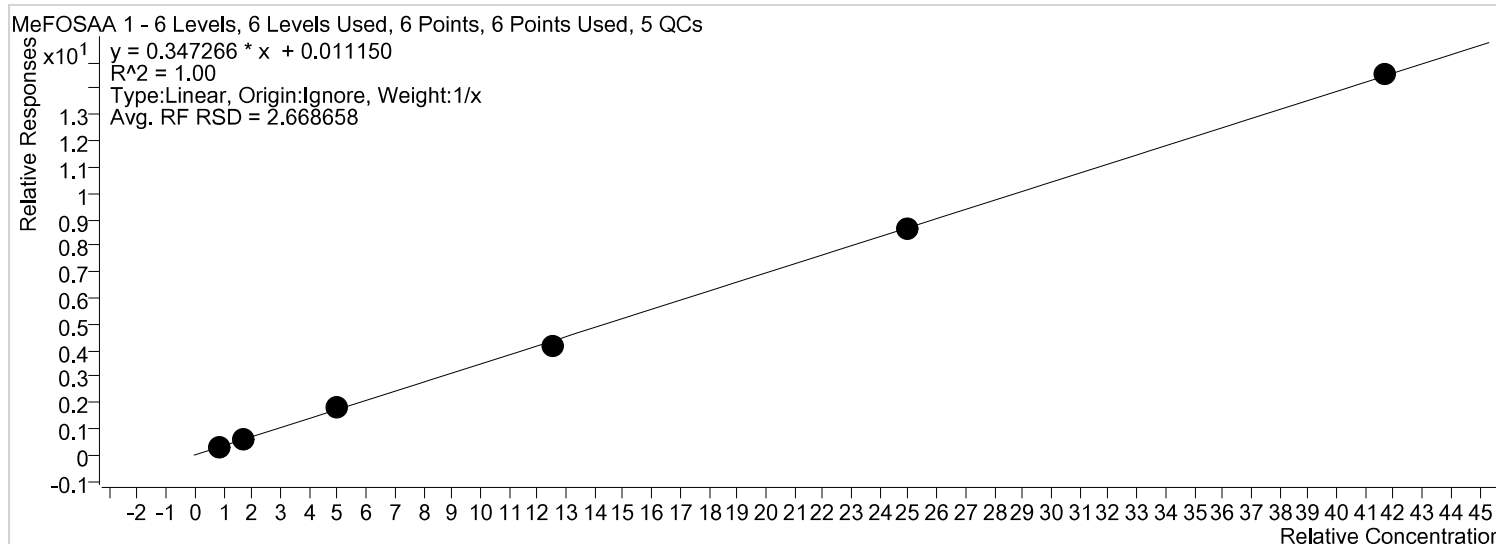


By Compound Report

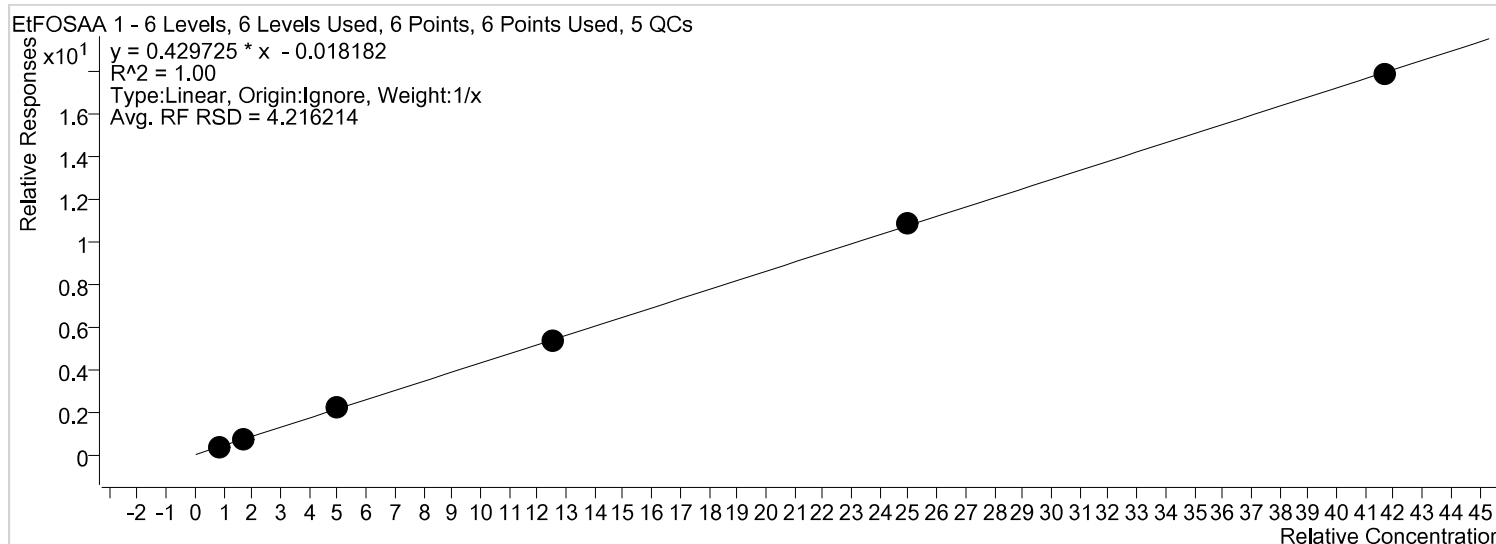
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Last Calib Update 2019/01/03 3:18:26 PM
Instrument: LCMS04
Analyte: MeFOSAA 1
Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/22 12:31:40 AM	0.83	0.82	581	0.3582	152	99.3
STD 2	STD 2	x	2018/12/22 12:34:03 AM	1.70	1.69	1077	0.3510	403	99.2
STD 3	STD 3	x	2018/12/22 12:36:26 AM	5.00	5.21	3276	0.3642	832	104.2
STD 4	STD 4	x	2018/12/22 12:38:48 AM	12.50	12.09	7562	0.3368	785	96.7
STD 5	STD 5	x	2018/12/22 12:41:10 AM	25.00	25.02	14982	0.3480	982	100.1
STD 6	STD 6	x	2018/12/22 12:43:33 AM	41.70	41.89	24722	0.3491	1488	100.5

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5897102_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5897102_FOSAA_EToxics.batch.bin
Last Calib Update 2019/01/03 3:18:26 PM
Instrument: LCMS04
Analyte: EtFOSAA 1
Internal Standard: D5-EtFOSAA IS

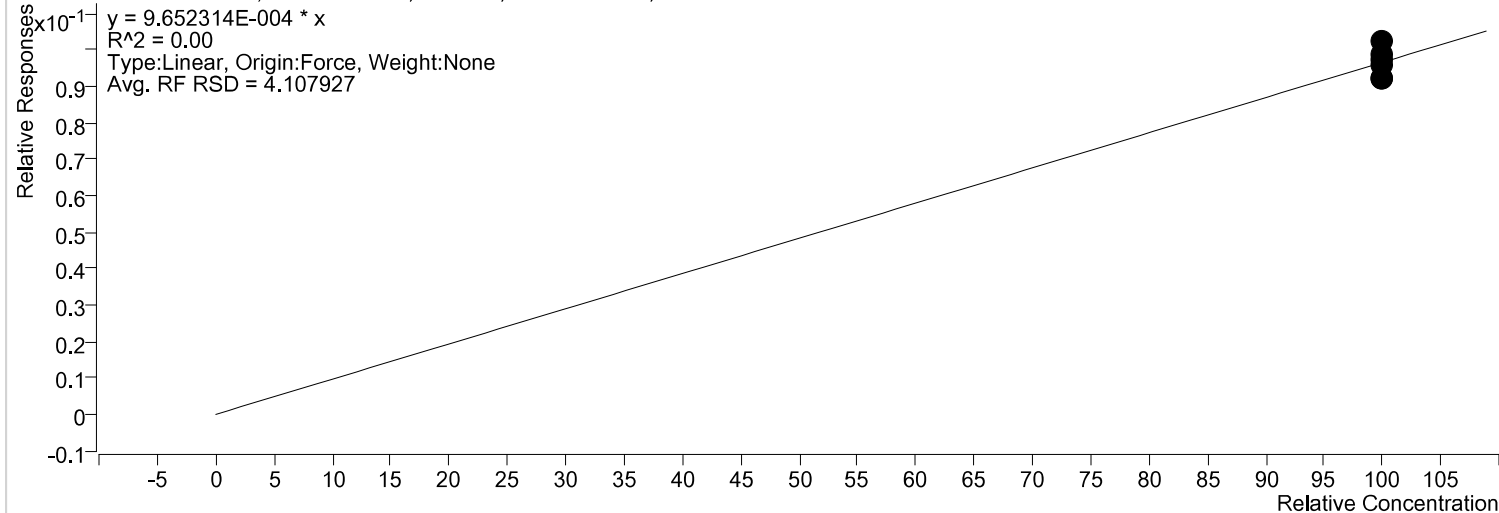


Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/22 12:31:40 AM	0.83	0.81	577	0.3970	47	97.5
STD 2	STD 2	x	2018/12/22 12:34:03 AM	1.70	1.67	1165	0.4123	146	98.4
STD 3	STD 3	x	2018/12/22 12:36:26 AM	5.00	5.27	3547	0.4496	507	105.5
STD 4	STD 4	x	2018/12/22 12:38:48 AM	12.50	12.30	8582	0.4215	1461	98.4
STD 5	STD 5	x	2018/12/22 12:41:10 AM	25.00	25.16	17067	0.4318	1560	100.7
STD 6	STD 6	x	2018/12/22 12:43:33 AM	41.70	41.51	28208	0.4273	2748	99.5

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5897102_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5897102_FOSAA_EToxics.batch.bin
Last Calib Update 2019/01/03 3:18:26 PM
Instrument: LCMS04
Analyte: D3-MeFOSAA
Internal Standard: 13C9-PFDA IS

D3-MeFOSAA - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs

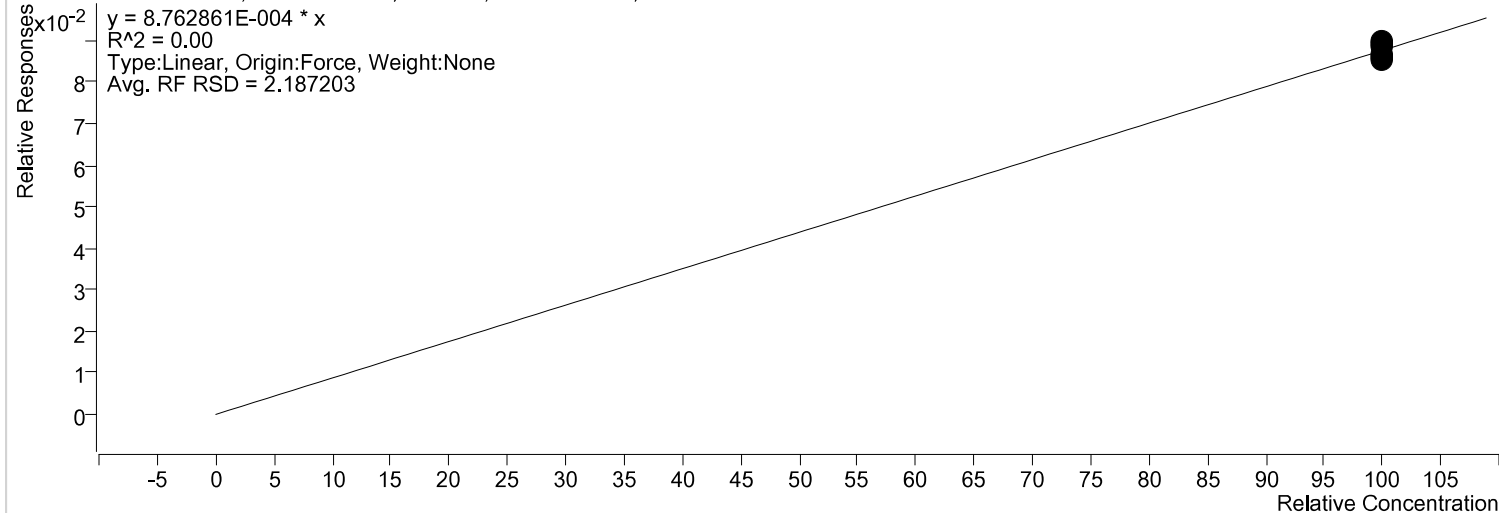


Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/22 12:31:40 AM	100.00	102.46	1963	0.0010	288	102.5
STD 2	STD 2	x	2018/12/22 12:34:03 AM	100.00	101.10	1803	0.0010	246	101.1
STD 3	STD 3	x	2018/12/22 12:36:26 AM	100.00	106.07	1811	0.0010	358	106.1
STD 4	STD 4	x	2018/12/22 12:38:48 AM	100.00	99.28	1800	0.0010	230	99.3
STD 5	STD 5	x	2018/12/22 12:41:10 AM	100.00	95.47	1725	0.0009	177	95.5
STD 6	STD 6	x	2018/12/22 12:43:33 AM	100.00	95.62	1699	0.0009	198	95.6

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5897102_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5897102_FOSAA_ETo
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Last Calib Update 2019/01/03 3:18:26 PM
Instrument: LCMS04
Analyte: D5-EtFOSAA
Internal Standard: 13C9-PFDA IS

D5-EtFOSAA - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/22 12:31:40 AM	100.00	101.02	1757	0.0009	353	101.0
STD 2	STD 2	x	2018/12/22 12:34:03 AM	100.00	102.59	1661	0.0009	340	102.6
STD 3	STD 3	x	2018/12/22 12:36:26 AM	100.00	101.94	1580	0.0009	373	101.9
STD 4	STD 4	x	2018/12/22 12:38:48 AM	100.00	99.21	1633	0.0009	368	99.2
STD 5	STD 5	x	2018/12/22 12:41:10 AM	100.00	97.11	1593	0.0009	415	97.1
STD 6	STD 6	x	2018/12/22 12:43:33 AM	100.00	98.14	1583	0.0009	283	98.1

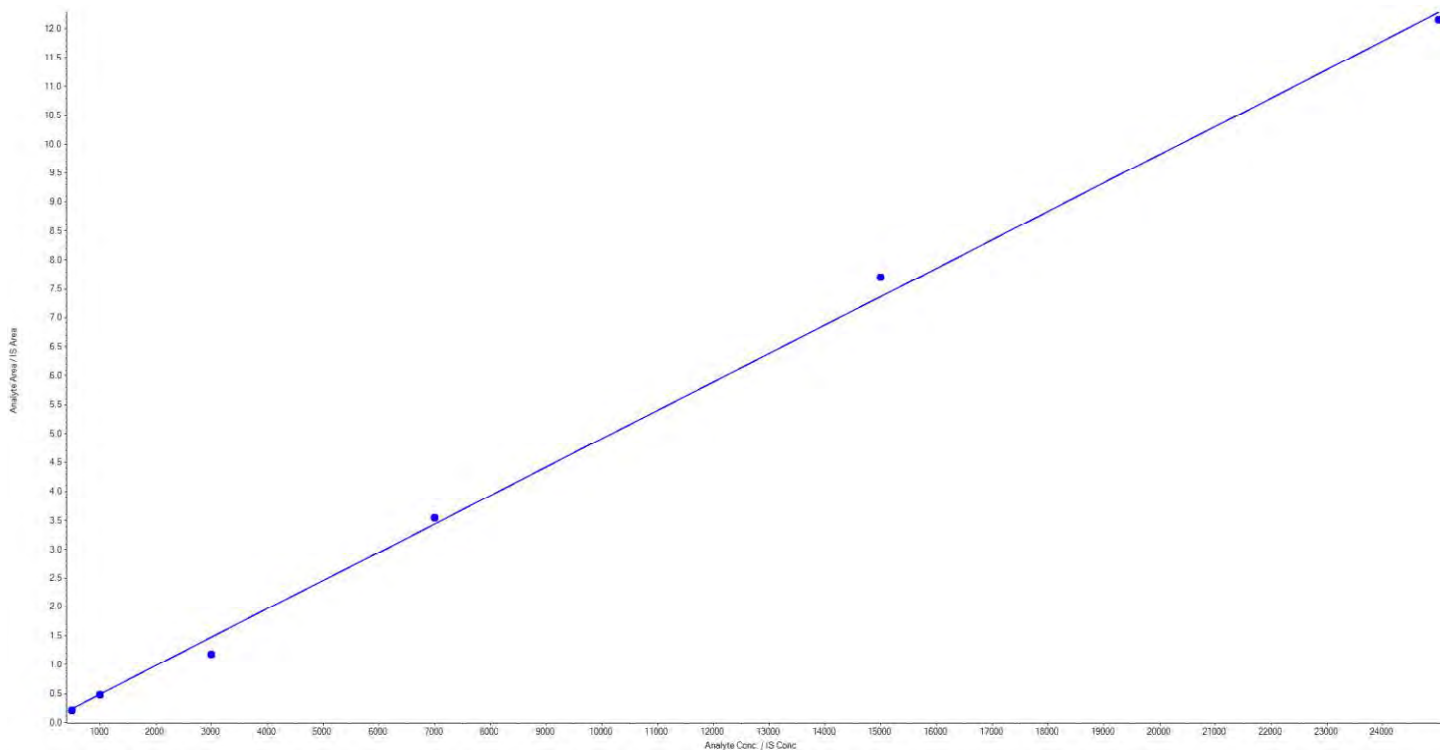
Analyte Name: PFBS 1
Internal Standard: MPFOS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000491 x$ ($r = 0.9984$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	444.39	88.9
1000	1	985.82	98.6
3000	1	2409.87	80.3
7000	1	7224.32	103.2
25000	1	24752.43	99.0
15000	1	15683.18	104.6

Sample ID	Response Factor	S/N
STD 1	4.36e-04	109
STD 2	4.84e-04	484
STD 3	3.94e-04	671
STD 4	5.07e-04	2500
STD 6	4.86e-04	7920
STD 5	5.13e-04	8360



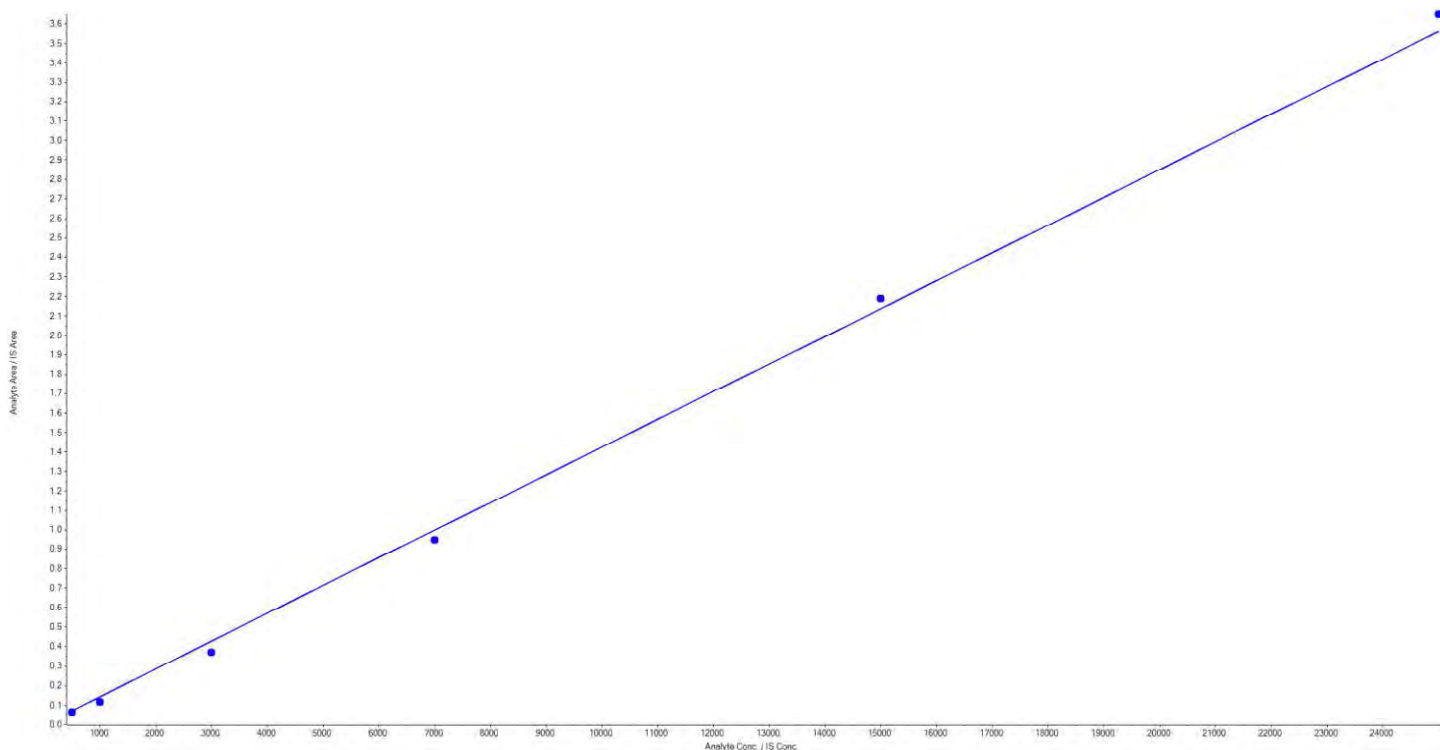
Analyte Name: PFHxA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000143 x$ ($r = 0.9988$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	465.94	93.2
1000	1	828.53	82.9
3000	1	2601.33	86.7
7000	1	6650.04	95.0
25000	1	25599.78	102.4
15000	1	15354.39	102.4

Sample ID	Response Factor	S/N
STD 1	1.33e-04	111
STD 2	1.18e-04	243
STD 3	1.24e-04	601
STD 4	1.35e-04	1550
STD 6	1.46e-04	4570
STD 5	1.46e-04	4090



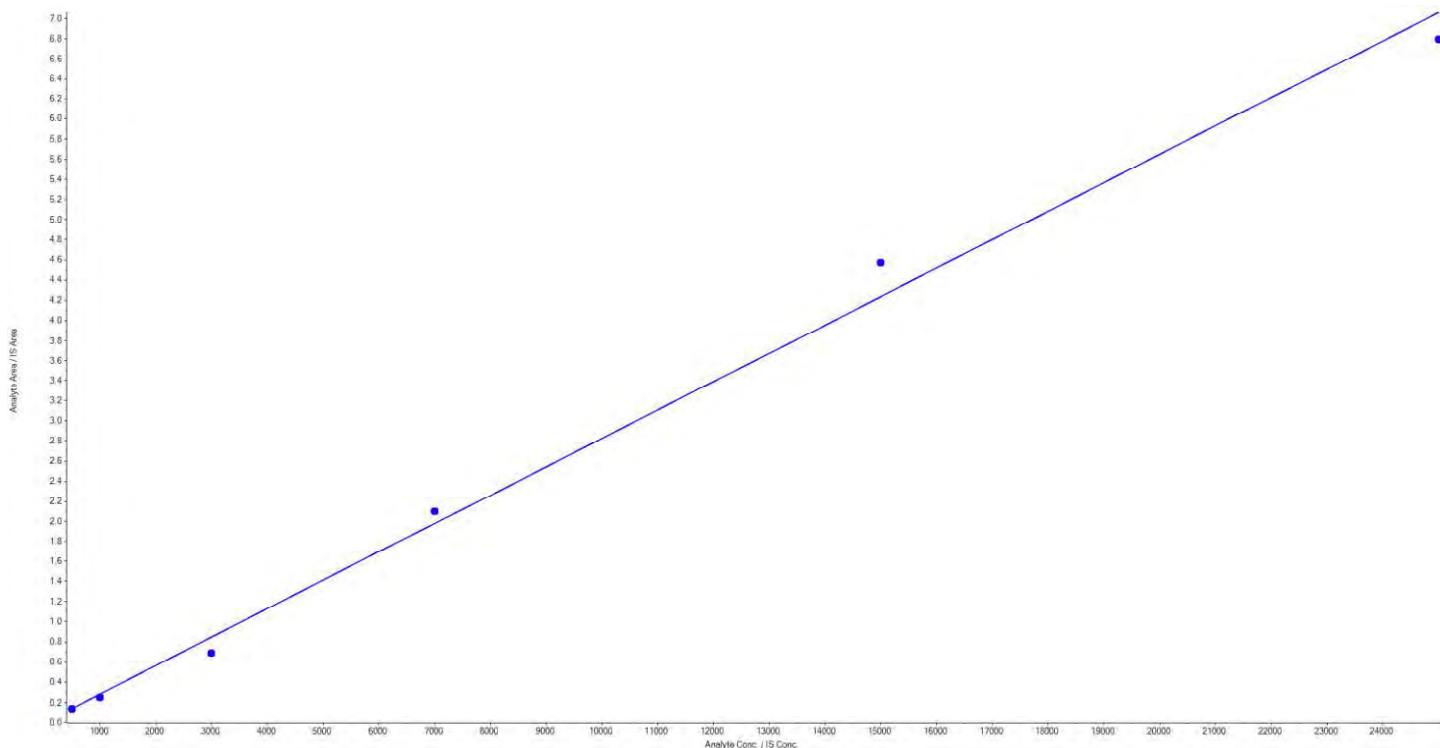
Analyte Name: PFHxS 1
Internal Standard: MPFOS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000282 x$ (r = 0.9974)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	491.77	98.4
1000	1	883.34	88.3
3000	1	2452.61	81.8
7000	1	7425.94	106.1
25000	1	24069.69	96.3
15000	1	16176.65	107.8

Sample ID	Response Factor	S/N
STD 1	2.78e-04	127
STD 2	2.50e-04	167
STD 3	2.31e-04	510
STD 4	3.00e-04	1650
STD 6	2.72e-04	5620
STD 5	3.05e-04	4400



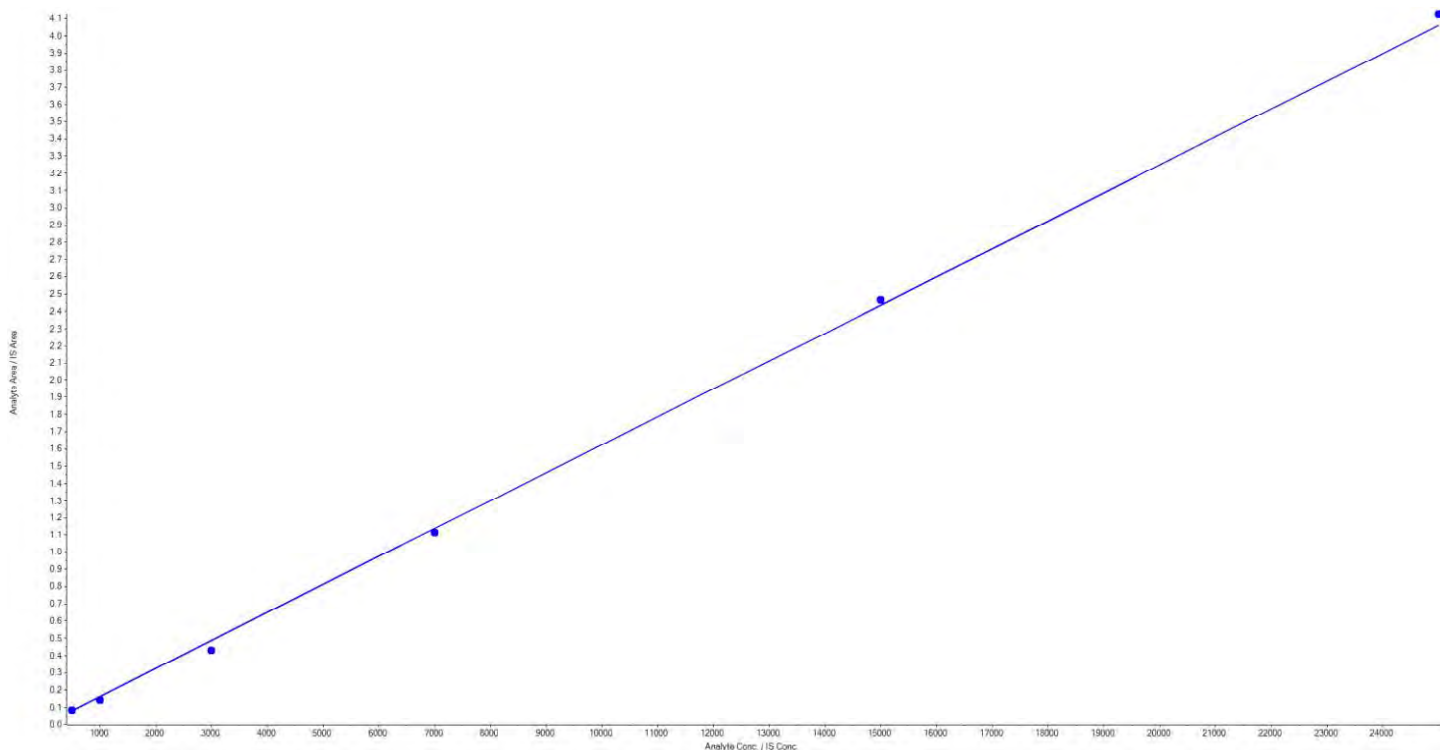
Analyte Name: PFHpA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000162 x$ ($r = 0.9994$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	516.50	103.3
1000	1	886.06	88.6
3000	1	2655.46	88.5
7000	1	6857.50	98.0
25000	1	25386.11	101.5
15000	1	15198.37	101.3

Sample ID	Response Factor	S/N
STD 1	1.68e-04	60
STD 2	1.44e-04	73
STD 3	1.44e-04	413
STD 4	1.59e-04	609
STD 6	1.65e-04	2230
STD 5	1.65e-04	1270



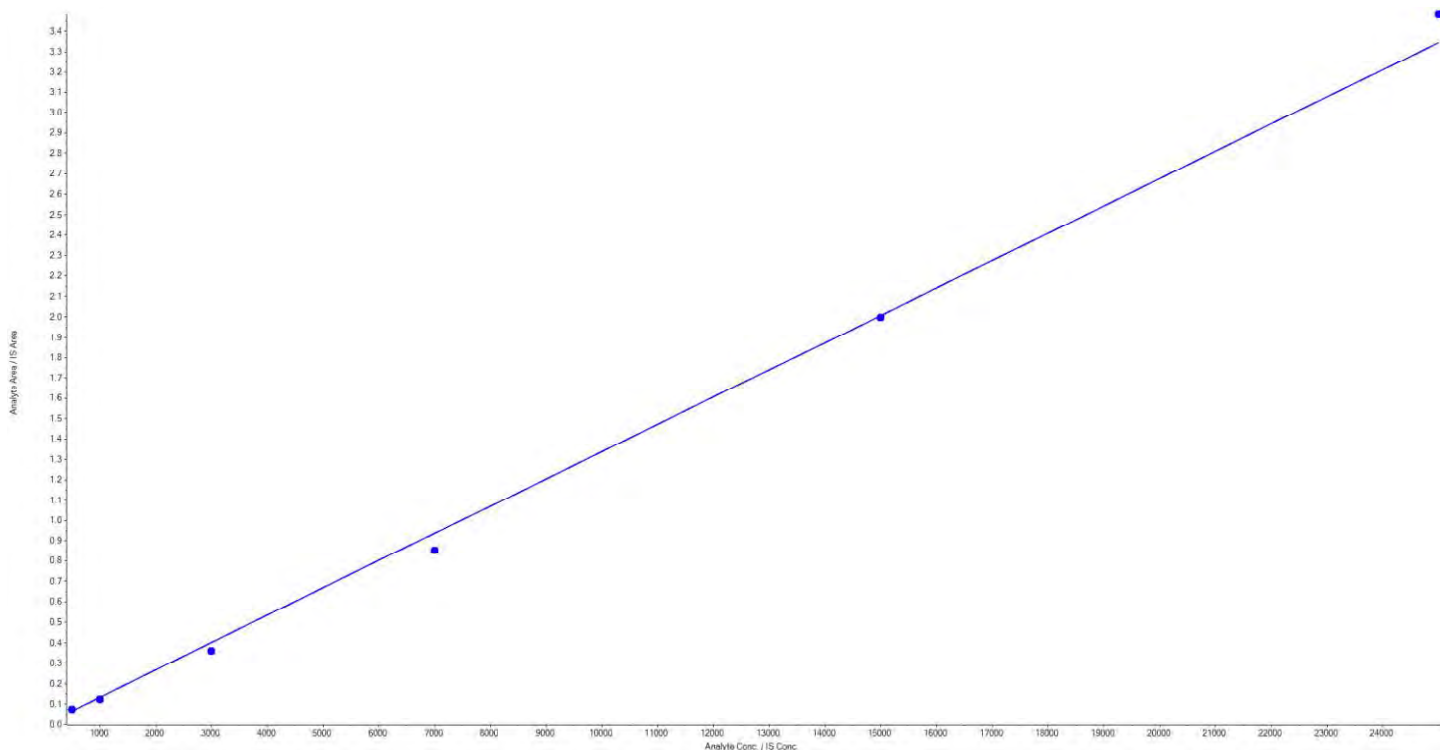
Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000134 x$ ($r = 0.9986$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	566.99	113.4
1000	1	935.26	93.5
3000	1	2682.92	89.4
7000	1	6368.47	91.0
25000	1	26021.80	104.1
15000	1	14924.57	99.5

Sample ID	Response Factor	S/N
STD 1	1.52e-04	91
STD 2	1.25e-04	169
STD 3	1.20e-04	566
STD 4	1.22e-04	1230
STD 6	1.39e-04	4710
STD 5	1.33e-04	2700



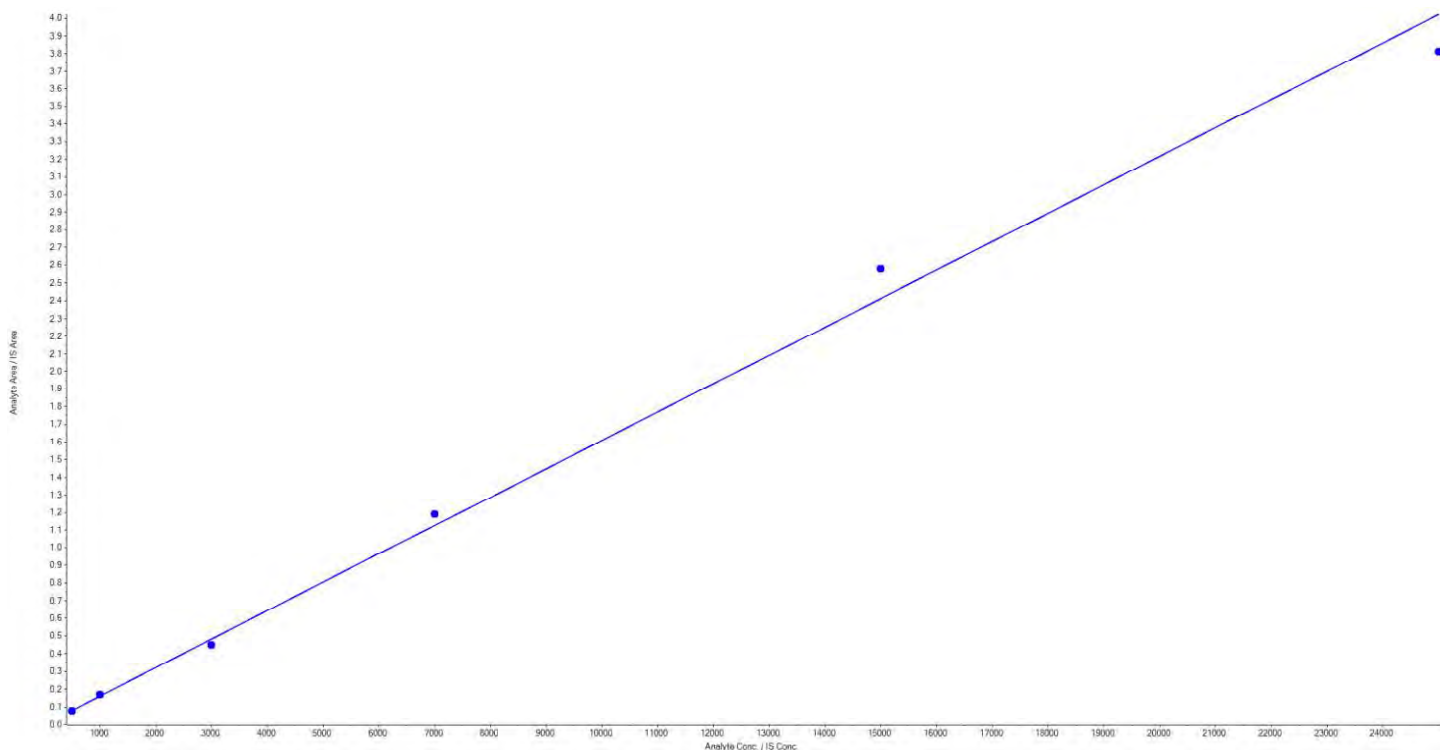
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Internal Standard: MPFOS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000161 x$ ($r = 0.9982$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	501.74	100.3
1000	1	1055.16	105.5
3000	1	2791.36	93.0
7000	1	7409.65	105.9
25000	1	23699.16	94.8
15000	1	16042.92	107.0

Sample ID	Response Factor	S/N
STD 1	1.61e-04	107
STD 2	1.70e-04	150
STD 3	1.50e-04	537
STD 4	1.70e-04	1020
STD 6	1.52e-04	2430
STD 5	1.72e-04	2290



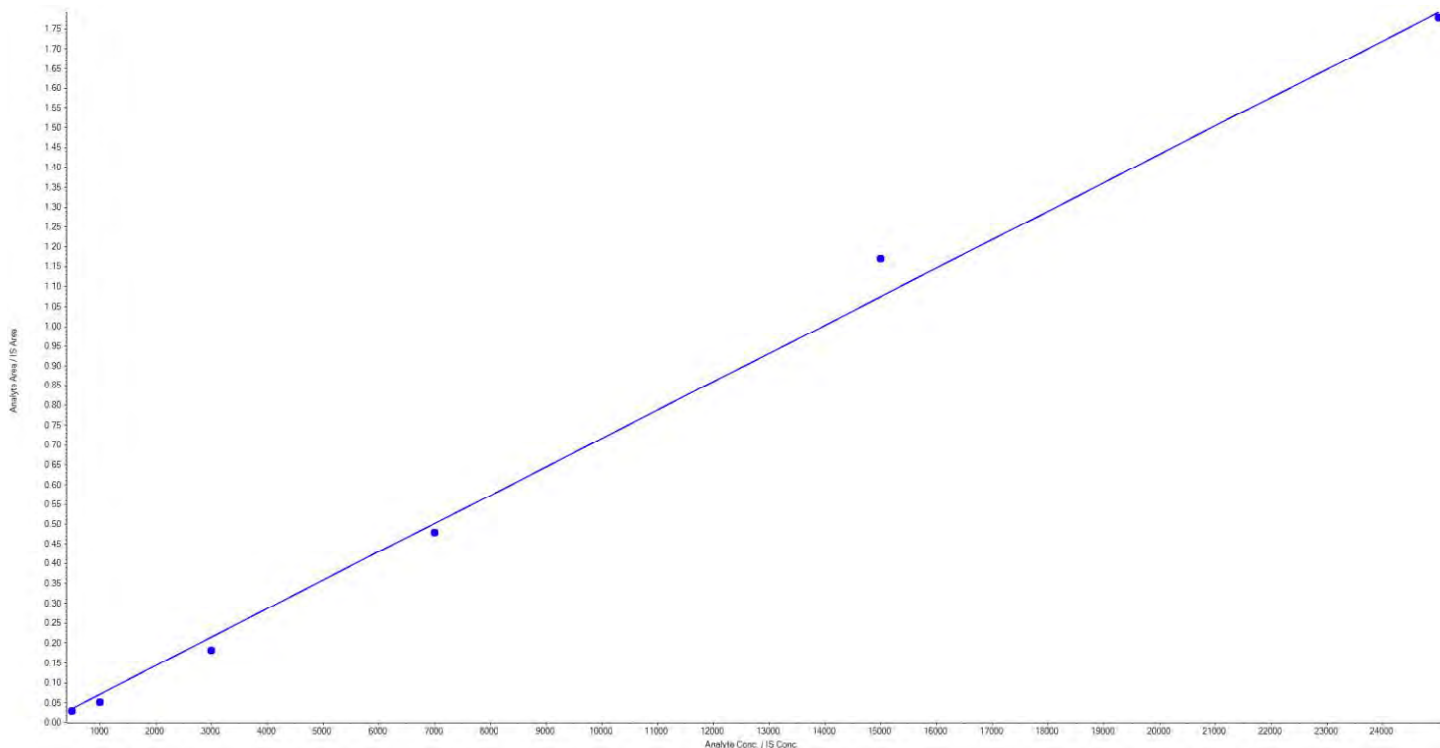
Analyte Name: PFNA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 7.17\text{e-}005 \times (r = 0.9972)$

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	426.21	85.2
1000	1	722.66	72.3
3000	1	2534.26	84.5
7000	1	6678.87	95.4
25000	1	24809.19	99.2
15000	1	16328.80	108.9

Sample ID	Response Factor	S/N
STD 1	6.10e-05	73
STD 2	5.20e-05	158
STD 3	6.10e-05	501
STD 4	6.80e-05	1280
STD 6	7.10e-05	4470
STD 5	7.80e-05	2620



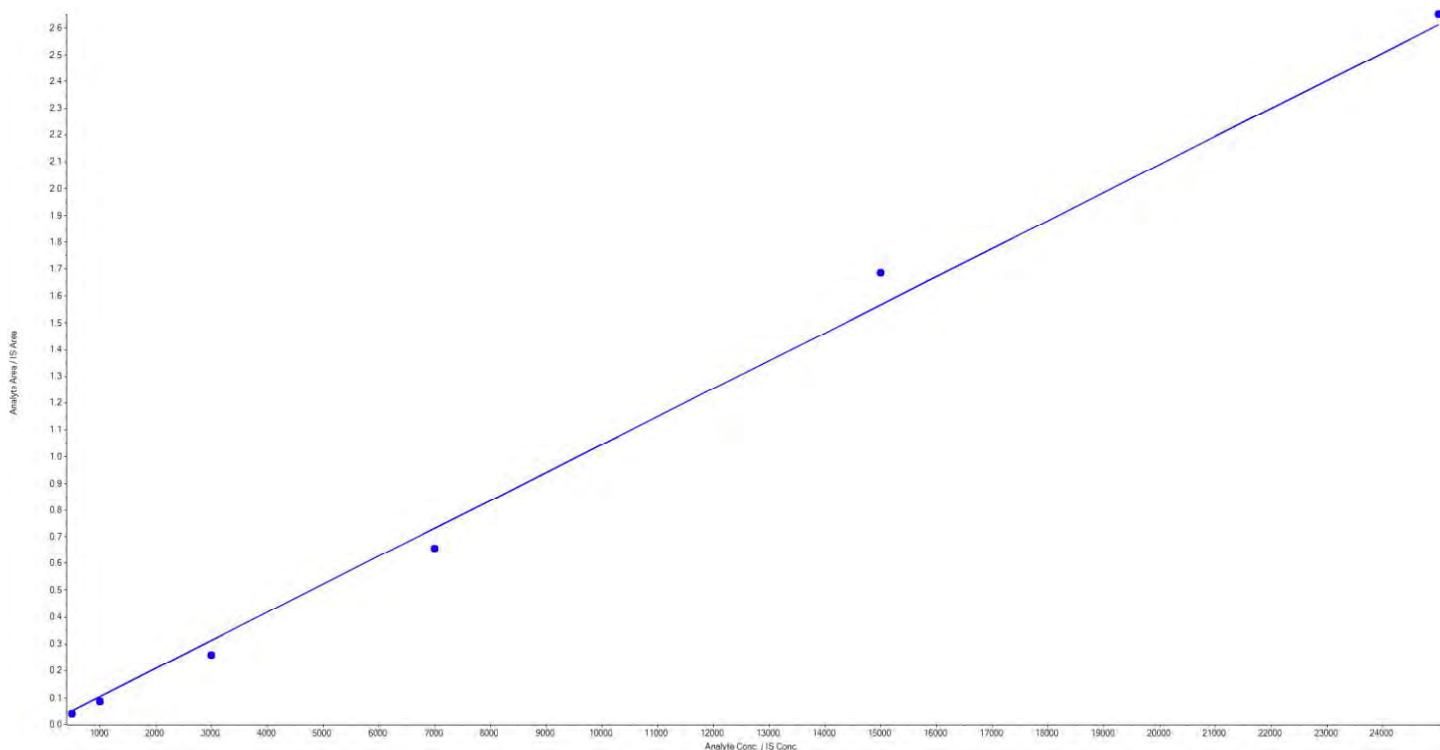
Analyte Name: PFDA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000104 x$ ($r = 0.9971$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	403.85	80.8
1000	1	829.52	83.0
3000	1	2492.08	83.1
7000	1	6268.83	89.6
25000	1	25364.66	101.5
15000	1	16141.07	107.6

Sample ID	Response Factor	S/N
STD 1	8.40e-05	138
STD 2	8.70e-05	434
STD 3	8.70e-05	1090
STD 4	9.40e-05	4420
STD 6	1.06e-04	8810
STD 5	1.12e-04	5280



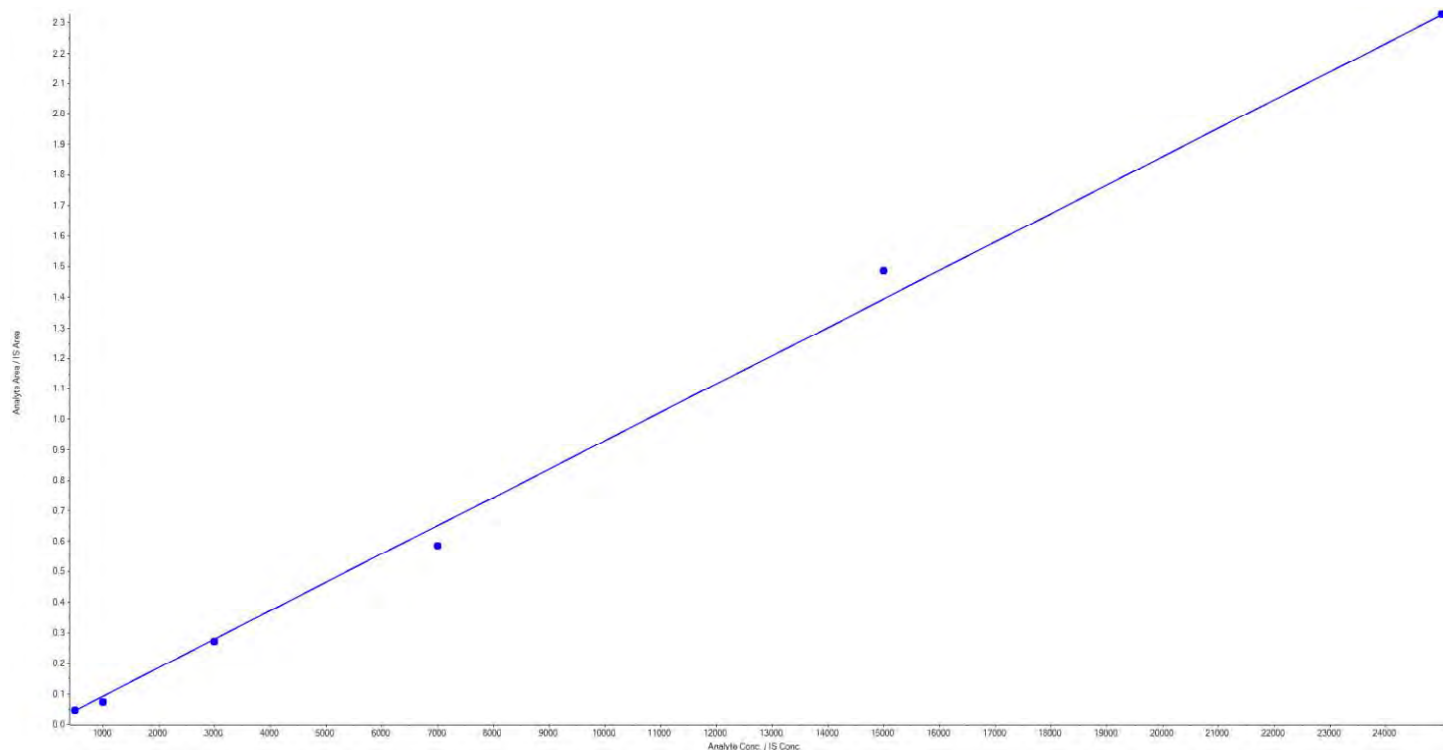
Analyte Name: PFUnA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 9.3e-005 x$ (r = 0.9982)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	515.70	103.1
1000	1	794.96	79.5
3000	1	2920.96	97.4
7000	1	6277.80	89.7
25000	1	25018.95	100.1
15000	1	15971.63	106.5

Sample ID	Response Factor	S/N
STD 1	9.60e-05	259
STD 2	7.40e-05	360
STD 3	9.10e-05	1650
STD 4	8.30e-05	3210
STD 6	9.30e-05	11000
STD 5	9.90e-05	6710



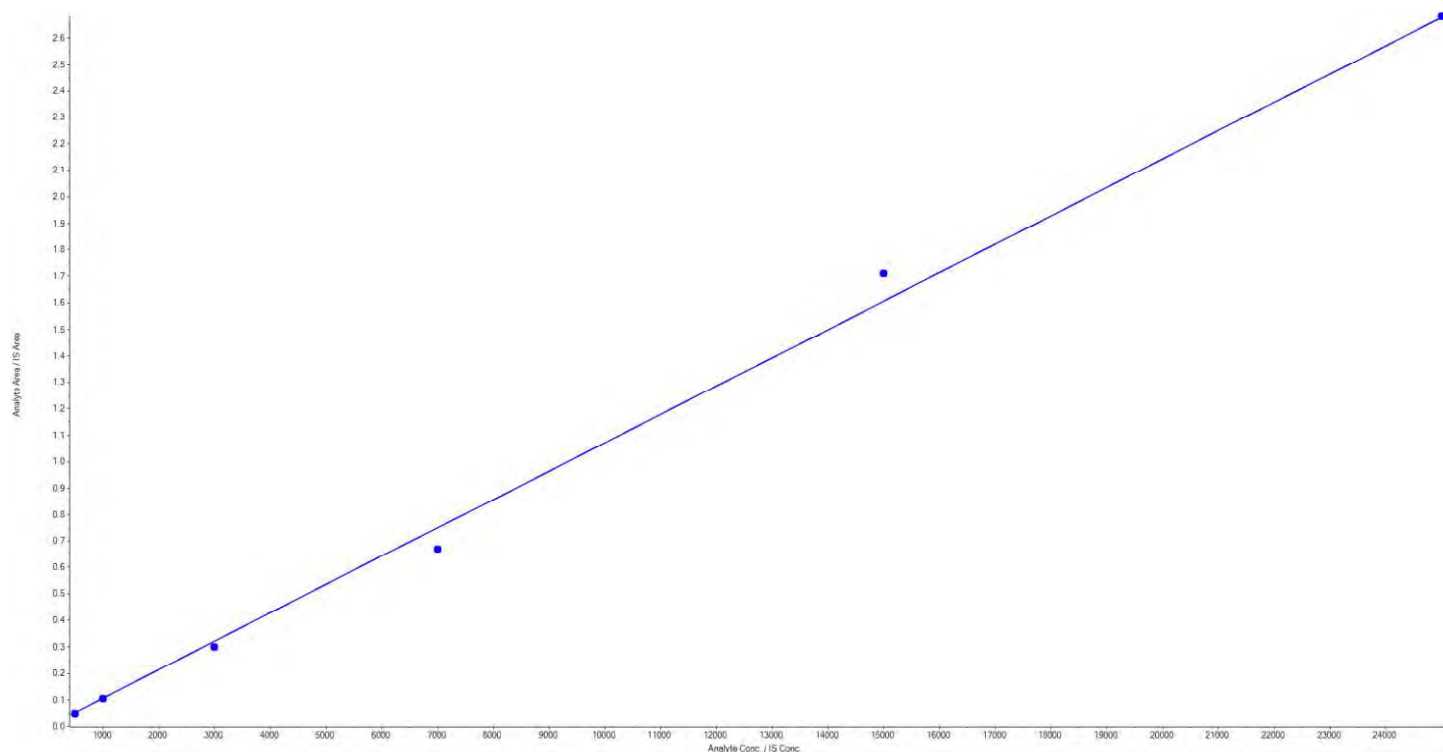
Analyte Name: PFD0A 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000107 x$ ($r = 0.9985$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	475.57	95.1
1000	1	980.31	98.0
3000	1	2806.49	93.5
7000	1	6246.94	89.2
25000	1	25030.60	100.1
15000	1	15960.09	106.4

Sample ID	Response Factor	S/N
STD 1	1.02e-04	233
STD 2	1.05e-04	406
STD 3	1.00e-04	2000
STD 4	9.60e-05	5790
STD 6	1.07e-04	16900
STD 5	1.14e-04	8450



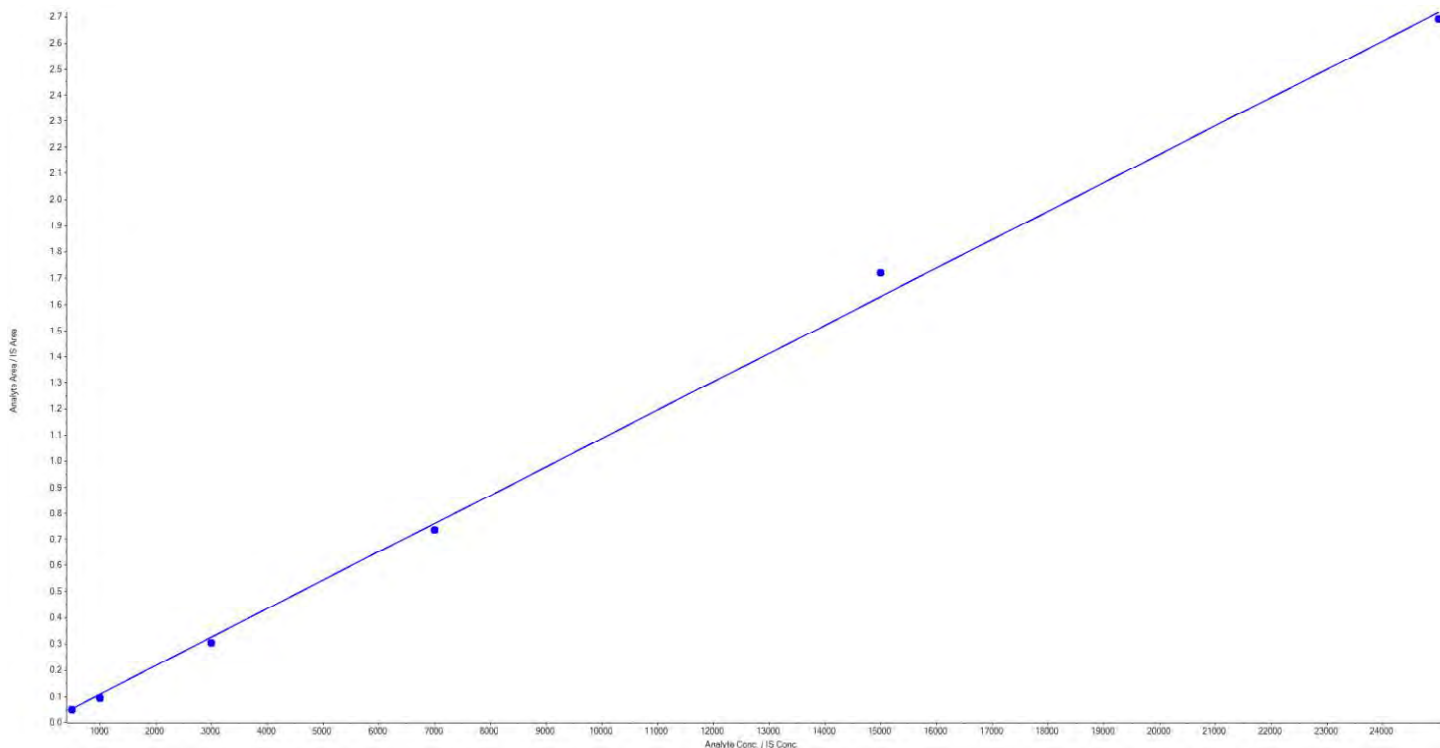
Analyte Name: PFTTrDA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000109 x$ ($r = 0.9992$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	460.83	92.2
1000	1	879.63	88.0
3000	1	2795.16	93.2
7000	1	6773.09	96.8
25000	1	24773.64	99.1
15000	1	15817.65	105.5

Sample ID	Response Factor	S/N
STD 1	1.00e-04	297
STD 2	9.60e-05	711
STD 3	1.01e-04	2120
STD 4	1.05e-04	4300
STD 6	1.08e-04	18700
STD 5	1.15e-04	8000



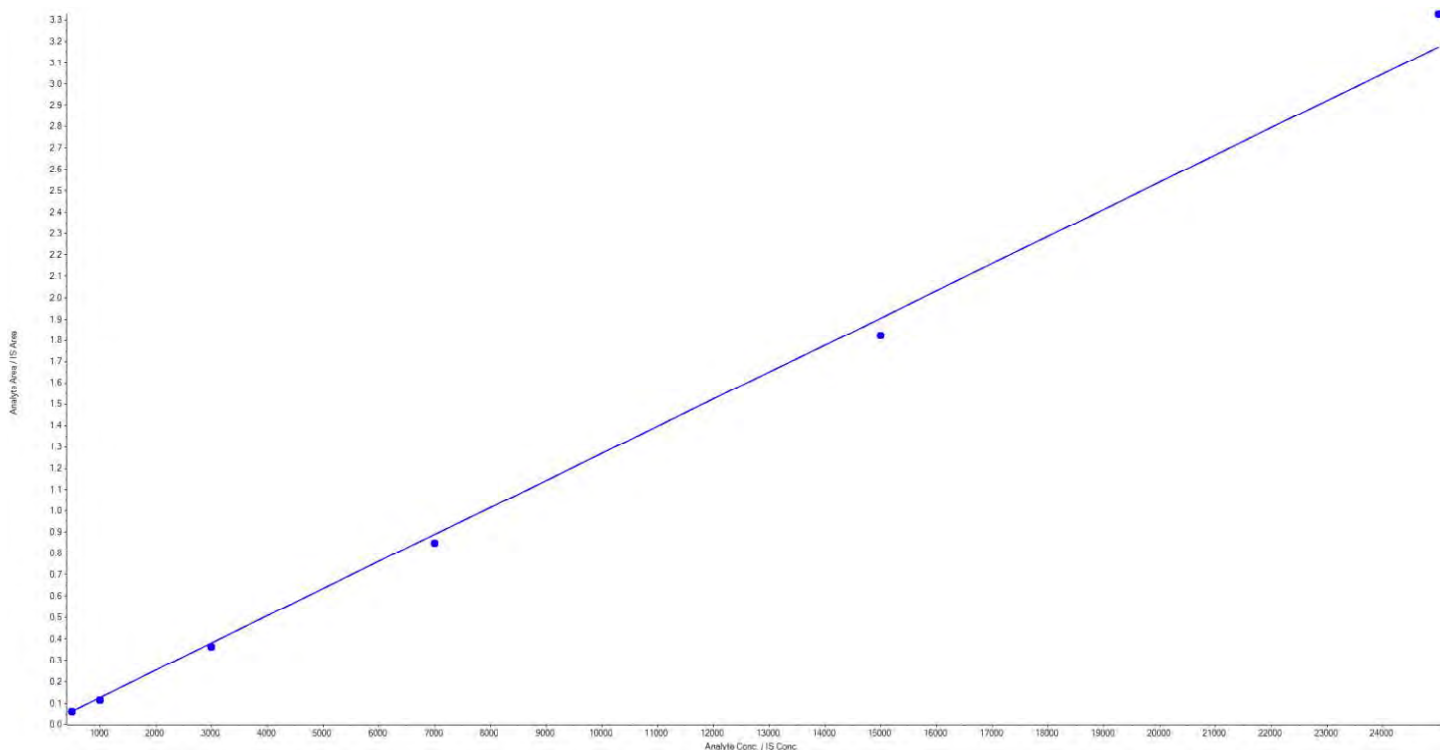
Analyte Name: PFTeDA 1
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000127 x$ ($r = 0.9989$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
500	1	492.19	98.4
1000	1	919.73	92.0
3000	1	2847.65	94.9
7000	1	6681.70	95.5
25000	1	26187.89	104.8
15000	1	14370.83	95.8

Sample ID	Response Factor	S/N
STD 1	1.25e-04	564
STD 2	1.17e-04	1150
STD 3	1.21e-04	2770
STD 4	1.21e-04	6440
STD 6	1.33e-04	20000
STD 5	1.22e-04	12800



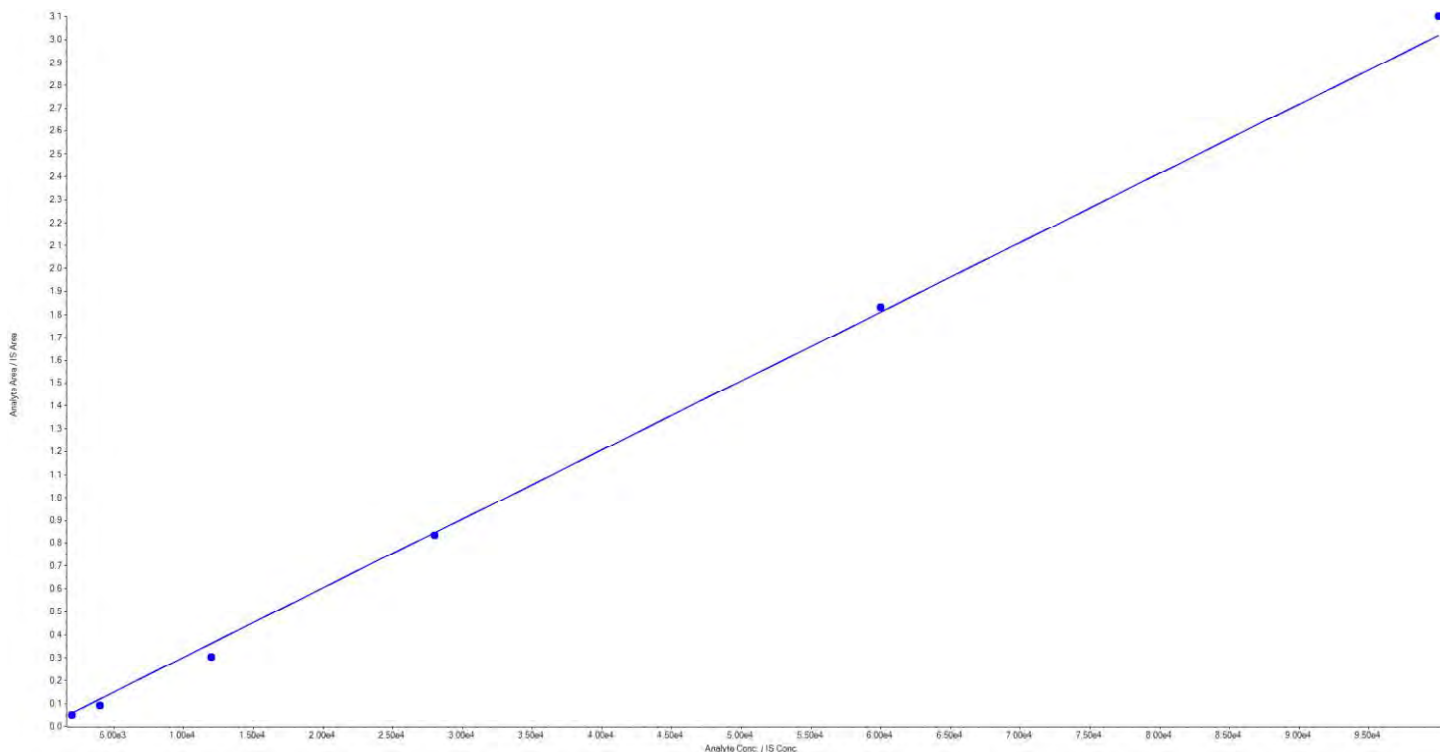
Analyte Name: MeFOSAA 1
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 3.02e-005 x$ ($r = 0.9985$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2000	1	1715.37	85.8
4000	1	3127.47	78.2
12000	1	10084.93	84.0
28000	1	27636.16	98.7
100000	1	102724.57	102.7
60000	1	60711.50	101.2

Sample ID	Response Factor	S/N
STD 1	2.60e-05	790
STD 2	2.40e-05	1270
STD 3	2.50e-05	4090
STD 4	3.00e-05	9550
STD 6	3.10e-05	16300
STD 5	3.10e-05	25000



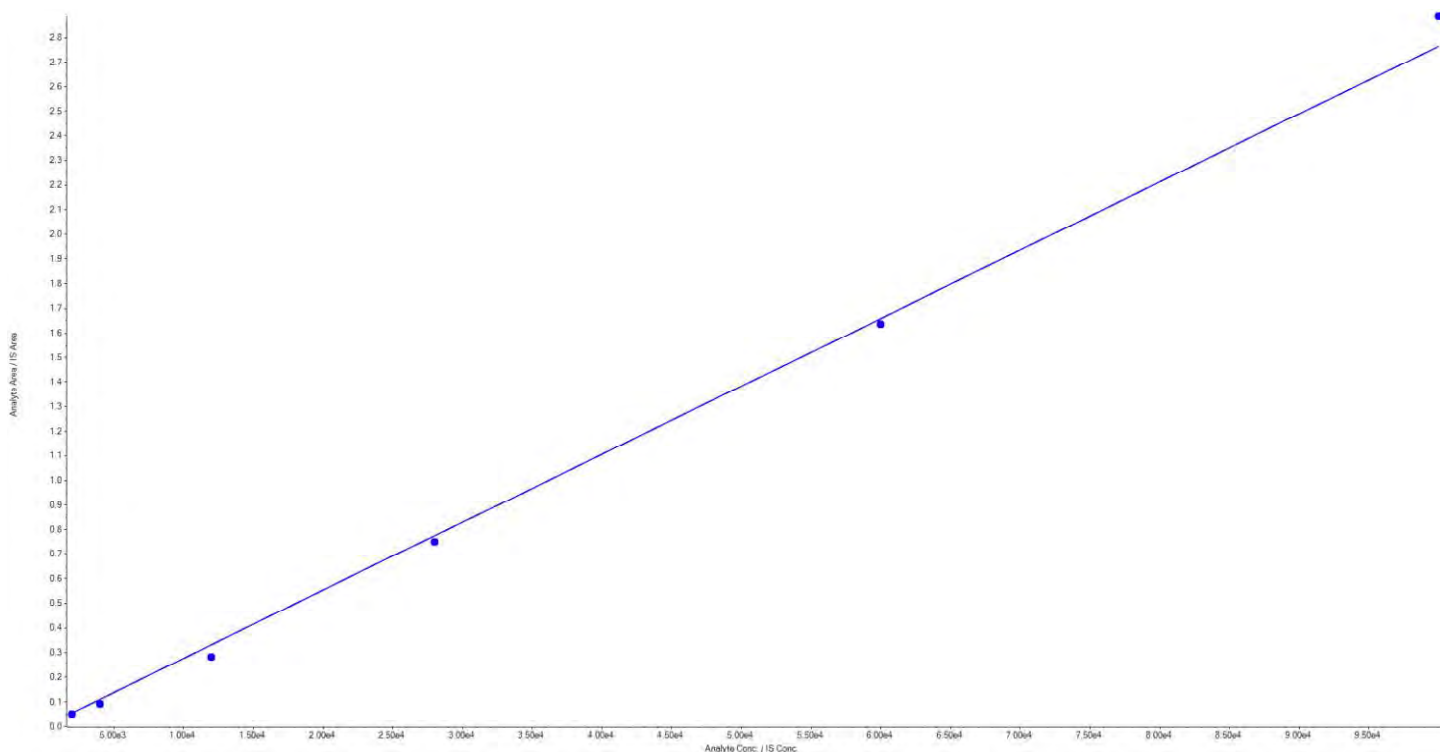
Analyte Name: EtFOSAA 1
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 2.77e-005 x$ ($r = 0.9985$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
2000	1	1840.48	92.0
4000	1	3366.93	84.2
12000	1	10239.19	85.3
28000	1	27050.23	96.6
100000	1	104346.57	104.3
60000	1	59156.60	98.6

Sample ID	Response Factor	S/N
STD 1	2.50e-05	717
STD 2	2.30e-05	1390
STD 3	2.40e-05	3980
STD 4	2.70e-05	5760
STD 6	2.90e-05	17300
STD 5	2.70e-05	13500



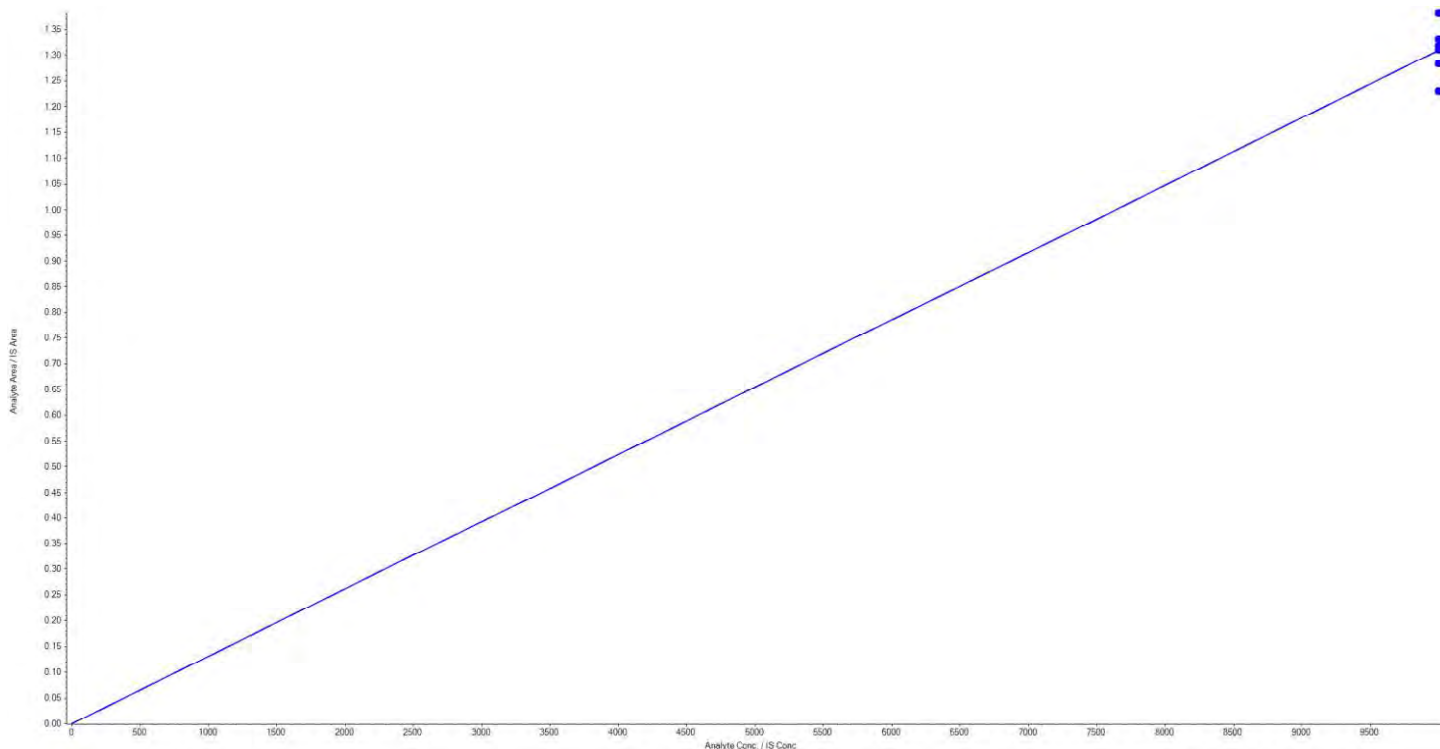
Analyte Name: 13C2-PFHxA
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000131 x$ ($r = 0.9994$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
10000	6	10000.00	100.0

Sample ID	Response Factor	S/N
STD 1	1.31e-04	8460
STD 2	1.33e-04	8120
STD 3	1.23e-04	7990
STD 4	1.28e-04	8080
STD 6	1.38e-04	8170
STD 5	1.32e-04	7440



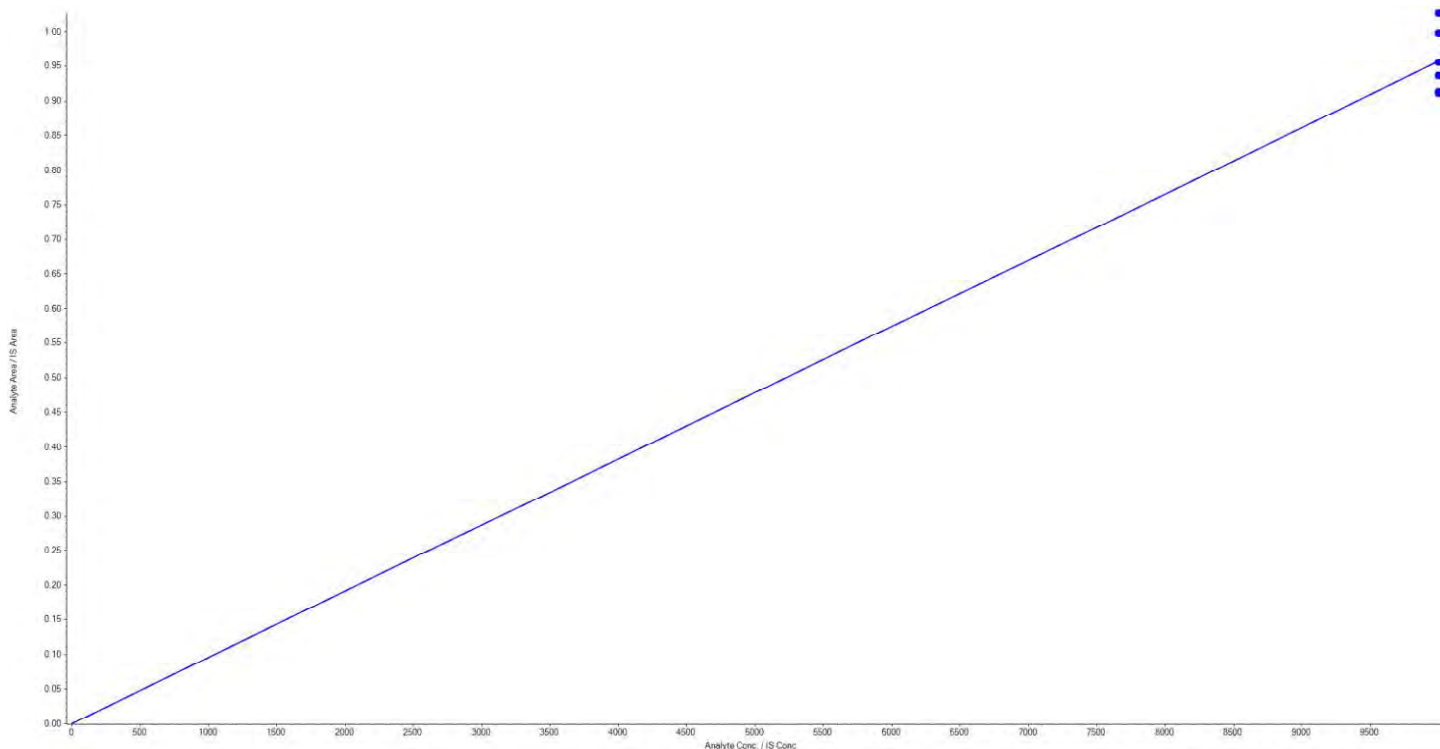
Analyte Name: 13C2-PFDA
Internal Standard: MPFOA

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 9.57e-005 x$ ($r = 0.9990$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
10000	6	10000.00	100.0

Sample ID	Response Factor	S/N
STD 1	9.60e-05	8240
STD 2	9.10e-05	14500
STD 3	9.10e-05	10700
STD 4	9.40e-05	14600
STD 6	1.03e-04	24700
STD 5	1.00e-04	21600



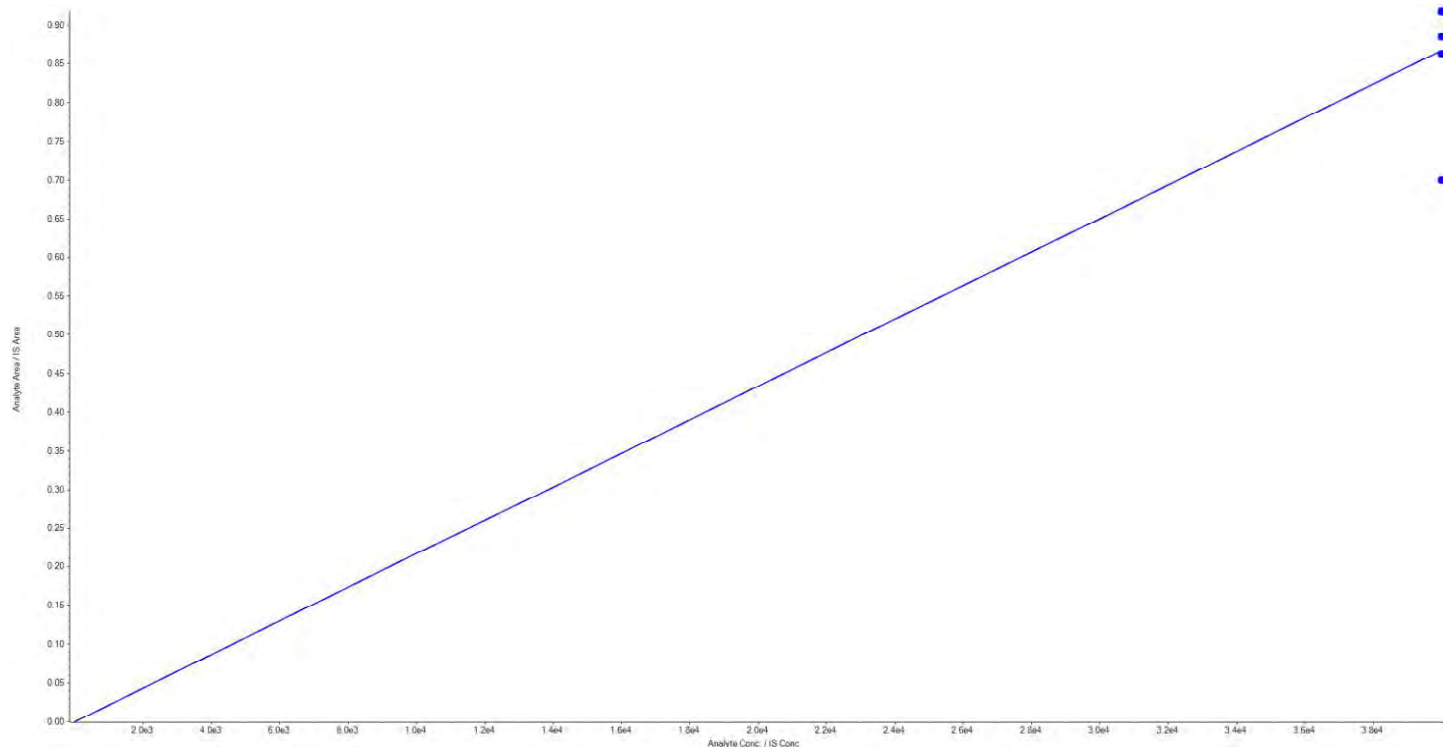
Analyte Name: D5-EtFOSAA
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181221\WS#5898852.wiff	Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb
Acquisition Date	2018/12/21 11:56:49 AM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 2.17e-005 x$ ($r = 0.9960$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
40000	6	40000.00	100.0

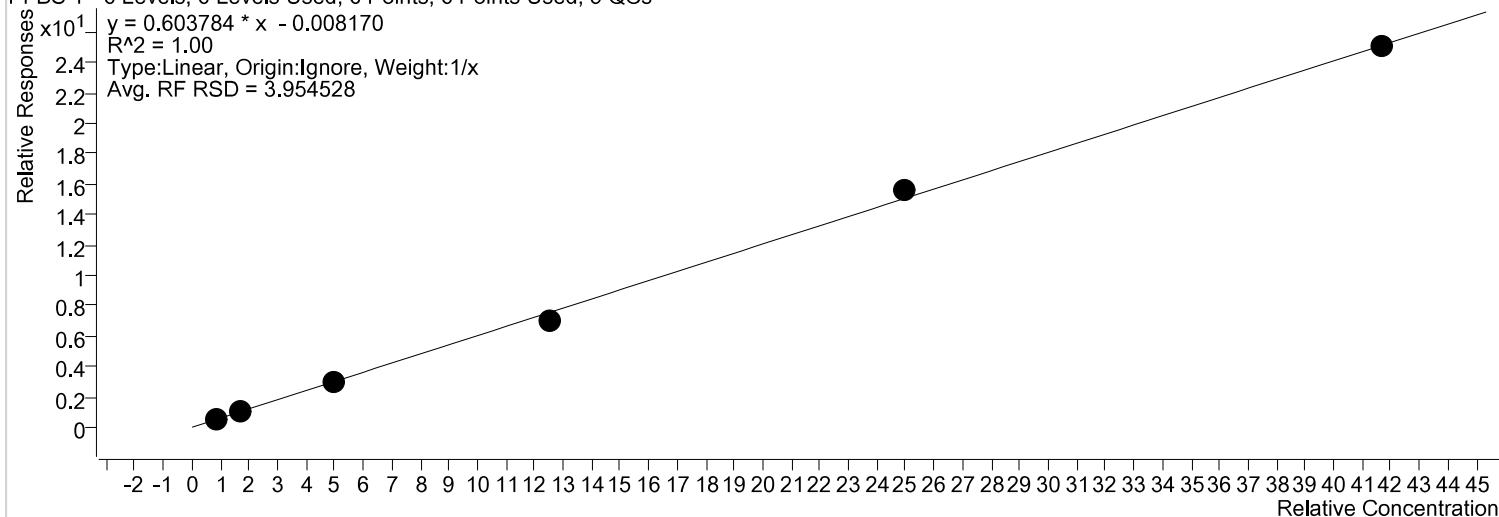
Sample ID	Response Factor	S/N
STD 1	2.20e-05	8340
STD 2	2.30e-05	6810
STD 3	1.80e-05	8960
STD 4	2.30e-05	13400
STD 6	2.30e-05	6940
STD 5	2.20e-05	9120



By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics.batch.bin
Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFBS 1
Internal Standard: MPFHxS

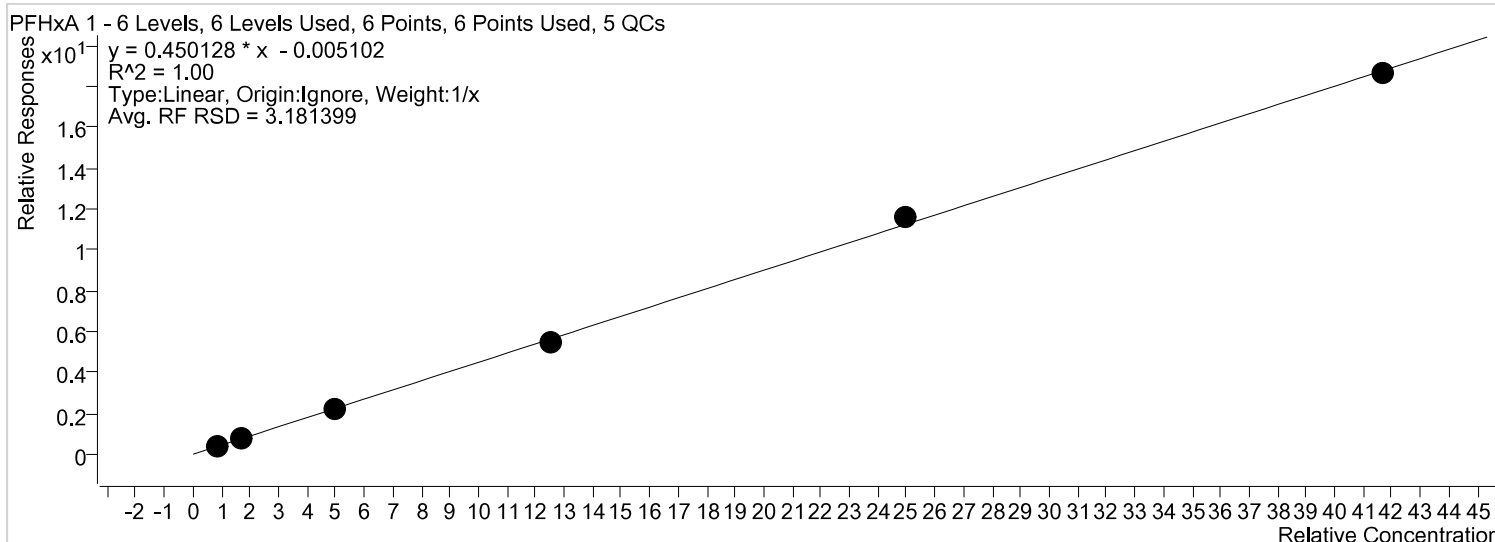
PFBS 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.86	482	0.6171	254	103.8
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.71	990	0.6041	205	100.8
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.94	2882	0.5948	752	98.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	11.58	7334	0.5588	1224	92.7
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.02	14806	0.6280	2220	104.1
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.61	24038	0.6024	2466	99.8

By Compound Report

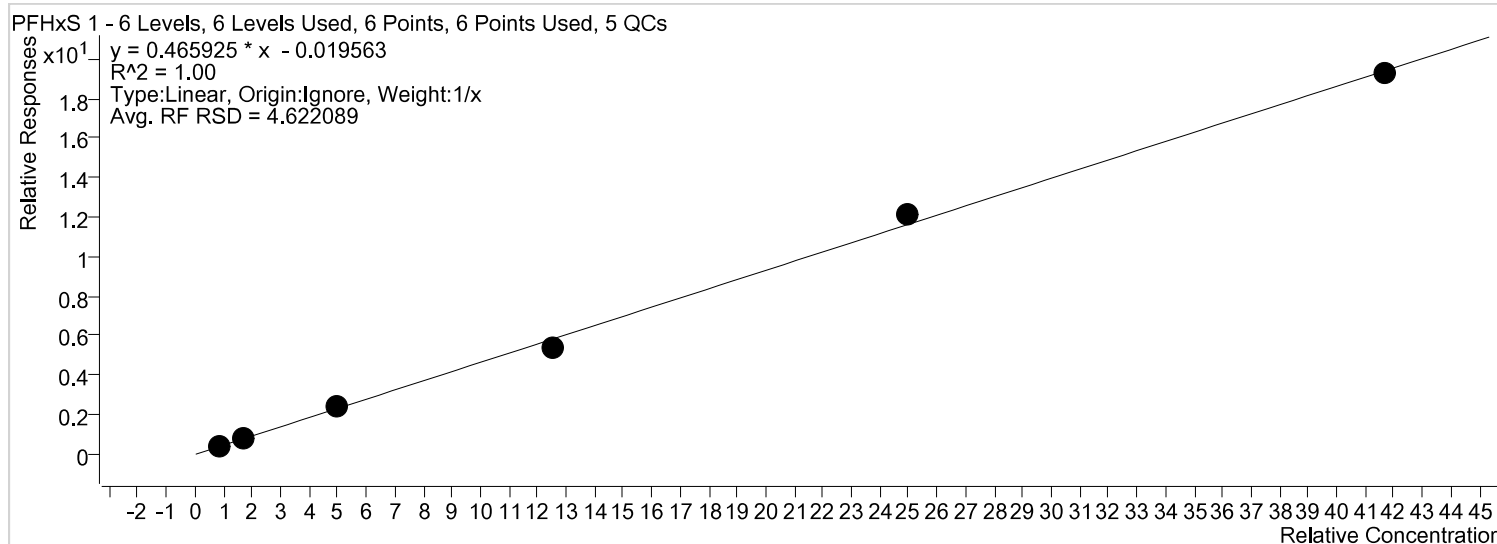
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.87	1524	0.4680	83	105.3
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.63	2786	0.4296	194	96.1
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.95	8390	0.4447	367	99.0
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.20	21168	0.4389	1308	97.6
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	25.64	42575	0.4615	2496	102.6
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.43	68807	0.4470	684	99.3

By Compound Report

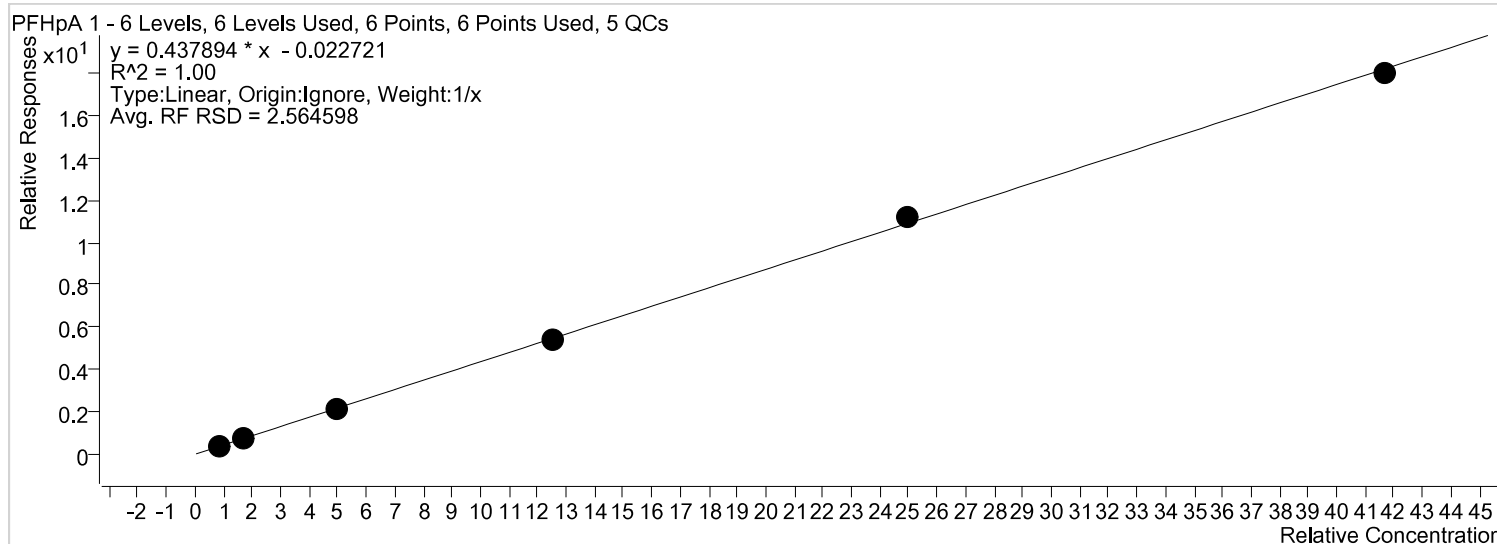
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.88	367	0.4699	134	105.9
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.62	711	0.4339	200	95.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.09	2278	0.4702	1503	101.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	11.65	5677	0.4325	676	93.2
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.05	11427	0.4847	1055	104.2
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.44	18460	0.4626	788	99.4

By Compound Report

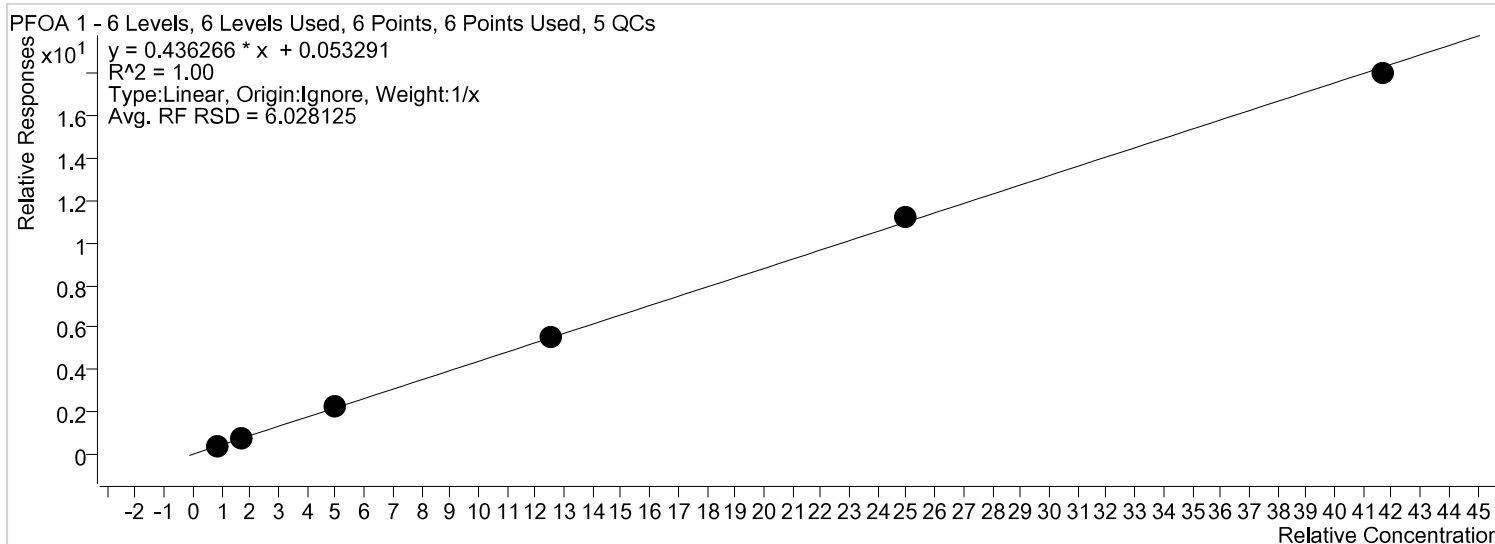
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.85	1995	0.4237	38	103.0
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.67	3996	0.4169	87	98.3
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.91	11819	0.4254	304	98.2
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.36	29653	0.4310	844	98.8
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	25.70	59317	0.4492	1478	102.8
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.24	94658	0.4325	1788	98.9

By Compound Report

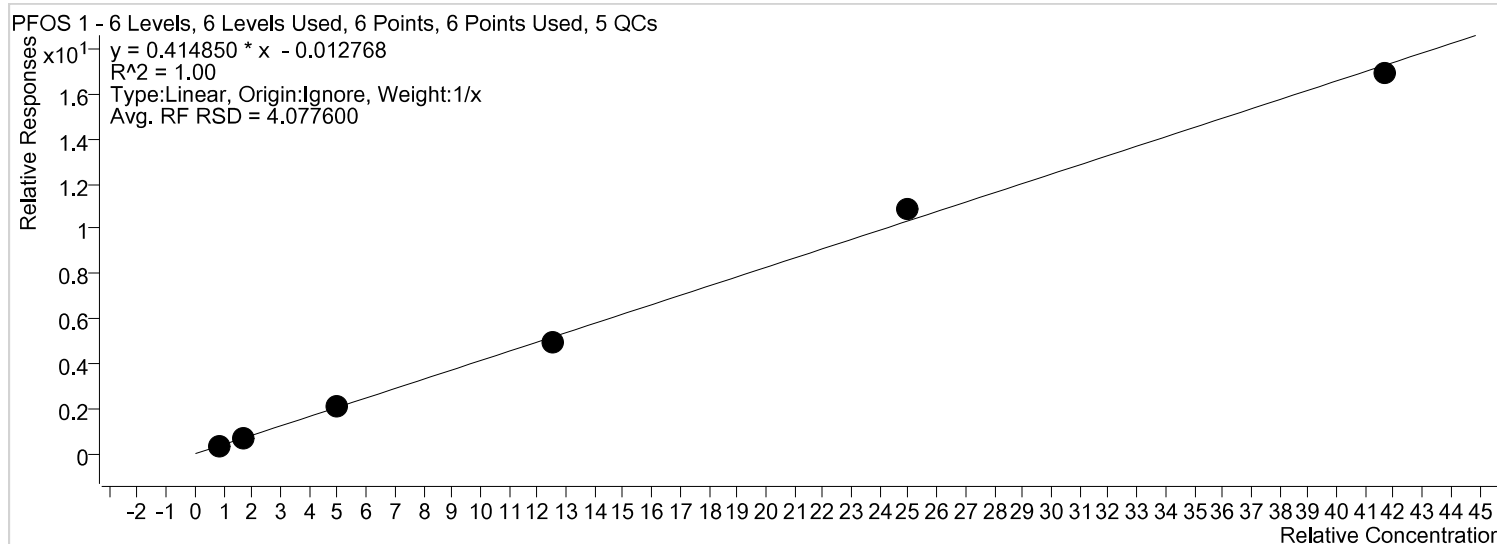
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.85	2284	0.5091	49	102.0
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.63	3994	0.4500	106	96.0
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.04	11271	0.4504	259	100.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.54	28129	0.4420	656	100.3
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	25.62	56410	0.4492	1181	102.5
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.05	90331	0.4307	2357	98.4

By Compound Report

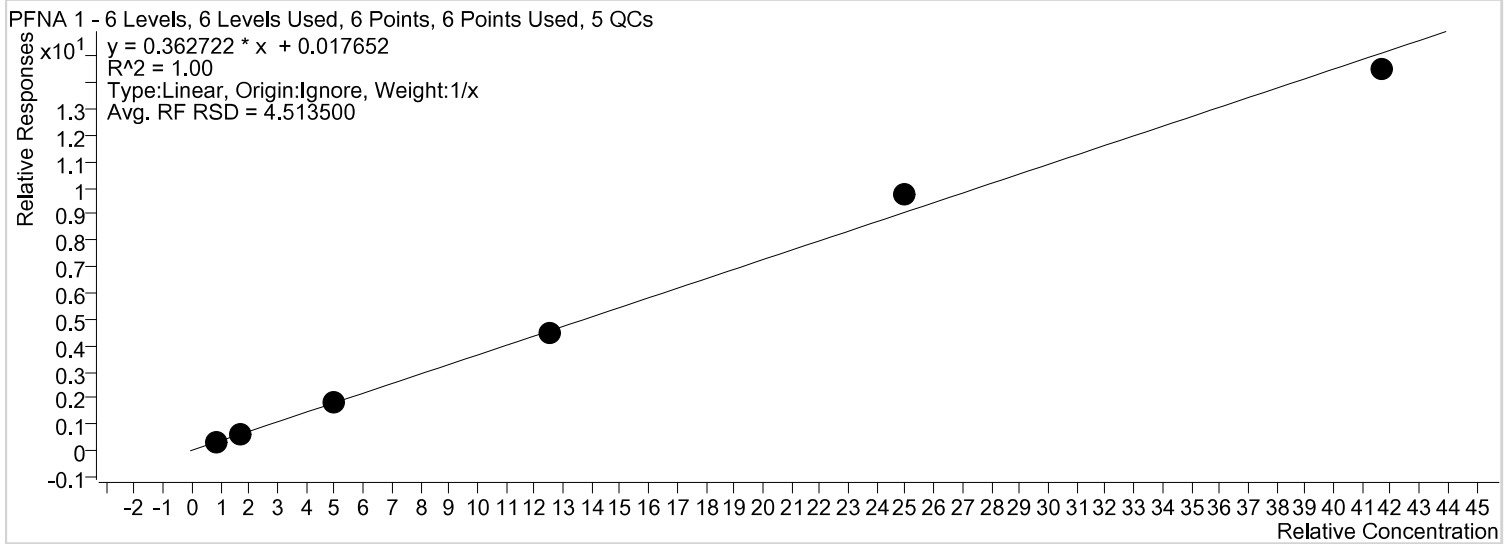
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.82	337	0.3923	86	98.3
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.71	760	0.4098	92	100.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.13	2246	0.4230	370	102.6
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	11.93	5448	0.3948	911	95.4
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.30	11508	0.4359	909	105.2
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	40.85	18153	0.4061	1235	98.0

By Compound Report

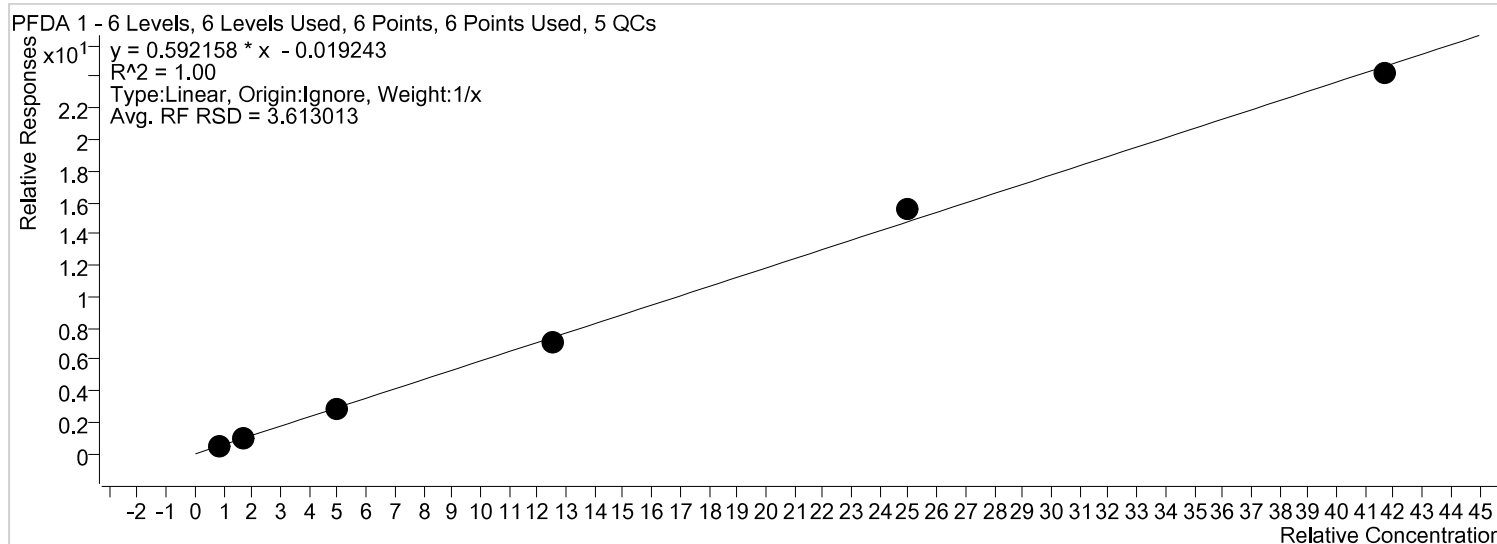
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 Last Calib Update 2019/01/02 9:47:35 AM
 Instrument: LCMS04
 Analyte: PFNA 1
 Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.84	1578	0.3887	36	101.3
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.64	3009	0.3607	49	96.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.96	8927	0.3637	149	99.3
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.45	22175	0.3626	499	99.6
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.83	45114	0.3899	702	107.3
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	40.01	73306	0.3485	1099	95.9

By Compound Report

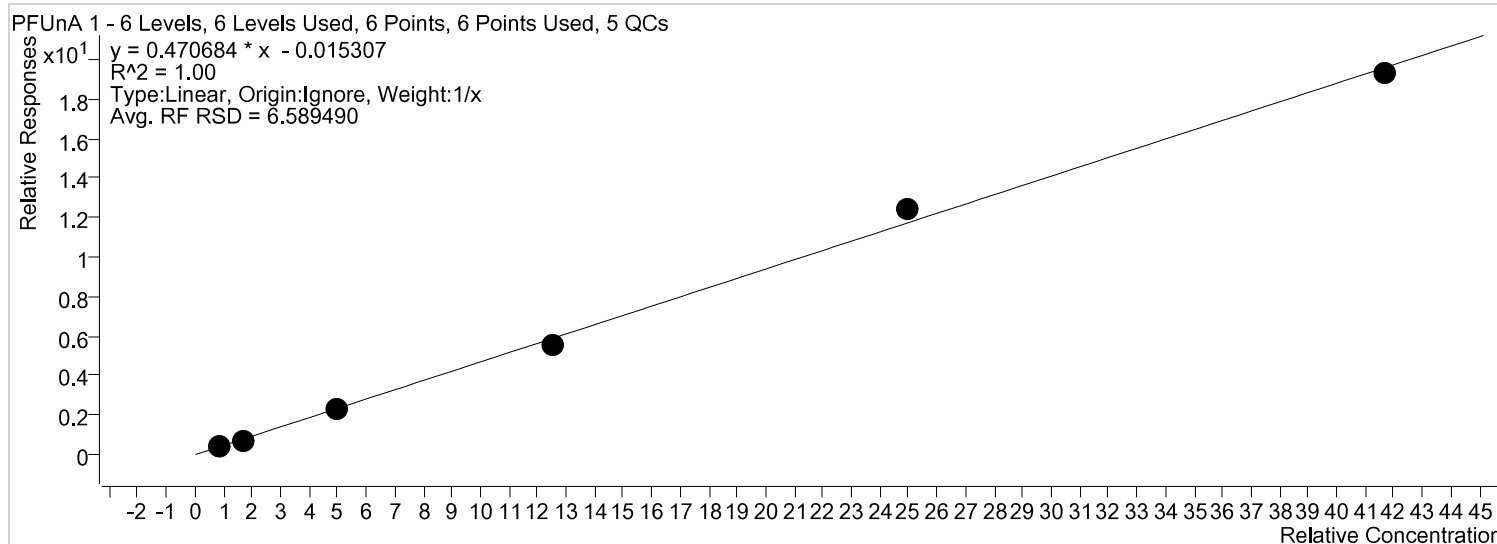
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.82	1627	0.5636	42	99.1
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.76	3503	0.6008	167	103.4
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.89	9872	0.5751	265	97.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.09	24698	0.5711	977	96.7
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.21	50189	0.6200	1594	104.8
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	40.97	81954	0.5813	2010	98.2

By Compound Report

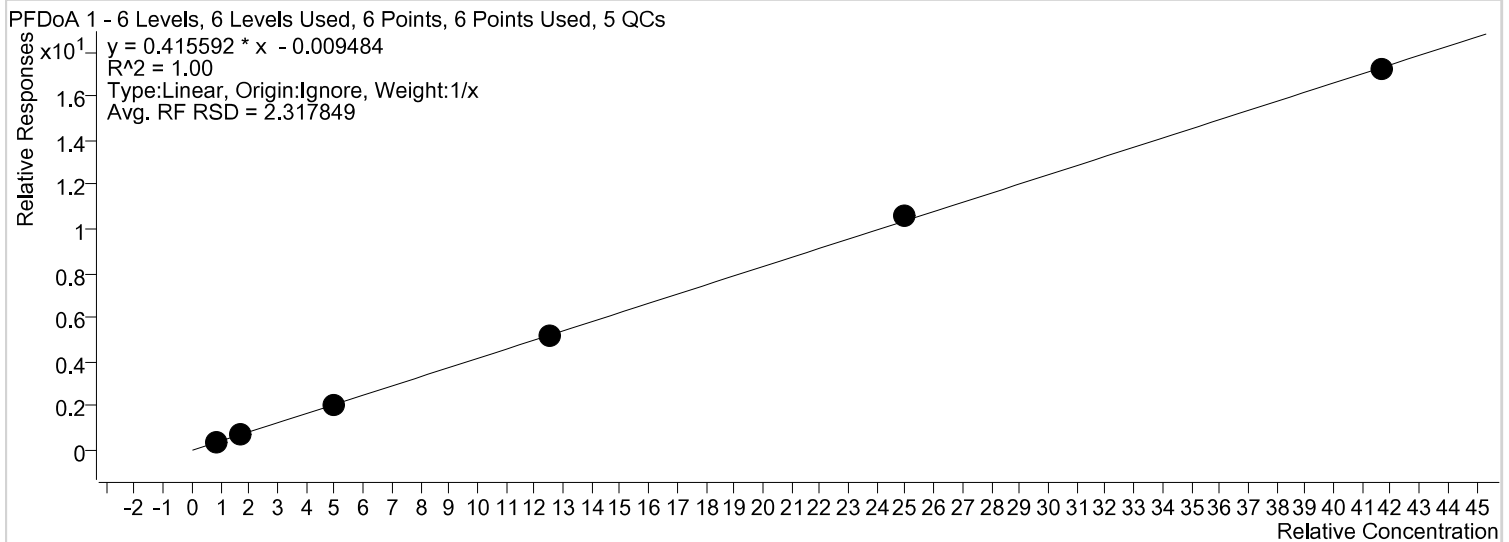
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.91	1621	0.4983	34	109.8
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.56	2987	0.4217	118	91.5
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.04	8878	0.4717	242	100.9
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	11.70	23396	0.4394	626	93.6
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.41	47273	0.4967	1570	105.7
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.10	75859	0.4636	2115	98.6

By Compound Report

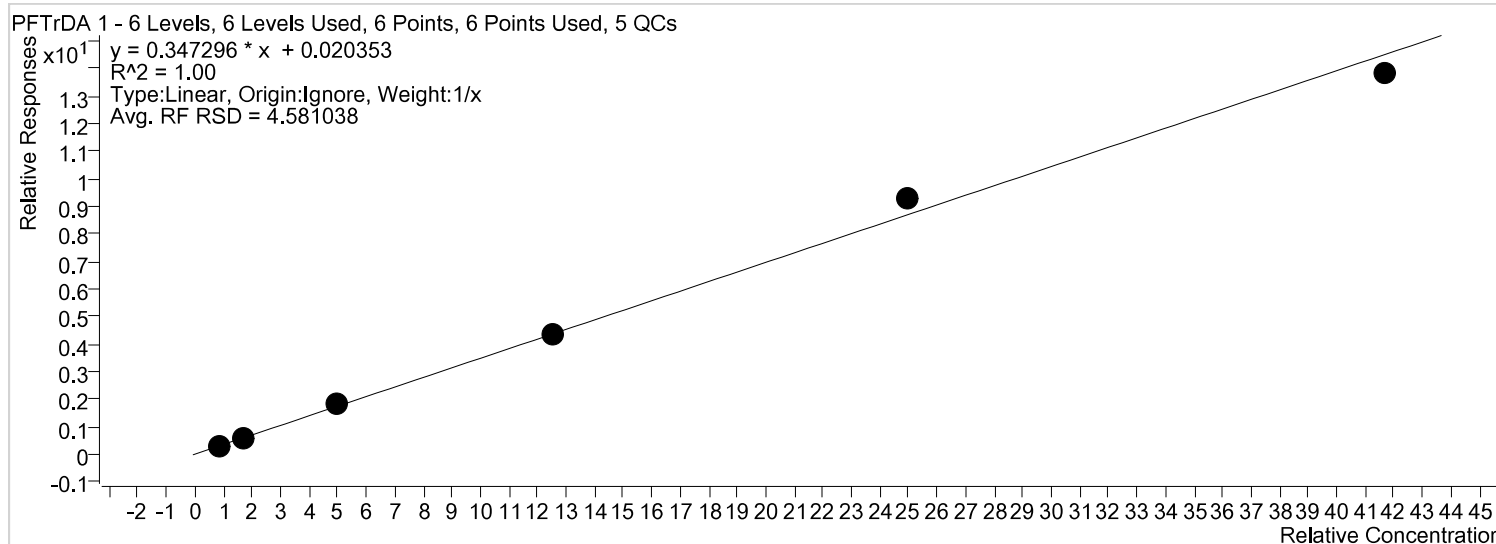
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFDa 1
Internal Standard: MPFDaA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.87	1783	0.4227	45	104.5
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.67	3513	0.4035	76	98.4
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	4.83	10387	0.3997	213	96.6
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.38	26195	0.4110	494	99.1
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	25.46	54455	0.4228	910	101.8
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	41.52	85414	0.4135	1405	99.6

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics.batch.bin
Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFTTrDA 1
Internal Standard: MPFTeDA

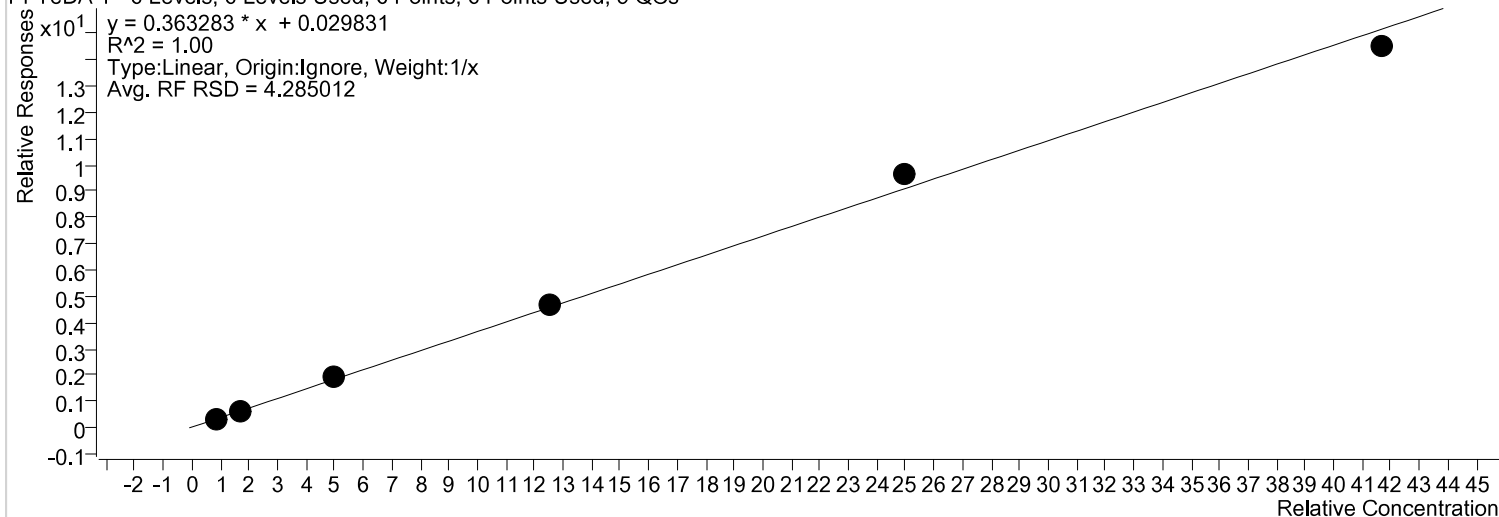


Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.81	2238	0.3642	55	97.8
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.61	4375	0.3400	103	94.5
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.24	13471	0.3679	273	104.7
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.60	33127	0.3516	827	100.8
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.72	66407	0.3720	1786	106.9
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	39.76	105694	0.3316	1291	95.3

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics.batch.bin
Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: PFTeDA 1
Internal Standard: MPFTeDA

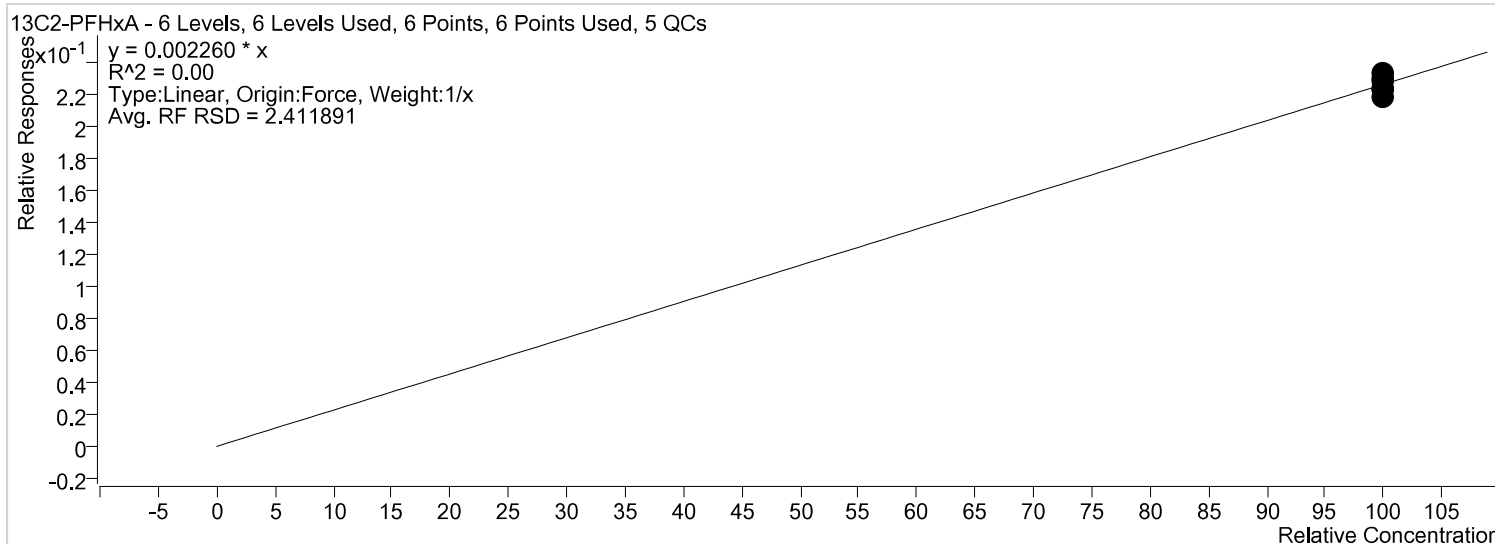
PFTeDA 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	0.83	0.81	2405	0.3914	37	97.8
STD 2	STD 2	x	2018/12/21 4:44:27 PM	1.70	1.62	4683	0.3639	70	95.4
STD 3	STD 3	x	2018/12/21 4:49:22 PM	5.00	5.17	13987	0.3819	223	103.5
STD 4	STD 4	x	2018/12/21 4:54:17 PM	12.50	12.69	34976	0.3712	523	101.5
STD 5	STD 5	x	2018/12/21 4:59:11 PM	25.00	26.52	69004	0.3865	859	106.1
STD 6	STD 6	x	2018/12/21 5:04:06 PM	41.70	39.91	111050	0.3484	1725	95.7

By Compound Report

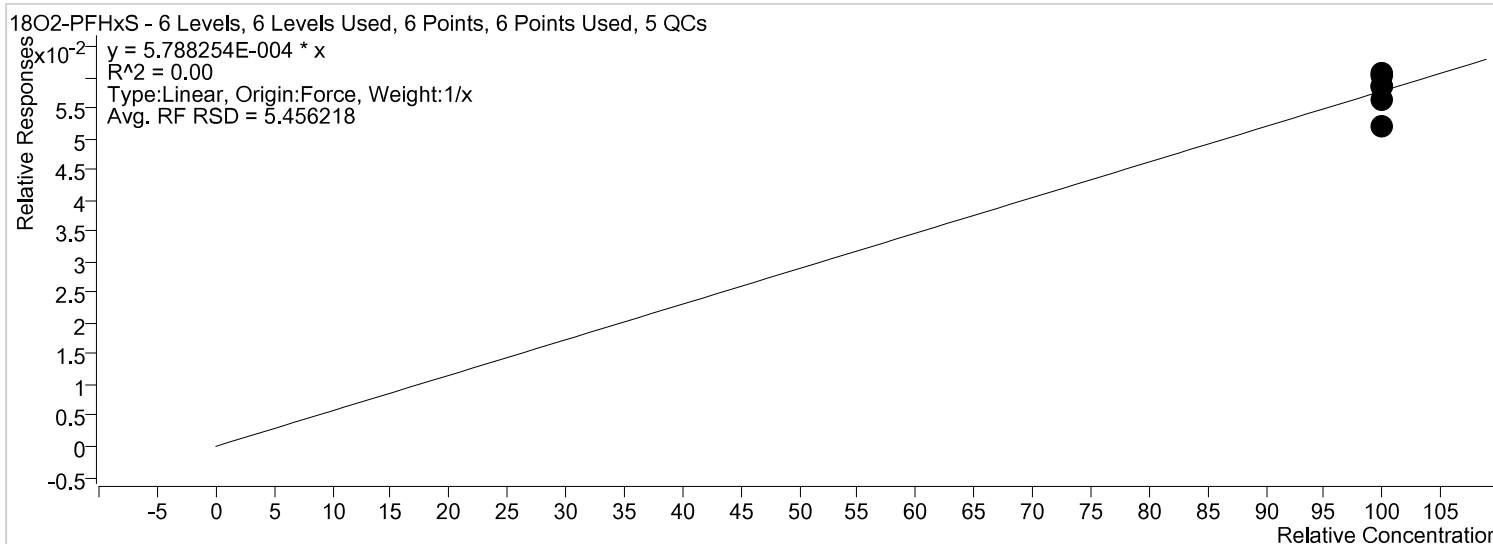
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C2-PFHxA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	96.49	3923	0.0022	1270	96.5
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	98.75	3815	0.0022	900	98.7
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	100.98	3773	0.0023	713	101.0
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	98.89	3858	0.0022	1280	98.9
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	101.74	3690	0.0023	717	101.7
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	103.16	3691	0.0023	563	103.2

By Compound Report

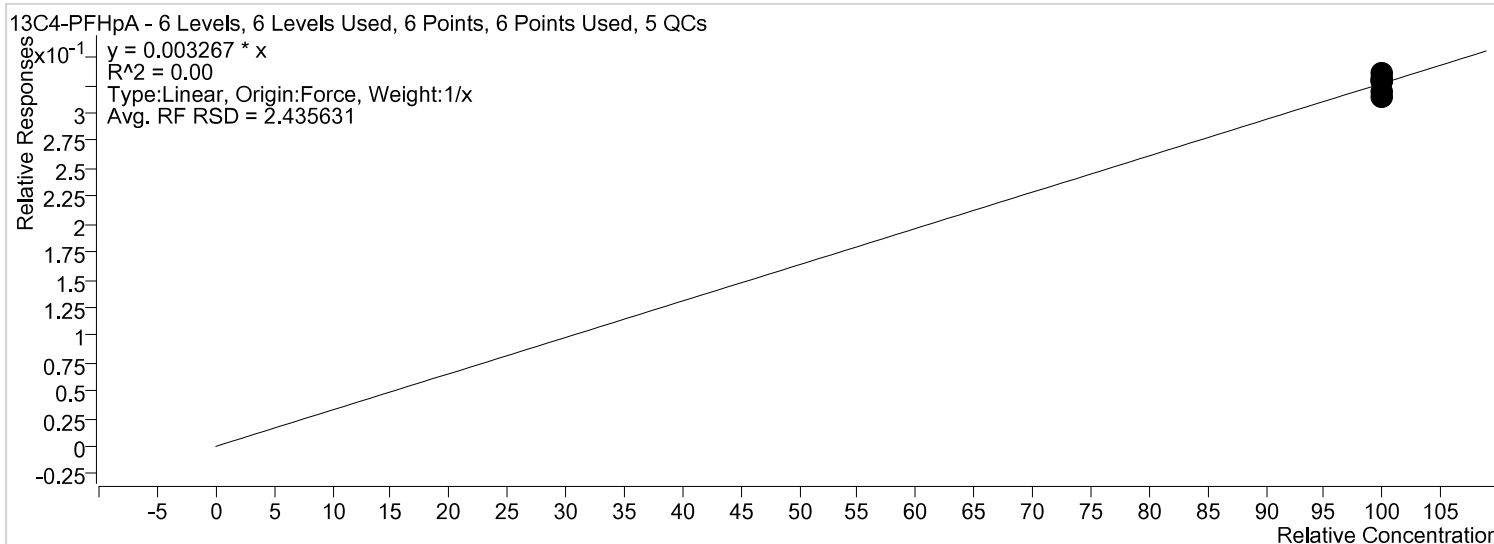
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	90.35	941	0.0005	221	90.4
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	97.41	964	0.0006	227	97.4
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	101.24	969	0.0006	631	101.2
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	105.08	1050	0.0006	301	105.1
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	101.50	943	0.0006	335	101.5
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	104.42	957	0.0006	301	104.4

By Compound Report

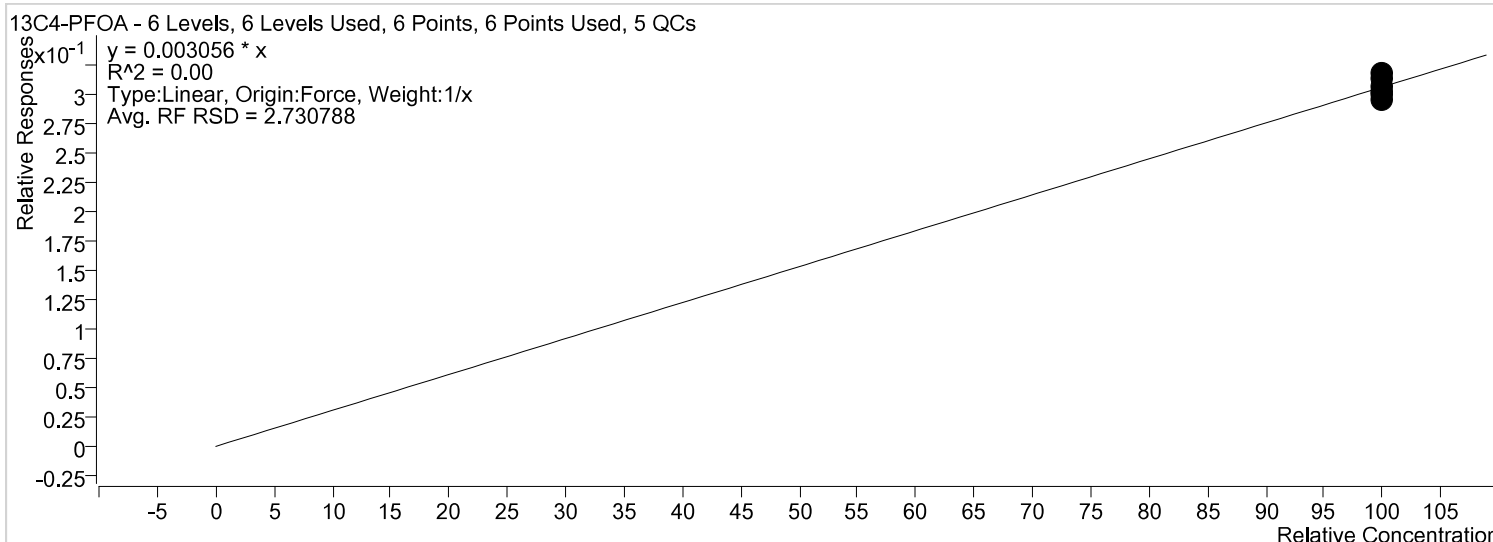
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	96.50	5673	0.0032	1266	96.5
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	100.93	5638	0.0033	1495	100.9
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	102.84	5556	0.0034	552	102.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	97.58	5504	0.0032	857	97.6
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	100.72	5282	0.0033	998	100.7
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	101.44	5248	0.0033	717	101.4

By Compound Report

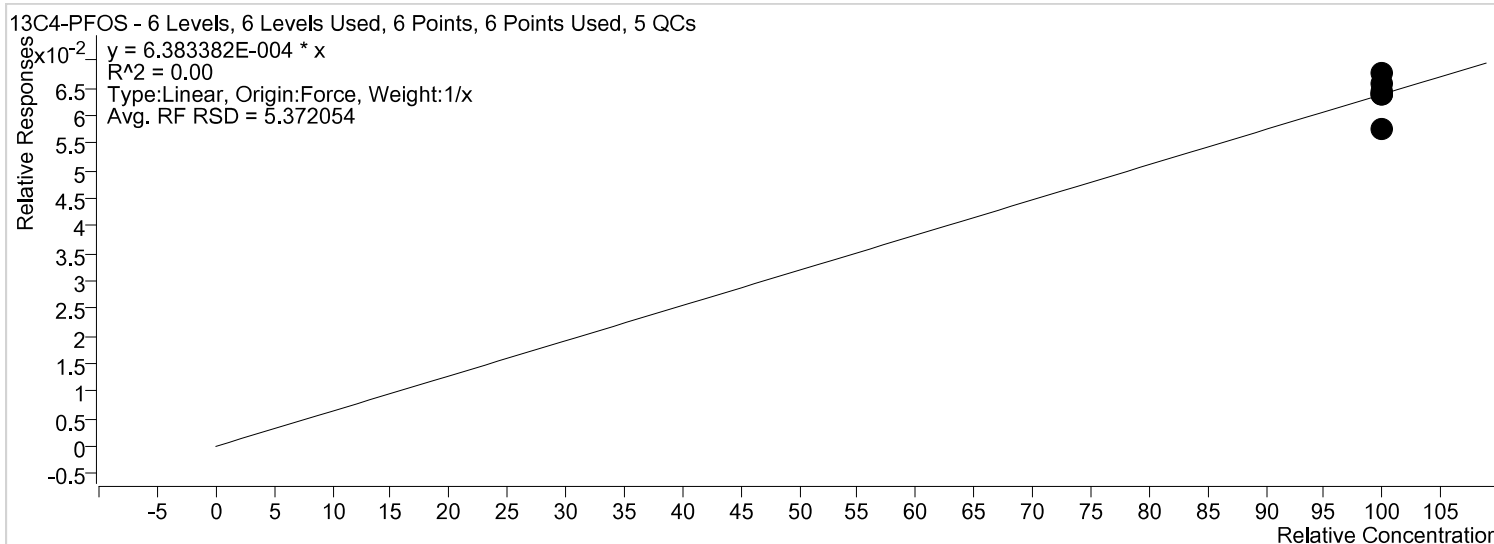
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	98.28	5405	0.0030	426	98.3
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	99.91	5221	0.0031	412	99.9
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	99.03	5005	0.0030	445	99.0
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	96.48	5091	0.0029	535	96.5
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	102.39	5023	0.0031	368	102.4
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	103.91	5029	0.0032	529	103.9

By Compound Report

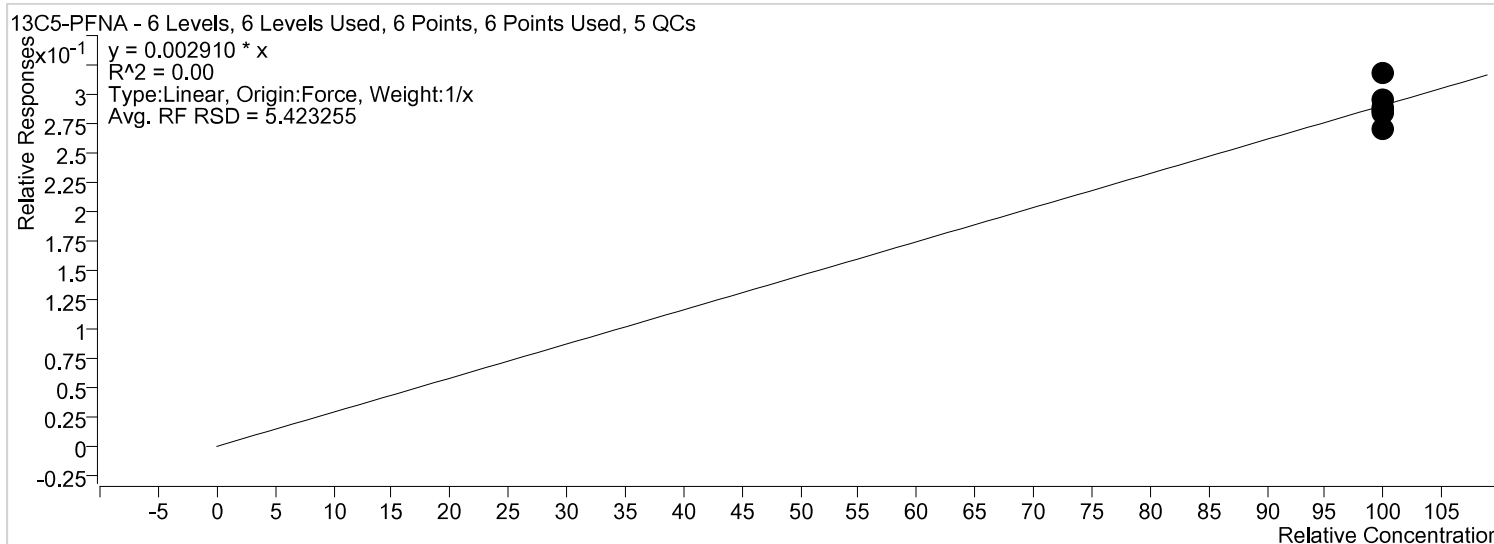
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	90.11	1035	0.0006	1017	90.1
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	99.97	1091	0.0006	343	100.0
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	100.62	1062	0.0006	344	100.6
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	100.18	1104	0.0006	442	100.2
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	103.06	1056	0.0007	142	103.1
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	106.06	1072	0.0007	206	106.1

By Compound Report

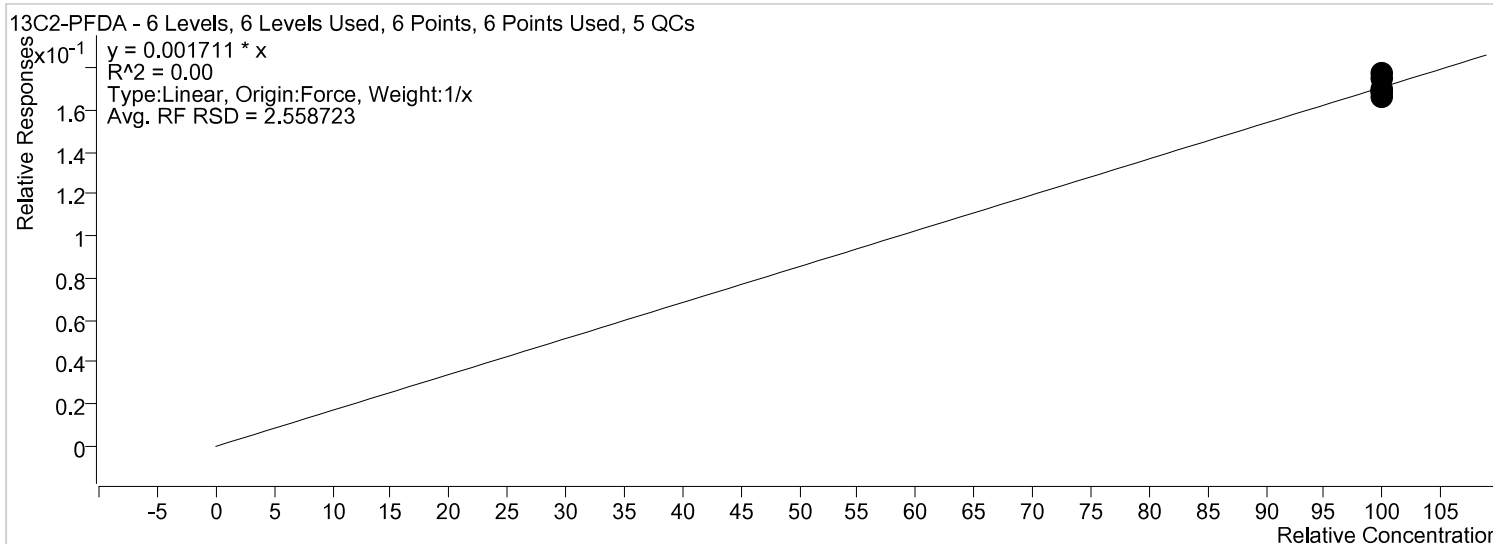
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	93.41	4891	0.0027	727	93.4
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	98.62	4907	0.0029	1118	98.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	102.02	4909	0.0030	711	102.0
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	97.39	4893	0.0028	1406	97.4
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	99.08	4628	0.0029	500	99.1
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	109.48	5045	0.0032	1383	109.5

By Compound Report

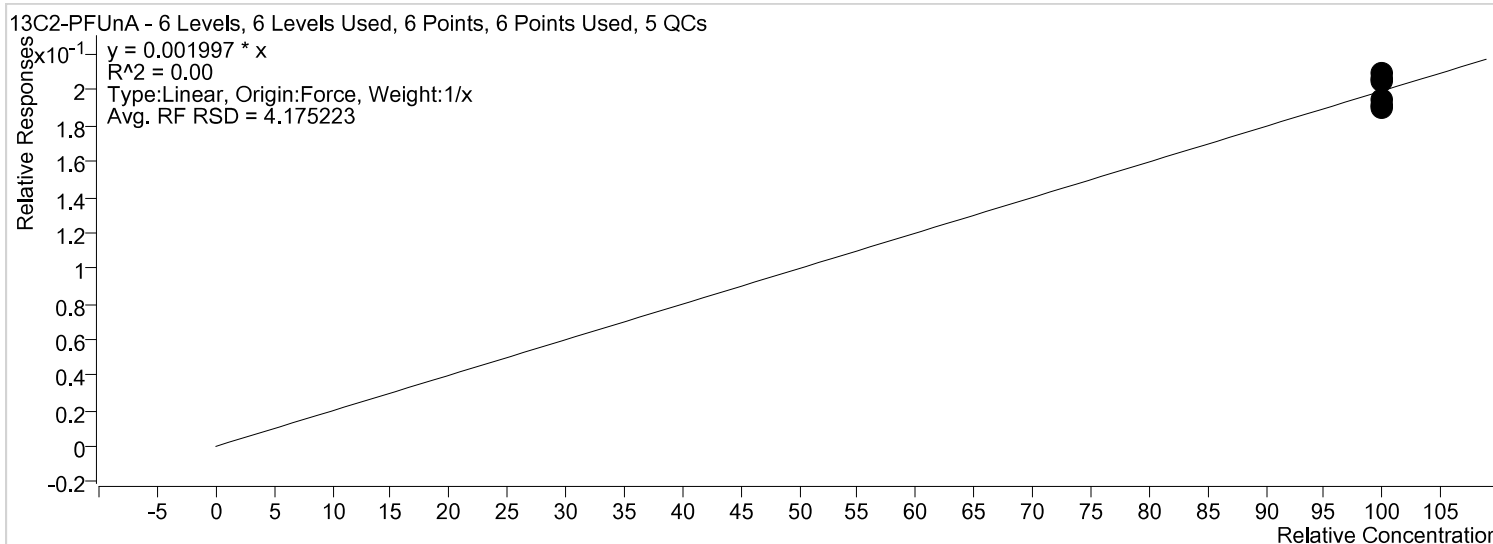
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C2-PFDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	98.55	3478	0.0017	760	98.5
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	98.58	3430	0.0017	997	98.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	102.22	3433	0.0017	524	102.2
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	99.56	3460	0.0017	451	99.6
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	97.16	3238	0.0017	427	97.2
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	103.93	3381	0.0018	584	103.9

By Compound Report

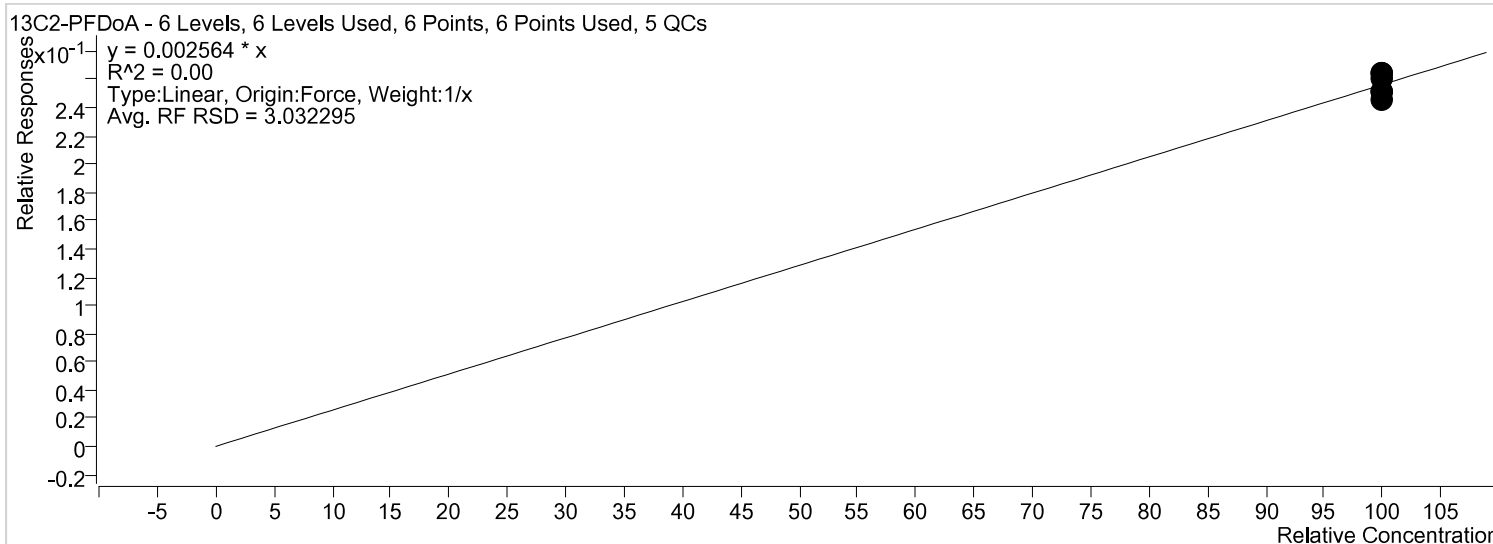
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C2-PFUnA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	95.14	3919	0.0019	478	95.1
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	102.61	4167	0.0020	443	102.6
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	96.02	3764	0.0019	586	96.0
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	105.02	4260	0.0021	678	105.0
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	97.87	3807	0.0020	771	97.9
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	103.34	3924	0.0021	496	103.3

By Compound Report

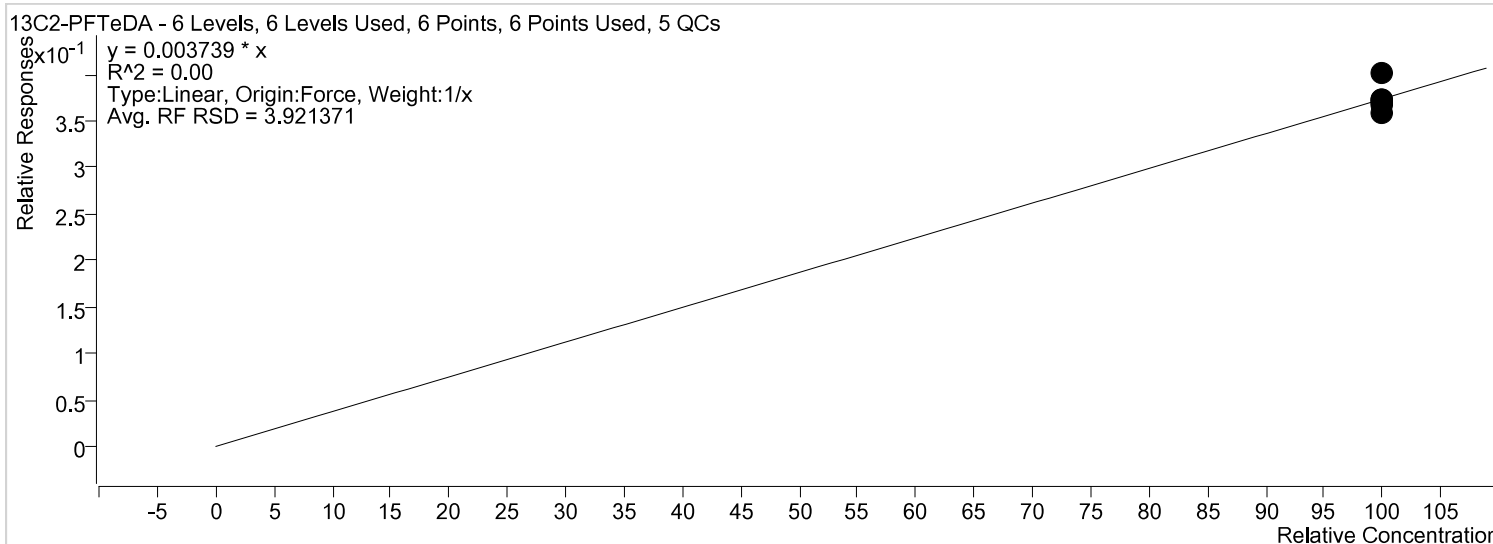
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C2-PFDoA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	96.05	5082	0.0025	906	96.1
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	98.17	5121	0.0025	627	98.2
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	103.22	5197	0.0026	806	103.2
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	97.87	5099	0.0025	681	97.9
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	103.12	5152	0.0026	1453	103.1
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	101.55	4953	0.0026	749	101.6

By Compound Report

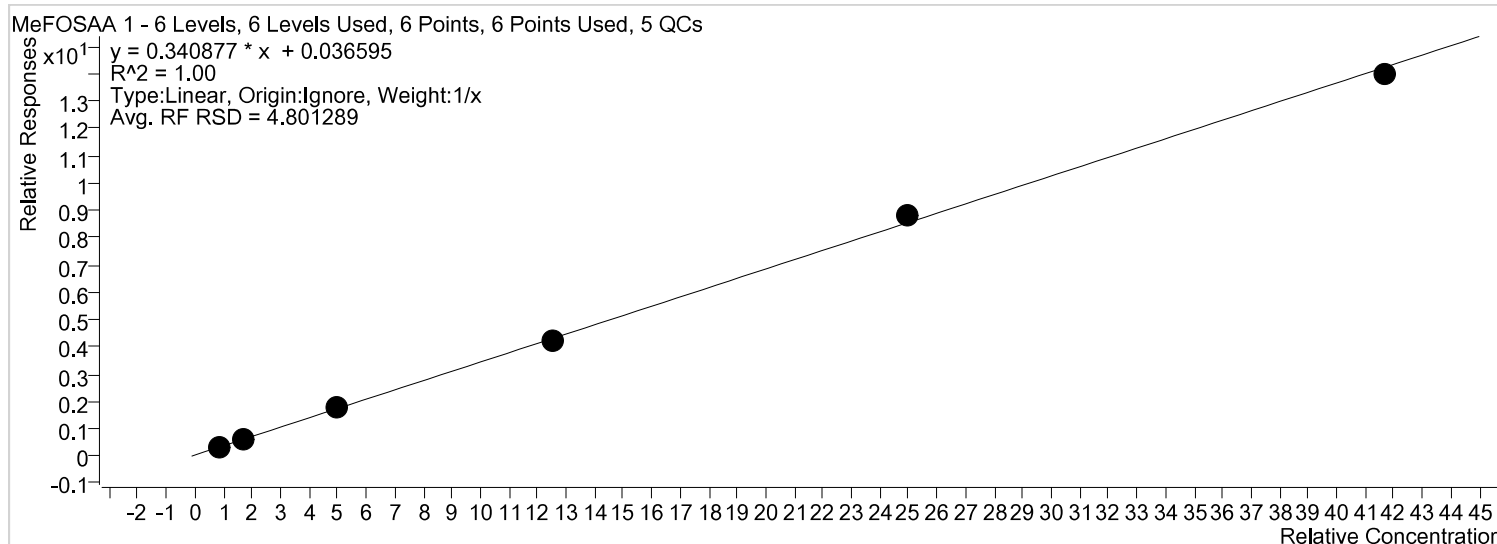
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Last Calib Update 2019/01/02 9:47:35 AM
Instrument: LCMS04
Analyte: 13C2-PFTeDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 4:39:32 PM	100.00	95.98	7404	0.0036	912	96.0
STD 2	STD 2	x	2018/12/21 4:44:27 PM	100.00	99.52	7569	0.0037	554	99.5
STD 3	STD 3	x	2018/12/21 4:49:22 PM	100.00	99.77	7324	0.0037	801	99.8
STD 4	STD 4	x	2018/12/21 4:54:17 PM	100.00	99.22	7537	0.0037	778	99.2
STD 5	STD 5	x	2018/12/21 4:59:11 PM	100.00	98.03	7141	0.0037	1496	98.0
STD 6	STD 6	x	2018/12/21 5:04:06 PM	100.00	107.48	7643	0.0040	2299	107.5

By Compound Report

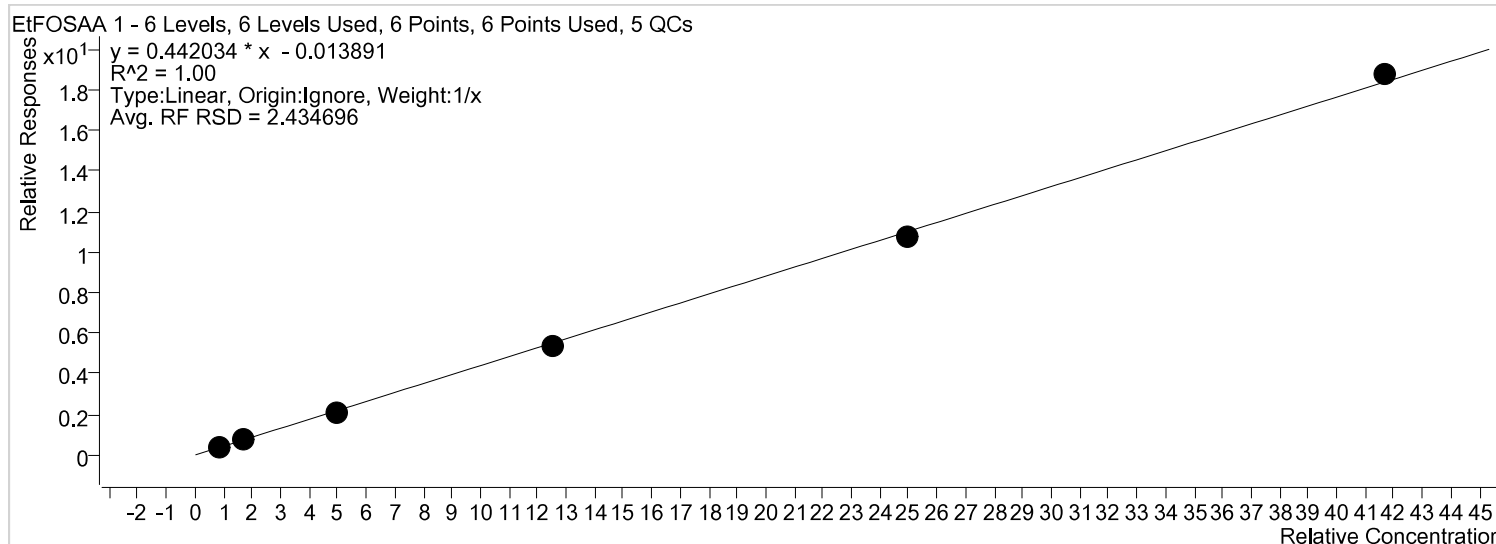
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Last Calib Update 2018/12/27 1:11:01 PM
Instrument: LCMS04
Analyte: MeFOSAA 1
Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 11:27:07 PM	0.83	0.83	553	0.3845	261	99.9
STD 2	STD 2	x	2018/12/21 11:29:30 PM	1.70	1.67	1112	0.3559	505	98.1
STD 3	STD 3	x	2018/12/21 11:31:53 PM	5.00	5.08	3141	0.3533	687	101.5
STD 4	STD 4	x	2018/12/21 11:34:16 PM	12.50	12.39	7776	0.3407	809	99.1
STD 5	STD 5	x	2018/12/21 11:36:38 PM	25.00	25.81	15232	0.3534	1094	103.2
STD 6	STD 6	x	2018/12/21 11:39:00 PM	41.70	40.96	23687	0.3357	1025	98.2

By Compound Report

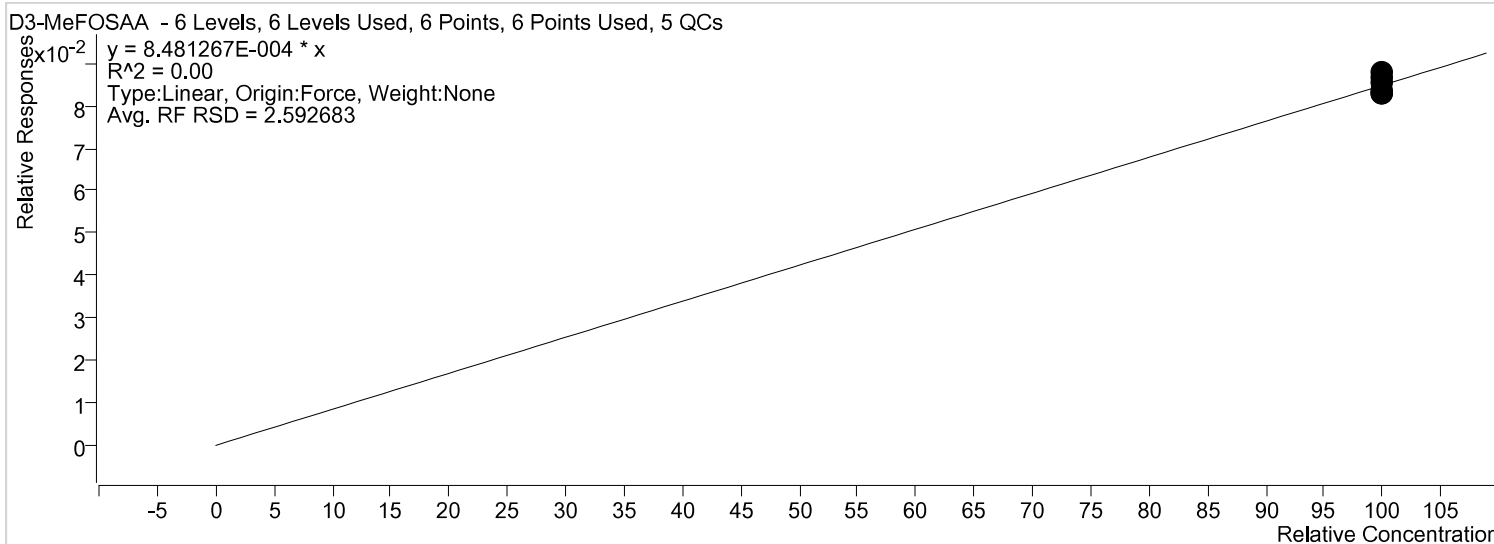
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Last Calib Update 2018/12/27 1:11:01 PM
Instrument: LCMS04
Analyte: EtFOSAA 1
Internal Standard: D5-EtFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 11:27:07 PM	0.83	0.87	564	0.4473	60	105.0
STD 2	STD 2	x	2018/12/21 11:29:30 PM	1.70	1.71	1210	0.4375	153	100.8
STD 3	STD 3	x	2018/12/21 11:31:53 PM	5.00	4.81	3571	0.4224	396	96.2
STD 4	STD 4	x	2018/12/21 11:34:16 PM	12.50	12.22	8620	0.4310	1088	97.8
STD 5	STD 5	x	2018/12/21 11:36:38 PM	25.00	24.54	17389	0.4334	2296	98.2
STD 6	STD 6	x	2018/12/21 11:39:00 PM	41.70	42.58	27682	0.4510	2809	102.1

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5899819_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5899819_FOSAA_EToxics.batch.bin
Last Calib Update 2018/12/27 1:11:01 PM
Instrument: LCMS04
Analyte: D3-MeFOSAA
Internal Standard: 13C9-PFDA IS

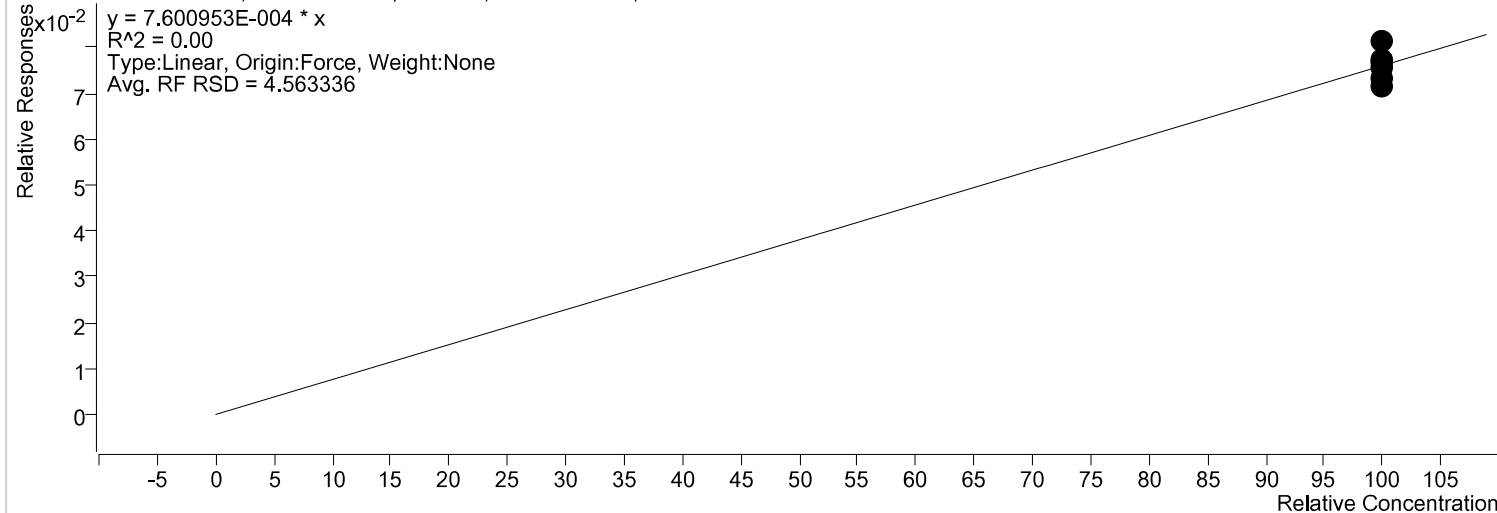


Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 11:27:07 PM	100.00	98.29	1736	0.0008	259	98.3
STD 2	STD 2	x	2018/12/21 11:29:30 PM	100.00	103.70	1849	0.0009	286	103.7
STD 3	STD 3	x	2018/12/21 11:31:53 PM	100.00	101.11	1785	0.0009	218	101.1
STD 4	STD 4	x	2018/12/21 11:34:16 PM	100.00	101.86	1835	0.0009	282	101.9
STD 5	STD 5	x	2018/12/21 11:36:38 PM	100.00	97.41	1728	0.0008	235	97.4
STD 6	STD 6	x	2018/12/21 11:39:00 PM	100.00	97.64	1702	0.0008	329	97.6

By Compound Report

Batch Path T:\LCMS04\PFC\20181221\WS#5899819_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5899819_FOSAA_EToxics.batch.bin
Last Calib Update 2018/12/27 1:11:01 PM
Instrument: LCMS04
Analyte: D5-EtFOSAA
Internal Standard: 13C9-PFDA IS

D5-EtFOSAA - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/12/21 11:27:07 PM	100.00	96.15	1522	0.0007	375	96.2
STD 2	STD 2	x	2018/12/21 11:29:30 PM	100.00	101.94	1629	0.0008	469	101.9
STD 3	STD 3	x	2018/12/21 11:31:53 PM	100.00	107.07	1694	0.0008	327	107.1
STD 4	STD 4	x	2018/12/21 11:34:16 PM	100.00	99.29	1603	0.0008	358	99.3
STD 5	STD 5	x	2018/12/21 11:36:38 PM	100.00	101.33	1611	0.0008	340	101.3
STD 6	STD 6	x	2018/12/21 11:39:00 PM	100.00	94.22	1472	0.0007	338	94.2

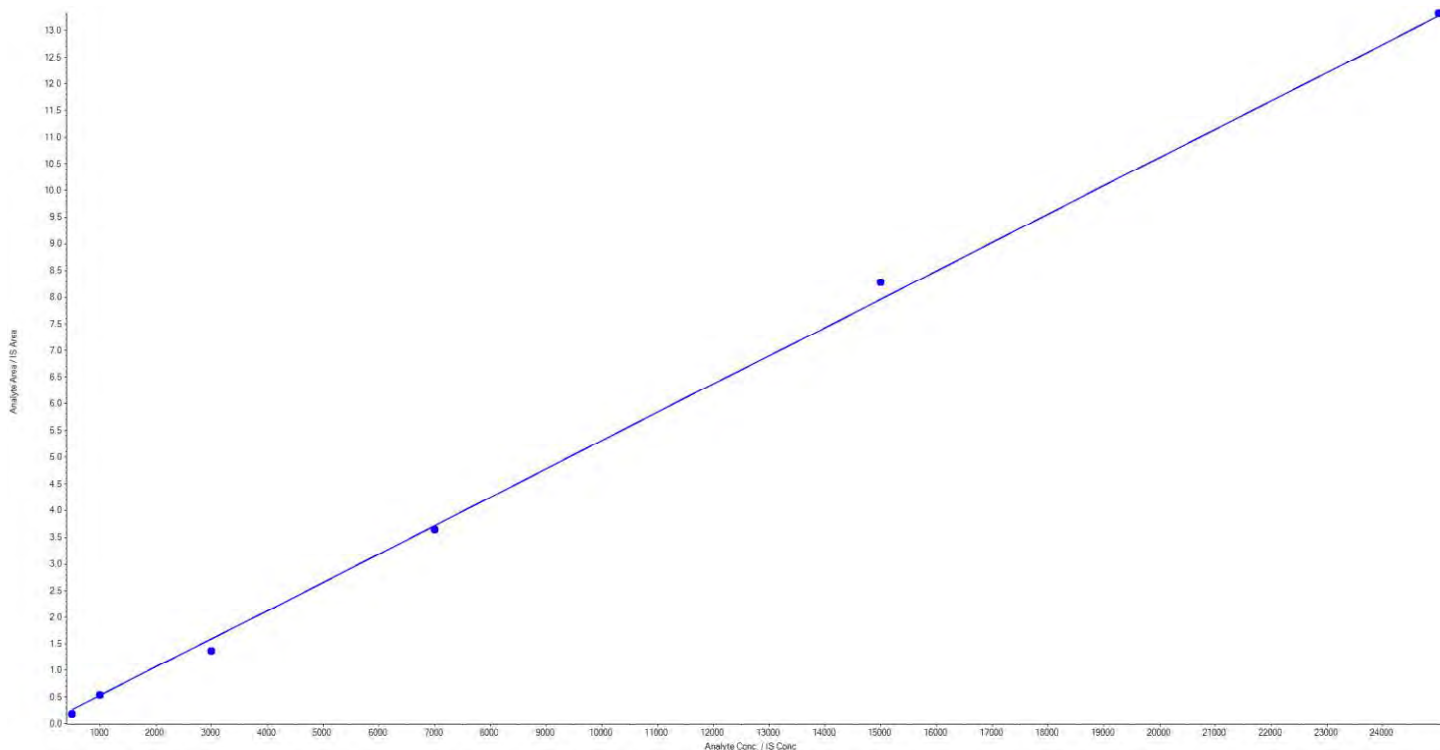
Analyte Name: PFBS 1
Internal Standard: MPFOS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000531 x$ (r = 0.9988)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	1003.73	100.4
3000	1	2581.61	86.1
7000	1	6875.01	98.2
15000	1	15599.47	104.0
25000	1	25087.36	100.3
500	1	352.82	70.6

Sample ID	Response Factor	S/N
STD 2	5.33e-04	852
STD 3	4.57e-04	2170
STD 4	5.21e-04	3800
STD 5	5.52e-04	13000
STD 6	5.33e-04	24600
STD 1	3.75e-04	216



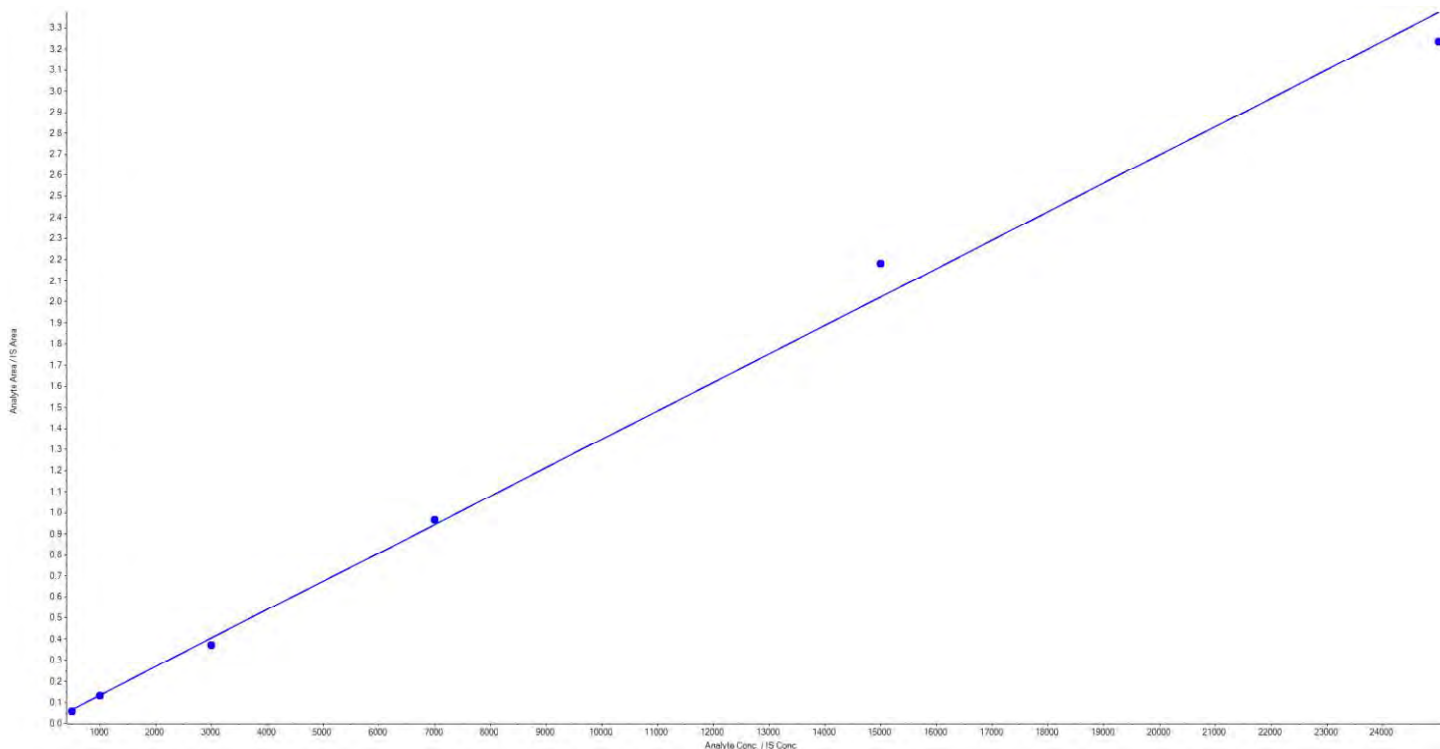
Analyte Name: PFHxA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000135 x$ (r = 0.9984)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	978.90	97.9
3000	1	2747.84	91.6
7000	1	7180.97	102.6
15000	1	16172.97	107.8
25000	1	23980.39	95.9
500	1	438.92	87.8

Sample ID	Response Factor	S/N
STD 2	1.32e-04	137
STD 3	1.24e-04	375
STD 4	1.38e-04	869
STD 5	1.45e-04	1770
STD 6	1.29e-04	3560
STD 1	1.18e-04	47



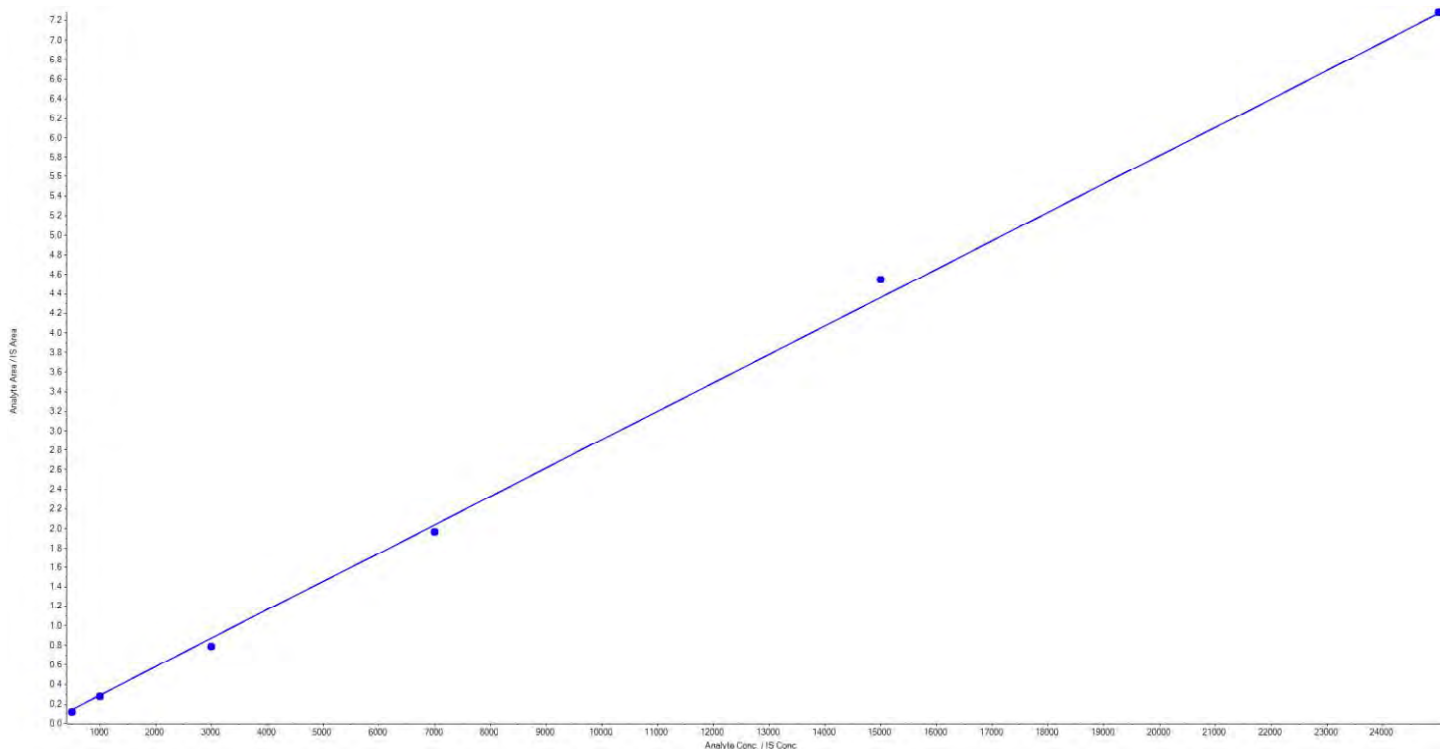
Analyte Name: PFHxS 1
Internal Standard: MPFOS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000291 x$ (r = 0.9992)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	954.22	95.4
3000	1	2703.51	90.1
7000	1	6748.90	96.4
15000	1	15645.73	104.3
25000	1	25031.75	100.1
500	1	415.88	83.2

Sample ID	Response Factor	S/N
STD 2	2.78e-04	322
STD 3	2.62e-04	1370
STD 4	2.80e-04	4070
STD 5	3.03e-04	9390
STD 6	2.91e-04	12900
STD 1	2.42e-04	224



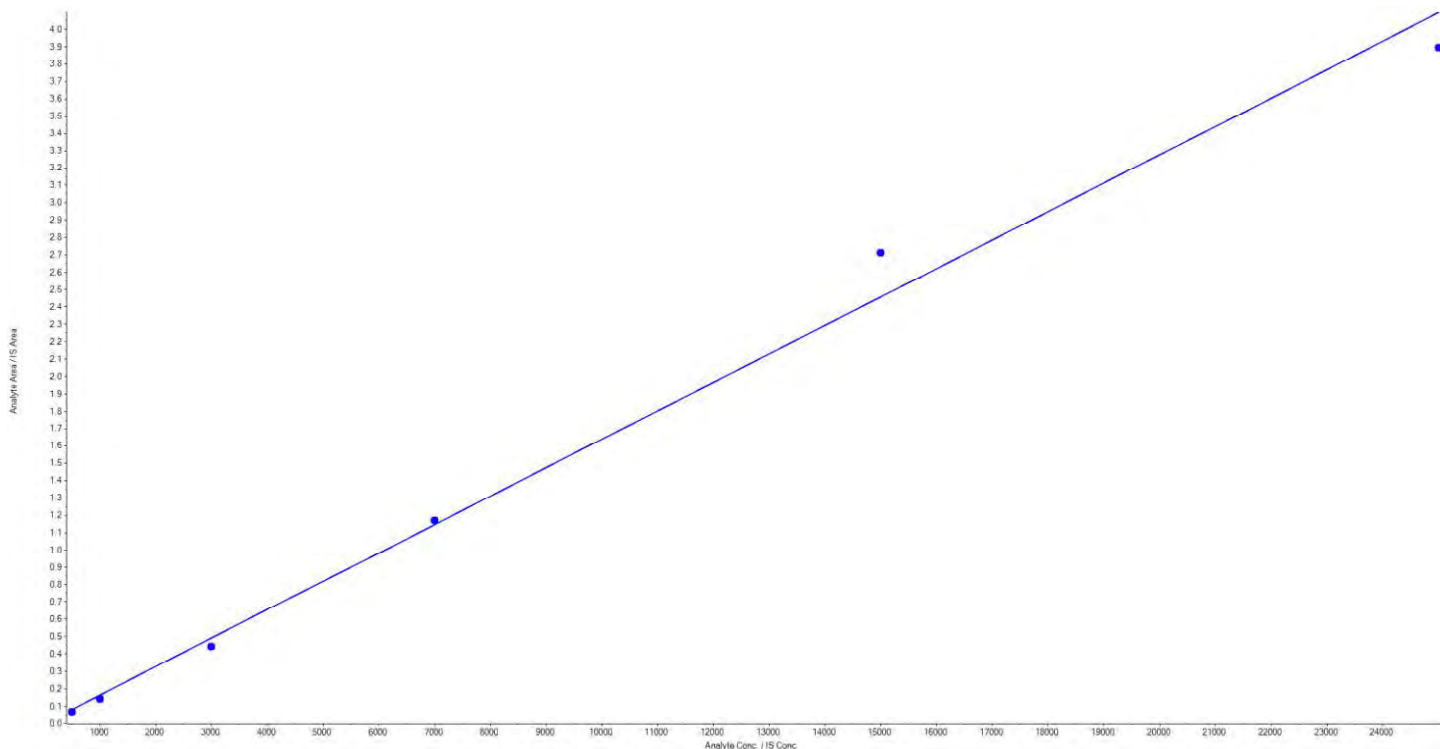
Analyte Name: PFHpA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000164 x$ (r = 0.9973)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	872.14	87.2
3000	1	2708.49	90.3
7000	1	7156.67	102.2
15000	1	16555.46	110.4
25000	1	23778.18	95.1
500	1	429.06	85.8

Sample ID	Response Factor	S/N
STD 2	1.43e-04	238
STD 3	1.48e-04	858
STD 4	1.68e-04	2490
STD 5	1.81e-04	3600
STD 6	1.56e-04	8440
STD 1	1.41e-04	119



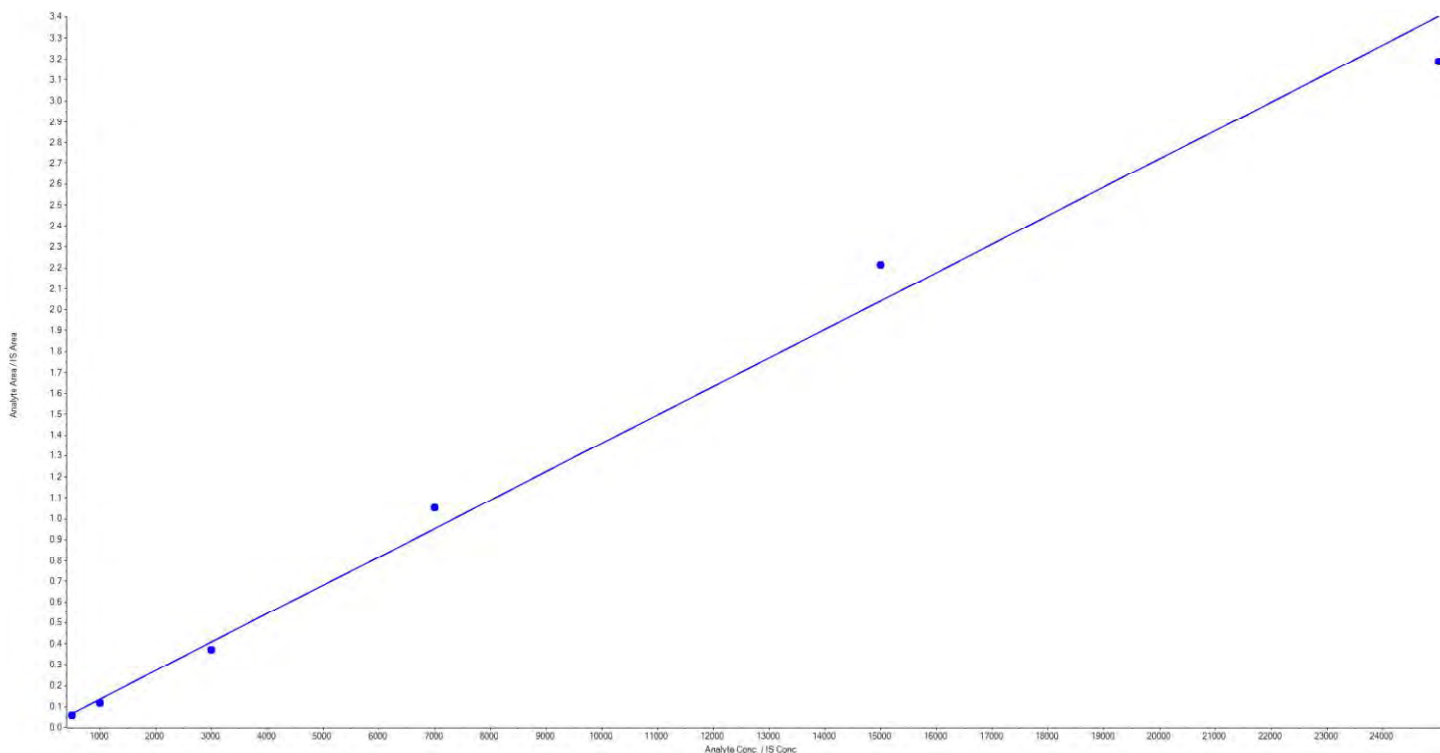
Analyte Name: PFOA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000136 x$ (r = 0.9968)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	877.63	87.8
3000	1	2729.79	91.0
7000	1	7746.89	110.7
15000	1	16279.45	108.5
25000	1	23414.23	93.7
500	1	452.01	90.4

Sample ID	Response Factor	S/N
STD 2	1.19e-04	115
STD 3	1.24e-04	357
STD 4	1.51e-04	1220
STD 5	1.48e-04	1730
STD 6	1.27e-04	1840
STD 1	1.23e-04	44



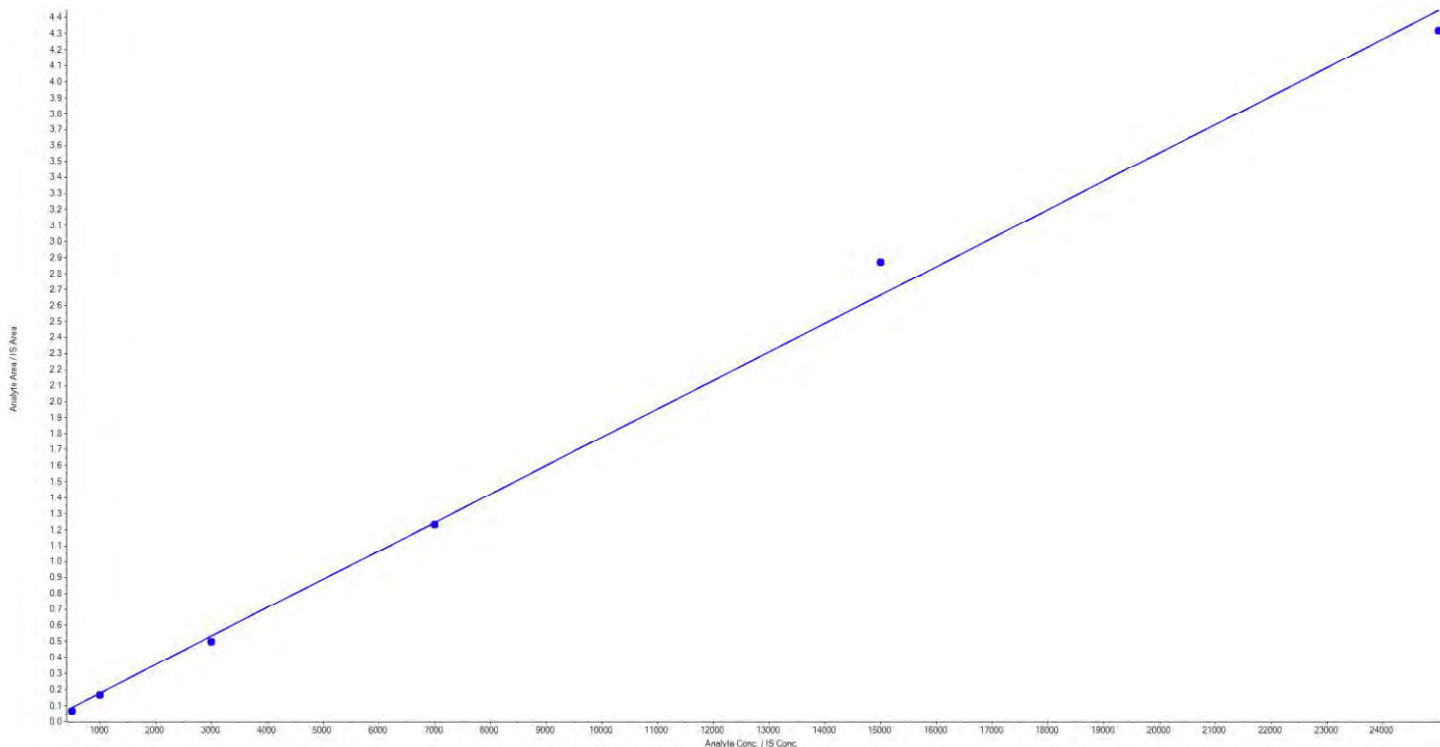
Analyte Name: PFOS 1
Internal Standard: MPFOS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000178 x$ (r = 0.9985)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	940.09	94.0
3000	1	2791.27	93.0
7000	1	6931.94	99.0
15000	1	16154.87	107.7
25000	1	24298.90	97.2
500	1	382.94	76.6

Sample ID	Response Factor	S/N
STD 2	1.67e-04	339
STD 3	1.65e-04	1070
STD 4	1.76e-04	2160
STD 5	1.91e-04	7790
STD 6	1.73e-04	8010
STD 1	1.36e-04	168



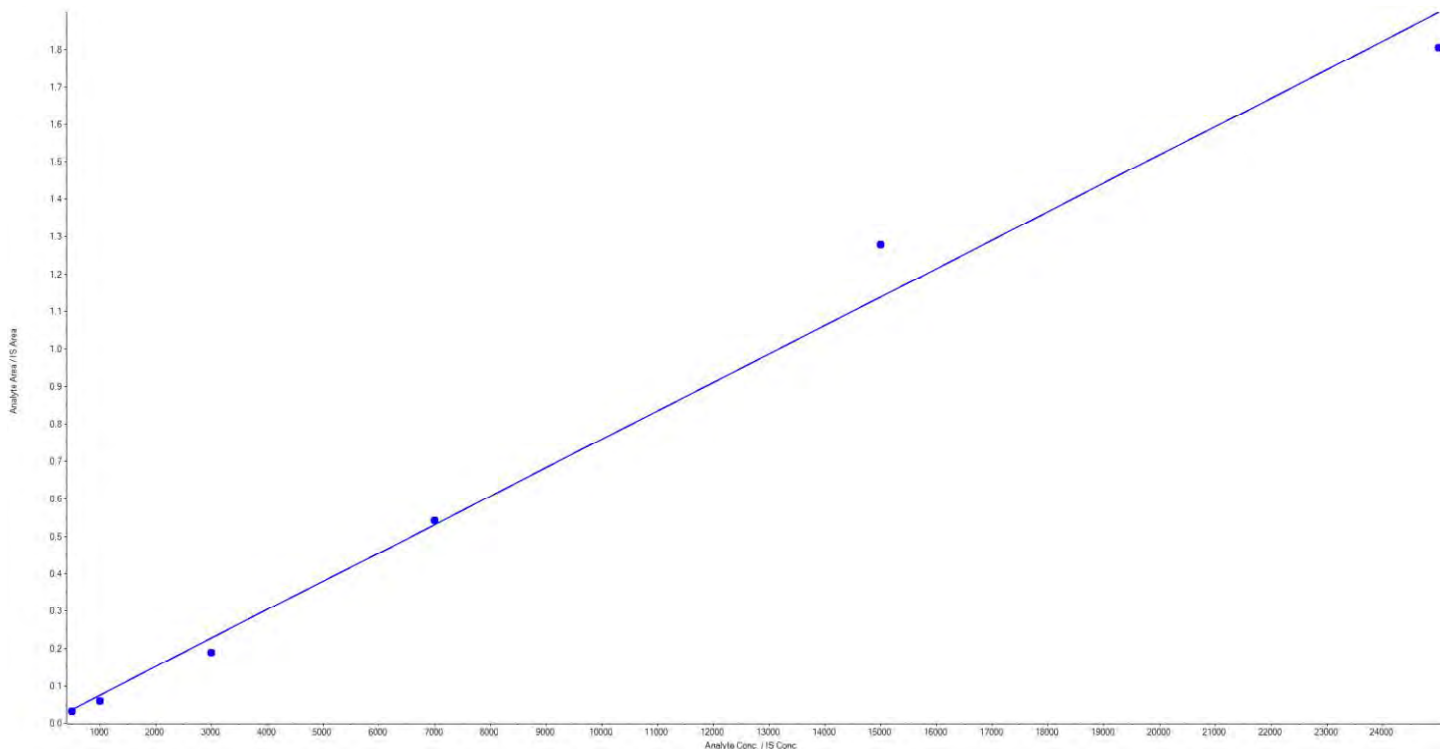
Analyte Name: PFNA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 7.59e-005 x$ (r = 0.9959)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	791.30	79.1
3000	1	2490.89	83.0
7000	1	7154.91	102.2
15000	1	16839.80	112.3
25000	1	23780.16	95.1
500	1	442.93	88.6

Sample ID	Response Factor	S/N
STD 2	6.00e-05	127
STD 3	6.30e-05	416
STD 4	7.80e-05	1430
STD 5	8.50e-05	3530
STD 6	7.20e-05	6150
STD 1	6.70e-05	73



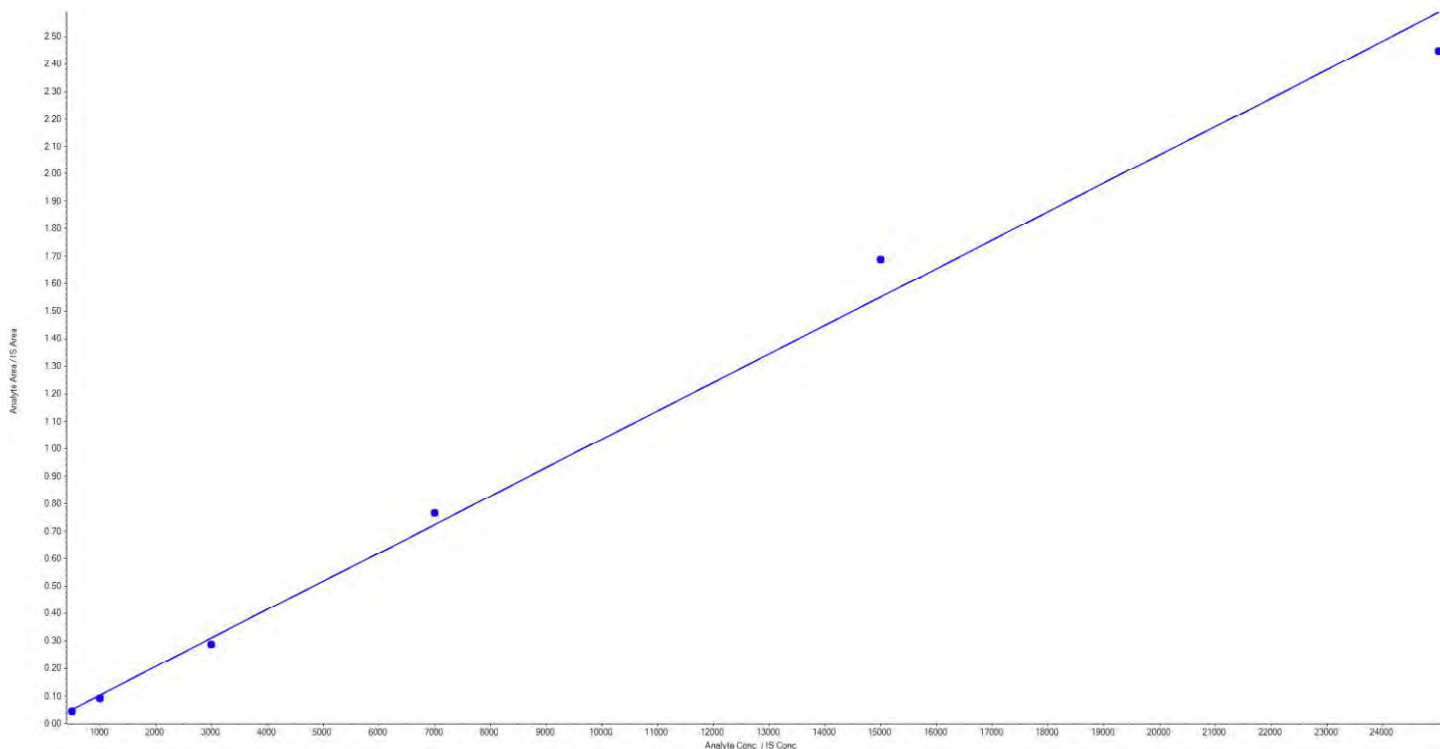
Analyte Name: PFDA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000103 x$ (r = 0.9976)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	893.48	89.3
3000	1	2775.23	92.5
7000	1	7402.45	105.7
15000	1	16330.65	108.9
25000	1	23659.32	94.6
500	1	438.87	87.8

Sample ID	Response Factor	S/N
STD 2	9.20e-05	389
STD 3	9.60e-05	1250
STD 4	1.09e-04	2780
STD 5	1.13e-04	7420
STD 6	9.80e-05	8560
STD 1	9.10e-05	117



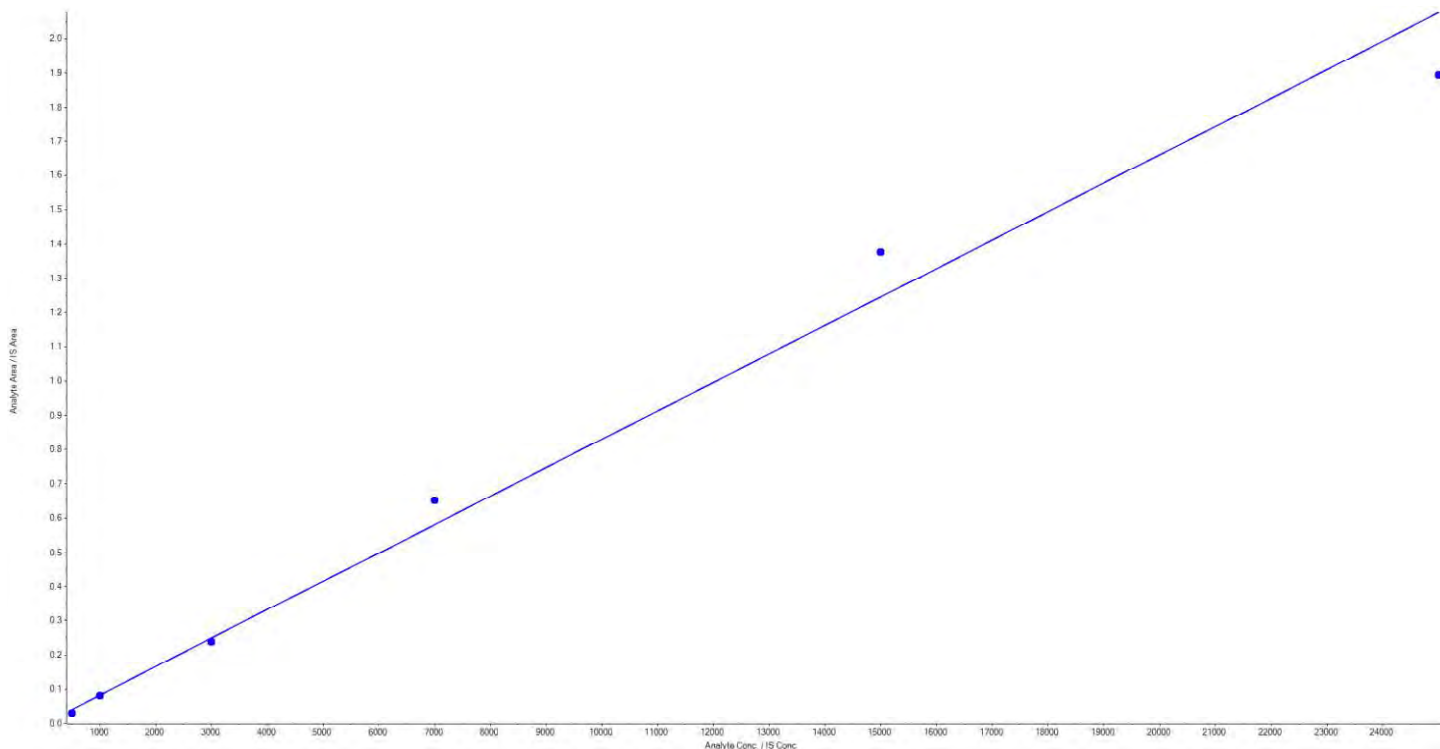
Analyte Name: PFUnA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 8.3e-005 x$ ($r = 0.9952$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	990.03	99.0
3000	1	2859.82	95.3
7000	1	7853.45	112.2
15000	1	16587.95	110.6
25000	1	22823.18	91.3
500	1	385.56	77.1

Sample ID	Response Factor	S/N
STD 2	8.20e-05	144
STD 3	7.90e-05	625
STD 4	9.30e-05	1290
STD 5	9.20e-05	2230
STD 6	7.60e-05	3350
STD 1	6.40e-05	59



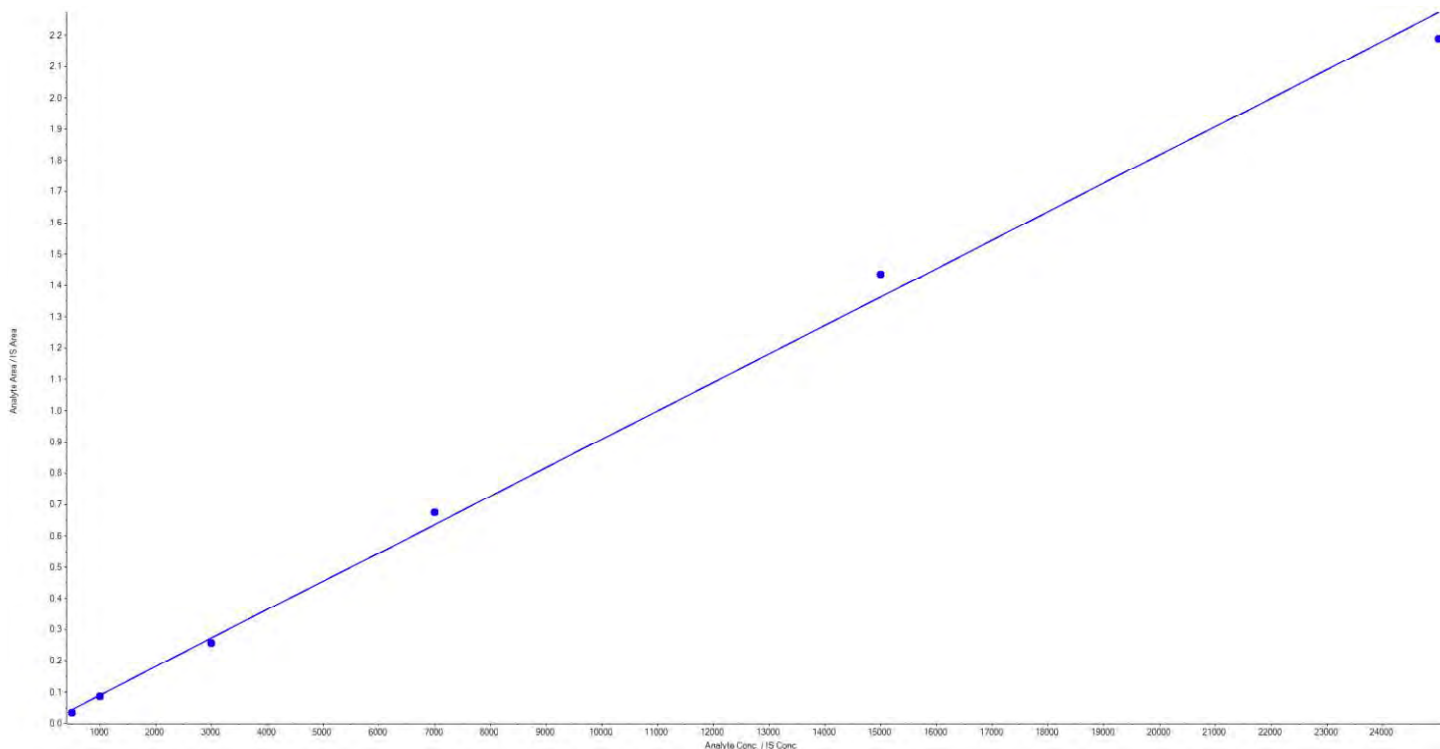
Analyte Name: PFD0A 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 9.09e-005 x$ (r = 0.9987)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	960.80	96.1
3000	1	2833.59	94.5
7000	1	7420.20	106.0
15000	1	15802.68	105.4
25000	1	24090.42	96.4
500	1	392.31	78.5

Sample ID	Response Factor	S/N
STD 2	8.70e-05	151
STD 3	8.60e-05	599
STD 4	9.60e-05	1490
STD 5	9.60e-05	2880
STD 6	8.80e-05	6130
STD 1	7.10e-05	86



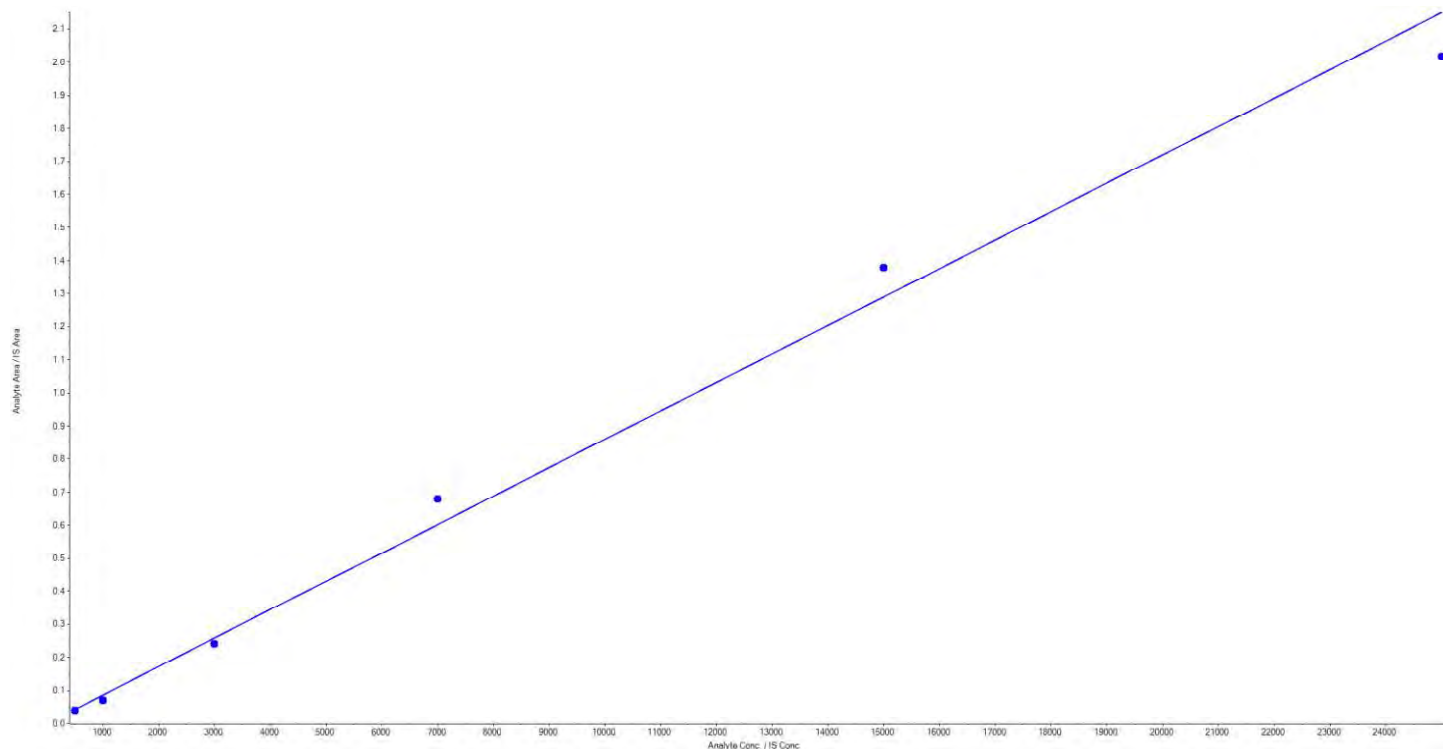
Analyte Name: PFTTrDA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 8.6e-005 x$ ($r = 0.9968$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	821.54	82.2
3000	1	2800.69	93.4
7000	1	7899.34	112.8
15000	1	16038.50	106.9
25000	1	23472.66	93.9
500	1	467.26	93.5

Sample ID	Response Factor	S/N
STD 2	7.10e-05	227
STD 3	8.00e-05	666
STD 4	9.70e-05	2020
STD 5	9.20e-05	3190
STD 6	8.10e-05	5350
STD 1	8.00e-05	106



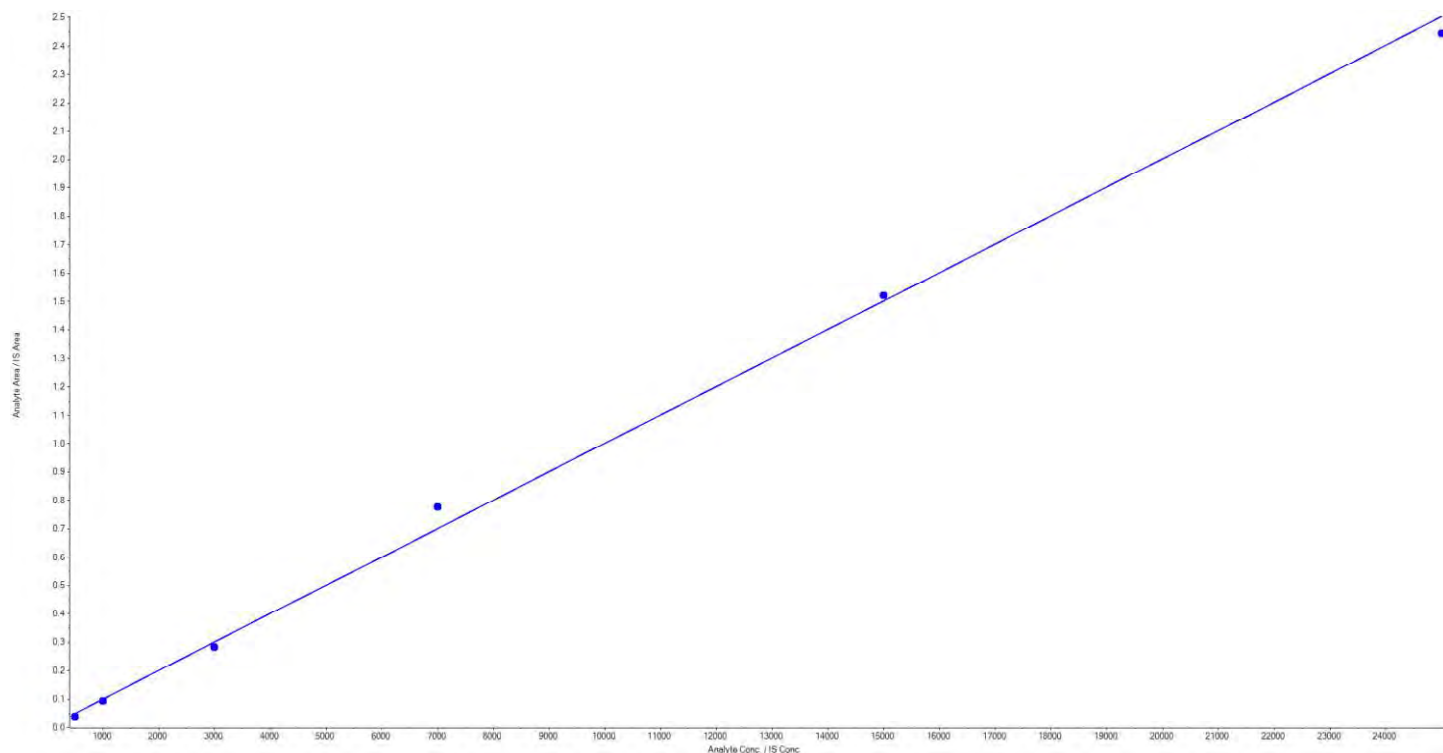
Analyte Name: PFTeDA 1
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.0001 x$ ($r = 0.9987$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
1000	1	929.46	92.9
3000	1	2823.14	94.1
7000	1	7754.72	110.8
15000	1	15200.70	101.3
25000	1	24402.23	97.6
500	1	389.75	78.0

Sample ID	Response Factor	S/N
STD 2	9.30e-05	248
STD 3	9.40e-05	698
STD 4	1.11e-04	1810
STD 5	1.01e-04	4890
STD 6	9.80e-05	7560
STD 1	7.80e-05	95



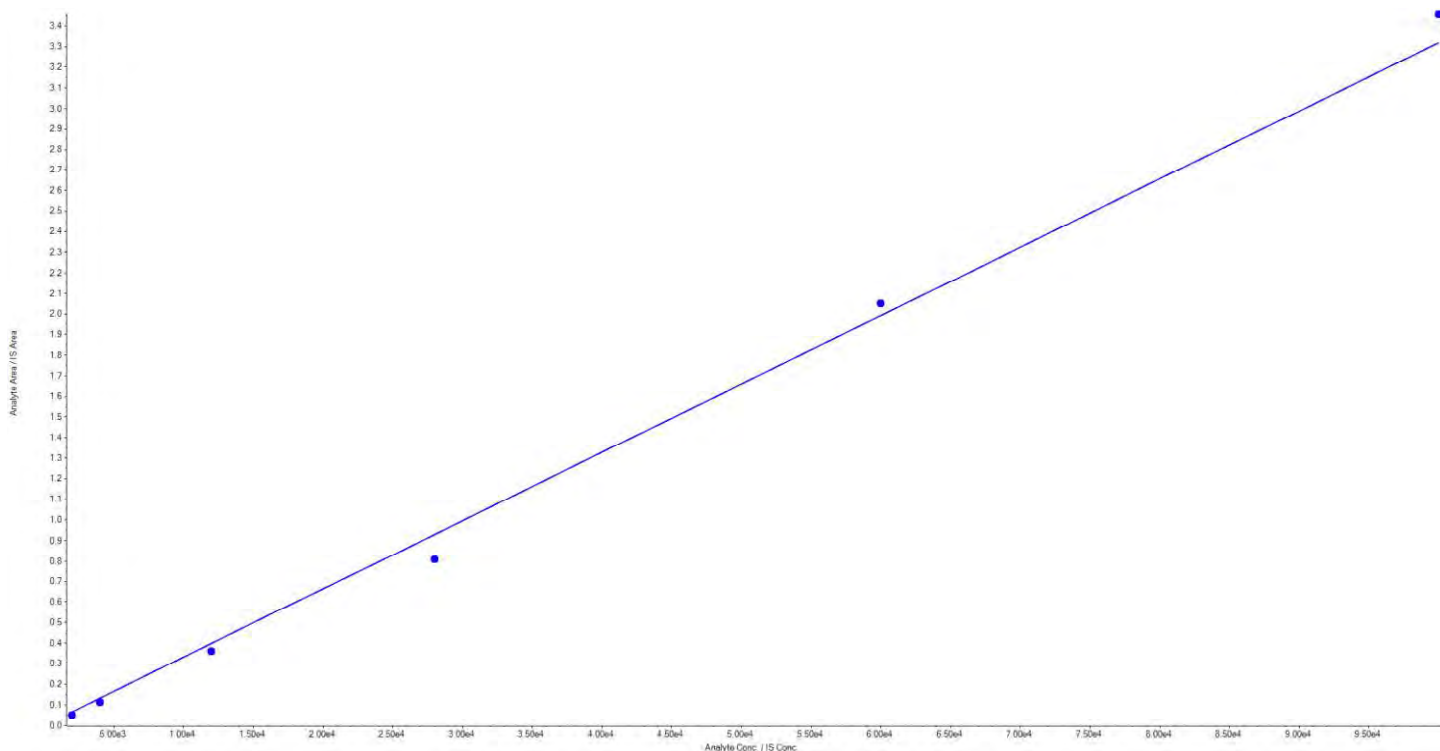
Analyte Name: MeFOSAA 1
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 3.32e-005 x$ (r = 0.9976)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
4000	1	3438.96	86.0
12000	1	10849.75	90.4
28000	1	24372.66	87.0
60000	1	61732.62	102.9
100000	1	104075.57	104.1
2000	1	1530.43	76.5

Sample ID	Response Factor	S/N
STD 2	2.90e-05	2340
STD 3	3.00e-05	5890
STD 4	2.90e-05	7920
STD 5	3.40e-05	17800
STD 6	3.50e-05	19800
STD 1	2.50e-05	573



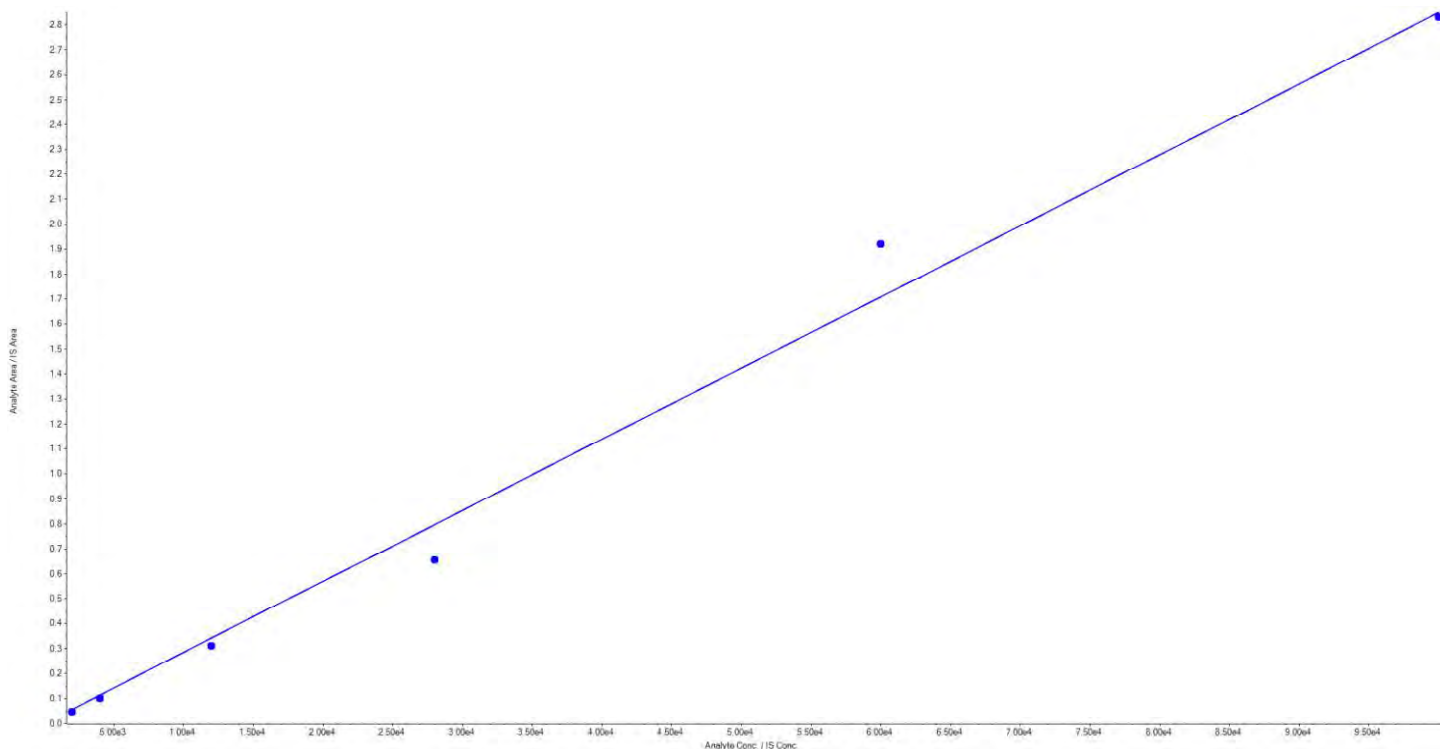
Analyte Name: EtFOSAA 1
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 2.85e-005 x$ (r = 0.9952)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
4000	1	3538.76	88.5
12000	1	10949.59	91.2
28000	1	23035.02	82.3
60000	1	67425.76	112.4
100000	1	99338.46	99.3
2000	1	1712.41	85.6

Sample ID	Response Factor	S/N
STD 2	2.50e-05	1180
STD 3	2.60e-05	3380
STD 4	2.30e-05	6120
STD 5	3.20e-05	18000
STD 6	2.80e-05	21600
STD 1	2.40e-05	655



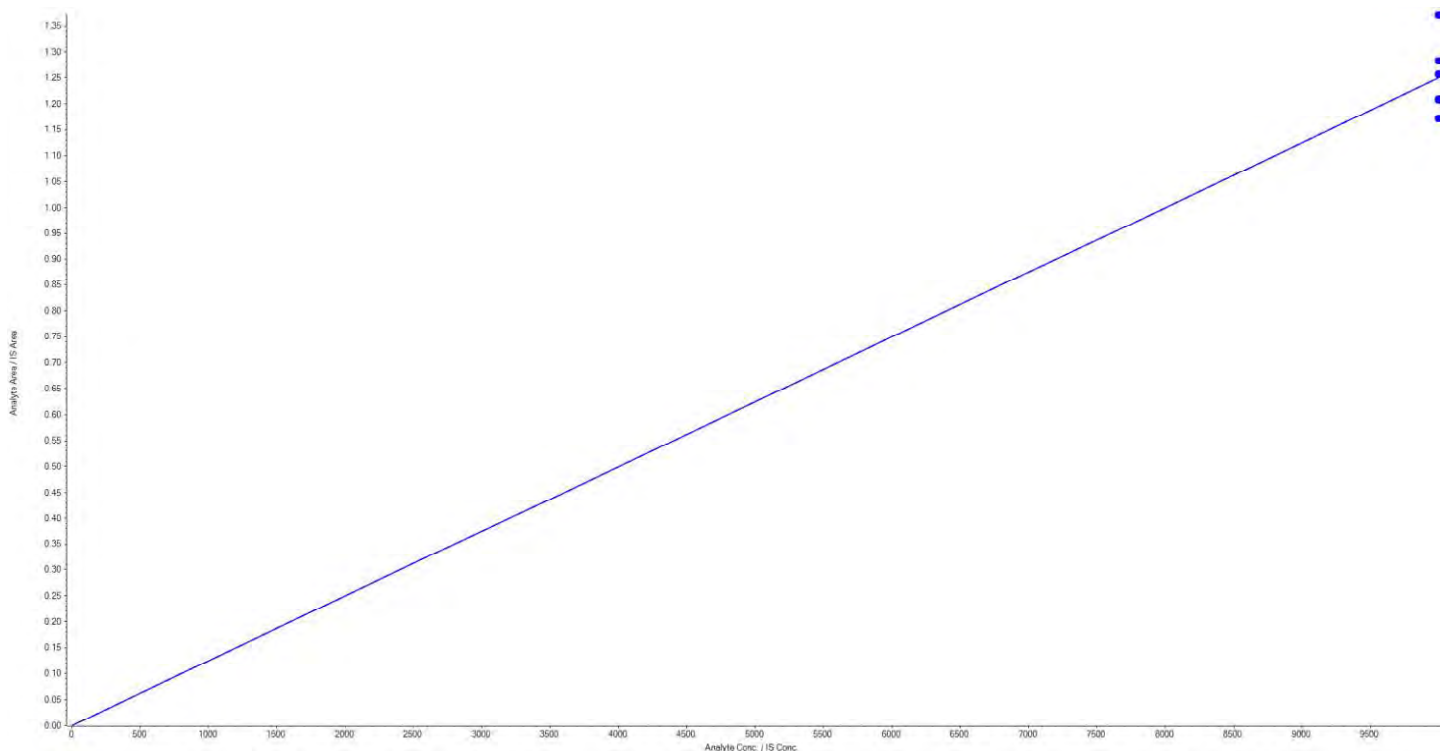
Analyte Name: 13C2-PFHxA
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 0.000125 x$ (r = 0.9986)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
10000	6	10000.00	100.0

Sample ID	Response Factor	S/N
STD 2	1.17e-04	8020
STD 3	1.28e-04	8060
STD 4	1.37e-04	11400
STD 5	1.26e-04	11500
STD 6	1.21e-04	10000
STD 1	1.21e-04	11200



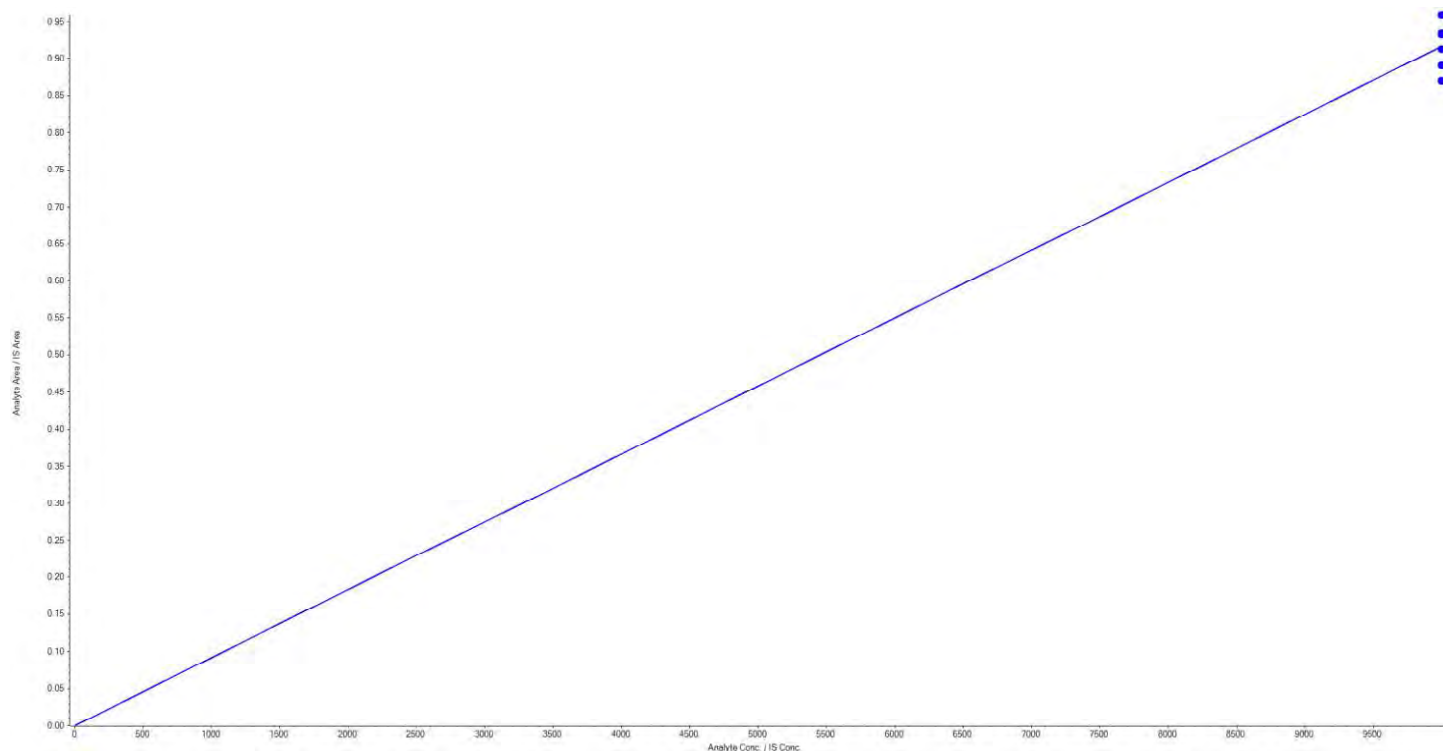
Analyte Name: 13C2-PFDA
Internal Standard: MPFOA

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 9.16e-005 x$ ($r = 0.9995$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
10000	6	10000.00	100.0

Sample ID	Response Factor	S/N
STD 2	8.70e-05	14600
STD 3	9.30e-05	11000
STD 4	9.10e-05	10700
STD 5	9.60e-05	11200
STD 6	8.90e-05	15900
STD 1	9.30e-05	13700



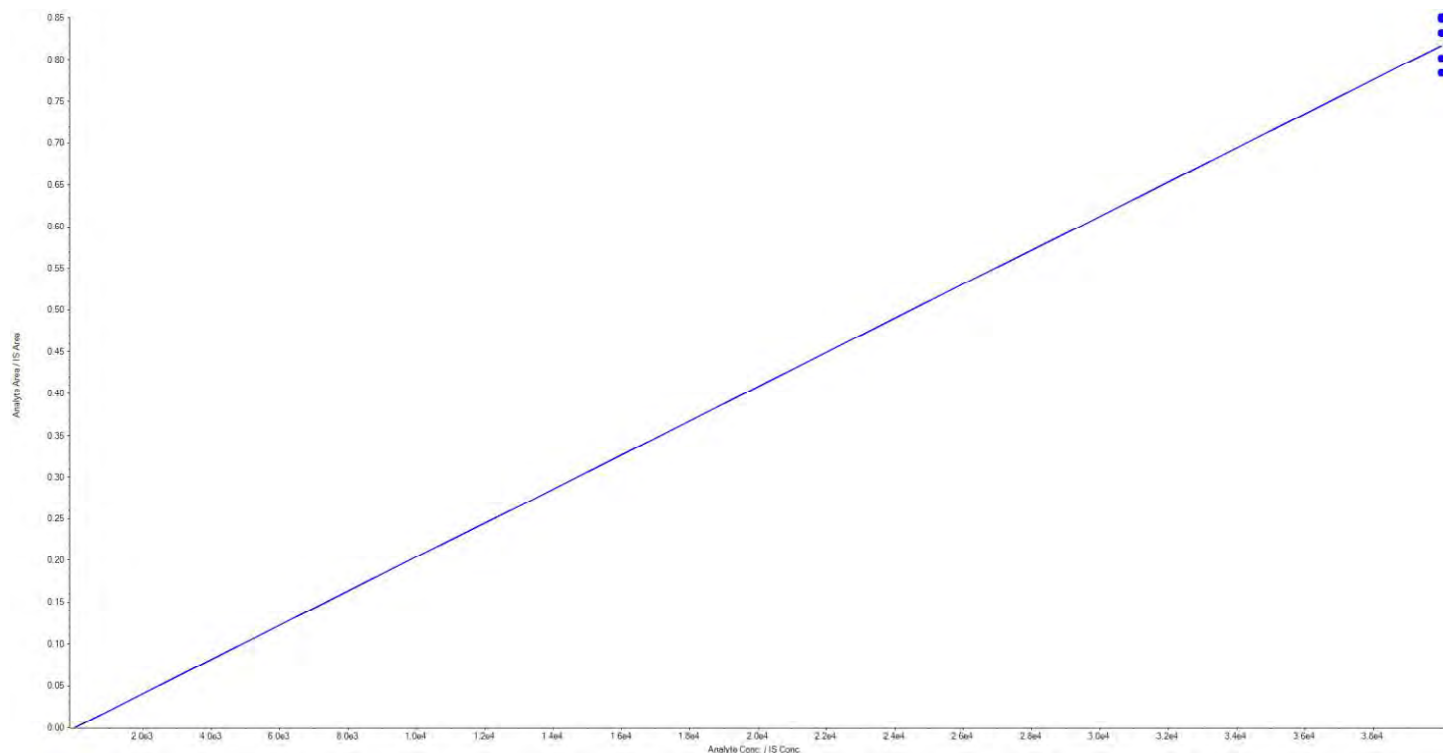
Analyte Name: D5-EtFOSAA
Internal Standard: D3-MeFOSAA IS

Data File	PFC_181228\WS#5907027.wiff	Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb
Acquisition Date	2019/01/03 12:04:15 PM	Project	Enviro\PFOS
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03

Regression Equation: $y = 2.04e-005 x$ ($r = 0.9994$)

Expected Concentration (ng/L)	Number of Values	Calculated Concentration (ng/L)	% Accuracy
40000	6	40000.00	100.0

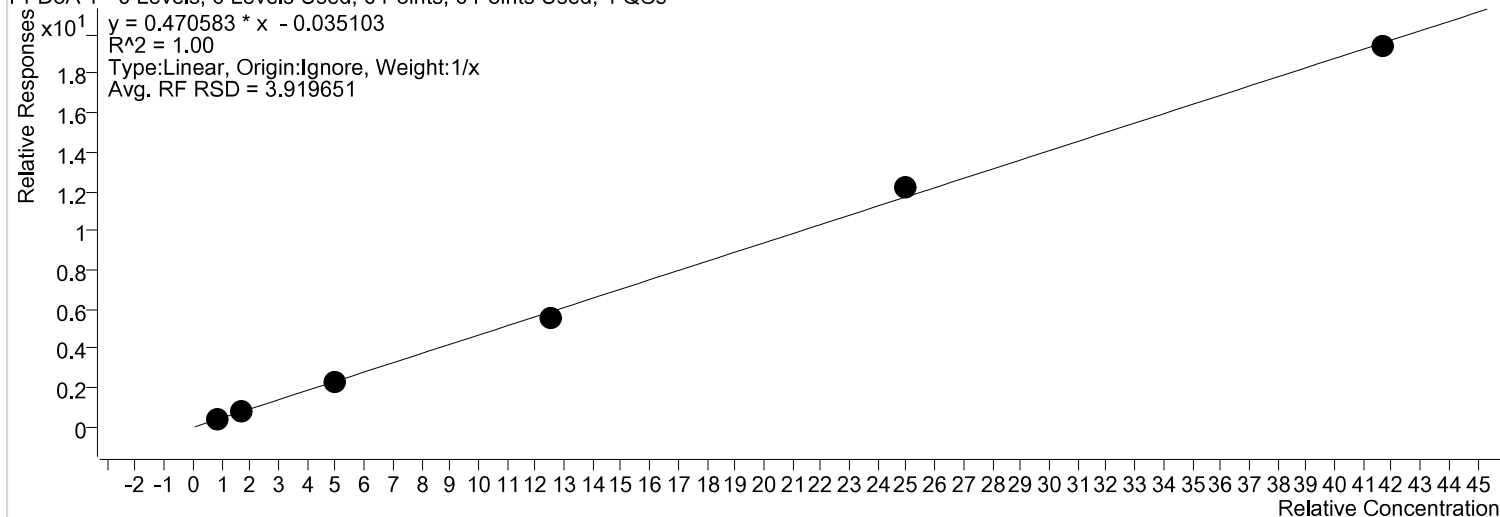
Sample ID	Response Factor	S/N
STD 2	2.10e-05	6020
STD 3	2.10e-05	4390
STD 4	2.00e-05	4440
STD 5	2.00e-05	3680
STD 6	2.00e-05	3880
STD 1	2.10e-05	3190



By Compound Report

Batch Path T:\LCMS04\PFC\20190105\WS#5914930\QuantResults\PFC_Water_Low_190105_WS#5914930_EToxics.batch.bin
Last Calib Update 2019/01/08 2:06:52 PM
Instrument: LCMS04
Analyte: PFDa 1
Internal Standard: MPFDaA

PFDa 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 4 QCs

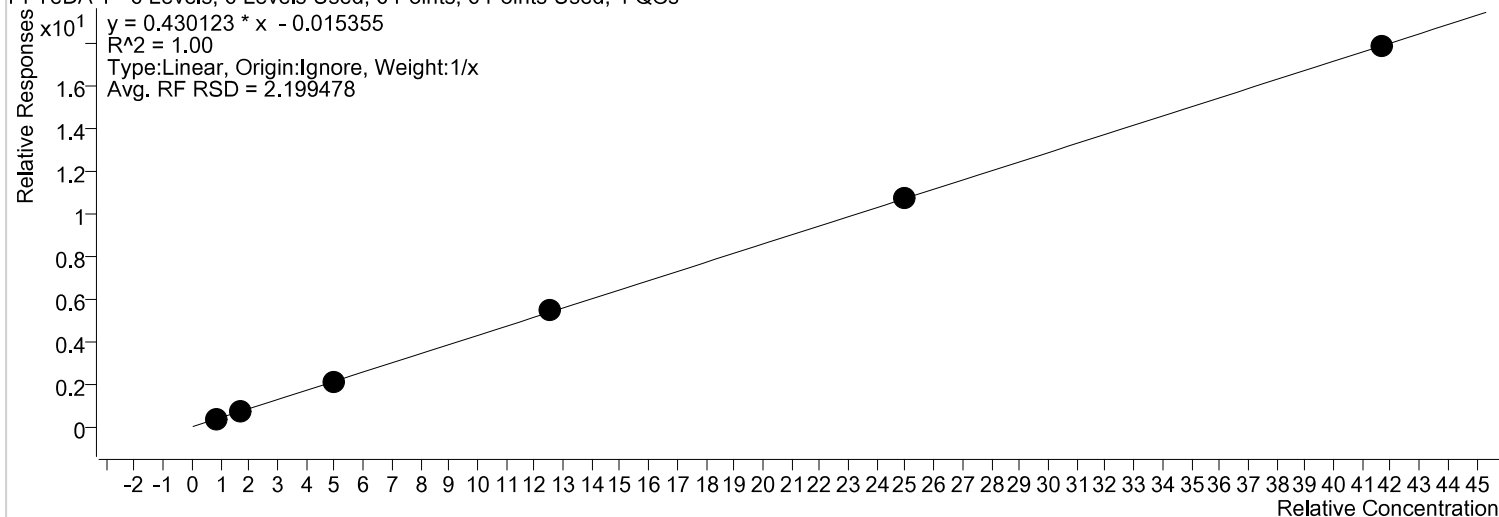


Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2019/01/05 7:45:37 PM	0.83	0.87	1489	0.4530	18	105.3
STD 2	STD 2	x	2019/01/05 7:50:31 PM	1.70	1.64	2874	0.4326	66	96.3
STD 3	STD 3	x	2019/01/05 7:55:26 PM	5.00	4.99	8959	0.4624	185	99.8
STD 4	STD 4	x	2019/01/05 8:00:20 PM	12.50	12.00	23024	0.4488	418	96.0
STD 5	STD 5	x	2019/01/05 8:05:15 PM	25.00	25.89	48176	0.4859	503	103.6
STD 6	STD 6	x	2019/01/05 8:10:10 PM	41.70	41.35	76446	0.4658	559	99.2

By Compound Report

Batch Path T:\LCMS04\PFC\20190105\WS#5914930\QuantResults\PFC_Water_Low_190105_WS#5914930_EToxics.batch.bin
Last Calib Update 2019/01/08 2:06:52 PM
Instrument: LCMS04
Analyte: PFTeDA 1
Internal Standard: MPFTeDA

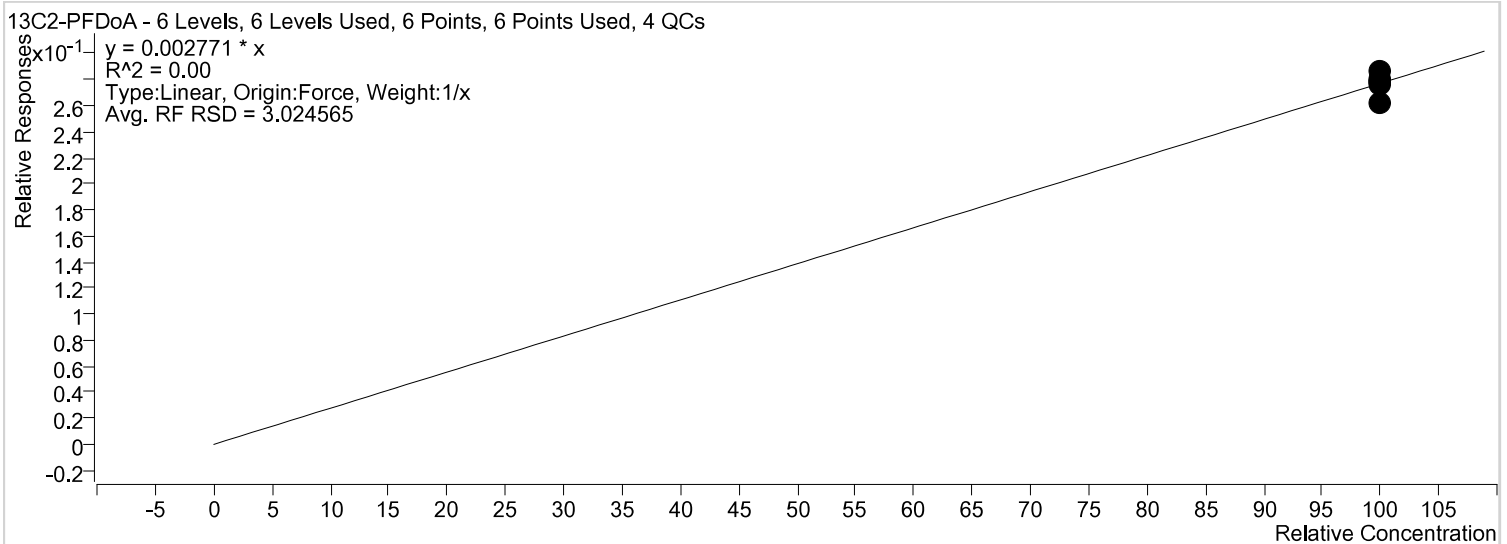
PFTeDA 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 4 QCs



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2019/01/05 7:45:37 PM	0.83	0.83	1939	0.4122	57	100.1
STD 2	STD 2	x	2019/01/05 7:50:31 PM	1.70	1.73	3784	0.4278	406	101.6
STD 3	STD 3	x	2019/01/05 7:55:26 PM	5.00	4.85	11164	0.4140	532	97.0
STD 4	STD 4	x	2019/01/05 8:00:20 PM	12.50	12.69	29098	0.4355	864	101.5
STD 5	STD 5	x	2019/01/05 8:05:15 PM	25.00	24.97	59758	0.4290	1543	99.9
STD 6	STD 6	x	2019/01/05 8:10:10 PM	41.70	41.66	94105	0.4294	1414	99.9

By Compound Report

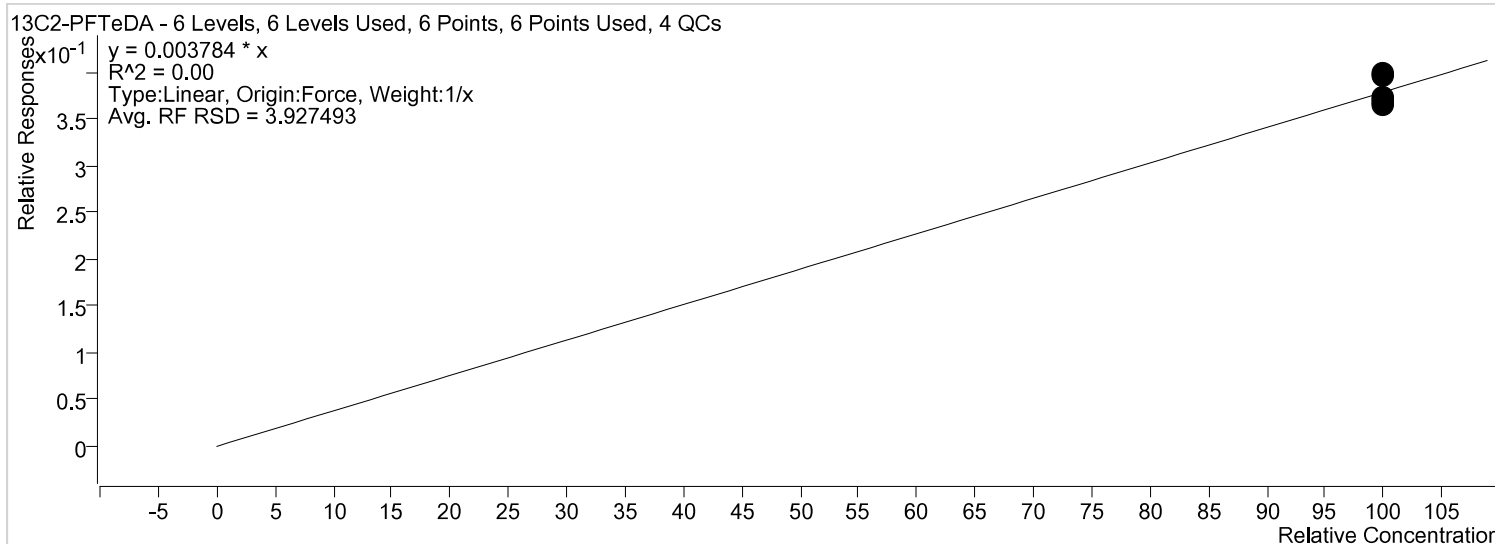
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Instrument: LCMS04
Analyte: 13C2-PFDoA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2019/01/05 7:45:37 PM	100.00	99.67	3960	0.0028	293	99.7
STD 2	STD 2	x	2019/01/05 7:50:31 PM	100.00	100.56	3908	0.0028	426	100.6
STD 3	STD 3	x	2019/01/05 7:55:26 PM	100.00	103.42	3875	0.0029	261	103.4
STD 4	STD 4	x	2019/01/05 8:00:20 PM	100.00	100.83	4104	0.0028	139	100.8
STD 5	STD 5	x	2019/01/05 8:05:15 PM	100.00	94.38	3966	0.0026	397	94.4
STD 6	STD 6	x	2019/01/05 8:10:10 PM	100.00	101.14	3936	0.0028	631	101.1

By Compound Report

Batch Path T:\LCMS04\PFC\20190105\WS#5914930\QuantResults\PFC_Water_Low_190105_WS#5914930_EToxics.batch.bin
Last Calib Update 2019/01/08 2:06:52 PM
Instrument: LCMS04
Analyte: 13C2-PFTeDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2019/01/05 7:45:37 PM	100.00	104.44	5667	0.0040	414	104.4
STD 2	STD 2	x	2019/01/05 7:50:31 PM	100.00	98.03	5203	0.0037	425	98.0
STD 3	STD 3	x	2019/01/05 7:55:26 PM	100.00	105.39	5393	0.0040	380	105.4
STD 4	STD 4	x	2019/01/05 8:00:20 PM	100.00	96.16	5345	0.0036	278	96.2
STD 5	STD 5	x	2019/01/05 8:05:15 PM	100.00	97.09	5572	0.0037	269	97.1
STD 6	STD 6	x	2019/01/05 8:10:10 PM	100.00	98.89	5256	0.0037	401	98.9



6. Continuing Calibration

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5897102\QuantResults\PFC_Water_Low_20181221_WS#5897102_EToxics

Sample Name ISC Instrument LCMS04

Data File WS#5897102_10.d Operator

Sample Type QC Dilution 1

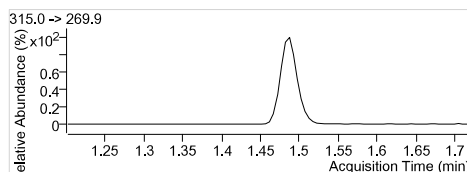
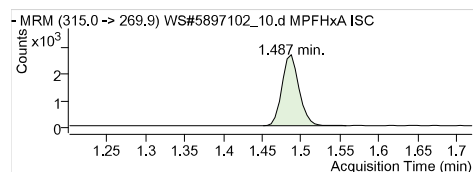
Acq. Method PFC_Water_Low.m Position P2-A2

Acq. Date 2018/12/21 8:06:11 PM Injection Volume Per Method

Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4083	1.49	1 µg/L		
MPFHxS	1103	1.71	1 µg/L		
MPFHpA	6126	1.73	1 µg/L		
MPFOA	5568	1.91	1 µg/L		
MPFOS	1148	2.00	1 µg/L		
MPFNA	5081	2.05	1 µg/L		
MPFDA	3617	2.16	1 µg/L		
MPFUnA	4418	2.26	1 µg/L		
MPFDoA	5642	2.35	1 µg/L		
MPFTeDA	8023	2.48	1 µg/L		
13C6-PFHxA IS	15749	1.49	1 µg/L		
13C9-PFDA IS	18144	2.16	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	532	1.16	0.83	0.85 µg/L	102.79
PFHxA 1	1482	1.49	0.83	0.82 µg/L	98.67
PFHxS 1	409	1.71	0.83	0.87 µg/L	105.04
PFHpA 1	1996	1.74	0.83	0.86 µg/L	103.98
PFOA 1	2158	1.91	0.83	0.88 µg/L	105.71
PFOS 1	409	2.00	0.83	0.87 µg/L	104.44
PFNA 1	1574	2.05	0.83	0.86 µg/L	103.90
PFDA 1	1688	2.16	0.83	0.86 µg/L	103.41
PFUnA 1	1694	2.26	0.83	0.82 µg/L	99.06
PFDoA 1	1791	2.35	0.83	0.76 µg/L	91.23
PFTTrDA 1	2183	2.42	0.83	0.81 µg/L	97.02
PFTeDA 1	2349	2.48	0.83	0.80 µg/L	96.29
13C2-PFHxA	4083	1.49	100.00	96.58 µg/L	96.58
18O2-PFHxS	1103	1.71	100.00	97.97 µg/L	97.97
13C4-PFHpA	6126	1.73	100.00	98.23 µg/L	98.23
13C4-PFOA	5568	1.91	100.00	97.25 µg/L	97.25
13C4-PFOS	1148	2.00	100.00	92.17 µg/L	92.17
13C5-PFNA	5081	2.05	100.00	96.12 µg/L	96.12
13C2-PFDA	3617	2.16	100.00	97.80 µg/L	97.80
13C2-PFUnA	4418	2.26	100.00	102.43 µg/L	102.43
13C2-PFDoA	5642	2.35	100.00	101.25 µg/L	101.25
13C2-PFTeDA	8023	2.48	100.00	100.24 µg/L	100.24
13C6-PFHxA	15749	1.49	100.00	107.27 µg/L	107.27
13C9-PFDA	18144	2.16	100.00	104.98 µg/L	104.98



MPFHxA

RT (Exp. RT):

Concentration:

Sample type:

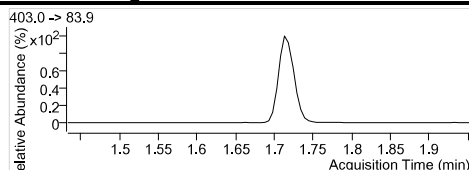
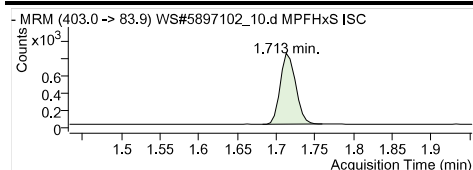
Internal Standard

1.487 (1.487)

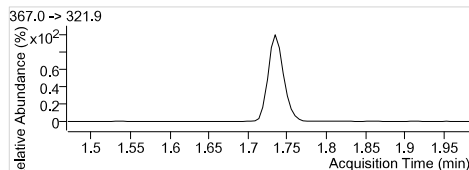
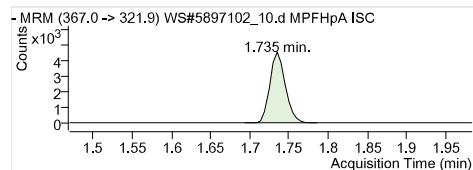
1 µg/L

QC

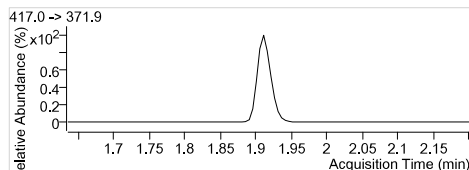
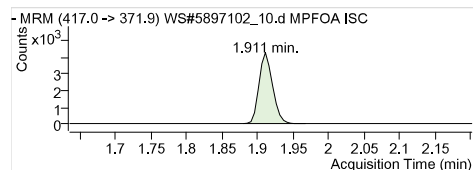
Quantitation Results



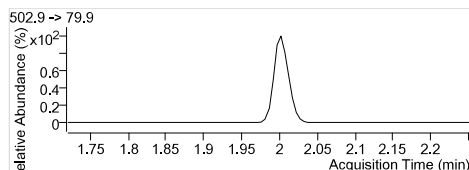
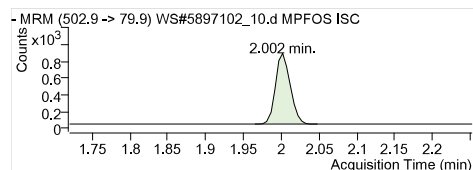
MPFHxS
 Internal Standard
 RT (Exp. RT): 1.713 (1.713)
 Concentration: 1 µg/L
 Sample type: QC



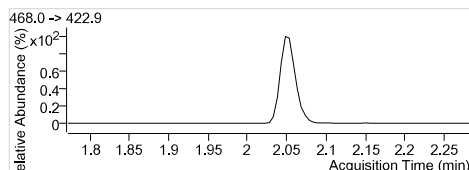
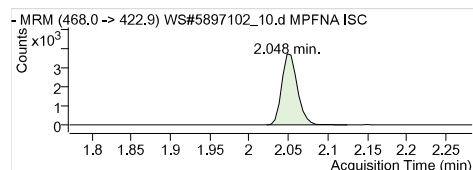
MPFHpA
 Internal Standard
 RT (Exp. RT): 1.735 (1.735)
 Concentration: 1 µg/L
 Sample type: QC



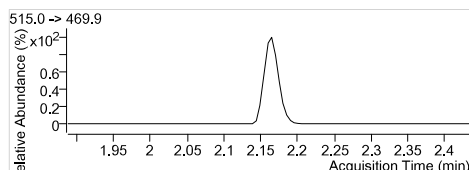
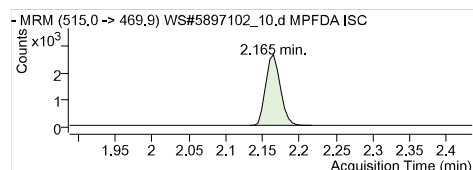
MPFOA
 Internal Standard
 RT (Exp. RT): 1.911 (1.911)
 Concentration: 1 µg/L
 Sample type: QC



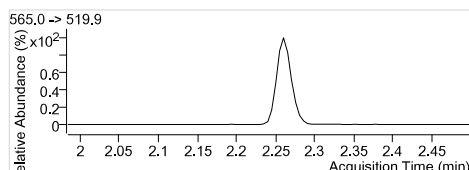
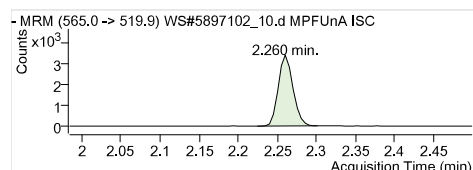
MPFOS
 Internal Standard
 RT (Exp. RT): 2.002 (2.002)
 Concentration: 1 µg/L
 Sample type: QC



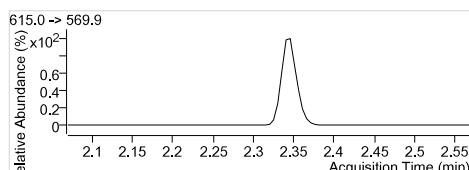
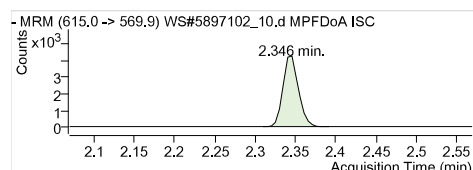
MPFNA
 Internal Standard
 RT (Exp. RT): 2.048 (2.053)
 Concentration: 1 µg/L
 Sample type: QC



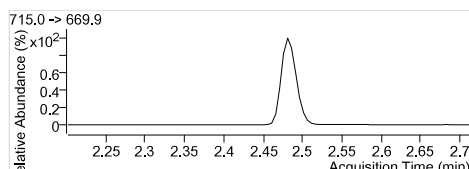
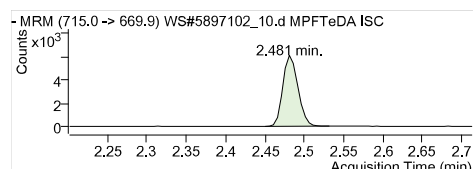
MPFDA
 Internal Standard
 RT (Exp. RT): 2.165 (2.165)
 Concentration: 1 µg/L
 Sample type: QC



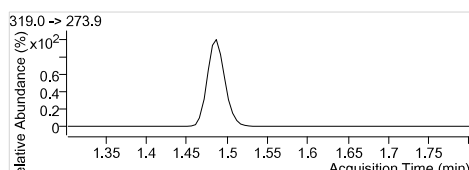
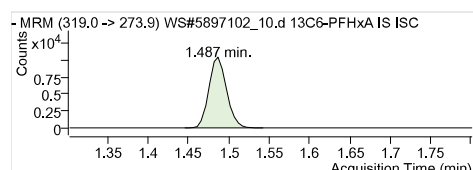
MPFUnA
 Internal Standard
 RT (Exp. RT): 2.260 (2.260)
 Concentration: 1 µg/L
 Sample type: QC



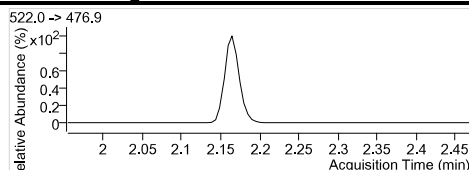
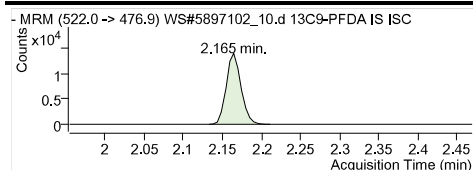
MPFDaA
 Internal Standard
 RT (Exp. RT): 2.346 (2.346)
 Concentration: 1 µg/L
 Sample type: QC



MPFTeDA
 Internal Standard
 RT (Exp. RT): 2.481 (2.481)
 Concentration: 1 µg/L
 Sample type: QC



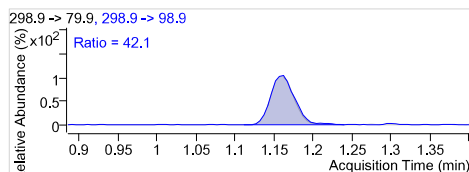
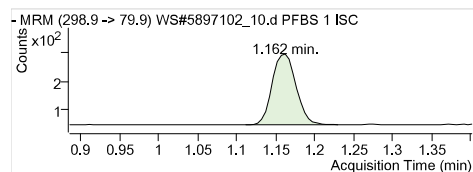
13C6-PFHxA IS
 Internal Standard
 RT (Exp. RT): 1.487 (1.487)
 Concentration: 1 µg/L
 Sample type: QC

**13C9-PFDA IS**

RT (Exp. RT):
Concentration:
Sample type:

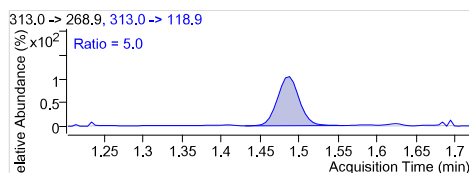
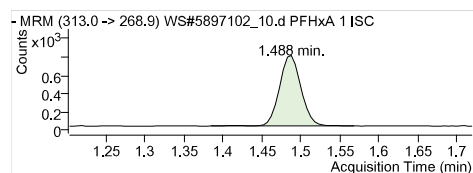
Internal Standard

2.165 (2.165)
1 $\mu\text{g/L}$
QC

**PFBS 1**

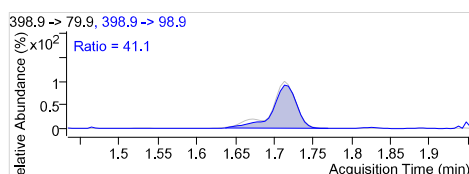
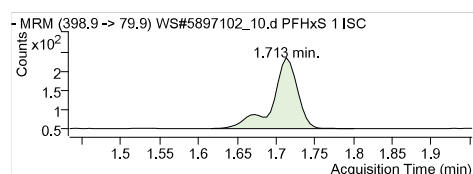
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

298.9 → 79.9
1.162 (1.162)
0.85 $\mu\text{g/L}$
0.48232
QC

**PFHxA 1**

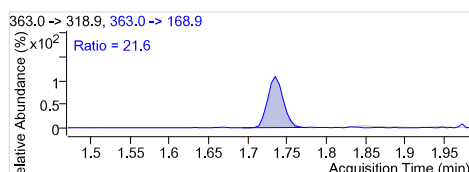
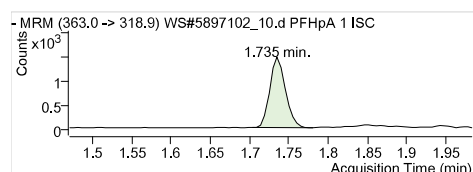
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

313.0 → 268.9
1.488 (1.488)
0.82 $\mu\text{g/L}$
0.36297
QC

**PFHxS 1**

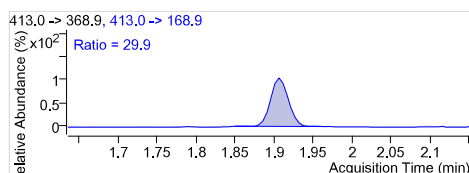
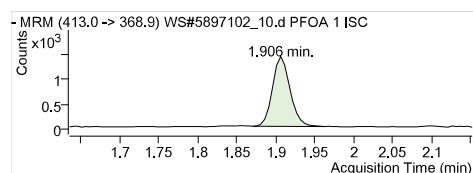
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

398.9 → 79.9
1.713 (1.713)
0.87 $\mu\text{g/L}$
0.37081
QC

**PFHpA 1**

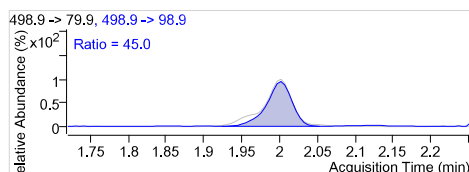
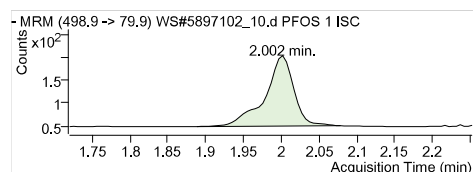
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

363.0 → 318.9
1.735 (1.735)
0.86 $\mu\text{g/L}$
0.32582
QC

**PFOA 1**

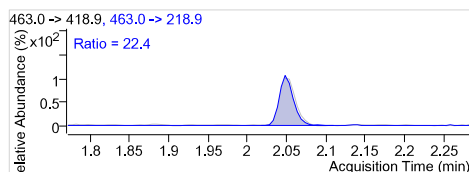
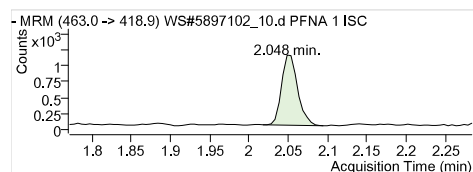
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

413.0 → 368.9
1.906 (1.912)
0.88 $\mu\text{g/L}$
0.38757
QC

**PFOS 1**

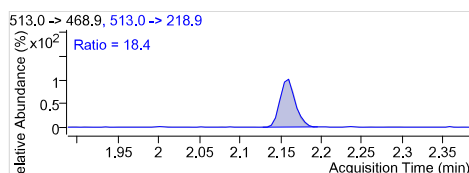
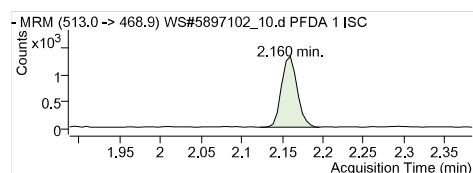
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

498.9 → 79.9
2.002 (2.002)
0.87 $\mu\text{g/L}$
0.35627
QC

**PFNA 1**

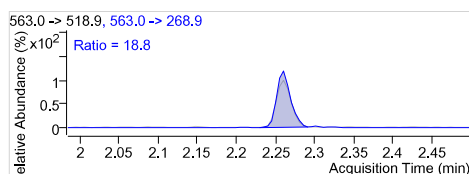
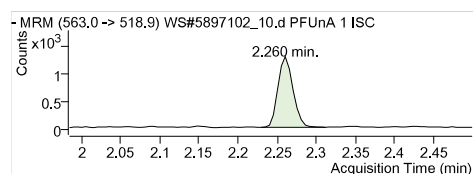
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

463.0 → 418.9
2.048 (2.053)
0.86 $\mu\text{g/L}$
0.30978
QC

**PFDA 1**

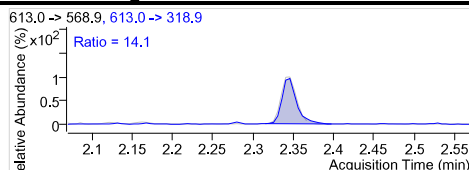
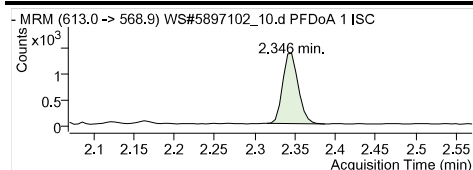
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

513.0 → 468.9
2.160 (2.165)
0.86 $\mu\text{g/L}$
0.46669
QC

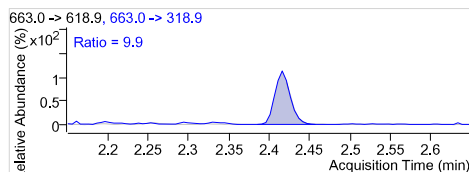
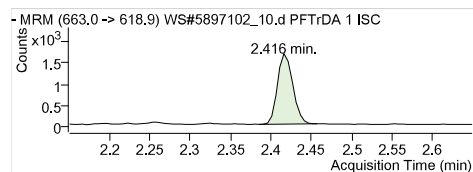
**PFUnA 1**

RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

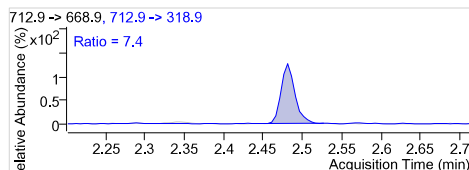
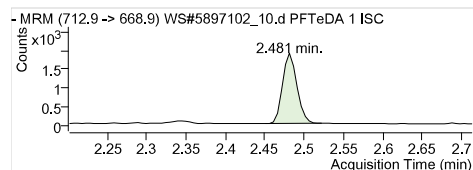
563.0 → 518.9
2.260 (2.260)
0.82 $\mu\text{g/L}$
0.38343
QC



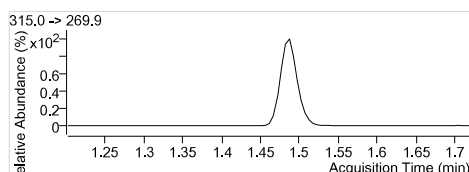
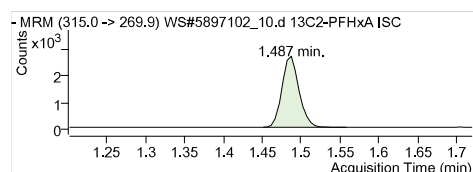
PFDa 1
 RT (Exp. RT): 613.0 → 568.9
 Calc. conc. 2.346 (2.346)
 Area ratio: 0.76 µg/L
 Sample type: 0.31744
 QC



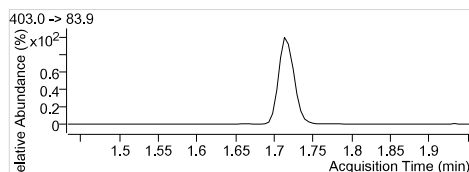
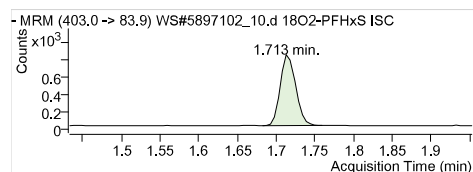
PFTTrDA 1
 RT (Exp. RT): 663.0 → 618.9
 Calc. conc. 2.416 (2.416)
 Area ratio: 0.81 µg/L
 Sample type: 0.27209
 QC



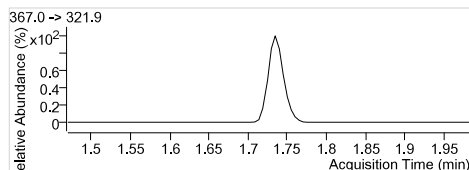
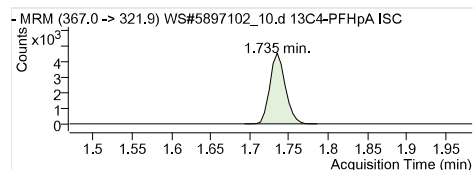
PFTTeDA 1
 RT (Exp. RT): 712.9 → 668.9
 Calc. conc. 2.481 (2.481)
 Area ratio: 0.80 µg/L
 Sample type: 0.29278
 QC



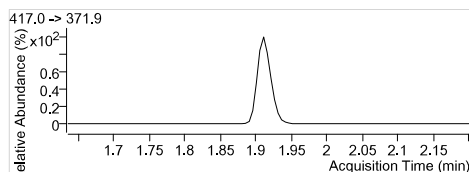
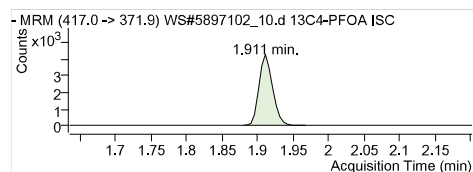
13C2-PFHxA
 RT (Exp. RT): 315.0 → 269.9
 Calc. conc. 1.487 (1.487)
 Area ratio: 96.58 µg/L
 Sample type: 0.25925
 QC



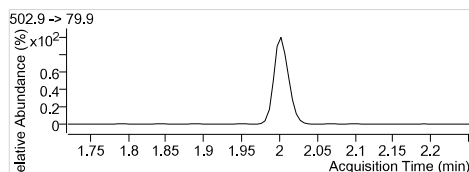
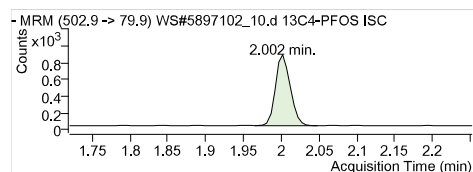
18O2-PFHxS
 RT (Exp. RT): 403.0 → 83.9
 Calc. conc. 1.713 (1.713)
 Area ratio: 97.97 µg/L
 Sample type: 0.07004
 QC



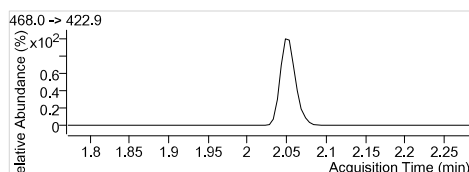
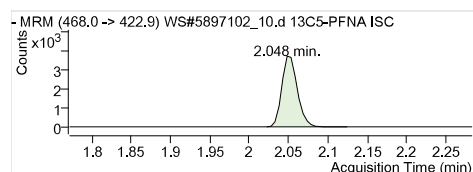
13C4-PFHpA
 RT (Exp. RT): 367.0 → 321.9
 Calc. conc. 1.735 (1.735)
 Area ratio: 98.23 µg/L
 Sample type: 0.38898
 QC



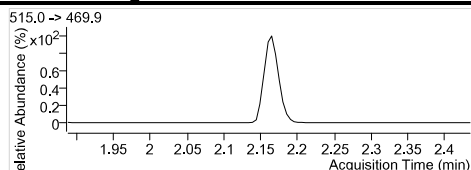
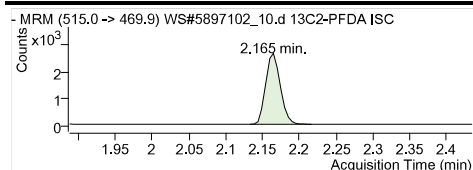
13C4-PFOA
 RT (Exp. RT): 417.0 → 371.9
 Calc. conc. 1.911 (1.911)
 Area ratio: 97.25 µg/L
 Sample type: 0.35355
 QC



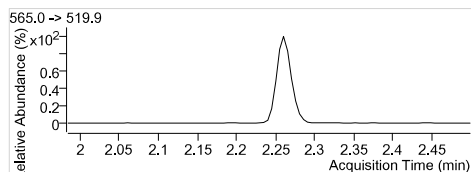
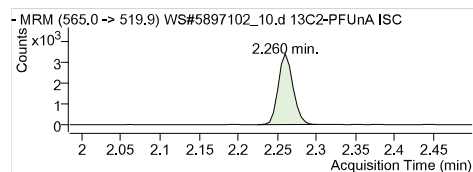
13C4-PFOS
 RT (Exp. RT): 502.9 → 79.9
 Calc. conc. 2.002 (2.002)
 Area ratio: 92.17 µg/L
 Sample type: 0.07289
 QC



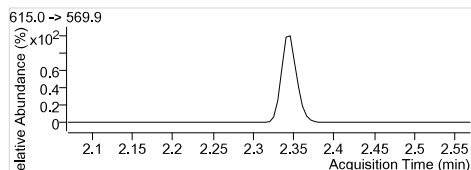
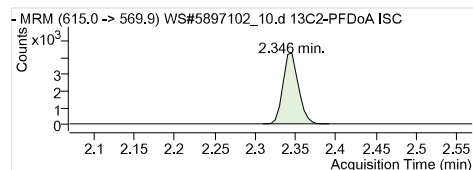
13C5-PFNA
 RT (Exp. RT): 468.0 → 422.9
 Calc. conc. 2.048 (2.053)
 Area ratio: 96.12 µg/L
 Sample type: 0.32262
 QC



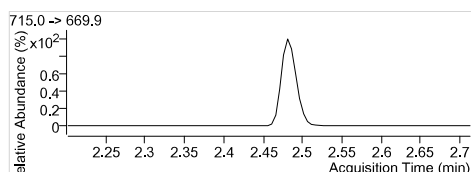
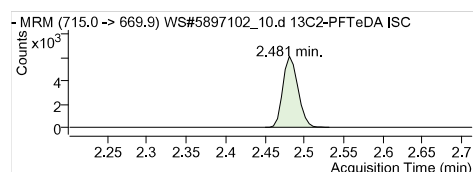
13C2-PFDA
RT (Exp. RT): 515.0 -> 469.9
Calc. conc. 2.165 (2.165)
Area ratio: 97.80 µg/L
Sample type: 0.19935
QC



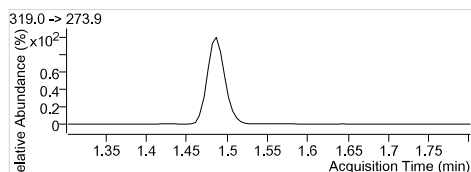
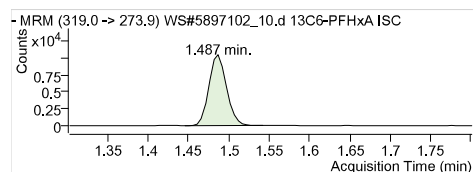
13C2-PFUnA
RT (Exp. RT): 565.0 -> 519.9
Calc. conc. 2.260 (2.260)
Area ratio: 102.43 µg/L
Sample type: 0.24350
QC



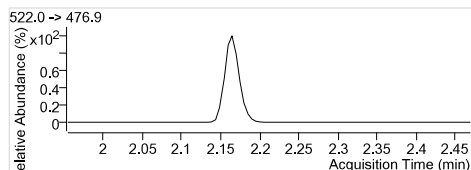
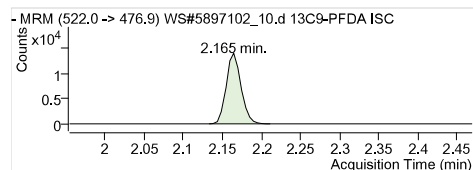
13C2-PFDoA
RT (Exp. RT): 615.0 -> 569.9
Calc. conc. 2.346 (2.346)
Area ratio: 101.25 µg/L
Sample type: 0.31096
QC



13C2-PFTeDA
RT (Exp. RT): 715.0 -> 669.9
Calc. conc. 2.481 (2.481)
Area ratio: 100.24 µg/L
Sample type: 0.44218
QC



13C6-PFHxA
RT (Exp. RT): 319.0 -> 273.9
Calc. conc. 1.487 (1.487)
Area ratio: 107.27 µg/L
Sample type: 0
QC



13C9-PFDA
RT (Exp. RT): 522.0 -> 476.9
Calc. conc. 2.165 (2.165)
Area ratio: 104.98 µg/L
Sample type: 0
QC

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5897102\QuantResults\PFC_Water_Low_20181221_WS#5897102_EToxics

Sample Name CCV Instrument LCMS04

Data File WS#5897102_25.d Operator

Sample Type CC Dilution 1

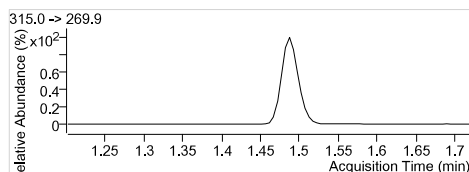
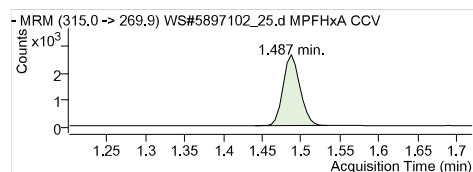
Acq. Method PFC_Water_Low.m Position P2-A5

Acq. Date 2018/12/21 9:19:53 PM Injection Volume Per Method

Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3974	1.49	1 µg/L		
MPFHxS	1097	1.71	1 µg/L		
MPFHpA	6018	1.73	1 µg/L		
MPFOA	5641	1.91	1 µg/L		
MPFOS	1323	2.00	1 µg/L		
MPFNA	5015	2.05	1 µg/L		
MPFDA	3554	2.16	1 µg/L		
MPFUnA	4232	2.26	1 µg/L		
MPFDoA	5445	2.35	1 µg/L		
MPFTeDA	7994	2.48	1 µg/L		
13C6-PFHxA IS	15176	1.49	1 µg/L		
13C9-PFDA IS	18082	2.16	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7585	1.17	12.50	11.56 µg/L	92.44
PFHxA 1	22030	1.49	12.50	12.24 µg/L	97.91
PFHxS 1	5873	1.71	12.50	11.84 µg/L	94.71
PFHpA 1	30293	1.74	12.50	11.79 µg/L	94.34
PFOA 1	29235	1.91	12.50	11.69 µg/L	93.51
PFOS 1	6032	2.00	12.50	11.04 µg/L	88.31
PFNA 1	22790	2.05	12.50	12.13 µg/L	97.06
PFDA 1	25786	2.16	12.50	12.60 µg/L	100.78
PFUnA 1	23521	2.26	12.50	12.23 µg/L	97.86
PFDoA 1	26885	2.35	12.50	12.47 µg/L	99.73
PFTTrDA 1	32402	2.42	12.50	11.65 µg/L	93.20
PFTeDA 1	34755	2.48	12.50	11.94 µg/L	95.55
13C2-PFHxA	3974	1.49	100.00	97.55 µg/L	97.55
18O2-PFHxS	1097	1.71	100.00	101.12 µg/L	101.12
13C4-PFHpA	6018	1.73	100.00	100.14 µg/L	100.14
13C4-PFOA	5641	1.91	100.00	102.25 µg/L	102.25
13C4-PFOS	1323	2.00	100.00	110.23 µg/L	110.23
13C5-PFNA	5015	2.05	100.00	98.45 µg/L	98.45
13C2-PFDA	3554	2.16	100.00	96.43 µg/L	96.43
13C2-PFUnA	4232	2.26	100.00	98.45 µg/L	98.45
13C2-PFDoA	5445	2.35	100.00	98.05 µg/L	98.05
13C2-PFTeDA	7994	2.48	100.00	100.22 µg/L	100.22
13C6-PFHxA	15176	1.49	100.00	103.37 µg/L	103.37
13C9-PFDA	18082	2.16	100.00	104.62 µg/L	104.62



MPFHxA

RT (Exp. RT):

Concentration:

Sample type:

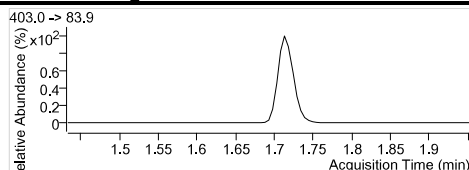
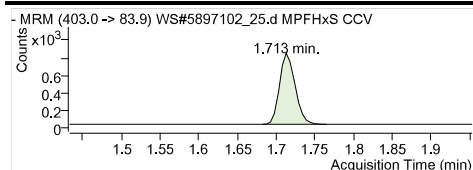
Internal Standard

1.487 (1.487)

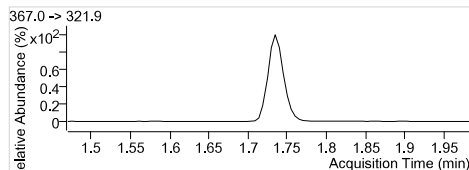
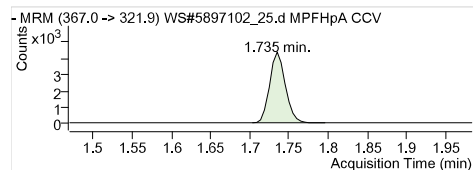
1 µg/L

CC

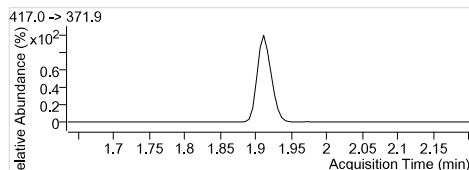
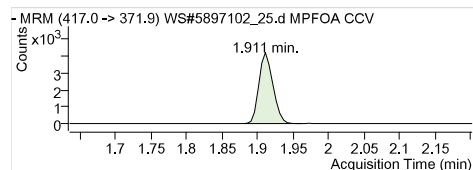
Quantitation Results



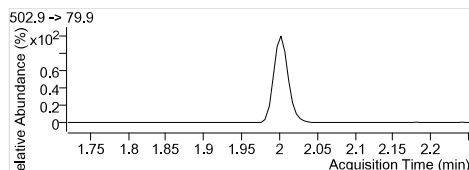
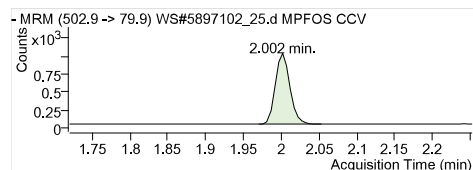
MPFHxS
RT (Exp. RT): 1.713 (1.713)
Concentration: 1 µg/L
Sample type: CC



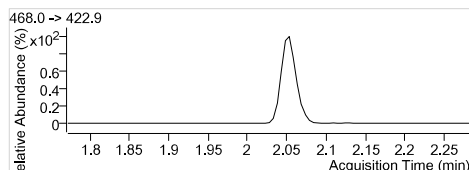
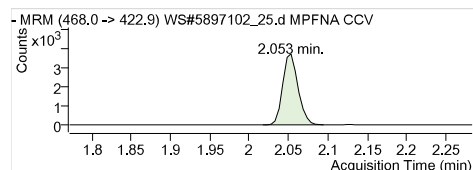
MPFHpA
RT (Exp. RT): 1.735 (1.735)
Concentration: 1 µg/L
Sample type: CC



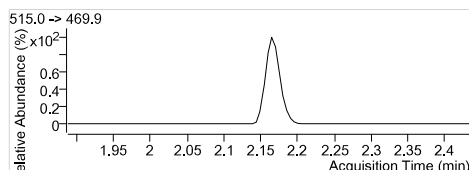
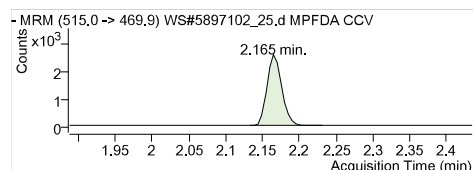
MPFOA
RT (Exp. RT): 1.911 (1.911)
Concentration: 1 µg/L
Sample type: CC



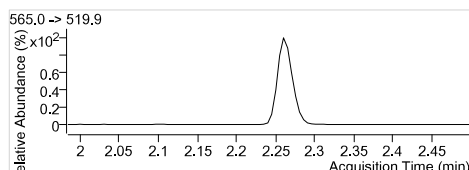
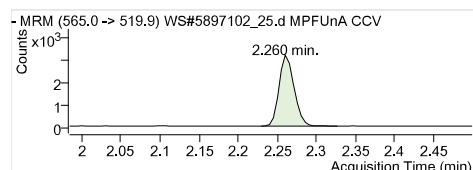
MPFOS
RT (Exp. RT): 2.002 (2.002)
Concentration: 1 µg/L
Sample type: CC



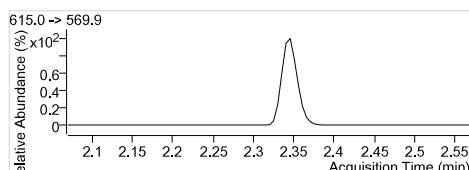
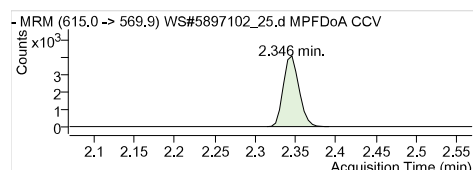
MPFNA
RT (Exp. RT): 2.053 (2.053)
Concentration: 1 µg/L
Sample type: CC



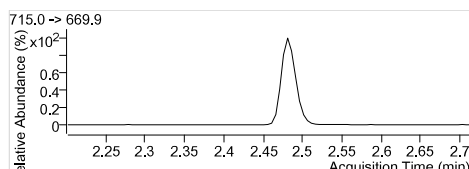
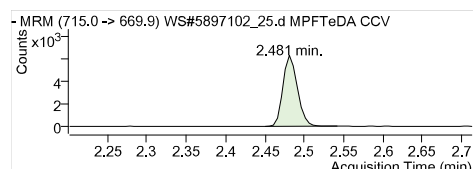
MPFDA
RT (Exp. RT): 2.165 (2.165)
Concentration: 1 µg/L
Sample type: CC



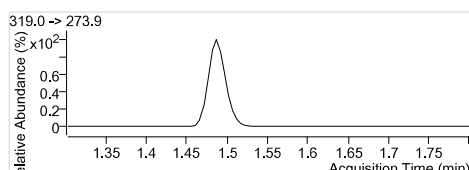
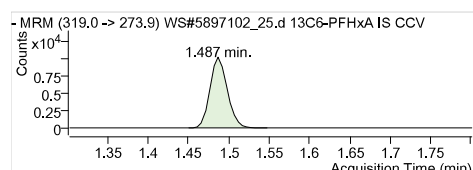
MPFUnA
RT (Exp. RT): 2.260 (2.260)
Concentration: 1 µg/L
Sample type: CC



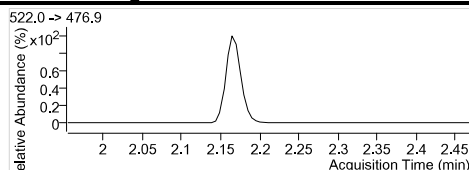
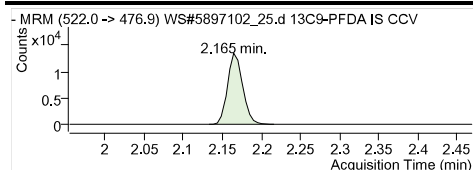
MPFDaA
RT (Exp. RT): 2.346 (2.346)
Concentration: 1 µg/L
Sample type: CC



MPFTeDA
RT (Exp. RT): 2.481 (2.481)
Concentration: 1 µg/L
Sample type: CC

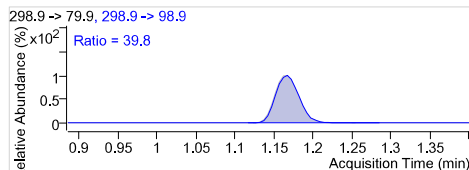
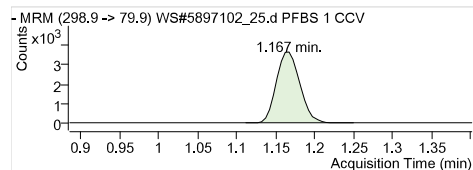


13C6-PFHxA IS
RT (Exp. RT): 1.487 (1.487)
Concentration: 1 µg/L
Sample type: CC

**13C9-PFDA IS**

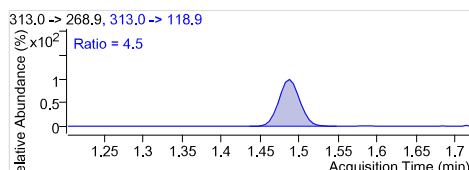
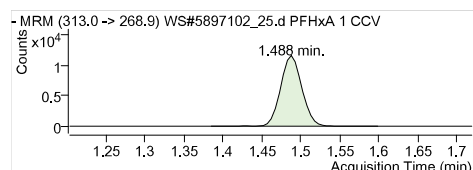
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.165 (2.165)
1 $\mu\text{g/L}$
CC

**PFBS 1**

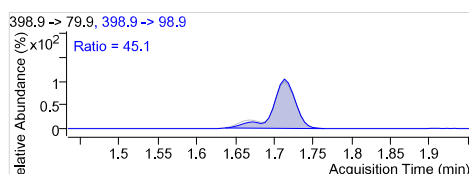
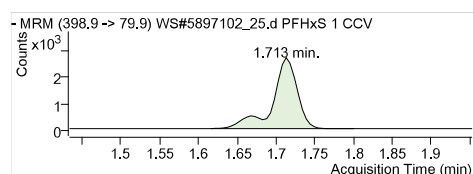
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

298.9 -> 79.9
1.167 (1.162)
11.56 $\mu\text{g/L}$
6.91431
CC

**PFHxA 1**

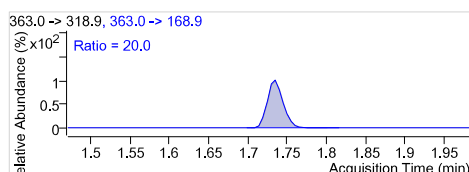
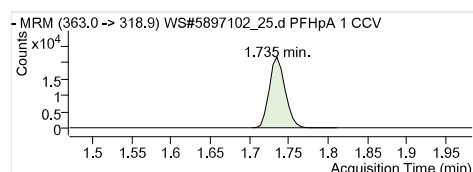
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

313.0 -> 268.9
1.488 (1.488)
12.24 $\mu\text{g/L}$
5.54353
CC

**PFHxS 1**

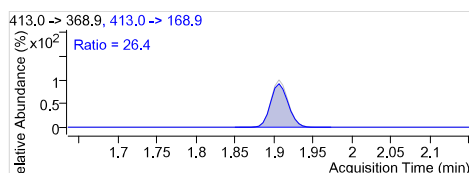
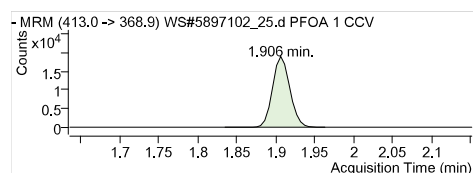
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

398.9 -> 79.9
1.713 (1.713)
11.84 $\mu\text{g/L}$
5.35369
CC

**PFHpA 1**

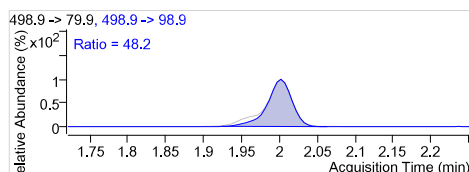
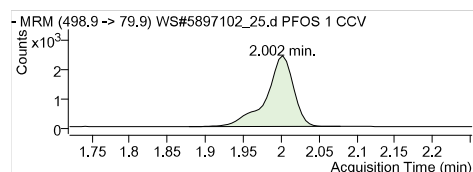
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

363.0 -> 318.9
1.735 (1.735)
11.79 $\mu\text{g/L}$
5.03373
CC

**PFOA 1**

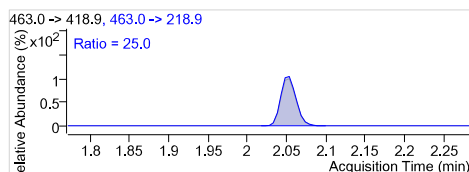
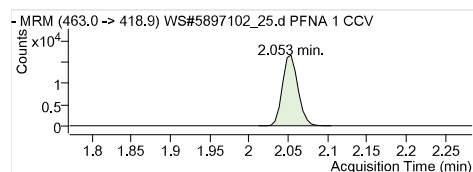
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

413.0 -> 368.9
1.906 (1.912)
11.69 $\mu\text{g/L}$
5.18259
CC

**PFOS 1**

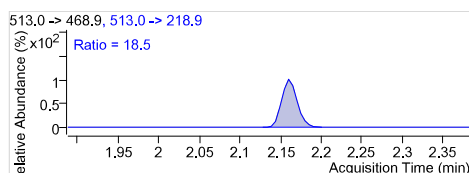
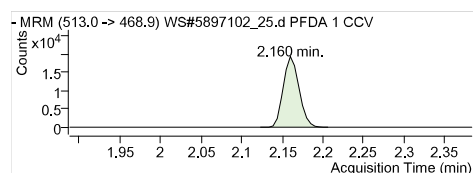
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

498.9 -> 79.9
2.002 (2.002)
11.04 $\mu\text{g/L}$
4.55933
CC

**PFNA 1**

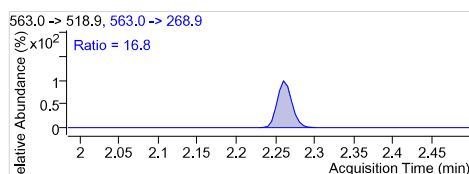
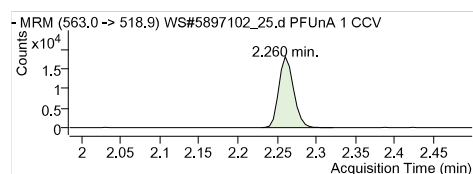
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

463.0 -> 418.9
2.053 (2.053)
12.13 $\mu\text{g/L}$
4.54437
CC

**PFDA 1**

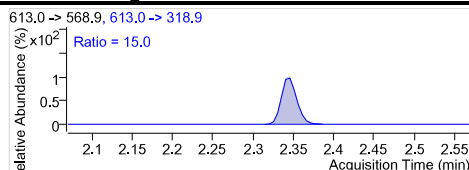
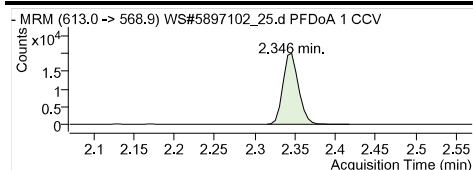
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

513.0 -> 468.9
2.160 (2.165)
12.60 $\mu\text{g/L}$
7.25549
CC

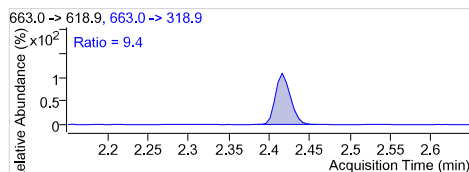
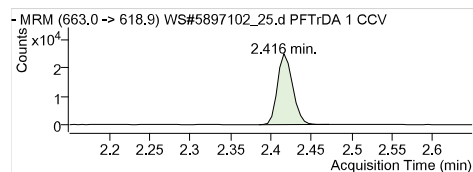
**PFUnA 1**

RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

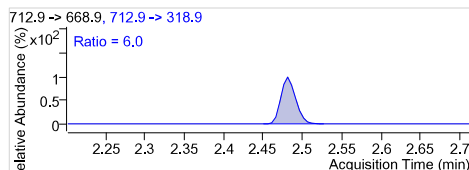
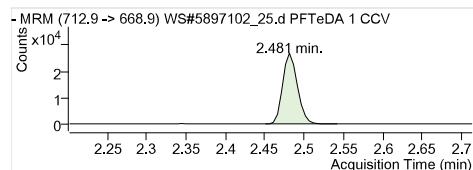
563.0 -> 518.9
2.260 (2.260)
12.23 $\mu\text{g/L}$
5.55789
CC



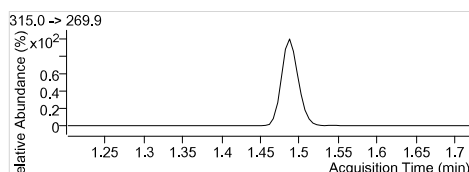
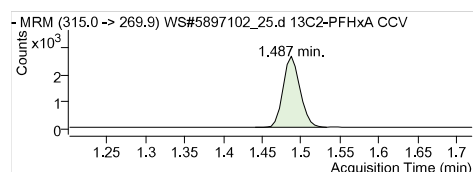
PFDa 1
 RT (Exp. RT): 613.0 → 568.9
 Calc. conc. 2.346 (2.346)
 Area ratio: 12.47 µg/L
 Sample type: 4.93756
 CC



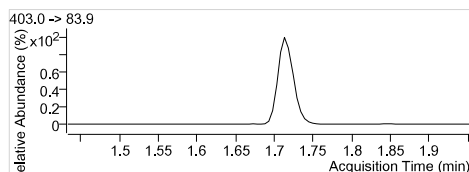
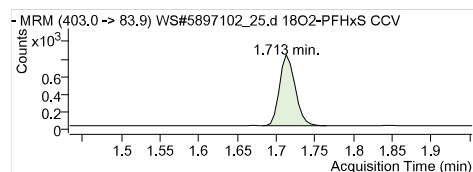
PFTTrDA 1
 RT (Exp. RT): 663.0 → 618.9
 Calc. conc. 2.416 (2.416)
 Area ratio: 11.65 µg/L
 Sample type: 4.05329
 CC



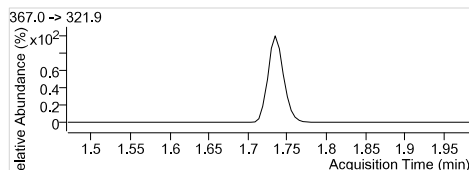
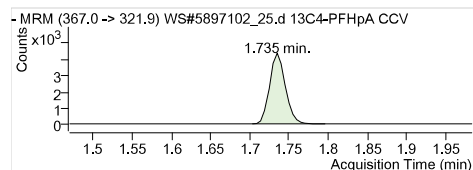
PFTTeDA 1
 RT (Exp. RT): 712.9 → 668.9
 Calc. conc. 2.481 (2.481)
 Area ratio: 11.94 µg/L
 Sample type: 4.34764
 CC



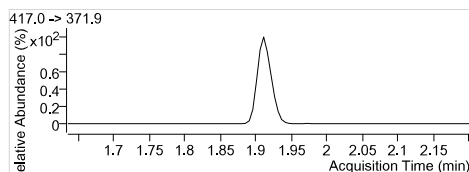
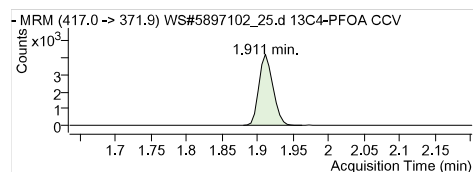
13C2-PFHxA
 RT (Exp. RT): 315.0 → 269.9
 Calc. conc. 1.487 (1.487)
 Area ratio: 97.55 µg/L
 Sample type: 0.26186
 CC



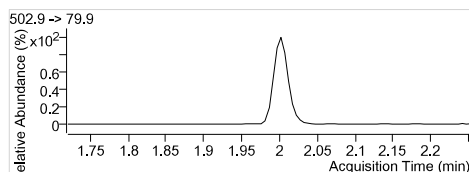
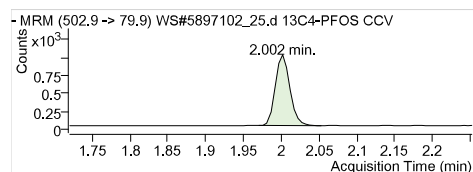
18O2-PFHxS
 RT (Exp. RT): 403.0 → 83.9
 Calc. conc. 1.713 (1.713)
 Area ratio: 101.12 µg/L
 Sample type: 0.07229
 CC



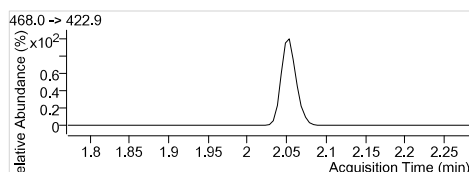
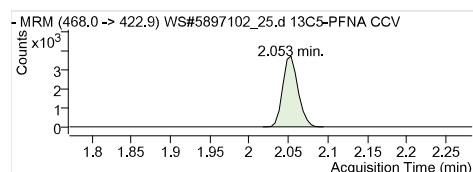
13C4-PFHpA
 RT (Exp. RT): 367.0 → 321.9
 Calc. conc. 1.735 (1.735)
 Area ratio: 100.14 µg/L
 Sample type: 0.39655
 CC



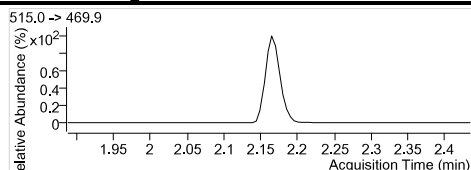
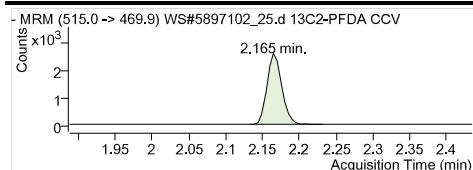
13C4-PFOA
 RT (Exp. RT): 417.0 → 371.9
 Calc. conc. 1.911 (1.911)
 Area ratio: 102.25 µg/L
 Sample type: 0.37171
 CC



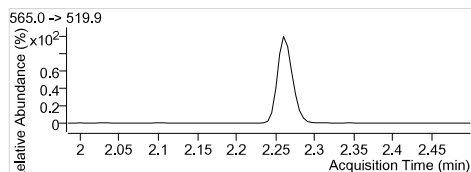
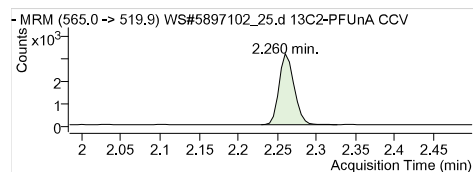
13C4-PFOS
 RT (Exp. RT): 502.9 → 79.9
 Calc. conc. 2.002 (2.002)
 Area ratio: 110.23 µg/L
 Sample type: 0.08718
 CC



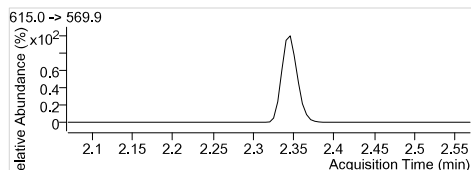
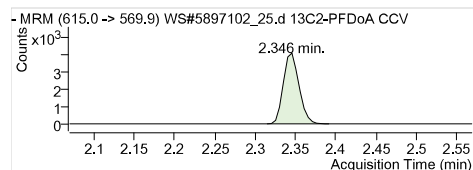
13C5-PFNA
 RT (Exp. RT): 468.0 → 422.9
 Calc. conc. 2.053 (2.053)
 Area ratio: 98.45 µg/L
 Sample type: 0.33046
 CC



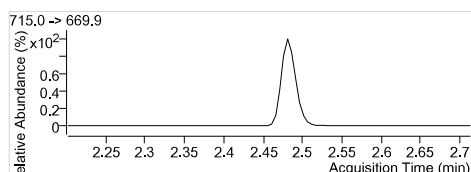
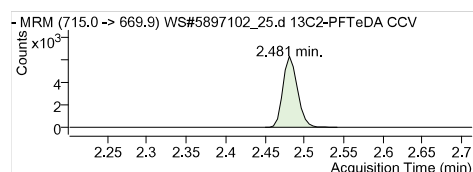
13C2-PFDA
RT (Exp. RT): 515.0 -> 469.9
Calc. conc. 2.165 (2.165)
Area ratio: 96.43 µg/L
Sample type: 0.19655
CC



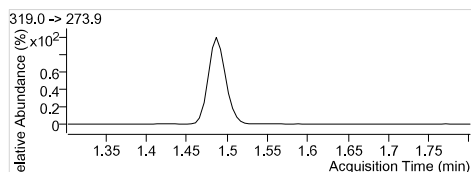
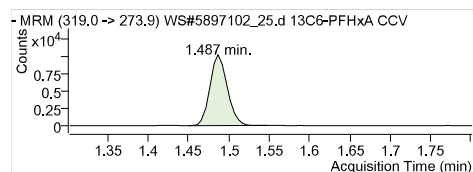
13C2-PFUnA
RT (Exp. RT): 565.0 -> 519.9
Calc. conc. 2.260 (2.260)
Area ratio: 98.45 µg/L
Sample type: 0.23404
CC



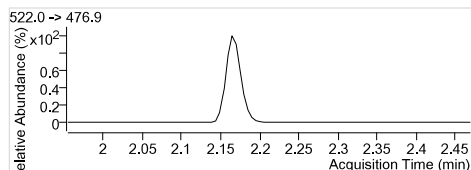
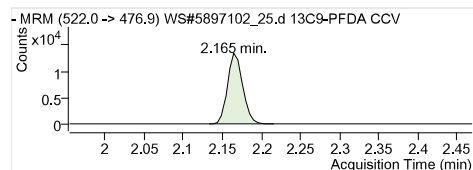
13C2-PFDoA
RT (Exp. RT): 615.0 -> 569.9
Calc. conc. 2.346 (2.346)
Area ratio: 98.05 µg/L
Sample type: 0.30113
CC



13C2-PFTeDA
RT (Exp. RT): 715.0 -> 669.9
Calc. conc. 2.481 (2.481)
Area ratio: 100.22 µg/L
Sample type: 0.44210
CC



13C6-PFHxA
RT (Exp. RT): 319.0 -> 273.9
Calc. conc. 1.487 (1.487)
Area ratio: 103.37 µg/L
Sample type: 0
CC



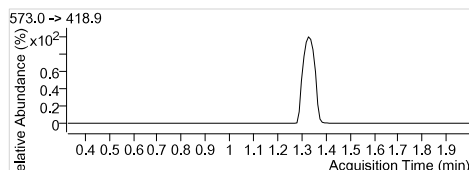
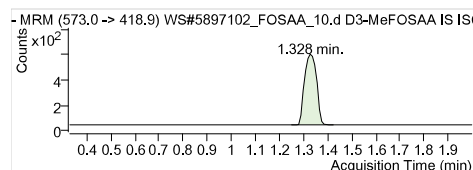
13C9-PFDA
RT (Exp. RT): 522.0 -> 476.9
Calc. conc. 2.165 (2.165)
Area ratio: 104.62 µg/L
Sample type: 0
CC

Quantitation Results

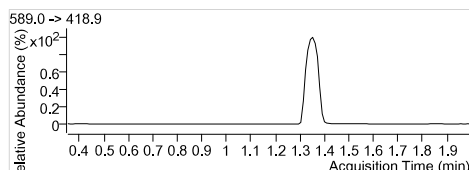
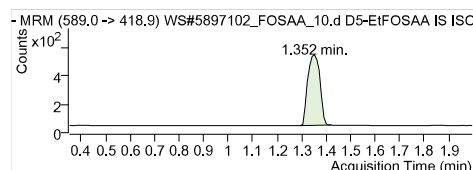
Batch Path	T:\LCMS04\PFC\20181221\WS#5897102_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5897102_FOSAA_EToxics		
Sample Name	ISC	Instrument	LCMS04
Data File	WS#5897102_FOSAA_10.d	Operator	
Sample Type	QC	Dilution	1
Acq. Method	PFC_Water_Low_FOSAA.m	Position	P2-A2
Acq. Date	2018/12/22 12:50:44 AM	Injection Volume	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1930	1.33	1 µg/L		
D5-EtFOSAA IS	1724	1.35	1 µg/L		
13C9-PFDA IS	19345	0.99	1 µg/L		

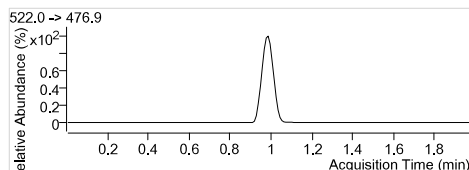
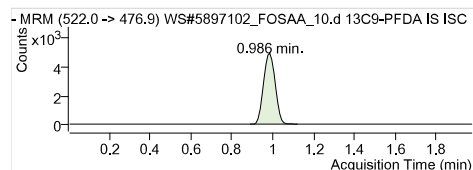
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	558	1.33	0.83	0.80 µg/L	96.44
EtFOSAA 1	573	1.35	0.83	0.82 µg/L	98.28
D3-MeFOSAA	1930	1.33	100.00	103.36 µg/L	103.36
D5-EtFOSAA	1734	1.35	100.00	102.29 µg/L	102.29
13C9-PFDA	19390	0.99	100.00	103.58 µg/L	103.58



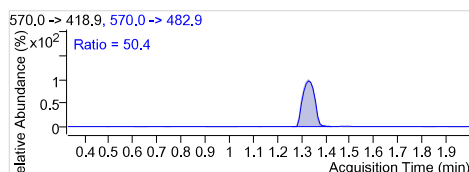
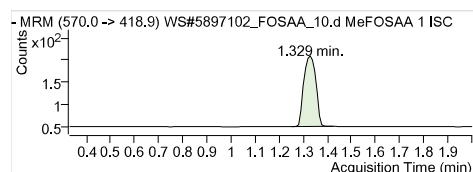
D3-MeFOSAA IS
 RT (Exp. RT): 1.328 (1.328)
 Concentration: 1 µg/L
 Sample type: QC



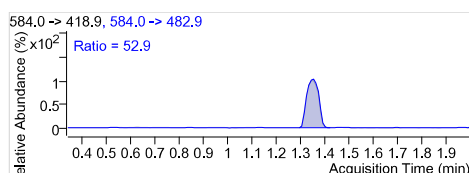
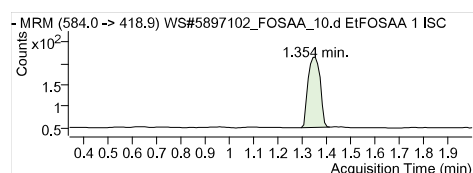
D5-EtFOSAA IS
 RT (Exp. RT): 1.352 (1.352)
 Concentration: 1 µg/L
 Sample type: QC



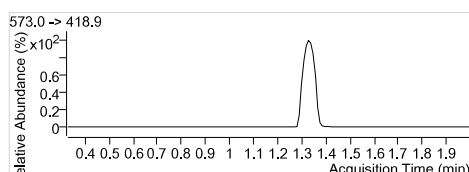
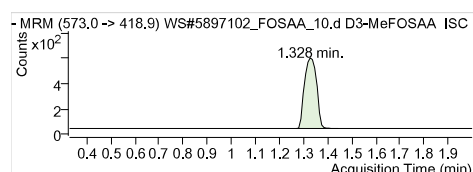
13C9-PFDA IS
 RT (Exp. RT): 0.986 (0.977)
 Concentration: 1 µg/L
 Sample type: QC



MeFOSAA 1
 RT (Exp. RT): 1.329 (1.329)
 Calc. conc. 0.80 µg/L
 Area ratio: 0.28912
 Sample type: QC

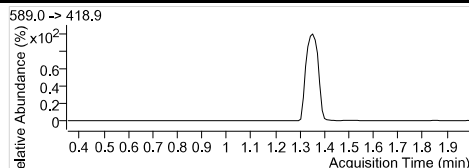
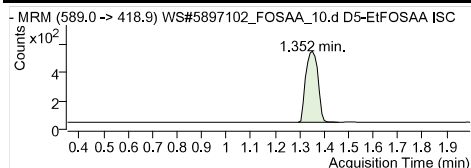


EtFOSAA 1
 RT (Exp. RT): 1.354 (1.344)
 Calc. conc. 0.82 µg/L
 Area ratio: 0.33237
 Sample type: QC

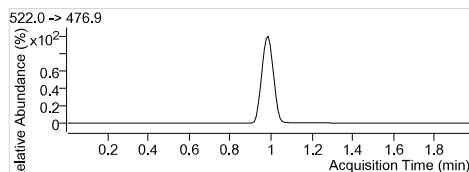
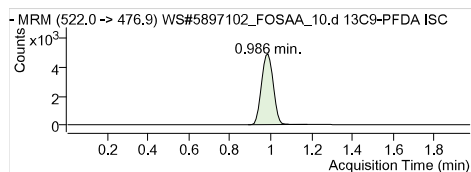


D3-MeFOSAA
 RT (Exp. RT): 1.328 (1.328)
 Calc. conc. 103.36 µg/L
 Area ratio: 0.09977
 Sample type: QC

Quantitation Results



D5-ElFOSAA
 RT (Exp. RT): 589.0 -> 418.9
 Calc. conc. 1.352 (1.352)
 Area ratio: 102.29 µg/L
 Sample type: 0.08964
 QC



13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 Calc. conc. 0.986 (0.977)
 Area ratio: 103.58 µg/L
 Sample type: 0
 QC

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5897102_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5897102_FOSAA_EToxics

Sample Name CCV Instrument LCMS04

Data File WS#5897102_FOSAA_25.d Operator

Sample Type CC Dilution 1

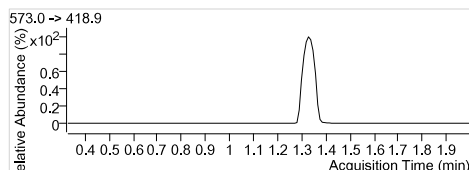
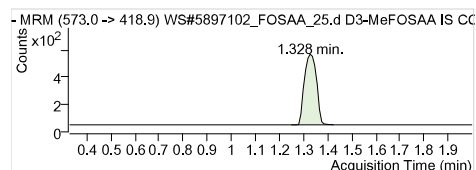
Acq. Method PFC_Water_Low_FOSAA.m Position P2-A5

Acq. Date 2018/12/22 1:26:32 AM Injection Volume Per Method

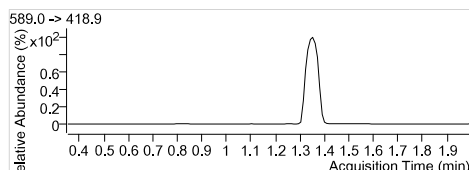
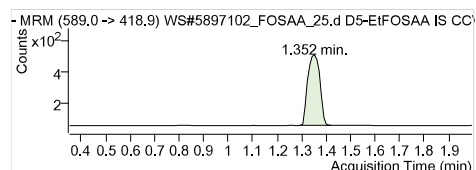
Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1808	1.33	1 µg/L		
D5-EtFOSAA IS	1596	1.35	1 µg/L		
13C9-PFDA IS	18456	0.98	1 µg/L		

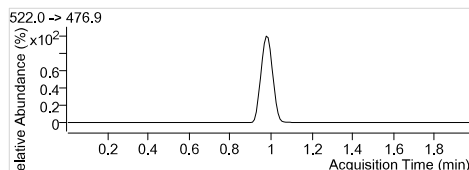
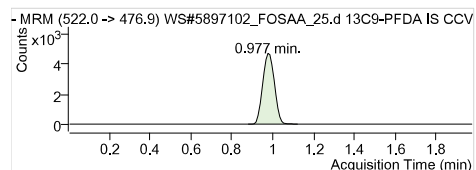
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	7461	1.33	12.50	11.85 µg/L	94.81
EtFOSAA 1	8246	1.34	12.50	12.07 µg/L	96.52
D3-MeFOSAA	1811	1.33	100.00	101.66 µg/L	101.66
D5-EtFOSAA	1605	1.35	100.00	99.24 µg/L	99.24
13C9-PFDA	18491	0.98	100.00	98.78 µg/L	98.78



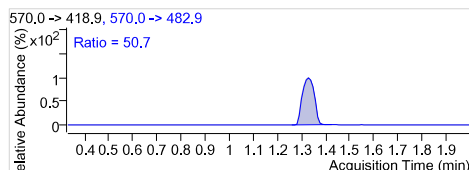
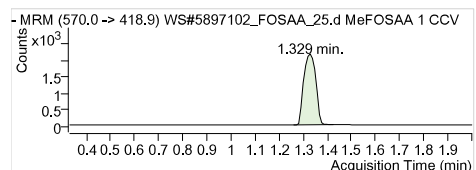
D3-MeFOSAA IS
 RT (Exp. RT): 1.328 (1.328)
 Concentration: 1 µg/L
 Sample type: CC



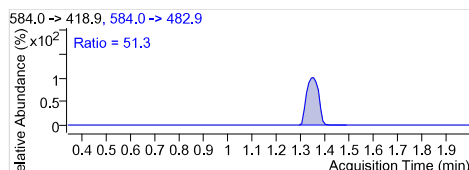
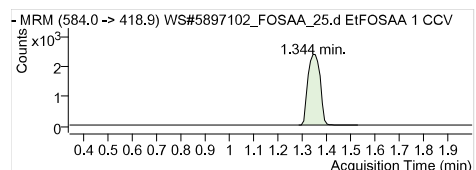
D5-EtFOSAA IS
 RT (Exp. RT): 1.352 (1.352)
 Concentration: 1 µg/L
 Sample type: CC



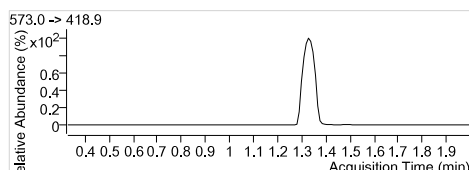
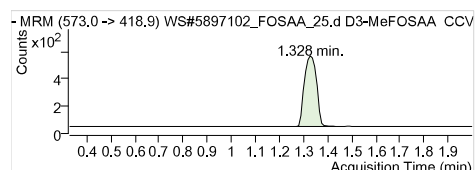
13C9-PFDA IS
 RT (Exp. RT): 0.977 (0.977)
 Concentration: 1 µg/L
 Sample type: CC



MeFOSAA 1
 RT (Exp. RT): 1.329 (1.329)
 Calc. conc. 11.85 µg/L
 Area ratio: 4.12666
 Sample type: CC

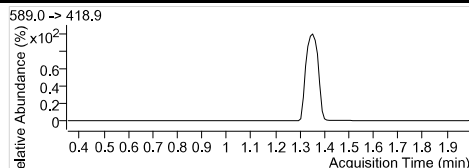
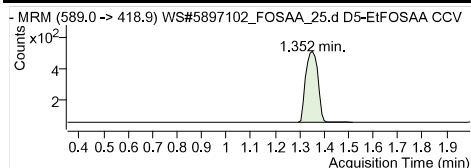


EtFOSAA 1
 RT (Exp. RT): 1.344 (1.344)
 Calc. conc. 12.07 µg/L
 Area ratio: 5.16667
 Sample type: CC

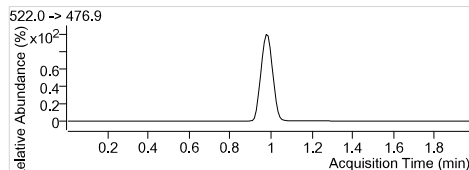
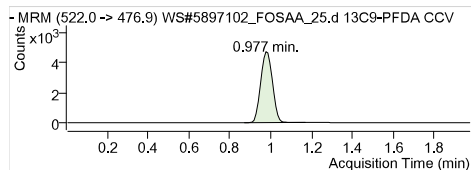


D3-MeFOSAA
 RT (Exp. RT): 1.328 (1.328)
 Calc. conc. 101.66 µg/L
 Area ratio: 0.09813
 Sample type: CC

Quantitation Results



D5-EtFOSAA
 RT (Exp. RT): 589.0 -> 418.9
 RT (Exp. RT): 1.352 (1.352)
 Calc. conc. 99.24 µg/L
 Area ratio: 0.08696
 Sample type: CC

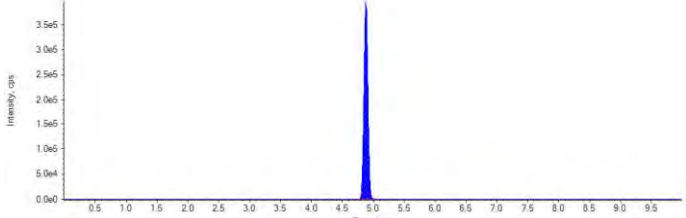
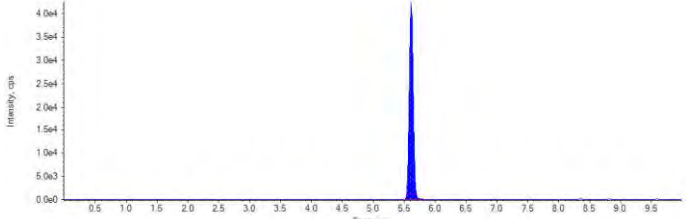
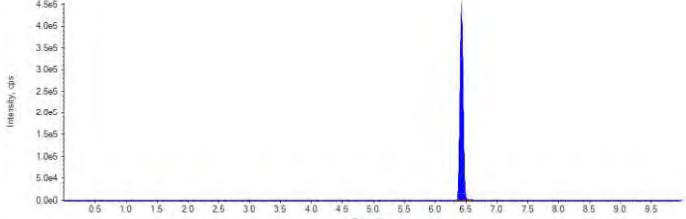


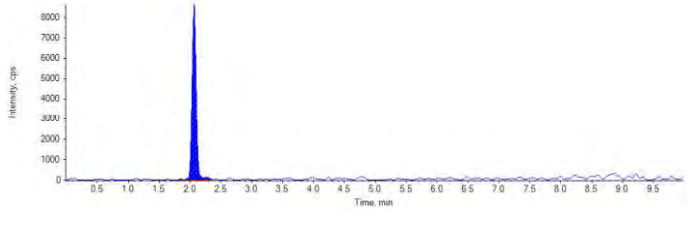
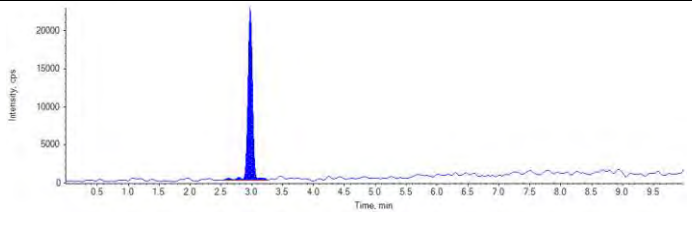
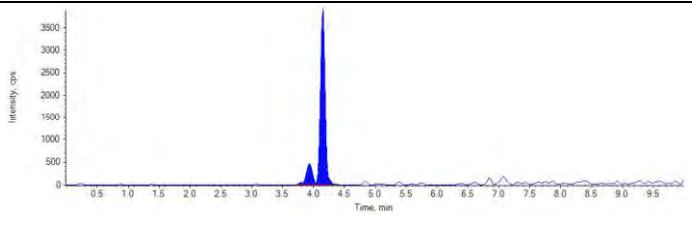
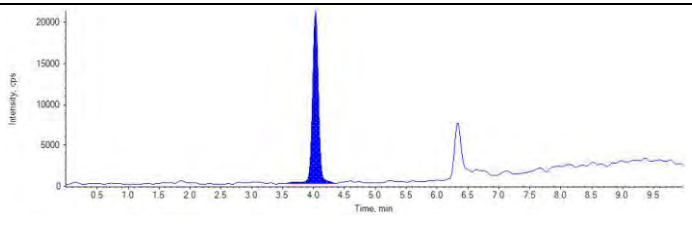
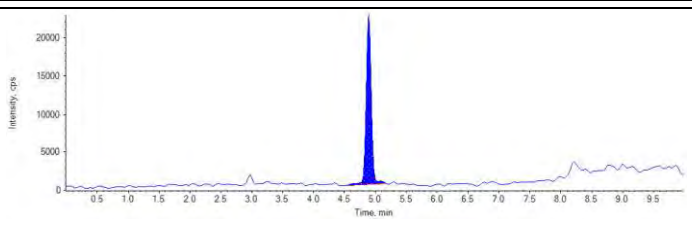
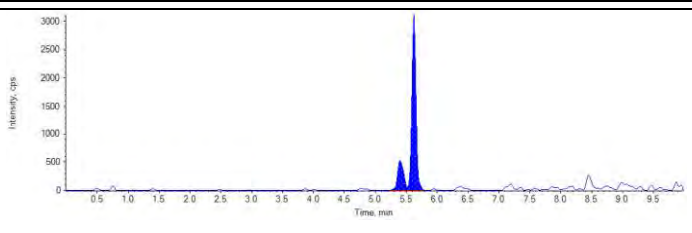
13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 RT (Exp. RT): 0.977 (0.977)
 Calc. conc. 98.78 µg/L
 Area ratio: 0
 Sample type: CC

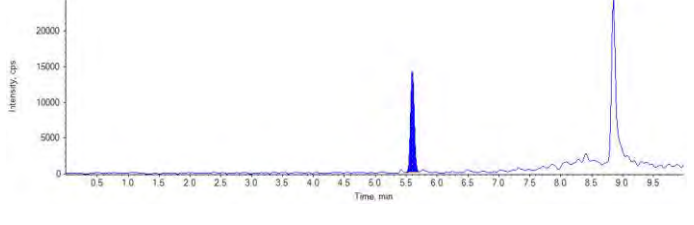
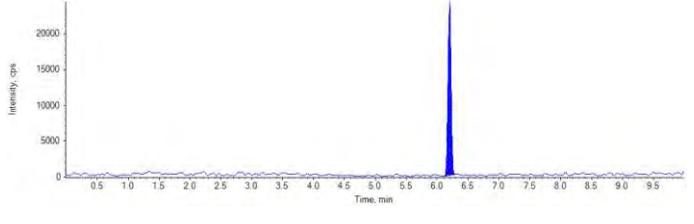
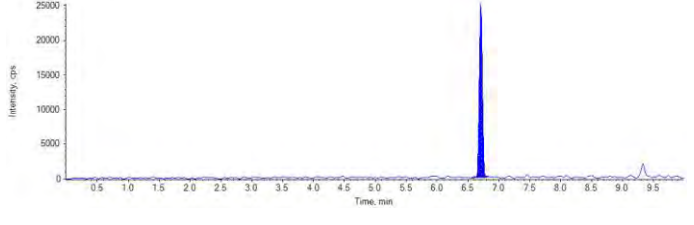
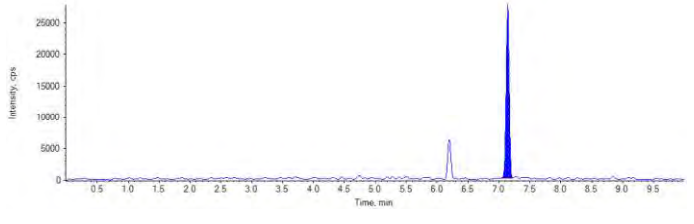
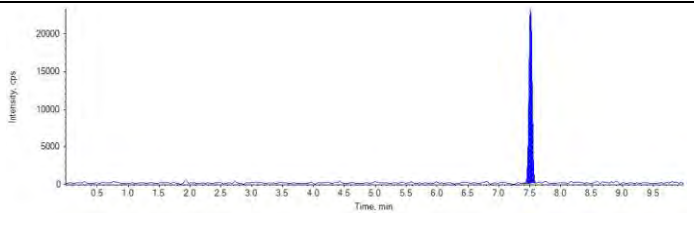
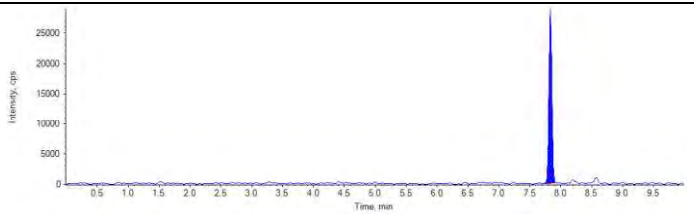
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	2
Acquisition Date	2018/12/21 2:16:58 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181221\WS#5898852.wiff		
Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb		
Samples Annotation	-		

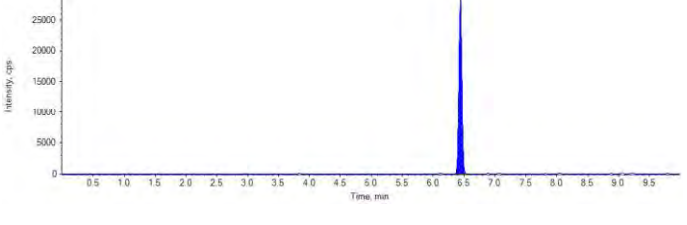
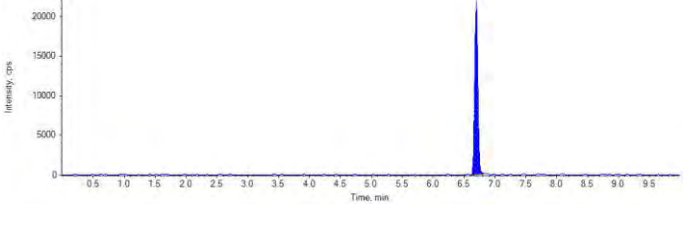
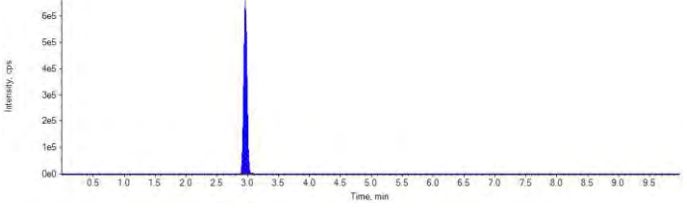
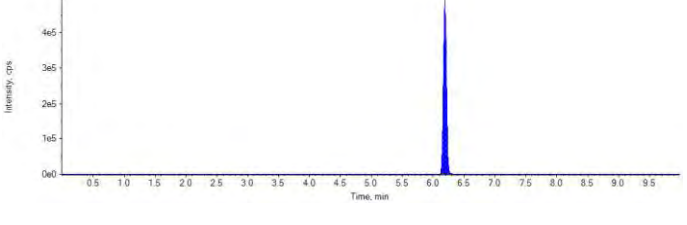
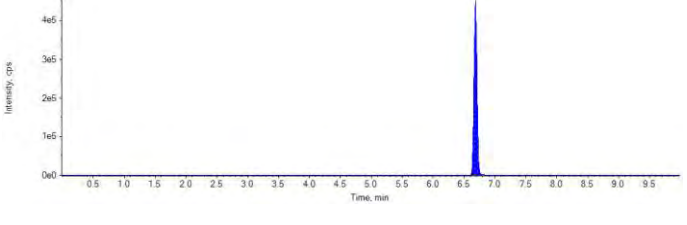
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	1770000.	4.88	1.00	-
MPFOS	187000.	5.61	1.00	-
D3-MeFOSAA IS	1560000.	6.43	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	40400	2.07	500.	440.	88.0
PFHxA 1	114000	2.98	500.	454.	90.7
PFHxS 1	23800	4.15	500.	451.	90.1
PFHpA 1	140000	4.03	500.	487.	97.4
PFOA 1	128000	4.89	500.	539.	108.0
PFOS 1	17800	5.62	500.	592.	118.0
PFNA 1	59200	5.60	500.	467.	93.5
PFDA 1	83500	6.20	500.	452.	90.5
PFUnA 1	87200	6.71	500.	531.	106.0
PFDaA 1	92600	7.14	500.	489.	97.8
PFTTrDA 1	82300	7.51	500.	428.	85.7
PFTeDA 1	94800	7.83	500.	422.	84.5
MeFOSAA 1	97500	6.44	2000.	2070.	104.0
EtFOSAA 1	77400	6.70	2000.	1800.	89.9
13C2-PFHxA	2390000	2.96	10000.	10300.	103.0
13C2-PFDA	1700000	6.19	10000.	10000.	100.0
D5-EtFOSAA	1500000	6.68	40000.	44600.	111.0

MPFOA (Internal Standard) RT (Exp. RT): 4.88(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.61(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.43(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.07 (1.85) min Calculated Conc: 440. ng/L Area Ratio: 0.216 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.98 (2.97) min Calculated Conc: 454. ng/L Area Ratio: 0.0646 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.15 (4.05) min Calculated Conc: 451. ng/L Area Ratio: 0.127 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 4.03 (3.91) min Calculated Conc: 487. ng/L Area Ratio: 0.0791 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.89 (4.89) min Calculated Conc: 539. ng/L Area Ratio: 0.0722 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.62 (5.38) min Calculated Conc: 592. ng/L Area Ratio: 0.0952 Sample Type: (Quality Control)	

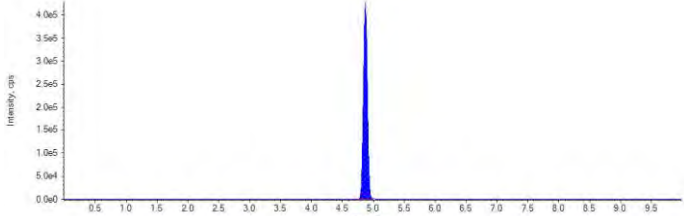
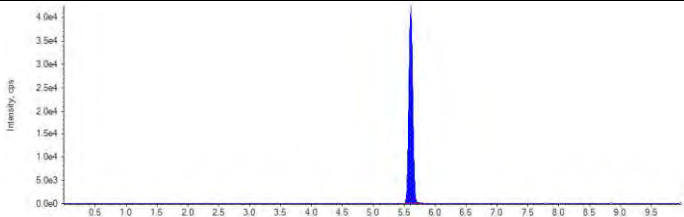
PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.60 (5.49) min Calculated Conc: 467. ng/L Area Ratio: 0.0335 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.20 (6.07) min Calculated Conc: 452. ng/L Area Ratio: 0.0473 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.71 (6.62) min Calculated Conc: 531. ng/L Area Ratio: 0.0494 Sample Type: (Quality Control)	
PFDaA 1 (612.900/569.000 Da) RT (Exp. RT): 7.14 (7.04) min Calculated Conc: 489. ng/L Area Ratio: 0.0524 Sample Type: (Quality Control)	
PFTTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.51 (7.38) min Calculated Conc: 428. ng/L Area Ratio: 0.0466 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.83 (7.64) min Calculated Conc: 422. ng/L Area Ratio: 0.0537 Sample Type: (Quality Control)	

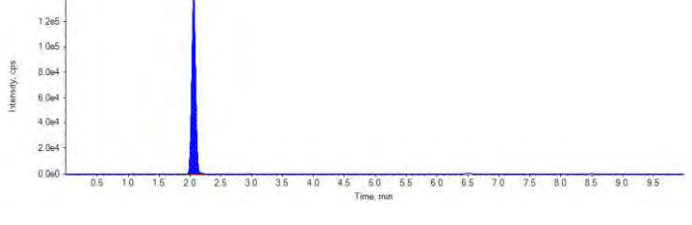
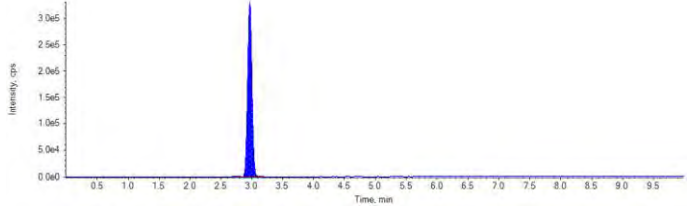
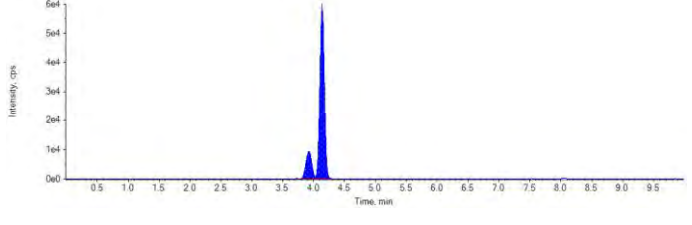
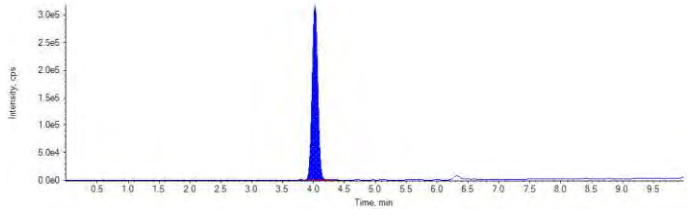
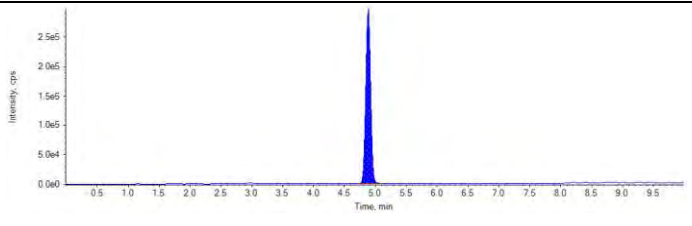
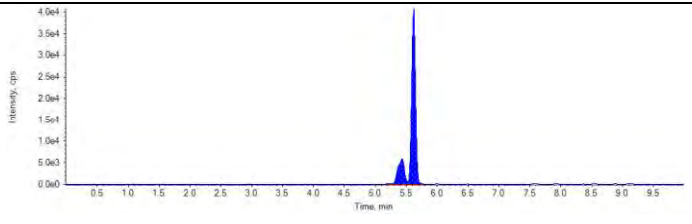
MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.44 (6.29) min Calculated Conc: 2070. ng/L Area Ratio: 0.0626 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.70 (6.66) min Calculated Conc: 1800. ng/L Area Ratio: 0.0497 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.96 (2.96) min Calculated Conc: 10300. ng/L Area Ratio: 1.35 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.19 (6.19) min Calculated Conc: 10000. ng/L Area Ratio: 0.960 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.68 (6.68) min Calculated Conc: 44600. ng/L Area Ratio: 0.966 Sample Type: (Quality Control)	

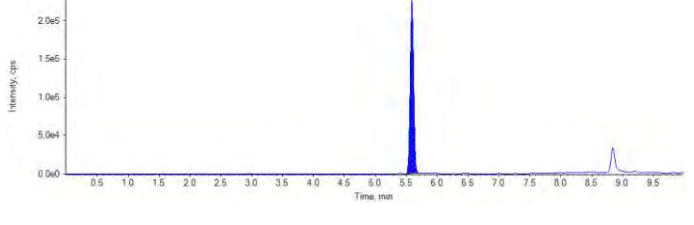
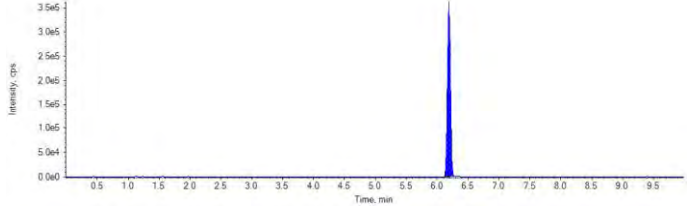
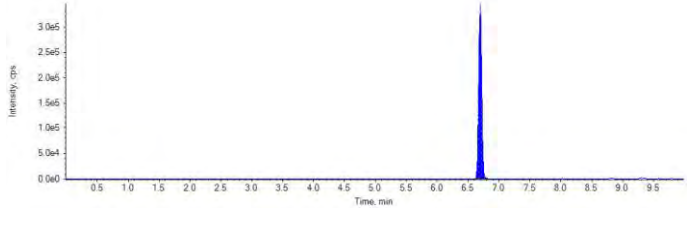
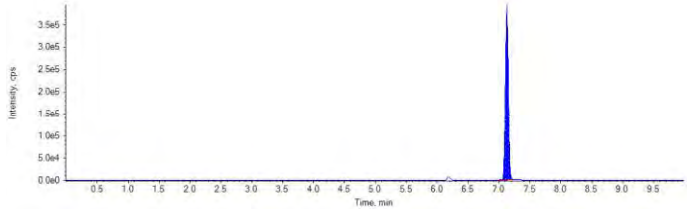
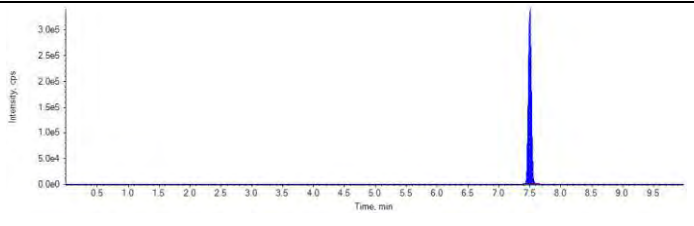
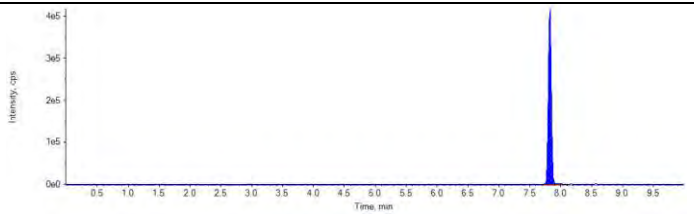
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	5
Acquisition Date	2018/12/21 6:10:38 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181221\WS#5898852.wiff		
Result Table	PFC_Water_181221_5898852_EPA537_EToxics.rdb		
Samples Annotation	-		

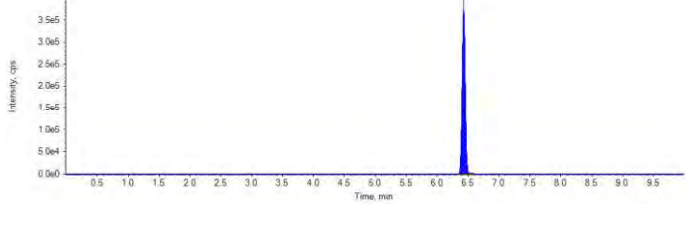
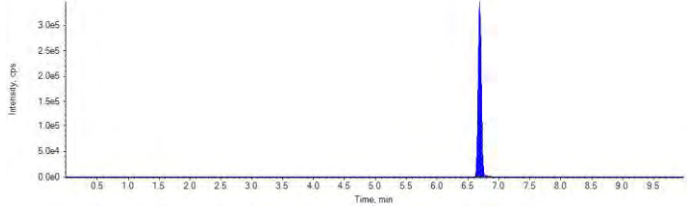
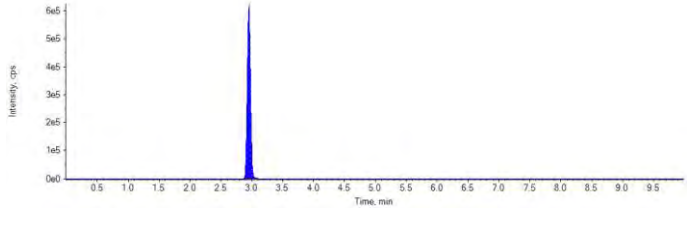
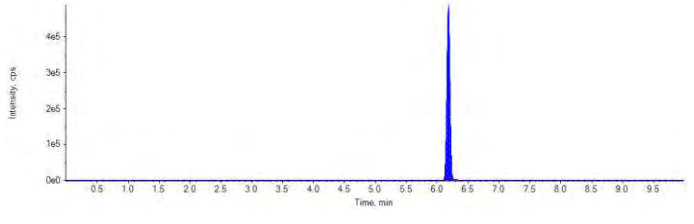
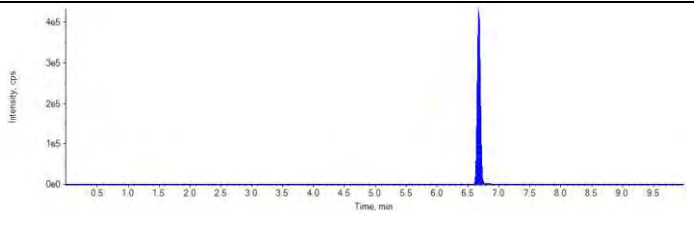
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	1850000.	4.87	1.00	-
MPFOS	184000.	5.61	1.00	-
D3-MeFOSAA IS	1520000.	6.42	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	638000	2.06	7000.	7060.	101.0
PFHxA 1	1630000	2.97	7000.	6180.	88.3
PFHxS 1	369000	4.14	7000.	7110.	102.0
PFHpA 1	2010000	4.02	7000.	6680.	95.4
PFOA 1	1630000	4.88	7000.	6580.	94.0
PFOS 1	225000	5.62	7000.	7600.	109.0
PFNA 1	877000	5.59	7000.	6610.	94.4
PFDA 1	1220000	6.19	7000.	6310.	90.1
PFUnA 1	1180000	6.70	7000.	6830.	97.6
PFDaA 1	1300000	7.13	7000.	6570.	93.8
PFTTrDA 1	1160000	7.50	7000.	5760.	82.3
PFTeDA 1	1440000	7.82	7000.	6120.	87.4
MeFOSAA 1	1360000	6.43	28000.	29600.	106.0
EtFOSAA 1	1220000	6.69	28000.	29000.	104.0
13C2-PFHxA	2250000	2.95	10000.	9270.	92.7
13C2-PFDA	1710000	6.18	10000.	9660.	96.6
D5-EtFOSAA	1530000	6.67	40000.	46500.	116.0

MPFOA (Internal Standard) RT (Exp. RT): 4.87(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.61(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.42(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.06 (1.85) min Calculated Conc: 7060. ng/L Area Ratio: 3.46 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.97 (2.97) min Calculated Conc: 6180. ng/L Area Ratio: 0.881 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.14 (4.05) min Calculated Conc: 7110. ng/L Area Ratio: 2.01 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 4.02 (3.91) min Calculated Conc: 6680. ng/L Area Ratio: 1.08 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.88 (4.89) min Calculated Conc: 6580. ng/L Area Ratio: 0.881 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.62 (5.38) min Calculated Conc: 7600. ng/L Area Ratio: 1.22 Sample Type: (Quality Control)	

PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.59 (5.49) min Calculated Conc: 6610. ng/L Area Ratio: 0.474 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.19 (6.07) min Calculated Conc: 6310. ng/L Area Ratio: 0.659 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.70 (6.62) min Calculated Conc: 6830. ng/L Area Ratio: 0.636 Sample Type: (Quality Control)	
PFDaA 1 (612.900/569.000 Da) RT (Exp. RT): 7.13 (7.04) min Calculated Conc: 6570. ng/L Area Ratio: 0.704 Sample Type: (Quality Control)	
PFTTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.50 (7.38) min Calculated Conc: 5760. ng/L Area Ratio: 0.626 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.82 (7.64) min Calculated Conc: 6120. ng/L Area Ratio: 0.777 Sample Type: (Quality Control)	

MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.43 (6.29) min Calculated Conc: 29600. ng/L Area Ratio: 0.893 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.69 (6.66) min Calculated Conc: 29000. ng/L Area Ratio: 0.802 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.95 (2.96) min Calculated Conc: 9270. ng/L Area Ratio: 1.21 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.18 (6.19) min Calculated Conc: 9660. ng/L Area Ratio: 0.924 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.67 (6.68) min Calculated Conc: 46500. ng/L Area Ratio: 1.01 Sample Type: (Quality Control)	

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics

Sample Name ISC Instrument LCMS04

Data File WS#5899819_10.d Operator

Sample Type QC Dilution 1

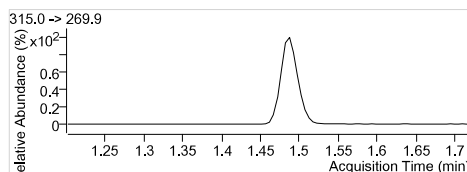
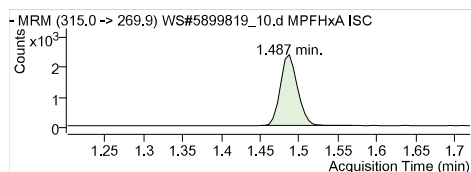
Acq. Method PFC_Water_Low.m Position P1-A2

Acq. Date 2018/12/21 5:18:50 PM Injection Volume Per Method

Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3625	1.49	1 µg/L		
MPFHxS	962	1.71	1 µg/L		
MPFHpA	5303	1.73	1 µg/L		
MPFOA	5145	1.91	1 µg/L		
MPFOS	1132	2.00	1 µg/L		
MPFNA	4636	2.05	1 µg/L		
MPFDA	3169	2.16	1 µg/L		
MPFUnA	3803	2.26	1 µg/L		
MPFDoA	4965	2.35	1 µg/L		
MPFTeDA	7299	2.48	1 µg/L		
13C6-PFHxA IS	16827	1.49	1 µg/L		
13C9-PFDA IS	20057	2.16	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	509	1.16	0.83	0.89 µg/L	107.21
PFHxA 1	1416	1.49	0.83	0.88 µg/L	105.92
PFHxS 1	385	1.71	0.83	0.90 µg/L	108.55
PFHpA 1	2033	1.74	0.83	0.93 µg/L	111.73
PFOA 1	2130	1.91	0.83	0.83 µg/L	99.61
PFOS 1	388	2.00	0.83	0.86 µg/L	103.25
PFNA 1	1512	2.05	0.83	0.85 µg/L	102.47
PFDA 1	1838	2.17	0.83	1.01 µg/L	121.92
PFUnA 1	1681	2.26	0.83	0.97 µg/L	117.06
PFDoA 1	1917	2.35	0.83	0.95 µg/L	114.68
PFTTrDA 1	2219	2.42	0.83	0.82 µg/L	98.41
PFTeDA 1	2376	2.48	0.83	0.81 µg/L	98.07
13C2-PFHxA	3625	1.49	100.00	95.33 µg/L	95.33
18O2-PFHxS	962	1.71	100.00	98.77 µg/L	98.77
13C4-PFHpA	5303	1.73	100.00	96.45 µg/L	96.45
13C4-PFOA	5145	1.91	100.00	100.04 µg/L	100.04
13C4-PFOS	1132	2.00	100.00	105.39 µg/L	105.39
13C5-PFNA	4636	2.05	100.00	94.67 µg/L	94.67
13C2-PFDA	3169	2.16	100.00	92.37 µg/L	92.37
13C2-PFUnA	3803	2.26	100.00	94.97 µg/L	94.97
13C2-PFDoA	4965	2.35	100.00	96.53 µg/L	96.53
13C2-PFTeDA	7299	2.48	100.00	97.33 µg/L	97.33
13C6-PFHxA	16827	1.49	100.00	100.19 µg/L	100.19
13C9-PFDA	20057	2.16	100.00	100.77 µg/L	100.77

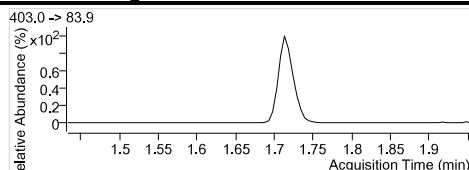
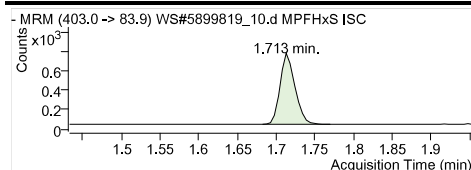


MPFHxA

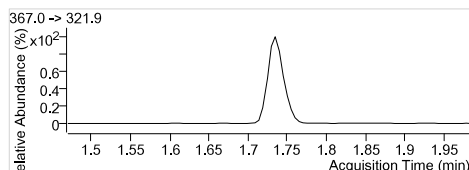
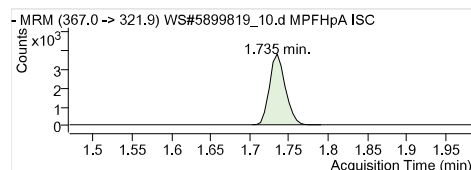
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
1.487 (1.487)
1 µg/L
QC

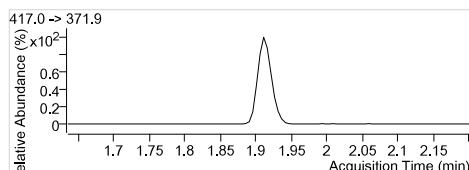
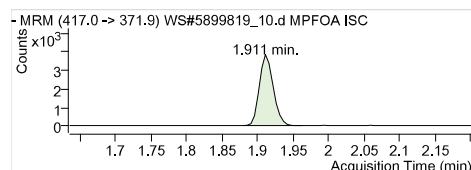
Quantitation Results



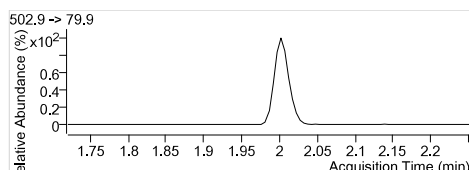
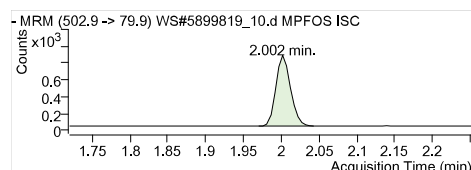
MPFHxS
 RT (Exp. RT): 1.713 (1.713)
 Concentration: 1 µg/L
 Sample type: QC



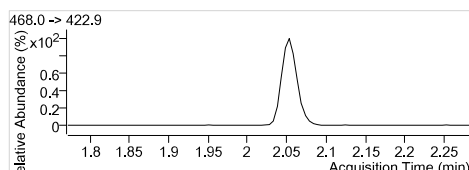
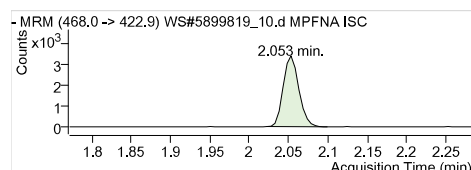
MPFHpA
 RT (Exp. RT): 1.735 (1.735)
 Concentration: 1 µg/L
 Sample type: QC



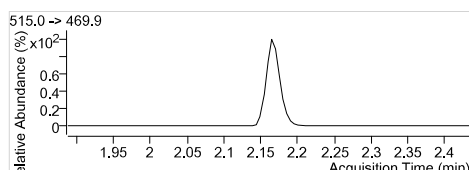
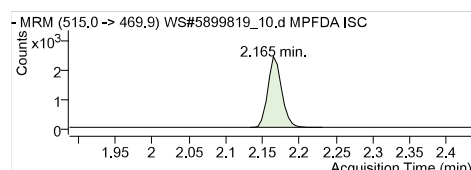
MPFOA
 RT (Exp. RT): 1.911 (1.911)
 Concentration: 1 µg/L
 Sample type: QC



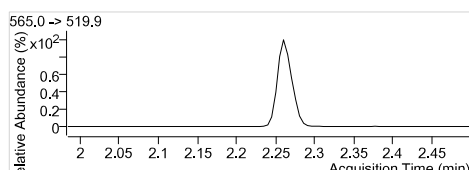
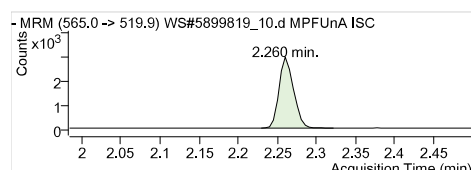
MPFOS
 RT (Exp. RT): 2.002 (2.002)
 Concentration: 1 µg/L
 Sample type: QC



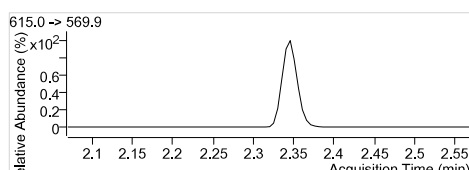
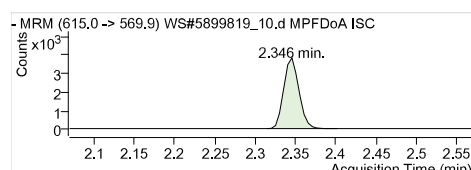
MPFNA
 RT (Exp. RT): 2.053 (2.053)
 Concentration: 1 µg/L
 Sample type: QC



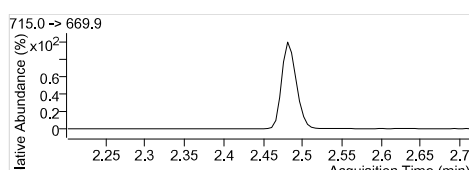
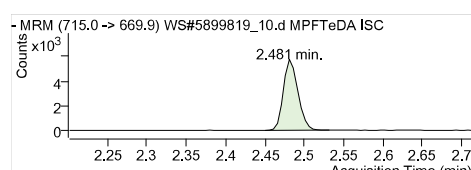
MPFDA
 RT (Exp. RT): 2.165 (2.165)
 Concentration: 1 µg/L
 Sample type: QC



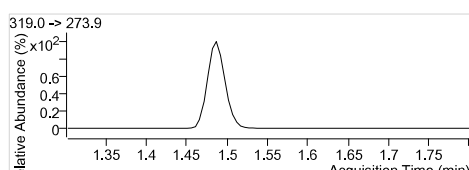
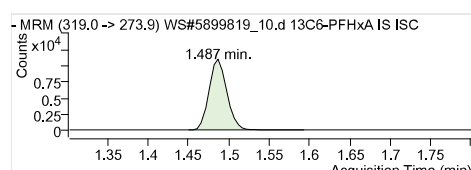
MPFUnA
 RT (Exp. RT): 2.260 (2.260)
 Concentration: 1 µg/L
 Sample type: QC



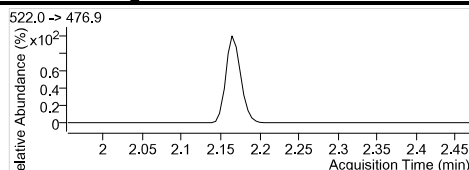
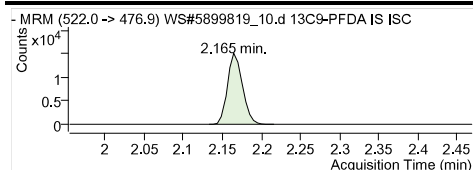
MPFDaA
 RT (Exp. RT): 2.346 (2.346)
 Concentration: 1 µg/L
 Sample type: QC



MPFTeDA
 RT (Exp. RT): 2.481 (2.481)
 Concentration: 1 µg/L
 Sample type: QC

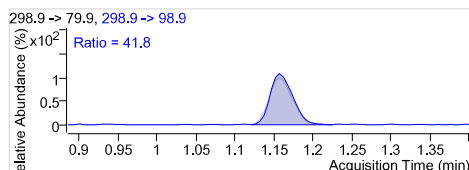
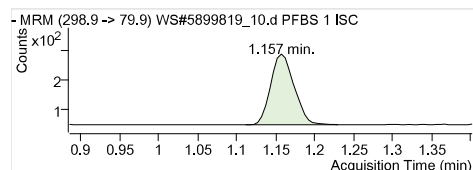


13C6-PFHxA IS
 RT (Exp. RT): 1.487 (1.487)
 Concentration: 1 µg/L
 Sample type: QC

**13C9-PFDA IS**

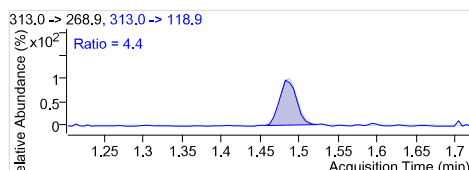
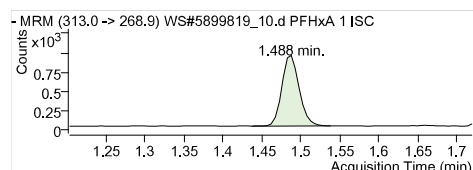
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.165 (2.165)
1 µg/L
QC

**PFBS 1**

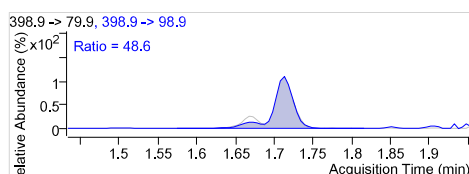
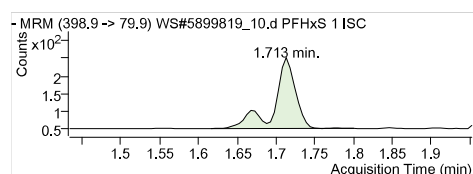
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

298.9 → 79.9
1.157 (1.162)
0.89 µg/L
0.52911
QC

**PFHxA 1**

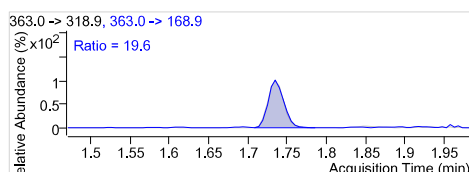
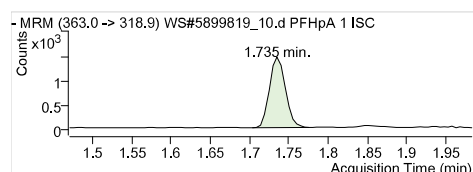
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

313.0 → 268.9
1.488 (1.488)
0.88 µg/L
0.39062
QC

**PFHxS 1**

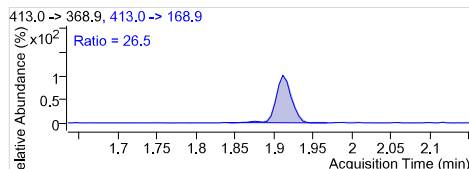
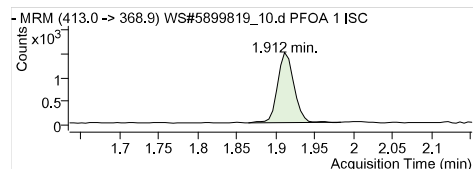
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

398.9 → 79.9
1.713 (1.713)
0.90 µg/L
0.40021
QC

**PFHpA 1**

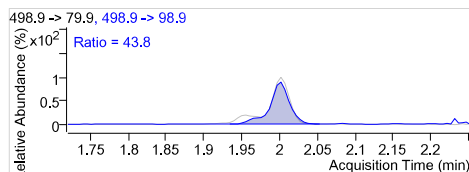
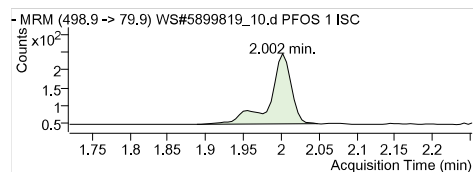
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

363.0 → 318.9
1.735 (1.735)
0.93 µg/L
0.38337
QC

**PFOA 1**

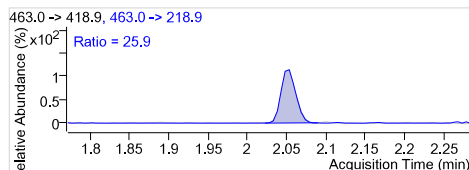
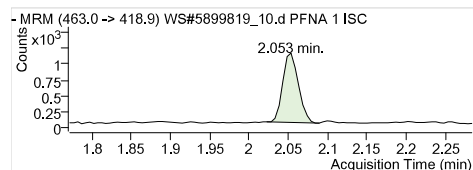
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

413.0 → 368.9
1.912 (1.912)
0.83 µg/L
0.41399
QC

**PFOS 1**

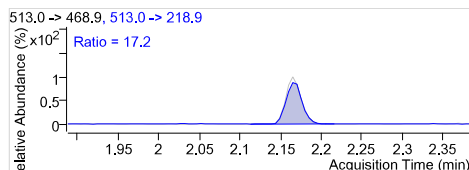
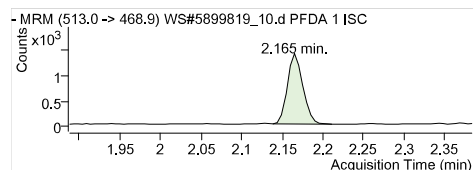
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

498.9 → 79.9
2.002 (2.002)
0.86 µg/L
0.34276
QC

**PFNA 1**

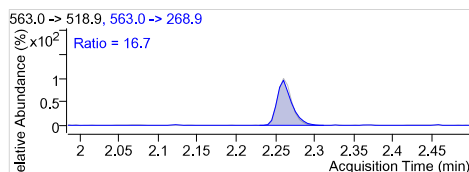
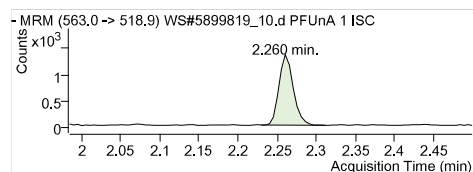
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

463.0 → 418.9
2.053 (2.053)
0.85 µg/L
0.32614
QC

**PFDA 1**

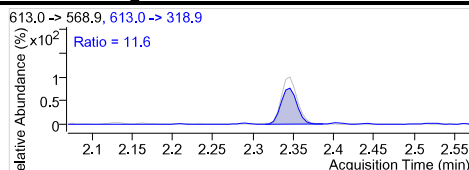
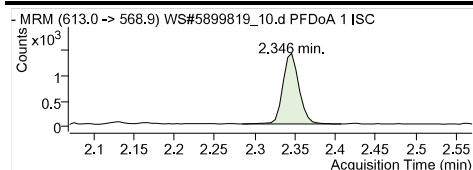
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

513.0 → 468.9
2.165 (2.165)
1.01 µg/L
0.57999
QC

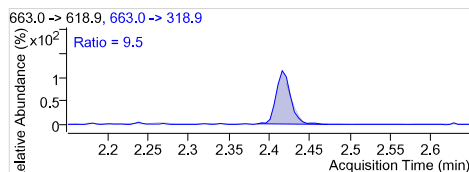
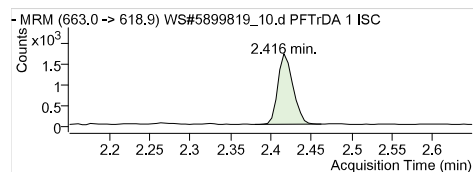
**PFUnA 1**

RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

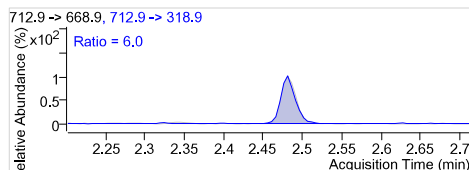
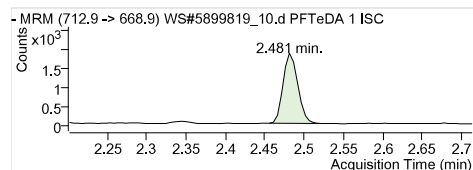
563.0 → 518.9
2.260 (2.260)
0.97 µg/L
0.44202
QC



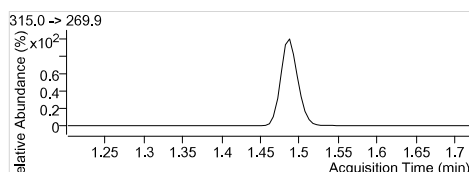
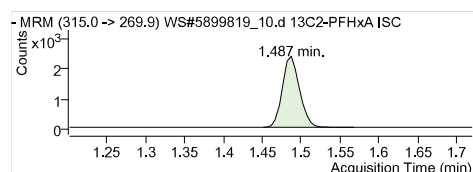
PFDa 1
 RT (Exp. RT): 613.0 → 568.9
 Calc. conc. 2.346 (2.346)
 Area ratio: 0.95 µg/L
 Sample type: 0.38610
 QC



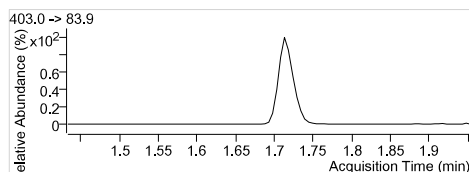
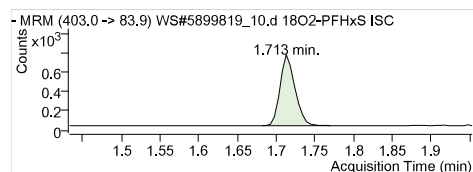
PFTTrDA 1
 RT (Exp. RT): 663.0 → 618.9
 Calc. conc. 2.416 (2.416)
 Area ratio: 0.82 µg/L
 Sample type: 0.30401
 QC



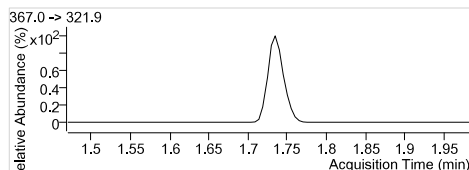
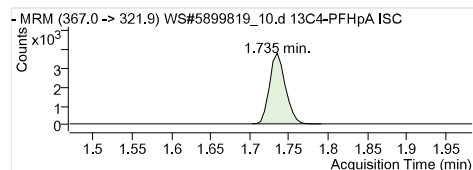
PFTTeDA 1
 RT (Exp. RT): 712.9 → 668.9
 Calc. conc. 2.481 (2.481)
 Area ratio: 0.81 µg/L
 Sample type: 0.32552
 QC



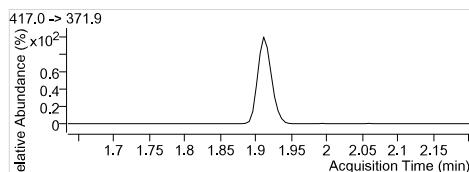
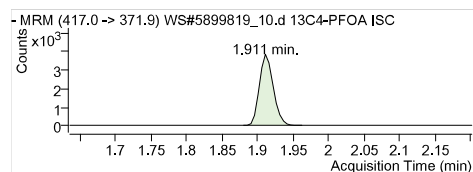
13C2-PFHxA
 RT (Exp. RT): 315.0 → 269.9
 Calc. conc. 1.487 (1.487)
 Area ratio: 95.33 µg/L
 Sample type: 0.21543
 QC



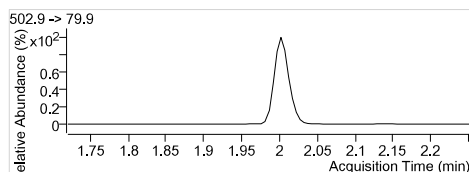
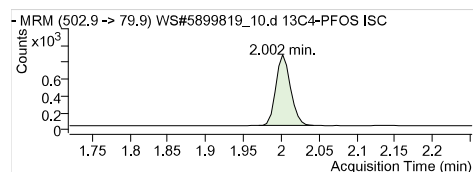
18O2-PFHxS
 RT (Exp. RT): 403.0 → 83.9
 Calc. conc. 1.713 (1.713)
 Area ratio: 98.77 µg/L
 Sample type: 0.05717
 QC



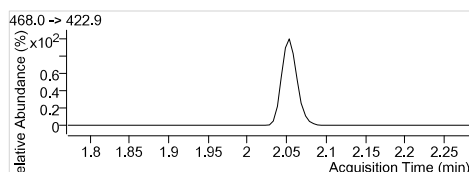
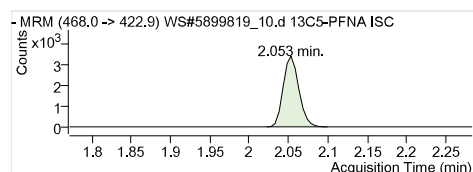
13C4-PFHpA
 RT (Exp. RT): 367.0 → 321.9
 Calc. conc. 1.735 (1.735)
 Area ratio: 96.45 µg/L
 Sample type: 0.31515
 QC



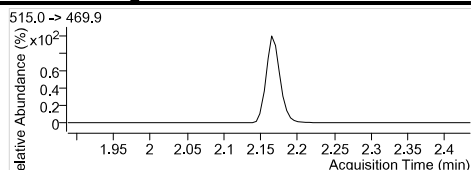
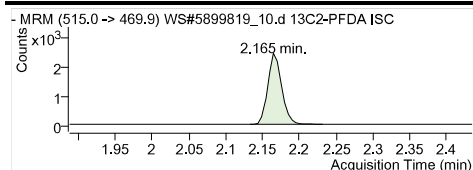
13C4-PFOA
 RT (Exp. RT): 417.0 → 371.9
 Calc. conc. 1.911 (1.911)
 Area ratio: 100.04 µg/L
 Sample type: 0.30576
 QC



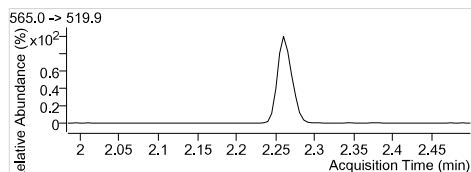
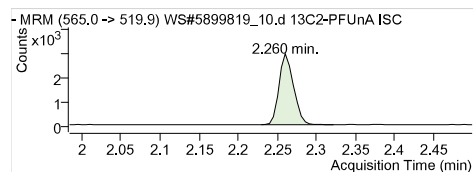
13C4-PFOS
 RT (Exp. RT): 502.9 → 79.9
 Calc. conc. 2.002 (2.002)
 Area ratio: 105.39 µg/L
 Sample type: 0.06727
 QC



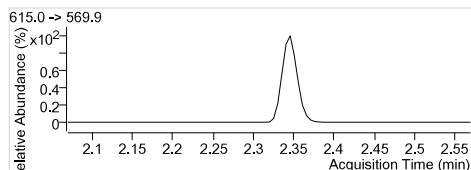
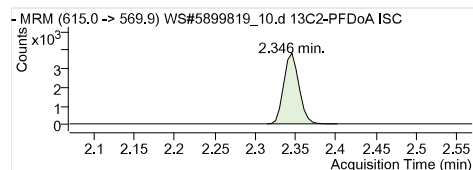
13C5-PFNA
 RT (Exp. RT): 468.0 → 422.9
 Calc. conc. 2.053 (2.053)
 Area ratio: 94.67 µg/L
 Sample type: 0.27551
 QC



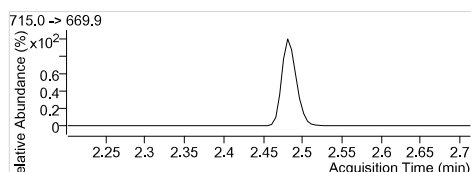
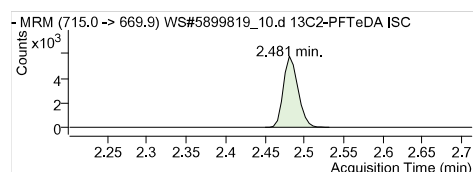
13C2-PFDA
RT (Exp. RT): 515.0 -> 469.9
Calc. conc. 2.165 (2.165)
Area ratio: 92.37 µg/L
Sample type: 0.15800
QC



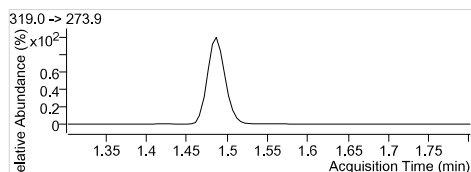
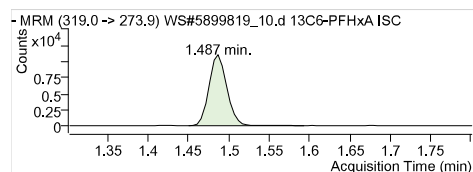
13C2-PFUnA
RT (Exp. RT): 565.0 -> 519.9
Calc. conc. 2.260 (2.260)
Area ratio: 94.97 µg/L
Sample type: 0.18961
QC



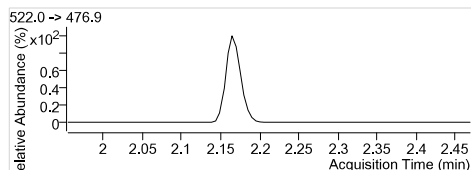
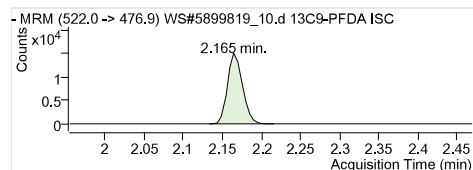
13C2-PFDoA
RT (Exp. RT): 615.0 -> 569.9
Calc. conc. 2.346 (2.346)
Area ratio: 96.53 µg/L
Sample type: 0.24754
QC



13C2-PFTeDA
RT (Exp. RT): 715.0 -> 669.9
Calc. conc. 2.481 (2.481)
Area ratio: 97.33 µg/L
Sample type: 0.36391
QC



13C6-PFHxA
RT (Exp. RT): 319.0 -> 273.9
Calc. conc. 1.487 (1.487)
Area ratio: 100.19 µg/L
Sample type: 0
QC



13C9-PFDA
RT (Exp. RT): 522.0 -> 476.9
Calc. conc. 2.165 (2.165)
Area ratio: 100.77 µg/L
Sample type: 0
QC

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics

Sample Name CCV Instrument LCMS04

Data File WS#5899819_26.d Operator

Sample Type CC Dilution 1

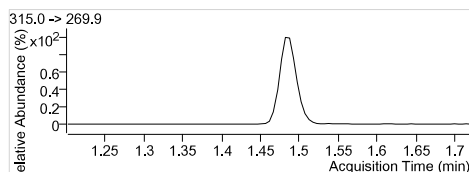
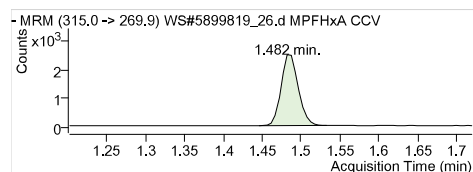
Acq. Method PFC_Water_Low.m Position P1-A5

Acq. Date 2018/12/21 6:37:28 PM Injection Volume Per Method

Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3770	1.48	1 µg/L		
MPFHxS	1032	1.71	1 µg/L		
MPFHpA	5438	1.73	1 µg/L		
MPFOA	4983	1.91	1 µg/L		
MPFOS	1086	2.00	1 µg/L		
MPFNA	4842	2.05	1 µg/L		
MPFDA	3344	2.16	1 µg/L		
MPFUnA	3924	2.26	1 µg/L		
MPFDoA	5183	2.35	1 µg/L		
MPFTeDA	7082	2.48	1 µg/L		
13C6-PFHxA IS	16671	1.49	1 µg/L		
13C9-PFDA IS	19906	2.16	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7510	1.16	12.50	12.07 µg/L	96.53
PFHxA 1	21127	1.48	12.50	12.46 µg/L	99.69
PFHxS 1	5923	1.71	12.50	12.36 µg/L	98.88
PFHpA 1	29278	1.74	12.50	12.35 µg/L	98.78
PFOA 1	27694	1.91	12.50	12.62 µg/L	100.94
PFOS 1	5860	2.00	12.50	13.04 µg/L	104.30
PFNA 1	22410	2.05	12.50	12.71 µg/L	101.69
PFDA 1	25025	2.17	12.50	12.67 µg/L	101.36
PFUnA 1	23092	2.26	12.50	12.54 µg/L	100.28
PFDoA 1	25986	2.35	12.50	12.09 µg/L	96.69
PFTTrDA 1	32251	2.42	12.50	13.05 µg/L	104.43
PFTeDA 1	33400	2.48	12.50	12.90 µg/L	103.20
13C2-PFHxA	3770	1.48	100.00	100.08 µg/L	100.08
18O2-PFHxS	1032	1.71	100.00	106.95 µg/L	106.95
13C4-PFHpA	5438	1.73	100.00	99.84 µg/L	99.84
13C4-PFOA	4983	1.91	100.00	97.79 µg/L	97.79
13C4-PFOS	1086	2.00	100.00	102.05 µg/L	102.05
13C5-PFNA	4842	2.05	100.00	99.80 µg/L	99.80
13C2-PFDA	3344	2.16	100.00	98.21 µg/L	98.21
13C2-PFUnA	3924	2.26	100.00	98.73 µg/L	98.73
13C2-PFDoA	5183	2.35	100.00	101.53 µg/L	101.53
13C2-PFTeDA	7082	2.48	100.00	95.15 µg/L	95.15
13C6-PFHxA	16671	1.49	100.00	99.26 µg/L	99.26
13C9-PFDA	19906	2.16	100.00	100.01 µg/L	100.01

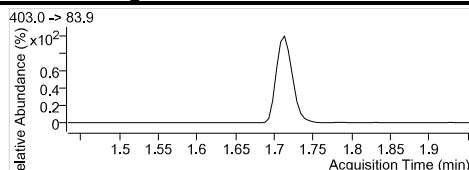
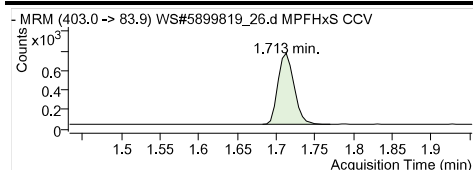


MPFHxA

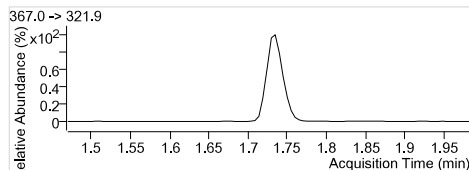
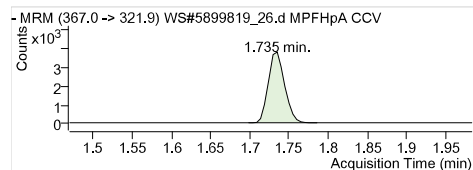
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
1.482 (1.487)
1 µg/L
CC

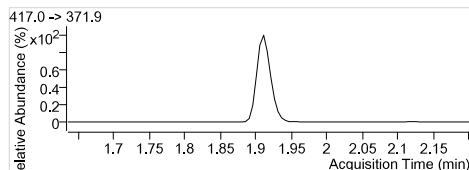
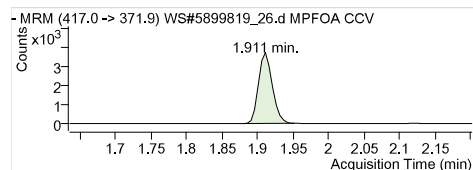
Quantitation Results



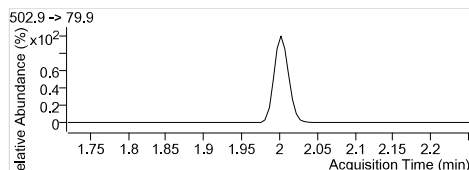
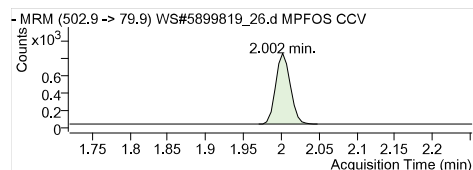
MPFHxS
 RT (Exp. RT): 1.713 (1.713)
 Concentration: 1 µg/L
 Sample type: CC



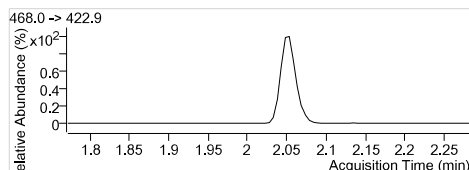
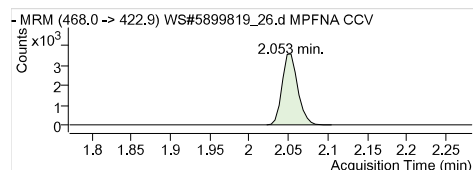
MPFHpa
 RT (Exp. RT): 1.735 (1.735)
 Concentration: 1 µg/L
 Sample type: CC



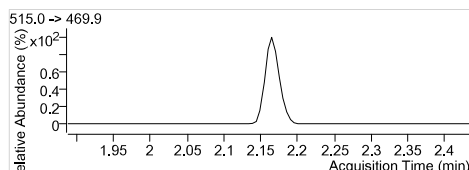
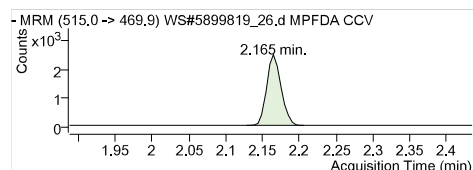
MPFOA
 RT (Exp. RT): 1.911 (1.911)
 Concentration: 1 µg/L
 Sample type: CC



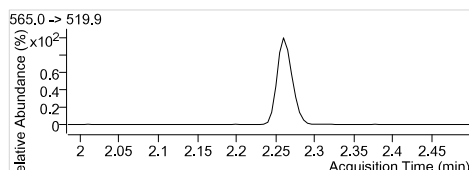
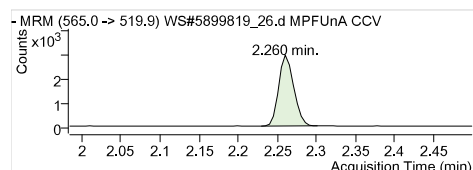
MPFOS
 RT (Exp. RT): 2.002 (2.002)
 Concentration: 1 µg/L
 Sample type: CC



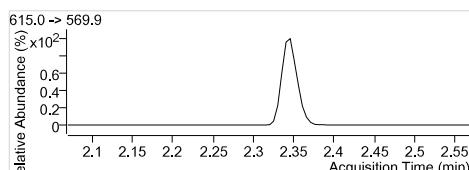
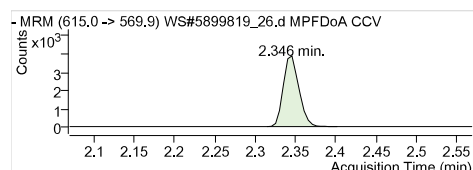
MPFNA
 RT (Exp. RT): 2.053 (2.053)
 Concentration: 1 µg/L
 Sample type: CC



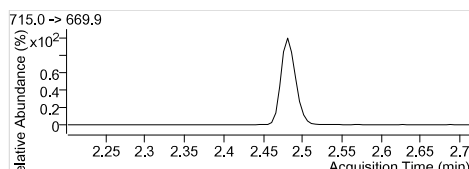
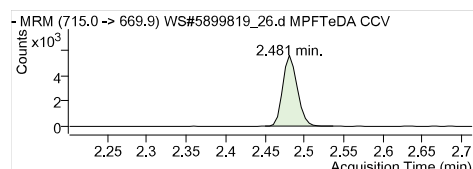
MPFDA
 RT (Exp. RT): 2.165 (2.165)
 Concentration: 1 µg/L
 Sample type: CC



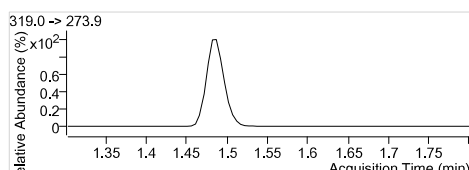
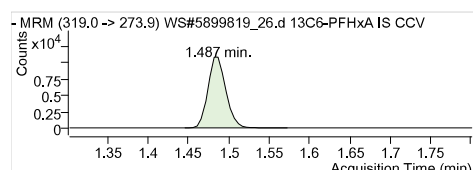
MPFUnA
 RT (Exp. RT): 2.260 (2.260)
 Concentration: 1 µg/L
 Sample type: CC



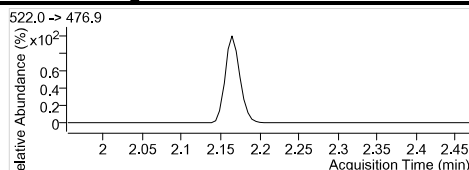
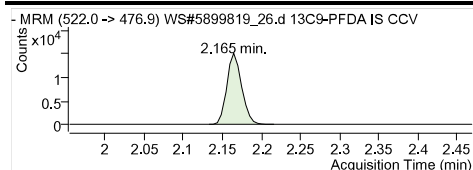
MPFDaA
 RT (Exp. RT): 2.346 (2.346)
 Concentration: 1 µg/L
 Sample type: CC



MPFTeDA
 RT (Exp. RT): 2.481 (2.481)
 Concentration: 1 µg/L
 Sample type: CC

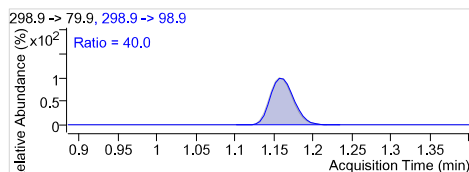
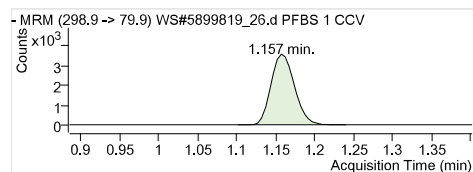


13C6-PFHxA IS
 RT (Exp. RT): 1.487 (1.487)
 Concentration: 1 µg/L
 Sample type: CC

**13C9-PFDA IS**

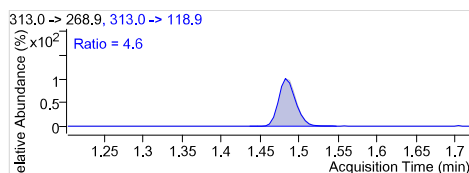
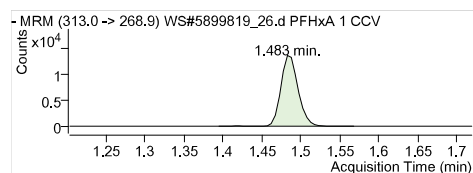
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.165 (2.165)
1 µg/L
CC

**PFBS 1**

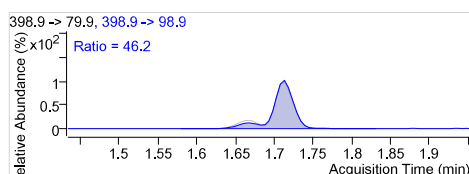
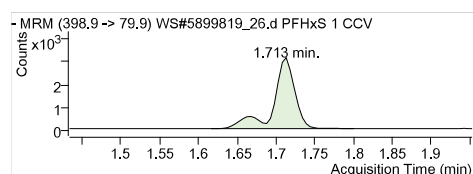
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

298.9 -> 79.9
1.157 (1.162)
12.07 µg/L
7.27713
CC

**PFHxA 1**

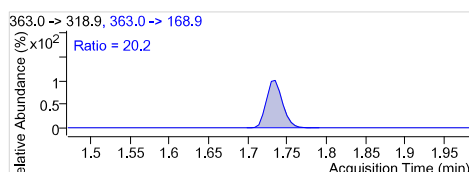
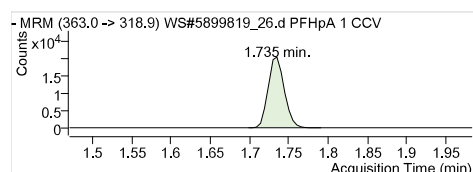
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

313.0 -> 268.9
1.483 (1.488)
12.46 µg/L
5.60398
CC

**PFHxS 1**

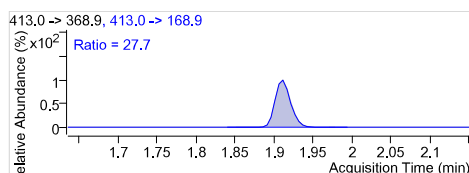
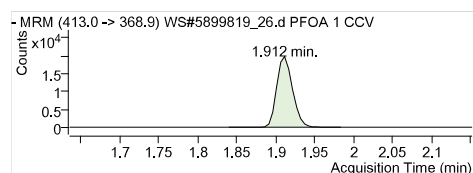
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

398.9 -> 79.9
1.713 (1.713)
12.36 µg/L
5.73934
CC

**PFHpA 1**

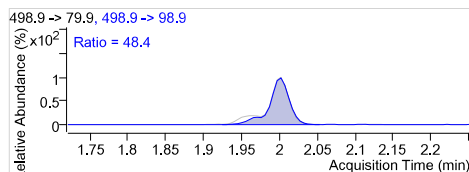
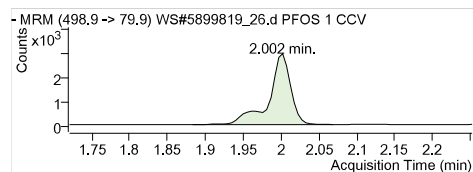
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

363.0 -> 318.9
1.735 (1.735)
12.35 µg/L
5.38396
CC

**PFOA 1**

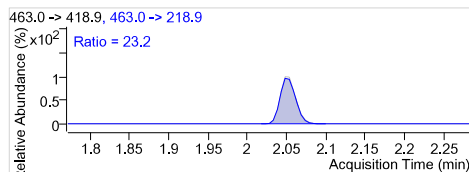
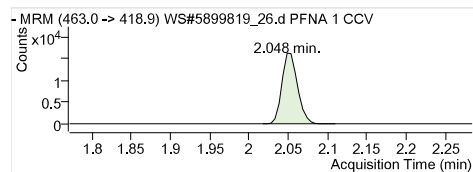
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

413.0 -> 368.9
1.912 (1.912)
12.62 µg/L
5.55770
CC

**PFOS 1**

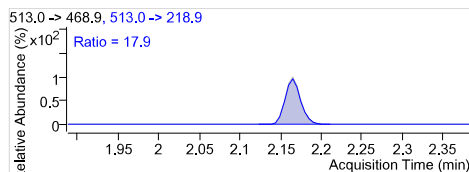
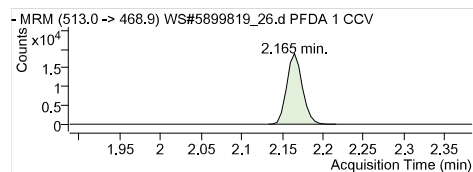
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

498.9 -> 79.9
2.002 (2.002)
13.04 µg/L
5.39595
CC

**PFNA 1**

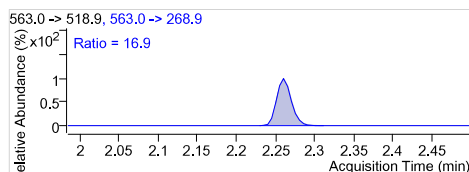
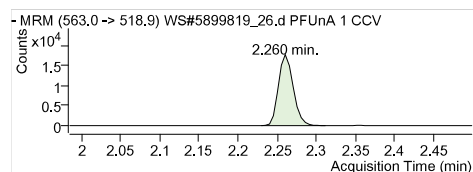
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

463.0 -> 418.9
2.048 (2.053)
12.71 µg/L
4.62825
CC

**PFDA 1**

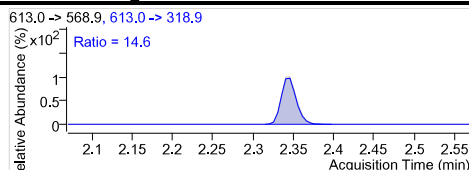
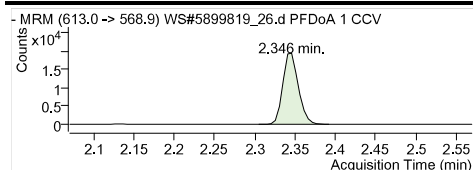
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

513.0 -> 468.9
2.165 (2.165)
12.67 µg/L
7.48355
CC

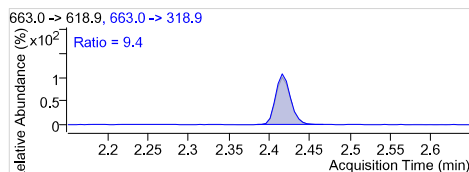
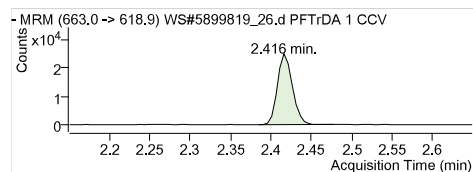
**PFUnA 1**

RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

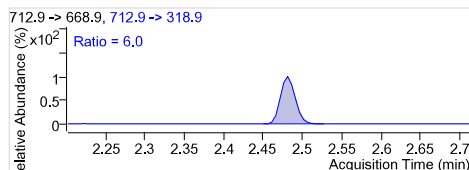
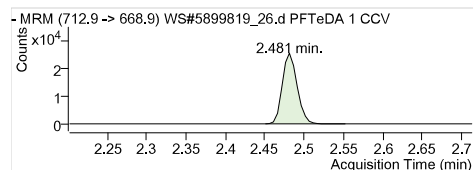
563.0 -> 518.9
2.260 (2.260)
12.54 µg/L
5.88481
CC



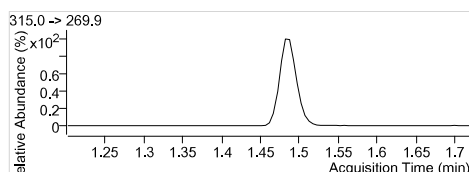
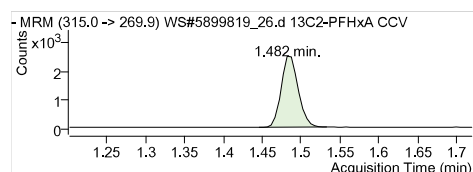
PFDa 1
 RT (Exp. RT): 613.0 → 568.9
 Calc. conc. 2.346 (2.346)
 Area ratio: 12.09 µg/L
 5.01370
 Sample type: CC



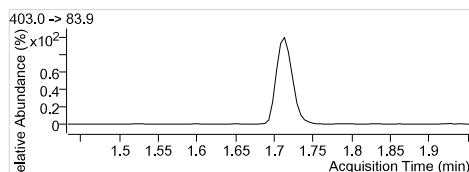
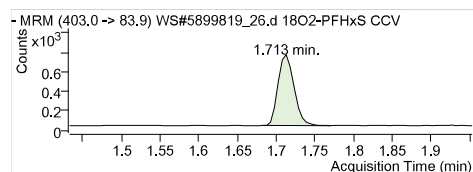
PFTTrDA 1
 RT (Exp. RT): 663.0 → 618.9
 Calc. conc. 2.416 (2.416)
 Area ratio: 13.05 µg/L
 4.55394
 Sample type: CC



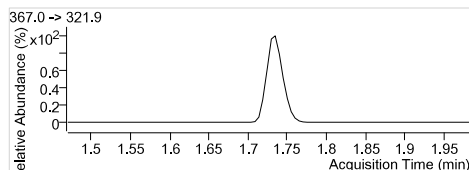
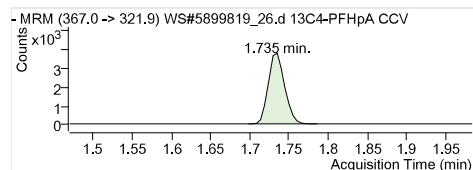
PFTTeDA 1
 RT (Exp. RT): 712.9 → 668.9
 Calc. conc. 2.481 (2.481)
 Area ratio: 12.90 µg/L
 4.71618
 Sample type: CC



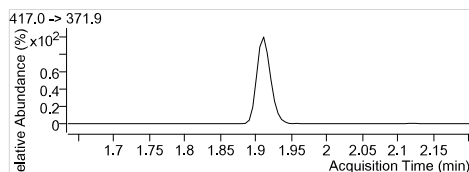
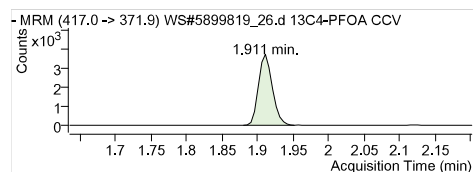
13C2-PFHxA
 RT (Exp. RT): 315.0 → 269.9
 Calc. conc. 1.482 (1.487)
 Area ratio: 100.08 µg/L
 0.22614
 Sample type: CC



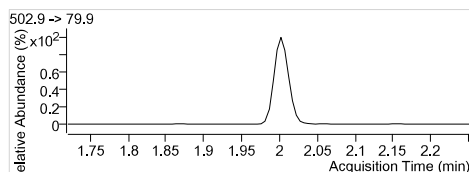
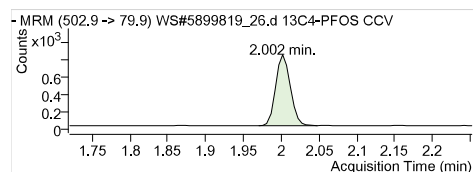
18O2-PFHxS
 RT (Exp. RT): 403.0 → 83.9
 Calc. conc. 1.713 (1.713)
 Area ratio: 106.95 µg/L
 0.06190
 Sample type: CC



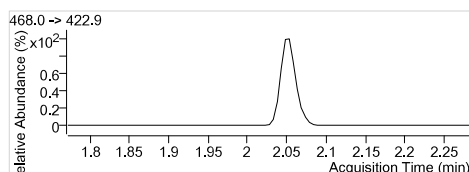
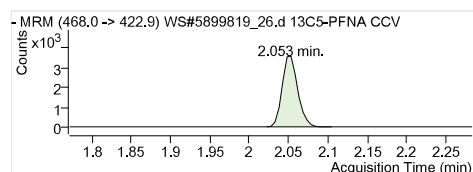
13C4-PFHpA
 RT (Exp. RT): 367.0 → 321.9
 Calc. conc. 1.735 (1.735)
 Area ratio: 99.84 µg/L
 0.32620
 Sample type: CC



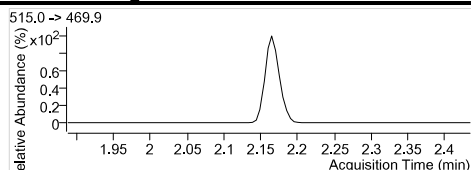
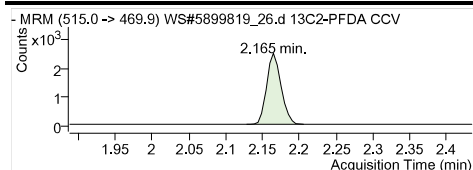
13C4-PFOA
 RT (Exp. RT): 417.0 → 371.9
 Calc. conc. 1.911 (1.911)
 Area ratio: 97.79 µg/L
 0.29890
 Sample type: CC



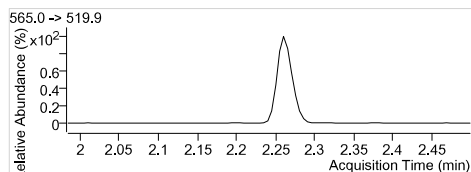
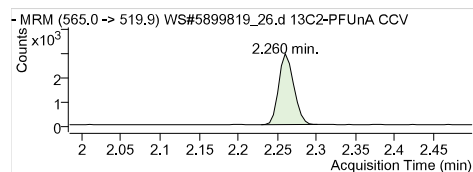
13C4-PFOS
 RT (Exp. RT): 502.9 → 79.9
 Calc. conc. 2.002 (2.002)
 Area ratio: 102.05 µg/L
 0.06514
 Sample type: CC



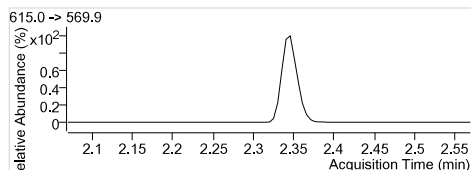
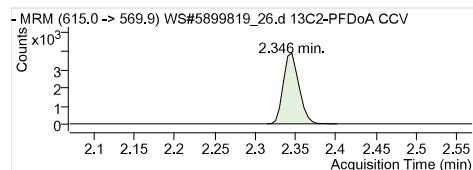
13C5-PFNA
 RT (Exp. RT): 468.0 → 422.9
 Calc. conc. 2.053 (2.053)
 Area ratio: 99.80 µg/L
 0.29044
 Sample type: CC



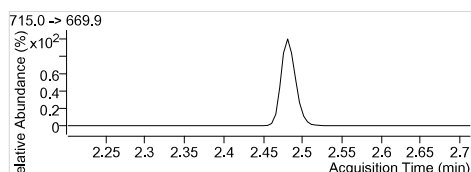
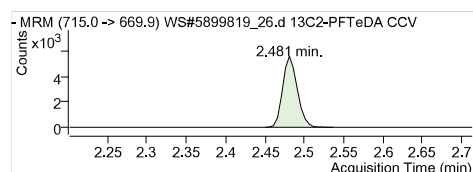
13C2-PFDA
RT (Exp. RT): 515.0 -> 469.9
Calc. conc. 2.165 (2.165)
Area ratio: 98.21 µg/L
Sample type: 0.16799
CC



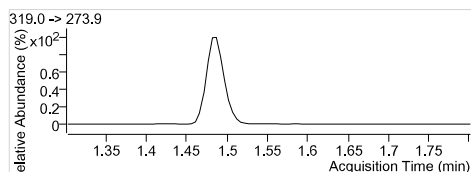
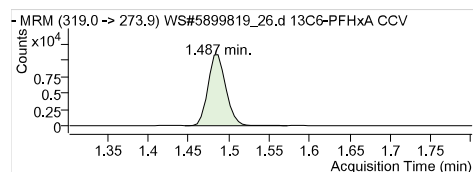
13C2-PFUnA
RT (Exp. RT): 565.0 -> 519.9
Calc. conc. 2.260 (2.260)
Area ratio: 98.73 µg/L
Sample type: 0.19713
CC



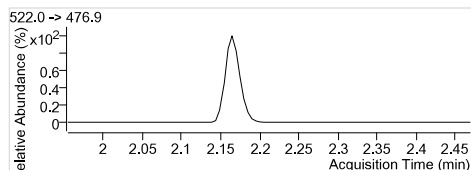
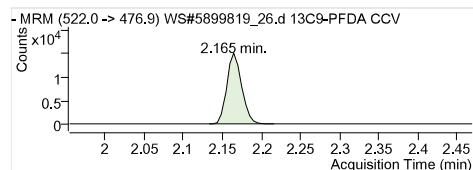
13C2-PFDoA
RT (Exp. RT): 615.0 -> 569.9
Calc. conc. 2.346 (2.346)
Area ratio: 101.53 µg/L
Sample type: 0.26037
CC



13C2-PFTeDA
RT (Exp. RT): 715.0 -> 669.9
Calc. conc. 2.481 (2.481)
Area ratio: 95.15 µg/L
Sample type: 0.35577
CC



13C6-PFHxA
RT (Exp. RT): 319.0 -> 273.9
Calc. conc. 1.487 (1.487)
Area ratio: 99.26 µg/L
Sample type: 0
CC



13C9-PFDA
RT (Exp. RT): 522.0 -> 476.9
Calc. conc. 2.165 (2.165)
Area ratio: 100.01 µg/L
Sample type: 0
CC

Quantitation Results

Batch Path T:\LCMS04\PFC\20181221\WS#5899819\QuantResults\PFC_Water_Low_20181221_WS#5899819_EToxics

Sample Name CCV Instrument LCMS04

Data File WS#5899819_34.d Operator

Sample Type CC Dilution 1

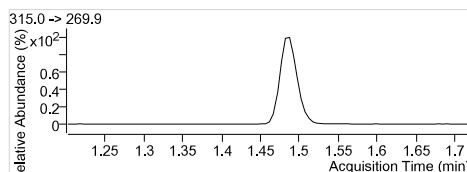
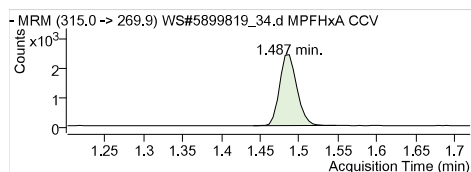
Acq. Method PFC_Water_Low.m Position P1-A5

Acq. Date 2018/12/21 7:16:48 PM Injection Volume Per Method

Sample Annotation -

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3760	1.49	1 µg/L		
MPFHxS	989	1.71	1 µg/L		
MPFHpA	5601	1.73	1 µg/L		
MPFOA	4849	1.91	1 µg/L		
MPFOS	1117	2.00	1 µg/L		
MPFNA	4632	2.05	1 µg/L		
MPFDA	3356	2.16	1 µg/L		
MPFUnA	3983	2.26	1 µg/L		
MPFDoA	4984	2.35	1 µg/L		
MPFTeDA	7297	2.48	1 µg/L		
13C6-PFHxA IS	16766	1.49	1 µg/L		
13C9-PFDA IS	19904	2.16	1 µg/L		

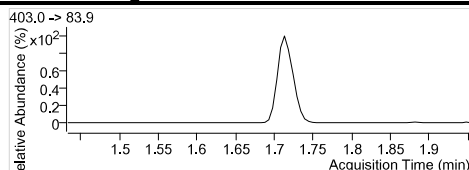
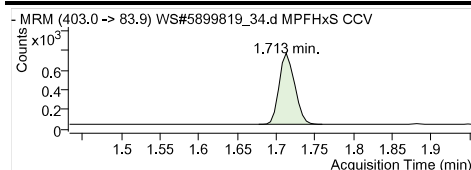
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7620	1.16	12.50	12.77 µg/L	102.19
PFHxA 1	21240	1.48	12.50	12.56 µg/L	100.49
PFHxS 1	5669	1.71	12.50	12.34 µg/L	98.76
PFHpA 1	30356	1.74	12.50	12.43 µg/L	99.43
PFOA 1	28324	1.91	12.50	13.27 µg/L	106.14
PFOS 1	5673	2.00	12.50	12.27 µg/L	98.19
PFNA 1	22473	2.05	12.50	13.33 µg/L	106.62
PFDA 1	25418	2.17	12.50	12.82 µg/L	102.58
PFUnA 1	22392	2.26	12.50	11.98 µg/L	95.81
PFDoA 1	26491	2.35	12.50	12.81 µg/L	102.50
PFTTrDA 1	31901	2.42	12.50	12.53 µg/L	100.24
PFTeDA 1	33188	2.48	12.50	12.44 µg/L	99.50
13C2-PFHxA	3760	1.49	100.00	99.24 µg/L	99.24
18O2-PFHxS	989	1.71	100.00	101.91 µg/L	101.91
13C4-PFHpA	5601	1.73	100.00	102.25 µg/L	102.25
13C4-PFOA	4849	1.91	100.00	94.62 µg/L	94.62
13C4-PFOS	1117	2.00	100.00	104.37 µg/L	104.37
13C5-PFNA	4632	2.05	100.00	94.93 µg/L	94.93
13C2-PFDA	3356	2.16	100.00	98.57 µg/L	98.57
13C2-PFUnA	3983	2.26	100.00	100.23 µg/L	100.23
13C2-PFDoA	4984	2.35	100.00	97.65 µg/L	97.65
13C2-PFTeDA	7297	2.48	100.00	98.05 µg/L	98.05
13C6-PFHxA	16766	1.49	100.00	99.82 µg/L	99.82
13C9-PFDA	19904	2.16	100.00	100.00 µg/L	100.00



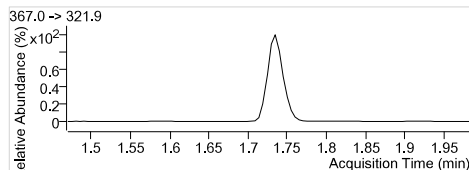
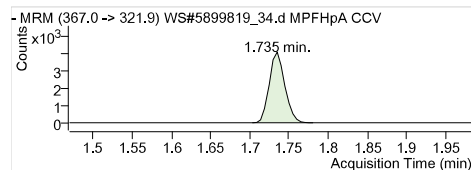
MPFHxA

RT (Exp. RT):
Concentration:
Sample type:

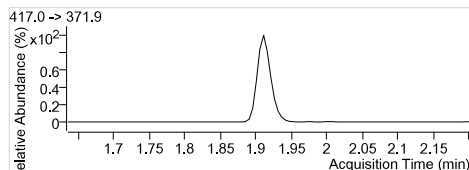
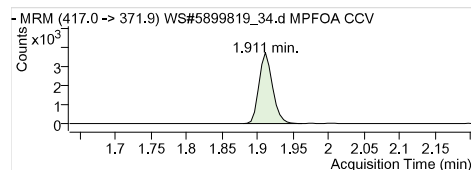
Internal Standard
1.487 (1.487)
1 µg/L
CC



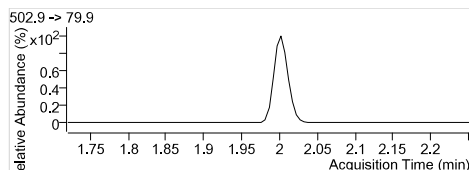
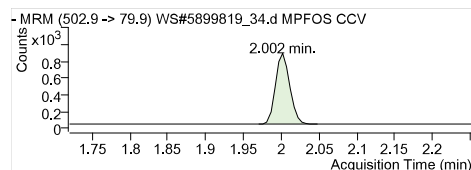
MPFHxS
 RT (Exp. RT): 1.713 (1.713)
 Concentration: 1 µg/L
 Sample type: CC



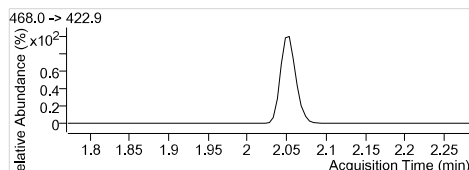
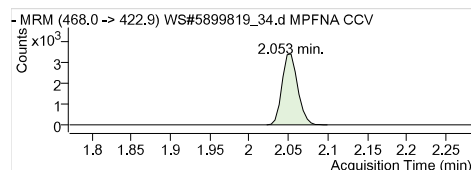
MPFHpa
 RT (Exp. RT): 1.735 (1.735)
 Concentration: 1 µg/L
 Sample type: CC



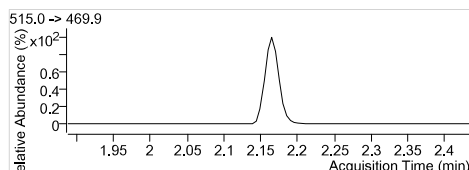
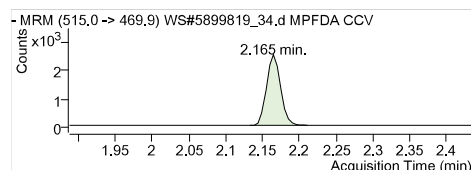
MPFOA
 RT (Exp. RT): 1.911 (1.911)
 Concentration: 1 µg/L
 Sample type: CC



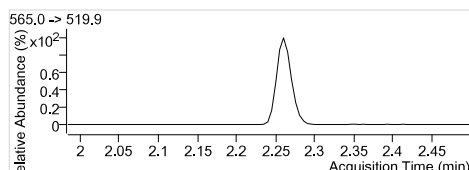
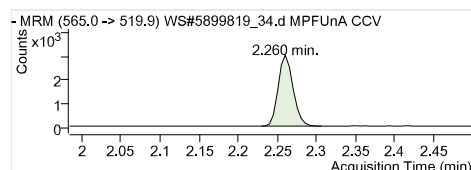
MPFOS
 RT (Exp. RT): 2.002 (2.002)
 Concentration: 1 µg/L
 Sample type: CC



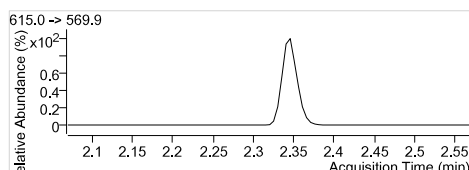
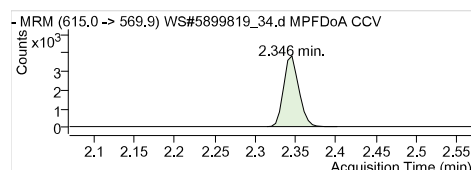
MPFNA
 RT (Exp. RT): 2.053 (2.053)
 Concentration: 1 µg/L
 Sample type: CC



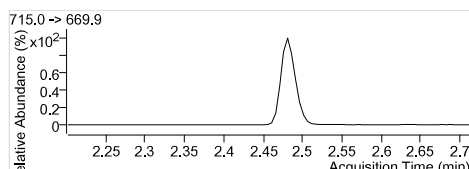
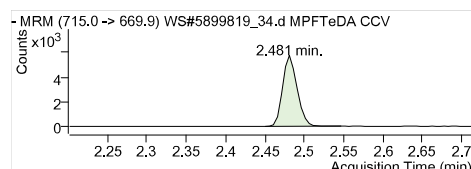
MPFDA
 RT (Exp. RT): 2.165 (2.165)
 Concentration: 1 µg/L
 Sample type: CC



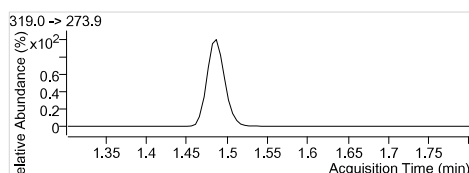
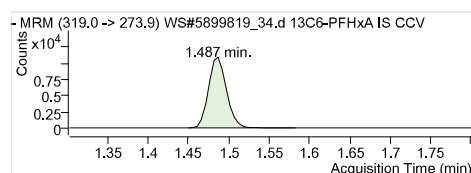
MPFUnA
 RT (Exp. RT): 2.260 (2.260)
 Concentration: 1 µg/L
 Sample type: CC



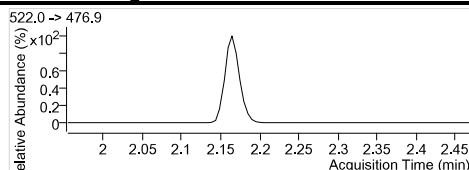
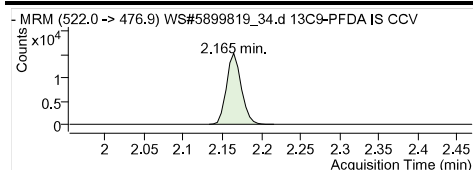
MPFDaA
 RT (Exp. RT): 2.346 (2.346)
 Concentration: 1 µg/L
 Sample type: CC



MPFTeDA
 RT (Exp. RT): 2.481 (2.481)
 Concentration: 1 µg/L
 Sample type: CC

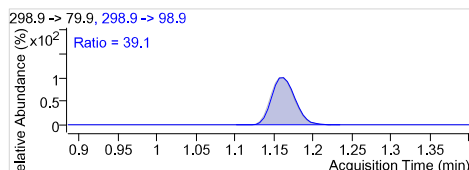
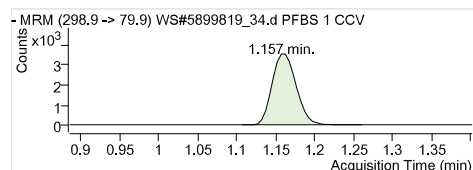


13C6-PFHxA IS
 RT (Exp. RT): 1.487 (1.487)
 Concentration: 1 µg/L
 Sample type: CC

**13C9-PFDA IS**

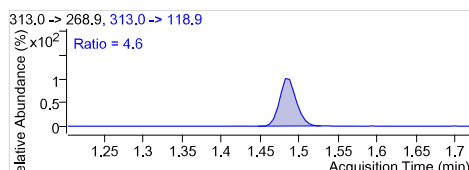
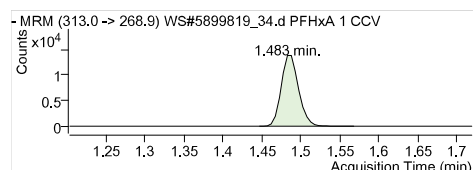
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.165 (2.165)
1 $\mu\text{g/L}$
CC

**PFBS 1**

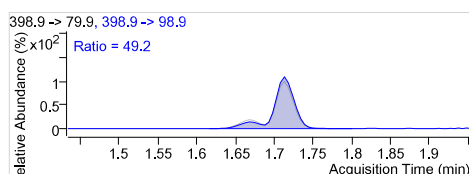
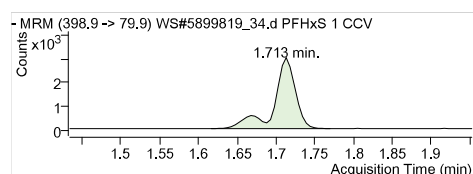
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

298.9 -> 79.9
1.157 (1.162)
12.77 $\mu\text{g/L}$
7.70475
CC

**PFHxA 1**

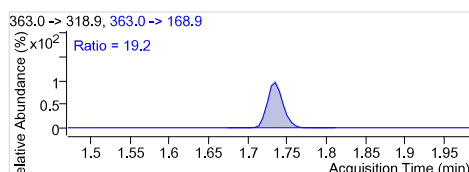
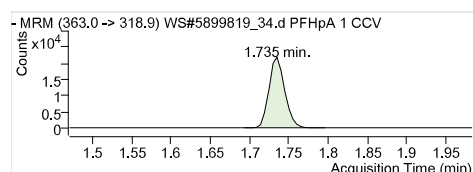
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

313.0 -> 268.9
1.483 (1.488)
12.56 $\mu\text{g/L}$
5.64894
CC

**PFHxS 1**

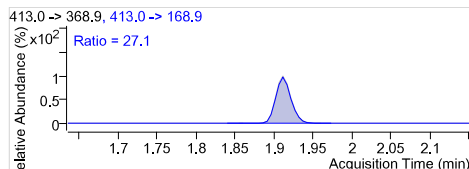
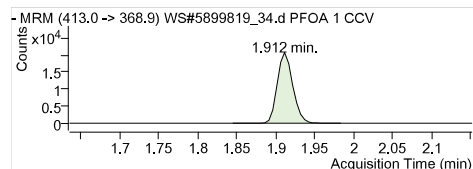
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

398.9 -> 79.9
1.713 (1.713)
12.34 $\mu\text{g/L}$
5.73205
CC

**PFHpA 1**

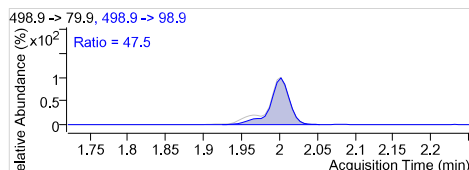
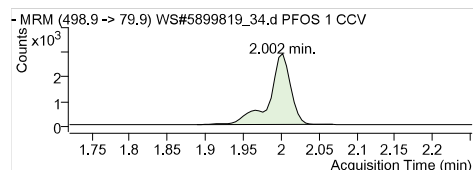
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

363.0 -> 318.9
1.735 (1.735)
12.43 $\mu\text{g/L}$
5.41975
CC

**PFOA 1**

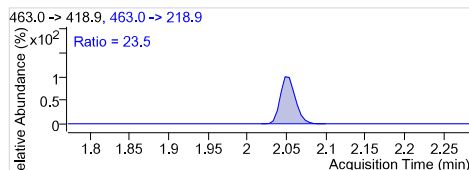
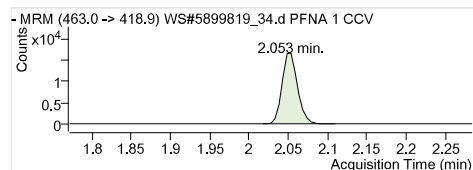
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

413.0 -> 368.9
1.912 (1.912)
13.27 $\mu\text{g/L}$
5.84120
CC

**PFOS 1**

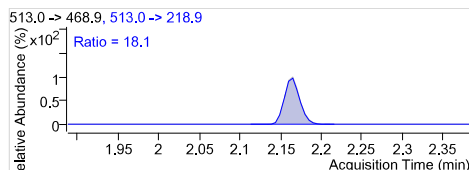
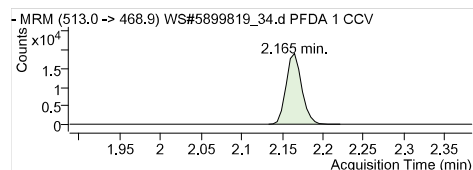
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

498.9 -> 79.9
2.002 (2.002)
12.27 $\mu\text{g/L}$
5.07878
CC

**PFNA 1**

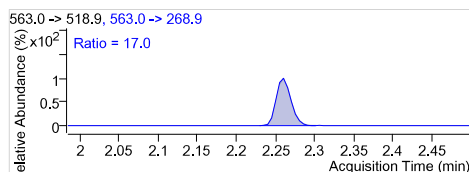
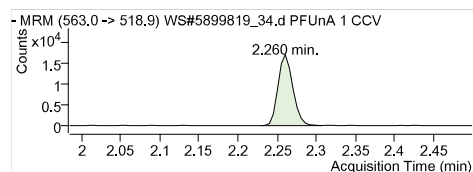
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

463.0 -> 418.9
2.053 (2.053)
13.33 $\mu\text{g/L}$
4.85168
CC

**PFDA 1**

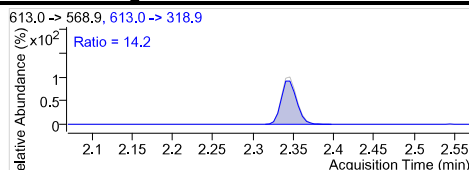
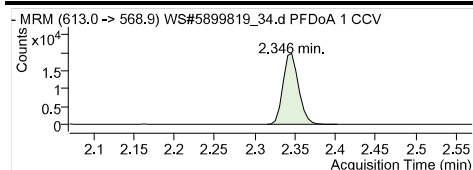
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

513.0 -> 468.9
2.165 (2.165)
12.82 $\mu\text{g/L}$
7.57390
CC

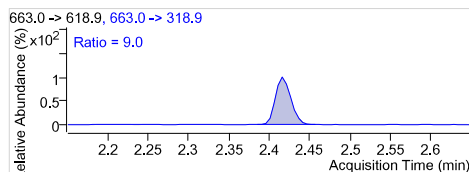
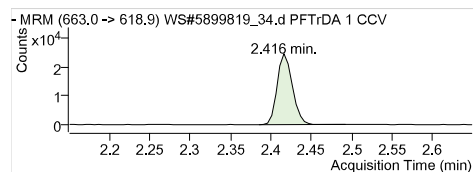
**PFUnA 1**

RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

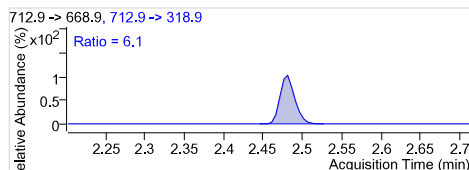
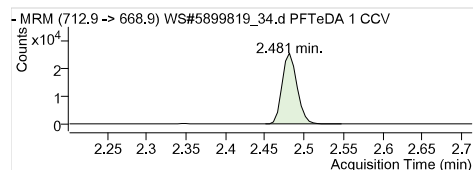
563.0 -> 518.9
2.260 (2.260)
11.98 $\mu\text{g/L}$
5.62189
CC



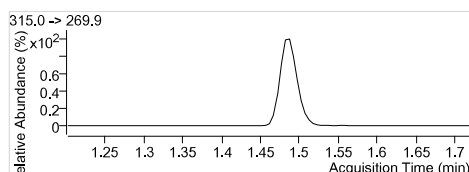
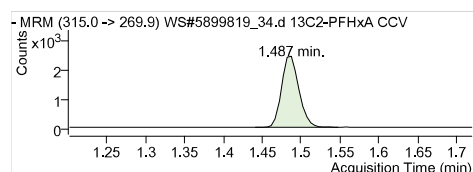
PFDa 1
 RT (Exp. RT): 613.0 → 568.9
 Calc. conc. 2.346 (2.346)
 Area ratio: 12.81 µg/L
 Sample type: 5.31521
 CC



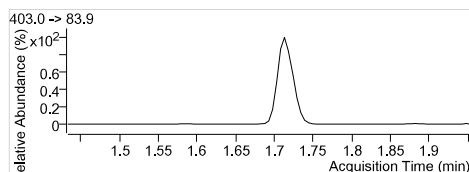
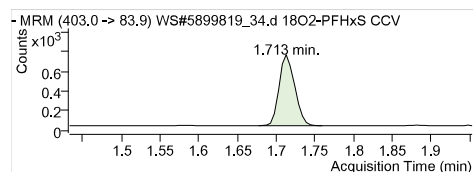
PFTrDA 1
 RT (Exp. RT): 663.0 → 618.9
 Calc. conc. 2.416 (2.416)
 Area ratio: 12.53 µg/L
 Sample type: 4.37180
 CC



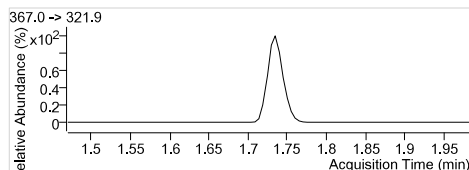
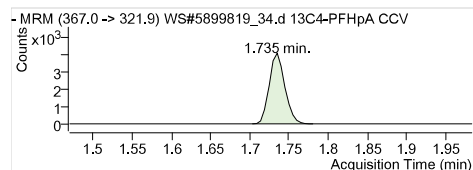
PFTeDA 1
 RT (Exp. RT): 712.9 → 668.9
 Calc. conc. 2.481 (2.481)
 Area ratio: 12.44 µg/L
 Sample type: 4.54817
 CC



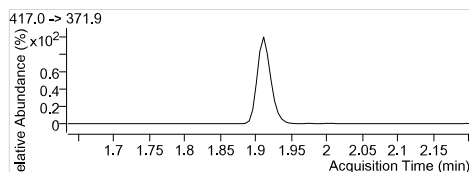
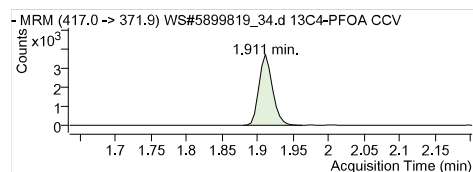
13C2-PFHxA
 RT (Exp. RT): 315.0 → 269.9
 Calc. conc. 1.487 (1.487)
 Area ratio: 99.24 µg/L
 Sample type: 0.22426
 CC



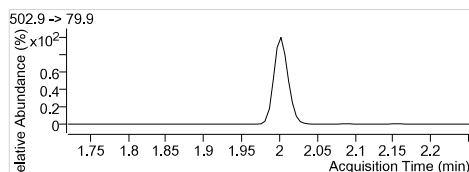
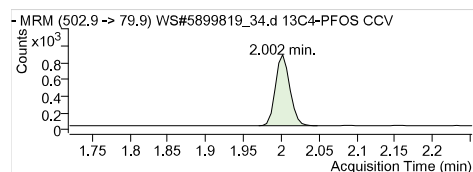
18O2-PFHxS
 RT (Exp. RT): 403.0 → 83.9
 Calc. conc. 1.713 (1.713)
 Area ratio: 101.91 µg/L
 Sample type: 0.05899
 CC



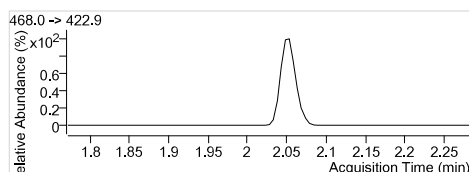
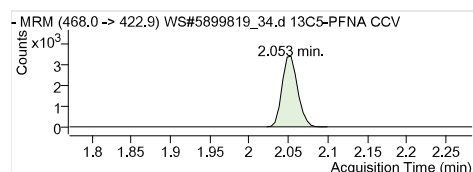
13C4-PFHpA
 RT (Exp. RT): 367.0 → 321.9
 Calc. conc. 1.735 (1.735)
 Area ratio: 102.25 µg/L
 Sample type: 0.33407
 CC



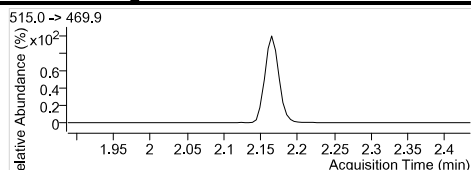
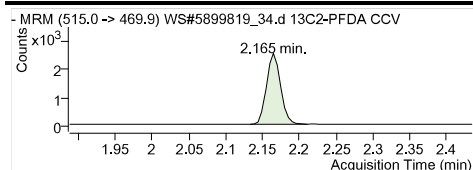
13C4-PFOA
 RT (Exp. RT): 417.0 → 371.9
 Calc. conc. 1.911 (1.911)
 Area ratio: 94.62 µg/L
 Sample type: 0.28922
 CC



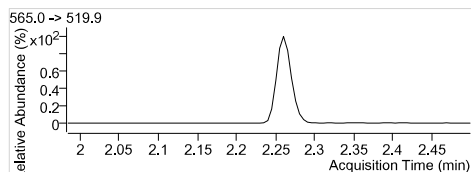
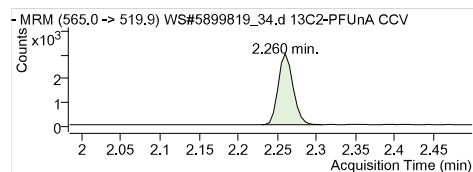
13C4-PFOS
 RT (Exp. RT): 502.9 → 79.9
 Calc. conc. 2.002 (2.002)
 Area ratio: 104.37 µg/L
 Sample type: 0.06662
 CC



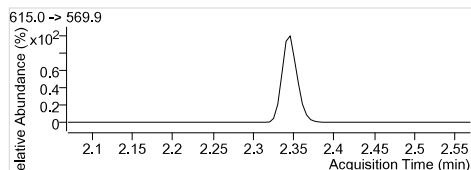
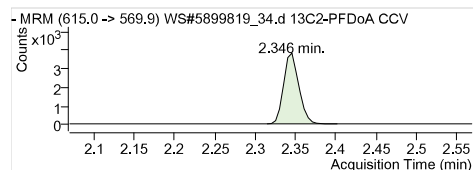
13C5-PFNA
 RT (Exp. RT): 468.0 → 422.9
 Calc. conc. 2.053 (2.053)
 Area ratio: 94.93 µg/L
 Sample type: 0.27627
 CC



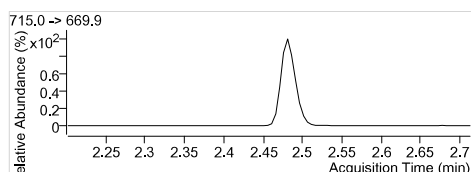
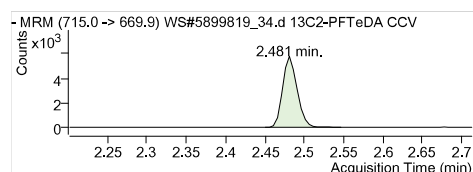
13C2-PFDA
RT (Exp. RT): 515.0 → 469.9
Calc. conc. 2.165 (2.165)
Area ratio: 98.57 µg/L
Sample type: 0.16861
CC



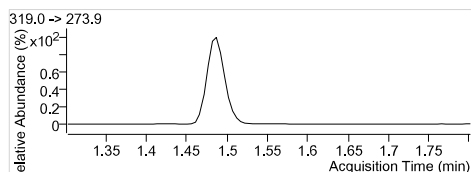
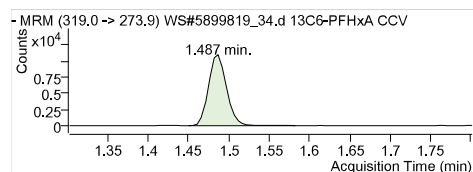
13C2-PFUnA
RT (Exp. RT): 565.0 → 519.9
Calc. conc. 2.260 (2.260)
Area ratio: 100.23 µg/L
Sample type: 0.20011
CC



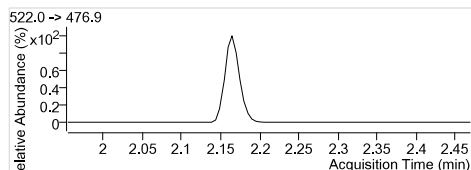
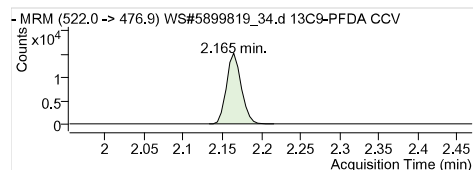
13C2-PFDoA
RT (Exp. RT): 615.0 → 569.9
Calc. conc. 2.346 (2.346)
Area ratio: 97.65 µg/L
Sample type: 0.25040
CC



13C2-PFTeDA
RT (Exp. RT): 715.0 → 669.9
Calc. conc. 2.481 (2.481)
Area ratio: 98.05 µg/L
Sample type: 0.36661
CC



13C6-PFHxA
RT (Exp. RT): 319.0 → 273.9
Calc. conc. 1.487 (1.487)
Area ratio: 99.82 µg/L
Sample type: 0
CC



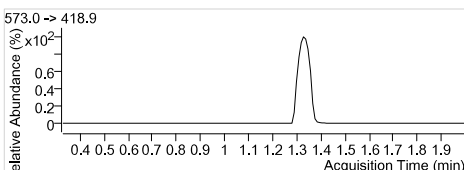
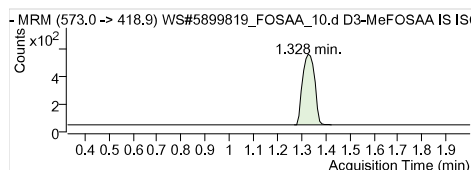
13C9-PFDA
RT (Exp. RT): 522.0 → 476.9
Calc. conc. 2.165 (2.165)
Area ratio: 100.00 µg/L
Sample type: 0
CC

Quantitation Results

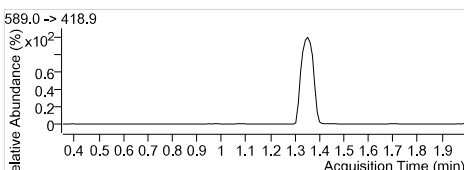
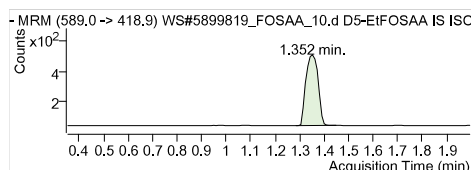
Batch Path	T:\LCMS04\PFC\20181221\WS#5899819_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5899819_FOSA_A_EToxics		
Sample Name	ISC	Instrument	LCMS04
Data File	WS#5899819_FOSAA_10.d	Operator	
Sample Type	QC	Dilution	1
Acq. Method	PFC_Water_Low_FOSAA.m	Position	P1-A2
Acq. Date	2018/12/21 11:46:13 PM	Injection Volume	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1803	1.33	1 µg/L		
D5-EtFOSAA IS	1589	1.35	1 µg/L		
13C9-PFDA IS	21537	0.98	1 µg/L		

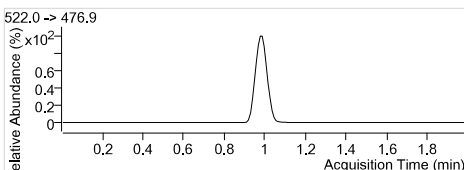
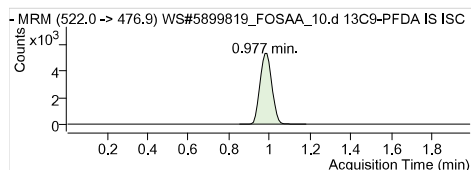
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	601	1.33	0.83	0.87 µg/L	104.88
EtFOSAA 1	580	1.35	0.83	0.86 µg/L	103.27
D3-MeFOSAA	1807	1.33	100.00	98.93 µg/L	98.93
D5-EtFOSAA	1592	1.35	100.00	97.25 µg/L	97.25
13C9-PFDA	21319	0.98	100.00	102.55 µg/L	102.55



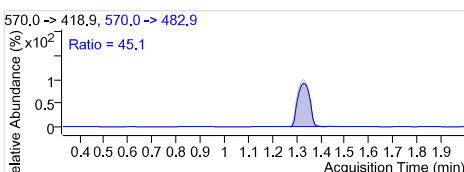
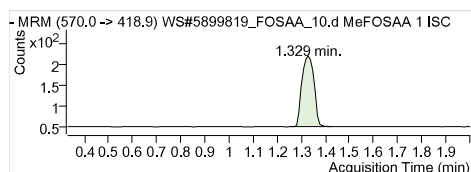
D3-MeFOSAA IS
 RT (Exp. RT): 1.328 (1.328)
 Concentration: 1 µg/L
 Sample type: QC



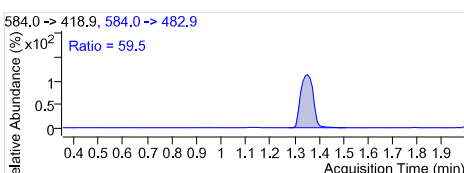
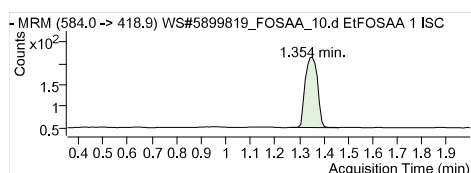
D5-EtFOSAA IS
 RT (Exp. RT): 1.352 (1.352)
 Concentration: 1 µg/L
 Sample type: QC



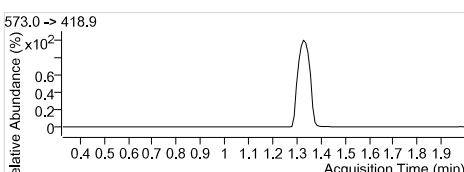
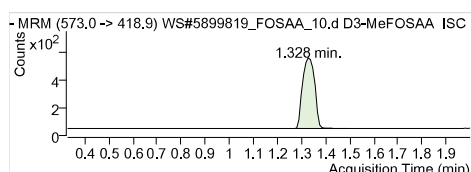
13C9-PFDA IS
 RT (Exp. RT): 0.977 (0.986)
 Concentration: 1 µg/L
 Sample type: QC



MeFOSAA 1
 RT (Exp. RT): 1.329 (1.329)
 Calc. conc. 0.87 µg/L
 Area ratio: 0.33333
 Sample type: QC

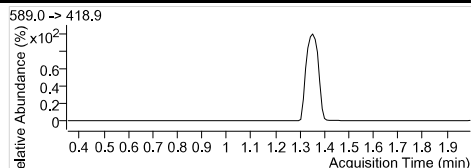
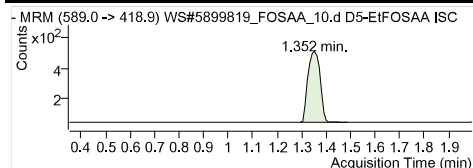


EtFOSAA 1
 RT (Exp. RT): 1.354 (1.354)
 Calc. conc. 0.86 µg/L
 Area ratio: 0.36501
 Sample type: QC

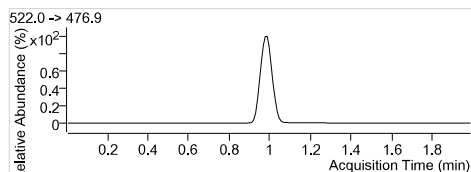
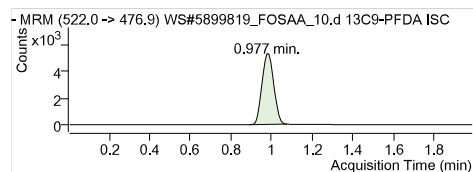


D3-MeFOSAA
 RT (Exp. RT): 1.328 (1.328)
 Calc. conc. 98.93 µg/L
 Area ratio: 0.08390
 Sample type: QC

Quantitation Results



D5-ElFOSAA
 RT (Exp. RT): 589.0 -> 418.9
 RT (Exp. RT): 1.352 (1.352)
 Calc. conc. 97.25 µg/L
 Area ratio: 0.07392
 Sample type: QC



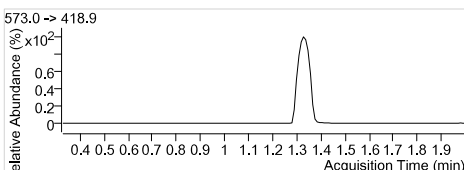
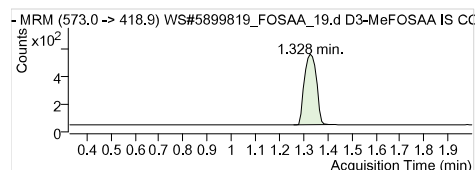
13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 RT (Exp. RT): 0.977 (0.986)
 Calc. conc. 102.55 µg/L
 Area ratio: 0
 Sample type: QC

Quantitation Results

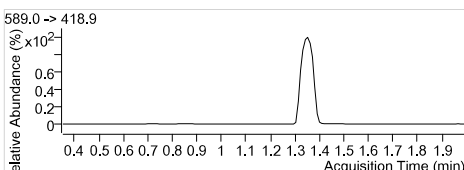
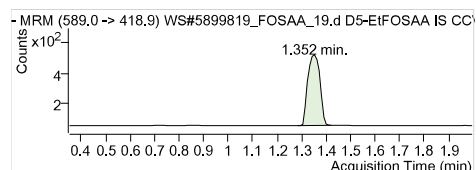
Batch Path	T:\LCMS04\PFC\20181221\WS#5899819_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5899819_FOSAA_EToxics		
Sample Name	CCV	Instrument	LCMS04
Data File	WS#5899819_FOSAA_19.d	Operator	
Sample Type	CC	Dilution	1
Acq. Method	PFC_Water_Low_FOSAA.m	Position	P1-A5
Acq. Date	2018/12/22 12:07:36 AM	Injection Volume	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1768	1.33	1 µg/L		
D5-EtFOSAA IS	1632	1.35	1 µg/L		
13C9-PFDA IS	21452	0.98	1 µg/L		

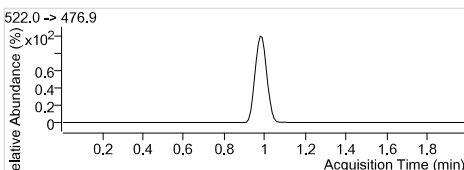
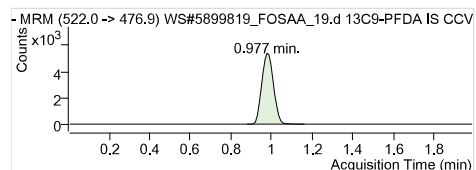
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	7602	1.33	12.50	12.51 µg/L	100.05
EtFOSAA 1	8538	1.35	12.50	11.87 µg/L	94.93
D3-MeFOSAA	1777	1.33	100.00	97.67 µg/L	97.67
D5-EtFOSAA	1634	1.35	100.00	100.21 µg/L	100.21
13C9-PFDA	21270	0.98	100.00	102.32 µg/L	102.32



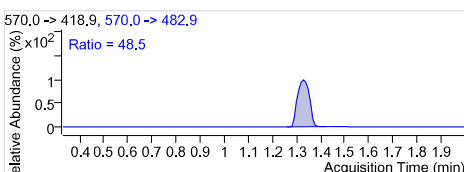
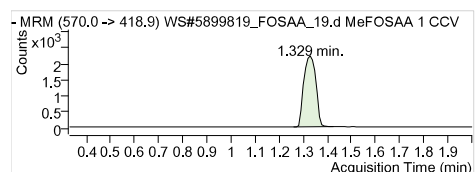
D3-MeFOSAA IS
 RT (Exp. RT): 1.328 (1.328)
 Concentration: 1 µg/L
 Sample type: CC



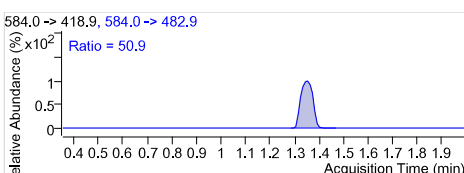
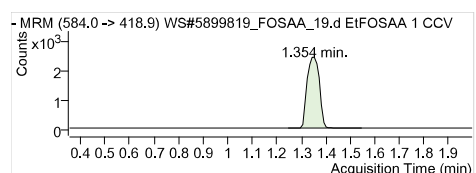
D5-EtFOSAA IS
 RT (Exp. RT): 1.352 (1.352)
 Concentration: 1 µg/L
 Sample type: CC



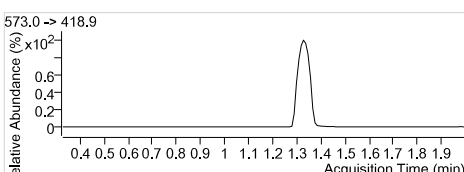
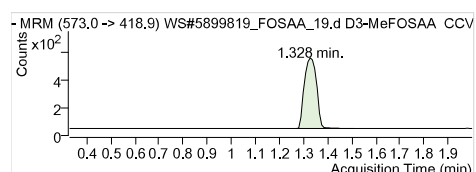
13C9-PFDA IS
 RT (Exp. RT): 0.977 (0.986)
 Concentration: 1 µg/L
 Sample type: CC



MeFOSAA 1
 RT (Exp. RT): 1.329 (1.329)
 Calc. conc. 12.51 µg/L
 Area ratio: 4.29977
 Sample type: CC

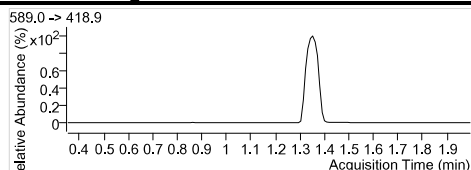
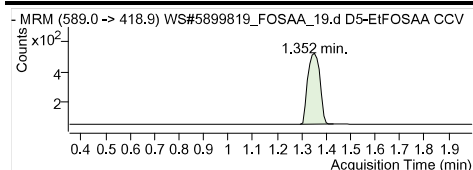


EtFOSAA 1
 RT (Exp. RT): 1.354 (1.354)
 Calc. conc. 11.87 µg/L
 Area ratio: 5.23162
 Sample type: CC

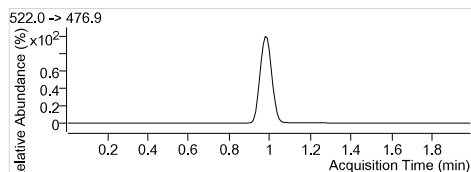
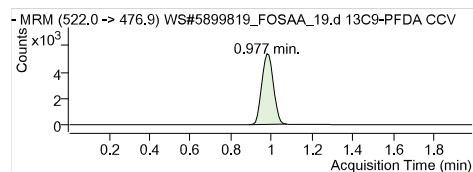


D3-MeFOSAA
 RT (Exp. RT): 1.328 (1.328)
 Calc. conc. 97.67 µg/L
 Area ratio: 0.08284
 Sample type: CC

Quantitation Results



D5-EIFOSAA
 RT (Exp. RT): 589.0 -> 418.9
 RT (Exp. RT): 1.352 (1.352)
 Calc. conc. 100.21 µg/L
 Area ratio: 0.07617
 Sample type: CC



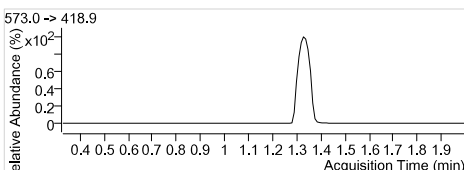
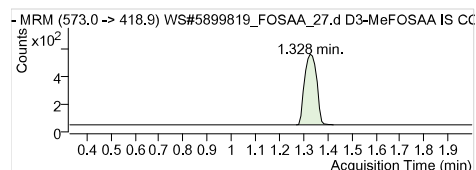
13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 RT (Exp. RT): 0.977 (0.986)
 Calc. conc. 102.32 µg/L
 Area ratio: 0
 Sample type: CC

Quantitation Results

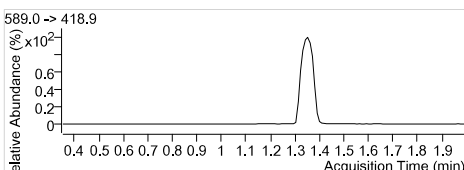
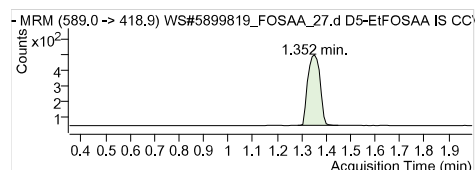
Batch Path	T:\LCMS04\PFC\20181221\WS#5899819_FOSAA\QuantResults\PFC_Water_Low_20181221_WS#5899819_FOSA_A_EToxics		
Sample Name	CCV	Instrument	LCMS04
Data File	WS#5899819_FOSAA_27.d	Operator	
Sample Type	CC	Dilution	1
Acq. Method	PFC_Water_Low_FOSAA.m	Position	P1-A5
Acq. Date	2018/12/22 12:26:38 AM	Injection Volume	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1788	1.33	1 µg/L		
D5-EtFOSAA IS	1577	1.35	1 µg/L		
13C9-PFDA IS	21360	0.99	1 µg/L		

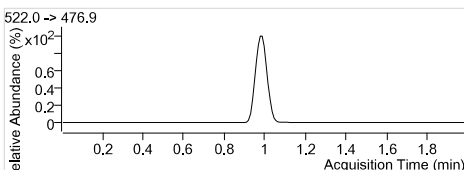
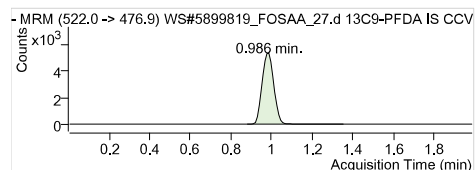
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	7454	1.33	12.50	12.12 µg/L	96.98
EtFOSAA 1	8194	1.35	12.50	11.79 µg/L	94.29
D3-MeFOSAA	1794	1.33	100.00	99.03 µg/L	99.03
D5-EtFOSAA	1578	1.35	100.00	97.19 µg/L	97.19
13C9-PFDA	21080	0.99	100.00	101.40 µg/L	101.40



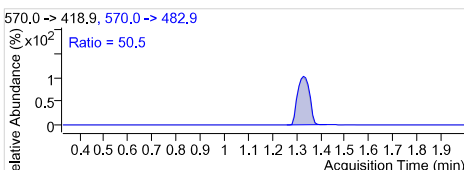
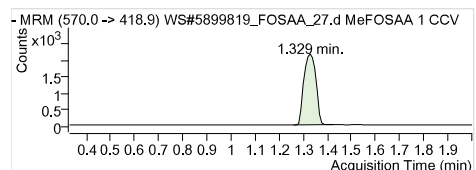
D3-MeFOSAA IS
 RT (Exp. RT): 1.328 (1.328)
 Concentration: 1 µg/L
 Sample type: CC



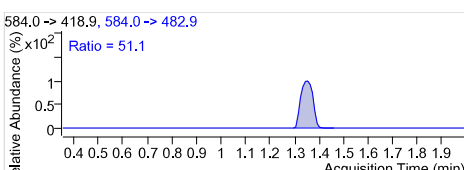
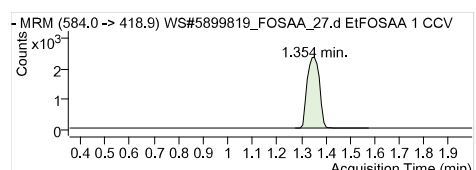
D5-EtFOSAA IS
 RT (Exp. RT): 1.352 (1.352)
 Concentration: 1 µg/L
 Sample type: CC



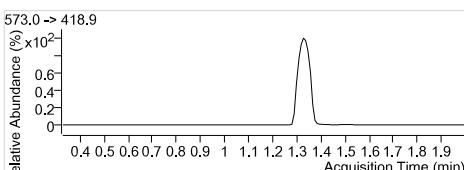
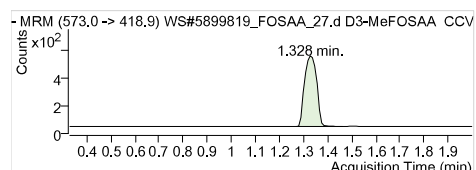
13C9-PFDA IS
 RT (Exp. RT): 0.986 (0.986)
 Concentration: 1 µg/L
 Sample type: CC



MeFOSAA 1
 RT (Exp. RT): 1.329 (1.329)
 Calc. conc. 12.12 µg/L
 Area ratio: 4.16890
 Sample type: CC

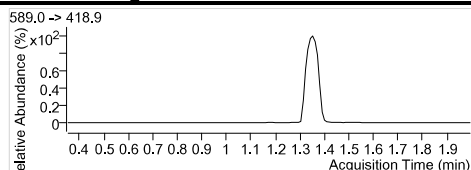
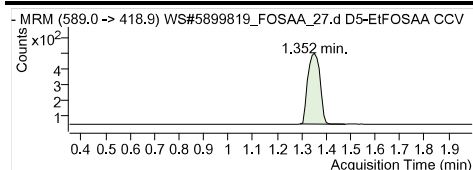


EtFOSAA 1
 RT (Exp. RT): 1.354 (1.354)
 Calc. conc. 11.79 µg/L
 Area ratio: 5.19594
 Sample type: CC

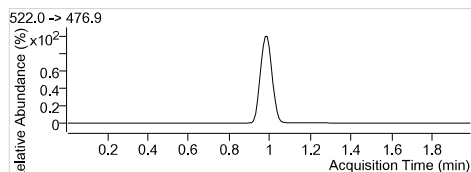
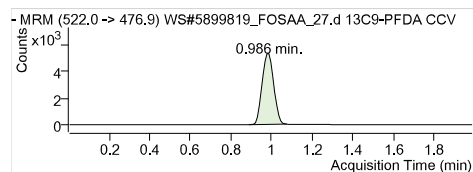


D3-MeFOSAA
 RT (Exp. RT): 1.328 (1.328)
 Calc. conc. 99.03 µg/L
 Area ratio: 0.08399
 Sample type: CC

Quantitation Results



D5-ElFOSAA
 RT (Exp. RT): 589.0 -> 418.9
 RT (Exp. RT): 1.352 (1.352)
 Calc. conc. 97.19 µg/L
 Area ratio: 0.07388
 Sample type: CC

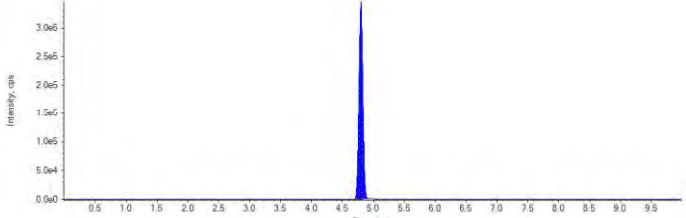
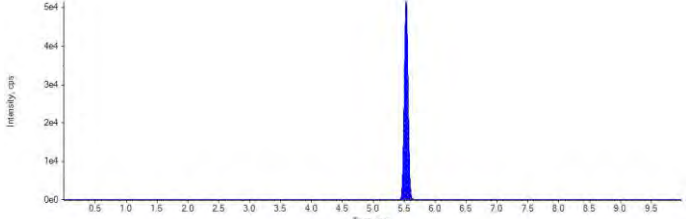
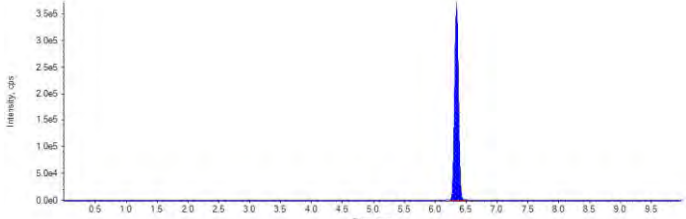


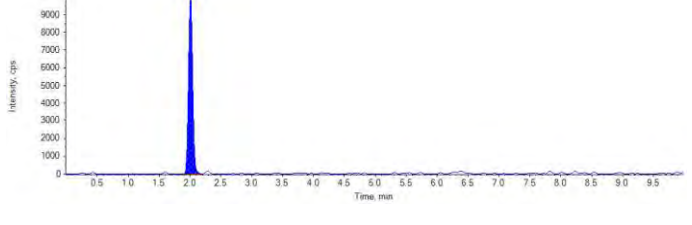
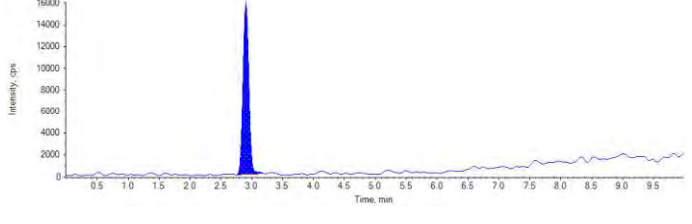
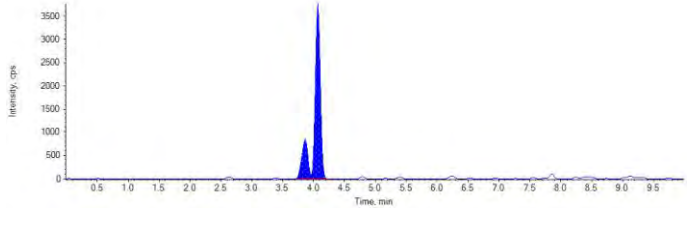
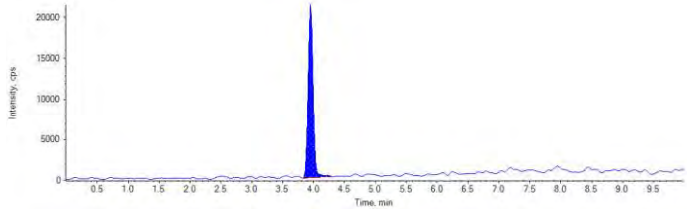
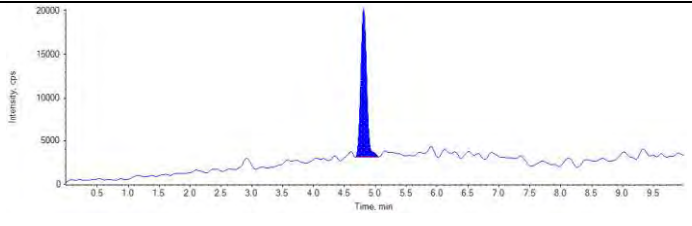
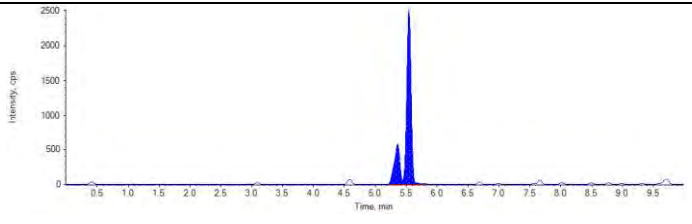
13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 RT (Exp. RT): 0.986 (0.986)
 Calc. conc. 101.40 µg/L
 Area ratio: 0
 Sample type: CC

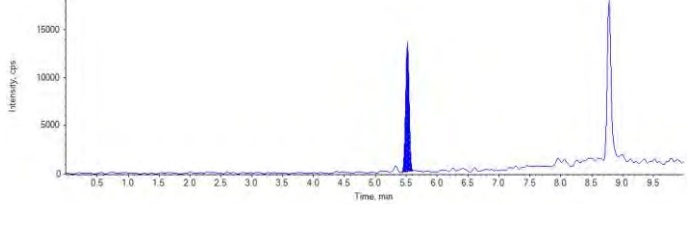
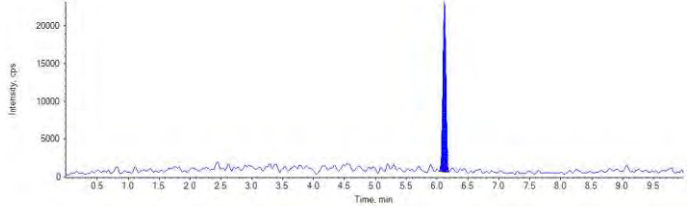
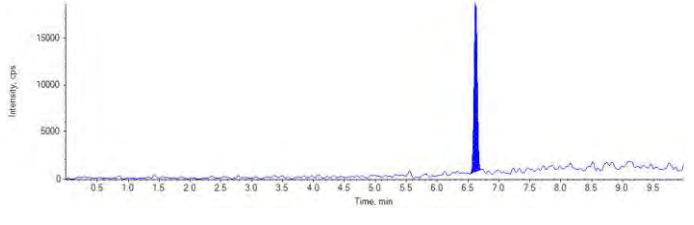
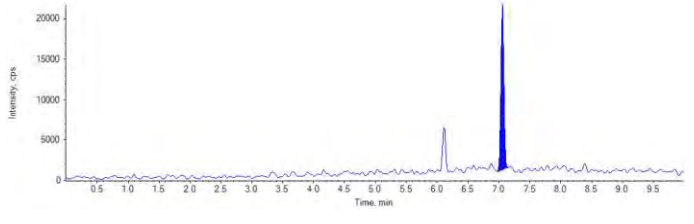
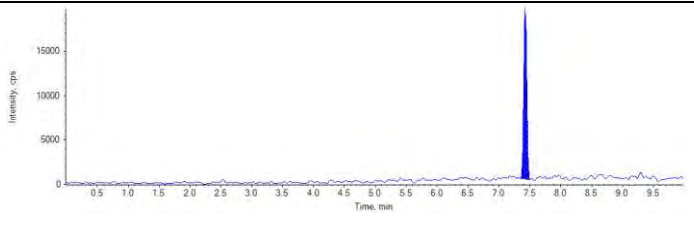
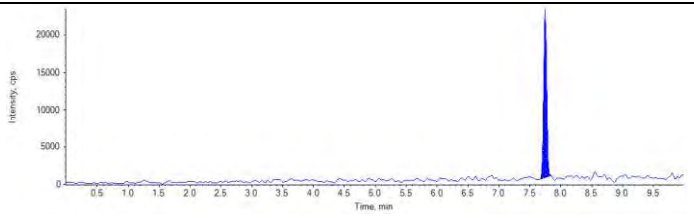
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	2
Acquisition Date	2019/01/03 2:08:58 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181228\WS#5907027.wiff		
Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb		
Samples Annotation	-		

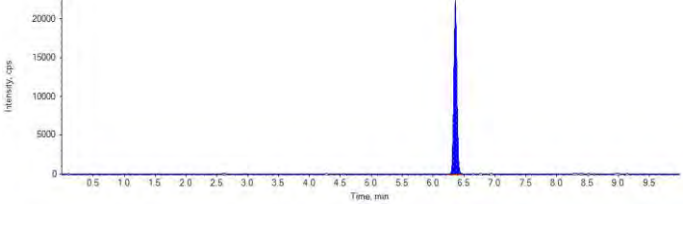
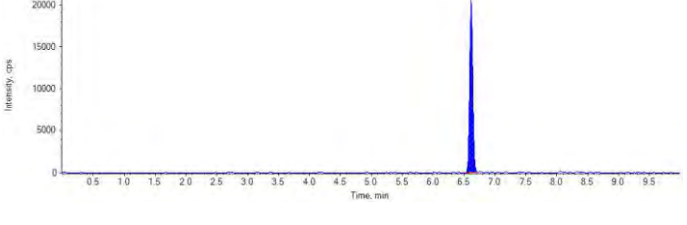
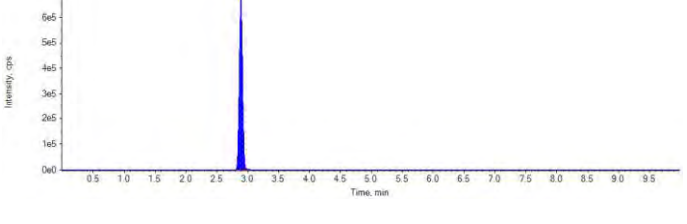
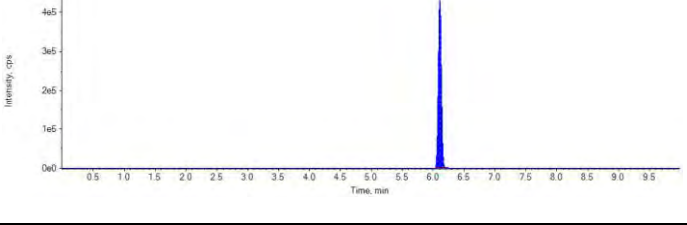
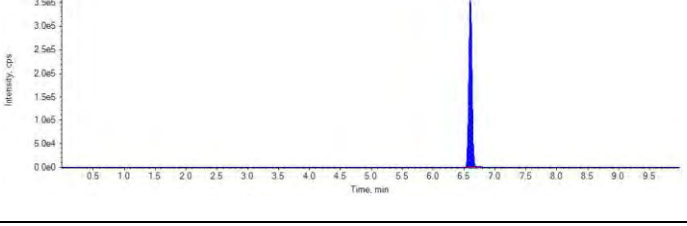
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	1530000.	4.80	1.00	-
MPFOS	228000.	5.53	1.00	-
D3-MeFOSAA IS	1600000.	6.35	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	46500	2.01	500.	384.	76.8
PFHxA 1	102000	2.90	500.	494.	98.8
PFHxS 1	26300	4.07	500.	397.	79.4
PFHpA 1	119000	3.95	500.	475.	95.0
PFOA 1	112000	4.81	500.	537.	107.0
PFOS 1	15800	5.54	500.	391.	78.2
PFNA 1	52300	5.52	500.	449.	89.9
PFDA 1	76100	6.12	500.	480.	96.0
PFUnA 1	63200	6.62	500.	497.	99.4
PFDaA 1	68300	7.06	500.	490.	98.0
PFTTrDA 1	65200	7.43	500.	495.	99.0
PFTeDA 1	75400	7.75	500.	491.	98.3
MeFOSAA 1	76900	6.36	2000.	1440.	72.2
EtFOSAA 1	71700	6.62	2000.	1570.	78.5
13C2-PFHxA	2490000	2.89	10000.	13000.	130.0
13C2-PFDA	1540000	6.11	10000.	11000.	110.0
D5-EtFOSAA	1320000	6.60	40000.	40400.	101.0

MPFOA (Internal Standard) RT (Exp. RT): 4.80(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.53(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.35(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.01 (1.85) min Calculated Conc: 384. ng/L Area Ratio: 0.204 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.90 (2.97) min Calculated Conc: 494. ng/L Area Ratio: 0.0666 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.07 (4.00) min Calculated Conc: 397. ng/L Area Ratio: 0.115 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 3.95 (3.91) min Calculated Conc: 475. ng/L Area Ratio: 0.0778 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.81 (4.89) min Calculated Conc: 537. ng/L Area Ratio: 0.0731 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.54 (5.50) min Calculated Conc: 391. ng/L Area Ratio: 0.0695 Sample Type: (Quality Control)	

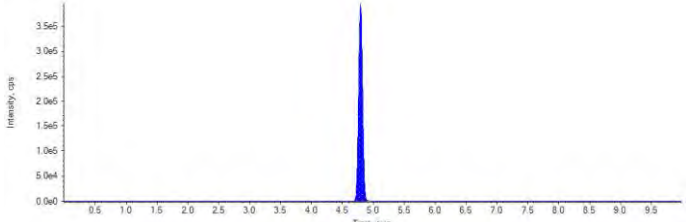
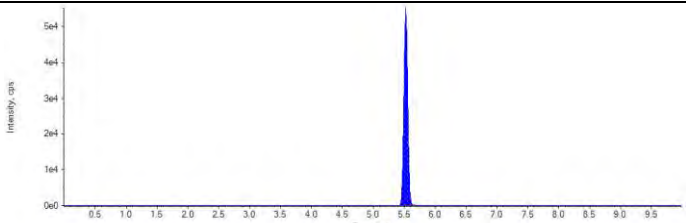
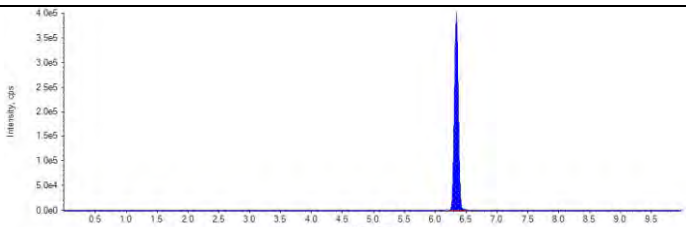
PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.52 (5.49) min Calculated Conc: 449. ng/L Area Ratio: 0.0341 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.12 (6.07) min Calculated Conc: 480. ng/L Area Ratio: 0.0497 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.62 (6.62) min Calculated Conc: 497. ng/L Area Ratio: 0.0413 Sample Type: (Quality Control)	
PFDaA 1 (612.900/569.000 Da) RT (Exp. RT): 7.06 (7.04) min Calculated Conc: 490. ng/L Area Ratio: 0.0445 Sample Type: (Quality Control)	
PFTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.43 (7.38) min Calculated Conc: 495. ng/L Area Ratio: 0.0426 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.75 (7.74) min Calculated Conc: 491. ng/L Area Ratio: 0.0492 Sample Type: (Quality Control)	

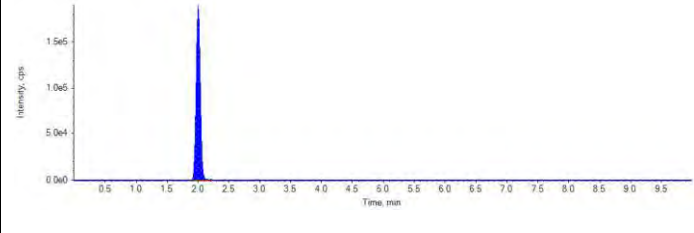
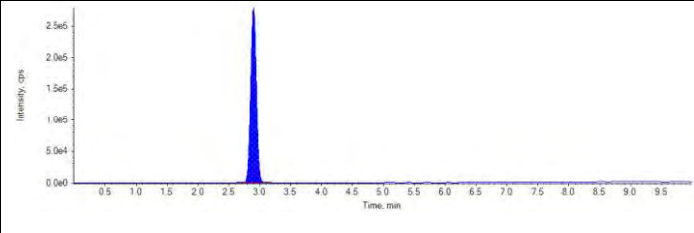
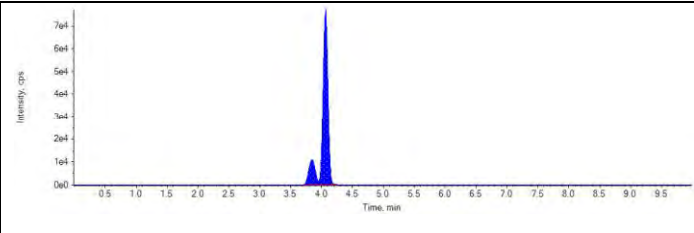
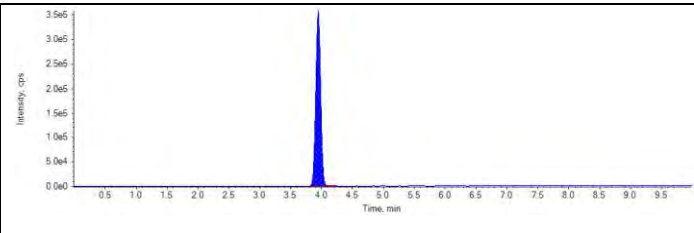
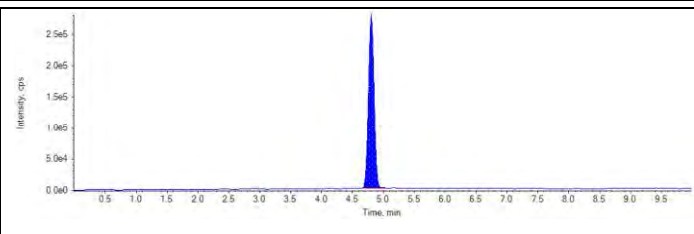
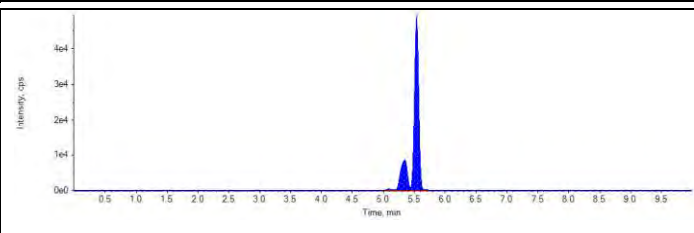
MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.36 (6.29) min Calculated Conc: 1440. ng/L Area Ratio: 0.0479 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.62 (6.66) min Calculated Conc: 1570. ng/L Area Ratio: 0.0447 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.89 (2.96) min Calculated Conc: 13000. ng/L Area Ratio: 1.62 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.11 (6.19) min Calculated Conc: 11000. ng/L Area Ratio: 1.01 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.60 (6.68) min Calculated Conc: 40400. ng/L Area Ratio: 0.824 Sample Type: (Quality Control)	

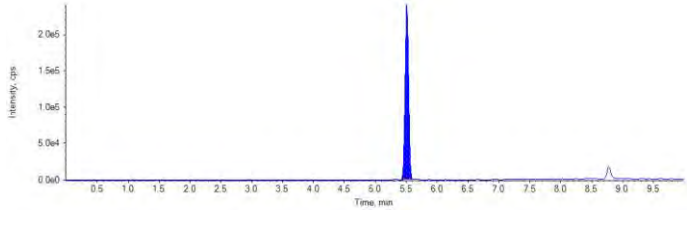
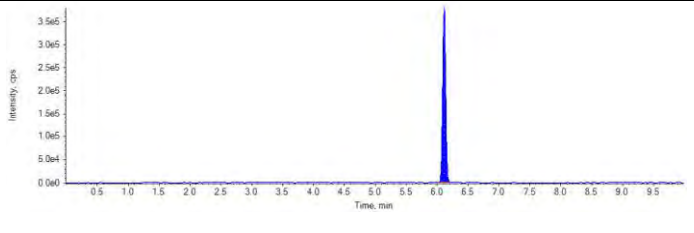
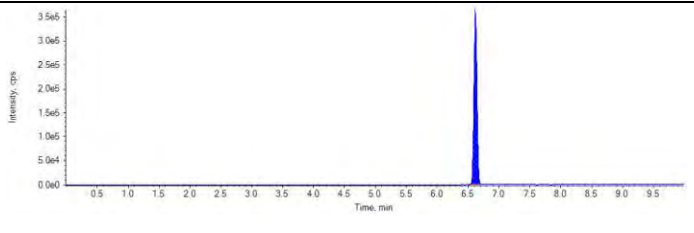
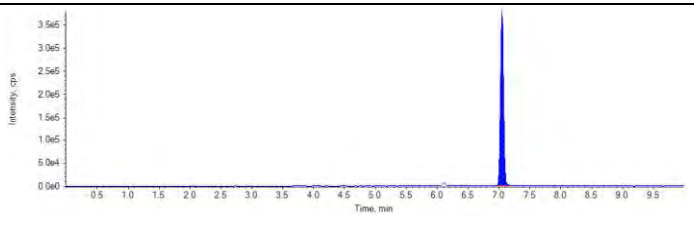
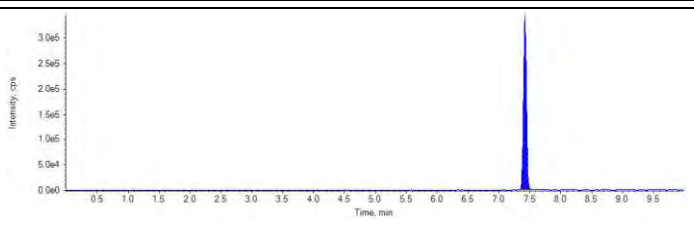
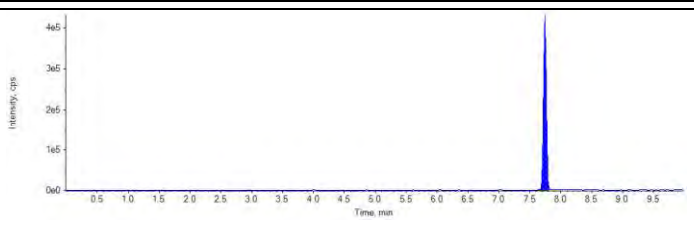
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	5
Acquisition Date	2019/01/03 5:47:14 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181228\WS#5907027.wiff		
Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb		
Samples Annotation	-		

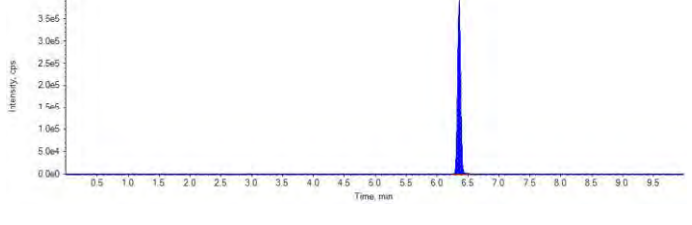
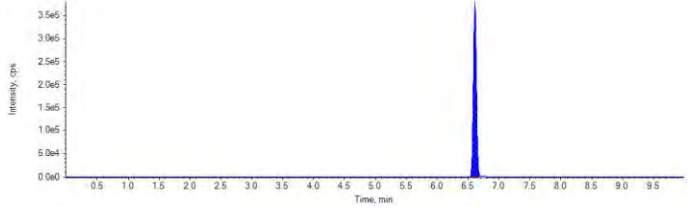
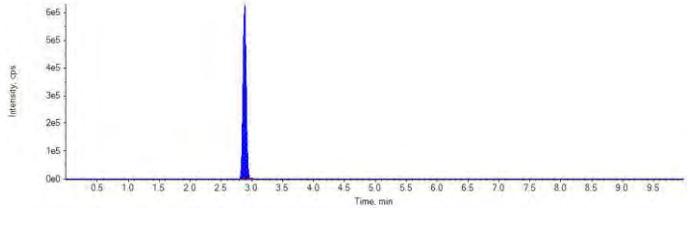
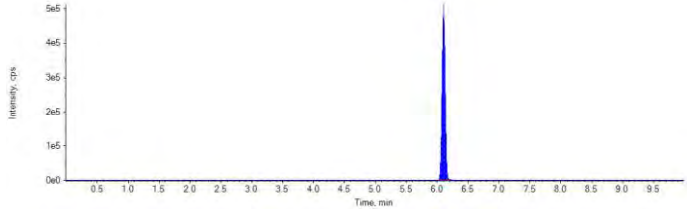
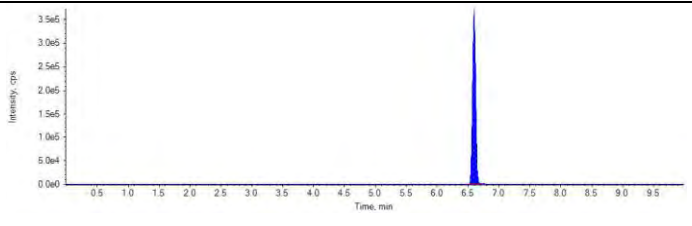
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	1740000.	4.79	1.00	-
MPFOS	236000.	5.52	1.00	-
D3-MeFOSAA IS	1730000.	6.34	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	865000	2.00	7000.	6890.	98.5
PFHxA 1	1790000	2.90	7000.	7630.	109.0
PFHxS 1	502000	4.06	7000.	7310.	104.0
PFHpA 1	1960000	3.95	7000.	6870.	98.2
PFOA 1	1740000	4.80	7000.	7320.	105.0
PFOS 1	299000	5.54	7000.	7110.	102.0
PFNA 1	950000	5.51	7000.	7170.	102.0
PFDA 1	1330000	6.11	7000.	7400.	106.0
PFUnA 1	1240000	6.62	7000.	8580.	123.0
PFDaA 1	1300000	7.05	7000.	8220.	117.0
PFTTrDA 1	1140000	7.42	7000.	7630.	109.0
PFTeDA 1	1390000	7.74	7000.	7960.	114.0
MeFOSAA 1	1390000	6.36	28000.	24100.	86.1
EtFOSAA 1	1320000	6.61	28000.	26700.	95.4
13C2-PFHxA	2300000	2.88	10000.	10600.	106.0
13C2-PFDA	1710000	6.10	10000.	10700.	107.0
D5-EtFOSAA	1290000	6.60	40000.	36300.	90.9

MPFOA (Internal Standard) RT (Exp. RT): 4.79(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.52(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.34(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.00 (1.85) min Calculated Conc: 6890. ng/L Area Ratio: 3.66 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.90 (2.97) min Calculated Conc: 7630. ng/L Area Ratio: 1.03 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.06 (4.00) min Calculated Conc: 7310. ng/L Area Ratio: 2.13 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 3.95 (3.91) min Calculated Conc: 6870. ng/L Area Ratio: 1.13 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.80 (4.89) min Calculated Conc: 7320. ng/L Area Ratio: 0.996 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.54 (5.50) min Calculated Conc: 7110. ng/L Area Ratio: 1.26 Sample Type: (Quality Control)	

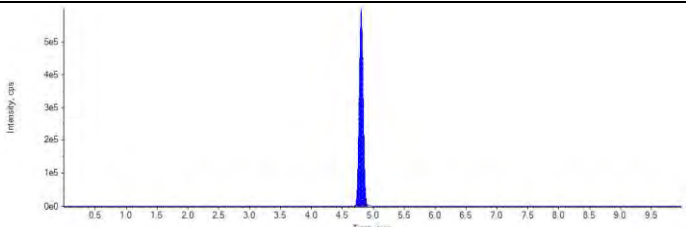
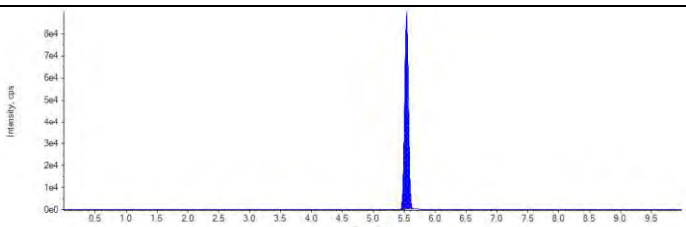
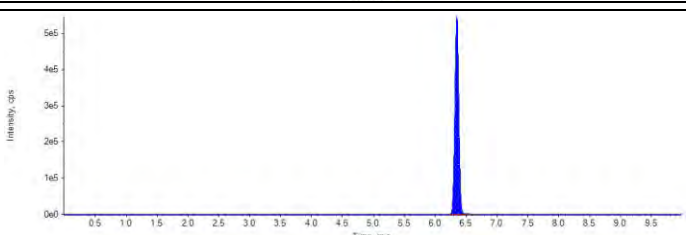
PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.51 (5.49) min Calculated Conc: 7170. ng/L Area Ratio: 0.545 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.11 (6.07) min Calculated Conc: 7400. ng/L Area Ratio: 0.765 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.62 (6.62) min Calculated Conc: 8580. ng/L Area Ratio: 0.712 Sample Type: (Quality Control)	
PFDaA 1 (612.900/569.000 Da) RT (Exp. RT): 7.05 (7.04) min Calculated Conc: 8220. ng/L Area Ratio: 0.747 Sample Type: (Quality Control)	
PFTTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.42 (7.38) min Calculated Conc: 7630. ng/L Area Ratio: 0.657 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.74 (7.74) min Calculated Conc: 7960. ng/L Area Ratio: 0.797 Sample Type: (Quality Control)	

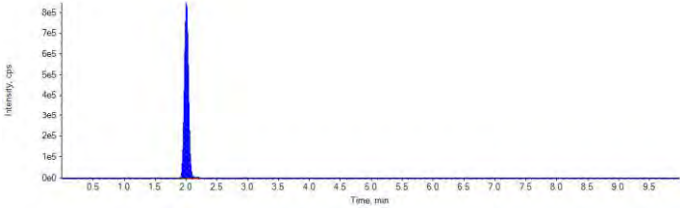
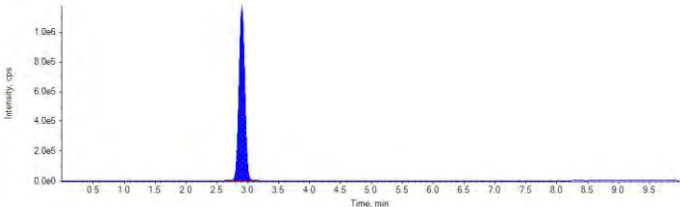
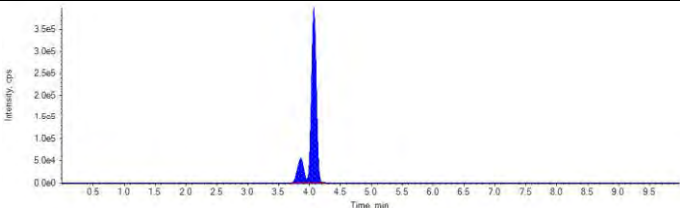
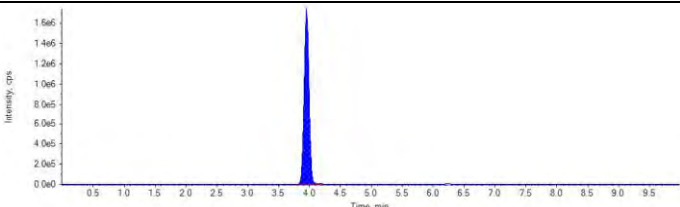
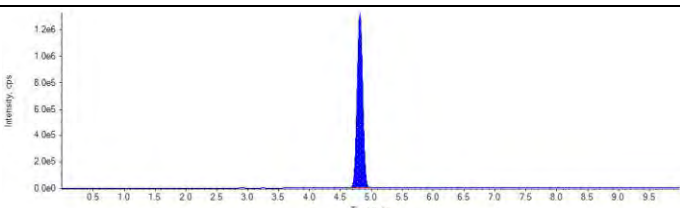
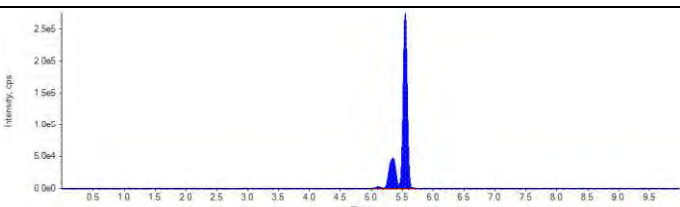
MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.36 (6.29) min Calculated Conc: 24100. ng/L Area Ratio: 0.801 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.61 (6.66) min Calculated Conc: 26700. ng/L Area Ratio: 0.761 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.88 (2.96) min Calculated Conc: 10600. ng/L Area Ratio: 1.32 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.10 (6.19) min Calculated Conc: 10700. ng/L Area Ratio: 0.982 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.60 (6.68) min Calculated Conc: 36300. ng/L Area Ratio: 0.742 Sample Type: (Quality Control)	

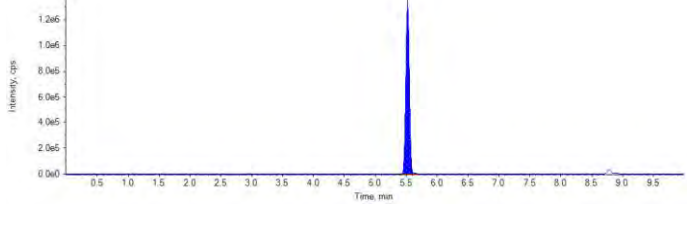
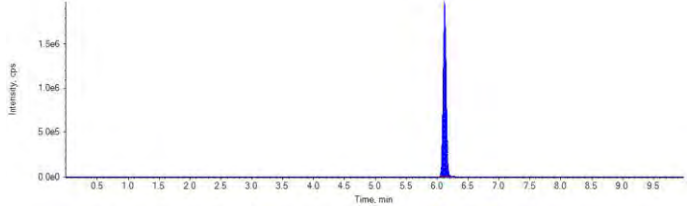
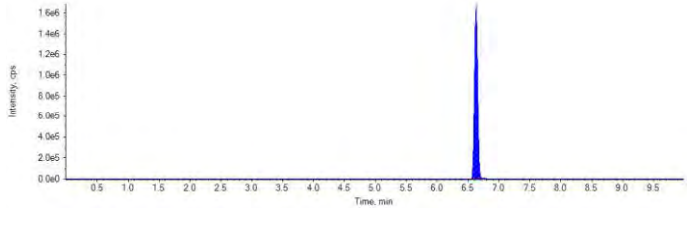
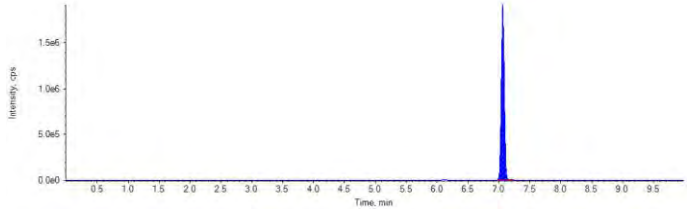
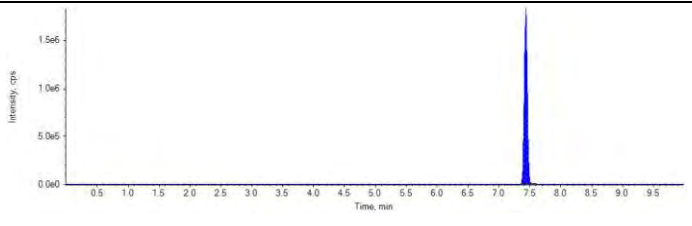
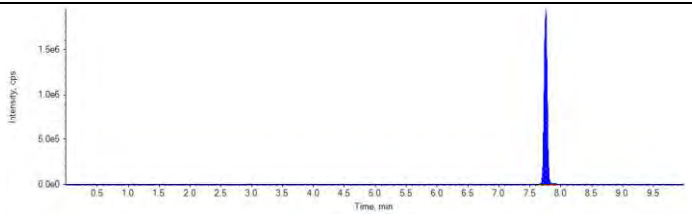
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	7
Acquisition Date	2019/01/04 10:37:36 AM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181228\WS#5907027.wiff		
Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb		
Samples Annotation	-		

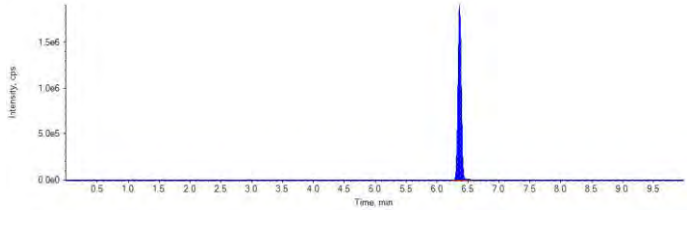
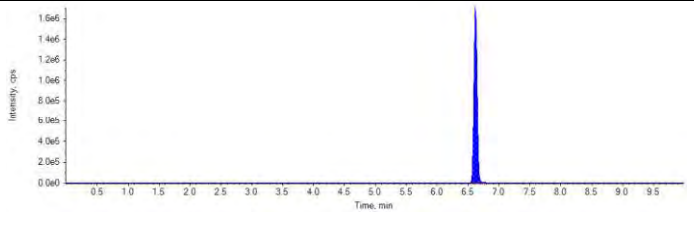
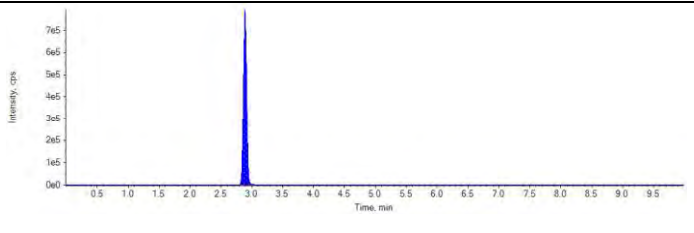
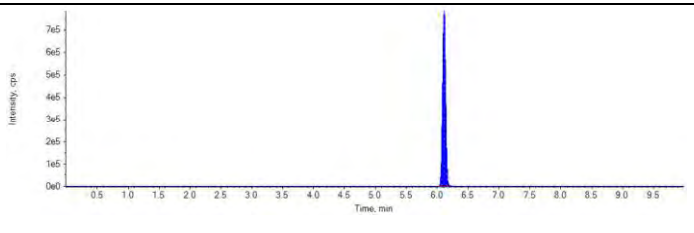
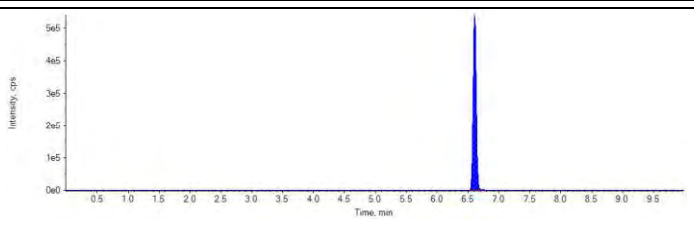
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	2630000.	4.80	1.00	-
MPFOS	382000.	5.54	1.00	-
D3-MeFOSAA IS	2430000.	6.35	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	3940000	2.01	25000.	19400.	77.8
PFHxA 1	7610000	2.90	25000.	21400.	85.8
PFHxS 1	2570000	4.07	25000.	23100.	92.4
PFHpA 1	9620000	3.95	25000.	22300.	89.3
PFOA 1	8340000	4.81	25000.	23300.	93.2
PFOS 1	1710000	5.55	25000.	25200.	101.0
PFNA 1	5280000	5.52	25000.	26400.	106.0
PFDA 1	6800000	6.12	25000.	25000.	99.9
PFUnA 1	5940000	6.63	25000.	27200.	109.0
PFDaA 1	6400000	7.06	25000.	26800.	107.0
PFTTrDA 1	6140000	7.43	25000.	27100.	109.0
PFTeDA 1	6670000	7.76	25000.	25300.	101.0
MeFOSAA 1	6940000	6.36	100000.	85900.	85.9
EtFOSAA 1	6200000	6.62	100000.	89400.	89.4
13C2-PFHxA	2850000	2.89	10000.	8650.	86.5
13C2-PFDA	2830000	6.11	10000.	11700.	117.0
D5-EtFOSAA	1980000	6.61	40000.	39700.	99.4

MPFOA (Internal Standard) RT (Exp. RT): 4.80(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.54(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.35(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.01 (1.85) min Calculated Conc: 19400. ng/L Area Ratio: 10.3 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.90 (2.97) min Calculated Conc: 21400. ng/L Area Ratio: 2.89 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.07 (4.00) min Calculated Conc: 23100. ng/L Area Ratio: 6.72 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 3.95 (3.91) min Calculated Conc: 22300. ng/L Area Ratio: 3.66 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.81 (4.89) min Calculated Conc: 23300. ng/L Area Ratio: 3.17 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.55 (5.50) min Calculated Conc: 25200. ng/L Area Ratio: 4.48 Sample Type: (Quality Control)	

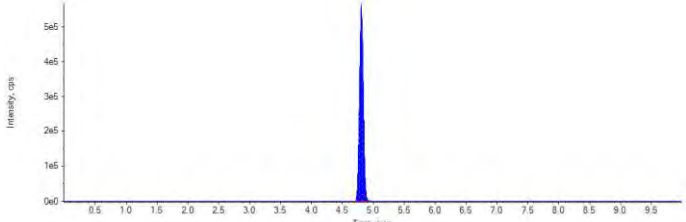
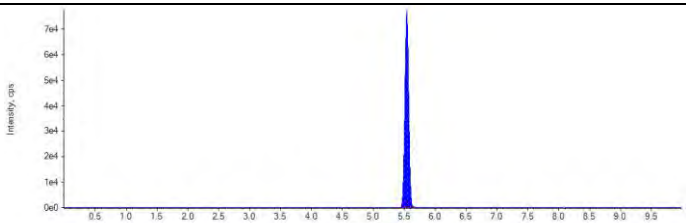
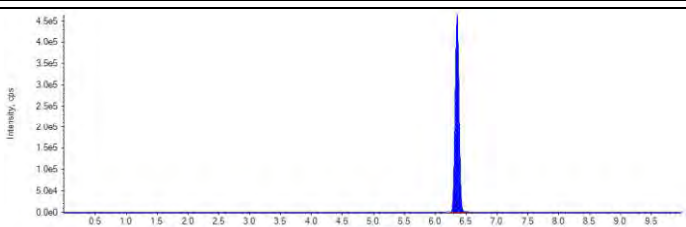
PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.52 (5.49) min Calculated Conc: 26400. ng/L Area Ratio: 2.01 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.12 (6.07) min Calculated Conc: 25000. ng/L Area Ratio: 2.58 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.63 (6.62) min Calculated Conc: 27200. ng/L Area Ratio: 2.26 Sample Type: (Quality Control)	
PFDa 1 (612.900/569.000 Da) RT (Exp. RT): 7.06 (7.04) min Calculated Conc: 26800. ng/L Area Ratio: 2.43 Sample Type: (Quality Control)	
PFTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.43 (7.38) min Calculated Conc: 27100. ng/L Area Ratio: 2.33 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.76 (7.74) min Calculated Conc: 25300. ng/L Area Ratio: 2.53 Sample Type: (Quality Control)	

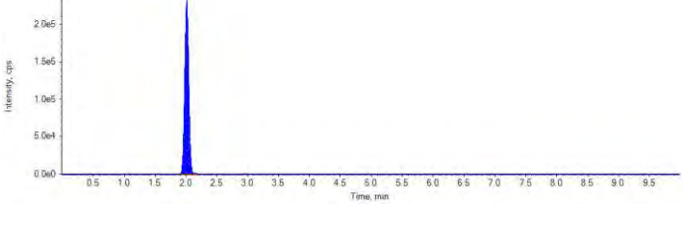
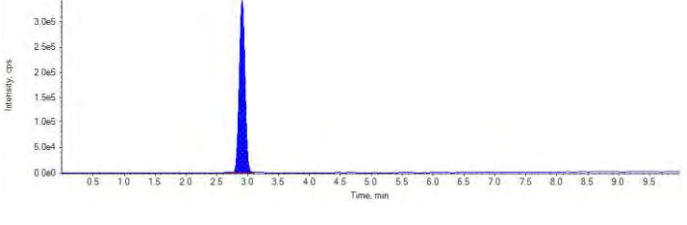
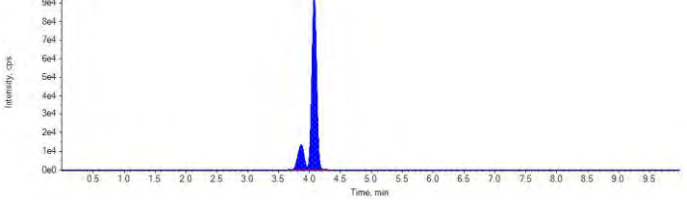
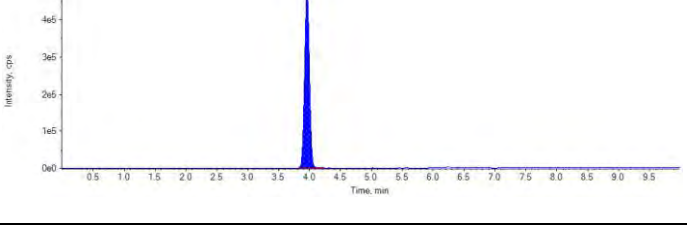
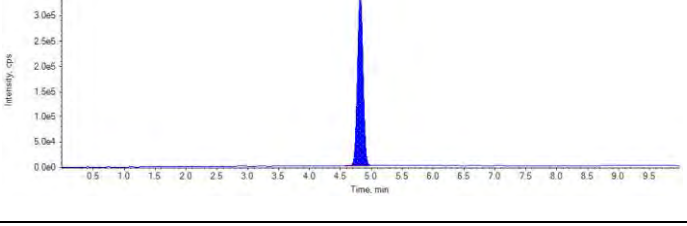
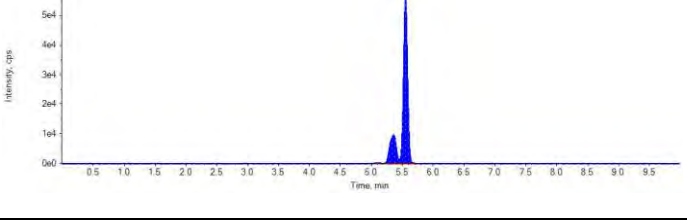
MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.36 (6.29) min Calculated Conc: 85900. ng/L Area Ratio: 2.85 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.62 (6.66) min Calculated Conc: 89400. ng/L Area Ratio: 2.55 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.89 (2.96) min Calculated Conc: 8650. ng/L Area Ratio: 1.08 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.11 (6.19) min Calculated Conc: 11700. ng/L Area Ratio: 1.07 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.61 (6.68) min Calculated Conc: 39700. ng/L Area Ratio: 0.812 Sample Type: (Quality Control)	

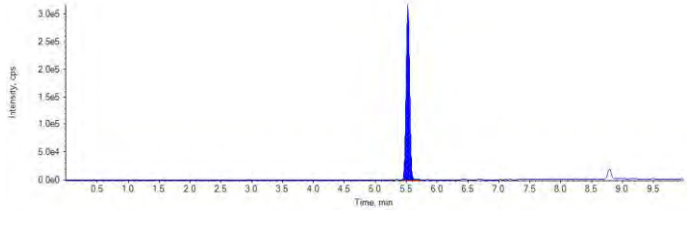
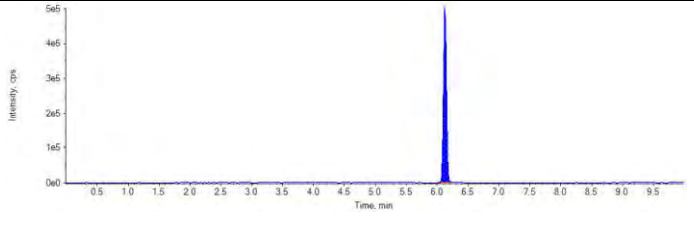
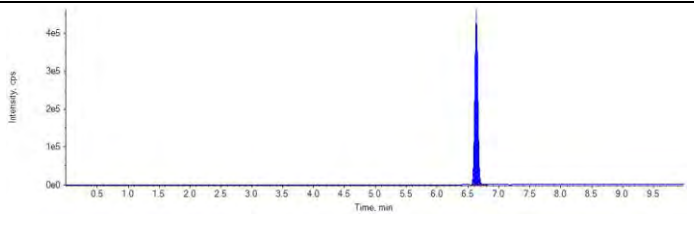
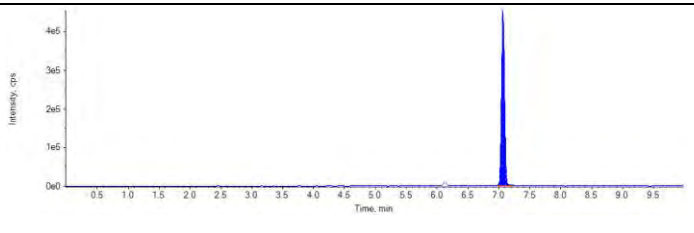
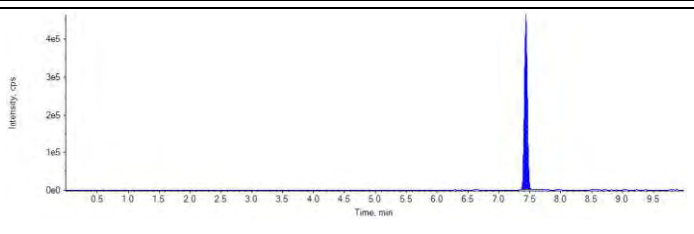
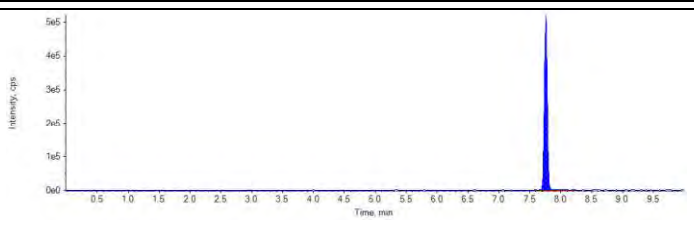
Sample ID	CCV	Injection Volume (µL)	1.5
Sample Type	Quality Control	Injection Vial	5
Acquisition Date	2019/01/04 4:21:19 PM	Dilution Factor	1.00
Acquisition Method	PFC_Water_EPA537.dam	Instrument Name	LCMS03
Project	Enviro\PFOS	Algorithm Used	Analyst Classic
Data File	PFC_181228\WS#5907027.wiff		
Result Table	PFC_Water_181231_5907027_EPA537_MI_EToxics.rdb		
Samples Annotation	-		

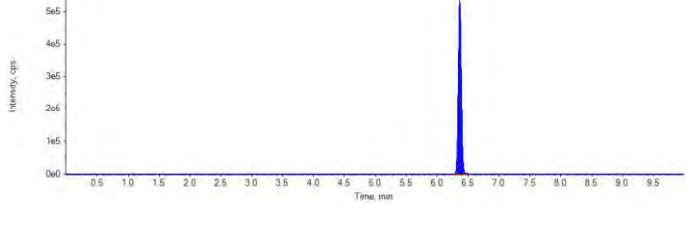
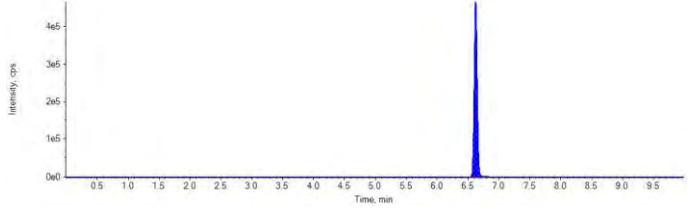
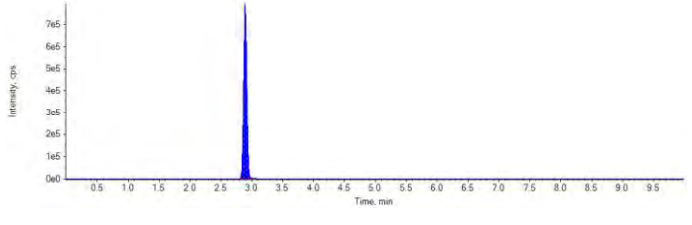
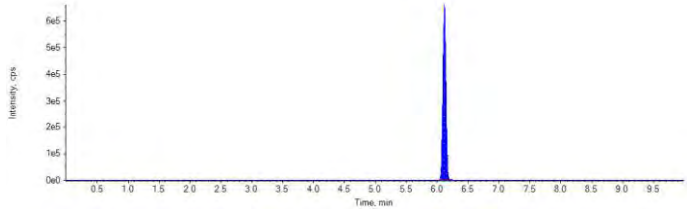
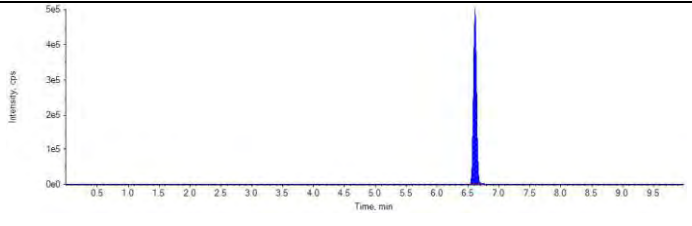
Internal Standard	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)
MPFOA	2450000.	4.81	1.00	-
MPFOS	329000.	5.54	1.00	-
D3-MeFOSAA IS	2040000.	6.35	1.00	-

Target Analyte	Area (cps)	RT (min)	Target Conc. (ng/L)	Calc. Conc. (ng/L)	Accuracy (%)
PFBS 1	1060000	2.01	7000.	6050.	86.4
PFHxA 1	2210000	2.91	7000.	6700.	95.7
PFHxS 1	620000	4.08	7000.	6480.	92.6
PFHpA 1	2650000	3.96	7000.	6600.	94.2
PFOA 1	2160000	4.82	7000.	6470.	92.4
PFOS 1	357000	5.55	7000.	6100.	87.2
PFNA 1	1240000	5.53	7000.	6650.	95.0
PFDA 1	1760000	6.13	7000.	6930.	99.0
PFUnA 1	1520000	6.63	7000.	7470.	107.0
PFDaA 1	1550000	7.07	7000.	6970.	99.5
PFTTrDA 1	1490000	7.44	7000.	7060.	101.0
PFTeDA 1	1710000	7.76	7000.	6970.	99.6
MeFOSAA 1	1930000	6.37	28000.	28500.	102.0
EtFOSAA 1	1700000	6.62	28000.	29200.	104.0
13C2-PFHxA	2910000	2.89	10000.	9510.	95.1
13C2-PFDA	2250000	6.12	10000.	10000.	100.0
D5-EtFOSAA	1740000	6.61	40000.	41900.	105.0

MPFOA (Internal Standard) RT (Exp. RT): 4.81(4.84) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
MPFOS (Internal Standard) RT (Exp. RT): 5.54(5.38) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	
D3-MeFOSAA IS (Internal Standard) RT (Exp. RT): 6.35(6.43) min Concentration: 1.00 ng/L Sample Type: (Quality Control)	

PFBS 1 (298.900/79.900 Da) RT (Exp. RT): 2.01 (1.85) min Calculated Conc: 6050. ng/L Area Ratio: 3.21 Sample Type: (Quality Control)	
PFHxA 1 (313.000/269.000 Da) RT (Exp. RT): 2.91 (2.97) min Calculated Conc: 6700. ng/L Area Ratio: 0.904 Sample Type: (Quality Control)	
PFHxS 1 (398.900/79.900 Da) RT (Exp. RT): 4.08 (4.00) min Calculated Conc: 6480. ng/L Area Ratio: 1.89 Sample Type: (Quality Control)	
PFHpA 1 (363.000/319.000 Da) RT (Exp. RT): 3.96 (3.91) min Calculated Conc: 6600. ng/L Area Ratio: 1.08 Sample Type: (Quality Control)	
PFOA 1 (413.100/369.000 Da) RT (Exp. RT): 4.82 (4.89) min Calculated Conc: 6470. ng/L Area Ratio: 0.880 Sample Type: (Quality Control)	
PFOS 1 (498.800/79.900 Da) RT (Exp. RT): 5.55 (5.50) min Calculated Conc: 6100. ng/L Area Ratio: 1.08 Sample Type: (Quality Control)	

PFNA 1 (462.900/419.200 Da) RT (Exp. RT): 5.53 (5.49) min Calculated Conc: 6650. ng/L Area Ratio: 0.505 Sample Type: (Quality Control)	
PFDA 1 (513.000/469.100 Da) RT (Exp. RT): 6.13 (6.07) min Calculated Conc: 6930. ng/L Area Ratio: 0.717 Sample Type: (Quality Control)	
PFUnA 1 (562.900/519.000 Da) RT (Exp. RT): 6.63 (6.62) min Calculated Conc: 7470. ng/L Area Ratio: 0.620 Sample Type: (Quality Control)	
PFDaA 1 (612.900/569.000 Da) RT (Exp. RT): 7.07 (7.04) min Calculated Conc: 6970. ng/L Area Ratio: 0.633 Sample Type: (Quality Control)	
PFTTrDA 1 (663.000/619.000 Da) RT (Exp. RT): 7.44 (7.38) min Calculated Conc: 7060. ng/L Area Ratio: 0.608 Sample Type: (Quality Control)	
PFTeDA 1 (713.000/669.000 Da) RT (Exp. RT): 7.76 (7.74) min Calculated Conc: 6970. ng/L Area Ratio: 0.698 Sample Type: (Quality Control)	

MeFOSAA 1 (570.100/419.100 Da) RT (Exp. RT): 6.37 (6.29) min Calculated Conc: 28500. ng/L Area Ratio: 0.946 Sample Type: (Quality Control)	
EtFOSAA 1 (584.100/419.100 Da) RT (Exp. RT): 6.62 (6.66) min Calculated Conc: 29200. ng/L Area Ratio: 0.832 Sample Type: (Quality Control)	
13C2-PFHxA (314.900/270.000 Da) RT (Exp. RT): 2.89 (2.96) min Calculated Conc: 9510. ng/L Area Ratio: 1.19 Sample Type: (Quality Control)	
13C2-PFDA (514.900/470.000 Da) RT (Exp. RT): 6.12 (6.19) min Calculated Conc: 10000. ng/L Area Ratio: 0.917 Sample Type: (Quality Control)	
D5-EtFOSAA (589.200/419.000 Da) RT (Exp. RT): 6.61 (6.68) min Calculated Conc: 41900. ng/L Area Ratio: 0.855 Sample Type: (Quality Control)	

Quantitation Results

Batch Path T:\LCMS04\PFC\20190105\WS#5914930\QuantResults\PFC_Water_Low_190105_WS#5914930_EToxics

Sample Name **ISC** Instrument LCMS04

Data File WS#5914930_10.d Operator

Sample Type QC Dilution 1

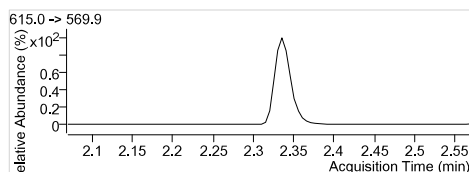
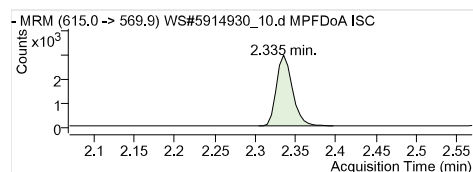
Acq. Method PFC_Water_Low.m Position P3-D1

Acq. Date 2019/01/05 8:24:53 PM Injection Volume Per Method

Sample Annotation -

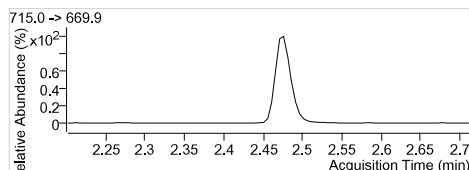
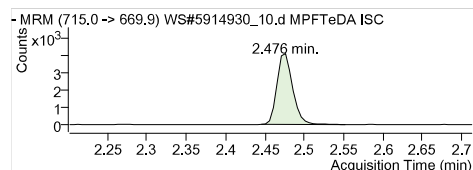
ISTD Compounds	Response	RT	Target conc.		
MPFDoA	4067	2.34	1 µg/L		
MPFTeDA	5649	2.48	1 µg/L		
13C9-PFDA IS	14632	2.15	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFDa 1	1547	2.33	0.83	0.88 µg/L	106.37
PFTeDA 1	1914	2.48	0.83	0.82 µg/L	99.21
13C2-PFDa	4067	2.34	100.00	100.32 µg/L	100.32
13C2-PFTeDA	5649	2.48	100.00	102.03 µg/L	102.03
13C9-PFDA	14632	2.15	100.00	102.33 µg/L	102.33



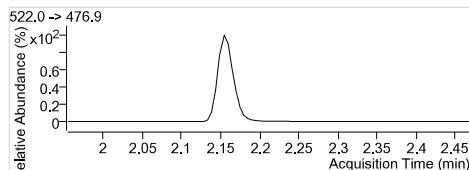
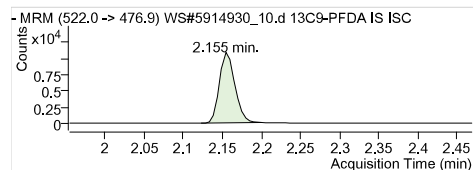
MPFDoA
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.335 (2.335)
1 µg/L
QC



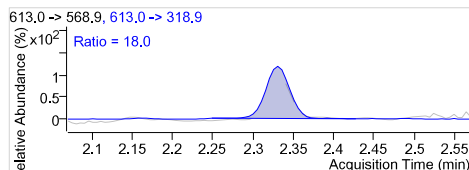
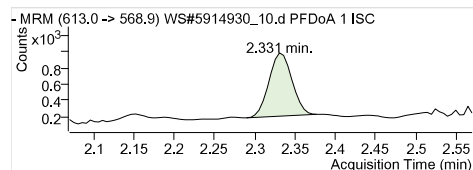
MPFTeDA
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.476 (2.476)
1 µg/L
QC



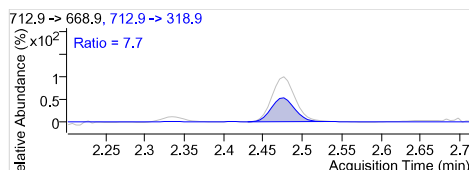
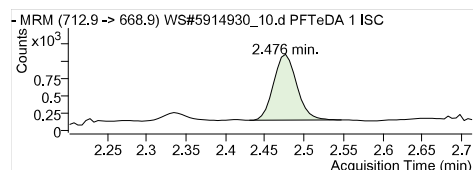
13C9-PFDA IS
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.155 (2.155)
1 µg/L
QC



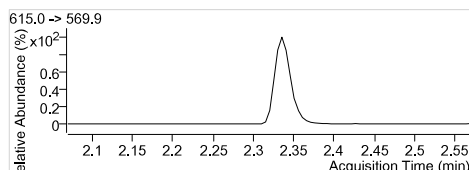
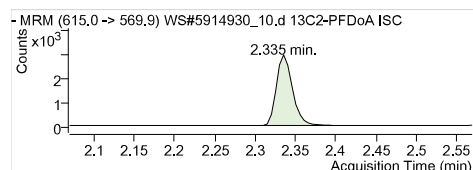
PFDa 1
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

613.0 -> 568.9
2.331 (2.336)
0.88 µg/L
0.38038
QC



PFTeDA 1
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

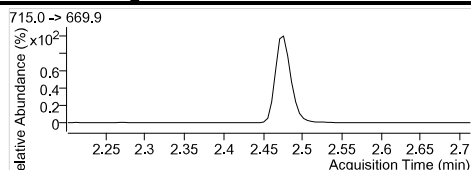
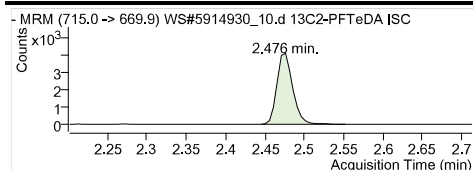
712.9 -> 668.9
2.476 (2.476)
0.82 µg/L
0.33882
QC



13C2-PFDa
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

615.0 -> 569.9
2.335 (2.335)
100.32 µg/L
0.27795
QC

Quantitation Results



13C2-PFTeDA

715.0 -> 669.9

RT (Exp. RT):

2.476 (2.476)

Calc. conc.

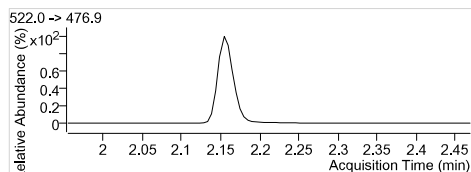
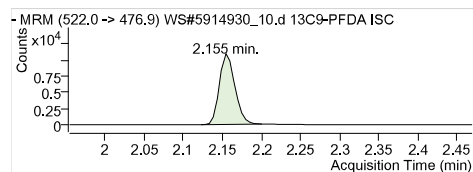
102.03 µg/L

Area ratio:

0.38607

Sample type:

QC



13C9-PFDA

522.0 -> 476.9

RT (Exp. RT):

2.155 (2.155)

Calc. conc.

102.33 µg/L

Area ratio:

0

Sample type:

QC

Quantitation Results

Batch Path T:\LCMS04\PFC\20190105\WS#5914930\QuantResults\PFC_Water_Low_190105_WS#5914930_EToxics

Sample Name CCV Instrument LCMS04

Data File WS#5914930_24.d Operator

Sample Type CC Dilution 1

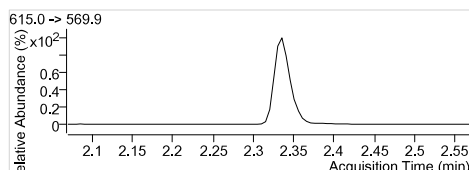
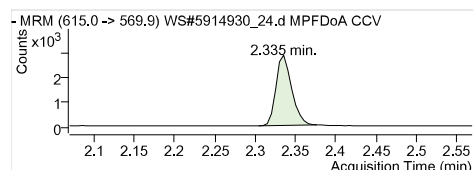
Acq. Method PFC_Water_Low.m Position P3-D4

Acq. Date 2019/01/05 9:33:39 PM Injection Volume Per Method

Sample Annotation -

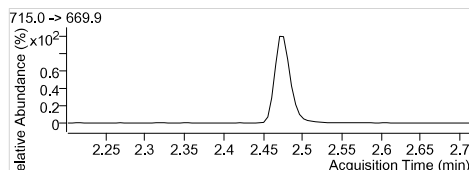
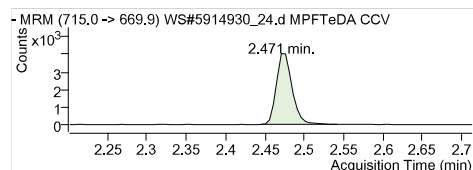
ISTD Compounds	Response	RT	Target conc.		
MPFDoA	3828	2.34	1 µg/L		
MPFTeDA	5581	2.47	1 µg/L		
13C9-PFDA IS	14479	2.15	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFDa 1	23066	2.33	12.50	12.88 µg/L	103.03
PFTeDA 1	29494	2.48	12.50	12.32 µg/L	98.58
13C2-PFDa	3828	2.34	100.00	95.42 µg/L	95.42
13C2-PFTeDA	5581	2.47	100.00	101.87 µg/L	101.87
13C9-PFDA	14479	2.15	100.00	101.26 µg/L	101.26



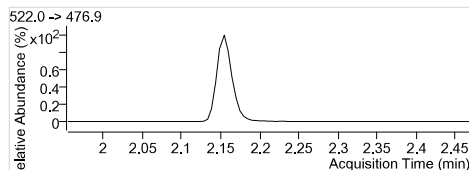
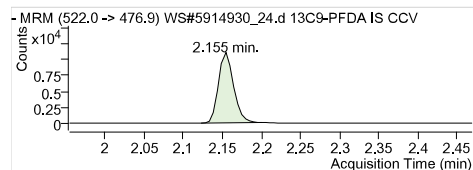
MPFDoA
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.335 (2.335)
1 µg/L
CC



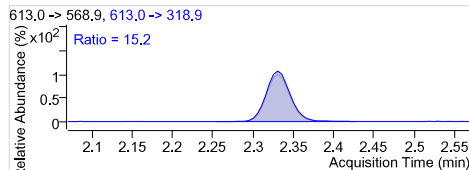
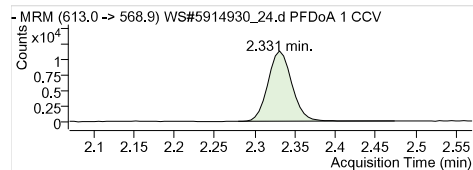
MPFTeDA
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.471 (2.476)
1 µg/L
CC



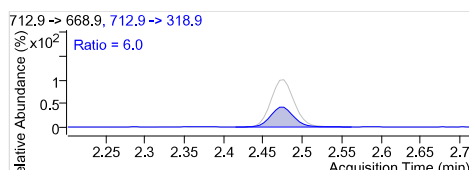
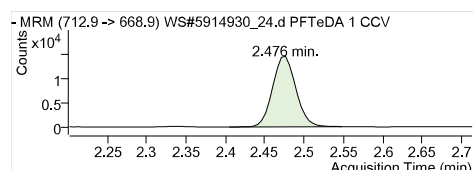
13C9-PFDA IS
RT (Exp. RT):
Concentration:
Sample type:

Internal Standard
2.155 (2.155)
1 µg/L
CC



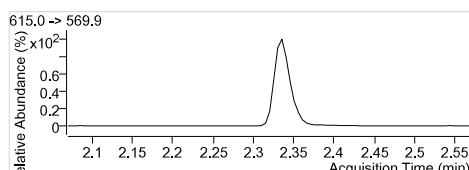
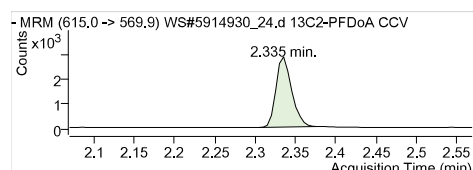
PFDa 1
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

613.0 -> 568.9
2.331 (2.336)
12.88 µg/L
6.02560
CC



PFTeDA 1
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

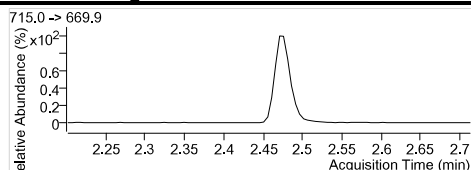
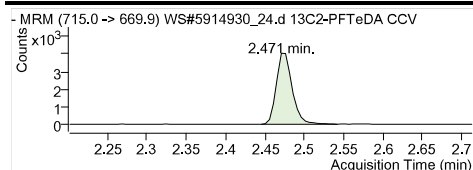
712.9 -> 668.9
2.476 (2.476)
12.32 µg/L
5.28472
CC



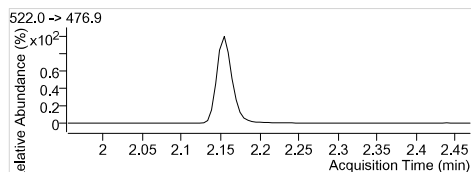
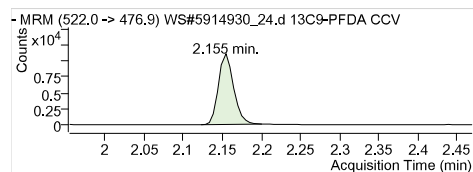
13C2-PFDa
RT (Exp. RT):
Calc. conc.
Area ratio:
Sample type:

615.0 -> 569.9
2.335 (2.335)
95.42 µg/L
0.26438
CC

Quantitation Results



13C2-PFTeDA
 RT (Exp. RT): 715.0 -> 669.9
 RT (Exp. RT): 2.471 (2.476)
 Calc. conc. 101.87 µg/L
 Area ratio: 0.38545
 Sample type: CC



13C9-PFDA
 RT (Exp. RT): 522.0 -> 476.9
 RT (Exp. RT): 2.155 (2.155)
 Calc. conc. 101.26 µg/L
 Area ratio: 0
 Sample type: CC



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Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

RESULTS OF ANALYSES OF GROUND WATER

Maxxam ID		IOF231						IOF232	IOF233					IOF234	IOF236	IOF237	IOF238	IOF239						IOF251
Sampling Date		2018/12/05 11:00						2018/12/05 11:05	2018/12/05 11:05					2018/12/05 14:45	2018/12/06 09:00	2018/12/06 09:00	2018/12/06 09:05	2018/12/06 09:30						2018/12/07 11:00
COC Number		214813						214813	214813					214813	214813	214813	214813	214813						214813
	UNITS	GP001	DL	LOD	LOQ	QC Batch		GP002	GP003	DL	LOD	LOQ	QC Batch	GP004	GP006	GP007	GP008	GP009	DL	LOD	LOQ	QC Batch	GP021	
Miscellaneous Parameters																								
EtFOSAA	ug/L	0.010 U	0.0033	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.033	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0033	0.010	0.020	5897102	0.0095 U	
MeFOSAA	ug/L	0.010 U	0.0029	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.029	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0029	0.010	0.020	5897102	0.0095 U	
Perfluorobutane Sulfonate (PFBS)	ug/L	0.015 U	0.0054	0.015	0.020	5897102		0.15 U (1)	0.15 U (1)	0.054	0.15	0.20	5897102	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0054	0.015	0.020	5897102	0.014 U	
Perfluorohexptanoic Acid (PFHpA)	ug/L	0.015 U	0.0074	0.015	0.020	5897102		0.15 U (1)	0.15 U (1)	0.074	0.15	0.20	5897102	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0074	0.015	0.020	5897102	0.014 U	
Perfluorohexanoic Acid (PFHxA)	ug/L	0.010 U	0.0035	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.035	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.0036 J	0.010 U	0.0035	0.010	0.020	5897102	0.012 J	
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.015 U	0.0056	0.015	0.020	5897102		0.15 U (1)	0.15 U (1)	0.056	0.15	0.20	5897102	0.015 U	0.015 U	0.015 U	0.020	0.015 U	0.0056	0.015	0.020	5897102	0.010 J	
Perfluorononanoic Acid (PFNA)	ug/L	0.018 U	0.0087	0.018	0.020	5897102		0.18 U (1)	0.18 U (1)	0.087	0.18	0.20	5897102	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.0087	0.018	0.020	5897102	0.017 U	
Perfluorotetradecanoic Acid	ug/L	0.010 U	0.0027	0.010	0.020	5897102		0.10 U (2)	0.10 U (2)	0.027	0.10	0.20	5914930	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0027	0.010	0.020	5897102	0.0095 U	
Perfluorotridecanoic Acid	ug/L	0.010 U	0.0038	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.038	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0038	0.010	0.020	5897102	0.0095 U	
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.010 U	0.0025	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.025	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0025	0.010	0.020	5897102	0.0095 U	
Perfluorodecanoic Acid (PFDA)	ug/L	0.015 U	0.0061	0.015	0.020	5897102		0.15 U (1)	0.15 U (1)	0.061	0.15	0.20	5897102	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.0061	0.015	0.020	5897102	0.014 U	
Perfluorodecanoic Acid (PFDoA)	ug/L	0.010 U	0.0050	0.010	0.020	5897102		0.10 U (2)	0.10 U (2)	0.050	0.10	0.20	5914930	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0050	0.010	0.020	5897102	0.0095 U	
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.010 U	0.0033	0.010	0.020	5897102		0.10 U (1)	0.10 U (1)	0.033	0.10	0.20	5897102	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.0033	0.010	0.020	5897102	0.0048 J	
Perfluorooctane Sulfonate (PFOS)	ug/L	0.015 U	0.0060	0.015	0.020	5897102		0.15 U (1)	0.15 U (1)	0.060	0.15	0.20	5897102	0.015 U	0.015 U	0.015 U	0.0080 J	0.015 U	0.0060	0.015	0.020	5897102	0.048	
Surrogate Recovery (%)																								
13C2-Perfluorodecanoic acid	%	85				5897102		77	74				5897102	93	84	88	94	85					5897102	81
13C2-Perfluorododecanoic acid	%	86				5897102		70	67				5914930	79	82	80	96	80					5897102	87
13C2-Perfluorohexanoic acid	%	89				5897102		93	90				5897102	91	89	90	92	91					5897102	87
13C2-perfluorotetradecanoic acid	%	83				5897102		52	48 (3)				5914930	74	61	60	90	78					5897102	77
13C2-Perfluoroundecanoic acid	%	95				5897102		68	59				5897102	87	85	85	94	84					5897102	84
13C4-Perfluorohexptanoic acid	%	91				5897102		91	92				5897102	92	91	90	95	90					5897102	91
13C4-Perfluorooctanesulfonate	%	83				5897102		75	75				5897102	92	91	89	96	88					5897102	96
13C4-Perfluorooctanoic acid	%	90				5897102		88	83				5897102	91	90	95	96	93					5897102	89
13C5-Perfluorononanoic acid	%	91				5897102		84	83				5897102	94	88	96	94	93					5897102	89
18O2-Perfluorohexanesulfonate	%	89				5897102		92	88				5897102	94	87	90	84	90					5897102	95
D3-MeFOSAA	%	84				5897102		74	69				5897102	80	84	83	94	85					5897102	88
D5-EtFOSAA	%	81				5897102		66	64				5897102	75	82	79	93	80					5897102	84

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

(1) Due to the nature of the sample matrix (turbid, suspended particles), a reduced sample volume was extracted and analyzed. Detection limits were adjusted accordingly (10x).
(2) Due to the nature of the sample matrix (turbid, suspended particles), a reduced sample volume was extracted and analyzed. Detection limits were adjusted accordingly (10x).
(2) Due to the nature of the sample matrix (turbid, suspended particles), a reduced sample volume was extracted and analyzed
Detection limits were adjusted accordingly (10x). Analysis was performed past the method defined holding time
Because of their chemical structure, PFAS are chemically and biologically stable in the environment and resist typical environmental degradation processes
This would suggest a hold time exceedance would not have a significant impact on the data.
(3) Extracted internal standard analyte recovery was below the defined lower control limit (LCL)
Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected
Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

Results relate only to the items tested.

RESULTS OF ANALYSES OF POTABLE WATER

Maxxam ID		IOF240				IOF241				IOF242				IOF243	IOF244	IOF245	IOF246							
Sampling Date		2018/12/06 09:45				2018/12/06 10:30				2018/12/06 10:50				2018/12/06 10:50	2018/12/06 13:05	2018/12/06 14:05	2018/12/06 14:40							
COC Number		214813				214813				214813				214813	214813	214813	214813							
	UNITS	GP010	DL	LOD	LOQ	GP011	DL	LOD	LOQ	GP012	DL	LOD	LOQ	GP013	GP014	GP015	GP016	DL	LOD	LOQ	QC Batch			
Miscellaneous Parameters																								
Perfluorobutanesulfonic acid	ng/L	0.36 J	0.32	0.80	2.0	4.5	0.30	0.76	1.9	3.0	0.32	0.80	2.0	2.7	0.31 J	0.72 U	0.42 J	0.29	0.72	1.8	5907027			
Perfluorohexanoic Acid (PFHxA)	ng/L	0.70 J	0.36	1.0	2.0	4.6	0.34	0.95	1.9	4.5	0.36	1.0	2.0	3.7	1.4 J	0.90 U	0.54 J	0.32	0.90	1.8	5907027			
Perfluorohexanesulfonic acid	ng/L	2.5	0.27	0.80	2.0	37	0.26	0.76	1.9	23	0.27	0.80	2.0	19	1.3 J	0.72 U	1.8 J	0.24	0.72	1.8	5907027			
Perfluorohexptanoic Acid (PFHpA)	ng/L	1.0 U	0.36	1.0	2.0	1.5 J	0.34	0.95	1.9	1.3 J	0.36	1.0	2.0	1.4 J	0.37 J	0.90 U	0.38 J	0.32	0.90	1.8	5907027			
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	0.78 J	0.48	1.0	2.0	2.8	0.46	0.95	1.9	2.0	0.48	1.0	2.0	1.8 J	0.72 J	0.90 U	0.78 J	0.43	0.90	1.8	5907027			
Perfluorooctanesulfonic acid	ng/L	1.4 J	0.37	1.0	2.0	59	0.35	0.95	1.9	42	0.37	1.0	2.0	31	1.9	0.90 U	0.90 U	0.33	0.90	1.8	5907027			
Perfluorononanoic Acid (PFNA)	ng/L	1.0 U	0.42	1.0	2.0	0.95 U	0.40	0.95	1.9	1.0 U	0.42	1.0	2.0	0.90 U	0.90 U	0.90 U	0.90 U	0.38	0.90	1.8	5907027			
Perfluorodecanoic Acid (PFDA)	ng/L	0.60 U	0.22	0.60	2.0	0.57 U	0.21	0.57	1.9	0.60 U	0.22	0.60	2.0	0.54 U	0.54 U	0.54 U	0.54 U	0.20	0.54	1.8	5907027			
Perfluoroundecanoic Acid (PFUnA)	ng/L	0.80 U	0.30	0.80	2.0	0.76 U	0.29	0.76	1.9	0.80 U	0.30	0.80	2.0	0.72 U	0.72 U	0.72 U	0.72 U	0.27	0.72	1.8	5907027			
Perfluorododecanoic Acid (PFDoA)	ng/L	1.0 U	0.36	1.0	2.0	0.95 U	0.34	0.95	1.9	1.0 U	0.36	1.0	2.0	0.90 U	0.90 U	0.90 U	0.90 U	0.32	0.90	1.8	5907027			
Perfluorotridecanoic Acid	ng/L	1.0 U	0.44	1.0	2.0	0.95 U	0.42	0.95	1.9	1.0 U	0.44	1.0	2.0	0.90 U	0.90 U	0.90 U	0.90 U	0.40	0.90	1.8	5907027			
Perfluorotetradecanoic Acid	ng/L	0.80 U	0.33	0.80	2.0	0.76 U	0.31	0.76	1.9	0.80 U	0.33	0.80	2.0	0.72 U	0.72 U	0.72 U	0.72 U	0.30	0.72	1.8	5907027			
MeFOSAA	ng/L	4.0 U	1.7	4.0	8.0	3.8 U	1.6	3.8	7.6	4.0 U	1.7	4.0	8.0	3.6 U	3.6 U	3.6 U	3.6 U	1.5	3.6	7.2	5907027			
EtFOSAA	ng/L	4.0 U	1.3	4.0	8.0	3.8 U	1.2	3.8	7.6	4.0 U	1.3	4.0	8.0	3.6 U	3.6 U	3.6 U	3.6 U	1.2	3.6	7.2	5907027			
Surrogate Recovery (%)																								
13C2-Perfluorodecanoic acid	%	87				92				90				85	96	100	109					5907027		
13C2-Perfluorohexanoic acid	%	91				94				95				90	104	104	106					5907027		
D5-EtFOSAA	%	97				82				95				87	89	83	95					5907027		

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Results relate only to the items tested.

Maxxam Job Number: B8X5580
Report Date: 2019/01/08

AECOM
Client Project #: N62742-12-D-1829
Site Location: NBG PFAS
Your P.O. #: 60548946 CTO 17F0104

RESULTS OF ANALYSES OF SURFACE WATER

Maxxam ID		IOF247	IOF248				IOF249	IOF250				
Sampling Date		2018/12/07 09:05	2018/12/07 09:05				2018/12/07 09:20	2018/12/07 09:40				
COC Number		214813	214813				214813	214813				
	UNITS	GP017	GP018	DL	LOD	LOQ	GP019	GP020	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters												
EtFOSAA	ug/L	0.0095 U	0.0095 U	0.0031	0.0095	0.019	0.0090 U	0.0090 U	0.0030	0.0090	0.018	5899819
MeFOSAA	ug/L	0.0095 U	0.0095 U	0.0028	0.0095	0.019	0.0090 U	0.0090 U	0.0026	0.0090	0.018	5899819
Perfluorobutane Sulfonate (PFBS)	ug/L	0.014 U	0.014 U	0.0051	0.014	0.019	0.014 U	0.014 U	0.0049	0.014	0.018	5899819
Perfluoroheptanoic Acid (PFHpA)	ug/L	0.014 U	0.014 U	0.0070	0.014	0.019	0.014 U	0.014 U	0.0067	0.014	0.018	5899819
Perfluorohexanoic Acid (PFHxA)	ug/L	0.0095 U	0.0095 U	0.0033	0.0095	0.019	0.0090 U	0.0090 U	0.0032	0.0090	0.018	5899819
Perfluorohexane Sulfonate (PFHxS)	ug/L	0.014 U	0.014 U	0.0053	0.014	0.019	0.014 U	0.014 U	0.0050	0.014	0.018	5899819
Perfluorononanoic Acid (PFNA)	ug/L	0.017 U	0.017 U	0.0083	0.017	0.019	0.016 U	0.016 U	0.0078	0.016	0.018	5899819
Perfluorotetradecanoic Acid	ug/L	0.0095 U	0.0095 U	0.0026	0.0095	0.019	0.0090 U	0.0090 U	0.0024	0.0090	0.018	5899819
Perfluorotridecanoic Acid	ug/L	0.0095 U	0.0095 U	0.0036	0.0095	0.019	0.0090 U	0.0090 U	0.0034	0.0090	0.018	5899819
Perfluoroundecanoic Acid (PFUnA)	ug/L	0.0095 U	0.0095 U	0.0024	0.0095	0.019	0.0090 U	0.0090 U	0.0023	0.0090	0.018	5899819
Perfluorodecanoic Acid (PFDA)	ug/L	0.014 U	0.014 U	0.0058	0.014	0.019	0.014 U	0.014 U	0.0055	0.014	0.018	5899819
Perfluorododecanoic Acid (PFDoA)	ug/L	0.0095 U	0.0095 U	0.0048	0.0095	0.019	0.0090 U	0.0090 U	0.0045	0.0090	0.018	5899819
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	0.0095 U	0.0095 U	0.0031	0.0095	0.019	0.0090 U	0.0090 U	0.0030	0.0090	0.018	5899819
Perfluorooctane Sulfonate (PFOS)	ug/L	0.014 U	0.014 U	0.0057	0.014	0.019	0.014 U	0.014 U	0.0054	0.014	0.018	5899819
Surrogate Recovery (%)												
13C2-Perfluorodecanoic acid	%	80	86				86	85				5899819
13C2-Perfluorododecanoic acid	%	79	81				81	82				5899819
13C2-Perfluorohexanoic acid	%	82	88				89	87				5899819
13C2-perfluorotetradecanoic acid	%	62	61				64	62				5899819
13C2-Perfluoroundecanoic acid	%	77	83				89	84				5899819
13C4-Perfluoroheptanoic acid	%	83	86				91	92				5899819
13C4-Perfluorooctanesulfonate	%	84	88				89	93				5899819
13C4-Perfluorooctanoic acid	%	84	83				88	95				5899819
13C5-Perfluorononanoic acid	%	86	84				86	92				5899819
18O2-Perfluorohexanesulfonate	%	88	92				90	95				5899819
D3-MeFOSAA	%	81	80				86	82				5899819
D5-EtFOSAA	%	76	79				82	82				5899819

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

Results relate only to the items tested.

RESULTS OF ANALYSES OF GROUND WATER

Maxam ID	IOF252				IOF253				IOF254				IOF255				IOF256				IOF257						
Sampling Date	2018/12/07 12:45				2018/12/07 13:00				2018/12/07 13:20				2018/12/07 13:20				2018/12/07 15:30				2018/12/07 15:45						
COC Number	214813				214813				214813				214813				214813				214813						
	GP022	DL	LOD	LOQ	GP023	DL	LOD	LOQ	QC Batch	GP024	DL	LOD	LOQ	QC Batch	GP025	DL	LOD	LOQ	GP026	DL	LOD	LOQ	GP027	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters																											
EtFOSAA	0.0095 U	0.0031	0.0095	0.019	0.0085 U	0.0028	0.0085	0.017	5899819	0.010 U	0.0033	0.010	0.020	5897102	0.0090 U	0.0030	0.0090	0.018	0.0095 U	0.0031	0.0095	0.019	0.010 U	0.0033	0.010	0.020	5899819
MeFOSAA	0.0095 U	0.0028	0.0095	0.019	0.0085 U	0.0025	0.0085	0.017	5899819	0.010 U	0.0029	0.010	0.020	5897102	0.0090 U	0.0026	0.0090	0.018	0.0095 U	0.0028	0.0095	0.019	0.010 U	0.0029	0.010	0.020	5899819
Perfluorobutane Sulfonate (PFBS)	0.0069 J	0.0051	0.014	0.019	0.013 U	0.0046	0.013	0.017	5899819	0.015 U	0.0054	0.015	0.020	5897102	0.014 U	0.0049	0.014	0.018	0.014 U	0.0051	0.014	0.019	0.015 U	0.0054	0.015	0.020	5899819
Perfluoroheptanoic Acid (PFHpA)	0.014 U	0.0070	0.014	0.019	0.013 U	0.0063	0.013	0.017	5899819	0.015 U	0.0074	0.015	0.020	5897102	0.014 U	0.0067	0.014	0.018	0.014 U	0.0070	0.014	0.019	0.015 U	0.0074	0.015	0.020	5899819
Perfluorohexanoic Acid (PFHxA)	0.0090 J	0.0033	0.0095	0.019	0.0085 U	0.0030	0.0085	0.017	5899819	0.0070 J	0.0035	0.010	0.020	5897102	0.0066 J	0.0032	0.0090	0.018	0.0095 U	0.0033	0.0095	0.019	0.010 U	0.0035	0.010	0.020	5899819
Perfluorohexane Sulfonate (PFHxS)	0.027	0.0053	0.014	0.019	0.013 U	0.0048	0.013	0.017	5899819	0.011 J	0.0056	0.015	0.020	5897102	0.010 J	0.0050	0.014	0.018	0.014 U	0.0053	0.014	0.019	0.015 U	0.0056	0.015	0.020	5899819
Perfluorononanoic Acid (PFNA)	0.017 U	0.0083	0.017	0.019	0.015 U	0.0074	0.015	0.017	5899819	0.018 U	0.0087	0.018	0.020	5897102	0.016 U	0.0078	0.016	0.018	0.017 U	0.0083	0.017	0.019	0.018 U	0.0087	0.018	0.020	5899819
Perfluorotetradecanoic Acid	0.0095 U	0.0026	0.0095	0.019	0.0085 U	0.0023	0.0085	0.017	5899819	0.010 U	0.0027	0.010	0.020	5897102	0.0090 U	0.0024	0.0090	0.018	0.0095 U	0.0026	0.0095	0.019	0.010 U	0.0027	0.010	0.020	5899819
Perfluorotridecanoic Acid	0.0095 U	0.0036	0.0095	0.019	0.0085 U	0.0032	0.0085	0.017	5899819	0.010 U	0.0038	0.010	0.020	5897102	0.0090 U	0.0034	0.0090	0.018	0.0095 U	0.0036	0.0095	0.019	0.010 U	0.0038	0.010	0.020	5899819
Perfluoroundecanoic Acid (PFUnA)	0.0095 U	0.0024	0.0095	0.019	0.0085 U	0.0021	0.0085	0.017	5899819	0.010 U	0.0025	0.010	0.020	5897102	0.0090 U	0.0023	0.0090	0.018	0.0095 U	0.0024	0.0095	0.019	0.010 U	0.0025	0.010	0.020	5899819
Perfluorodecanoic Acid (PFDA)	0.014 U	0.0058	0.014	0.019	0.013 U	0.0052	0.013	0.017	5899819	0.015 U	0.0061	0.015	0.020	5897102	0.014 U	0.0055	0.014	0.018	0.014 U	0.0058	0.014	0.019	0.015 U	0.0061	0.015	0.020	5899819
Perfluorododecanoic Acid (PFDoA)	0.0095 U	0.0048	0.0095	0.019	0.0085 U	0.0043	0.0085	0.017	5899819	0.010 U	0.0050	0.010	0.020	5897102	0.0090 U	0.0045	0.0090	0.018	0.0095 U	0.0048	0.0095	0.019	0.010 U	0.0050	0.010	0.020	5899819
Perfluoro-n-Octanoic Acid (PFOA)	0.0095 U	0.0031	0.0095	0.019	0.0085 U	0.0028	0.0085	0.017	5899819	0.0043 J	0.0033	0.010	0.020	5897102	0.0090 U	0.0030	0.0090	0.018	0.0095 U	0.0031	0.0095	0.019	0.010 U	0.0033	0.010	0.020	5899819
Perfluorooctane Sulfonate (PFOS)	0.058	0.0057	0.014	0.019	0.013 U	0.0051	0.013	0.017	5899819	0.035	0.0060	0.015	0.020	5897102	0.031	0.0054	0.014	0.018	0.014 U	0.0057	0.014	0.019	0.015 U	0.0060	0.015	0.020	5899819
Surrogate Recovery (%)																											
13C2-Perfluorodecanoic acid	88				85				5899819	88				5897102	89				82				83				5899819
13C2-Perfluorododecanoic acid	89				88				5899819	83				5897102	83				81				82				5899819
13C2-Perfluorohexanoic acid	90				90				5899819	91				5897102	84				82				88				5899819
13C2-perfluorotetradecanoic acid	78				78				5899819	83				5897102	77				77				79				5899819
13C2-Perfluoroundecanoic acid	87				90				5899819	89				5897102	82				81				88				5899819
13C4-Perfluoroheptanoic acid	90				94				5899819	95				5897102	85				82				87				5899819
13C4-Perfluorooctanesulfonate	100				92				5899819	95				5897102	90				82				92				5899819
13C4-Perfluorooctanoic acid	92				91				5899819	92				5897102	85				83				90				5899819
13C5-Perfluorononanoic acid	91				93				5899819	94				5897102	89				81				90				5899819
18O2-Perfluorohexanesulfonate	94				96				5899819	94				5897102	90				86				90				5899819
D3-MeFOSAA	90				84				5899819	91				5897102	81				82				78				5899819
D5-EtFOSAA	93				81				5899819	91				5897102	83				79				79				5899819



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Mr. Brian Nagy
brian.nagy@aecom.com

March 25, 2019

SUBJECT: Naval Base Guam, CTO 17F0104, Data Validation

Dear Mr. Nagy

Enclosed is the final validation report for the fraction listed below. This SDG was received on March 7, 2019. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #44505:

<u>SDG #</u>	<u>Fraction</u>
B8X5580	Perfluoroalkyl & Polyfluoroalkyl Substances

The data validation was performed under Level C & D validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Final Work Plan Focused Site Inspection of Per- and Polyfluoroalkyl Substances at Naval Base Guam, Naval Base Guam; November 2018
- Project Procedures Manual, U.S. Naval Facilities Engineering Command Environmental Restoration Program, NAVFAC Pacific; DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1.1; 2018

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
scuenco@lab-data.com
Operations Manager/Senior Chemist

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Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Naval Base Guam, CTO 17F0104

LDC Report Date: March 11, 2019

Parameters: Perfluoroalkyl and Polyfluoroalkyl Substances

Validation Level: Level C & D

Laboratory: Maxxam Analytics International

Sample Delivery Group (SDG): B8X5580

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
GP010	IOF240	Water	12/06/18
GP011**	IOF241**	Water	12/06/18
GP012	IOF242	Water	12/06/18
GP013	IOF243	Water	12/06/18
GP014	IOF244	Water	12/06/18
GP015	IOF245	Water	12/06/18
GP016	IOF246	Water	12/06/18
GP001	IOF231	Water	12/05/18
GP002	IOF232	Water	12/05/18
GP003	IOF233	Water	12/05/18
GP004	IOF234	Water	12/05/18
GP006	IOF236	Water	12/06/18
GP007	IOF237	Water	12/06/18
GP008	IOF238	Water	12/06/18
GP009	IOF239	Water	12/06/18
GP017	IOF247	Water	12/07/18
GP018	IOF248	Water	12/07/18
GP019	IOF249	Water	12/07/18
GP020	IOF250	Water	12/07/18
GP021**	IOF251**	Water	12/07/18
GP022	IOF252	Water	12/07/18
GP023	IOF253	Water	12/07/18
GP024**	IOF254**	Water	12/07/18
GP025	IOF255	Water	12/07/18
GP026	IOF256	Water	12/07/18
GP027	IOF257	Water	12/07/18

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
GP017MS	IOF247MS	Water	12/07/18
GP017MSD	IOF247MSD	Water	12/07/18
GP024MS	IOF254MS	Water	12/07/18
GP024MSD	IOF254MSD	Water	12/07/18

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Work Plan Focused Site Inspection of Per- and Polyfluoroalkyl Substances at Naval Base Guam, Naval Base Guam (November 2018), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1.1 (2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UU (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

- H Holding times were exceeded.
- S Surrogate recovery was outside QC limits.
- C Calibration %RSD, r , r^2 or %D were noncompliant.
- R Calibration RRF was <0.05 .
- B Presumed contamination from preparation (method blank).
- L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
- Q MS/MSD recovery was poor.
- E MS/MSD or Duplicate RPD was high.
- I Internal standard performance was unsatisfactory.
- M Instrument Performance Check (BFB or DFTPP) was noncompliant.
- T Presumed contamination from trip blank.
- F Presumed contamination from FB or ER.
- D The analysis with this flag should not be used because another more technically sound analysis is available.
- P Instrument performance for pesticides was poor.
- V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
GP010 GP011** GP012 GP013 GP014 GP015 GP016	All compounds	22	14	J (all detects) UJ (all non-detects)	A
GP002 GP003	Perfluorododecanoic acid Perfluorotetradecanoic acid	30	14	UJ (all non-detects) UJ (all non-detects)	A

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds associated to samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds associated to samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample GP023 was identified as an equipment blank. No contaminants were found.

Samples GP001 and GP027 were identified as field blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples GP012 and GP013, samples GP002 and GP003, samples GP006 and GP007, samples GP017 and GP018, and samples GP024** and GP025 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	GP024**	GP025	
Perfluorohexanoic acid	0.0070J	0.0066J	6 (≤50)

Compound	Concentration (ug/L)		RPD (Limits)
	GP024**	GP025	
Perfluorohexanesulfonic acid	0.011J	0.010J	10 (≤50)
Perfluorooctanoic acid	0.0043J	0.090U	200 (≤50)
Perfluorooctanesulfonic acid	0.035	0.031	12 (≤50)

Compound	Concentration (ug/L)		RPD (Limits)
	GP012	GP013	
Perfluorobutanesulfonic acid	3.0	2.7	11 (≤50)
Perfluorohexanoic acid	4.5	3.7	20 (≤50)
Perfluorohexanesulfonic acid	23	19	19 (≤50)
Perfluoroheptanoic acid	1.3J	1.4J	7 (≤50)
Perfluorooctanoic acid	2.0	1.8J	11 (≤50)
Perfluorooctanesulfonic acid	42	31	30 (≤50)

XI. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
GP010	MPFOS MPFOA D3-MeFOSAA	199 (50-150) 218 (50-150) 212 (50-150)	All compounds	J (all detects) UJ (all non-detects)	P
GP011**	MPFOS MPFOA D3-MeFOSAA	161 (50-150) 157 (50-150) 176 (50-150)	All compounds	J (all detects) UJ (all non-detects)	P
GP012	MPFOS MPFOA D3-MeFOSAA	224 (50-150) 243 (50-150) 257 (50-150)	All compounds	J (all detects) UJ (all non-detects)	P
GP014	D5-MeFOSAA	161 (50-150)	N-Methyl perfluorooctanesulfonamidoacetic acid N-Ethyl perfluorooctanesulfonamidoacetic acid	UJ (all non-detects) UJ (all non-detects)	P

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
GP002	13C2-PFTeDA	27 (50-150)	Perfluorotridecanoic acid	UJ (all non-detects)	P
GP003	13C2-PFTeDA 13C2-PFTeDA	48 (50-150) 26 (50-150)	Perfluorotetradecanoic acid Perfluorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The laboratory indicated that PFAs are currently being reported as the sum of the branched and linear isomers so both peaks were integrated.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to technical holding time and labeled compound %R, data were qualified as estimated in nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Naval Base Guam, CTO 17F0104

**Perfluoroalkyl and Polyfluoroalkyl Substances - Data Qualification Summary -
SDG B8X5580**

Sample	Compound	Flag	A or P	Reason (Code)
GP010 GP011** GP012 GP013 GP014 GP015 GP016	All compounds	J (all detects) UJ (all non-detects)	A	Technical holding times (H)
GP002 GP003	Perfluorododecanoic acid Perfluorotetradecanoic acid	UJ (all non-detects) UJ (all non-detects)	A	Technical holding times (H)
GP010 GP011** GP012	All compounds	J (all detects) UJ (all non-detects)	P	Labeled compounds (%R) (I)
GP014	N-Methyl perfluorooctanesulfonamidoacetic acid N-Ethyl perfluorooctanesulfonamidoacetic acid	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R) (I)
GP002	Perfluorotridecanoic acid	UJ (all non-detects)	P	Labeled compounds (%R) (I)
GP003	Perfluorotetradecanoic acid Perfluorotridecanoic acid	UJ (all non-detects) UJ (all non-detects)	P	Labeled compounds (%R) (I)

Naval Base Guam, CTO 17F0104

**Perfluoroalkyl and Polyfluoroalkyl Substances - Laboratory Blank Data
Qualification Summary - SDG B8X5580**

No Sample Data Qualified in this SDG

Naval Base Guam, CTO 17F0104

**Perfluoroalkyl and Polyfluoroalkyl Substances - Field Blank Data Qualification
Summary - SDG B8X5580**

No Sample Data Qualified in this SDG

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/W	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	$RSD \leq 20\%$, $T_{rel}/ICV \leq 30\%$
IV.	Continuing calibration/ISC	A/A	$CCV/ISC \leq 30\%$
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	$FB = 8, 26, EB = 22$
VII.	Matrix spike/Matrix spike duplicates /sun	A/A	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	W	$D = 3+4, 9+10, 12+13, 16+17, 23+24$
X.	Labeled Compounds	W	
XI.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XII.	Target compound identification	A	Not reviewed for Level C validation.
XIII.	System performance	A	Not reviewed for Level C validation.
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	GP010	IOF240	Water	12/06/18
2	GP011**	IOF241**	Water	12/06/18
3	GP012	IOF242	Water	12/06/18
4	GP013	IOF243	Water	12/06/18
5	GP014	IOF244	Water	12/06/18
6	GP015	IOF245	Water	12/06/18
7	GP016	IOF246	Water	12/06/18
8	GP001 FB	IOF231	Water	12/05/18
9	GP002	IOF232	Water	12/05/18
10	GP003	IOF233	Water	12/05/18
11	GP004	IOF234	Water	12/05/18
12	GP006	IOF236	Water	12/06/18
13	GP007	IOF237	Water	12/06/18
14	GP008	IOF238	Water	12/06/18
15	GP009	IOF239	Water	12/06/18

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M)

	Client ID	Lab ID	Matrix	Date
16	GP017	IOF247	Water	12/07/18
17	GP018	IOF248	Water	12/07/18
18	GP019	IOF249	Water	12/07/18
19	GP020	IOF250	Water	12/07/18
20	GP021**	IOF251**	Water	12/07/18
21	GP022	IOF252	Water	12/07/18
22	GP023 <i>FB</i>	IOF253	Water	12/07/18
23	GP024**	IOF254**	Water	12/07/18
24	GP025	IOF255	Water	12/07/18
25	GP026	IOF256	Water	12/07/18
26	GP027 <i>FB</i>	IOF257	Water	12/07/18
27	GP017MS	IOF247MS	Water	12/07/18
28	GP017MSD	IOF247MSD	Water	12/07/18
29	GP024MS	IOF254MS	Water	12/07/18
30	GP024MSD	IOF254MSD	Water	12/07/18
31				
32				
33				
34				
35				

Notes:

1	589T102 MB				
2	5914930 MB				
3	5899819 MB				
4	590702T MB - 1-T drinking water				

Method: LCMS (EPA Method 537 Modified)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	☒	☐	☐	
Was cooler temperature criteria met?	☒	☐	☐	
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	☒	☐	☐	
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	☒	☐	☐	
Were all percent relative standard deviations (%RSD) $\leq$ 20%?	☒	☐	☐	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of $\geq$ 0.990?	☒	☐	☐	
Were all analytes within 70-130% or percent differences (%D) $\leq$ 30% of their true value for each calibration standard?	☒	☐	☐	
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	☒	☐	☐	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	☒	☐	☐	
Were all percent differences (%D) $<$ 30%?	☒	☐	☐	
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	☒	☐	☐	
Were all percent differences (%D) of the continuing calibration $<$ 30%?	☒	☐	☐	
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	☒	☐	☐	
Were all percent differences (%D) of the Instrument Sensitivity Check $<$ 30%?	☒	☐	☐	
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	☒	☐	☐	
Was a laboratory blank analyzed for each matrix and concentration?	☒	☐	☐	
Was there contamination in the laboratory blanks?	☐	☒	☐	
VI. Field blanks				
Were field blanks identified in this SDG?	☒	☐	☐	
Were target compounds detected in the field blanks?	☐	☒	☐	
VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	☒	☐	☐	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	☒	☐	☐	
IX. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	☒	☐	☐	

LDC #: 44505A96

VALIDATION FINDINGS CHECKLIST

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Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	☒	☐	☐	
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	☒	☐	☐	
Were target compounds detected in the field duplicates?	☒	☐	☐	
XI. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	☐	☒	☐	
XII. Compound quantitation				
Did the laboratory reporting limits (RL) meet the QAPP RLs?	☒	☐	☐	
Did reported results include both branched and linear isomers?	☒	☐	☐	
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	☒	☐	☐	
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	☒	☐	☐	
XIII. Target compound identification				
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	☒	☐	☐	
XIV. System performance				
System performance was found to be acceptable.	☒	☐	☐	
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	☒	☐	☐	

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. Perfluorohexanoic acid (PFHxA)			
B. Perfluoroheptanoic acid (PFHpA)			
C. Perfluorooctanoic acid (PFOA)			
D. Perfluorononanoic acid (PFNA)			
E. Perfluorodecanoic acid (PFDA)			
F. Perfluoroundecanoic acid (PFUnA)			
G. Perfluorododecanoic acid (PFDoA)			
H. Perfluorotridecanoic acid (PFTriDA)			
I. Perfluorotetradecanoic acid (PFTeDA)			
J. Perfluorobutanesulfonic acid (PFBS)			
K. Perfluorohexanesulfonic acid (PFHxS)			
L. Perfluoroheptanesulfonic acid (PFHpS)			
M. Perfluorooctanesulfonic acid (PFOS)			
N. Perfluorodecanesulfonic acid (PFDS)			
O. Perfluorooctane Sulfonamide (FOSA)			
P. Perfluorobutanoic acid (PFBA)			
Q. Perfluoropentanoic acid (PFPeA)			
R. 1H, 1H, 2H, 2H-perfluorooctane sulfonate (6:2FTS)			
S. 1H, 1H, 2H, 2H-perfluorodecane sulfonate (8:2 FTS)			
T. N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)			
U. N-Ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)			
V. 1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)			

VALIDATION FINDINGS WORKSHEET

Technical Holding Times

Method: LC/MS PFOS/PFOAs (EPA Method 537M)

~~All~~ circled dates have exceeded the technical holding times.

Y N N/A Were all cooler temperatures within validation criteria?

[illegible]

TECHNICAL HOLDING TIME CRITERIA

Water: Extracted within 14 days, analyzed within 28 days.

Soil: Extracted within 14 days, analyzed within 28 days.

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: LCMS PFAS (EPA Method 537M)Y N NA Were field duplicate pairs identified in this SDG?Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (< 50)
	23	24	
A	0.0070J	0.0066J	6
K	0.011J	0.010J	10
C	0.0043J	0.090U	200
M	0.035	0.031	12

Compound	Concentration (ug/L)		RPD (< 50)
	3	4	
J	3.0	2.7	11
A	4.5	3.7	20
K	23	19	19
B	1.3J	1.4J	7
C	2.0	1.8J	11
M	42	31	30

VALIDATION FINDINGS WORKSHEET Labeled Compounds

METHOD: LC/MS PFAS (EPA Method 537M)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

X N N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Internal Standard	% Recovery (Limit:)	Qualifications
		1 (det N/D)	MPFOS	199 (50-150)	↓ N/P (all)
			MPFOA	218 ()	
			D3-MeFOSAA	212 ()	
				()	
		2 (det S+N/D)		161 ()	(all)
				157 ()	
				176 ()	
				()	
		3 (det S+N/D)		221 ()	(all)
				243 ()	
				257 ()	
				()	
		5 (N/D)	D5-MeFOSAA	161 ()	↓ (T, U)
				()	
		10 10 9 (N/D)	13C2-I	48 (50-150)	↓ N/P (H, I)
				()	
		9 10 9 (N/D)	13C2-I	27 ()	↓ N/P (H)
				()	
		10 9 10 (N/D)	13C2-I	26 ()	↓ N/P (H)
				()	
				()	
				()	
				()	
				()	
				()	
				()	
				()	

LDC#: 44505A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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Method: PFACs (EPA Method 537)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
12/21/2018	LCMS04	PFOA	1	0.3864284	0.83
			2	0.712061	1.70
			3	2.3075567	5.00
			4	5.3349353	12.5
			5	10.765507	25.0
			6	18.951355	41.7

Regression Output***Reported***

Constant	-0.100581	-0.00158
Std Err of Y Est		
R Squared	0.998839	1.000000
Degrees of Freedom		
X Coefficient(s)	0.450379	0.44353
Std Err of Coef.		
Correlation Coefficient	0.999419	
Coefficient of Determination (r^2)	0.998839	1.000000

LDC#: 44505A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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Reviewer: [Signature]
2nd Reviewer: [Signature]

Method: PFACs (EPA Method 537)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
12/21/2018	LCMS04	PFHxA	1	0.3779264	0.83
			2	0.7148288	1.70
			3	2.3736409	5.00
			4	5.5856713	12.5
			5	11.301317	25.0
			6	18.940917	41.7

Regression Output**Reported**

Constant	-0.009516	-0.00855
Std Err of Y Est		
R Squared	0.999913	1.000000
Degrees of Freedom		
X Coefficient(s)	0.453723	0.45366
Std Err of Coef.		
Correlation Coefficient	0.999956	
Coefficient of Determination (r ²)	0.999913	1.000000

LDC#: 44505A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

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Reviewer: [Signature]
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Method: PFACs (EPA Method 537)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
12/21/2018	LCMS04	PFHxA	1	0.3884782	0.83
			2	0.7302752	1.70
			3	2.2236946	5.00
			4	5.4867807	12.5
			5	11.53794	25.0
			6	18.641831	41.7

Regression Output**Reported**

Constant	-0.008143	-0.00510
Std Err of Y Est		
R Squared	0.999547	1.000000
Degrees of Freedom		
X Coefficient(s)	0.450338	0.45013
Std Err of Coef.		
Correlation Coefficient	0.999773	
Coefficient of Determination (r^2)	0.999547	1.000000

LDC#: 44505A96**VALIDATION FINDINGS WORKSHEET**
Initial Calibration Calculation VerificationPage: 4 of 6
Reviewer: [Signature]
2nd Reviewer: [Signature]

Method: PFACs (EPA Method 537)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
12/21/2018	LCMS04	PFOA	1	0.4225716	0.83
			2	0.7649875	1.70
			3	2.251948	5.00
			4	5.5252406	12.5
			5	11.23034	25.0
			6	17.96202	41.7

Regression Output**Reported**

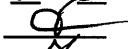
Constant	0.106762	0.05329
Std Err of Y Est		
R Squared	0.999433	1.000000
Degrees of Freedom		
X Coefficient(s)	0.432567	0.43627
Std Err of Coef.		
Correlation Coefficient	0.999717	
Coefficient of Determination (r^2)	0.999433	1.000000

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
1/3/2019	PFOA	1	500	0.06171420
		2	1000	0.11939390
		3	3000	0.37168670
		4	7000	1.05421680
		5	15000	2.21686740
		6	25000	3.1891891

Linear through the origin

	<i>calculated</i>	<i>Reported</i>
Constant	0.000000	0.0000
X Coefficient(s)	0.00013377	0.000136
Correlation Coefficient	0.997451	0.99680
Coefficient of Determination (r ²)	0.994908	

LDC: ~~4455~~ 96VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation VerificationPage: 6 of 6
Reviewwe: 
2nd Reviewer: 

Method: PFACs (EPA Method 537)

Calibration Date	Analyte	Standard	(Y) Concentration	(X) Area
1/3/2019	PFHxS	1	500	0.1209401
		2	1000	0.2768115
		3	3000	0.7863247
		4	7000	1.9617021
		5	15000	4.5535714
		6	25000	7.2765957

Linear through the origin

	<i>calculated</i>	<i>Reported</i>
Constant	0.000000	0.0000
X Coefficient(s)	0.00029326	0.000291
Correlation Coefficient	0.999713	0.99920
Coefficient of Determination (r^2)	0.999426	

VALIDATION FINDINGS WORKSHEET **Continuing Calibration Results Verification**

METHOD: LC/MS PFAS (EPA Method 537M)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Difference} = 100 * (\text{ave. RRF} - \text{RRF}) / \text{ave. RRF}$$

$$\text{RRF} = (A_x)(C_{is}) / (A_{is})(C_x)$$

Where: ave. RRF = initial calibration average RRF
 RRF = continuing calibration RRF
 A_x = Area of compound, A_{is} = Area of associated internal standard
 C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (initial)	Reported	Recalculated	Reported	Recalculated
					RRF	RRF	%D	%D
1	ISC	12/1/18	PFOA ($^{13}\text{C}_2$ -PFOA)	0.83	0.88	0.88	5.71	5.7
			PFOS ($^{13}\text{C}_8$ -PFOS) PFHxA ($^{13}\text{C}_2$-PFHxA)	0.83	0.82	0.82	1.33	1.33
2	CCV	12/1/18	PFOA ($^{13}\text{C}_2$ -PFOA)	12.50	12.62	12.62	0.94	0.94
	5899819.26		PFOS ($^{13}\text{C}_8$ -PFOS) PFHxA ($^{13}\text{C}_2$-PFHxA)	↓	12.46	12.46	0.31	0.31
3	CCV	1/3/19	PFOA ($^{13}\text{C}_2$ -PFOA)	500	537	538	7.0	7.6
	590027		PFOS ($^{13}\text{C}_8$ -PFOS) PFHxA ($^{13}\text{C}_2$-PFHxA)	↓	397	396	20.6	20.7
4			PFOA ($^{13}\text{C}_2$ -PFOA)					
			PFOS ($^{13}\text{C}_8$ -PFOS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results

VALIDATION FINDINGS WORKSHEET **Matrix Spike/Matrix Spike Duplicates Results Verification**

Page: 1 of 1
 Reviewer: 9
 2nd Reviewer: 18

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Recovery} = 100 * (\text{SSC} - \text{SC}) / \text{SA}$$

Where: SSC = Spiked sample concentration
 SA = Spike added

SC = Sample concentration

$$\text{RPD} = | \text{MSC} - \text{MSC} | * 2 / (\text{MSC} + \text{MSDC})$$

MSC = Matrix spike concentration

MSDC = Matrix spike duplicate concentration

MS/MSD samples: 29/30

Compound	Spike Added (<u>146</u>)		Sample Concentration (<u>146</u>)	Spiked Sample Concentration (<u>146</u>)		Matrix Spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		-----	MS	MSD	Percent Recovery		Percent Recovery		RPD
			Reported				Recalc	Reported	Recalc	Reported	Recalculated
PFOA	0.2364	0.2419	0.0043	0.2448	0.2419	101	102	106	106	5.4	6.7
PFOS	↓	↓	0.075	0.269	0.2664	103	102	96	96	7.0	3.9
					</						

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

METHOD: LC/MS PFAS (EPA Method 537M)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

$$\% \text{ Recovery} = 100 * (\text{SC}/\text{SA})$$

Where: SSC = Spike concentration
SA = Spike added

$$\text{RPD} = | \text{LCSC} - \text{LCSDC} | * 2 / (\text{LCSC} + \text{LCSDC})$$

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 590702T

Compound	Spike Added (<u>45/4</u>)		Spike Concentration (<u>45/8</u>)		LCS		LCSD		LCS/LCSD	
					Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
PFOA	<u>50.0</u>	<u>50.0</u>	<u>45.5</u>	<u>48.5</u>	<u>91</u>	<u>91</u>	<u>97</u>	<u>97</u>	<u>6.4</u>	<u>6.4</u>
PFOS	<u>↓</u>	<u>↓</u>	<u>47.5</u>	<u>46.4</u>	<u>95</u>	<u>95</u>	<u>93</u>	<u>93</u>	<u>23</u>	<u>23</u>

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

METHOD: LC/MS PFOS/PFOAs (EPA Method 537M)

Y	N	N/A
Y	N	N/A

Were all reported results recalculated and verified for all level IV samples?

Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_s)(I_s)(V_i)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

V_o = Volume or weight of sample extract in milliliters (ml) or grams (g).

V_i = Volume of extract injected in microliters (ul)

V_c = Volume of the concentrated extract in microliters (ul)

Df = Dilution Factor.

%S = Percent solids, applicable to soil and solid matrices only.

2.0 = Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 23, A:

$$\text{Conc.} = \frac{137 \times 1}{3551} \times 10008545 \times 0.02$$

$$= 0.00696 \text{ mg/L}$$

[illegible]

Naval Base Guam, CTO 17F0104 - SDG B8X5580
LDC 44505

AECOM

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537													
GP010	IOF240	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	8.0	4.0	UJ	h,i
GP010	IOF240	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	8	4.0	UJ	h,i
GP010	IOF240	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C	0.36	NG_L	J	2	0.80	J	h,i
GP010	IOF240	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.60	UJ	h,i
GP010	IOF240	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP010	IOF240	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP010	IOF240	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C	2.5	NG_L		2	0.80	J	h,i
GP010	IOF240	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C	0.70	NG_L	J	2	1.0	J	h,i
GP010	IOF240	1	Perfluorononanoic Acid (PFNA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP010	IOF240	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C	1.4	NG_L	J	2	1.0	J	h,i
GP010	IOF240	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C	0.78	NG_L	J	2	1.0	J	h,i
GP010	IOF240	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.80	UJ	h,i
GP010	IOF240	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP010	IOF240	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 9:45:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.80	UJ	h,i
GP011	IOF241	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	7.6	3.8	UJ	h,i
GP011	IOF241	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	7.6	3.8	UJ	h,i
GP011	IOF241	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	4.5	NG_L		1.9	0.76	J	h,i
GP011	IOF241	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.57	UJ	h,i
GP011	IOF241	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.95	UJ	h,i
GP011	IOF241	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	1.5	NG_L	J	1.9	0.95	J	h,i
GP011	IOF241	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	37	NG_L		1.9	0.76	J	h,i
GP011	IOF241	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	4.6	NG_L		1.9	0.95	J	h,i
GP011	IOF241	1	Perfluorononanoic Acid (PFNA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.95	UJ	h,i
GP011	IOF241	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	59	NG_L		1.9	0.95	J	h,i
GP011	IOF241	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D	2.8	NG_L		1.9	0.95	J	h,i

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537													
GP011	IOF241	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.76	UJ	h,i
GP011	IOF241	1	Perfluorotridecanoic Acid (PFTTrDA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.95	UJ	h,i
GP011	IOF241	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 10:30:00 AM	1/3/2019 2:40:00 PM	D		NG_L	U	1.9	0.76	UJ	h,i
GP012	IOF242	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	8.0	4.0	UJ	h,i
GP012	IOF242	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	8	4.0	UJ	h,i
GP012	IOF242	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	3.0	NG_L		2	0.80	J	h,i
GP012	IOF242	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.60	UJ	h,i
GP012	IOF242	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP012	IOF242	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	1.3	NG_L	J	2	1.0	J	h,i
GP012	IOF242	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	23	NG_L		2	0.80	J	h,i
GP012	IOF242	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	4.5	NG_L		2	1.0	J	h,i
GP012	IOF242	1	Perfluorononanoic Acid (PFNA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP012	IOF242	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	42	NG_L		2	1.0	J	h,i
GP012	IOF242	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	2.0	NG_L		2	1.0	J	h,i
GP012	IOF242	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.80	UJ	h,i
GP012	IOF242	1	Perfluorotridecanoic Acid (PFTTrDA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	1.0	UJ	h,i
GP012	IOF242	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	2	0.80	UJ	h,i
GP013	IOF243	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP013	IOF243	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP013	IOF243	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	2.7	NG_L		1.8	0.72	J	h
GP013	IOF243	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.54	UJ	h
GP013	IOF243	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP013	IOF243	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	1.4	NG_L	J	1.8	0.90	J	h
GP013	IOF243	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	19	NG_L		1.8	0.72	J	h
GP013	IOF243	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	3.7	NG_L		1.8	0.90	J	h
GP013	IOF243	1	Perfluorononanoic Acid (PFNA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP013	IOF243	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	31	NG_L		1.8	0.90	J	h

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537													
GP013	IOF243	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C	1.8	NG_L	J	1.8	0.90	J	h
GP013	IOF243	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP013	IOF243	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP013	IOF243	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 10:50:00 AM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP014	IOF244	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h,i
GP014	IOF244	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h,i
GP014	IOF244	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	0.31	NG_L	J	1.8	0.72	J	h
GP014	IOF244	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.54	UJ	h
GP014	IOF244	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP014	IOF244	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	0.37	NG_L	J	1.8	0.90	J	h
GP014	IOF244	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	1.3	NG_L	J	1.8	0.72	J	h
GP014	IOF244	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	1.4	NG_L	J	1.8	0.90	J	h
GP014	IOF244	1	Perfluorononanoic Acid (PFNA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP014	IOF244	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	1.9	NG_L		1.8	0.90	J	h
GP014	IOF244	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C	0.72	NG_L	J	1.8	0.90	J	h
GP014	IOF244	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP014	IOF244	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP014	IOF244	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 1:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP015	IOF245	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP015	IOF245	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP015	IOF245	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP015	IOF245	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.54	UJ	h
GP015	IOF245	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP015	IOF245	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluorononanoic Acid (PFNA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537													
GP015	IOF245	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP015	IOF245	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP015	IOF245	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 2:05:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP016	IOF246	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP016	IOF246	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	7.2	3.6	UJ	h
GP016	IOF246	1	Perfluorobutanesulfonic Acid (PFBS)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C	0.42	NG_L	J	1.8	0.72	J	h
GP016	IOF246	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.54	UJ	h
GP016	IOF246	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP016	IOF246	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C	0.38	NG_L	J	1.8	0.90	J	h
GP016	IOF246	1	Perfluorohexanesulfonic Acid (PFHxS)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C	1.8	NG_L	J	1.8	0.72	J	h
GP016	IOF246	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C	0.54	NG_L	J	1.8	0.90	J	h
GP016	IOF246	1	Perfluorononanoic Acid (PFNA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP016	IOF246	1	Perfluorooctanesulfonic Acid (PFOS)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP016	IOF246	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C	0.78	NG_L	J	1.8	0.90	J	h
GP016	IOF246	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
GP016	IOF246	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.90	UJ	h
GP016	IOF246	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 2:40:00 PM	1/3/2019 2:40:00 PM	C		NG_L	U	1.8	0.72	UJ	h
METHOD: 537_MOD													
GP001	IOF231	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.020	0.010	U	
GP001	IOF231	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluorobutane Sulfonate	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.015	U	
GP001	IOF231	1	Perfluorodecanoic Acid (PFDA)	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.015	U	
GP001	IOF231	1	Perfluorododecanoic Acid (PFDoA)	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluoroheptanoic Acid (PFHpA)	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.015	U	
GP001	IOF231	1	Perfluorohexane Sulfonate (PFHxS)	12/5/2018 11:00:00 AM	2/22/2018 1:05:00 AM	C		UG_L	U	0.020	0.015	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP001	IOF231	1	Perfluorohexanoic Acid (PFHxA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluorononanoic Acid (PFNA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.018	U	
GP001	IOF231	1	Perfluorooctane Sulfonate	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.015	U	
GP001	IOF231	1	Perfluorooctanoic Acid (PFOA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluorotetradecanoic Acid (PFTA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluorotridecanoic Acid (PFTrDA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP001	IOF231	1	Perfluoroundecanoic Acid (PFUnA)	12/5/2018 11:00:00 AM	12/22/2018 1:05:00 AM	C		UG_L	U	0.02	0.010	U	
GP002	IOF232	10	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.20	0.10	U	
GP002	IOF232	10	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.10	U	
GP002	IOF232	10	Perfluorobutane Sulfonate	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.15	U	
GP002	IOF232	10	Perfluorodecanoic Acid (PFDA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.15	U	
GP002	IOF232	10	Perfluorododecanoic Acid (PFDoA)	12/5/2018 11:05:00 AM	1/5/2019 8:44:00 PM	C		UG_L	U	0.2	0.10	UJ	h
GP002	IOF232	10	Perfluoroheptanoic Acid (PFHpA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.15	U	
GP002	IOF232	10	Perfluorohexane Sulfonate (PFHxS)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.20	0.15	U	
GP002	IOF232	10	Perfluorohexanoic Acid (PFHxA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.10	U	
GP002	IOF232	10	Perfluorononanoic Acid (PFNA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.18	U	
GP002	IOF232	10	Perfluorooctane Sulfonate	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.15	U	
GP002	IOF232	10	Perfluorooctanoic Acid (PFOA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.10	U	
GP002	IOF232	10	Perfluorotetradecanoic Acid (PFTA)	12/5/2018 11:05:00 AM	1/5/2019 8:44:00 PM	C		UG_L	U	0.2	0.10	UJ	h
GP002	IOF232	10	Perfluorotridecanoic Acid (PFTrDA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.10	UJ	i
GP002	IOF232	10	Perfluoroundecanoic Acid (PFUnA)	12/5/2018 11:05:00 AM	12/22/2018 1:07:00 AM	C		UG_L	U	0.2	0.10	U	
GP003	IOF233	10	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.20	0.10	U	
GP003	IOF233	10	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.10	U	
GP003	IOF233	10	Perfluorobutane Sulfonate	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.15	U	
GP003	IOF233	10	Perfluorodecanoic Acid (PFDA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.15	U	
GP003	IOF233	10	Perfluorododecanoic Acid (PFDoA)	12/5/2018 11:05:00 AM	1/5/2019 8:49:00 PM	C		UG_L	U	0.2	0.10	UJ	h
GP003	IOF233	10	Perfluoroheptanoic Acid (PFHpA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.15	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP003	IOF233	10	Perfluorohexane Sulfonate (PFHxS)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.20	0.15	U	
GP003	IOF233	10	Perfluorohexanoic Acid (PFHxA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.10	U	
GP003	IOF233	10	Perfluorononanoic Acid (PFNA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.18	U	
GP003	IOF233	10	Perfluorooctane Sulfonate	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.15	U	
GP003	IOF233	10	Perfluorooctanoic Acid (PFOA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.10	U	
GP003	IOF233	10	Perfluorotetradecanoic Acid (PFTA)	12/5/2018 11:05:00 AM	1/5/2019 8:49:00 PM	C		UG_L	U	0.2	0.10	UJ	h,i
GP003	IOF233	10	Perfluorotridecanoic Acid (PFTrDA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.10	UJ	i
GP003	IOF233	10	Perfluoroundecanoic Acid (PFUnA)	12/5/2018 11:05:00 AM	12/22/2018 1:09:00 AM	C		UG_L	U	0.2	0.10	U	
GP004	IOF234	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.020	0.010	U	
GP004	IOF234	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluorobutane Sulfonate	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.015	U	
GP004	IOF234	1	Perfluorodecanoic Acid (PFDA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.015	U	
GP004	IOF234	1	Perfluorododecanoic Acid (PFDoA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluoroheptanoic Acid (PFHpA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.015	U	
GP004	IOF234	1	Perfluorohexane Sulfonate (PFHxS)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.020	0.015	U	
GP004	IOF234	1	Perfluorohexanoic Acid (PFHxA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluorononanoic Acid (PFNA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.018	U	
GP004	IOF234	1	Perfluorooctane Sulfonate	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.015	U	
GP004	IOF234	1	Perfluorooctanoic Acid (PFOA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluorotetradecanoic Acid (PFTA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluorotridecanoic Acid (PFTrDA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP004	IOF234	1	Perfluoroundecanoic Acid (PFUnA)	12/5/2018 2:45:00 PM	12/22/2018 1:12:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.020	0.010	U	
GP006	IOF236	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	Perfluorobutane Sulfonate	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.015	U	
GP006	IOF236	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.015	U	
GP006	IOF236	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP006	IOF236	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.015	U	
GP006	IOF236	1	Perfluorohexane Sulfonate (PFHxS)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.020	0.015	U	
GP006	IOF236	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	Perfluorononanoic Acid (PFNA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.018	U	
GP006	IOF236	1	Perfluorooctane Sulfonate	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.015	U	
GP006	IOF236	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP006	IOF236	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 9:00:00 AM	12/22/2018 1:14:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.020	0.010	U	
GP007	IOF237	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluorobutane Sulfonate	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.015	U	
GP007	IOF237	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.015	U	
GP007	IOF237	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.015	U	
GP007	IOF237	1	Perfluorohexane Sulfonate (PFHxS)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.020	0.015	U	
GP007	IOF237	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluorononanoic Acid (PFNA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.018	U	
GP007	IOF237	1	Perfluorooctane Sulfonate	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.015	U	
GP007	IOF237	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP007	IOF237	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 9:00:00 AM	12/22/2018 1:16:00 AM	C		UG_L	U	0.02	0.010	U	
GP008	IOF238	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.020	0.01	U	
GP008	IOF238	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP008	IOF238	1	Perfluorobutane Sulfonate	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.015	U	
GP008	IOF238	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.015	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP008	IOF238	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP008	IOF238	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.015	U	
GP008	IOF238	1	Perfluorohexane Sulfonate (PFHxS)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C	0.020	UG_L		0.020	0.015		
GP008	IOF238	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C	0.0036	UG_L	J	0.02	0.01	J	
GP008	IOF238	1	Perfluorononanoic Acid (PFNA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.018	U	
GP008	IOF238	1	Perfluorooctane Sulfonate	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C	0.0080	UG_L	J	0.02	0.015	J	
GP008	IOF238	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP008	IOF238	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP008	IOF238	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP008	IOF238	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 9:05:00 AM	12/22/2018 1:19:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.020	0.01	U	
GP009	IOF239	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluorobutane Sulfonate	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.015	U	
GP009	IOF239	1	Perfluorodecanoic Acid (PFDA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.015	U	
GP009	IOF239	1	Perfluorododecanoic Acid (PFDoA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluoroheptanoic Acid (PFHpA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.015	U	
GP009	IOF239	1	Perfluorohexane Sulfonate (PFHxS)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.020	0.015	U	
GP009	IOF239	1	Perfluorohexanoic Acid (PFHxA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluorononanoic Acid (PFNA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.018	U	
GP009	IOF239	1	Perfluorooctane Sulfonate	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.015	U	
GP009	IOF239	1	Perfluorooctanoic Acid (PFOA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluorotetradecanoic Acid (PFTA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluorotridecanoic Acid (PFTrDA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP009	IOF239	1	Perfluoroundecanoic Acid (PFUnA)	12/6/2018 9:30:00 AM	12/22/2018 1:21:00 AM	C		UG_L	U	0.02	0.01	U	
GP017	IOF247	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluorobutane Sulfonate	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.014	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP017	IOF247	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.014	U	
GP017	IOF247	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.014	U	
GP017	IOF247	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.014	U	
GP017	IOF247	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluorononanoic Acid (PFNA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.017	U	
GP017	IOF247	1	Perfluorooctane Sulfonate	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.014	U	
GP017	IOF247	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP017	IOF247	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 9:05:00 AM	12/22/2018 4:24:00 PM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluorobutane Sulfonate	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.014	U	
GP018	IOF248	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.014	U	
GP018	IOF248	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.014	U	
GP018	IOF248	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.014	U	
GP018	IOF248	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluorononanoic Acid (PFNA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.017	U	
GP018	IOF248	1	Perfluorooctane Sulfonate	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.014	U	
GP018	IOF248	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP018	IOF248	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 9:05:00 AM	12/22/2018 12:02:00 AM	C		UG_L	U	0.019	0.0095	U	
GP019	IOF249	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP019	IOF249	1	Perfluorobutane Sulfonate	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.014	U	
GP019	IOF249	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.014	U	
GP019	IOF249	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.014	U	
GP019	IOF249	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.014	U	
GP019	IOF249	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	Perfluorononanoic Acid (PFNA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.016	U	
GP019	IOF249	1	Perfluorooctane Sulfonate	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.014	U	
GP019	IOF249	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	Perfluorotridecanoic Acid (PFTTrDA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP019	IOF249	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 9:20:00 AM	12/22/2018 12:05:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluorobutane Sulfonate	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.014	U	
GP020	IOF250	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.014	U	
GP020	IOF250	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.014	U	
GP020	IOF250	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.014	U	
GP020	IOF250	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluorononanoic Acid (PFNA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.016	U	
GP020	IOF250	1	Perfluorooctane Sulfonate	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.014	U	
GP020	IOF250	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluorotridecanoic Acid (PFTTrDA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP020	IOF250	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 9:40:00 AM	12/22/2018 12:09:00 AM	C		UG_L	U	0.018	0.0090	U	
GP021	IOF251	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP021	IOF251	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	
GP021	IOF251	1	Perfluorobutane Sulfonate	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.014	U	
GP021	IOF251	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.014	U	
GP021	IOF251	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	
GP021	IOF251	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.014	U	
GP021	IOF251	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D	0.010	UG_L	J	0.019	0.014	J	
GP021	IOF251	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D	0.012	UG_L	J	0.019	0.0095	J	
GP021	IOF251	1	Perfluorononanoic Acid (PFNA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.017	U	
GP021	IOF251	1	Perfluorooctane Sulfonate	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D	0.048	UG_L		0.019	0.014		
GP021	IOF251	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D	0.0048	UG_L	J	0.019	0.0095	J	
GP021	IOF251	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	
GP021	IOF251	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	
GP021	IOF251	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 11:00:00 AM	12/22/2018 12:12:00 AM	D		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	Perfluorobutane Sulfonate	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C	0.0069	UG_L	J	0.019	0.014	J	
GP022	IOF252	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.014	U	
GP022	IOF252	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.014	U	
GP022	IOF252	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C	0.027	UG_L		0.019	0.014		
GP022	IOF252	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C	0.0090	UG_L	J	0.019	0.0095	J	
GP022	IOF252	1	Perfluorononanoic Acid (PFNA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.017	U	
GP022	IOF252	1	Perfluorooctane Sulfonate	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C	0.058	UG_L		0.019	0.014		
GP022	IOF252	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	
GP022	IOF252	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 12:45:00 PM	12/22/2018 12:14:00 AM	C		UG_L	U	0.019	0.0095	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP023	IOF253	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluorobutane Sulfonate	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.013	U	
GP023	IOF253	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.013	U	
GP023	IOF253	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.013	U	
GP023	IOF253	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.013	U	
GP023	IOF253	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluorononanoic Acid (PFNA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.015	U	
GP023	IOF253	1	Perfluorooctane Sulfonate	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.013	U	
GP023	IOF253	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluorotridecanoic Acid (PFTTrDA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP023	IOF253	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 1:00:00 PM	12/22/2018 12:17:00 AM	C		UG_L	U	0.017	0.0085	U	
GP024	IOF254	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.020	0.010	U	
GP024	IOF254	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.010	U	
GP024	IOF254	1	Perfluorobutane Sulfonate	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.015	U	
GP024	IOF254	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.015	U	
GP024	IOF254	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.010	U	
GP024	IOF254	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.015	U	
GP024	IOF254	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D	0.011	UG_L	J	0.020	0.015	J	
GP024	IOF254	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D	0.0070	UG_L	J	0.02	0.010	J	
GP024	IOF254	1	Perfluorononanoic Acid (PFNA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.018	U	
GP024	IOF254	1	Perfluorooctane Sulfonate	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D	0.035	UG_L		0.02	0.015		
GP024	IOF254	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D	0.0043	UG_L	J	0.02	0.010	J	
GP024	IOF254	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.010	U	
GP024	IOF254	1	Perfluorotridecanoic Acid (PFTTrDA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.010	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP024	IOF254	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 1:20:00 PM	12/22/2018 1:24:00 AM	D		UG_L	U	0.02	0.010	U	
GP025	IOF255	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	Perfluorobutane Sulfonate	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.014	U	
GP025	IOF255	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.014	U	
GP025	IOF255	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.014	U	
GP025	IOF255	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C	0.010	UG_L	J	0.018	0.014	J	
GP025	IOF255	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C	0.0066	UG_L	J	0.018	0.0090	J	
GP025	IOF255	1	Perfluorononanoic Acid (PFNA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.016	U	
GP025	IOF255	1	Perfluorooctane Sulfonate	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C	0.031	UG_L		0.018	0.014		
GP025	IOF255	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP025	IOF255	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 1:20:00 PM	12/22/2018 12:19:00 AM	C		UG_L	U	0.018	0.0090	U	
GP026	IOF256	1	N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	Perfluorobutane Sulfonate	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.014	U	
GP026	IOF256	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.014	U	
GP026	IOF256	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.014	U	
GP026	IOF256	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.014	U	
GP026	IOF256	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	Perfluorononanoic Acid (PFNA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.017	U	
GP026	IOF256	1	Perfluorooctane Sulfonate	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.014	U	
GP026	IOF256	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: 537_MOD													
GP026	IOF256	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP026	IOF256	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 3:30:00 PM	12/22/2018 12:21:00 AM	C		UG_L	U	0.019	0.0095	U	
GP027	IOF257	1	N-ETHYL PERFLUOROOCCTANE SULFONAMIDOACETIC ACID	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.020	0.010	U	
GP027	IOF257	1	N-METHYL PERFLUOROOCCTANE SULFONAMIDOACETIC ACID	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluorobutane Sulfonate	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.015	U	
GP027	IOF257	1	Perfluorodecanoic Acid (PFDA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.015	U	
GP027	IOF257	1	Perfluorododecanoic Acid (PFDoA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluoroheptanoic Acid (PFHpA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.015	U	
GP027	IOF257	1	Perfluorohexane Sulfonate (PFHxS)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.020	0.015	U	
GP027	IOF257	1	Perfluorohexanoic Acid (PFHxA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluorononanoic Acid (PFNA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.018	U	
GP027	IOF257	1	Perfluorooctane Sulfonate	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.015	U	
GP027	IOF257	1	Perfluorooctanoic Acid (PFOA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluorotetradecanoic Acid (PFTA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluorotridecanoic Acid (PFTrDA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	
GP027	IOF257	1	Perfluoroundecanoic Acid (PFUnA)	12/7/2018 3:45:00 PM	12/22/2018 12:24:00 AM	C		UG_L	U	0.02	0.010	U	

LDC #: 44505

EDD POPULATION COMPLETENESS WORKSHEET

Date: 3/25Page: 1 of 12nd Reviewer:FMThe LDC job number listed above was entered by FE.

Entered from Body or Summary

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
Ila.	- Carryover U/J?	Y	
Ilb.	- Reason Codes used? If so, note which codes.	Y	
Ilc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	Y	
IIId.	- Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	+	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	-	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	- Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Nimitz Golf Course)		NGC_SW_01	Surface Water	190901.8996	163806.4595	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Nimitz Golf Course)		NGC_SW_01	Surface Water	190901.8996	163806.4595	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Nimitz Golf Course)		NGC_SW_01	Surface Water	190901.8996	163806.4595	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (SITE 00042 DanDan Parcel)		MW-7	Monitoring Well	160264.0265	105018.6832	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (SITE 00042 DanDan Parcel)		MW-2	Monitoring Well	160365.5896	105068.0572	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena WTP)		FWTP_SW_01	Surface Water	141588.3831	133097.3947	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena WTP)		FWTP_SW_01	Surface Water	141588.3831	133097.3947	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena WTP)		FWTP_SW_02	Surface Water	141613.359	133080.6966	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena WTP)		FWTP_SW_03	Surface Water	141409.476	133391.5801	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena WTP)		FWTP_DW_01	Drinking Water	141333.4363	133351.7131	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Naval Hospital Water Supply)		NRMC-1	Drinking Water	160171.6139	164235.7155	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Naval Hospital Water Supply)		NRMC-2	Drinking Water	161067.1781	164054.3879	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Naval Hospital Water Supply)		NRMC-2	Drinking Water	161067.1781	164054.3879	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Barrigada Water Supply)		NCS-8	Drinking Water	190633.5836	164944.3038	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Finegayan Water Supply)		NCS-12	Drinking Water	202213.7159	208118.3298	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Finegayan Water Supply)		NCS-9A	Drinking Water	198546.0396	203572.0457	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena Valley Reservoir)		FVRR_SW_03	Surface Water	148797.8101	122905.4185	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena Valley Reservoir)		FVRR_SW_03	Surface Water	148797.8101	122905.4185	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena Valley Reservoir)		FVRR_SW_02	Surface Water	148792.9377	123111.8332	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (Fena Valley Reservoir)		FVRR_SW_01	Surface Water	147726.9402	124141.6345	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal		MW-17	Monitoring Well	125426.3091	148511.7167	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal		MW-15	Monitoring Well	125109.5935	148818.4644	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal		MW-16	Monitoring Well	125109.7378	148675.8494	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal		MW-16	Monitoring Well	125109.7378	148675.8494	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal		MW-16	Monitoring Well	125109.7378	148675.8494	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (SITE 00042 DanDan Parcel)		MW-2	Monitoring Well	160365.5896	105068.0572	N6274212D1829
PACIFIC	GUAM_NB	B8X5580	Site 00001 Orote Waste Burn/Disposal (SITE 00042 DanDan Parcel)		MW-2	Monitoring Well	160365.5896	105068.0572	N6274212D1829

CONTRACT_ID	CONTRACT_ID	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_TYPE_DESC	COLLECTION_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
NBG PFAS	AECOM	GP001	WQ	Field Blank	12/5/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP002	WS	Normal	12/5/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP003	WS	Field Duplicate	12/5/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP004	WG	Normal	12/5/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP005	WG	Normal	12/5/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP006	WS	Normal	12/6/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP007	WS	Field Duplicate	12/6/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP008	WS	Normal	12/6/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP009	WS	Normal	12/6/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP010	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP011	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP012	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP013	WP	Field Duplicate	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP014	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP015	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP016	WP	Normal	12/6/2018	537_MOD	EPA 537	
NBG PFAS	AECOM	GP017	WS	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP018	WS	Field Duplicate	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP019	WS	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP020	WS	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP021	WG	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP022	WG	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP023	WQ	Equipment Blank	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP024	WG	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP025	WG	Field Duplicate	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP026	WG	Normal	12/7/2018	537_MOD	PFAS_QSM5.1	
NBG PFAS	AECOM	GP027	WQ	Equipment Blank	12/8/2018	537_MOD	PFAS_QSM5.1	