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 546126	(7.59 , N/A) (N/A , 0.00 , N/A)	43952.5	N/A	0.9038 [1.0000]	90.4% { 92.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

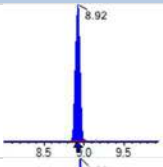
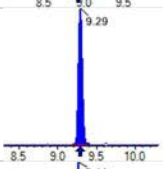
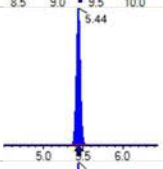
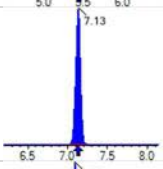
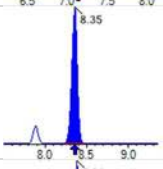
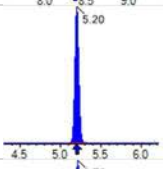
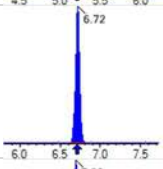
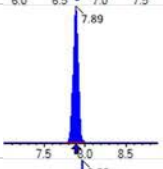
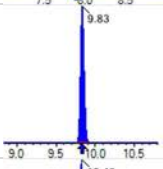
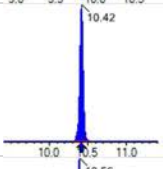
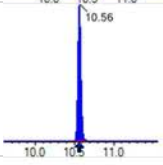
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 584998	(8.15 , N/A) (N/A , 0.00 , N/A)	1234.2	N/A	1.0110 [1.0000]	101.1% { 107.4% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 824707	(7.14 , N/A) (N/A , 0.01 , N/A)	1224.7	N/A	0.9630 [1.0000]	96.3% { 97.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1345342	(8.35 , N/A) (N/A , 0.00 , N/A)	1649.3	N/A	0.8937 [1.0000]	89.4% { 89.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1802619	(3.50 , N/A) (N/A , 0.01 , N/A)	4896.0	N/A	8.1618 [8.0000]	102.0% { 77.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2007646	(4.54 , N/A) (N/A , 0.01 , N/A)	3229.3	N/A	3.8635 [4.0000]	96.6% { 83.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1259108	(5.47 , N/A) (N/A , 0.00 , N/A)	2504.4	N/A	1.9355 [2.0000]	96.8% { 82.1% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1081833	(6.29 , N/A) (N/A , 0.00 , N/A)	5563.9	N/A	1.9193 [2.0000]	96.0% { 85.6% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1280381	(6.98 , N/A) (N/A , 0.00 , N/A)	1843.3	N/A	1.8588 [2.0000]	92.9% { 83.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 622463	(7.59 , N/A) (N/A , 0.00 , N/A)	1881.4	N/A	1.0757 [1.0000]	107.6% { 88.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 736065	(8.14 , N/A) (N/A , 0.00 , N/A)	1519.2	N/A	0.9979 [1.0000]	99.8% { 94.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 663506	(8.63 , N/A) (N/A , 0.00 , N/A)	2209.0	N/A	0.9046 [1.0000]	90.5% { 86.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

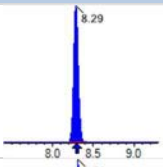
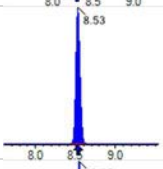
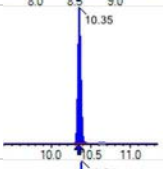
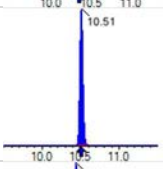
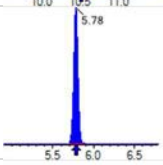
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 583320	(8.92 , N/A) (N/A , 0.00 , N/A)	4662.7	N/A	0.9273 [1.0000]	92.7% { 88.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 544806	(9.29 , N/A) (N/A , 0.00 , N/A)	1065.6	N/A	0.9451 [1.0000]	94.5% { 89.3% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3348089	(5.44 , N/A) (N/A , 0.00 , N/A)	2918.5	N/A	1.9398 [2.0000]	97.0% { 84.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1715256	(7.13 , N/A) (N/A , 0.00 , N/A)	1905.6	N/A	1.9132 [2.0000]	95.7% { 86.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3884369	(8.35 , N/A) (N/A , 0.00 , N/A)	849.6	N/A	2.1031 [2.0000]	105.2% { 87.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 393824	(5.20 , N/A) (N/A , 0.00 , N/A)	1464.1	N/A	4.1337 [4.0000]	103.3% { 96.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 425746	(6.72 , N/A) (N/A , 0.01 , N/A)	1188.0	N/A	4.0710 [4.0000]	101.8% { 92.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 630798	(7.89 , N/A) (N/A , 0.00 , N/A)	1493.4	N/A	4.2693 [4.0000]	106.7% { 104.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7183878	(9.83 , N/A) (N/A , 0.00 , N/A)	3258.9	N/A	2.0954 [2.0000]	104.8% { 83.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1698408	(10.42 , N/A) (N/A , 0.00 , N/A)	2308.8	N/A	2.1027 [2.0000]	105.1% { 93.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1330948	(10.56 , N/A) (N/A , 0.01 , N/A)	3073.0	N/A	1.8414 [2.0000]	92.1% { 77.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

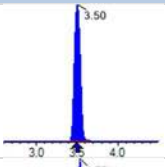
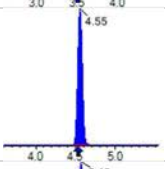
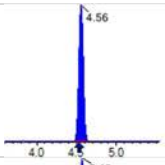
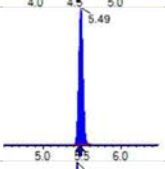
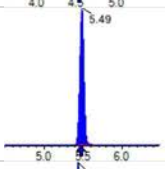
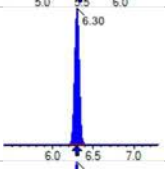
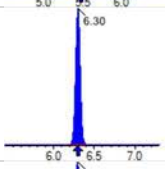
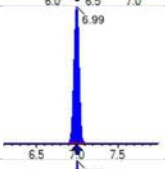
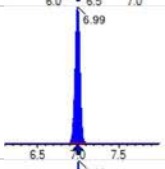
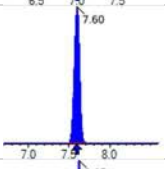
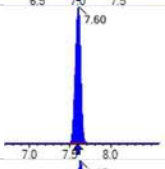
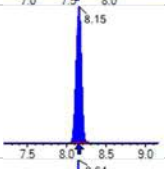
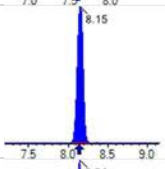
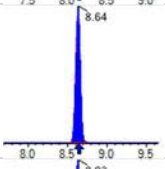
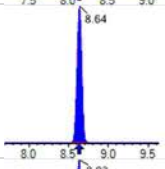
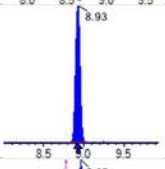
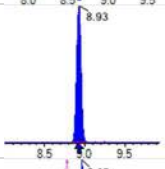
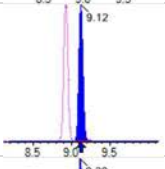
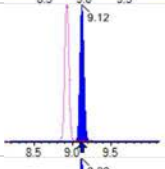
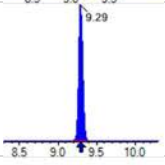
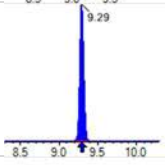
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1231612	(8.29 , N/A) (N/A , 0.00 , N/A)	2039.8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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

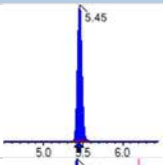
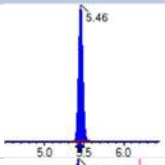
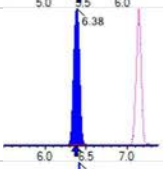
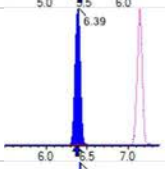
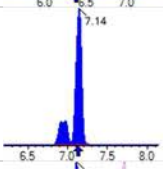
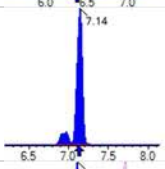
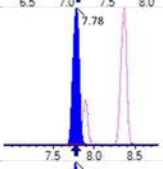
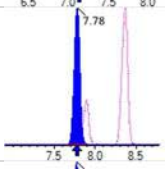
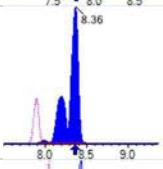
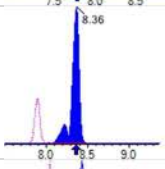
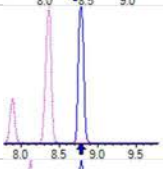
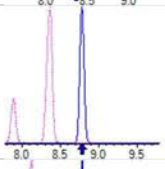
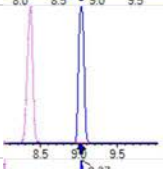
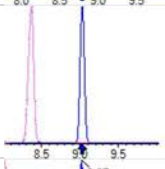
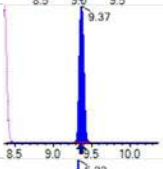
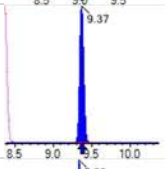
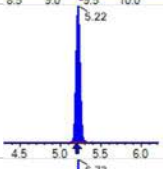
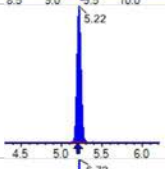
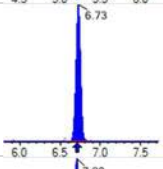
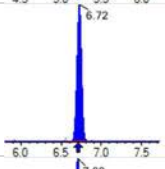
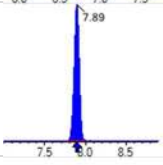
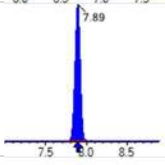
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 30157574	(3.50 , 1.00) (0.00 , N/A , 0.0)	199.4	N/A 0.0 0.0	199.3851 [200.0000]	99.7%			
PFPeA	(263.0 / 219.0) 33180312 (263.0 / 69.0) 437514	(4.55 , 1.00) (0.00 , N/A , -0.1)	7659.6 4196.6	0.0132 123.1 123.1	99.0620 [100.0000]	99.1%			
PFHxA	(313.0 / 269.0) 24352789 (313.0 / 119.0) 2602017	(5.49 , 1.00) (0.00 , N/A , 0.0)	9698.3 258522.9	0.1068 107.3 107.3	48.3136 [50.0000]	96.6%			
PFHpA	(363.0 / 319.0) 23305554 (363.0 / 169.0) 6794628	(6.30 , 1.00) (0.00 , N/A , 0.1)	13241.3 34181.2	0.2915 90.9 90.9	54.6205 [50.0000]	109.2%			
PFOA	(413.0 / 369.0) 27748645 (413.0 / 169.0) 9269777	(6.99 , 1.00) (0.00 , N/A , 0.0)	9517.6 12954.3	0.3341 99.8 99.8	48.7358 [50.0000]	97.5%			
PFNA	(463.0 / 419.0) 26643346 (463.0 / 169.0) 5700123	(7.60 , 1.00) (0.00 , N/A , -0.1)	10839.5 55499.9	0.2139 95.6 95.6	53.9772 [50.0000]	108.0%			
PFDA	(513.0 / 469.0) 27897726 (513.0 / 169.0) 3358162	(8.15 , 1.00) (0.00 , N/A , 0.0)	3311.3 2578.7	0.1204 99.0 99.0	49.9184 [50.0000]	99.8%			
PFUnA	(563.0 / 519.0) 25375749 (563.0 / 169.0) 3201701	(8.64 , 1.00) (0.00 , N/A , 0.0)	4015.5 2264.0	0.1262 120.3 120.3	47.9194 [50.0000]	95.8%			
PFDoA	(613.0 / 569.0) 22253713 (613.0 / 169.0) 3793752	(8.93 , 1.00) (0.00 , N/A , 0.0)	3711.7 3062.5	0.1705 104.2 104.2	47.0721 [50.0000]	94.1%			
PFTrDA	(663.0 / 619.0) 17139294 (663.0 / 169.0) 4669255	(9.12 , 1.02) (N/A , 0.00 , 0.0)	2774.9 2031.0	0.2724 114.0 114.0	40.0412 [50.0000]	80.1%			
PFTeDA	(713.0 / 669.0) 21814245 (713.0 / 169.0) 4999446	(9.29 , 1.00) (0.00 , N/A , 0.0)	2027.5 1844.5	0.2292 110.9 110.9	47.8819 [50.0000]	95.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

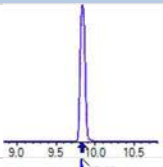
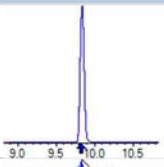
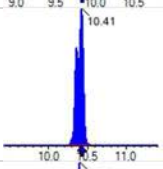
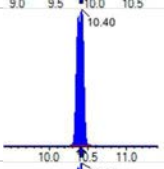
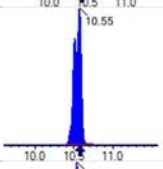
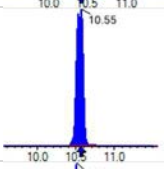
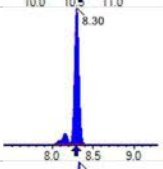
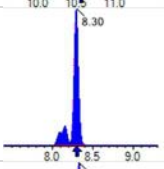
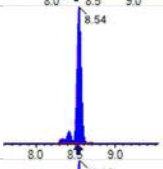
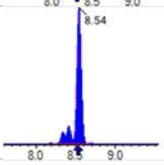
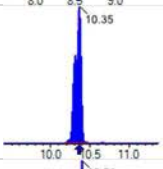
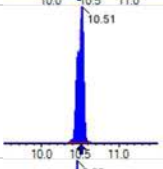
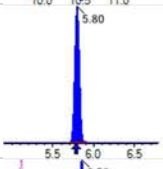
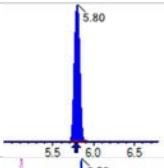
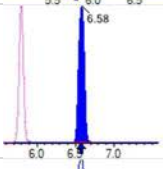
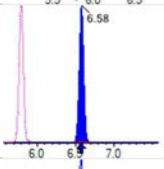
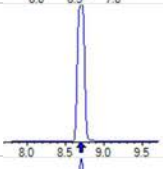
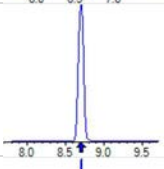
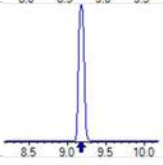
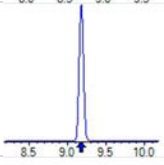
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 33764092 (299.0 / 99.0) 22999680	(5.45 , 1.00) (0.00 , N/A , 0.0)	4850.9 4549.7	0.6812 105.3 105.3	39.7222 [44.2367]	89.8%			
PFPeS	(349.0 / 80.0) 57760543 (349.0 / 99.0) 25912545	(6.38 , 0.89) (N/A , 0.01 , -0.1)	11585.7 28547.7	0.4486 125.7 125.7	37.2690 [46.9191]	79.4%			
PFHxS	(399.0 / 80.0) 54967905 (399.0 / 99.0) 19970270	(7.14 , 1.00) (0.00 , N/A , 0.1)	7010.9 10956.1	0.3633 111.9 111.9	44.4819 [45.5491]	97.7%			
PFHpS	(449.0 / 80.0) 55548911 (449.0 / 99.0) 18510688	(7.78 , 0.93) (N/A , 0.01 , 0.0)	14572.4 49735.1	0.3332 122.4 122.4	41.7551 [47.5703]	87.8%			
PFOS	(499.0 / 80.0) 74516074 (499.0 / 99.0) 18648612	(8.36 , 1.00) (0.00 , N/A , -0.1)	2183.8 3445.8	0.2503 113.1 113.1	40.4730 [46.3746]	87.3%			
PFNS	(549.0 / 80.0) N/A (549.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [47.9943]	N/A%			QC,
PFDS	(599.0 / 80.0) N/A (599.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [48.1553]	N/A%			QC,
PFDoS	(699.0 / 80.0) 54329438 (699.0 / 99.0) 16259426	(9.37 , 1.12) (N/A , 0.01 , 0.1)	2658.8 3615.0	0.2993 143.8 143.8	37.8463 [48.4781]	78.1%			
4:2FTS	(327.0 / 307.0) 39943309 (327.0 / 81.0) 29603285	(5.22 , 1.00) (0.00 , N/A , 0.0)	5776.1 5249.2	0.7411 109.8 109.8	153.2757 [186.9055]	82.0%			
6:2FTS	(427.0 / 407.0) 29385691 (427.0 / 81.0) 23406118	(6.73 , 1.00) (0.00 , N/A , 0.0)	3922.8 5055.0	0.7965 96.2 96.2	188.8167 [189.8085]	99.5%			
8:2FTS	(527.0 / 507.0) 32033130 (527.0 / 81.0) 26056569	(7.89 , 1.00) (0.00 , N/A , 0.1)	2531.0 3355.4	0.8134 97.9 97.9	169.8673 [191.6577]	88.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

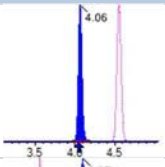
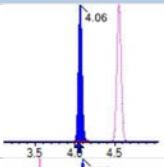
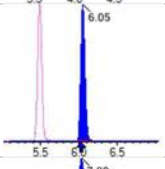
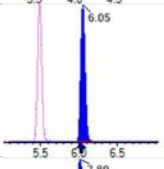
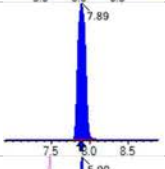
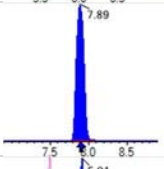
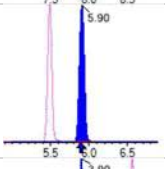
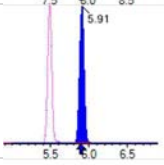
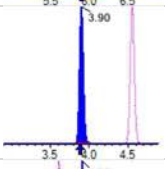
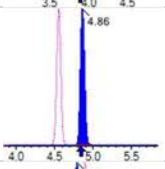
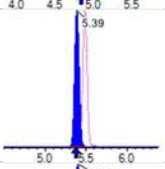
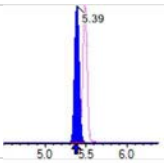
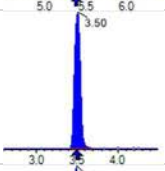
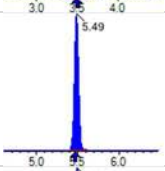
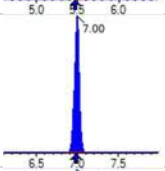
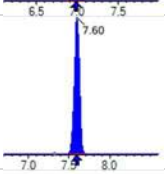
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [50.0000]	N/A%			QC,
NMeFOSA	(512.0 / 219.0) 76556778 (512.0 / 169.0) 65118925	(10.41 , 1.00) (-0.02 , N/A , 0.3)	2387.5 3511.2	0.8506 103.8 103.8	206.1452 [200.0000]	103.1%			
NEtFOSA	(526.0 / 219.0) 82865198 (526.0 / 169.0) 88002594	(10.55 , 1.00) (-0.02 , N/A , 0.1)	16651.6 18744.9	1.0620 83.7 83.7	160.3500 [200.0000]	80.2%			
NMeFOSAA	(570.0 / 419.0) 12224827 (570.0 / 483.0) 5469499	(8.30 , 1.00) (0.00 , N/A , 0.1)	4664.0 2463.8	0.4474 94.2 94.2	48.3498 [50.0000]	96.7%			
NEtFOSAA	(584.0 / 419.0) 10977527 (584.0 / 526.0) 6240818	(8.54 , 1.00) (0.01 , N/A , 0.0)	2642.6 1856.2	0.5685 111.4 111.4	51.7785 [50.0000]	103.6%			
NMeFOSE	(616.0 / 59.0) 45235489	(10.35 , 1.00) (0.00 , N/A , 0.0)	3201.0	N/A 0.0 0.0	186.7620 [200.0000]	93.4%			
NEtFOSE	(630.0 / 59.0) 47659476	(10.51 , 1.00) (0.00 , N/A , 0.0)	1276.6	N/A 0.0 0.0	175.0607 [200.0000]	87.5%			
HFPO-DA	(285.0 / 169.0) 27064622 (285.0 / 185.0) 56107744	(5.80 , 1.00) (0.00 , N/A , 0.0)	4176.1 4089.0	2.0731 75.3 75.3	98.6051 [100.0000]	98.6%			
ADONA	(377.0 / 85.0) 63651267 (377.0 / 251.0) 8645557	(6.58 , 1.14) (N/A , 0.01 , 0.0)	2896.3 3684.8	0.1358 154.0 154.0	67.4326 [94.2700]	71.5%			IR2,
9Cl-Pf3ONS	(531.0 / 351.0) N/A (533.0 / 353.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [93.3254]	N/A%			QC,
11Cl-PF3OUDS	(631.0 / 451.0) N/A (633.0 / 453.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000 [94.3208]	N/A%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

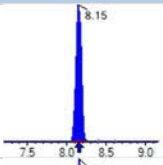
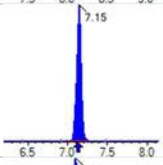
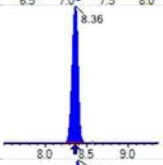
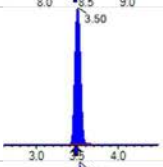
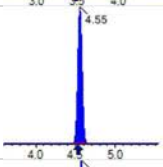
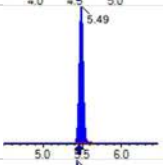
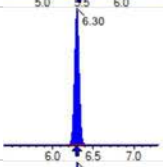
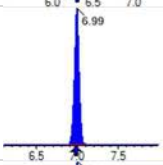
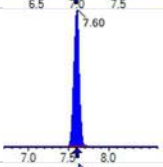
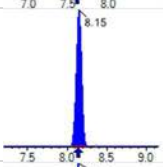
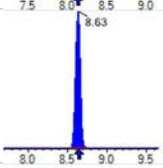
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 2348441 (241.0 / 117.0) 3695398	(4.06 , 0.89) (N/A , 0.02 , 0.0)	2293.1 2774.8	1.5736 99.7 99.7	200.2861 [200.0000]	100.1%			
5:3FTCA	(341.0 / 236.7) 16701638 (341.0 / 217.0) 27334931	(6.05 , 1.10) (N/A , 0.02 , 0.0)	2530.4 3328.2	1.6367 96.0 96.0	242.3031 [200.0000]	121.2%			
7:3FTCA	(441.0 / 317.0) 30019668 (441.0 / 337.0) 25999080	(7.89 , 1.44) (N/A , 0.01 , 0.0)	1616.8 1863.7	0.8661 100.6 100.6	235.7560 [200.0000]	117.9%			
PFEESA	(315.0 / 135.0) 44504868 (315.0 / 83.0) 14830352	(5.90 , 1.08) (N/A , 0.02 , 0.0)	3473.2 4026.5	0.3332 130.5 130.5	73.5006 [89.2459]	82.4%			
PFMPA	(229.0 / 85.0) 8205055	(3.90 , 0.86) (N/A , 0.02 , 0.0)	5685.5	N/A 0.0 0.0	112.1506 [100.0000]	112.2%			
PFMBA	(279.0 / 85.0) 30499882	(4.86 , 1.07) (N/A , 0.02 , 0.0)	5844.0	N/A 0.0 0.0	99.4098 [100.0000]	99.4%			
NFDHA	(295.0 / 201.0) 26402610 (295.0 / 85.0) 26363507	(5.39 , 0.98) (N/A , 0.02 , 0.0)	3971.6 5150.6	0.9985 99.7 99.7	94.3710 [100.0000]	94.4%			
13C3_PFBA_IIS	(216.0 / 172.0) 158427	(3.50 , N/A) (N/A , 0.01 , N/A)	747.3	N/A	0.7073 [1.0000]	70.7% { 70.3% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 454892	(5.49 , N/A) (N/A , 0.02 , N/A)	3086.9	N/A	0.9011 [1.0000]	90.1% { 94.7% }			
13C4_PFOA_IIS	(417.0 / 372.0) 531465	(7.00 , N/A) (N/A , 0.02 , N/A)	2829.3	N/A	0.8386 [1.0000]	83.9% { 89.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 563682	(7.60 , N/A) (N/A , 0.01 , N/A)	1482.9	N/A	0.9328 [1.0000]	93.3% { 95.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

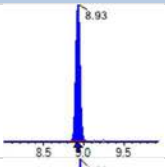
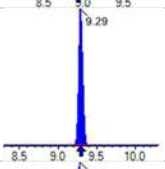
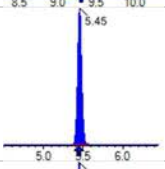
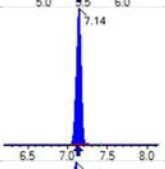
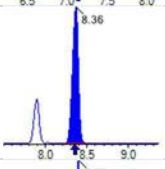
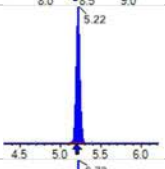
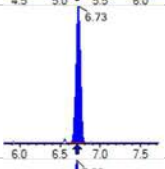
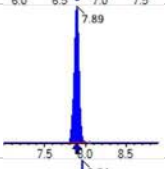
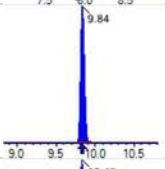
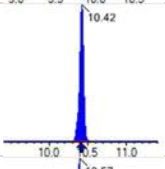
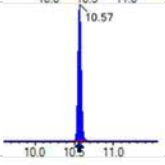
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 548948	(8.15 , N/A) (N/A , 0.00 , N/A)	1038.3	N/A	0.9487 [1.0000]	94.9% { 100.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 779148	(7.15 , N/A) (N/A , 0.01 , N/A)	934.0	N/A	0.9098 [1.0000]	91.0% { 92.3% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1418626	(8.36 , N/A) (N/A , 0.01 , N/A)	1316.0	N/A	0.9424 [1.0000]	94.2% { 93.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 1460766	(3.50 , N/A) (N/A , 0.01 , N/A)	3458.8	N/A	7.7515 [8.0000]	96.9% { 62.6% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1628440	(4.55 , N/A) (N/A , 0.02 , N/A)	2993.6	N/A	3.2719 [4.0000]	81.8% { 67.3% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1146711	(5.49 , N/A) (N/A , 0.02 , N/A)	3359.8	N/A	1.8404 [2.0000]	92.0% { 74.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1010584	(6.30 , N/A) (N/A , 0.01 , N/A)	1691.9	N/A	1.8719 [2.0000]	93.6% { 80.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1278931	(6.99 , N/A) (N/A , 0.01 , N/A)	2254.9	N/A	2.1248 [2.0000]	106.2% { 83.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 557891	(7.60 , N/A) (N/A , 0.01 , N/A)	2610.8	N/A	0.9341 [1.0000]	93.4% { 79.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 635337	(8.15 , N/A) (N/A , 0.00 , N/A)	2044.6	N/A	0.9179 [1.0000]	91.8% { 81.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 637370	(8.63 , N/A) (N/A , 0.00 , N/A)	1798.4	N/A	0.9261 [1.0000]	92.6% { 82.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

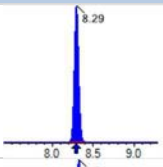
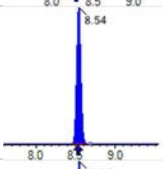
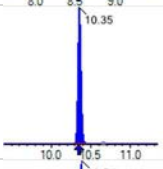
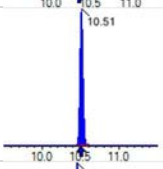
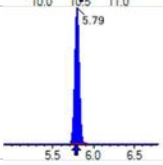
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 537611	(8.93 , N/A) (N/A , 0.01 , N/A)	1771.9	N/A	0.9107 [1.0000]	91.1% { 81.8% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 526472	(9.29 , N/A) (N/A , 0.00 , N/A)	1321.1	N/A	0.9733 [1.0000]	97.3% { 86.3% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2735550	(5.45 , N/A) (N/A , 0.02 , N/A)	3421.3	N/A	1.6775 [2.0000]	83.9% { 69.3% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1607241	(7.14 , N/A) (N/A , 0.01 , N/A)	2197.8	N/A	1.8976 [2.0000]	94.9% { 80.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3491992	(8.36 , N/A) (N/A , 0.01 , N/A)	536.1	N/A	1.7930 [2.0000]	89.7% { 79.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 381662	(5.22 , N/A) (N/A , 0.02 , N/A)	1246.7	N/A	4.2402 [4.0000]	106.0% { 93.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 438735	(6.73 , N/A) (N/A , 0.01 , N/A)	1279.4	N/A	4.4405 [4.0000]	111.0% { 95.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 692502	(7.89 , N/A) (N/A , 0.01 , N/A)	2008.3	N/A	4.9610 [4.0000]	124.0% { 114.4% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 5474172	(9.84 , N/A) (N/A , 0.01 , N/A)	2848.0	N/A	1.5142 [2.0000]	75.7% { 63.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1535713	(10.42 , N/A) (N/A , 0.01 , N/A)	1409.7	N/A	1.8030 [2.0000]	90.2% { 84.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1106313	(10.57 , N/A) (N/A , 0.01 , N/A)	2709.4	N/A	1.4515 [2.0000]	72.6% { 64.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

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

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2307007
Laboratory ID: SC00647-SCV1
Sequence: SC00647
Standard ID: 23B0089

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

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2307007
Laboratory ID: SC00647-SCV1
Sequence: SC00647
Standard ID: 23B0089

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

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2307007
Laboratory ID: SC00647-SCV1
Sequence: SC00647
Standard ID: 23B0089

13C8-PFOSA	2.00	2.05	2.4	30.00
D3-NMEFOSA	2.00	2.02	1.1	30.00
D5-NETFOSA	2.00	2.07	3.3	30.00
D3-NMEFOSAA	4.00	3.99	-0.2	30.00
D5-NETFOSAA	4.00	3.83	-4.3	30.00
D7-NMEFOSE	20.0	20.3	1.7	30.00
D9-NETFOSE	20.0	19.8	-1.2	30.00
13C3-HFPO-DA	8.00	8.77	9.6	30.00

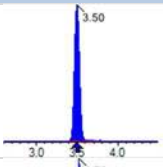
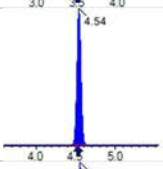
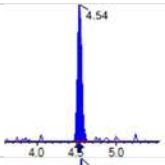
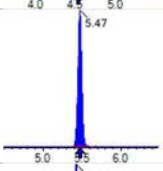
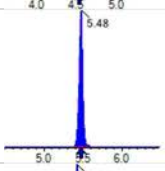
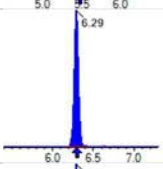
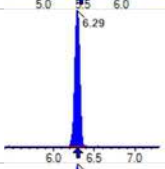
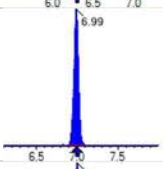
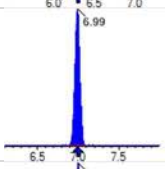
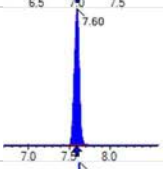
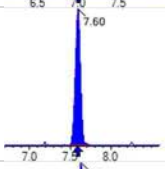
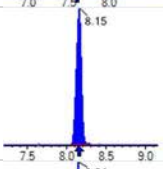
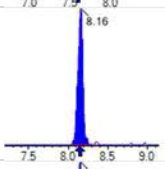
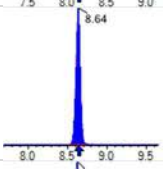
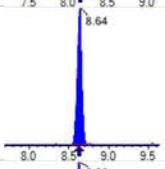
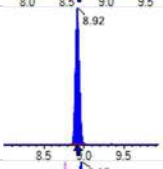
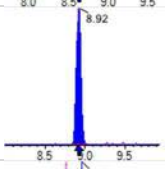
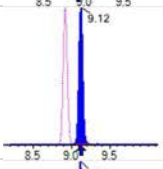
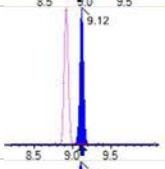
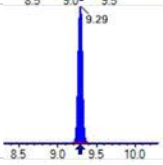
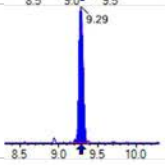
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

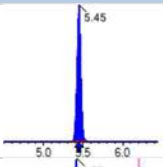
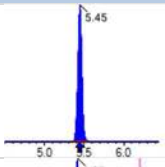
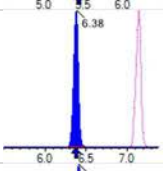
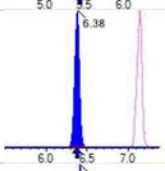
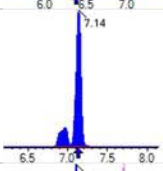
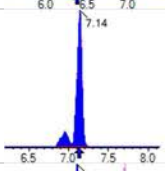
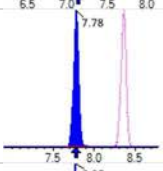
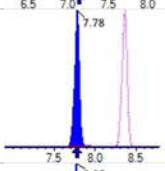
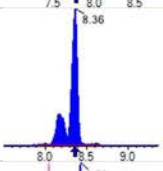
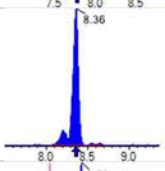
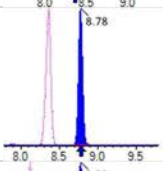
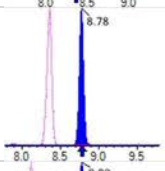
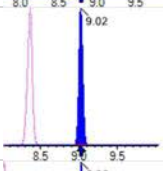
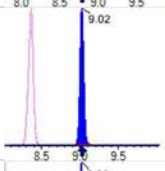
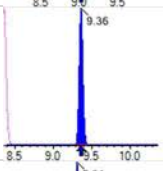
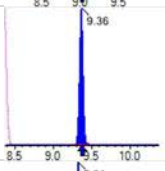
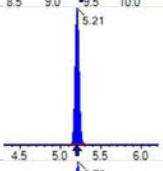
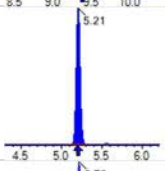
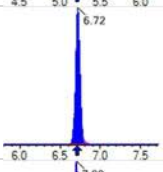
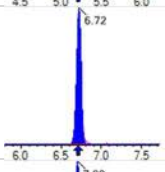
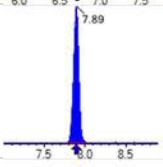
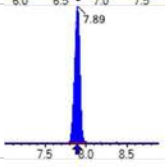
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1855837	(3.50 , 1.00) (0.00 , N/A , 0.0)	214.2	N/A 0.0 0.0	7.7193 [8.0000]	96.5%			
PFPeA	(263.0 / 219.0) 1816304 (263.0 / 69.0) 22222	(4.54 , 1.00) (0.00 , N/A , 0.3)	2797.4 227.3	0.0122 114.3 114.3	4.0506 [4.0000]	101.3%			
PFHxA	(313.0 / 269.0) 1172574 (313.0 / 119.0) 109802	(5.47 , 1.00) (0.00 , N/A , -0.2)	5660.8 4014564.1	0.0936 94.0 94.0	1.9097 [2.0000]	95.5%			
PFHpA	(363.0 / 319.0) 980875 (363.0 / 169.0) 294159	(6.29 , 1.00) (0.00 , N/A , 0.0)	43558.2 199114.1	0.2999 93.5 93.5	1.9991 [2.0000]	100.0%			
PFOA	(413.0 / 369.0) 1269405 (413.0 / 169.0) 434013	(6.99 , 1.00) (0.00 , N/A , -0.1)	9343.6 2964.4	0.3419 102.2 102.2	1.9616 [2.0000]	98.1%			
PFNA	(463.0 / 419.0) 1176960 (463.0 / 169.0) 257649	(7.60 , 1.00) (0.00 , N/A , 0.0)	10298.1 5708.0	0.2189 97.8 97.8	2.0460 [2.0000]	102.3%			
PFDA	(513.0 / 469.0) 1273474 (513.0 / 169.0) 146381	(8.15 , 1.00) (0.00 , N/A , -0.3)	1241.8 651.1	0.1149 94.5 94.5	1.8850 [2.0000]	94.3%			
PFUnA	(563.0 / 519.0) 1187758 (563.0 / 169.0) 148979	(8.64 , 1.00) (0.00 , N/A , 0.0)	1593.9 1026.2	0.1254 119.6 119.6	1.9902 [2.0000]	99.5%			
PFDoA	(613.0 / 569.0) 1022182 (613.0 / 169.0) 171947	(8.92 , 1.00) (0.00 , N/A , -0.4)	1893.1 1840.4	0.1682 102.8 102.8	1.9381 [2.0000]	96.9%			
PFTrDA	(663.0 / 619.0) 988300 (663.0 / 169.0) 288733	(9.12 , 1.02) (N/A , 0.00 , 0.1)	1735.7 884.1	0.2922 122.2 122.2	2.0696 [2.0000]	103.5%			
PFTeDA	(713.0 / 669.0) 948401 (713.0 / 169.0) 229129	(9.29 , 1.00) (0.00 , N/A , 0.3)	1207.7 516.0	0.2416 116.9 116.9	1.7896 [2.0000]	89.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

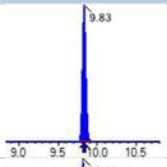
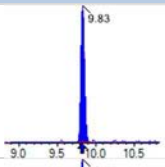
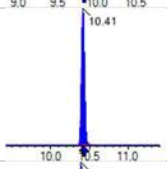
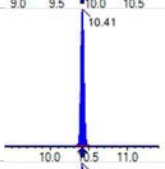
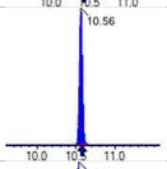
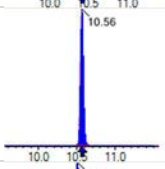
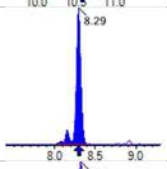
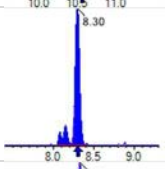
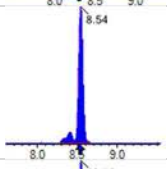
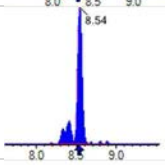
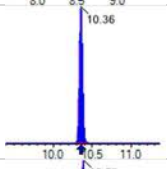
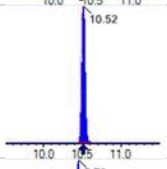
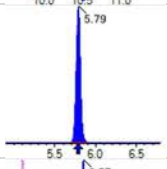
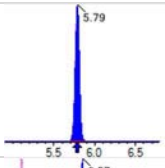
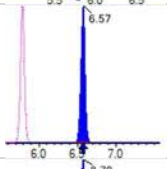
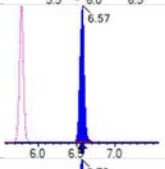
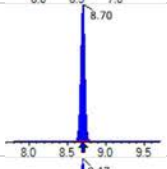
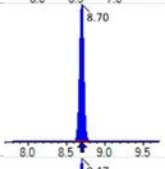
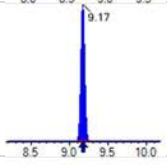
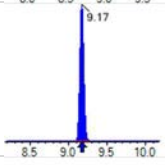
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1944081 (299.0 / 99.0) 1240225	(5.45 , 1.00) (0.00 ,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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

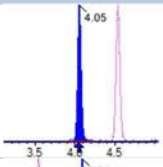
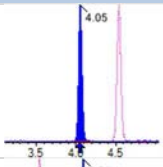
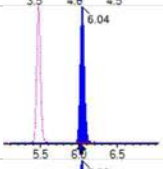
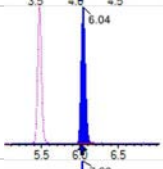
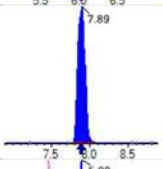
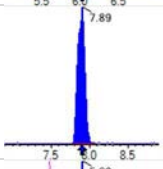
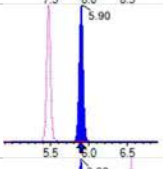
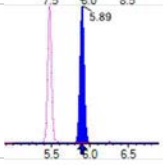
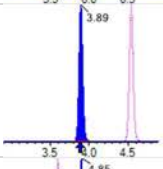
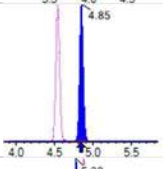
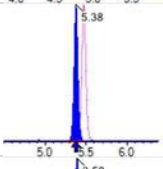
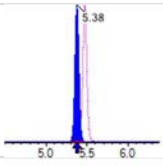
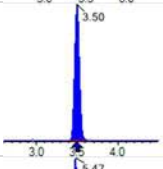
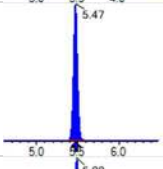
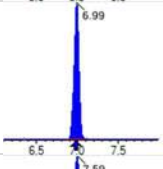
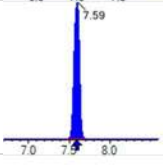
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 6738795 (498.0 / 478.0) 139185	(9.83 , 1.00) (0.00 , N/A , 0.1)	3420.6 518.2	0.0207 100.6 100.6	2.0569 [2.0000]	102.8%			
NMeFOSA	(512.0 / 219.0) 6068879 (512.0 / 169.0) 4266094	(10.41 , 1.00) (0.00 , N/A , 0.0)	8283.1 7296.2	0.7029 85.8 85.8	7.5097 [8.0000]	93.9%			
NEtFOSA	(526.0 / 219.0) 5846000 (526.0 / 169.0) 6647247	(10.56 , 1.00) (0.01 , N/A , 0.0)	12368.8 8629.6	1.1371 89.6 89.6	7.1864 [8.0000]	89.8%			
NMeFOSAA	(570.0 / 419.0) 511022 (570.0 / 483.0) 237635	(8.29 , 1.00) (0.00 , N/A , -0.1)	1494.6 1575.2	0.4650 98.0 98.0	1.8726 [2.0000]	93.6%			
NEtFOSAA	(584.0 / 419.0) 448836 (584.0 / 526.0) 239853	(8.54 , 1.00) (0.01 , N/A , 0.0)	9002.5 186834.1	0.5344 104.7 104.7	1.9560 [2.0000]	97.8%			
NMeFOSE	(616.0 / 59.0) 2858949	(10.36 , 1.00) (0.01 , N/A , 0.0)	2885.4	N/A 0.0 0.0	8.1903 [8.0000]	102.4%			
NEtFOSE	(630.0 / 59.0) 3426435	(10.52 , 1.00) (0.01 , N/A , 0.0)	2679.0	N/A 0.0 0.0	8.2899 [8.0000]	103.6%			
HFPO-DA	(285.0 / 169.0) 1266072 (285.0 / 185.0) 3773275	(5.79 , 1.00) (0.00 , N/A , 0.0)	2016.7 3174.2	2.9803 108.2 108.2	3.6730 [4.0000]	91.8%			
ADONA	(377.0 / 85.0) 4888516 (377.0 / 251.0) 451545	(6.57 , 1.14) (N/A , 0.00 , 0.0)	2673.1 1707.9	0.0924 104.8 104.8	4.1239 [3.7708]	109.4%			
9Cl-Pf3ONS	(531.0 / 351.0) 13910227 (533.0 / 353.0) 4138206	(8.70 , 1.50) (N/A , 0.00 , 0.1)	3737.3 2578.6	0.2975 85.4 85.4	3.7389 [3.7330]	100.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 8315091 (633.0 / 453.0) 2851144	(9.17 , 1.59) (N/A , 0.00 , 0.0)	2700.8 2174.5	0.3429 94.8 94.8	4.3058 [3.7728]	114.1%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

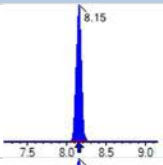
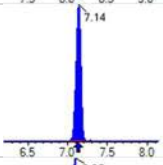
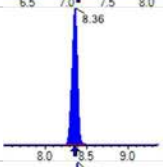
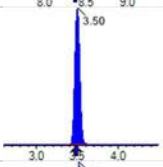
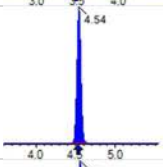
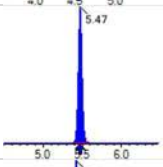
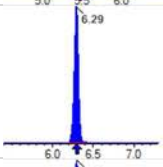
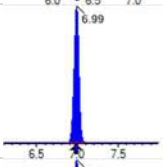
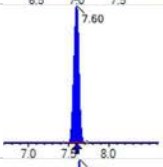
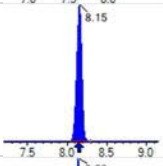
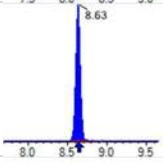
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 88786 (241.0 / 117.0) 140594	(4.05 , 0.89) (N/A , 0.01 , 0.1)	767.3 708.5	1.5835 100.4 100.4	8.2179 [8.0000]	102.7%			
5:3FTCA	(341.0 / 236.7) 631861 (341.0 / 217.0) 1085339	(6.04 , 1.10) (N/A , 0.01 , 0.1)	1441.5 1128.7	1.7177 100.7 100.7	7.5252 [8.0000]	94.1%			
7:3FTCA	(441.0 / 317.0) 1186511 (441.0 / 337.0) 1063466	(7.89 , 1.44) (N/A , 0.01 , -0.3)	696.0 619.9	0.8963 104.2 104.2	7.6493 [8.0000]	95.6%			
PFEESA	(315.0 / 135.0) 2674575 (315.0 / 83.0) 698671	(5.90 , 1.08) (N/A , 0.01 , 0.0)	4876.6 1560.2	0.2612 102.3 102.3	3.6260 [3.5698]	101.6%			
PFMPA	(229.0 / 85.0) 408761	(3.89 , 0.86) (N/A , 0.01 , 0.0)	2687.6	N/A 0.0 0.0	4.1734 [4.0000]	104.3%			
PFMBA	(279.0 / 85.0) 1626572	(4.85 , 1.07) (N/A , 0.01 , 0.0)	2449.4	N/A 0.0 0.0	3.9601 [4.0000]	99.0%			
NFDHA	(295.0 / 201.0) 1330784 (295.0 / 85.0) 1362923	(5.38 , 0.98) (N/A , 0.01 , 0.0)	2155.6 2870.7	1.0242 102.3 102.3	3.9048 [4.0000]	97.6%			
13C3_PFBA_IIS	(216.0 / 172.0) 240066	(3.50 , N/A) (N/A , 0.01 , N/A)	1412.3	N/A	1.0718 [1.0000]	107.2% { 106.5% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 476905	(5.47 , N/A) (N/A , 0.01 , N/A)	2780.9	N/A	0.9447 [1.0000]	94.5% { 99.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 672267	(6.99 , N/A) (N/A , 0.01 , N/A)	1232.7	N/A	1.0607 [1.0000]	106.1% { 113.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 581759	(7.59 , N/A) (N/A , 0.01 , N/A)	3145.9	N/A	0.9628 [1.0000]	96.3% { 98.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

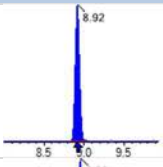
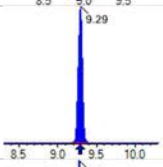
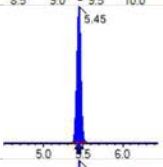
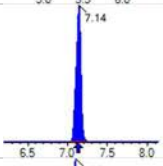
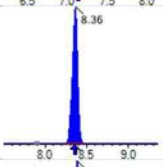
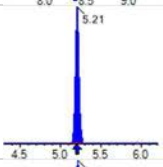
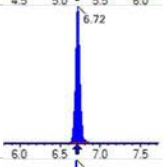
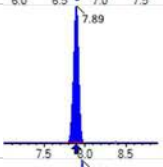
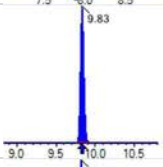
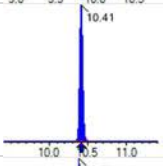
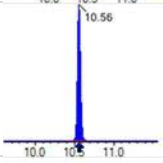
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 562140	(8.15 , N/A) (N/A , 0.00 , N/A)	25539.1	N/A	0.9715 [1.0000]	97.1% { 103.2% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 804048	(7.14 , N/A) (N/A , 0.01 , N/A)	2686.8	N/A	0.9389 [1.0000]	93.9% { 95.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1569000	(8.36 , N/A) (N/A , 0.01 , N/A)	1276.6	N/A	1.0423 [1.0000]	104.2% { 103.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2321888	(3.50 , N/A) (N/A , 0.01 , N/A)	4695.7	N/A	8.1311 [8.0000]	101.6% { 99.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2180078	(4.54 , N/A) (N/A , 0.01 , N/A)	3494.2	N/A	4.1780 [4.0000]	104.5% { 90.1% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1396881	(5.47 , N/A) (N/A , 0.01 , N/A)	2597.4	N/A	2.1384 [2.0000]	106.9% { 91.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1162104	(6.29 , N/A) (N/A , 0.00 , N/A)	3086.1	N/A	2.0532 [2.0000]	102.7% { 92.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1453557	(6.99 , N/A) (N/A , 0.01 , N/A)	6980.9	N/A	1.9092 [2.0000]	95.5% { 94.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 650184	(7.60 , N/A) (N/A , 0.00 , N/A)	4374.6	N/A	1.0548 [1.0000]	105.5% { 92.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 768006	(8.15 , N/A) (N/A , 0.01 , N/A)	1522.6	N/A	1.0836 [1.0000]	108.4% { 98.9% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 718332	(8.63 , N/A) (N/A , 0.00 , N/A)	1490.8	N/A	1.0192 [1.0000]	101.9% { 93.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

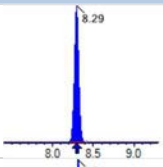
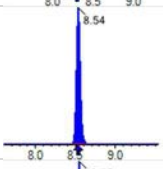
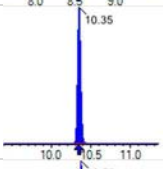
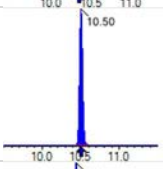
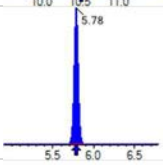
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 599764	(8.92 , N/A) (N/A , 0.00 , N/A)	1573.7	N/A	0.9922 [1.0000]	99.2% { 91.3% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 612411	(9.29 , N/A) (N/A , 0.00 , N/A)	2166.8	N/A	1.1056 [1.0000]	110.6% { 100.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3651854	(5.45 , N/A) (N/A , 0.01 , N/A)	3505.6	N/A	2.1701 [2.0000]	108.5% { 92.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1827789	(7.14 , N/A) (N/A , 0.01 , N/A)	2735.6	N/A	2.0911 [2.0000]	104.6% { 91.9% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4274649	(8.36 , N/A) (N/A , 0.01 , N/A)	1379.1	N/A	1.9845 [2.0000]	99.2% { 96.7% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 360923	(5.21 , N/A) (N/A , 0.01 , N/A)	1374.9	N/A	3.8857 [4.0000]	97.1% { 88.2% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 428716	(6.72 , N/A) (N/A , 0.01 , N/A)	1900.2	N/A	4.2047 [4.0000]	105.1% { 93.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 559642	(7.89 , N/A) (N/A , 0.00 , N/A)	1311.1	N/A	3.8850 [4.0000]	97.1% { 92.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8192381	(9.83 , N/A) (N/A , 0.00 , N/A)	3577.3	N/A	2.0489 [2.0000]	102.4% { 95.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1905355	(10.41 , N/A) (N/A , 0.00 , N/A)	2669.3	N/A	2.0226 [2.0000]	101.1% { 104.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1741498	(10.56 , N/A) (N/A , 0.00 , N/A)	3801.6	N/A	2.0659 [2.0000]	103.3% { 101.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

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

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2307007
Laboratory ID: SC00636-LCV1
Sequence: SC00636
Standard ID: 23B0080

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
PFBA	0.400	0.353	-11.8	30.00
PFPEA	0.200	0.180	-9.9	30.00
PFHXA	0.100	0.0894	-10.6	30.00
PFHPA	0.100	0.0818	-18.2	30.00
PFOA	0.100	0.110	9.6	30.00
PFNA	0.100	0.0966	-3.4	30.00
PFDA	0.100	0.105	4.6	30.00
PFUnA	0.100	0.0806	-19.4	30.00
PFDOA	0.100	0.106	6.0	30.00
PFTRDA	0.100	0.119	19.3	30.00
PFTEDA	0.100	0.0850	-15.0	30.00
PFBS	0.0885	0.0801	-9.5	30.00
PFPES	0.0940	0.0927	-1.4	30.00
PFHXS	0.0915	0.0876	-4.2	30.00
PFHPS	0.0955	0.0836	-12.5	30.00
PFOS	0.0930	0.0914	-1.8	30.00
PFNS	0.0960	0.0815	-15.1	30.00
PFDS	0.0965	0.0851	-11.8	30.00
PFDOS	0.0970	0.0846	-12.8	30.00
4:2FTS	0.375	0.376	0.3	30.00
6:2FTS	0.380	0.421	10.7	30.00
8:2FTS	0.384	0.377	-1.8	30.00
PFOSA	0.100	0.0987	-1.3	30.00
NMeFOSA	0.400	0.427	6.8	30.00
NEtFOSA	0.400	0.382	-4.6	30.00
NMeFOSAA	0.100	0.107	7.5	30.00
NEtFOSAA	0.100	0.0870	-13.0	30.00
NMeFOSE	0.400	0.344	-14.1	30.00

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 1633

Laboratory: APPL, LLC
SDG:
Client: AECOM
Project: Red Hill AFFF Assessment Sampling
Calibration: 2307007
Laboratory ID: SC00636-LCV1
Sequence: SC00636
Standard ID: 23B0080

NEtFOSE	0.400	0.378	-5.5	30.00
HFPO-DA	0.200	0.191	-4.4	30.00
ADONA	0.189	0.203	7.3	30.00
PFEESA	0.178	0.171	-3.7	30.00
PFMPA	0.200	0.190	-4.8	30.00
PFMBA	0.200	0.181	-9.6	30.00
NFDHA	0.200	0.166	-16.9	30.00
9CL-PF3ONS	0.187	0.207	10.6	30.00
11CL-PF3OUDS	0.189	0.186	-1.7	30.00
3:3FTCA	0.400	0.592	47.9 *	30.00
5:3FTCA	0.400	0.381	-4.6	30.00
7:3FTCA	0.400	0.345	-13.8	30.00

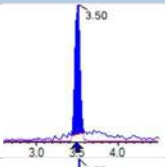
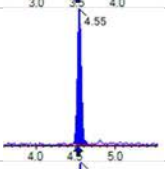
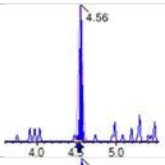
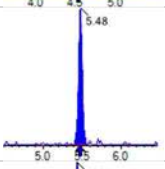
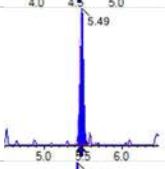
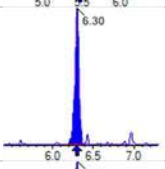
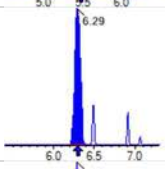
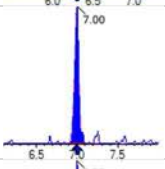
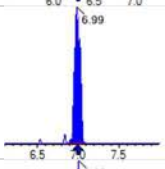
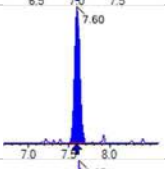
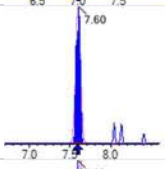
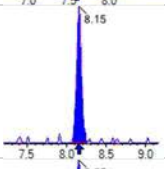
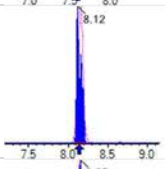
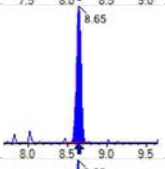
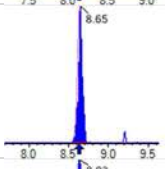
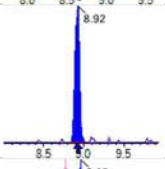
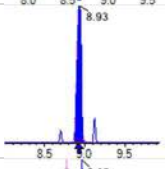
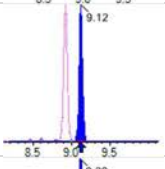
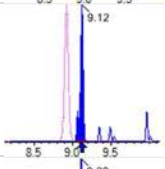
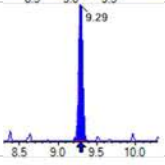
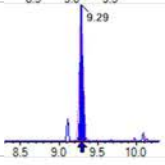
* Values outside of QC limits

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

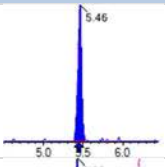
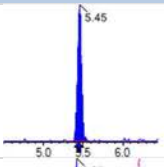
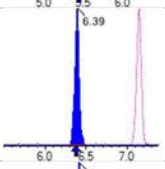
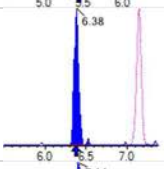
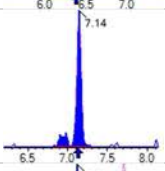
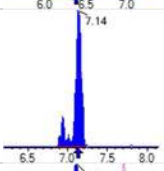
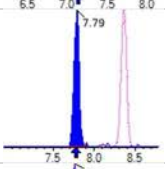
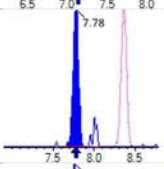
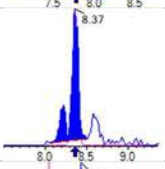
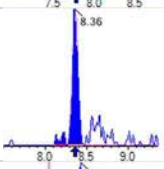
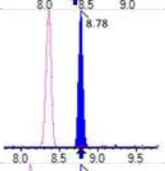
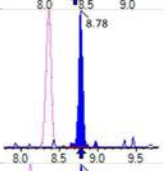
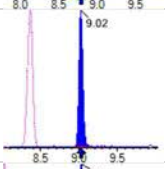
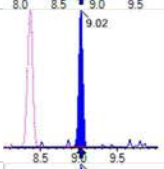
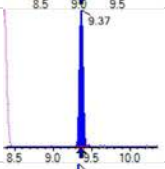
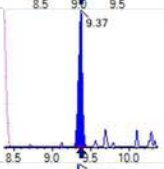
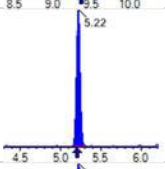
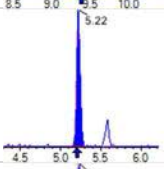
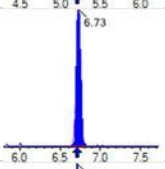
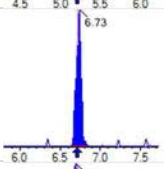
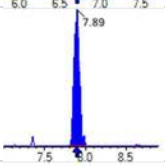
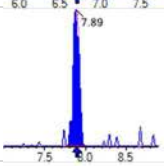
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 89749	(3.50 , 1.00) (0.00 , N/A , 0.0)	83.1	N/A 0.0 0.0	0.3530 [0.4000]	88.2%			
PFPeA	(263.0 / 219.0) 88501 (263.0 / 69.0) 1206	(4.55 , 1.00) (0.00 , N/A , -0.5)	315.4 80.9	0.0136 127.3 123.7	0.1802 [0.2000]	90.1%			
PFHxA	(313.0 / 269.0) 57401 (313.0 / 119.0) 12709	(5.48 , 1.00) (0.00 , N/A , -0.6)	679.3 31051.0	0.2214 222.3 232.6	0.0894 [0.1000]	89.4%			IR2,
PFHpA	(363.0 / 319.0) 44905 (363.0 / 169.0) 9505	(6.30 , 1.00) (0.00 , N/A , 0.5)	1576.7 212939.8	0.2117 66.0 66.2	0.0818 [0.1000]	81.8%			
PFOA	(413.0 / 369.0) 72107 (413.0 / 169.0) 18807	(7.00 , 1.00) (0.00 , N/A , 0.4)	794.9 219.8	0.2608 77.9 72.2	0.1096 [0.1000]	109.6%			
PFNA	(463.0 / 419.0) 56510 (463.0 / 169.0) 6018	(7.60 , 1.00) (0.00 , N/A , 0.0)	113020.1 485720.1	0.1065 47.6 48.2	0.0966 [0.1000]	96.6%			IR1,
PFDA	(513.0 / 469.0) 66426 (513.0 / 169.0) 11070	(8.15 , 1.00) (0.00 , N/A , 1.7)	149.0 150981.0	0.1667 137.0 153.6	0.1046 [0.1000]	104.6%			IR2,
PFUnA	(563.0 / 519.0) 48076 (563.0 / 169.0) 10153	(8.65 , 1.00) (0.01 , N/A , 0.0)	286.4 193.9	0.2112 201.4 180.6	0.0806 [0.1000]	80.6%			IR2,
PFDoA	(613.0 / 569.0) 55813 (613.0 / 169.0) 5366	(8.92 , 1.00) (0.00 , N/A , -0.8)	333.9 236627.1	0.0961 58.8 57.3	0.1060 [0.1000]	106.0%			
PFTrDA	(663.0 / 619.0) 56883 (663.0 / 169.0) 9826	(9.12 , 1.02) (N/A , 0.00 , -0.1)	1323.4 319.7	0.1727 72.3 64.2	0.1193 [0.1000]	119.3%			
PFTeDA	(713.0 / 669.0) 44396 (713.0 / 169.0) 14795	(9.29 , 1.00) (0.01 , N/A , 0.4)	254.6 1204.7	0.3333 161.3 161.2	0.0850 [0.1000]	85.0%			IR2,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

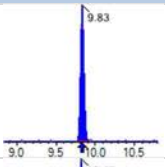
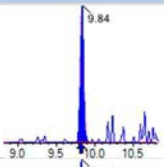
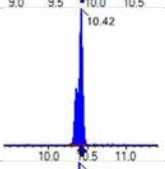
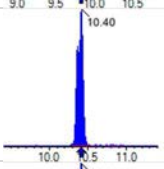
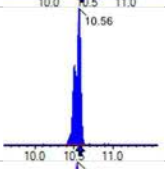
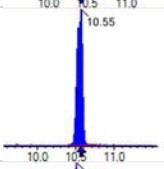
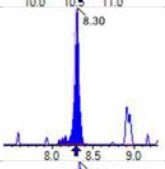
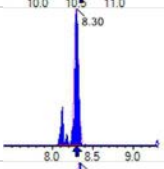
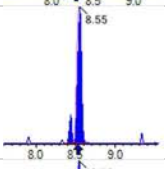
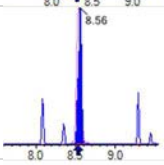
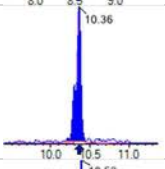
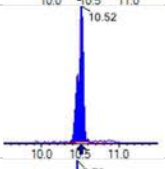
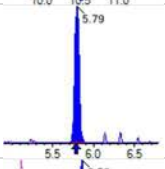
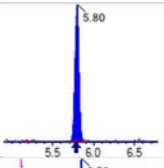
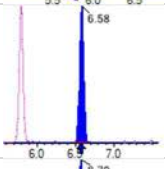
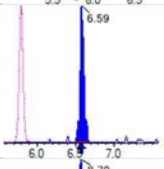
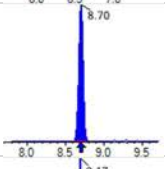
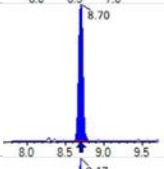
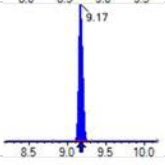
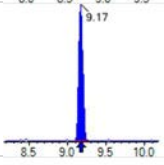
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 99486 (299.0 / 99.0) 73734	(5.46 , 1.00) (0.01 , N/A , 0.3)	744.6 393.8	0.7411 114.6 119.8	0.0801 [0.0885]	90.5%			
PFPeS	(349.0 / 80.0) 175663 (349.0 / 99.0) 66355	(6.39 , 0.89) (N/A , 0.01 , 0.6)	38186.9 72060.5	0.3777 105.8 109.7	0.0927 [0.0938]	98.8%			
PFHxS	(399.0 / 80.0) 132387 (399.0 / 99.0) 49757	(7.14 , 1.00) (0.00 , N/A , 0.2)	358.2 143.4	0.3758 115.7 115.4	0.0876 [0.0911]	96.2%			
PFHpS	(449.0 / 80.0) 141021 (449.0 / 99.0) 35771	(7.79 , 0.93) (N/A , 0.01 , 0.7)	934831.8 5992.8	0.2537 93.2 91.1	0.0836 [0.0951]	87.9%			
PFOS	(499.0 / 80.0) 213307 (499.0 / 99.0) 42170	(8.37 , 1.00) (0.00 , N/A , 0.4)	106.2 99.8	0.1977 89.3 93.2	0.0914 [0.0927]	98.5%			MI2 DG 2023-02-15
PFNS	(549.0 / 80.0) 213928 (549.0 / 99.0) 45264	(8.78 , 1.05) (N/A , 0.01 , 0.0)	74758786.6 48165.3	0.2116 96.5 92.0	0.0815 [0.0960]	84.9%			
PFDS	(599.0 / 80.0) 243008 (599.0 / 99.0) 53790	(9.02 , 1.08) (N/A , 0.00 , 0.0)	524.9 268.0	0.2214 101.5 103.1	0.0851 [0.0963]	88.4%			
PFDoS	(699.0 / 80.0) 154067 (699.0 / 99.0) 29623	(9.37 , 1.12) (N/A , 0.00 , -0.1)	574.3 152.1	0.1923 92.4 89.6	0.0846 [0.0970]	87.3%			
4:2FTS	(327.0 / 307.0) 94608 (327.0 / 81.0) 64089	(5.22 , 1.00) (0.00 , N/A , 0.0)	866.2 304.2	0.6774 100.4 98.8	0.3761 [0.3738]	100.6%			
6:2FTS	(427.0 / 407.0) 66995 (427.0 / 81.0) 40797	(6.73 , 1.00) (0.00 , N/A , -0.4)	11419.5 454.9	0.6090 73.6 78.8	0.4205 [0.3796]	110.8%			
8:2FTS	(527.0 / 507.0) 55251 (527.0 / 81.0) 40716	(7.89 , 1.00) (-0.01 , N/A , 0.3)	2476.6 104.7	0.7369 88.7 95.2	0.3772 [0.3833]	98.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

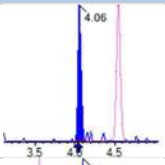
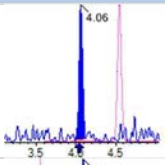
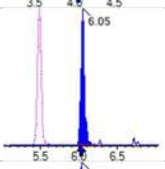
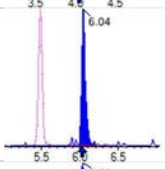
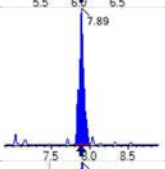
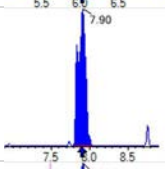
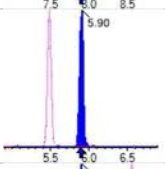
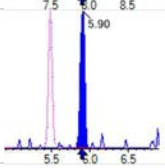
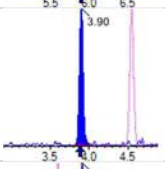
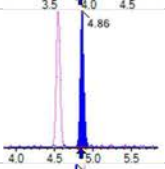
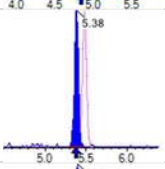
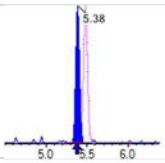
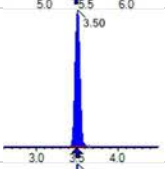
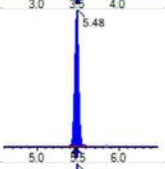
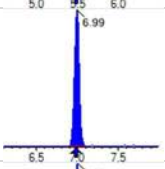
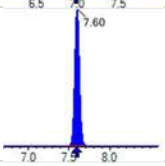
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 330920 (498.0 / 478.0) 8093	(9.83 , 1.00) (0.00 , N/A , -0.3)	584.2 67.5	0.0245 119.1 115.7	0.0987 [0.1000]	98.7%			
NMeFOSA	(512.0 / 219.0) 313558 (512.0 / 169.0) 261812	(10.42 , 1.00) (0.00 , N/A , 0.9)	1477.7 1134.6	0.8350 101.9 102.0	0.4271 [0.4000]	106.8%			
NEtFOSA	(526.0 / 219.0) 330588 (526.0 / 169.0) 409433	(10.56 , 1.00) (0.00 , N/A , 0.8)	1826.7 1107.9	1.2385 97.6 99.8	0.3816 [0.4000]	95.4%			
NMeFOSAA	(570.0 / 419.0) 26335 (570.0 / 483.0) 12069	(8.30 , 1.00) (0.01 , N/A , 0.1)	1302.0 3948.6	0.4583 96.5 98.9	0.1075 [0.1000]	107.5%			
NEtFOSAA	(584.0 / 419.0) 19685 (584.0 / 526.0) 8911	(8.55 , 1.00) (0.01 , N/A , -0.4)	483.6 1067.2	0.4527 88.7 77.2	0.0870 [0.1000]	87.0%			
NMeFOSE	(616.0 / 59.0) 125955	(10.36 , 1.00) (0.01 , N/A , 0.0)	270.9	N/A 0.0 0.0	0.3436 [0.4000]	85.9%			
NEtFOSE	(630.0 / 59.0) 147219	(10.52 , 1.00) (0.01 , N/A , 0.0)	330.0	N/A 0.0 0.0	0.3780 [0.4000]	94.5%			
HFPO-DA	(285.0 / 169.0) 67925 (285.0 / 185.0) 181166	(5.79 , 1.00) (0.00 , N/A , -0.1)	347.1 461.6	2.6672 96.8 96.1	0.1912 [0.2000]	95.6%			
ADONA	(377.0 / 85.0) 247859 (377.0 / 251.0) 39547	(6.58 , 1.14) (N/A , 0.01 , -0.2)	677.2 304.2	0.1596 181.0 170.9	0.2028 [0.1885]	107.6%			IR2,
9Cl-Pf3ONS	(531.0 / 351.0) 632769 (533.0 / 353.0) 224435	(8.70 , 1.50) (N/A , 0.01 , 0.2)	891.7 636.6	0.3547 101.9 107.3	0.2069 [0.1867]	110.8%			
11Cl-PF3OUDS	(631.0 / 451.0) 369670 (633.0 / 453.0) 116593	(9.17 , 1.58) (N/A , 0.00 , 0.0)	1442.4 951.3	0.3154 87.2 88.5	0.1857 [0.1886]	98.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

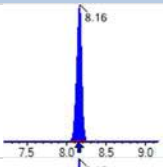
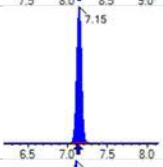
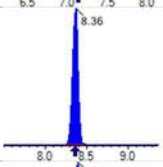
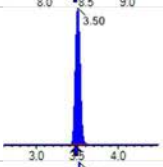
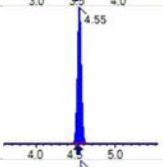
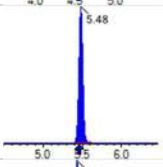
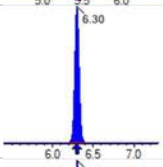
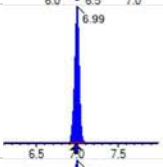
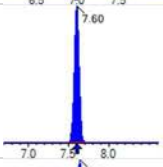
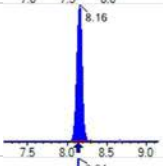
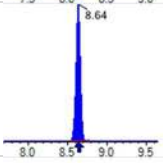
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 6773 (241.0 / 117.0) 7278	(4.06 , 0.89) (N/A , 0.00 , -0.3)	24.7 41.6	1.0746 68.1 65.7	0.5916 [0.4000]	147.9%			QC,
5:3FTCA	(341.0 / 236.7) 33493 (341.0 / 217.0) 57323	(6.05 , 1.10) (N/A , 0.01 , 0.3)	1093.5 252.7	1.7115 100.4 106.3	0.3814 [0.4000]	95.4%			
7:3FTCA	(441.0 / 317.0) 55915 (441.0 / 337.0) 53743	(7.89 , 1.44) (N/A , 0.01 , -0.6)	235.1 656.6	0.9612 111.7 118.2	0.3447 [0.4000]	86.2%			
PFEESA	(315.0 / 135.0) 132209 (315.0 / 83.0) 40181	(5.90 , 1.08) (N/A , 0.01 , 0.0)	978.1 103.6	0.3039 119.0 110.3	0.1714 [0.1785]	96.0%			
PFMPA	(229.0 / 85.0) 20431	(3.90 , 0.86) (N/A , 0.01 , 0.0)	190.9	N/A 0.0 0.0	0.1904 [0.2000]	95.2%			
PFMBA	(279.0 / 85.0) 81328	(4.86 , 1.07) (N/A , 0.01 , 0.0)	269.9	N/A 0.0 0.0	0.1807 [0.2000]	90.4%			
NFDHA	(295.0 / 201.0) 59262 (295.0 / 85.0) 71242	(5.38 , 0.98) (N/A , 0.01 , 0.0)	276.7 323.1	1.2022 120.1 113.7	0.1663 [0.2000]	83.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 254197	(3.50 , N/A) (N/A , 0.00 , N/A)	1338.7	N/A	1.1349 [1.0000]	113.5% { 115.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 491981	(5.48 , N/A) (N/A , 0.01 , N/A)	1630.6	N/A	0.9746 [1.0000]	97.5% { 102.4% }			
13C4_PFOA_IIS	(417.0 / 372.0) 668125	(6.99 , N/A) (N/A , 0.01 , N/A)	1052.6	N/A	1.0542 [1.0000]	105.4% { 109.5% }			
13C5_PFNA_IIS	(468.0 / 423.0) 592459	(7.60 , N/A) (N/A , 0.01 , N/A)	1880.2	N/A	0.9805 [1.0000]	98.0% { 105.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

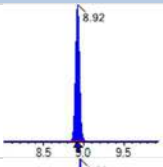
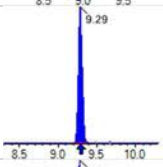
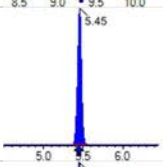
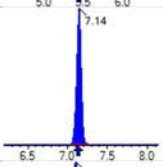
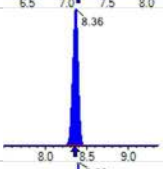
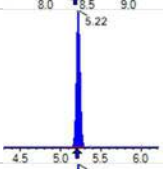
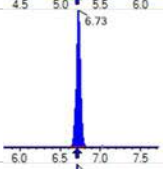
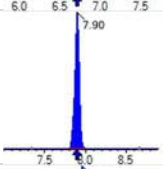
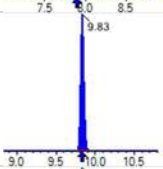
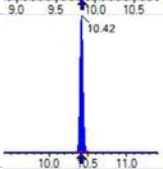
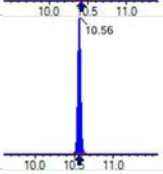
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 630481	(8.16 , N/A) (N/A , 0.01 , N/A)	2462.1	N/A	1.0896 [1.0000]	109.0% { 117.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 908827	(7.15 , N/A) (N/A , 0.01 , N/A)	2139.2	N/A	1.0613 [1.0000]	106.1% { 107.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1612834	(8.36 , N/A) (N/A , 0.01 , N/A)	1531.1	N/A	1.0714 [1.0000]	107.1% { 120.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2455524	(3.50 , N/A) (N/A , 0.00 , N/A)	5171.7	N/A	8.1210 [8.0000]	101.5% { 106.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2388199	(4.55 , N/A) (N/A , 0.01 , N/A)	3718.0	N/A	4.4366 [4.0000]	110.9% { 103.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1460798	(5.48 , N/A) (N/A , 0.01 , N/A)	2255.9	N/A	2.1677 [2.0000]	108.4% { 102.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1300427	(6.30 , N/A) (N/A , 0.01 , N/A)	2254.7	N/A	2.2272 [2.0000]	111.4% { 110.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1477825	(6.99 , N/A) (N/A , 0.01 , N/A)	2422.6	N/A	1.9531 [2.0000]	97.7% { 104.1% }			
13C9_PFNA_EIS	(472.0 / 427.0) 661014	(7.60 , N/A) (N/A , 0.01 , N/A)	1629.0	N/A	1.0530 [1.0000]	105.3% { 108.6% }			
13C6_PFDA_EIS	(519.0 / 474.0) 721955	(8.16 , N/A) (N/A , 0.01 , N/A)	1135.4	N/A	0.9082 [1.0000]	90.8% { 96.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 718253	(8.64 , N/A) (N/A , 0.01 , N/A)	1468.1	N/A	0.9086 [1.0000]	90.9% { 107.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

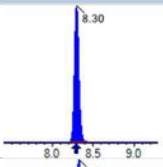
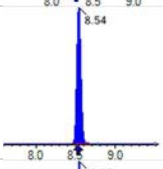
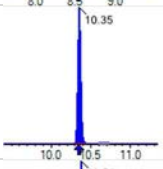
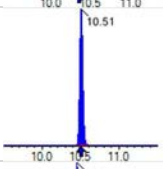
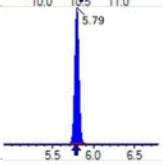
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 598800	(8.92 , N/A) (N/A , 0.00 , N/A)	2065.9	N/A	0.8832 [1.0000]	88.3% { 91.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 603361	(9.29 , N/A) (N/A , 0.00 , N/A)	1636.3	N/A	0.9712 [1.0000]	97.1% { 103.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3996709	(5.45 , N/A) (N/A , 0.01 , N/A)	3613.4	N/A	2.1012 [2.0000]	105.1% { 105.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1965140	(7.14 , N/A) (N/A , 0.01 , N/A)	2949.5	N/A	1.9891 [2.0000]	99.5% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4428708	(8.36 , N/A) (N/A , 0.01 , N/A)	2537.5	N/A	2.0002 [2.0000]	100.0% { 104.5% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 368431	(5.22 , N/A) (N/A , 0.01 , N/A)	1579.7	N/A	3.5092 [4.0000]	87.7% { 106.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 449092	(6.73 , N/A) (N/A , 0.01 , N/A)	1839.0	N/A	3.8967 [4.0000]	97.4% { 107.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 537880	(7.90 , N/A) (N/A , 0.01 , N/A)	1391.3	N/A	3.3035 [4.0000]	82.6% { 89.2% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8386134	(9.83 , N/A) (N/A , 0.00 , N/A)	3400.6	N/A	2.0404 [2.0000]	102.0% { 100.9% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 2005925	(10.42 , N/A) (N/A , 0.00 , N/A)	2844.4	N/A	2.0715 [2.0000]	103.6% { 103.6% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1854416	(10.56 , N/A) (N/A , 0.00 , N/A)	2835.5	N/A	2.1401 [2.0000]	107.0% { 104.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-LCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (2)
Acquired: 2023/02/14 - 19:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1249118	(8.30 , N/A) (N/A , 0.01 , N/A)	1478.4	N/A	3.4861 [4.0000]	87.2% { 94.3% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1078073	(8.54 , N/A) (N/A , 0.01 , N/A)	54306.2	N/A	3.6744 [4.0000]	91.9% { 102.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7334263	(10.35 , N/A) (N/A , 0.00 , N/A)	1741.3	N/A	20.7751 [20.0000]	103.9% { 98.7% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8186054	(10.51 , N/A) (N/A , 0.00 , N/A)	2370.6	N/A	18.1067 [20.0000]	90.5% { 86.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3594443	(5.79 , N/A) (N/A , 0.01 , N/A)	3327.6	N/A	8.7604 [8.0000]	109.5% { 100.2% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV1	PFBA	20.0	19.1	95.5	ng/mL	+/- 30.00%
	PFPEA	10.0	9.85	98.5	ng/mL	+/- 30.00%
	PFHXA	5.00	4.63	92.6	ng/mL	+/- 30.00%
	PFHPA	5.00	4.65	92.9	ng/mL	+/- 30.00%
	PFOA	5.00	4.69	93.9	ng/mL	+/- 30.00%
	PFNA	5.00	5.03	101	ng/mL	+/- 30.00%
	PFDA	5.00	4.89	97.7	ng/mL	+/- 30.00%
	PFUnA	5.00	5.19	104	ng/mL	+/- 30.00%
	PFDOA	5.00	4.57	91.4	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.54	90.7	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.88	97.7	ng/mL	+/- 30.00%
	PFBS	4.42	4.14	93.6	ng/mL	+/- 30.00%
	PFPES	4.70	4.67	99.3	ng/mL	+/- 30.00%
	PFHXS	4.58	4.27	93.2	ng/mL	+/- 30.00%
	PFHPS	4.78	4.76	99.5	ng/mL	+/- 30.00%
	PFOS	4.65	4.36	93.8	ng/mL	+/- 30.00%
	PFNS	4.80	4.65	96.9	ng/mL	+/- 30.00%
	PFDS	4.82	4.83	100	ng/mL	+/- 30.00%
	PFDOS	4.85	5.11	105	ng/mL	+/- 30.00%
	4:2FTS	18.8	20.2	107	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.6	98.1	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.7	97.5	ng/mL	+/- 30.00%
	PFOSA	5.00	5.13	103	ng/mL	+/- 30.00%
	NMeFOSA	20.0	18.9	94.6	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.0	100	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.81	96.2	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.85	97.1	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.2	91.1	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.5	97.4	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.25	92.5	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

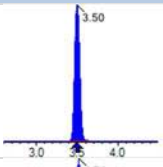
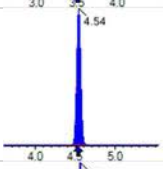
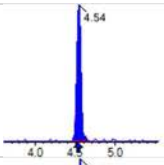
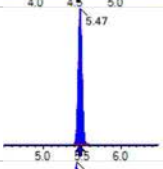
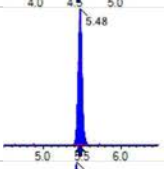
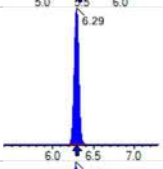
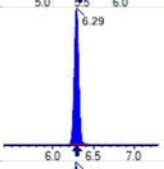
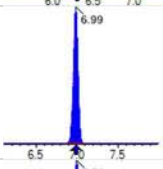
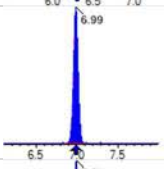
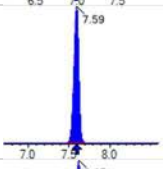
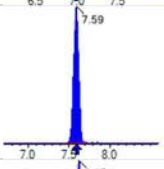
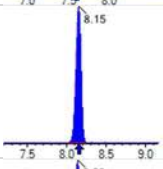
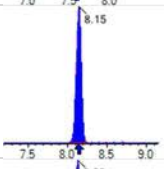
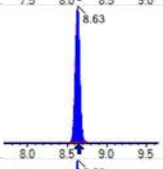
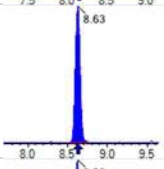
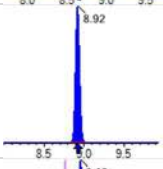
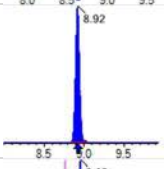
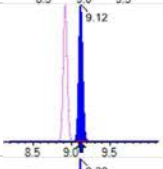
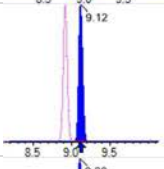
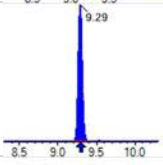
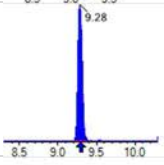
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV1	ADONA	9.45	9.45	100	ng/mL	+/- 30.00%
	PFEESA	8.90	8.64	97.1	ng/mL	+/- 30.00%
	PFMPA	10.0	9.45	94.5	ng/mL	+/- 30.00%
	PFMBA	10.0	9.43	94.3	ng/mL	+/- 30.00%
	NFDHA	10.0	9.49	94.9	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.64	92.4	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.30	98.4	ng/mL	+/- 30.00%
	3:3FTCA	20.0	18.4	91.8	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.3	96.6	ng/mL	+/- 30.00%
	7:3FTCA	20.0	19.1	95.3	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

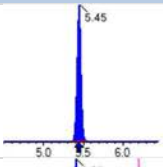
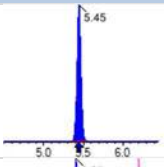
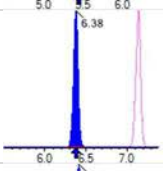
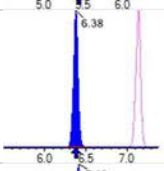
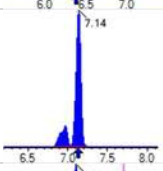
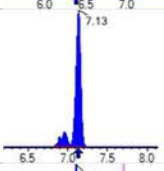
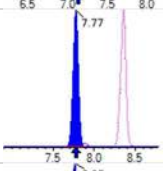
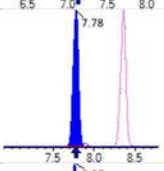
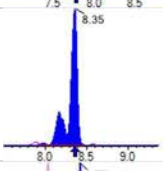
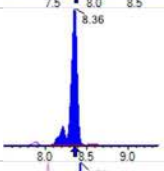
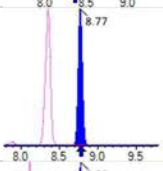
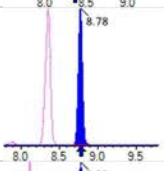
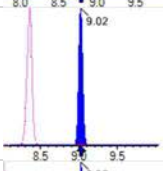
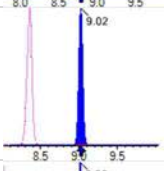
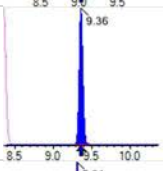
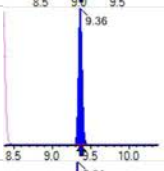
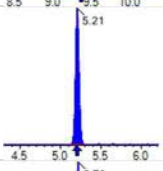
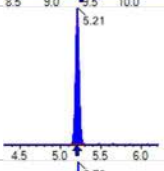
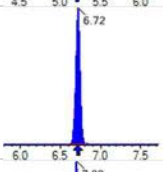
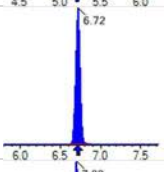
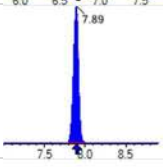
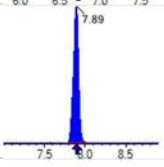
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4545566	(3.50 , 1.00) (0.00 , N/A , 0.0)	211.6	N/A 0.0 0.0	19.1091 [20.0000]	95.5%			
PFPeA	(263.0 / 219.0) 4668823 (263.0 / 69.0) 51459	(4.54 , 1.00) (0.00 , N/A , -0.1)	5447.1 388.3	0.0110 102.9 100.0	9.8485 [10.0000]	98.5%			
PFHxA	(313.0 / 269.0) 2904881 (313.0 / 119.0) 276451	(5.47 , 1.00) (0.00 , N/A , -0.1)	4635.6 3719.3	0.0952 95.6 100.0	4.6289 [5.0000]	92.6%			
PFHpA	(363.0 / 319.0) 2311360 (363.0 / 169.0) 739023	(6.29 , 1.00) (0.00 , N/A , 0.1)	31072.2 10966672.0	0.3197 99.7 100.0	4.6461 [5.0000]	92.9%			
PFOA	(413.0 / 369.0) 2967294 (413.0 / 169.0) 1072142	(6.99 , 1.00) (0.00 , N/A , 0.0)	9473.7 6824521.4	0.3613 108.0 100.0	4.6932 [5.0000]	93.9%			
PFNA	(463.0 / 419.0) 2707898 (463.0 / 169.0) 598588	(7.59 , 1.00) (0.00 , N/A , 0.3)	11168.3 3567.3	0.2211 98.8 100.0	5.0283 [5.0000]	100.6%			
PFDA	(513.0 / 469.0) 3205880 (513.0 / 169.0) 347843	(8.15 , 1.00) (0.00 , N/A , 0.0)	1950.8 1452.8	0.1085 89.2 100.0	4.8871 [5.0000]	97.7%			
PFUnA	(563.0 / 519.0) 2870912 (563.0 / 169.0) 335661	(8.63 , 1.00) (0.00 , N/A , 0.2)	1725.9 1273.3	0.1169 111.5 100.0	5.1868 [5.0000]	103.7%			
PFDoA	(613.0 / 569.0) 2644619 (613.0 / 169.0) 443798	(8.92 , 1.00) (0.00 , N/A , 0.0)	2500.5 1702.2	0.1678 102.6 100.0	4.5690 [5.0000]	91.4%			
PFTrDA	(663.0 / 619.0) 2377082 (663.0 / 169.0) 639905	(9.12 , 1.02) (N/A , 0.00 , 0.0)	2343.7 1278.3	0.2692 112.6 100.0	4.5358 [5.0000]	90.7%			
PFTeDA	(713.0 / 669.0) 2475442 (713.0 / 169.0) 511779	(9.29 , 1.00) (0.00 , N/A , 0.2)	1836.5 789.1	0.2067 100.0 100.0	4.8834 [5.0000]	97.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

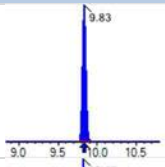
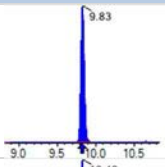
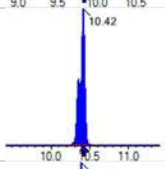
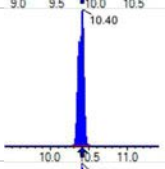
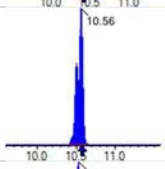
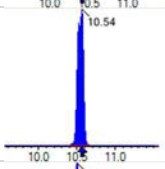
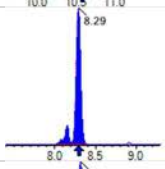
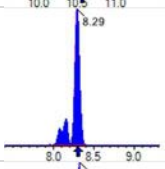
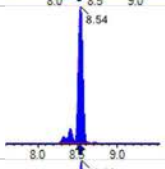
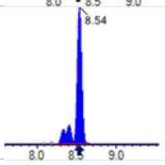
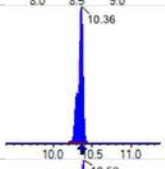
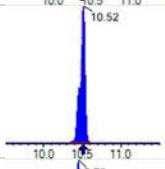
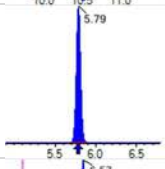
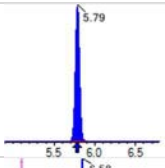
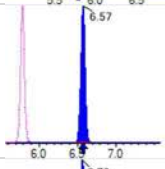
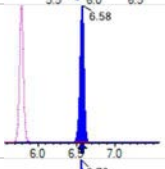
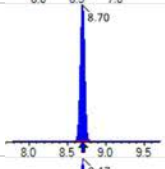
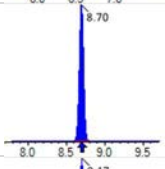
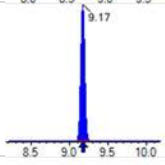
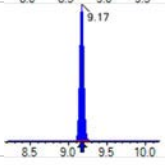
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 4876321 (299.0 / 99.0) 3016826	(5.45 , 1.00) (0.00 , N/A , 0.0)	3735.9 3110.7	0.6187 95.7 100.0	4.1381 [4.4237]	93.5%			
PFPeS	(349.0 / 80.0) 8844504 (349.0 / 99.0) 3046766	(6.38 , 0.89) (N/A , 0.00 , 0.0)	17407.3 180613.2	0.3445 96.5 100.0	4.6667 [4.6919]	99.5%			
PFHxS	(399.0 / 80.0) 6453411 (399.0 / 99.0) 2102126	(7.14 , 1.00) (0.00 , N/A , 0.1)	6548.6 9406050.5	0.3257 100.3 100.0	4.2705 [4.5549]	93.8%			
PFHpS	(449.0 / 80.0) 7680384 (449.0 / 99.0) 2137538	(7.77 , 0.93) (N/A , 0.00 , -0.1)	40655.6 5168.2	0.2783 102.2 100.0	4.7569 [4.7570]	100.0%			
PFOS	(499.0 / 80.0) 9743530 (499.0 / 99.0) 2065852	(8.35 , 1.00) (0.00 , N/A , 0.0)	1608.2 1199.8	0.2120 95.8 100.0	4.3606 [4.6375]	94.0%			
PFNS	(549.0 / 80.0) 11681260 (549.0 / 99.0) 2686350	(8.77 , 1.05) (N/A , 0.00 , -0.1)	10102.5 2802.4	0.2300 104.9 100.0	4.6517 [4.7994]	96.9%			
PFDS	(599.0 / 80.0) 13182611 (599.0 / 99.0) 2830382	(9.02 , 1.08) (N/A , 0.00 , -0.1)	3451.3 2778.8	0.2147 98.5 100.0	4.8259 [4.8155]	100.2%			
PFDoS	(699.0 / 80.0) 8900344 (699.0 / 99.0) 1909885	(9.36 , 1.12) (N/A , 0.00 , 0.0)	2811.7 2282.5	0.2146 103.1 100.0	5.1086 [4.8478]	105.4%			
4:2FTS	(327.0 / 307.0) 4788393 (327.0 / 81.0) 3282721	(5.21 , 1.00) (0.00 , N/A , -0.1)	3962.1 3508.9	0.6856 101.6 100.0	20.1938 [18.6906]	108.0%			
6:2FTS	(427.0 / 407.0) 2751008 (427.0 / 81.0) 2125102	(6.72 , 1.00) (0.00 , N/A , 0.0)	3269.7 4030.0	0.7725 93.3 100.0	18.6396 [18.9808]	98.2%			
8:2FTS	(527.0 / 507.0) 3074408 (527.0 / 81.0) 2378995	(7.89 , 1.00) (0.00 , N/A , -0.1)	2078.7 2768.2	0.7738 93.1 100.0	18.7159 [19.1658]	97.7%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

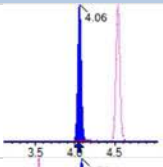
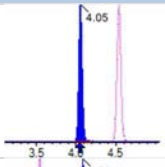
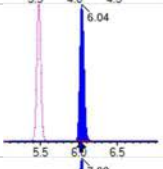
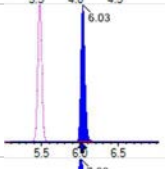
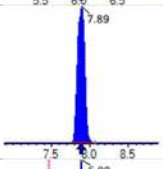
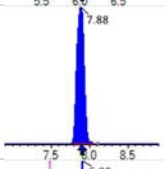
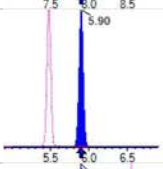
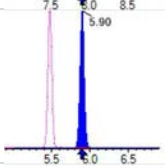
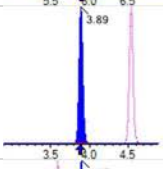
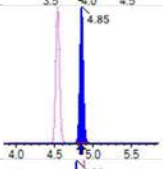
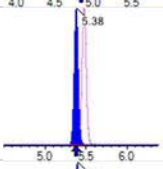
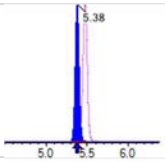
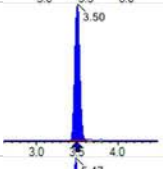
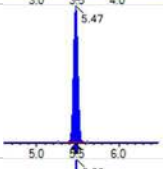
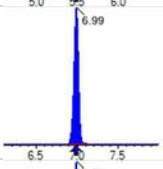
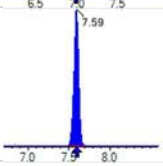
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 17051404 (498.0 / 478.0) 360353	(9.83 , 1.00) (0.00 , N/A , 0.1)	3556.4 1201.3	0.0211 102.9 100.0	5.1326 [5.0000]	102.7%			
NMeFOSA	(512.0 / 219.0) 15220245 (512.0 / 169.0) 12464593	(10.42 , 1.00) (0.00 , N/A , 1.0)	3250.2 5589.3	0.8189 100.0 100.0	18.9133 [20.0000]	94.6%			
NEtFOSA	(526.0 / 219.0) 16668720 (526.0 / 169.0) 20688606	(10.56 , 1.00) (0.00 , N/A , 0.8)	16050.3 14684.8	1.2412 97.8 100.0	20.0088 [20.0000]	100.0%			
NMeFOSAA	(570.0 / 419.0) 1249662 (570.0 / 483.0) 578925	(8.29 , 1.00) (0.01 , N/A , -0.1)	2351.7 250.5	0.4633 97.6 100.0	4.8102 [5.0000]	96.2%			
NEtFOSAA	(584.0 / 419.0) 1075322 (584.0 / 526.0) 630191	(8.54 , 1.00) (0.01 , N/A , 0.1)	2559.9 2876.4	0.5860 114.9 100.0	4.8535 [5.0000]	97.1%			
NMeFOSE	(616.0 / 59.0) 6767825	(10.36 , 1.00) (0.01 , N/A , 0.0)	3231.2	N/A 0.0 0.0	18.2283 [20.0000]	91.1%			
NEtFOSE	(630.0 / 59.0) 8733335	(10.52 , 1.00) (0.01 , N/A , 0.0)	1739.5	N/A 0.0 0.0	19.4798 [20.0000]	97.4%			
HFPO-DA	(285.0 / 169.0) 3280605 (285.0 / 185.0) 9102315	(5.79 , 1.00) (0.00 , N/A , 0.0)	2934.0 4685.7	2.7746 100.7 100.0	9.2539 [10.0000]	92.5%			
ADONA	(377.0 / 85.0) 11519185 (377.0 / 251.0) 1075387	(6.57 , 1.14) (N/A , 0.00 , -0.1)	4144.5 1985.4	0.0934 105.9 100.0	9.4484 [9.4270]	100.2%			
9Cl-Pf3ONS	(531.0 / 351.0) 31391246 (533.0 / 353.0) 10372156	(8.70 , 1.50) (N/A , 0.00 , 0.0)	2709.6 3534.4	0.3304 94.9 100.0	8.6438 [9.3325]	92.6%			
11Cl-PF3OUDS	(631.0 / 451.0) 18470106 (633.0 / 453.0) 6581198	(9.17 , 1.59) (N/A , 0.00 , 0.0)	3005.8 2913.0	0.3563 98.5 100.0	9.2996 [9.4321]	98.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

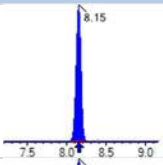
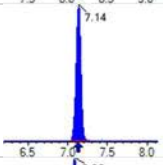
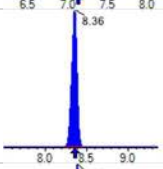
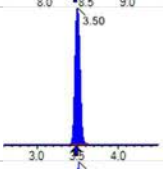
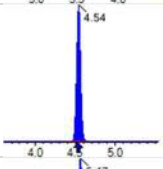
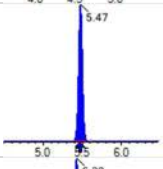
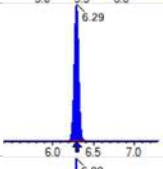
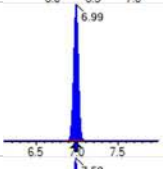
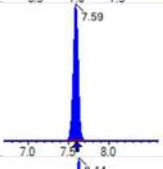
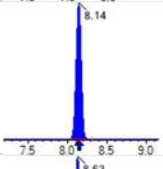
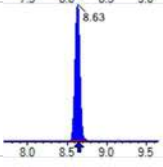
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 214959 (241.0 / 117.0) 351740	(4.06 , 0.89) (N/A , 0.00 , 0.1)	1494.0 1284.7	1.6363 103.7 100.0	18.3693 [20.0000]	91.8%			
5:3FTCA	(341.0 / 236.7) 1658127 (341.0 / 217.0) 2669494	(6.04 , 1.10) (N/A , 0.00 , 0.1)	1720.1 2500.5	1.6099 94.4 100.0	19.3216 [20.0000]	96.6%			
7:3FTCA	(441.0 / 317.0) 3022587 (441.0 / 337.0) 2457384	(7.89 , 1.44) (N/A , 0.00 , 0.1)	1417.2 1129.2	0.8130 94.5 100.0	19.0660 [20.0000]	95.3%			
PFEESA	(315.0 / 135.0) 6514081 (315.0 / 83.0) 1794331	(5.90 , 1.08) (N/A , 0.00 , 0.0)	4009.4 2055.6	0.2755 107.9 100.0	8.6409 [8.9246]	96.8%			
PFMPA	(229.0 / 85.0) 978691	(3.89 , 0.86) (N/A , 0.00 , 0.0)	4541.3	N/A 0.0 0.0	9.4515 [10.0000]	94.5%			
PFMBA	(279.0 / 85.0) 4096269	(4.85 , 1.07) (N/A , 0.00 , 0.0)	3622.8	N/A 0.0 0.0	9.4331 [10.0000]	94.3%			
NFDHA	(295.0 / 201.0) 3306050 (295.0 / 85.0) 3495480	(5.38 , 0.98) (N/A , 0.00 , 0.0)	2507.0 3189.8	1.0573 105.6 100.0	9.4913 [10.0000]	94.9%			
13C3_PFBA_IIS	(216.0 / 172.0) 219434	(3.50 , N/A) (N/A , 0.00 , N/A)	1008.3	N/A	0.9797 [1.0000]	98.0% { 100.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 480590	(5.47 , N/A) (N/A , 0.00 , N/A)	2007.3	N/A	0.9520 [1.0000]	95.2% { 100.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 610417	(6.99 , N/A) (N/A , 0.00 , N/A)	8085.2	N/A	0.9631 [1.0000]	96.3% { 100.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 563943	(7.59 , N/A) (N/A , 0.00 , N/A)	1793.2	N/A	0.9333 [1.0000]	93.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

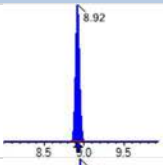
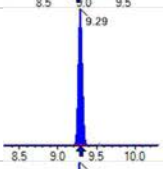
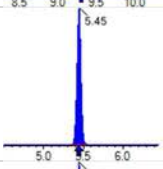
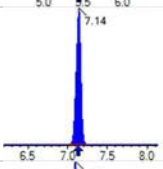
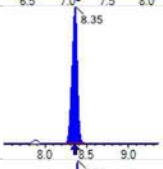
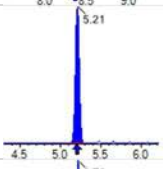
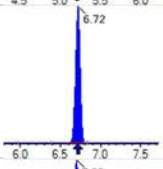
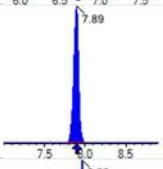
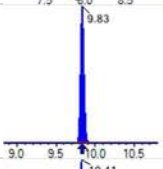
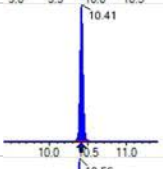
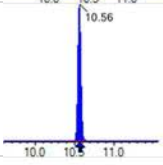
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 535206	(8.15 , N/A) (N/A , 0.00 , N/A)	2299.0	N/A	0.9249 [1.0000]	92.5% { 100.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 842031	(7.14 , N/A) (N/A , 0.00 , N/A)	2141.7	N/A	0.9833 [1.0000]	98.3% { 100.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1340994	(8.36 , N/A) (N/A , 0.00 , N/A)	1367.3	N/A	0.8908 [1.0000]	89.1% { 100.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2297340	(3.50 , N/A) (N/A , 0.00 , N/A)	4721.2	N/A	8.8015 [8.0000]	110.0% { 100.0% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2304813	(4.54 , N/A) (N/A , 0.00 , N/A)	2970.6	N/A	4.3832 [4.0000]	109.6% { 100.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1427673	(5.47 , N/A) (N/A , 0.00 , N/A)	3024.1	N/A	2.1688 [2.0000]	108.4% { 100.0% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1178269	(6.29 , N/A) (N/A , 0.00 , N/A)	2645.2	N/A	2.0658 [2.0000]	103.3% { 100.0% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1420182	(6.99 , N/A) (N/A , 0.00 , N/A)	1708.2	N/A	2.0543 [2.0000]	102.7% { 100.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 608665	(7.59 , N/A) (N/A , 0.00 , N/A)	2409.6	N/A	1.0187 [1.0000]	101.9% { 100.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 745748	(8.14 , N/A) (N/A , 0.00 , N/A)	1416.3	N/A	1.1051 [1.0000]	110.5% { 100.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 666201	(8.63 , N/A) (N/A , 0.00 , N/A)	1853.1	N/A	0.9928 [1.0000]	99.3% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

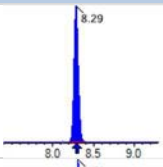
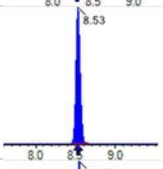
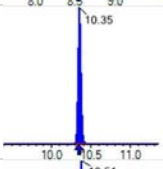
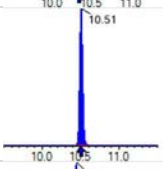
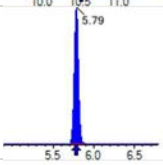
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 658219	(8.92 , N/A) (N/A , 0.00 , N/A)	2474.1	N/A	1.1437 [1.0000]	114.4% { 100.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 585783	(9.29 , N/A) (N/A , 0.00 , N/A)	1182.1	N/A	1.1108 [1.0000]	111.1% { 100.0% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3792392	(5.45 , N/A) (N/A , 0.00 , N/A)	4491.4	N/A	2.1520 [2.0000]	107.6% { 100.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1965463	(7.14 , N/A) (N/A , 0.00 , N/A)	2731.7	N/A	2.1472 [2.0000]	107.4% { 100.0% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4238028	(8.35 , N/A) (N/A , 0.00 , N/A)	1778.2	N/A	2.3020 [2.0000]	115.1% { 100.0% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 347280	(5.21 , N/A) (N/A , 0.00 , N/A)	993.8	N/A	3.5701 [4.0000]	89.3% { 100.0% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 416066	(6.72 , N/A) (N/A , 0.00 , N/A)	1373.8	N/A	3.8965 [4.0000]	97.4% { 100.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 603229	(7.89 , N/A) (N/A , 0.00 , N/A)	2494.6	N/A	3.9987 [4.0000]	100.0% { 100.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8307470	(9.83 , N/A) (N/A , 0.00 , N/A)	4340.1	N/A	2.4310 [2.0000]	121.5% { 100.0% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1935325	(10.41 , N/A) (N/A , 0.00 , N/A)	3160.3	N/A	2.4037 [2.0000]	120.2% { 100.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1783429	(10.56 , N/A) (N/A , 0.00 , N/A)	3099.3	N/A	2.4754 [2.0000]	123.8% { 100.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (3)
Acquired: 2023/02/14 - 20:07

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1324195	(8.29 , N/A) (N/A , 0.00 , N/A)	1316.0	N/A	4.4448 [4.0000]	111.1% { 100.0% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1055150	(8.53 , N/A) (N/A , 0.00 , N/A)	68797.1	N/A	4.3253 [4.0000]	108.1% { 100.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7427567	(10.35 , N/A) (N/A , 0.00 , N/A)	2212.4	N/A	25.3045 [20.0000]	126.5% { 100.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9422296	(10.51 , N/A) (N/A , 0.00 , N/A)	2106.7	N/A	25.0659 [20.0000]	125.3% { 100.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3586350	(5.79 , N/A) (N/A , 0.00 , N/A)	3434.0	N/A	8.9478 [8.0000]	111.8% { 100.0% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV2	PFBA	20.0	19.3	96.4	ng/mL	+/- 30.00%
	PFPEA	10.0	9.48	94.8	ng/mL	+/- 30.00%
	PFHXA	5.00	4.58	91.5	ng/mL	+/- 30.00%
	PFHPA	5.00	4.55	90.9	ng/mL	+/- 30.00%
	PFOA	5.00	4.48	89.6	ng/mL	+/- 30.00%
	PFNA	5.00	4.77	95.3	ng/mL	+/- 30.00%
	PFDA	5.00	4.56	91.1	ng/mL	+/- 30.00%
	PFUnA	5.00	4.34	86.9	ng/mL	+/- 30.00%
	PFDOA	5.00	4.43	88.7	ng/mL	+/- 30.00%
	PFTRDA	5.00	5.13	103	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.98	99.6	ng/mL	+/- 30.00%
	PFBS	4.42	4.20	95.0	ng/mL	+/- 30.00%
	PFPES	4.70	4.63	98.5	ng/mL	+/- 30.00%
	PFHXS	4.58	4.18	91.3	ng/mL	+/- 30.00%
	PFHPS	4.78	4.69	98.1	ng/mL	+/- 30.00%
	PFOS	4.65	4.29	92.2	ng/mL	+/- 30.00%
	PFNS	4.80	4.57	95.2	ng/mL	+/- 30.00%
	PFDS	4.82	4.94	103	ng/mL	+/- 30.00%
	PFDOS	4.85	5.61	116	ng/mL	+/- 30.00%
	4:2FTS	18.8	18.5	98.5	ng/mL	+/- 30.00%
	6:2FTS	19.0	18.1	95.0	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.8	98.1	ng/mL	+/- 30.00%
	PFOSA	5.00	4.96	99.1	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.5	97.6	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.1	101	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.91	98.1	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.64	92.9	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.5	92.5	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.7	98.4	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.72	97.2	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

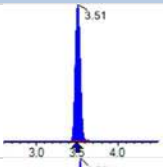
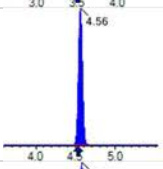
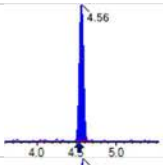
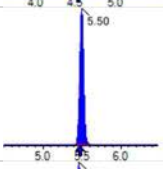
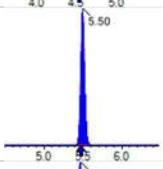
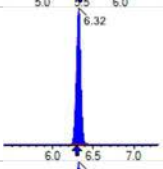
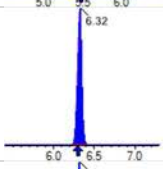
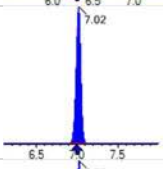
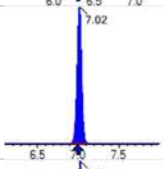
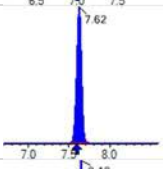
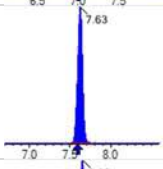
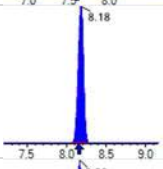
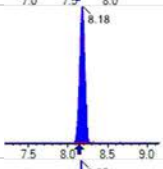
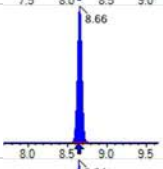
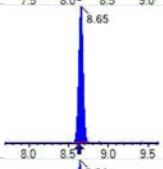
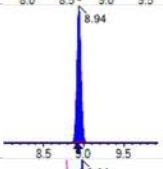
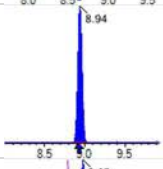
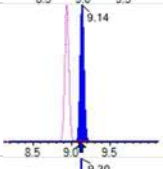
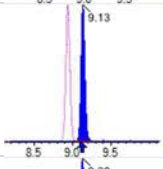
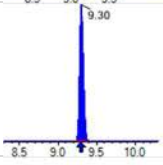
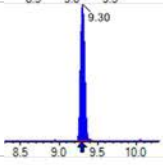
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV2	ADONA	9.45	9.99	106	ng/mL	+/- 30.00%
	PFEESA	8.90	8.50	95.5	ng/mL	+/- 30.00%
	PFMPA	10.0	9.17	91.7	ng/mL	+/- 30.00%
	PFMBA	10.0	9.44	94.4	ng/mL	+/- 30.00%
	NFDHA	10.0	9.17	91.7	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.82	94.3	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	9.94	105	ng/mL	+/- 30.00%
	3:3FTCA	20.0	18.2	91.0	ng/mL	+/- 30.00%
	5:3FTCA	20.0	16.5	82.7	ng/mL	+/- 30.00%
	7:3FTCA	20.0	16.7	83.5	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

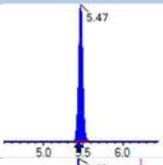
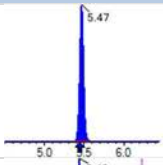
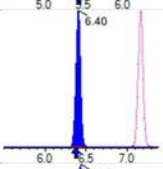
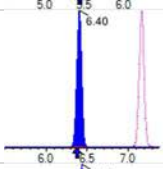
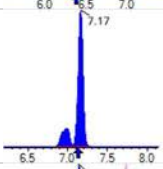
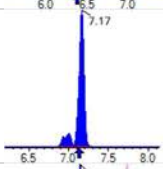
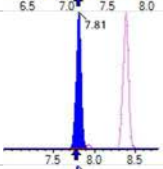
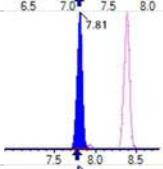
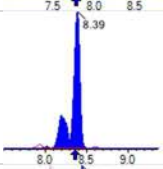
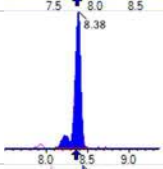
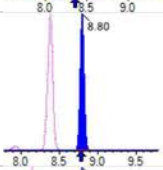
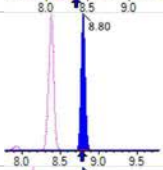
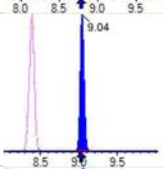
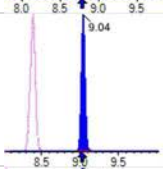
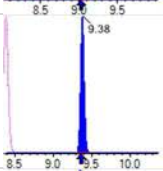
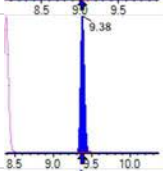
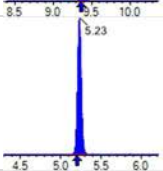
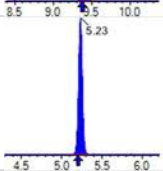
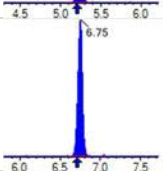
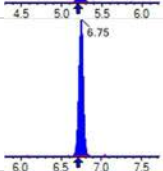
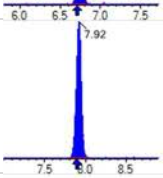
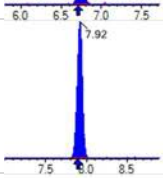
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4582364	(3.51 , 1.00) (0.00 , N/A , 0.0)	227.0	N/A 0.0 0.0	19.2761 [20.0000]	96.4%			
PFPeA	(263.0 / 219.0) 4672093 (263.0 / 69.0) 60381	(4.56 , 1.00) (0.00 , N/A , 0.0)	5739.4 436.2	0.0129 120.7 117.3	9.4768 [10.0000]	94.8%			
PFHxA	(313.0 / 269.0) 3060630 (313.0 / 119.0) 293387	(5.50 , 1.00) (0.00 , N/A , 0.1)	7180.7 10387.3	0.0959 96.2 100.7	4.5769 [5.0000]	91.5%			
PFHpA	(363.0 / 319.0) 2553726 (363.0 / 169.0) 781101	(6.32 , 1.00) (0.00 , N/A , -0.2)	31214.1 5071.0	0.3059 95.4 95.7	4.5473 [5.0000]	90.9%			
PFOA	(413.0 / 369.0) 3035697 (413.0 / 169.0) 1024057	(7.02 , 1.00) (0.00 , N/A , 0.1)	5228.3 80814.1	0.3373 100.8 93.4	4.4775 [5.0000]	89.6%			
PFNA	(463.0 / 419.0) 2648335 (463.0 / 169.0) 588014	(7.62 , 1.00) (0.00 , N/A , -0.1)	12447.7 5128.0	0.2220 99.2 100.4	4.7675 [5.0000]	95.3%			
PFDA	(513.0 / 469.0) 3136505 (513.0 / 169.0) 385057	(8.18 , 1.00) (0.00 , N/A , 0.1)	2494.4 1897.2	0.1228 101.0 113.1	4.5553 [5.0000]	91.1%			
PFUnA	(563.0 / 519.0) 2869610 (563.0 / 169.0) 359723	(8.66 , 1.00) (0.00 , N/A , 0.1)	3973.8 1543.7	0.1254 119.6 107.2	4.3430 [5.0000]	86.9%			
PFDoA	(613.0 / 569.0) 2475060 (613.0 / 169.0) 423069	(8.94 , 1.00) (0.00 , N/A , 0.0)	1944.0 1789.7	0.1709 104.5 101.9	4.4330 [5.0000]	88.7%			
PFTrDA	(663.0 / 619.0) 2591895 (663.0 / 169.0) 605706	(9.14 , 1.02) (N/A , 0.02 , 0.1)	2357.2 1374.5	0.2337 97.8 86.8	5.1272 [5.0000]	102.5%			
PFTeDA	(713.0 / 669.0) 2614656 (713.0 / 169.0) 516600	(9.30 , 1.00) (0.00 , N/A , -0.1)	2200.9 1332.8	0.1976 95.6 95.6	4.9813 [5.0000]	99.6%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

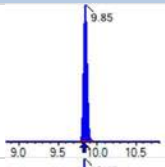
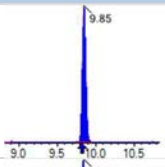
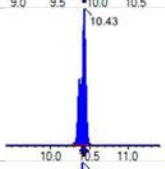
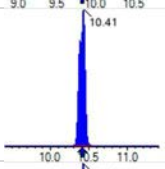
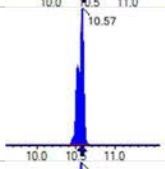
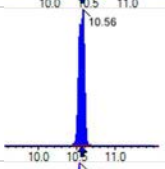
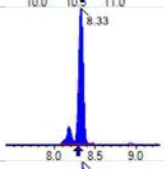
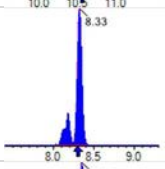
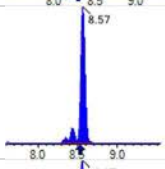
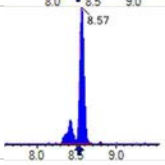
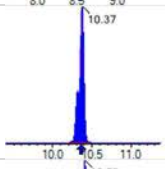
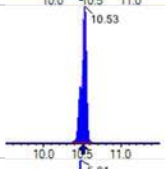
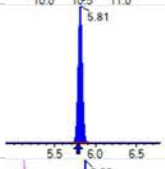
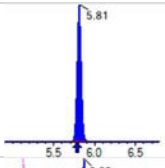
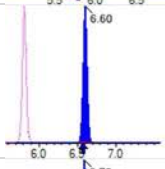
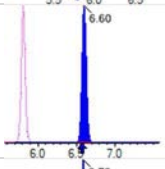
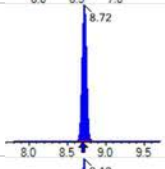
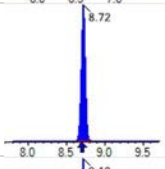
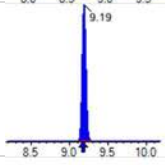
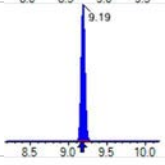
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5136990 (299.0 / 99.0) 3190293	(5.47 , 1.00) (0.00 , N/A , 0.0)	3875.9 3252.7	0.6210 96.0 100.4	4.2002 [4.4237]	94.9%			
PFPeS	(349.0 / 80.0) 8923117 (349.0 / 99.0) 3069426	(6.40 , 0.89) (N/A , 0.03 , 0.0)	17012.8 21400735.1	0.3440 96.4 99.9	4.6303 [4.6919]	98.7%			
PFHxS	(399.0 / 80.0) 6424149 (399.0 / 99.0) 2058861	(7.17 , 1.00) (0.00 , N/A , -0.1)	7116.3 4212.7	0.3205 98.7 98.4	4.1809 [4.5549]	91.8%			
PFHpS	(449.0 / 80.0) 7659655 (449.0 / 99.0) 2117939	(7.81 , 0.93) (N/A , 0.03 , 0.0)	32727.4 8851.7	0.2765 101.6 99.4	4.6869 [4.7570]	98.5%			
PFOS	(499.0 / 80.0) 9693221 (499.0 / 99.0) 2107427	(8.39 , 1.00) (0.00 , N/A , 0.1)	1587.9 1721.5	0.2174 98.2 102.5	4.2857 [4.6375]	92.4%			
PFNS	(549.0 / 80.0) 11621189 (549.0 / 99.0) 2637729	(8.80 , 1.05) (N/A , 0.02 , 0.0)	13633.8 1776613.0	0.2270 103.5 98.7	4.5720 [4.7994]	95.3%			
PFDS	(599.0 / 80.0) 13668878 (599.0 / 99.0) 2847746	(9.04 , 1.08) (N/A , 0.02 , -0.1)	3151.2 2529.9	0.2083 95.6 97.0	4.9436 [4.8155]	102.7%			
PFDoS	(699.0 / 80.0) 9887363 (699.0 / 99.0) 1917055	(9.38 , 1.12) (N/A , 0.02 , 0.1)	4094.4 2899.6	0.1939 93.2 90.4	5.6067 [4.8478]	115.7%			
4:2FTS	(327.0 / 307.0) 4833875 (327.0 / 81.0) 3207632	(5.23 , 1.00) (0.00 , N/A , -0.1)	4945.9 2648.9	0.6636 98.3 96.8	18.5216 [18.6906]	99.1%			
6:2FTS	(427.0 / 407.0) 2762871 (427.0 / 81.0) 2118933	(6.75 , 1.00) (0.00 , N/A , 0.1)	3384.6 2884.1	0.7669 92.7 99.3	18.0571 [18.9808]	95.1%			
8:2FTS	(527.0 / 507.0) 3014674 (527.0 / 81.0) 2393308	(7.92 , 1.00) (0.00 , N/A , 0.0)	3357.9 2252.5	0.7939 95.5 102.6	18.8291 [19.1658]	98.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

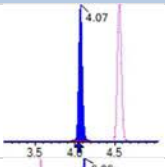
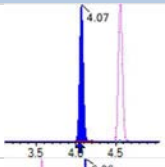
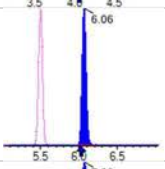
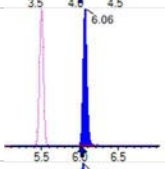
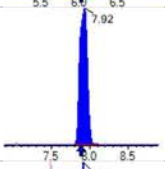
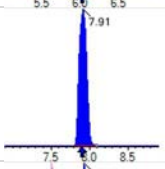
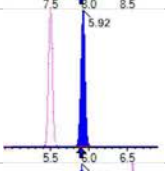
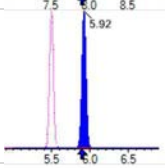
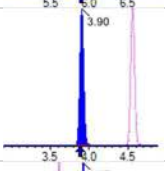
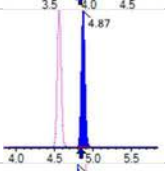
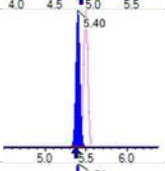
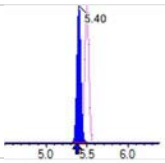
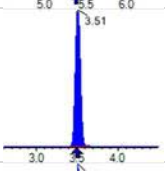
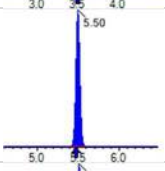
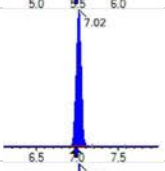
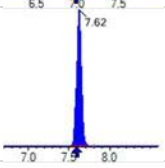
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 16906990 (498.0 / 478.0) 335614	(9.85 , 1.00) (0.00 , N/A , -0.1)	3748.5 1141.3	0.0199 96.6 93.9	4.9561 [5.0000]	99.1%			
NMeFOSA	(512.0 / 219.0) 15133120 (512.0 / 169.0) 12600788	(10.43 , 1.00) (0.00 , N/A , 0.9)	3076.9 5110.1	0.8327 101.6 101.7	19.5247 [20.0000]	97.6%			
NEtFOSA	(526.0 / 219.0) 16759887 (526.0 / 169.0) 21285245	(10.57 , 1.00) (0.00 , N/A , 0.8)	14242.1 11718.2	1.2700 100.1 102.3	20.1495 [20.0000]	100.7%			
NMeFOSAA	(570.0 / 419.0) 1177465 (570.0 / 483.0) 564289	(8.33 , 1.00) (0.01 , N/A , 0.0)	3796.1 54920.4	0.4792 101.0 103.4	4.9057 [5.0000]	98.1%			
NEtFOSAA	(584.0 / 419.0) 1051835 (584.0 / 526.0) 570426	(8.57 , 1.00) (0.00 , N/A , -0.1)	2348.6 1067.2	0.5423 106.3 92.5	4.6446 [5.0000]	92.9%			
NMeFOSE	(616.0 / 59.0) 6775594	(10.37 , 1.00) (0.01 , N/A , 0.0)	3144.3	N/A 0.0 0.0	18.5030 [20.0000]	92.5%			
NEtFOSE	(630.0 / 59.0) 8941534	(10.53 , 1.00) (0.01 , N/A , 0.0)	1378.2	N/A 0.0 0.0	19.6713 [20.0000]	98.4%			
HFPO-DA	(285.0 / 169.0) 3396782 (285.0 / 185.0) 9261306	(5.81 , 1.00) (0.00 , N/A , 0.1)	3641.9 4545.3	2.7265 99.0 98.3	9.7203 [10.0000]	97.2%			
ADONA	(377.0 / 85.0) 12002718 (377.0 / 251.0) 1058144	(6.60 , 1.14) (N/A , 0.03 , 0.0)	4129.1 1995.5	0.0882 100.0 94.4	9.9875 [9.4270]	105.9%			
9Cl-Pf3ONS	(531.0 / 351.0) 31505365 (533.0 / 353.0) 10695379	(8.72 , 1.50) (N/A , 0.02 , 0.0)	3744.2 3924.2	0.3395 97.5 102.7	8.8193 [9.3325]	94.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 19455026 (633.0 / 453.0) 6758067	(9.19 , 1.58) (N/A , 0.02 , 0.0)	3418.5 2938.5	0.3474 96.0 97.5	9.9373 [9.4321]	105.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

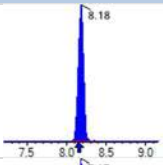
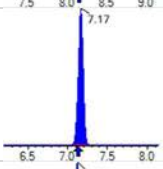
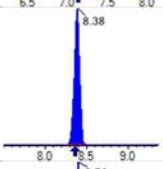
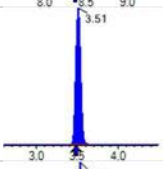
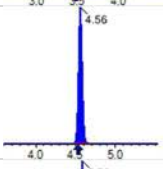
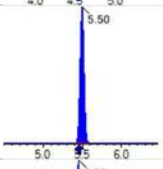
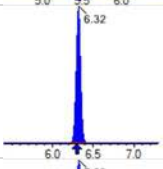
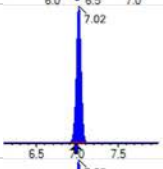
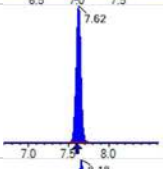
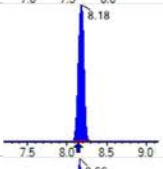
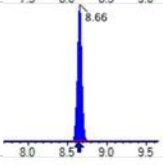
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 221401 (241.0 / 117.0) 349819	(4.07 , 0.89) (N/A , 0.01 , 0.0)	1341.5 1338.9	1.5800 100.1 96.6	18.2002 [20.0000]	91.0%			
5:3FTCA	(341.0 / 236.7) 1511872 (341.0 / 217.0) 2851796	(6.06 , 1.10) (N/A , 0.03 , 0.1)	1486.7 2938.1	1.8863 110.6 117.2	16.5333 [20.0000]	82.7%			
7:3FTCA	(441.0 / 317.0) 2820416 (441.0 / 337.0) 2545134	(7.92 , 1.44) (N/A , 0.03 , 0.1)	1045.8 935.9	0.9024 104.9 111.0	16.6960 [20.0000]	83.5%			
PFEESA	(315.0 / 135.0) 6824080 (315.0 / 83.0) 1859084	(5.92 , 1.08) (N/A , 0.02 , 0.0)	2637.3 2134.8	0.2724 106.7 98.9	8.4951 [8.9246]	95.2%			
PFMPA	(229.0 / 85.0) 987277	(3.90 , 0.86) (N/A , 0.01 , 0.0)	4349.6	N/A 0.0 0.0	9.1682 [10.0000]	91.7%			
PFMBA	(279.0 / 85.0) 4265193	(4.87 , 1.07) (N/A , 0.02 , 0.0)	3787.0	N/A 0.0 0.0	9.4449 [10.0000]	94.4%			
NFDHA	(295.0 / 201.0) 3403407 (295.0 / 85.0) 3632567	(5.40 , 0.98) (N/A , 0.02 , 0.0)	4019.2 3880.3	1.0673 106.6 100.9	9.1696 [10.0000]	91.7%			
13C3_PFBA_IIS	(216.0 / 172.0) 220252	(3.51 , N/A) (N/A , 0.01 , N/A)	1201.0	N/A	0.9833 [1.0000]	98.3% { 100.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 503769	(5.50 , N/A) (N/A , 0.02 , N/A)	2777.7	N/A	0.9979 [1.0000]	99.8% { 104.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 603401	(7.02 , N/A) (N/A , 0.03 , N/A)	1353.8	N/A	0.9521 [1.0000]	95.2% { 98.9% }			
13C5_PFNA_IIS	(468.0 / 423.0) 570570	(7.62 , N/A) (N/A , 0.03 , N/A)	291.9	N/A	0.9442 [1.0000]	94.4% { 101.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

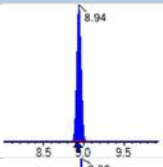
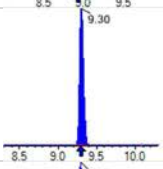
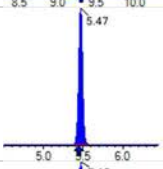
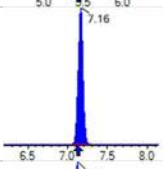
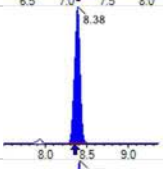
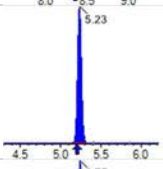
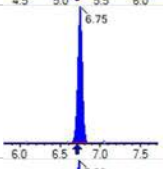
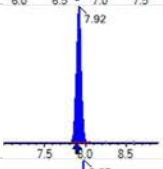
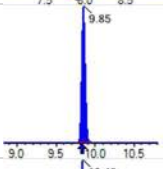
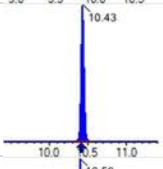
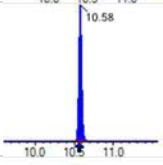
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 530312	(8.18 , N/A) (N/A , 0.03 , N/A)	1914.4	N/A	0.9165 [1.0000]	91.6% { 99.1% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 835563	(7.17 , N/A) (N/A , 0.03 , N/A)	1644.6	N/A	0.9757 [1.0000]	97.6% { 99.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1384649	(8.38 , N/A) (N/A , 0.03 , N/A)	1552.4	N/A	0.9198 [1.0000]	92.0% { 103.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2295870	(3.51 , N/A) (N/A , 0.01 , N/A)	5201.3	N/A	8.7633 [8.0000]	109.5% { 99.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2396881	(4.56 , N/A) (N/A , 0.02 , N/A)	3930.3	N/A	4.3486 [4.0000]	108.7% { 104.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1521284	(5.50 , N/A) (N/A , 0.02 , N/A)	3768.3	N/A	2.2047 [2.0000]	110.2% { 106.6% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1330115	(6.32 , N/A) (N/A , 0.03 , N/A)	2179.0	N/A	2.2248 [2.0000]	111.2% { 112.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1522906	(7.02 , N/A) (N/A , 0.03 , N/A)	2039.9	N/A	2.2285 [2.0000]	111.4% { 107.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 627849	(7.62 , N/A) (N/A , 0.03 , N/A)	3209.0	N/A	1.0386 [1.0000]	103.9% { 103.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 782750	(8.18 , N/A) (N/A , 0.03 , N/A)	3972.2	N/A	1.1707 [1.0000]	117.1% { 105.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 795270	(8.66 , N/A) (N/A , 0.03 , N/A)	3450.2	N/A	1.1961 [1.0000]	119.6% { 119.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

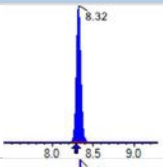
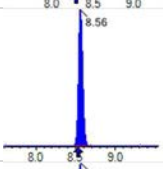
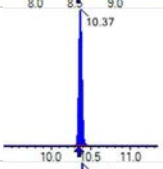
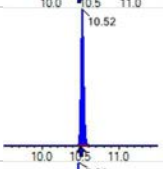
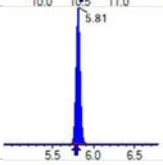
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 634917	(8.94 , N/A) (N/A , 0.02 , N/A)	2073.4	N/A	1.1134 [1.0000]	111.3% { 96.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 606570	(9.30 , N/A) (N/A , 0.01 , N/A)	1900.4	N/A	1.1608 [1.0000]	116.1% { 103.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3936105	(5.47 , N/A) (N/A , 0.02 , N/A)	3991.7	N/A	2.2508 [2.0000]	112.5% { 103.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1998497	(7.16 , N/A) (N/A , 0.03 , N/A)	2199.6	N/A	2.2002 [2.0000]	110.0% { 101.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4289770	(8.38 , N/A) (N/A , 0.03 , N/A)	1442.5	N/A	2.2567 [2.0000]	112.8% { 101.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 382230	(5.23 , N/A) (N/A , 0.02 , N/A)	1717.6	N/A	3.9598 [4.0000]	99.0% { 110.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 431339	(6.75 , N/A) (N/A , 0.03 , N/A)	1237.0	N/A	4.0709 [4.0000]	101.8% { 103.7% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 587953	(7.92 , N/A) (N/A , 0.03 , N/A)	818.7	N/A	3.9276 [4.0000]	98.2% { 97.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8530456	(9.85 , N/A) (N/A , 0.02 , N/A)	3619.9	N/A	2.4175 [2.0000]	120.9% { 102.7% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1866344	(10.43 , N/A) (N/A , 0.01 , N/A)	2655.4	N/A	2.2450 [2.0000]	112.2% { 96.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1780659	(10.58 , N/A) (N/A , 0.01 , N/A)	3596.3	N/A	2.3936 [2.0000]	119.7% { 99.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV2
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (6)
Acquired: 2023/02/14 - 20:46

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) 1223396	(8.32 , N/A) (N/A , 0.03 , N/A)	1932.0	N/A	3.9769 [4.0000]	99.4% { 92.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1078533	(8.56 , N/A) (N/A , 0.03 , N/A)	118999.3	N/A	4.2818 [4.0000]	107.0% { 102.2% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 7325708	(10.37 , N/A) (N/A , 0.01 , N/A)	2685.5	N/A	24.1706 [20.0000]	120.9% { 98.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9553012	(10.52 , N/A) (N/A , 0.01 , N/A)	1978.6	N/A	24.6124 [20.0000]	123.1% { 101.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3535187	(5.81 , N/A) (N/A , 0.02 , N/A)	3501.7	N/A	8.4144 [8.0000]	105.2% { 98.6% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV3	PFBA	20.0	18.6	93.1	ng/mL	+/- 30.00%
	PFPEA	10.0	9.58	95.8	ng/mL	+/- 30.00%
	PFHXA	5.00	4.63	92.6	ng/mL	+/- 30.00%
	PFHPA	5.00	4.50	90.0	ng/mL	+/- 30.00%
	PFOA	5.00	4.86	97.2	ng/mL	+/- 30.00%
	PFNA	5.00	4.92	98.3	ng/mL	+/- 30.00%
	PFDA	5.00	4.69	93.7	ng/mL	+/- 30.00%
	PFUnA	5.00	4.59	91.8	ng/mL	+/- 30.00%
	PFDOA	5.00	4.67	93.5	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.39	87.8	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.90	98.0	ng/mL	+/- 30.00%
	PFBS	4.42	4.25	96.1	ng/mL	+/- 30.00%
	PFPES	4.70	5.05	107	ng/mL	+/- 30.00%
	PFHXS	4.58	4.36	95.1	ng/mL	+/- 30.00%
	PFHPS	4.78	4.93	103	ng/mL	+/- 30.00%
	PFOS	4.65	4.34	93.3	ng/mL	+/- 30.00%
	PFNS	4.80	4.46	92.9	ng/mL	+/- 30.00%
	PFDS	4.82	4.69	97.3	ng/mL	+/- 30.00%
	PFDOS	4.85	4.77	98.3	ng/mL	+/- 30.00%
	4:2FTS	18.8	19.2	102	ng/mL	+/- 30.00%
	6:2FTS	19.0	16.6	87.5	ng/mL	+/- 30.00%
	8:2FTS	19.2	17.7	92.1	ng/mL	+/- 30.00%
	PFOSA	5.00	5.41	108	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.3	96.5	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.4	102	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.86	97.3	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.41	88.3	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.4	91.8	ng/mL	+/- 30.00%
	NEtFOSE	20.0	18.7	93.5	ng/mL	+/- 30.00%
	HFPO-DA	10.0	9.05	90.5	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

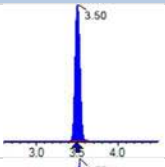
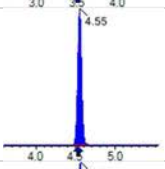
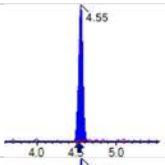
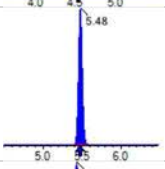
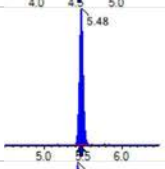
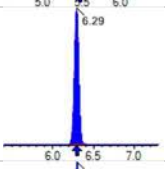
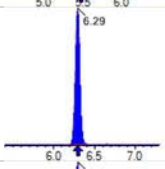
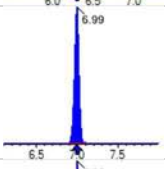
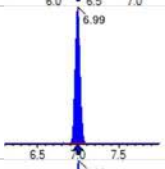
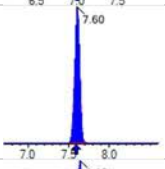
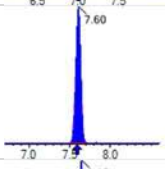
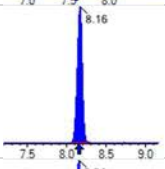
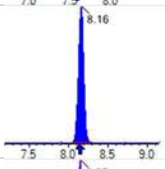
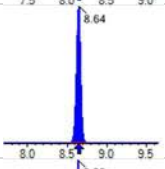
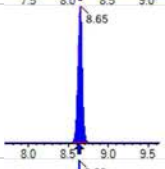
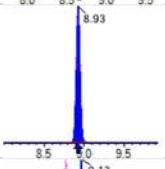
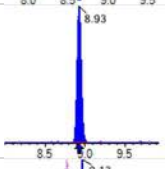
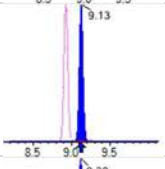
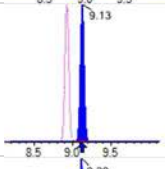
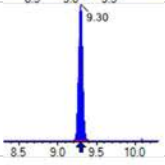
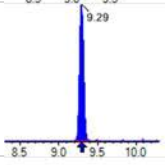
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV3	ADONA	9.45	9.84	104	ng/mL	+/- 30.00%
	PFEESA	8.90	8.64	97.0	ng/mL	+/- 30.00%
	PFMPA	10.0	9.25	92.5	ng/mL	+/- 30.00%
	PFMBA	10.0	9.28	92.8	ng/mL	+/- 30.00%
	NFDHA	10.0	9.50	95.0	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	8.70	93.0	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.25	87.3	ng/mL	+/- 30.00%
	3:3FTCA	20.0	20.3	102	ng/mL	+/- 30.00%
	5:3FTCA	20.0	19.0	94.8	ng/mL	+/- 30.00%
	7:3FTCA	20.0	20.1	100	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

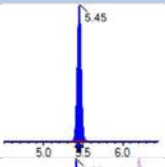
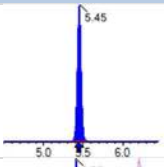
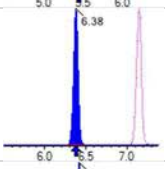
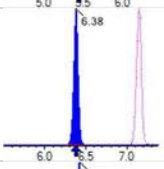
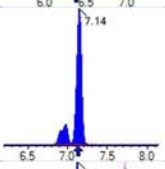
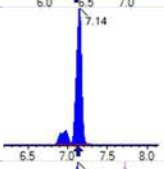
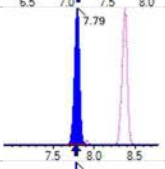
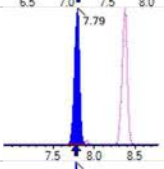
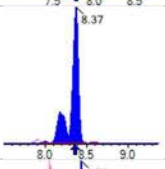
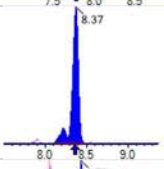
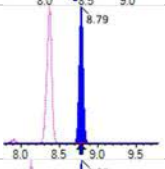
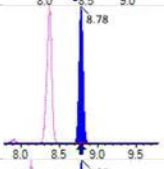
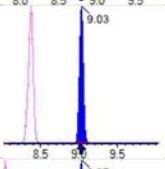
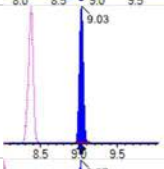
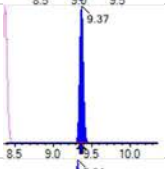
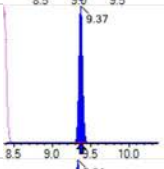
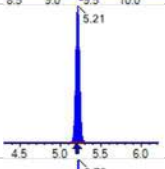
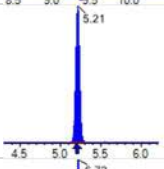
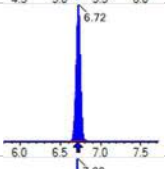
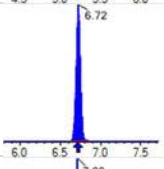
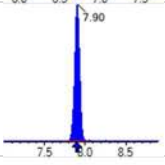
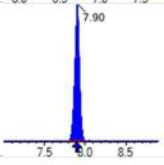
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 4963325	(3.50 , 1.00) (0.00 , N/A , 0.0)	242.5	N/A 0.0 0.0	18.6179 [20.0000]	93.1%			
PFPeA	(263.0 / 219.0) 5240322 (263.0 / 69.0) 64108	(4.55 , 1.00) (0.00 , N/A , -0.2)	2825.8 388.0	0.0122 114.2 111.0	9.5774 [10.0000]	95.8%			
PFHxA	(313.0 / 269.0) 3321861 (313.0 / 119.0) 354228	(5.48 , 1.00) (0.00 , N/A , 0.1)	6417.9 4645865.7	0.1066 107.1 112.0	4.6298 [5.0000]	92.6%			
PFHpA	(363.0 / 319.0) 2706089 (363.0 / 169.0) 825452	(6.29 , 1.00) (0.00 , N/A , 0.0)	11848.0 28415.7	0.3050 95.1 95.4	4.4984 [5.0000]	90.0%			
PFOA	(413.0 / 369.0) 3564035 (413.0 / 169.0) 1094448	(6.99 , 1.00) (0.00 , N/A , 0.1)	6607.1 3662.5	0.3071 91.8 85.0	4.8609 [5.0000]	97.2%			
PFNA	(463.0 / 419.0) 2962201 (463.0 / 169.0) 710674	(7.60 , 1.00) (0.00 , N/A , 0.0)	41109.4 3704.0	0.2399 107.2 108.5	4.9173 [5.0000]	98.3%			
PFDA	(513.0 / 469.0) 3622051 (513.0 / 169.0) 419696	(8.16 , 1.00) (0.00 , N/A , 0.1)	2022.8 1098.4	0.1159 95.3 106.8	4.6864 [5.0000]	93.7%			
PFUnA	(563.0 / 519.0) 3705669 (563.0 / 169.0) 434866	(8.64 , 1.00) (0.00 , N/A , -0.2)	2616.3 2743.7	0.1174 111.9 100.4	4.5890 [5.0000]	91.8%			
PFDoA	(613.0 / 569.0) 3313246 (613.0 / 169.0) 559562	(8.93 , 1.00) (0.00 , N/A , 0.0)	1829.3 764.0	0.1689 103.3 100.6	4.6748 [5.0000]	93.5%			
PFTrDA	(663.0 / 619.0) 2815901 (663.0 / 169.0) 785313	(9.13 , 1.02) (N/A , 0.01 , -0.1)	2729.8 1892.3	0.2789 116.7 103.6	4.3881 [5.0000]	87.8%			
PFTeDA	(713.0 / 669.0) 2417868 (713.0 / 169.0) 533016	(9.30 , 1.00) (0.00 , N/A , 0.1)	1912.9 845.6	0.2204 106.7 106.6	4.9022 [5.0000]	98.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

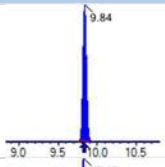
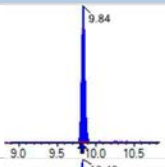
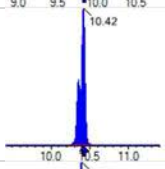
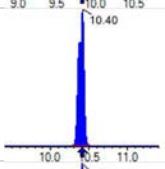
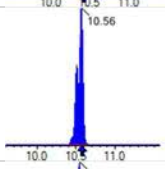
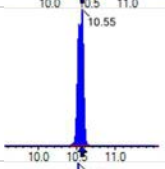
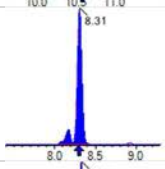
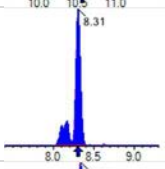
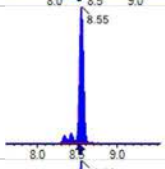
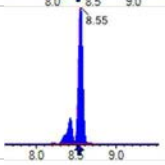
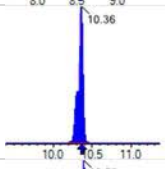
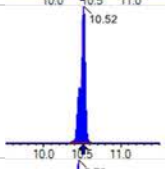
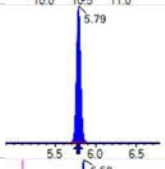
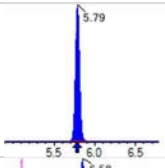
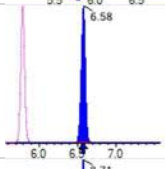
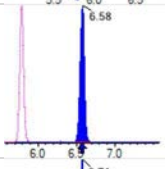
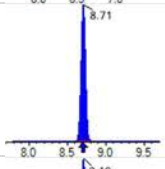
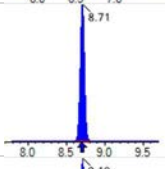
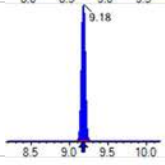
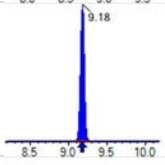
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 6016217 (299.0 / 99.0) 3776191	(5.45 , 1.00) (0.00 , N/A , 0.0)	3540.1 3159.9	0.6277 97.1 101.5	4.2495 [4.4237]	96.1%			
PFPeS	(349.0 / 80.0) 10596412 (349.0 / 99.0) 3648414	(6.38 , 0.89) (N/A , 0.00 , -0.1)	37081.4 4060.0	0.3443 96.4 99.9	5.0466 [4.6919]	107.6%			
PFHxS	(399.0 / 80.0) 7295454 (399.0 / 99.0) 2347674	(7.14 , 1.00) (0.00 , N/A , 0.1)	7298.7 3355.7	0.3218 99.1 98.8	4.3576 [4.5549]	95.7%			
PFHpS	(449.0 / 80.0) 9564933 (449.0 / 99.0) 2479968	(7.79 , 0.93) (N/A , 0.02 , 0.0)	62996.9 3196.5	0.2593 95.2 93.2	4.9284 [4.7570]	103.6%			
PFOS	(499.0 / 80.0) 11657549 (499.0 / 99.0) 2522472	(8.37 , 1.00) (0.00 , N/A , 0.1)	1403.2 2033.4	0.2164 97.8 102.1	4.3403 [4.6375]	93.6%			
PFNS	(549.0 / 80.0) 13457862 (549.0 / 99.0) 3201417	(8.79 , 1.05) (N/A , 0.01 , 0.1)	21675.3 104183.1	0.2379 108.5 103.4	4.4584 [4.7994]	92.9%			
PFDS	(599.0 / 80.0) 15403088 (599.0 / 99.0) 3251219	(9.03 , 1.08) (N/A , 0.01 , 0.0)	3770.2 2777.5	0.2111 96.8 98.3	4.6910 [4.8155]	97.4%			
PFDoS	(699.0 / 80.0) 9986599 (699.0 / 99.0) 2090771	(9.37 , 1.12) (N/A , 0.01 , 0.0)	4168.6 2270.1	0.2094 100.6 97.6	4.7687 [4.8478]	98.4%			
4:2FTS	(327.0 / 307.0) 6464638 (327.0 / 81.0) 4437238	(5.21 , 1.00) (0.00 , N/A , 0.0)	5036.6 3839.0	0.6864 101.7 100.1	19.2395 [18.6906]	102.9%			
6:2FTS	(427.0 / 407.0) 3605437 (427.0 / 81.0) 3093247	(6.72 , 1.00) (0.00 , N/A , 0.0)	2062.8 2693.1	0.8579 103.7 111.1	16.6236 [18.9808]	87.6%			
8:2FTS	(527.0 / 507.0) 4083701 (527.0 / 81.0) 3479454	(7.90 , 1.00) (0.00 , N/A , 0.0)	1541.0 2116.9	0.8520 102.5 110.1	17.6774 [19.1658]	92.2%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

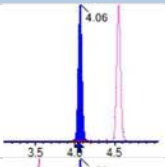
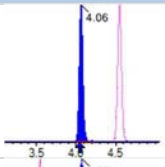
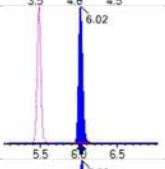
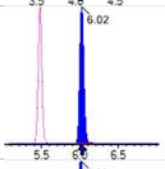
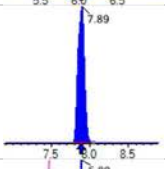
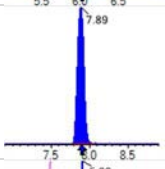
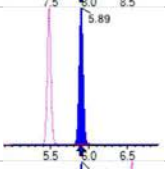
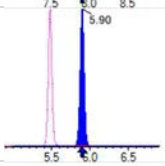
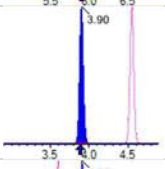
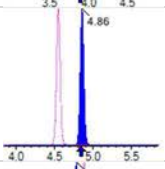
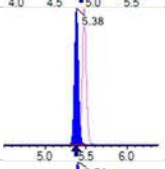
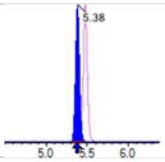
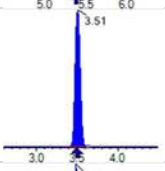
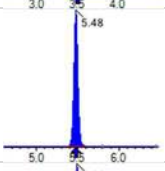
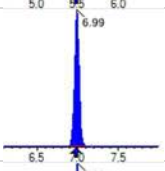
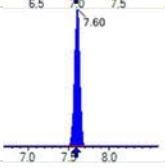
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 12182616 (498.0 / 478.0) 246161	(9.84 , 1.00) (0.00 , N/A , -0.1)	2738.4 749.0	0.0202 98.4 95.6	5.4111 [5.0000]	108.2%			
NMeFOSA	(512.0 / 219.0) 7134819 (512.0 / 169.0) 6177981	(10.42 , 1.00) (0.00 , N/A , 1.0)	3741.7 3643.8	0.8659 105.7 105.7	19.2964 [20.0000]	96.5%			
NEtFOSA	(526.0 / 219.0) 7534863 (526.0 / 169.0) 9618383	(10.56 , 1.00) (0.00 , N/A , 1.0)	6827.8 9516.9	1.2765 100.6 102.8	20.4402 [20.0000]	102.2%			
NMeFOSAA	(570.0 / 419.0) 1627281 (570.0 / 483.0) 732054	(8.31 , 1.00) (0.00 , N/A , 0.0)	3302.1 6654.3	0.4499 94.8 97.1	4.8635 [5.0000]	97.3%			
NEtFOSAA	(584.0 / 419.0) 1421409 (584.0 / 526.0) 801249	(8.55 , 1.00) (0.01 , N/A , -0.1)	1720.6 1782.0	0.5637 110.5 96.2	4.4128 [5.0000]	88.3%			
NMeFOSE	(616.0 / 59.0) 3014212	(10.36 , 1.00) (0.01 , N/A , 0.0)	2130.3	N/A 0.0 0.0	18.3567 [20.0000]	91.8%			
NEtFOSE	(630.0 / 59.0) 3661555	(10.52 , 1.00) (0.01 , N/A , 0.0)	1310.6	N/A 0.0 0.0	18.7084 [20.0000]	93.5%			
HFPO-DA	(285.0 / 169.0) 3543071 (285.0 / 185.0) 10550482	(5.79 , 1.00) (0.00 , N/A , 0.0)	4167.2 4588.0	2.9778 108.1 107.3	9.0496 [10.0000]	90.5%			
ADONA	(377.0 / 85.0) 13247320 (377.0 / 251.0) 1214198	(6.58 , 1.14) (N/A , 0.00 , 0.0)	4299.8 1571.4	0.0917 104.0 98.2	9.8389 [9.4270]	104.4%			
9Cl-Pf3ONS	(531.0 / 351.0) 34867807 (533.0 / 353.0) 12064687	(8.71 , 1.50) (N/A , 0.01 , -0.1)	4332.0 2821.3	0.3460 99.4 104.7	8.6994 [9.3325]	93.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 18096158 (633.0 / 453.0) 6601998	(9.18 , 1.59) (N/A , 0.01 , -0.1)	4135.0 2491.7	0.3648 100.8 102.4	8.2502 [9.4321]	87.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

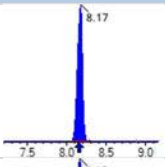
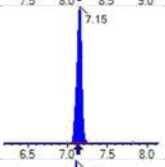
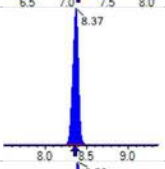
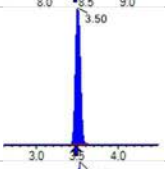
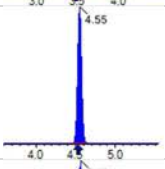
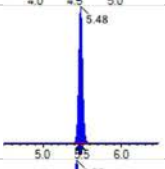
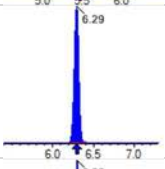
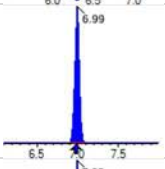
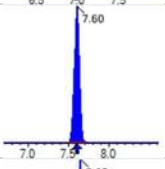
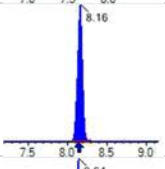
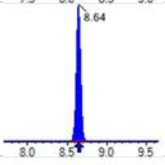
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 275510 (241.0 / 117.0) 465756	(4.06 , 0.89) (N/A , 0.01 , 0.0)	1457.2 1229.6	1.6905 107.1 103.3	20.3072 [20.0000]	101.5%			
5:3FTCA	(341.0 / 236.7) 1859884 (341.0 / 217.0) 3426694	(6.02 , 1.10) (N/A , -0.02 , -0.2)	2124.5 2356.4	1.8424 108.0 114.4	18.9559 [20.0000]	94.8%			
7:3FTCA	(441.0 / 317.0) 3641071 (441.0 / 337.0) 3247791	(7.89 , 1.44) (N/A , 0.00 , -0.1)	1124.4 1562.3	0.8920 103.7 109.7	20.0884 [20.0000]	100.4%			
PFEESA	(315.0 / 135.0) 7442584 (315.0 / 83.0) 2211935	(5.89 , 1.08) (N/A , 0.00 , -0.1)	3039.2 1918.7	0.2972 116.4 107.9	8.6351 [8.9246]	96.8%			
PFMPA	(229.0 / 85.0) 1105479	(3.90 , 0.86) (N/A , 0.01 , 0.0)	2969.3	N/A 0.0 0.0	9.2498 [10.0000]	92.5%			
PFMBA	(279.0 / 85.0) 4651363	(4.86 , 1.07) (N/A , 0.01 , 0.0)	4393.3	N/A 0.0 0.0	9.2805 [10.0000]	92.8%			
NFDHA	(295.0 / 201.0) 3784925 (295.0 / 85.0) 3904070	(5.38 , 0.98) (N/A , 0.00 , 0.0)	4828.1 3080.0	1.0315 103.0 97.6	9.5040 [10.0000]	95.0%			
13C3_PFBA_IIS	(216.0 / 172.0) 235318	(3.51 , N/A) (N/A , 0.00 , N/A)	1137.5	N/A	1.0506 [1.0000]	105.1% { 107.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 527449	(5.48 , N/A) (N/A , 0.00 , N/A)	1147.0	N/A	1.0449 [1.0000]	104.5% { 109.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 642931	(6.99 , N/A) (N/A , 0.00 , N/A)	3295.7	N/A	1.0144 [1.0000]	101.4% { 105.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 637258	(7.60 , N/A) (N/A , 0.01 , N/A)	1753.8	N/A	1.0546 [1.0000]	105.5% { 113.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

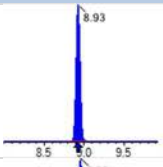
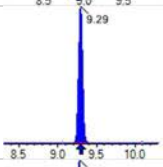
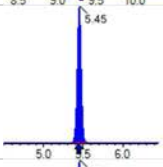
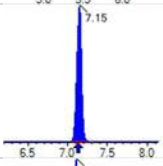
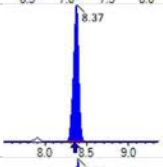
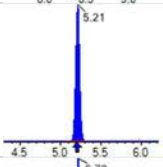
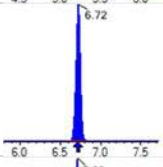
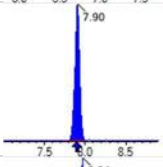
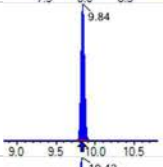
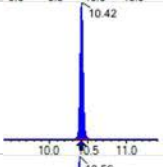
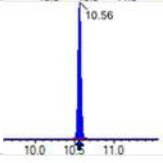
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 663878	(8.17 , N/A) (N/A , 0.02 , N/A)	1278.6	N/A	1.1473 [1.0000]	114.7% { 124.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 904577	(7.15 , N/A) (N/A , 0.01 , N/A)	1499.6	N/A	1.0563 [1.0000]	105.6% { 107.4% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1686346	(8.37 , N/A) (N/A , 0.02 , N/A)	1231.1	N/A	1.1202 [1.0000]	112.0% { 125.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2574656	(3.50 , N/A) (N/A , 0.01 , N/A)	4981.9	N/A	9.1982 [8.0000]	115.0% { 112.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2660176	(4.55 , N/A) (N/A , 0.01 , N/A)	3751.1	N/A	4.6096 [4.0000]	115.2% { 115.4% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1632280	(5.48 , N/A) (N/A , 0.00 , N/A)	2799.2	N/A	2.2593 [2.0000]	113.0% { 114.3% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1424801	(6.29 , N/A) (N/A , 0.00 , N/A)	2512.3	N/A	2.2761 [2.0000]	113.8% { 120.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1646937	(6.99 , N/A) (N/A , 0.01 , N/A)	2685.4	N/A	2.2618 [2.0000]	113.1% { 116.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 680855	(7.60 , N/A) (N/A , 0.01 , N/A)	4200.1	N/A	1.0084 [1.0000]	100.8% { 111.9% }			
13C6_PFDA_EIS	(519.0 / 474.0) 878634	(8.16 , N/A) (N/A , 0.02 , N/A)	2172.0	N/A	1.0497 [1.0000]	105.0% { 117.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 971932	(8.64 , N/A) (N/A , 0.01 , N/A)	2258.1	N/A	1.1677 [1.0000]	116.8% { 145.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

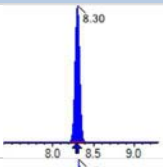
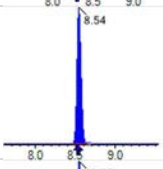
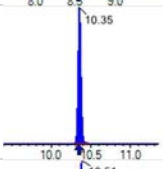
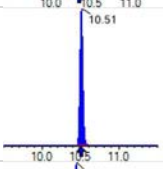
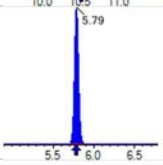
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 805973	(8.93 , N/A) (N/A , 0.01 , N/A)	4157.0	N/A	1.1290 [1.0000]	112.9% { 122.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 569967	(9.29 , N/A) (N/A , 0.01 , N/A)	897.6	N/A	0.8713 [1.0000]	87.1% { 97.3% }			
13C3_PFBS_EIS	(302.0 / 80.0) 4556259	(5.45 , N/A) (N/A , 0.00 , N/A)	2834.7	N/A	2.4066 [2.0000]	120.3% { 120.1% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2177499	(7.15 , N/A) (N/A , 0.01 , N/A)	2722.9	N/A	2.2144 [2.0000]	110.7% { 110.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 5094258	(8.37 , N/A) (N/A , 0.02 , N/A)	1454.1	N/A	2.2004 [2.0000]	110.0% { 120.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 492105	(5.21 , N/A) (N/A , 0.01 , N/A)	2065.9	N/A	4.7092 [4.0000]	117.7% { 141.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 611422	(6.72 , N/A) (N/A , 0.00 , N/A)	6627.8	N/A	5.3302 [4.0000]	133.3% { 147.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 848334	(7.90 , N/A) (N/A , 0.02 , N/A)	1307.9	N/A	5.2346 [4.0000]	130.9% { 140.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 5629813	(9.84 , N/A) (N/A , 0.01 , N/A)	3394.6	N/A	1.3100 [2.0000]	65.5% { 67.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 889918	(10.42 , N/A) (N/A , 0.00 , N/A)	2153.2	N/A	0.8789 [2.0000]	43.9% { 46.0% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 789160	(10.56 , N/A) (N/A , 0.00 , N/A)	1856.5	N/A	0.8710 [2.0000]	43.6% { 44.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (28)
Acquired: 2023/02/15 - 10:11

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	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) 1705433	(8.30 , N/A) (N/A , 0.02 , N/A)	2522.8	N/A	4.5521 [4.0000]	113.8% { 128.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1534048	(8.54 , N/A) (N/A , 0.01 , N/A)	6684.0	N/A	5.0006 [4.0000]	125.0% { 145.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3284906	(10.35 , N/A) (N/A , 0.00 , N/A)	2076.7	N/A	8.8992 [20.0000]	44.5% { 44.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 4113289	(10.51 , N/A) (N/A , 0.00 , N/A)	1694.3	N/A	8.7015 [20.0000]	43.5% { 43.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3960709	(5.79 , N/A) (N/A , 0.00 , N/A)	3693.1	N/A	9.0039 [8.0000]	112.5% { 110.4% }			

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV4	PFBA	20.0	19.3	96.7	ng/mL	+/- 30.00%
	PFPEA	10.0	9.34	93.4	ng/mL	+/- 30.00%
	PFHXA	5.00	4.71	94.2	ng/mL	+/- 30.00%
	PFHPA	5.00	4.68	93.5	ng/mL	+/- 30.00%
	PFOA	5.00	5.05	101	ng/mL	+/- 30.00%
	PFNA	5.00	4.94	98.8	ng/mL	+/- 30.00%
	PFDA	5.00	5.38	108	ng/mL	+/- 30.00%
	PFUnA	5.00	4.59	91.9	ng/mL	+/- 30.00%
	PFDOA	5.00	4.29	85.8	ng/mL	+/- 30.00%
	PFTRDA	5.00	4.47	89.3	ng/mL	+/- 30.00%
	PFTEDA	5.00	4.79	95.8	ng/mL	+/- 30.00%
	PFBS	4.42	4.18	94.7	ng/mL	+/- 30.00%
	PFPES	4.70	4.69	99.9	ng/mL	+/- 30.00%
	PFHXS	4.58	4.40	96.2	ng/mL	+/- 30.00%
	PFHPS	4.78	4.85	101	ng/mL	+/- 30.00%
	PFOS	4.65	4.36	93.9	ng/mL	+/- 30.00%
	PFNS	4.80	4.71	98.1	ng/mL	+/- 30.00%
	PFDS	4.82	4.91	102	ng/mL	+/- 30.00%
	PFDOS	4.85	5.05	104	ng/mL	+/- 30.00%
	4:2FTS	18.8	16.5	87.8	ng/mL	+/- 30.00%
	6:2FTS	19.0	17.3	91.3	ng/mL	+/- 30.00%
	8:2FTS	19.2	18.2	94.6	ng/mL	+/- 30.00%
	PFOSA	5.00	4.98	99.5	ng/mL	+/- 30.00%
	NMeFOSA	20.0	19.8	98.8	ng/mL	+/- 30.00%
	NEtFOSA	20.0	20.7	104	ng/mL	+/- 30.00%
	NMeFOSAA	5.00	4.65	93.0	ng/mL	+/- 30.00%
	NEtFOSAA	5.00	4.31	86.3	ng/mL	+/- 30.00%
	NMeFOSE	20.0	18.1	90.4	ng/mL	+/- 30.00%
	NEtFOSE	20.0	19.7	98.6	ng/mL	+/- 30.00%
	HFPO-DA	10.0	8.39	83.9	ng/mL	+/- 30.00%

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 1633

Laboratory:	APPL, LLC	Work Order:	23B0091
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Instrument ID:	Saphira	Calibration:	2307007
Standard ID:	23B0084	Sequence:	SC00636

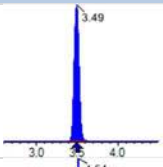
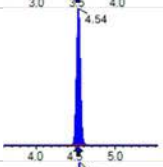
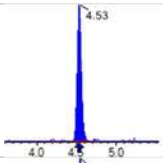
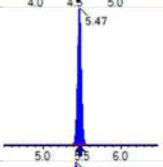
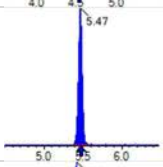
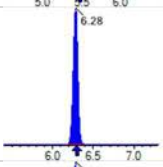
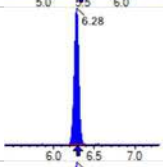
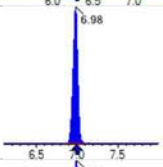
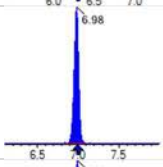
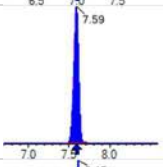
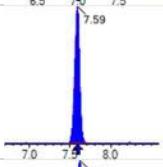
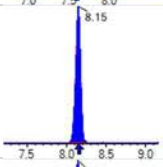
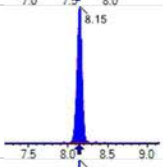
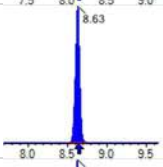
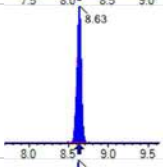
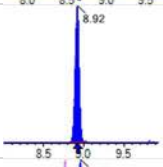
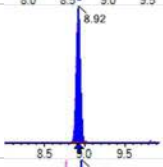
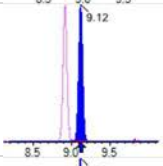
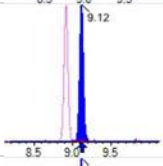
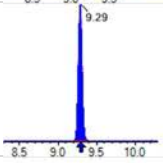
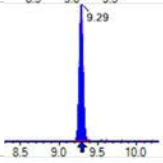
Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SC00636-CCV4	ADONA	9.45	8.85	93.6	ng/mL	+/- 30.00%
	PFEESA	8.90	8.86	99.6	ng/mL	+/- 30.00%
	PFMPA	10.0	9.13	91.3	ng/mL	+/- 30.00%
	PFMBA	10.0	9.10	91.0	ng/mL	+/- 30.00%
	NFDHA	10.0	9.61	96.1	ng/mL	+/- 30.00%
	9CL-PF3ONS	9.35	7.60	81.3	ng/mL	+/- 30.00%
	11CL-PF3OUDS	9.45	8.53	90.3	ng/mL	+/- 30.00%
	3:3FTCA	20.0	19.7	98.6	ng/mL	+/- 30.00%
	5:3FTCA	20.0	18.3	91.3	ng/mL	+/- 30.00%
	7:3FTCA	20.0	18.5	92.6	ng/mL	+/- 30.00%

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

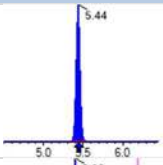
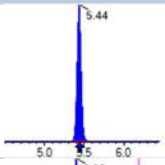
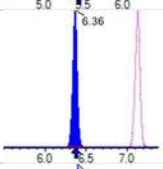
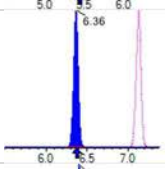
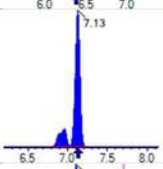
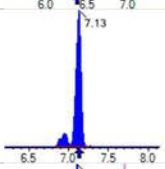
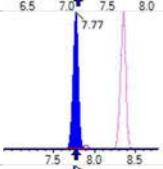
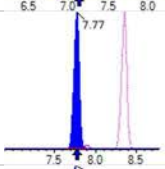
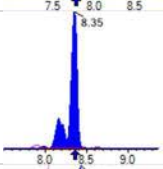
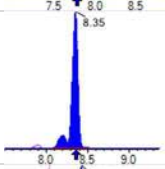
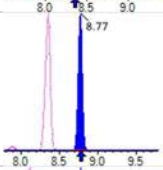
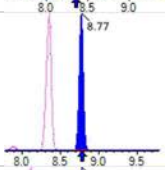
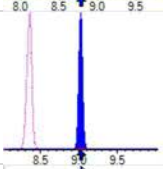
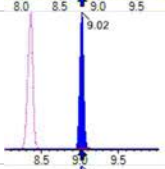
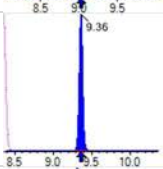
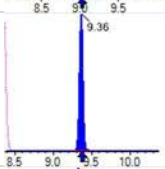
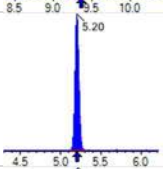
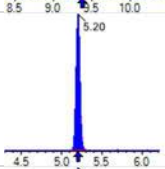
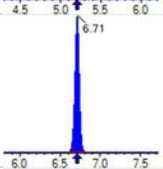
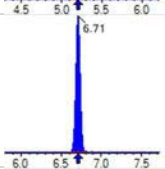
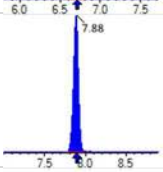
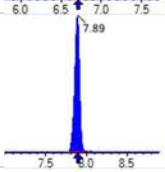
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 5208514	(3.49 , 1.00) (0.00 , N/A , 0.0)	199.9	N/A 0.0 0.0	19.3379 [20.0000]	96.7%			
PFPeA	(263.0 / 219.0) 5214775 (263.0 / 69.0) 62072	(4.54 , 1.00) (0.00 , N/A , 0.2)	7126.3 480.6	0.0119 111.2 108.0	9.3375 [10.0000]	93.4%			
PFHxA	(313.0 / 269.0) 3246380 (313.0 / 119.0) 302957	(5.47 , 1.00) (0.00 , N/A , 0.1)	7318.4 538137.9	0.0933 93.7 98.1	4.7076 [5.0000]	94.2%			
PFHpA	(363.0 / 319.0) 2607370 (363.0 / 169.0) 827512	(6.28 , 1.00) (0.00 , N/A , 0.0)	14769.4 39080.5	0.3174 99.0 99.3	4.6774 [5.0000]	93.5%			
PFOA	(413.0 / 369.0) 3486331 (413.0 / 169.0) 1129429	(6.98 , 1.00) (0.00 , N/A , 0.0)	36079.6 23411.8	0.3240 96.8 89.7	5.0494 [5.0000]	101.0%			
PFNA	(463.0 / 419.0) 3098893 (463.0 / 169.0) 686559	(7.59 , 1.00) (0.01 , N/A , 0.0)	12438.7 2433.6	0.2215 99.0 100.2	4.9389 [5.0000]	98.8%			
PFDA	(513.0 / 469.0) 3589477 (513.0 / 169.0) 419013	(8.15 , 1.00) (0.00 , N/A , 0.0)	1867.3 805.7	0.1167 96.0 107.6	5.3763 [5.0000]	107.5%			
PFUnA	(563.0 / 519.0) 3098400 (563.0 / 169.0) 392269	(8.63 , 1.00) (0.00 , N/A , -0.2)	2057.4 3539.2	0.1266 120.8 108.3	4.5940 [5.0000]	91.9%			
PFDoA	(613.0 / 569.0) 2670839 (613.0 / 169.0) 472563	(8.92 , 1.00) (0.00 , N/A , -0.1)	2902.0 2179.6	0.1769 108.2 105.4	4.2878 [5.0000]	85.8%			
PFTrDA	(663.0 / 619.0) 2518158 (663.0 / 169.0) 623139	(9.12 , 1.02) (N/A , 0.00 , 0.1)	1940.2 1565.0	0.2475 103.5 91.9	4.4651 [5.0000]	89.3%			
PFTeDA	(713.0 / 669.0) 2564062 (713.0 / 169.0) 556382	(9.29 , 1.00) (0.00 , N/A , 0.0)	2415.7 1070.3	0.2170 105.0 105.0	4.7913 [5.0000]	95.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

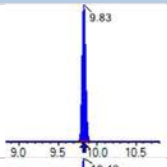
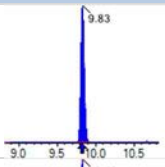
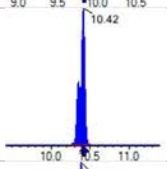
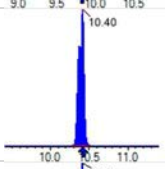
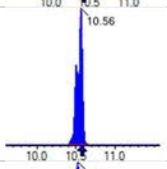
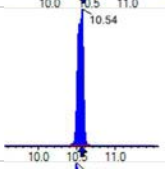
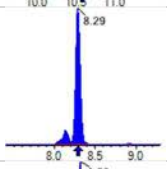
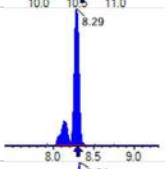
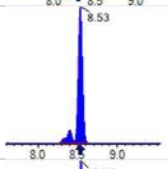
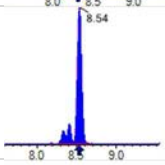
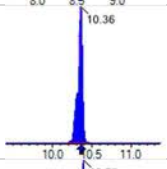
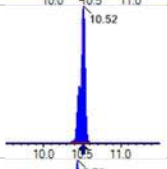
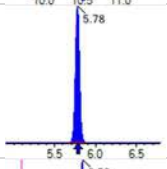
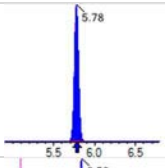
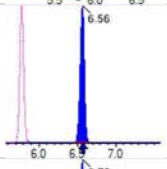
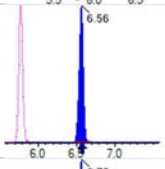
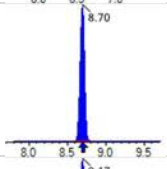
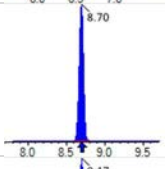
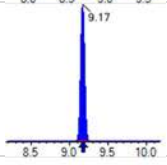
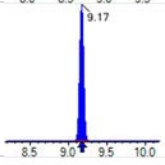
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 5741144 (299.0 / 99.0) 3586677	(5.44 , 1.00) (0.00 , N/A , 0.0)	2974.5 3992.4	0.6247 96.6 101.0	4.1845 [4.4237]	94.6%			
PFPeS	(349.0 / 80.0) 10027313 (349.0 / 99.0) 3304216	(6.36 , 0.89) (N/A , -0.01 , 0.0)	24915.1 29207271.2	0.3295 92.3 95.7	4.6930 [4.6919]	100.0%			
PFHxS	(399.0 / 80.0) 7504463 (399.0 / 99.0) 2473609	(7.13 , 1.00) (0.00 , N/A , 0.0)	19406.2 1680.2	0.3296 101.5 101.2	4.4050 [4.5549]	96.7%			
PFHpS	(449.0 / 80.0) 8871524 (449.0 / 99.0) 2421268	(7.77 , 0.93) (N/A , 0.00 , 0.0)	54846.5 1229505.8	0.2729 100.3 98.1	4.8498 [4.7570]	101.9%			
PFOS	(499.0 / 80.0) 11050055 (499.0 / 99.0) 2469094	(8.35 , 1.00) (0.00 , N/A , 0.1)	1327.2 2936.2	0.2234 101.0 105.4	4.3649 [4.6375]	94.1%			
PFNS	(549.0 / 80.0) 13397659 (549.0 / 99.0) 2958489	(8.77 , 1.05) (N/A , 0.00 , 0.0)	14713.0 2015670.7	0.2208 100.7 96.0	4.7090 [4.7994]	98.1%			
PFDS	(599.0 / 80.0) 15199925 (599.0 / 99.0) 3168202	(9.02 , 1.08) (N/A , 0.00 , -0.1)	4164.2 2666.0	0.2084 95.6 97.1	4.9113 [4.8155]	102.0%			
PFDoS	(699.0 / 80.0) 9958501 (699.0 / 99.0) 2093196	(9.36 , 1.12) (N/A , 0.00 , 0.0)	3252.9 2373.8	0.2102 101.0 98.0	5.0451 [4.8478]	104.1%			
4:2FTS	(327.0 / 307.0) 5420520 (327.0 / 81.0) 3590150	(5.20 , 1.00) (0.00 , N/A , -0.1)	3496.1 2941.3	0.6623 98.2 96.6	16.5026 [18.6906]	88.3%			
6:2FTS	(427.0 / 407.0) 3272243 (427.0 / 81.0) 2584014	(6.71 , 1.00) (0.00 , N/A , 0.1)	2447.0 2665.9	0.7897 95.4 102.2	17.3483 [18.9808]	91.4%			
8:2FTS	(527.0 / 507.0) 3447074 (527.0 / 81.0) 2906887	(7.88 , 1.00) (0.00 , N/A , -0.2)	2152.6 3163.4	0.8433 101.5 109.0	18.1687 [19.1658]	94.8%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

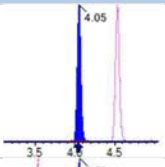
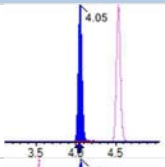
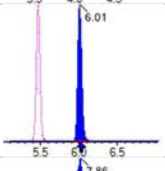
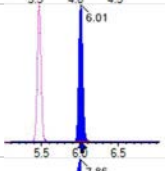
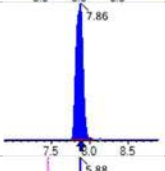
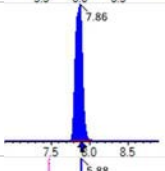
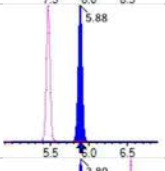
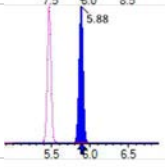
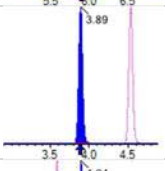
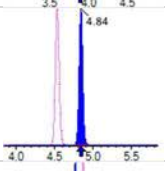
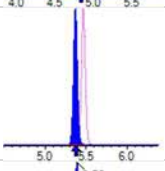
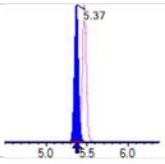
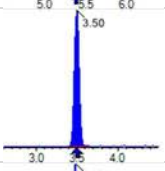
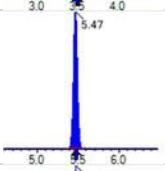
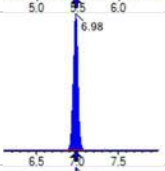
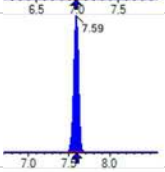
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 17126512 (498.0 / 478.0) 337736	(9.83 , 1.00) (0.00 , N/A , 0.0)	3408.9 1887.1	0.0197 96.0 93.3	4.9761 [5.0000]	99.5%			
NMeFOSA	(512.0 / 219.0) 14250142 (512.0 / 169.0) 11106428	(10.42 , 1.00) (0.00 , N/A , 0.9)	3981.1 2964.4	0.7794 95.1 95.2	19.7563 [20.0000]	98.8%			
NEtFOSA	(526.0 / 219.0) 15126651 (526.0 / 169.0) 19297226	(10.56 , 1.00) (0.00 , N/A , 0.9)	15985.8 9835.3	1.2757 100.5 102.8	20.7487 [20.0000]	103.7%			
NMeFOSAA	(570.0 / 419.0) 1249319 (570.0 / 483.0) 584209	(8.29 , 1.00) (0.00 , N/A , 0.0)	4153.7 48384.2	0.4676 98.5 100.9	4.6485 [5.0000]	93.0%			
NEtFOSAA	(584.0 / 419.0) 1044838 (584.0 / 526.0) 630175	(8.53 , 1.00) (0.01 , N/A , -0.1)	2395.8 1607.2	0.6031 118.2 102.9	4.3149 [5.0000]	86.3%			
NMeFOSE	(616.0 / 59.0) 5758078	(10.36 , 1.00) (0.01 , N/A , 0.0)	2589.9	N/A 0.0 0.0	18.0739 [20.0000]	90.4%			
NEtFOSE	(630.0 / 59.0) 7789697	(10.52 , 1.00) (0.01 , N/A , 0.0)	1856.9	N/A 0.0 0.0	19.7106 [20.0000]	98.6%			
HFPO-DA	(285.0 / 169.0) 3519335 (285.0 / 185.0) 10525891	(5.78 , 1.00) (0.00 , N/A , 0.1)	2190.3 3783.4	2.9909 108.6 107.8	8.3873 [10.0000]	83.9%			
ADONA	(377.0 / 85.0) 12764659 (377.0 / 251.0) 1177712	(6.56 , 1.14) (N/A , -0.01 , 0.0)	4167.5 2004.0	0.0923 104.6 98.8	8.8458 [9.4270]	93.8%			
9Cl-Pf3ONS	(531.0 / 351.0) 33090876 (533.0 / 353.0) 11565356	(8.70 , 1.51) (N/A , 0.00 , 0.0)	4114.6 3843.4	0.3495 100.4 105.8	7.6050 [9.3325]	81.5%			
11Cl-PF3OUDS	(631.0 / 451.0) 20060490 (633.0 / 453.0) 7241534	(9.17 , 1.59) (N/A , 0.00 , 0.0)	2368.5 1951.0	0.3610 99.8 101.3	8.5335 [9.4321]	90.5%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

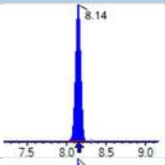
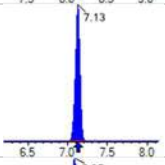
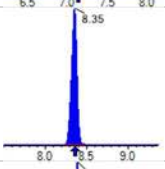
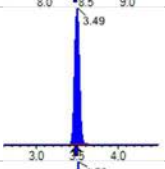
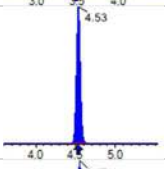
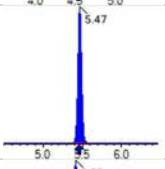
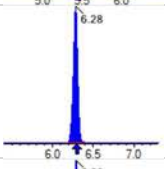
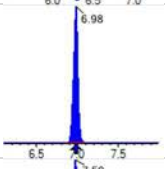
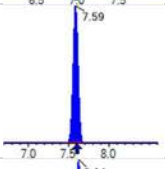
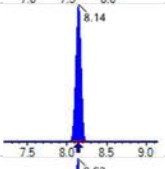
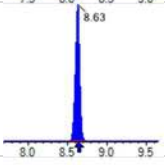
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 272637 (241.0 / 117.0) 430955	(4.05 , 0.89) (N/A , 0.00 , 0.0)	1245.4 1478.6	1.5807 100.2 96.6	19.7151 [20.0000]	98.6%			
5:3FTCA	(341.0 / 236.7) 1722476 (341.0 / 217.0) 3232101	(6.01 , 1.10) (N/A , -0.03 , 0.0)	2173.8 2527.8	1.8764 110.0 116.6	18.2657 [20.0000]	91.3%			
7:3FTCA	(441.0 / 317.0) 3227402 (441.0 / 337.0) 2821278	(7.86 , 1.44) (N/A , -0.02 , 0.0)	1190.5 1677.8	0.8742 101.6 107.5	18.5265 [20.0000]	92.6%			
PFEESA	(315.0 / 135.0) 7342675 (315.0 / 83.0) 2140583	(5.88 , 1.08) (N/A , -0.01 , 0.1)	4188.6 2908.1	0.2915 114.1 105.8	8.8638 [8.9246]	99.3%			
PFMPA	(229.0 / 85.0) 1113374	(3.89 , 0.86) (N/A , 0.00 , 0.0)	4889.6	N/A 0.0 0.0	9.1271 [10.0000]	91.3%			
PFMBA	(279.0 / 85.0) 4655793	(4.84 , 1.07) (N/A , -0.01 , 0.0)	5744.0	N/A 0.0 0.0	9.1011 [10.0000]	91.0%			
NFDHA	(295.0 / 201.0) 3679232 (295.0 / 85.0) 3890217	(5.37 , 0.98) (N/A , -0.01 , 0.0)	4318.8 3377.1	1.0573 105.6 100.0	9.6124 [10.0000]	96.1%			
13C3_PFBA_IIS	(216.0 / 172.0) 236097	(3.50 , N/A) (N/A , 0.00 , N/A)	993.1	N/A	1.0540 [1.0000]	105.4% { 107.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 499353	(5.47 , N/A) (N/A , -0.01 , N/A)	3097.2	N/A	0.9892 [1.0000]	98.9% { 103.9% }			
13C4_PFOA_IIS	(417.0 / 372.0) 648063	(6.98 , N/A) (N/A , -0.01 , N/A)	2626.6	N/A	1.0225 [1.0000]	102.3% { 106.2% }			
13C5_PFNA_IIS	(468.0 / 423.0) 589008	(7.59 , N/A) (N/A , 0.00 , N/A)	1191.8	N/A	0.9747 [1.0000]	97.5% { 104.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

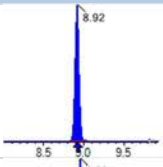
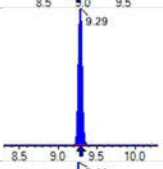
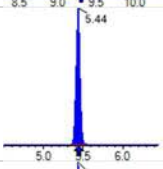
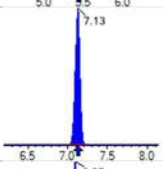
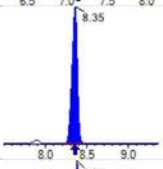
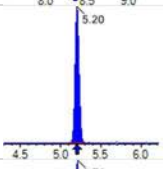
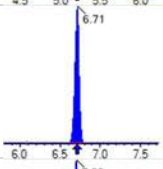
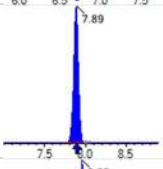
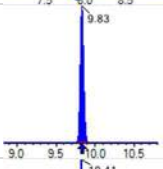
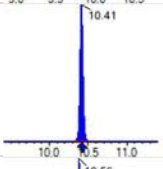
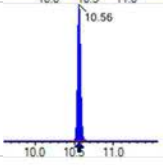
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 614149	(8.14 , N/A) (N/A , 0.00 , N/A)	2826.3	N/A	1.0614 [1.0000]	106.1% { 114.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1001645	(7.13 , N/A) (N/A , -0.01 , N/A)	2308.5	N/A	1.1696 [1.0000]	117.0% { 119.0% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1580181	(8.35 , N/A) (N/A , 0.00 , N/A)	1107.0	N/A	1.0497 [1.0000]	105.0% { 117.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2601244	(3.49 , N/A) (N/A , 0.00 , N/A)	5650.4	N/A	9.2625 [8.0000]	115.8% { 113.2% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2715203	(4.53 , N/A) (N/A , -0.01 , N/A)	4745.1	N/A	4.9696 [4.0000]	124.2% { 117.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1568808	(5.47 , N/A) (N/A , -0.01 , N/A)	3567.3	N/A	2.2936 [2.0000]	114.7% { 109.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1320288	(6.28 , N/A) (N/A , -0.01 , N/A)	3350.6	N/A	2.2278 [2.0000]	111.4% { 112.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1550892	(6.98 , N/A) (N/A , 0.00 , N/A)	2590.7	N/A	2.1131 [2.0000]	105.7% { 109.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 709160	(7.59 , N/A) (N/A , -0.01 , N/A)	8807329.6	N/A	1.1363 [1.0000]	113.6% { 116.5% }			
13C6_PFDA_EIS	(519.0 / 474.0) 759008	(8.14 , N/A) (N/A , 0.00 , N/A)	1538.7	N/A	0.9802 [1.0000]	98.0% { 101.8% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 811762	(8.63 , N/A) (N/A , 0.00 , N/A)	3387.1	N/A	1.0542 [1.0000]	105.4% { 121.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

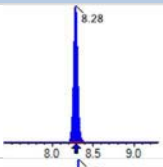
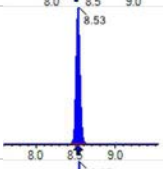
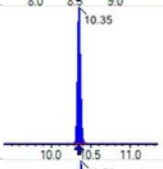
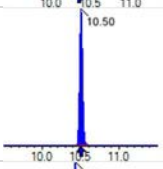
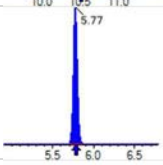
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 708335	(8.92 , N/A) (N/A , 0.00 , N/A)	1277.8	N/A	1.0726 [1.0000]	107.3% { 107.6% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 618422	(9.29 , N/A) (N/A , 0.00 , N/A)	1364.5	N/A	1.0219 [1.0000]	102.2% { 105.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 4415445	(5.44 , N/A) (N/A , -0.01 , N/A)	3168.8	N/A	2.1062 [2.0000]	105.3% { 116.4% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2215814	(7.13 , N/A) (N/A , -0.01 , N/A)	1419.8	N/A	2.0350 [2.0000]	101.7% { 112.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4801577	(8.35 , N/A) (N/A , 0.00 , N/A)	1635.3	N/A	2.2134 [2.0000]	110.7% { 113.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 481058	(5.20 , N/A) (N/A , -0.01 , N/A)	967.3	N/A	4.1573 [4.0000]	103.9% { 138.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 531735	(6.71 , N/A) (N/A , -0.01 , N/A)	2590.3	N/A	4.1863 [4.0000]	104.7% { 127.8% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 696719	(7.89 , N/A) (N/A , 0.00 , N/A)	1552.8	N/A	3.8825 [4.0000]	97.1% { 115.5% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8606416	(9.83 , N/A) (N/A , 0.00 , N/A)	2851.3	N/A	2.1372 [2.0000]	106.9% { 103.6% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1737678	(10.41 , N/A) (N/A , 0.00 , N/A)	2341.7	N/A	1.8316 [2.0000]	91.6% { 89.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1560727	(10.56 , N/A) (N/A , 0.00 , N/A)	3624.2	N/A	1.8384 [2.0000]	91.9% { 87.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCV4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (35)
Acquired: 2023/02/15 - 11:41

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1369876	(8.28 , N/A) (N/A , 0.00 , N/A)	2007.2	N/A	3.9021 [4.0000]	97.6% { 103.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1153212	(8.53 , N/A) (N/A , 0.00 , N/A)	4714.1	N/A	4.0118 [4.0000]	100.3% { 109.3% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6373376	(10.35 , N/A) (N/A , 0.00 , N/A)	2432.2	N/A	18.4264 [20.0000]	92.1% { 85.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8305805	(10.50 , N/A) (N/A , 0.00 , N/A)	2243.7	N/A	18.7512 [20.0000]	93.8% { 88.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 4244837	(5.77 , N/A) (N/A , -0.01 , N/A)	4379.3	N/A	10.1928 [8.0000]	127.4% { 118.4% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00636
Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-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	0.0748	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: SC00636
Calibration: 2307007

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

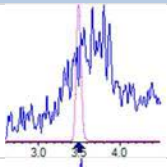
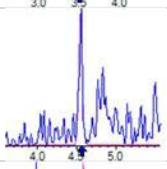
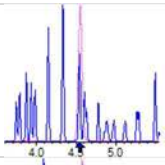
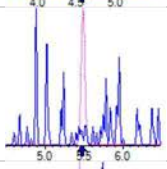
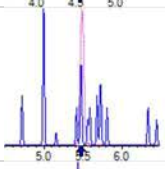
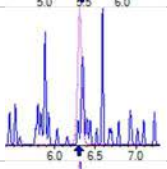
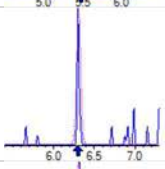
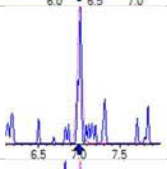
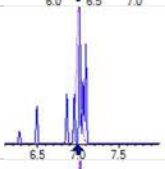
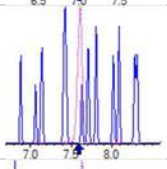
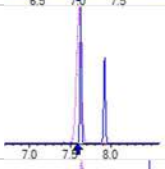
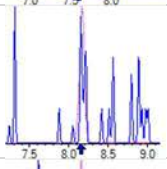
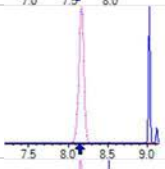
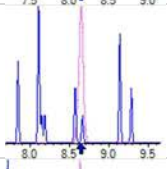
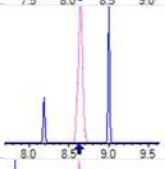
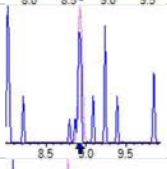
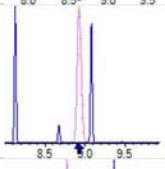
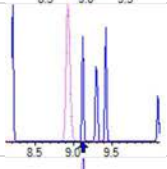
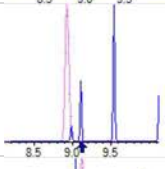
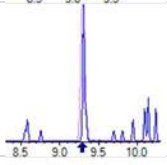
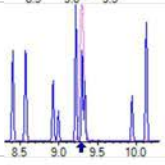
Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-CCB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.0520	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.17	ng/mL		
	13C5-PFPEA	3.89	ng/mL		
	13C5-PFHXA	1.76	ng/mL		
	13C4-PFHPA	1.93	ng/mL		
	13C8-PFOA	1.65	ng/mL		
	13C9-PFNA	0.789	ng/mL		
	13C6-PFDA	0.846	ng/mL		
	13C7-PFUnA	0.797	ng/mL		
	13C2-PFDOA	0.905	ng/mL		
	13C2-PFTEDA	0.835	ng/mL		
	13C3-PFBS	1.75	ng/mL		
	13C3-PFHXS	1.66	ng/mL		
	13C8-PFOS	1.76	ng/mL		
	13C2-4:2FTS	3.02	ng/mL		
	13C2-6:2FTS	3.07	ng/mL		
	13C2-8:2FTS	3.22	ng/mL		
	13C8-PFOSA	1.88	ng/mL		
	D3-NMEFOSA	1.84	ng/mL		
	D5-NETFOSA	2.07	ng/mL		
	D3-NMEFOSAA	3.35	ng/mL		
	D5-NETFOSAA	3.18	ng/mL		
	D7-NMEFOSE	19.5	ng/mL		
	D9-NETFOSE	20.4	ng/mL		
	13C3-HFPO-DA	7.15	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

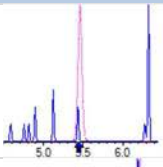
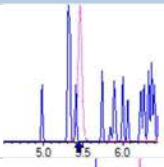
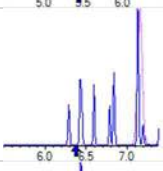
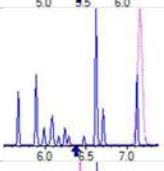
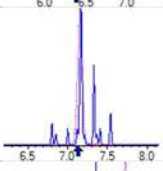
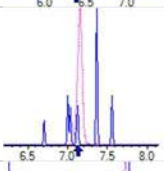
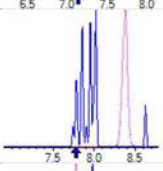
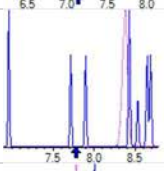
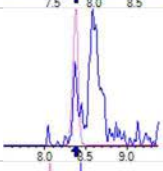
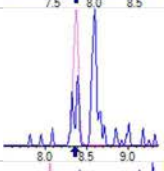
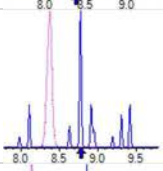
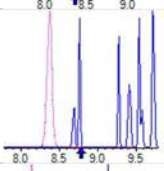
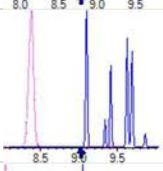
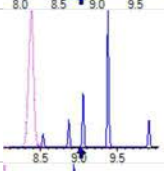
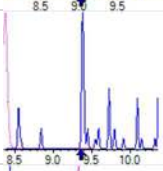
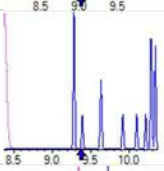
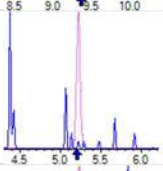
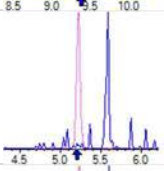
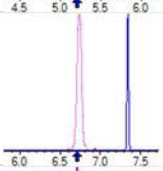
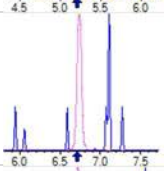
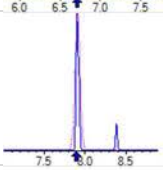
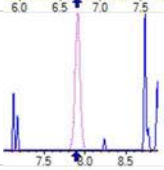
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

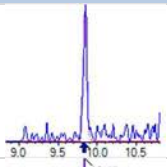
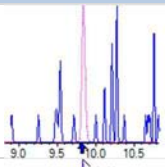
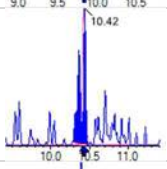
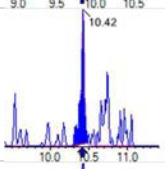
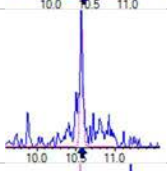
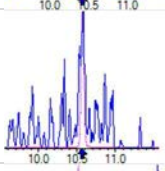
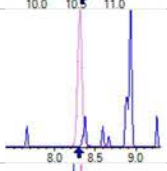
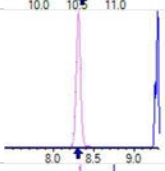
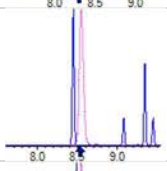
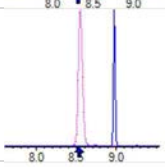
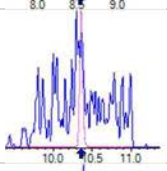
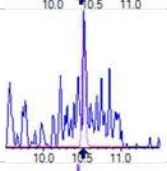
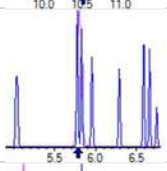
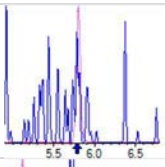
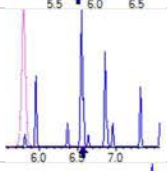
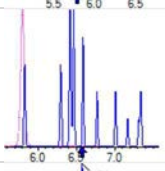
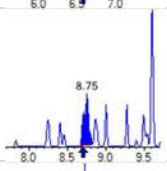
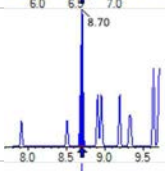
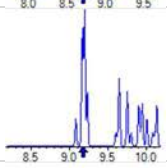
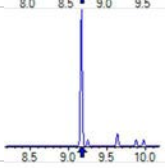
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

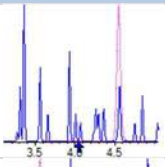
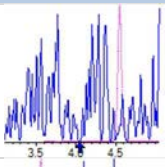
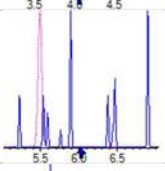
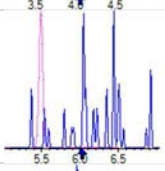
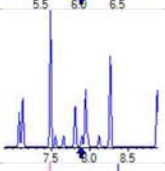
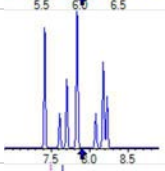
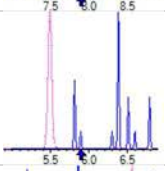
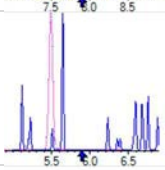
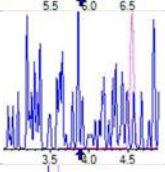
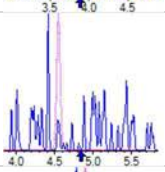
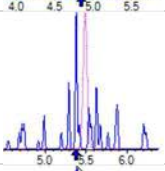
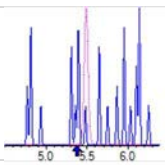
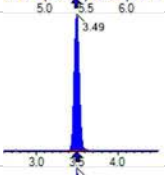
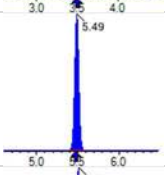
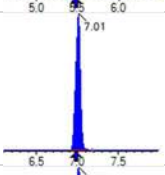
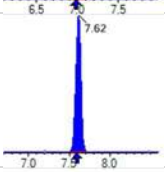
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
NMeFOSA	(512.0 / 219.0) 5765 (512.0 / 169.0) 3650	(10.42 , 1.00) (0.00 , N/A , -0.1)	46.2 44.2	0.6331 77.3 77.3	0.0748	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) 4747 (533.0 / 353.0) 1424	(8.75 , 1.51) (N/A , 0.05 , 2.7)	12.8 38.3	0.2999 86.1 90.8	0.0520	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.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

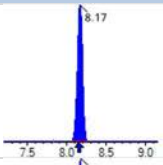
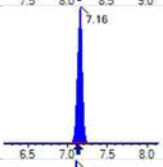
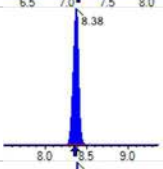
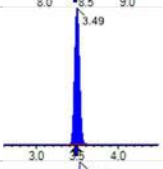
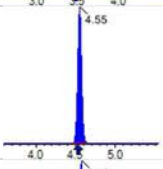
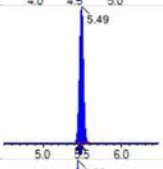
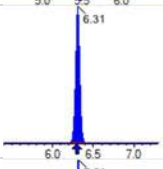
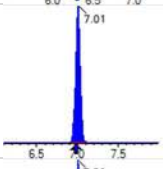
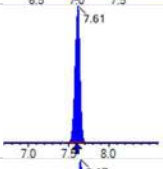
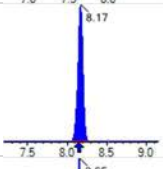
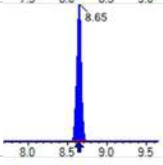
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 271279	(3.49 , N/A) (N/A , -0.01 , N/A)	1279.6	N/A	1.2111 [1.0000]	121.1% { 123.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 539694	(5.49 , N/A) (N/A , 0.01 , N/A)	1915.4	N/A	1.0691 [1.0000]	106.9% { 112.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 730884	(7.01 , N/A) (N/A , 0.02 , N/A)	4731.3	N/A	1.1532 [1.0000]	115.3% { 119.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 699898	(7.62 , N/A) (N/A , 0.02 , N/A)	5068.9	N/A	1.1583 [1.0000]	115.8% { 124.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

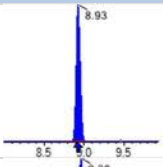
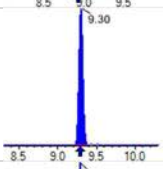
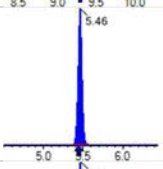
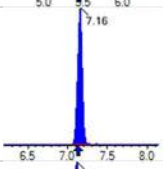
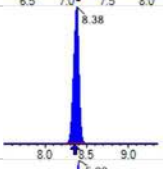
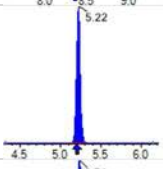
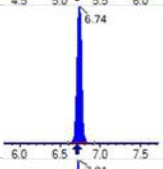
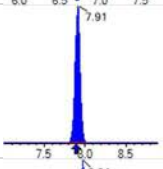
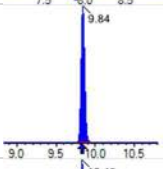
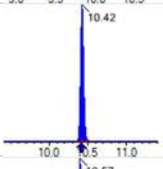
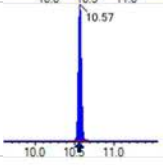
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 645021	(8.17 , N/A) (N/A , 0.02 , N/A)	3390.1	N/A	1.1147 [1.0000]	111.5% { 120.5% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 973180	(7.16 , N/A) (N/A , 0.02 , N/A)	1729.1	N/A	1.1364 [1.0000]	113.6% { 115.6% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1632075	(8.38 , N/A) (N/A , 0.02 , N/A)	1195.5	N/A	1.0842 [1.0000]	108.4% { 121.7% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2313280	(3.49 , N/A) (N/A , 0.00 , N/A)	6639.6	N/A	7.1689 [8.0000]	89.6% { 100.7% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2297283	(4.55 , N/A) (N/A , 0.01 , N/A)	3952.5	N/A	3.8904 [4.0000]	97.3% { 99.7% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1301666	(5.49 , N/A) (N/A , 0.01 , N/A)	2869.9	N/A	1.7608 [2.0000]	88.0% { 91.2% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1238305	(6.31 , N/A) (N/A , 0.02 , N/A)	2587.3	N/A	1.9333 [2.0000]	96.7% { 105.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1367134	(7.01 , N/A) (N/A , 0.02 , N/A)	3407.5	N/A	1.6516 [2.0000]	82.6% { 96.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 585422	(7.61 , N/A) (N/A , 0.02 , N/A)	18410.6	N/A	0.7894 [1.0000]	78.9% { 96.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 688105	(8.17 , N/A) (N/A , 0.02 , N/A)	2098.6	N/A	0.8461 [1.0000]	84.6% { 92.3% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 644329	(8.65 , N/A) (N/A , 0.02 , N/A)	2192.4	N/A	0.7967 [1.0000]	79.7% { 96.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

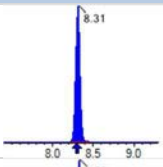
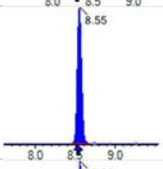
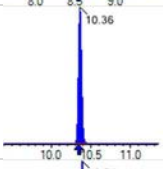
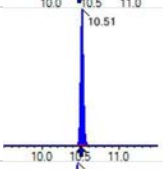
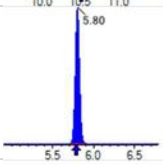
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-Imin, ΔRT-CVmin, ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration True ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 627822	(8.93 , N/A) (N/A , 0.01 , N/A)	1802.7	N/A	0.9051 [1.0000]	90.5% { 95.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 530488	(9.30 , N/A) (N/A , 0.01 , N/A)	1194.5	N/A	0.8347 [1.0000]	83.5% { 90.6% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3555448	(5.46 , N/A) (N/A , 0.01 , N/A)	3107.4	N/A	1.7456 [2.0000]	87.3% { 93.8% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1756343	(7.16 , N/A) (N/A , 0.02 , N/A)	1639.4	N/A	1.6602 [2.0000]	83.0% { 89.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3954484	(8.38 , N/A) (N/A , 0.02 , N/A)	1417.5	N/A	1.7649 [2.0000]	88.2% { 93.3% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 339224	(5.22 , N/A) (N/A , 0.01 , N/A)	1013.7	N/A	3.0173 [4.0000]	75.4% { 97.7% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 378890	(6.74 , N/A) (N/A , 0.02 , N/A)	1259.7	N/A	3.0702 [4.0000]	76.8% { 91.1% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 560745	(7.91 , N/A) (N/A , 0.02 , N/A)	2619.9	N/A	3.2162 [4.0000]	80.4% { 93.0% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7831527	(9.84 , N/A) (N/A , 0.01 , N/A)	4111.9	N/A	1.8830 [2.0000]	94.1% { 94.3% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1802752	(10.42 , N/A) (N/A , 0.01 , N/A)	2246.9	N/A	1.8397 [2.0000]	92.0% { 93.1% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1811996	(10.57 , N/A) (N/A , 0.01 , N/A)	3465.9	N/A	2.0665 [2.0000]	103.3% { 101.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (1)
Acquired: 2023/02/14 - 19:41

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) 1215081	(8.31 , N/A) (N/A , 0.02 , N/A)	1423.5	N/A	3.3511 [4.0000]	83.8% { 91.8% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 944941	(8.55 , N/A) (N/A , 0.02 , N/A)	12589.6	N/A	3.1827 [4.0000]	79.6% { 89.6% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6950962	(10.36 , N/A) (N/A , 0.01 , N/A)	2404.1	N/A	19.4573 [20.0000]	97.3% { 93.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9314191	(10.51 , N/A) (N/A , 0.01 , N/A)	1779.3	N/A	20.3591 [20.0000]	101.8% { 98.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3217560	(5.80 , N/A) (N/A , 0.01 , N/A)	3609.3	N/A	7.1486 [8.0000]	89.4% { 89.7% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00636
Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-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	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00636	Instrument:	Saphira
Calibration:	2307007		

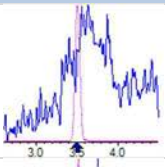
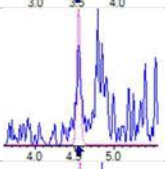
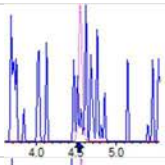
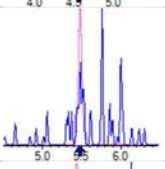
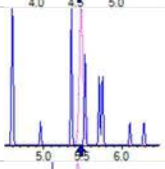
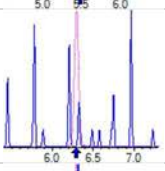
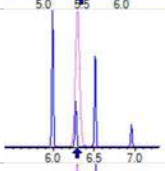
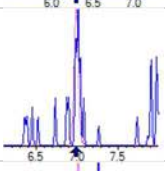
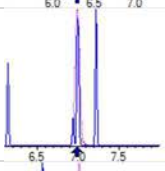
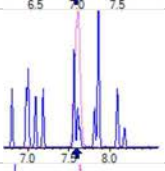
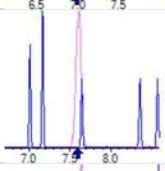
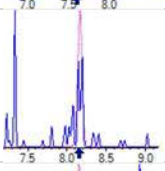
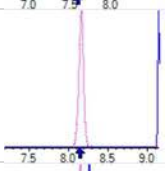
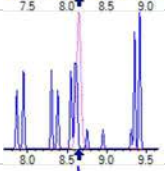
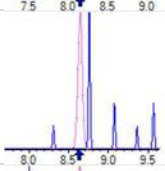
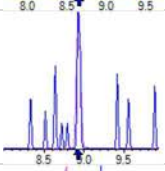
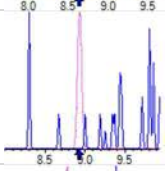
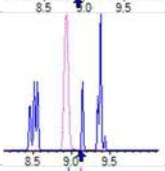
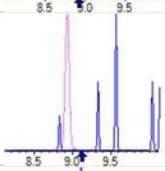
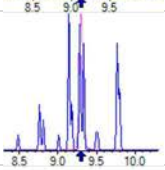
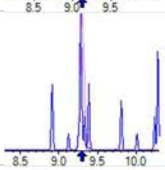
Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-CCB3	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.10	ng/mL		
	13C5-PFPEA	3.93	ng/mL		
	13C5-PFHXA	1.91	ng/mL		
	13C4-PFHPA	1.89	ng/mL		
	13C8-PFOA	1.68	ng/mL		
	13C9-PFNA	0.787	ng/mL		
	13C6-PFDA	0.833	ng/mL		
	13C7-PFUnA	0.890	ng/mL		
	13C2-PFDOA	0.904	ng/mL		
	13C2-PFTEDA	0.870	ng/mL		
	13C3-PFBS	1.77	ng/mL		
	13C3-PFHXS	1.71	ng/mL		
	13C8-PFOS	1.82	ng/mL		
	13C2-4:2FTS	3.51	ng/mL		
	13C2-6:2FTS	3.51	ng/mL		
	13C2-8:2FTS	3.13	ng/mL		
	13C8-PFOSA	1.30	ng/mL		
	D3-NMEFOSA	0.961	ng/mL		
	D5-NETFOSA	0.985	ng/mL		
	D3-NMEFOSAA	3.24	ng/mL		
	D5-NETFOSAA	3.63	ng/mL		
	D7-NMEFOSE	9.86	ng/mL		
	D9-NETFOSE	9.66	ng/mL		
	13C3-HFPO-DA	7.67	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

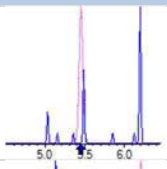
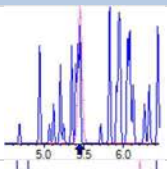
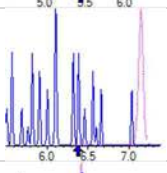
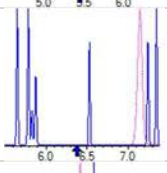
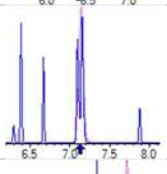
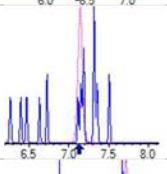
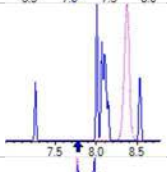
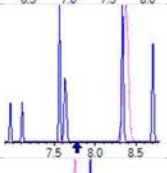
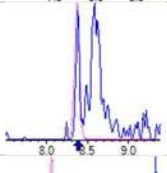
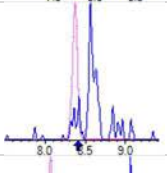
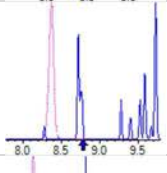
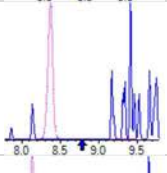
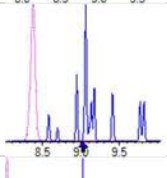
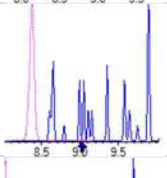
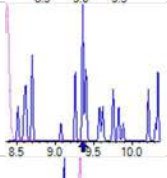
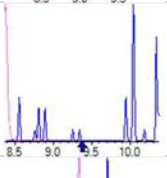
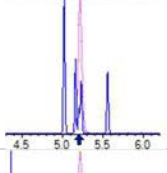
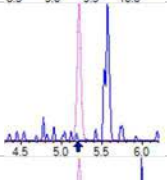
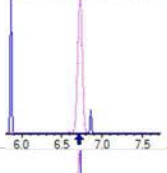
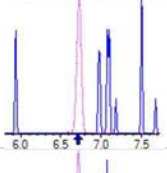
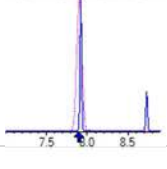
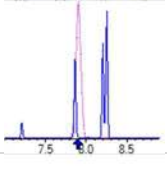
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

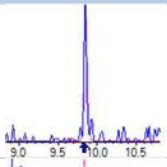
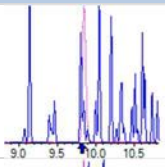
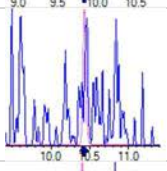
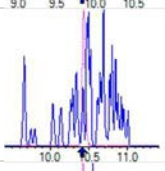
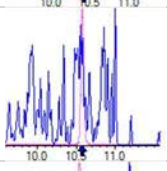
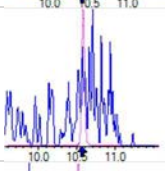
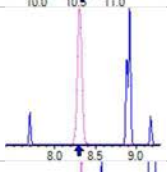
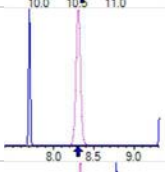
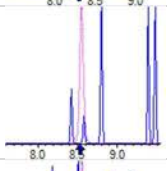
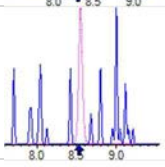
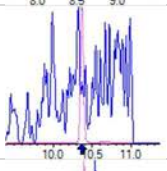
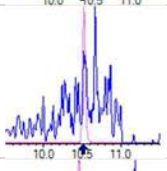
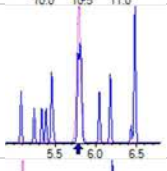
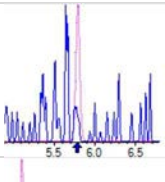
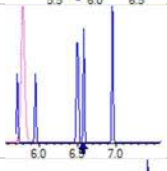
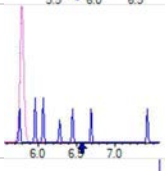
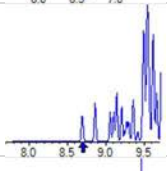
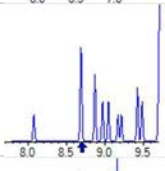
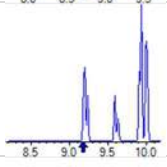
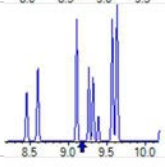
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

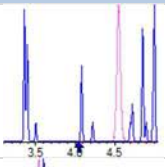
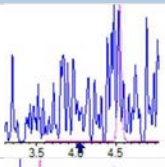
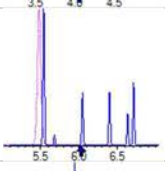
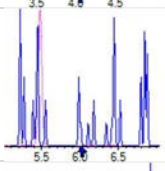
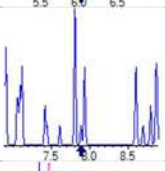
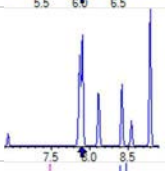
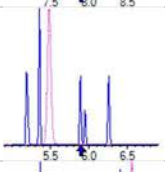
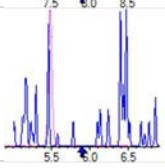
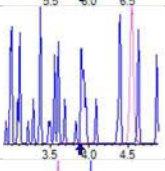
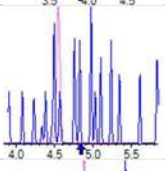
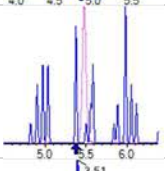
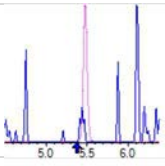
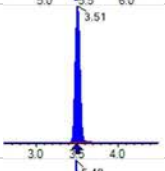
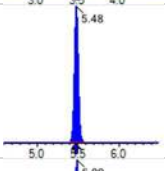
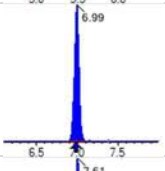
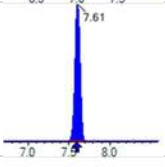
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

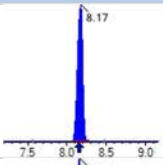
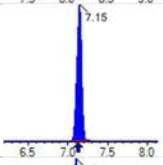
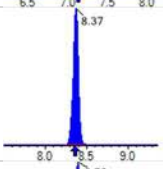
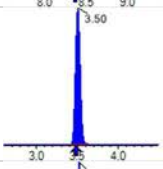
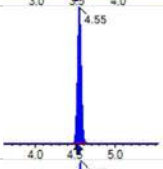
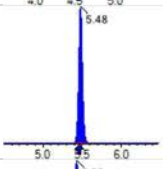
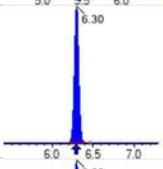
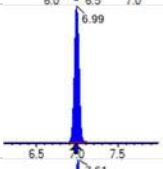
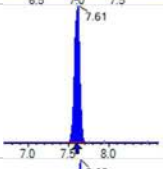
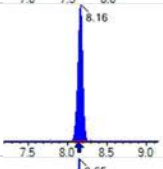
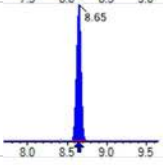
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 293514	(3.51 , N/A) (N/A , 0.01 , N/A)	1148.6	N/A	1.3104 [1.0000]	131.0% { 133.8% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 576625	(5.48 , N/A) (N/A , 0.01 , N/A)	1925.2	N/A	1.1423 [1.0000]	114.2% { 120.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 818665	(6.99 , N/A) (N/A , 0.00 , N/A)	1411.5	N/A	1.2917 [1.0000]	129.2% { 134.1% }			
13C5_PFNA_IIS	(468.0 / 423.0) 768451	(7.61 , N/A) (N/A , 0.01 , N/A)	1526.8	N/A	1.2717 [1.0000]	127.2% { 136.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

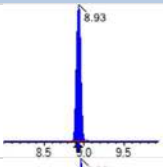
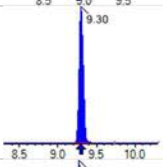
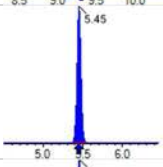
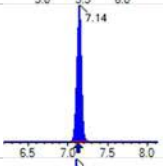
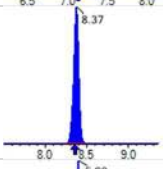
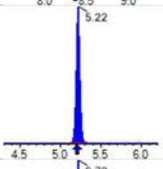
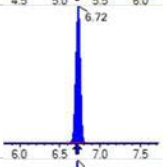
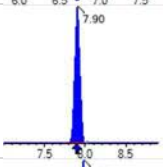
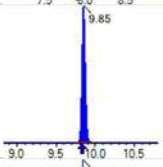
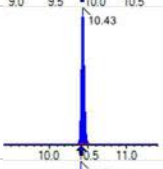
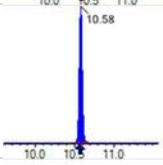
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 751010	(8.17 , N/A) (N/A , 0.02 , N/A)	1367.8	N/A	1.2979 [1.0000]	129.8% { 140.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1073911	(7.15 , N/A) (N/A , 0.01 , N/A)	2908.1	N/A	1.2540 [1.0000]	125.4% { 127.5% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1849713	(8.37 , N/A) (N/A , 0.02 , N/A)	1518.3	N/A	1.2287 [1.0000]	122.9% { 137.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2479141	(3.50 , N/A) (N/A , 0.01 , N/A)	5112.4	N/A	7.1009 [8.0000]	88.8% { 107.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2480319	(4.55 , N/A) (N/A , 0.01 , N/A)	4410.2	N/A	3.9314 [4.0000]	98.3% { 107.6% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1509029	(5.48 , N/A) (N/A , 0.00 , N/A)	3114.0	N/A	1.9106 [2.0000]	95.5% { 105.7% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1294644	(6.30 , N/A) (N/A , 0.01 , N/A)	2834.7	N/A	1.8918 [2.0000]	94.6% { 109.9% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1554163	(6.99 , N/A) (N/A , 0.01 , N/A)	2078.6	N/A	1.6763 [2.0000]	83.8% { 109.4% }			
13C9_PFNA_EIS	(472.0 / 427.0) 640443	(7.61 , N/A) (N/A , 0.02 , N/A)	1322.1	N/A	0.7866 [1.0000]	78.7% { 105.2% }			
13C6_PFDA_EIS	(519.0 / 474.0) 788598	(8.16 , N/A) (N/A , 0.02 , N/A)	912.5	N/A	0.8328 [1.0000]	83.3% { 105.7% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 837943	(8.65 , N/A) (N/A , 0.02 , N/A)	1679.1	N/A	0.8899 [1.0000]	89.0% { 125.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

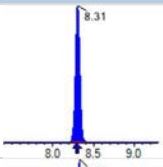
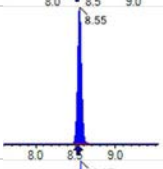
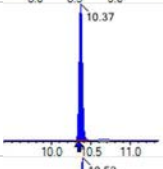
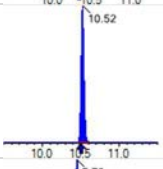
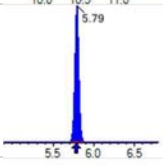
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 730243	(8.93 , N/A) (N/A , 0.01 , N/A)	2545.5	N/A	0.9042 [1.0000]	90.4% { 110.9% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 643534	(9.30 , N/A) (N/A , 0.01 , N/A)	1036.8	N/A	0.8696 [1.0000]	87.0% { 109.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3983495	(5.45 , N/A) (N/A , 0.00 , N/A)	3892.6	N/A	1.7723 [2.0000]	88.6% { 105.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1992365	(7.14 , N/A) (N/A , 0.01 , N/A)	1743.7	N/A	1.7066 [2.0000]	85.3% { 101.4% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4622985	(8.37 , N/A) (N/A , 0.02 , N/A)	1664.4	N/A	1.8205 [2.0000]	91.0% { 109.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 435803	(5.22 , N/A) (N/A , 0.01 , N/A)	1326.0	N/A	3.5128 [4.0000]	87.8% { 125.5% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 478377	(6.72 , N/A) (N/A , 0.01 , N/A)	1253.0	N/A	3.5128 [4.0000]	87.8% { 115.0% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 602294	(7.90 , N/A) (N/A , 0.01 , N/A)	1473.5	N/A	3.1304 [4.0000]	78.3% { 99.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 6104932	(9.85 , N/A) (N/A , 0.02 , N/A)	4173.0	N/A	1.2951 [2.0000]	64.8% { 73.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1067792	(10.43 , N/A) (N/A , 0.02 , N/A)	2250.7	N/A	0.9615 [2.0000]	48.1% { 55.2% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 978412	(10.58 , N/A) (N/A , 0.02 , N/A)	2150.6	N/A	0.9845 [2.0000]	49.2% { 54.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB3
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (29)
Acquired: 2023/02/15 - 10:24

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1329708	(8.31 , N/A) (N/A , 0.02 , N/A)	1258.5	N/A	3.2357 [4.0000]	80.9% { 100.4% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1222703	(8.55 , N/A) (N/A , 0.02 , N/A)	6946.0	N/A	3.6337 [4.0000]	90.8% { 115.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3992437	(10.37 , N/A) (N/A , 0.02 , N/A)	1855.9	N/A	9.8608 [20.0000]	49.3% { 53.8% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 5009365	(10.52 , N/A) (N/A , 0.02 , N/A)	1843.9	N/A	9.6612 [20.0000]	48.3% { 53.2% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3688614	(5.79 , N/A) (N/A , 0.01 , N/A)	3328.8	N/A	7.6703 [8.0000]	95.9% { 102.9% }			

ANALYSIS SEQUENCE BLANKS

Laboratory: APPL, LLC
Client: AECOM
Sequence: SC00636
Calibration: 2307007

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-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	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00636	Instrument:	Saphira
Calibration:	2307007		

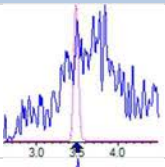
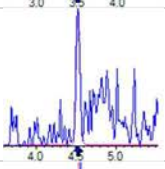
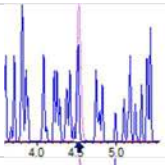
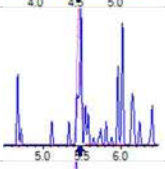
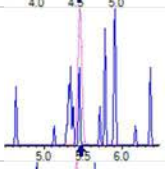
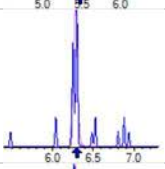
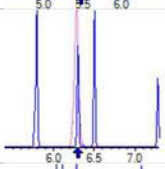
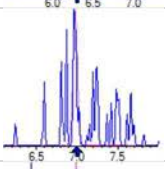
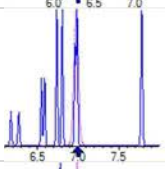
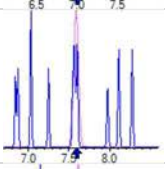
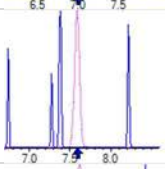
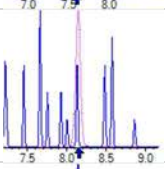
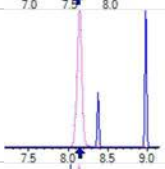
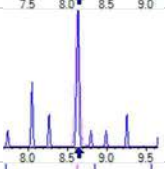
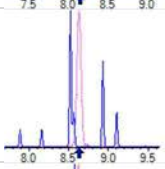
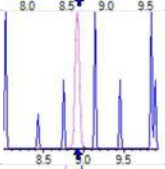
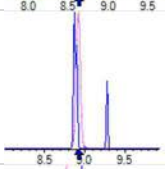
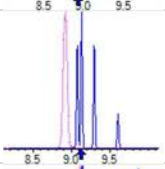
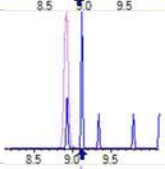
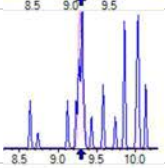
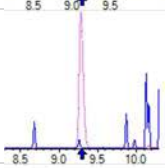
Lab Sample ID	Analyte	Found	Units	RL	C
SC00636-CCB4	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.00	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.00	ng/mL		
	13C5-PFPEA	3.86	ng/mL		
	13C5-PFHXA	1.77	ng/mL		
	13C4-PFHPA	1.78	ng/mL		
	13C8-PFOA	1.80	ng/mL		
	13C9-PFNA	0.789	ng/mL		
	13C6-PFDA	0.941	ng/mL		
	13C7-PFUnA	0.920	ng/mL		
	13C2-PFDOA	0.951	ng/mL		
	13C2-PFTEDA	0.857	ng/mL		
	13C3-PFBS	1.72	ng/mL		
	13C3-PFHXS	1.80	ng/mL		
	13C8-PFOS	1.74	ng/mL		
	13C2-4:2FTS	3.06	ng/mL		
	13C2-6:2FTS	3.07	ng/mL		
	13C2-8:2FTS	2.91	ng/mL		
	13C8-PFOSA	1.72	ng/mL		
	D3-NMEFOSA	1.53	ng/mL		
	D5-NETFOSA	1.63	ng/mL		
	D3-NMEFOSAA	2.71	ng/mL		
	D5-NETFOSAA	2.99	ng/mL		
	D7-NMEFOSE	15.0	ng/mL		
	D9-NETFOSE	16.1	ng/mL		
	13C3-HFPO-DA	7.41	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

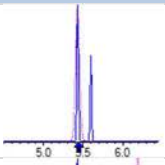
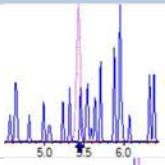
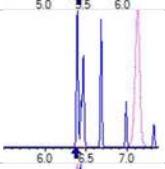
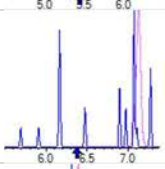
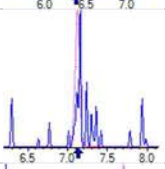
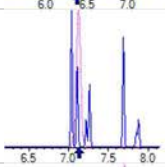
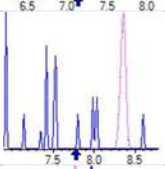
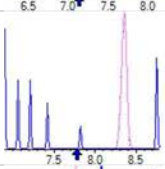
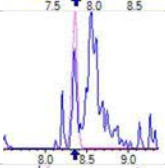
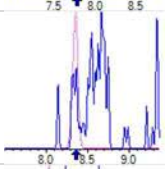
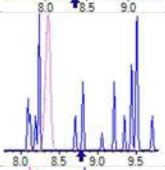
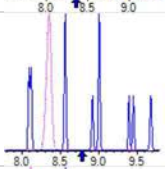
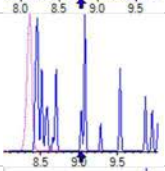
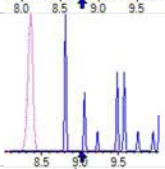
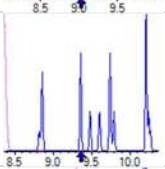
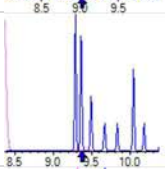
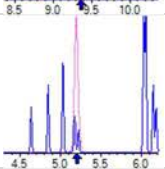
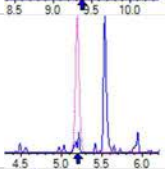
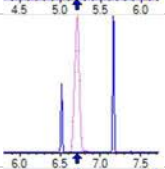
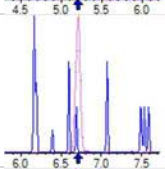
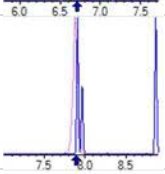
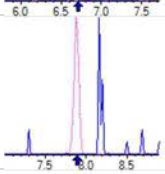
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

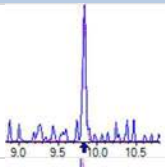
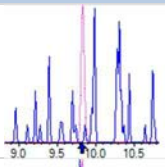
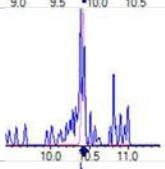
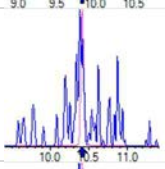
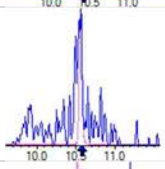
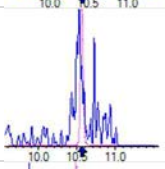
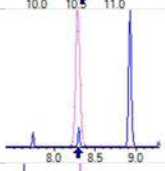
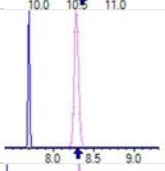
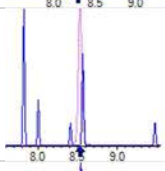
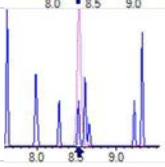
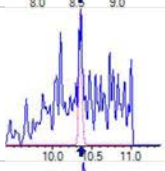
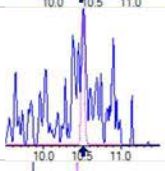
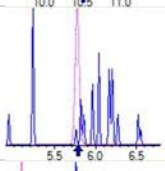
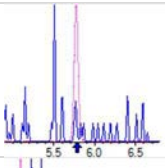
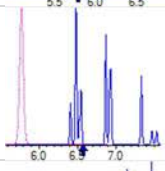
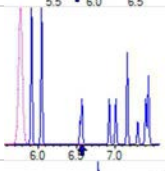
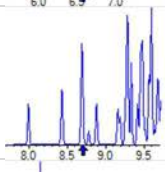
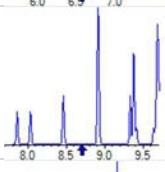
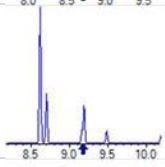
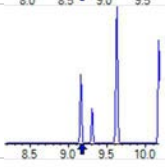
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFPeS	(349.0 / 80.0) N/A (349.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHxS	(399.0 / 80.0) N/A (399.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFHpS	(449.0 / 80.0) N/A (449.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFOS	(499.0 / 80.0) 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.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

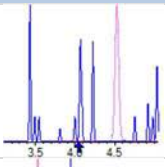
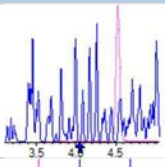
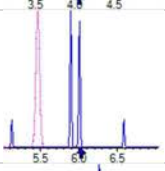
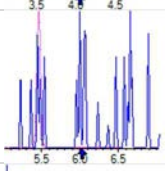
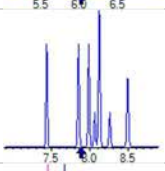
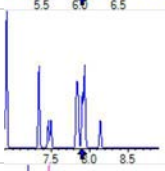
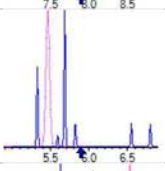
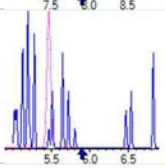
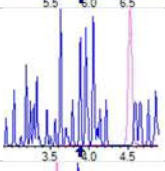
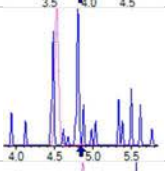
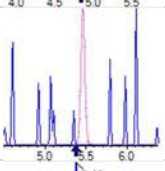
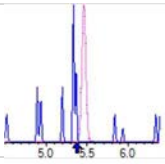
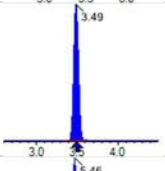
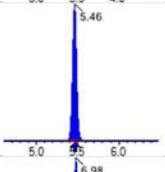
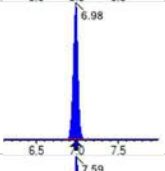
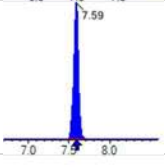
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) N/A (498.0 / 478.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

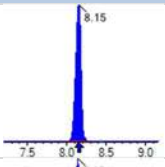
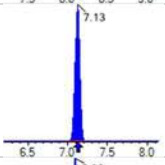
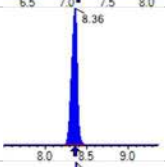
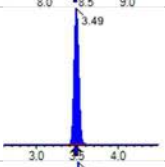
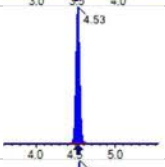
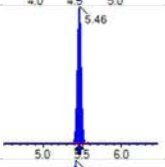
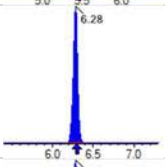
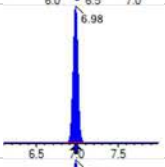
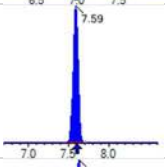
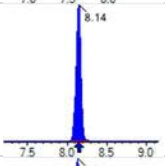
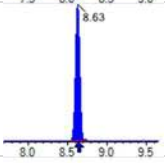
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 293954	(3.49 , N/A) (N/A , -0.01 , N/A)	1282.6	N/A	1.3123 [1.0000]	131.2% { 134.0% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 578158	(5.46 , N/A) (N/A , -0.01 , N/A)	4375.3	N/A	1.1453 [1.0000]	114.5% { 120.3% }			
13C4_PFOA_IIS	(417.0 / 372.0) 742380	(6.98 , N/A) (N/A , -0.01 , N/A)	5946.5	N/A	1.1714 [1.0000]	117.1% { 121.6% }			
13C5_PFNA_IIS	(468.0 / 423.0) 697422	(7.59 , N/A) (N/A , -0.01 , N/A)	342134.1	N/A	1.1542 [1.0000]	115.4% { 123.7% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

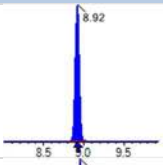
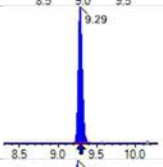
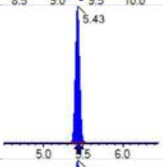
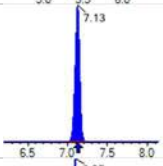
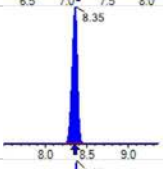
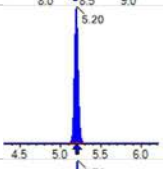
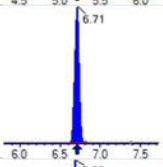
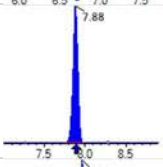
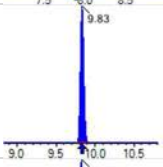
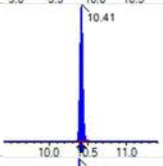
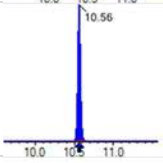
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 675811	(8.15 , N/A) (N/A , 0.00 , N/A)	831.2	N/A	1.1679 [1.0000]	116.8% { 126.3% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1084294	(7.13 , N/A) (N/A , -0.01 , N/A)	2550.6	N/A	1.2662 [1.0000]	126.6% { 128.8% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1850045	(8.36 , N/A) (N/A , 0.00 , N/A)	1598.6	N/A	1.2289 [1.0000]	122.9% { 138.0% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2447711	(3.49 , N/A) (N/A , -0.01 , N/A)	4195.9	N/A	7.0003 [8.0000]	87.5% { 106.5% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2442322	(4.53 , N/A) (N/A , -0.01 , N/A)	4139.2	N/A	3.8609 [4.0000]	96.5% { 106.0% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1405190	(5.46 , N/A) (N/A , -0.01 , N/A)	2790.8	N/A	1.7744 [2.0000]	88.7% { 98.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1222503	(6.28 , N/A) (N/A , -0.01 , N/A)	3488.8	N/A	1.7817 [2.0000]	89.1% { 103.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1509238	(6.98 , N/A) (N/A , -0.01 , N/A)	1462.3	N/A	1.7951 [2.0000]	89.8% { 106.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 583017	(7.59 , N/A) (N/A , 0.00 , N/A)	1339.8	N/A	0.7890 [1.0000]	78.9% { 95.8% }			
13C6_PFDA_EIS	(519.0 / 474.0) 801762	(8.14 , N/A) (N/A , 0.00 , N/A)	2626.9	N/A	0.9409 [1.0000]	94.1% { 107.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 779454	(8.63 , N/A) (N/A , 0.00 , N/A)	1740.8	N/A	0.9199 [1.0000]	92.0% { 117.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

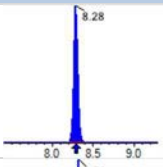
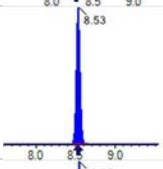
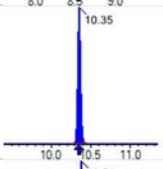
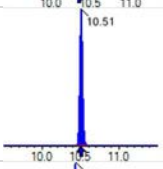
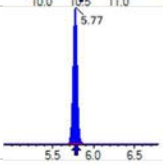
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 691123	(8.92 , N/A) (N/A , 0.00 , N/A)	1589.3	N/A	0.9510 [1.0000]	95.1% { 105.0% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 570890	(9.29 , N/A) (N/A , 0.00 , N/A)	701.7	N/A	0.8573 [1.0000]	85.7% { 97.5% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3894433	(5.43 , N/A) (N/A , -0.02 , N/A)	3657.3	N/A	1.7161 [2.0000]	85.8% { 102.7% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 2127106	(7.13 , N/A) (N/A , -0.01 , N/A)	2191.1	N/A	1.8046 [2.0000]	90.2% { 108.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4410767	(8.35 , N/A) (N/A , 0.00 , N/A)	2389.1	N/A	1.7366 [2.0000]	86.8% { 104.1% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 383437	(5.20 , N/A) (N/A , -0.01 , N/A)	1249.2	N/A	3.0611 [4.0000]	76.5% { 110.4% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 421858	(6.71 , N/A) (N/A , -0.01 , N/A)	3592.4	N/A	3.0681 [4.0000]	76.7% { 101.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 565575	(7.88 , N/A) (N/A , -0.01 , N/A)	1456.9	N/A	2.9114 [4.0000]	72.8% { 93.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 8098767	(9.83 , N/A) (N/A , 0.00 , N/A)	2761.1	N/A	1.7178 [2.0000]	85.9% { 97.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1702100	(10.41 , N/A) (N/A , 0.00 , N/A)	3242.0	N/A	1.5324 [2.0000]	76.6% { 87.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1624539	(10.56 , N/A) (N/A , 0.00 , N/A)	3106.4	N/A	1.6344 [2.0000]	81.7% { 91.1% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: SC00636-CCB4
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (36)
Acquired: 2023/02/15 - 11:54

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1113843	(8.28 , N/A) (N/A , 0.00 , N/A)	2198.5	N/A	2.7100 [4.0000]	67.7% { 84.1% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1006913	(8.53 , N/A) (N/A , 0.00 , N/A)	2871.0	N/A	2.9919 [4.0000]	74.8% { 95.4% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6091745	(10.35 , N/A) (N/A , 0.00 , N/A)	2208.9	N/A	15.0431 [20.0000]	75.2% { 82.0% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 8332436	(10.51 , N/A) (N/A , 0.00 , N/A)	2531.6	N/A	16.0673 [20.0000]	80.3% { 88.4% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3572258	(5.77 , N/A) (N/A , -0.01 , N/A)	3187.3	N/A	7.4086 [8.0000]	92.6% { 99.6% }			

ANALYSIS SEQUENCE BLANKS

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

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

Lab Sample ID	Analyte	Found	Units	RL	C
SC00647-ICB1	PFBA	0.00	ng/mL	0.40	U
	PFPEA	0.00	ng/mL	0.20	U
	PFHXA	0.00	ng/mL	0.10	U
	PFHPA	0.00	ng/mL	0.10	U
	PFOA	0.00	ng/mL	0.10	U
	PFNA	0.00	ng/mL	0.10	U
	PFDA	0.00	ng/mL	0.10	U
	PFUnA	0.00	ng/mL	0.10	U
	PFDOA	0.00	ng/mL	0.10	U
	PFTRDA	0.00	ng/mL	0.10	U
	PFTEDA	0.00	ng/mL	0.10	U
	PFBS	0.00	ng/mL	0.10	U
	PFPES	0.00	ng/mL	0.10	U
	PFHXS	0.00	ng/mL	0.10	U
	PFHPS	0.00	ng/mL	0.10	U
	PFOS	0.00	ng/mL	0.10	U
	PFNS	0.00	ng/mL	0.10	U
	PFDS	0.00	ng/mL	0.10	U
	PFDOS	0.00	ng/mL	0.10	U
	4:2FTS	0.00	ng/mL	0.40	U
	6:2FTS	0.00	ng/mL	0.40	U
	8:2FTS	0.00	ng/mL	0.40	U
	PFOSA	0.0123	ng/mL	0.10	U
	NMeFOSA	0.109	ng/mL	0.40	U
	NEtFOSA	0.0498	ng/mL	0.40	U
	NMeFOSAA	0.00	ng/mL	0.10	U
	NEtFOSAA	0.00	ng/mL	0.10	U
	NMeFOSE	0.0837	ng/mL	0.40	U
	NEtFOSE	0.106	ng/mL	0.40	U
	HFPO-DA	0.00	ng/mL	0.20	U
	ADONA	0.00	ng/mL	0.20	U
	PFEESA	0.00	ng/mL	0.20	U
	PFMPA	0.00	ng/mL	0.20	U

ANALYSIS SEQUENCE BLANKS

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sam
Sequence:	SC00647	Instrument:	Saphira
Calibration:	2307007		

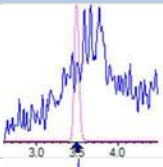
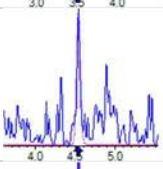
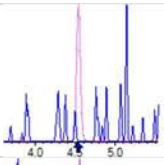
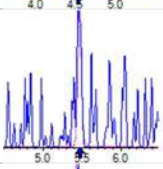
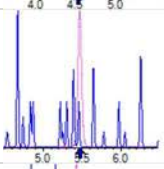
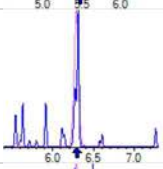
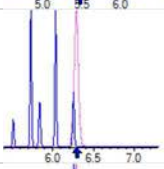
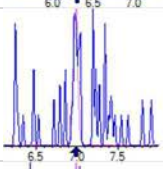
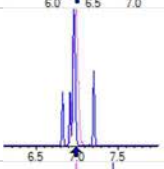
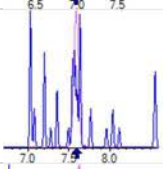
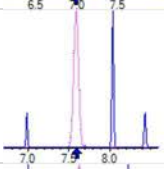
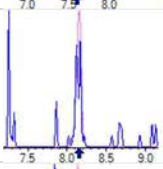
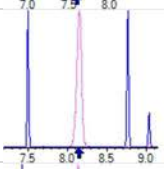
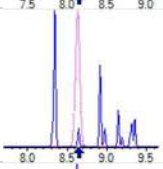
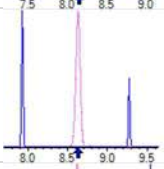
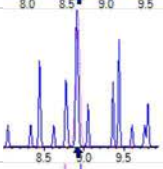
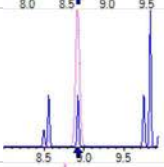
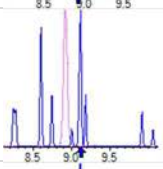
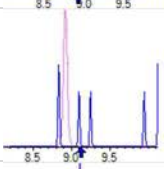
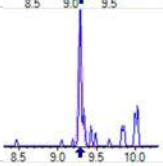
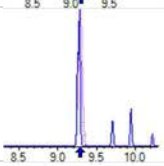
Lab Sample ID	Analyte	Found	Units	RL	C
SC00647-ICB1	PFMBA	0.00	ng/mL	0.20	U
	NFDHA	0.00	ng/mL	0.20	U
	9CL-PF3ONS	0.0571	ng/mL	0.20	U
	11CL-PF3OUDS	0.00	ng/mL	0.20	U
	3:3FTCA	0.00	ng/mL	0.40	U
	5:3FTCA	0.00	ng/mL	0.40	U
	7:3FTCA	0.00	ng/mL	0.40	U
	13C4-PFBA	7.15	ng/mL		
	13C5-PFPEA	3.47	ng/mL		
	13C5-PFHXA	1.78	ng/mL		
	13C4-PFHPA	1.83	ng/mL		
	13C8-PFOA	1.67	ng/mL		
	13C9-PFNA	0.833	ng/mL		
	13C6-PFDA	0.819	ng/mL		
	13C7-PFUnA	0.896	ng/mL		
	13C2-PFDOA	0.867	ng/mL		
	13C2-PFTEDA	0.969	ng/mL		
	13C3-PFBS	1.74	ng/mL		
	13C3-PFHXS	1.69	ng/mL		
	13C8-PFOS	1.74	ng/mL		
	13C2-4:2FTS	3.19	ng/mL		
	13C2-6:2FTS	3.35	ng/mL		
	13C2-8:2FTS	3.12	ng/mL		
	13C8-PFOSA	1.87	ng/mL		
	D3-NMEFOSA	1.87	ng/mL		
	D5-NETFOSA	2.07	ng/mL		
	D3-NMEFOSAA	3.55	ng/mL		
	D5-NETFOSAA	3.73	ng/mL		
	D7-NMEFOSE	19.7	ng/mL		
	D9-NETFOSE	21.3	ng/mL		
	13C3-HFPO-DA	7.12	ng/mL		

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

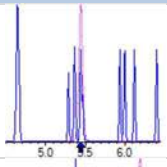
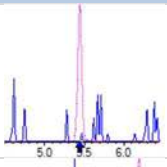
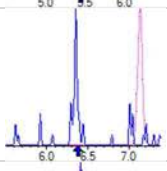
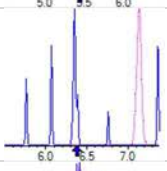
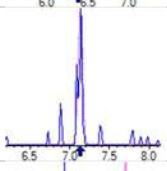
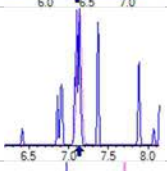
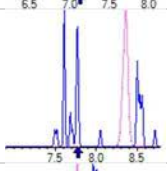
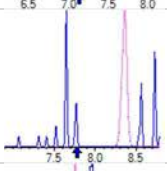
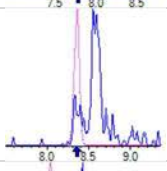
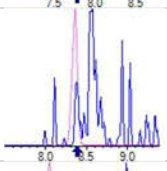
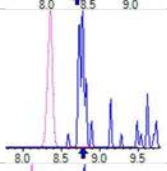
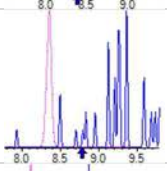
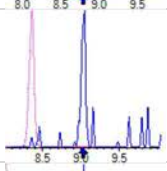
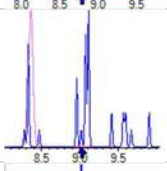
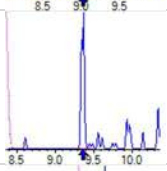
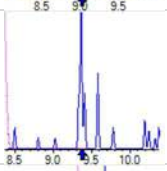
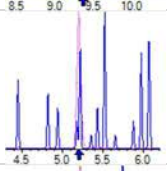
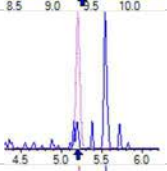
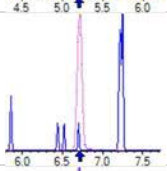
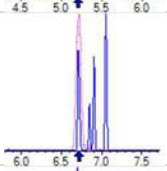
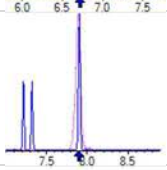
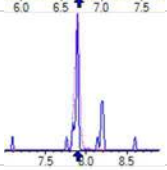
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

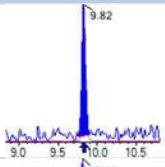
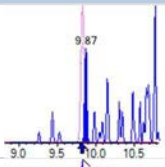
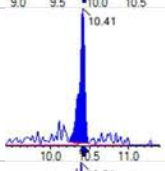
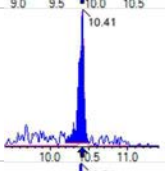
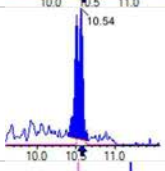
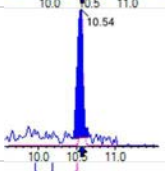
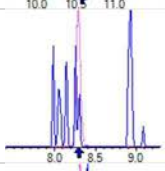
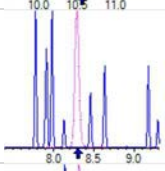
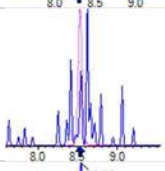
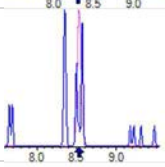
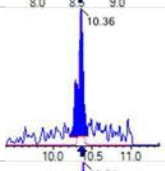
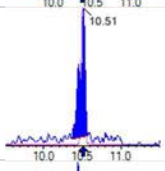
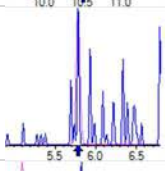
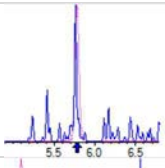
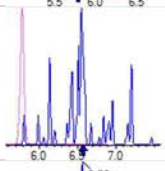
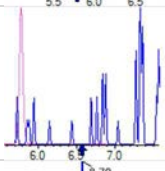
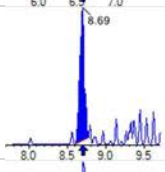
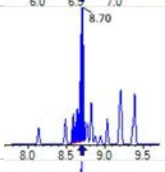
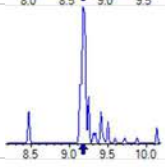
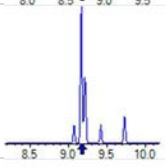
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

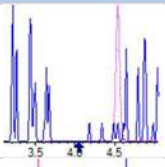
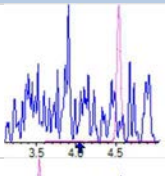
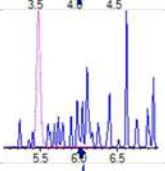
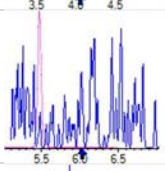
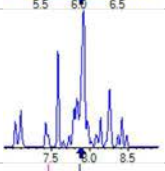
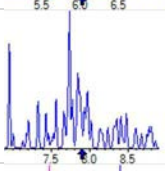
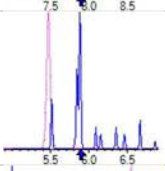
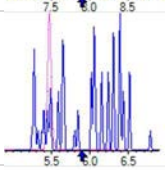
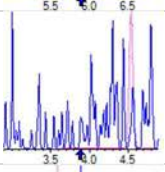
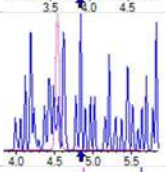
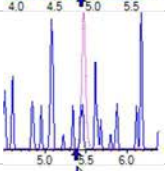
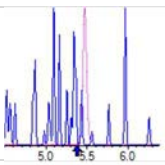
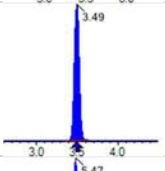
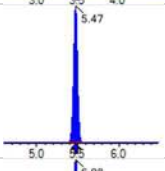
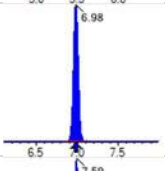
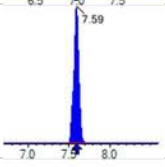
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 36099 (498.0 / 478.0) 1141	(9.82 , 1.00) (-0.01 , N/A , -2.9)	51.5 15.8	0.0316 153.8 153.8	0.0123	N/A			
NMeFOSA	(512.0 / 219.0) 31110 (512.0 / 169.0) 24756	(10.41 , 1.00) (0.00 , N/A , 0.2)	86.7 72.0	0.7958 97.1 97.1	0.1090	N/A			
NEtFOSA	(526.0 / 219.0) 39728 (526.0 / 169.0) 47072	(10.54 , 1.00) (-0.02 , N/A , 0.0)	78.5 84.5	1.1849 93.3 93.3	0.0498	N/A			
NMeFOSAA	(570.0 / 419.0) N/A (570.0 / 483.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
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) 27735	(10.36 , 1.00) (0.01 , N/A , 0.0)	48.4	N/A 0.0 0.0	0.0837	N/A			
NEtFOSE	(630.0 / 59.0) 46434	(10.51 , 1.00) (0.01 , N/A , 0.0)	78.7	N/A 0.0 0.0	0.1060	N/A			
HFPO-DA	(285.0 / 169.0) N/A (285.0 / 185.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
ADONA	(377.0 / 85.0) N/A (377.0 / 251.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
9Cl-Pf3ONS	(531.0 / 351.0) 22131 (533.0 / 353.0) 7410	(8.69 , 1.50) (N/A , -0.01 , -0.9)	35.0 34.2	0.3348 96.2 96.2	0.0571	N/A			
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.: SC00647-ICB1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

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

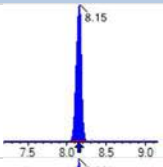
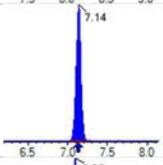
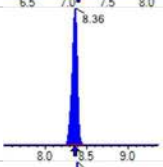
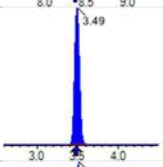
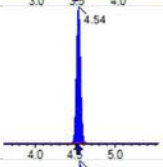
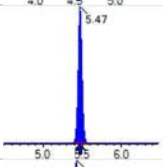
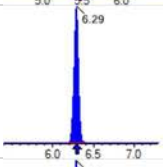
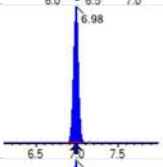
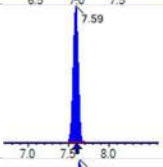
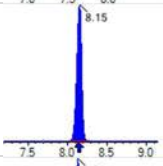
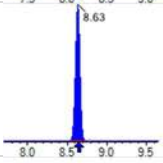
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
5:3FTCA	(341.0 / 236.7) N/A (341.0 / 217.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
7:3FTCA	(441.0 / 317.0) N/A (441.0 / 337.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFEESA	(315.0 / 135.0) N/A (315.0 / 83.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
PFMPA	(229.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
PFMBA	(279.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	N/A			
NFDHA	(295.0 / 201.0) N/A (295.0 / 85.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A N/A	N/A 0.0 0.0	0.0000	N/A			
13C3_PFBA_IIS	(216.0 / 172.0) 241689	(3.49 , N/A) (N/A , 0.01 , N/A)	1351.1	N/A	1.0790 [1.0000]	107.9% { 107.2% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 514335	(5.47 , N/A) (N/A , 0.01 , N/A)	1753.8	N/A	1.0189 [1.0000]	101.9% { 107.1% }			
13C4_PFOA_IIS	(417.0 / 372.0) 664713	(6.98 , N/A) (N/A , 0.00 , N/A)	2350.9	N/A	1.0488 [1.0000]	104.9% { 112.0% }			
13C5_PFNA_IIS	(468.0 / 423.0) 633844	(7.59 , N/A) (N/A , 0.00 , N/A)	2441.3	N/A	1.0489 [1.0000]	104.9% { 106.9% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

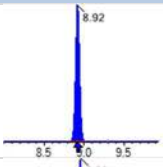
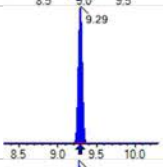
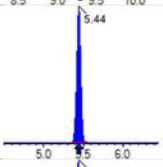
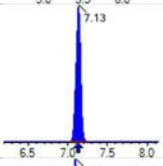
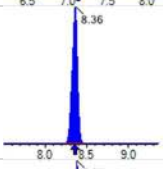
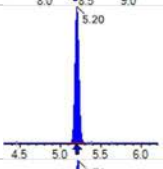
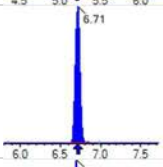
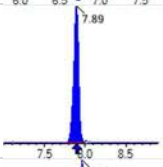
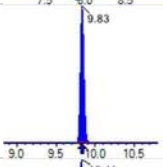
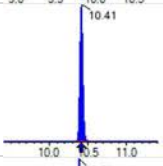
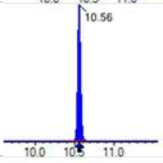
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 606167	(8.15 , N/A) (N/A , 0.00 , N/A)	14664.1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

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

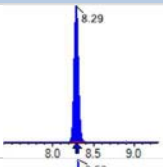
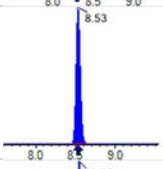
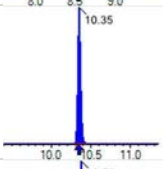
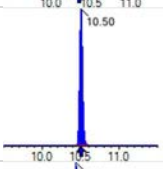
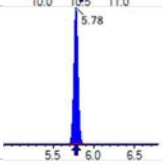
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 565332	(8.92 , N/A) (N/A , 0.00 , N/A)	1928.8	N/A	0.8673 [1.0000]	86.7% { 86.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 578714	(9.29 , N/A) (N/A , 0.00 , N/A)	3045.8	N/A	0.9689 [1.0000]	96.9% { 94.9% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3288154	(5.44 , N/A) (N/A , 0.00 , N/A)	3901.4	N/A	1.7443 [2.0000]	87.2% { 83.2% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1656509	(7.13 , N/A) (N/A , 0.00 , N/A)	1729.5	N/A	1.6918 [2.0000]	84.6% { 83.2% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3665952	(8.36 , N/A) (N/A , 0.00 , N/A)	2331.1	N/A	1.7357 [2.0000]	86.8% { 82.9% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 331778	(5.20 , N/A) (N/A , 0.00 , N/A)	1227.6	N/A	3.1885 [4.0000]	79.7% { 81.1% }			
13C2_6:2FTS_EIS	(429.0 / 81.0) 382237	(6.71 , N/A) (N/A , 0.00 , N/A)	1745.1	N/A	3.3465 [4.0000]	83.7% { 83.4% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 504180	(7.89 , N/A) (N/A , 0.00 , N/A)	943.1	N/A	3.1244 [4.0000]	78.1% { 83.3% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7350043	(9.83 , N/A) (N/A , 0.00 , N/A)	3807.2	N/A	1.8747 [2.0000]	93.7% { 85.8% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1723173	(10.41 , N/A) (N/A , 0.00 , N/A)	2942.3	N/A	1.8655 [2.0000]	93.3% { 94.4% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1707041	(10.56 , N/A) (N/A , 0.00 , N/A)	3216.0	N/A	2.0652 [2.0000]	103.3% { 99.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

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

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

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1214666	(8.29 , N/A) (N/A , 0.00 , N/A)	1780.1	N/A	3.5537 [4.0000]	88.8% { 81.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 1043394	(8.53 , N/A) (N/A , 0.00 , N/A)	9843.1	N/A	3.7281 [4.0000]	93.2% { 93.0% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 6625930	(10.35 , N/A) (N/A , 0.00 , N/A)	2010.5	N/A	19.6755 [20.0000]	98.4% { 92.2% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 9203687	(10.50 , N/A) (N/A , 0.00 , N/A)	1865.6	N/A	21.3412 [20.0000]	106.7% { 96.7% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3052956	(5.78 , N/A) (N/A , 0.00 , N/A)	3526.4	N/A	7.1173 [8.0000]	89.0% { 83.4% }			

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QUALITY CONTROL RAW DATA

ANALYSIS DATA SHEET

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Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BLK1	File ID:	S2023-02-14D (7)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 20:59
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
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	0.0870 J	0.40	0.20	0.055	J
PFHPA	0.20 U	0.40	0.20	0.041	U
PFOA	0.20 U	0.40	0.20	0.15	IR2, 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	0.112 J	0.40	0.20	0.064	MI5, 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:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BLK1	File ID:	S2023-02-14D (7)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 20:59
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
Instrument:	Saphira				
Column:	1				

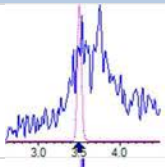
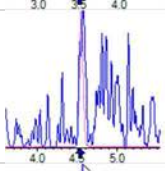
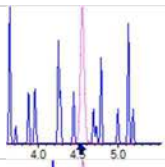
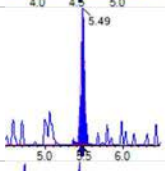
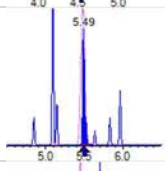
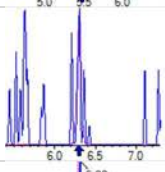
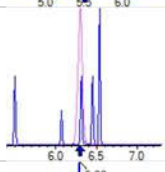
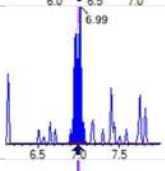
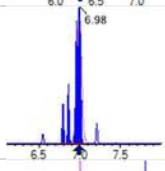
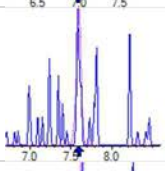
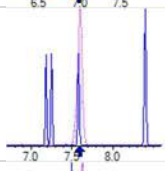
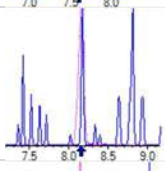
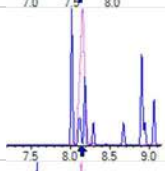
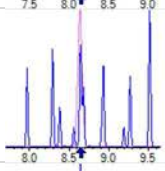
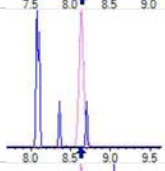
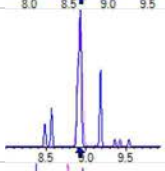
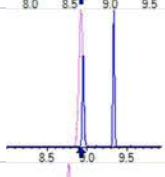
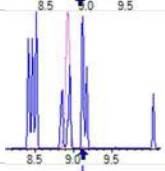
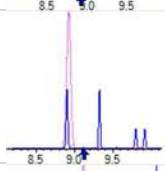
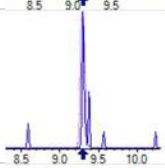
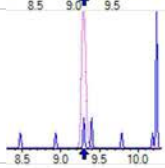
COMPOUND	CONC. (ng/L)	LOQ	LOD	DL	Q
ADONA	0.40 U	0.80	0.40	0.12	U
PFEESA	0.40 U	0.80	0.40	0.11	U
PFMPA	0.40 U	0.80	0.40	0.054	U
PFMBA	0.40 U	0.80	0.40	0.091	U
NFDHA	0.40 U	0.80	0.40	0.30	U
9CL-PF3ONS	0.40 U	0.80	0.40	0.21	IR2, U
11CL-PF3OUDS	0.40 U	0.80	0.40	0.21	U
3:3FTCA	0.80 U	1.6	0.80	0.57	U
5:3FTCA	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.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

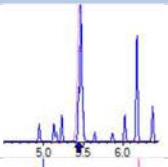
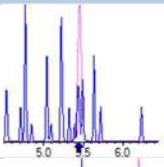
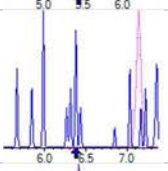
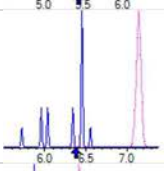
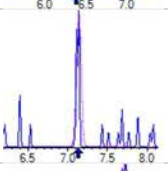
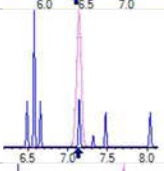
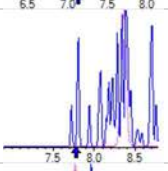
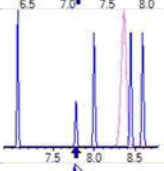
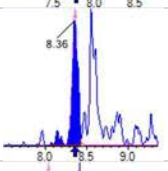
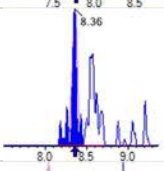
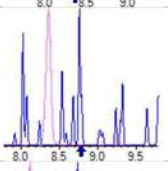
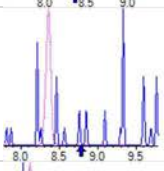
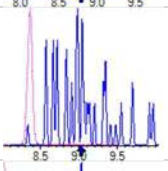
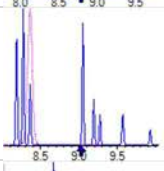
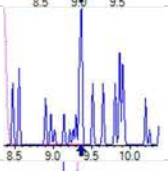
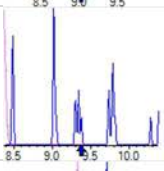
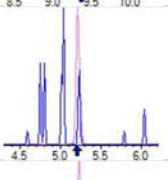
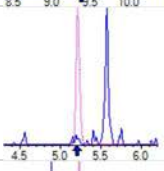
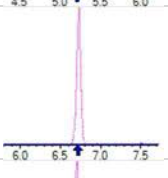
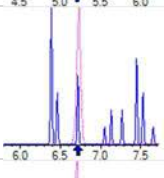
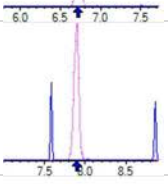
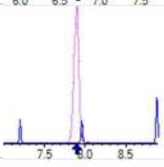
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	N/A	N/A 0.0 0.0	0.0000	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) 10494 (313.0 / 119.0) 1303	(5.49 , 1.00) (0.01 , N/A , -0.3)	139.1 851.5	0.1242 124.7 130.5	0.0217	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) 12380 (413.0 / 169.0) 7993	(6.99 , 1.00) (0.00 , N/A , 0.4)	250.6 12812.0	0.6456 192.9 178.7	0.0230	N/A			IR2,
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.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

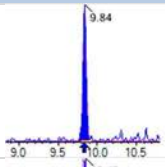
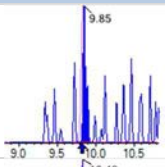
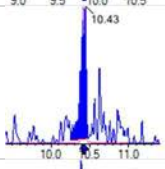
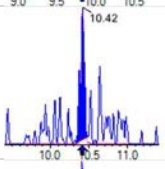
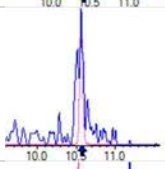
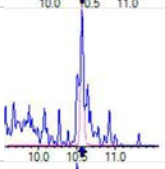
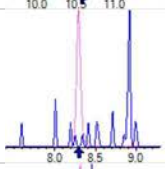
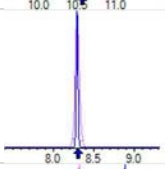
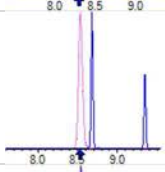
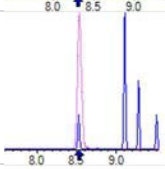
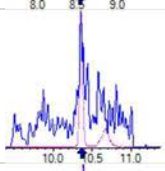
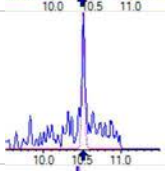
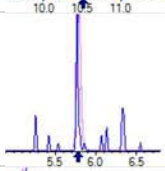
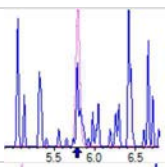
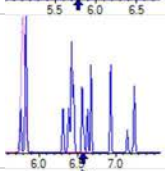
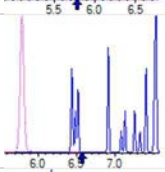
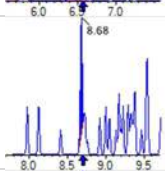
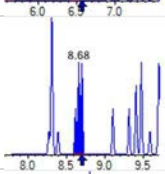
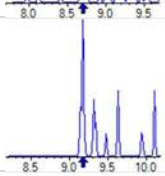
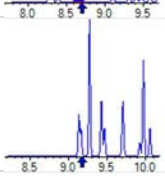
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) N/A (299.0 / 99.0) N/A	(N/A , N/A) (N/A , N/A , N/A)	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) 53215 (499.0 / 99.0) 12384	(8.36 , 1.00) (0.00 , N/A , 0.5)	46.2 117.8	0.2327 105.2 109.8	0.0280	N/A			MI5 DG 2023-02-15
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.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

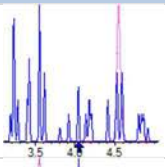
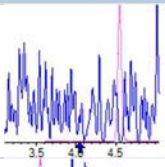
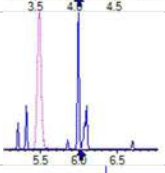
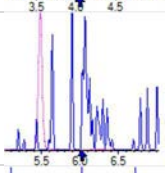
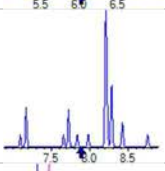
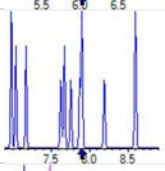
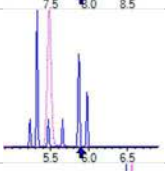
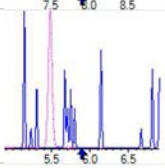
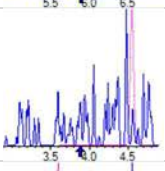
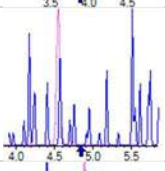
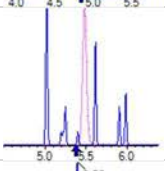
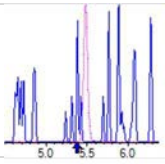
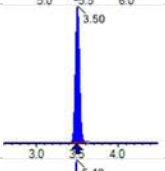
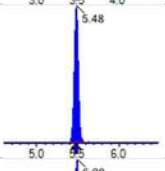
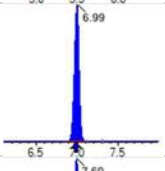
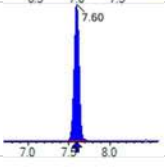
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 46917 (498.0 / 478.0) 1666	(9.84 , 1.00) (0.00 , N/A , -0.9)	108.6 14.4	0.0355 172.8 168.0	0.0172	N/A			
NMeFOSA	(512.0 / 219.0) 5758 (512.0 / 169.0) 3770	(10.43 , 1.00) (0.01 , N/A , 0.6)	35.1 30.9	0.6547 79.9 79.9	0.0799	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) 2038 (533.0 / 353.0) 2050	(8.68 , 1.50) (N/A , -0.02 , 0.0)	8.2 14.6	1.0060 288.9 304.5	0.0512	N/A			IR2,
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.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

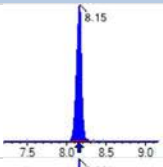
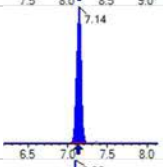
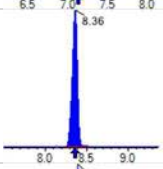
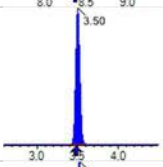
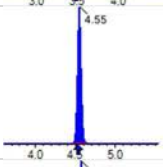
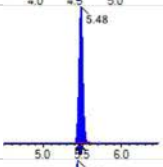
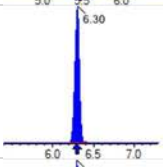
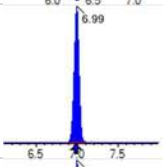
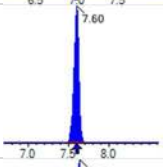
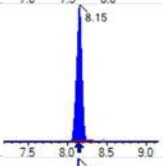
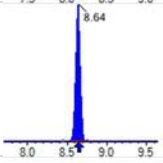
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) N/A (241.0 / 117.0) N/A	(N/A , N/A) (N/A , N/A , 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) 264564	(3.50 , N/A) (N/A , 0.00 , N/A)	1450.2	N/A	1.1811 [1.0000]	118.1% { 120.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 540893	(5.48 , N/A) (N/A , 0.01 , N/A)	2602.4	N/A	1.0715 [1.0000]	107.1% { 112.5% }			
13C4_PFOA_IIS	(417.0 / 372.0) 716282	(6.99 , N/A) (N/A , 0.01 , N/A)	1091.6	N/A	1.1302 [1.0000]	113.0% { 117.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 701912	(7.60 , N/A) (N/A , 0.00 , N/A)	3219.1	N/A	1.1616 [1.0000]	116.2% { 124.5% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

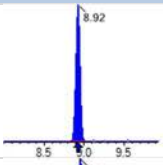
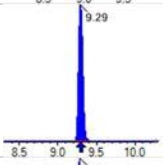
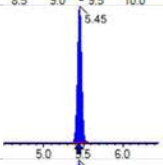
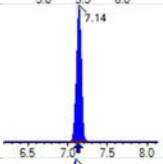
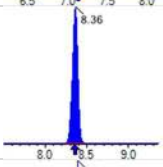
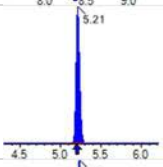
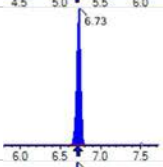
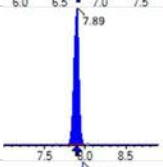
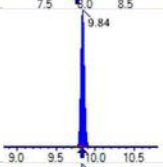
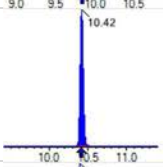
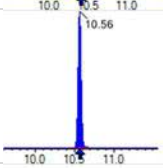
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 635802	(8.15 , N/A) (N/A , 0.01 , N/A)	1170.4	N/A	1.0988 [1.0000]	109.9% { 118.8% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 919443	(7.14 , N/A) (N/A , 0.01 , N/A)	1632.1	N/A	1.0737 [1.0000]	107.4% { 109.2% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1768239	(8.36 , N/A) (N/A , 0.01 , N/A)	1631.2	N/A	1.1746 [1.0000]	117.5% { 131.9% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2025069	(3.50 , N/A) (N/A , 0.00 , N/A)	5729.1	N/A	6.4350 [8.0000]	80.4% { 88.1% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 1976774	(4.55 , N/A) (N/A , 0.01 , N/A)	2543.5	N/A	3.3402 [4.0000]	83.5% { 85.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1097664	(5.48 , N/A) (N/A , 0.01 , N/A)	2306.2	N/A	1.4816 [2.0000]	74.1% { 76.9% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1002220	(6.30 , N/A) (N/A , 0.01 , N/A)	2983.0	N/A	1.5613 [2.0000]	78.1% { 85.1% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1211634	(6.99 , N/A) (N/A , 0.01 , N/A)	2157.0	N/A	1.4936 [2.0000]	74.7% { 85.3% }			
13C9_PFNA_EIS	(472.0 / 427.0) 507610	(7.60 , N/A) (N/A , 0.01 , N/A)	3862.3	N/A	0.6825 [1.0000]	68.3% { 83.4% }			
13C6_PFDA_EIS	(519.0 / 474.0) 603779	(8.15 , N/A) (N/A , 0.01 , N/A)	2011.5	N/A	0.7532 [1.0000]	75.3% { 81.0% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 605000	(8.64 , N/A) (N/A , 0.01 , N/A)	1289.4	N/A	0.7589 [1.0000]	75.9% { 90.8% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

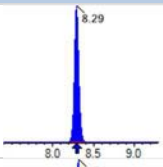
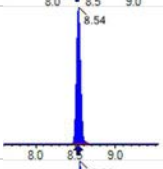
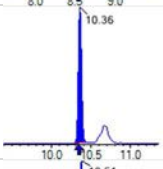
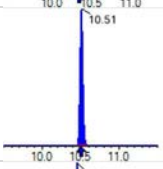
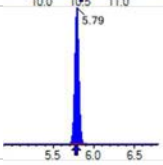
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 619468	(8.92 , N/A) (N/A , 0.01 , N/A)	988.5	N/A	0.9060 [1.0000]	90.6% { 94.1% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 515982	(9.29 , N/A) (N/A , 0.01 , N/A)	1520.3	N/A	0.8236 [1.0000]	82.4% { 88.1% }			
13C3_PFBS_EIS	(302.0 / 80.0) 2883131	(5.45 , N/A) (N/A , 0.01 , N/A)	3581.4	N/A	1.4983 [2.0000]	74.9% { 76.0% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1699912	(7.14 , N/A) (N/A , 0.00 , N/A)	2101.3	N/A	1.7007 [2.0000]	85.0% { 86.5% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3609801	(8.36 , N/A) (N/A , 0.01 , N/A)	1924.2	N/A	1.4870 [2.0000]	74.4% { 85.2% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 770186	(5.21 , N/A) (N/A , 0.00 , N/A)	2084.1	N/A	7.2511 [4.0000]	181.3% { 221.8% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 318658	(6.73 , N/A) (N/A , 0.01 , N/A)	2664.9	N/A	2.7330 [4.0000]	68.3% { 76.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 463052	(7.89 , N/A) (N/A , 0.00 , N/A)	6669.7	N/A	2.8111 [4.0000]	70.3% { 76.8% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 6819838	(9.84 , N/A) (N/A , 0.00 , N/A)	2721.3	N/A	1.5135 [2.0000]	75.7% { 82.1% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1062630	(10.42 , N/A) (N/A , 0.00 , N/A)	1979.7	N/A	1.0009 [2.0000]	50.0% { 54.9% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1008862	(10.56 , N/A) (N/A , 0.00 , N/A)	2813.2	N/A	1.0619 [2.0000]	53.1% { 56.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BLK1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (7)
Acquired: 2023/02/14 - 20:59

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) 1040945	(8.29 , N/A) (N/A , 0.01 , N/A)	2715.8	N/A	2.6498 [4.0000]	66.2% { 78.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 845671	(8.54 , N/A) (N/A , 0.01 , N/A)	14688.7	N/A	2.6290 [4.0000]	65.7% { 80.1% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3741948	(10.36 , N/A) (N/A , 0.01 , N/A)	628.8	N/A	9.6679 [20.0000]	48.3% { 50.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7540801	(10.51 , N/A) (N/A , 0.00 , N/A)	2088.5	N/A	15.2136 [20.0000]	76.1% { 80.0% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3009188	(5.79 , N/A) (N/A , 0.01 , N/A)	3498.8	N/A	6.6708 [8.0000]	83.4% { 83.9% }			

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BS1	File ID:	S2023-02-14D (8)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 21:12
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	16.7	1.6	0.21	
PFPEA	8.53	0.80	0.065	
PFHXA	4.36	0.40	0.055	
PFHPA	4.01	0.40	0.041	
PFOA	4.30	0.40	0.15	
PFNA	4.02	0.40	0.082	
PFDA	4.62	0.40	0.10	
PFUnA	4.11	0.40	0.16	
PFDOA	3.92	0.40	0.11	
PFTRDA	4.08	0.40	0.20	
PFTEDA	4.34	0.40	0.20	
PFBS	3.92	0.40	0.037	
PFPES	3.94	0.40	0.063	
PFHXS	3.70	0.40	0.032	
PFHPS	4.10	0.40	0.051	
PFOS	3.80	0.40	0.064	
PFNS	4.06	0.40	0.12	
PFDS	3.98	0.40	0.15	
PFDOS	3.84	0.40	0.12	
4:2FTS	16.0	1.6	0.29	
6:2FTS	18.0	1.6	0.31	
8:2FTS	17.2	1.6	0.082	
PFOSA	4.63	0.40	0.10	
NMeFOSA	16.1	1.6	0.47	
NEtFOSA	18.2	1.6	0.41	
NMeFOSAA	4.43	0.40	0.11	
NEtFOSAA	4.08	0.40	0.11	
NMeFOSE	18.5	1.6	1.0	
NEtFOSE	16.1	1.6	1.0	
HFPO-DA	8.21	[illegible]	[illegible]	

ANALYSIS DATA SHEET

LCS

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-BS1	File ID:	S2023-02-14D (8)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 21:12
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
Instrument:	Saphira				
Column:	1				

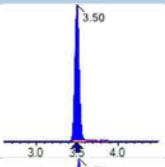
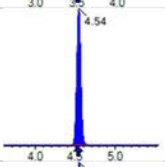
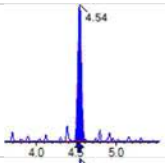
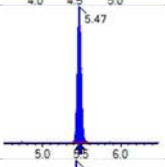
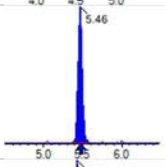
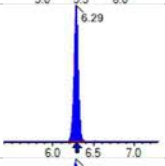
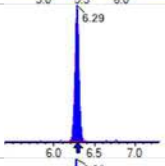
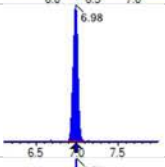
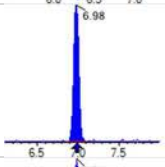
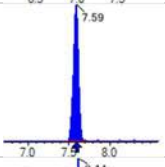
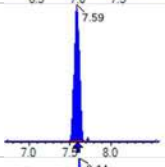
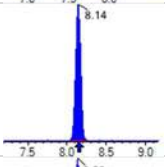
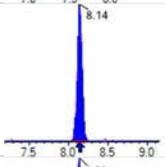
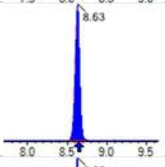
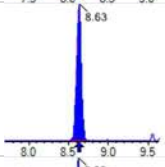
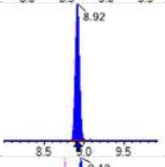
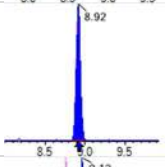
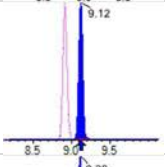
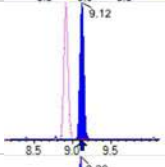
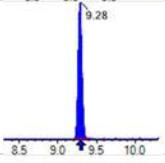
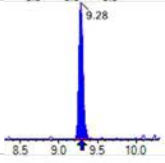
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	7.95	0.80	0.12	
PFEESA	8.03	0.80	0.11	
PFMPA	8.03	0.80	0.054	
PFMBA	7.76	0.80	0.091	
NFDHA	8.99	0.80	0.30	
9CL-PF3ONS	7.63	0.80	0.21	
11CL-PF3OUDS	7.70	0.80	0.21	
3:3FTCA	16.9	1.6	0.57	
5:3FTCA	17.6	1.6	0.44	
7:3FTCA	16.0	1.6	0.55	

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

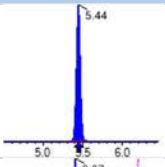
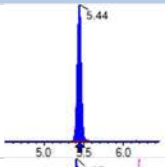
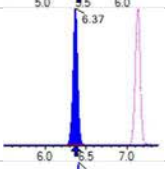
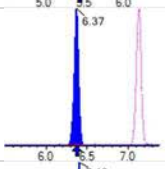
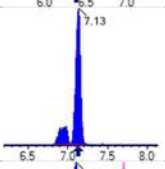
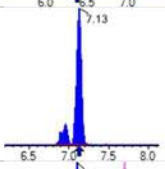
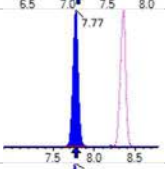
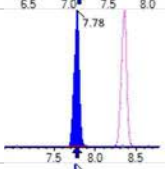
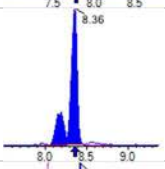
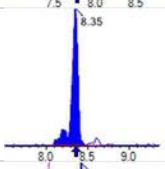
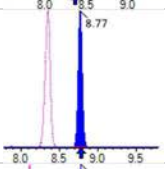
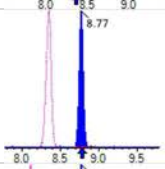
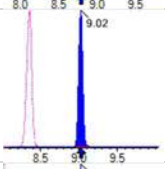
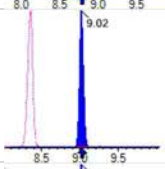
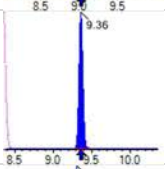
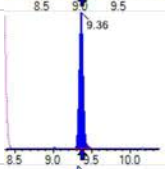
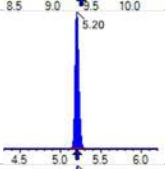
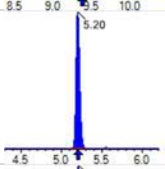
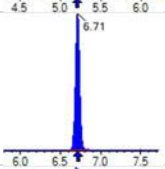
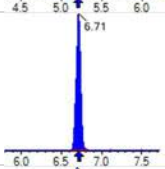
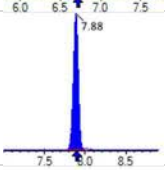
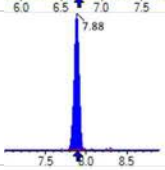
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 1028740	(3.50 , 1.00) (0.00 , N/A , 0.0)	229.9	N/A 0.0 0.0	4.1823 [4.0000]	104.6%			
PFPeA	(263.0 / 219.0) 1023282 (263.0 / 69.0) 13702	(4.54 , 1.00) (0.00 , N/A , 0.2)	2573.7 132.6	0.0134 125.0 121.5	2.1335 [2.0000]	106.7%			
PFHxA	(313.0 / 269.0) 646363 (313.0 / 119.0) 75028	(5.47 , 1.00) (0.00 , N/A , 0.1)	2464.0 2798.8	0.1161 116.5 122.0	1.0909 [1.0000]	109.1%			
PFHpA	(363.0 / 319.0) 517688 (363.0 / 169.0) 153670	(6.29 , 1.00) (0.00 , N/A , 0.2)	8693.5 24718.9	0.2968 92.6 92.8	1.0021 [1.0000]	100.2%			
PFOA	(413.0 / 369.0) 687919 (413.0 / 169.0) 201680	(6.98 , 1.00) (0.00 , N/A , 0.3)	9832.7 264925.6	0.2932 87.6 81.1	1.0754 [1.0000]	107.5%			
PFNA	(463.0 / 419.0) 552486 (463.0 / 169.0) 133290	(7.59 , 1.00) (0.00 , N/A , 0.1)	2622.2 163028.5	0.2413 107.8 109.1	1.0047 [1.0000]	100.5%			
PFDA	(513.0 / 469.0) 701206 (513.0 / 169.0) 91123	(8.14 , 1.00) (0.00 , N/A , 0.0)	1252.1 13815.9	0.1300 106.9 119.8	1.1561 [1.0000]	115.6%			
PFUnA	(563.0 / 519.0) 616296 (563.0 / 169.0) 77906	(8.63 , 1.00) (0.00 , N/A , -0.1)	2023.9 2176.3	0.1264 120.6 108.1	1.0268 [1.0000]	102.7%			
PFDoA	(613.0 / 569.0) 536590 (613.0 / 169.0) 112621	(8.92 , 1.00) (0.00 , N/A , 0.1)	1477.1 3614.7	0.2099 128.3 125.1	0.9809 [1.0000]	98.1%			
PFTrDA	(663.0 / 619.0) 505510 (663.0 / 169.0) 161483	(9.12 , 1.02) (N/A , 0.00 , -0.1)	1670.6 709.1	0.3194 133.7 118.7	1.0206 [1.0000]	102.1%			
PFTeDA	(713.0 / 669.0) 485519 (713.0 / 169.0) 117666	(9.28 , 1.00) (0.00 , N/A , 0.0)	943.6 505.3	0.2424 117.3 117.2	1.0841 [1.0000]	108.4%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

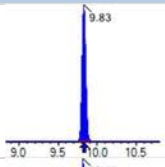
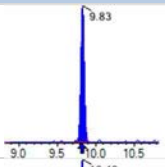
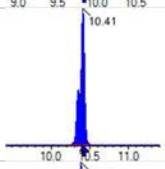
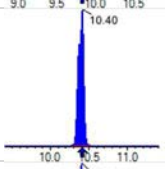
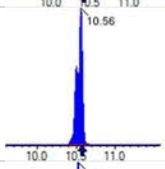
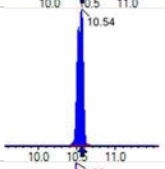
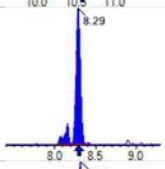
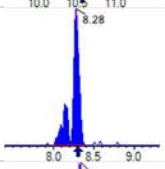
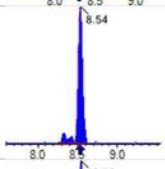
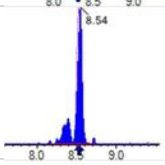
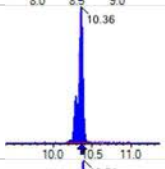
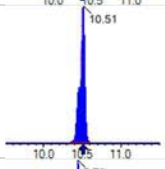
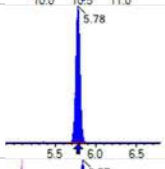
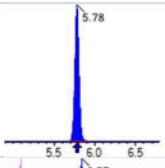
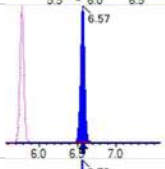
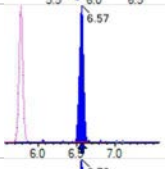
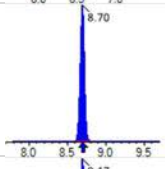
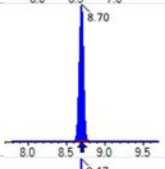
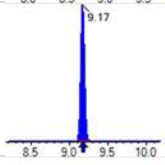
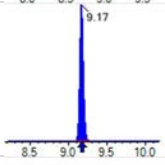
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 1115998 (299.0 / 99.0) 699946	(5.44 , 1.00) (0.00 , N/A , 0.1)	2887.2 1335.2	0.6272 97.0 101.4	0.9812 [0.8847]	110.9%			
PFPeS	(349.0 / 80.0) 1807486 (349.0 / 99.0) 597270	(6.37 , 0.89) (N/A , -0.01 , -0.1)	10714532.8 6069763.2	0.3304 92.6 95.9	0.9856 [0.9384]	105.0%			
PFHxS	(399.0 / 80.0) 1353261 (399.0 / 99.0) 489677	(7.13 , 1.00) (0.00 , N/A , 0.2)	479293.9 2005.3	0.3618 111.4 111.1	0.9255 [0.9110]	101.6%			
PFHpS	(449.0 / 80.0) 1597230 (449.0 / 99.0) 459560	(7.77 , 0.93) (N/A , 0.00 , -0.3)	785585.0 73356.9	0.2877 105.7 103.4	1.0257 [0.9514]	107.8%			
PFOS	(499.0 / 80.0) 2046739 (499.0 / 99.0) 475253	(8.36 , 1.00) (0.00 , N/A , 0.1)	266.9 202.6	0.2322 104.9 109.5	0.9497 [0.9275]	102.4%			
PFNS	(549.0 / 80.0) 2459992 (549.0 / 99.0) 585406	(8.77 , 1.05) (N/A , 0.00 , 0.0)	35187.2 75700927.8	0.2380 108.5 103.5	1.0157 [0.9599]	105.8%			
PFDS	(599.0 / 80.0) 2619461 (599.0 / 99.0) 523872	(9.02 , 1.08) (N/A , 0.00 , 0.2)	2769.2 1476.6	0.2000 91.7 93.1	0.9942 [0.9631]	103.2%			
PFDoS	(699.0 / 80.0) 1612088 (699.0 / 99.0) 385963	(9.36 , 1.12) (N/A , 0.00 , 0.0)	2308.5 1278.3	0.2394 115.0 111.6	0.9594 [0.9696]	98.9%			
4:2FTS	(327.0 / 307.0) 2376216 (327.0 / 81.0) 1565386	(5.20 , 1.00) (0.00 , N/A , 0.1)	5038.8 2723.2	0.6588 97.6 96.1	4.0019 [3.7381]	107.1%			
6:2FTS	(427.0 / 407.0) 611031 (427.0 / 81.0) 474564	(6.71 , 1.00) (0.00 , N/A , 0.0)	2036.6 1954.8	0.7767 93.8 100.5	4.5069 [3.7962]	118.7%			
8:2FTS	(527.0 / 507.0) 613315 (527.0 / 81.0) 497241	(7.88 , 1.00) (0.00 , N/A , 0.1)	1459.6 1106.3	0.8107 97.5 104.8	4.2875 [3.8332]	111.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

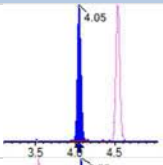
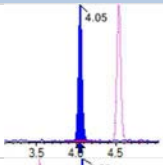
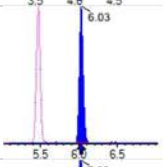
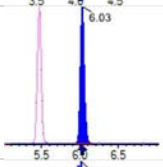
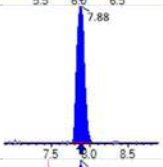
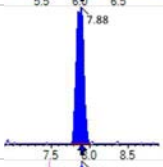
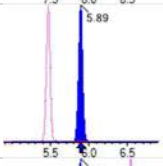
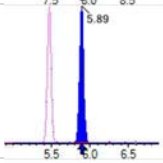
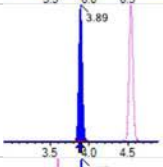
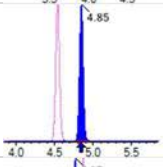
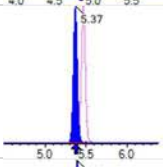
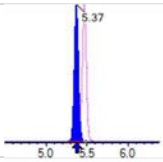
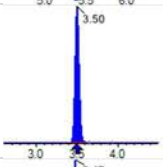
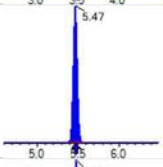
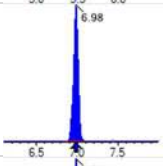
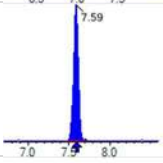
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 3359523 (498.0 / 478.0) 64647	(9.83 , 1.00) (0.00 , N/A , -0.1)	2478.3 503.3	0.0192 93.7 91.1	1.1574 [1.0000]	115.7%			
NMeFOSA	(512.0 / 219.0) 2010178 (512.0 / 169.0) 1695361	(10.41 , 1.00) (0.00 , N/A , 0.8)	4744.0 2775.0	0.8434 103.0 103.0	4.0292 [4.0000]	100.7%			
NEtFOSA	(526.0 / 219.0) 2343067 (526.0 / 169.0) 2986093	(10.56 , 1.00) (0.00 , N/A , 0.9)	5219.2 4467.0	1.2744 100.4 102.7	4.5388 [4.0000]	113.5%			
NMeFOSAA	(570.0 / 419.0) 243929 (570.0 / 483.0) 107657	(8.29 , 1.00) (0.00 , N/A , 0.6)	880.5 78223.0	0.4413 93.0 95.3	1.1064 [1.0000]	110.6%			
NEtFOSAA	(584.0 / 419.0) 202975 (584.0 / 526.0) 120806	(8.54 , 1.00) (0.01 , N/A , -0.4)	141848.9 8409.5	0.5952 116.6 101.6	1.0204 [1.0000]	102.0%			
NMeFOSE	(616.0 / 59.0) 884862	(10.36 , 1.00) (0.01 , N/A , 0.0)	1155.5	N/A 0.0 0.0	4.6340 [4.0000]	115.8%			
NEtFOSE	(630.0 / 59.0) 1474308	(10.51 , 1.00) (0.01 , N/A , 0.0)	1092.6	N/A 0.0 0.0	4.0359 [4.0000]	100.9%			
HFPO-DA	(285.0 / 169.0) 708386 (285.0 / 185.0) 1936370	(5.78 , 1.00) (0.00 , N/A , 0.0)	1519.7 2110.7	2.7335 99.2 98.5	2.0514 [2.0000]	102.6%			
ADONA	(377.0 / 85.0) 2359689 (377.0 / 251.0) 228515	(6.57 , 1.14) (N/A , 0.00 , 0.1)	2234.4 632.0	0.0968 109.8 103.7	1.9871 [1.8854]	105.4%			
9Cl-Pf3ONS	(531.0 / 351.0) 7171516 (533.0 / 353.0) 2157893	(8.70 , 1.51) (N/A , 0.00 , 0.0)	2329.1 1370.9	0.3009 86.4 91.1	1.9084 [1.8665]	102.2%			
11Cl-PF3OUDS	(631.0 / 451.0) 3721907 (633.0 / 453.0) 1368951	(9.17 , 1.59) (N/A , 0.00 , 0.1)	2278.4 1642.0	0.3678 101.7 103.2	1.9239 [1.8864]	102.0%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

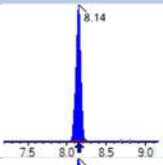
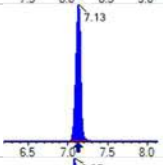
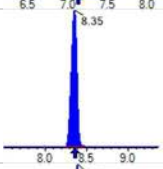
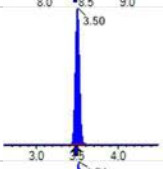
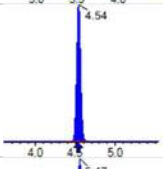
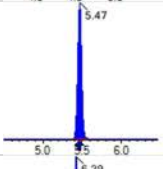
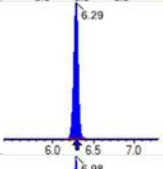
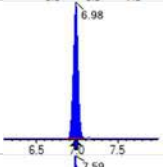
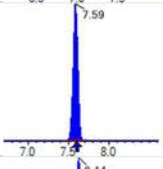
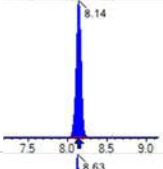
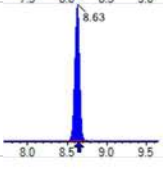
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 48415 (241.0 / 117.0) 75897	(4.05 , 0.89) (N/A , -0.01 , 0.0)	829.4 388.0	1.5676 99.3 95.8	4.2339 [4.0000]	105.8%			
5:3FTCA	(341.0 / 236.7) 356077 (341.0 / 217.0) 653471	(6.03 , 1.10) (N/A , -0.01 , -0.1)	935.6 1362.6	1.8352 107.6 114.0	4.3946 [4.0000]	109.9%			
7:3FTCA	(441.0 / 317.0) 597814 (441.0 / 337.0) 537524	(7.88 , 1.44) (N/A , -0.01 , -0.1)	452.1 541.7	0.8991 104.5 110.6	3.9939 [4.0000]	99.8%			
PFEESA	(315.0 / 135.0) 1428891 (315.0 / 83.0) 401065	(5.89 , 1.08) (N/A , -0.01 , 0.0)	2473.0 1058.8	0.2807 109.9 101.9	2.0075 [1.7849]	112.5%			
PFMPA	(229.0 / 85.0) 210277	(3.89 , 0.86) (N/A , 0.00 , 0.0)	1582.7	N/A 0.0 0.0	2.0072 [2.0000]	100.4%			
PFMBA	(279.0 / 85.0) 851818	(4.85 , 1.07) (N/A , 0.00 , 0.0)	2063.6	N/A 0.0 0.0	1.9389 [2.0000]	96.9%			
NFDHA	(295.0 / 201.0) 738788 (295.0 / 85.0) 706243	(5.37 , 0.98) (N/A , -0.01 , 0.0)	1692.1 1822.3	0.9559 95.5 90.4	2.2464 [2.0000]	112.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 275535	(3.50 , N/A) (N/A , 0.00 , N/A)	1570.1	N/A	1.2301 [1.0000]	123.0% { 125.6% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 576906	(5.47 , N/A) (N/A , -0.01 , N/A)	3337.6	N/A	1.1428 [1.0000]	114.3% { 120.0% }			
13C4_PFOA_IIS	(417.0 / 372.0) 712271	(6.98 , N/A) (N/A , 0.00 , N/A)	2180.2	N/A	1.1239 [1.0000]	112.4% { 116.7% }			
13C5_PFNA_IIS	(468.0 / 423.0) 683819	(7.59 , N/A) (N/A , -0.01 , N/A)	1067.6	N/A	1.1316 [1.0000]	113.2% { 121.3% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

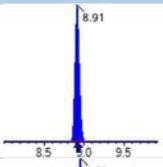
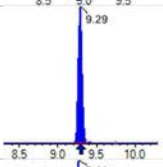
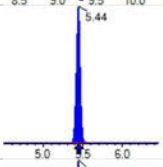
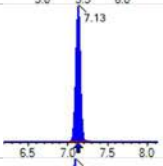
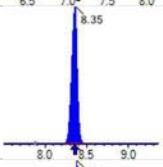
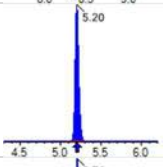
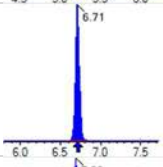
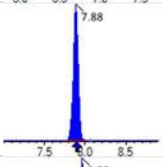
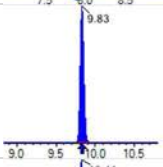
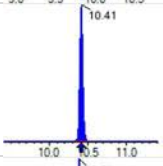
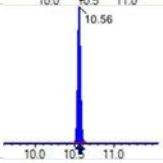
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 690510	(8.14 , N/A) (N/A , 0.00 , N/A)	1279.2	N/A	1.1933 [1.0000]	119.3% { 129.0% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 1034664	(7.13 , N/A) (N/A , 0.00 , N/A)	2307.0	N/A	1.2082 [1.0000]	120.8% { 122.9% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1673461	(8.35 , N/A) (N/A , 0.00 , N/A)	1454.6	N/A	1.1116 [1.0000]	111.2% { 124.8% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2375575	(3.50 , N/A) (N/A , 0.00 , N/A)	5482.6	N/A	7.2482 [8.0000]	90.6% { 103.4% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2331821	(4.54 , N/A) (N/A , 0.00 , N/A)	3952.3	N/A	3.6942 [4.0000]	92.4% { 101.2% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1347972	(5.47 , N/A) (N/A , -0.01 , N/A)	2301.1	N/A	1.7058 [2.0000]	85.3% { 94.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1223554	(6.29 , N/A) (N/A , -0.01 , N/A)	2177.3	N/A	1.7871 [2.0000]	89.4% { 103.8% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1436829	(6.98 , N/A) (N/A , 0.00 , N/A)	3041.0	N/A	1.7812 [2.0000]	89.1% { 101.2% }			
13C9_PFNA_EIS	(472.0 / 427.0) 621495	(7.59 , N/A) (N/A , 0.00 , N/A)	4526.4	N/A	0.8578 [1.0000]	85.8% { 102.1% }			
13C6_PFDA_EIS	(519.0 / 474.0) 689530	(8.14 , N/A) (N/A , 0.00 , N/A)	5175.5	N/A	0.7920 [1.0000]	79.2% { 92.5% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 722438	(8.63 , N/A) (N/A , 0.00 , N/A)	1272.2	N/A	0.8345 [1.0000]	83.4% { 108.4% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

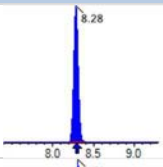
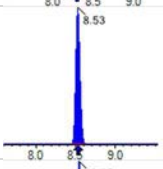
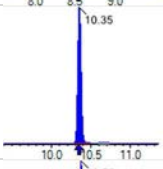
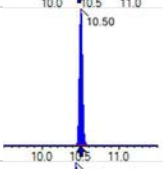
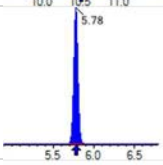
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 622073	(8.91 , N/A) (N/A , -0.01 , N/A)	9584.5	N/A	0.8378 [1.0000]	83.8% { 94.5% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 517563	(9.29 , N/A) (N/A , 0.00 , N/A)	1033.3	N/A	0.7607 [1.0000]	76.1% { 88.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3660317	(5.44 , N/A) (N/A , 0.00 , N/A)	3113.9	N/A	1.6903 [2.0000]	84.5% { 96.5% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1901767	(7.13 , N/A) (N/A , -0.01 , N/A)	1974.1	N/A	1.6908 [2.0000]	84.5% { 96.8% }			
13C8_PFOS_EIS	(507.0 / 80.0) 4087528	(8.35 , N/A) (N/A , 0.00 , N/A)	1607.5	N/A	1.7792 [2.0000]	89.0% { 96.4% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 869623	(5.20 , N/A) (N/A , -0.01 , N/A)	3060.2	N/A	7.2755 [4.0000]	181.9% { 250.4% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 382201	(6.71 , N/A) (N/A , -0.01 , N/A)	1774.5	N/A	2.9130 [4.0000]	72.8% { 91.9% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 525301	(7.88 , N/A) (N/A , -0.01 , N/A)	1269.1	N/A	2.8338 [4.0000]	70.8% { 87.1% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 7258433	(9.83 , N/A) (N/A , 0.00 , N/A)	3975.0	N/A	1.7020 [2.0000]	85.1% { 87.4% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1176595	(10.41 , N/A) (N/A , 0.00 , N/A)	2442.5	N/A	1.1710 [2.0000]	58.6% { 60.8% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1105143	(10.56 , N/A) (N/A , 0.00 , N/A)	3346.9	N/A	1.2292 [2.0000]	61.5% { 62.0% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-BS1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (8)
Acquired: 2023/02/14 - 21:12

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1123740	(8.28 , N/A) (N/A , 0.00 , N/A)	3213.1	N/A	3.0225 [4.0000]	75.6% { 84.9% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 947341	(8.53 , N/A) (N/A , 0.00 , N/A)	952923.0	N/A	3.1119 [4.0000]	77.8% { 89.8% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3820002	(10.35 , N/A) (N/A , 0.00 , N/A)	1433.8	N/A	10.4286 [20.0000]	52.1% { 51.4% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7677316	(10.50 , N/A) (N/A , 0.00 , N/A)	2228.1	N/A	16.3662 [20.0000]	81.8% { 81.5% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3493284	(5.78 , N/A) (N/A , -0.01 , N/A)	4195.5	N/A	7.2605 [8.0000]	90.8% { 97.4% }			

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-MRL1	File ID:	S2023-02-14D (9)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 21:25
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
Instrument:	Saphira				
Column:	1				

COMPOUND	CONC. (ng/L)	LOQ	DL	Q
PFBA	1.89	1.6	0.21	
PFPEA	1.01	0.80	0.065	
PFHXA	0.544	0.40	0.055	
PFHPA	0.599	0.40	0.041	
PFOA	0.515	0.40	0.15	IR2
PFNA	0.510	0.40	0.082	
PFDA	0.446	0.40	0.10	
PFUnA	0.495	0.40	0.16	
PFDOA	0.475	0.40	0.11	IR2
PFTRDA	0.498	0.40	0.20	
PFTEDA	0.546	0.40	0.20	
PFBS	0.385	0.40	0.037	J
PFPES	0.477	0.40	0.063	
PFHXS	0.505	0.40	0.032	
PFHPS	0.419	0.40	0.051	
PFOS	0.526	0.40	0.064	
PFNS	0.430	0.40	0.12	
PFDS	0.455	0.40	0.15	
PFDOS	0.418	0.40	0.12	
4:2FTS	1.90	1.6	0.29	
6:2FTS	1.84	1.6	0.31	
8:2FTS	2.25	1.6	0.082	
PFOSA	0.542	0.40	0.10	
NMeFOSA	2.01	1.6	0.47	
NEtFOSA	1.89	1.6	0.41	
NMeFOSAA	0.495	0.40	0.11	
NEtFOSAA	0.488	0.40	0.11	
NMeFOSE	1.97	1.6	1.0	
NEtFOSE	1.77	1.6	1.0	
HFPO-DA	0.940	[illegible]	[illegible]	

ANALYSIS DATA SHEET

MRL Check

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM		Project:	Red Hill AFFF Assessment Sampling	
Matrix:	Water	Laboratory ID:	BCB0232-MRL1	File ID:	S2023-02-14D (9)
Sampled:		Prepared:	02/13/23 07:19	Analyzed:	02/14/23 21:25
Solids:		Preparation:	EPA 1633	Dilution:	1
Batch:	BCB0232	Sequence:	SC00636	Calibration:	2307007
Instrument:	Saphira				
Column:	1				

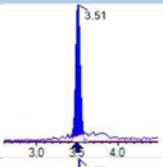
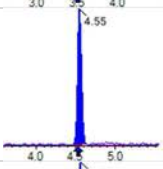
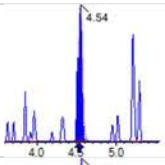
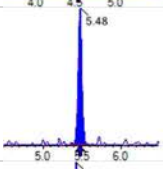
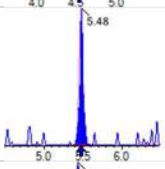
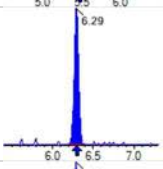
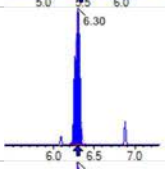
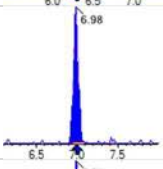
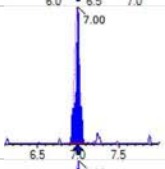
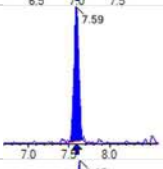
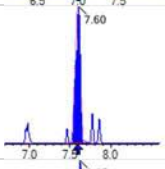
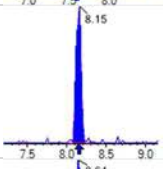
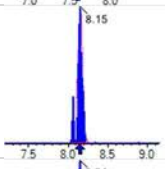
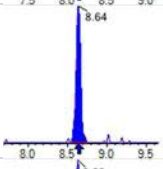
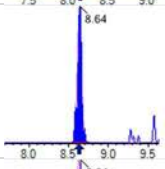
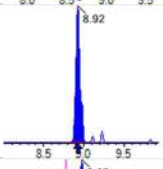
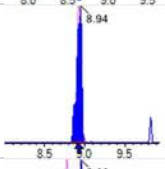
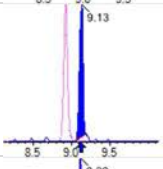
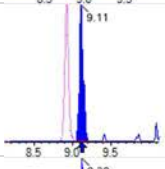
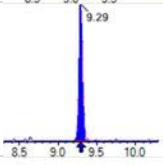
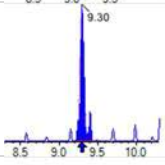
COMPOUND	CONC. (ng/L)	LOQ	DL	Q
ADONA	0.915	0.80	0.12	
PFEESA	0.810	0.80	0.11	
PFMPA	0.996	0.80	0.054	
PFMBA	0.903	0.80	0.091	
NFDHA	0.858	0.80	0.30	
9CL-PF3ONS	0.966	0.80	0.21	
11CL-PF3OUDS	0.935	0.80	0.21	
3:3FTCA	1.90	1.6	0.57	
5:3FTCA	1.66	1.6	0.44	
7:3FTCA	1.48	1.6	0.55	J

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

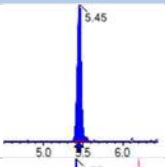
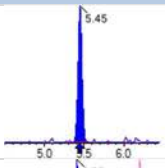
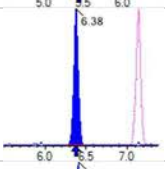
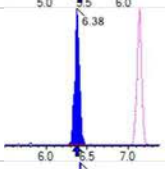
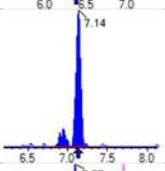
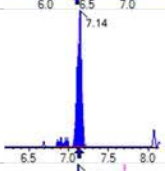
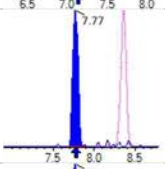
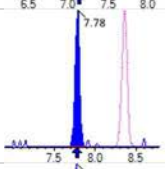
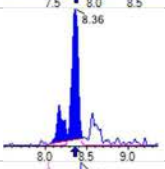
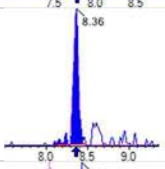
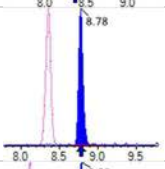
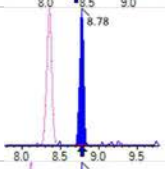
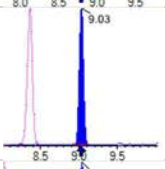
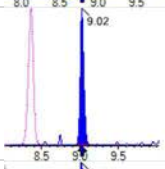
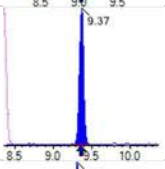
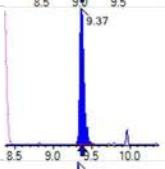
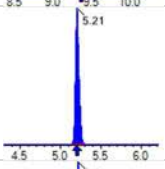
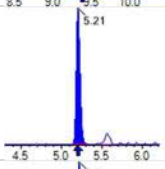
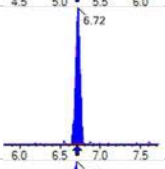
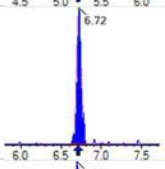
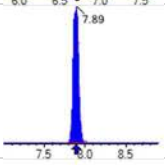
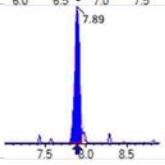
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBA	(213.0 / 169.0) 104294	(3.51 , 1.00) (0.00 , N/A , 0.0)	105.5	N/A 0.0 0.0	0.4718 [0.4000]	117.9%			
PFPeA	(263.0 / 219.0) 108205 (263.0 / 69.0) 1436	(4.55 , 1.00) (0.00 , N/A , 0.4)	392.7 34.4	0.0133 123.9 120.4	0.2515 [0.2000]	125.8%			
PFHxA	(313.0 / 269.0) 77146 (313.0 / 119.0) 9873	(5.48 , 1.00) (0.00 , N/A , -0.4)	381.1 2323.5	0.1280 128.5 134.5	0.1360 [0.1000]	136.0%			QC,
PFHpA	(363.0 / 319.0) 66676 (363.0 / 169.0) 20427	(6.29 , 1.00) (0.00 , N/A , -0.2)	59631.0 2069.4	0.3064 95.6 95.8	0.1499 [0.1000]	149.9%			QC,
PFOA	(413.0 / 369.0) 70093 (413.0 / 169.0) 38253	(6.98 , 1.00) (-0.01 , N/A , -1.1)	27.9 1132027.5	0.5458 163.1 151.0	0.1289 [0.1000]	128.9%			IR2,
PFNA	(463.0 / 419.0) 63194 (463.0 / 169.0) 13481	(7.59 , 1.00) (0.00 , N/A , -0.7)	24.2 1593.1	0.2133 95.3 96.5	0.1276 [0.1000]	127.6%			
PFDA	(513.0 / 469.0) 67756 (513.0 / 169.0) 9159	(8.15 , 1.00) (-0.01 , N/A , 0.0)	213.6 216.7	0.1352 111.2 124.6	0.1116 [0.1000]	111.6%			
PFUnA	(563.0 / 519.0) 68897 (563.0 / 169.0) 9112	(8.64 , 1.00) (0.01 , N/A , 0.0)	313.0 222.3	0.1323 126.2 113.1	0.1237 [0.1000]	123.7%			
PFDoA	(613.0 / 569.0) 59482 (613.0 / 169.0) 15143	(8.92 , 1.00) (0.00 , N/A , -0.7)	1663.5 182.0	0.2546 155.6 151.7	0.1189 [0.1000]	118.9%			IR2,
PFTrDA	(663.0 / 619.0) 56397 (663.0 / 169.0) 16442	(9.13 , 1.02) (N/A , 0.01 , 1.1)	24.4 192.3	0.2915 122.0 108.3	0.1245 [0.1000]	124.5%			
PFTeDA	(713.0 / 669.0) 62561 (713.0 / 169.0) 13973	(9.29 , 1.00) (-0.01 , N/A , -0.6)	32.2 116.2	0.2233 108.1 108.0	0.1366 [0.1000]	136.6%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

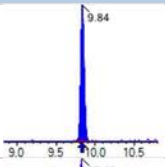
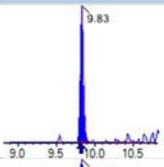
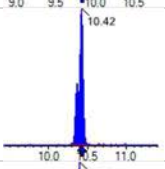
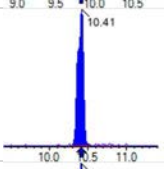
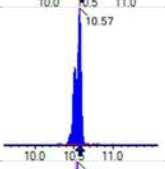
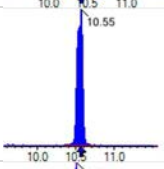
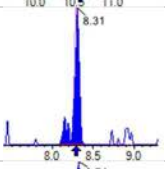
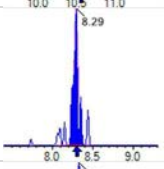
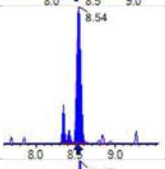
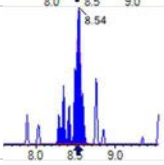
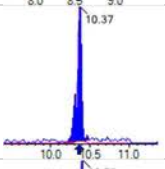
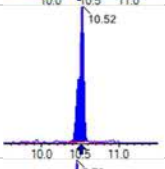
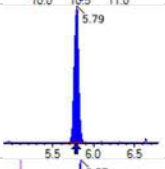
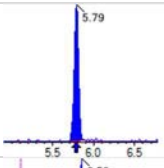
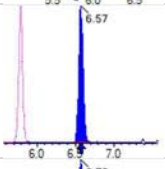
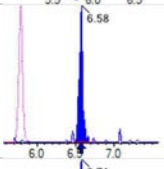
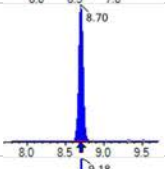
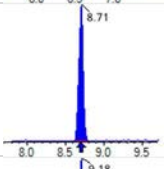
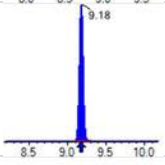
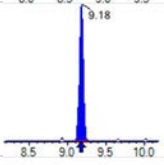
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFBS	(299.0 / 80.0) 99671 (299.0 / 99.0) 69989	(5.45 , 1.00) (0.00 , N/A , 0.2)	666.3 325.8	0.7022 108.6 113.5	0.0963 [0.0885]	108.8%			
PFPeS	(349.0 / 80.0) 191656 (349.0 / 99.0) 70511	(6.38 , 0.89) (N/A , 0.00 , -0.1)	3597675.3 977.9	0.3679 103.1 106.8	0.1193 [0.0938]	127.2%			
PFHxS	(399.0 / 80.0) 161800 (399.0 / 99.0) 41261	(7.14 , 1.00) (0.00 , N/A , -0.1)	127433.3 571796.2	0.2550 78.5 78.3	0.1264 [0.0911]	138.7%			QC,
PFHpS	(449.0 / 80.0) 150068 (449.0 / 99.0) 43316	(7.77 , 0.93) (N/A , 0.00 , -0.7)	449.5 4479.9	0.2886 106.0 103.7	0.1047 [0.0951]	110.0%			
PFOS	(499.0 / 80.0) 260865 (499.0 / 99.0) 62580	(8.36 , 1.00) (0.00 , N/A , 0.1)	65.5 139.5	0.2399 108.4 113.1	0.1315 [0.0927]	141.8%			QC,
PFNS	(549.0 / 80.0) 239893 (549.0 / 99.0) 63595	(8.78 , 1.05) (N/A , 0.00 , -0.2)	2336.8 1612.7	0.2651 120.9 115.3	0.1076 [0.0960]	112.1%			
PFDS	(599.0 / 80.0) 276029 (599.0 / 99.0) 65621	(9.03 , 1.08) (N/A , 0.01 , 0.4)	619.5 308.9	0.2377 109.1 110.7	0.1138 [0.0963]	118.2%			
PFDoS	(699.0 / 80.0) 161634 (699.0 / 99.0) 38804	(9.37 , 1.12) (N/A , 0.01 , 0.2)	435.9 334.1	0.2401 115.3 111.9	0.1045 [0.0970]	107.8%			
4:2FTS	(327.0 / 307.0) 248286 (327.0 / 81.0) 162566	(5.21 , 1.00) (0.00 , N/A , 0.0)	2396.4 335.6	0.6548 97.0 95.5	0.4756 [0.3738]	127.2%			
6:2FTS	(427.0 / 407.0) 54026 (427.0 / 81.0) 48046	(6.72 , 1.00) (0.00 , N/A , -0.1)	2066.9 555.1	0.8893 107.4 115.1	0.4599 [0.3796]	121.1%			
8:2FTS	(527.0 / 507.0) 71865 (527.0 / 81.0) 43051	(7.89 , 1.00) (-0.01 , N/A , -0.5)	15.9 276.3	0.5991 72.1 77.4	0.5635 [0.3833]	147.0%			QC,

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

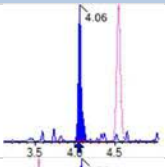
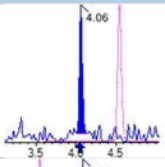
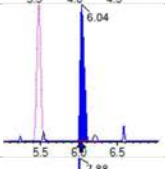
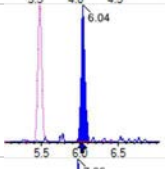
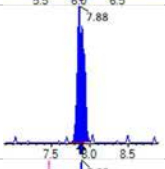
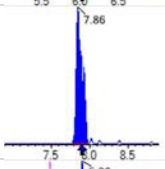
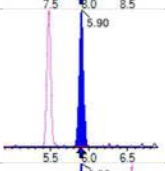
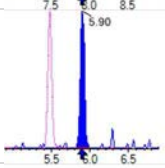
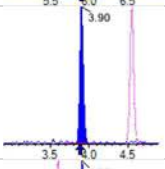
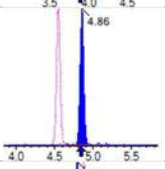
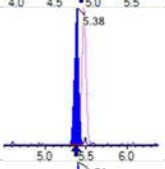
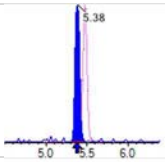
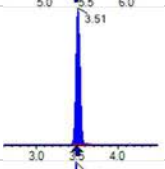
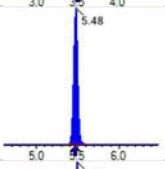
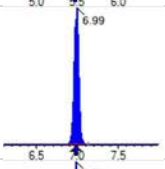
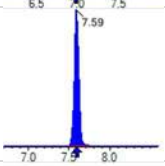
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
PFOSA	(498.0 / 78.0) 367043 (498.0 / 478.0) 10818	(9.84 , 1.00) (0.00 , N/A , 0.2)	42.7 133.1	0.0295 143.5 139.5	0.1355 [0.1000]	135.5%			QC,
NMeFOSA	(512.0 / 219.0) 214623 (512.0 / 169.0) 162033	(10.42 , 1.00) (0.00 , N/A , 0.9)	1199.4 912.9	0.7550 92.2 92.2	0.5023 [0.4000]	125.6%			
NEtFOSA	(526.0 / 219.0) 242776 (526.0 / 169.0) 284975	(10.57 , 1.00) (0.00 , N/A , 1.0)	1583.7 1117.1	1.1738 92.5 94.6	0.4728 [0.4000]	118.2%			
NMeFOSAA	(570.0 / 419.0) 26905 (570.0 / 483.0) 11209	(8.31 , 1.00) (0.01 , N/A , 0.8)	746.2 180.5	0.4166 87.8 89.9	0.1239 [0.1000]	123.9%			
NEtFOSAA	(584.0 / 419.0) 24571 (584.0 / 526.0) 14606	(8.54 , 1.00) (0.00 , N/A , 0.2)	6171.8 771.6	0.5944 116.5 101.4	0.1220 [0.1000]	122.0%			
NMeFOSE	(616.0 / 59.0) 86764	(10.37 , 1.00) (0.01 , N/A , 0.0)	209.9	N/A 0.0 0.0	0.4913 [0.4000]	122.8%			
NEtFOSE	(630.0 / 59.0) 150533	(10.52 , 1.00) (0.01 , N/A , 0.0)	313.9	N/A 0.0 0.0	0.4425 [0.4000]	110.6%			
HFPO-DA	(285.0 / 169.0) 73200 (285.0 / 185.0) 210658	(5.79 , 1.00) (0.00 , N/A , 0.0)	884.6 339.3	2.8778 104.5 103.7	0.2351 [0.2000]	117.5%			
ADONA	(377.0 / 85.0) 244992 (377.0 / 251.0) 24134	(6.57 , 1.14) (N/A , 0.00 , -0.2)	862.7 213.7	0.0985 111.7 105.5	0.2288 [0.1885]	121.3%			
9Cl-Pf3ONS	(531.0 / 351.0) 677278 (533.0 / 353.0) 238455	(8.70 , 1.50) (N/A , 0.01 , -0.2)	743.4 526.2	0.3521 101.1 106.6	0.2415 [0.1867]	129.4%			
11Cl-PF3OUDS	(631.0 / 451.0) 407709 (633.0 / 453.0) 134269	(9.18 , 1.59) (N/A , 0.01 , -0.1)	10013.3 2237.5	0.3293 91.0 92.4	0.2337 [0.1886]	123.9%			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

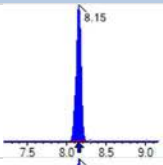
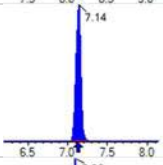
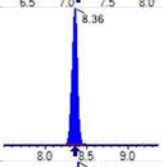
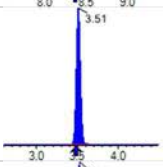
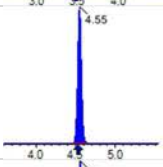
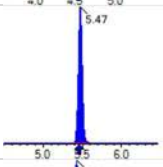
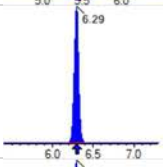
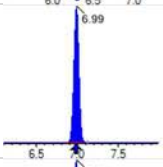
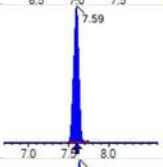
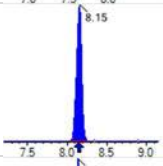
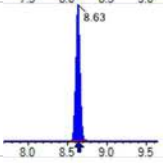
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
3:3FTCA	(241.0 / 177.0) 4742 (241.0 / 117.0) 5641	(4.06 , 0.89) (N/A , 0.00 , -0.1)	141.7 43.3	1.1897 75.4 72.7	0.4749 [0.4000]	118.7%			
5:3FTCA	(341.0 / 236.7) 32219 (341.0 / 217.0) 57456	(6.04 , 1.10) (N/A , 0.00 , 0.0)	1211.9 178.7	1.7833 104.6 110.8	0.4153 [0.4000]	103.8%			
7:3FTCA	(441.0 / 317.0) 53166 (441.0 / 337.0) 52752	(7.88 , 1.44) (N/A , -0.01 , 1.1)	232.8 598.6	0.9922 115.3 122.0	0.3710 [0.4000]	92.8%			
PFEESA	(315.0 / 135.0) 137998 (315.0 / 83.0) 40206	(5.90 , 1.08) (N/A , 0.00 , -0.2)	557.8 136.2	0.2914 114.1 105.8	0.2025 [0.1785]	113.5%			
PFMPA	(229.0 / 85.0) 23403	(3.90 , 0.86) (N/A , 0.01 , 0.0)	278.3	N/A 0.0 0.0	0.2490 [0.2000]	124.5%			
PFMBA	(279.0 / 85.0) 88998	(4.86 , 1.07) (N/A , 0.01 , 0.0)	601.4	N/A 0.0 0.0	0.2258 [0.2000]	112.9%			
NFDHA	(295.0 / 201.0) 67576 (295.0 / 85.0) 64958	(5.38 , 0.98) (N/A , 0.01 , 0.2)	395.8 179.4	0.9613 96.0 90.9	0.2146 [0.2000]	107.3%			
13C3_PFBA_IIS	(216.0 / 172.0) 250926	(3.51 , N/A) (N/A , 0.01 , N/A)	1285.1	N/A	1.1203 [1.0000]	112.0% { 114.4% }			
13C2_PFHxA_IIS	(315.0 / 270.0) 489204	(5.48 , N/A) (N/A , 0.00 , N/A)	3066.1	N/A	0.9691 [1.0000]	96.9% { 101.8% }			
13C4_PFOA_IIS	(417.0 / 372.0) 642508	(6.99 , N/A) (N/A , 0.00 , N/A)	1340.6	N/A	1.0138 [1.0000]	101.4% { 105.3% }			
13C5_PFNA_IIS	(468.0 / 423.0) 604551	(7.59 , N/A) (N/A , 0.00 , N/A)	3991.4	N/A	1.0005 [1.0000]	100.0% { 107.2% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

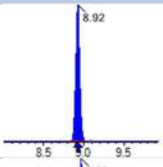
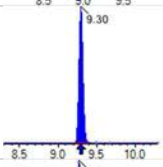
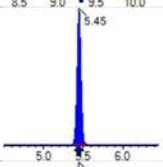
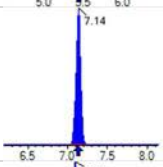
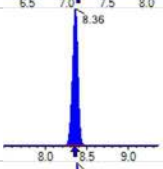
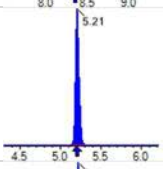
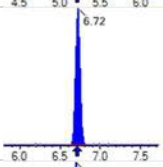
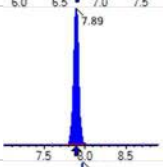
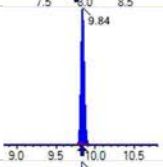
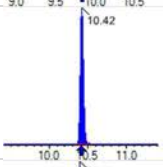
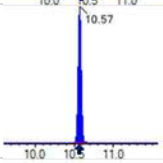
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDA_IIS	(515.0 / 470.1) 609817	(8.15 , N/A) (N/A , 0.01 , N/A)	2081.7	N/A	1.0539 [1.0000]	105.4% { 113.9% }			
18O2_PFHxS_IIS	(403.0 / 83.9) 932166	(7.14 , N/A) (N/A , 0.00 , N/A)	2167.8	N/A	1.0885 [1.0000]	108.9% { 110.7% }			
13C4_PFOS_IIS	(503.0 / 79.9) 1492538	(8.36 , N/A) (N/A , 0.00 , N/A)	1336.1	N/A	0.9915 [1.0000]	99.1% { 111.3% }			
13C4_PFBA_EIS	(217.0 / 172.0) 2134906	(3.51 , N/A) (N/A , 0.01 , N/A)	4661.6	N/A	7.1527 [8.0000]	89.4% { 92.9% }			
13C5_PFPeA_EIS	(268.0 / 223.0) 2091640	(4.55 , N/A) (N/A , 0.01 , N/A)	3649.5	N/A	3.9078 [4.0000]	97.7% { 90.8% }			
13C5_PFHxA_EIS	(318.0 / 273.0) 1290515	(5.47 , N/A) (N/A , 0.00 , N/A)	1967.2	N/A	1.9259 [2.0000]	96.3% { 90.4% }			
13C4_PFHpA_EIS	(367.0 / 322.0) 1053792	(6.29 , N/A) (N/A , 0.00 , N/A)	7669.0	N/A	1.8150 [2.0000]	90.8% { 89.4% }			
13C8_PFOA_EIS	(421.0 / 376.0) 1221794	(6.99 , N/A) (N/A , 0.00 , N/A)	1352.8	N/A	1.6791 [2.0000]	84.0% { 86.0% }			
13C9_PFNA_EIS	(472.0 / 427.0) 559706	(7.59 , N/A) (N/A , 0.00 , N/A)	1823.7	N/A	0.8738 [1.0000]	87.4% { 92.0% }			
13C6_PFDA_EIS	(519.0 / 474.0) 690264	(8.15 , N/A) (N/A , 0.01 , N/A)	2544.6	N/A	0.8977 [1.0000]	89.8% { 92.6% }			
13C7_PFUnA_EIS	(570.0 / 525.0) 670521	(8.63 , N/A) (N/A , 0.01 , N/A)	2226.9	N/A	0.8770 [1.0000]	87.7% { 100.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

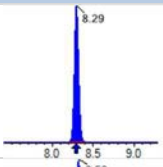
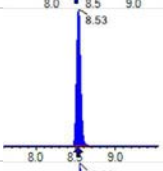
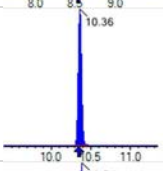
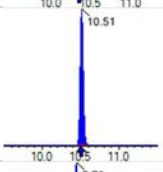
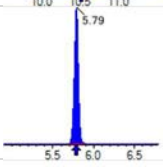
Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
13C2_PFDoA_EIS	(615.0 / 570.0) 569029	(8.92 , N/A) (N/A , 0.01 , N/A)	5649.4	N/A	0.8677 [1.0000]	86.8% { 86.4% }			
13C2_PFTeDA_EIS	(715.0 / 670.0) 529347	(9.30 , N/A) (N/A , 0.01 , N/A)	814.2	N/A	0.8810 [1.0000]	88.1% { 90.4% }			
13C3_PFBS_EIS	(302.0 / 80.0) 3332569	(5.45 , N/A) (N/A , 0.00 , N/A)	4564.5	N/A	1.7082 [2.0000]	85.4% { 87.9% }			
13C3_PFHxS_EIS	(402.0 / 80.0) 1665499	(7.14 , N/A) (N/A , 0.00 , N/A)	1639.4	N/A	1.6436 [2.0000]	82.2% { 84.7% }			
13C8_PFOS_EIS	(507.0 / 80.0) 3763047	(8.36 , N/A) (N/A , 0.00 , N/A)	1642.7	N/A	1.8365 [2.0000]	91.8% { 88.8% }			
13C2_4:2FTS_EIS	(329.0 / 81.0) 764534	(5.21 , N/A) (N/A , 0.00 , N/A)	1682.9	N/A	7.0996 [4.0000]	177.5% { 220.1% }			S2,
13C2_6:2FTS_EIS	(429.0 / 81.0) 331179	(6.72 , N/A) (N/A , 0.00 , N/A)	1339.7	N/A	2.8017 [4.0000]	70.0% { 79.6% }			
13C2_8:2FTS_EIS	(529.0 / 81.0) 468317	(7.89 , N/A) (N/A , 0.00 , N/A)	1472.4	N/A	2.8042 [4.0000]	70.1% { 77.6% }			
13C8_PFOSA_EIS	(506.0 / 78.0) 6773226	(9.84 , N/A) (N/A , 0.01 , N/A)	3187.9	N/A	1.7808 [2.0000]	89.0% { 81.5% }			
D3_NMeFOSA_EIS	(515.0 / 169.0) 1135756	(10.42 , N/A) (N/A , 0.01 , N/A)	2190.5	N/A	1.2674 [2.0000]	63.4% { 58.7% }			
D5_NEtFOSA_EIS	(531.0 / 169.0) 1099261	(10.57 , N/A) (N/A , 0.01 , N/A)	2782.7	N/A	1.3708 [2.0000]	68.5% { 61.6% }			

APPL
AGRICULTURE & PRIORITY POLLUTANTS LABORATORIES
A METIRI GROUP COMPANY

Chemist: DAG
Instrument: Saphira
Type: Sciex Q3 5500

Sample I.D.: BCB0232-MRL1
DF , IV: 1 , 10.0µL
Acquisition Method: 1633 2023-02-14.dam

Quant Method: 1633 - S2023-02-14C
Path: S2023-02-14D (9)
Acquired: 2023/02/14 - 21:25

Analyte	(Q1 / Q3) Area Counts*min	R.T. (R.T [min] , R.R.T.) (ΔRT-I[min], ΔRT-CV[min], ΔRT ion[s])	S / N	Ion Ratio IR Vs MP% IR Vs CV%	Concentration [True] ng/mL	Q.C. Rec. {Area%CV}	Primary Transition	Confirmation Transition	Flag
D3_MeFOSAA_EIS	(573.0 / 419.0) 1107071	(8.29 , N/A) (N/A , 0.01 , N/A)	1746.6	N/A	3.3387 [4.0000]	83.5% { 83.6% }			
D5_EtFOSAA_EIS	(589.0 / 419.0) 958945	(8.53 , N/A) (N/A , 0.01 , N/A)	65933.1	N/A	3.5318 [4.0000]	88.3% { 90.9% }			
D7_NMeFOSE_EIS	(623.0 / 58.9) 3532800	(10.36 , N/A) (N/A , 0.01 , N/A)	1989.1	N/A	10.8136 [20.0000]	54.1% { 47.6% }			
D9_NEtFOSE_EIS	(639.0 / 58.9) 7150182	(10.51 , N/A) (N/A , 0.01 , N/A)	2028.4	N/A	17.0901 [20.0000]	85.5% { 75.9% }			
13C3_HFPODA_EIS	(287.0 / 169.0) 3150017	(5.79 , N/A) (N/A , 0.00 , N/A)	3732.5	N/A	7.7208 [8.0000]	96.5% { 87.8% }			

PREPARATION BATCH SUMMARY

EPA 1633

Laboratory:	APPL, LLC			Work Order:	23B0091
Client:	AECOM			Project:	Red Hill AFFF Assessment Sampling
Batch:	BCB0232	Batch Matrix:	Water	Preparation:	EPA 1633

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT mL	FINAL VOL. mL
AF-RHMW17-WGN01LF-2302W1	23B0091-01	02/13/23 07:19	566.32	2.00
AF-RHMW17D-WGN01LF-2302W1	23B0091-02	02/13/23 07:19	569.47	2.00
AF-RHMW17D-WGN01LF-2302W1	23B0091-02RE1	02/13/23 07:19	569.47	2.00
AF-RHMW17D-WQFB01-2302W1	23B0091-03	02/13/23 07:19	556.90	2.00
AF-RHMW225401-WGN01B-2302W1	23B0091-04	02/13/23 07:19	527.55	2.00
Blank	BCB0232-BLK1	02/13/23 07:19	500.00	2.00
LCS	BCB0232-BS1	02/13/23 07:19	500.00	2.00
MRL Check	BCB0232-MRL1	02/13/23 07:19	500.00	2.00

PREPARATION BENCH SHEET
Organics

Print Date/Time: 02/16/2023 11:10 am

BCB0232

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses
1633

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

Surrogate Solution(s)
23B0135 MPFAC-HIF-ES 20.0ng/mL

Lab Number	Sample and Source ID	Date Due	Extract by	Prepared	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
23B0073-01	AF-RHMW16-WGN01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	562.3	2		200	
23B0073-01RE1	AF-RHMW16-WGN01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	562.3	2		200	Added 2/14/2023 by PAF
23B0073-02	AF-RHMW12A-WGN01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	552.35	2		200	
23B0073-02RE1	AF-RHMW12A-WGN01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	552.35	2		200	Added 2/14/2023 by PAF
23B0073-03	AF-RHMW12A-WGFD01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	564.77	2		200	
23B0073-03RE1	AF-RHMW12A-WGFD01LF-2302W1	02/16/2023	03/08/2023	2/13/2023 7:19:00AM	564.77	2		200	Added 2/14/2023 by PAF
23B0078-01	AF-RHMW06-WGN01LF-2302W1	02/17/2023	03/09/2023	2/13/2023 7:19:00AM	519.05	2		200	"Report relevant surrogates"
23B0078-01RE1	AF-RHMW06-WGN01LF-2302W1	02/17/2023	03/09/2023	2/13/2023 7:19:00AM	519.05	2		200	"Report relevant surrogates"
23B0078-02	AF-RHMW04-WGN01LF-2302W1	02/17/2023	03/09/2023	2/13/2023 7:19:00AM	558.31	2		200	"Report relevant surrogates"
23B0078-02RE1	AF-RHMW04-WGN01LF-2302W1	02/17/2023	03/09/2023	2/13/2023 7:19:00AM	558.31	2		200	"Report relevant surrogates"
23B0091-01	AF-RHMW17-WGN01LF-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	566.32	2		200	"Report relevant surrogates"
23B0091-01RE1	AF-RHMW17-WGN01LF-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	566.32	2		200	"Report relevant surrogates"
23B0091-02	AF-RHMW17D-WGN01LF-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	569.47	2		200	"Report relevant surrogates"
23B0091-02RE1	AF-RHMW17D-WGN01LF-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	569.47	2		200	"Report relevant surrogates"
23B0091-03	AF-RHMW17D-WQFB01-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	556.9	2		200	"Report relevant surrogates"
23B0091-03RE1	AF-RHMW17D-WQFB01-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	556.9	2		200	"Report relevant surrogates"
23B0091-04	AF-RHMW225401-WGN01B-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	527.55	2		200	"Report relevant surrogates"
23B0091-04RE1	AF-RHMW225401-WGN01B-2302W1	02/20/2023	03/10/2023	2/13/2023 7:19:00AM	527.55	2		200	"Report relevant surrogates"

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

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PREPARATION BENCH SHEET
Organics

Print Date/Time: 02/16/2023 11:10 am

BCB0232

(Continued)

Matrix: Water

Prepared using: PFAS - EPA 1633

Analyses	Spiking Solution(s)	Surrogate Solution(s)
1633	23B0196 PFAS - MIX 1633 10ng/mL	23B0135 MPFAC-HIF-ES 20.0ng/mL

BCB0232-BLK1	Blank			2/13/2023 7:19:00AM	500	2	0	200	
BCB0232-BS1	LCS			2/13/2023 7:19:00AM	500	2	200	200	
BCB0232-MRL1	MRL Check			2/13/2023 7:19:00AM	500	2	20	200	

Start Date/Time _____

StopDate/Time _____

Reagents

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

atch Comments:
Spiked by: LYA 2/13/23 8:25am Witness: DAG
Balance #: WB2
Cartridge: Oasis Waters
Concentration: 2/13/23 425pm - 5:14pm

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

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INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00636	Instrument:	Saphira
Calibration:	2307007		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SC00636-CCB1	S2023-02-14D (1)	02/14/23 19:41
Low Cal Check	SC00636-LCV1	S2023-02-14D (2)	02/14/23 19:54
Calibration Check	SC00636-CCV1	S2023-02-14D (3)	02/14/23 20:07
Calibration Check	SC00636-CCV2	S2023-02-14D (6)	02/14/23 20:46
Blank	BCB0232-BLK1	S2023-02-14D (7)	02/14/23 20:59
LCS	BCB0232-BS1	S2023-02-14D (8)	02/14/23 21:12
MRL Check	BCB0232-MRL1	S2023-02-14D (9)	02/14/23 21:25
AF-RHMW17-WGN01LF-2302W1	23B0091-01	S2023-02-14D (20)	02/14/23 23:47
AF-RHMW17D-WGN01LF-2302W1	23B0091-02	S2023-02-14D (22)	02/15/23 00:13
AF-RHMW17D-WGN01LF-2302W1	23B0091-02RE1	S2023-02-14D (23)	02/15/23 00:26
AF-RHMW17D-WQFB01-2302W1	23B0091-03	S2023-02-14D (24)	02/15/23 00:39
AF-RHMW225401-WGN01B-2302W1	23B0091-04	S2023-02-14D (26)	02/15/23 01:04
Calibration Check	SC00636-CCV3	S2023-02-14D (28)	02/15/23 10:11
Calibration Blank	SC00636-CCB3	S2023-02-14D (29)	02/15/23 10:24
Calibration Check	SC00636-CCV4	S2023-02-14D (35)	02/15/23 11:41
Calibration Blank	SC00636-CCB4	S2023-02-14D (36)	02/15/23 11:54

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 1633

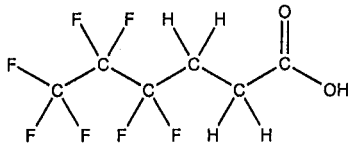
Laboratory:	APPL, LLC	SDG:	
Client:	AECOM	Project:	Red Hill AFFF Assessment Sampling
Sequence:	SC00647	Instrument:	Saphira
Calibration:	2307007		

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

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.

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

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HANDLING:

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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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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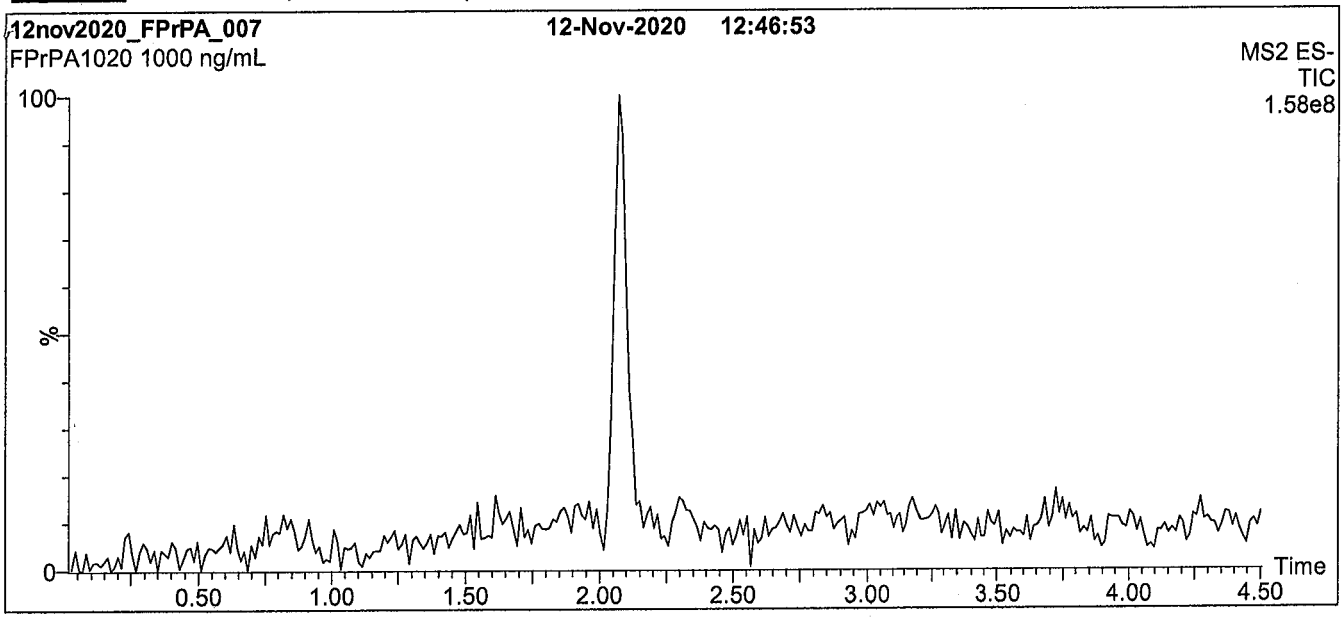
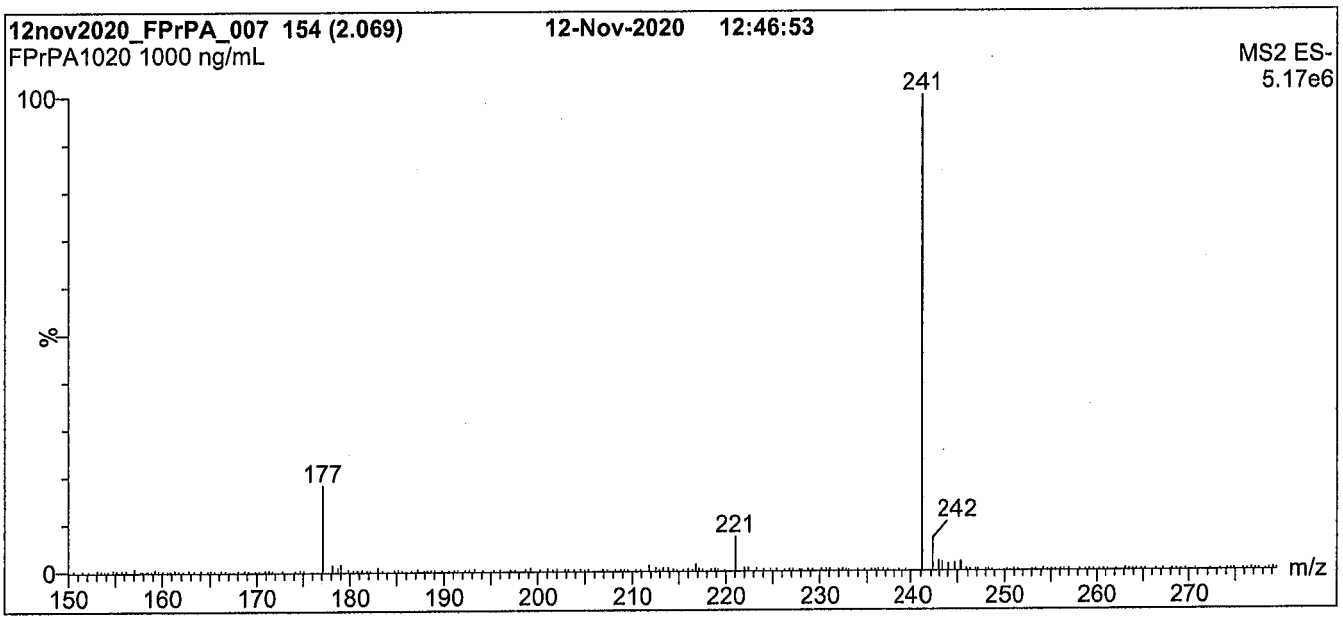
Figure 1: **FPrPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

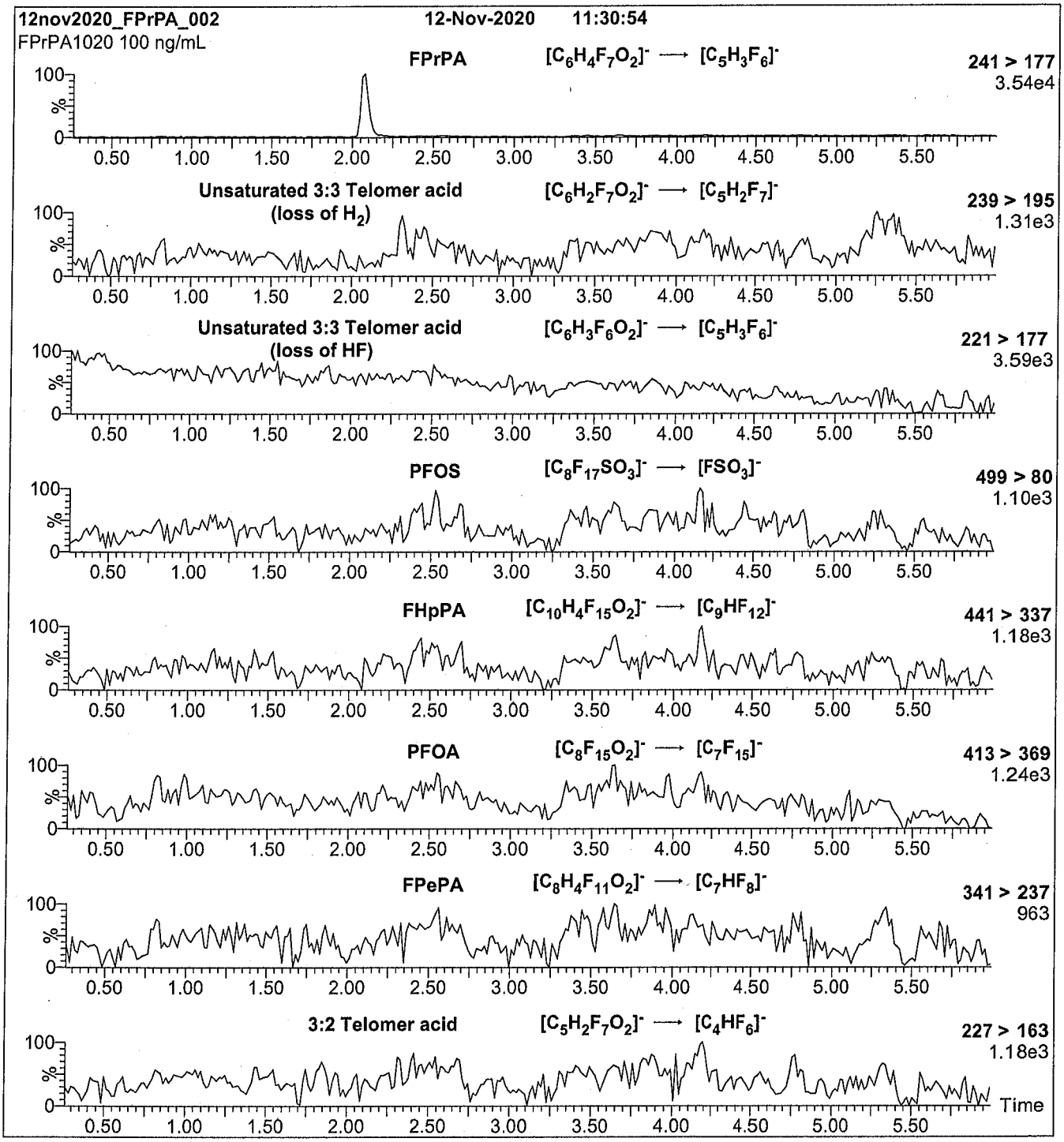
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (150 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 10

Analytical Standard Record

21L0004

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

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

WELLINGTON LABORATORIES

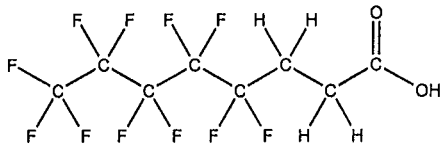
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPePA
COMPOUND: 3-Perfluoropentyl propanoic acid

LOT NUMBER: FPePA1120

STRUCTURE:

CAS #: 914637-49-3



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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CALA Testing Accreditation No. A1226

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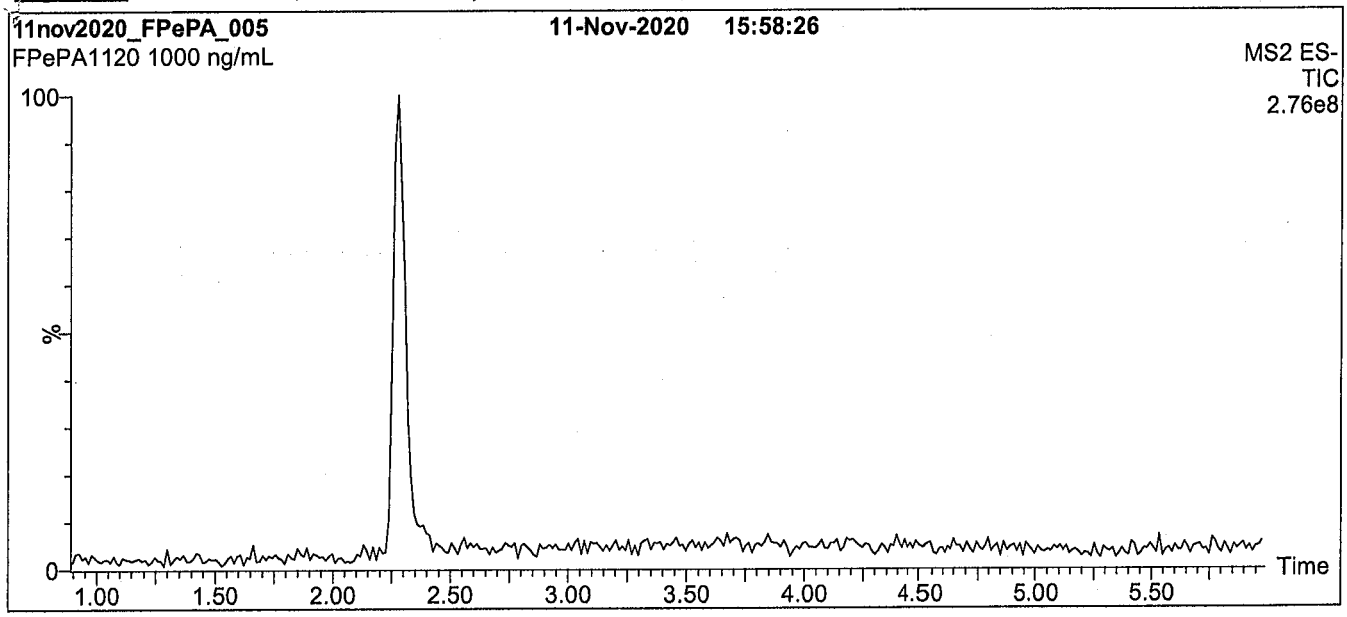
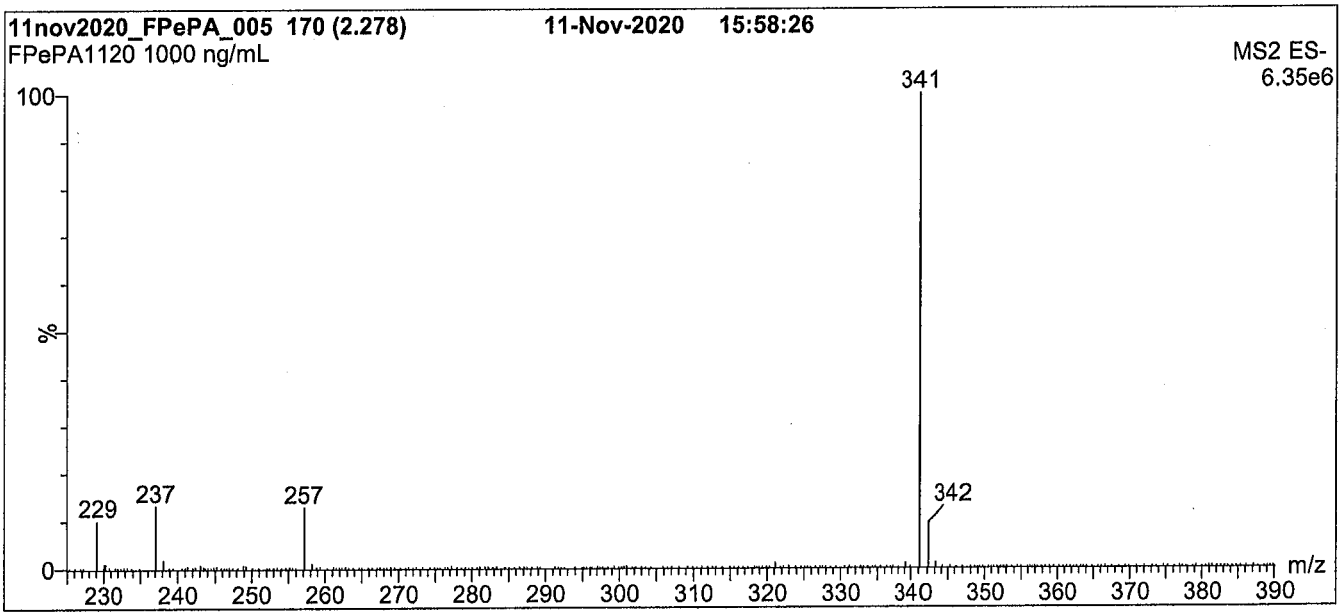
Figure 1: **FPePA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

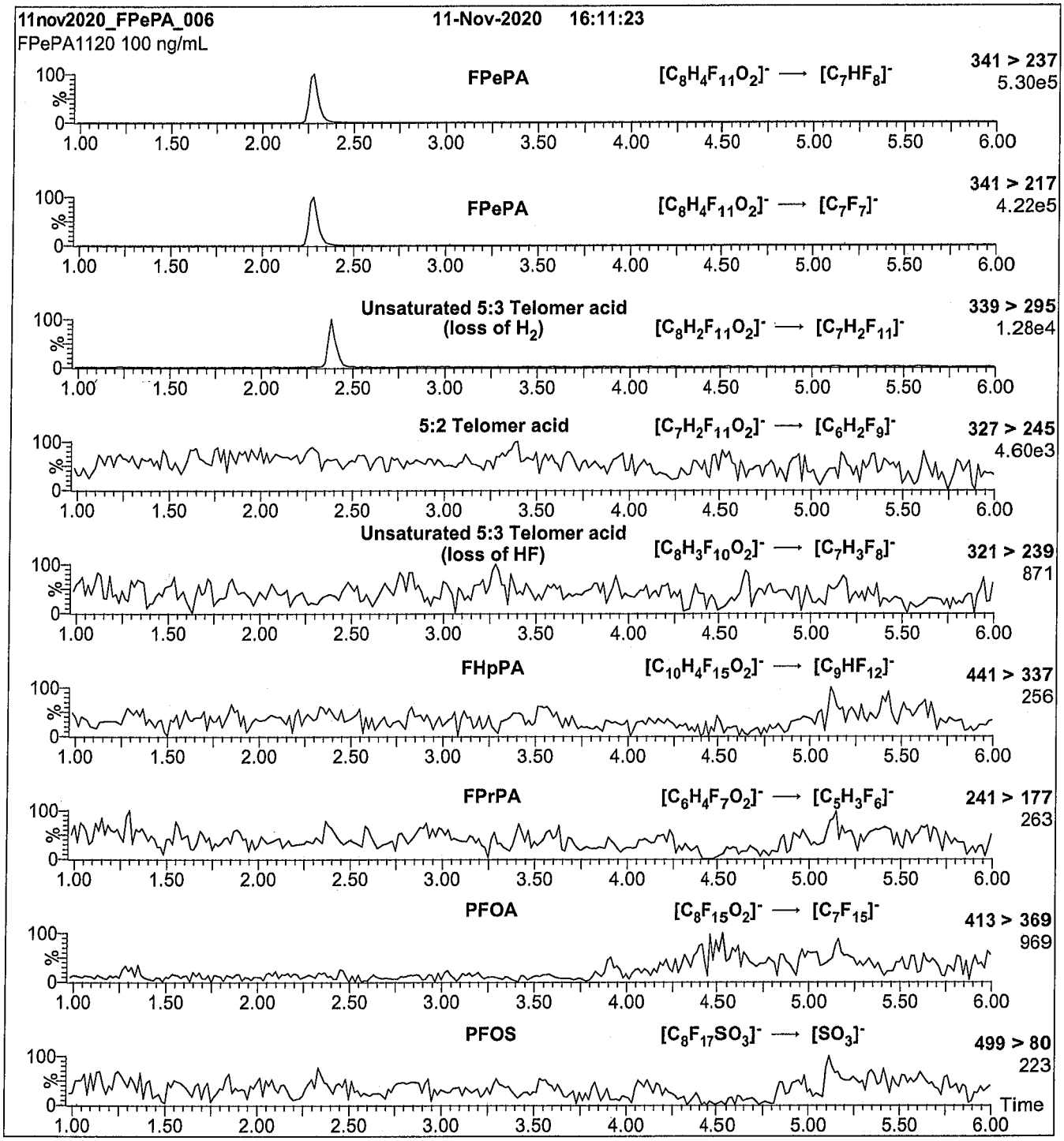
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (FPePA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.24e-3
Collision Energy (eV) = 10

Analytical Standard Record

21L0005

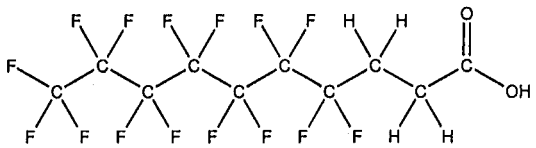
Description:	PFAS - SAS 5:3FTA 50ug/mL	Expires:	06/05/2022
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Hart Hedgpeth
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	12/07/2021 16:03 by HGH
Comments:	5:3 FTCA 50.0ug/mL		

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



MOLECULAR FORMULA:	$C_{10}H_5F_{15}O_2$	**MOLECULAR WEIGHT:**	442.12
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/12/2020		
EXPIRY DATE: (mm/dd/yyyy)	11/12/2025		
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- See page 2 for further details.

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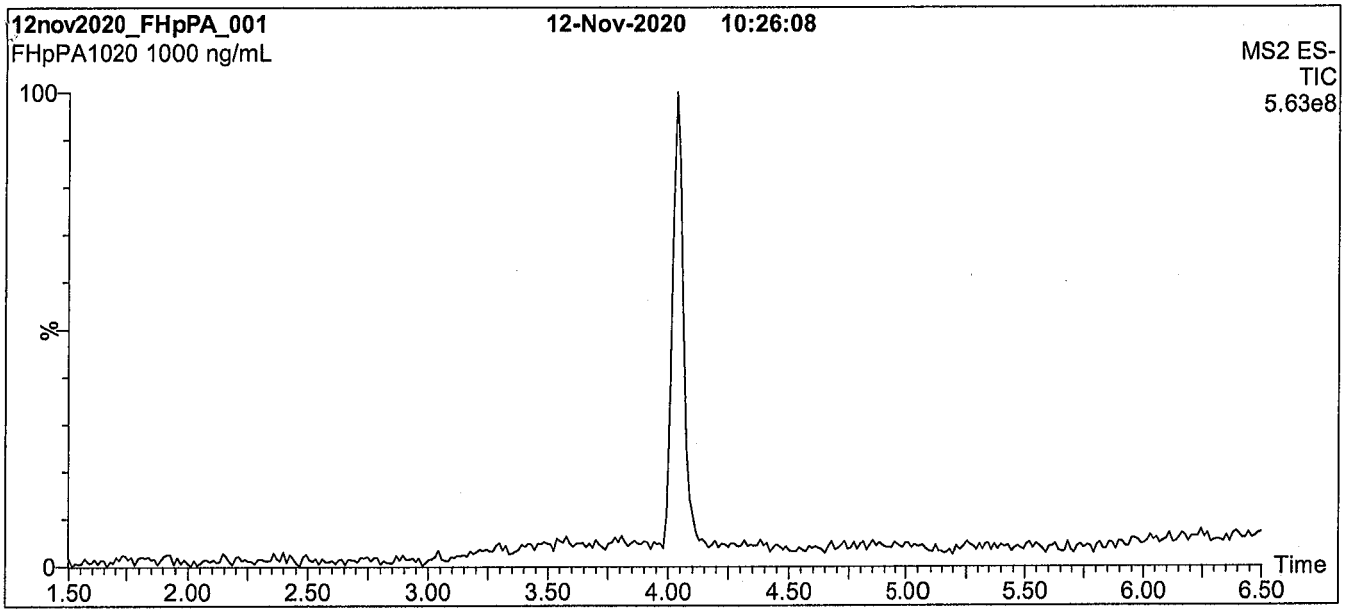

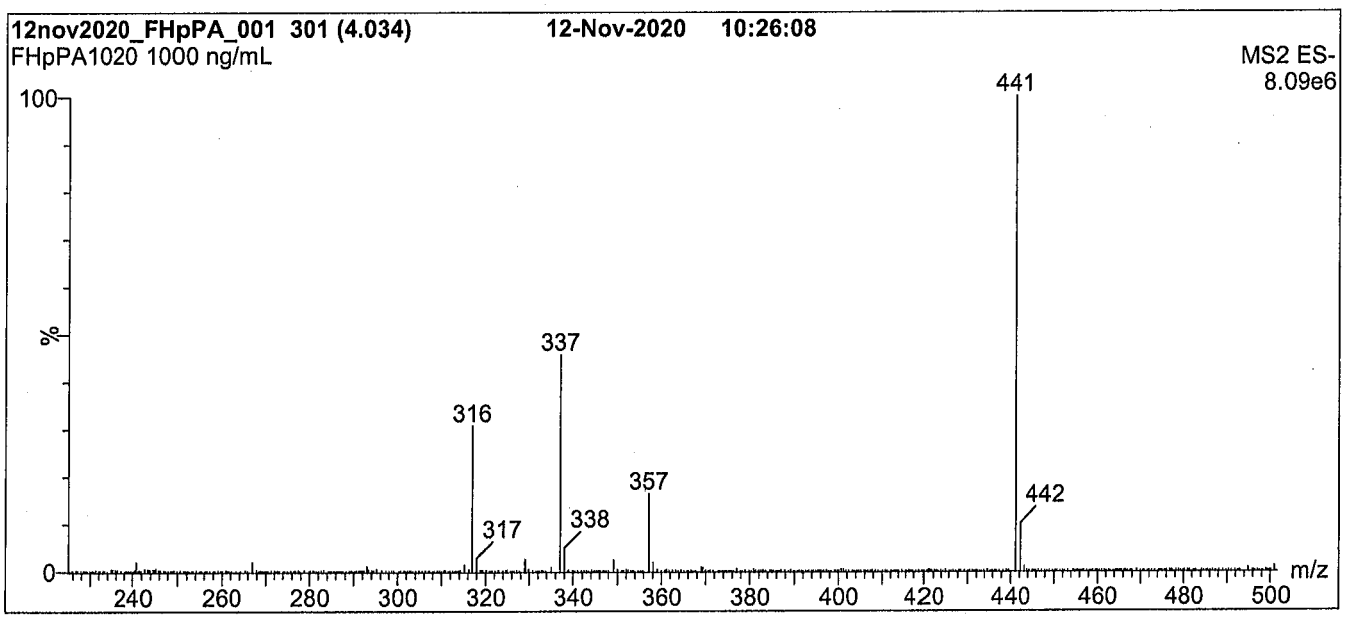

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Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

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Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
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Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
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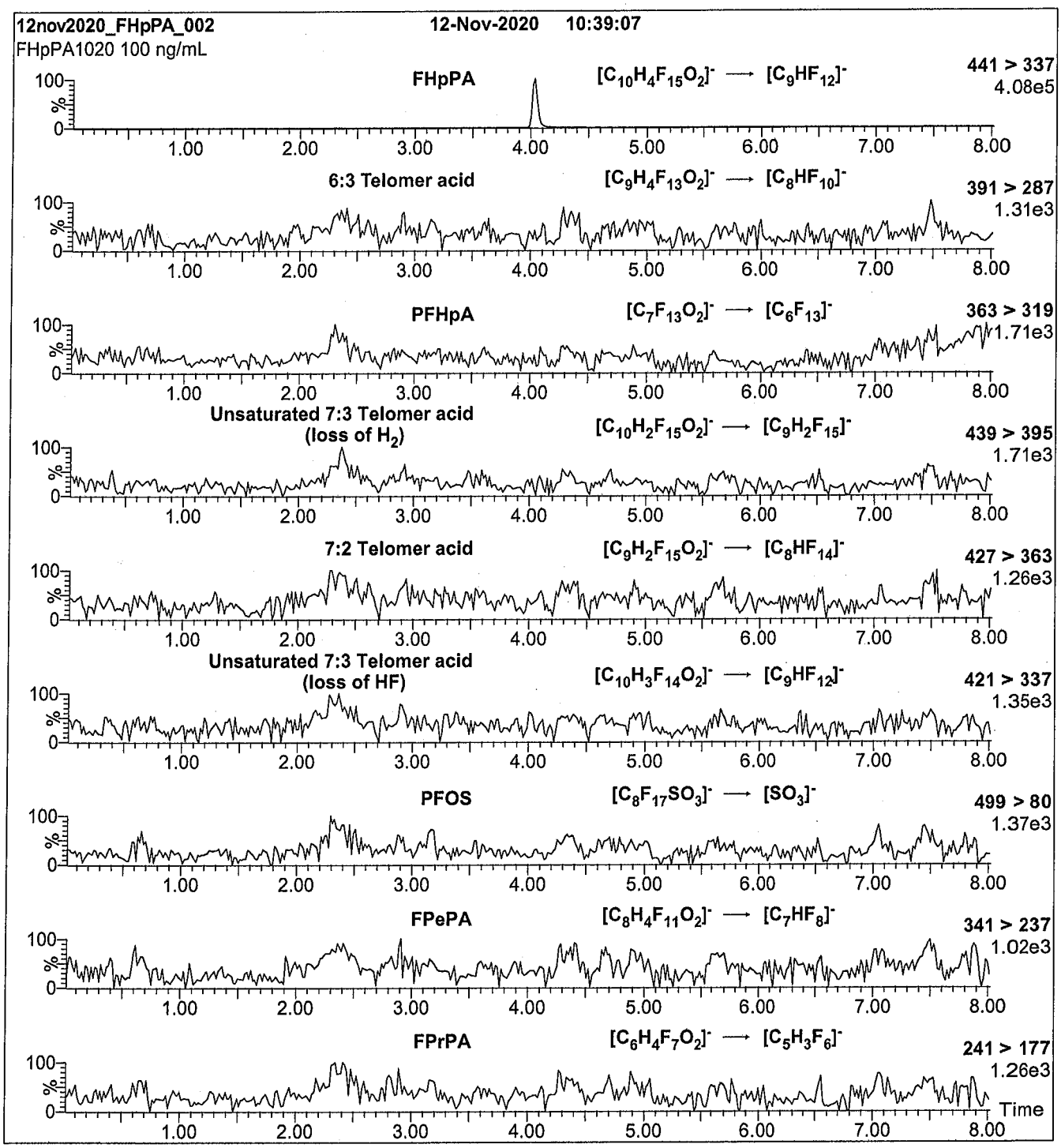
Cone Voltage (V) = 28.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.41e-3
Collision Energy (eV) = 8

Analytical Standard Record

21L0007

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

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

WELLINGTON LABORATORIES

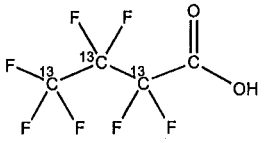
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3PFBA
COMPOUND: Perfluoro-n-(2,3,4-$^{13}C_3$)butanoic acid

LOT NUMBER: M3PFBA0721

STRUCTURE:

CAS #: Not available



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

INTENDED USE:

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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UNCERTAINTY:

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

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

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

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

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EXPIRY DATE / PERIOD OF VALIDITY:

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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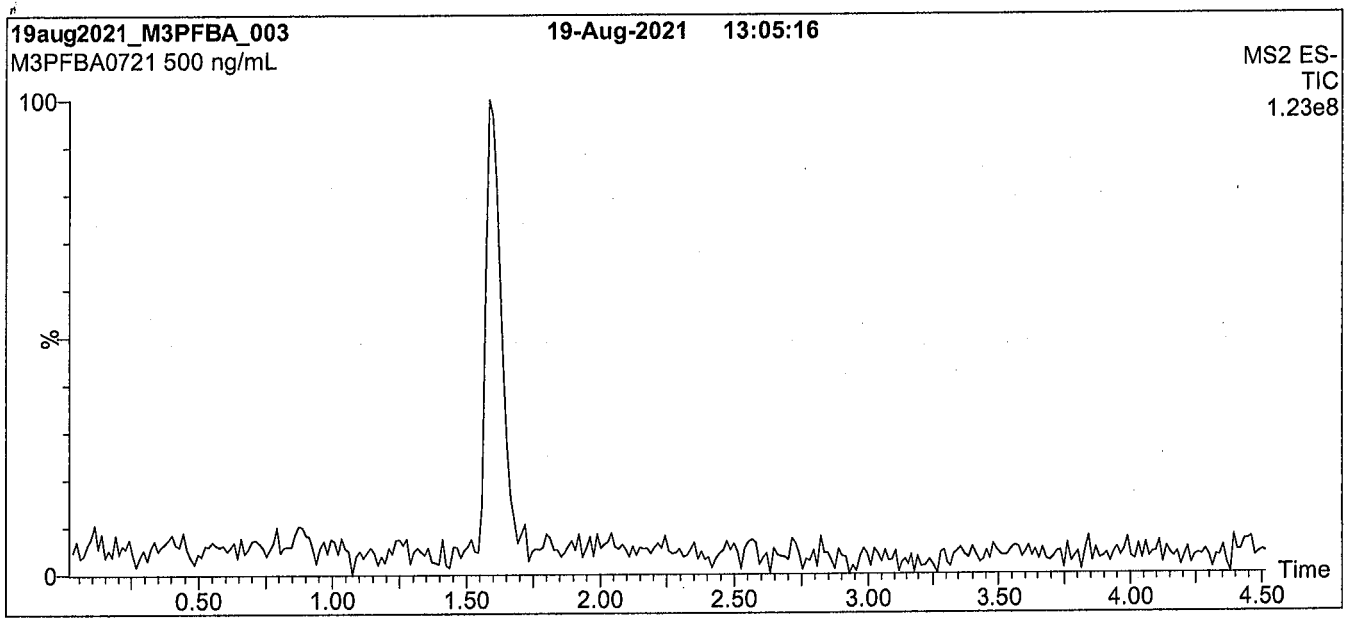
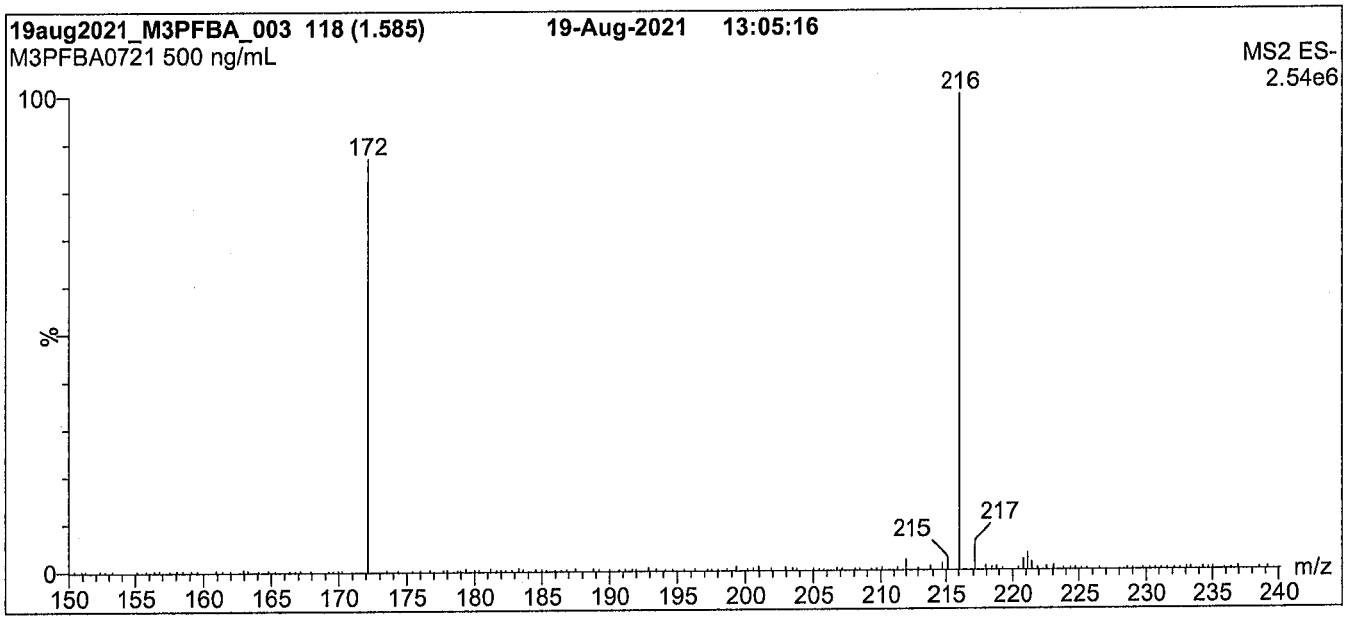
Figure 1: **M3PFBA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 12 min

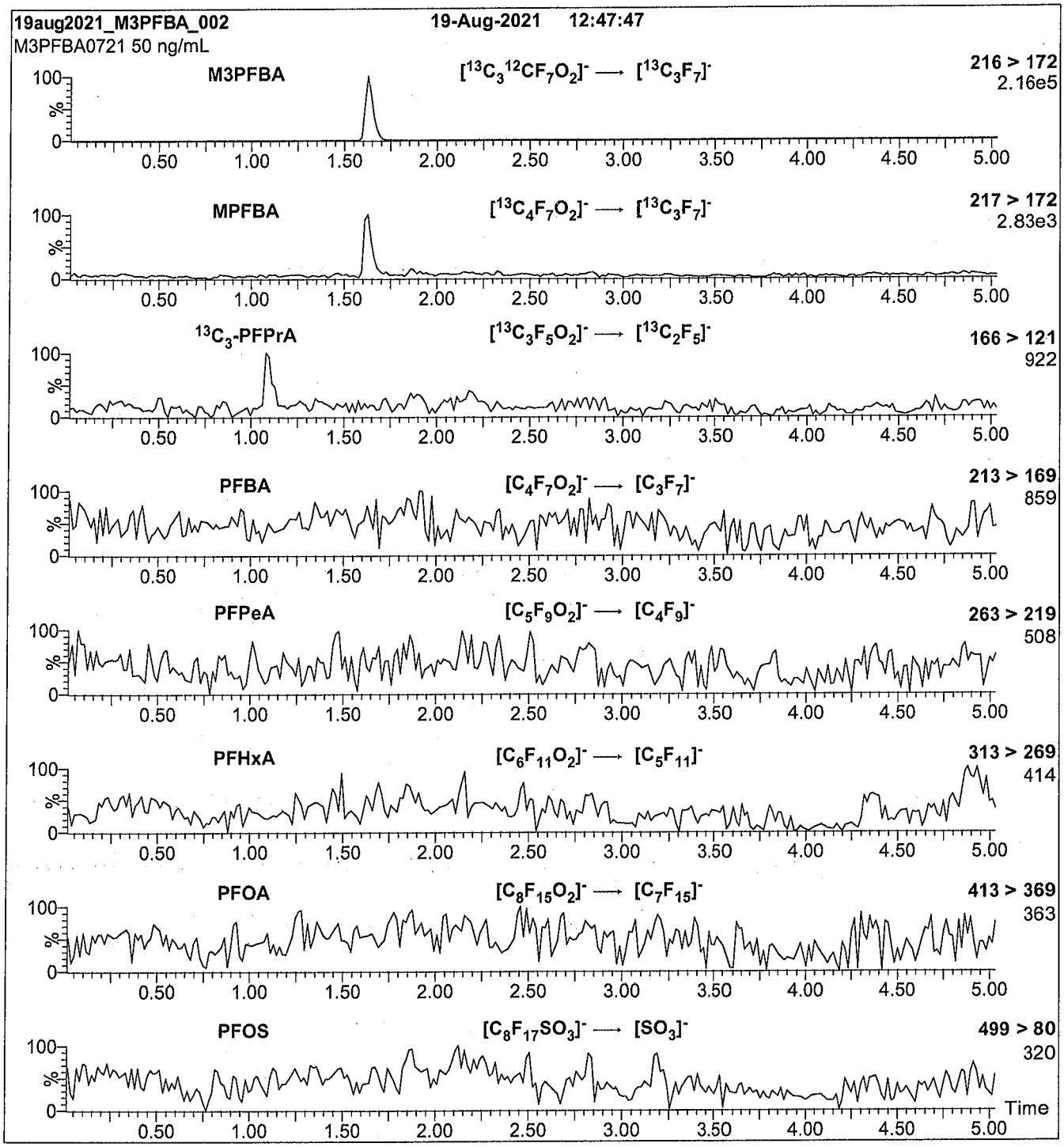
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (150 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (M3PFBA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 8

Analytical Standard Record

22A0116

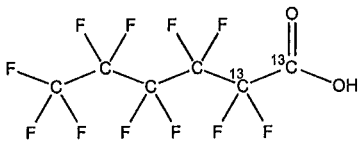
Description:	PFAS - IIS M3PFBA 50ug/mL	Expires:	08/19/2026
Standard Type:	Analyte Spike	Prepared:	08/19/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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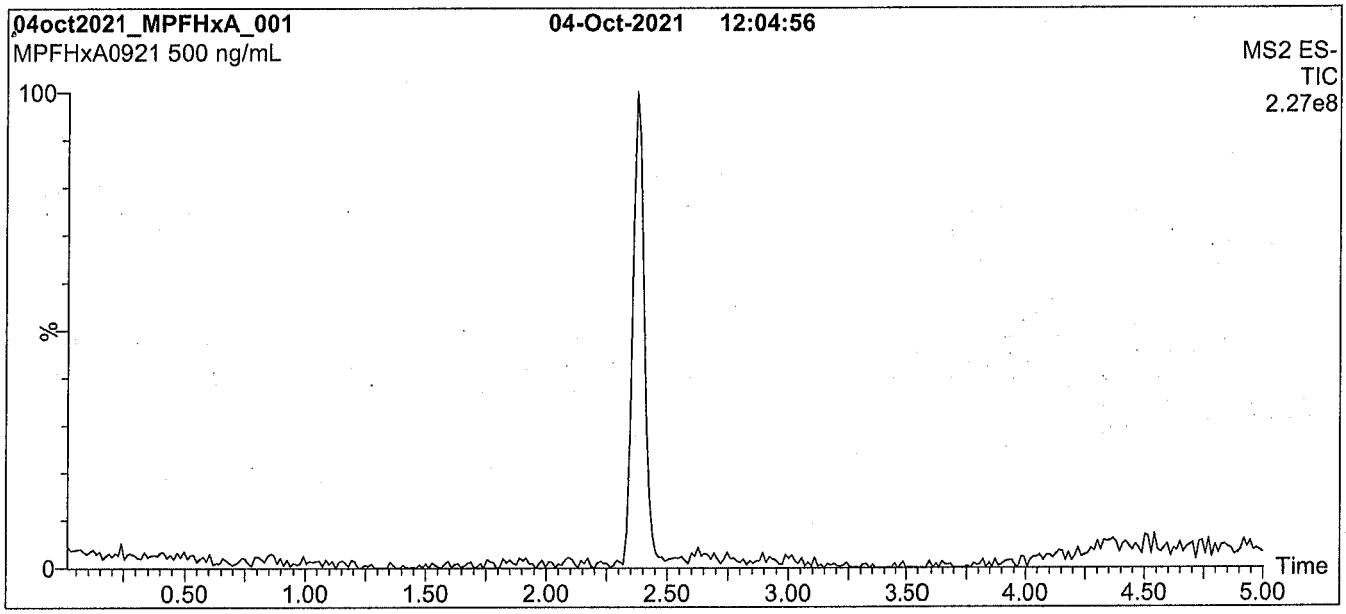
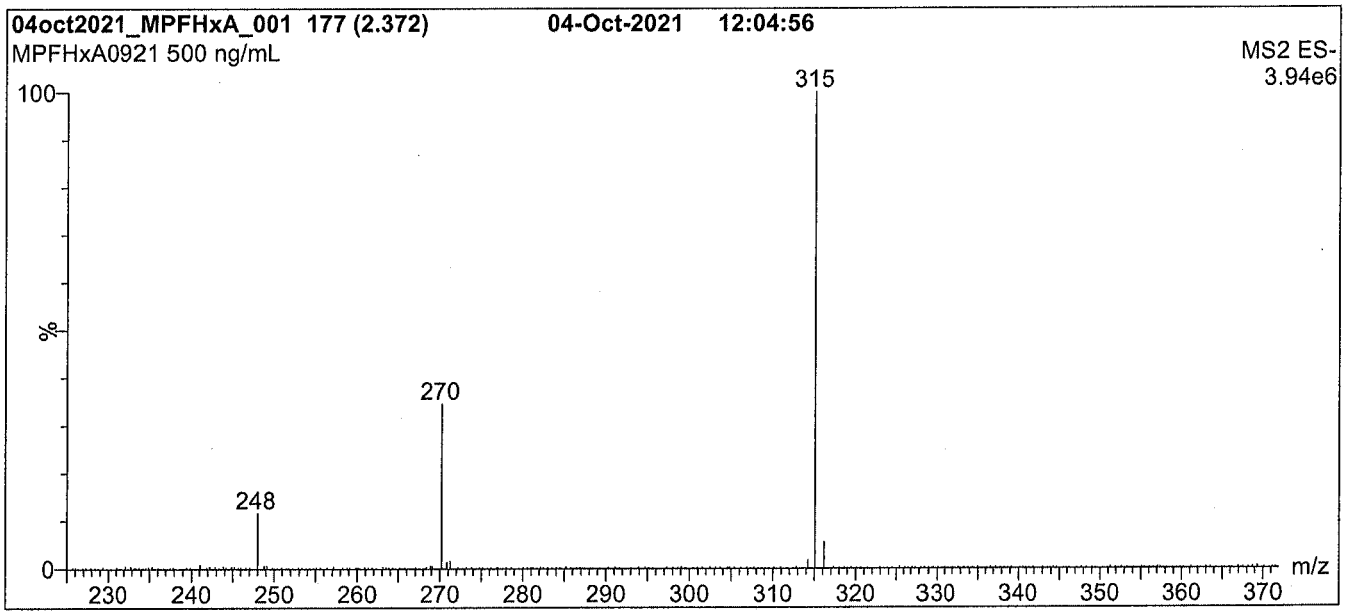
Figure 1: **MPFHxA; LC/MS Data (Full Scan and Mass Spectrum)**





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

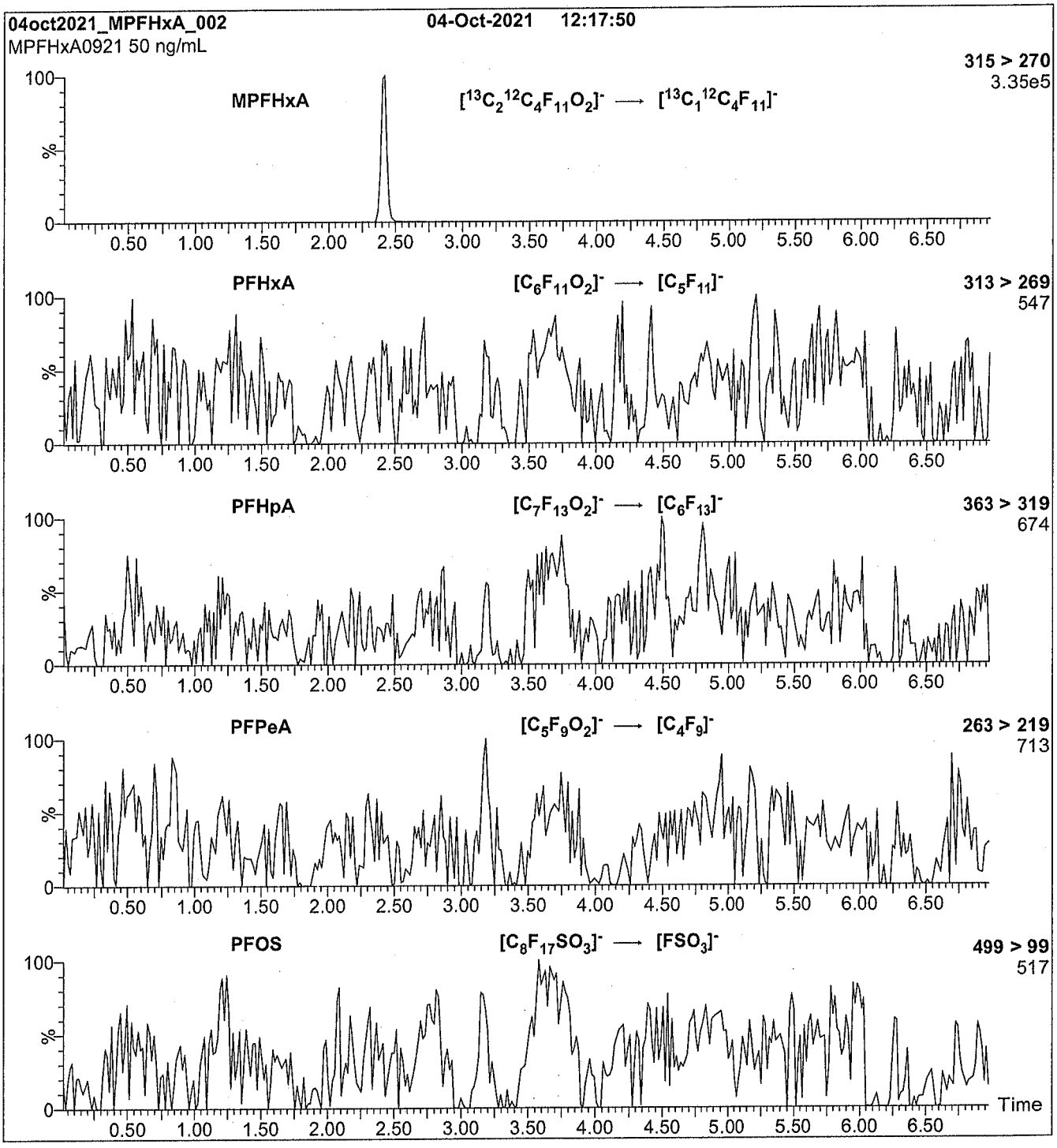
Flow: 300 µL/min

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

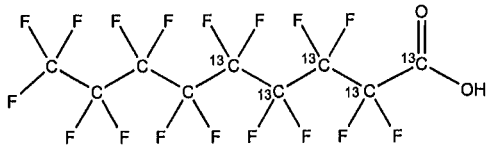
Description:	PFAS - IIS MPFHxA 50ug/mL	Expires:	10/04/2026
Standard Type:	Analyte Spike	Prepared:	10/04/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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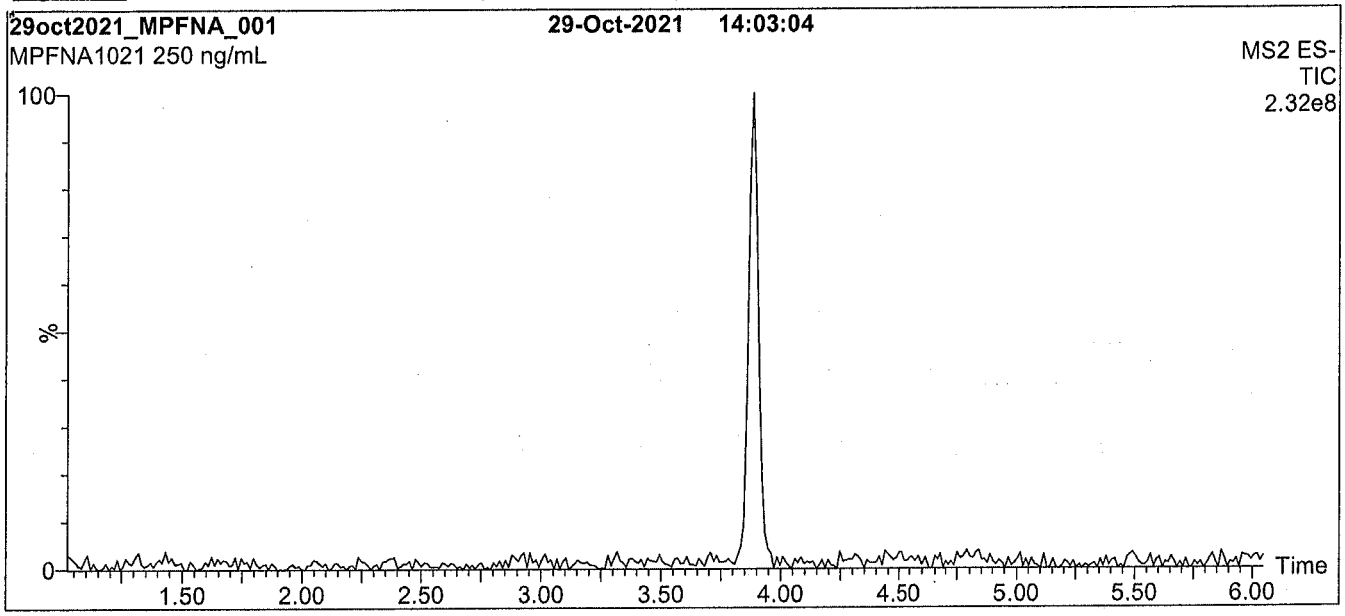
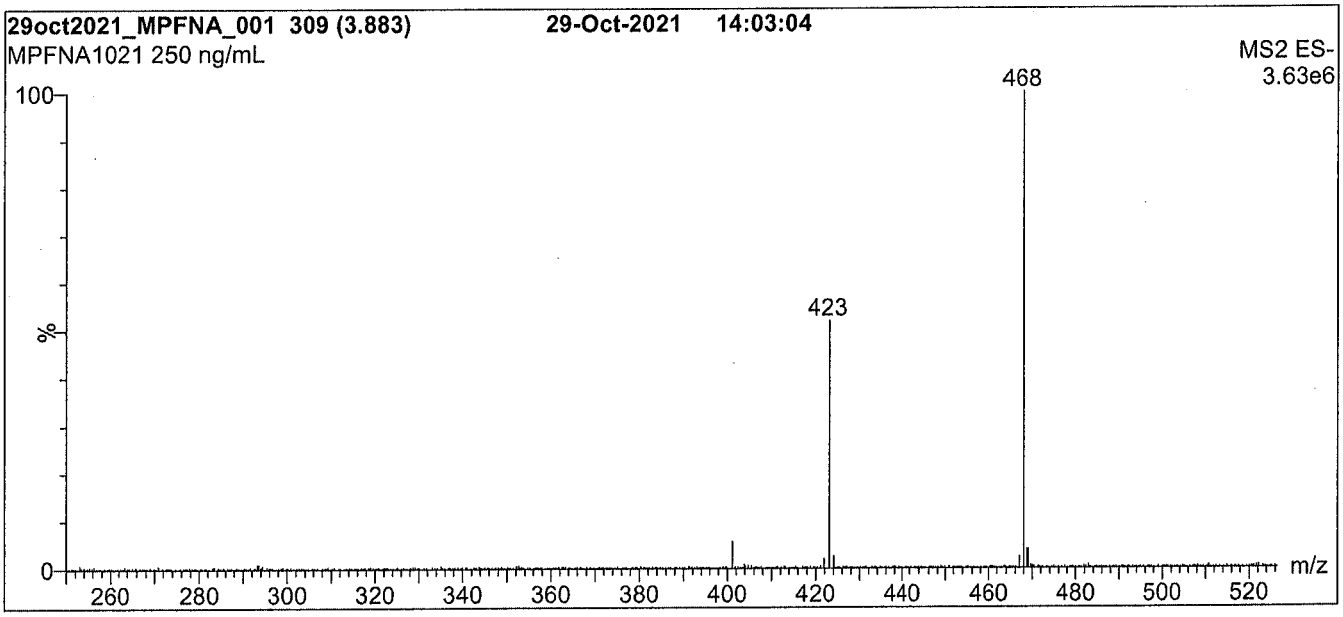
Figure 1: **MPFNA; LC/MS Data (Full Scan and Mass Spectrum)**





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

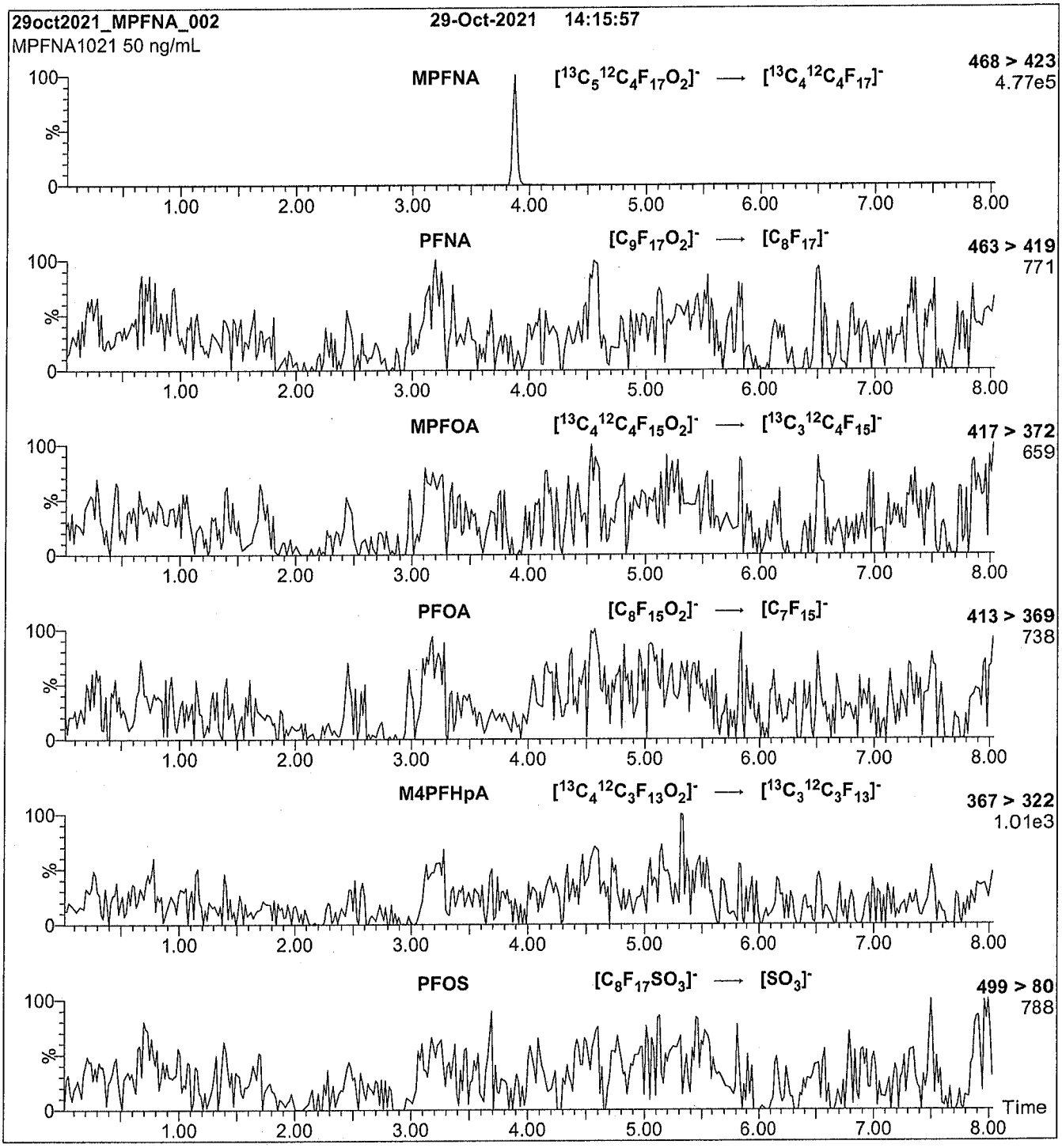
Flow: 300 µL/min

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

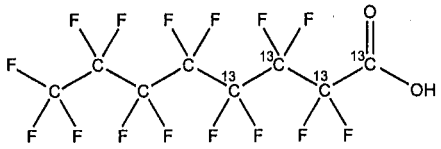
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOA
COMPOUND: Perfluoro-n-(1,2,3,4-$^{13}C_4$)octanoic acid

LOT NUMBER: MPFOA1121

STRUCTURE:

CAS #: 960315-48-4



MOLECULAR FORMULA: $^{13}C_4{}^{12}C_4HF_{15}O_2$
CONCENTRATION: 50.0 ± 2.5 µg/mL

MOLECULAR WEIGHT: 418.04
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
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

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

INTENDED USE:

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

HANDLING:

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

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±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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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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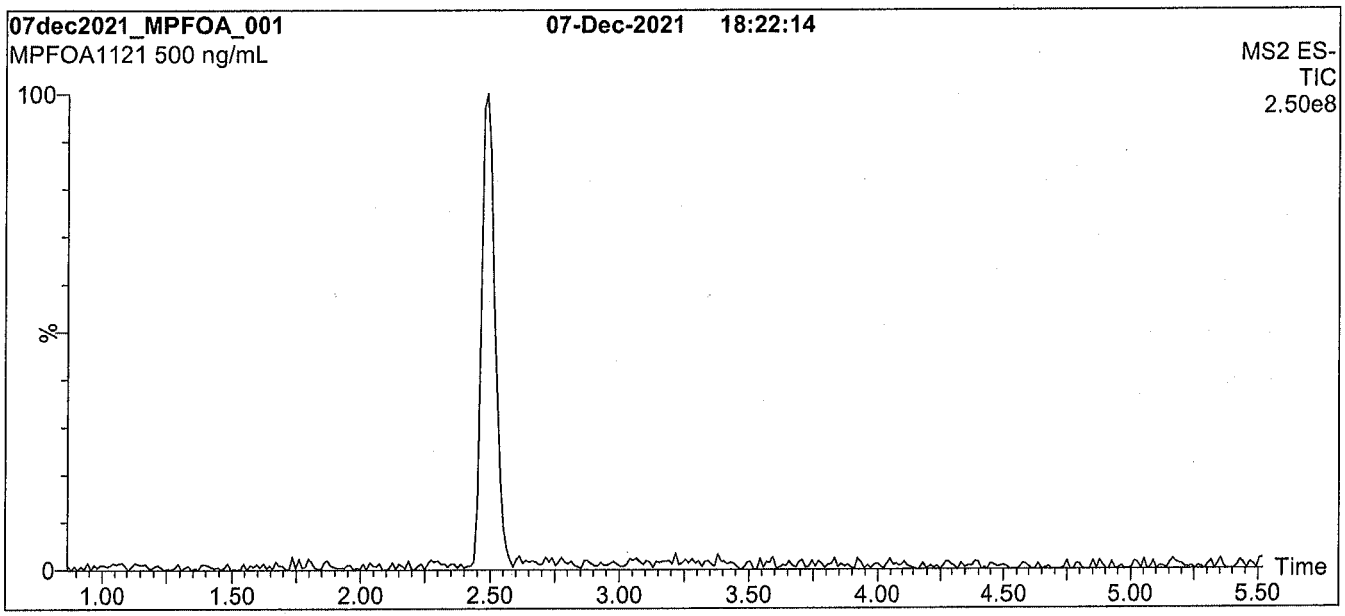
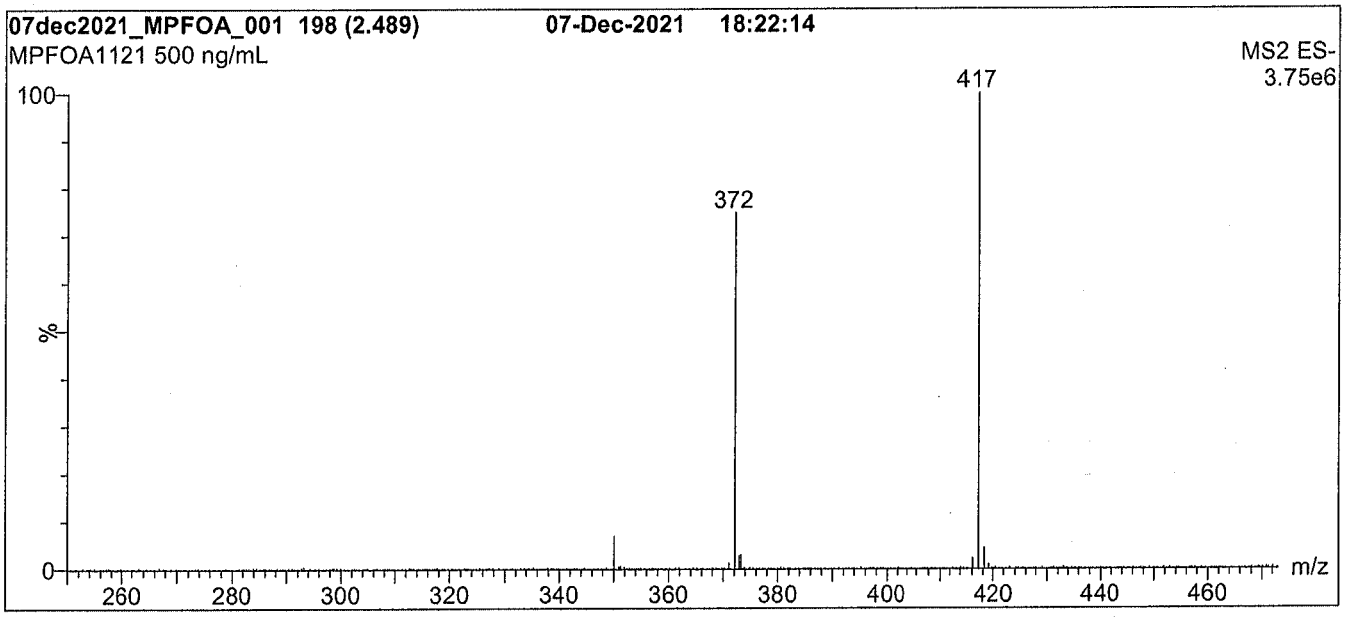
Figure 1: **MPFOA; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

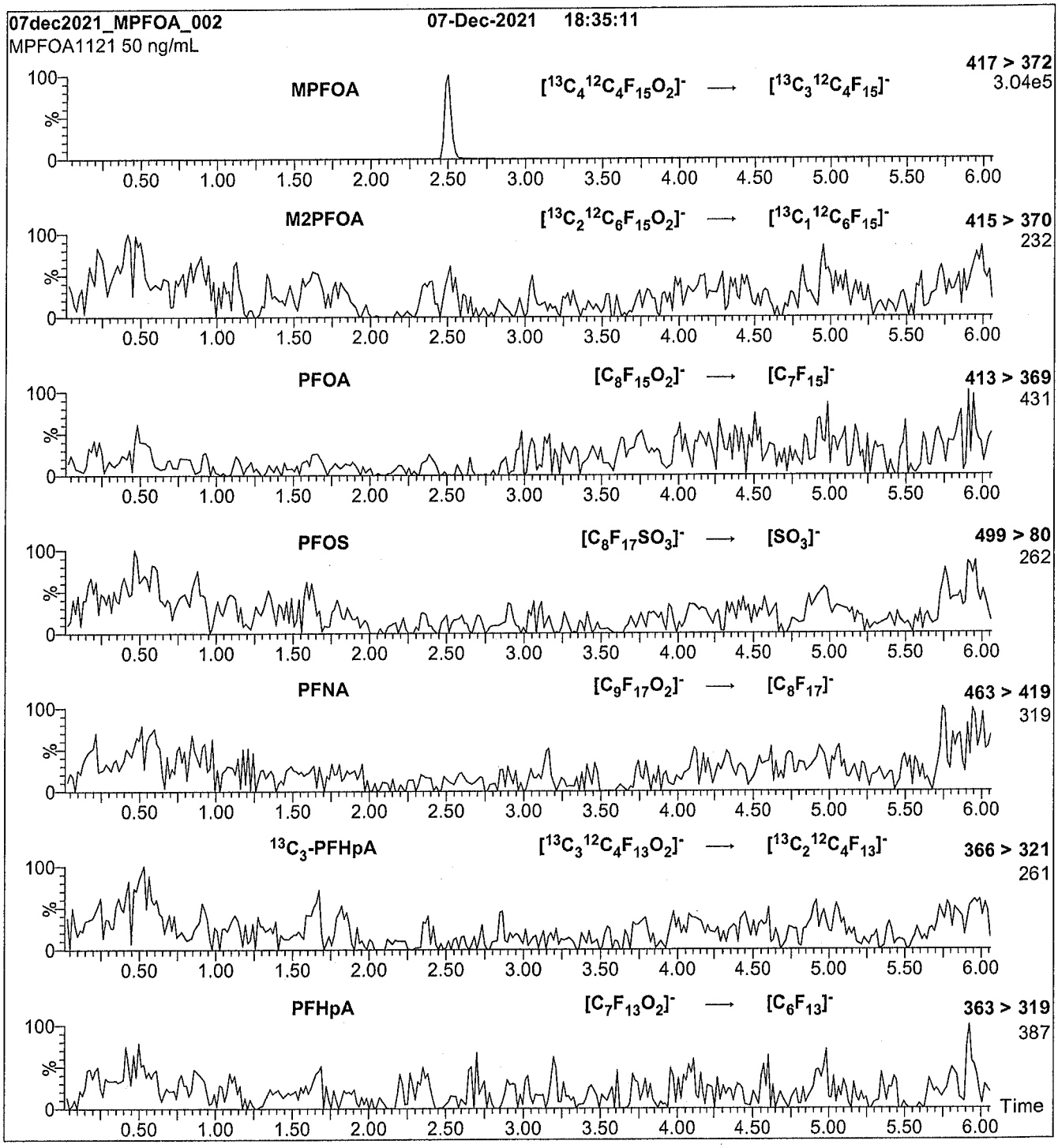
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (MPFOA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

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

Analytical Standard Record

22A0119

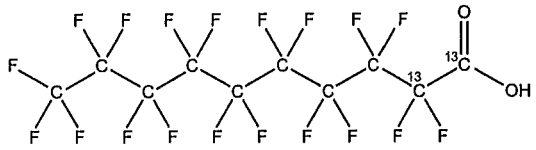
Description:	PFAS - IIS MPFOA 50ug/mL	Expires:	12/07/2026
Standard Type:	Analyte Spike	Prepared:	12/07/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:48 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



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

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
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ADDITIONAL INFORMATION:

- See page 2 for further details.
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Certified By: _____ **Date:** 12/13/2021 (mm/dd/yyyy)
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CALA Testing Accreditation No. A1226

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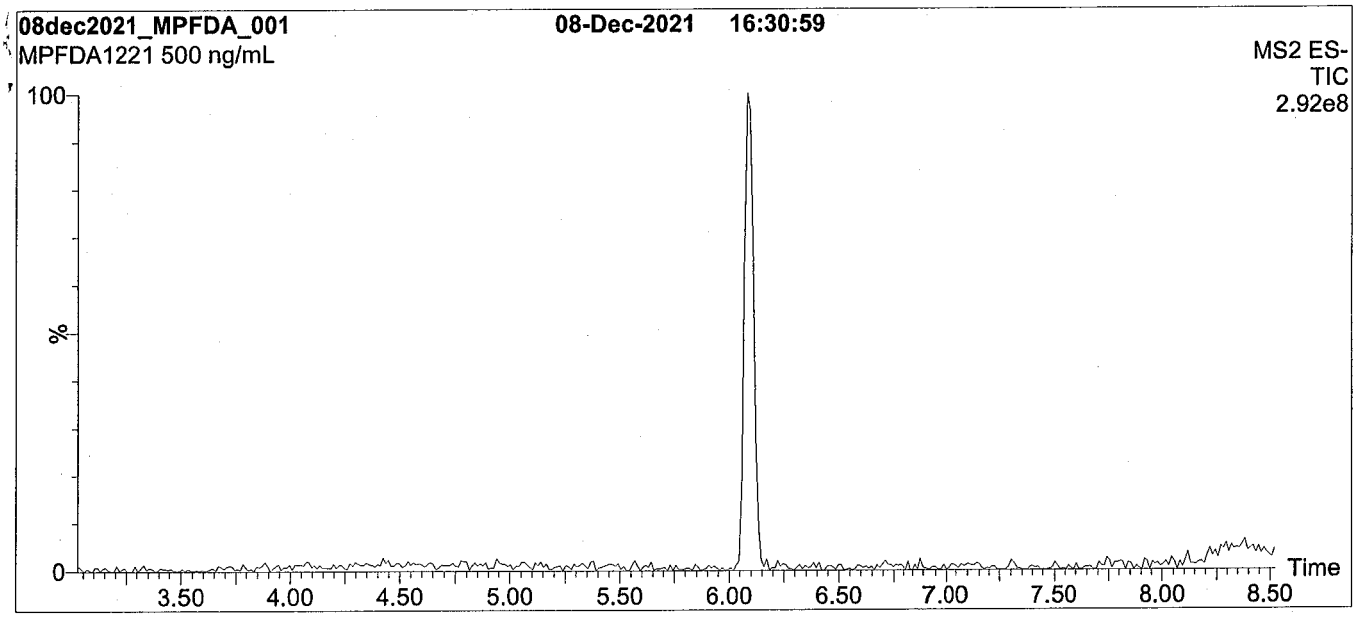
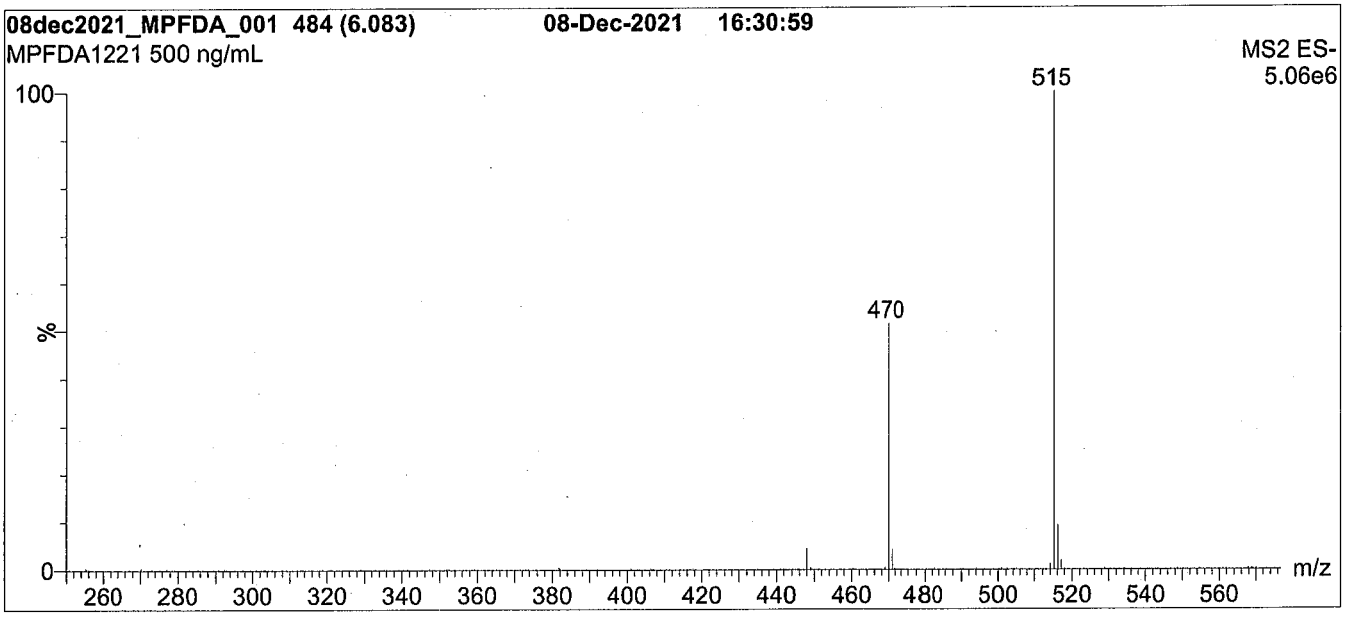




Conditions for Figure 1:

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: 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

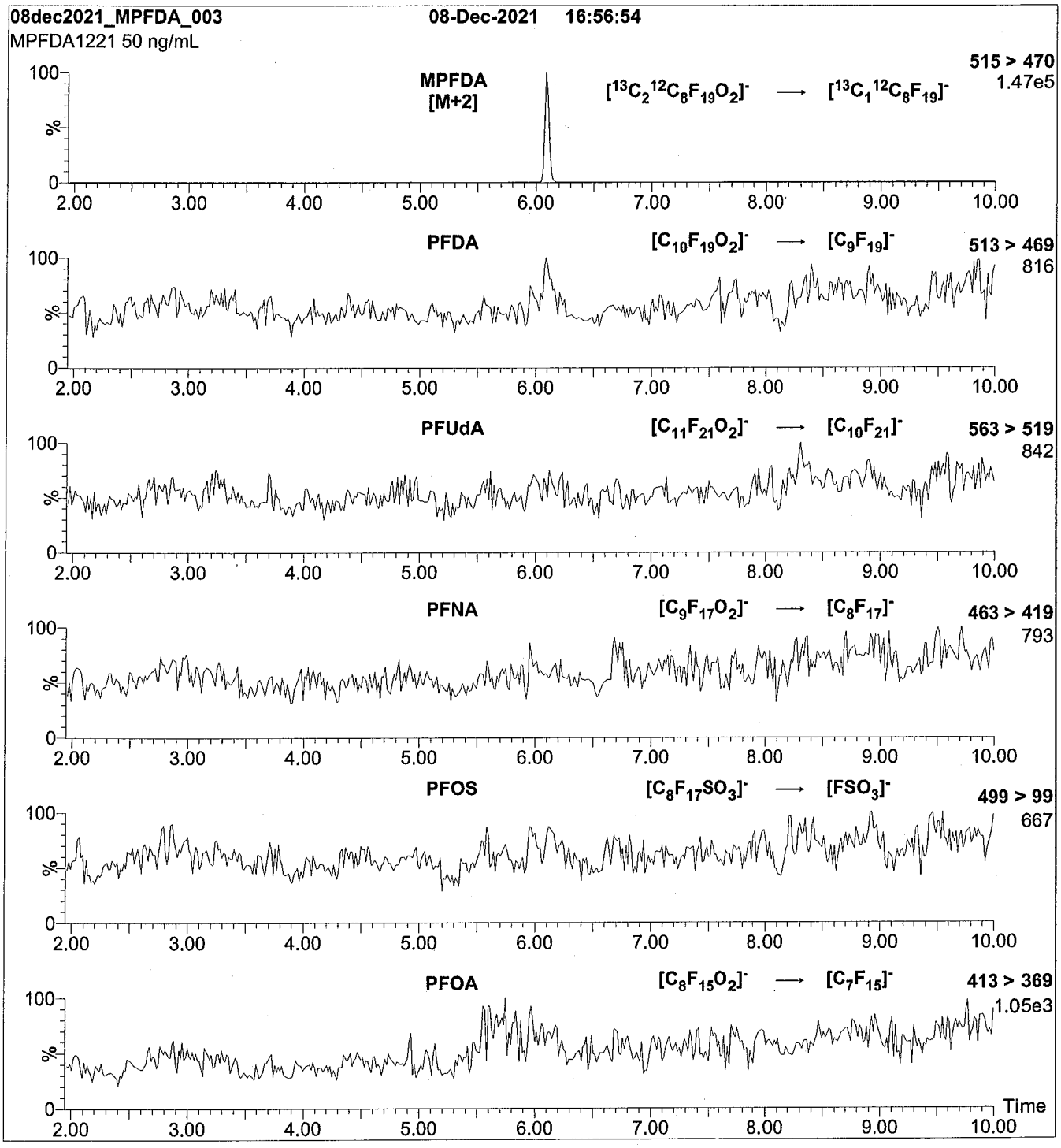
Flow: 300 µL/min

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

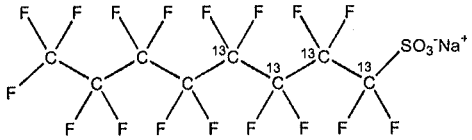
WELLINGTON LABORATORIES

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)
B.G. Chittim, General Manager

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ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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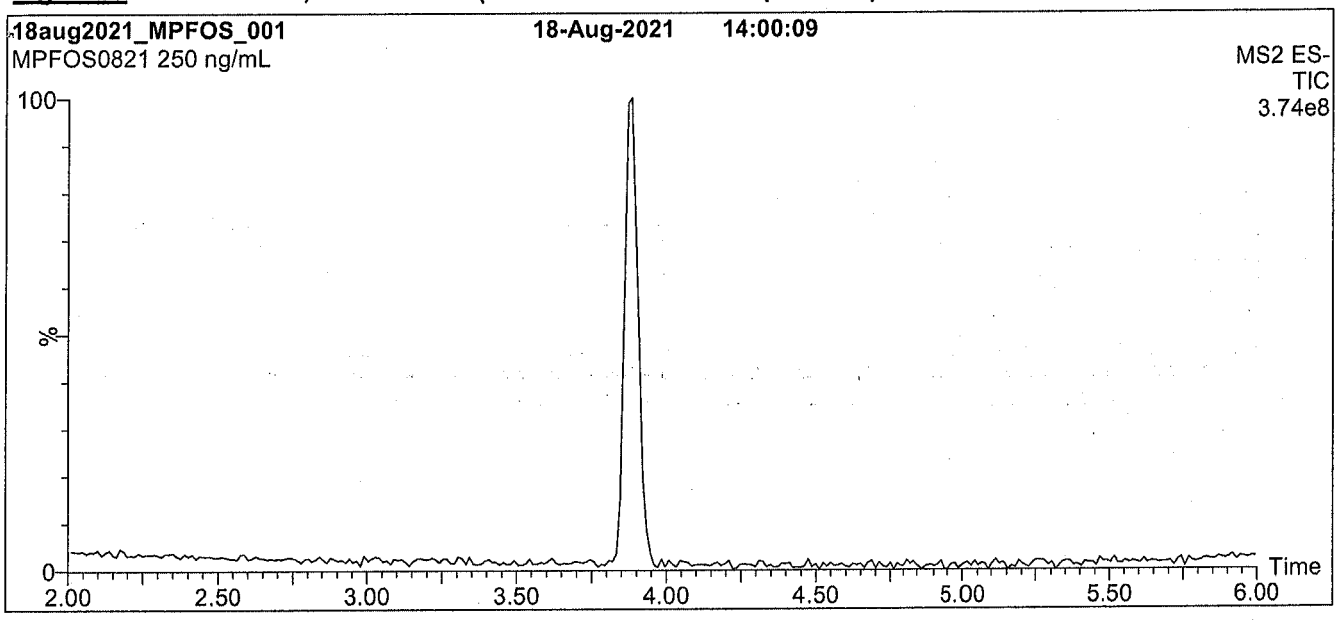

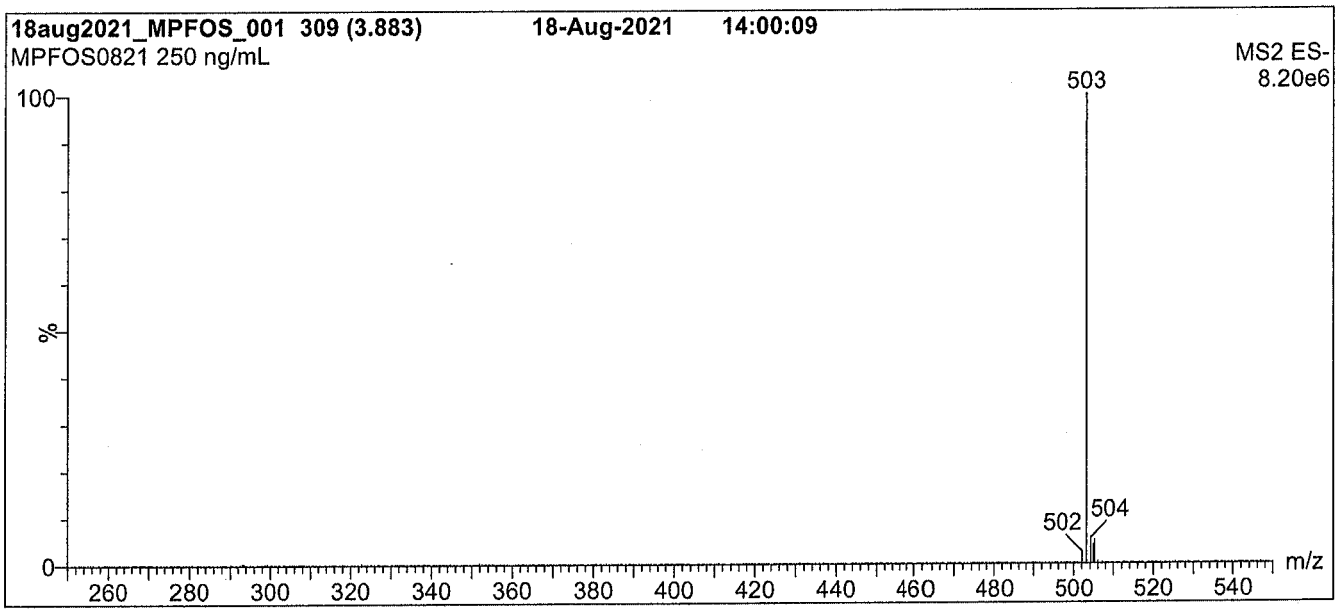

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Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

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(both with 10 mM NH_4OAc buffer)
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2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

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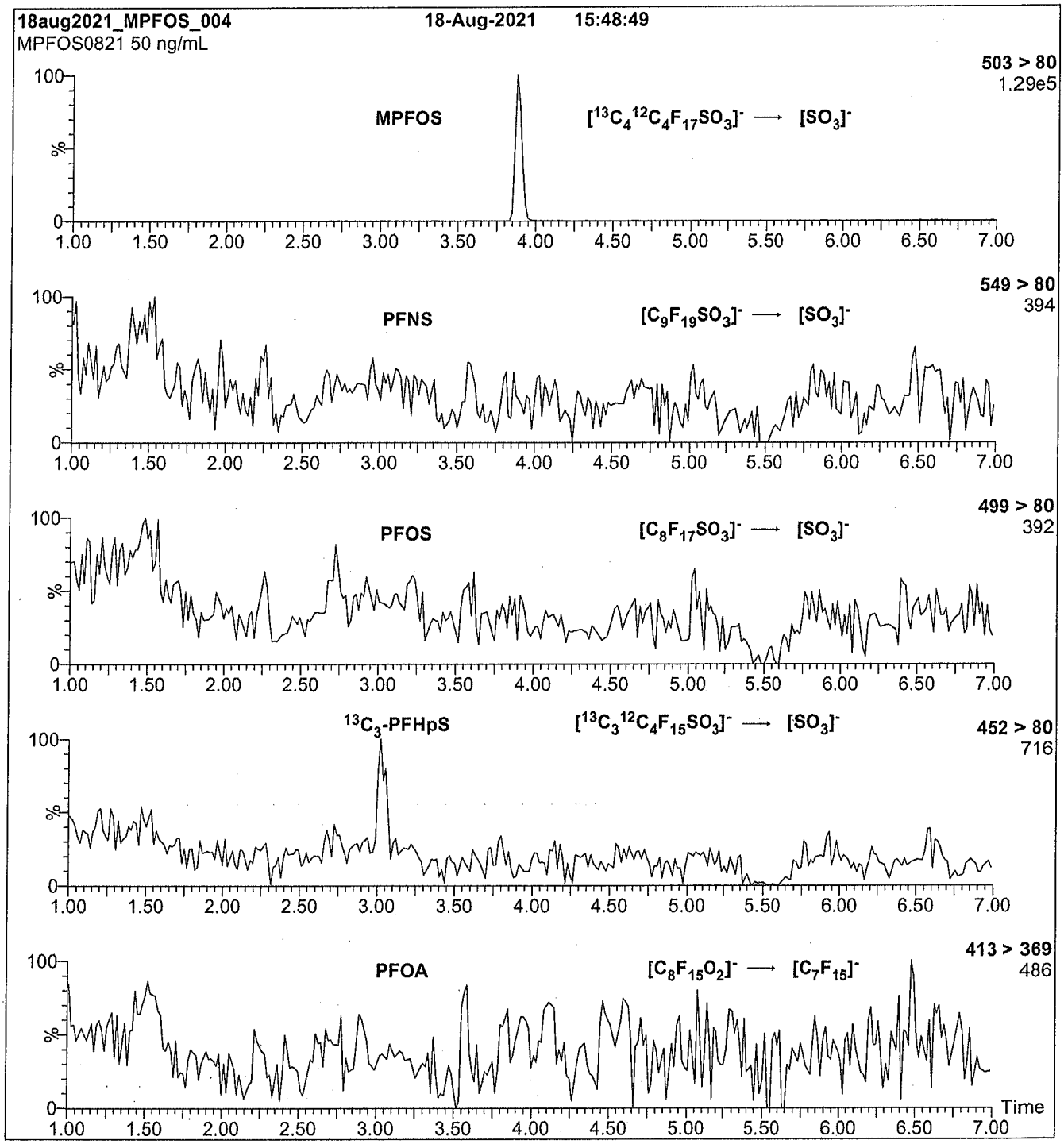
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (MPFOS)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 42

Analytical Standard Record

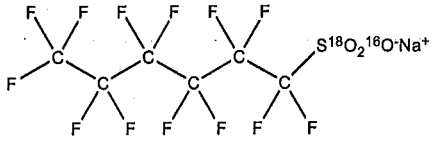
22A0121

Description:	PFAS - IIS MPFOS 50ug/mL	Expires:	08/18/2026
Standard Type:	Analyte Spike	Prepared:	08/18/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxS	**LOT NUMBER:**	MPFHxS1021
COMPOUND:	Sodium perfluoro-1-hexane($^{18}O_2$)sulfonate		
STRUCTURE:		**CAS #:**	1585941-14-5
MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 47.4 ± 2.4 µg/mL (MPFHxS acid) 47.3 ± 2.4 µg/mL (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	10/29/2021		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~0.6% of sodium perfluoro-1-octane($^{18}O_2$)sulfonate ($^{18}O_2$-PFOS) and ~0.3% of sodium perfluoro-1-heptane($^{18}O_2$)sulfonate ($^{18}O_2$-PFHpS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >94%), MPFHxS contains ~0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/05/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

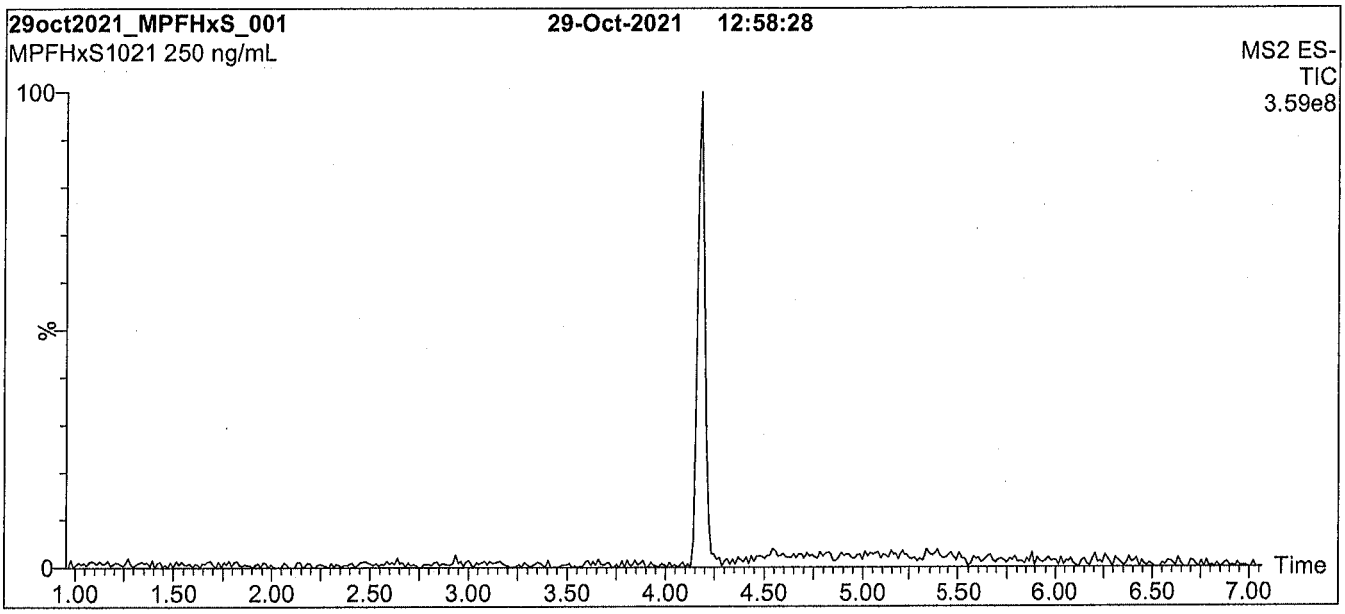
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

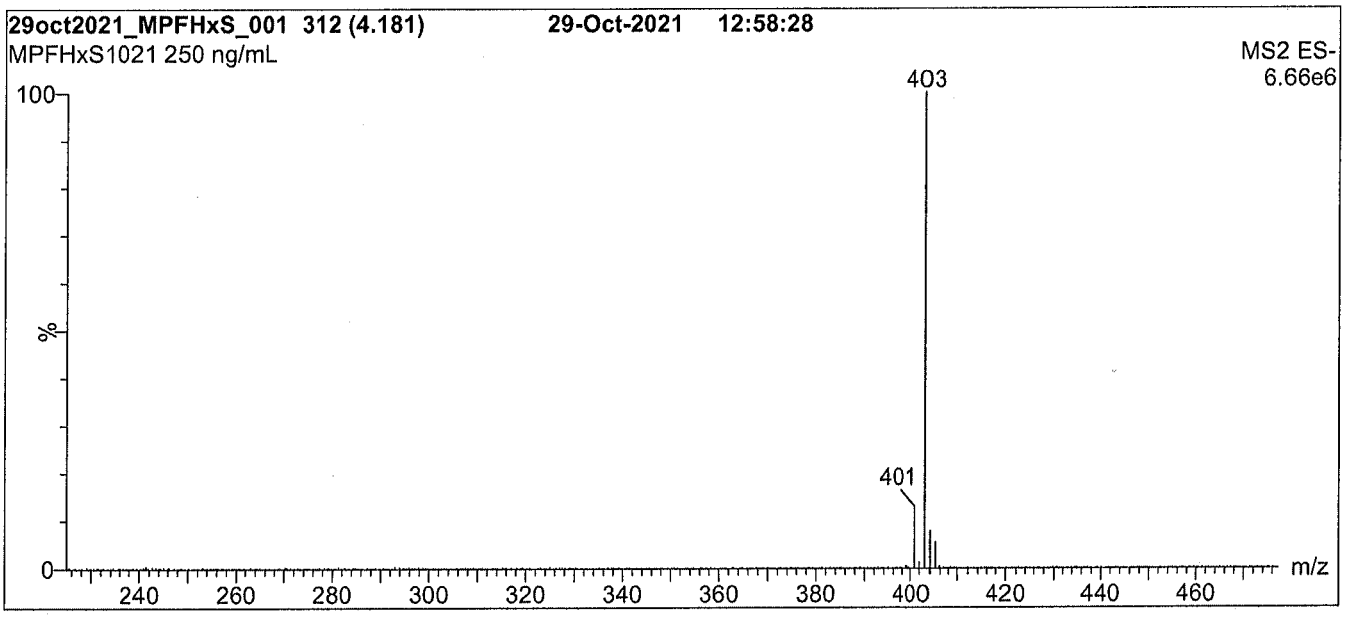
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 9 min and hold for
1 min before returning to initial conditions in 0.75 min.
Time: 12 min

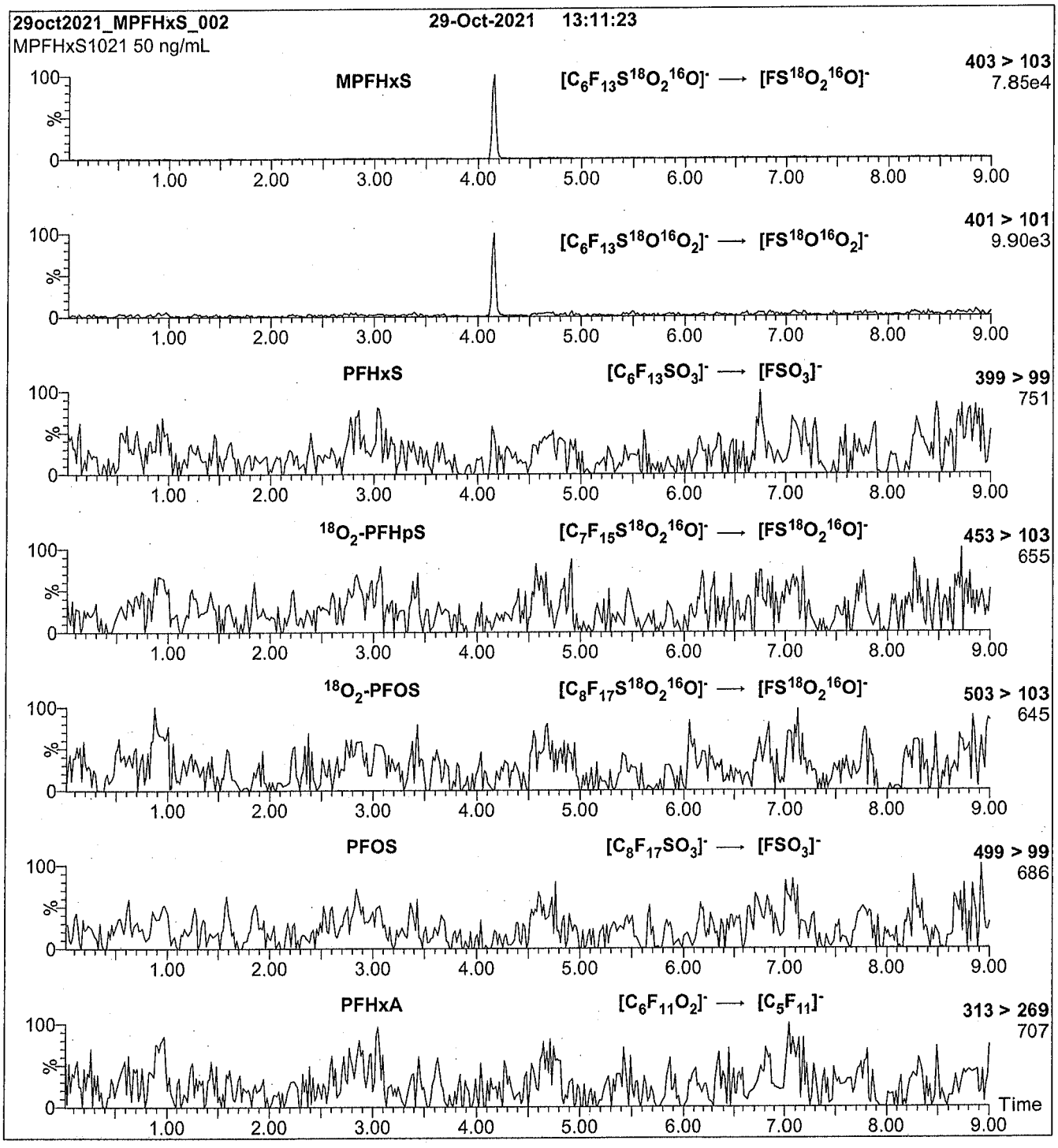
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (MPFHxS)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 32

Analytical Standard Record

22A0122

Description:	PFAS - IIS MPFHxS 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
18O2-PFHXS		18O2-PFHXS	50	ug/mL

Analytical Standard Record

22A0122

Description:	PFAS - IIS MPFHxS 50ug/mL	Expires:	10/29/2026
Standard Type:	Analyte Spike	Prepared:	10/29/2021
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH

Analyte	Parent	CAS Number	Concentration	Units
18O2-PFHXS		18O2-PFHXS	50	ug/mL

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mls):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHXA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHXS	22A0122	18O2-PFHXS	5	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48	by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48	by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48	by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48	by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49	by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49	by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49	by HGH	1.2

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mls):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHXA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHXS	22A0122	18O2-PFHXS	5	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48	by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48	by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48	by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48	by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49	by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49	by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49	by HGH	1.2

Analytical Standard Record

22A0234

Description:	PFAS IIS 7C 5ug/mL	Expires:	01/20/2023
Standard Type:	Internal Standard	Prepared:	01/20/2022
Solvent:	MeOH/61252	Prepared By:	Dipti Gokal
Final Volume (mls):	12	Department:	PFAS
Vials:	1	Last Edit:	01/20/2022 15:49 by HGH
Comments:	mpfna had more left over than others.		

Analyte	Parent	CAS Number	Concentration	Units
13C3-PFBA	22A0116	13C3-PFBA	5	ug/mL
13C2-PFHXA	22A0117	13C2-PFHxA	5	ug/mL
13C5-PFNA	22A0118	13C5-PFNA	5	ug/mL
13C4-PFOA	22A0119	13C4-PFOA	5	ug/mL
13C2-PFDA	22A0120	13C2-PFDA	5	ug/mL
13C4-PFOS	22A0121	13C4-PFOS	5	ug/mL
18O2-PFHXS	22A0122	18O2-PFHXS	5	ug/mL

Parent Standards used:

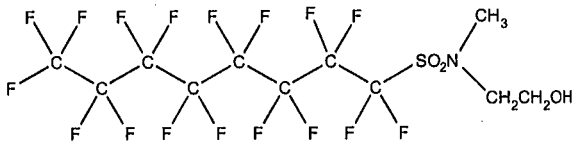
Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22A0116	PFAS - IIS M3PFBA 50ug/mL	08/19/2021	Wellington Laboratories	M3PFBA0721	08/19/2026	01/20/2022 15:48	by HGH	1.2
22A0117	PFAS - IIS MPFHxA 50ug/mL	10/04/2021	Wellington Laboratories	MPFHxA0921	10/04/2026	01/20/2022 15:48	by HGH	1.2
22A0118	PFAS - IIS MPFNA 50ug/mL	10/29/2021	Wellington Laboratories	MPFNA1021	10/29/2026	01/20/2022 15:48	by HGH	1.2
22A0119	PFAS - IIS MPFOA 50ug/mL	12/07/2021	Wellington Laboratories	MPFOA1121	12/07/2026	01/20/2022 15:48	by HGH	1.2
22A0120	PFAS - IIS MPFDA 50ug/mL	12/08/2021	Wellington Laboratories	MPFDA1221	12/08/2026	01/20/2022 15:49	by HGH	1.2
22A0121	PFAS - IIS MPFOS 50ug/mL	08/18/2021	Wellington Laboratories	MPFOS0821	08/18/2026	01/20/2022 15:49	by HGH	1.2
22A0122	PFAS - IIS MPFHxS 50ug/mL	10/29/2021	Wellington Laboratories	MPFHxS1021	10/29/2026	01/20/2022 15:49	by HGH	1.2

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M
LOT NUMBER: NMeFOSE0921M 22C0307
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol
CAS #: 24448-09-7

STRUCTURE:



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/28/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

INTENDED USE:

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HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

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

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

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:

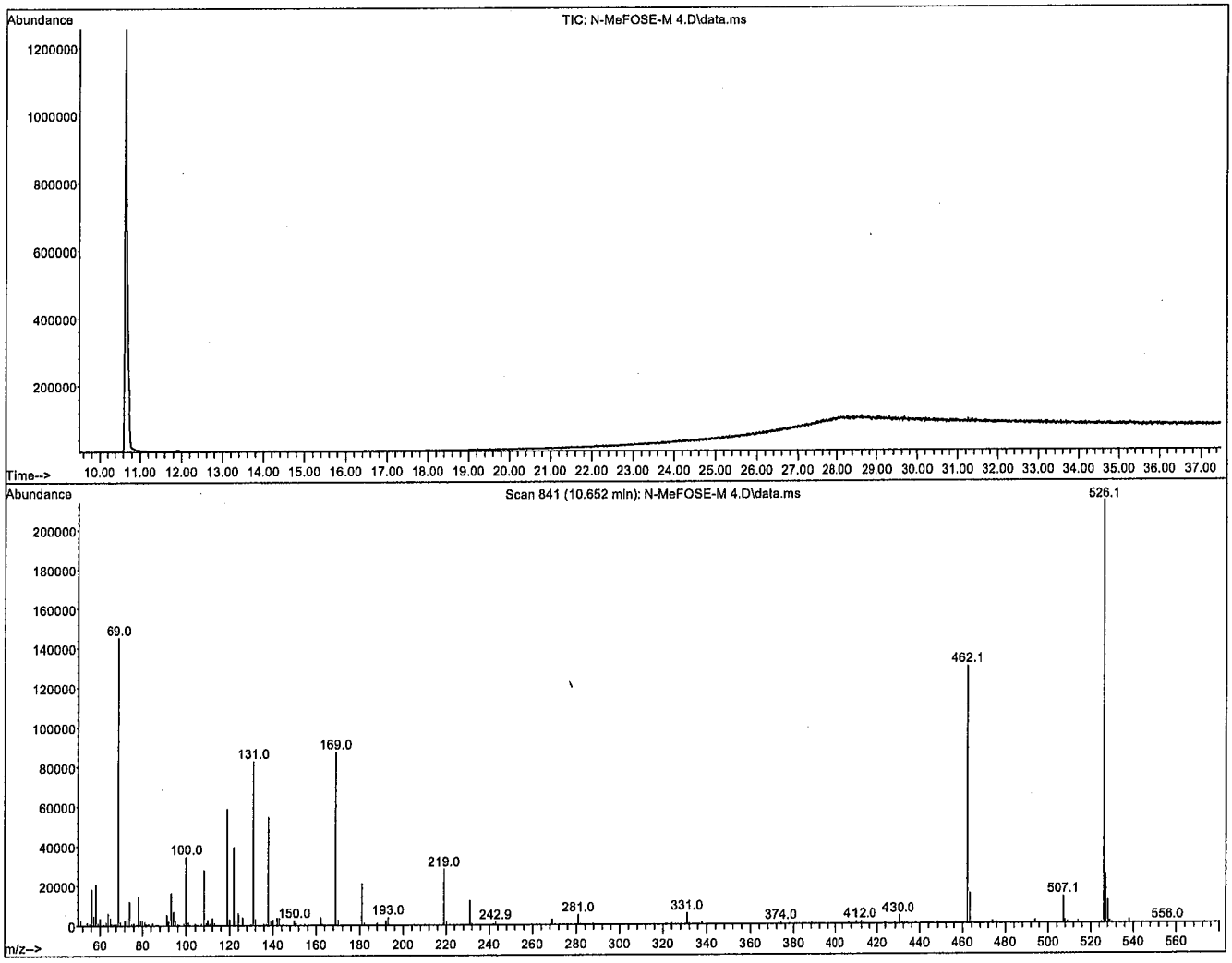
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED 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)**



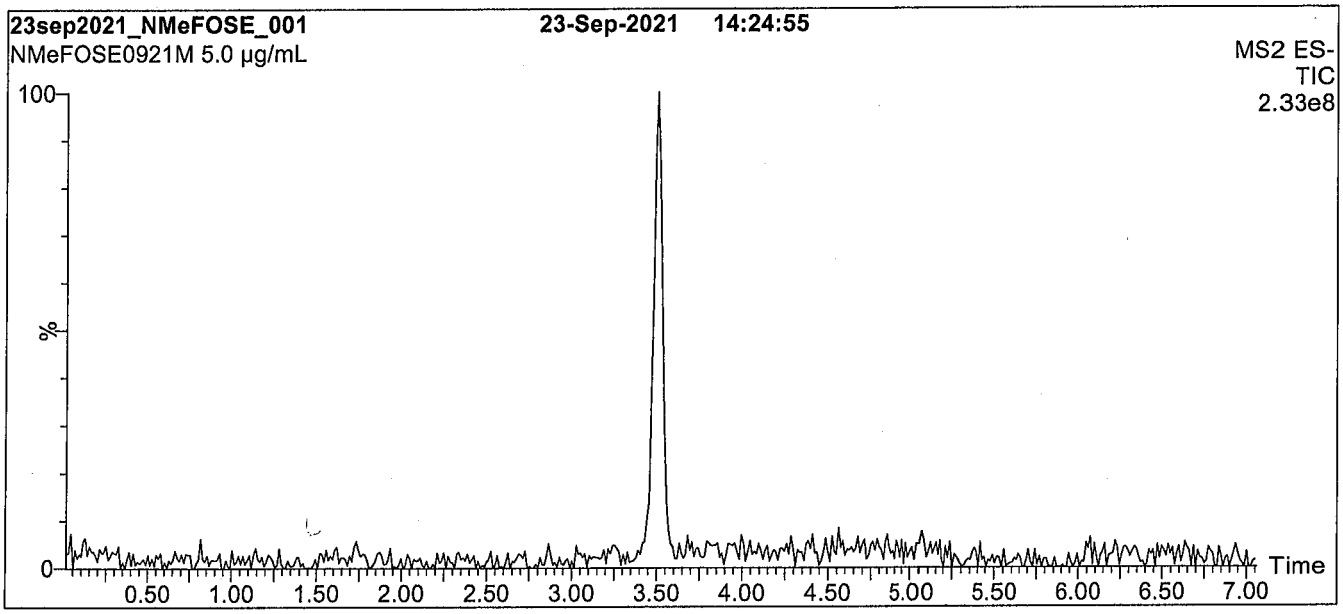
Conditions for Figure 1:

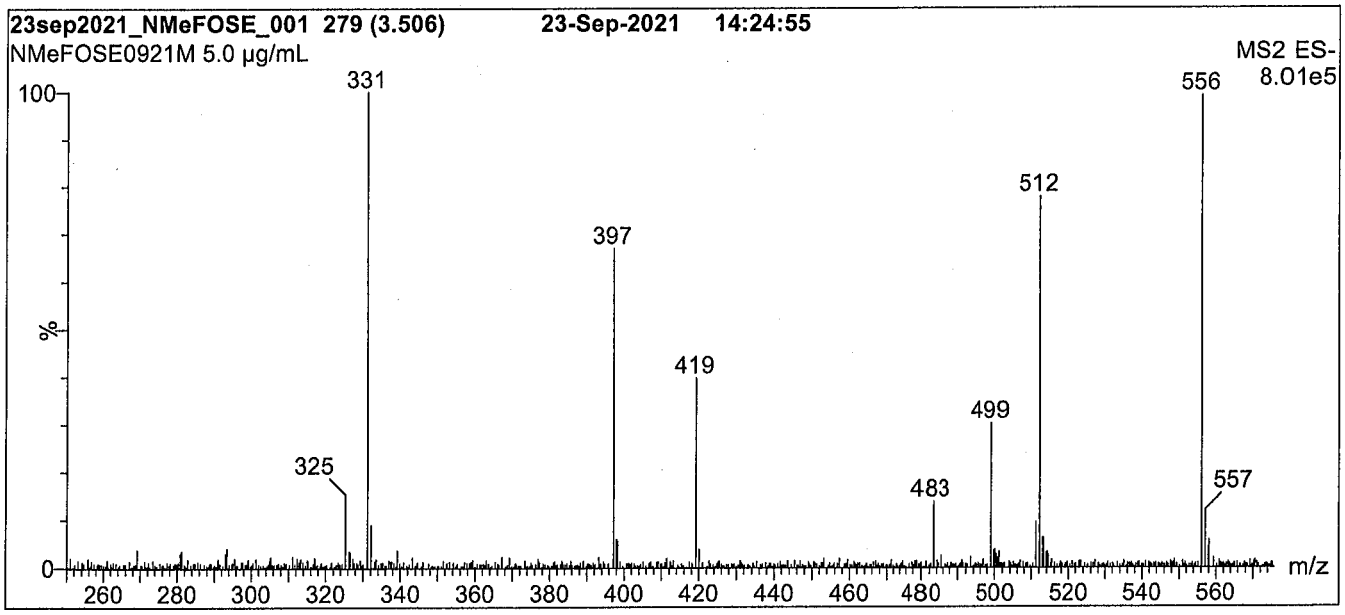
Agilent 7890A HRGC
Agilent 5975C MSD

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

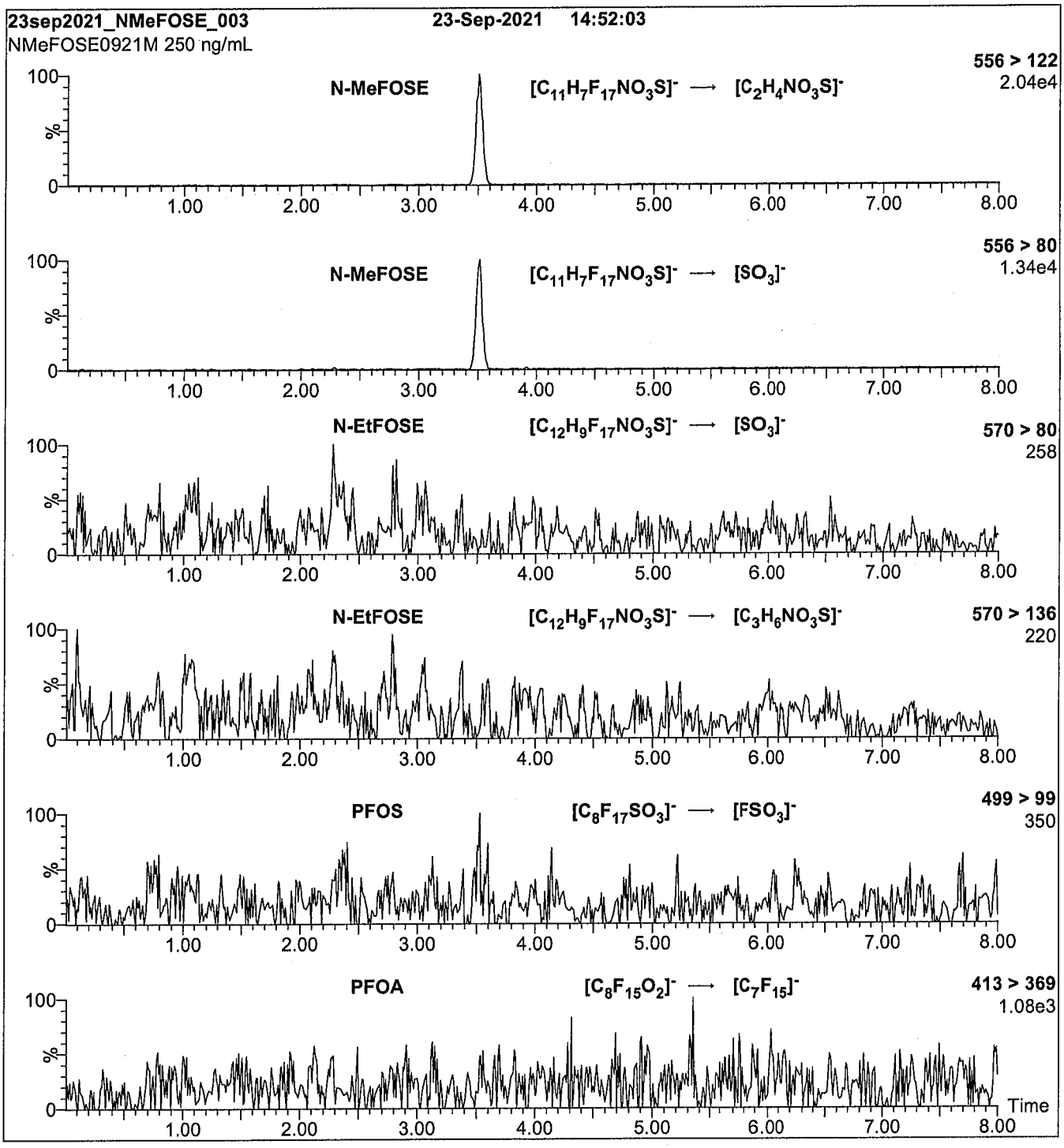
Flow: 300 µL/min

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

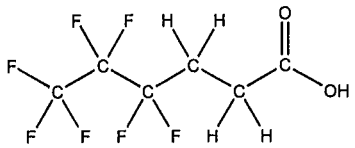
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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:

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

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

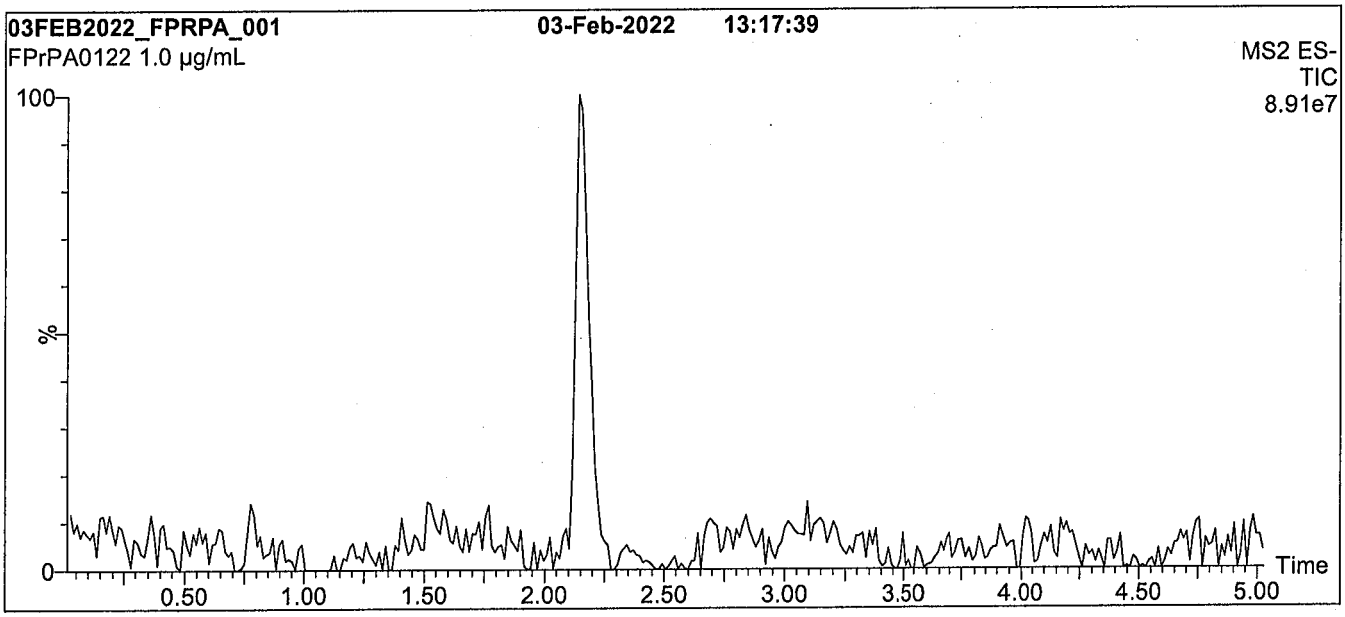
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

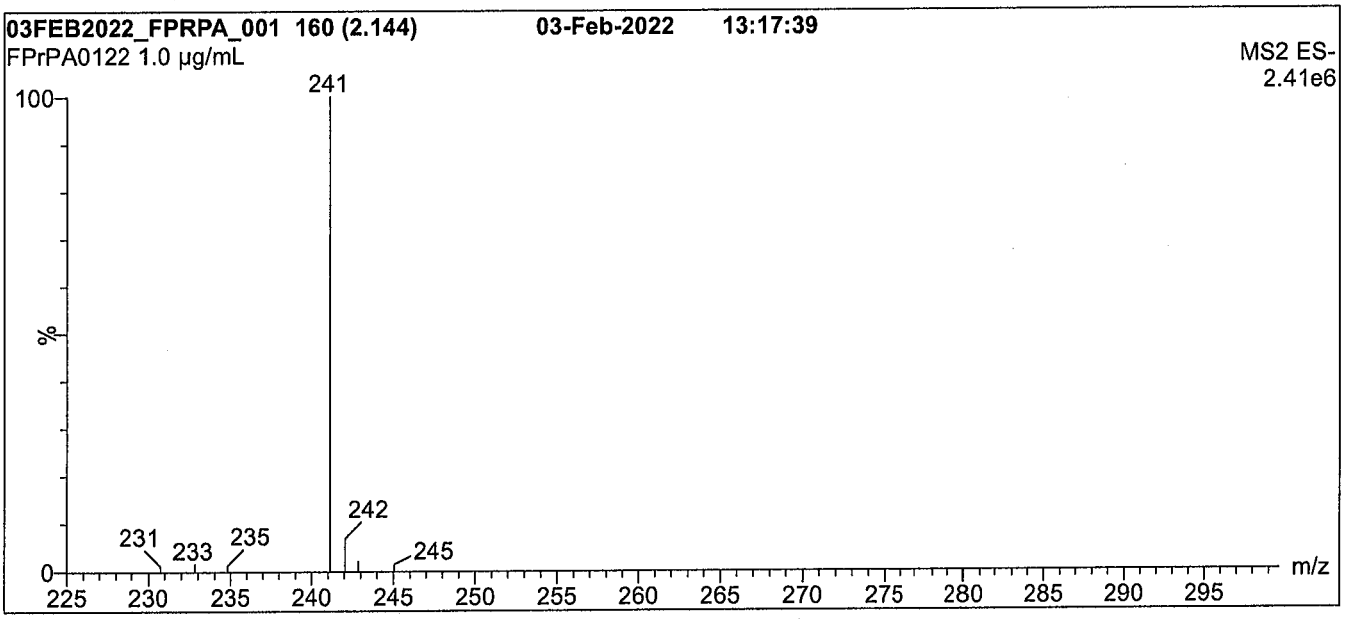
CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

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





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 60% H_2O / 40% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

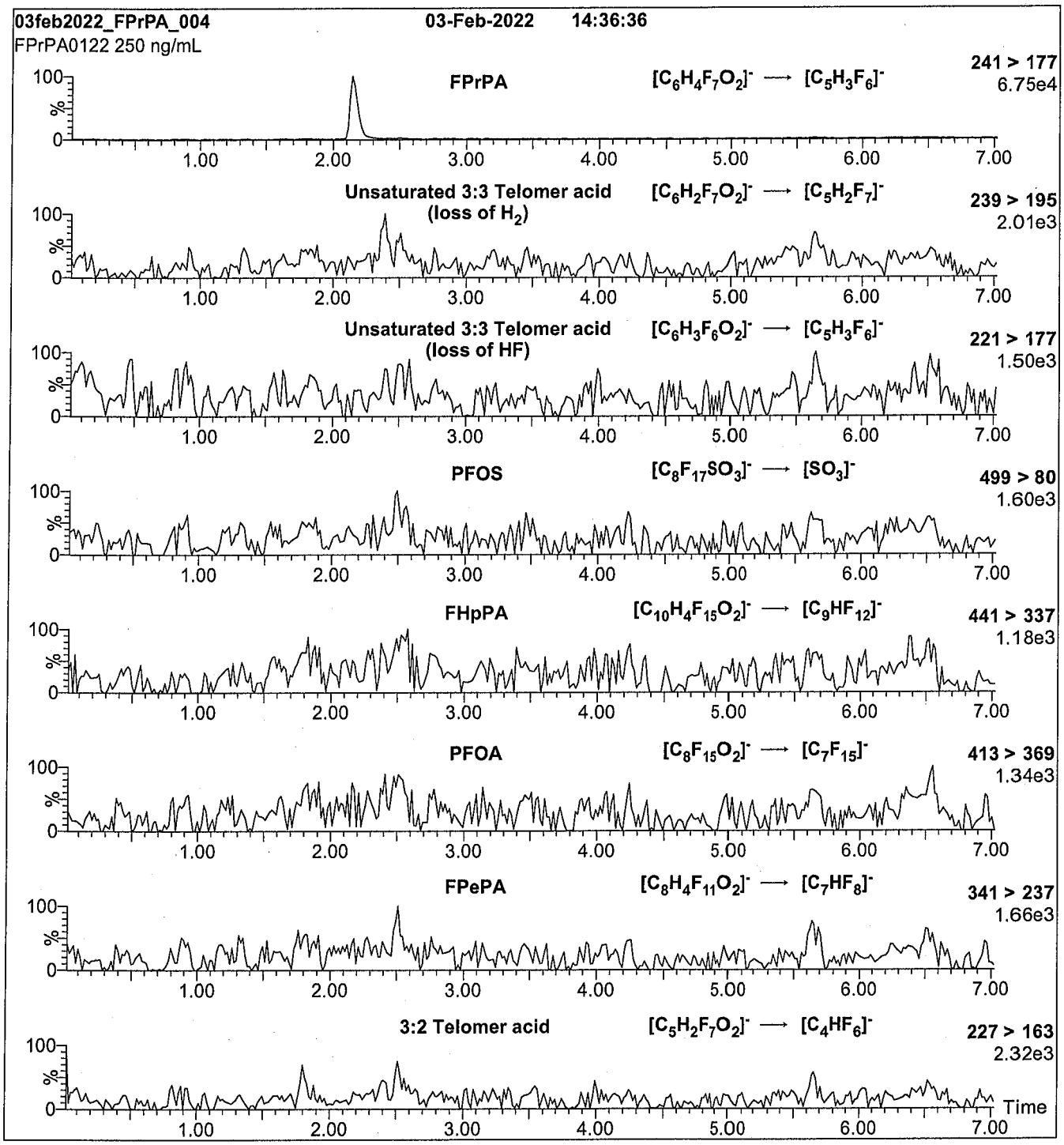
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

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

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



Conditions for Figure 2:

Injection: On-column (FPrPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 10

Analytical Standard Record

22C0308

Description:	PFAS - SAS FPrPA 50ug/mL	Expires:	02/03/2027
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: FPrPA0122)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 15:59 by DAG

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

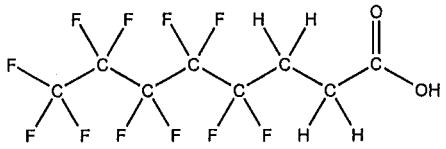
Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FPePA	**LOT NUMBER:**	FPePA1221
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

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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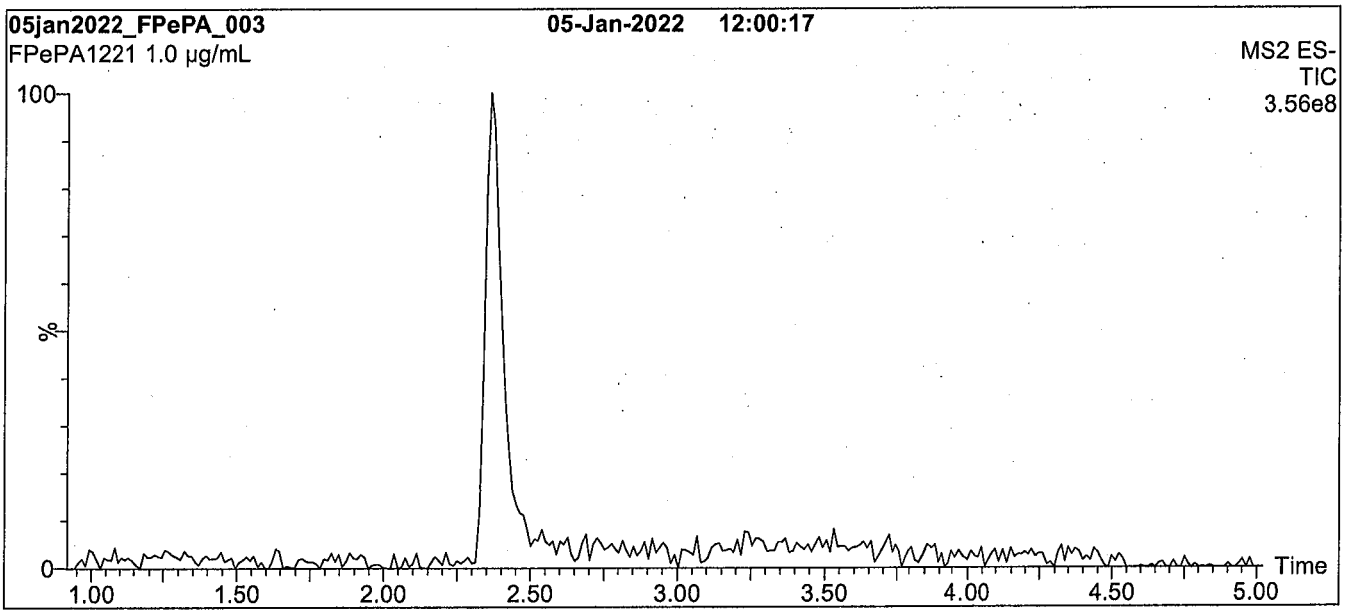
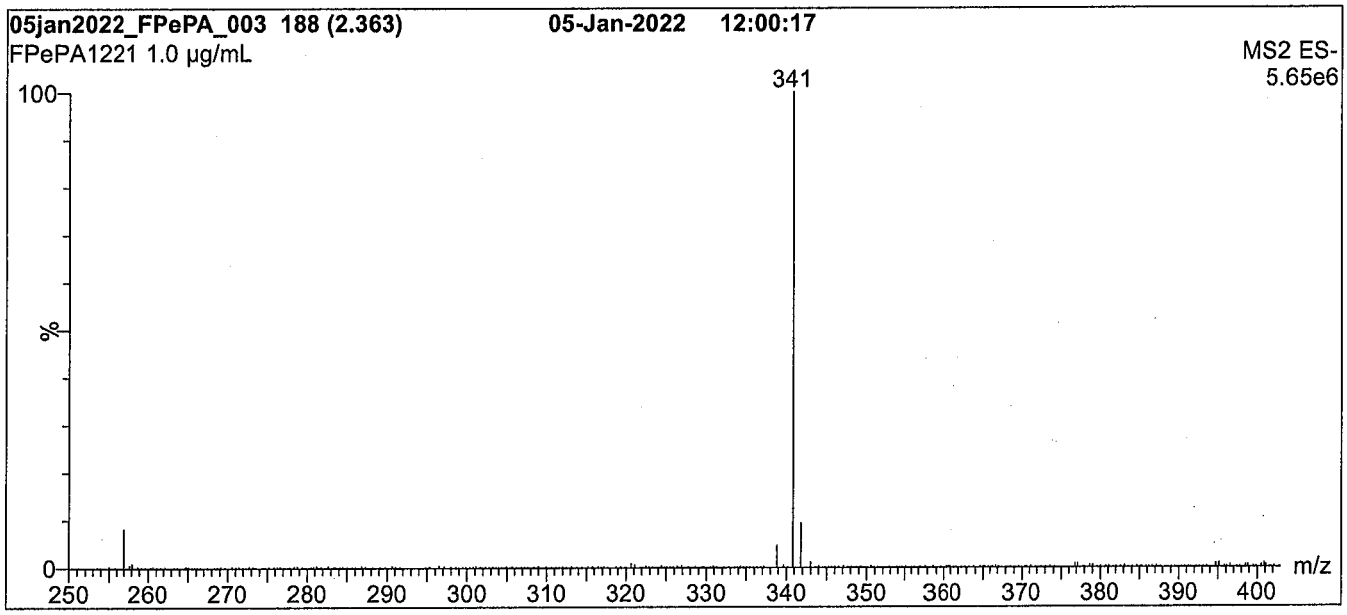
Figure 1: **FPePA; LC/MS Data (Full Scan and Mass Spectrum)**





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

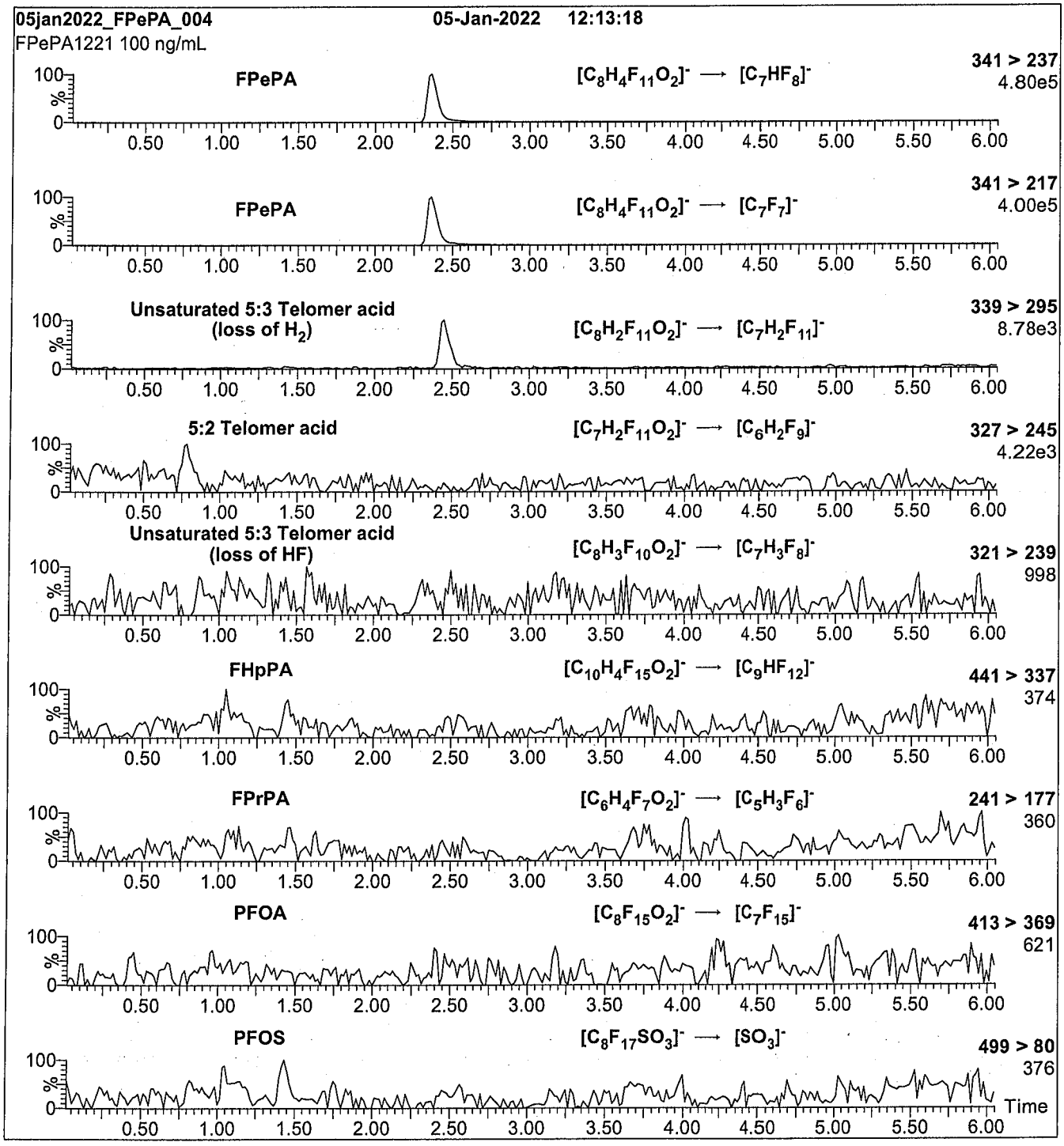
Flow: 300 µL/min

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

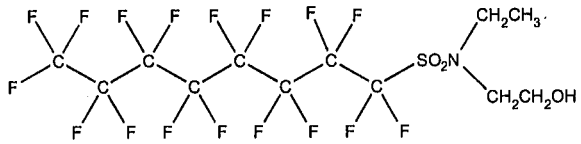
Date

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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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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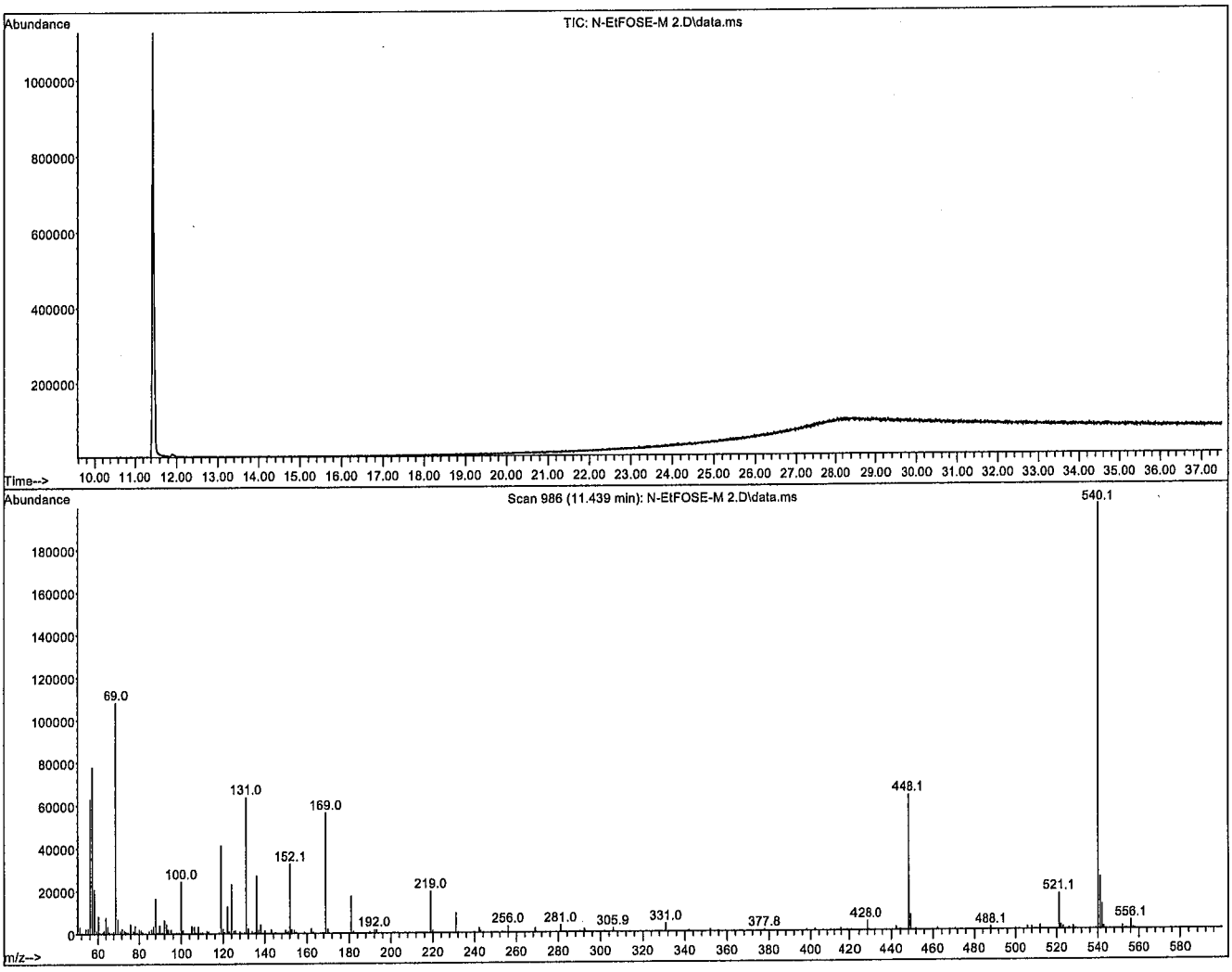
Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (Full Scan and Mass Spectrum)**



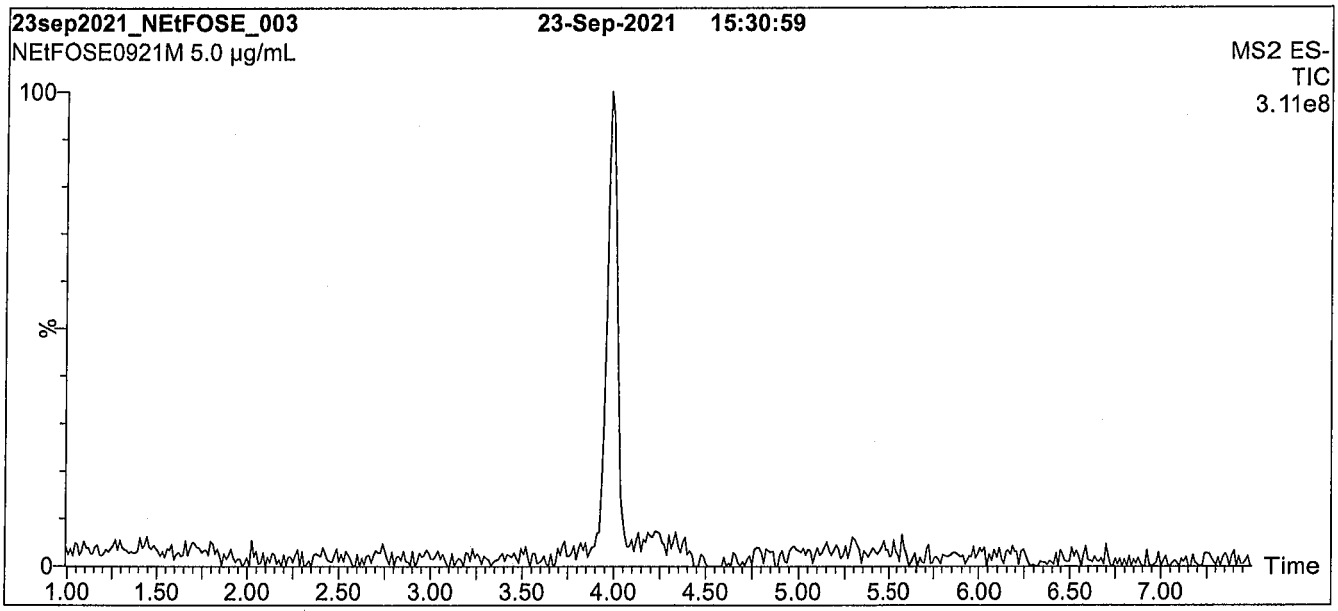
Conditions for Figure 1:

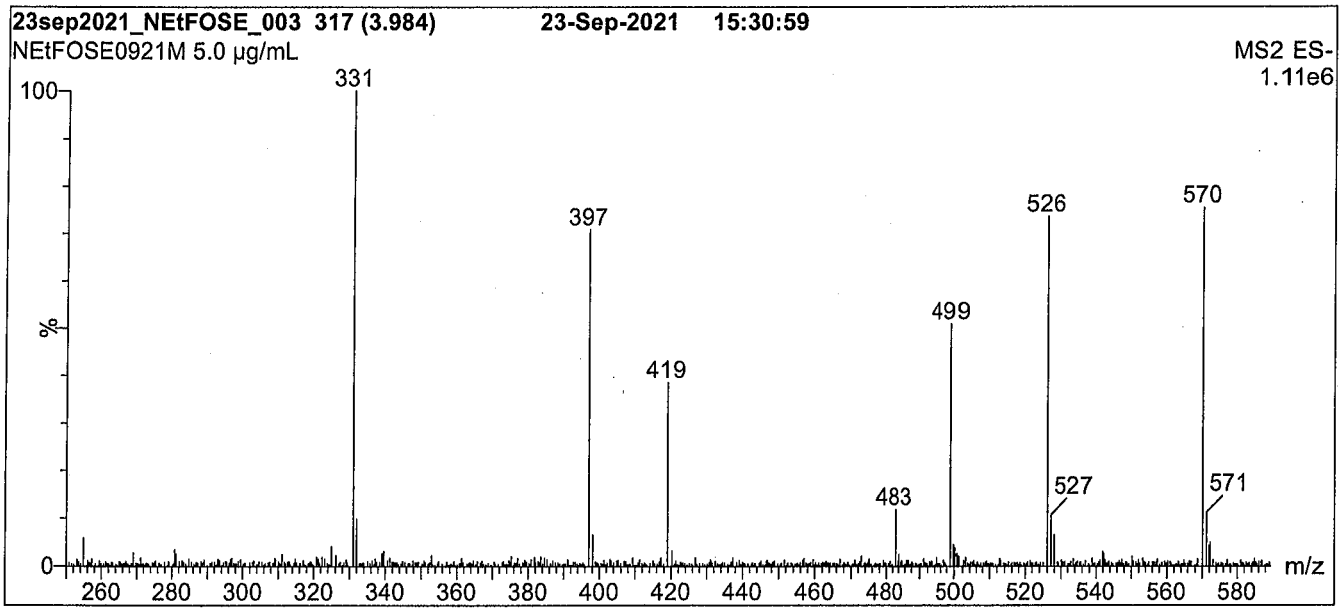
Agilent 7890A HRGC
Agilent 5975C MSD

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

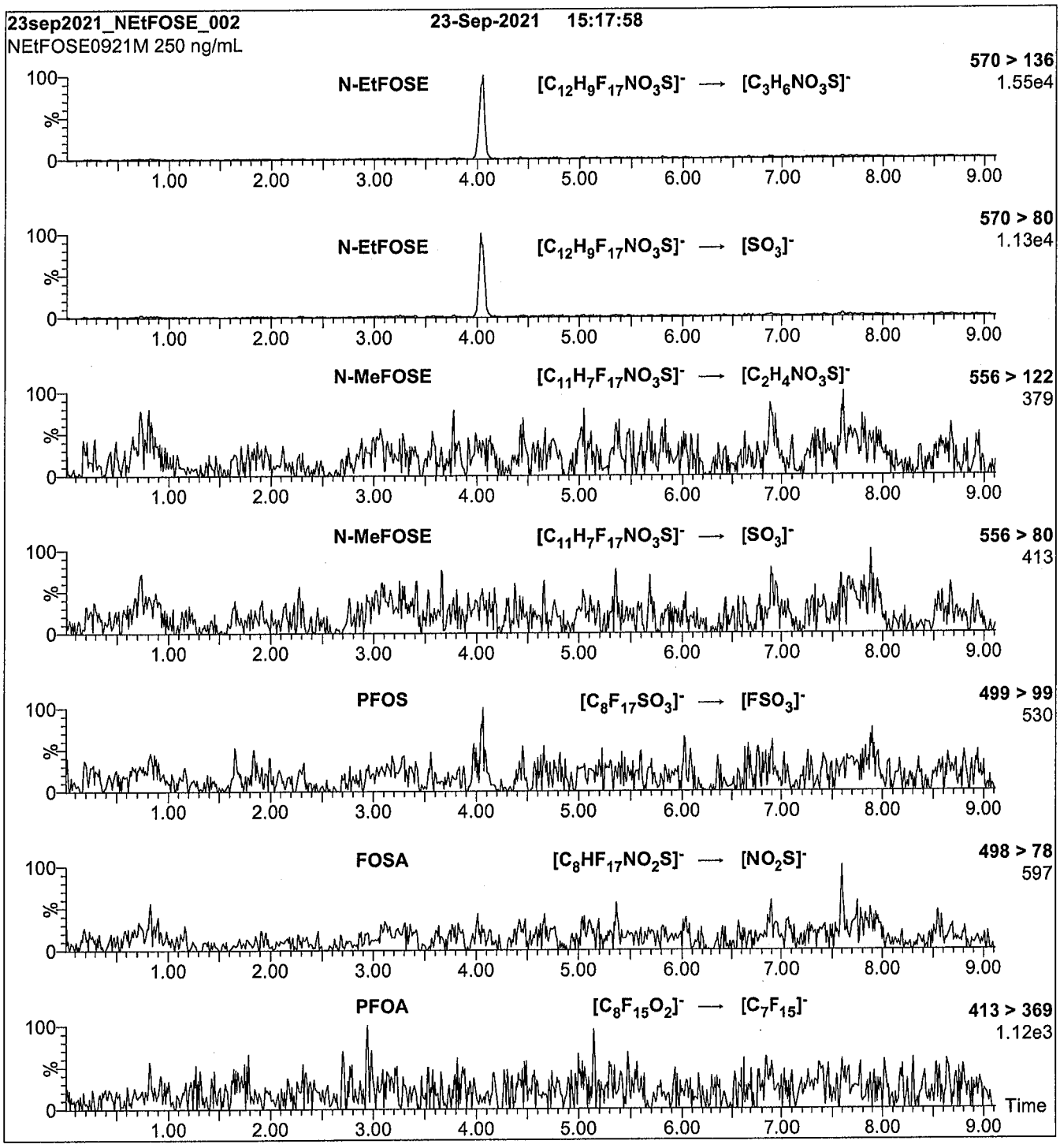
Flow: 300 µL/min

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

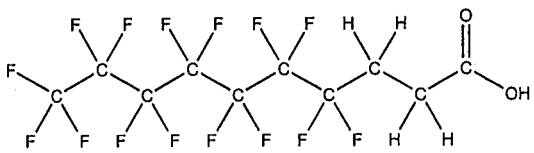
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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:

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.

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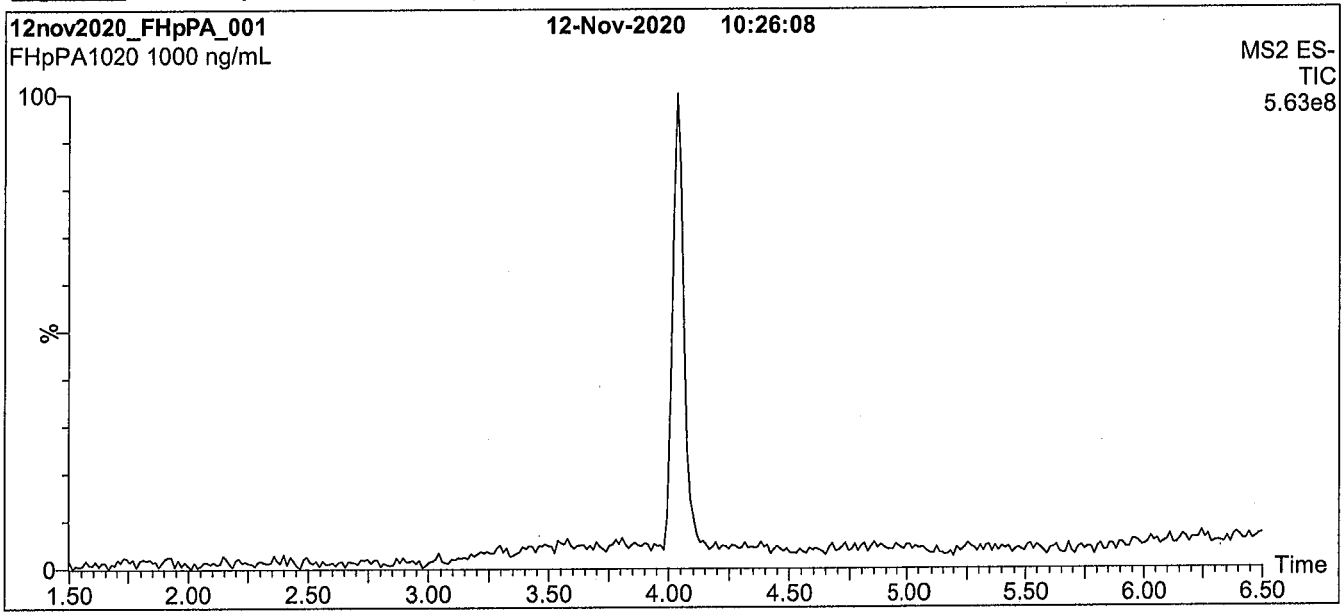
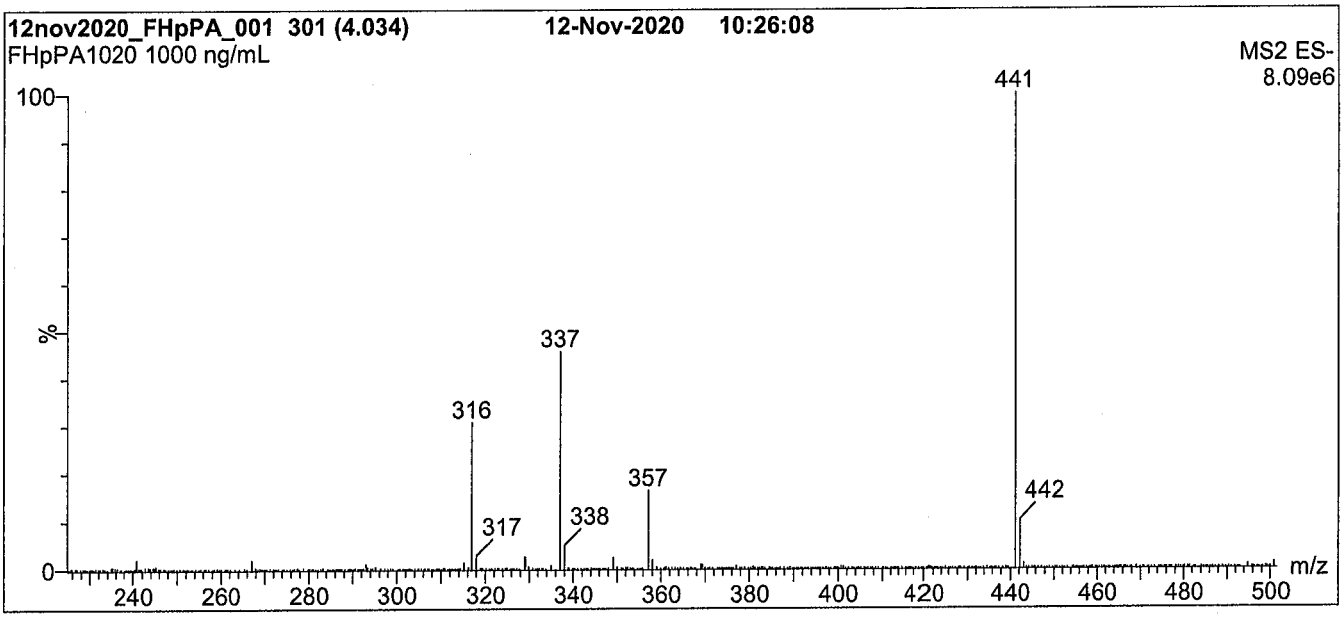
Figure 1: **FHpPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

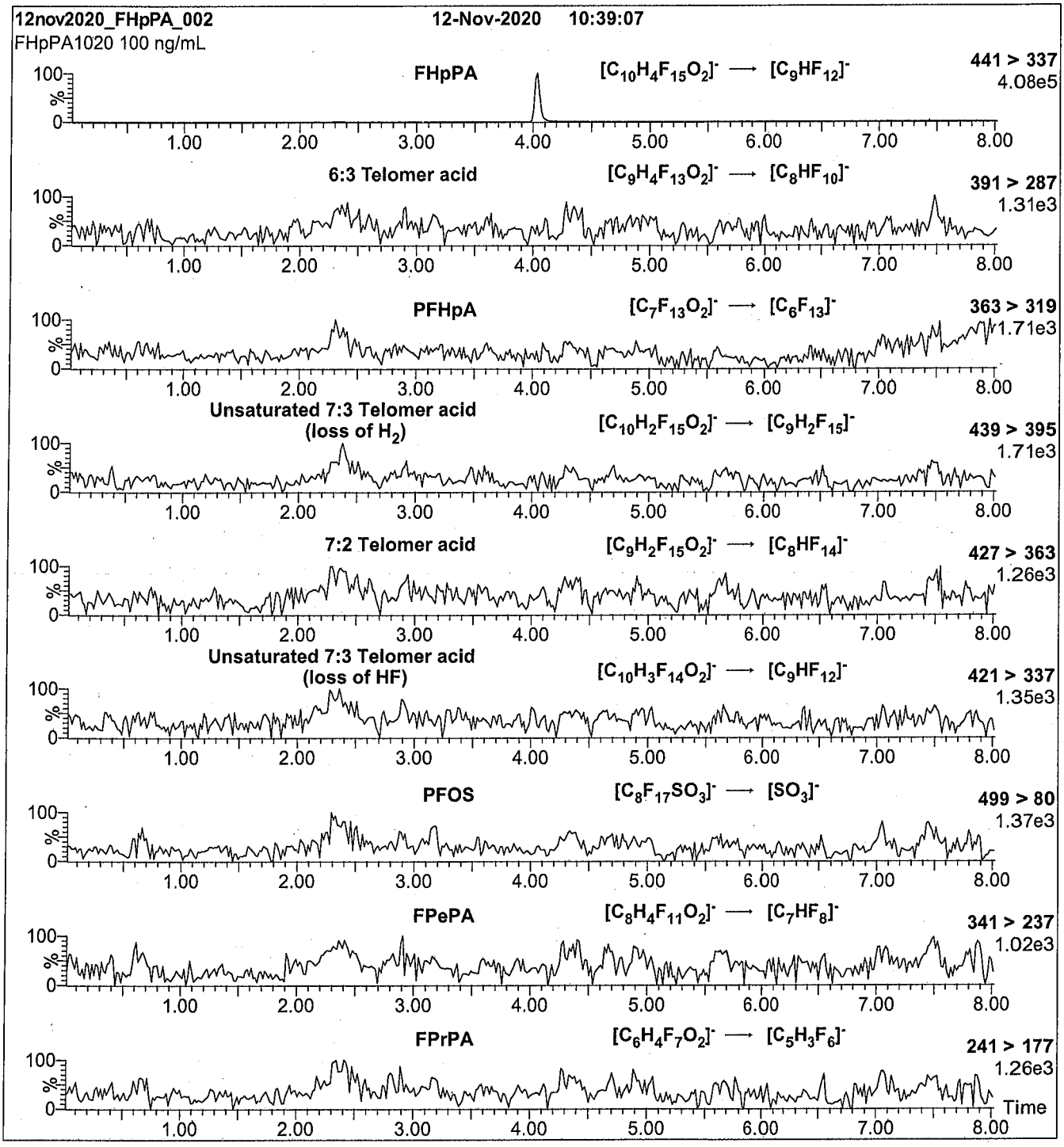
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 28.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (FHpPA)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.41e-3
Collision Energy (eV) = 8

Analytical Standard Record

22C0311

Description:	PFAS - SAS FHpPA 50ug/mL	Expires:	11/12/2025
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: HHpPA1020)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

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

Reviewed By

Date

Analytical Standard Record

22C0311

Description:	PFAS - SAS FHpPA 50ug/mL	Expires:	11/12/2025
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: HHpPA1020)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

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

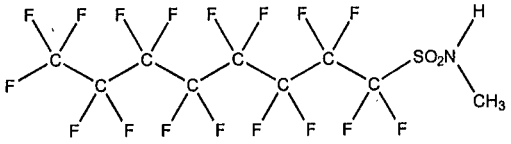
Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

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

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

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CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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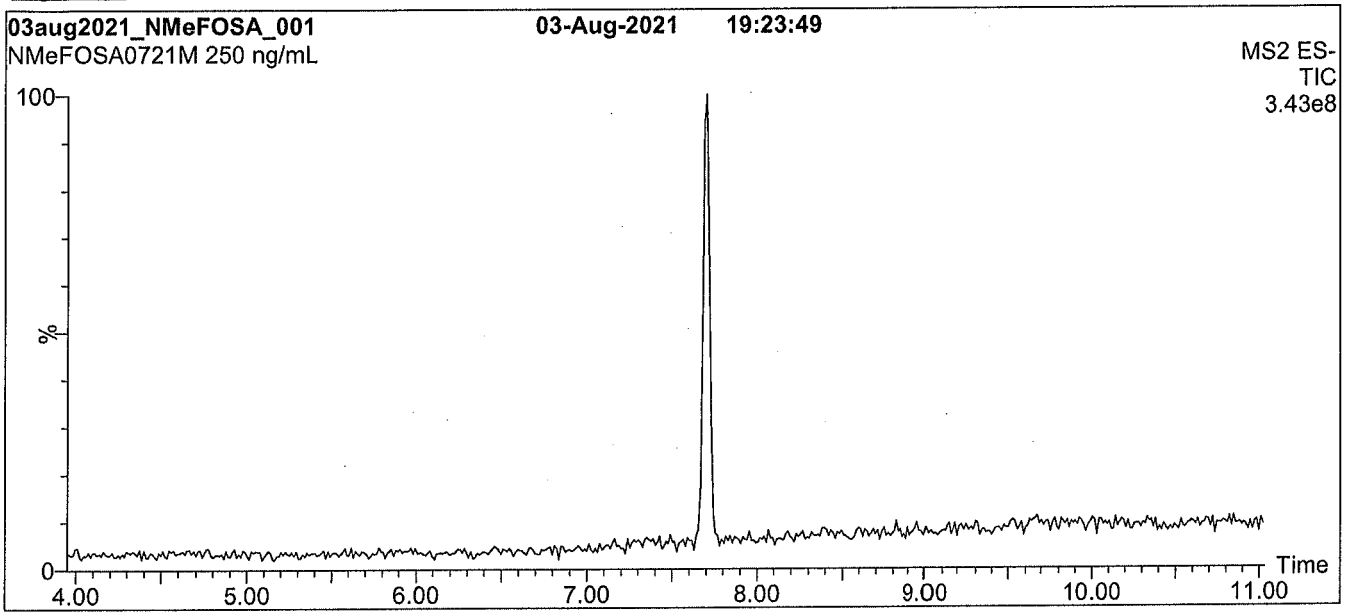
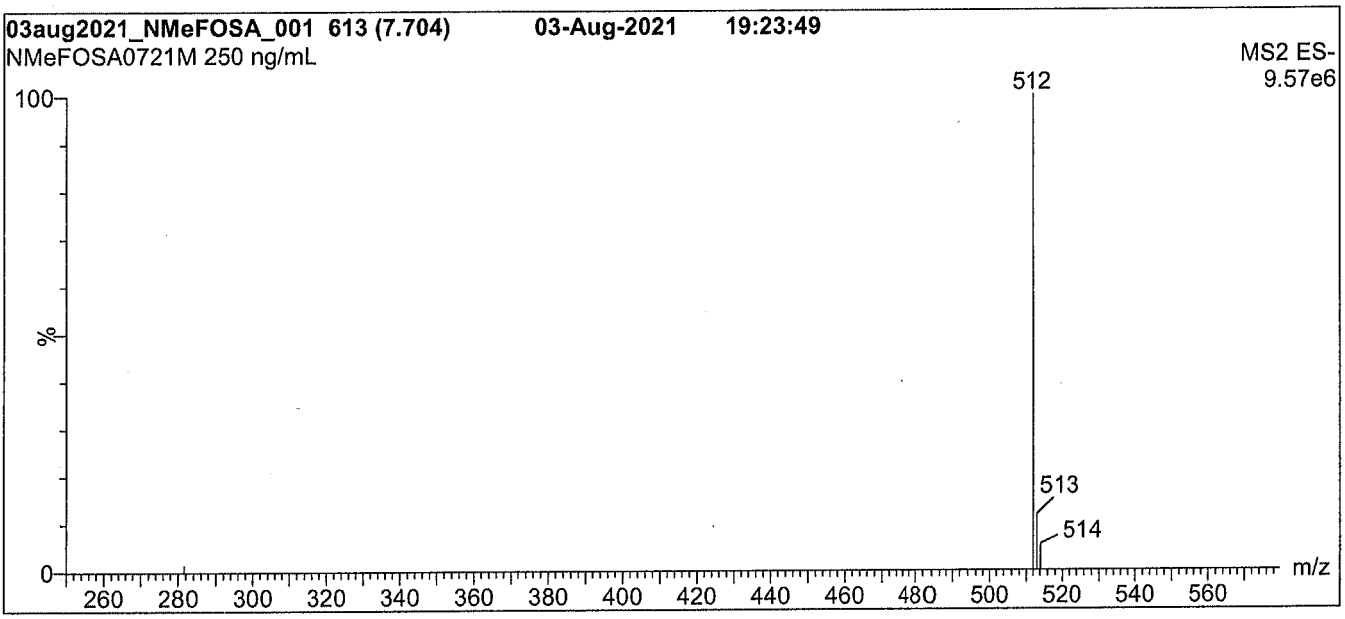
Figure 1: **N-MeFOSA-M; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

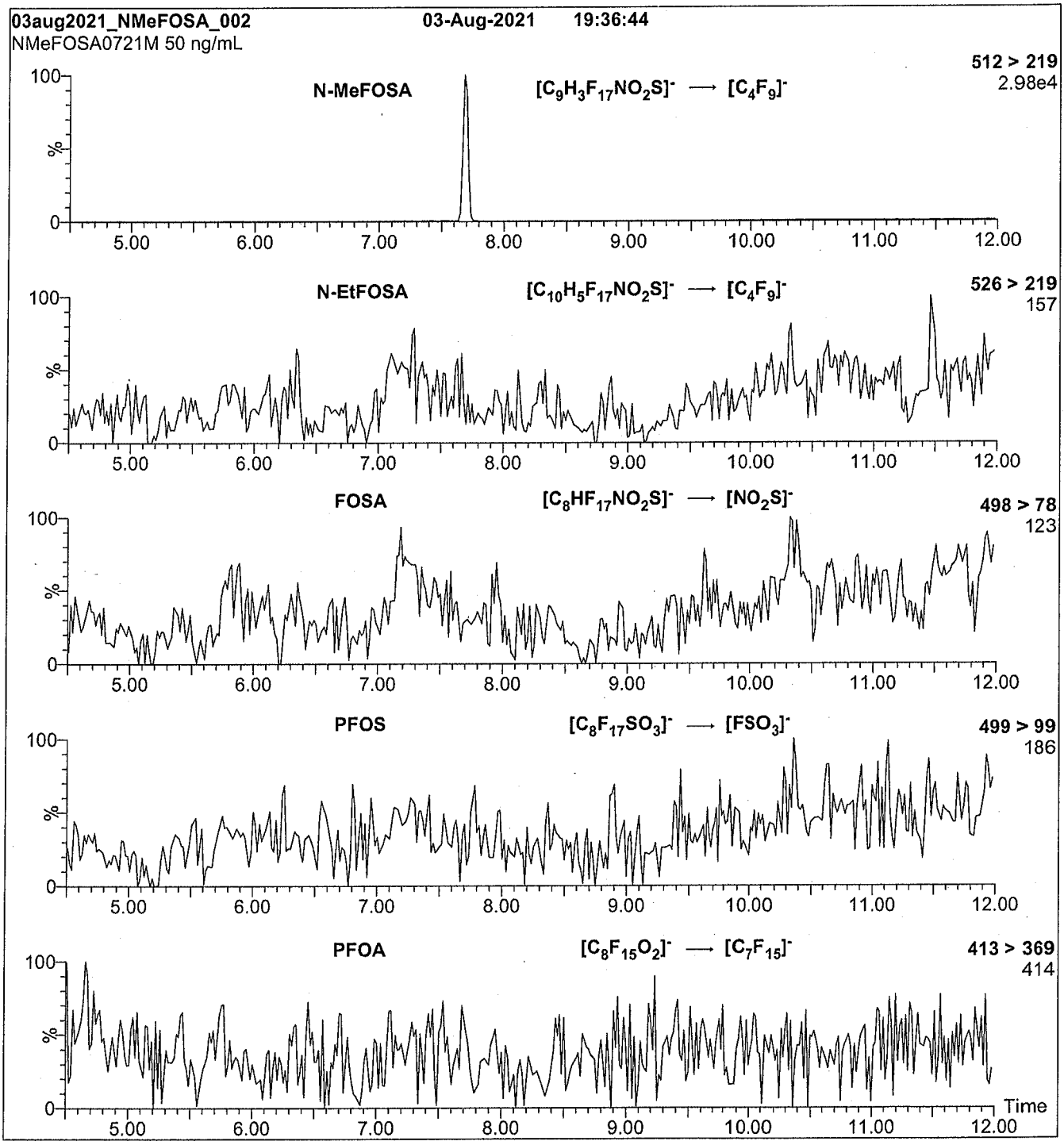
Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

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

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:

Collision Gas (mbar) = 3.41e-3
Collision Energy (eV) = 24

Analytical Standard Record

22C0312

Description:	PFAS - SAS NMeFOSA 50ug/mL	Expires:	08/03/2026
Standard Type:	Analyte Spike	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	03/15/2022 16:00 by DAG

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

Reviewed By

Date

WELLINGTON LABORATORIES

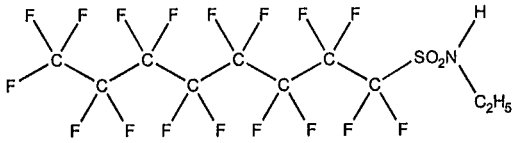
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide

LOT NUMBER: NEtFOSA0821M
22C0313

CAS #: 4151-50-2

STRUCTURE:



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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

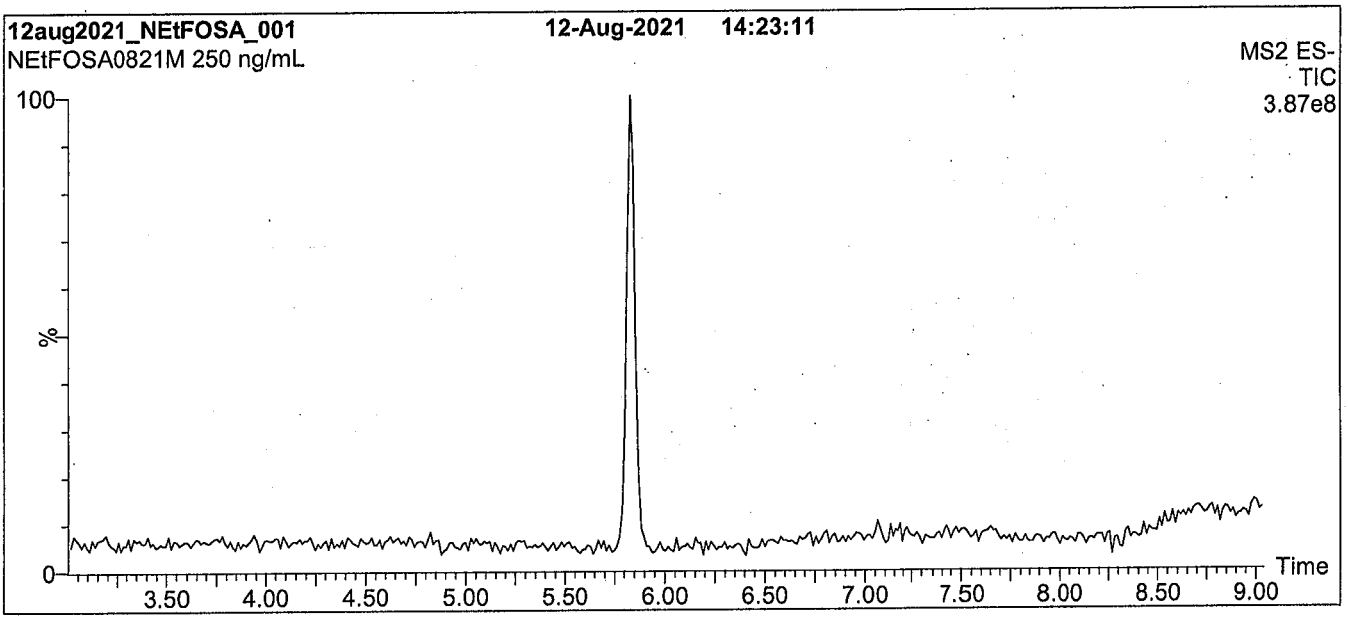
- See page 2 for further details.

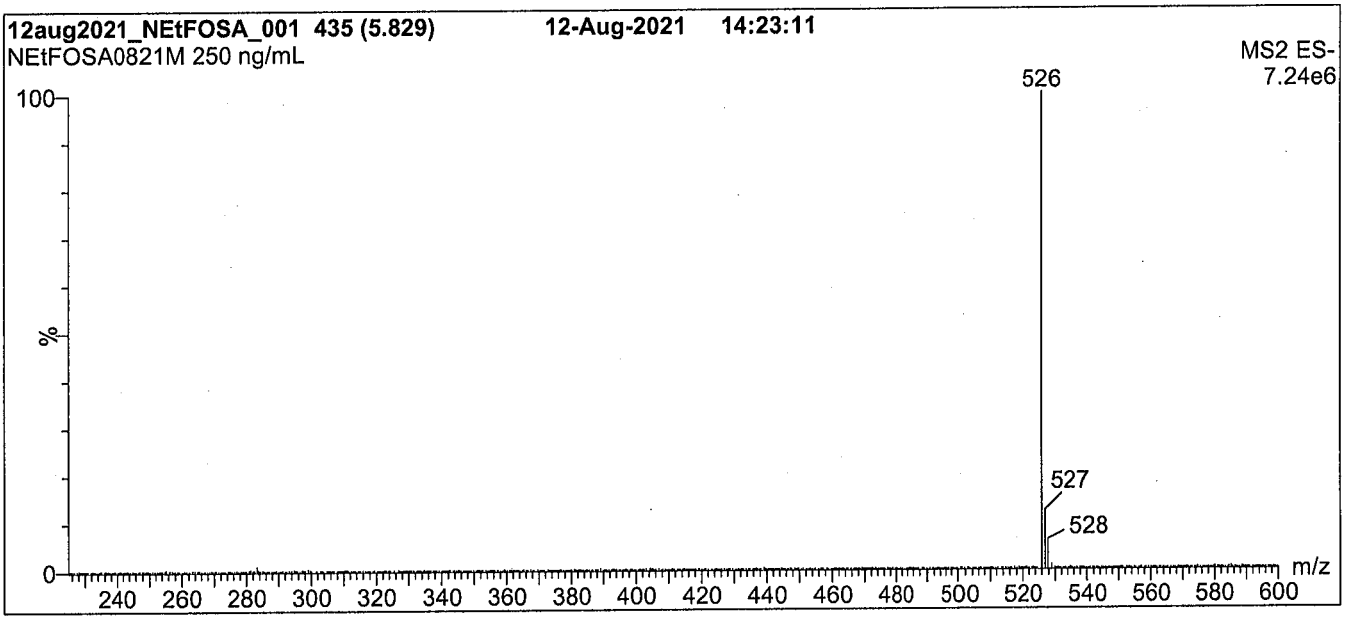
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/16/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

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

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





Conditions for Figure 1:

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

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

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Start: 30% H_2O / 70% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = 44.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

Analytical Standard Record

22C0313

Description:	PFAS - SAS NEtFOSA 50ug/mL	Expires:	08/12/2026
Standard Type:	Other	Prepared:	03/15/2022
Solvent:	Methanol	Prepared By:	Wellington Laboratories (Lot#: NEtFOSA0821M)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	08/17/2022 10:49 by LYA

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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF 22F0058

Native Replacement PFAS Solution/Mixture

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

DESCRIPTION:

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

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

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

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

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

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CALA Testing Accreditation No. A1226

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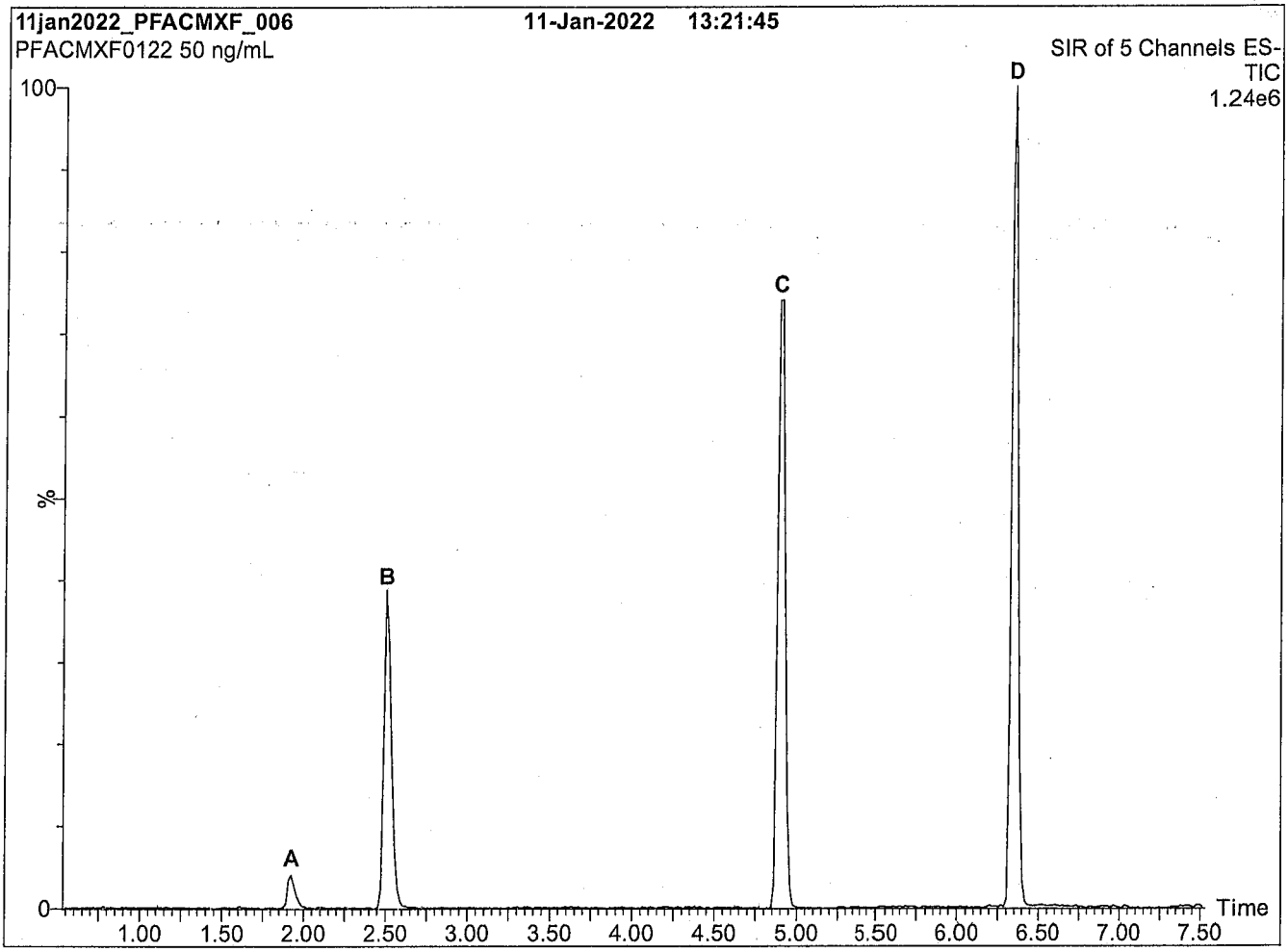
Table A: **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

Compound	Acronym	Concentration* (ng/ml)		Peak Assignment in Figure 1
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid	HFPO-DA	2000		A
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 01/12/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **PFAC-MXF; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

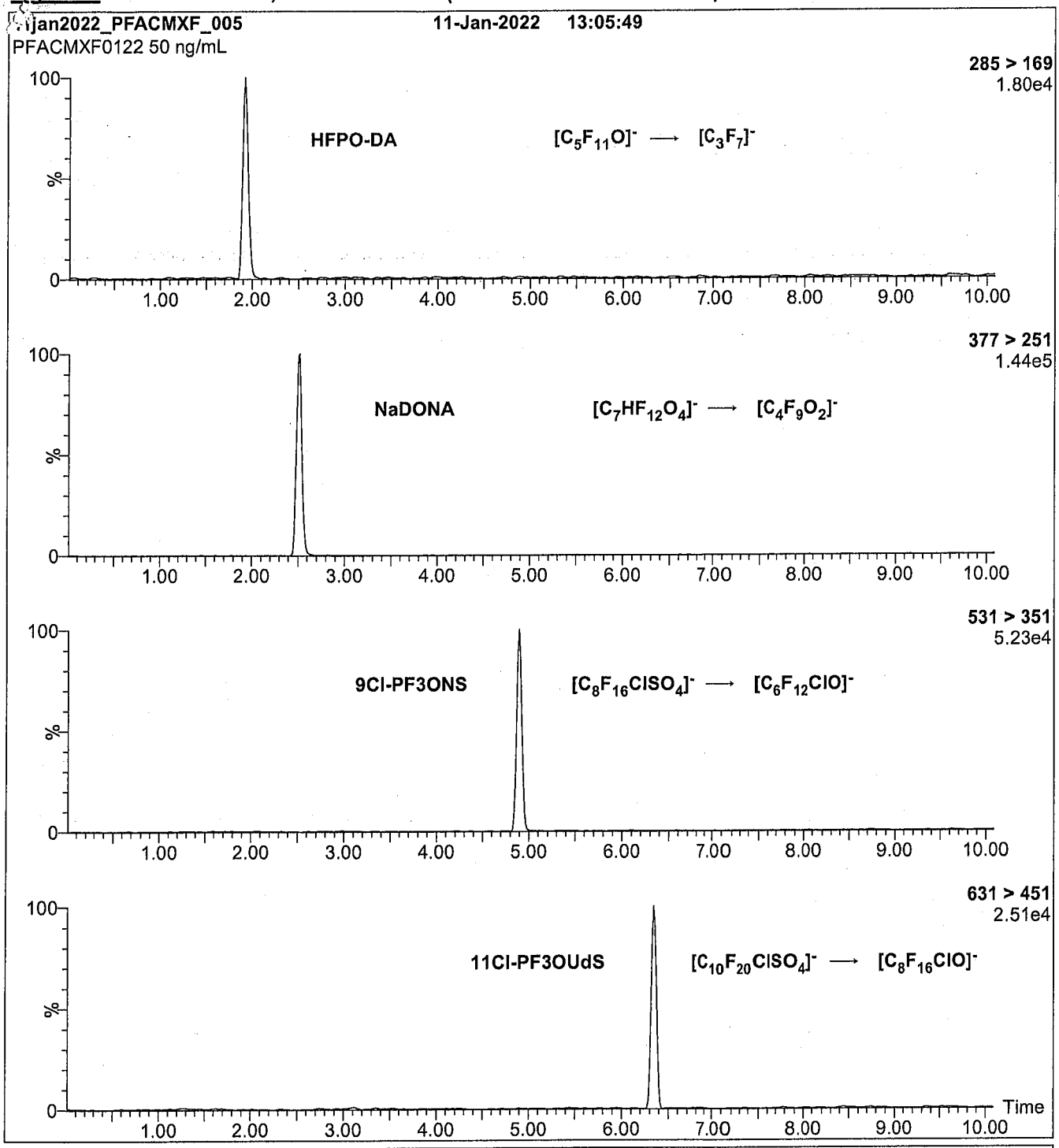
Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (15-74)
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (PFAC-MXF)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 6-60 (variable)

Analytical Standard Record

22F0058

Description:	PFAS - MIX MXF 2ug/mL	Expires:	01/11/2025
Standard Type:	Other	Prepared:	01/10/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:32 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS		763051-92-9	1.89	ug/mL
9CL-PF3ONS		756426-58-1	1.87	ug/mL
ADONA		919005-14-4	1.89	ug/mL
HFPO-DA		13252-13-6	2	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH 22F0059

Native Per- and Poly-fluoroalkyl Substance Solution/Mixture

PRODUCT CODE:	PFAC-MXH
LOT NUMBER:	PFACMXH0921
SOLVENT(S):	Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	09/09/2021
LAST TESTED: (mm/dd/yyyy)	09/14/2021
EXPIRY DATE: (mm/dd/yyyy)	09/14/2026
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of eleven native linear perfluoroalkylcarboxylic acids (C_4-C_{14}), eight native perfluoroalkanesulfonates (C_4, C_5, C_7, C_9, C_{10} and C_{12} linear; C_6 and C_8 linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide (FOSA). The components and their concentrations are given in Table A.

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

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Table B: Isomeric Components and Percent Composition of br-NMeFOSAA
Table C: Isomeric Components and Percent Composition of br-NEtFOSAA
Table D: Isomeric Components and Percent Composition of PFHxSK
Table E: Isomeric Components and Percent Composition of PFOSK
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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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-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	

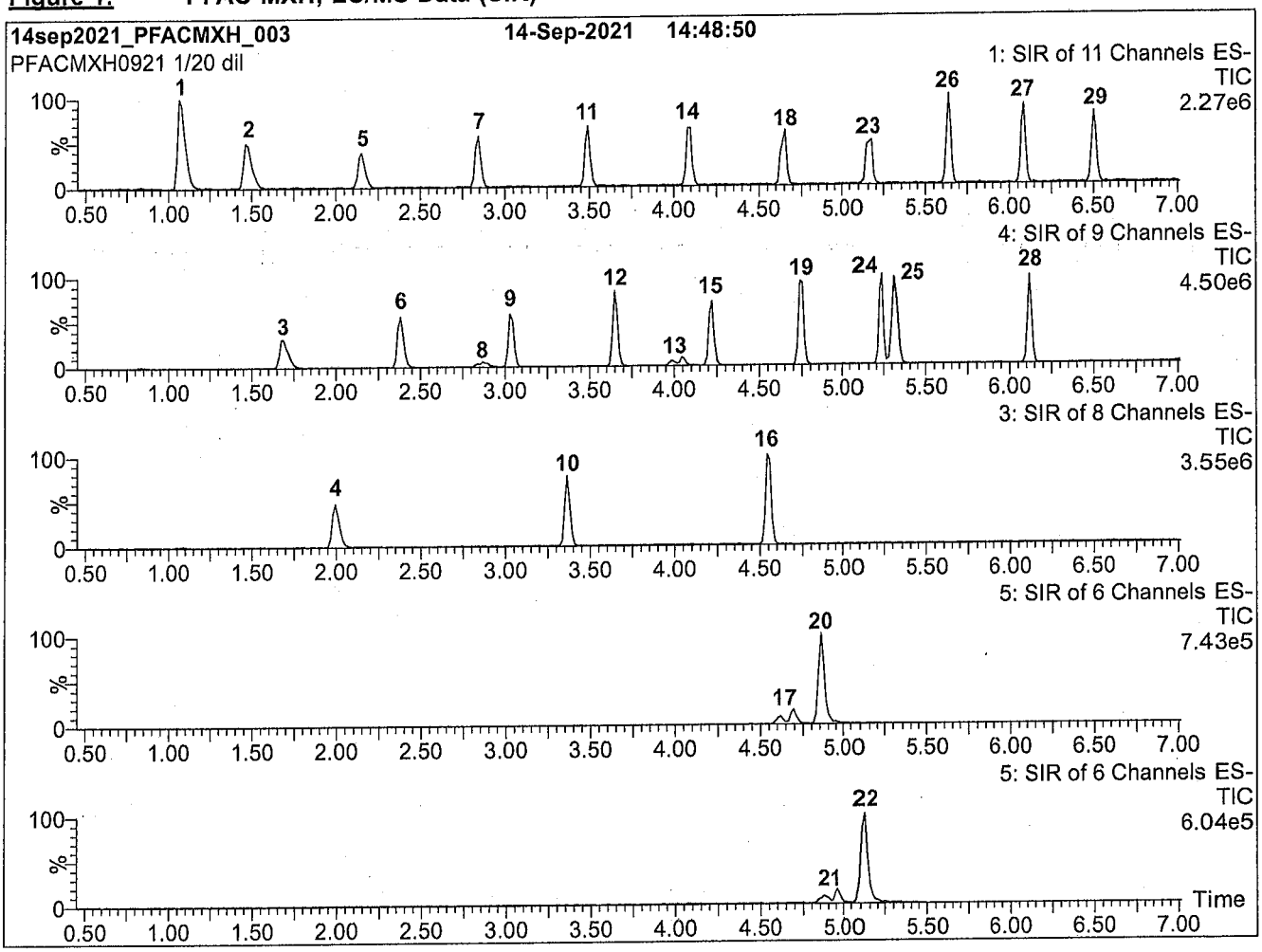
* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

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)**

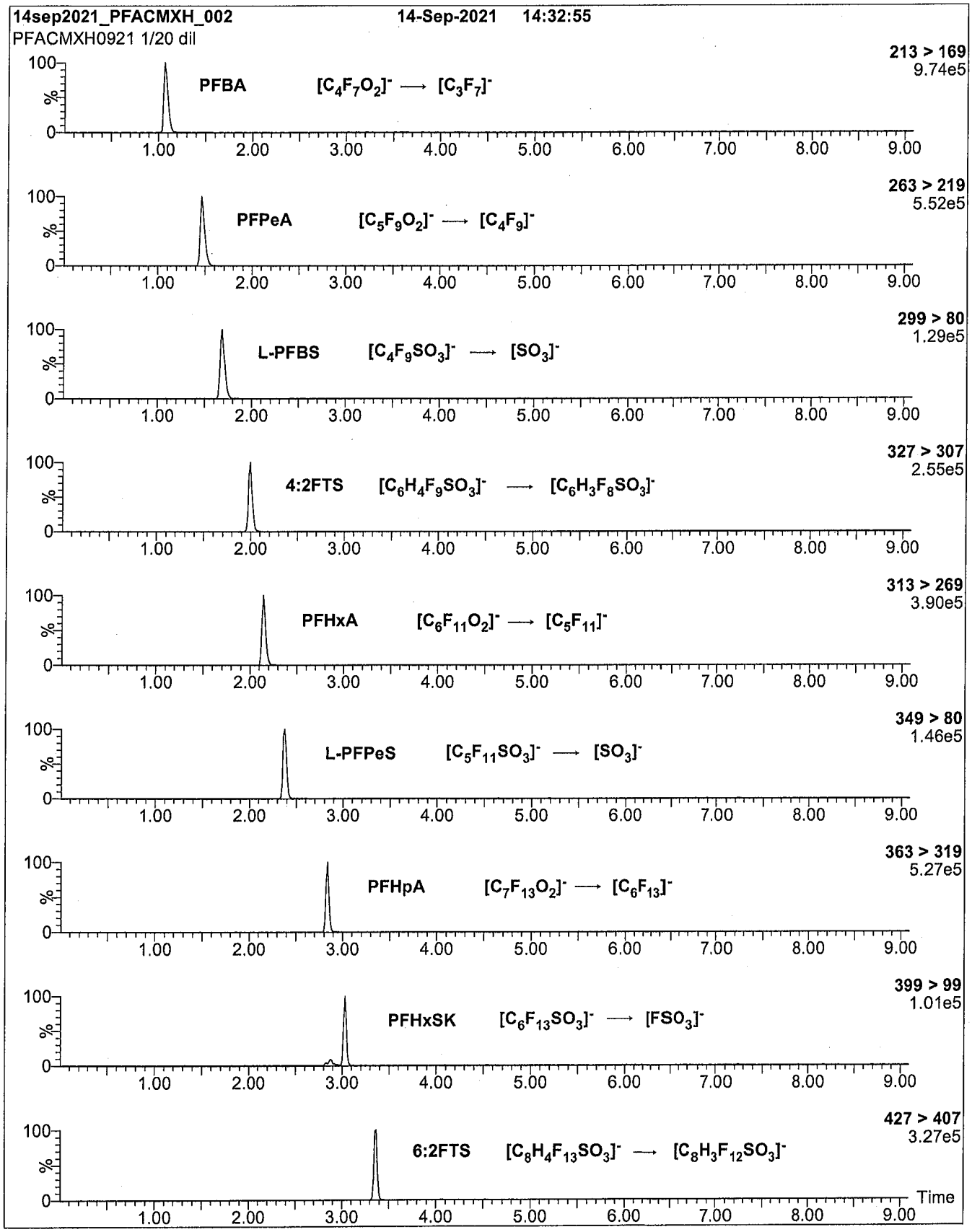


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**

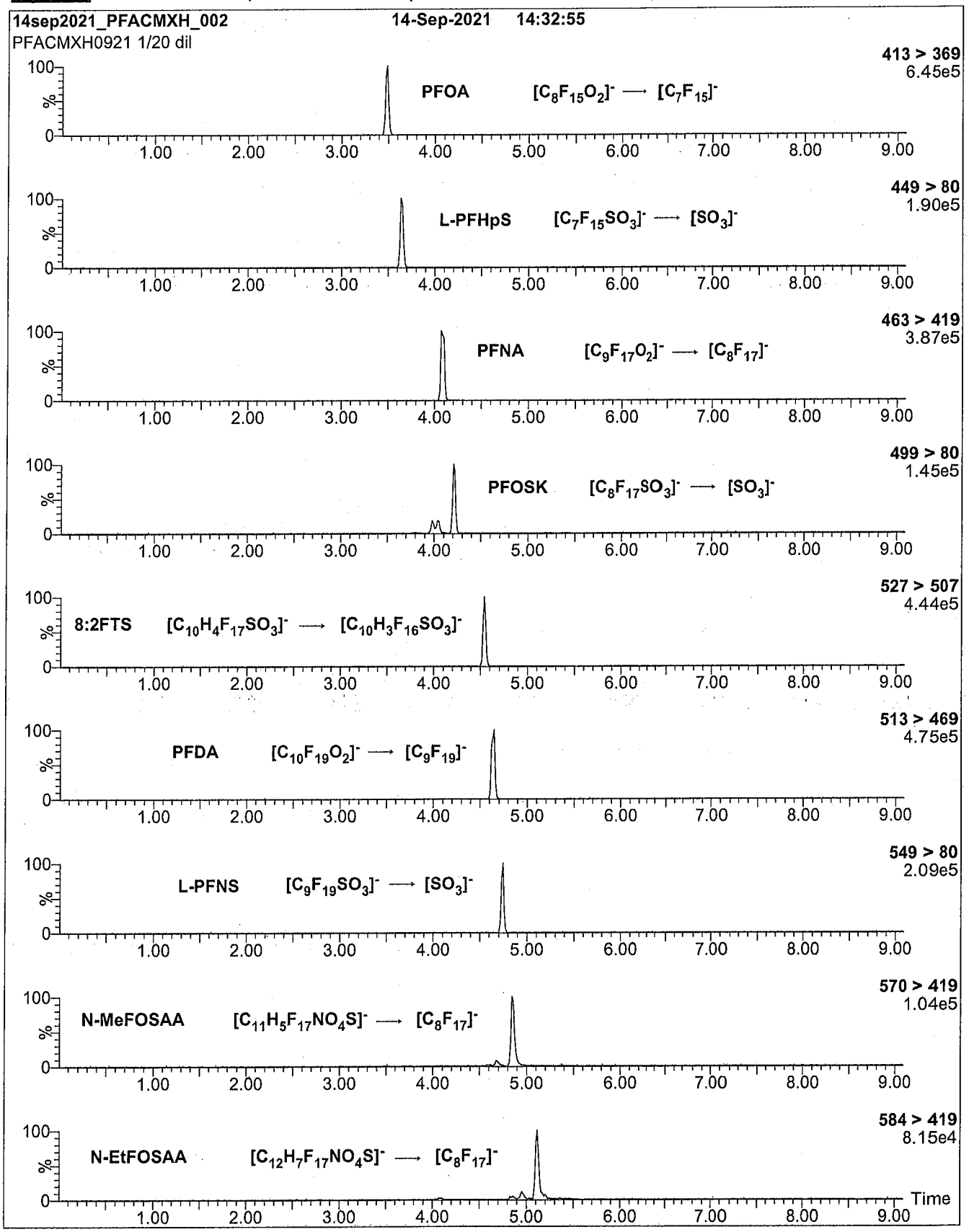
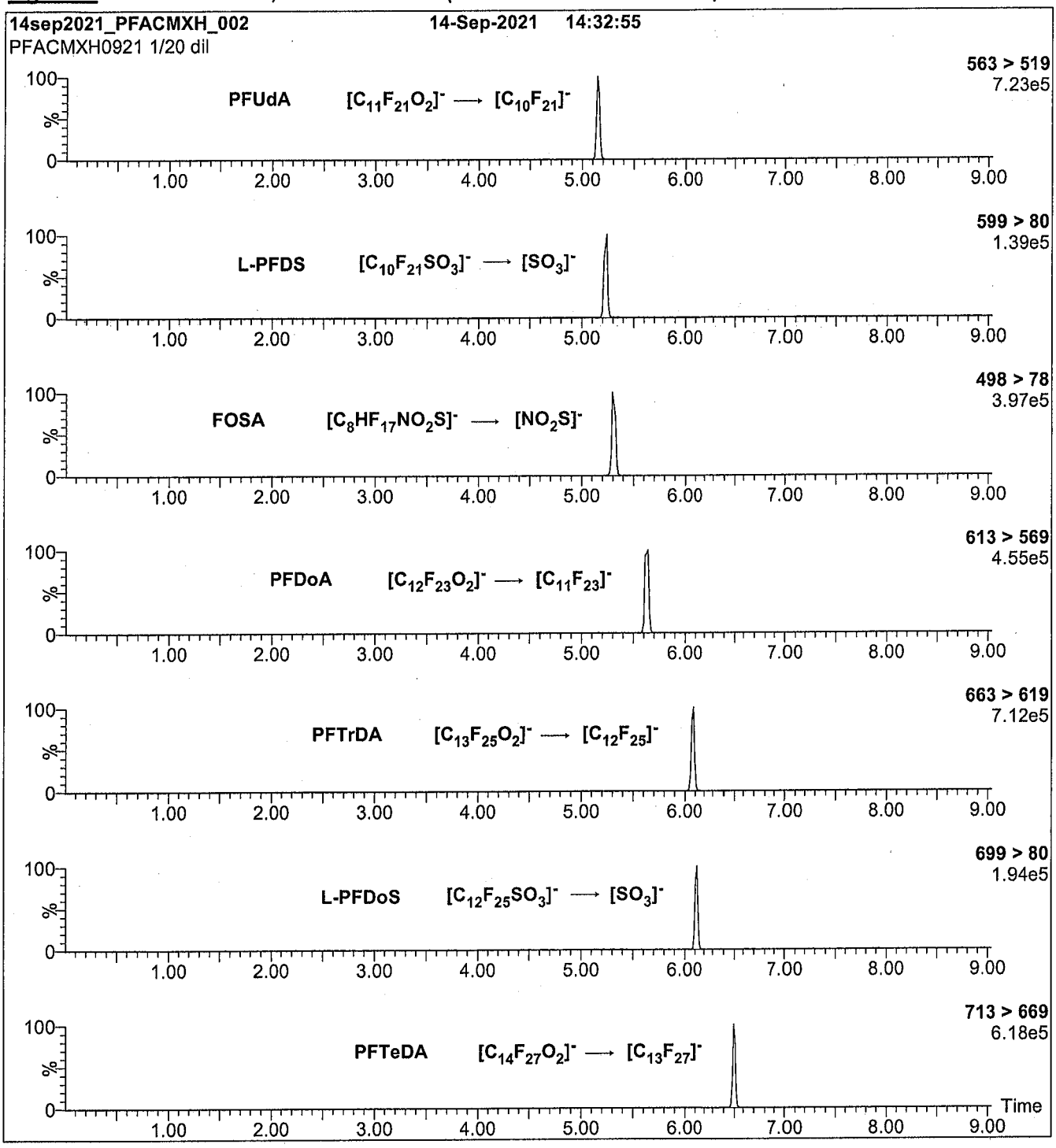


Figure 2: **PFAC-MXH; LC/MS/MS Data (Selected MRM Transitions)**



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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

INTENDED USE:

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

HANDLING:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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

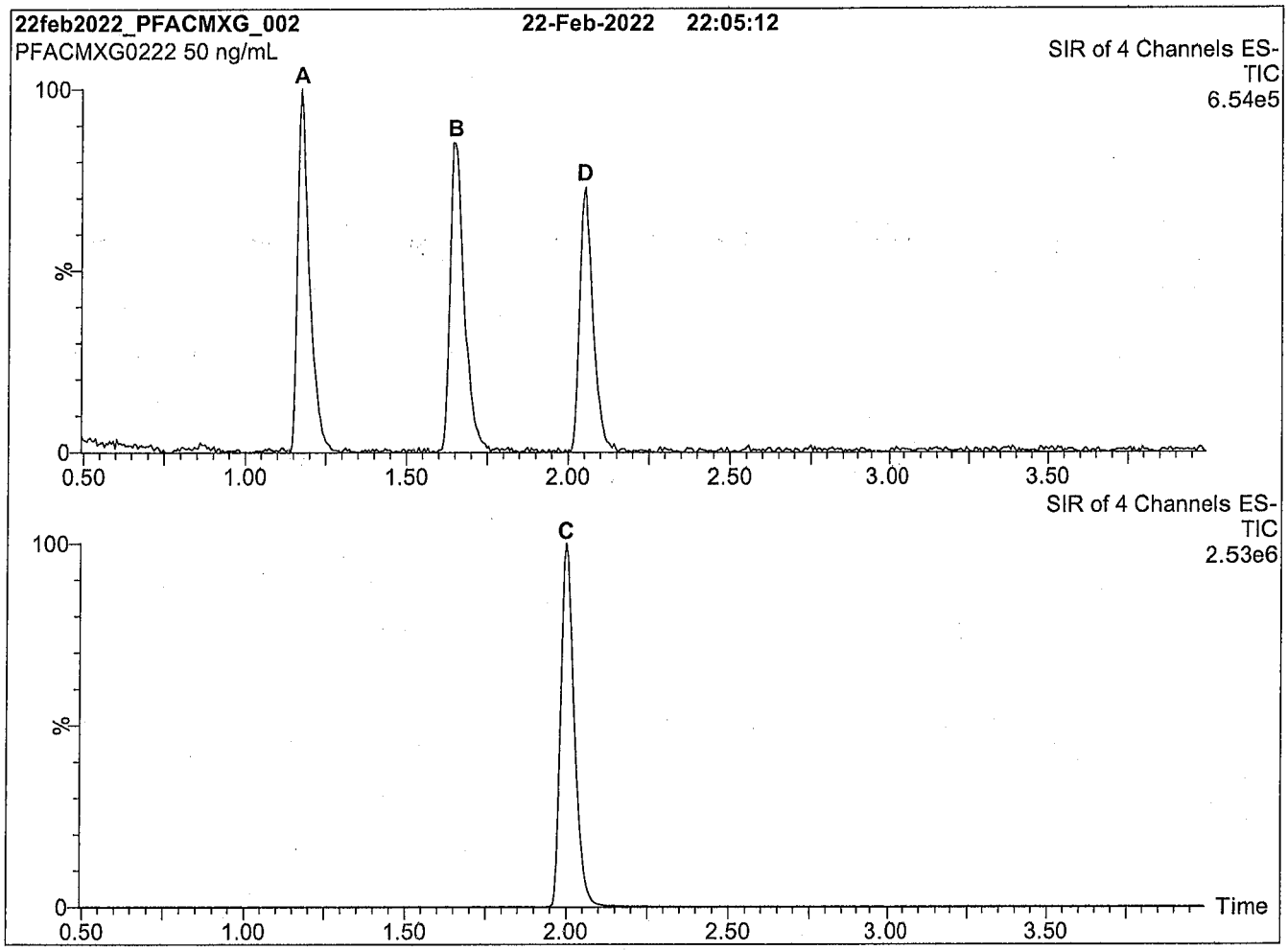
Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 03/03/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **PFAC-MXG; LC/MS Data (SIR)**



Conditions for Figure 1:

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

Chromatographic Conditions:

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

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

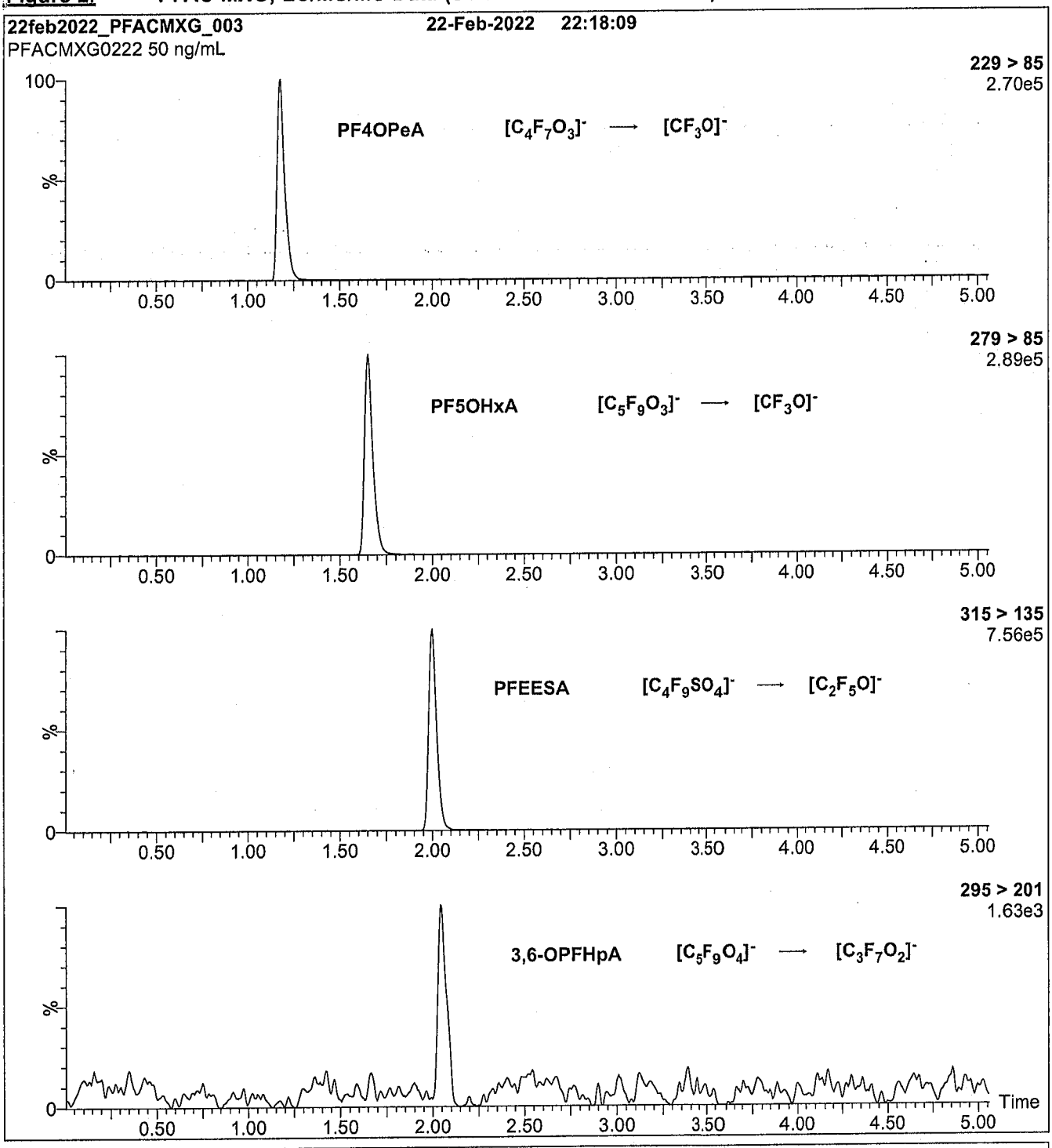
Flow: 300 µL/min

MS Parameters:

Experiment: SIR

Source: Electrospray (negative)
Capillary Voltage (kV) = 1.00
Cone Voltage (V) = variable (15-35)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

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



Conditions for Figure 2:

Injection: On-column (PFAC-MXG)

Mobile phase: Same as Figure 1

Flow: 300 µL/min

MS Parameters:
Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 8-48 (variable)

Analytical Standard Record

22F0061

Description:	PFAS - MIX MXG 2ug/mL	Expires:	02/22/2027
Standard Type:	Other	Prepared:	02/07/2022
Solvent:	MeOH	Prepared By:	Lizbeth Andres
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG
Comments:	contains NFHDA PFMBA PFMPA PFEESA @ 2ug/mL		

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

Reviewed By

Date

Analytical Standard Record

22I0153

Description:	PFAS - MIX 1633 200ng/mL	Expires:	01/11/2025
Standard Type:	Analyte Spike	Prepared:	09/13/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	6	Department:	PFAS
Vials:	1	Last Edit:	09/15/2022 09:34 by DAG

Analyte	Parent	CAS Number	Concentration	Units
NMeFOSE	22C0307	24448-09-7	0.8	ug/mL
3:3FTCA	22C0308	113507-82-7	0.8	ug/mL
5:3FTCA	22C0309	914637-49-3	0.8	ug/mL
NEtFOSE	22C0310	1691-99-2	0.8	ug/mL
7:3FTCA	22C0311	812-70-4	0.8	ug/mL
NMeFOSA	22C0312	31506-32-8	0.8	ug/mL
NEtFOSA	22C0313	4151-50-2	0.8	ug/mL
11CL-PF3OUDS	22F0058	763051-92-9	0.378	ug/mL
9CL-PF3ONS	22F0058	756426-58-1	0.374	ug/mL
ADONA	22F0058	919005-14-4	0.378	ug/mL
HFPO-DA	22F0058	13252-13-6	0.4	ug/mL
4:2FTS	22F0059	757124-72-4	0.75	ug/mL
6:2FTS	22F0059	27619-97-2	0.76	ug/mL
8:2FTS	22F0059	39108-34-4	0.768	ug/mL
NEtFOSAA	22F0059	2991-50-6	0.2	ug/mL
NMeFOSAA	22F0059	2355-31-9	0.2	ug/mL
PFBA	22F0059	375-22-4	0.8	ug/mL
PFBS	22F0059	375-73-5	0.177	ug/mL
PFDA	22F0059	335-76-2	0.2	ug/mL
PFDOA	22F0059	307-55-1	0.2	ug/mL
PFDOS	22F0059	79780-39-5	0.194	ug/mL
PFDS	22F0059	335-77-3	0.193	ug/mL
PFHPA	22F0059	375-85-9	0.2	ug/mL
PFHPS	22F0059	375-92-8	0.191	ug/mL
PFHXA	22F0059	307-24-4	0.2	ug/mL
PFHXS	22F0059	355-46-4	0.183	ug/mL
PFNA	22F0059	375-95-1	0.2	ug/mL
PFNS	22F0059	68259-12-1	0.192	ug/mL
PFOA	22F0059	335-67-1	0.2	ug/mL
PFOS	22F0059	1763-23-1	0.186	ug/mL
PFOSA	22F0059	754-91-6	0.2	ug/mL
PFPEA	22F0059	2706-90-3	0.4	ug/mL
PFPES	22F0059	630402-22-1	0.188	ug/mL
PFTEDA	22F0059	376-06-7	0.2	ug/mL
PFTRDA	22F0059	72629-94-8	0.2	ug/mL
PFUnA	22F0059	2058-94-8	0.2	ug/mL
NFDHA	22F0061	151772-58-6	0.4	ug/mL
PFEESA	22F0061	113507-82-7	0.356	ug/mL
PFMBA	22F0061	863090-89-5	0.4	ug/mL
PFMPA	22F0061	377-73-1	0.4	ug/mL

Reviewed By

Date

Analytical Standard Record

22I0153

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22C0307	PFAS - SAS N-MeFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0308	PFAS - SAS FPrPA 50ug/mL	03/15/2022	Wellington Laboratories	FPrPA0122	02/03/2027	03/15/2022 15:59	by DAG	0.096
22C0309	PFAS - SAS FPePA 50ug/mL	03/15/2022	Wellington Laboratories	FPePA1221	01/05/2027	03/15/2022 15:59	by DAG	0.096
22C0310	PFAS - SAS NEtFOSE 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSE0921M	09/23/2026	03/15/2022 15:59	by DAG	0.096
22C0311	PFAS - SAS FHpPA 50ug/mL	03/15/2022	Wellington Laboratories	HHpPA1020	11/12/2025	03/15/2022 16:00	by DAG	0.096
22C0312	PFAS - SAS NMeFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NMeFOSA0721M	08/03/2026	03/15/2022 16:00	by DAG	0.096
22C0313	PFAS - SAS NEtFOSA 50ug/mL	03/15/2022	Wellington Laboratories	NEtFOSA0821M	08/12/2026	08/17/2022 10:49	by LYA	0.096
22F0058	PFAS - MIX MXF 2ug/mL	01/10/2022	Wellington Laboratories	PFACMXF0122	01/11/2025	09/15/2022 09:32	by DAG	1.2
22F0059	PFAS - MIX MXH 2ug/mL	09/09/2021	Wellington Laboratories	PFACMXH0921	09/14/2026	09/15/2022 09:33	by DAG	1.2
22F0061	PFAS - MIX MXG 2ug/mL	02/07/2022	Wellington Laboratories	PFACMXG0222	02/22/2027	09/15/2022 09:34	by DAG	1.2

Analytical Standard Record

22J0297

Description:	T-PFOA	Expires:	01/27/2027
Standard Type:	Other	Prepared:	01/27/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: TPFOA0122)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 12:59 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA		335-67-1	50	ug/mL

Reviewed By

Date

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	T-PFOA	**LOT NUMBER:**	TPFOA0122
COMPOUND:	Ammonium perfluorooctanoate (Technical Grade)		
STRUCTURE:	(see Table A)	**CAS #:**	3825-26-1 (for linear ammonium perfluorooctanoate)

MOLECULAR FORMULA:	$C_8F_{15}O_2NH_4$
CONCENTRATION:	50.0 ± 2.5 µg/mL (gravimetric)
CHEMICAL PURITY:	Technical material
SOLVENT(S):	Methanol/Water (<1%)
LAST TESTED: (mm/dd/yyyy)	01/27/2022
EXPIRY DATE: (mm/dd/yyyy)	01/27/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)
Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only.*
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

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Certified By: _____ **Date:** 01/27/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

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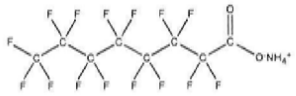
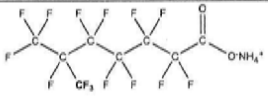
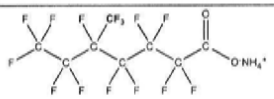
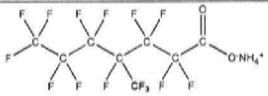
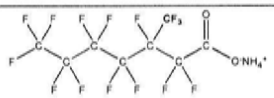
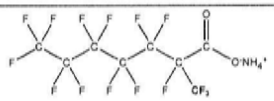
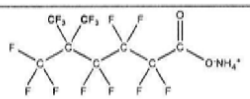
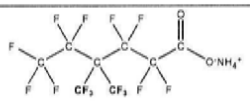
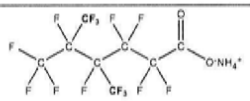
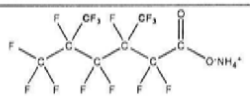
Table A: **T-PFOA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	Ammonium perfluoro-n-octanoate		79
2	Ammonium 6-trifluoromethylperfluoroheptanoate		9.0
3	Ammonium 5-trifluoromethylperfluoroheptanoate		4.5
4	Ammonium 4-trifluoromethylperfluoroheptanoate		4.0
5	Ammonium 3-trifluoromethylperfluoroheptanoate		3.0
6	Ammonium 2-trifluoromethylperfluoroheptanoate		0.50
7	Ammonium 5,5-bis(trifluoromethyl)perfluorohexanoate		
8	Ammonium 4,4-bis(trifluoromethyl)perfluorohexanoate		
9	Ammonium 4,5-bis(trifluoromethyl)perfluorohexanoate		
10	Ammonium 3,5-bis(trifluoromethyl)perfluorohexanoate		

* Percent Composition was determined by ^{19}F-NMR. The percentages displayed are of total ammonium perfluorooctanoate isomers only (isomers are labelled in Figure 4).

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: br-FOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-FOSA

Perfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-FOSA
LOT NUMBER:	brFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Isopropanol
DATE PREPARED: (mm/dd/yyyy)	09/14/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 754-91-6 (for linear isomer).

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Table A: **br-FOSA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	Perfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH_2$	66.6
2	Perfluoro-1-methyl-1-heptanesulfonamide**	$CF_3(CF_2)_5CF(CF_3)SO_2NH_2$	0.8
3	Perfluoro-2-methyl-1-heptanesulfonamide	$CF_3(CF_2)_4CF(CF_3)CF_2SO_2NH_2$	0.3
4	Perfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2NH_2$	4.2
5	Perfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2NH_2$	3.5
6	Perfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2NH_2$	7.8
7	Perfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_3)(CF_2)_5SO_2NH_2$	16.8
8	Perfluoro-5,5-dimethyl-1-hexanesulfonamide	$CF_3C(CF_3)_2(CF_2)_4SO_2NH_2$	0.2

* Percent of total perfluorooctanesulfonamide isomers only.
** Systematic Name: Perfluoro-2-octanesulfonamide.

Certified By: _____ **Date:** 11/15/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

Analytical Standard Record

22J0298

Description:	br-FOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	09/14/2022
Solvent:	Isopropanol	Prepared By:	Wellington Laboratories (Lot#: br-FOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:03 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOSA		754-91-6	50	ug/mL

Reviewed By

Date

Analytical Standard Record

22J0301

Description:	br-NMeFOSA	Expires:	08/23/2027
Standard Type:	Other	Prepared:	08/23/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNMeFOSA0822)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSA

N-Methylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NMeFOSA
LOT NUMBER:	brNMeFOSA0822
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/18/2022
LAST TESTED: (mm/dd/yyyy)	08/23/2022
EXPIRY DATE: (mm/dd/yyyy)	08/23/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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Table A: **br-NMeFOSA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	N-Methylperfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH$ $\vert$ CH_3	72.3
2	N-Methylperfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_2)_2SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	2.1
3	N-Methylperfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_2)_3SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	2.6
4	N-Methylperfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	6.7
5	N-Methylperfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_2)_5SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	16.2
6	N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamide	CF_3 $\vert$ $CF_3C(CF_2)_4SO_2NH$ $\vert$ $\vert$ CF_3 CH_3	0.04

* Percent of total N-methylperfluorooctanesulfonamide isomers only.

Certified By: _____ **Date:** 11/15/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Analytical Standard Record

22J0301

Description:	br-NMeFOSA	Expires:	08/23/2027
Standard Type:	Other	Prepared:	08/23/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNMeFOSA0822)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:37 by HGH

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

Reviewed By

Date

Analytical Standard Record

22J0302

Description:	br-NEtFOSA	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNEtFOSA0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:38 by HGH

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

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NEtFOSA
LOT NUMBER:	brNEtFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/23/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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Table A: **br-NEtFOSA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	N-Ethylperfluoro-1-octanesulfonamide	$CF_3(CF_2)_7SO_2NH$ CH_2CH_3	73.8
2	N-Ethylperfluoro-1-methyl-1-heptanesulfonamide**	$CF_3(CF_2)_5CFSO_2NH$ CF_3 CH_2CH_3	0.1
3	N-Ethylperfluoro-3-methyl-1-heptanesulfonamide	$CF_3(CF_2)_3CF(CF_2)_2SO_2NH$ CF_3 CH_2CH_3	2.3
4	N-Ethylperfluoro-4-methyl-1-heptanesulfonamide	$CF_3(CF_2)_2CF(CF_2)_3SO_2NH$ CF_3 CH_2CH_3	2.6
5	N-Ethylperfluoro-5-methyl-1-heptanesulfonamide	$CF_3CF_2CF(CF_2)_4SO_2NH$ CF_3 CH_2CH_3	6.2
6	N-Ethylperfluoro-6-methyl-1-heptanesulfonamide	$CF_3CF(CF_2)_5SO_2NH$ CF_3 CH_2CH_3	14.8
7	N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamide	CF_3 $CF_3C(CF_2)_4SO_2NH$ CF_3 CH_2CH_3	0.2

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

Certified By: B.G. Chittim, General Manager **Date:** 11/15/2022 (mm/dd/yyyy)

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

Analytical Standard Record

22J0303

Description:	br-NMeFOSE	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNMeFOSE0922)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:41 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSE		1691-99-2	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NMeFOSE
LOT NUMBER:	brNMeFOSE0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/02/2022
LAST TESTED: (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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Table A: **br-NMeFOSE; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	2-(N-Methylperfluoro-1-octanesulfonamido)ethanol	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CH_2OH$	67.6
2	2-(N-Methylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CH_2OH$	3.9
3	2-(N-Methylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CH_2OH$	3.2
4	2-(N-Methylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CH_2OH$	7.7
5	2-(N-Methylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CH_2OH$	17.5
6	2-(N-Methylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CH_2OH$	0.2

* Percent of total 2-(N-methylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____ **Date:** 11/14/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Analytical Standard Record

22J0304

Description:	br-NEtFOSE	Expires:	10/07/2027
Standard Type:	Other	Prepared:	10/07/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: brNEtFOSE1022)
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/18/2022 13:43 by HGH

Analyte	Parent	CAS Number	Concentration	Units
NEtFOSE		1691-99-2	50	ug/mL

Reviewed By

Date

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NEtFOSE
LOT NUMBER:	brNEtFOSE1022
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/12/2022
LAST TESTED: (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-ethylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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Table A: **br-NEtFOSE; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Compound	Structure	Percent Composition by ^{19}F-NMR
1	2-(N-Ethylperfluoro-1-octanesulfonamido)ethanol	$CF_3(CF_2)_7SO_2N(CH_2CH_3)CH_2CH_2OH$	64.6
2	2-(N-Ethylperfluoro-2-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_4CF(CF_3)CF_2SO_2N(CH_2CH_3)CH_2CH_2OH$	0.2
3	2-(N-Ethylperfluoro-3-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_2CH_3)CH_2CH_2OH$	4.1
4	2-(N-Ethylperfluoro-4-methyl-1-heptanesulfonamido)ethanol	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_2CH_3)CH_2CH_2OH$	4.3
5	2-(N-Ethylperfluoro-5-methyl-1-heptanesulfonamido)ethanol	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_2CH_3)CH_2CH_2OH$	8.8
6	2-(N-Ethylperfluoro-6-methyl-1-heptanesulfonamido)ethanol	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_2CH_3)CH_2CH_2OH$	17.8
7	2-(N-Ethylperfluoro-5,5-dimethyl-1-hexanesulfonamido)ethanol	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_2CH_3)CH_2CH_2OH$	0.3

* Percent of total 2-(N-ethylperfluorooctanesulfonamido)ethanol isomers only.

Certified By: _____ **Date:** 11/14/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Analytical Standard Record

22J0420

Description:	PFAS RES-MIX 1000ng/mL	Expires:	04/24/2023
Standard Type:	Other	Prepared:	10/26/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	1	Department:	PFAS
Vials:	1	Last Edit:	10/26/2022 10:16 by HGH

Analyte	Parent	CAS Number	Concentration	Units
PFOA	22J0297	335-67-1	1	ug/mL
PFOSA	22J0298	754-91-6	1	ug/mL
NMeFOSA	22J0301	31506-32-8	1	ug/mL
NEtFOSA	22J0302	4151-50-2	1	ug/mL
NMeFOSE	22J0303	24448-09-7	1	ug/mL
NEtFOSE	22J0304	1691-99-2	1	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22J0297	T-PFOA	01/27/2022	Wellington Laboratories	TPFOA0122	01/27/2027	10/18/2022 12:59	by HGH	0.02
22J0298	br-FOSA	09/14/2022	Wellington Laboratories	br-FOSA0922	10/07/2027	10/18/2022 13:03	by HGH	0.02
22J0301	br-NMeFOSA	08/23/2022	Wellington Laboratories	beNMeFOSA0822	08/23/2027	10/18/2022 13:37	by HGH	0.02
22J0302	br-NEtFOSA	10/07/2022	Wellington Laboratories	beNEtFOSA0922	10/07/2027	10/18/2022 13:38	by HGH	0.02
22J0303	br-NMeFOSE	10/07/2022	Wellington Laboratories	beNMeFOSE0922	10/07/2027	10/26/2022 10:16	by HGH	0.02
22J0304	br-NEtFOSE	10/07/2022	Wellington Laboratories	beNEtFOSE1022	10/07/2027	10/18/2022 13:43	by HGH	0.02

Reviewed By

Date

Analytical Standard Record

22J0448

Description:	PFAS - MIX 1633 20ng/mL	Expires:	04/25/2023
Standard Type:	Analyte Spike	Prepared:	10/27/2022
Solvent:	MeOH	Prepared By:	Dipti Gokal
Final Volume (mls):	10	Department:	PFAS
Vials:	1	Last Edit:	10/27/2022 08:51 by DAG

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS	22I0153	763051-92-9	0.0378	ug/mL
3:3FTCA	22I0153	113507-82-7	0.08	ug/mL
4:2FTS	22I0153	757124-72-4	0.075	ug/mL
5:3FTCA	22I0153	914637-49-3	0.08	ug/mL
6:2FTS	22I0153	27619-97-2	0.076	ug/mL
7:3FTCA	22I0153	812-70-4	0.08	ug/mL
8:2FTS	22I0153	39108-34-4	0.0768	ug/mL
9CL-PF3ONS	22I0153	756426-58-1	0.0374	ug/mL
ADONA	22I0153	919005-14-4	0.0378	ug/mL
HFPO-DA	22I0153	13252-13-6	0.04	ug/mL
NEtFOSA	22I0153	4151-50-2	0.08	ug/mL
NEtFOSAA	22I0153	2991-50-6	0.02	ug/mL
NEtFOSE	22I0153	1691-99-2	0.08	ug/mL
NFDHA	22I0153	151772-58-6	0.04	ug/mL
NMeFOSA	22I0153	31506-32-8	0.08	ug/mL
NMeFOSAA	22I0153	2355-31-9	0.02	ug/mL
NMeFOSE	22I0153	24448-09-7	0.08	ug/mL
PFBA	22I0153	375-22-4	0.08	ug/mL
PFBS	22I0153	375-73-5	0.0177	ug/mL
PFDA	22I0153	335-76-2	0.02	ug/mL
PFDOA	22I0153	307-55-1	0.02	ug/mL
PFDOS	22I0153	79780-39-5	0.0194	ug/mL
PFDS	22I0153	335-77-3	0.0193	ug/mL
PFEESA	22I0153	113507-82-7	0.0356	ug/mL
PFHPA	22I0153	375-85-9	0.02	ug/mL
PFHPS	22I0153	375-92-8	0.0191	ug/mL
PFHXA	22I0153	307-24-4	0.02	ug/mL
PFHXS	22I0153	355-46-4	0.0183	ug/mL
PFMBA	22I0153	863090-89-5	0.04	ug/mL
PFMPA	22I0153	377-73-1	0.04	ug/mL
PFNA	22I0153	375-95-1	0.02	ug/mL
PFNS	22I0153	68259-12-1	0.0192	ug/mL
PFOA	22I0153	335-67-1	0.02	ug/mL
PFOS	22I0153	1763-23-1	0.0186	ug/mL
PFOSA	22I0153	754-91-6	0.02	ug/mL
PFPEA	22I0153	2706-90-3	0.04	ug/mL
PFPES	22I0153	630402-22-1	0.0188	ug/mL
PFTEDA	22I0153	376-06-7	0.02	ug/mL
PFTRDA	22I0153	72629-94-8	0.02	ug/mL
PFUnA	22I0153	2058-94-8	0.02	ug/mL

Reviewed By

Date

Analytical Standard Record

22J0448

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit		(mls)
22I0153	PFAS - MIX 1633 200ng/mL	09/13/2022	In house	x	01/11/2025	09/15/2022 09:34	by DAG	1

Analytical Standard Record

22K0180

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

Analyte	Parent	CAS Number	Concentration	Units
11CL-PF3OUDS		763051-92-9	1.89	ug/mL
9CL-PF3ONS		756426-58-1	1.87	ug/mL
ADONA		919005-14-4	1.89	ug/mL
HFPO-DA		13252-13-6	2	ug/mL

Reviewed By

Date

Analytical Standard Record

22K0181

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

Analyte	Parent	CAS Number	Concentration	Units
NFDHA		151772-58-6	2	ug/mL
PFEESA		113507-82-7	1.78	ug/mL
PFMBA		863090-89-5	2	ug/mL
PFMPA		377-73-1	2	ug/mL

Reviewed By

Date

Analytical Standard Record

22K0182

Description:	PFAS - MIX MXH 1 ug/mL	Expires:	08/08/2027
Standard Type:	Analyte Spike	Prepared:	08/05/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: PFASMXH0822)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	11/08/2022 13:35 by ABK

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

Reviewed By

Date

Analytical Standard Record

23A0180

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	meoh	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/11/2023 14:40 by PAF
Lot Number:	MPFACHIFES1022		

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

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

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

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4-C_{12}, C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4, C_6, and C_8), three mass-labelled (one ^{13}C and two ^{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

23A0180

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	meoh	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/11/2023 14:40 by PAF
Lot Number:	MPFACHIFES1022		

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

Analytical Standard Record

23A0371

Description:	PFAS - MIX 1633 200ng/mL	Expires:	07/18/2023
Standard Type:	Analyte Spike	Prepared:	01/19/2023
Solvent:	MeOH 62244	Prepared By:	Dipti Gokal
Final Volume (mls):	5	Department:	PFAS
Vials:	1	Last Edit:	01/19/2023 14:21 by HGH

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

Reviewed By

Date

Analytical Standard Record

23A0371

Parent Standards used:

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

Analytical Standard Record

23A0390

Description:	MPFAC-HIF-ES-EIS	Expires:	11/23/2025
Standard Type:	Other	Prepared:	10/28/2022
Solvent:	MeOH	Prepared By:	Wellington Laboratories (Lot#: MPFACHIFES1022)
Final Volume (mls):	1.2	Department:	PFAS
Vials:	1	Last Edit:	01/23/2023 15:26 by ABK
Lot Number:	MPFACHIFES1022		

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

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

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4-C_{12}, C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4, C_6, and C_8), three mass-labelled (one ^{13}C and two ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

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

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-($^{13}C_4$)butanoic acid	MPFBA	2000	1
Perfluoro-n-($^{13}C_5$)pentanoic acid	M5PFPeA	1000	2
Perfluoro-n-(1,2,3,4,6-$^{13}C_5$)hexanoic acid	M5PFHxA	500	5
Perfluoro-n-(1,2,3,4-$^{13}C_4$)heptanoic acid	M4PFHpA	500	7
Perfluoro-n-($^{13}C_8$)octanoic acid	M8PFOA	500	10
Perfluoro-n-($^{13}C_9$)nonanoic acid	M9PFNA	250	11
Perfluoro-n-(1,2,3,4,5,6-$^{13}C_6$)decanoic acid	M6PFDA	250	14
Perfluoro-n-(1,2,3,4,5,6,7-$^{13}C_7$)undecanoic acid	M7PFUdA	250	18
Perfluoro-n-(1,2-$^{13}C_2$)dodecanoic acid	MPFDoA	250	19
Perfluoro-n-(1,2-$^{13}C_2$)tetradecanoic acid	M2PFTeDA	250	22
Perfluoro-1-($^{13}C_8$)octanesulfonamide	M8FOSA	500	17
N-methyl-d_3-perfluoro-1-octanesulfonamide	d-N-MeFOSA	500	21
N-ethyl-d_5-perfluoro-1-octanesulfonamide	d-N-EtFOSA	500	24
N-methyl-d_3-perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	15
N-ethyl-d_5-perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	16
2-(N-methyl-d_3-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d7-N-MeFOSE	5000	20
2-(N-ethyl-d_5-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d9-N-EtFOSE	5000	23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)($^{13}C_3$)propanoic acid	M3HFPO-DA	2000	6

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4-$^{13}C_3$)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3-$^{13}C_3$)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-($^{13}C_8$)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 11/24/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager