



**Groundwater Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Report, SDG 1600818**

*Naval Air Station Oceana
Virginia Beach, Virginia*

July 2019

July 06, 2016

Vista Work Order No. 1600818

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 22, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Fentress Phase II PFC Investigation'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1600818

Case Narrative

Sample Condition on Receipt:

Sixteen samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of six PFAS using Modified EPA Method 537. The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Results for PFHpA and PFNA results include the linear isomer only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

As requested, an MS/MSD was performed on sample "OF-MW15D-0616". The recoveries and RPDs were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1600818-01	OF14-MW07S-0616		20-Jun-16 09:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-02	OF14-MW07D-0616		20-Jun-16 10:50	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-03	OF-MW14-0616		20-Jun-16 12:10	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-04	OF-MW16-0616		20-Jun-16 15:10	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-05	OF-FB062016		20-Jun-16 15:35	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-06	OF-EB062016		20-Jun-16 15:45	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-07	OF-MW15-0616		20-Jun-16 09:30	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-08	OF-MW15D-0616	MS/MSD MS/MSD MS/MSD MS/MSD MS/MSD MS/MSD	20-Jun-16 11:35	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-09	OF14-MW06-0616		20-Jun-16 13:00	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-10	OF14-MW06D-0616		20-Jun-16 15:15	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-11	OF-MW17-0616		21-Jun-16 11:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-12	OF-MW12D-0616		21-Jun-16 13:25	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-13	OF-MW12-0616		21-Jun-16 14:15	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-14	OF-MW13D-0616		21-Jun-16 12:25	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-15	OF-MW13DP-0616		21-Jun-16 12:30	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-16	OF-MW11D-0616		21-Jun-16 15:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

Vista Project: 1600818

Client Project: Fentress Phase II PFC Investigation

ANALYTICAL RESULTS

Sample ID: Method Blank						Modified EPA Method 537			
Matrix: Aqueous		QC Batch: B6F0156		Lab Sample: B6F0156-BLK1		Date Analyzed: 28-Jun-16 19:24 Column: BEH C18 Analyst: PBW			
Sample Size: 0.125 L		Date Extracted: 28-Jun-2016 8:03							
Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	101	60 - 150	
PFHpA	ND	0.591	4.00	8.00		IS 13C4-PFHpA	92.9	25 - 175	
PFHxS	ND	0.947	4.00	8.00		IS 18O2-PFHxS	94.0	60 - 150	
PFOA	ND	0.651	4.00	8.00		IS 13C2-PFOA	103	60 - 150	
PFOS	ND	0.807	4.00	8.00		IS 13C8-PFOS	94.5	60 - 150	
PFNA	ND	0.810	4.00	8.00		IS 13C5-PFNA	95.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OPR

Modified EPA Method 537

Matrix: Aqueous Sample Size: 0.125 L	QC Batch: B6F0156 Date Extracted: 28-Jun-2016 8:03	Lab Sample: B6F0156-BS1 Date Analyzed: 28-Jun-16 18:47 Column: BEH C18 Analyst: PBW					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	88.7	80.0	111	60 - 130	IS 13C3-PFBS	97.3	60 - 150
PFHpA	92.2	80.0	115	70 - 130	IS 13C4-PFHpA	94.3	25 - 175
PFHxS	90.6	80.0	113	70 - 130	IS 18O2-PFHxS	95.9	60 - 150
PFOA	76.0	80.0	95.1	70 - 130	IS 13C2-PFOA	95.7	60 - 150
PFOS	88.8	80.0	111	70 - 130	IS 13C8-PFOS	93.7	60 - 150
PFNA	89.7	80.0	112	50 - 130	IS 13C5-PFNA	93.5	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: OF14-MW07S-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-01	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 9:05			Date Analyzed:	28-Jun-16 19:48	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	75.7	1.79	4.00	8.02		IS 13C3-PFBS	105	60 - 150	
PFHpA	26.9	0.593	4.00	8.02		IS 13C4-PFHpA	97.4	25 - 175	
PFHxS	457	0.949	4.00	8.02		IS 18O2-PFHxS	95.0	60 - 150	
PFOA	371	0.653	4.00	8.02		IS 13C2-PFOA	89.9	60 - 150	
PFOS	9.30	0.809	4.00	8.02		IS 13C8-PFOS	93.5	60 - 150	
PFNA	ND	0.812	4.00	8.02		IS 13C5-PFNA	85.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF14-MW07D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-02	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.127 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 10:50			Date Analyzed:	28-Jun-16 20:01	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.76	3.94	7.89		IS 13C3-PFBS	99.3	60 - 150	
PFHpA	ND	0.583	3.94	7.89		IS 13C4-PFHpA	92.4	25 - 175	
PFHxS	ND	0.933	3.94	7.89		IS 18O2-PFHxS	96.1	60 - 150	
PFOA	ND	0.642	3.94	7.89		IS 13C2-PFOA	93.2	60 - 150	
PFOS	ND	0.795	3.94	7.89		IS 13C8-PFOS	88.1	60 - 150	
PFNA	ND	0.798	3.94	7.89		IS 13C5-PFNA	78.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW14-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-03	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.126 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 12:10			Date Analyzed:	28-Jun-16 20:13	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.77	3.97	7.92		IS 13C3-PFBS	119	60 - 150	
PFHpA	ND	0.585	3.97	7.92		IS 13C4-PFHpA	110	25 - 175	
PFHxS	ND	0.938	3.97	7.92		IS 18O2-PFHxS	113	60 - 150	
PFOA	4.45	0.645	3.97	7.92	J	IS 13C2-PFOA	115	60 - 150	
PFOS	ND	0.799	3.97	7.92		IS 13C8-PFOS	103	60 - 150	
PFNA	ND	0.802	3.97	7.92		IS 13C5-PFNA	99.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW16-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-04	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.126 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:10			Date Analyzed:	28-Jun-16 20:25	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	97.2	1.78	3.97	7.96		IS 13C3-PFBS	107	60 - 150	
PFHpA	1.32	0.588	3.97	7.96	J	IS 13C4-PFHpA	101	25 - 175	
PFHxS	721	0.942	3.97	7.96		IS 18O2-PFHxS	97.7	60 - 150	
PFOA	7.12	0.648	3.97	7.96	J	IS 13C2-PFOA	96.3	60 - 150	
PFOS	108	0.803	3.97	7.96		IS 13C8-PFOS	102	60 - 150	
PFNA	ND	0.806	3.97	7.96		IS 13C5-PFNA	93.9	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-FB062016**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-05	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:35			Date Analyzed:	28-Jun-16 20:37	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.01		IS 13C3-PFBS	107	60 - 150	
PFHpA	ND	0.592	4.00	8.01		IS 13C4-PFHpA	94.9	25 - 175	
PFHxS	ND	0.948	4.00	8.01		IS 18O2-PFHxS	102	60 - 150	
PFOA	ND	0.652	4.00	8.01		IS 13C2-PFOA	106	60 - 150	
PFOS	ND	0.808	4.00	8.01		IS 13C8-PFOS	99.3	60 - 150	
PFNA	ND	0.811	4.00	8.01		IS 13C5-PFNA	91.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-EB062016**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-06	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.127 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:45			Date Analyzed:	28-Jun-16 20:49	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.76	3.94	7.87		IS 13C3-PFBS	104	60 - 150	
PFHpA	ND	0.582	3.94	7.87		IS 13C4-PFHpA	95.2	25 - 175	
PFHxS	ND	0.932	3.94	7.87		IS 18O2-PFHxS	93.4	60 - 150	
PFOA	ND	0.641	3.94	7.87		IS 13C2-PFOA	98.0	60 - 150	
PFOS	ND	0.794	3.94	7.87		IS 13C8-PFOS	88.5	60 - 150	
PFNA	ND	0.797	3.94	7.87		IS 13C5-PFNA	93.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW15-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-07	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.119 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 9:30			Date Analyzed:	28-Jun-16 21:02	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.89	4.20	8.44		IS 13C3-PFBS	106	60 - 150	
PFHpA	11.0	0.623	4.20	8.44		IS 13C4-PFHpA	100	25 - 175	
PFHxS	ND	0.999	4.20	8.44		IS 18O2-PFHxS	103	60 - 150	
PFOA	185	0.687	4.20	8.44		IS 13C2-PFOA	99.4	60 - 150	
PFOS	ND	0.851	4.20	8.44		IS 13C8-PFOS	92.0	60 - 150	
PFNA	ND	0.854	4.20	8.44		IS 13C5-PFNA	97.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW15D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-08	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.112 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 11:35			Date Analyzed:	28-Jun-16 21:14	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.00	4.46	8.93		IS 13C3-PFBS	108	60 - 150	
PFHpA	ND	0.660	4.46	8.93		IS 13C4-PFHpA	97.4	25 - 175	
PFHxS	ND	1.06	4.46	8.93		IS 18O2-PFHxS	103	60 - 150	
PFOA	1.62	0.727	4.46	8.93	J	IS 13C2-PFOA	92.1	60 - 150	
PFOS	2.19	0.901	4.46	8.93	J	IS 13C8-PFOS	73.2	60 - 150	
PFNA	ND	0.905	4.46	8.93		IS 13C5-PFNA	84.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Matrix Spike Results

Modified EPA Method 537

Source Client ID: OF-MW15D-0616	QC Batch: B6F0156	Lab Sample: B6F0156-MS1/B6F0156-MSD1
Source LabNumber: 1600818-08	Date Extracted: 28-Jun-2016 8:03	Date Analyzed: 29-Jun-16 01:30 Column: BEH C18 Analyst: BSR
Matrix: Aqueous		29-Jun-16 01:42 Column: BEH C18 Analyst: BSR
Sample Size: 0.121/0.120 L		

Analyte	Spike-MS (ng/L)	MS %R	MS Qualifiers	Spike-MSD (ng/L)	MSD %R	RPD	MS Qualifiers	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qualifiers
PFBS	82.5	116		83.4	117	0.858		IS 13C3-PFBS	102		96.3	
PFHpA	82.5	118		83.4	115	2.58		IS 13C4-PFHpA	95.6		91.9	
PFHxS	82.5	115		83.4	117	1.72		IS 18O2-PFHxS	98.5		93.8	
PFOA	82.5	117		83.4	104	11.8		IS 13C2-PFOA	94.4		93.0	
PFOS	82.5	114		83.4	117	2.60		IS 13C8-PFOS	83.7		76.2	
PFNA	82.5	113		83.4	119	5.17		IS 13C5-PFNA	92.5		75.7	

Sample ID: OF14-MW06-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-09	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.121 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 13:00			Date Analyzed:	28-Jun-16 21:26	Column:	BEH C18 Analyst: BSR
Location:							

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.7	1.86	4.13	8.30		IS 13C3-PFBS	104	60 - 150	
PFHpA	20.0	0.613	4.13	8.30		IS 13C4-PFHpA	93.6	25 - 175	
PFHxS	305	0.982	4.13	8.30		IS 18O2-PFHxS	103	60 - 150	
PFOA	298	0.675	4.13	8.30		IS 13C2-PFOA	84.6	60 - 150	
PFOS	245	0.837	4.13	8.30		IS 13C8-PFOS	96.4	60 - 150	
PFNA	3.69	0.840	4.13	8.30	J	IS 13C5-PFNA	98.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF14-MW06D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-10	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.123 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:15			Date Analyzed:	28-Jun-16 21:38	Column:	BEH C18 Analyst: BSR
Location:	Clear/No Odor						

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.82	4.07	8.13		IS 13C3-PFBS	98.3	60 - 150	
PFHpA	ND	0.601	4.07	8.13		IS 13C4-PFHpA	94.4	25 - 175	
PFHxS	ND	0.963	4.07	8.13		IS 18O2-PFHxS	101	60 - 150	
PFOA	0.779	0.662	4.07	8.13	J	IS 13C2-PFOA	91.3	60 - 150	
PFOS	ND	0.820	4.07	8.13		IS 13C8-PFOS	85.2	60 - 150	
PFNA	ND	0.823	4.07	8.13		IS 13C5-PFNA	74.6	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW17-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-11	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.123 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 11:05			Date Analyzed:	28-Jun-16 22:27	Column:	BEH C18 Analyst: BSR
Location:							

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.40	1.82	4.07	8.15	J	IS 13C3-PFBS	105	60 - 150	
PFHpA	2.57	0.602	4.07	8.15	J	IS 13C4-PFHpA	97.3	25 - 175	
PFHxS	45.9	0.965	4.07	8.15		IS 18O2-PFHxS	100	60 - 150	
PFOA	29.8	0.663	4.07	8.15		IS 13C2-PFOA	96.1	60 - 150	
PFOS	33.2	0.822	4.07	8.15		IS 13C8-PFOS	91.7	60 - 150	
PFNA	ND	0.826	4.07	8.15		IS 13C5-PFNA	78.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW12D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-12	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.129 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 13:25			Date Analyzed:	28-Jun-16 22:39	Column:	BEH C18 Analyst: BSR
Location:							

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.27	1.74	3.88	7.76	J	IS 13C3-PFBS	107	60 - 150	
PFHpA	ND	0.573	3.88	7.76		IS 13C4-PFHpA	96.8	25 - 175	
PFHxS	32.1	0.919	3.88	7.76		IS 18O2-PFHxS	99.9	60 - 150	
PFOA	2.77	0.632	3.88	7.76	J	IS 13C2-PFOA	96.2	60 - 150	
PFOS	55.1	0.783	3.88	7.76		IS 13C8-PFOS	88.9	60 - 150	
PFNA	ND	0.786	3.88	7.76		IS 13C5-PFNA	92.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW12-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-13	Date Received:	22-Jun-2016 8:48		
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03		
Date Collected:	21-Jun-2016 14:15			Date Analyzed:	28-Jun-16 22:51	Column:	BEH C18	Analyst:	BSR
Location:					29-Jun-16 16:43	Column:	BEH C18	Analyst:	BSR
Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	95.1	1.79	4.00	8.00		IS 13C3-PFBS	99.4	60 - 150	
PFHpA	40.9	0.591	4.00	8.00		IS 13C4-PFHpA	95.2	25 - 175	
PFHxS	1040	0.947	4.00	8.00		IS 18O2-PFHxS	116	60 - 150	
PFOA	69.8	0.651	4.00	8.00		IS 13C2-PFOA	104	60 - 150	
PFOS	4220	4.03	20.0	40.0	D	IS 13C8-PFOS	92.5	60 - 150	D
PFNA	9.50	0.810	4.00	8.00		IS 13C5-PFNA	92.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW13D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-14	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.124 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 12:25			Date Analyzed:	28-Jun-16 23:04	Column:	BEH C18
Location:						Analyst:	BSR

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.03	8.08		IS 13C3-PFBS	101	60 - 150	
PFHpA	ND	0.597	4.03	8.08		IS 13C4-PFHpA	91.5	25 - 175	
PFHxS	9.89	0.957	4.03	8.08		IS 18O2-PFHxS	97.5	60 - 150	
PFOA	4.50	0.658	4.03	8.08	J	IS 13C2-PFOA	97.5	60 - 150	
PFOS	4.44	0.815	4.03	8.08	J	IS 13C8-PFOS	87.2	60 - 150	
PFNA	ND	0.818	4.03	8.08		IS 13C5-PFNA	90.3	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW13DP-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-15	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.119 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 12:30			Date Analyzed:	28-Jun-16 23:16	Column:	BEH C18
Location:				Analyst:	BSR		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.88	4.20	8.41		IS 13C3-PFBS	105	60 - 150	
PFHpA	0.705	0.622	4.20	8.41	J	IS 13C4-PFHpA	98.0	25 - 175	
PFHxS	9.50	0.996	4.20	8.41		IS 18O2-PFHxS	97.7	60 - 150	
PFOA	3.50	0.685	4.20	8.41	J	IS 13C2-PFOA	106	60 - 150	
PFOS	2.71	0.849	4.20	8.41	J	IS 13C8-PFOS	86.1	60 - 150	
PFNA	ND	0.852	4.20	8.41		IS 13C5-PFNA	87.9	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW11D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-16	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 15:05			Date Analyzed:	28-Jun-16 23:28	Column:	BEH C18 Analyst: BSR
Location:							

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.80	4.00	8.02		IS 13C3-PFBS	99.3	60 - 150	
PFHpA	ND	0.593	4.00	8.02		IS 13C4-PFHpA	88.8	25 - 175	
PFHxS	3.14	0.950	4.00	8.02	J	IS 18O2-PFHxS	95.9	60 - 150	
PFOA	0.839	0.653	4.00	8.02	J	IS 13C2-PFOA	82.4	60 - 150	
PFOS	7.45	0.809	4.00	8.02	J	IS 13C8-PFOS	81.0	60 - 150	
PFNA	ND	0.812	4.00	8.02		IS 13C5-PFNA	82.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



CHAIN OF CUSTODY

CTO-WE01

FOR LABORATORY USE ONLY Storage Secured

Laboratory Project ID: 1600818 Yes No

Storage ID WR-2 FS Temp -2.2 °C

Project I.D.: Fentress Area II PFC Investigation, P.O.# 10006-7-105444 Sampler: Max Ost (Name) Andrew Winebrener

TAT: (Check One):
 Standard: 21 Days
 Rush (surcharge may apply):
 14 days 7 days Specify: _____

Invoice to: Name Same as Company Company Results Address _____ City _____ State _____ Zip _____ Ph# _____ Fax# _____

Relinquished by: (Signature and Printed Name) Orin Wahner Date: 6/21/16 Time: 1530 Received by: (Signature and Printed Name) Scott Benedict P. Benedict Date: 6/22/16 Time: 0854

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

See "Sample Log-in Checklist" for additional sample information

Sample ID	Date	Time	Location/Sample Description	Quantity		Matrix	Add Analysis(es) Requested																	
				Type	Matrix		Container(s)		EPA1613		EPA8290		EPA8280		EPA1668		EPA1614		CARB429					
							2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	CORPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	SWQ (FFCS)	537 Mod	
OF14-MW07S-0616	6/20/16	905	Clear/No odor	Z	P	AQ																		X
OF14-MW07D-0616	6/20/16	1050	Clear/well water odor	Z	P	AQ																		X
OF-MW14-0616	6/20/16	1210	Clear/no odor	Z	P	AQ																		X
OF-MW16-0616	6/20/16	1510	Clear/No odor	Z	P	AQ																		X
OF-FB062016	6/20/16	1535	Field blank	Z	P	AQ																		X
OF-EB062016	6/20/16	1545	EB for pen pump	Z	P	AQ																		X
OF-MW15-0616	6/20/16	930	Clear/No odor	Z	P	AQ																		X
OF-MW15D-0616	6/20/16	1135	Clear/No odor	Z	P	AQ																		X
OF-MW15D-0616-MS	6/20/16	1135	Clear/no odor	Z	P	AQ																		X
OF-MW15D-0616-SD	6/20/16	1135	Clear/no odor	Z	P	AQ																		X

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
 Company: CHEM Hill
 Address: 5701 Cleveland St, Suite 200
 City: Virginia Beach State: VA Zip: 23462
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@chem.com
 Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
 SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
 AQ = Aqueous, O = Other

Container Types: A = 1 Liter Amber, G = Glass, P = PUF, T = MMS Train, O = Other 125 ml HDPE

*Bottle Preservative Type: T = Thiosulfate, O = Other None



CHAIN OF CUSTODY

FOR LABORATORY USE ONLY Storage Secured
 Laboratory Project ID: 1600818 Yes No
 Storage ID: WR-2 FS Temp: -2.2 °C

CTO - WFO1

Project I.D.: Fortress Phase II PFC Investigation P.O.# 10006-7-105444 Sampler: Andrew Winebrenner
Mark Ost (Name)

TAT: (Check One):
 Standard: 21 Days
 Rush (surcharge may apply):
 14 days 7 days Specify: _____

Invoice to: Name Same as results Company Results Address _____ City _____ State _____ Zip _____ Ph# _____ Fax# _____
 Relinquished by: (Signature and Printed Name) John W. White Date: 6/21/16 Time: 1530 Received by: (Signature and Printed Name) Benedict S. Benedict Date: 6/28/16 Time: 0854
 Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 (916) 673-1520 • Fax (916) 673-0106				Method of Shipment: <u>Fedex</u>		Add Analysis(es) Requested																		
						Container(s)		EPA1613	EPA8290	EPA8280	EPA1668	EPA1614	CARB429	337 Mod										
ATTN: _____				Tracking No.: _____		Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	SVOC (PFCs)	
Sample ID	Date	Time	Location/Sample Description																					
OF-MW06-0616	6/20/16	1300	Clear/no odor	Z	P	AQ																		X
OF-MW06D-0616	6/20/16	1515	Clear/no odor	Z	P	AQ																		X
OF-MW17-0616	6/24/16	1105	Clear/no odor	Z	P	AQ																		X
OF-MW12D-0616	6/21/16	1325	Clear/faint well water odor	Z	P	AQ																		X
OF-MW12-0616	6/21/16	1415	Clear/no odor	Z	P	AQ																		X
OF-MW13D-0616	6/21/16	1225	Clear/no odor	Z	P	AQ																		X
OF-MW13DP-0616	6/21/16	1230	slightly turbid/no odor	Z	P	AQ																		X
OF-MW1D-0616	6/21/16	1505	slightly turbid/no odor	Z	P	AQ																		X

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
 Company: CH2M HILL
 Address: 5701 Cleveland St, suite 200
 City: Virginia Beach State: VA Zip: 23462
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@ch2m.com
 Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
 AQ = Aqueous, O = Other

Container Types: A = 1 Liter Amber, G = Glass Jar
 P = PUF, T = MM5 Train, O = Other 125ml HOPE

*Bottle Preservative Type: T = Thiosulfate, O = Other none

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1600818 TAT 14

Samples Arrival:	Date/Time <u>06/22/16 0848</u>	Initials: <u>VBBS</u>	Location: <u>WR-2</u> Shelf/Rack: <u>NA</u>
Logged In:	Date/Time <u>06/22/16 1301</u>	Initials: <u>SAR VBBS</u>	Location: <u>WR-2</u> Shelf/Rack: <u>F5</u>
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: <u>-0.9</u> (uncorrected)	Time: <u>0855</u>		Thermometer ID: <u>IR-2</u>
Temp °C: <u>-2.2</u> (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7834 1239 8968</u>	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?	COC	Sample Container	<u>None</u>
Shipping Container	Vista	<u>Client</u>	Retain
			Return
			Dispose

Comments:

Client Sample ID

OF-MWISD-0616-MS
OF-MWISD-0616-SD

Vista ID

OF-MWISD-0616
OF-MWISD-0616

July 06, 2016

Vista Work Order No. 1600818

Ms. Tiffany Hill
CH2M Hill
1100 NE Circle Blvd. Suite 300
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 22, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Fentress Phase II PFC Investigation'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1600818

Case Narrative

Sample Condition on Receipt:

Sixteen samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

Modified EPA Method 537

The samples were extracted and analyzed for a selected list of six PFAS using Modified EPA Method 537. The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers. Results for PFHpA and PFNA results include the linear isomer only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ. The OPR recoveries were within the method acceptance criteria.

The recoveries of all internal standards in the QC and field samples were within the acceptance criteria.

As requested, an MS/MSD was performed on sample "OF-MW15D-0616". The recoveries and RPDs were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1600818-01	OF14-MW07S-0616		20-Jun-16 09:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-02	OF14-MW07D-0616		20-Jun-16 10:50	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-03	OF-MW14-0616		20-Jun-16 12:10	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-04	OF-MW16-0616		20-Jun-16 15:10	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-05	OF-FB062016		20-Jun-16 15:35	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-06	OF-EB062016		20-Jun-16 15:45	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-07	OF-MW15-0616		20-Jun-16 09:30	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-08	OF-MW15D-0616	MS/MSD MS/MSD MS/MSD MS/MSD MS/MSD MS/MSD	20-Jun-16 11:35	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-09	OF14-MW06-0616		20-Jun-16 13:00	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-10	OF14-MW06D-0616		20-Jun-16 15:15	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-11	OF-MW17-0616		21-Jun-16 11:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-12	OF-MW12D-0616		21-Jun-16 13:25	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-13	OF-MW12-0616		21-Jun-16 14:15	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-14	OF-MW13D-0616		21-Jun-16 12:25	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-15	OF-MW13DP-0616		21-Jun-16 12:30	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1600818-16	OF-MW11D-0616		21-Jun-16 15:05	22-Jun-16 08:48	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

Vista Project: 1600818

Client Project: Fentress Phase II PFC Investigation

ANALYTICAL RESULTS

Sample ID: Method Blank						Modified EPA Method 537			
Matrix: Aqueous		QC Batch: B6F0156		Lab Sample: B6F0156-BLK1		Date Analyzed: 28-Jun-16 19:24 Column: BEH C18 Analyst: PBW			
Sample Size: 0.125 L		Date Extracted: 28-Jun-2016 8:03							
Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	101	60 - 150	
PFHpA	ND	0.591	4.00	8.00		IS 13C4-PFHpA	92.9	25 - 175	
PFHxS	ND	0.947	4.00	8.00		IS 18O2-PFHxS	94.0	60 - 150	
PFOA	ND	0.651	4.00	8.00		IS 13C2-PFOA	103	60 - 150	
PFOS	ND	0.807	4.00	8.00		IS 13C8-PFOS	94.5	60 - 150	
PFNA	ND	0.810	4.00	8.00		IS 13C5-PFNA	95.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OPR**Modified EPA Method 537**

Matrix: Aqueous	QC Batch: B6F0156	Lab Sample: B6F0156-BS1					
Sample Size: 0.125 L	Date Extracted: 28-Jun-2016 8:03	Date Analyzed: 28-Jun-16 18:47 Column: BEH C18 Analyst: PBW					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	88.7	80.0	111	60 - 130	IS 13C3-PFBS	97.3	60 - 150
PFHpA	92.2	80.0	115	70 - 130	IS 13C4-PFHpA	94.3	25 - 175
PFHxS	90.6	80.0	113	70 - 130	IS 18O2-PFHxS	95.9	60 - 150
PFOA	76.0	80.0	95.1	70 - 130	IS 13C2-PFOA	95.7	60 - 150
PFOS	88.8	80.0	111	70 - 130	IS 13C8-PFOS	93.7	60 - 150
PFNA	89.7	80.0	112	50 - 130	IS 13C5-PFNA	93.5	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: OF14-MW07S-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-01	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 9:05			Date Analyzed:	28-Jun-16 19:48	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	75.7	1.79	4.00	8.02		IS 13C3-PFBS	105	60 - 150	
PFHpA	26.9	0.593	4.00	8.02		IS 13C4-PFHpA	97.4	25 - 175	
PFHxS	457	0.949	4.00	8.02		IS 18O2-PFHxS	95.0	60 - 150	
PFOA	371	0.653	4.00	8.02		IS 13C2-PFOA	89.9	60 - 150	
PFOS	9.30	0.809	4.00	8.02		IS 13C8-PFOS	93.5	60 - 150	
PFNA	ND	0.812	4.00	8.02		IS 13C5-PFNA	85.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF14-MW07D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-02	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.127 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 10:50			Date Analyzed:	28-Jun-16 20:01	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.76	3.94	7.89		IS 13C3-PFBS	99.3	60 - 150	
PFHpA	ND	0.583	3.94	7.89		IS 13C4-PFHpA	92.4	25 - 175	
PFHxS	ND	0.933	3.94	7.89		IS 18O2-PFHxS	96.1	60 - 150	
PFOA	ND	0.642	3.94	7.89		IS 13C2-PFOA	93.2	60 - 150	
PFOS	ND	0.795	3.94	7.89		IS 13C8-PFOS	88.1	60 - 150	
PFNA	ND	0.798	3.94	7.89		IS 13C5-PFNA	78.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW14-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-03	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.126 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 12:10			Date Analyzed:	28-Jun-16 20:13	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.77	3.97	7.92		IS 13C3-PFBS	119	60 - 150	
PFHpA	ND	0.585	3.97	7.92		IS 13C4-PFHpA	110	25 - 175	
PFHxS	ND	0.938	3.97	7.92		IS 18O2-PFHxS	113	60 - 150	
PFOA	4.45	0.645	3.97	7.92	J	IS 13C2-PFOA	115	60 - 150	
PFOS	ND	0.799	3.97	7.92		IS 13C8-PFOS	103	60 - 150	
PFNA	ND	0.802	3.97	7.92		IS 13C5-PFNA	99.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW16-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-04	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.126 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:10			Date Analyzed:	28-Jun-16 20:25	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	97.2	1.78	3.97	7.96		IS 13C3-PFBS	107	60 - 150	
PFHpA	1.32	0.588	3.97	7.96	J	IS 13C4-PFHpA	101	25 - 175	
PFHxS	721	0.942	3.97	7.96		IS 18O2-PFHxS	97.7	60 - 150	
PFOA	7.12	0.648	3.97	7.96	J	IS 13C2-PFOA	96.3	60 - 150	
PFOS	108	0.803	3.97	7.96		IS 13C8-PFOS	102	60 - 150	
PFNA	ND	0.806	3.97	7.96		IS 13C5-PFNA	93.9	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-FB062016**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-05	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:35			Date Analyzed:	28-Jun-16 20:37	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.01		IS 13C3-PFBS	107	60 - 150	
PFHpA	ND	0.592	4.00	8.01		IS 13C4-PFHpA	94.9	25 - 175	
PFHxS	ND	0.948	4.00	8.01		IS 18O2-PFHxS	102	60 - 150	
PFOA	ND	0.652	4.00	8.01		IS 13C2-PFOA	106	60 - 150	
PFOS	ND	0.808	4.00	8.01		IS 13C8-PFOS	99.3	60 - 150	
PFNA	ND	0.811	4.00	8.01		IS 13C5-PFNA	91.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-EB062016**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-06	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.127 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:45			Date Analyzed:	28-Jun-16 20:49	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.76	3.94	7.87		IS 13C3-PFBS	104	60 - 150	
PFHpA	ND	0.582	3.94	7.87		IS 13C4-PFHpA	95.2	25 - 175	
PFHxS	ND	0.932	3.94	7.87		IS 18O2-PFHxS	93.4	60 - 150	
PFOA	ND	0.641	3.94	7.87		IS 13C2-PFOA	98.0	60 - 150	
PFOS	ND	0.794	3.94	7.87		IS 13C8-PFOS	88.5	60 - 150	
PFNA	ND	0.797	3.94	7.87		IS 13C5-PFNA	93.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW15-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-07	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.119 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 9:30			Date Analyzed:	28-Jun-16 21:02	Column:	BEH C18
Location:				Analyst:	PBW		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.89	4.20	8.44		IS 13C3-PFBS	106	60 - 150	
PFHpA	11.0	0.623	4.20	8.44		IS 13C4-PFHpA	100	25 - 175	
PFHxS	ND	0.999	4.20	8.44		IS 18O2-PFHxS	103	60 - 150	
PFOA	185	0.687	4.20	8.44		IS 13C2-PFOA	99.4	60 - 150	
PFOS	ND	0.851	4.20	8.44		IS 13C8-PFOS	92.0	60 - 150	
PFNA	ND	0.854	4.20	8.44		IS 13C5-PFNA	97.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW15D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-08	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.112 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 11:35			Date Analyzed:	28-Jun-16 21:14	Column:	BEH C18
Location:						Analyst:	PBW

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	2.00	4.46	8.93		IS 13C3-PFBS	108	60 - 150	
PFHpA	ND	0.660	4.46	8.93		IS 13C4-PFHpA	97.4	25 - 175	
PFHxS	ND	1.06	4.46	8.93		IS 18O2-PFHxS	103	60 - 150	
PFOA	1.62	0.727	4.46	8.93	J	IS 13C2-PFOA	92.1	60 - 150	
PFOS	2.19	0.901	4.46	8.93	J	IS 13C8-PFOS	73.2	60 - 150	
PFNA	ND	0.905	4.46	8.93		IS 13C5-PFNA	84.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Matrix Spike Results

Modified EPA Method 537

Source Client ID: OF-MW15D-0616	QC Batch: B6F0156	Lab Sample: B6F0156-MS1/B6F0156-MSD1
Source LabNumber: 1600818-08	Date Extracted: 28-Jun-2016 8:03	Date Analyzed: 29-Jun-16 01:30 Column: BEH C18 Analyst: BSR
Matrix: Aqueous		29-Jun-16 01:42 Column: BEH C18 Analyst: BSR
Sample Size: 0.121/0.120 L		

Analyte	Spike-MS (ng/L)	MS %R	MS Qualifiers	Spike-MSD (ng/L)	MSD %R	RPD	MS Qualifiers	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qualifiers
PFBS	82.5	116		83.4	117	0.858		IS 13C3-PFBS	102		96.3	
PFHpA	82.5	118		83.4	115	2.58		IS 13C4-PFHpA	95.6		91.9	
PFHxS	82.5	115		83.4	117	1.72		IS 18O2-PFHxS	98.5		93.8	
PFOA	82.5	117		83.4	104	11.8		IS 13C2-PFOA	94.4		93.0	
PFOS	82.5	114		83.4	117	2.60		IS 13C8-PFOS	83.7		76.2	
PFNA	82.5	113		83.4	119	5.17		IS 13C5-PFNA	92.5		75.7	

Sample ID: OF14-MW06-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-09	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.121 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 13:00			Date Analyzed:	28-Jun-16 21:26	Column:	BEH C18
Location:						Analyst:	BSR

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.7	1.86	4.13	8.30		IS 13C3-PFBS	104	60 - 150	
PFHpA	20.0	0.613	4.13	8.30		IS 13C4-PFHpA	93.6	25 - 175	
PFHxS	305	0.982	4.13	8.30		IS 18O2-PFHxS	103	60 - 150	
PFOA	298	0.675	4.13	8.30		IS 13C2-PFOA	84.6	60 - 150	
PFOS	245	0.837	4.13	8.30		IS 13C8-PFOS	96.4	60 - 150	
PFNA	3.69	0.840	4.13	8.30	J	IS 13C5-PFNA	98.4	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF14-MW06D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-10	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.123 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	20-Jun-2016 15:15			Date Analyzed:	28-Jun-16 21:38	Column:	BEH C18
Location:	Clear/No Odor					Analyst:	BSR

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.82	4.07	8.13		IS 13C3-PFBS	98.3	60 - 150	
PFHpA	ND	0.601	4.07	8.13		IS 13C4-PFHpA	94.4	25 - 175	
PFHxS	ND	0.963	4.07	8.13		IS 18O2-PFHxS	101	60 - 150	
PFOA	0.779	0.662	4.07	8.13	J	IS 13C2-PFOA	91.3	60 - 150	
PFOS	ND	0.820	4.07	8.13		IS 13C8-PFOS	85.2	60 - 150	
PFNA	ND	0.823	4.07	8.13		IS 13C5-PFNA	74.6	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW17-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-11	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.123 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 11:05			Date Analyzed:	28-Jun-16 22:27	Column:	BEH C18
Location:				Analyst:	BSR		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	5.40	1.82	4.07	8.15	J	IS 13C3-PFBS	105	60 - 150	
PFHpA	2.57	0.602	4.07	8.15	J	IS 13C4-PFHpA	97.3	25 - 175	
PFHxS	45.9	0.965	4.07	8.15		IS 18O2-PFHxS	100	60 - 150	
PFOA	29.8	0.663	4.07	8.15		IS 13C2-PFOA	96.1	60 - 150	
PFOS	33.2	0.822	4.07	8.15		IS 13C8-PFOS	91.7	60 - 150	
PFNA	ND	0.826	4.07	8.15		IS 13C5-PFNA	78.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW12D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-12	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.129 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 13:25			Date Analyzed:	28-Jun-16 22:39	Column:	BEH C18
Location:				Analyst:	BSR		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	2.27	1.74	3.88	7.76	J	IS 13C3-PFBS	107	60 - 150	
PFHpA	ND	0.573	3.88	7.76		IS 13C4-PFHpA	96.8	25 - 175	
PFHxS	32.1	0.919	3.88	7.76		IS 18O2-PFHxS	99.9	60 - 150	
PFOA	2.77	0.632	3.88	7.76	J	IS 13C2-PFOA	96.2	60 - 150	
PFOS	55.1	0.783	3.88	7.76		IS 13C8-PFOS	88.9	60 - 150	
PFNA	ND	0.786	3.88	7.76		IS 13C5-PFNA	92.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW12-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-13	Date Received:	22-Jun-2016 8:48		
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03		
Date Collected:	21-Jun-2016 14:15			Date Analyzed:	28-Jun-16 22:51	Column:	BEH C18	Analyst:	BSR
Location:					29-Jun-16 16:43	Column:	BEH C18	Analyst:	BSR
Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	95.1	1.79	4.00	8.00		IS 13C3-PFBS	99.4	60 - 150	
PFHpA	40.9	0.591	4.00	8.00		IS 13C4-PFHpA	95.2	25 - 175	
PFHxS	1040	0.947	4.00	8.00		IS 18O2-PFHxS	116	60 - 150	
PFOA	69.8	0.651	4.00	8.00		IS 13C2-PFOA	104	60 - 150	
PFOS	4220	4.03	20.0	40.0	D	IS 13C8-PFOS	92.5	60 - 150	D
PFNA	9.50	0.810	4.00	8.00		IS 13C5-PFNA	92.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW13D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-14	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.124 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 12:25			Date Analyzed:	28-Jun-16 23:04	Column:	BEH C18
Location:						Analyst:	BSR

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.03	8.08		IS 13C3-PFBS	101	60 - 150	
PFHpA	ND	0.597	4.03	8.08		IS 13C4-PFHpA	91.5	25 - 175	
PFHxS	9.89	0.957	4.03	8.08		IS 18O2-PFHxS	97.5	60 - 150	
PFOA	4.50	0.658	4.03	8.08	J	IS 13C2-PFOA	97.5	60 - 150	
PFOS	4.44	0.815	4.03	8.08	J	IS 13C8-PFOS	87.2	60 - 150	
PFNA	ND	0.818	4.03	8.08		IS 13C5-PFNA	90.3	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW13DP-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-15	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.119 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 12:30			Date Analyzed:	28-Jun-16 23:16	Column:	BEH C18
Location:						Analyst:	BSR

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.88	4.20	8.41		IS 13C3-PFBS	105	60 - 150	
PFHpA	0.705	0.622	4.20	8.41	J	IS 13C4-PFHpA	98.0	25 - 175	
PFHxS	9.50	0.996	4.20	8.41		IS 18O2-PFHxS	97.7	60 - 150	
PFOA	3.50	0.685	4.20	8.41	J	IS 13C2-PFOA	106	60 - 150	
PFOS	2.71	0.849	4.20	8.41	J	IS 13C8-PFOS	86.1	60 - 150	
PFNA	ND	0.852	4.20	8.41		IS 13C5-PFNA	87.9	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Sample ID: OF-MW11D-0616**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1600818-16	Date Received:	22-Jun-2016 8:48
Project:	Fentress Phase II PFC Investigation	Sample Size:	0.125 L	QC Batch:	B6F0156	Date Extracted:	28-Jun-2016 8:03
Date Collected:	21-Jun-2016 15:05			Date Analyzed:	28-Jun-16 23:28	Column:	BEH C18
Location:				Analyst:	BSR		

Analyte	Conc. (ng/L)	MDL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.80	4.00	8.02		IS 13C3-PFBS	99.3	60 - 150	
PFHpA	ND	0.593	4.00	8.02		IS 13C4-PFHpA	88.8	25 - 175	
PFHxS	3.14	0.950	4.00	8.02	J	IS 18O2-PFHxS	95.9	60 - 150	
PFOA	0.839	0.653	4.00	8.02	J	IS 13C2-PFOA	82.4	60 - 150	
PFOS	7.45	0.809	4.00	8.02	J	IS 13C8-PFOS	81.0	60 - 150	
PFNA	ND	0.812	4.00	8.02		IS 13C5-PFNA	82.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to MDL.

The results for PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The associated compound concentration exceeded the calibration range of the instrument.
H	Recovery and/or RPD was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Lower Calibration Limit of the instrument.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



CHAIN OF CUSTODY

CTO-WE01

FOR LABORATORY USE ONLY Storage Secured

Laboratory Project ID: 1600818 Yes No

Storage ID WR-2 FS Temp -2.2 °C

Project I.D.: Fentress Area II PFC Investigation, P.O.# 10006-7-105444 Sampler: Max Ost
 (Name) Andrew Winebrener

TAT: (Check One):
 Standard: 21 Days
 Rush (surcharge may apply):
 14 days 7 days Specify: _____

Invoice to: Name Same as Company Address _____ City _____ State _____ Zip _____ Ph# _____ Fax# _____

Relinquished by: (Signature and Printed Name) Orin Wahner Date: 6/21/16 Time: 1530 Received by: (Signature and Printed Name) Dott Benedict P. Benedict Date: 6/22/16 Time: 0854

Relinquished by: (Signature and Printed Name) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 (916) 673-1520 • Fax (916) 673-0106				Method of Shipment: <u>Fedex</u>		Add Analysis(es) Requested																	
ATTN: _____				Tracking No.: _____		Container(s)		EPA1613		EPA8290		EPA8280		EPA1668		EPA1614		CARB429		537 Mod			
Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	CORPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	SMQ (PFCs)	
OF14-MW07S-0616	6/20/16	905	Clear/No odor	Z	P	AQ																X	
OF14-MW07D-0616	6/20/16	1050	Clear/well water odor	Z	P	AQ																X	
OF-MW14-0616	6/20/16	1210	Clear/no odor	Z	P	AQ																X	
OF-MW16-0616	6/20/16	1510	Clear/No odor	Z	P	AQ																X	
OF-FB062016	6/20/16	1535	Field blank	Z	P	AQ																X	
OF-EB062016	6/20/16	1545	EB for pen pump	Z	P	AQ																X	
OF-MW15-0616	6/20/16	930	Clear/No odor	Z	P	AQ																X	
OF-MW15D-0616	6/20/16	1135	Clear/No odor	Z	P	AQ																X	
OF-MW15D-0616-MS	6/20/16	1135	Clear/no odor	Z	P	AQ																X	
OF-MW15D-0616-SD	6/20/16	1135	Clear/no odor	Z	P	AQ																X	

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
 Company: CHEM Hill
 Address: 5701 Cleveland St, Suite 200
 City: Virginia Beach State: VA Zip: 23462
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@chem.com
 Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
 SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
 AQ = Aqueous, O = Other

Container Types: A = 1 Liter Amber, G = Glass, P = PUF, T = MMS Train, O = Other 125 mL HDPE

*Bottle Preservative Type: T = Thiosulfate, O = Other None



CHAIN OF CUSTODY

CTO-WF01

FOR LABORATORY USE ONLY Storage Secured
 Laboratory Project ID: 1600818 Yes No
 Storage ID WR-2 F5 Temp -2.2 °C

Project I.D.: Fortress Phase II PFC Investigation P.O.# 10006-7-105444 Sampler: Andrew Winebrenner
Mark Ost (Name)

TAT: (Check One):
 Standard: 21 Days
 Rush (surcharge may apply):
 14 days 7 days Specify: _____

Invoice to: Name Same as results Company Address City State Zip Ph# Fax#
 Relinquished by: (Signature and Printed Name) Josh Walter Date: 6/21/16 Time: 1530 Received by: (Signature and Printed Name) Benjamin D. Benedict Date: 6/28/16 Time: 0854
 Relinquished by: (Signature and Printed Name) Date: Time: Received by: (Signature and Printed Name) Date: Time:

See "Sample Log-in Checklist" for additional sample information

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 • Fax (916) 673-0106

Method of Shipment: Fedex
 Tracking No.:

Quantity	Type	Matrix	Add Analysis(es) Requested																					
			2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	SVOC (PFCs)	537 Mod					

Sample ID	Date	Time	Location/Sample Description
OF-MW06-0616	6/20/16	1300	Clear/no odor
OF-MW06D-0616	6/20/16	1515	Clear/no odor
OF-MW17-0616	6/24/16	1105	Clear/no odor
OF-MW12D-0616	6/21/16	1325	Clear/faint well water odor
OF-MW12-0616	6/21/16	1415	Clear/no odor
OF-MW13D-0616	6/21/16	1225	Clear/no odor
OF-MW13DP-0616	6/21/16	1230	slightly turbid/no odor
OF-MW11D-0616	6/21/16	1505	slightly turbid/no odor

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
 Company: CH2M HILL
 Address: 5701 Cleveland St, suite 200
 City: Virginia Beach State: VA Zip: 23462
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@ch2m.com
 Matrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
 SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
 AQ = Aqueous, O = Other _____

Container Types: A = 1 Liter Amber, G = Glass Jar
 P = PUF, T = MMS Train, O = Other 125ml HOPE

*Bottle Preservative Type: T = Thiosulfate,
 O = Other none

WHITE - ORIGINAL

YELLOW - ARCHIVE

PINK - COPY

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1600818 TAT 14

Samples Arrival:	Date/Time <u>06/22/16 0848</u>	Initials: <u>VBBS</u>	Location: <u>WR-2</u> Shelf/Rack: <u>NA</u>
Logged In:	Date/Time <u>06/22/16 1301</u>	Initials: <u>SAR VBBS</u>	Location: <u>WR-2</u> Shelf/Rack: <u>F5</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: <u>-0.9</u> (uncorrected)	Time: <u>0855</u>		Thermometer ID: <u>IR-2</u>
Temp °C: <u>-2.2</u> (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7834 1239 8968</u>	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Na ₂ S ₂ O ₃ Preservation Documented?	COC	Sample Container	<u>None</u>
Shipping Container	Vista	<u>Client</u>	Retain
			Return
			Dispose

Comments:

Client Sample ID

OF-MWISD-0616-MS
OF-MWISD-0616-SD

Vista ID

OF-MWISD-0616
OF-MWISD-0616

EXTRACTION INFORMATION

Process Sheet

Workorder: 1600818

Prep Expiration: 07/04/2016
Client: CH2M Hill

Workorder Due: 06-Jul-16 00:00

TAT: 14

Method: 537 PFAS 6 DOD (LOQ as mRL)
Matrix: Aqueous
Client Matrix: Aqueous

Prep Batch: B6F0156

Prep Data Entered: 6/29/16 NK
Date and Initials

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1600818-01 (A)	<input checked="" type="checkbox"/>	OF14-MW07S-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-02	<input checked="" type="checkbox"/>	OF14-MW07D-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-03	<input checked="" type="checkbox"/>	OF-MW14-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-04	<input checked="" type="checkbox"/>	OF-MW16-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-05	<input checked="" type="checkbox"/>	OF-FB062016	22-Jun-16 08:48	WR-2 E-6	
1600818-06	<input checked="" type="checkbox"/>	OF-EB062016	22-Jun-16 08:48	WR-2 E-6	
1600818-07	<input checked="" type="checkbox"/>	OF-MW15-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-08 (A-C)	<input checked="" type="checkbox"/>	OF-MW15D-0616	22-Jun-16 08:48	WR-2 E-6	MS/MSD
1600818-09 (A)	<input checked="" type="checkbox"/>	OF-MW06-0616 (A)	22-Jun-16 08:48	WR-2 E-6	
1600818-10	<input checked="" type="checkbox"/>	OF-MW06D-0616 (B)	22-Jun-16 08:48	WR-2 E-6	
1600818-11	<input checked="" type="checkbox"/>	OF-MW17-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-12	<input checked="" type="checkbox"/>	OF-MW12D-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-13	<input checked="" type="checkbox"/>	OF-MW12-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-14	<input checked="" type="checkbox"/>	OF-MW13D-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-15	<input checked="" type="checkbox"/>	OF-MW13DP-0616	22-Jun-16 08:48	WR-2 E-6	
1600818-16 (b)	<input checked="" type="checkbox"/>	OF-MW11D-0616	22-Jun-16 08:48	WR-2 E-6	

(A) Vista label reads: OF14-MW06-0616 NK 6/28/16

(B) Vista label reads: OF14-MW06D-0616 NK 6/28/16

Report total PFOA

Vista PM: Martha Maier

Vial Box ID: Kitty

Sample Reconciled By: N. King 6/28/16

Percent Solids



Project: _____ Balance ID: N/A

Sample ID	Chemist: <u>N/A</u> Date: _____ Time: _____		Chemist: <u>N/A</u> Date: _____ Time: _____		Chemist/Date NK 6/28/16	
	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH after	Cl
1600818-01				6	2	0
-02				6	2	0
-03				6	2	0
-04				5	2	0
-05				5	2	0
-06				5	2	0
-07				6	2	0
-08				7	2	0
-08 (MS)				7	2	0
-08 (MSD)				7	2	0
-09				5	2	0
-10				7	2	0
-11				6	2	0
-12				7	2	0
-13				6	2	0
-14				7	2	0
-15				7	2	0
-16				7	2	0

- Procedure:**
- Tare the balance.
 - Record Boat Weight.
 - Add 2 - 10 g of sample.
 - Record Wet Wt. + Boat Wt.
 - Dry in oven overnight at 107°C.
 - Tare the balance.
 - Record Residue + Boat Wt.

- Notes:**
- Methods 8280, 613, 1613, 8290, 1614 - pH < 9
 - Methods 1668/PCN - pH 2-3
 - NCASI 551 - pH 1

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS 6 DOD (LOO as mR)

B6F0156

Chemist: N. King
 Prep Date/Time: 28-Jun-16 08:03

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	C6F0128 SPE	RS CHEM/WIT DATE
<input type="checkbox"/>	B6F0156-BLK1	N/A	N/A	(0.125)	NK Am 6/28/16	NK 6/28/16	NK Am 6/28/16
<input type="checkbox"/>	B6F0156-BS1			(0.125)			
<input type="checkbox"/>	B6F0156-MS1 1600818-08 (A)	148.42	27.20	0.12122			
<input type="checkbox"/>	B6F0156-MSD1 1600818-08 (A)	146.98	27.05	0.11993			
<input type="checkbox"/>	1600818-01	151.90	27.22	0.12468			
<input type="checkbox"/>	1600818-02	153.98	27.17	0.12681			
<input type="checkbox"/>	1600818-03	153.22	27.01	0.12621			
<input type="checkbox"/>	1600818-04	152.82	27.18	0.12564			
<input type="checkbox"/>	1600818-05	152.00	27.17	0.12483			
<input type="checkbox"/>	1600818-06	154.07	27.07	0.12700			
<input type="checkbox"/>	1600818-07 (A)	145.55	27.04	0.11851			
<input type="checkbox"/>	1600818-08 (A)	139.05	27.13	0.11192			
<input type="checkbox"/>	1600818-09	148.58	28.08	0.12050			
<input type="checkbox"/>	1600818-10	150.49	27.53	0.12296			
<input type="checkbox"/>	1600818-11	149.75	27.10	0.12265			
<input type="checkbox"/>	1600818-12 (A)	156.27	27.43	0.12884			

IS Name <u>V3</u> 16E0520, 10 _μ L	NS Name <u>V4</u> 16E0701, 10 _μ L	RS Name <u>V3</u> 16F0203, 10 _μ L	SPE Chem: <u>Strata XAW 33mm 200mg/6ml</u> Ele SOLV: <u>MeOH + 0.5% NH₄OH in MeOH</u> Final Volume(s): <u>1 mL</u>	Check Out: <u>NK 6/28/16</u> Check In: <u>Empty</u> Chemist/Date: Balance ID: <u>HRMS-9</u>
--	--	--	---	--

Comments: Assume 1 g = 1 mL

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS 6 DOD (LOO as mR)

B6F0156

Chemist: N. King
 Prep Date/Time: 28-Jun-16 08:03

Prepared using: LCMS - SPE Extraction-LCMS

						C6F0128		
C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE	
<input type="checkbox"/>	1600818-13	152.31	27.25	0.12506	NK em 6/28/16	NK 6/28/16	NK em 6/28/16	
<input type="checkbox"/>	1600818-14 (A)	150.91	27.18	0.12373	↓	↓	↓	
<input type="checkbox"/>	1600818-15 (A)	145.98	27.14	0.11884				
<input type="checkbox"/>	1600818-16 (A)	151.65	27.03	0.12462				

(A) Samples contained color/particulate. Samples centrifuged. NK 6/28/16

IS Name <u>16E0520, 10 mL</u> (B)	NS Name <u>16E0701, 10 mL</u> (Y)	RS Name <u>16F0203, 10 mL</u> (Z)	SPE Chem: <u>Strata X1W 33um 200mg/6mL</u>	Check Out: <u>NK 6/28/16</u>
			Ele SOLV: <u>MeOH + 0.5% NH₄OH in MeOH</u>	Check In: <u>↓ Empty</u>
			Final Volume(s): <u>1 mL</u>	Balance ID: <u>HRMS-9</u>

Comments: Assume 1 g = 1 mL

SAMPLE DATA – MODIFIED EPA METHOD 537

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_18.qld

Last Altered: Wednesday, June 29, 2016 16:23:11 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 16:24:17 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_18.wiff, Date: 28-Jun-2016, Time: 19:24:20, ID: B6F0156-BLK1, Description: Method Blank

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.19e3		0.125			
2	2 PFHpA	318.9		1.12e4		0.125			
3	3 PFHxS	79.91	3.41e0	1.51e3		0.125	4.48	0.350	
4	4 PFOA	368.9	8.91e0	9.32e3		0.125	4.74	0.225	
5	5 PFOS	79.92	1.05e1	5.18e3		0.125	5.12	0.296	
6	6 PFNA	419.0		9.23e3		0.125			
7	7 13C3-PFBS	79.95	6.19e3	1.12e4	0.546	0.125	3.47	101	100.9
8	8 13C4-PFHpA	321.9	1.12e4	1.12e4	1.075	0.125	4.35	92.9	92.9
9	9 18O2-PFHxS	102.9	1.51e3	5.24e3	0.307	0.125	4.47	94.0	94.0
10	10 13C2-PFOA	369.9	9.32e3	8.73e3	1.042	0.125	4.74	103	102.6
11	11 13C8-PFOS	79.93	5.18e3	5.34e3	1.026	0.125	5.12	94.5	94.5
12	12 13C5-PFNA	422.9	9.23e3	4.55e2	21.158	0.125	5.06	95.8	95.8
13	13 13C5-PFHxA	273.0	1.12e4	1.12e4	1.000	0.125	3.88	100	100.0
14	14 13C3-PFHxS	80.0	5.24e3	5.24e3	1.000	0.125	4.47	100	100.0
15	15 13C8-PFOA	375.9	8.73e3	8.73e3	1.000	0.125	4.74	100	100.0
16	16 13C4-PFOS	79.94	5.34e3	5.34e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	4.55e2	4.55e2	1.000	0.125	5.06	100	100.0
18	18 Total PFBS	79.9		6.19e3		0.125			
19	19 Total PFHxS	79.91		1.51e3		0.125		0.350	
20	20 Total PFOA	368.9		9.32e3		0.125		0.225	
21	21 Total PFOS	79.92		5.18e3		0.125		0.556	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_18.qld

Last Altered: Wednesday, June 29, 2016 16:23:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:24:17 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_18.wiff, Date: 28-Jun-2016, Time: 19:24:20, ID: B6F0156-BLK1, Description: Method Blank

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.48	3.41e0	1.51e3	0.350

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	8.91e0	9.32e3	0.225

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	1.05e1	5.18e3	0.296
2	21 Total PFOS	79.92	5.05	9.25e0	5.18e3	0.261

Dataset: U:\Q2.PRO\Results\160628J1\160628J_18.qld

Last Altered: Wednesday, June 29, 2016 16:23:11 Pacific Daylight Time

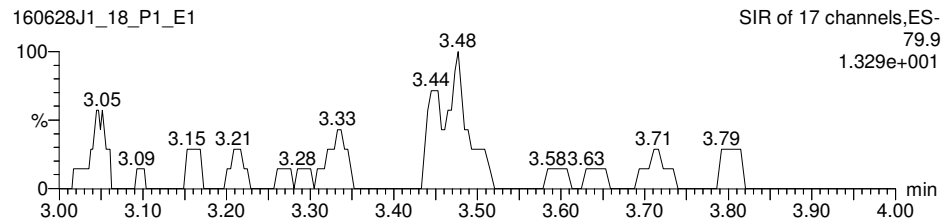
Printed: Wednesday, June 29, 2016 16:24:30 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

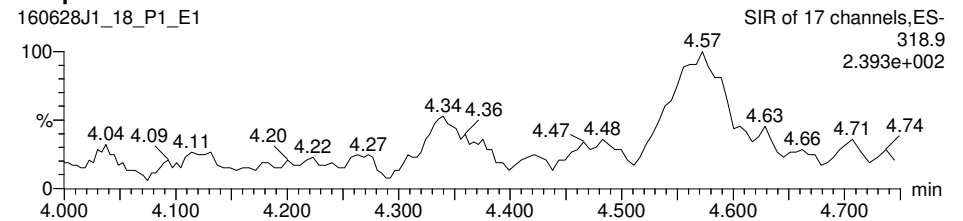
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_18.wiff, Date: 28-Jun-2016, Time: 19:24:20, ID: B6F0156-BLK1, Description: Method Blank

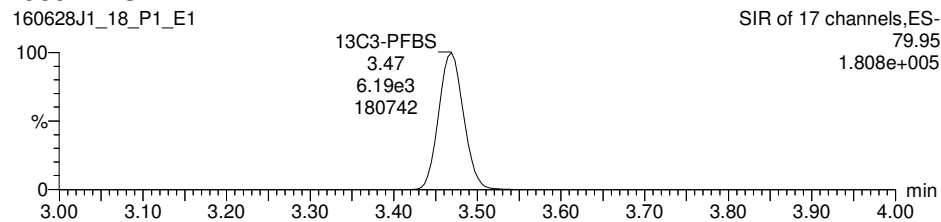
PFBS



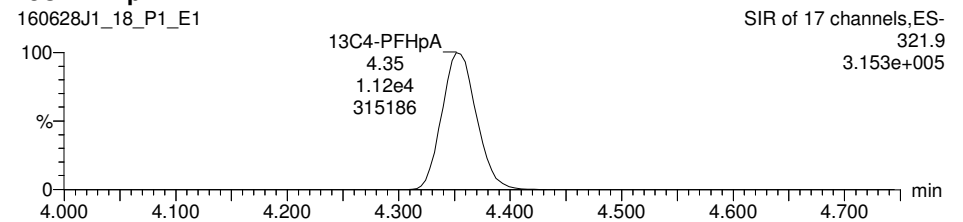
PFHpA



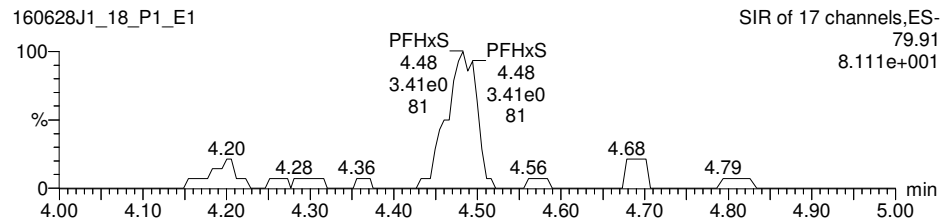
13C3-PFBS



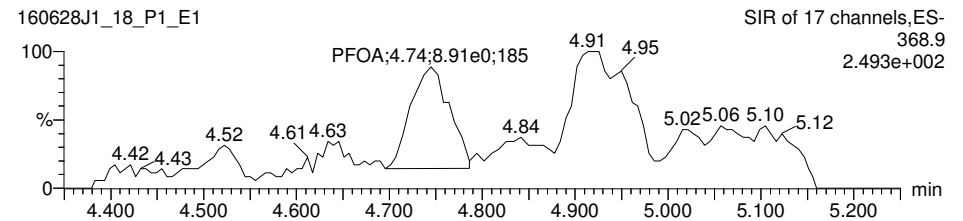
13C4-PFHpA



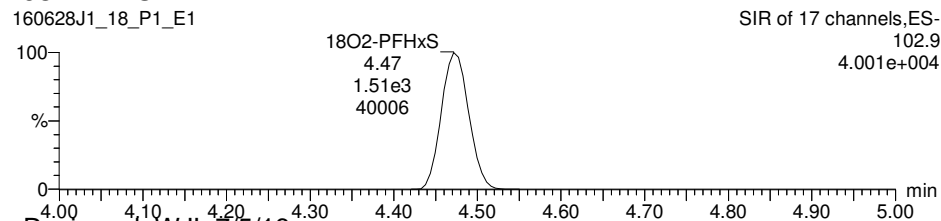
PFHxS



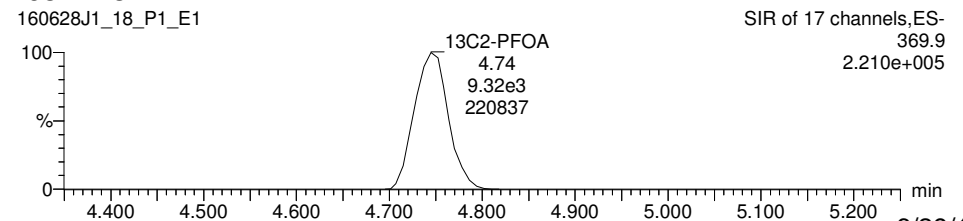
PFOA



18O2-PFHxS

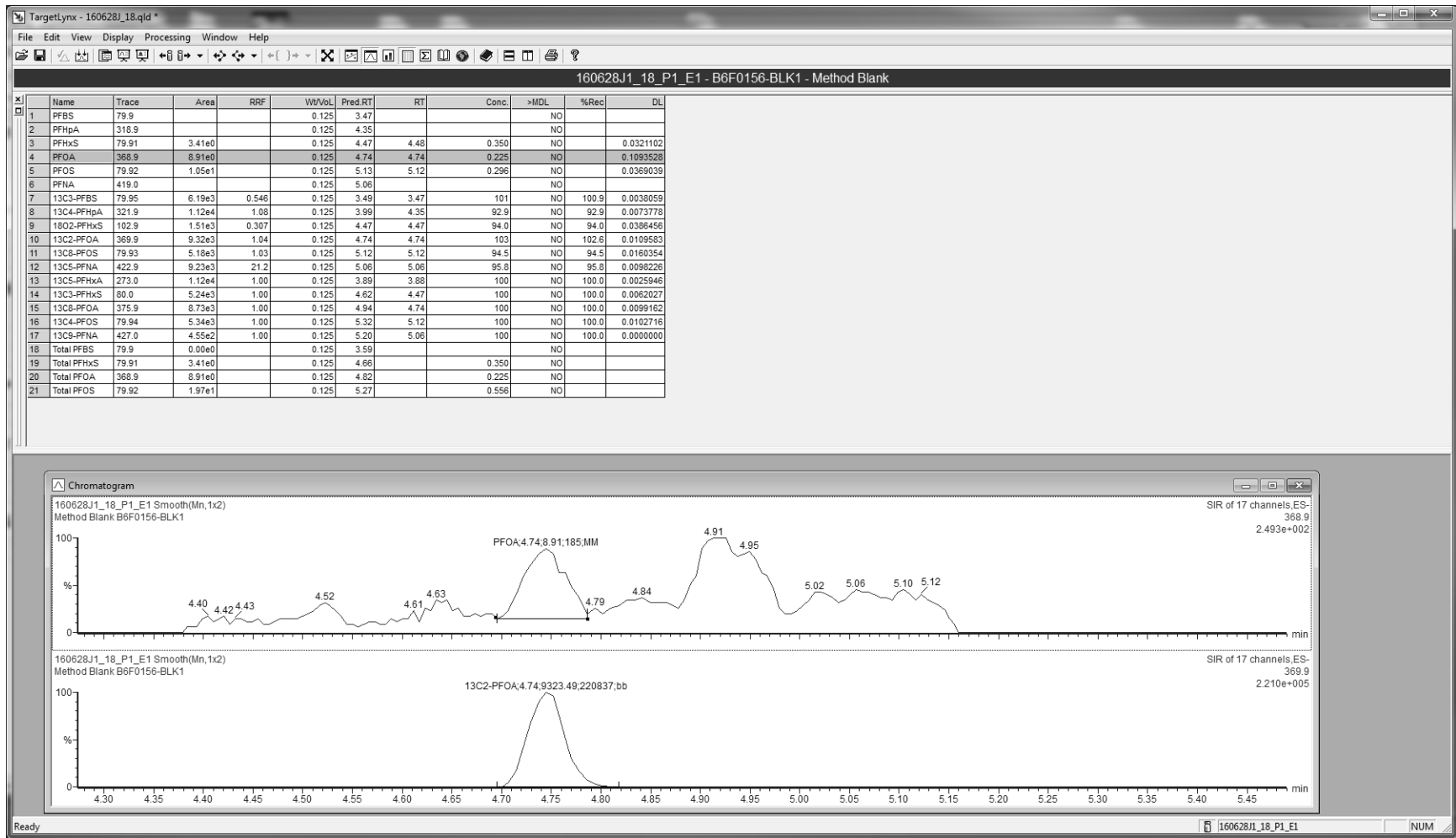


13C2-PFOA



Reviewed: WJL 7/5/16

pw 6/29/16



Dataset: U:\Q2.PRO\Results\160628J1\160628J_18.qld

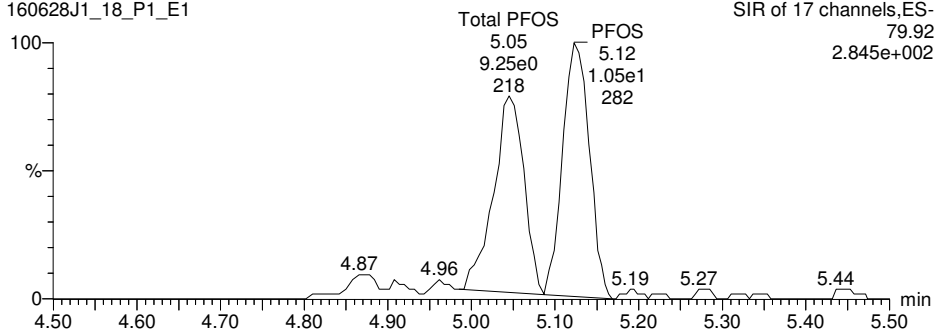
Last Altered: Wednesday, June 29, 2016 16:23:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:24:30 Pacific Daylight Time

Name: 160628J1_18.wiff, Date: 28-Jun-2016, Time: 19:24:20, ID: B6F0156-BLK1, Description: Method Blank

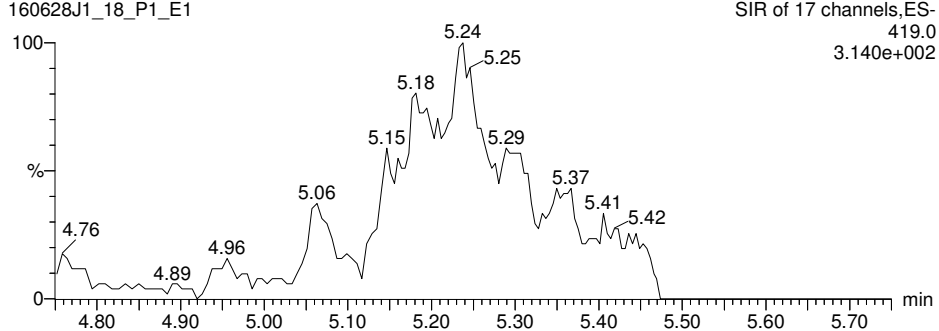
PFOS

160628J1_18_P1_E1



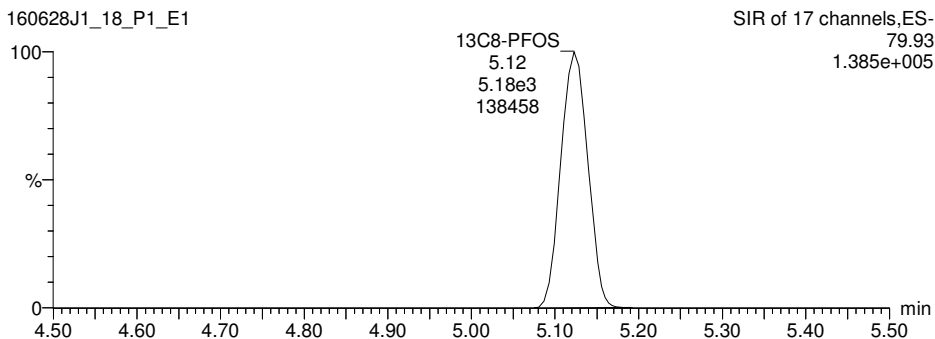
PFNA

160628J1_18_P1_E1



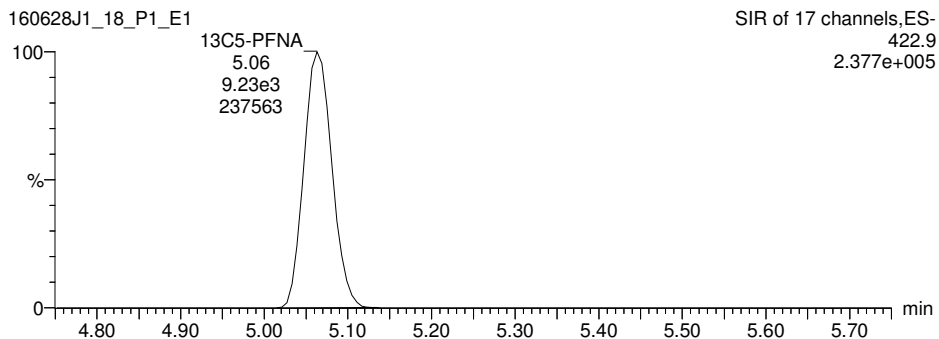
13C8-PFOS

160628J1_18_P1_E1



13C5-PFNA

160628J1_18_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_18.qld

Last Altered: Wednesday, June 29, 2016 16:23:11 Pacific Daylight Time

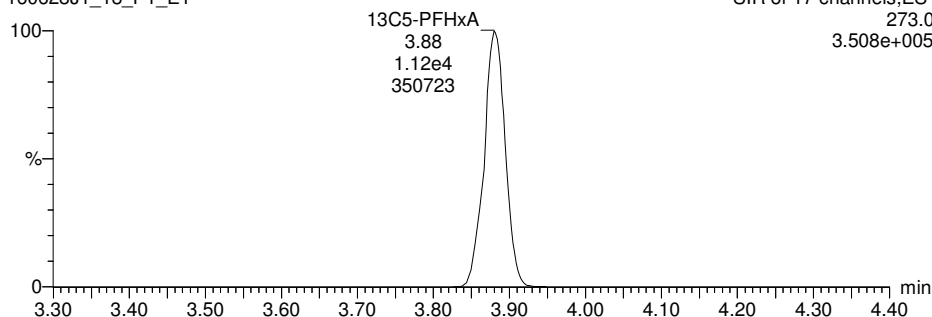
Printed: Wednesday, June 29, 2016 16:24:30 Pacific Daylight Time

Name: 160628J1_18.wiff, Date: 28-Jun-2016, Time: 19:24:20, ID: B6F0156-BLK1, Description: Method Blank

13C5-PFHxA

160628J1_18_P1_E1

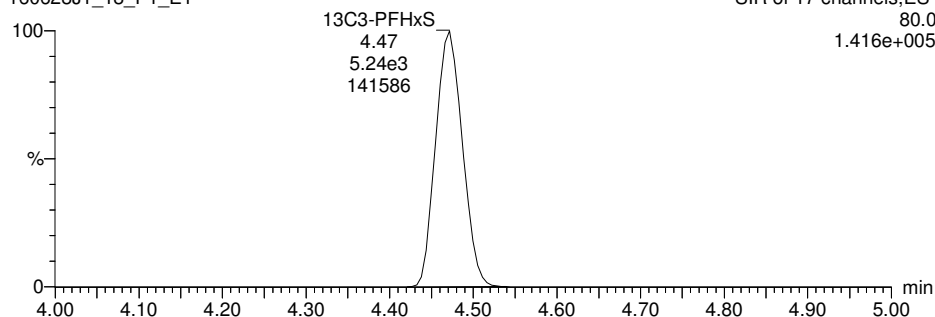
SIR of 17 channels,ES-
273.0
3.508e+005



13C3-PFHxS

160628J1_18_P1_E1

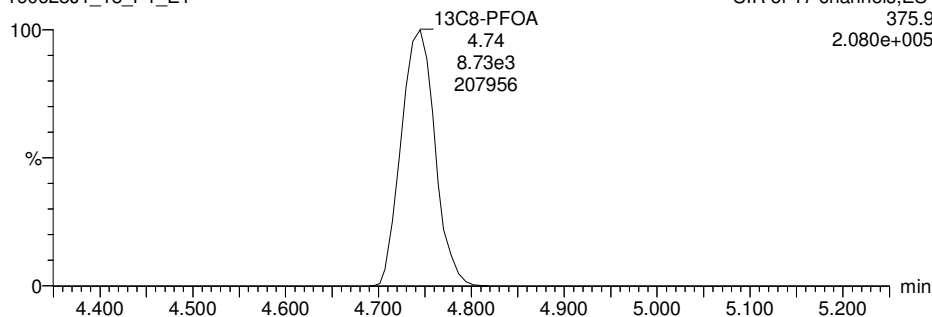
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80.0
1.416e+005



13C8-PFOA

160628J1_18_P1_E1

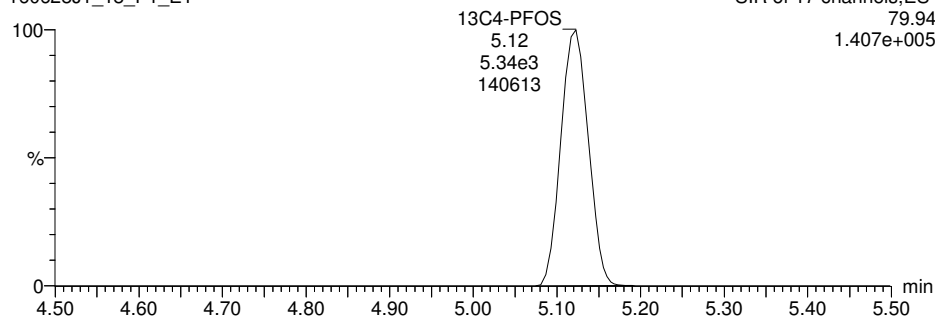
SIR of 17 channels,ES-
375.9
2.080e+005



13C4-PFOS

160628J1_18_P1_E1

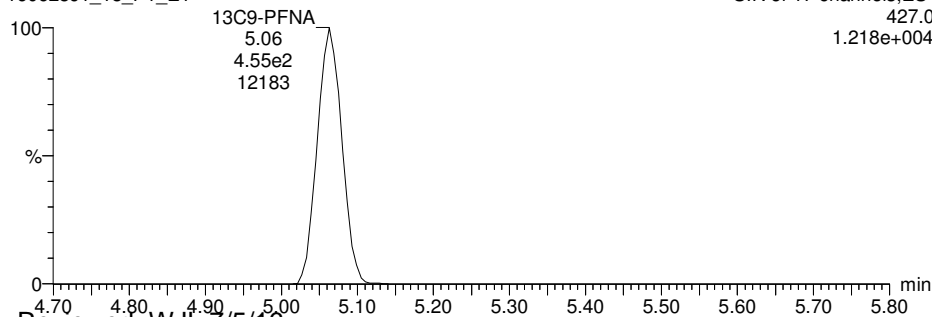
SIR of 17 channels,ES-
79.94
1.407e+005



13C9-PFNA

160628J1_18_P1_E1

SIR of 17 channels,ES-
427.0
1.218e+004



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_15.qld

Last Altered: Wednesday, June 29, 2016 16:21:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:21:39 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_15.wiff, Date: 28-Jun-2016, Time: 18:47:40, ID: B6F0156-BS1, Description: OPR

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.10e3	6.17e3		0.125	3.47	88.7	110.8
2	2 PFHpA	318.9	2.02e3	1.18e4		0.125	4.35	92.2	115.2
3	3 PFHxS	79.91	8.88e2	1.53e3		0.125	4.47	90.6	113.2
4	4 PFOA	368.9	3.11e3	9.76e3		0.125	4.75	76.0	95.1
5	5 PFOS	79.92	3.00e3	4.97e3		0.125	5.13	88.8	111.0
6	6 PFNA	419.0	4.43e3	8.73e3		0.125	5.07	89.7	112.2
7	7 13C3-PFBS	79.95	6.17e3	1.16e4	0.546	0.125	3.47	97.3	97.3
8	8 13C4-PFHpA	321.9	1.18e4	1.16e4	1.075	0.125	4.35	94.3	94.3
9	9 18O2-PFHxS	102.9	1.53e3	5.19e3	0.307	0.125	4.47	95.9	95.9
10	10 13C2-PFOA	369.9	9.76e3	9.79e3	1.042	0.125	4.75	95.7	95.7
11	11 13C8-PFOS	79.93	4.97e3	5.16e3	1.026	0.125	5.13	93.7	93.7
12	12 13C5-PFNA	422.9	8.73e3	4.42e2	21.158	0.125	5.07	93.5	93.5
13	13 13C5-PFHxA	273.0	1.16e4	1.16e4	1.000	0.125	3.88	100	100.0
14	14 13C3-PFHxS	80.0	5.19e3	5.19e3	1.000	0.125	4.47	100	100.0
15	15 13C8-PFOA	375.9	9.79e3	9.79e3	1.000	0.125	4.75	100	100.0
16	16 13C4-PFOS	79.94	5.16e3	5.16e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	4.42e2	4.42e2	1.000	0.125	5.06	100	100.0
18	18 Total PFBS	79.9		6.17e3		0.125		88.7	
19	19 Total PFHxS	79.91		1.53e3		0.125		90.6	
20	20 Total PFOA	368.9		9.76e3		0.125		76.0	
21	21 Total PFOS	79.92		4.97e3		0.125		88.8	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_15.qld

Last Altered: Wednesday, June 29, 2016 16:21:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:21:39 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_15.wiff, Date: 28-Jun-2016, Time: 18:47:40, ID: B6F0156-BS1, Description: OPR

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	1.10e3	6.17e3	88.7

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	8.88e2	1.53e3	90.6

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	3.11e3	9.76e3	76.0

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.13	3.00e3	4.97e3	88.8

Dataset: U:\Q2.PRO\Results\160628J1\160628J_15.qld

Last Altered: Wednesday, June 29, 2016 16:21:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:21:28 Pacific Daylight Time

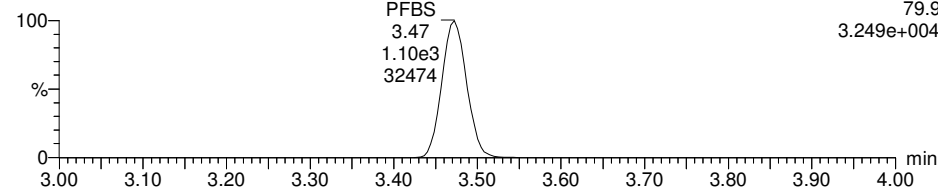
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_15.wiff, Date: 28-Jun-2016, Time: 18:47:40, ID: B6F0156-BS1, Description: OPR

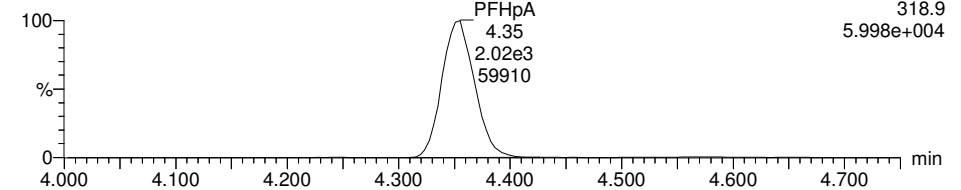
PFBS

160628J1_15_P1_E1



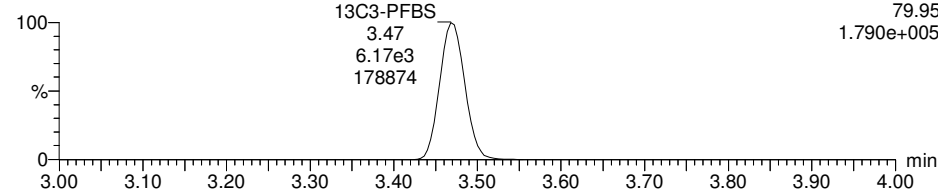
PFHpA

160628J1_15_P1_E1



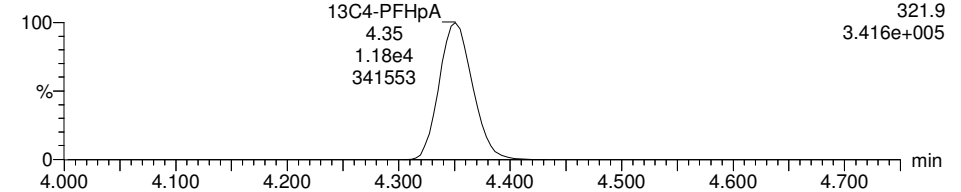
13C3-PFBS

160628J1_15_P1_E1



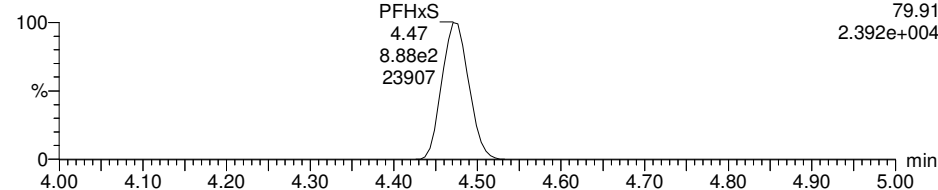
13C4-PFHpA

160628J1_15_P1_E1



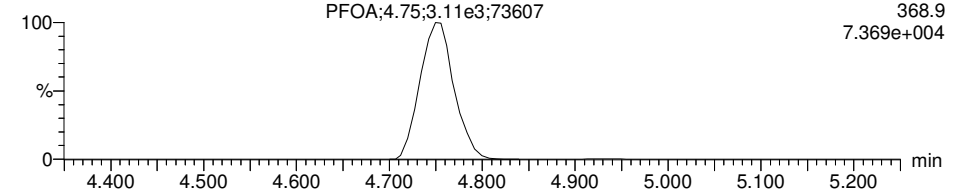
PFHxS

160628J1_15_P1_E1



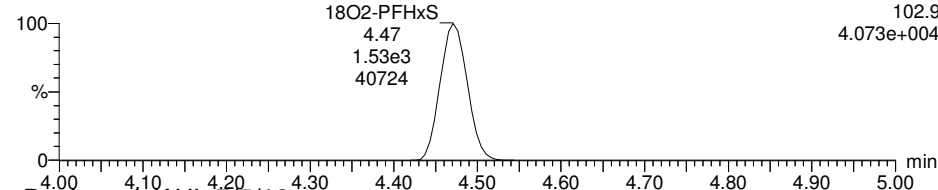
PFOA

160628J1_15_P1_E1



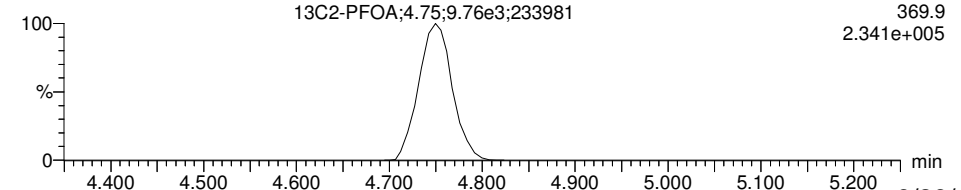
18O2-PFHxS

160628J1_15_P1_E1



13C2-PFOA

160628J1_15_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J_15.qld

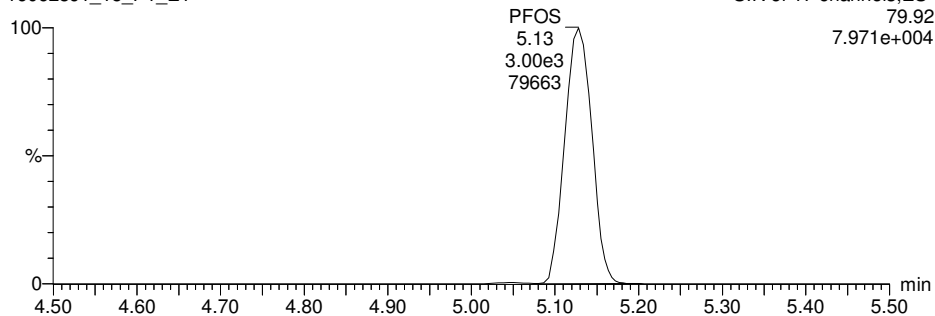
Last Altered: Wednesday, June 29, 2016 16:21:11 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:21:28 Pacific Daylight Time

Name: 160628J1_15.wiff, Date: 28-Jun-2016, Time: 18:47:40, ID: B6F0156-BS1, Description: OPR

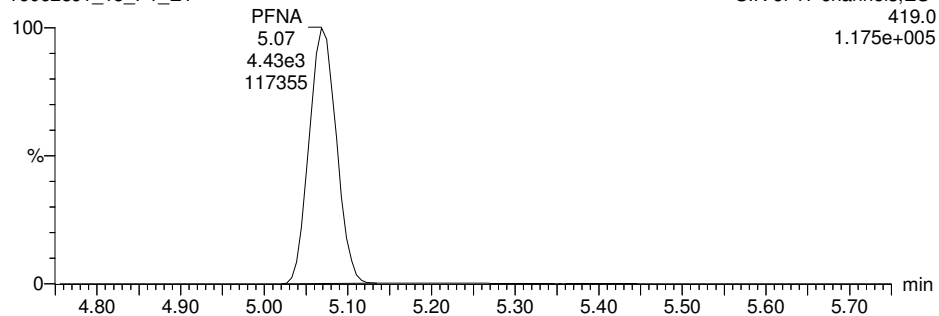
PFOS

160628J1_15_P1_E1



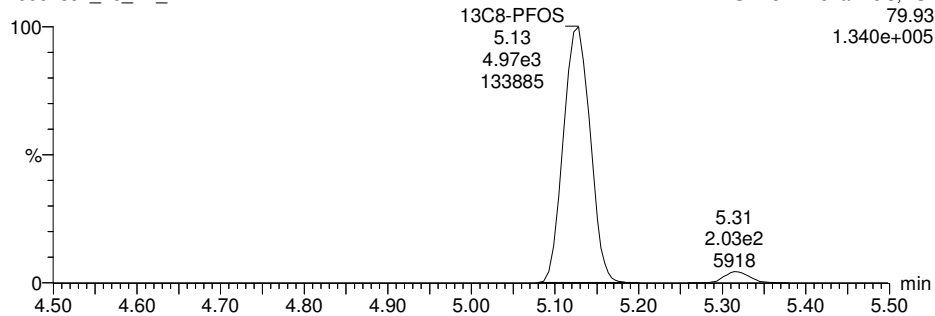
PFNA

160628J1_15_P1_E1



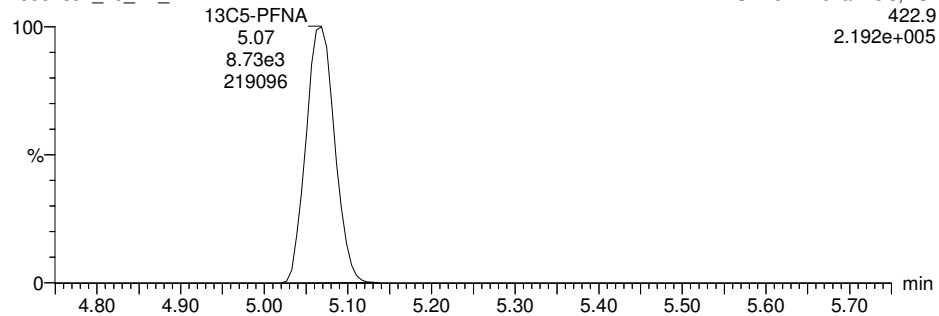
13C8-PFOS

160628J1_15_P1_E1



13C5-PFNA

160628J1_15_P1_E1



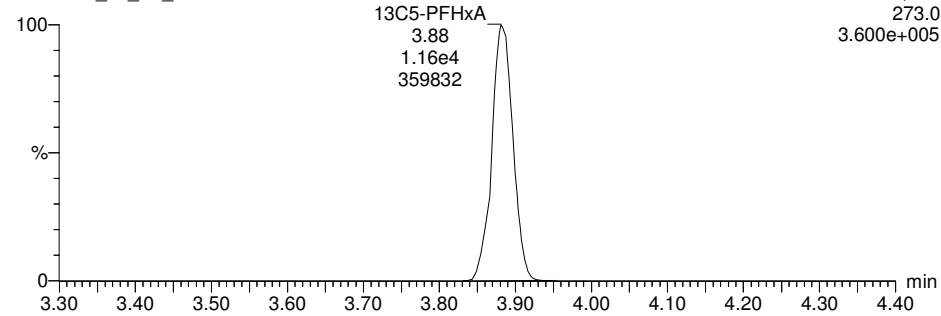
Dataset: U:\Q2.PRO\Results\160628J1\160628J_15.qld

Last Altered: Wednesday, June 29, 2016 16:21:11 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 16:21:28 Pacific Daylight Time

Name: 160628J1_15.wiff, Date: 28-Jun-2016, Time: 18:47:40, ID: B6F0156-BS1, Description: OPR

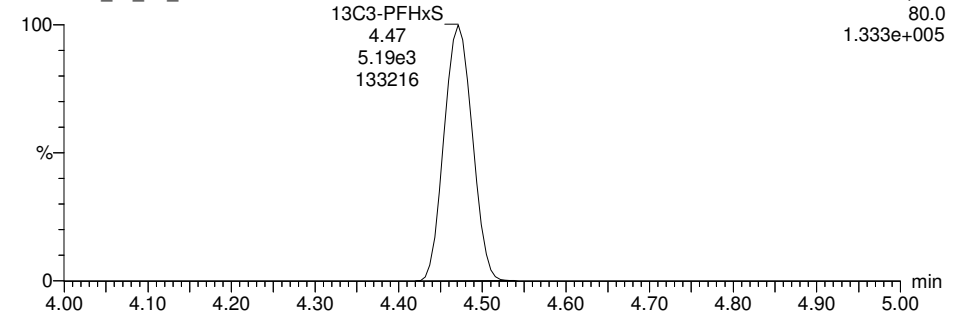
13C5-PFHxA

160628J1_15_P1_E1



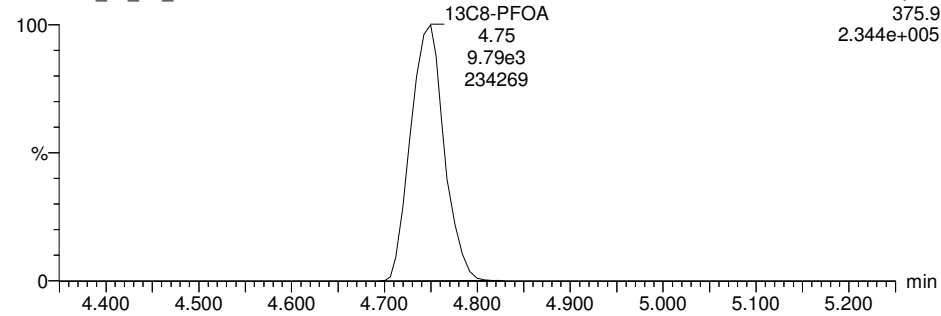
13C3-PFHxS

160628J1_15_P1_E1



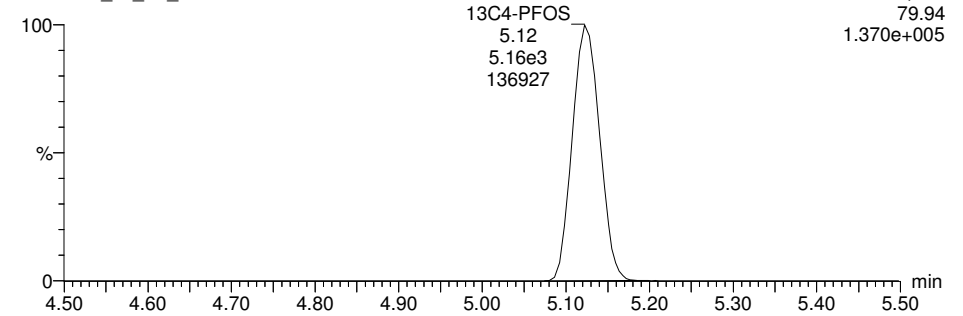
13C8-PFOA

160628J1_15_P1_E1



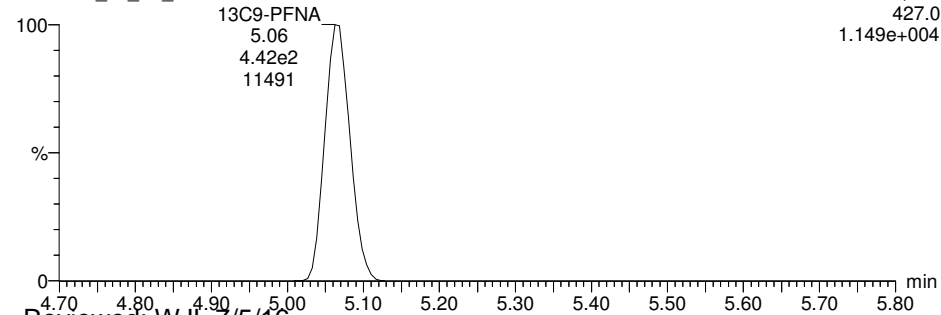
13C4-PFOS

160628J1_15_P1_E1



13C9-PFNA

160628J1_15_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_20.qld

Last Altered: Wednesday, June 29, 2016 16:48:38 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:50:00 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_20.wiff, Date: 28-Jun-2016, Time: 19:48:47, ID: 1600818-01, Description: OF14-MW07S-0616

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	9.15e2	6.15e3		0.125	3.47	73.8	
2	2 PFHpA	318.9	5.66e2	1.13e4		0.125	4.34	26.9	
3	3 PFHxS	79.91	3.54e3	1.51e3		0.125	4.47	371	
4	4 PFOA	368.9	1.07e4	9.22e3		0.125	4.74	288	
5	5 PFOS	79.92	1.89e1	4.97e3		0.125	5.12	0.557	
6	6 PFNA	419.0		8.62e3		0.125			
7	7 13C3-PFBS	79.95	6.15e3	1.08e4	0.546	0.125	3.47	105	104.7
8	8 13C4-PFHpA	321.9	1.13e4	1.08e4	1.075	0.125	4.34	97.7	97.4
9	9 18O2-PFHxS	102.9	1.51e3	5.16e3	0.307	0.125	4.46	95.2	95.0
10	10 13C2-PFOA	369.9	9.22e3	9.85e3	1.042	0.125	4.74	90.1	89.9
11	11 13C8-PFOS	79.93	4.97e3	5.18e3	1.026	0.125	5.12	93.7	93.5
12	12 13C5-PFNA	422.9	8.62e3	4.79e2	21.158	0.125	5.06	85.4	85.2
13	13 13C5-PFHxA	273.0	1.08e4	1.08e4	1.000	0.125	3.88	100	100.0
14	14 13C3-PFHxS	80.0	5.16e3	5.16e3	1.000	0.125	4.46	100	100.0
15	15 13C8-PFOA	375.9	9.85e3	9.85e3	1.000	0.125	4.73	100	100.0
16	16 13C4-PFOS	79.94	5.18e3	5.18e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	4.79e2	4.79e2	1.000	0.125	5.06	100	100.0
18	18 Total PFBS	79.9		6.15e3		0.125		75.7	
19	19 Total PFHxS	79.91		1.51e3		0.125		457	
20	20 Total PFOA	368.9		9.22e3		0.125		371	
21	21 Total PFOS	79.92		4.97e3		0.125		9.30	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_20.qld

Last Altered: Wednesday, June 29, 2016 16:48:38 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:50:00 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_20.wiff, Date: 28-Jun-2016, Time: 19:48:47, ID: 1600818-01, Description: OF14-MW07S-0616

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	9.15e2	6.15e3	73.8
2	18 Total PFBS	79.9	3.34	2.36e1	6.15e3	1.90

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	3.54e3	1.51e3	371
2	19 Total PFHxS	79.91	4.37	8.06e2	1.51e3	83.7
3	19 Total PFHxS	79.91	4.25	2.24e1	1.51e3	2.32

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	1.07e4	9.22e3	288
2	20 Total PFOA	368.9	4.64	3.16e3	9.22e3	82.0
3	20 Total PFOA	368.9	4.52	3.94e1	9.22e3	1.01

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	1.89e1	4.97e3	0.557
2	21 Total PFOS	79.92	5.01	2.49e2	4.97e3	7.36
3	21 Total PFOS	79.92	4.91	4.70e1	4.97e3	1.39

Dataset: U:\Q2.PRO\Results\160628J1\160628J_20.qld

Last Altered: Wednesday, June 29, 2016 16:48:38 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 16:50:11 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

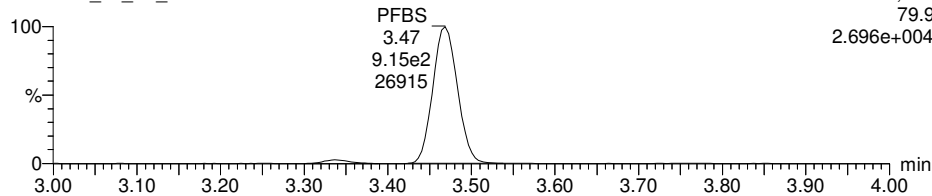
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_20.wiff, Date: 28-Jun-2016, Time: 19:48:47, ID: 1600818-01, Description: OF14-MW07S-0616

PFBS

160628J1_20_P1_E1

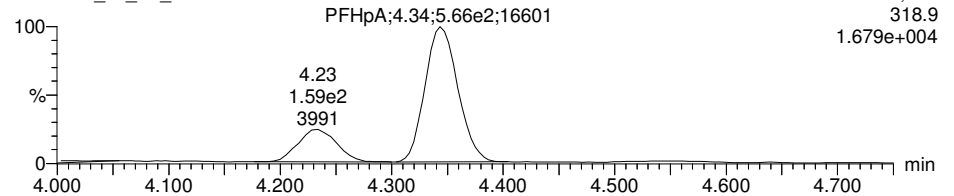
SIR of 17 channels, ES-
79.9
2.696e+004



PFHpA

160628J1_20_P1_E1

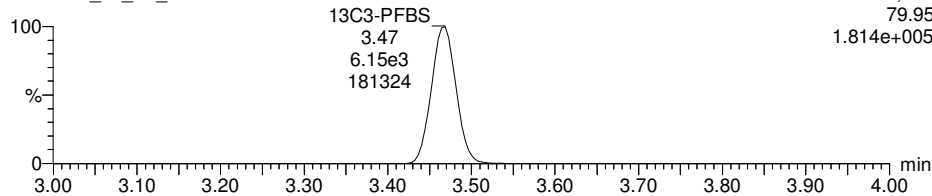
SIR of 17 channels, ES-
318.9
1.679e+004



13C3-PFBS

160628J1_20_P1_E1

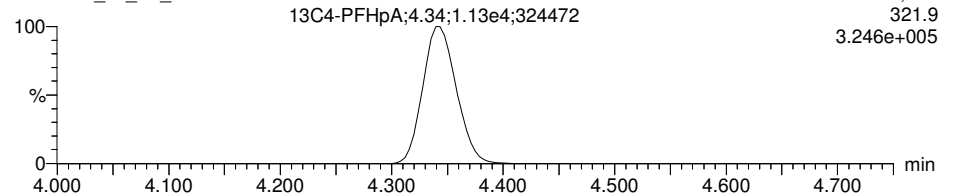
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1.814e+005



13C4-PFHpA

160628J1_20_P1_E1

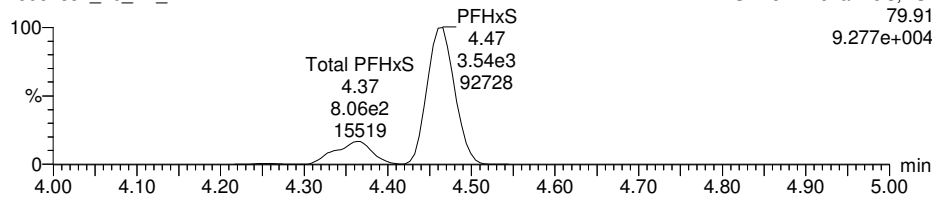
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321.9
3.246e+005



PFHxS

160628J1_20_P1_E1

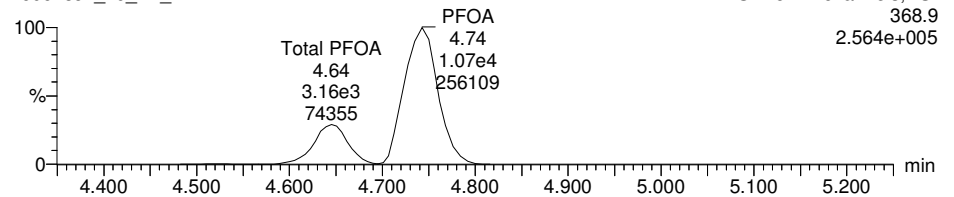
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9.277e+004



PFOA

160628J1_20_P1_E1

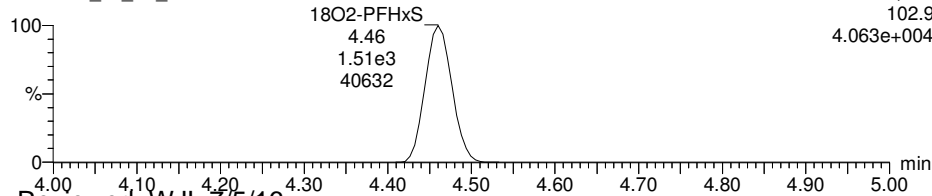
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368.9
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18O2-PFHxS

160628J1_20_P1_E1

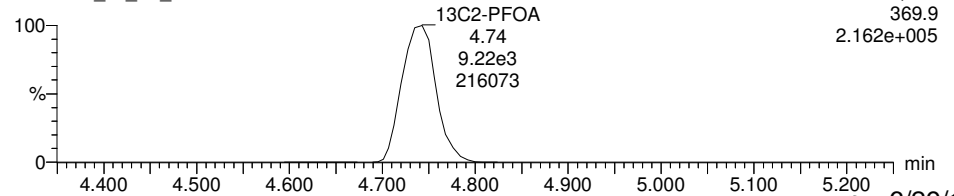
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102.9
4.063e+004



13C2-PFOA

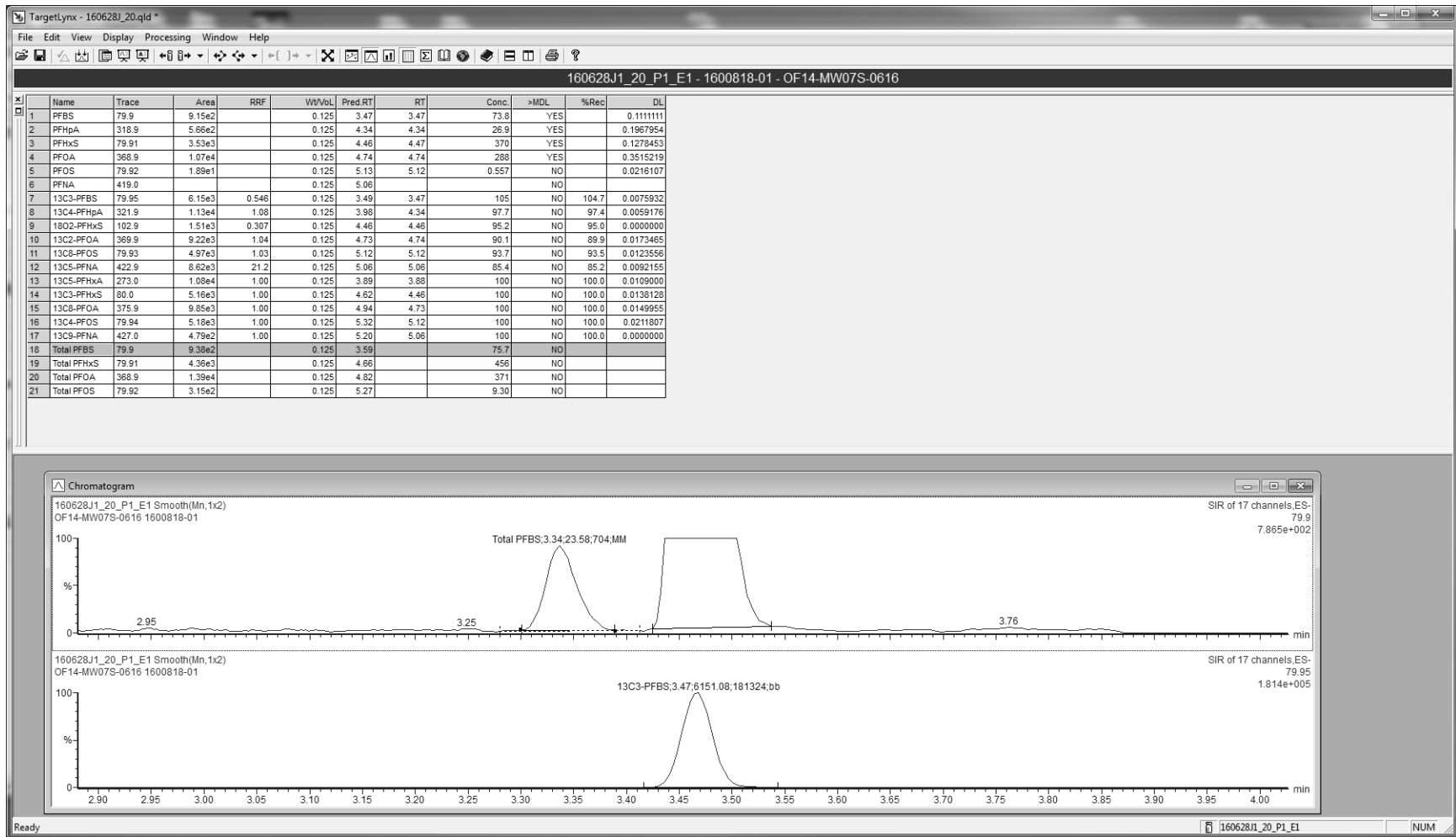
160628J1_20_P1_E1

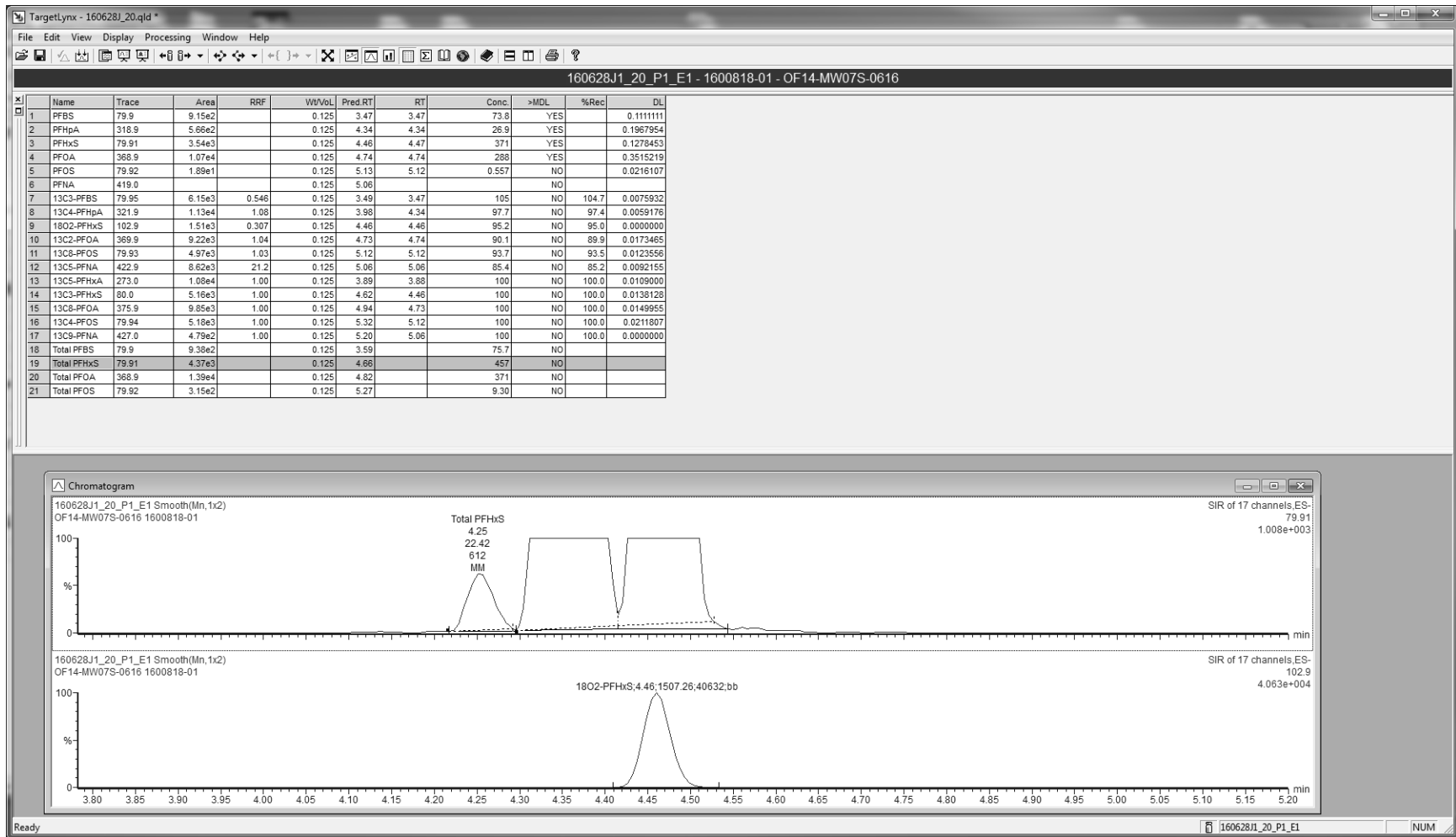
SIR of 17 channels, ES-
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2.162e+005

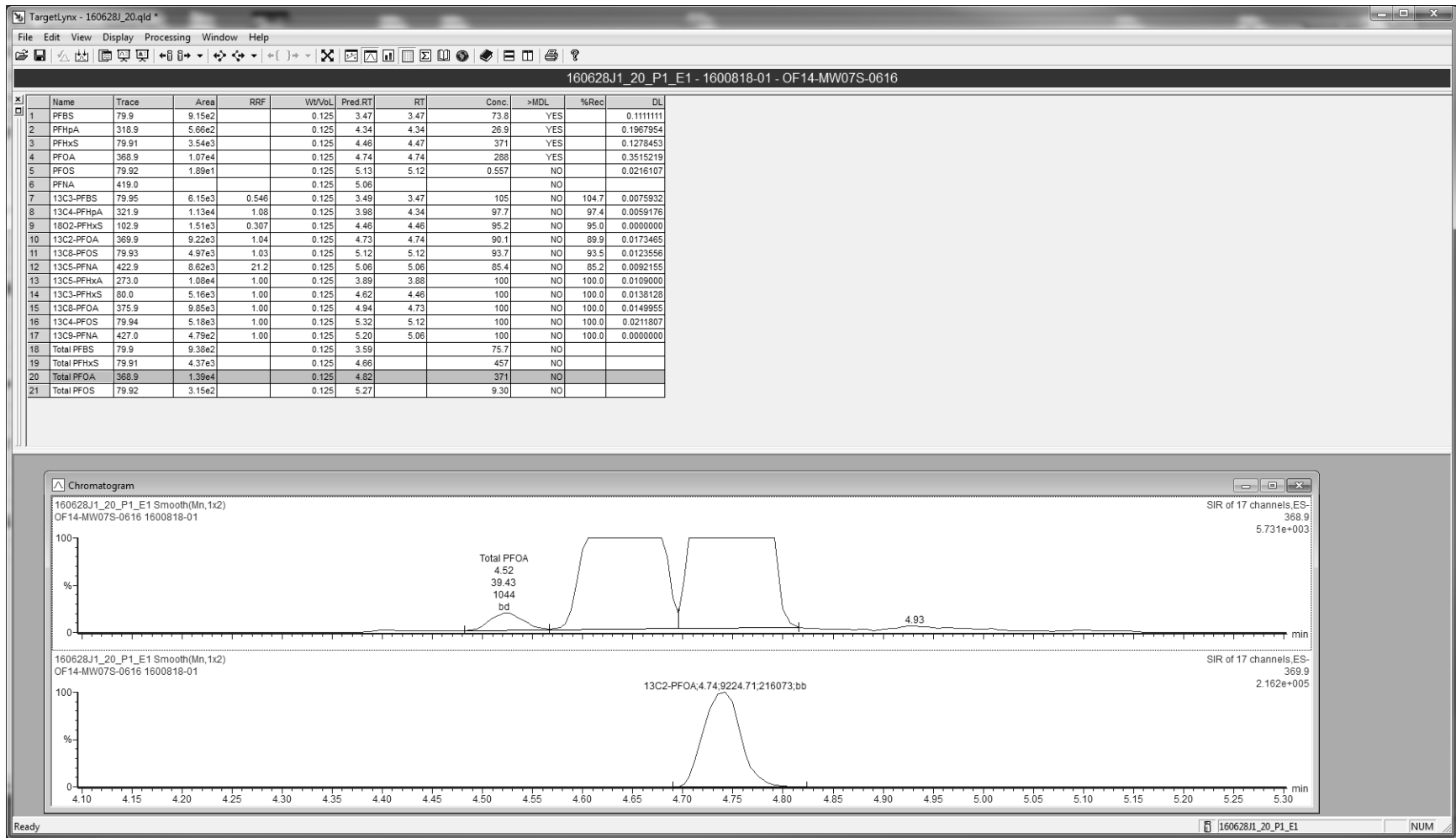


Reviewed: WJL 7/5/16

pw 6/29/16







Dataset: U:\Q2.PRO\Results\160628J1\160628J_20.qld

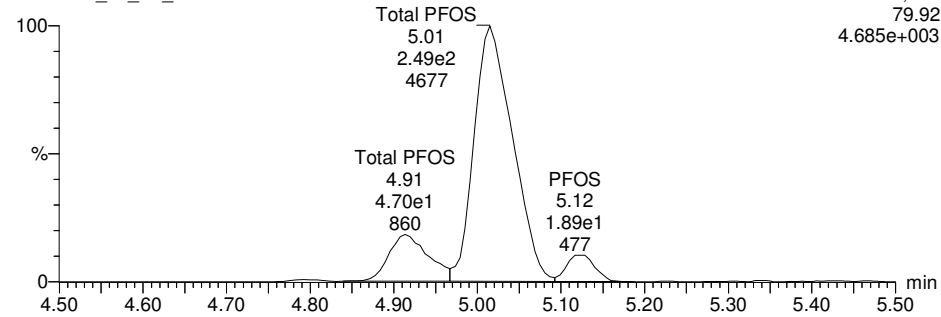
Last Altered: Wednesday, June 29, 2016 16:48:38 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:50:11 Pacific Daylight Time

Name: 160628J1_20.wiff, Date: 28-Jun-2016, Time: 19:48:47, ID: 1600818-01, Description: OF14-MW07S-0616

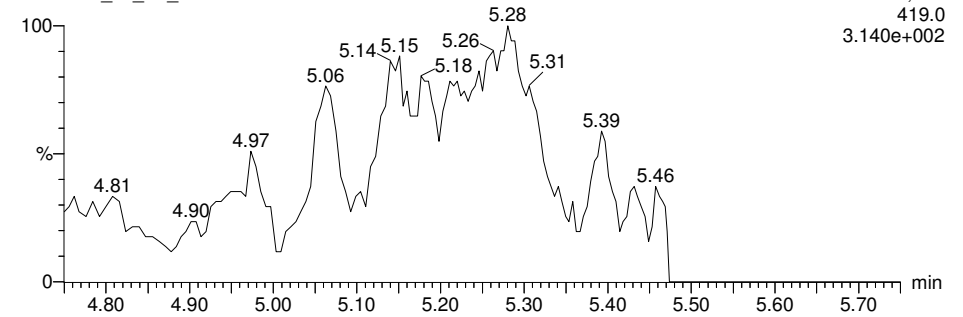
PFOS

160628J1_20_P1_E1



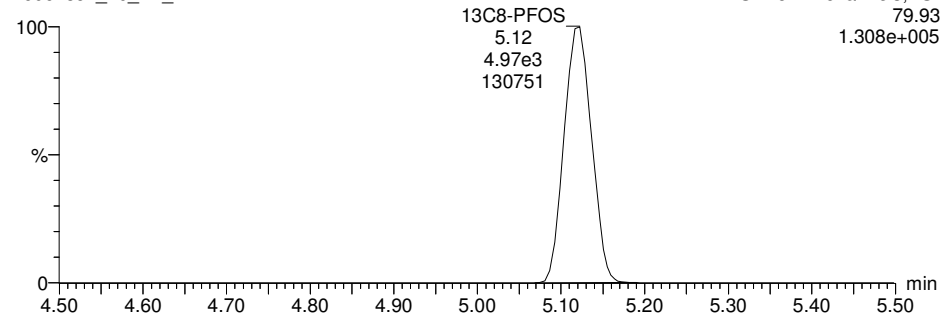
PFNA

160628J1_20_P1_E1



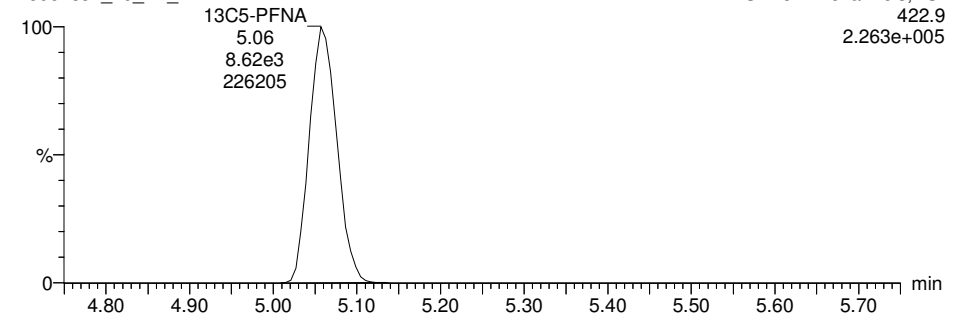
13C8-PFOS

160628J1_20_P1_E1



13C5-PFNA

160628J1_20_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_20.qld

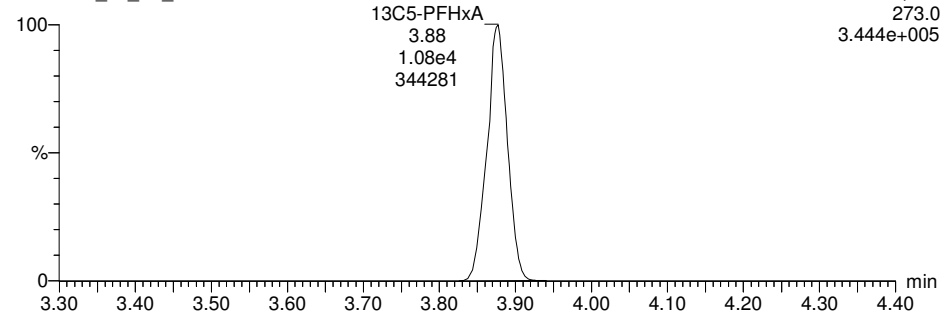
Last Altered: Wednesday, June 29, 2016 16:48:38 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:50:11 Pacific Daylight Time

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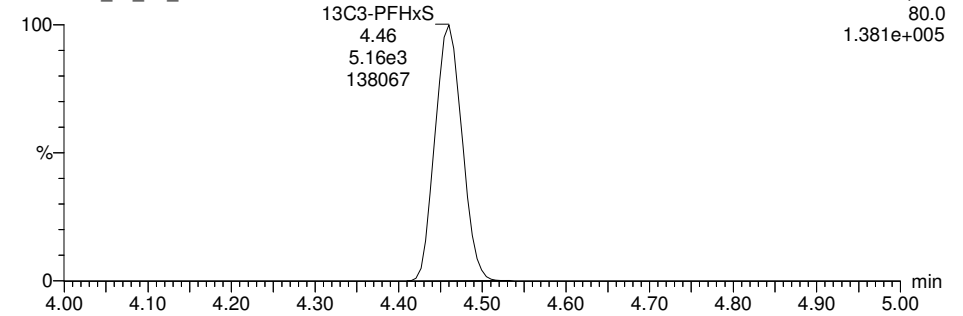
13C5-PFHxA

160628J1_20_P1_E1



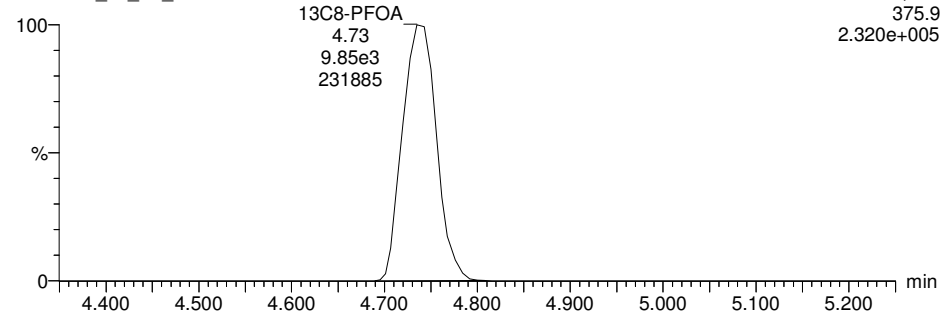
13C3-PFHxS

160628J1_20_P1_E1



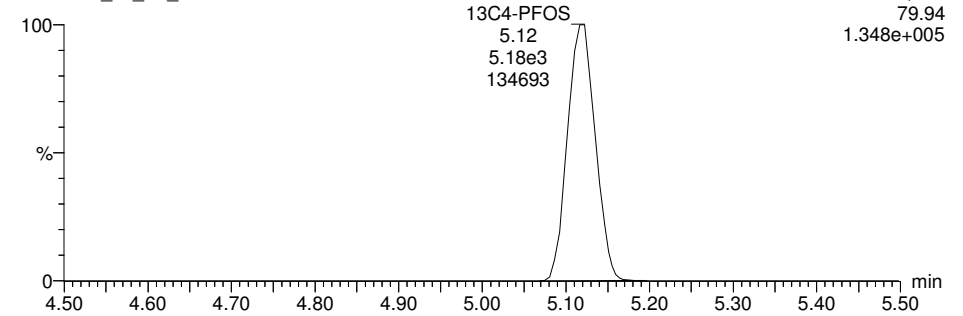
13C8-PFOA

160628J1_20_P1_E1



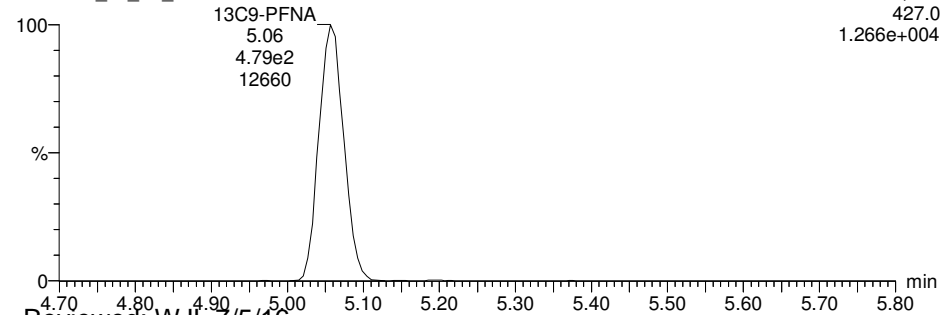
13C4-PFOS

160628J1_20_P1_E1



13C9-PFNA

160628J1_20_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J_21.qld

Last Altered: Wednesday, June 29, 2016 16:53:40 Pacific Daylight Time
 Printed: Wednesday, June 29, 2016 16:54:15 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_21.wiff, Date: 28-Jun-2016, Time: 20:01:01, ID: 1600818-02, Description: OF14-MW07D-0616

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.35e3		0.127			
2	2 PFHpA	318.9		1.16e4		0.127			
3	3 PFHxS	79.91	6.70e0	1.58e3		0.127	4.47	0.650	
4	4 PFOA	368.9		9.35e3		0.127			
5	5 PFOS	79.92	1.84e0	4.50e3		0.127	5.13	0.0587	
6	6 PFNA	419.0		8.48e3		0.127			
7	7 13C3-PFBS	79.95	6.35e3	1.17e4	0.546	0.127	3.47	97.9	99.3
8	8 13C4-PFHpA	321.9	1.16e4	1.17e4	1.075	0.127	4.35	91.1	92.4
9	9 18O2-PFHxS	102.9	1.58e3	5.36e3	0.307	0.127	4.47	94.8	96.1
10	10 13C2-PFOA	369.9	9.35e3	9.63e3	1.042	0.127	4.75	91.8	93.2
11	11 13C8-PFOS	79.93	4.50e3	4.98e3	1.026	0.127	5.13	86.8	88.1
12	12 13C5-PFNA	422.9	8.48e3	5.09e2	21.158	0.127	5.07	77.7	78.8
13	13 13C5-PFHxA	273.0	1.17e4	1.17e4	1.000	0.127	3.88	98.6	100.0
14	14 13C3-PFHxS	80.0	5.36e3	5.36e3	1.000	0.127	4.47	98.6	100.0
15	15 13C8-PFOA	375.9	9.63e3	9.63e3	1.000	0.127	4.74	98.6	100.0
16	16 13C4-PFOS	79.94	4.98e3	4.98e3	1.000	0.127	5.13	98.6	100.0
17	17 13C9-PFNA	427.0	5.09e2	5.09e2	1.000	0.127	5.07	98.6	100.0
18	18 Total PFBS	79.9		6.35e3		0.127			
19	19 Total PFHxS	79.91		1.58e3		0.127		0.823	
20	20 Total PFOA	368.9		9.35e3		0.127			
21	21 Total PFOS	79.92		4.50e3		0.127		0.213	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_21.qld

Last Altered: Wednesday, June 29, 2016 16:53:40 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:54:15 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_21.wiff, Date: 28-Jun-2016, Time: 20:01:01, ID: 1600818-02, Description: OF14-MW07D-0616

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	19 Total PFHxS	79.91	4.48	1.78e0	1.58e3	0.173
2	3 PFHxS	79.91	4.47	6.70e0	1.58e3	0.650

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.05	4.81e0	4.50e3	0.154
2	5 PFOS	79.92	5.13	1.84e0	4.50e3	0.0587

Dataset: U:\Q2.PRO\Results\160628J1\160628J_21.qld

Last Altered: Wednesday, June 29, 2016 16:53:40 Pacific Daylight Time

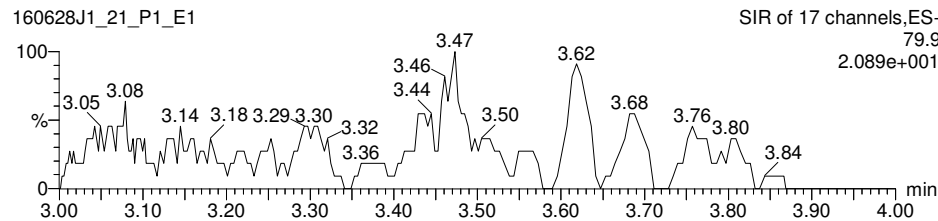
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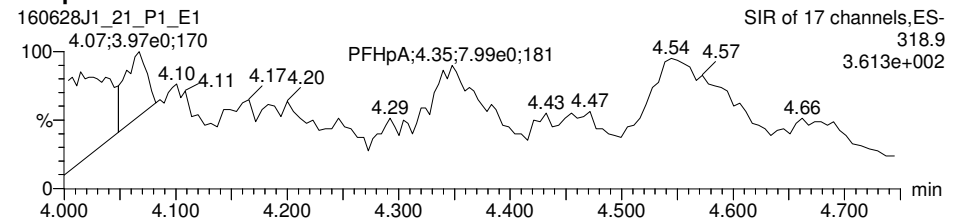
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Name: 160628J1_21.wiff, Date: 28-Jun-2016, Time: 20:01:01, ID: 1600818-02, Description: OF14-MW07D-0616

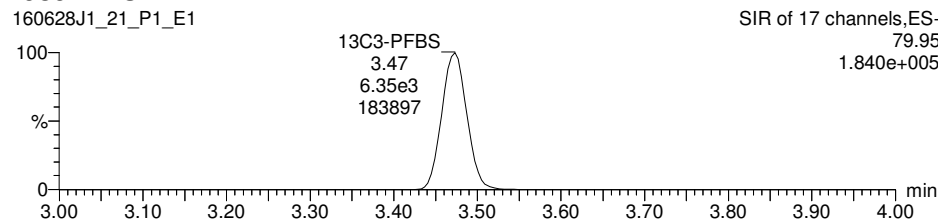
PFBS



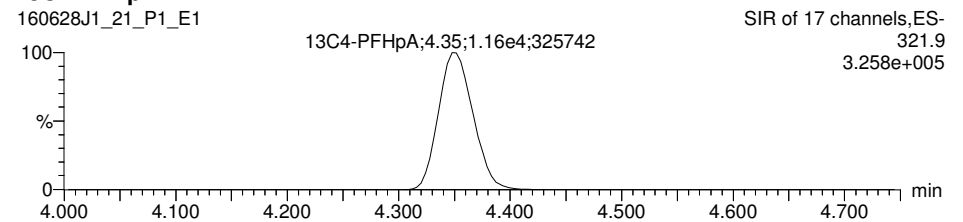
PFHpA



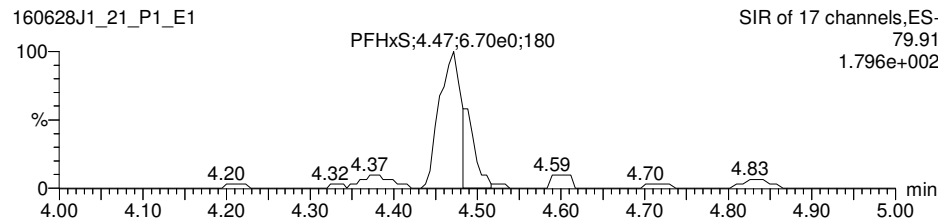
13C3-PFBS



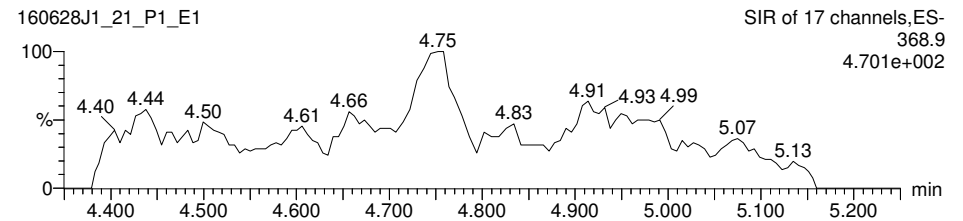
13C4-PFHpA



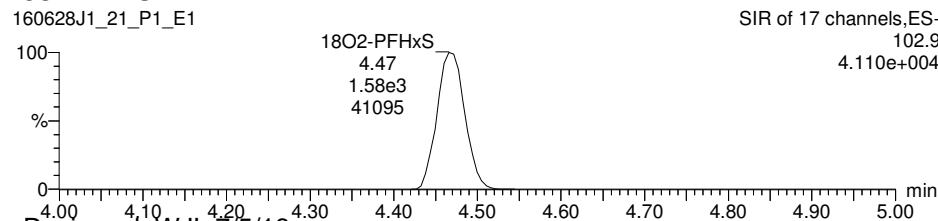
PFHxS



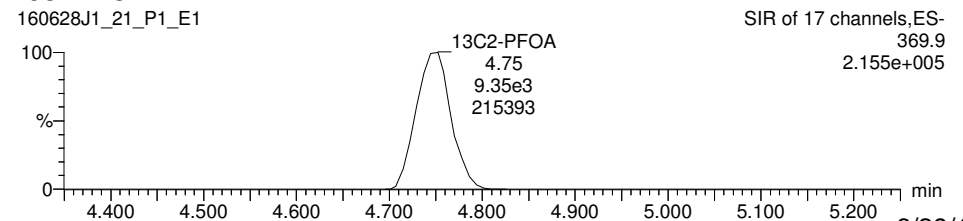
PFOA



18O2-PFHxS

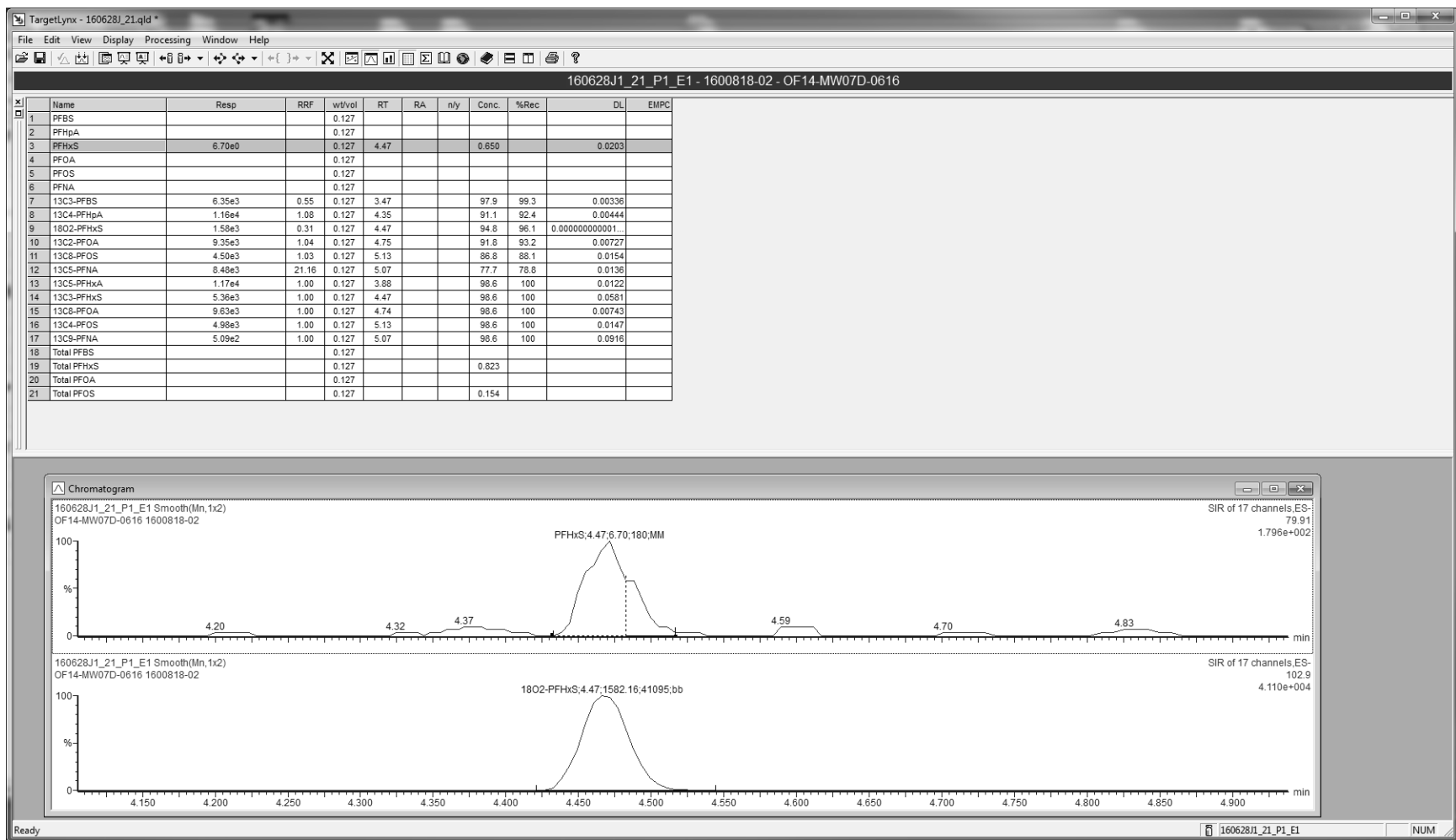


13C2-PFOA



Reviewed: WJL 7/5/16

pw 6/29/16

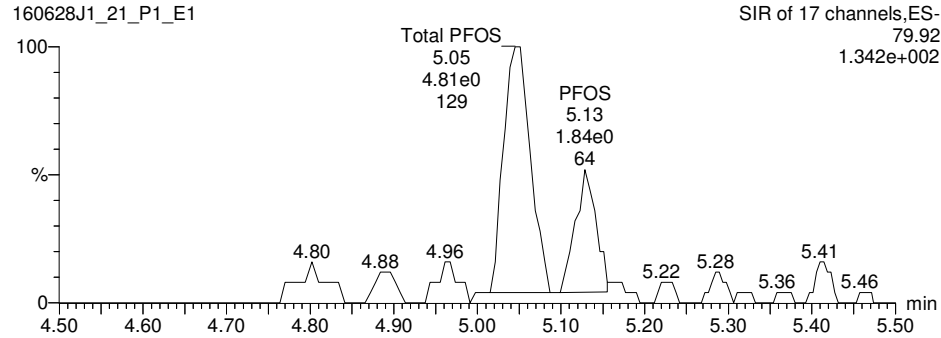


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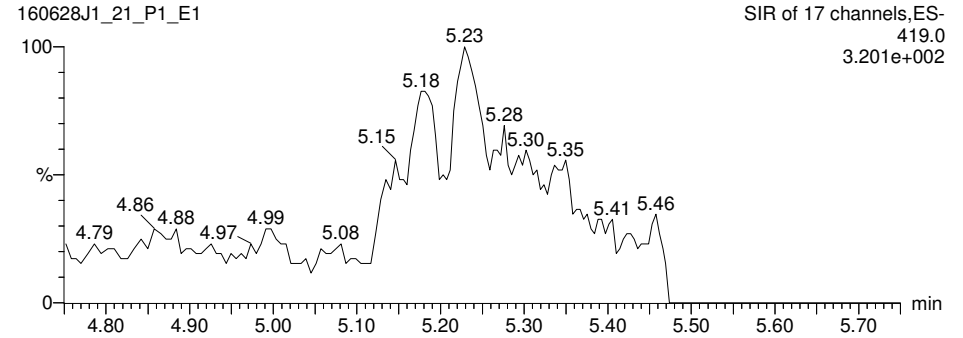
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Printed: Wednesday, June 29, 2016 16:54:05 Pacific Daylight Time

Name: 160628J1_21.wiff, Date: 28-Jun-2016, Time: 20:01:01, ID: 1600818-02, Description: OF14-MW07D-0616

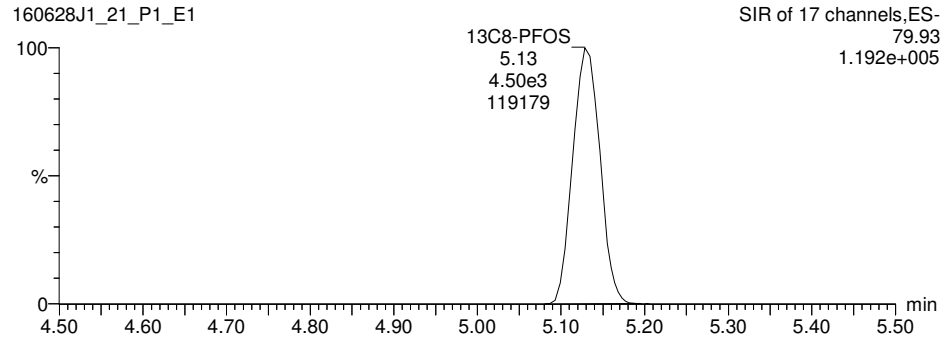
PFOS



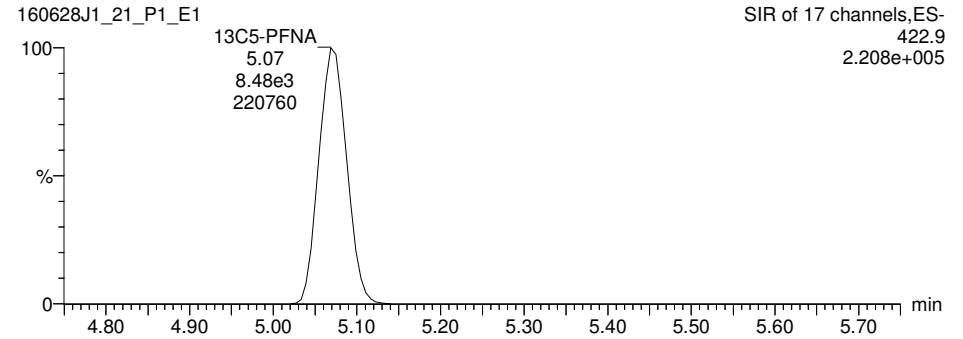
PFNA



13C8-PFOS



13C5-PFNA



Dataset: U:\Q2.PRO\Results\160628J1\160628J_21.qld

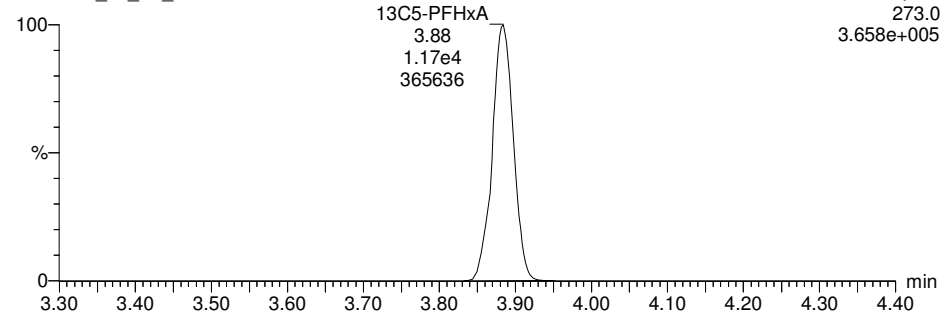
Last Altered: Wednesday, June 29, 2016 16:53:40 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:54:05 Pacific Daylight Time

Name: 160628J1_21.wiff, Date: 28-Jun-2016, Time: 20:01:01, ID: 1600818-02, Description: OF14-MW07D-0616

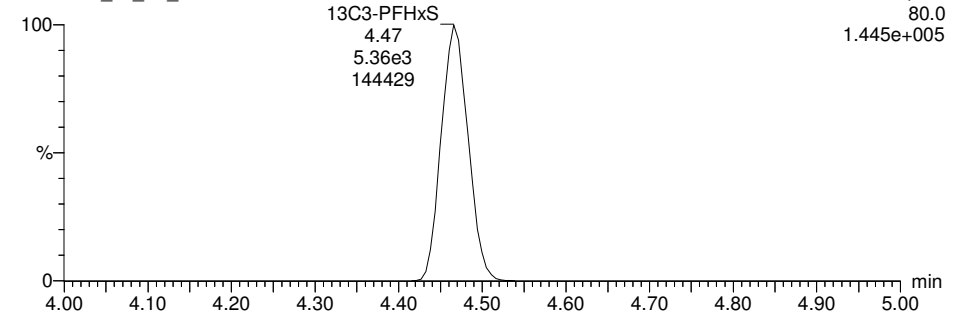
13C5-PFHxA

160628J1_21_P1_E1



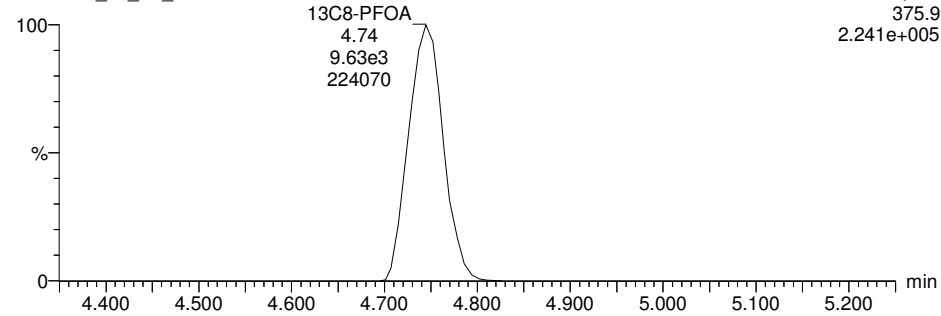
13C3-PFHxS

160628J1_21_P1_E1



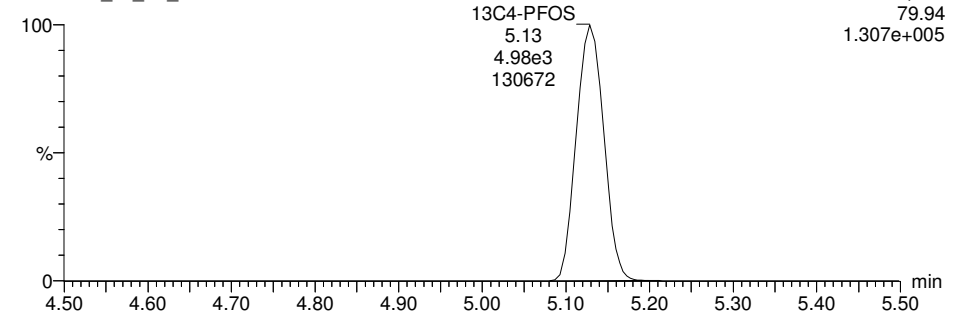
13C8-PFOA

160628J1_21_P1_E1



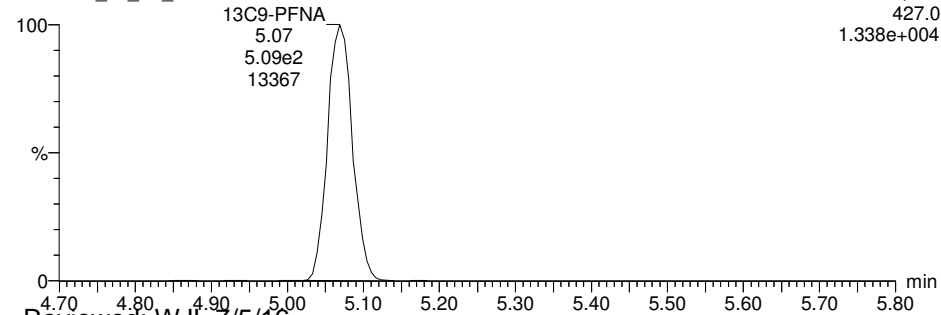
13C4-PFOS

160628J1_21_P1_E1



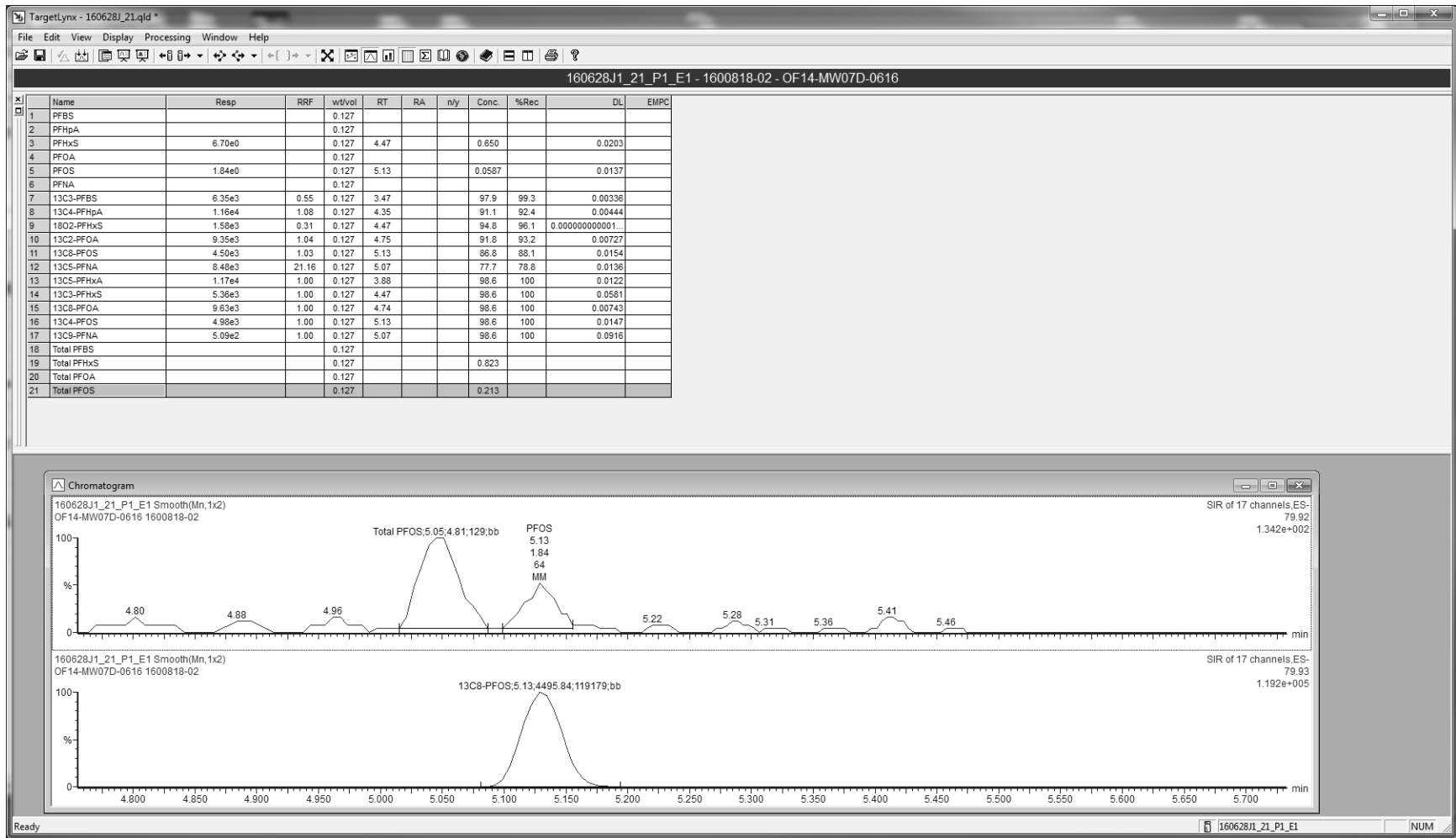
13C9-PFNA

160628J1_21_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16



160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_22.qld

Last Altered: Wednesday, June 29, 2016 16:58:31 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:59:07 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_22.wiff, Date: 28-Jun-2016, Time: 20:13:11, ID: 1600818-03, Description: OF-MW14-0616

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	2.94e0	6.27e3		0.126	3.46	0.229	
2	2 PFHpA	318.9		1.14e4		0.126			
3	3 PFHxS	79.91	7.19e0	1.56e3		0.126	4.47	0.711	
4	4 PFOA	368.9	1.12e2	8.75e3		0.126	4.73	3.00	
5	5 PFOS	79.92	2.49e0	4.34e3		0.126	5.12	0.0830	
6	6 PFNA	419.0		8.89e3		0.126			
7	7 13C3-PFBS	79.95	6.27e3	9.65e3	0.546	0.126	3.46	118	118.9
8	8 13C4-PFHpA	321.9	1.14e4	9.65e3	1.075	0.126	4.34	109	109.9
9	9 18O2-PFHxS	102.9	1.56e3	4.48e3	0.307	0.126	4.46	112	113.2
10	10 13C2-PFOA	369.9	8.75e3	7.29e3	1.042	0.126	4.73	114	115.2
11	11 13C8-PFOS	79.93	4.34e3	4.09e3	1.026	0.126	5.12	102	103.4
12	12 13C5-PFNA	422.9	8.89e3	4.24e2	21.158	0.126	5.06	98.1	99.0
13	13 13C5-PFHxA	273.0	9.65e3	9.65e3	1.000	0.126	3.87	99.0	100.0
14	14 13C3-PFHxS	80.0	4.48e3	4.48e3	1.000	0.126	4.46	99.0	100.0
15	15 13C8-PFOA	375.9	7.29e3	7.29e3	1.000	0.126	4.73	99.0	100.0
16	16 13C4-PFOS	79.94	4.09e3	4.09e3	1.000	0.126	5.12	99.0	100.0
17	17 13C9-PFNA	427.0	4.24e2	4.24e2	1.000	0.126	5.06	99.0	100.0
18	18 Total PFBS	79.9		6.27e3		0.126		0.229	
19	19 Total PFHxS	79.91		1.56e3		0.126		0.711	
20	20 Total PFOA	368.9		8.75e3		0.126		4.45	
21	21 Total PFOS	79.92		4.34e3		0.126		0.291	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_22.qld

Last Altered: Wednesday, June 29, 2016 16:58:31 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 16:59:07 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_22.wiff, Date: 28-Jun-2016, Time: 20:13:11, ID: 1600818-03, Description: OF-MW14-0616

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.46	2.94e0	6.27e3	0.229

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	7.19e0	1.56e3	0.711

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.73	1.12e2	8.75e3	3.00
2	20 Total PFOA	368.9	4.64	5.46e1	8.75e3	1.46

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.04	6.25e0	4.34e3	0.208
2	5 PFOS	79.92	5.12	2.49e0	4.34e3	0.0830

Dataset: U:\Q2.PRO\Results\160628J1\160628J_22.qld

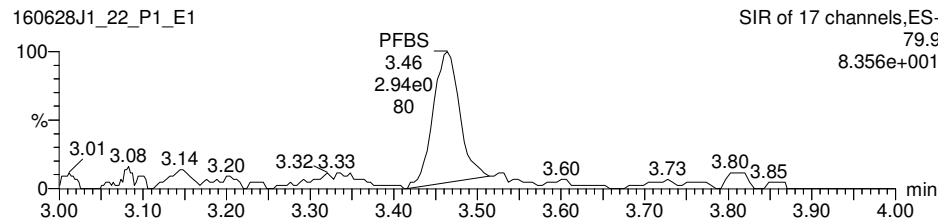
Last Altered: Wednesday, June 29, 2016 16:58:31 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 16:59:16 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

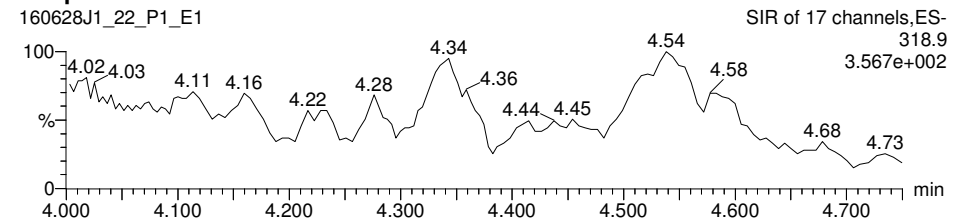
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_22.wiff, Date: 28-Jun-2016, Time: 20:13:11, ID: 1600818-03, Description: OF-MW14-0616

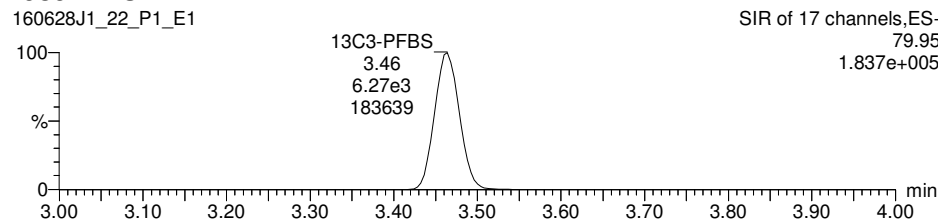
PFBS



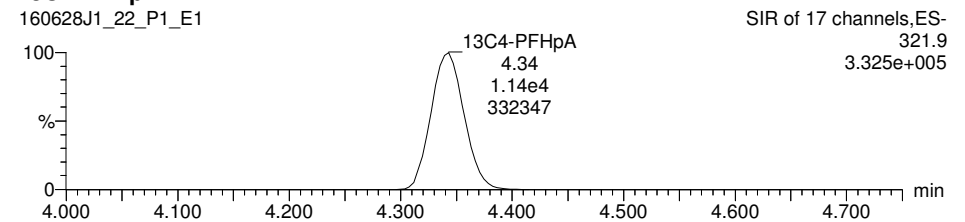
PFHpA



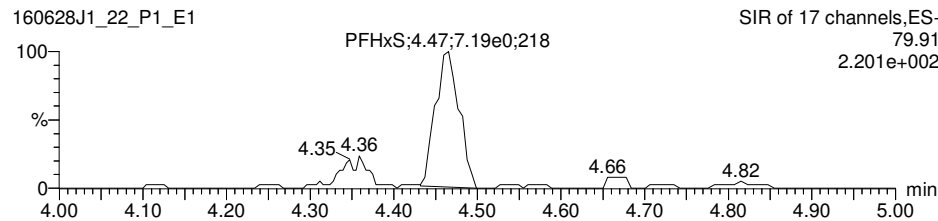
13C3-PFBS



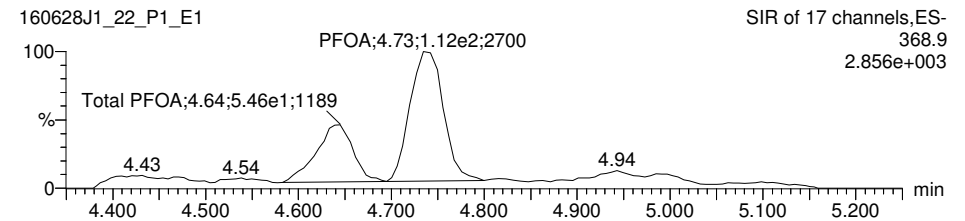
13C4-PFHpA



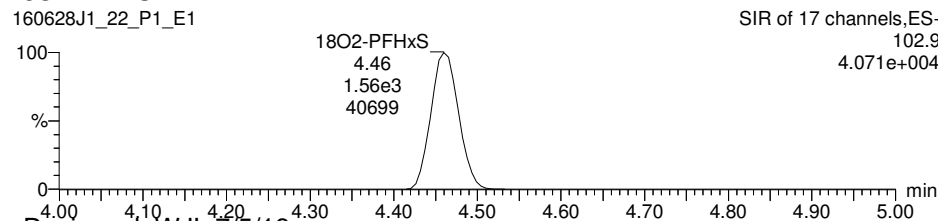
PFHxS



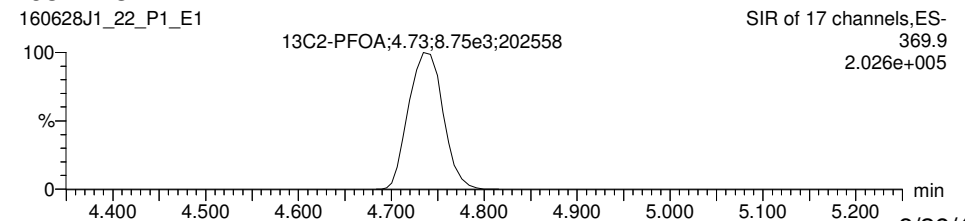
PFOA



18O2-PFHxS

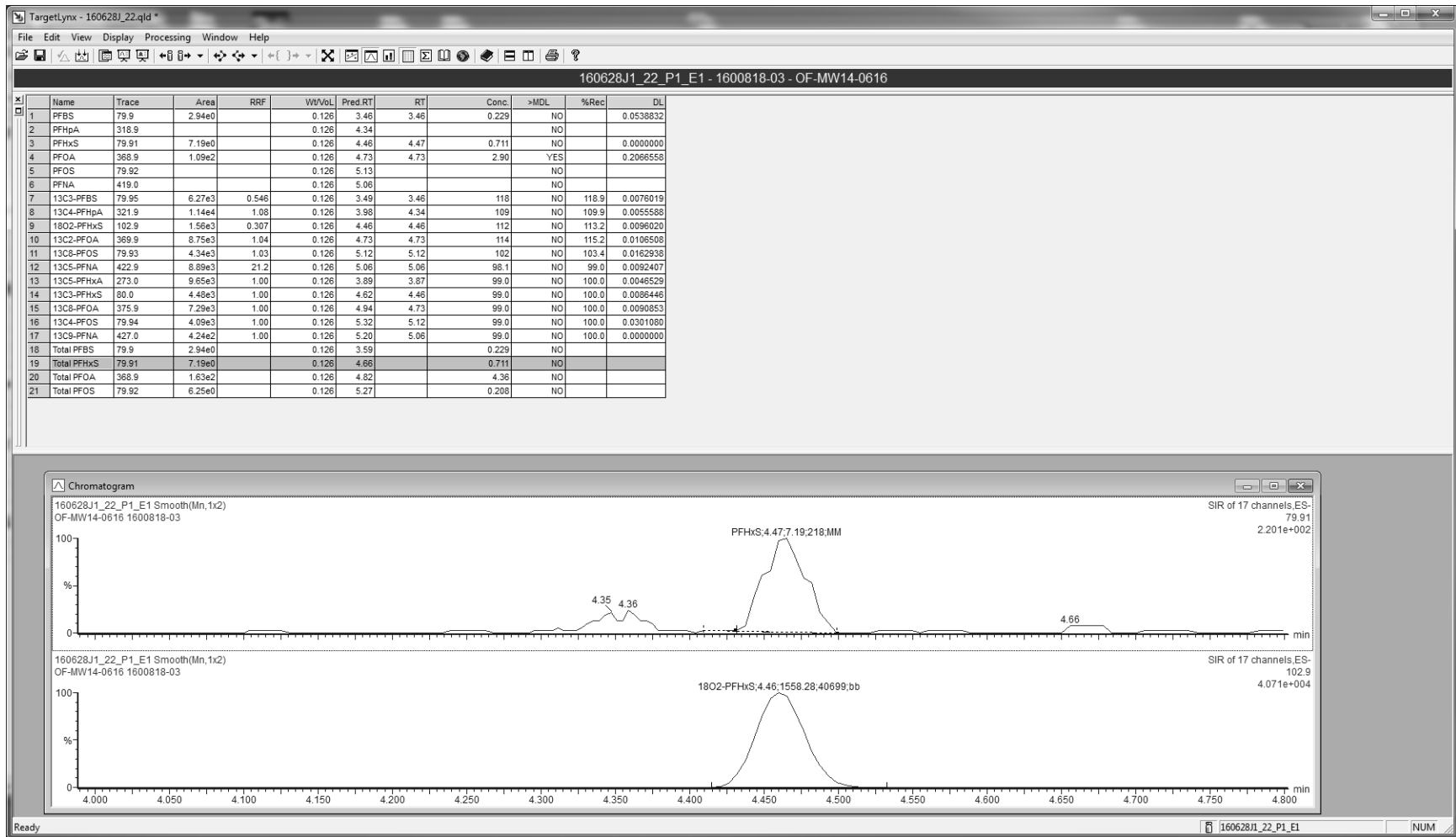


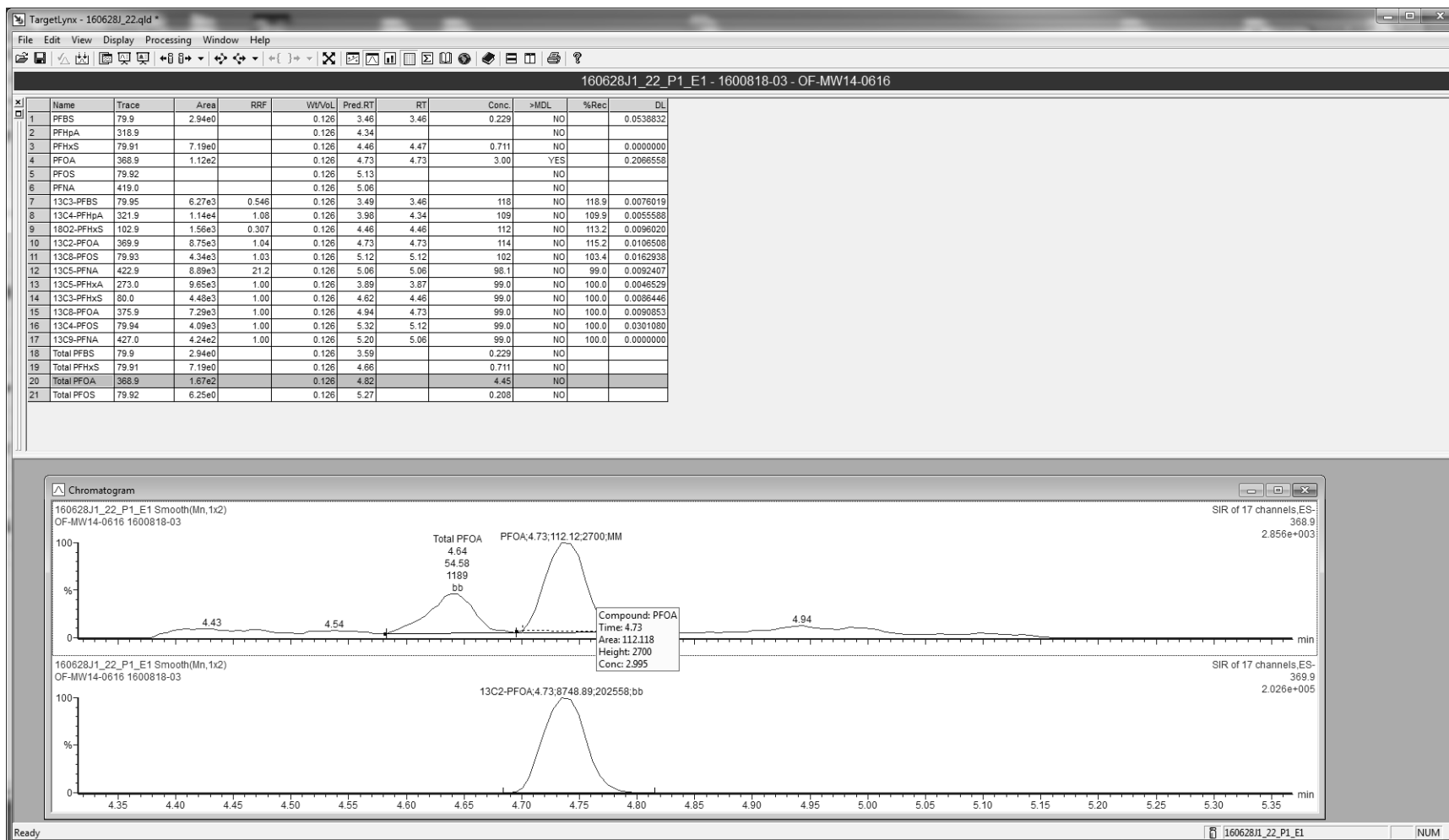
13C2-PFOA



Reviewed: WJL 7/5/16

pw 6/29/16



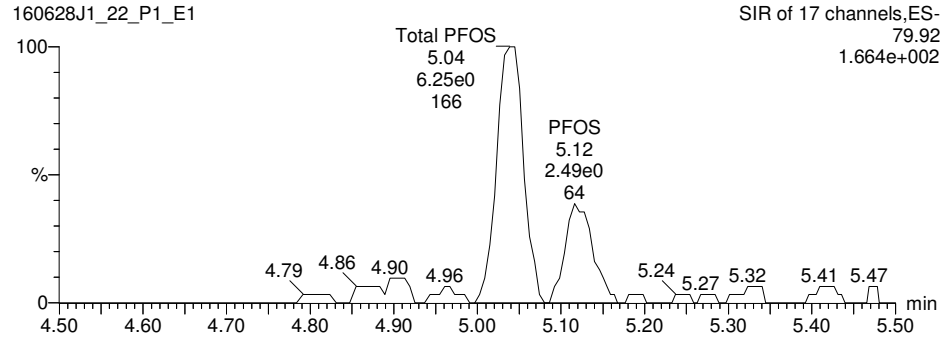


Dataset: U:\Q2.PRO\Results\160628J1\160628J_22.qld

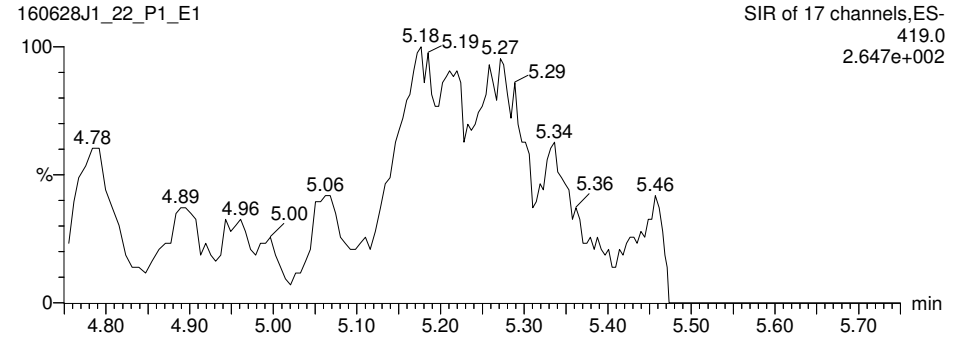
Last Altered: Wednesday, June 29, 2016 16:58:31 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 16:59:16 Pacific Daylight Time

Name: 160628J1_22.wiff, Date: 28-Jun-2016, Time: 20:13:11, ID: 1600818-03, Description: OF-MW14-0616

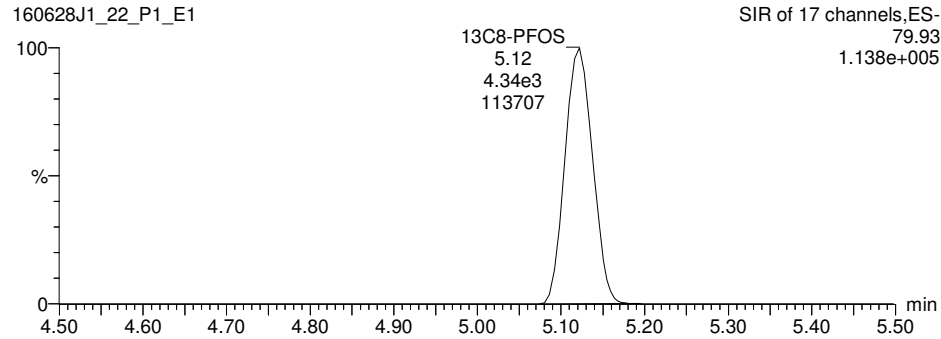
PFOS



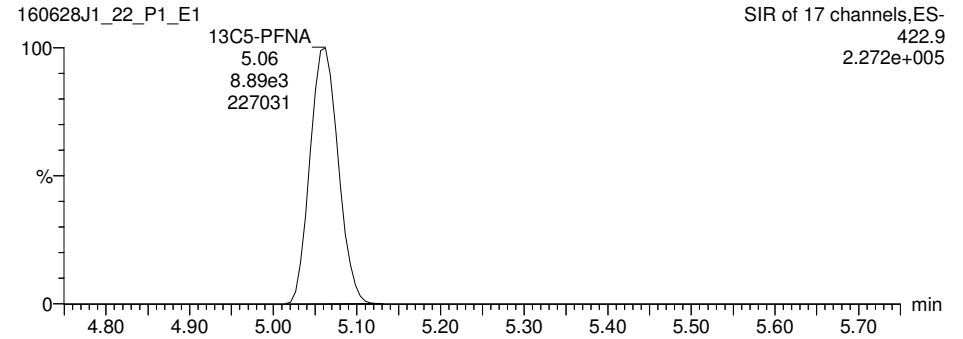
PFNA

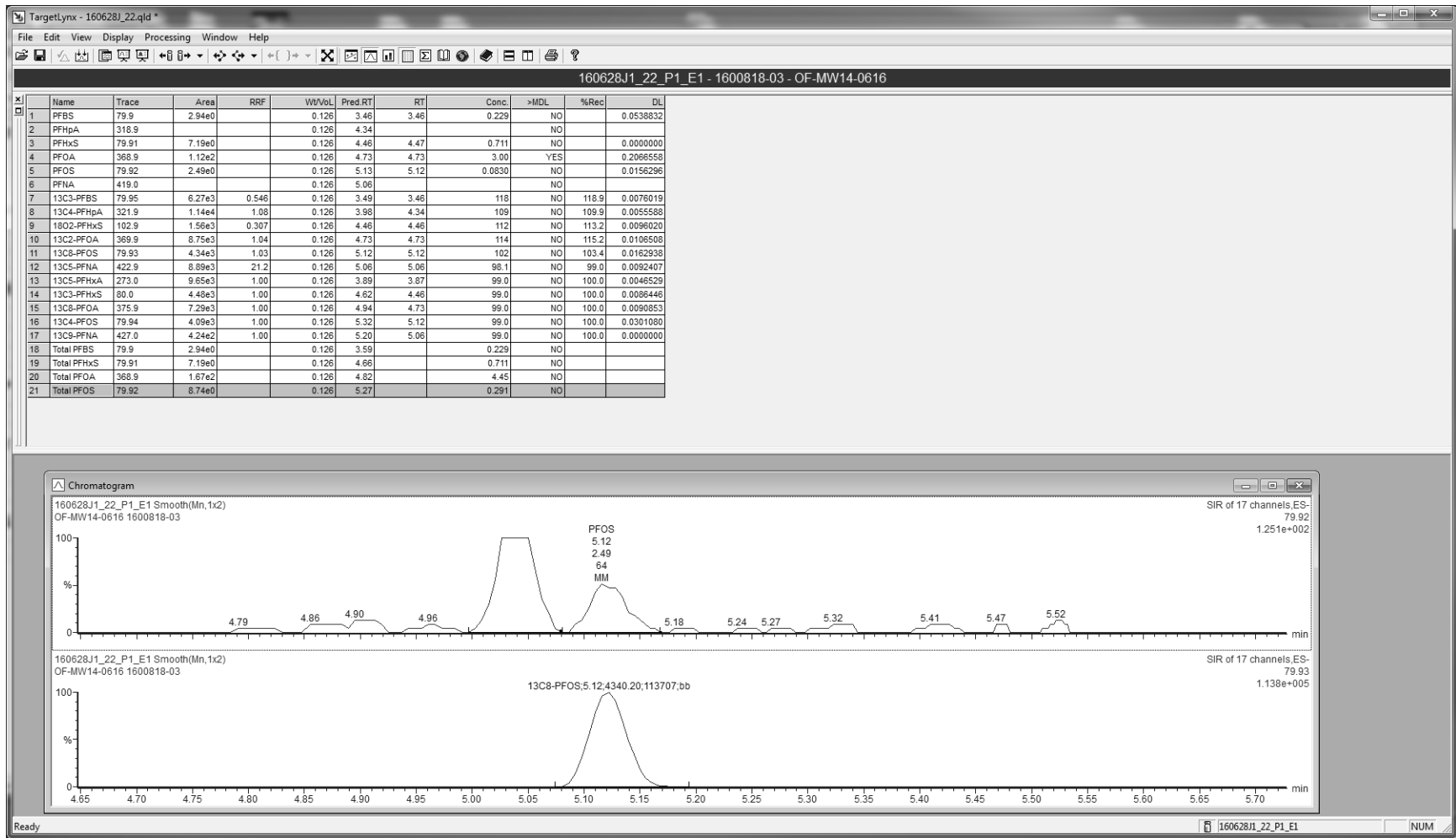


13C8-PFOS



13C5-PFNA





Dataset: U:\Q2.PRO\Results\160628J1\160628J_22.qld

Last Altered: Wednesday, June 29, 2016 16:58:31 Pacific Daylight Time

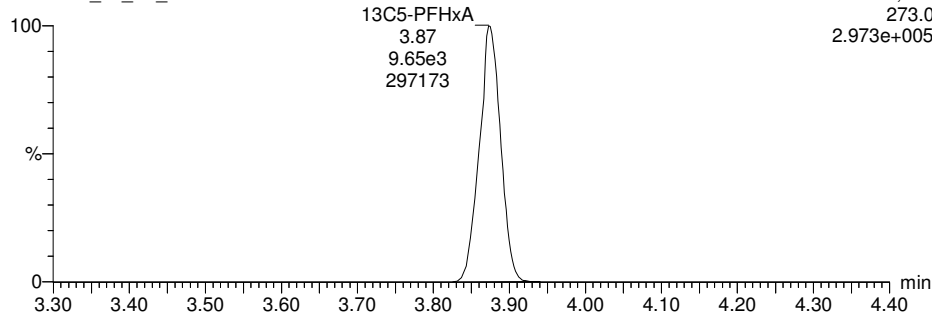
Printed: Wednesday, June 29, 2016 16:59:16 Pacific Daylight Time

Name: 160628J1_22.wiff, Date: 28-Jun-2016, Time: 20:13:11, ID: 1600818-03, Description: OF-MW14-0616

13C5-PFHxA

160628J1_22_P1_E1

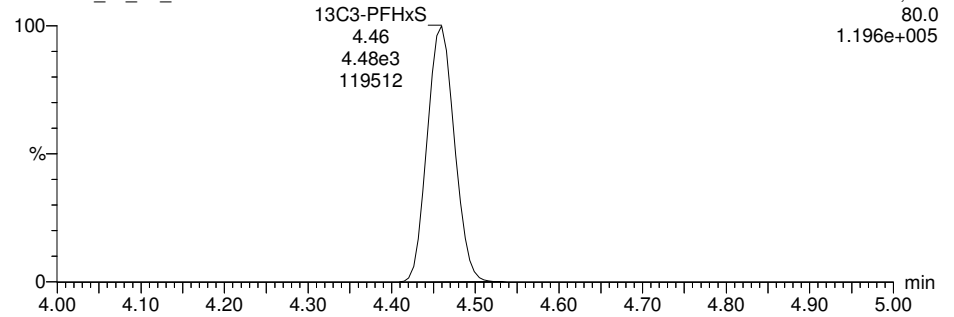
SIR of 17 channels,ES-
273.0
2.973e+005



13C3-PFHxS

160628J1_22_P1_E1

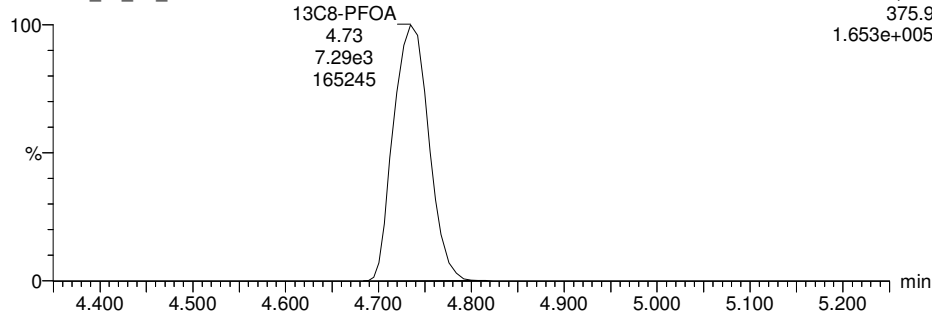
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80.0
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13C8-PFOA

160628J1_22_P1_E1

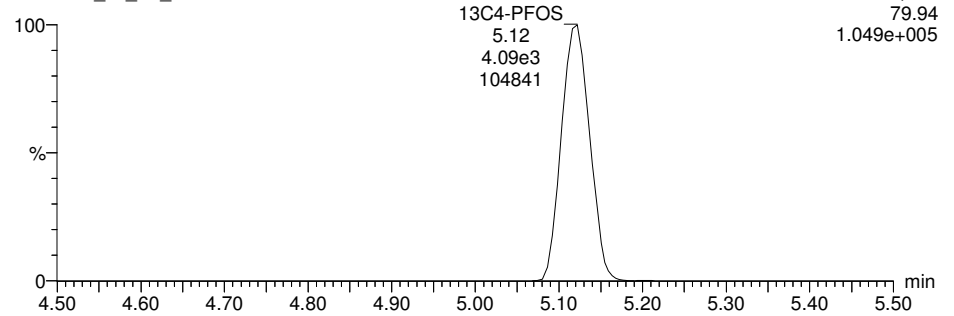
SIR of 17 channels,ES-
375.9
1.653e+005



13C4-PFOS

160628J1_22_P1_E1

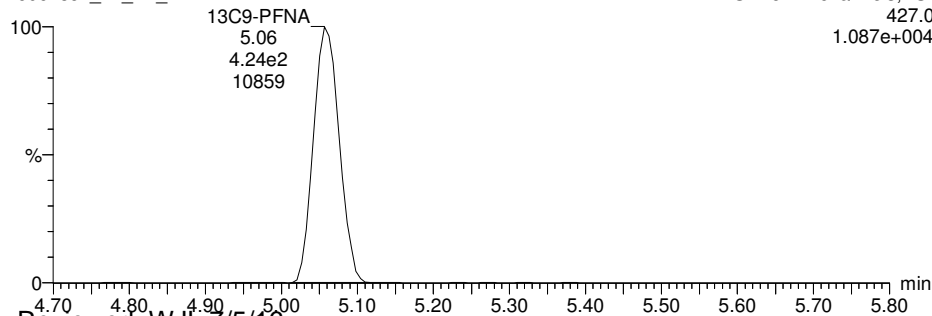
SIR of 17 channels,ES-
79.94
1.049e+005



13C9-PFNA

160628J1_22_P1_E1

SIR of 17 channels,ES-
427.0
1.087e+004



Reviewed: WJL 7/5/16

pw 6/29/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J_23.qld

Last Altered: Wednesday, June 29, 2016 17:05:16 Pacific Daylight Time
 Printed: Wednesday, June 29, 2016 17:05:38 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
 Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_23.wiff, Date: 28-Jun-2016, Time: 20:25:26, ID: 1600818-04, Description: OF-MW16-0616

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.22e3	6.33e3		0.126	3.47	95.1	
2	2 PFHpA	318.9	2.92e1	1.17e4		0.126	4.35	1.32	
3	3 PFHxS	79.91	5.93e3	1.49e3		0.126	4.47	628	
4	4 PFOA	368.9	1.82e2	9.16e3		0.126	4.75	4.66	
5	5 PFOS	79.92	1.60e3	4.82e3		0.126	5.12	48.5	
6	6 PFNA	419.0	2.25e1	8.66e3		0.126	5.06	0.452	
7	7 13C3-PFBS	79.95	6.33e3	1.09e4	0.546	0.126	3.46	106	106.8
8	8 13C4-PFHpA	321.9	1.17e4	1.09e4	1.075	0.126	4.35	100	100.5
9	9 18O2-PFHxS	102.9	1.49e3	4.98e3	0.307	0.126	4.47	97.2	97.7
10	10 13C2-PFOA	369.9	9.16e3	9.13e3	1.042	0.126	4.75	95.9	96.3
11	11 13C8-PFOS	79.93	4.82e3	4.62e3	1.026	0.126	5.12	101	101.8
12	12 13C5-PFNA	422.9	8.66e3	4.36e2	21.158	0.126	5.06	93.5	93.9
13	13 13C5-PFHxA	273.0	1.09e4	1.09e4	1.000	0.126	3.88	99.5	100.0
14	14 13C3-PFHxS	80.0	4.98e3	4.98e3	1.000	0.126	4.47	99.5	100.0
15	15 13C8-PFOA	375.9	9.13e3	9.13e3	1.000	0.126	4.74	99.5	100.0
16	16 13C4-PFOS	79.94	4.62e3	4.62e3	1.000	0.126	5.12	99.5	100.0
17	17 13C9-PFNA	427.0	4.36e2	4.36e2	1.000	0.126	5.06	99.5	100.0
18	18 Total PFBS	79.9		6.33e3		0.126		97.2	
19	19 Total PFHxS	79.91		1.49e3		0.126		721	
20	20 Total PFOA	368.9		9.16e3		0.126		7.12	
21	21 Total PFOS	79.92		4.82e3		0.126		108	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_23.qld

Last Altered: Wednesday, June 29, 2016 17:05:16 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:05:38 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_23.wiff, Date: 28-Jun-2016, Time: 20:25:26, ID: 1600818-04, Description: OF-MW16-0616

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	1.22e3	6.33e3	95.1
2	18 Total PFBS	79.9	3.34	2.63e1	6.33e3	2.04

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	5.93e3	1.49e3	628
2	19 Total PFHxS	79.91	4.37	8.84e2	1.49e3	91.9
3	19 Total PFHxS	79.91	4.26	1.53e1	1.49e3	1.58

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	1.82e2	9.16e3	4.66
2	20 Total PFOA	368.9	4.65	9.61e1	9.16e3	2.46

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	4.92	3.55e2	4.82e3	10.7
2	5 PFOS	79.92	5.12	1.60e3	4.82e3	48.5
3	21 Total PFOS	79.92	5.02	1.60e3	4.82e3	48.4

Dataset: U:\Q2.PRO\Results\160628J1\160628J_23.qld

Last Altered: Wednesday, June 29, 2016 17:05:16 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:05:26 Pacific Daylight Time

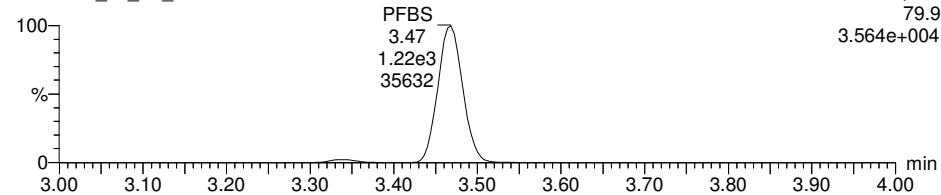
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_23.wiff, Date: 28-Jun-2016, Time: 20:25:26, ID: 1600818-04, Description: OF-MW16-0616

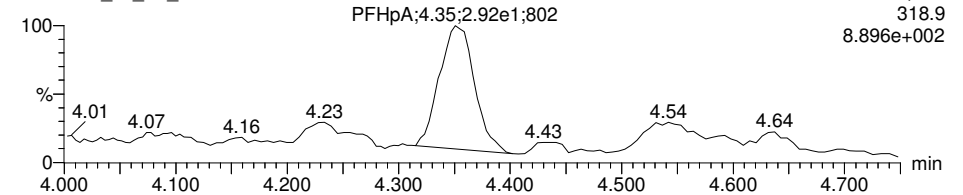
PFBS

160628J1_23_P1_E1



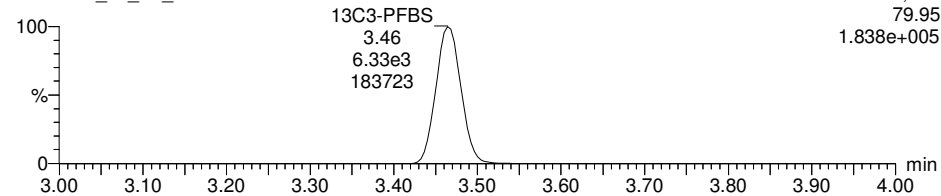
PFHpA

160628J1_23_P1_E1



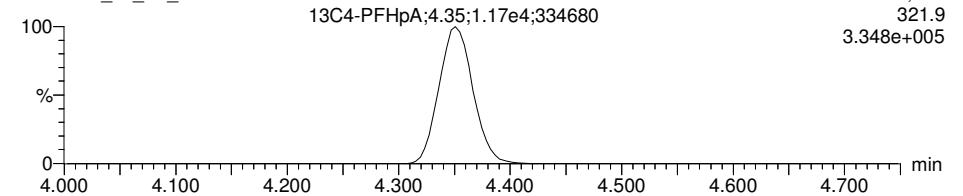
13C3-PFBS

160628J1_23_P1_E1



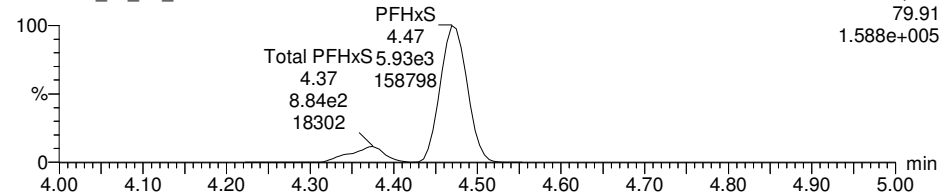
13C4-PFHpA

160628J1_23_P1_E1



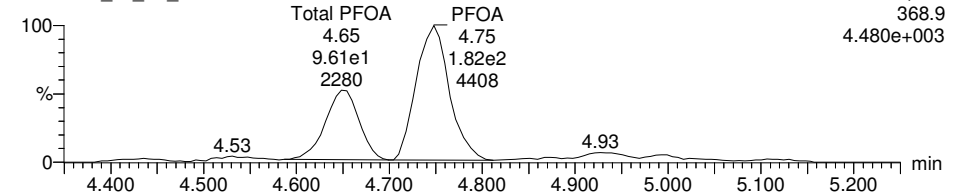
PFHxS

160628J1_23_P1_E1



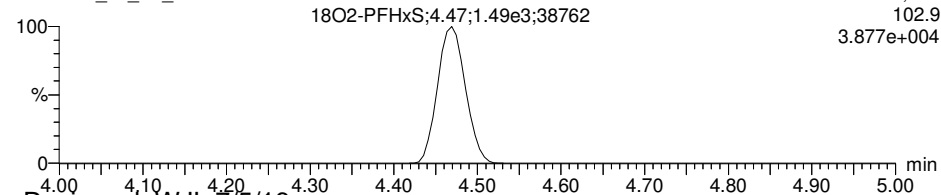
PFOA

160628J1_23_P1_E1



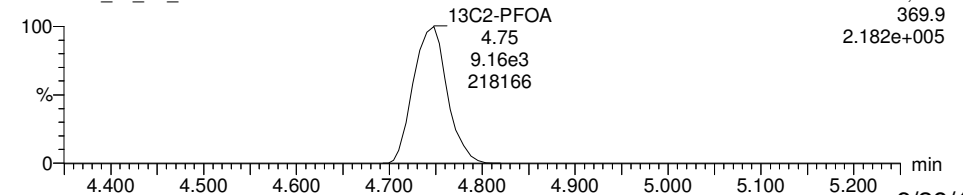
18O2-PFHxS

160628J1_23_P1_E1



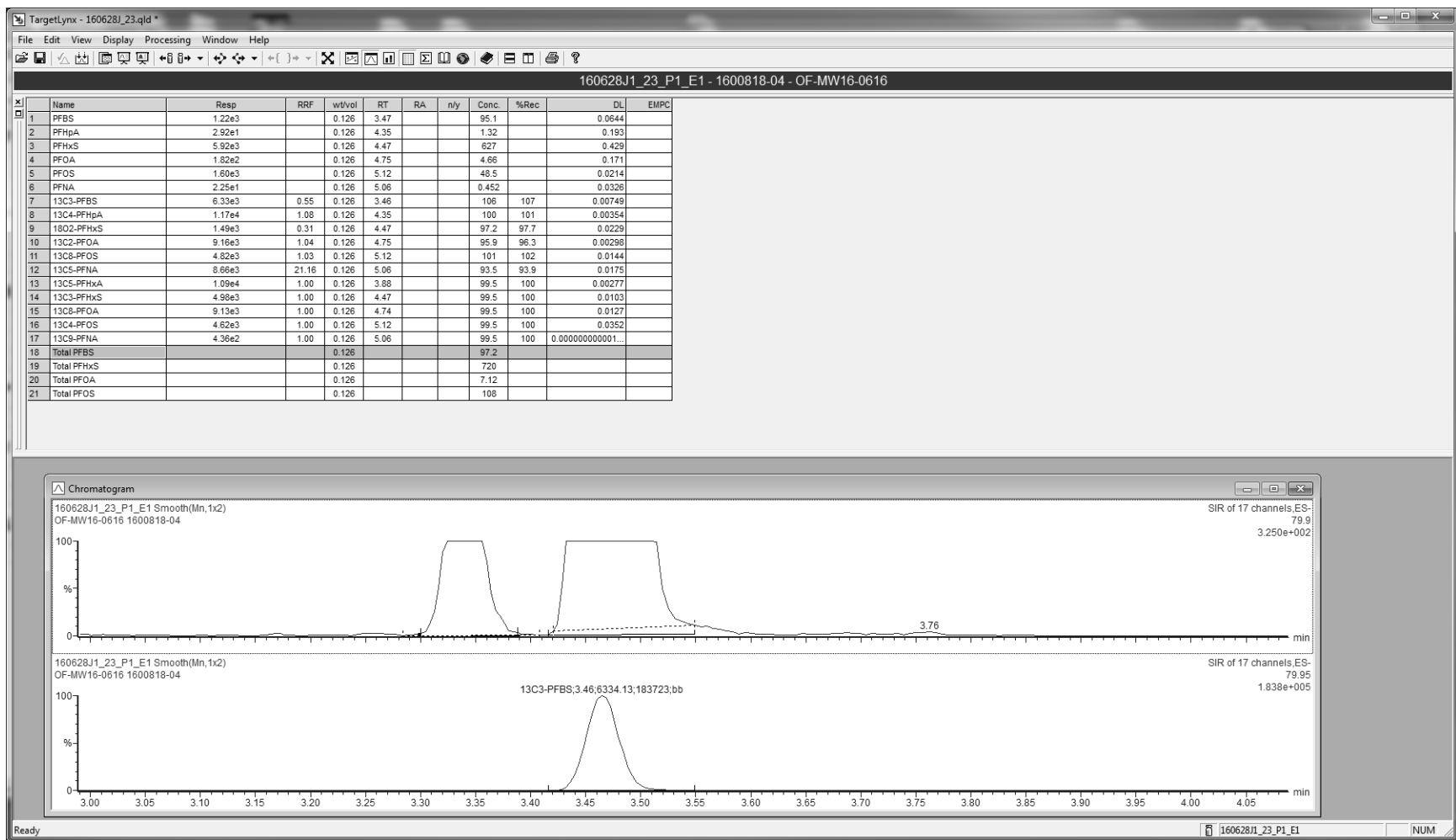
13C2-PFOA

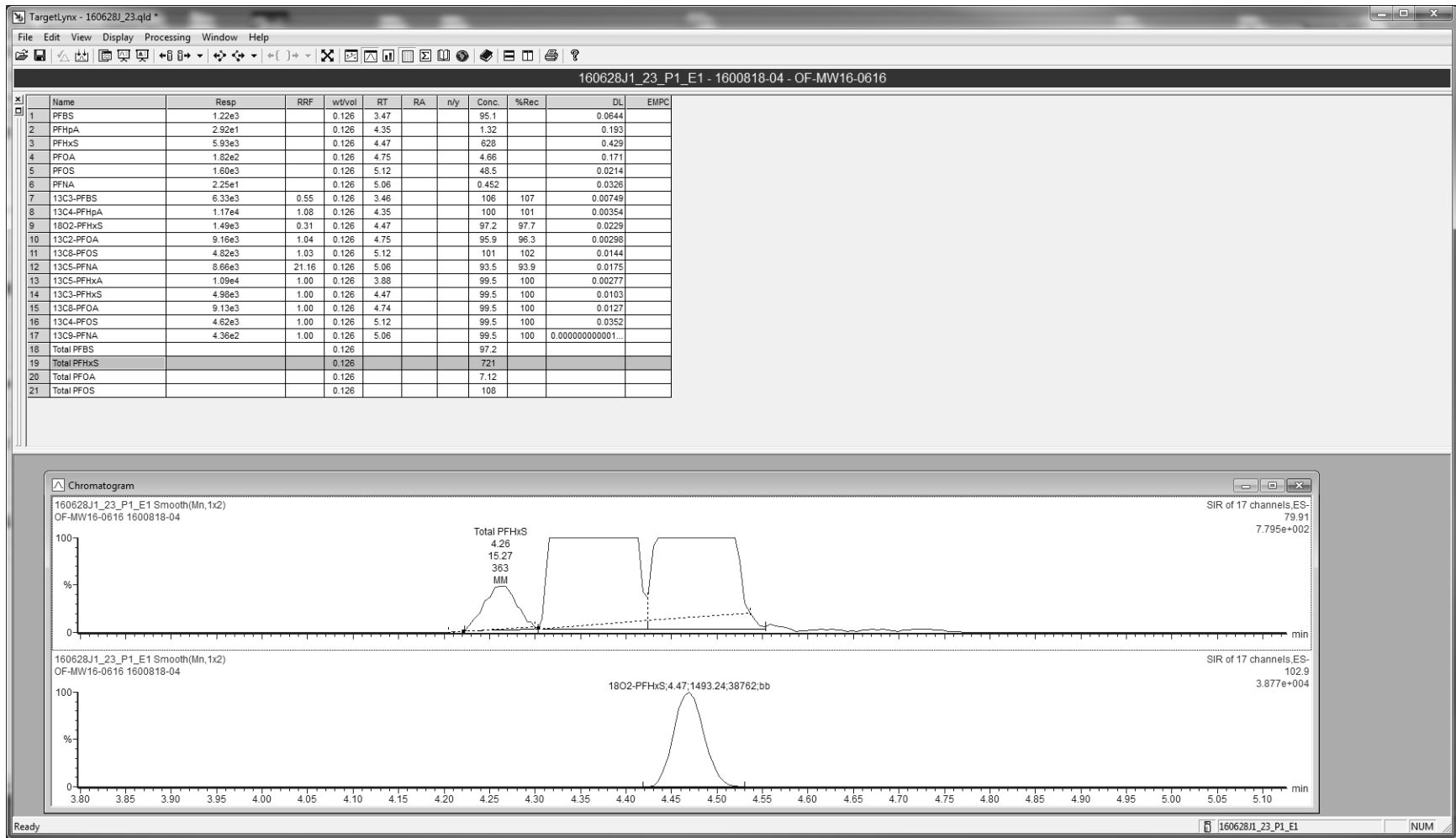
160628J1_23_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16



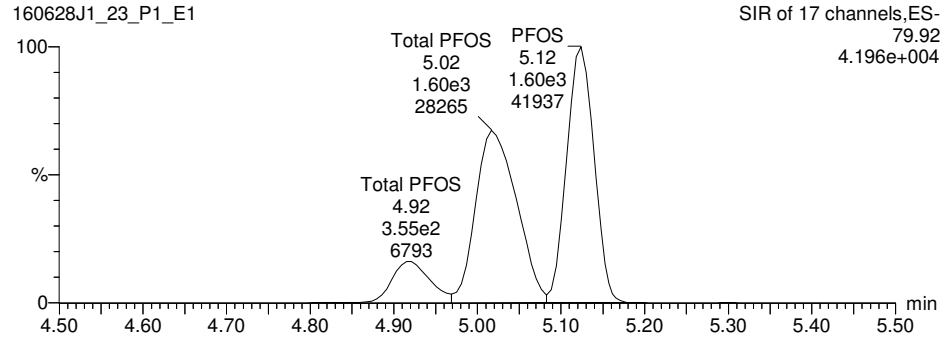


Dataset: U:\Q2.PRO\Results\160628J1\160628J_23.qld

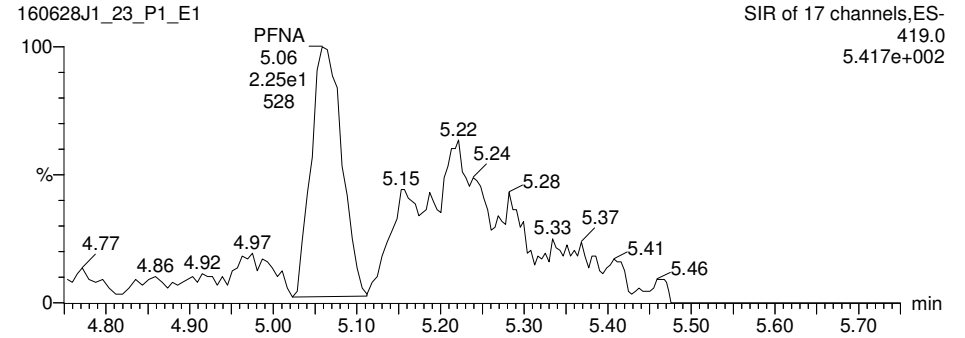
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Printed: Wednesday, June 29, 2016 17:05:26 Pacific Daylight Time

Name: 160628J1_23.wiff, Date: 28-Jun-2016, Time: 20:25:26, ID: 1600818-04, Description: OF-MW16-0616

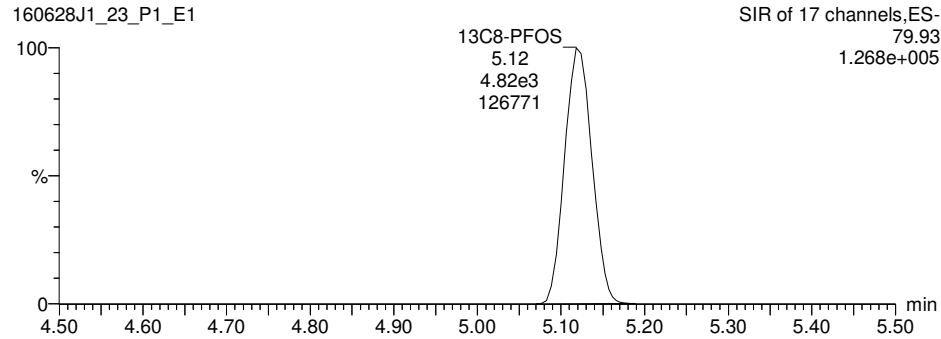
PFOS



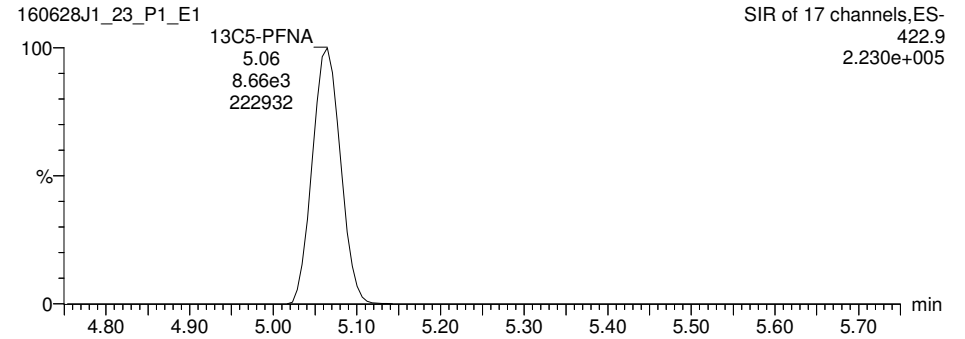
PFNA

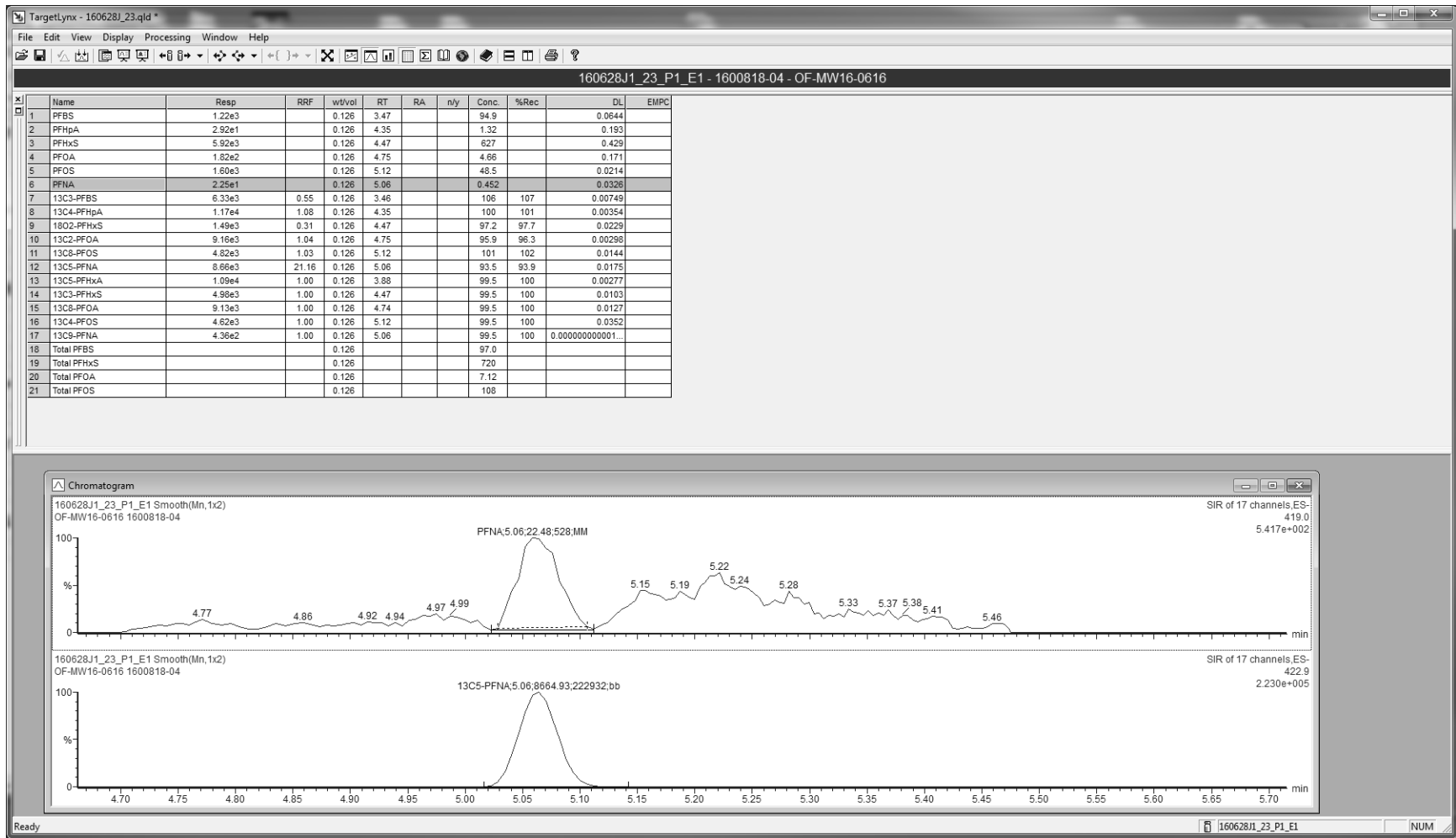


13C8-PFOS



13C5-PFNA





Dataset: U:\Q2.PRO\Results\160628J1\160628J_23.qld

Last Altered: Wednesday, June 29, 2016 17:05:16 Pacific Daylight Time

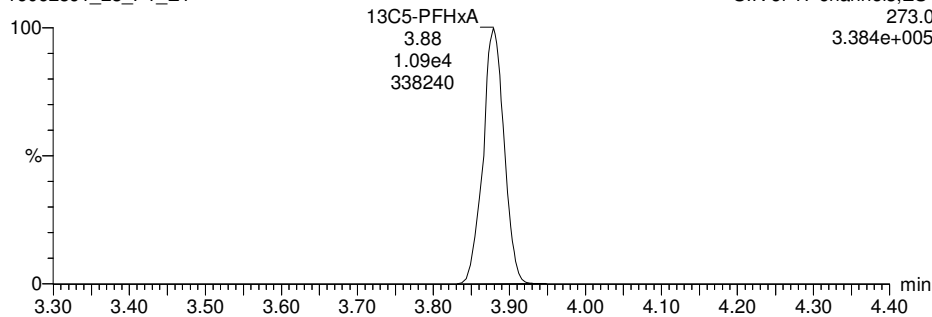
Printed: Wednesday, June 29, 2016 17:05:26 Pacific Daylight Time

Name: 160628J1_23.wiff, Date: 28-Jun-2016, Time: 20:25:26, ID: 1600818-04, Description: OF-MW16-0616

13C5-PFHxA

160628J1_23_P1_E1

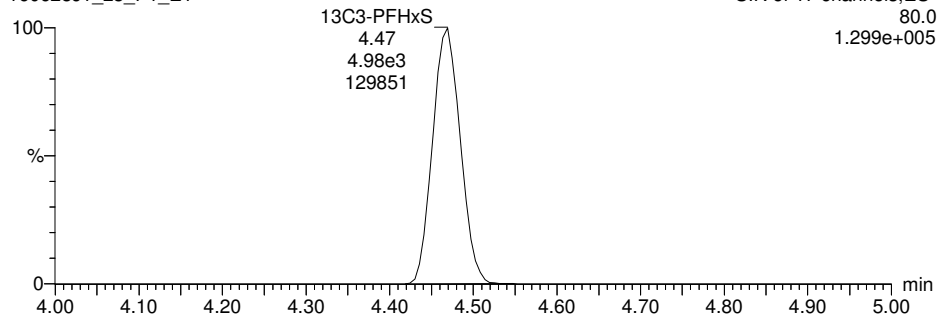
SIR of 17 channels,ES-
273.0
3.384e+005



13C3-PFHxS

160628J1_23_P1_E1

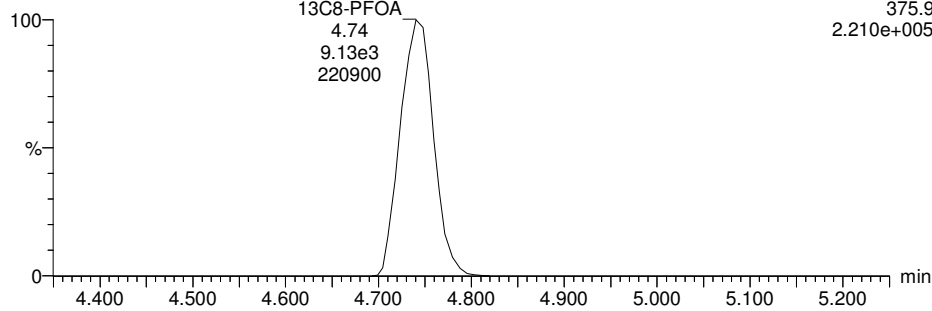
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1.299e+005



13C8-PFOA

160628J1_23_P1_E1

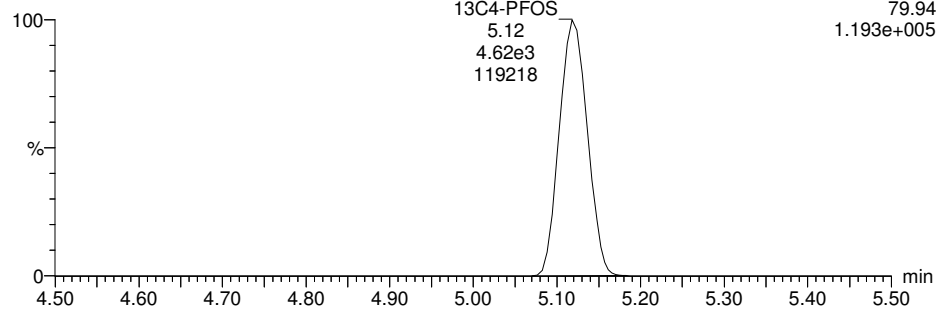
SIR of 17 channels,ES-
375.9
2.210e+005



13C4-PFOS

160628J1_23_P1_E1

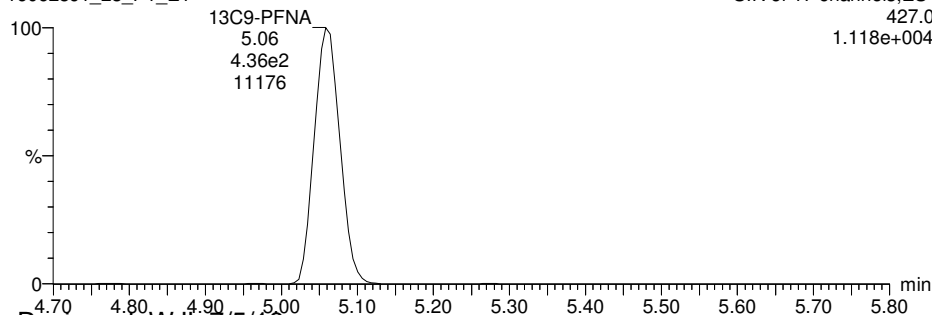
SIR of 17 channels,ES-
79.94
1.193e+005



13C9-PFNA

160628J1_23_P1_E1

SIR of 17 channels,ES-
427.0
1.118e+004



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_24.qld

Last Altered: Wednesday, June 29, 2016 17:09:47 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:10:27 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_24.wiff, Date: 28-Jun-2016, Time: 20:37:39, ID: 1600818-05, Description: OF-FB062016

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.44e3		0.125			
2	2 PFHpA	318.9		1.13e4		0.125			
3	3 PFHxS	79.91	5.84e0	1.62e3		0.125	4.47	0.560	
4	4 PFOA	368.9	9.09e0	9.80e3		0.125	4.75	0.219	
5	5 PFOS	79.92	3.62e0	4.89e3		0.125	5.12	0.108	
6	6 PFNA	419.0		8.95e3		0.125			
7	7 13C3-PFBS	79.95	6.44e3	1.11e4	0.546	0.125	3.46	107	106.5
8	8 13C4-PFHpA	321.9	1.13e4	1.11e4	1.075	0.125	4.34	95.0	94.9
9	9 18O2-PFHxS	102.9	1.62e3	5.18e3	0.307	0.125	4.46	102	102.1
10	10 13C2-PFOA	369.9	9.80e3	8.87e3	1.042	0.125	4.75	106	106.1
11	11 13C8-PFOS	79.93	4.89e3	4.80e3	1.026	0.125	5.12	99.4	99.3
12	12 13C5-PFNA	422.9	8.95e3	4.63e2	21.158	0.125	5.06	91.5	91.4
13	13 13C5-PFHxA	273.0	1.11e4	1.11e4	1.000	0.125	3.87	100	100.0
14	14 13C3-PFHxS	80.0	5.18e3	5.18e3	1.000	0.125	4.46	100	100.0
15	15 13C8-PFOA	375.9	8.87e3	8.87e3	1.000	0.125	4.74	100	100.0
16	16 13C4-PFOS	79.94	4.80e3	4.80e3	1.000	0.125	5.12	100	100.0
17	17 13C9-PFNA	427.0	4.63e2	4.63e2	1.000	0.125	5.06	100	100.0
18	18 Total PFBS	79.9		6.44e3		0.125			
19	19 Total PFHxS	79.91		1.62e3		0.125		0.560	
20	20 Total PFOA	368.9		9.80e3		0.125		0.219	
21	21 Total PFOS	79.92		4.89e3		0.125		0.295	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_24.qld

Last Altered: Wednesday, June 29, 2016 17:09:47 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:10:27 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_24.wiff, Date: 28-Jun-2016, Time: 20:37:39, ID: 1600818-05, Description: OF-FB062016

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	5.84e0	1.62e3	0.560

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	9.09e0	9.80e3	0.219

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.04	6.24e0	4.89e3	0.187
2	5 PFOS	79.92	5.12	3.62e0	4.89e3	0.108

Dataset: U:\Q2.PRO\Results\160628J1\160628J_24.qld

Last Altered: Wednesday, June 29, 2016 17:09:47 Pacific Daylight Time

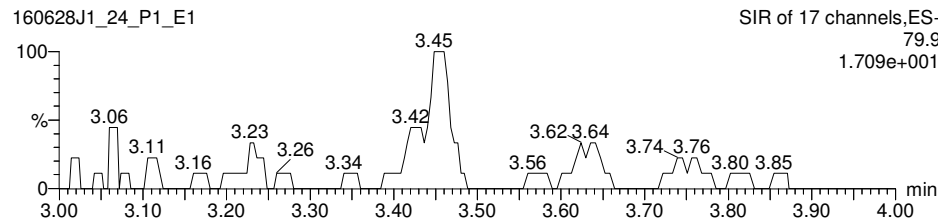
Printed: Wednesday, June 29, 2016 17:10:37 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

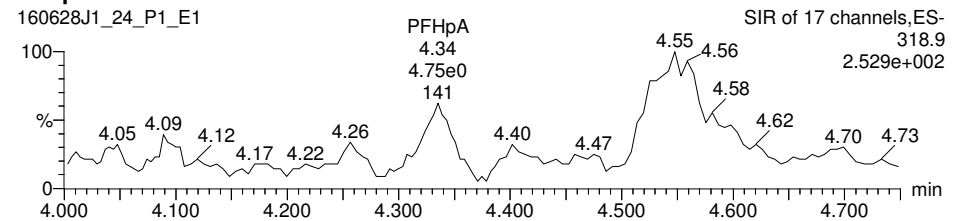
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_24.wiff, Date: 28-Jun-2016, Time: 20:37:39, ID: 1600818-05, Description: OF-FB062016

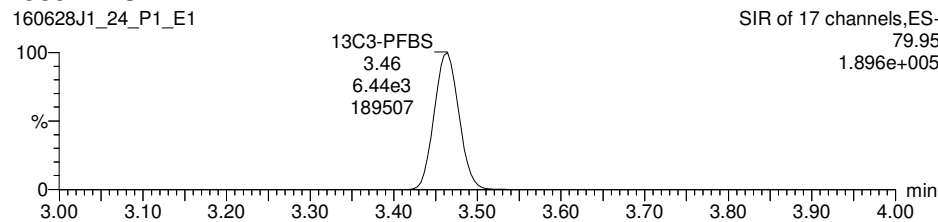
PFBS



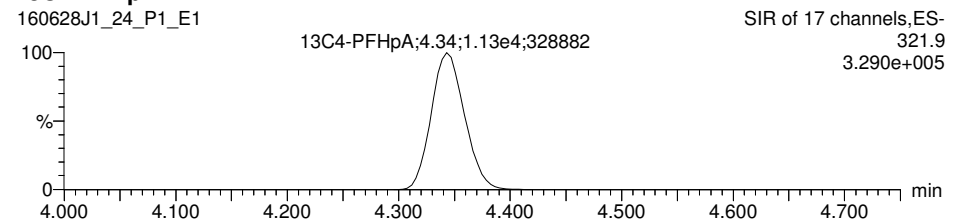
PFHpA



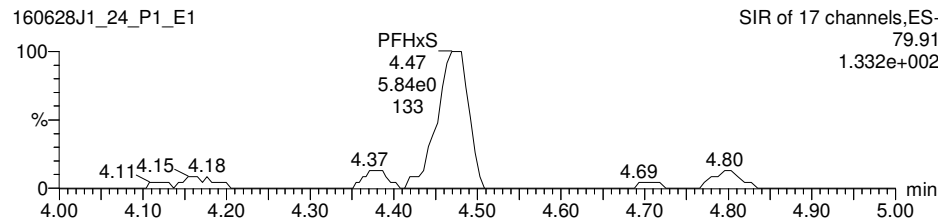
13C3-PFBS



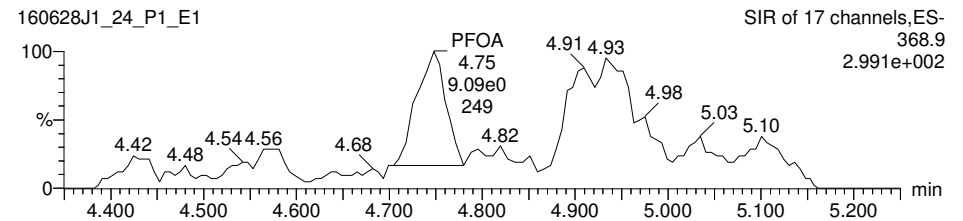
13C4-PFHpA



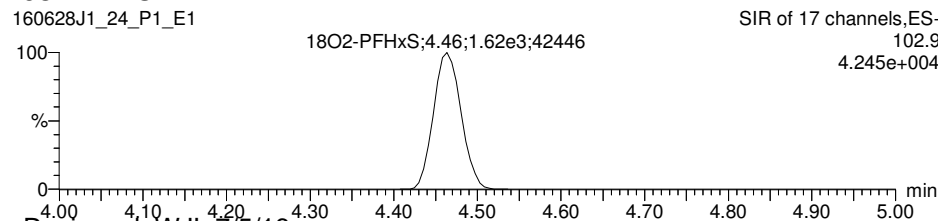
PFHxS



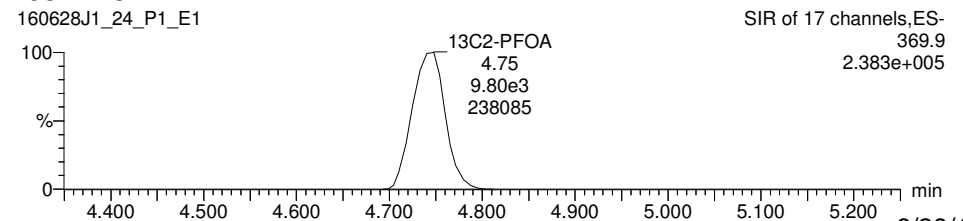
PFOA



18O2-PFHxS

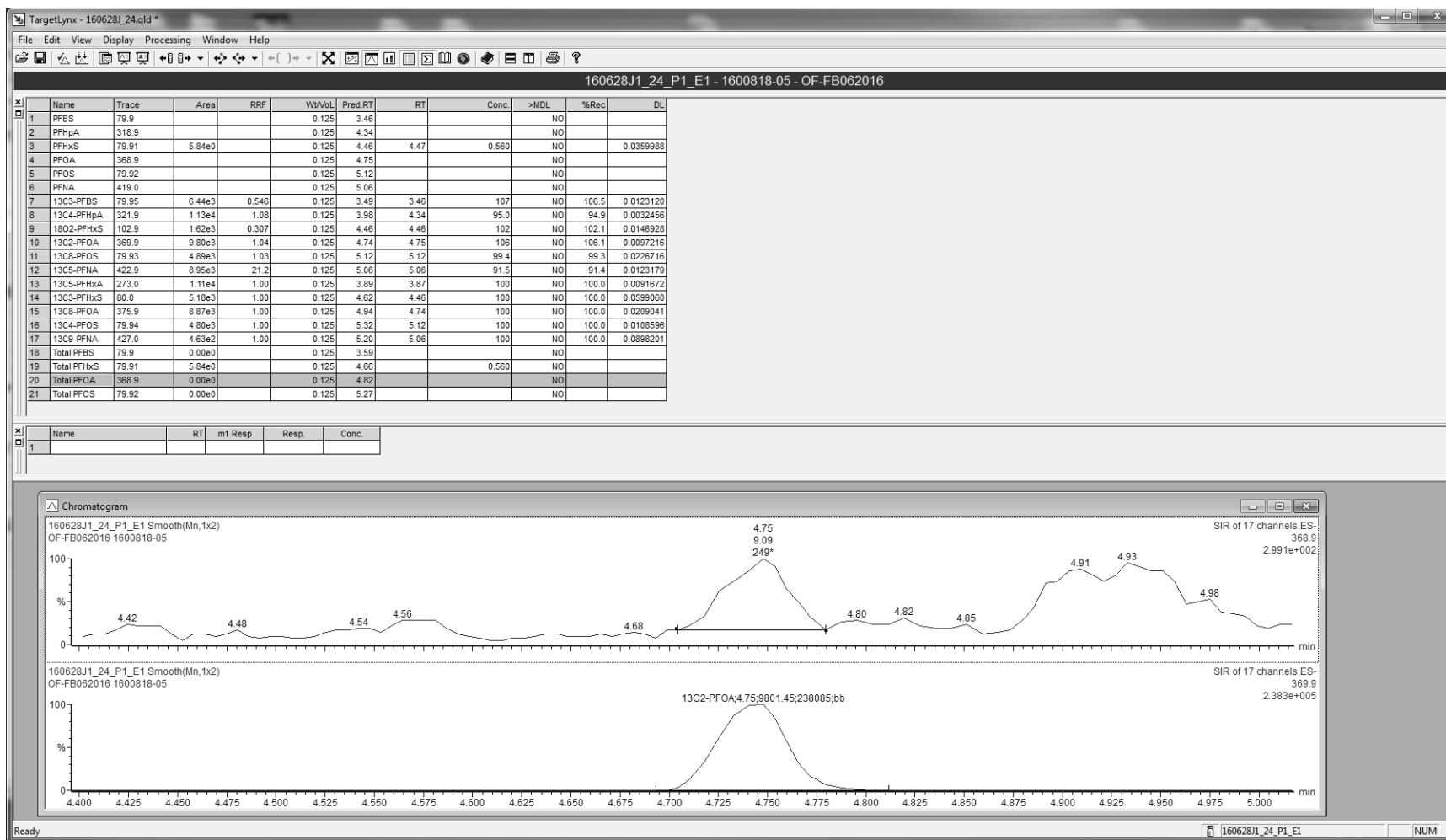


13C2-PFOA



Reviewed: WJL 7/5/16

pw 6/29/16

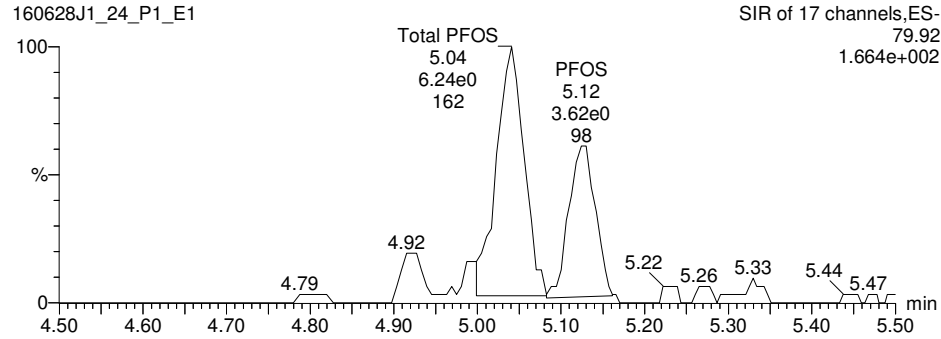


Dataset: U:\Q2.PRO\Results\160628J1\160628J_24.qld

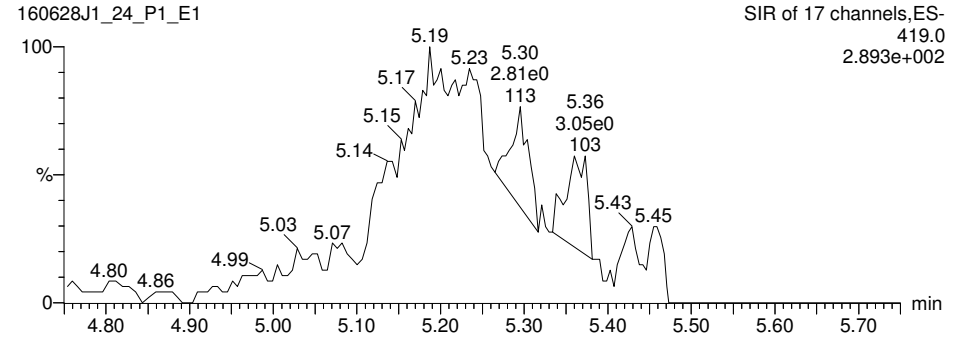
Last Altered: Wednesday, June 29, 2016 17:09:47 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 17:10:37 Pacific Daylight Time

Name: 160628J1_24.wiff, Date: 28-Jun-2016, Time: 20:37:39, ID: 1600818-05, Description: OF-FB062016

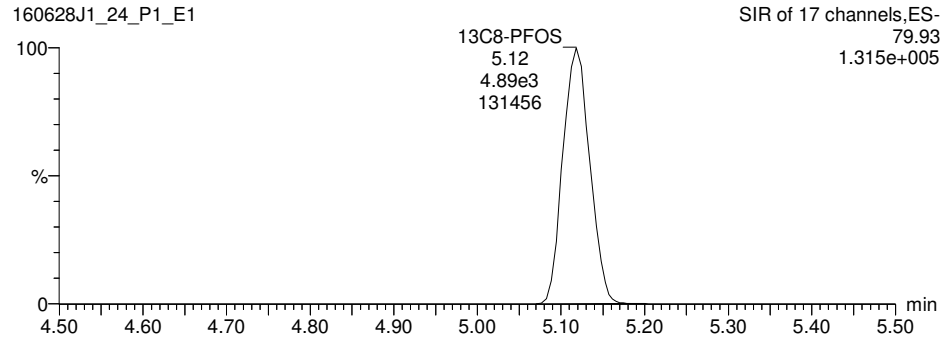
PFOS



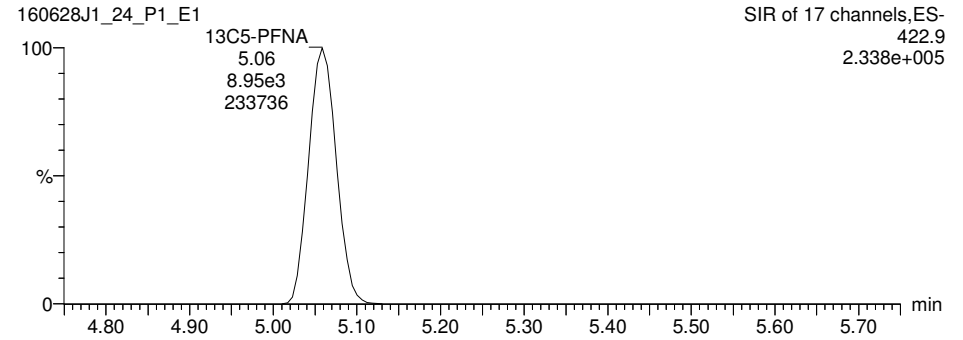
PFNA

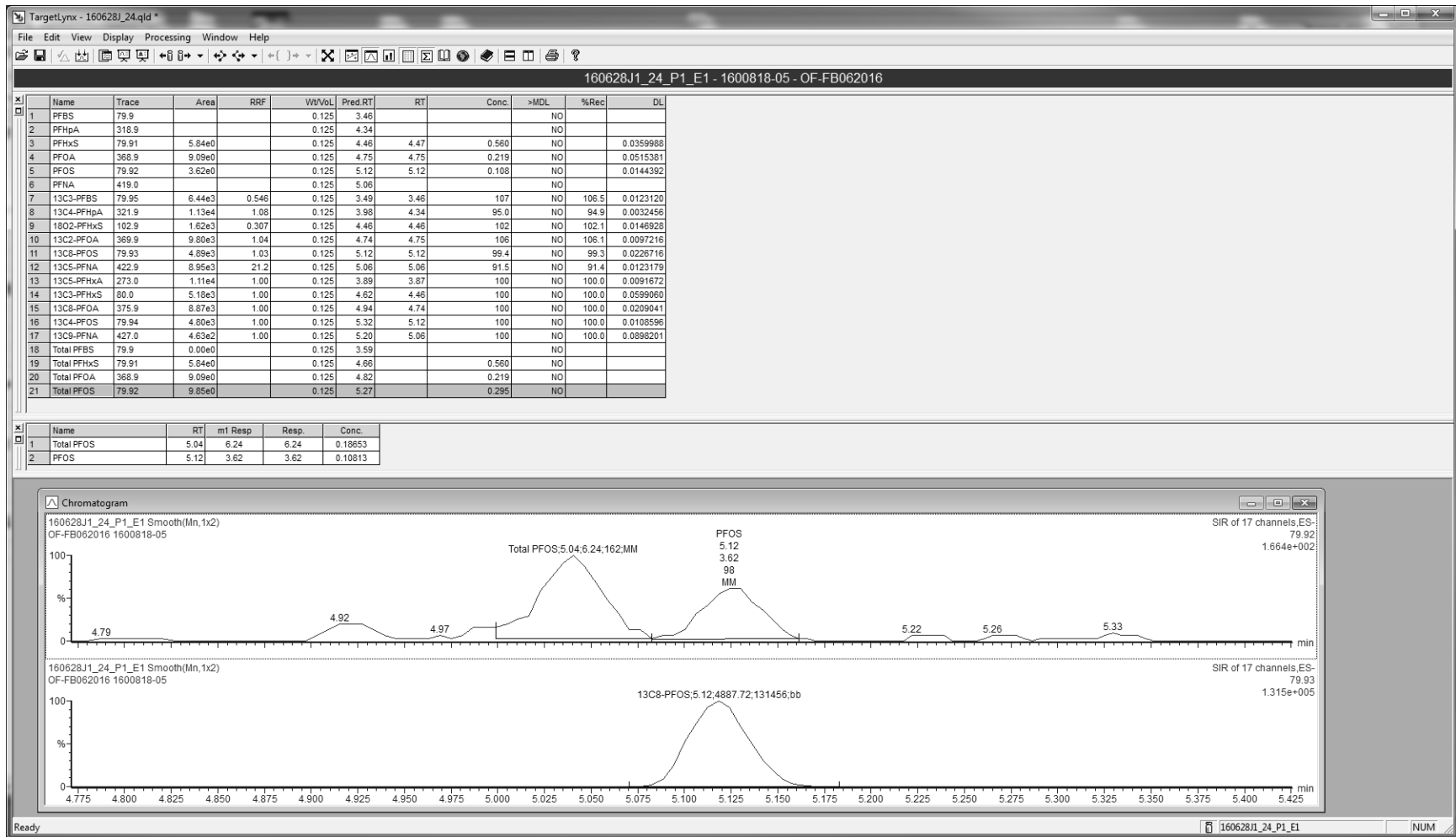


13C8-PFOS



13C5-PFNA





Dataset: U:\Q2.PRO\Results\160628J1\160628J_24.qld

Last Altered: Wednesday, June 29, 2016 17:09:47 Pacific Daylight Time

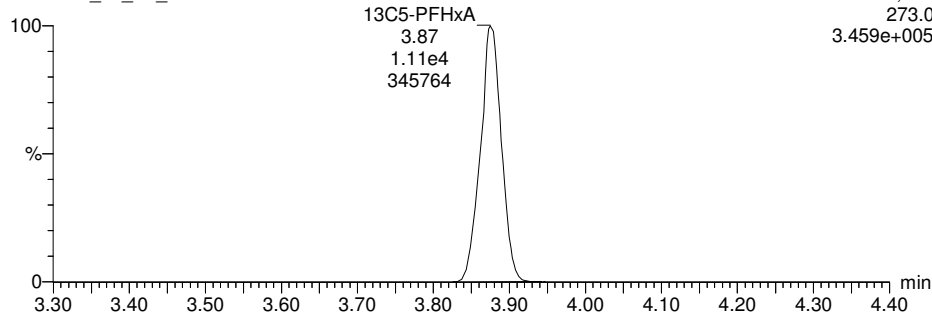
Printed: Wednesday, June 29, 2016 17:10:37 Pacific Daylight Time

Name: 160628J1_24.wiff, Date: 28-Jun-2016, Time: 20:37:39, ID: 1600818-05, Description: OF-FB062016

13C5-PFHxA

160628J1_24_P1_E1

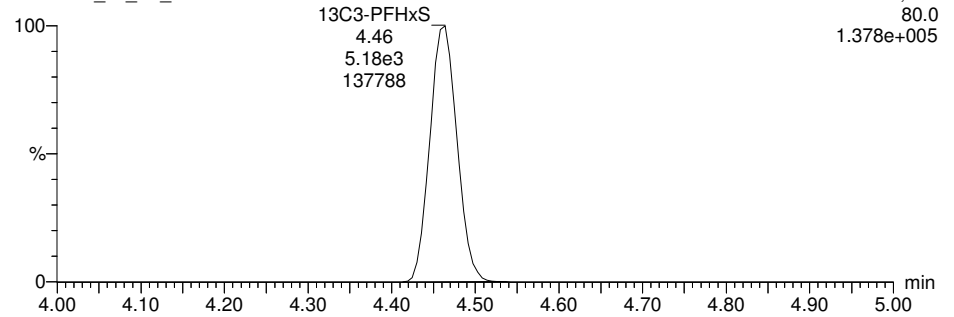
SIR of 17 channels,ES-
273.0
3.459e+005



13C3-PFHxS

160628J1_24_P1_E1

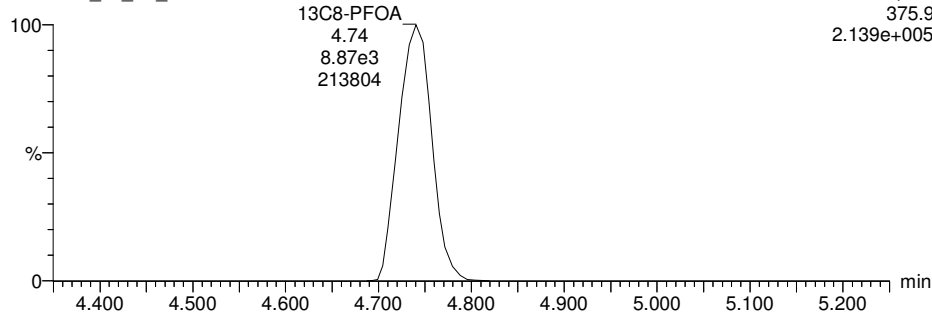
SIR of 17 channels,ES-
80.0
1.378e+005



13C8-PFOA

160628J1_24_P1_E1

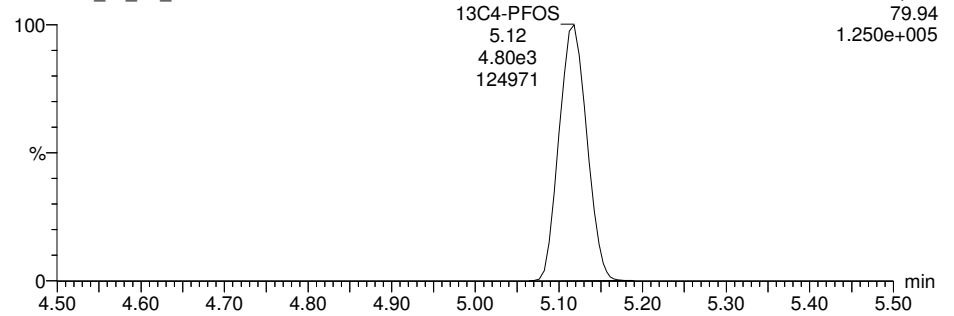
SIR of 17 channels,ES-
375.9
2.139e+005



13C4-PFOS

160628J1_24_P1_E1

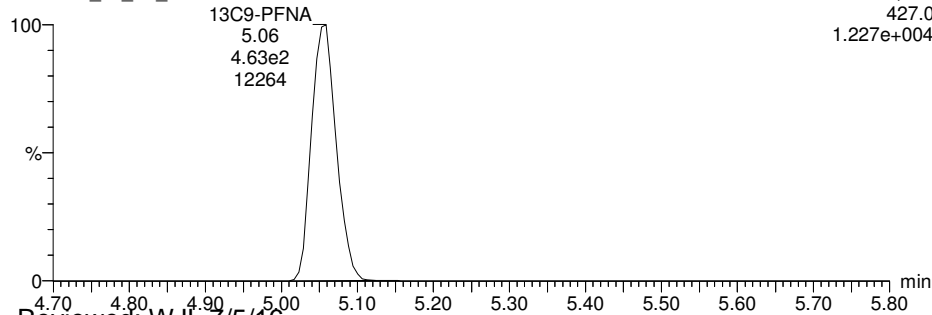
SIR of 17 channels,ES-
79.94
1.250e+005



13C9-PFNA

160628J1_24_P1_E1

SIR of 17 channels,ES-
427.0
1.227e+004



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628L_25.qld

Last Altered: Wednesday, June 29, 2016 17:13:08 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:13:36 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_25.wiff, Date: 28-Jun-2016, Time: 20:49:51, ID: 1600818-06, Description: OF-EB062016

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.23e3		0.127			
2	2 PFHpA	318.9		1.13e4		0.127			
3	3 PFHxS	79.91	4.87e0	1.50e3		0.127	4.46	0.497	
4	4 PFOA	368.9	1.48e1	8.75e3		0.127	4.73	0.393	
5	5 PFOS	79.92		4.52e3		0.127			
6	6 PFNA	419.0		9.00e3		0.127			
7	7 13C3-PFBS	79.95	6.23e3	1.10e4	0.546	0.127	3.46	102	103.8
8	8 13C4-PFHpA	321.9	1.13e4	1.10e4	1.075	0.127	4.34	93.7	95.2
9	9 18O2-PFHxS	102.9	1.50e3	5.23e3	0.307	0.127	4.46	91.9	93.4
10	10 13C2-PFOA	369.9	8.75e3	8.58e3	1.042	0.127	4.73	96.4	98.0
11	11 13C8-PFOS	79.93	4.52e3	4.98e3	1.026	0.127	5.12	87.1	88.5
12	12 13C5-PFNA	422.9	9.00e3	4.55e2	21.158	0.127	5.06	92.1	93.5
13	13 13C5-PFHxA	273.0	1.10e4	1.10e4	1.000	0.127	3.87	98.4	100.0
14	14 13C3-PFHxS	80.0	5.23e3	5.23e3	1.000	0.127	4.46	98.4	100.0
15	15 13C8-PFOA	375.9	8.58e3	8.58e3	1.000	0.127	4.73	98.4	100.0
16	16 13C4-PFOS	79.94	4.98e3	4.98e3	1.000	0.127	5.12	98.4	100.0
17	17 13C9-PFNA	427.0	4.55e2	4.55e2	1.000	0.127	5.06	98.4	100.0
18	18 Total PFBS	79.9		6.23e3		0.127			
19	19 Total PFHxS	79.91		1.50e3		0.127		0.497	
20	20 Total PFOA	368.9		8.75e3		0.127		0.393	
21	21 Total PFOS	79.92		4.52e3		0.127		0.192	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_25.qld

Last Altered: Wednesday, June 29, 2016 17:13:08 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:13:36 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_25.wiff, Date: 28-Jun-2016, Time: 20:49:51, ID: 1600818-06, Description: OF-EB062016

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.46	4.87e0	1.50e3	0.497

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.73	1.48e1	8.75e3	0.393

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.04	6.03e0	4.52e3	0.192

Dataset: U:\Q2.PRO\Results\160628J1\160628J_25.qld

Last Altered: Wednesday, June 29, 2016 17:13:08 Pacific Daylight Time

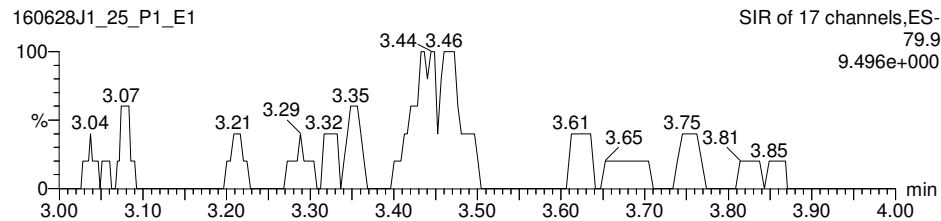
Printed: Wednesday, June 29, 2016 17:13:23 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

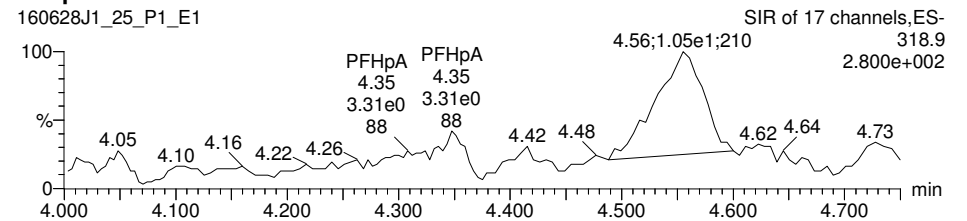
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_25.wiff, Date: 28-Jun-2016, Time: 20:49:51, ID: 1600818-06, Description: OF-EB062016

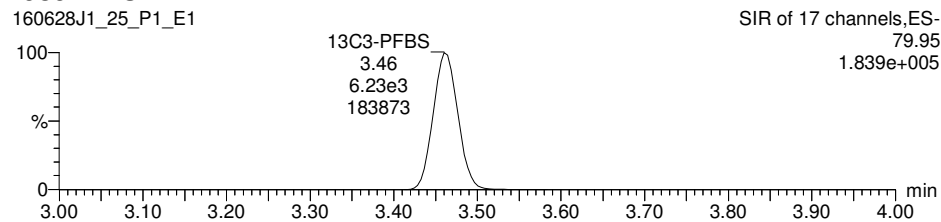
PFBS



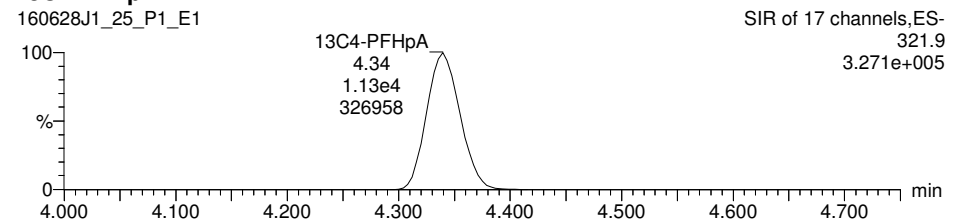
PFHpA



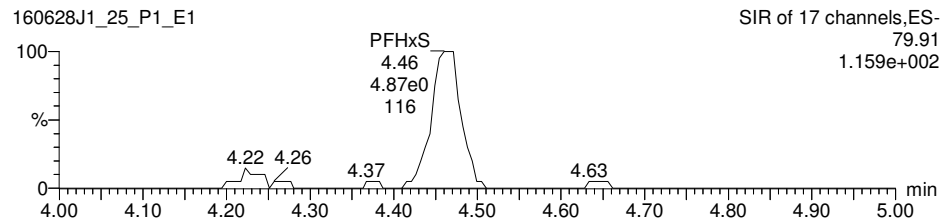
13C3-PFBS



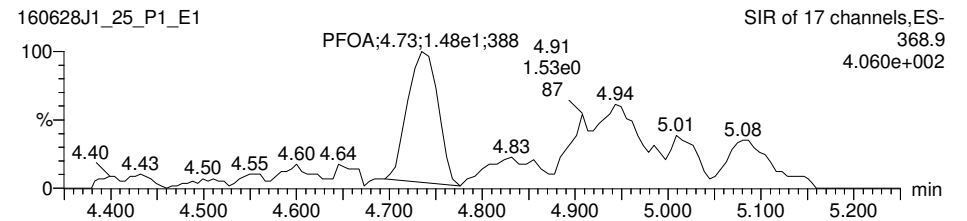
13C4-PFHpA



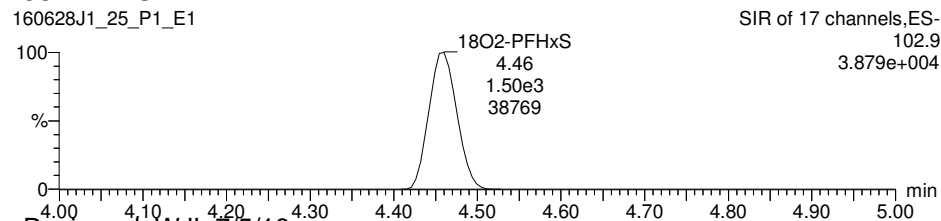
PFHxS



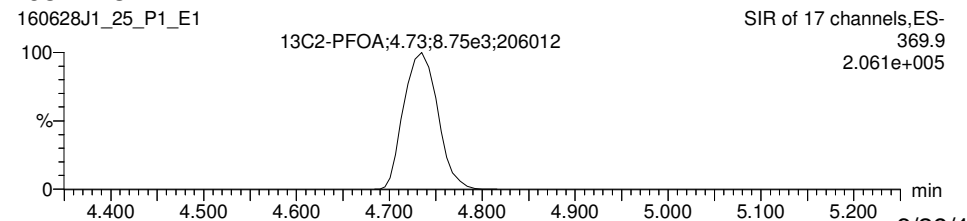
PFOA



18O2-PFHxS

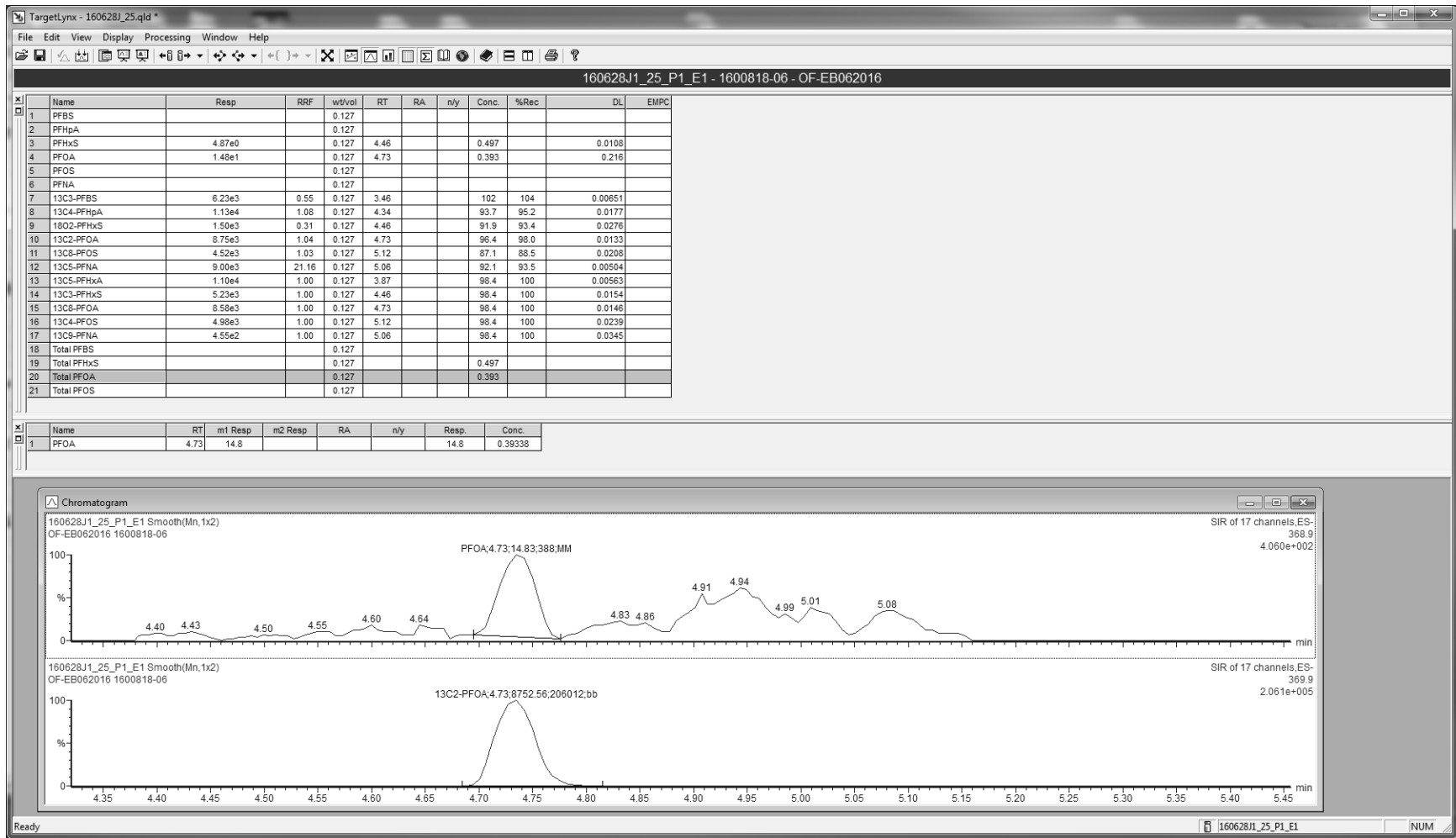


13C2-PFOA



Reviewed: WJL 7/5/16

pw 6/29/16



Dataset: U:\Q2.PRO\Results\160628J1\160628J_25.qld

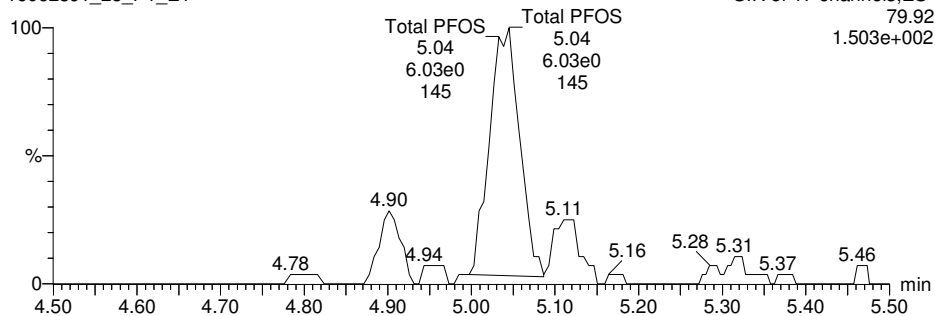
Last Altered: Wednesday, June 29, 2016 17:13:08 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:13:23 Pacific Daylight Time

Name: 160628J1_25.wiff, Date: 28-Jun-2016, Time: 20:49:51, ID: 1600818-06, Description: OF-EB062016

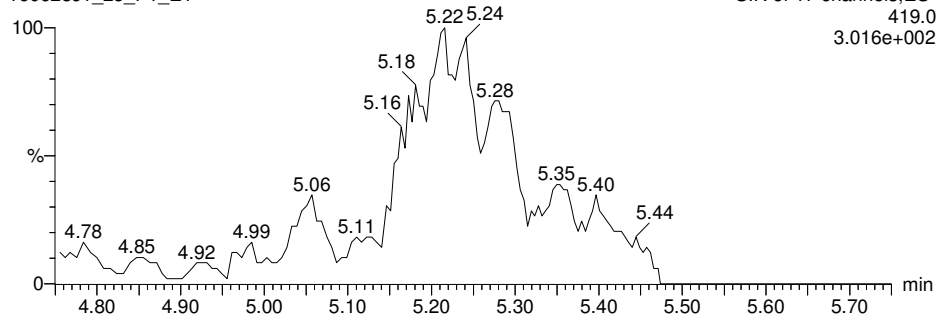
PFOS

160628J1_25_P1_E1



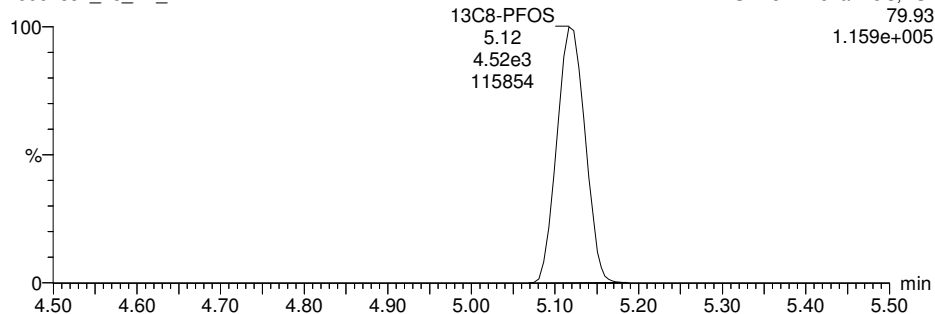
PFNA

160628J1_25_P1_E1



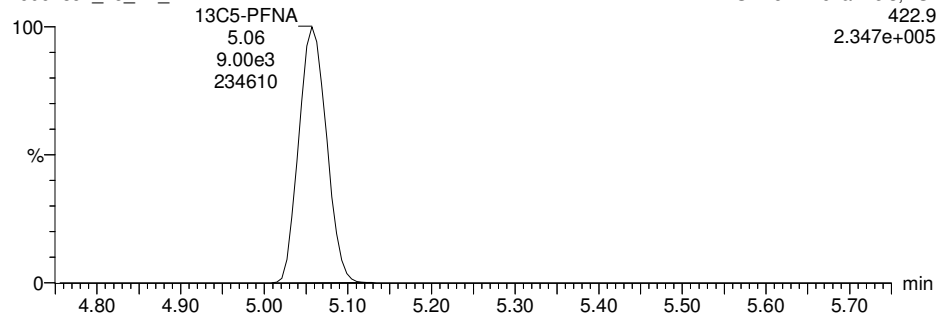
13C8-PFOS

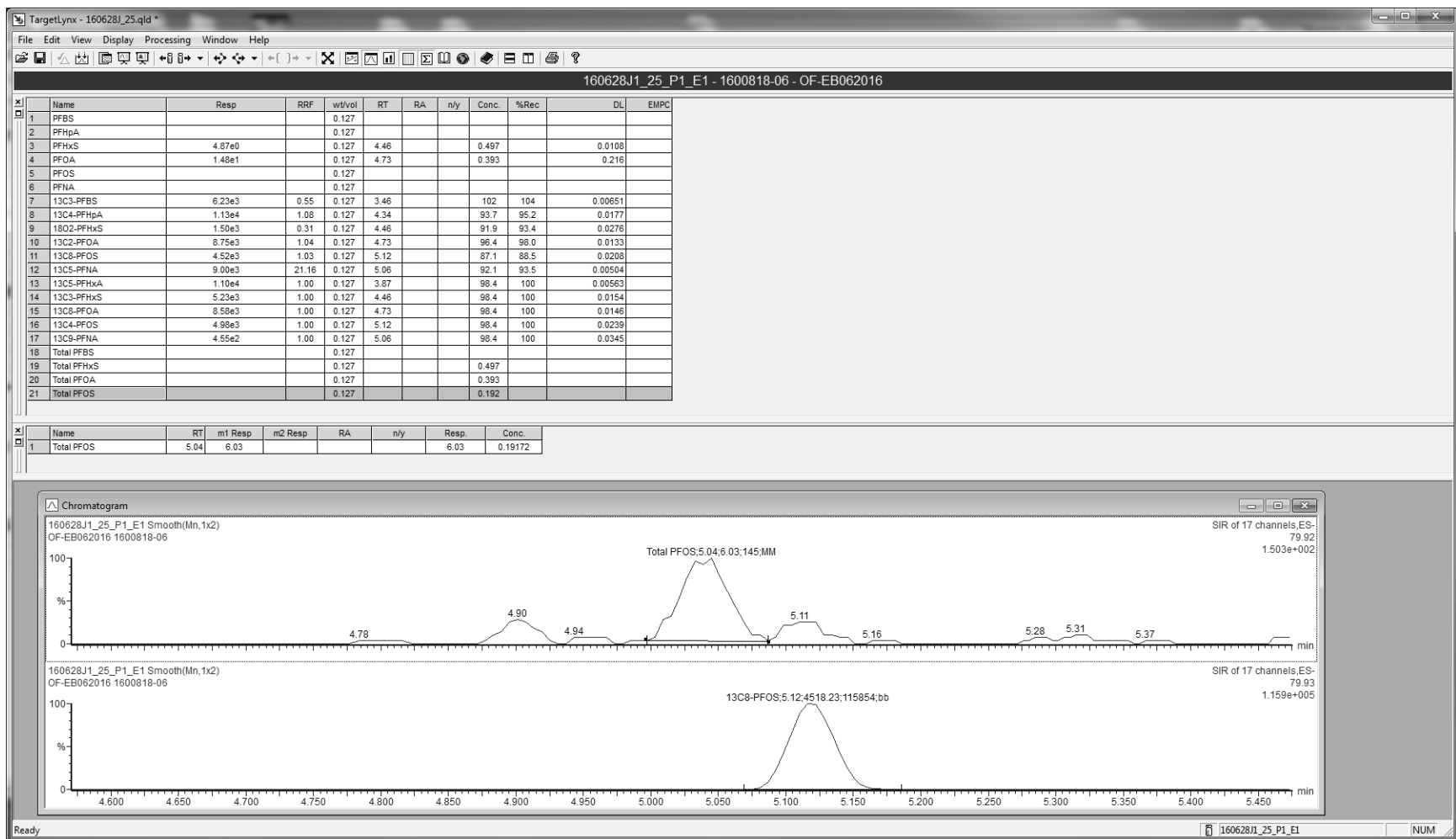
160628J1_25_P1_E1



13C5-PFNA

160628J1_25_P1_E1





Dataset: U:\Q2.PRO\Results\160628J1\160628J_25.qld

Last Altered: Wednesday, June 29, 2016 17:13:08 Pacific Daylight Time

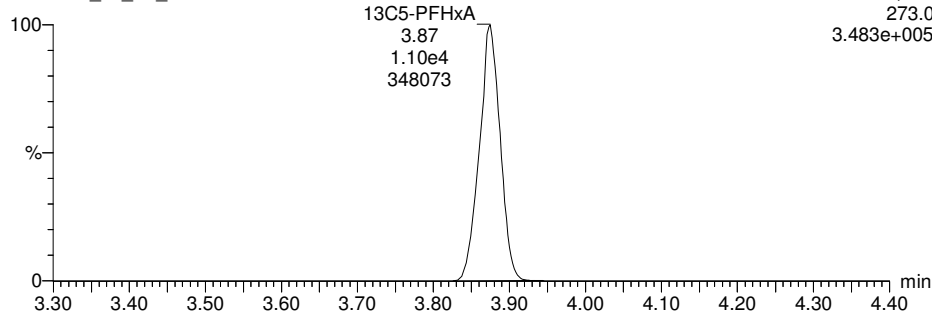
Printed: Wednesday, June 29, 2016 17:13:23 Pacific Daylight Time

Name: 160628J1_25.wiff, Date: 28-Jun-2016, Time: 20:49:51, ID: 1600818-06, Description: OF-EB062016

13C5-PFHxA

160628J1_25_P1_E1

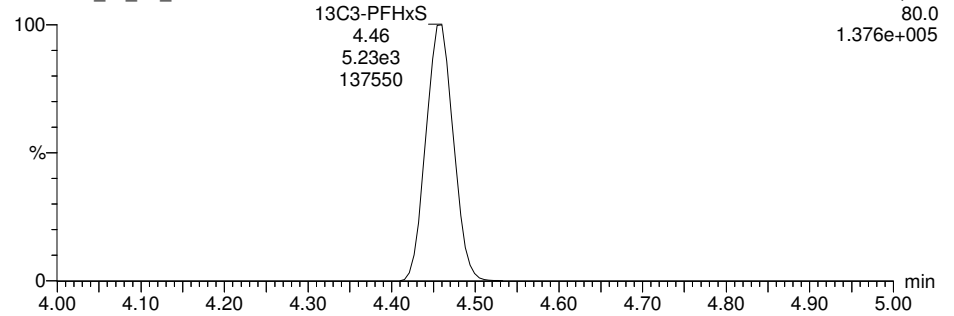
SIR of 17 channels,ES-
273.0
3.483e+005



13C3-PFHxS

160628J1_25_P1_E1

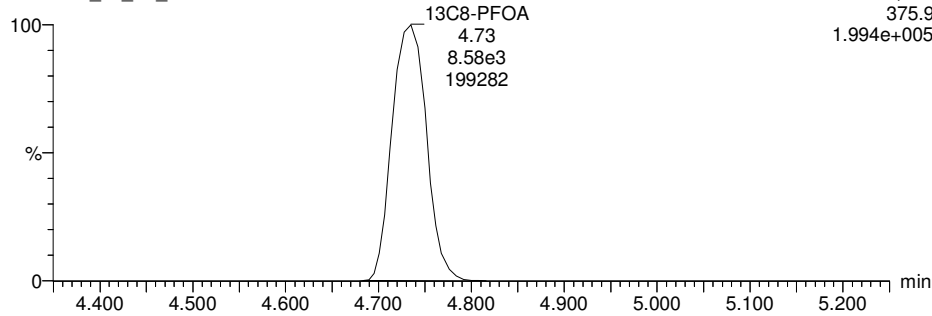
SIR of 17 channels,ES-
80.0
1.376e+005



13C8-PFOA

160628J1_25_P1_E1

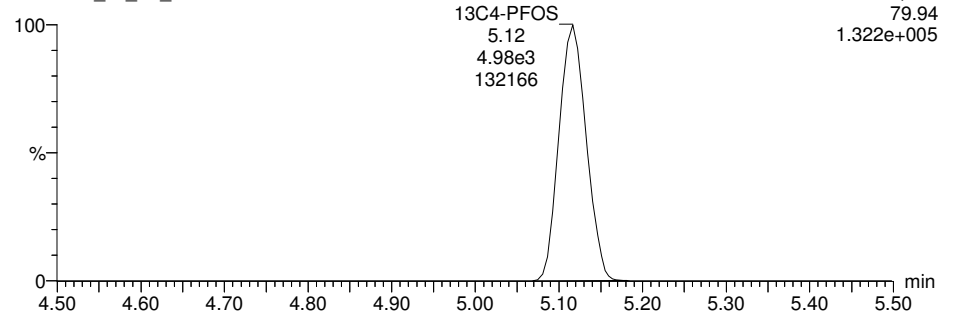
SIR of 17 channels,ES-
375.9
1.994e+005



13C4-PFOS

160628J1_25_P1_E1

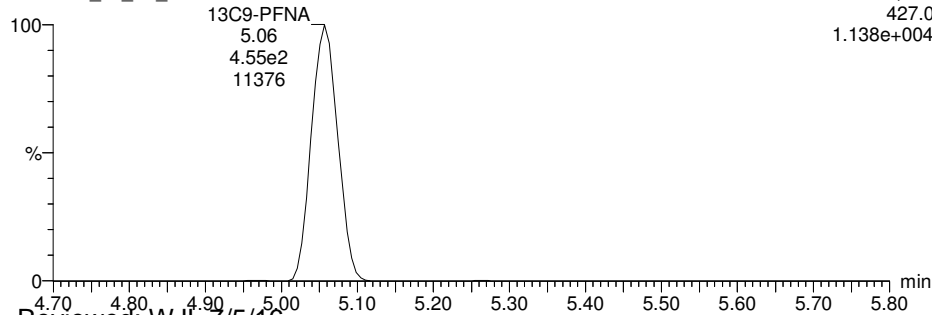
SIR of 17 channels,ES-
79.94
1.322e+005



13C9-PFNA

160628J1_25_P1_E1

SIR of 17 channels,ES-
427.0
1.138e+004



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_26.qld

Last Altered: Wednesday, June 29, 2016 17:28:04 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:28:44 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_26.wiff, Date: 28-Jun-2016, Time: 21:02:04, ID: 1600818-07, Description: OF-MW15-0616

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.16e0	6.35e3		0.119	3.46	0.0952	
2	2 PFHpA	318.9	2.28e2	1.18e4		0.119	4.35	11.0	
3	3 PFHxS	79.91	6.15e0	1.64e3		0.119	4.47	0.617	
4	4 PFOA	368.9	5.55e3	9.65e3		0.119	4.74	146	
5	5 PFOS	79.92	7.30e0	5.15e3		0.119	5.12	0.218	
6	6 PFNA	419.0		9.97e3		0.119			
7	7 13C3-PFBS	79.95	6.35e3	1.09e4	0.546	0.119	3.47	112	106.4
8	8 13C4-PFHpA	321.9	1.18e4	1.09e4	1.075	0.119	4.34	106	100.1
9	9 18O2-PFHxS	102.9	1.64e3	5.19e3	0.307	0.119	4.47	108	102.7
10	10 13C2-PFOA	369.9	9.65e3	9.33e3	1.042	0.119	4.74	105	99.4
11	11 13C8-PFOS	79.93	5.15e3	5.46e3	1.026	0.119	5.12	97.0	92.0
12	12 13C5-PFNA	422.9	9.97e3	4.84e2	21.158	0.119	5.06	103	97.4
13	13 13C5-PFHxA	273.0	1.09e4	1.09e4	1.000	0.119	3.88	105	100.0
14	14 13C3-PFHxS	80.0	5.19e3	5.19e3	1.000	0.119	4.46	105	100.0
15	15 13C8-PFOA	375.9	9.33e3	9.33e3	1.000	0.119	4.73	105	100.0
16	16 13C4-PFOS	79.94	5.46e3	5.46e3	1.000	0.119	5.12	105	100.0
17	17 13C9-PFNA	427.0	4.84e2	4.84e2	1.000	0.119	5.06	105	100.0
18	18 Total PFBS	79.9		6.35e3		0.119		0.0952	
19	19 Total PFHxS	79.91		1.64e3		0.119		0.617	
20	20 Total PFOA	368.9		9.65e3		0.119		185	
21	21 Total PFOS	79.92		5.15e3		0.119		0.508	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_26.qld

Last Altered: Wednesday, June 29, 2016 17:28:04 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:28:44 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_26.wiff, Date: 28-Jun-2016, Time: 21:02:04, ID: 1600818-07, Description: OF-MW15-0616

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.46	1.16e0	6.35e3	0.0952

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	6.15e0	1.64e3	0.617

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	5.55e3	9.65e3	146
2	20 Total PFOA	368.9	4.64	1.50e3	9.65e3	38.8
3	20 Total PFOA	368.9	4.53	2.18e1	9.65e3	0.563

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	7.30e0	5.15e3	0.218
2	21 Total PFOS	79.92	5.03	9.71e0	5.15e3	0.290

Dataset: U:\Q2.PRO\Results\160628J1\160628J_26.qld

Last Altered: Wednesday, June 29, 2016 17:28:04 Pacific Daylight Time

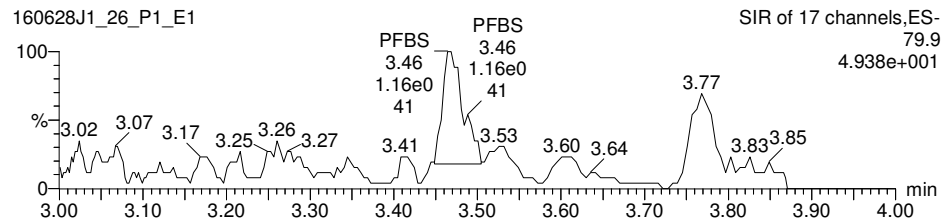
Printed: Wednesday, June 29, 2016 17:28:55 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

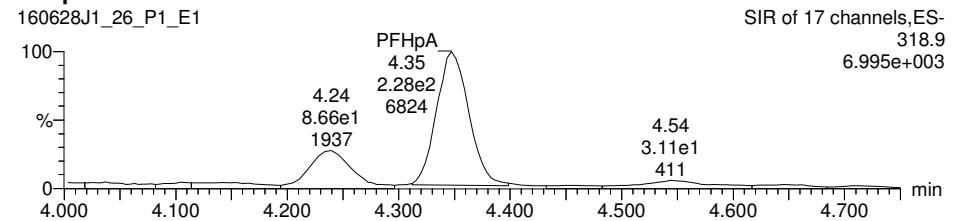
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_26.wiff, Date: 28-Jun-2016, Time: 21:02:04, ID: 1600818-07, Description: OF-MW15-0616

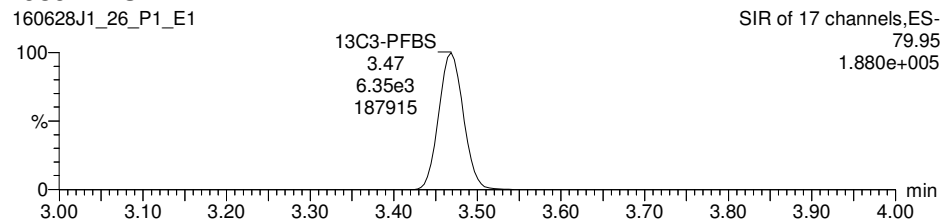
PFBS



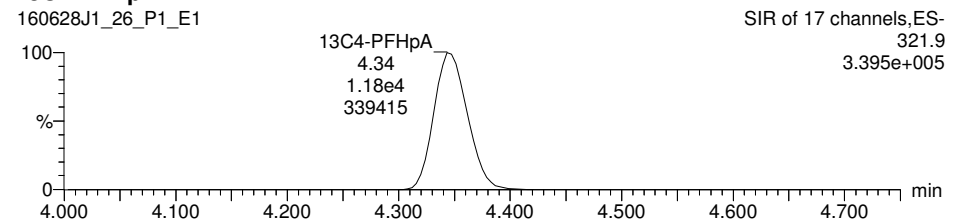
PFHpA



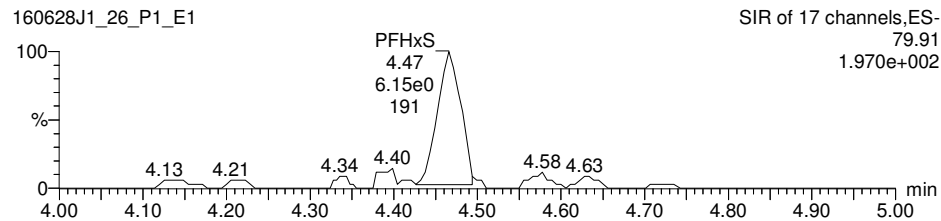
13C3-PFBS



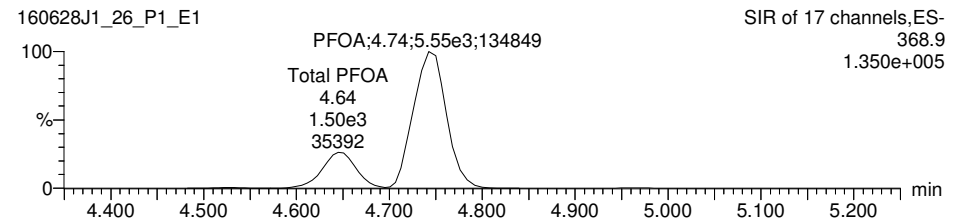
13C4-PFHpA



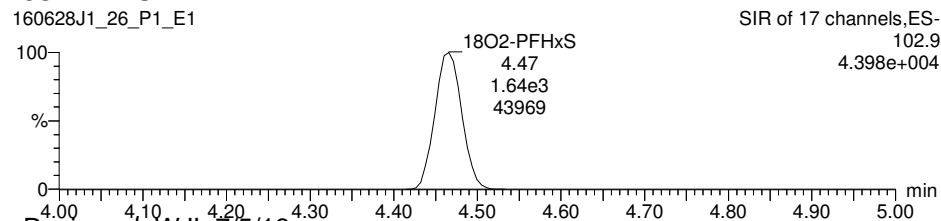
PFHxS



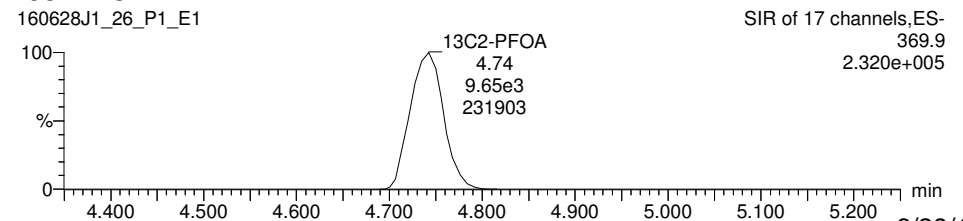
PFOA



18O2-PFHxS

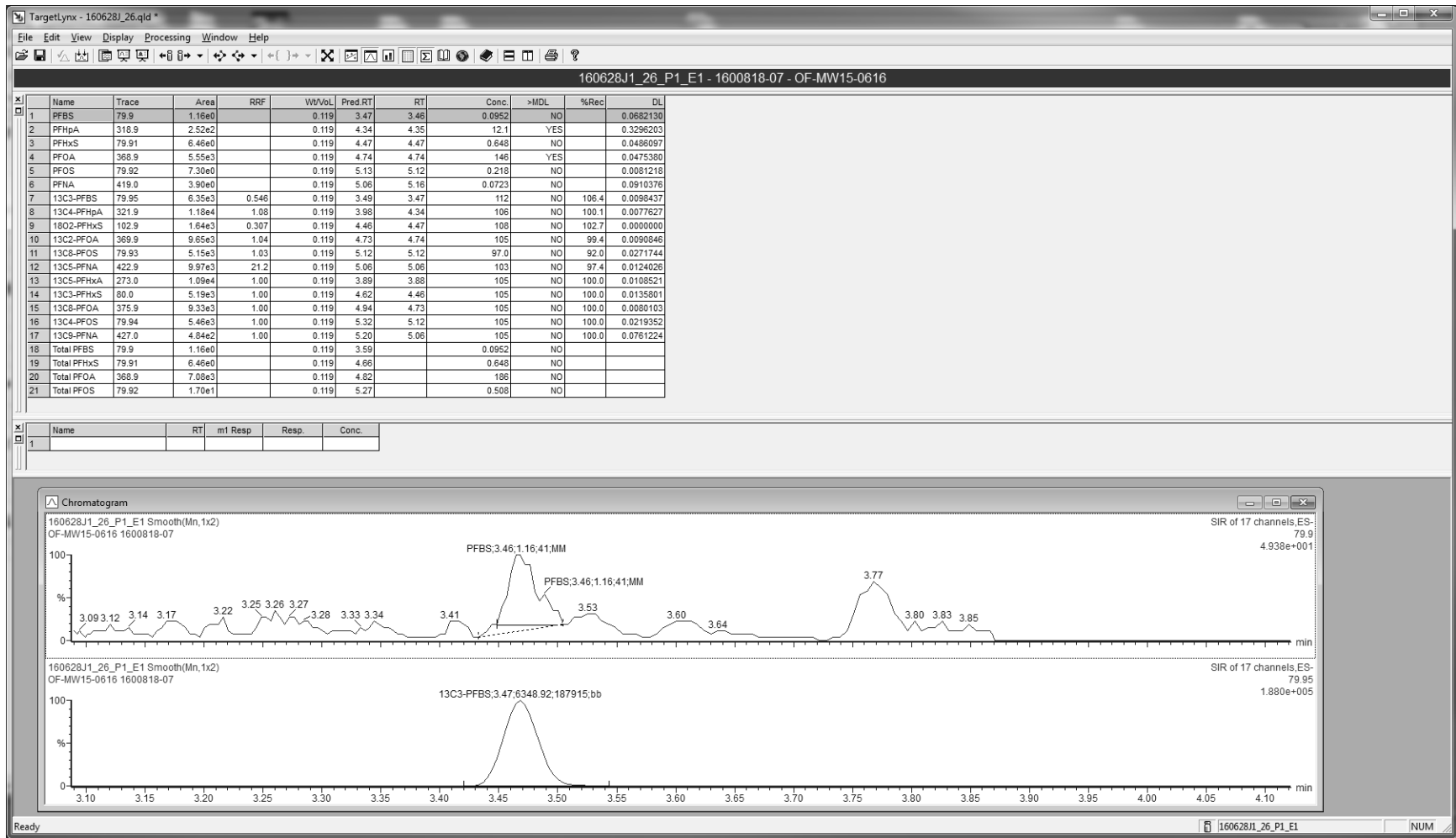


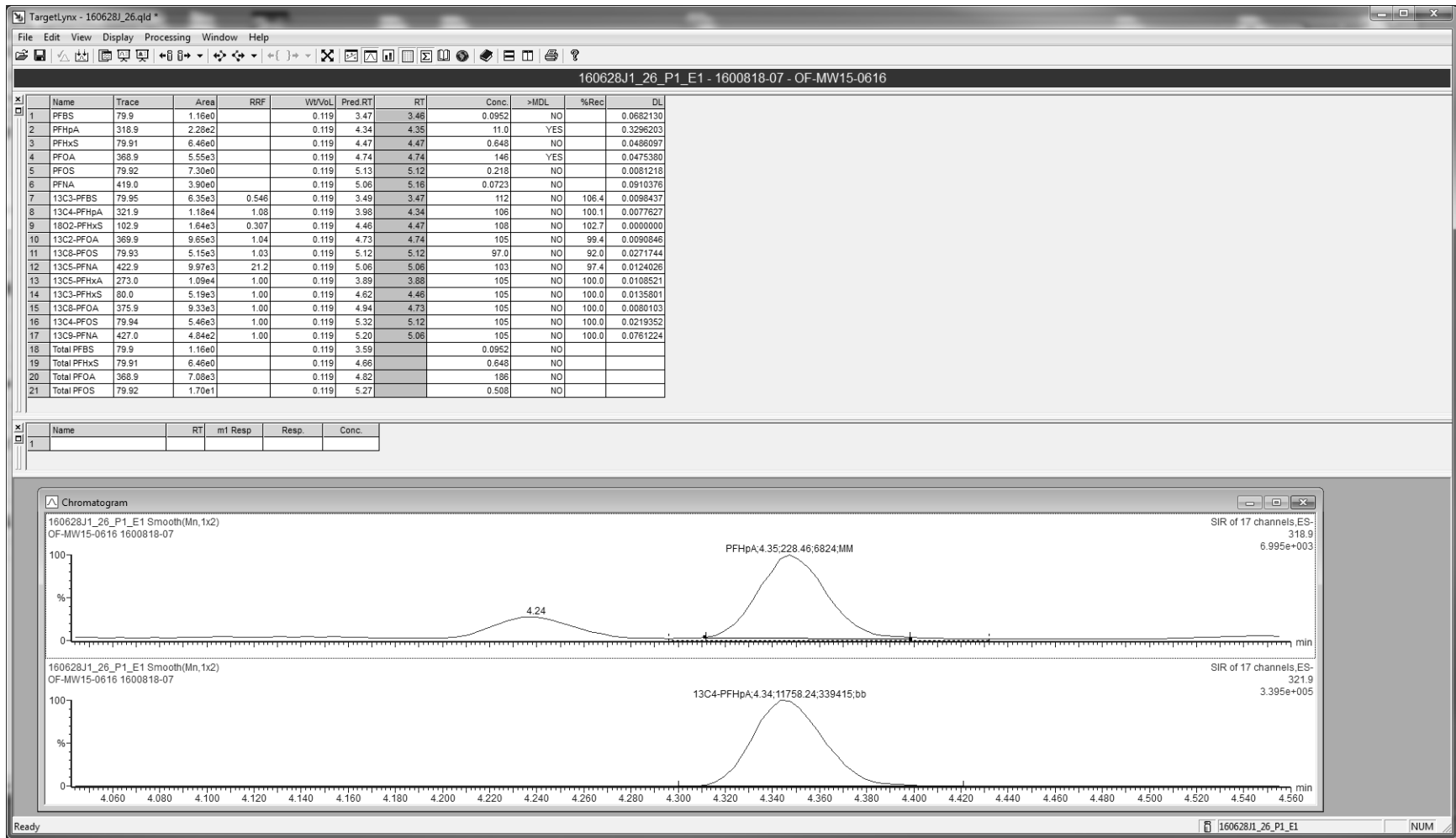
13C2-PFOA

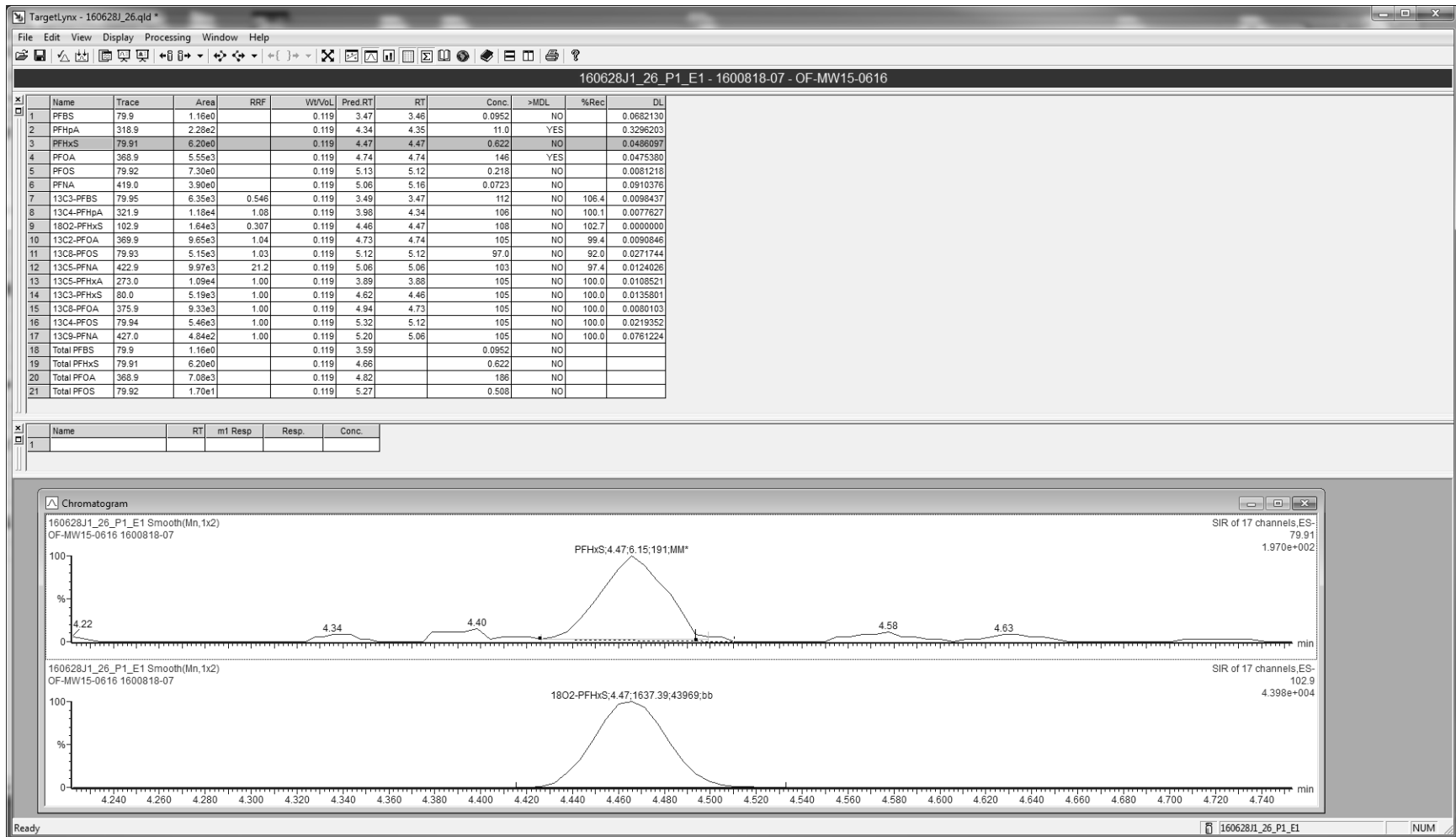


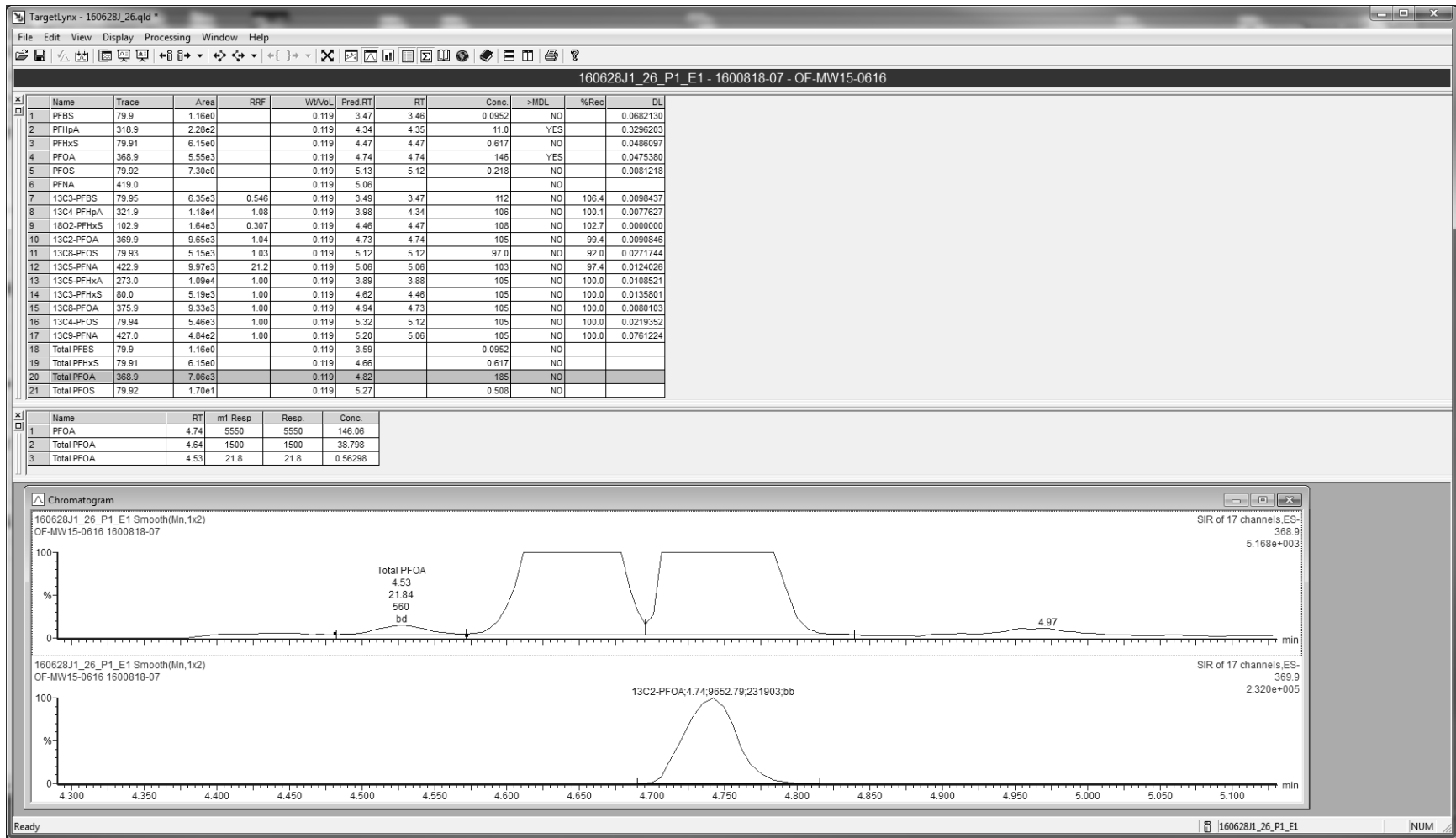
Reviewed: WJL 7/5/16

pw 6/29/16







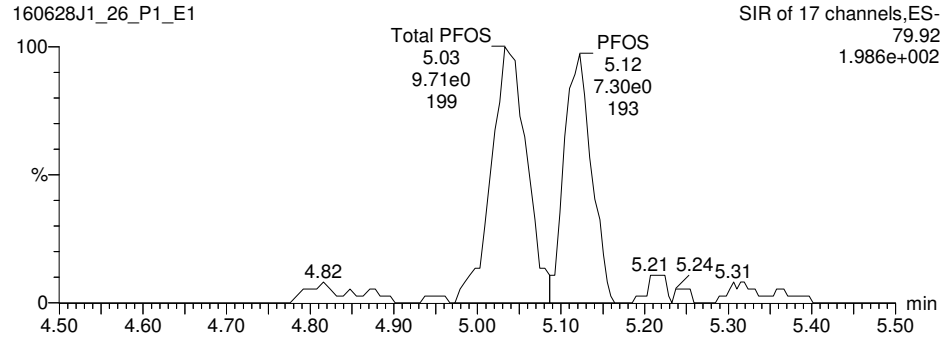


Dataset: U:\Q2.PRO\Results\160628J1\160628J_26.qld

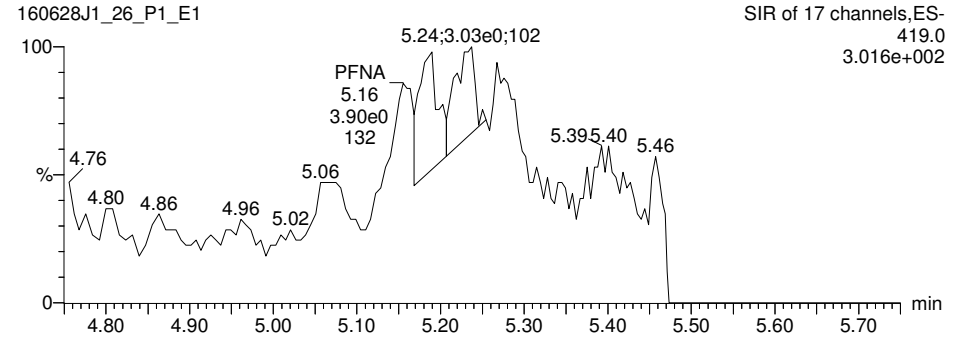
Last Altered: Wednesday, June 29, 2016 17:28:04 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 17:28:55 Pacific Daylight Time

Name: 160628J1_26.wiff, Date: 28-Jun-2016, Time: 21:02:04, ID: 1600818-07, Description: OF-MW15-0616

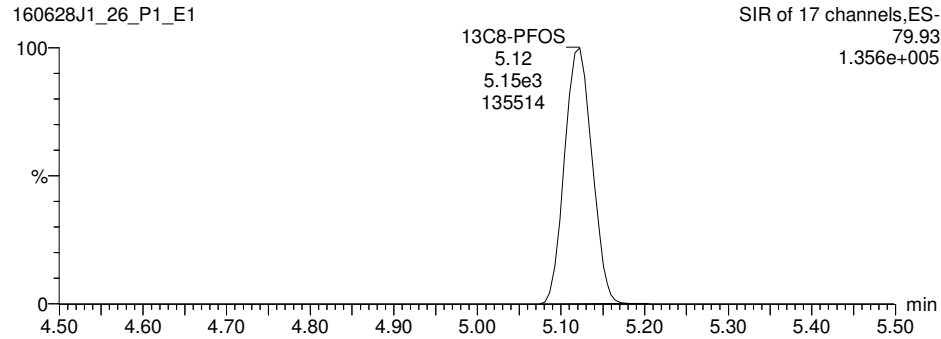
PFOS



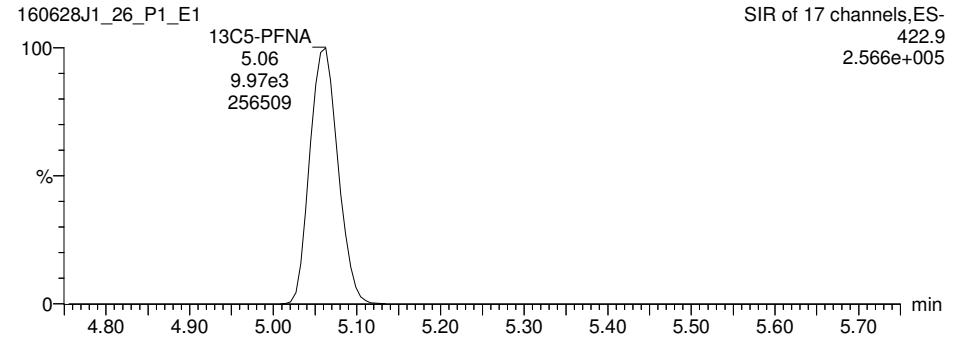
PFNA



13C8-PFOS



13C5-PFNA



Dataset: U:\Q2.PRO\Results\160628J1\160628J_26.qld

Last Altered: Wednesday, June 29, 2016 17:28:04 Pacific Daylight Time

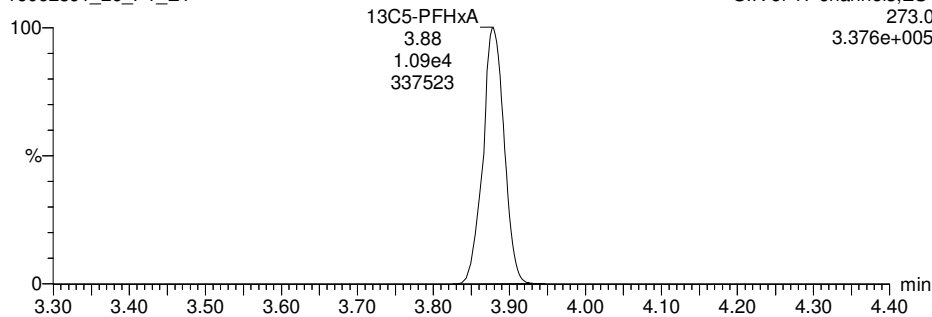
Printed: Wednesday, June 29, 2016 17:28:55 Pacific Daylight Time

Name: 160628J1_26.wiff, Date: 28-Jun-2016, Time: 21:02:04, ID: 1600818-07, Description: OF-MW15-0616

13C5-PFHxA

160628J1_26_P1_E1

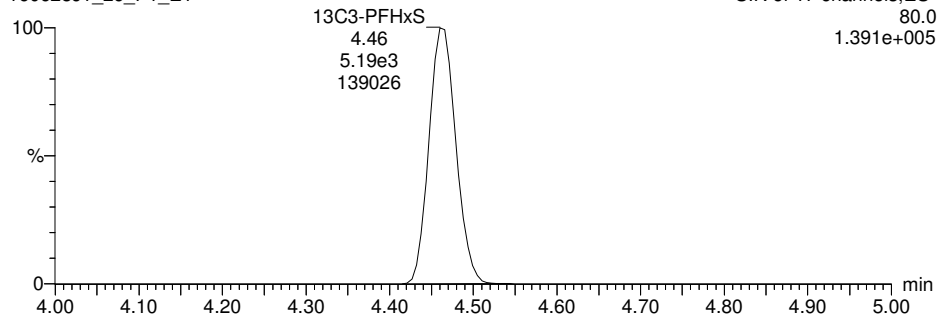
SIR of 17 channels,ES-
273.0
3.376e+005



13C3-PFHxS

160628J1_26_P1_E1

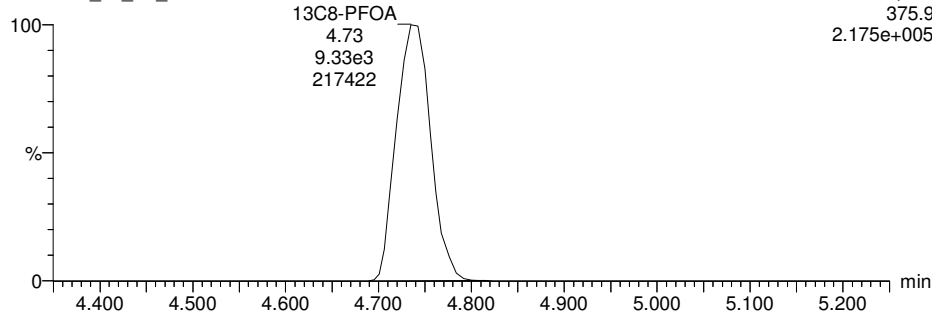
SIR of 17 channels,ES-
80.0
1.391e+005



13C8-PFOA

160628J1_26_P1_E1

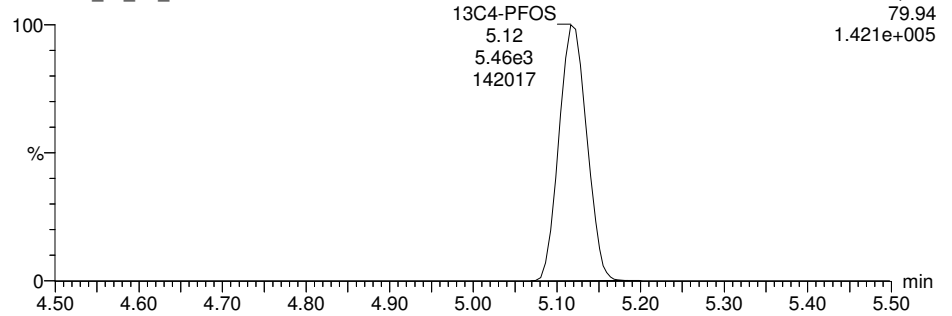
SIR of 17 channels,ES-
375.9
2.175e+005



13C4-PFOS

160628J1_26_P1_E1

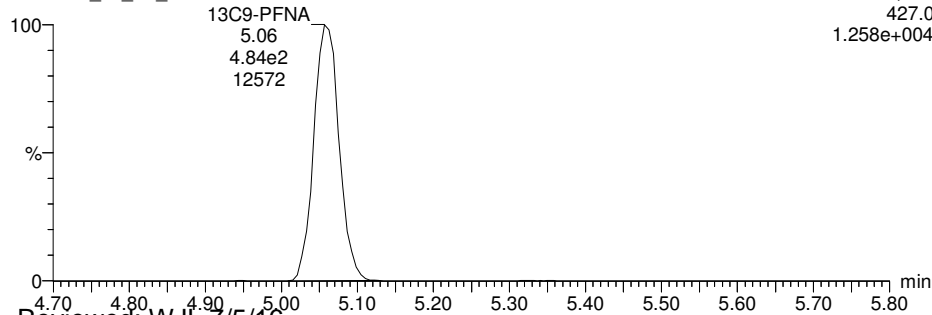
SIR of 17 channels,ES-
79.94
1.421e+005



13C9-PFNA

160628J1_26_P1_E1

SIR of 17 channels,ES-
427.0
1.258e+004



Reviewed: WJL 7/5/16

pw 6/29/16

160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_27.qld

Last Altered: Wednesday, June 29, 2016 17:31:07 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:31:47 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_27.wiff, Date: 28-Jun-2016, Time: 21:14:15, ID: 1600818-08, Description: OF-MW15D-0616

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.50e3		0.112			
2	2 PFHpA	318.9		1.16e4		0.112			
3	3 PFHxS	79.91	4.38e0	1.67e3		0.112	4.45	0.457	
4	4 PFOA	368.9	5.25e1	8.54e3		0.112	4.74	1.62	
5	5 PFOS	79.92	3.54e1	3.59e3		0.112	5.12	1.61	
6	6 PFNA	419.0		7.82e3		0.112			
7	7 13C3-PFBS	79.95	6.50e3	1.11e4	0.546	0.112	3.46	120	107.6
8	8 13C4-PFHpA	321.9	1.16e4	1.11e4	1.075	0.112	4.34	109	97.4
9	9 18O2-PFHxS	102.9	1.67e3	5.27e3	0.307	0.112	4.46	115	102.8
10	10 13C2-PFOA	369.9	8.54e3	8.90e3	1.042	0.112	4.74	103	92.1
11	11 13C8-PFOS	79.93	3.59e3	4.78e3	1.026	0.112	5.12	81.7	73.2
12	12 13C5-PFNA	422.9	7.82e3	4.39e2	21.158	0.112	5.06	93.9	84.1
13	13 13C5-PFHxA	273.0	1.11e4	1.11e4	1.000	0.112	3.87	112	100.0
14	14 13C3-PFHxS	80.0	5.27e3	5.27e3	1.000	0.112	4.46	112	100.0
15	15 13C8-PFOA	375.9	8.90e3	8.90e3	1.000	0.112	4.74	112	100.0
16	16 13C4-PFOS	79.94	4.78e3	4.78e3	1.000	0.112	5.12	112	100.0
17	17 13C9-PFNA	427.0	4.39e2	4.39e2	1.000	0.112	5.06	112	100.0
18	18 Total PFBS	79.9		6.50e3		0.112			
19	19 Total PFHxS	79.91		1.67e3		0.112		0.457	
20	20 Total PFOA	368.9		8.54e3		0.112		1.62	
21	21 Total PFOS	79.92		3.59e3		0.112		2.19	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_27.qld

Last Altered: Wednesday, June 29, 2016 17:31:07 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:31:47 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_27.wiff, Date: 28-Jun-2016, Time: 21:14:15, ID: 1600818-08, Description: OF-MW15D-0616

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.45	4.38e0	1.67e3	0.457

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	5.25e1	8.54e3	1.62

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	3.54e1	3.59e3	1.61
2	21 Total PFOS	79.92	5.03	1.28e1	3.59e3	0.581

Dataset: U:\Q2.PRO\Results\160628J1\160628J_27.qld

Last Altered: Wednesday, June 29, 2016 17:31:07 Pacific Daylight Time

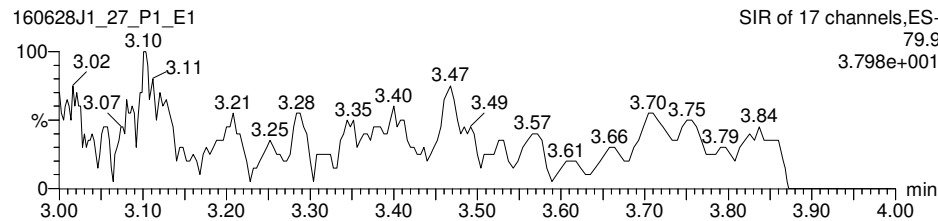
Printed: Wednesday, June 29, 2016 17:31:32 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

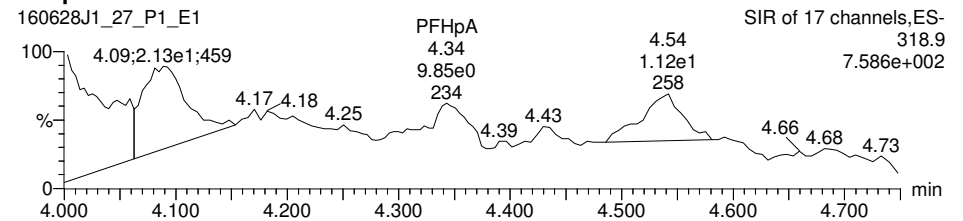
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_27.wiff, Date: 28-Jun-2016, Time: 21:14:15, ID: 1600818-08, Description: OF-MW15D-0616

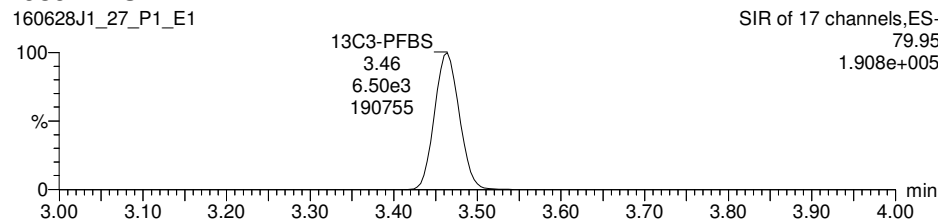
PFBS



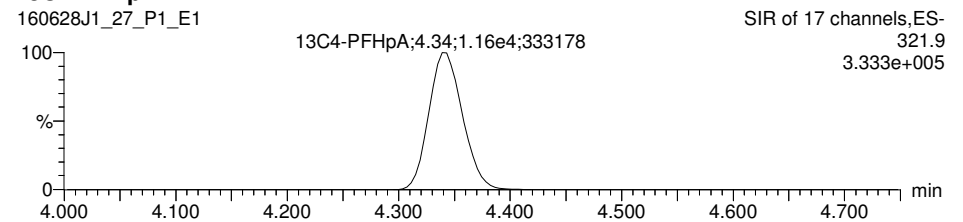
PFHpA



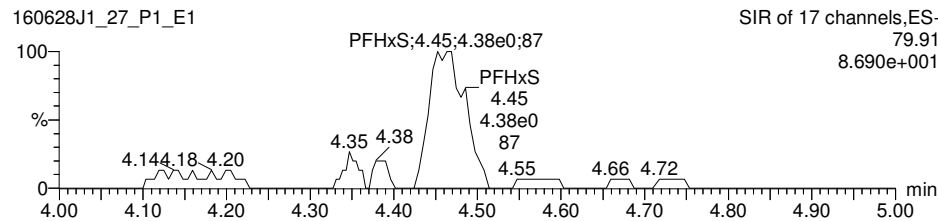
13C3-PFBS



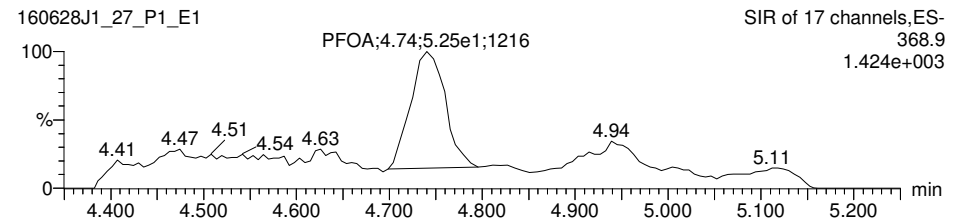
13C4-PFHpA



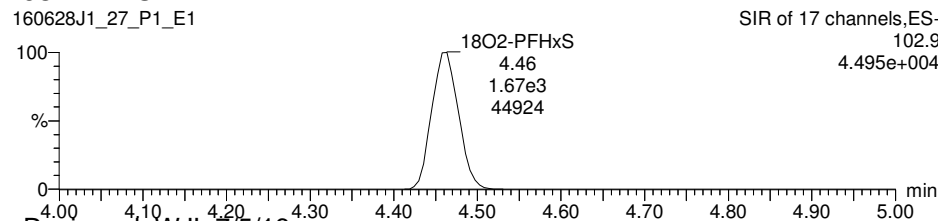
PFHxS



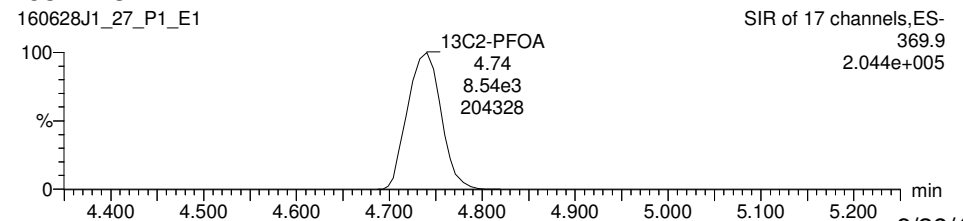
PFOA



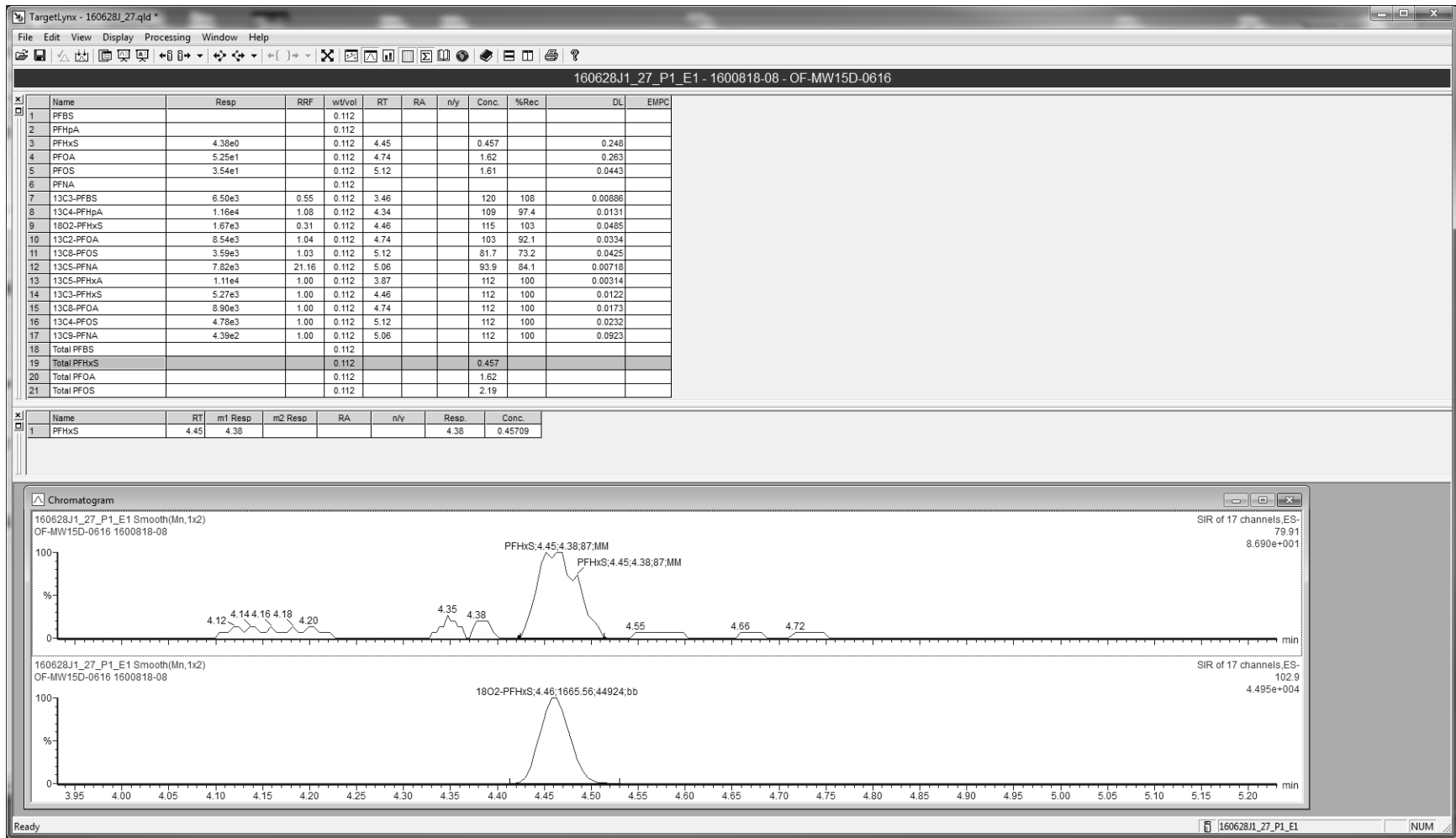
18O2-PFHxS



13C2-PFOA



Reviewed: WJL 7/5/16



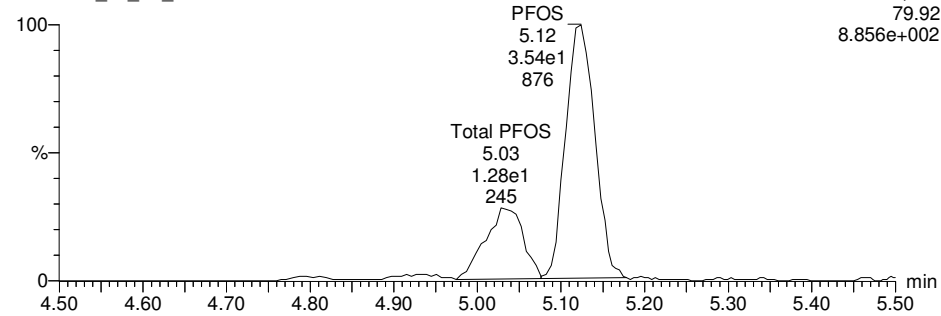
Dataset: U:\Q2.PRO\Results\160628J1\160628J_27.qld

Last Altered: Wednesday, June 29, 2016 17:31:07 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 17:31:32 Pacific Daylight Time

Name: 160628J1_27.wiff, Date: 28-Jun-2016, Time: 21:14:15, ID: 1600818-08, Description: OF-MW15D-0616

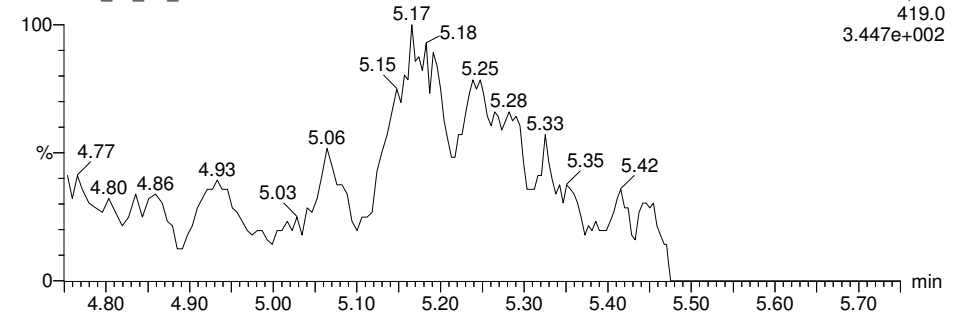
PFOS

160628J1_27_P1_E1



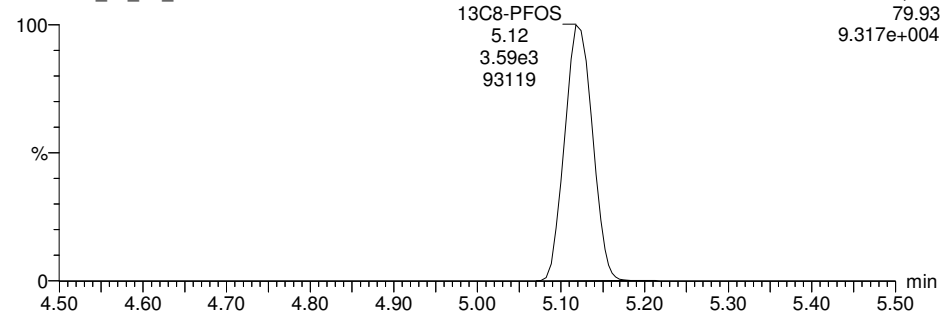
PFNA

160628J1_27_P1_E1



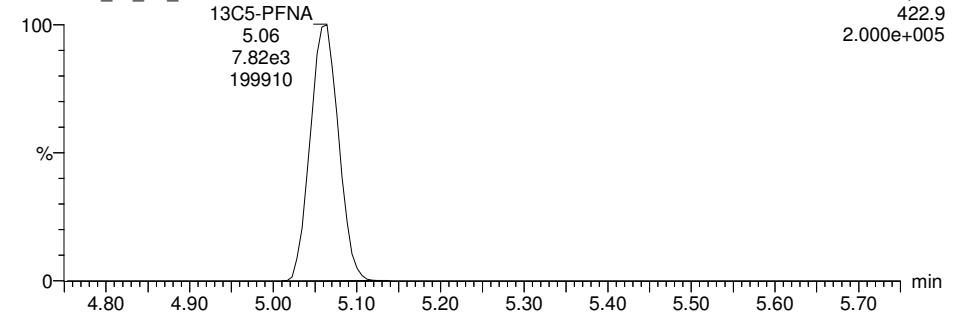
13C8-PFOS

160628J1_27_P1_E1



13C5-PFNA

160628J1_27_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_27.qld

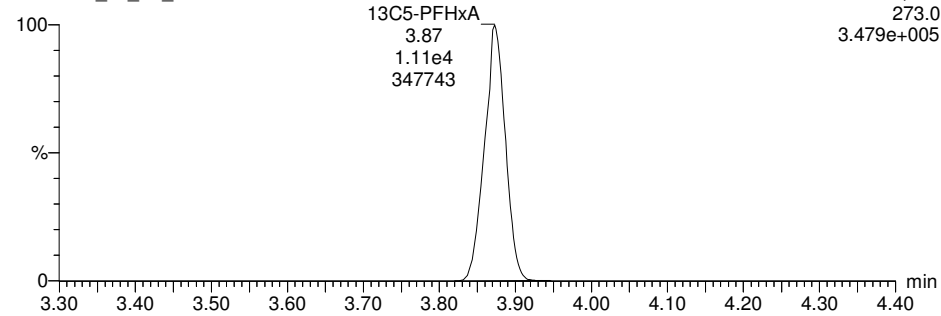
Last Altered: Wednesday, June 29, 2016 17:31:07 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 17:31:32 Pacific Daylight Time

Name: 160628J1_27.wiff, Date: 28-Jun-2016, Time: 21:14:15, ID: 1600818-08, Description: OF-MW15D-0616

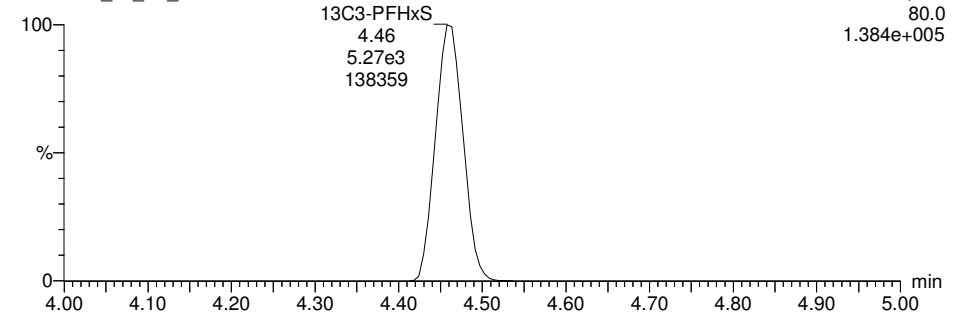
13C5-PFHxA

160628J1_27_P1_E1



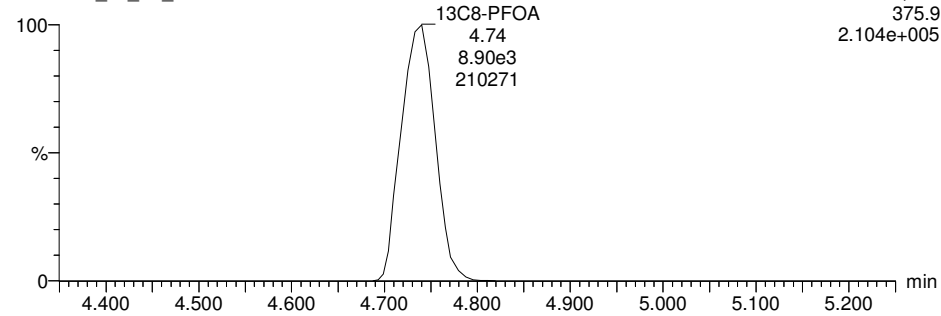
13C3-PFHxS

160628J1_27_P1_E1



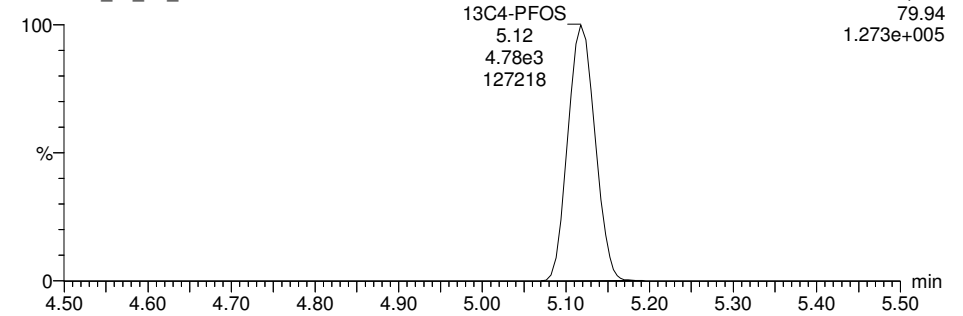
13C8-PFOA

160628J1_27_P1_E1



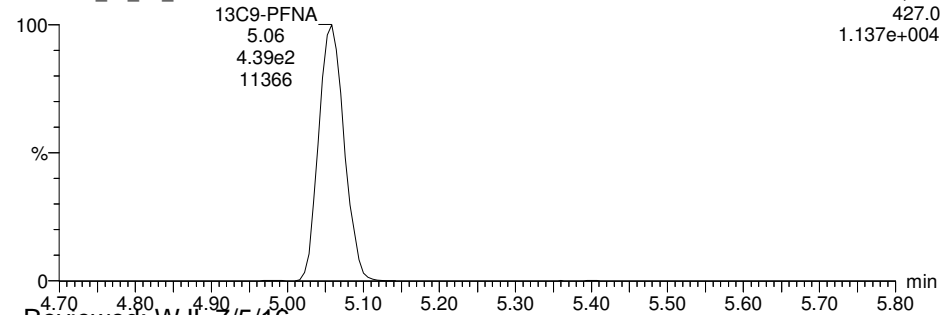
13C4-PFOS

160628J1_27_P1_E1



13C9-PFNA

160628J1_27_P1_E1



Reviewed: WJL 7/5/16

pw 6/29/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

Last Altered: Thursday, June 30, 2016 11:22:11 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.234e3	6.579e3		0.121	3.47	95.8	
2	2 PFHpA	318.9	2.128e3	1.210e4		0.121	4.35	97.5	
3	3 PFHxS	79.91	9.760e2	1.645e3		0.121	4.47	95.6	
4	4 PFOA	368.9	3.678e3	9.283e3		0.121	4.74	97.8	
5	5 PFOS	79.92	3.073e3	4.884e3		0.121	5.12	95.5	
6	6 PFNA	419.0	4.795e3	9.382e3		0.121	5.06	93.3	
7	7 13C3-PFBS	79.95	6.579e3	1.177e4	0.546	0.121	3.46	106	102
8	8 13C4-PFHpA	321.9	1.210e4	1.177e4	1.075	0.121	4.35	98.6	95.6
9	9 18O2-PFHxS	102.9	1.645e3	5.434e3	0.307	0.121	4.47	102	98.5
10	10 13C2-PFOA	369.9	9.283e3	9.437e3	1.042	0.121	4.74	97.4	94.4
11	11 13C8-PFOS	79.93	4.884e3	5.690e3	1.026	0.121	5.12	86.3	83.7
12	12 13C5-PFNA	422.9	9.382e3	4.792e2	21.158	0.121	5.06	95.4	92.5
13	13 13C5-PFHxA	273.0	1.177e4	1.177e4	1.000	0.121	3.88	103	100
14	14 13C3-PFHxS	80.0	5.434e3	5.434e3	1.000	0.121	4.47	103	100
15	15 13C8-PFOA	375.9	9.437e3	9.437e3	1.000	0.121	4.74	103	100
16	16 13C4-PFOS	79.94	5.690e3	5.690e3	1.000	0.121	5.12	103	100
17	17 13C9-PFNA	427.0	4.792e2	4.792e2	1.000	0.121	5.06	103	100
18	18 Total PFBS	79.9		6.579e3		0.121		95.8	
19	19 Total PFHxS	79.91		1.645e3		0.121		95.6	
20	20 Total PFOA	368.9		9.283e3		0.121		97.8	
21	21 Total PFOS	79.92		4.884e3		0.121		96.4	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

Last Altered: Thursday, June 30, 2016 11:22:11 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50**Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23****ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33****Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	1233.669	6579.042	95.8

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	976.011	1644.663	95.6

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	3678.266	9282.878	97.8

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.04	27.534	4884.067	0.8
2	5 PFOS	79.92	5.12	3072.888	4884.067	95.5

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

Last Altered: Thursday, June 30, 2016 11:22:11 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

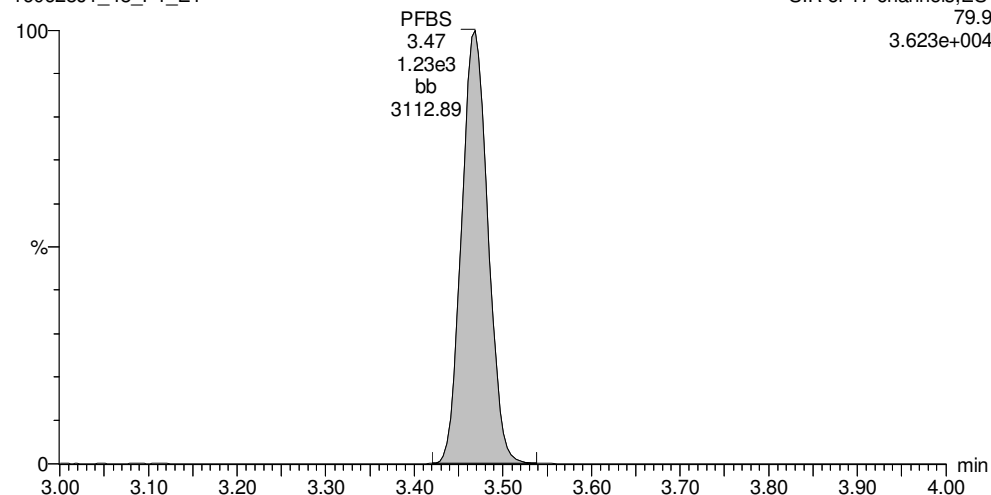
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Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

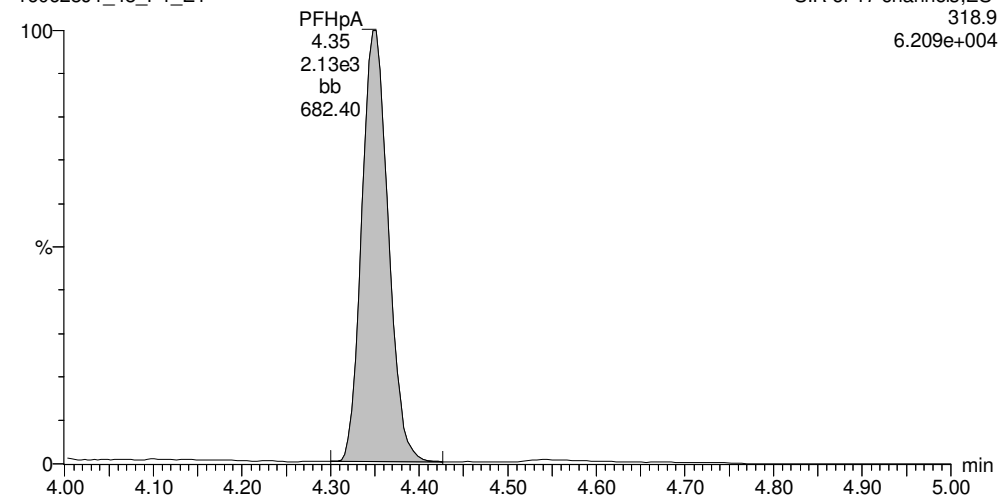
Total PFBS

160628J1_48_P1_E1



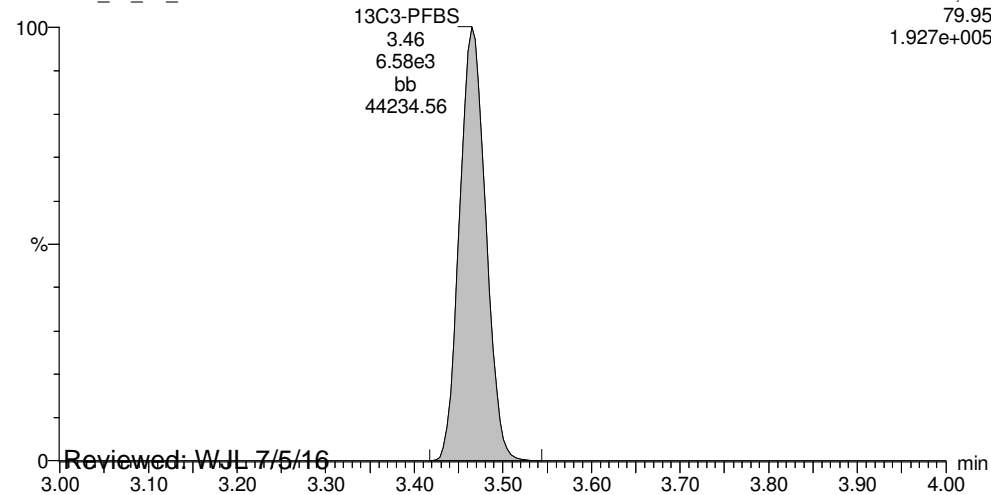
PFHpA

160628J1_48_P1_E1



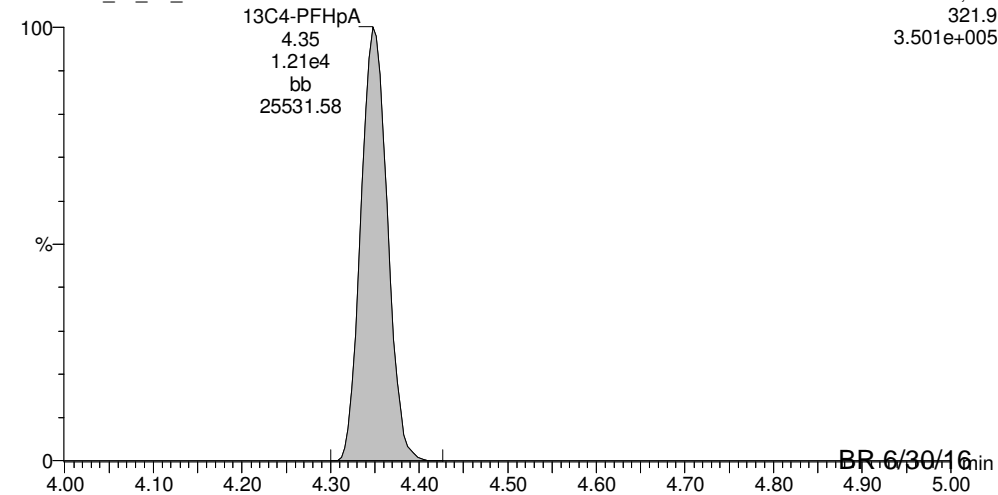
13C3-PFBS

160628J1_48_P1_E1



13C4-PFHpA

160628J1_48_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

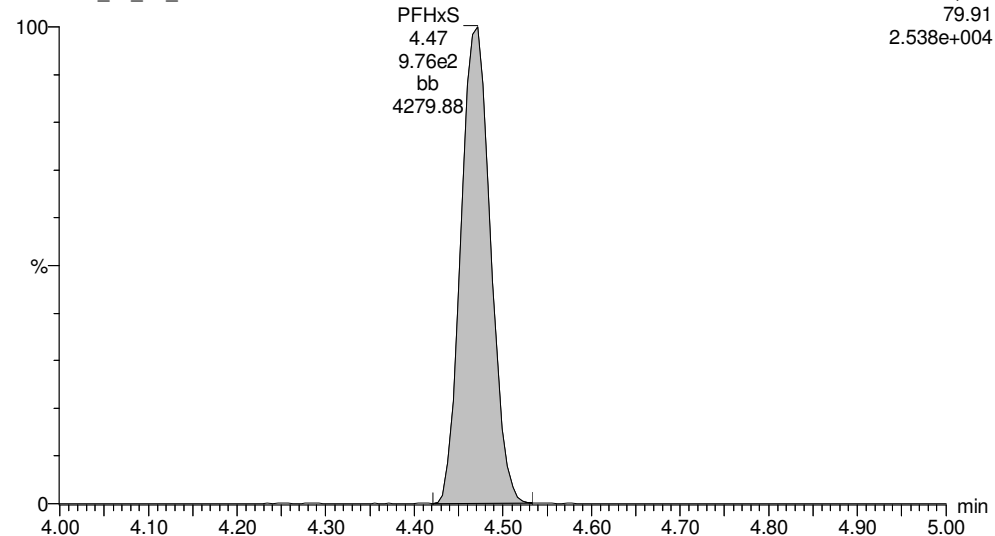
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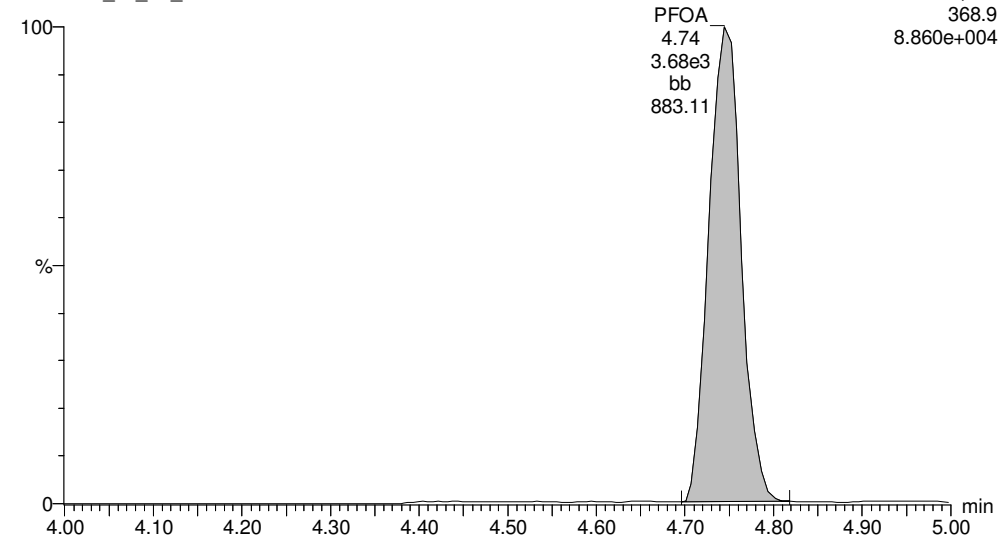
Total PFHxS

160628J1_48_P1_E1



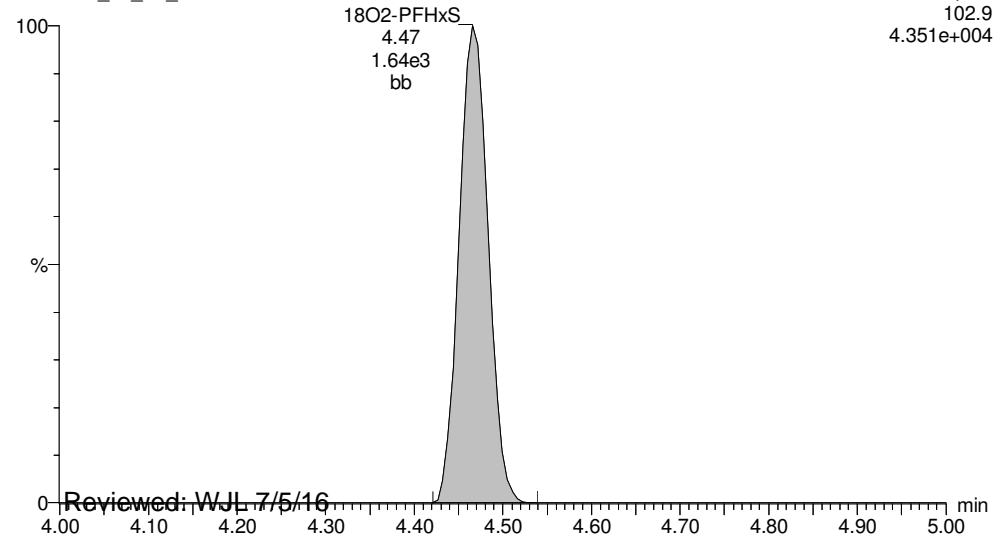
Total PFOA

160628J1_48_P1_E1



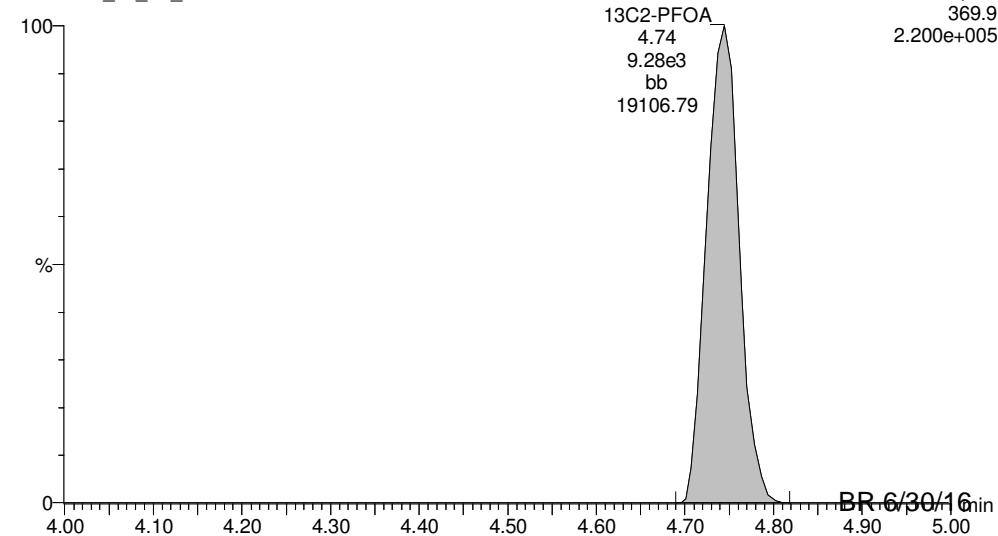
18O2-PFHxS

160628J1_48_P1_E1



13C2-PFOA

160628J1_48_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

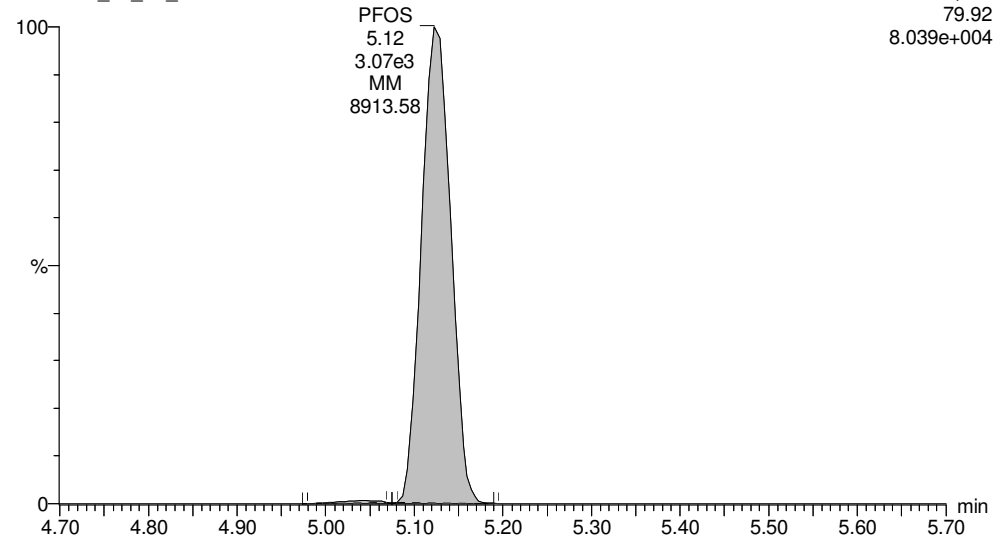
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Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

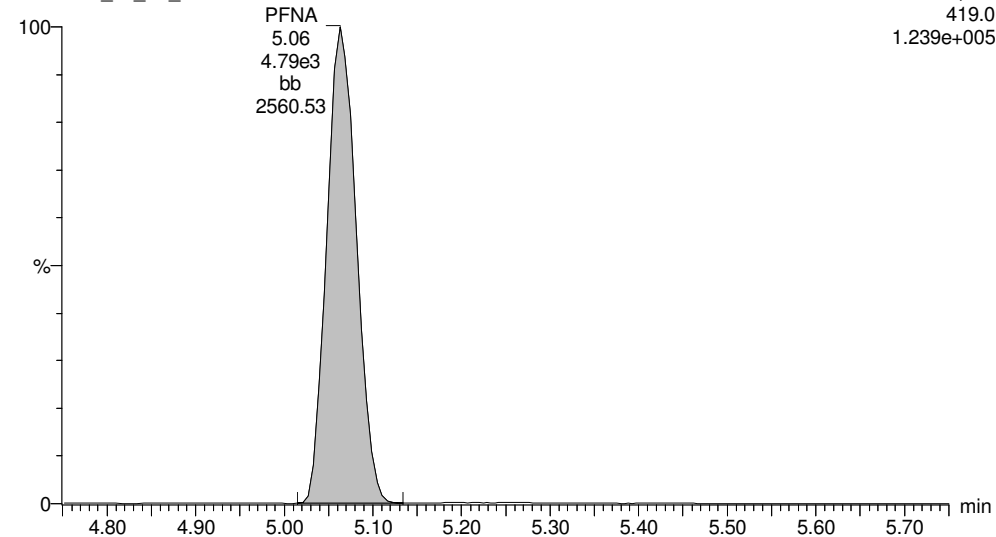
Total PFOS

160628J1_48_P1_E1



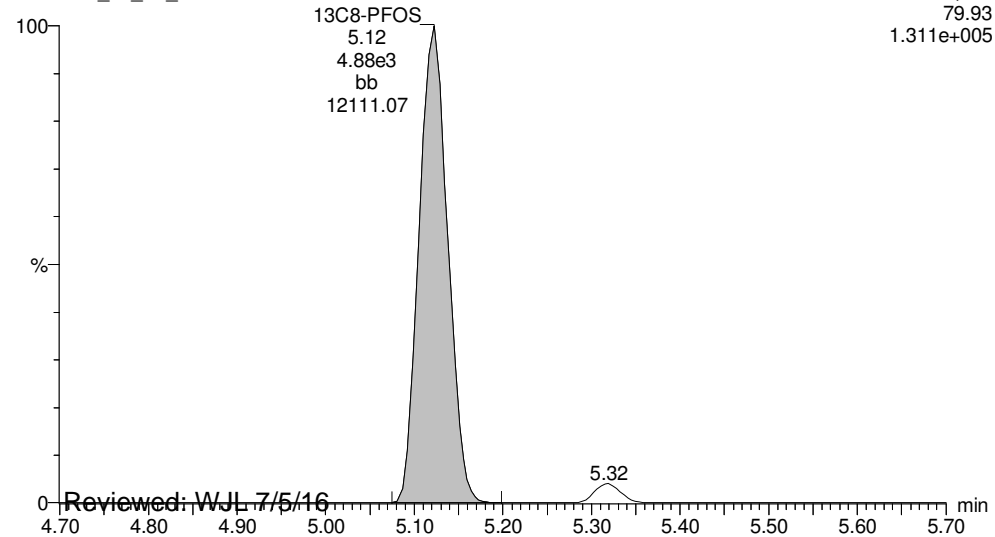
PFNA

160628J1_48_P1_E1



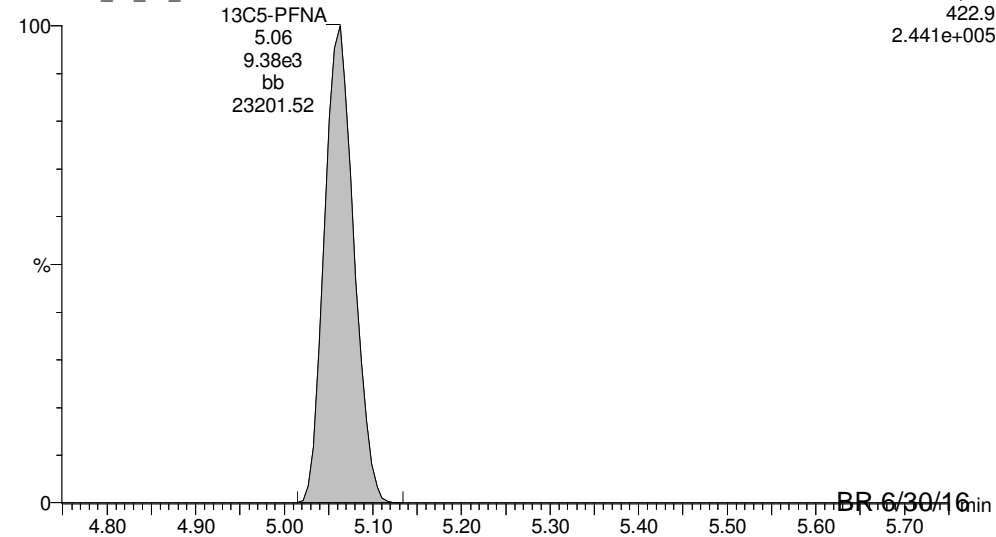
13C8-PFOS

160628J1_48_P1_E1



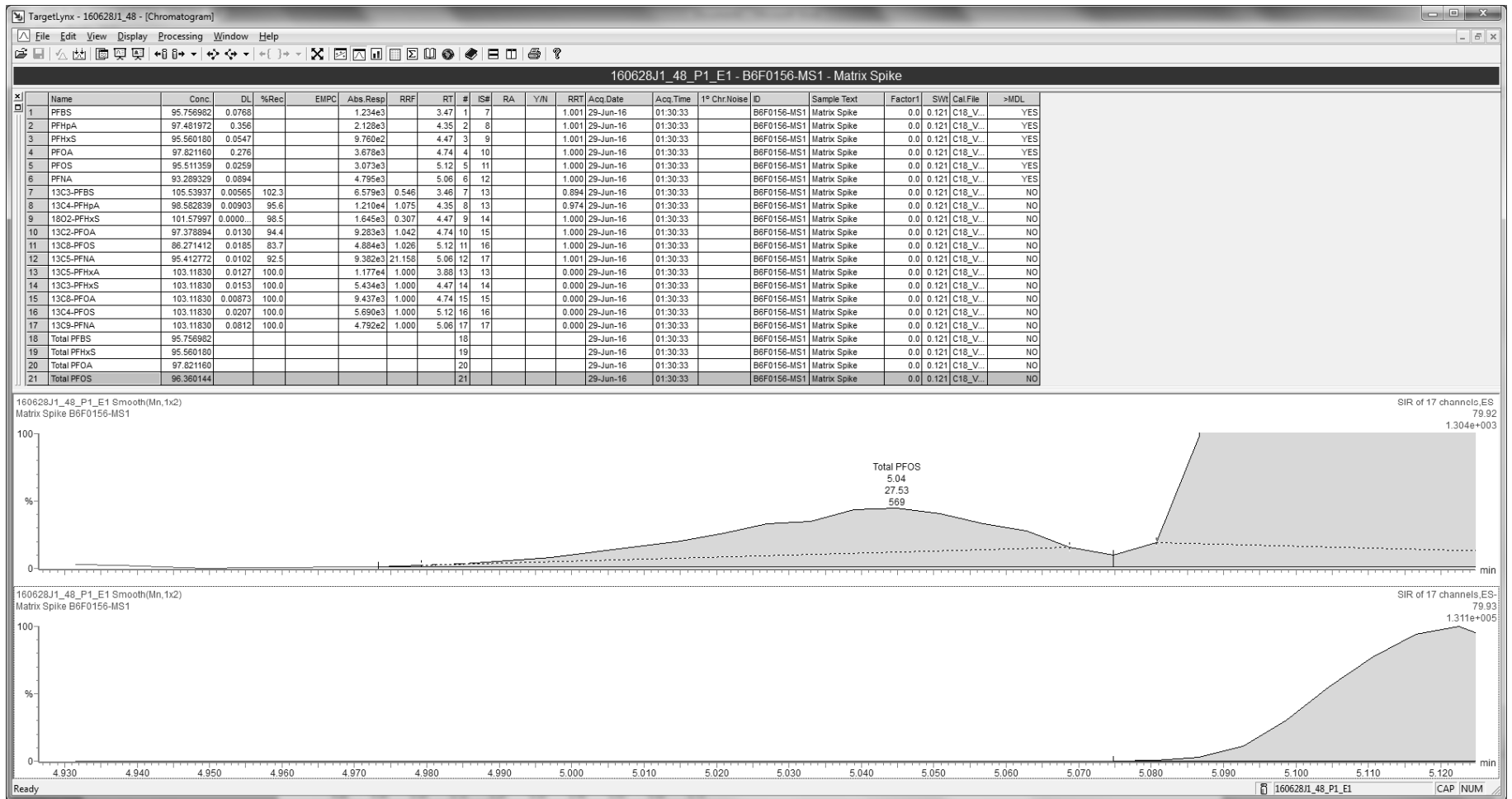
13C5-PFNA

160628J1_48_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16



Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

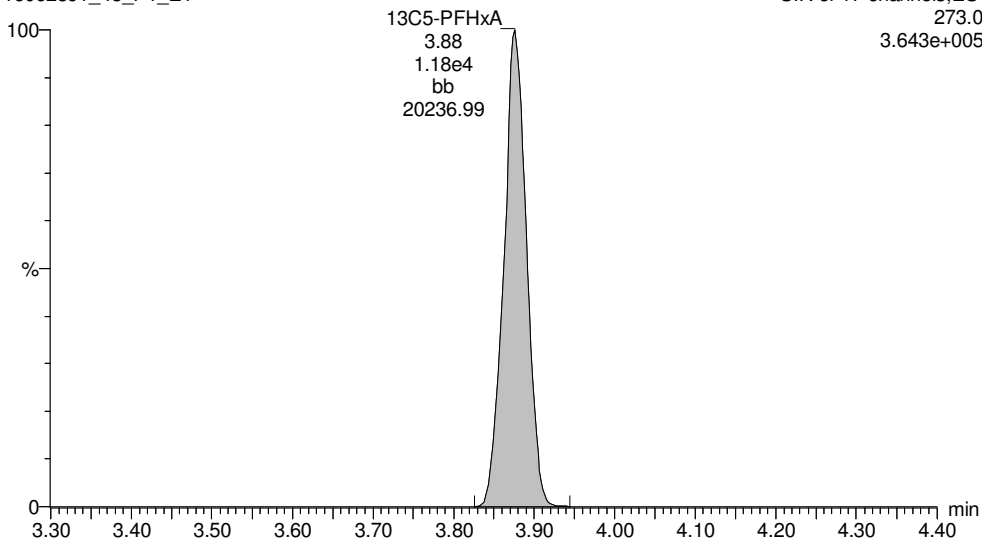
Last Altered: Thursday, June 30, 2016 11:22:11 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

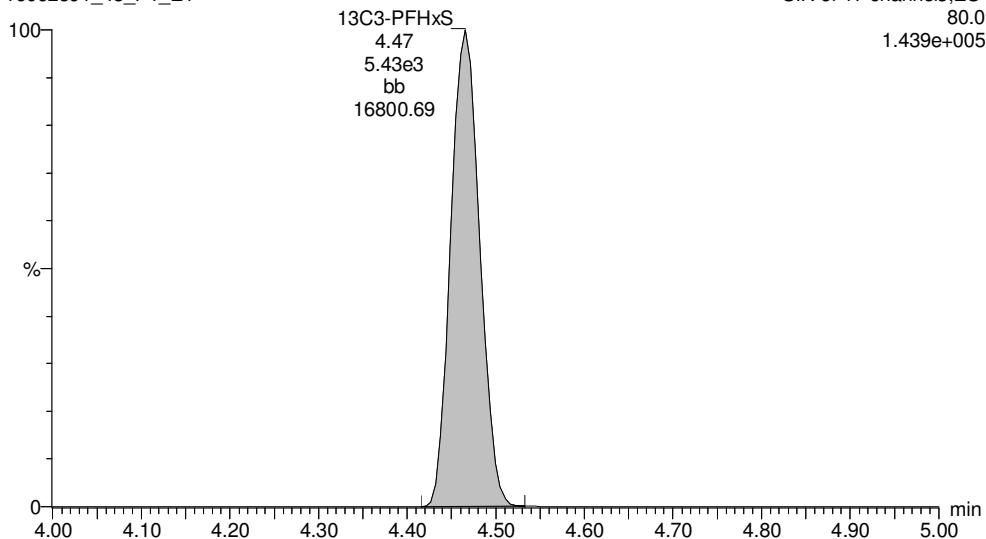
13C5-PFHxA

160628J1_48_P1_E1



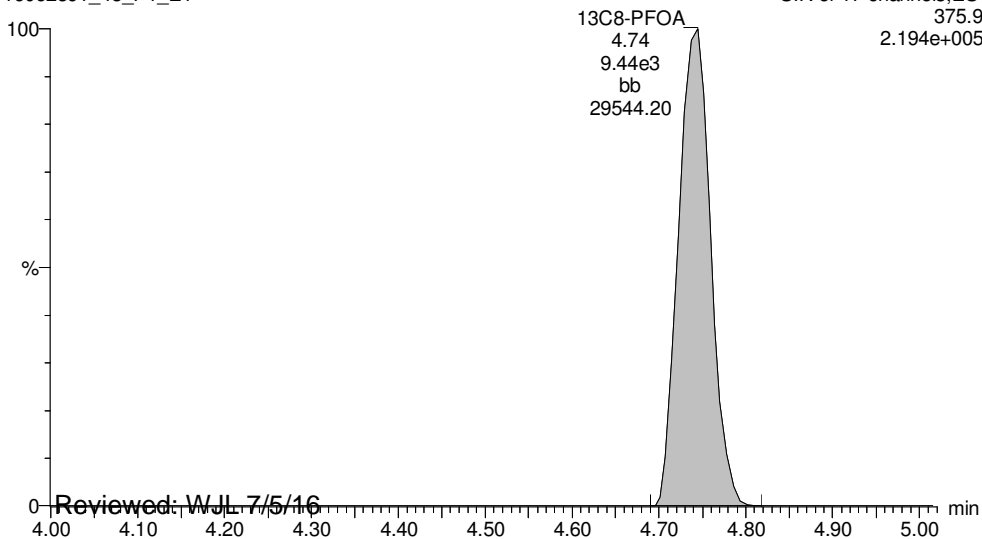
13C3-PFHxS

160628J1_48_P1_E1



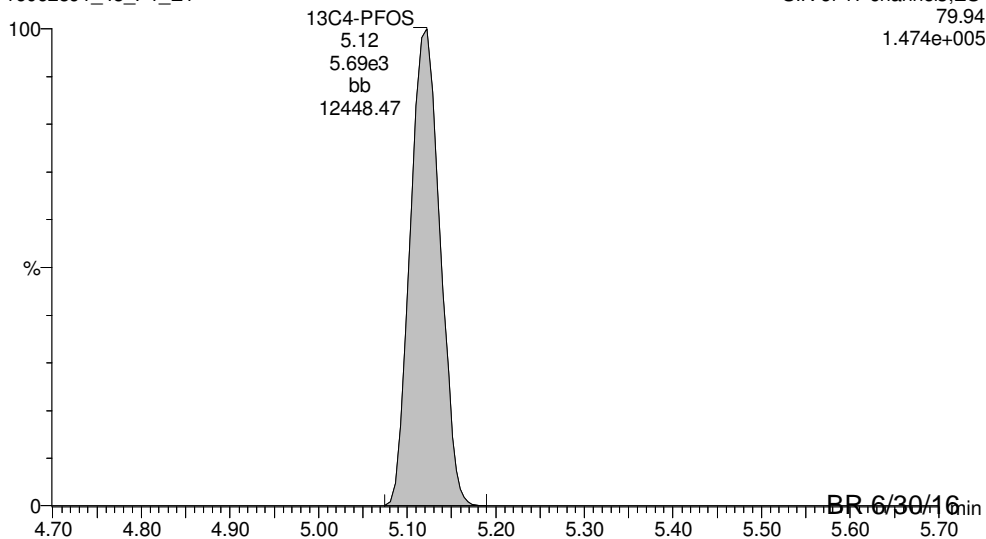
13C8-PFOA

160628J1_48_P1_E1



13C4-PFOS

160628J1_48_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_48.qld

Last Altered: Thursday, June 30, 2016 11:22:11 AM Pacific Daylight Time

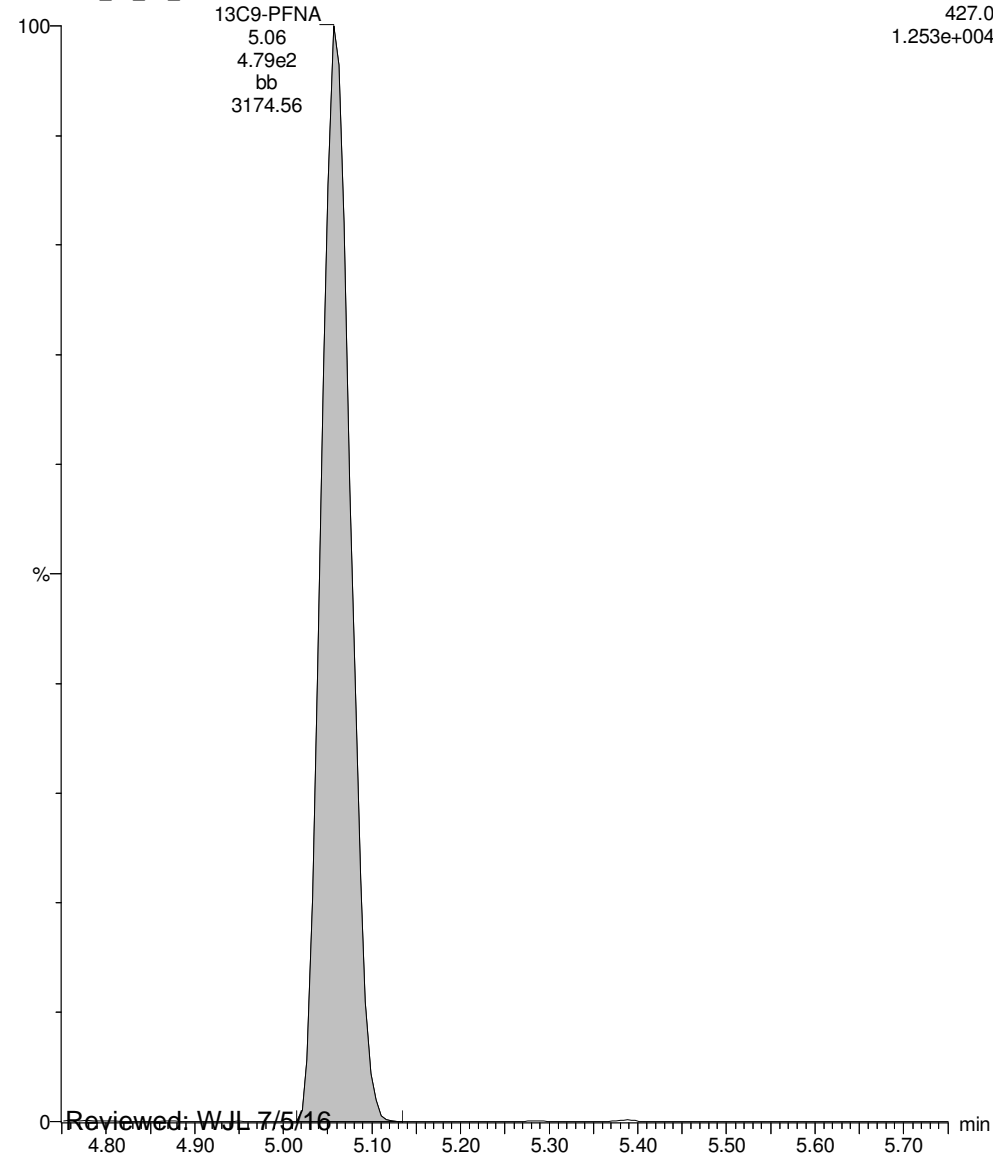
Printed: Thursday, June 30, 2016 11:22:24 AM Pacific Daylight Time

ID: B6F0156-MS1, Description: Matrix Spike, Name: 160628J1_48.wiff, Date: 29-Jun-2016, Time: 01:30:33, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_48_P1_E1

SIR of 17 channels, ES-
427.0
1.253e+004



Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.150e3	6.078e3		0.120	3.47	97.6	
2	2 PFHpA	318.9	1.963e3	1.143e4		0.120	4.36	96.3	
3	3 PFHxS	79.91	8.931e2	1.487e3		0.120	4.48	97.7	
4	4 PFOA	368.9	3.277e3	9.258e3		0.120	4.75	88.2	
5	5 PFOS	79.92	2.483e3	3.848e3		0.120	5.13	99.0	
6	6 PFNA	419.0	4.352e3	8.102e3		0.120	5.07	99.2	
7	7 13C3-PFBS	79.95	6.078e3	1.156e4	0.546	0.120	3.47	100	96.3
8	8 13C4-PFHpA	321.9	1.143e4	1.156e4	1.075	0.120	4.35	95.8	91.9
9	9 18O2-PFHxS	102.9	1.487e3	5.163e3	0.307	0.120	4.47	97.7	93.8
10	10 13C2-PFOA	369.9	9.258e3	9.560e3	1.042	0.120	4.75	96.9	93.0
11	11 13C8-PFOS	79.93	3.848e3	4.924e3	1.026	0.120	5.12	79.4	76.2
12	12 13C5-PFNA	422.9	8.102e3	5.056e2	21.158	0.120	5.06	78.9	75.7
13	13 13C5-PFHxA	273.0	1.156e4	1.156e4	1.000	0.120	3.88	104	100
14	14 13C3-PFHxS	80.0	5.163e3	5.163e3	1.000	0.120	4.47	104	100
15	15 13C8-PFOA	375.9	9.560e3	9.560e3	1.000	0.120	4.74	104	100
16	16 13C4-PFOS	79.94	4.924e3	4.924e3	1.000	0.120	5.12	104	100
17	17 13C9-PFNA	427.0	5.056e2	5.056e2	1.000	0.120	5.06	104	100
18	18 Total PFBS	79.9		6.078e3		0.120		97.6	
19	19 Total PFHxS	79.91		1.487e3		0.120		97.7	
20	20 Total PFOA	368.9		9.258e3		0.120		88.2	
21	21 Total PFOS	79.92		3.848e3		0.120		99.7	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50**Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23****ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48****Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	1149.777	6077.885	97.6

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.48	893.127	1487.469	97.7

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	3276.943	9257.924	88.2

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.13	2483.421	3848.418	99.0
2	21 Total PFOS	79.92	5.04	17.114	3848.418	0.7

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

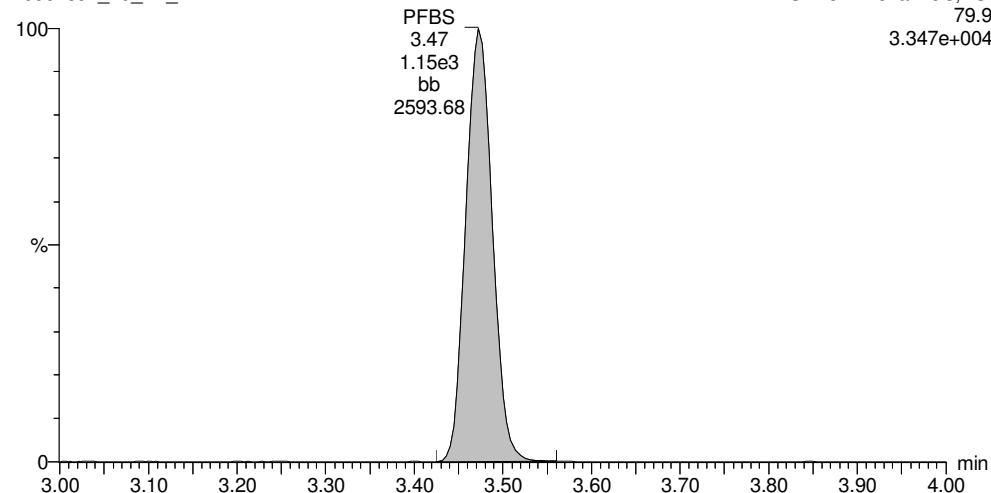
Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

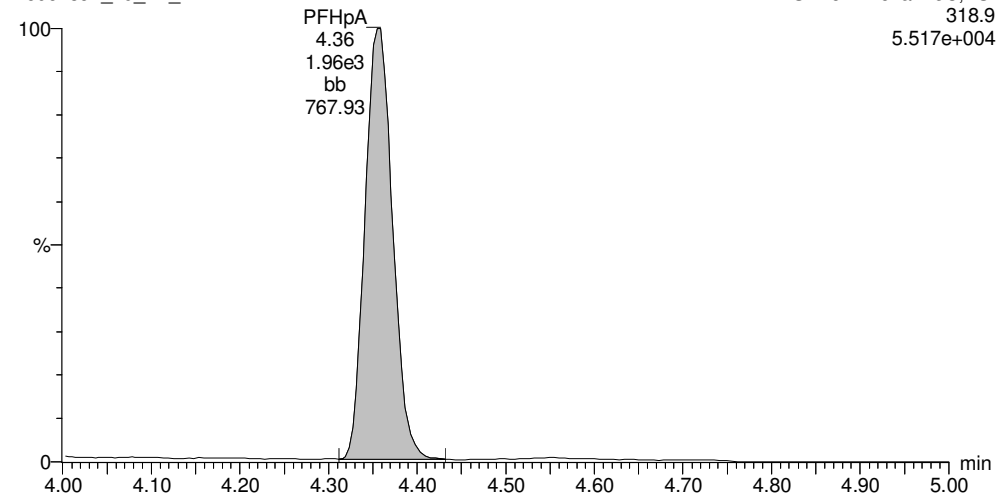
Total PFBS

160628J1_49_P1_E1



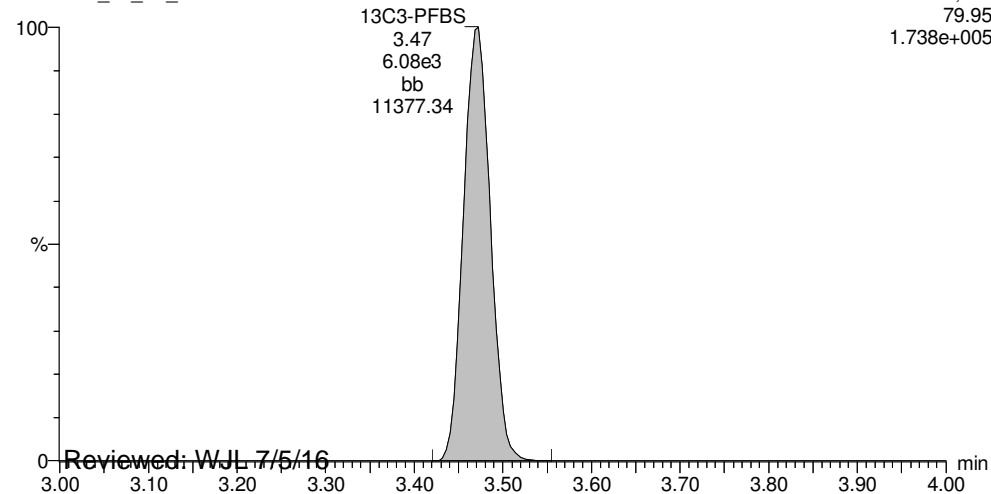
PFHpA

160628J1_49_P1_E1



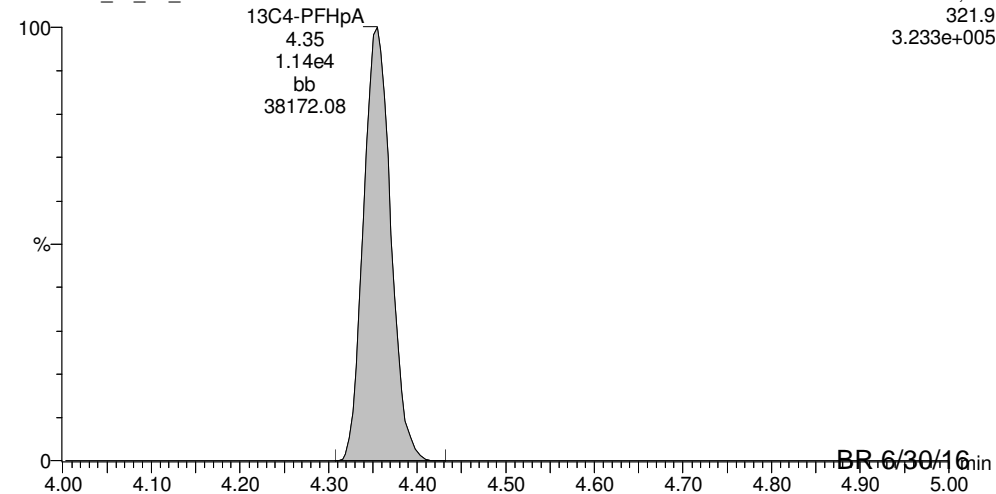
13C3-PFBS

160628J1_49_P1_E1



13C4-PFHpA

160628J1_49_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

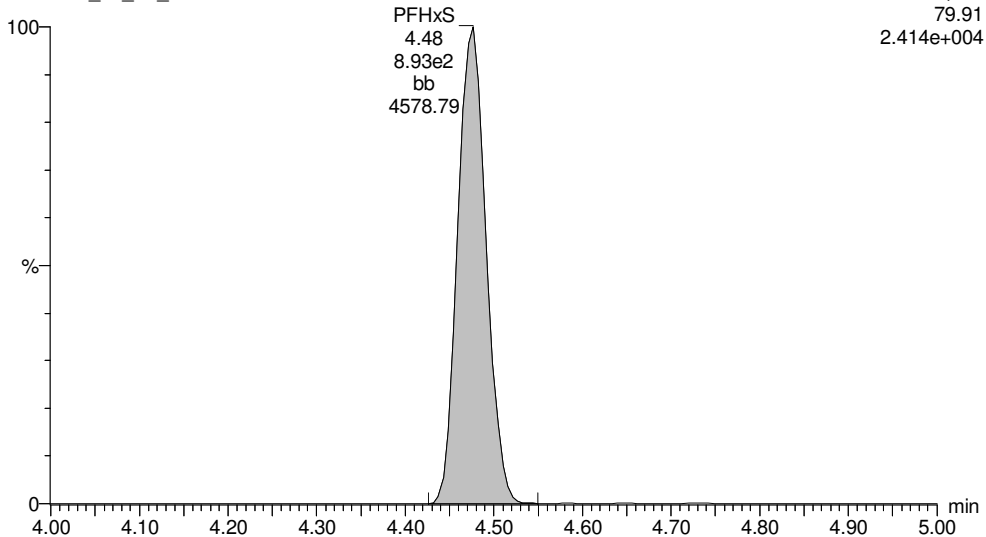
Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

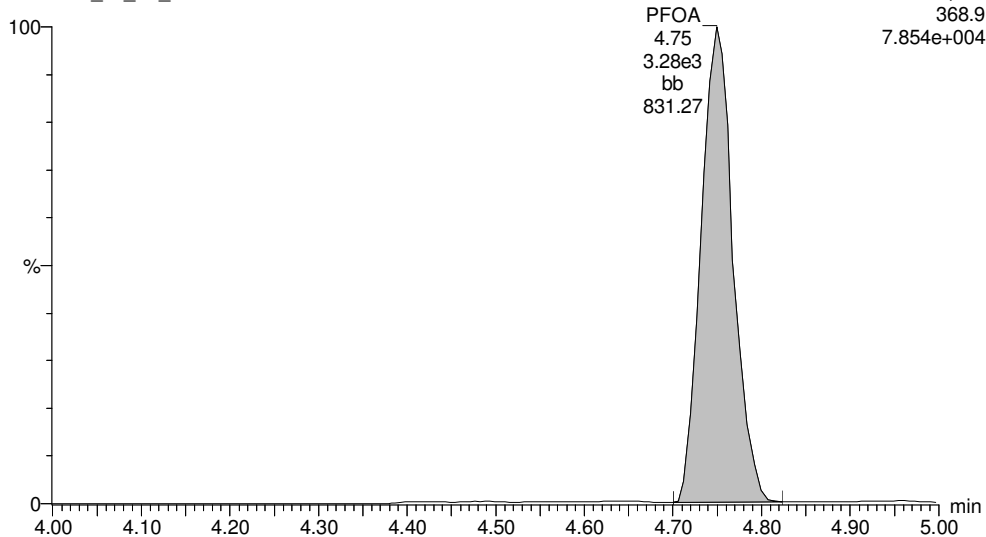
Total PFHxS

160628J1_49_P1_E1



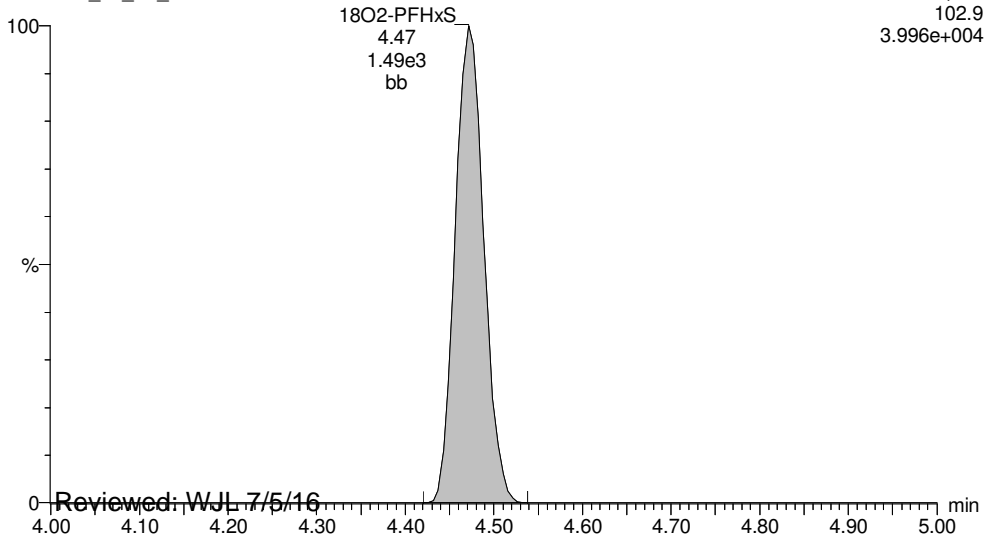
Total PFOA

160628J1_49_P1_E1



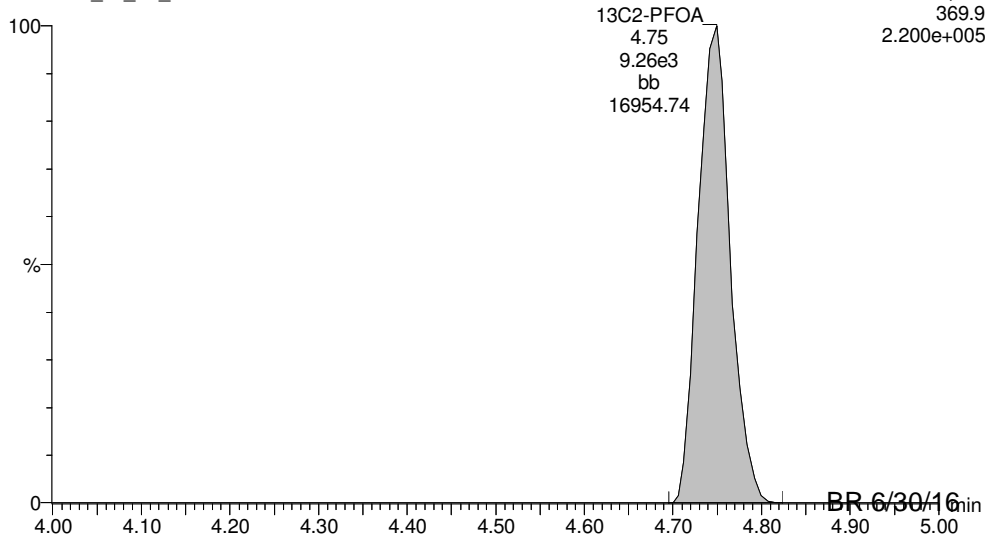
18O2-PFHxS

160628J1_49_P1_E1



13C2-PFOA

160628J1_49_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

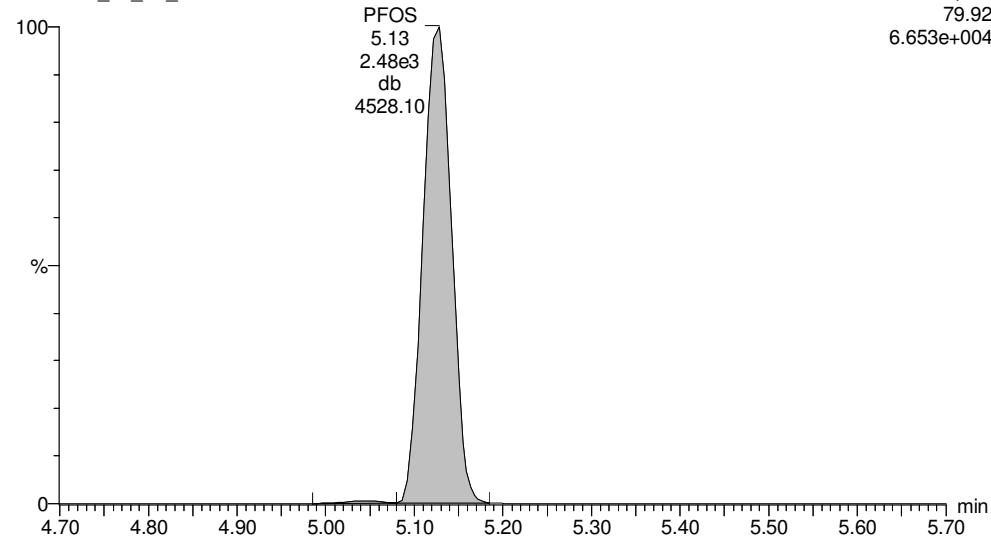
Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

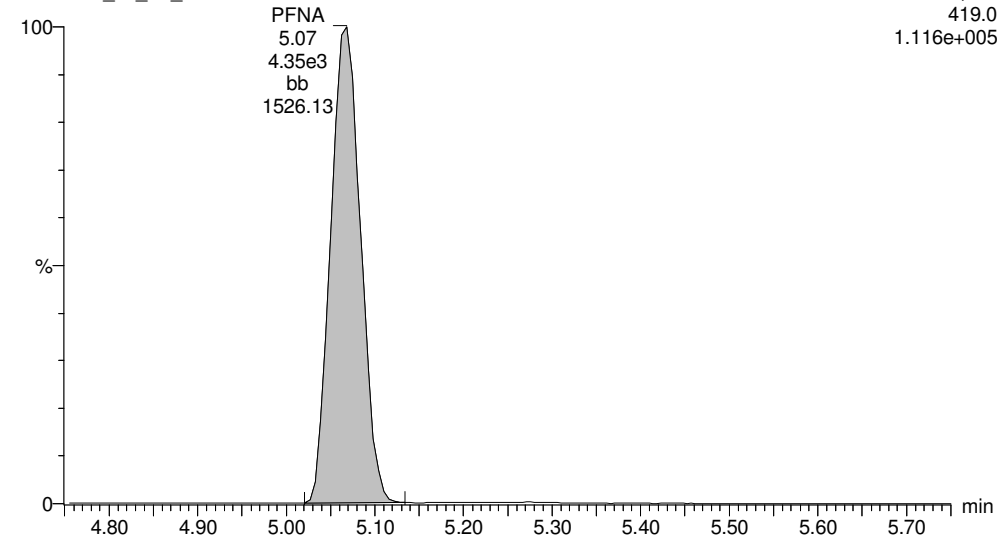
Total PFOS

160628J1_49_P1_E1



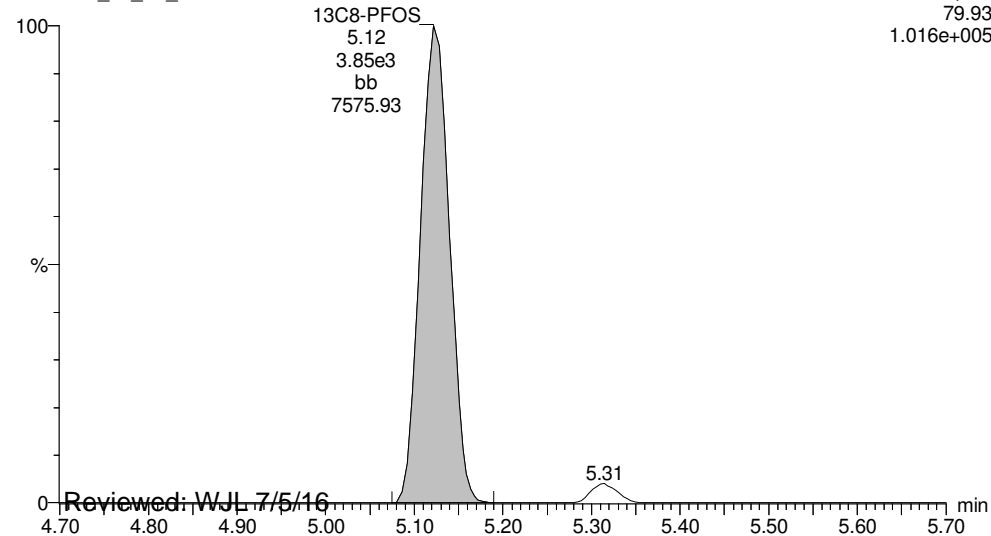
PFNA

160628J1_49_P1_E1



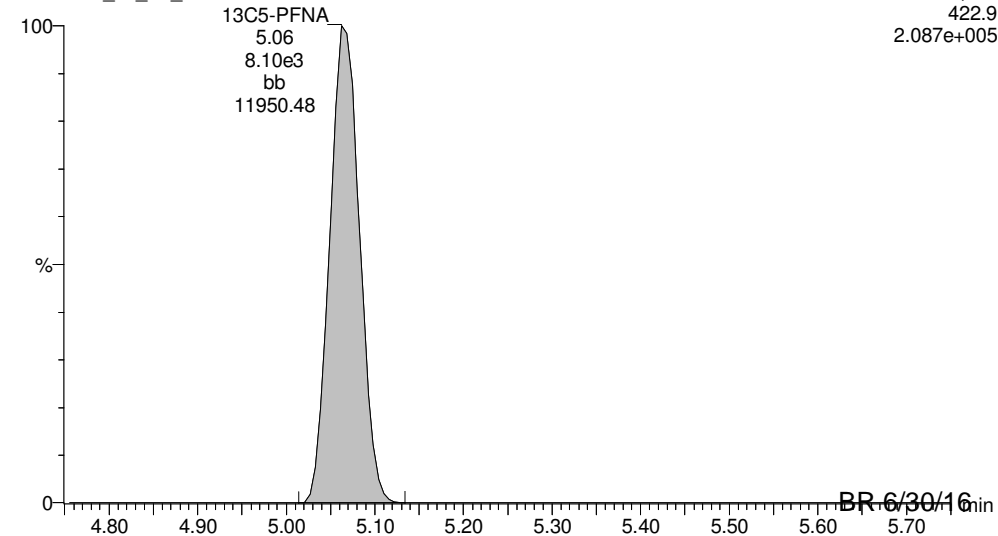
13C8-PFOS

160628J1_49_P1_E1



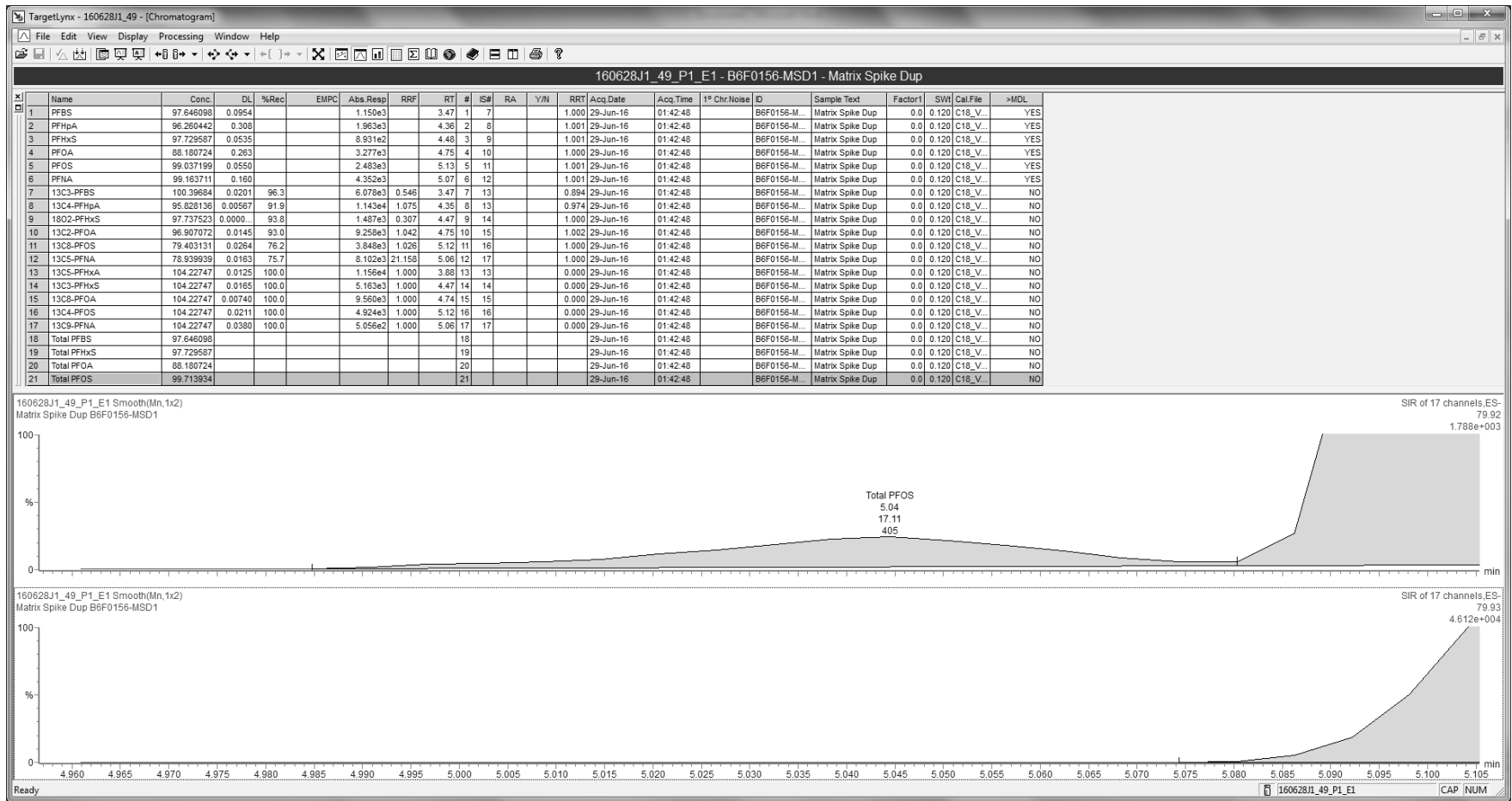
13C5-PFNA

160628J1_49_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16



Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

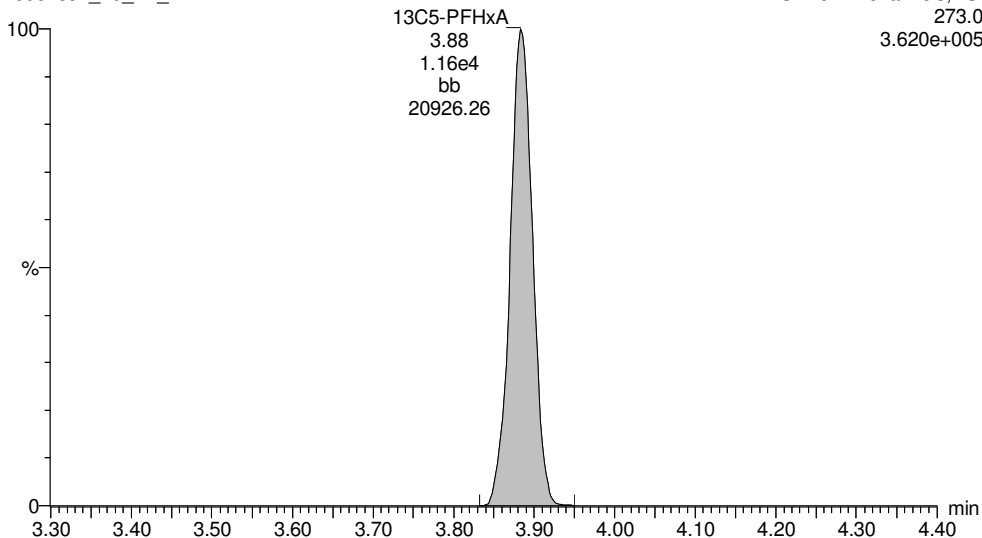
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Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

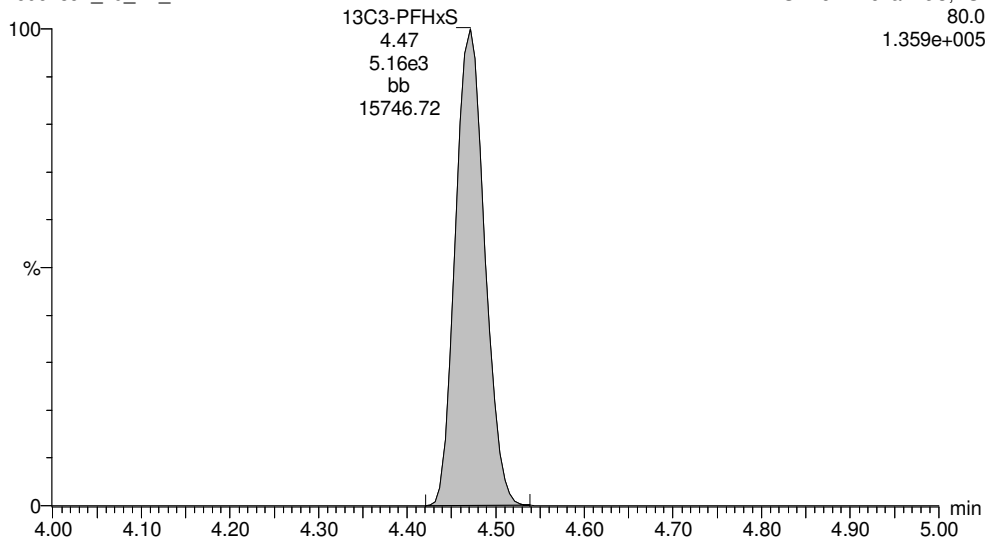
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160628J1_49_P1_E1



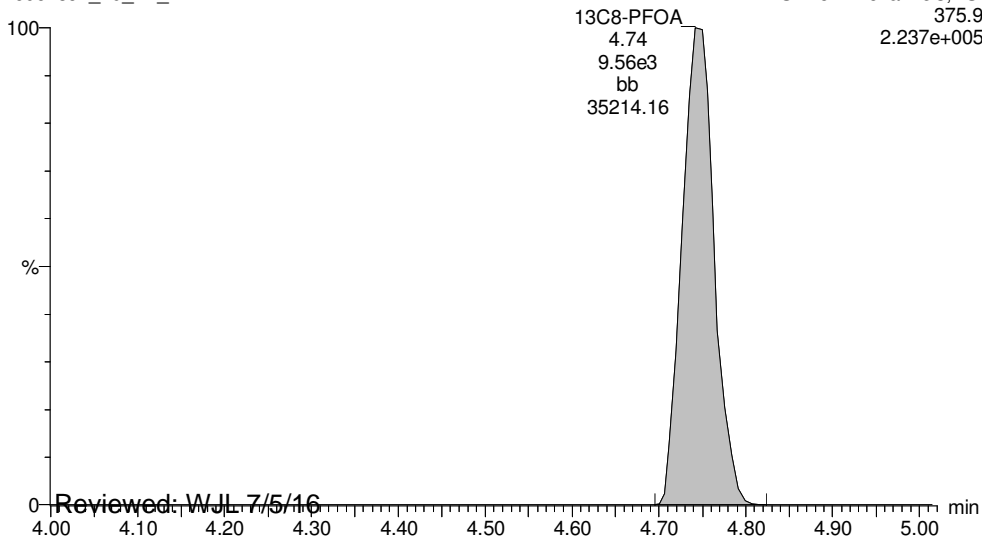
13C3-PFHxS

160628J1_49_P1_E1



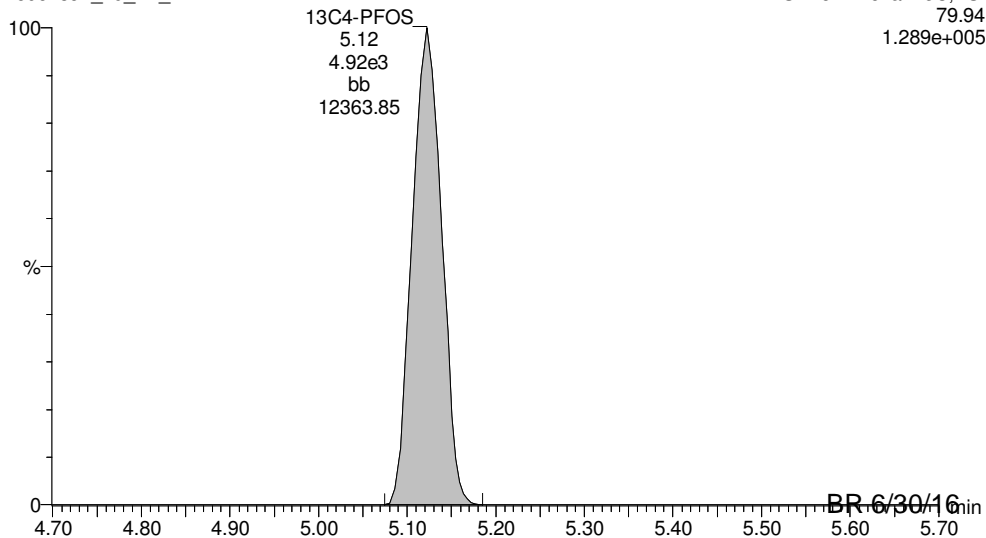
13C8-PFOA

160628J1_49_P1_E1



13C4-PFOS

160628J1_49_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_49.qld

Last Altered: Thursday, June 30, 2016 11:24:08 AM Pacific Daylight Time

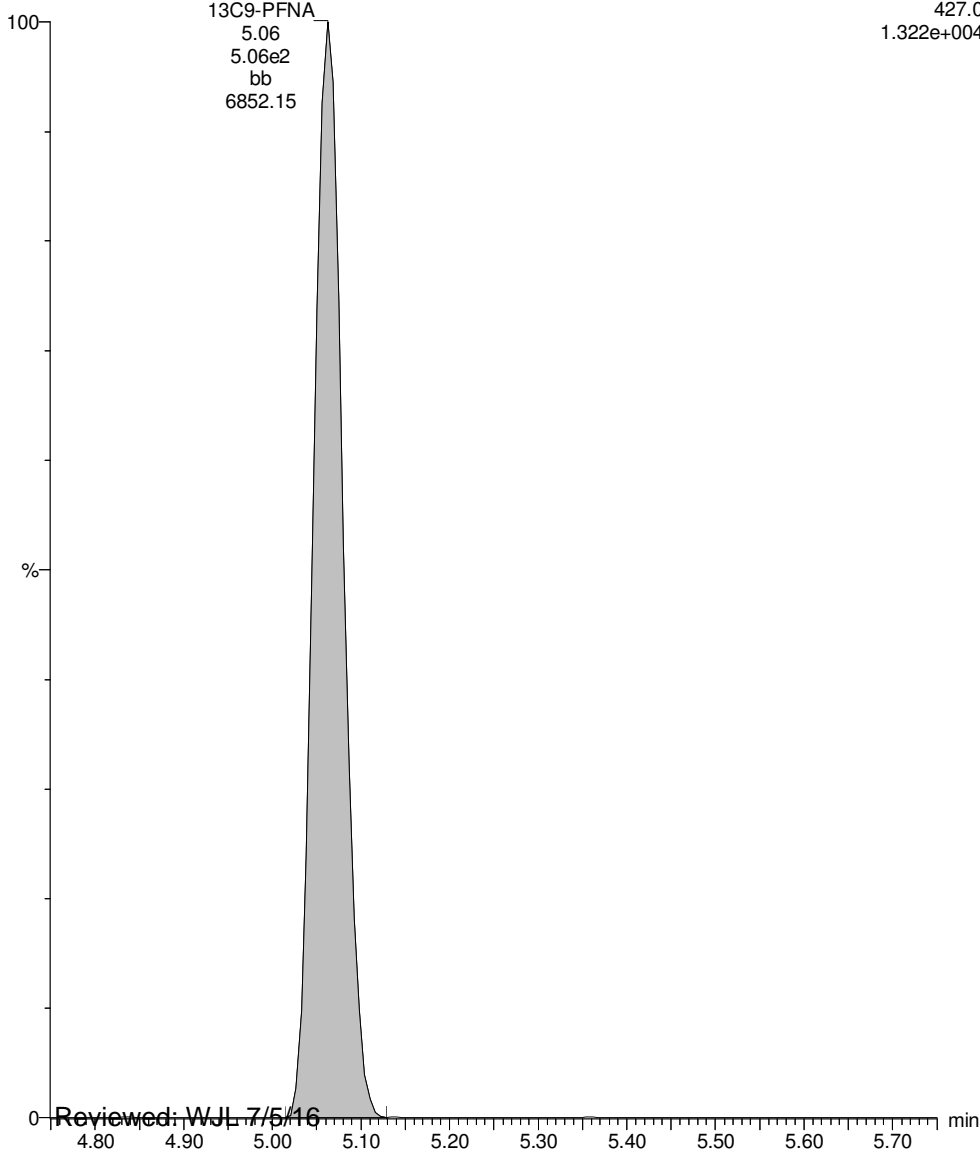
Printed: Thursday, June 30, 2016 11:24:52 AM Pacific Daylight Time

ID: B6F0156-MSD1, Description: Matrix Spike Dup, Name: 160628J1_49.wiff, Date: 29-Jun-2016, Time: 01:42:48, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_49_P1_E1

SIR of 17 channels, ES-
427.0
1.322e+004



160628J1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_28.qld

Last Altered: Thursday, June 30, 2016 10:34:49 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:35:27 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-09, Description: OF14-MW06-0616, Name: 160628J1_28.wiff, Date: 28-Jun-2016, Time: 21:26:29

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	2.587e2	6.219e3		0.121	3.46	21.3	
2	2 PFHpA	318.9	3.978e2	1.104e4		0.121	4.35	20.0	
3	3 PFHxS	79.91	2.543e3	1.592e3		0.121	4.47	260	
4	4 PFOA	368.9	8.105e3	8.089e3		0.121	4.74	255	
5	5 PFOS	79.92	4.619e3	4.718e3		0.121	5.12	150	
6	6 PFNA	419.0	1.803e2	8.872e3		0.121	5.06	3.69	
7	7 13C3-PFBS	79.95	6.219e3	1.096e4	0.546	0.121	3.46	108	104
8	8 13C4-PFHpA	321.9	1.104e4	1.096e4	1.075	0.121	4.34	97.1	93.6
9	9 18O2-PFHxS	102.9	1.592e3	5.050e3	0.307	0.121	4.46	106	103
10	10 13C2-PFOA	369.9	8.089e3	9.175e3	1.042	0.121	4.74	87.8	84.6
11	11 13C8-PFOS	79.93	4.718e3	4.769e3	1.026	0.121	5.12	100	96.4
12	12 13C5-PFNA	422.9	8.872e3	4.260e2	21.158	0.121	5.06	102	98.4
13	13 13C5-PFHxA	273.0	1.096e4	1.096e4	1.000	0.121	3.88	104	100
14	14 13C3-PFHxS	80.0	5.050e3	5.050e3	1.000	0.121	4.46	104	100
15	15 13C8-PFOA	375.9	9.175e3	9.175e3	1.000	0.121	4.74	104	100
16	16 13C4-PFOS	79.94	4.769e3	4.769e3	1.000	0.121	5.12	104	100
17	17 13C9-PFNA	427.0	4.260e2	4.260e2	1.000	0.121	5.06	104	100
18	18 Total PFBS	79.9		6.219e3		0.121		21.7	
19	19 Total PFHxS	79.91		1.592e3		0.121		305	
20	20 Total PFOA	368.9		8.089e3		0.121		298	
21	21 Total PFOS	79.92		4.718e3		0.121		245	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_28.qld

Last Altered: Thursday, June 30, 2016 10:34:49 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:35:27 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-09, Description: OF14-MW06-0616, Name: 160628J1_28.wiff, Date: 28-Jun-2016, Time: 21:26:29

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.46	258.697	6218.824	21.3
2	18 Total PFBS	79.9	3.33	4.537	6218.824	0.4

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	2543.426	1591.801	260.1
2	19 Total PFHxS	79.91	4.36	432.877	1591.801	44.0
3	19 Total PFHxS	79.91	4.25	9.494	1591.801	1.0

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	8104.790	8089.366	254.9
2	20 Total PFOA	368.9	4.65	1399.858	8089.366	42.6
3	20 Total PFOA	368.9	4.53	17.511	8089.366	0.5

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	4618.918	4717.943	150.2
2	21 Total PFOS	79.92	5.01	2718.696	4717.943	87.9
3	21 Total PFOS	79.92	4.92	202.798	4717.943	6.5

Dataset: U:\Q2.PRO\Results\160628J1\160628J_28.qld

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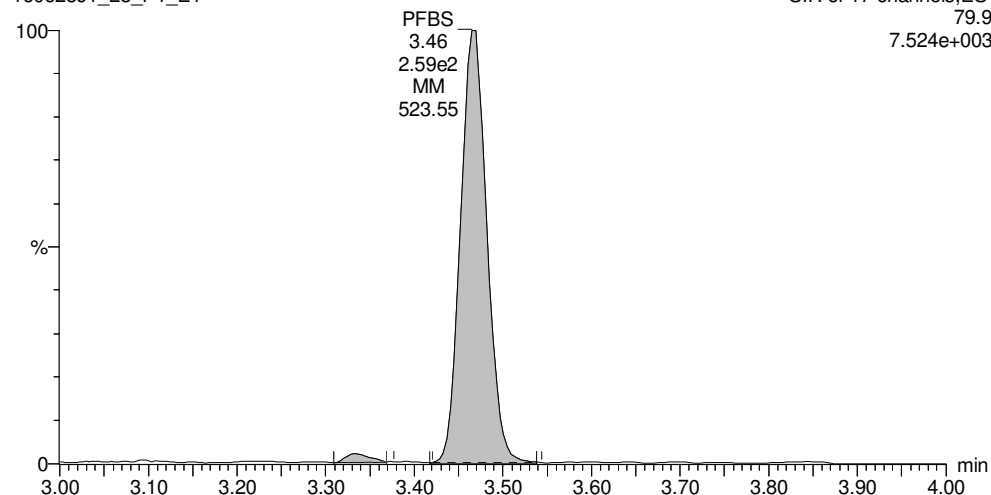
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ID: 1600818-09, Description: OF14-MW06-0616, Name: 160628J1_28.wiff, Date: 28-Jun-2016, Time: 21:26:29, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

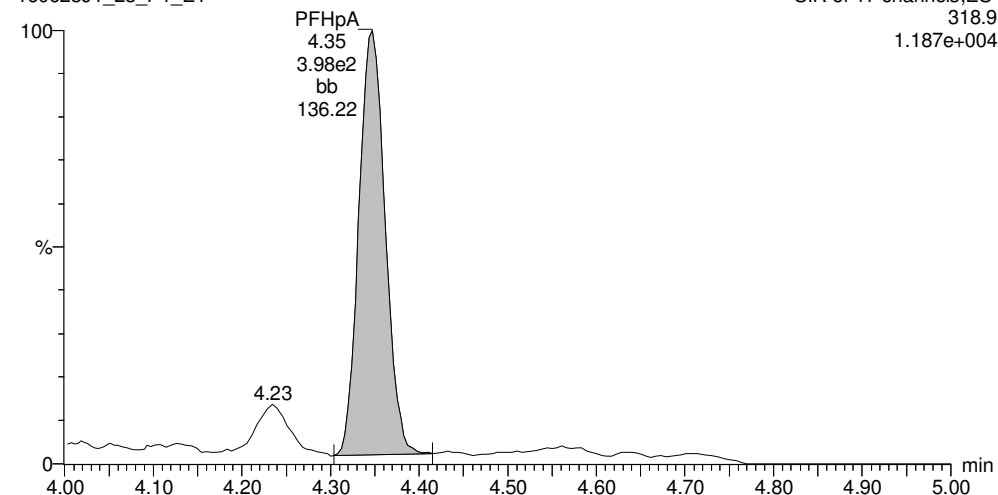
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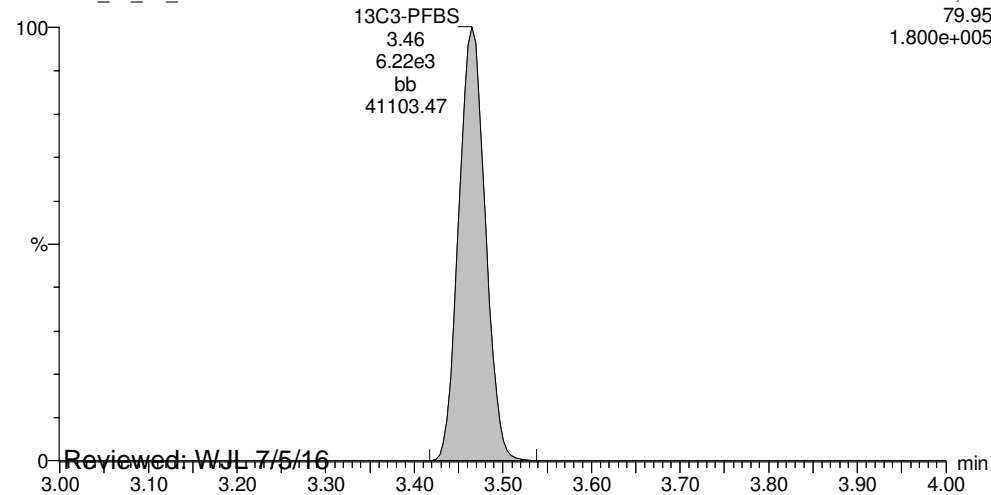
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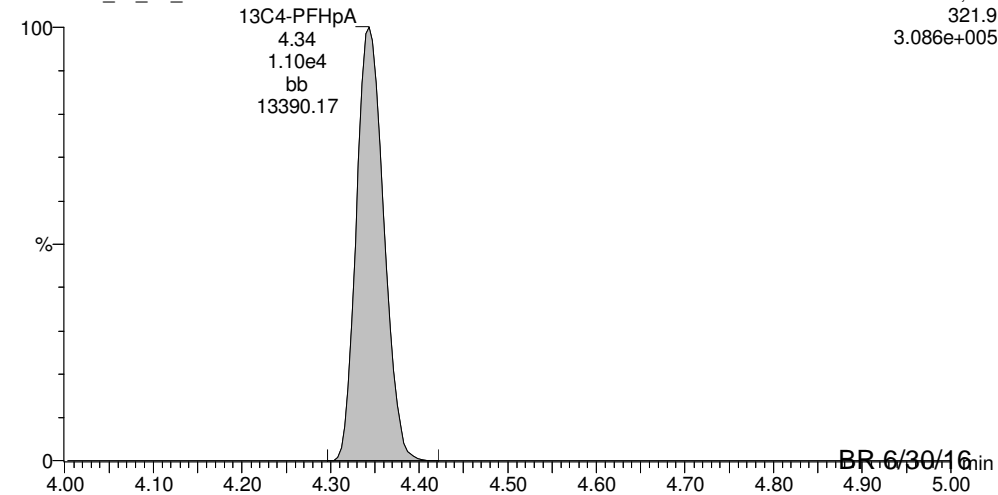
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160628J1_28_P1_E1



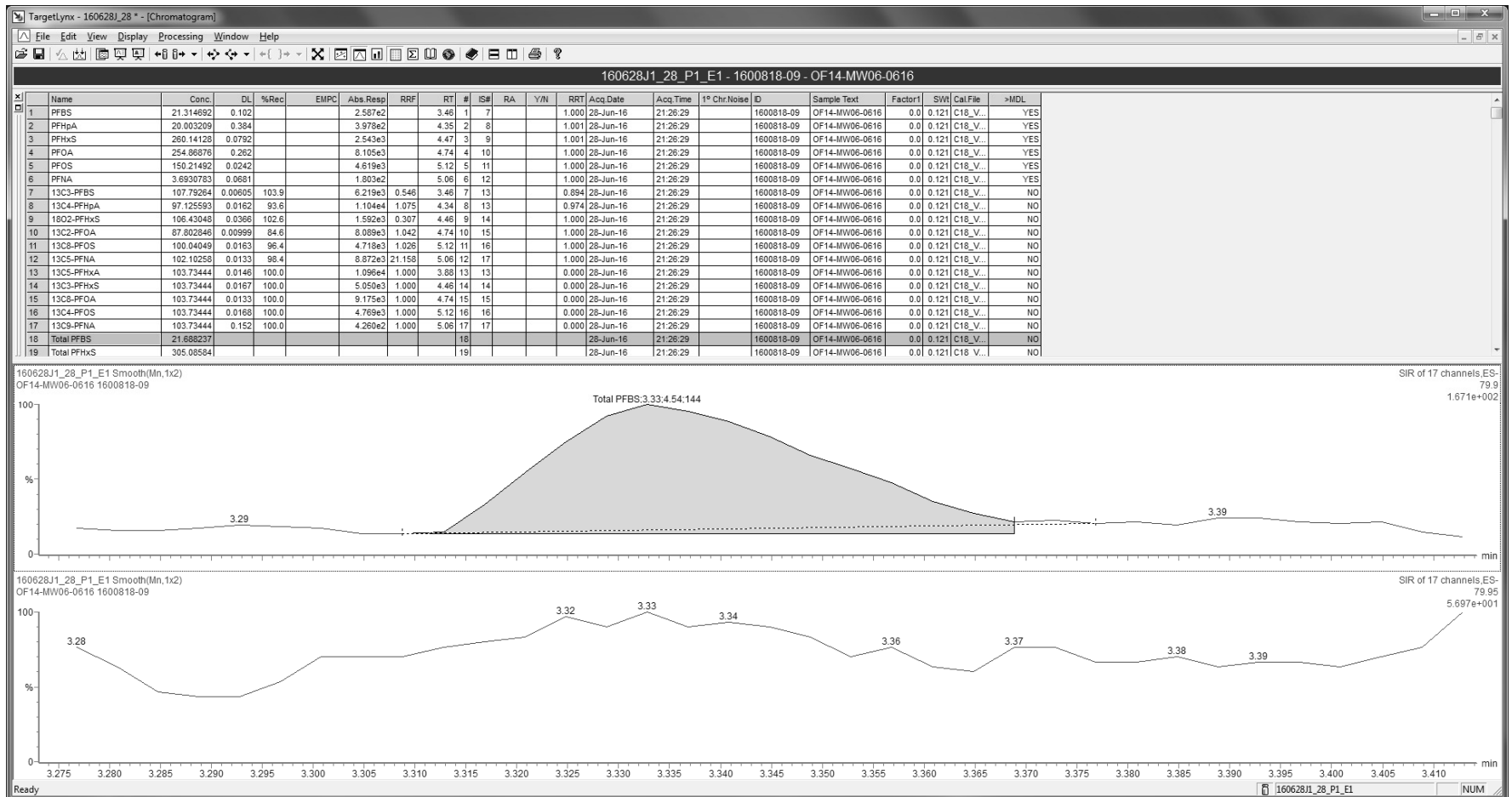
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160628J1_28_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16



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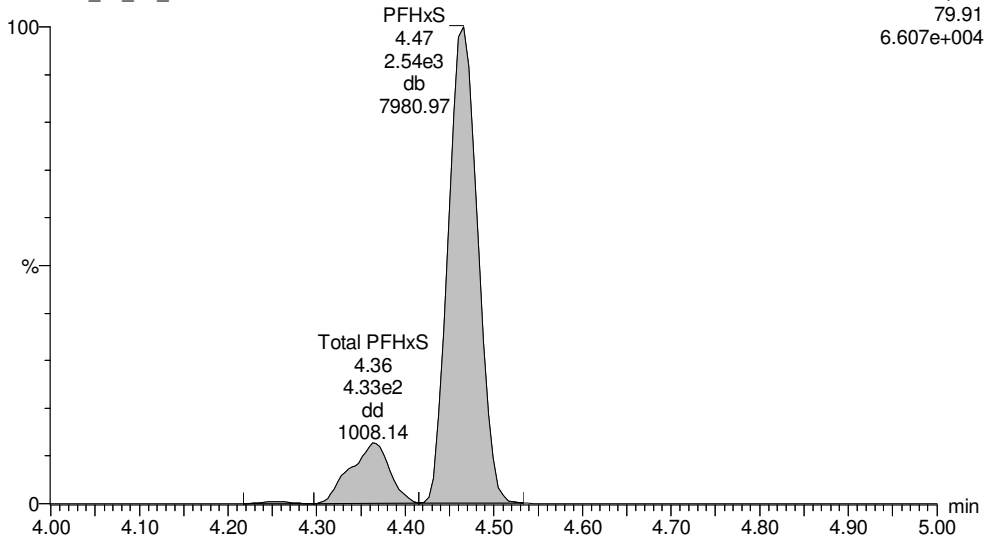
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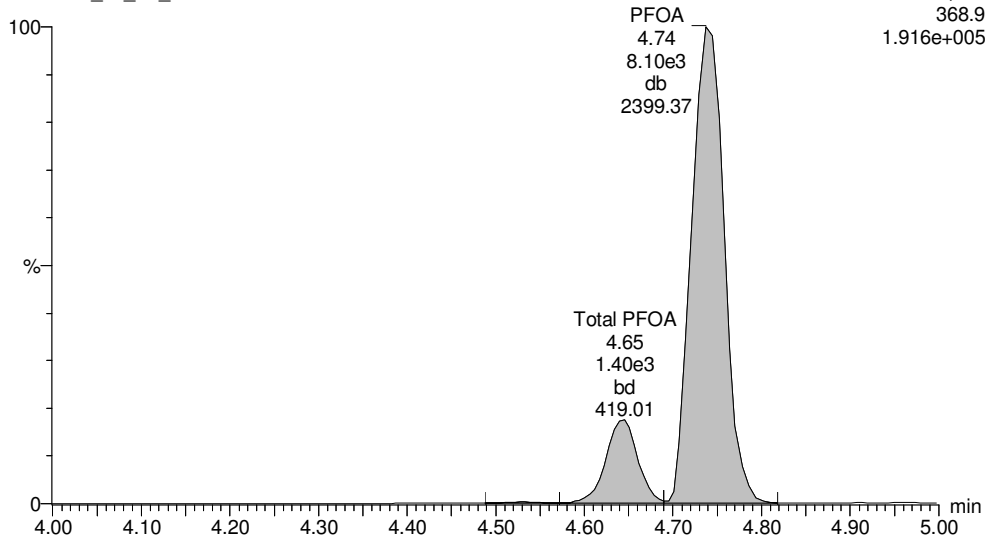
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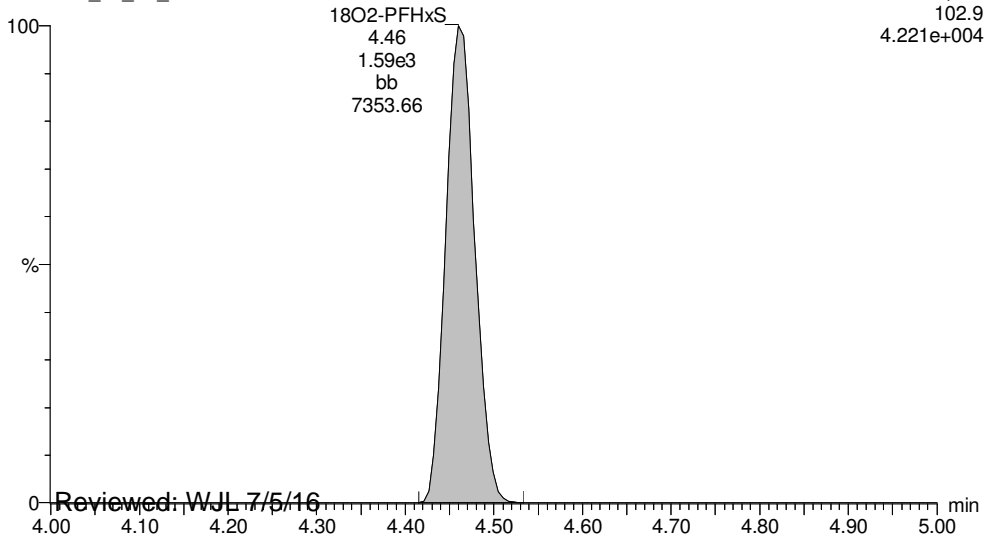
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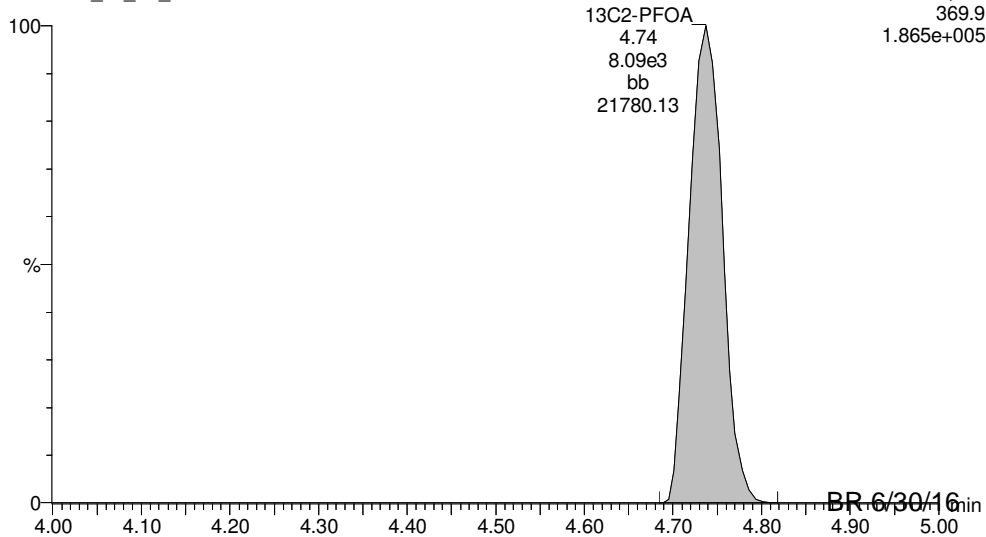
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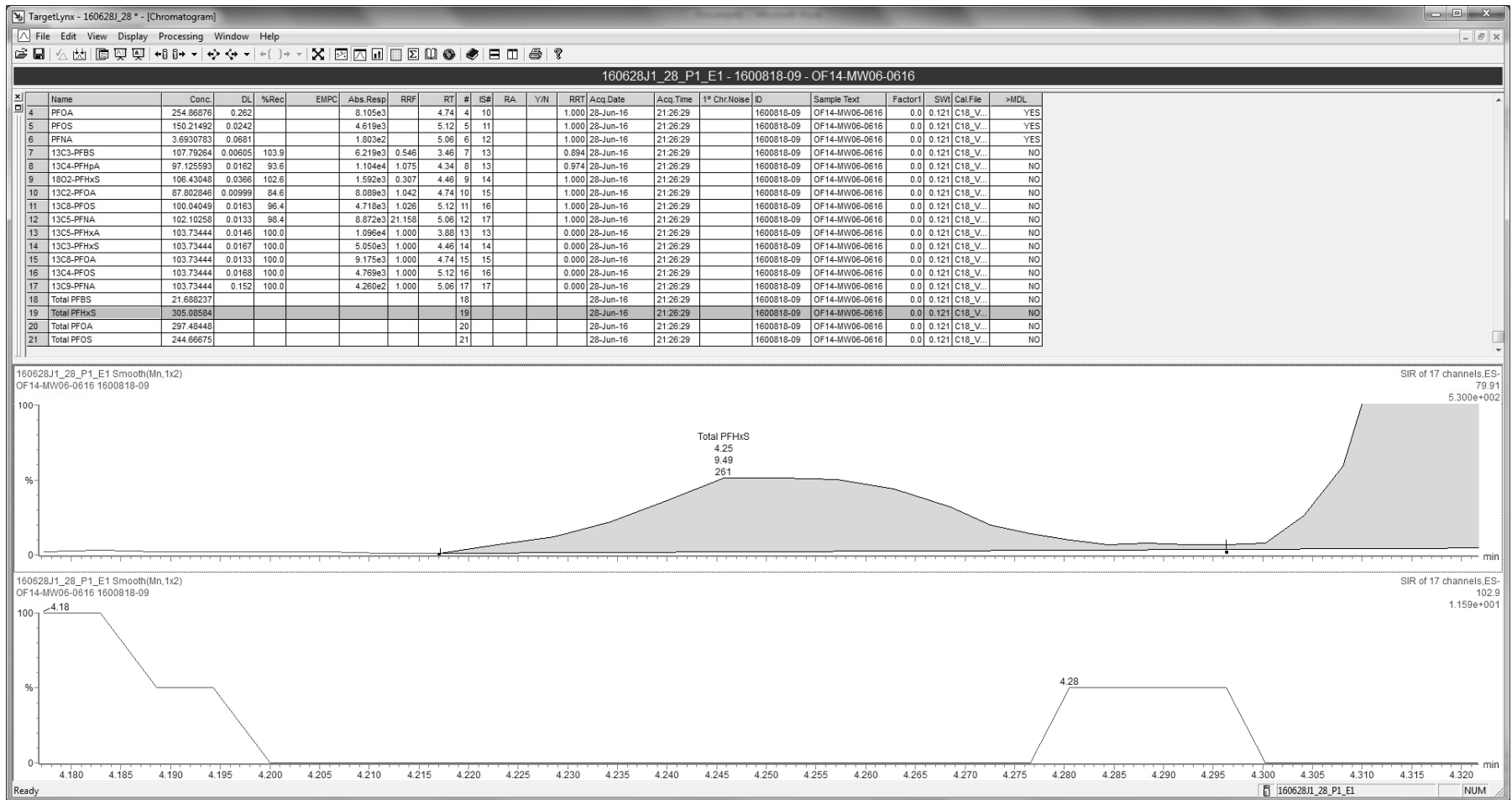
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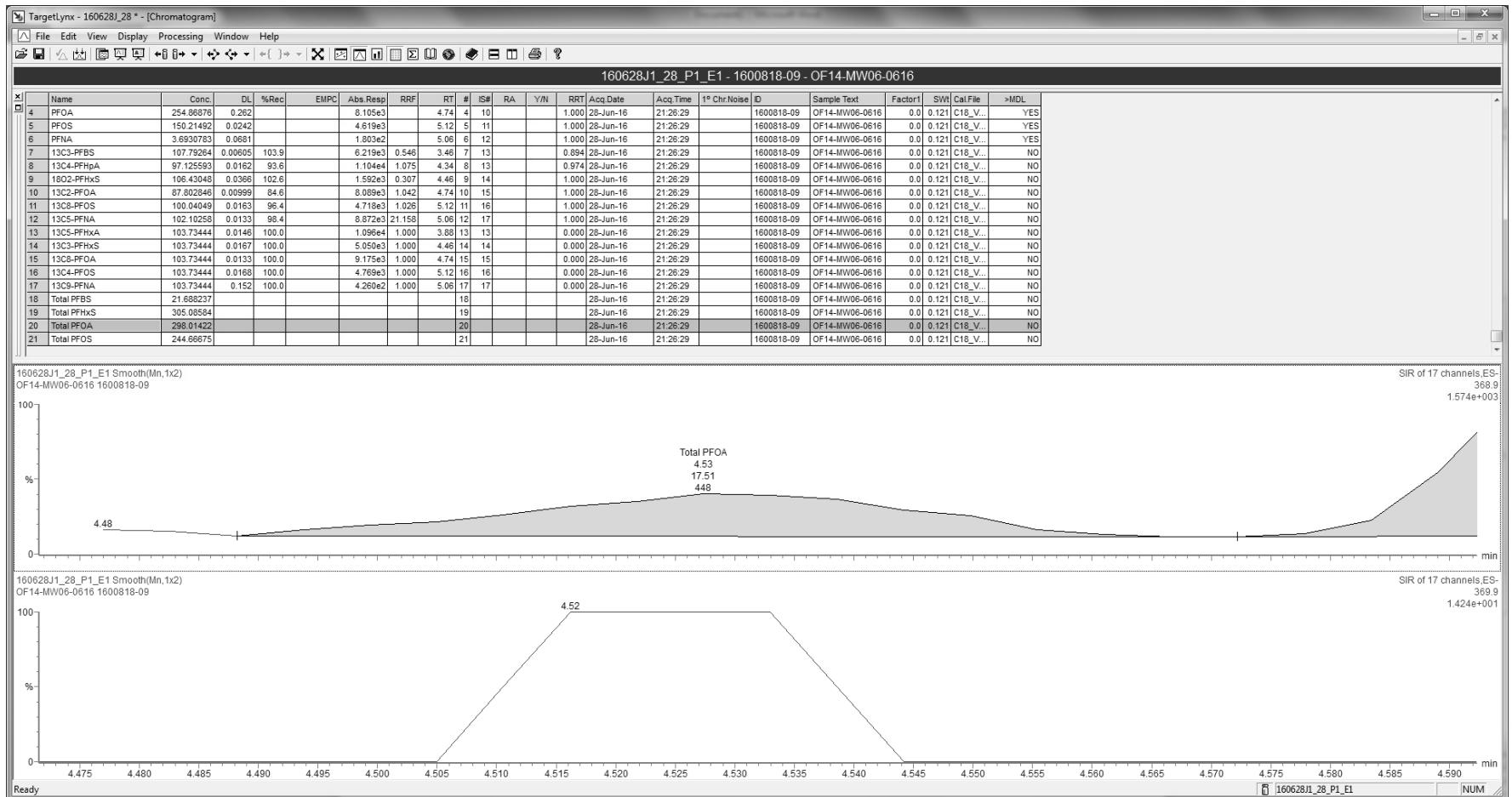
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Reviewed: WJL 7/5/16

BR 6/30/16





Dataset: U:\Q2.PRO\Results\160628J1\160628J_28.qld

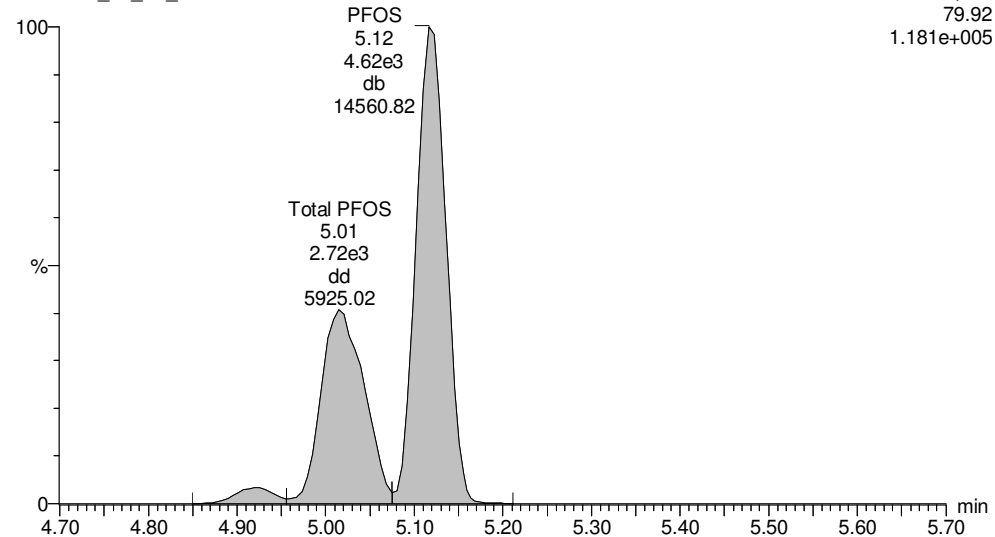
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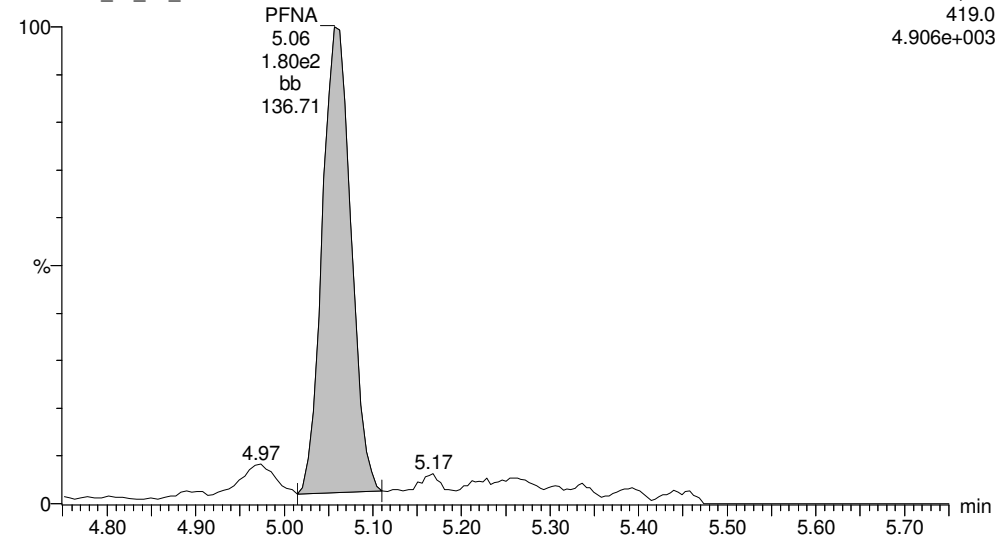
Total PFOS

160628J1_28_P1_E1



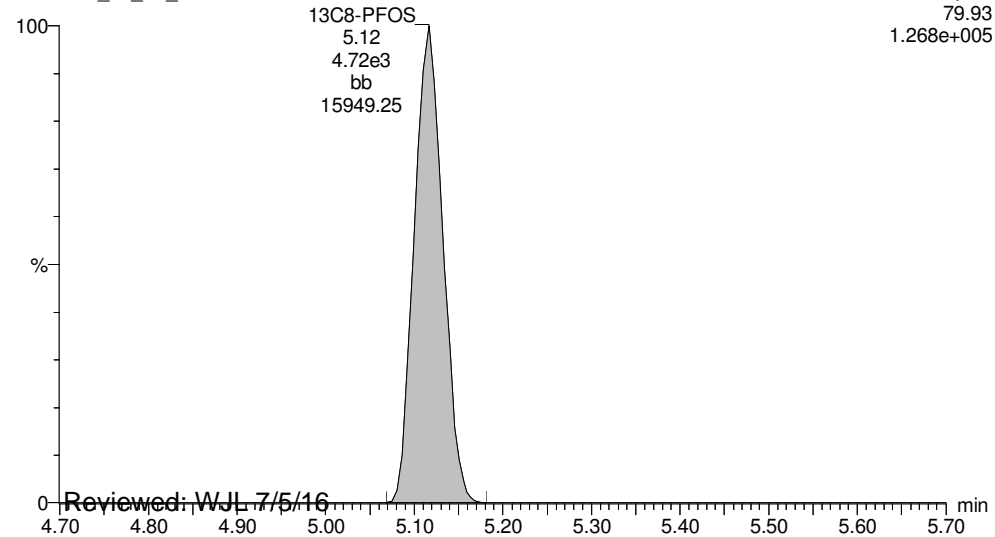
PFNA

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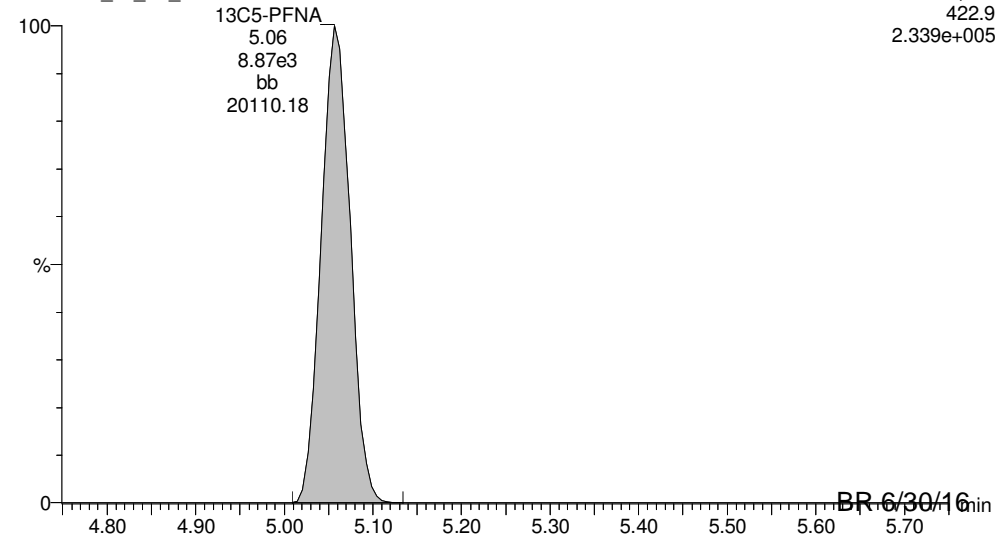
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160628J1_28_P1_E1



13C5-PFNA

160628J1_28_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J_28.qld

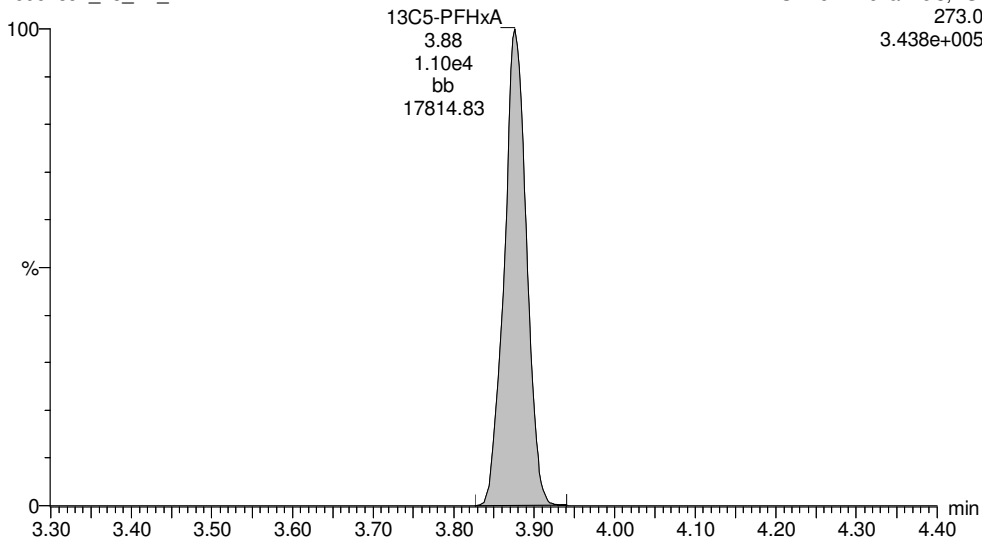
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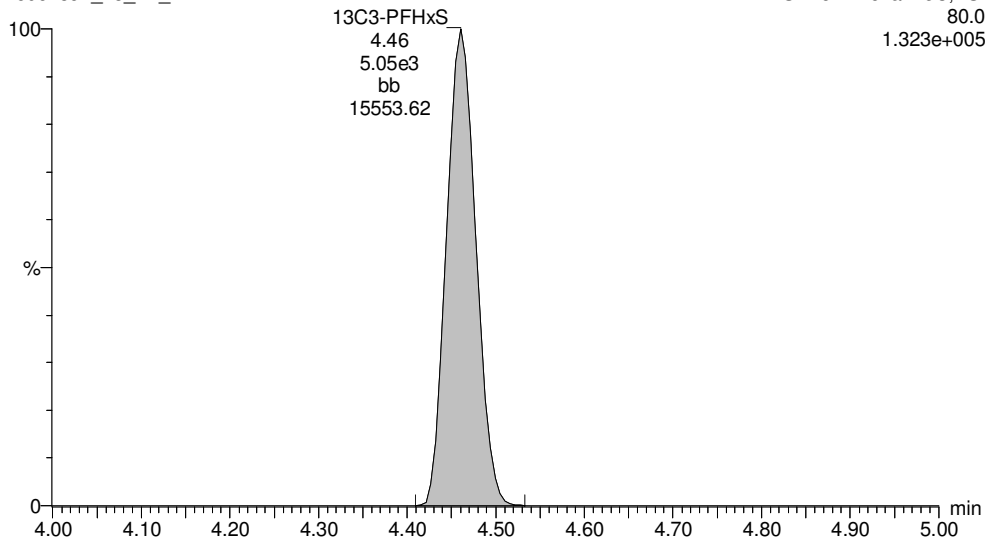
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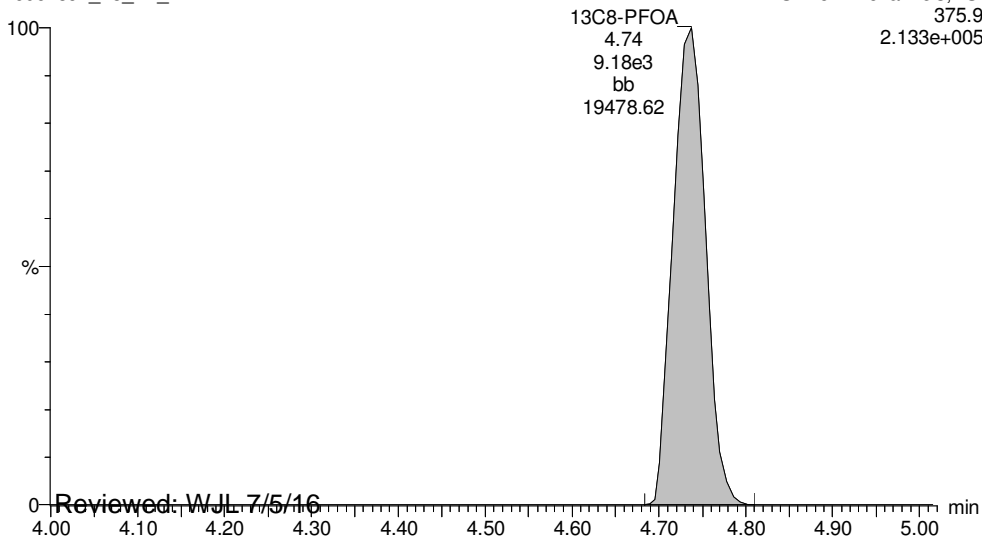
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160628J1_28_P1_E1



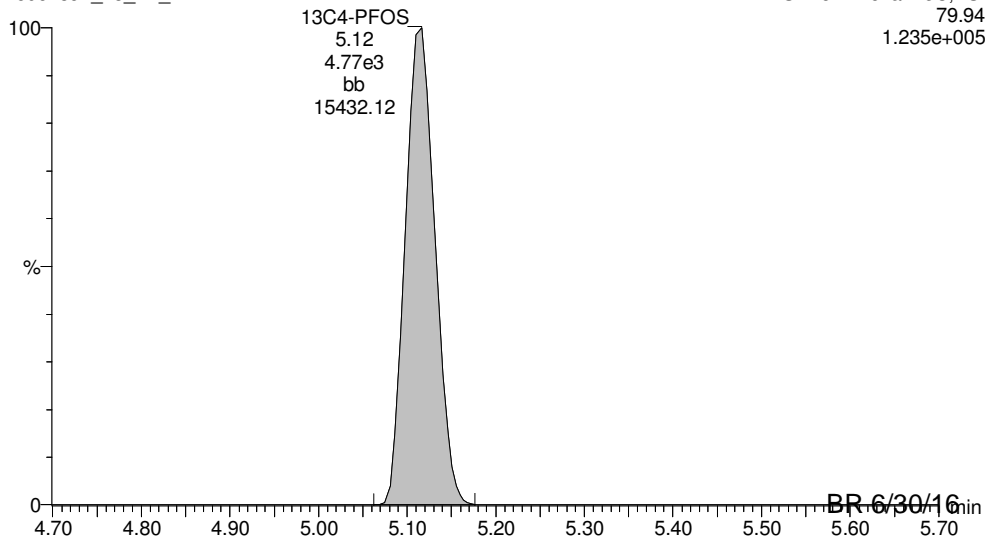
13C8-PFOA

160628J1_28_P1_E1



13C4-PFOS

160628J1_28_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J_28.qld

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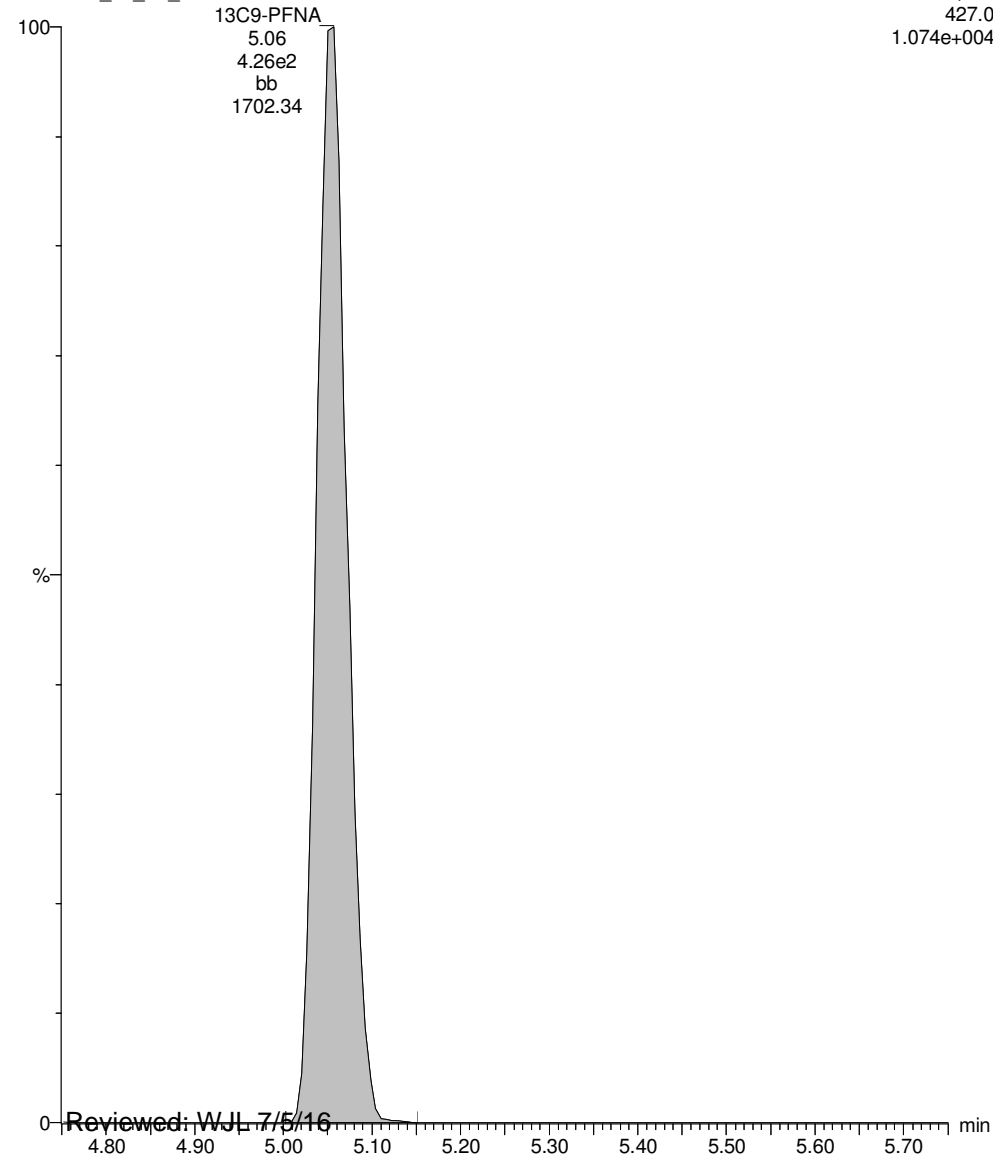
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13C9-PFNA

160628J1_28_P1_E1

SIR of 17 channels, ES-
427.0
1.074e+004



Reviewed: WJL 7/5/16

Work Order 1600818

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_29.qld

Last Altered: Thursday, June 30, 2016 10:55:46 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:55:56 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-10, Description: OF14-MW06D-0616, Name: 160628J1_29.wiff, Date: 28-Jun-2016, Time: 21:38:43

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9		6.389e3		0.123			
2	2 PFHpA	318.9		1.208e4		0.123			
3	3 PFHxS	79.91	6.324e0	1.628e3		0.123	4.47	0.615	
4	4 PFOA	368.9	3.066e1	9.438e3		0.123	4.74	0.779	
5	5 PFOS	79.92	4.641e0	4.503e3		0.123	5.12	0.153	
6	6 PFNA	419.0	4.803e0	8.774e3		0.123	5.06	0.0975	
7	7 13C3-PFBS	79.95	6.389e3	1.191e4	0.546	0.123	3.46	99.9	98.3
8	8 13C4-PFHpA	321.9	1.208e4	1.191e4	1.075	0.123	4.34	95.9	94.4
9	9 18O2-PFHxS	102.9	1.628e3	5.244e3	0.307	0.123	4.46	103	101
10	10 13C2-PFOA	369.9	9.438e3	9.927e3	1.042	0.123	4.74	92.8	91.3
11	11 13C8-PFOS	79.93	4.503e3	5.152e3	1.026	0.123	5.12	86.6	85.2
12	12 13C5-PFNA	422.9	8.774e3	5.560e2	21.158	0.123	5.06	75.8	74.6
13	13 13C5-PFHxA	273.0	1.191e4	1.191e4	1.000	0.123	3.87	102	100
14	14 13C3-PFHxS	80.0	5.244e3	5.244e3	1.000	0.123	4.46	102	100
15	15 13C8-PFOA	375.9	9.927e3	9.927e3	1.000	0.123	4.74	102	100
16	16 13C4-PFOS	79.94	5.152e3	5.152e3	1.000	0.123	5.12	102	100
17	17 13C9-PFNA	427.0	5.560e2	5.560e2	1.000	0.123	5.06	102	100
18	18 Total PFBS	79.9		6.389e3		0.123			
19	19 Total PFHxS	79.91		1.628e3		0.123		0.615	
20	20 Total PFOA	368.9		9.438e3		0.123		0.779	
21	21 Total PFOS	79.92		4.503e3		0.123		0.438	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_29.qld

Last Altered: Thursday, June 30, 2016 10:55:46 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:55:56 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-10, Description: OF14-MW06D-0616, Name: 160628J1_29.wiff, Date: 28-Jun-2016, Time: 21:38:43

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	6.324	1627.503	0.6

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	30.661	9437.962	0.8

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.04	8.642	4503.269	0.3
2	5 PFOS	79.92	5.12	4.641	4503.269	0.2

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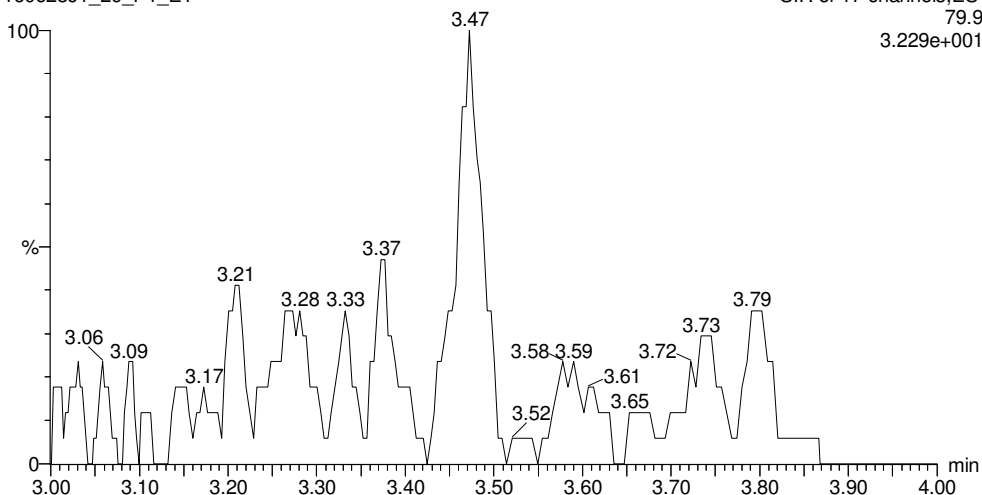
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ID: 1600818-10, Description: OF14-MW06D-0616, Name: 160628J1_29.wiff, Date: 28-Jun-2016, Time: 21:38:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

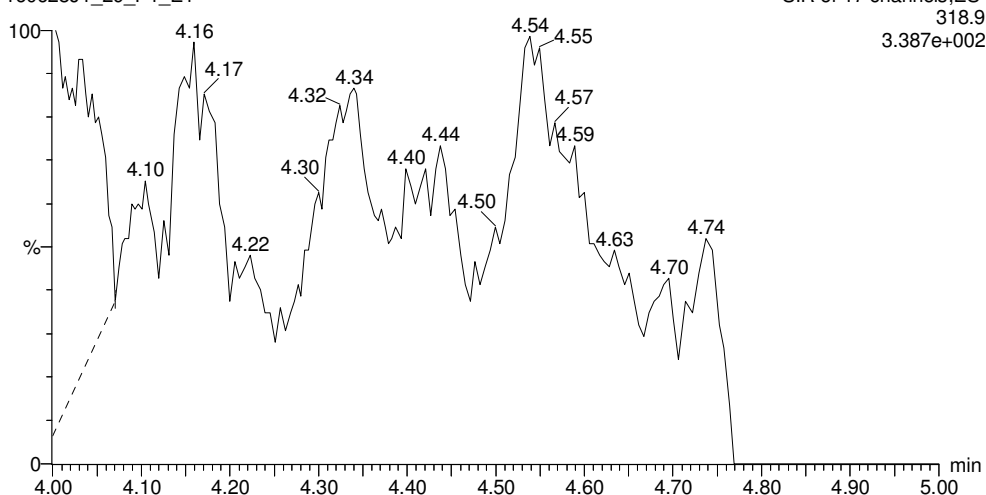
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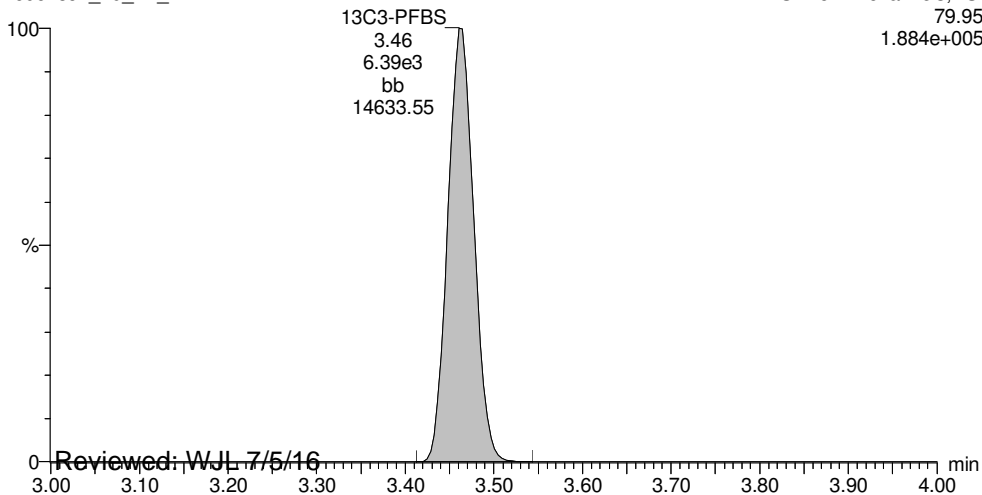
PFHpA

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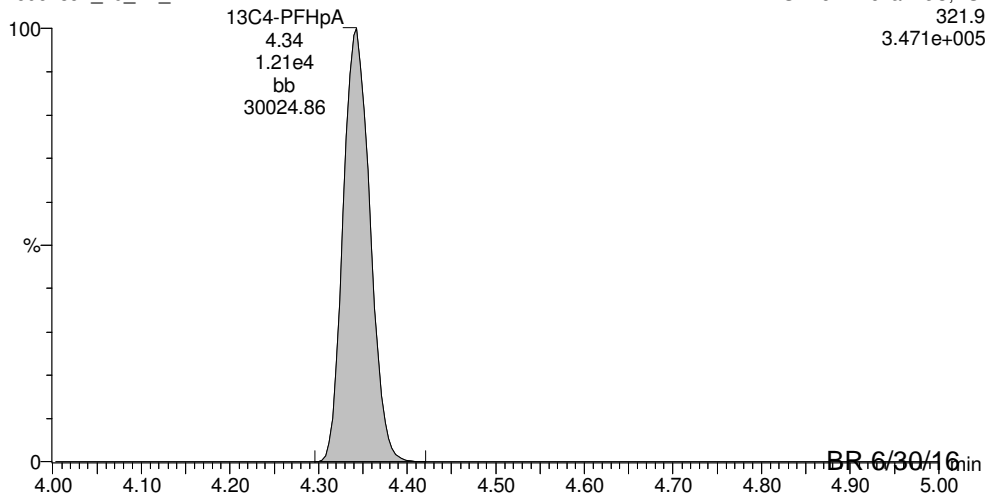
13C3-PFBS

160628J1_29_P1_E1



13C4-PFHpA

160628J1_29_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

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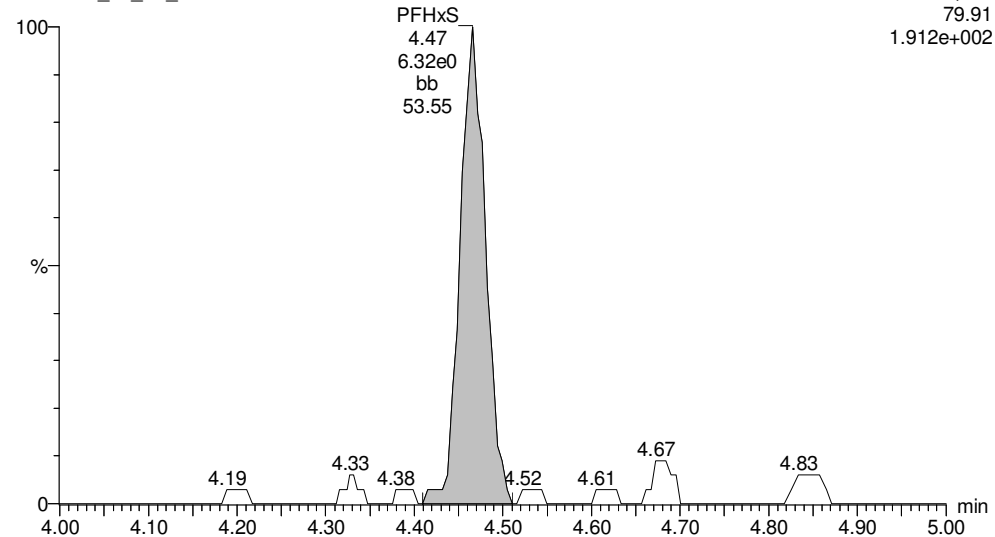
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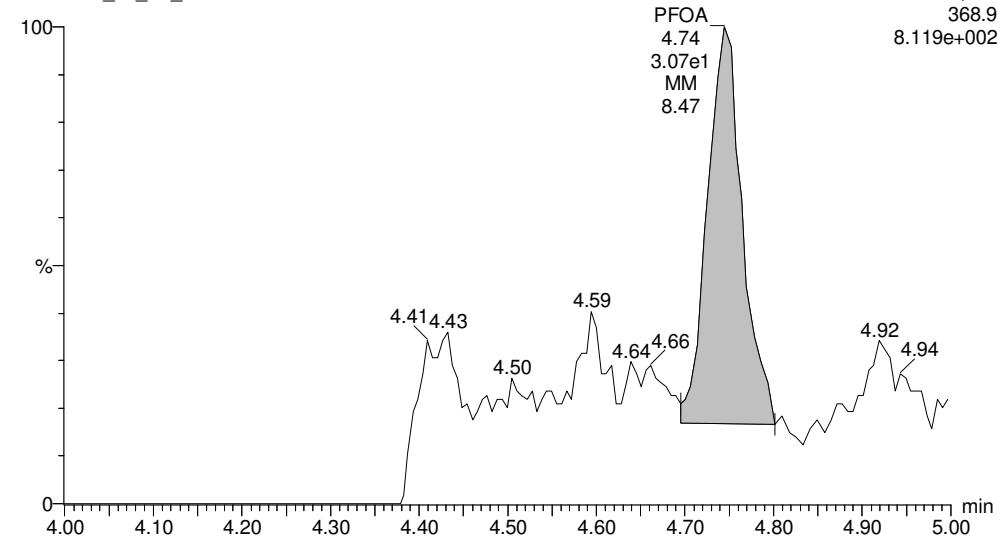
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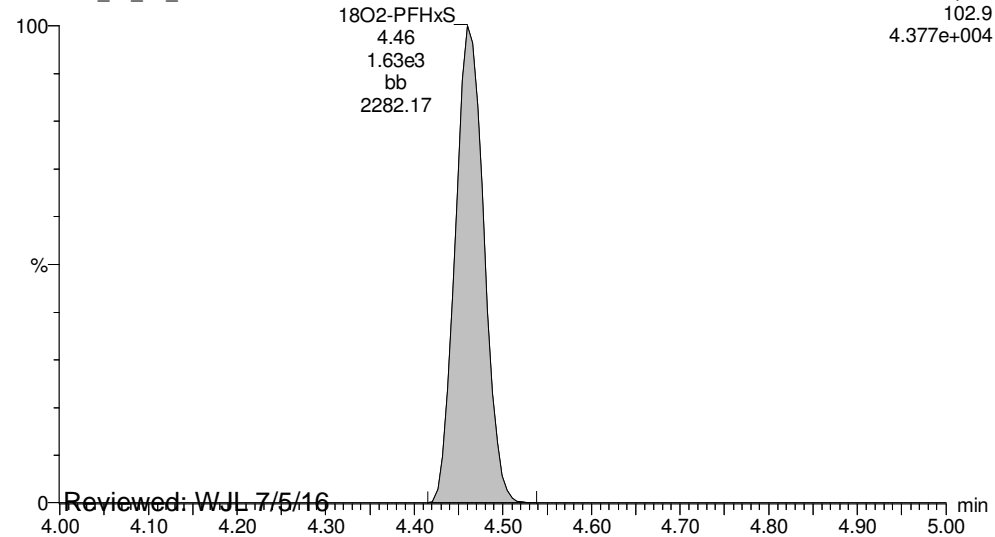
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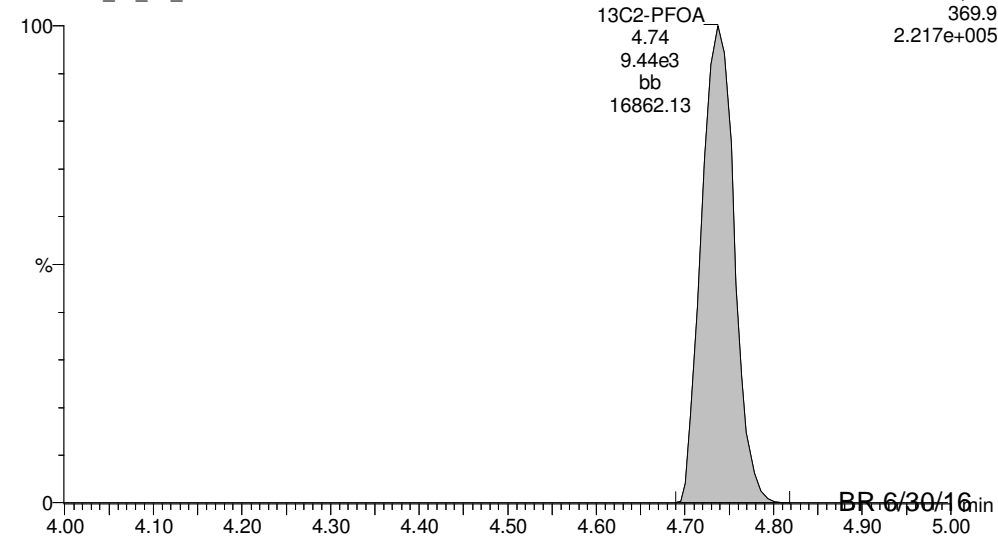
18O2-PFHxS

160628J1_29_P1_E1



13C2-PFOA

160628J1_29_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

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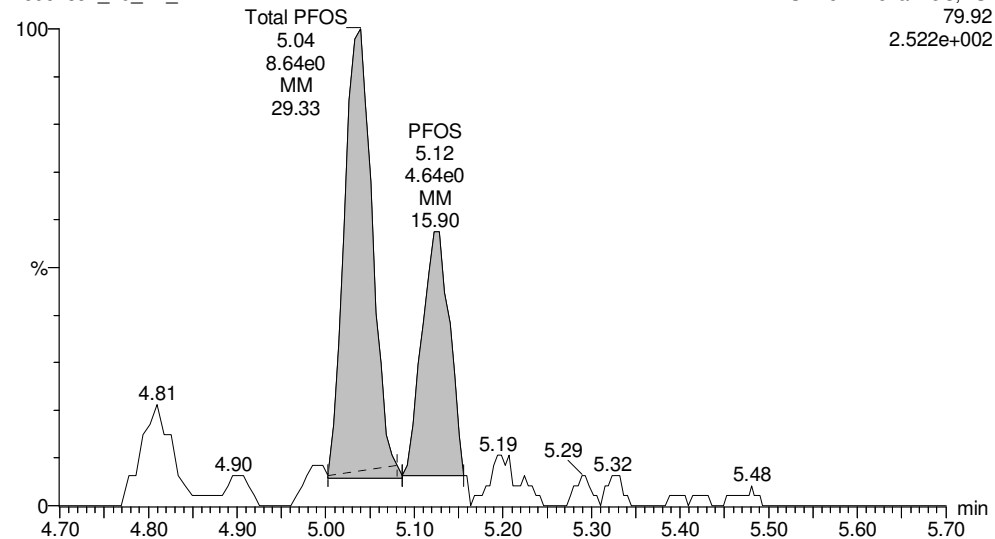
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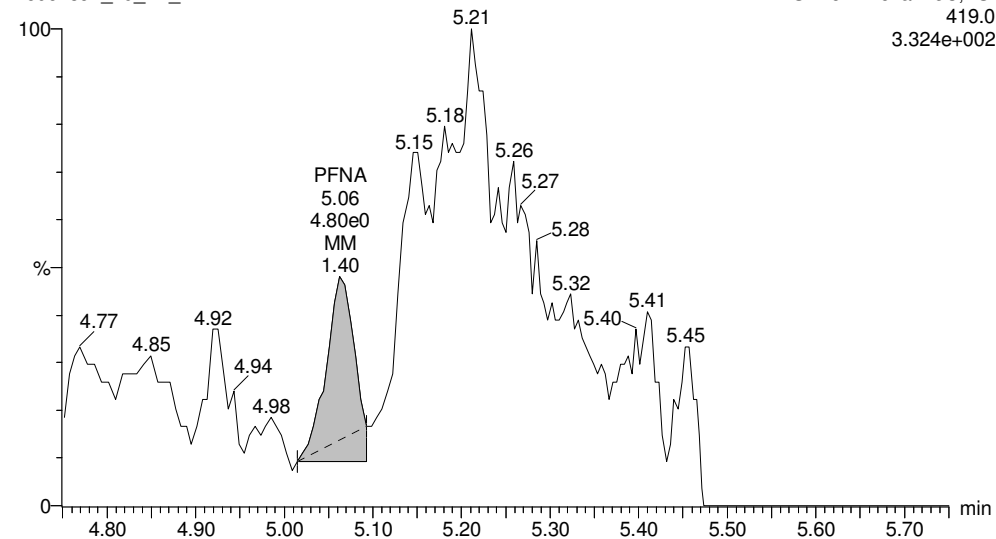
Total PFOS

160628J1_29_P1_E1



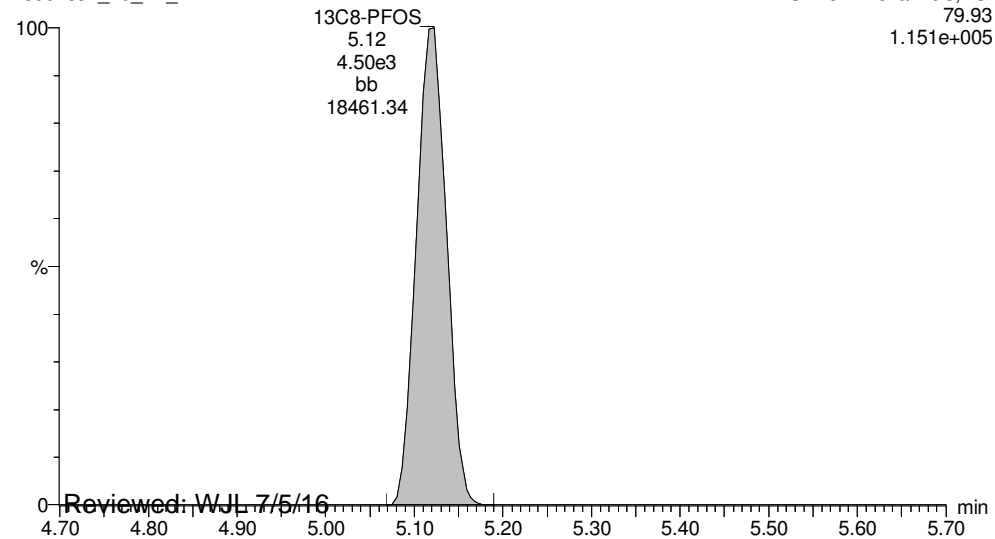
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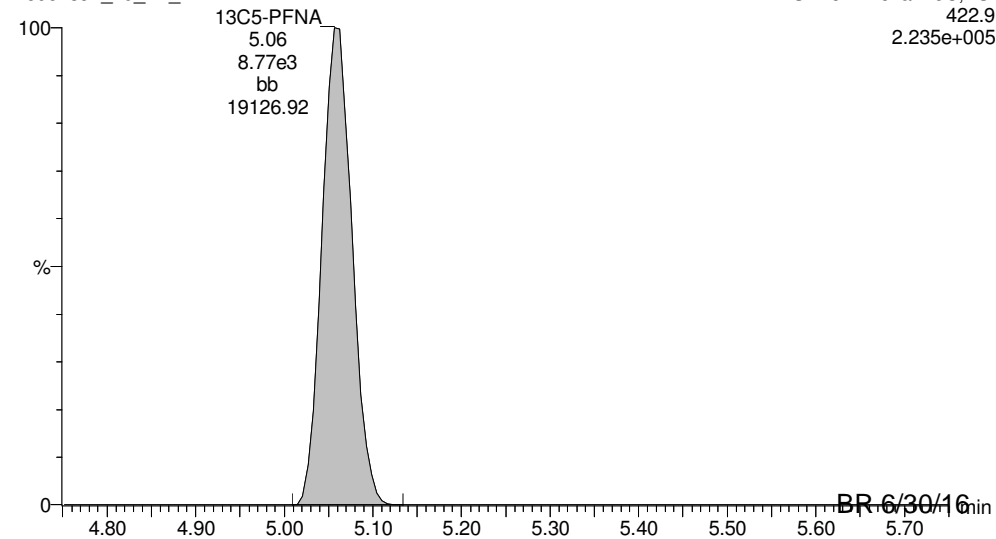
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160628J1_29_P1_E1



13C5-PFNA

160628J1_29_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

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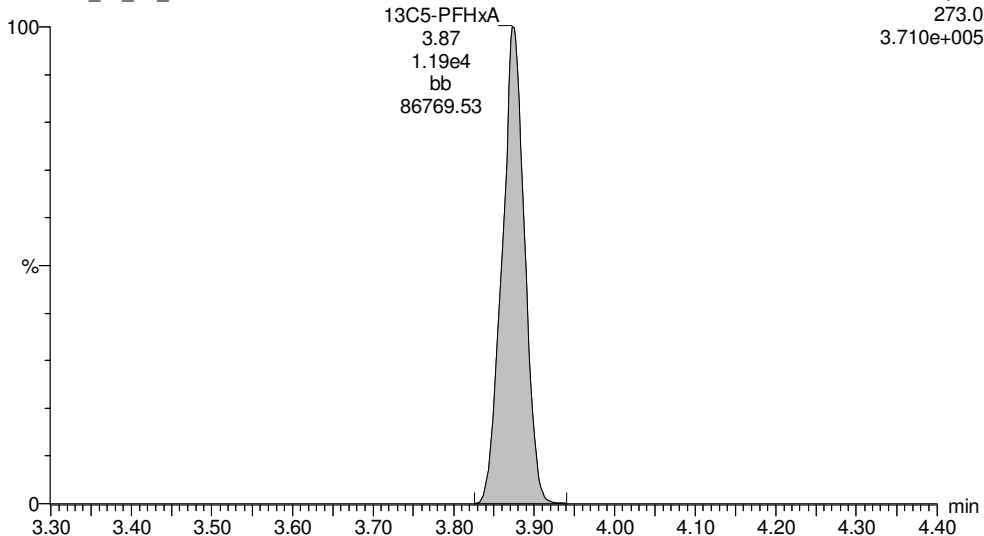
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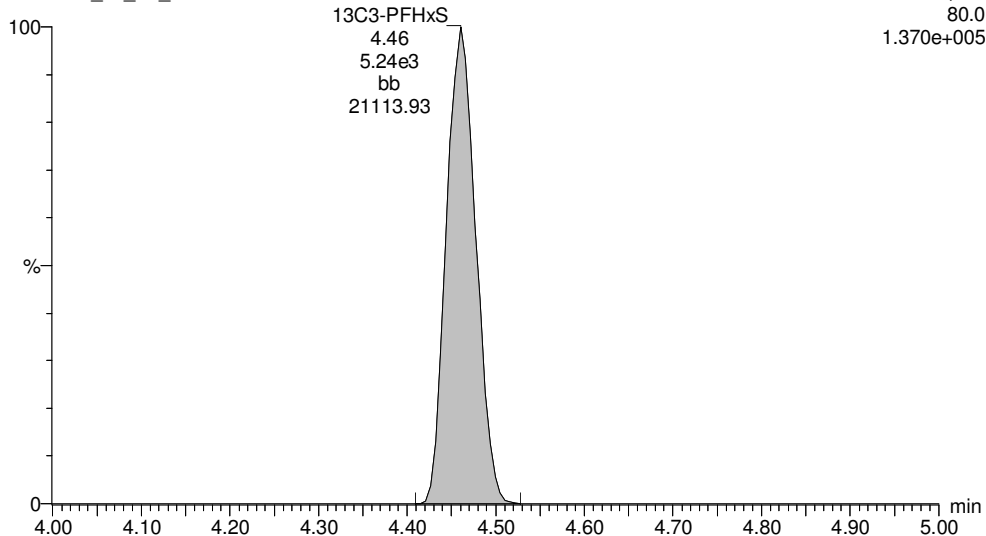
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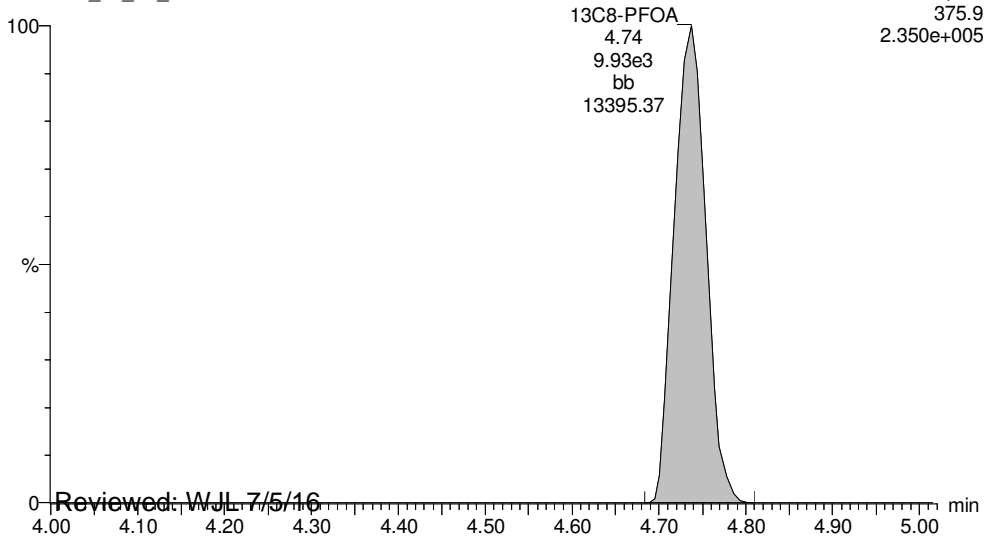
13C3-PFHxS

160628J1_29_P1_E1



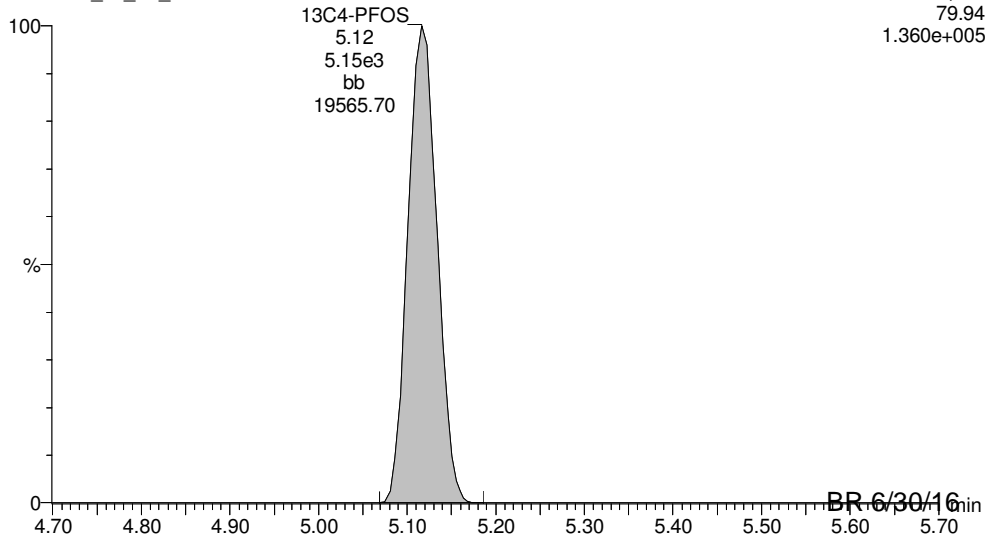
13C8-PFOA

160628J1_29_P1_E1



13C4-PFOS

160628J1_29_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_29.qld

Last Altered: Thursday, June 30, 2016 10:55:46 AM Pacific Daylight Time

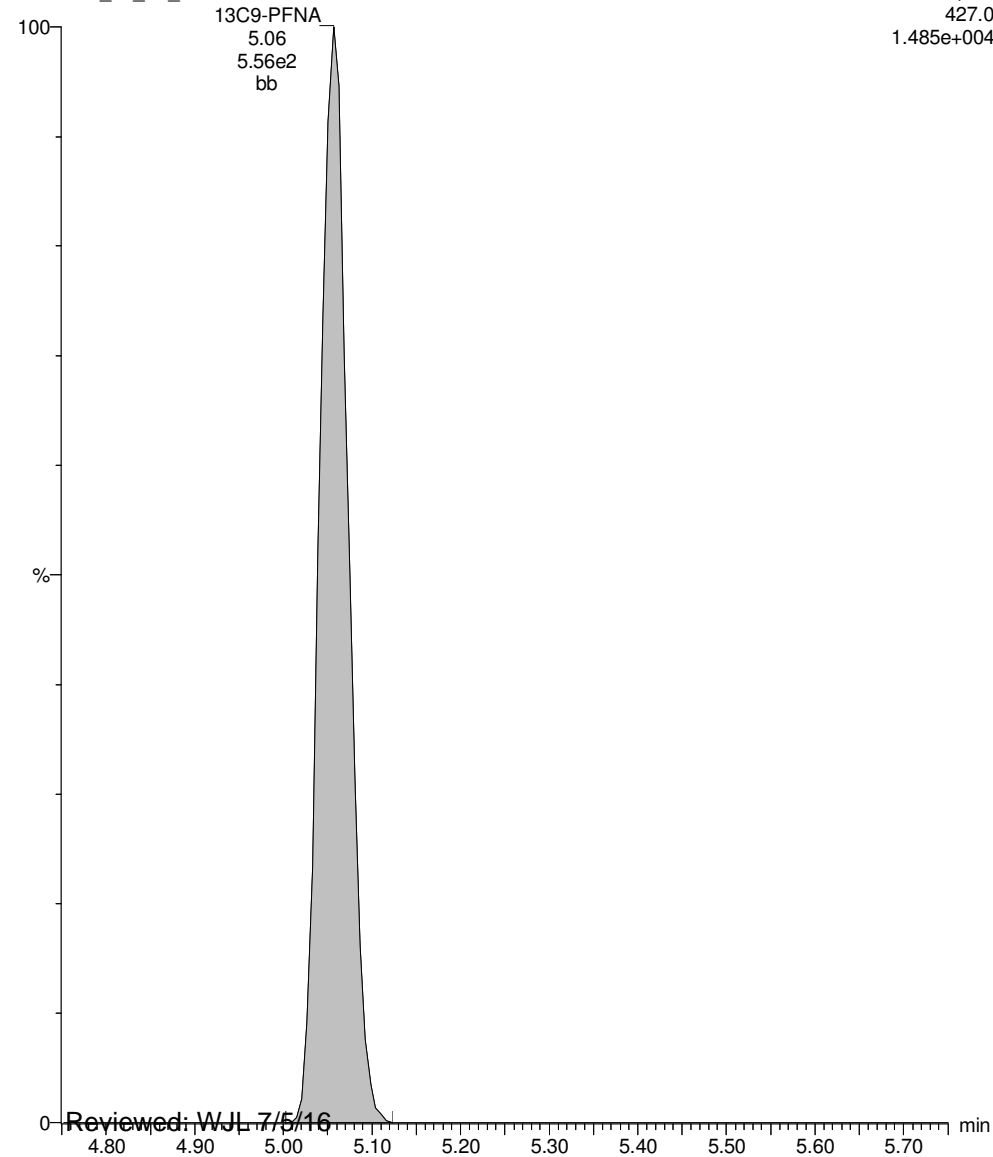
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ID: 1600818-10, Description: OF14-MW06D-0616, Name: 160628J1_29.wiff, Date: 28-Jun-2016, Time: 21:38:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_29_P1_E1

SIR of 17 channels, ES-
427.0
1.485e+004



Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

Last Altered: Thursday, June 30, 2016 10:58:50 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:58:59 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-11, Description: OF-MW17-0616, Name: 160628J1_33.wiff, Date: 28-Jun-2016, Time: 22:27:29

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	6.965e1	6.496e3		0.123	3.47	5.40	
2	2 PFHpA	318.9	5.616e1	1.189e4		0.123	4.34	2.57	
3	3 PFHxS	79.91	4.024e2	1.627e3		0.123	4.46	39.3	
4	4 PFOA	368.9	1.008e3	9.382e3		0.123	4.75	25.9	
5	5 PFOS	79.92	2.565e2	4.923e3		0.123	5.12	7.76	
6	6 PFNA	419.0	3.225e1	9.283e3		0.123	5.06	0.620	
7	7 13C3-PFBS	79.95	6.496e3	1.137e4	0.546	0.123	3.46	107	105
8	8 13C4-PFHpA	321.9	1.189e4	1.137e4	1.075	0.123	4.34	99.1	97.3
9	9 18O2-PFHxS	102.9	1.627e3	5.271e3	0.307	0.123	4.46	102	100
10	10 13C2-PFOA	369.9	9.382e3	9.368e3	1.042	0.123	4.74	98.0	96.1
11	11 13C8-PFOS	79.93	4.923e3	5.234e3	1.026	0.123	5.12	93.4	91.7
12	12 13C5-PFNA	422.9	9.283e3	5.578e2	21.158	0.123	5.06	80.2	78.7
13	13 13C5-PFHxA	273.0	1.137e4	1.137e4	1.000	0.123	3.88	102	100
14	14 13C3-PFHxS	80.0	5.271e3	5.271e3	1.000	0.123	4.46	102	100
15	15 13C8-PFOA	375.9	9.368e3	9.368e3	1.000	0.123	4.73	102	100
16	16 13C4-PFOS	79.94	5.234e3	5.234e3	1.000	0.123	5.11	102	100
17	17 13C9-PFNA	427.0	5.578e2	5.578e2	1.000	0.123	5.06	102	100
18	18 Total PFBS	79.9		6.496e3		0.123		5.40	
19	19 Total PFHxS	79.91		1.627e3		0.123		45.9	
20	20 Total PFOA	368.9		9.382e3		0.123		29.8	
21	21 Total PFOS	79.92		4.923e3		0.123		33.2	

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

Last Altered: Thursday, June 30, 2016 10:58:50 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 10:58:59 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-11, Description: OF-MW17-0616, Name: 160628J1_33.wiff, Date: 28-Jun-2016, Time: 22:27:29

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	69.653	6495.596	5.4

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.46	402.373	1626.524	39.3
2	19 Total PFHxS	79.91	4.37	67.406	1626.524	6.6

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	1008.021	9381.732	25.9
2	20 Total PFOA	368.9	4.64	151.644	9381.732	3.9

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	4.92	87.220	4923.066	2.6
2	5 PFOS	79.92	5.12	256.473	4923.066	7.8
3	21 Total PFOS	79.92	5.02	753.822	4923.066	22.8

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

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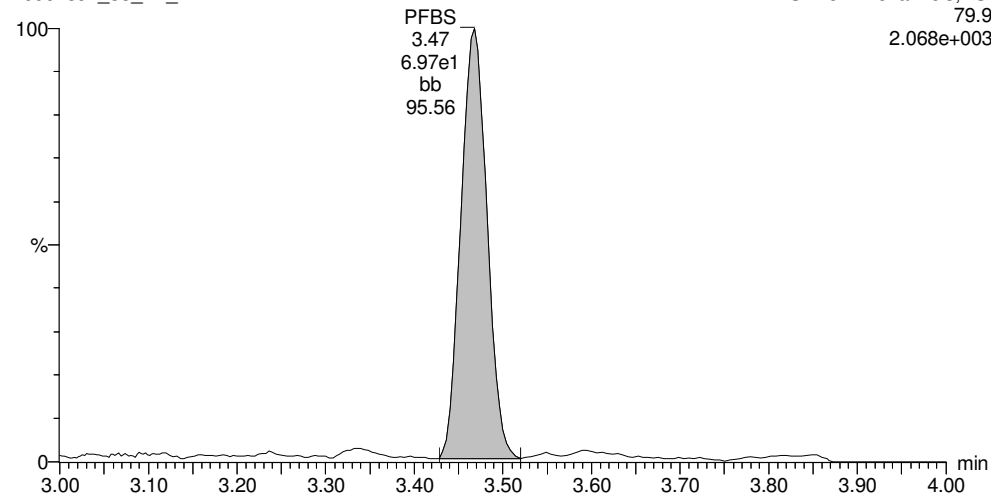
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ID: 1600818-11, Description: OF-MW17-0616, Name: 160628J1_33.wiff, Date: 28-Jun-2016, Time: 22:27:29, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

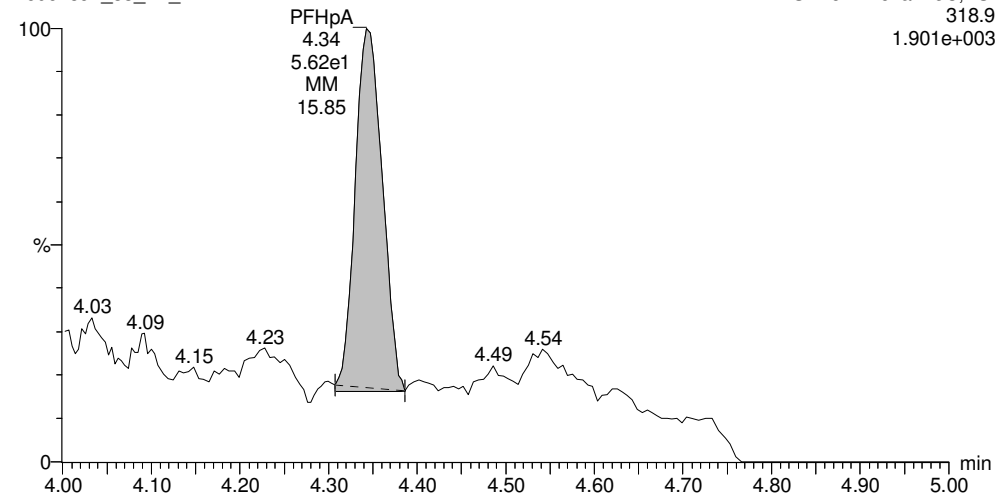
Total PFBS

160628J1_33_P1_E1



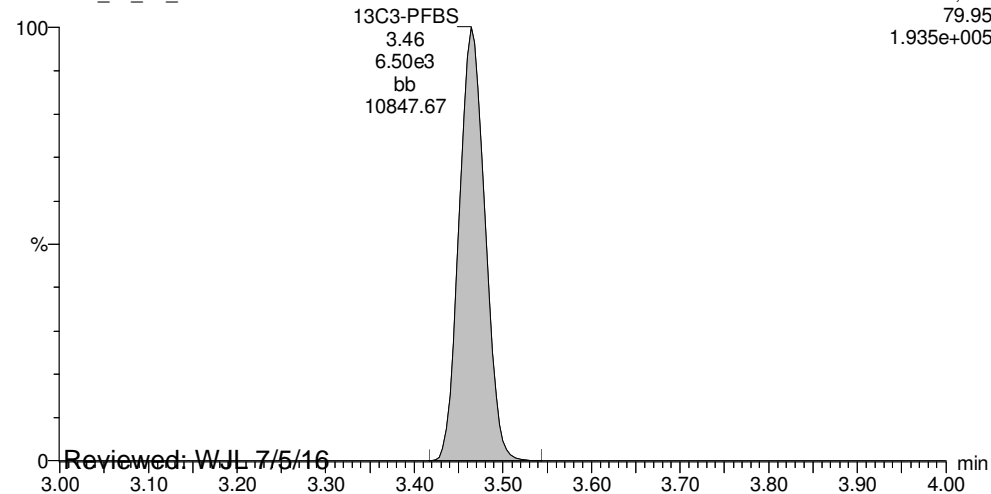
PFHpA

160628J1_33_P1_E1



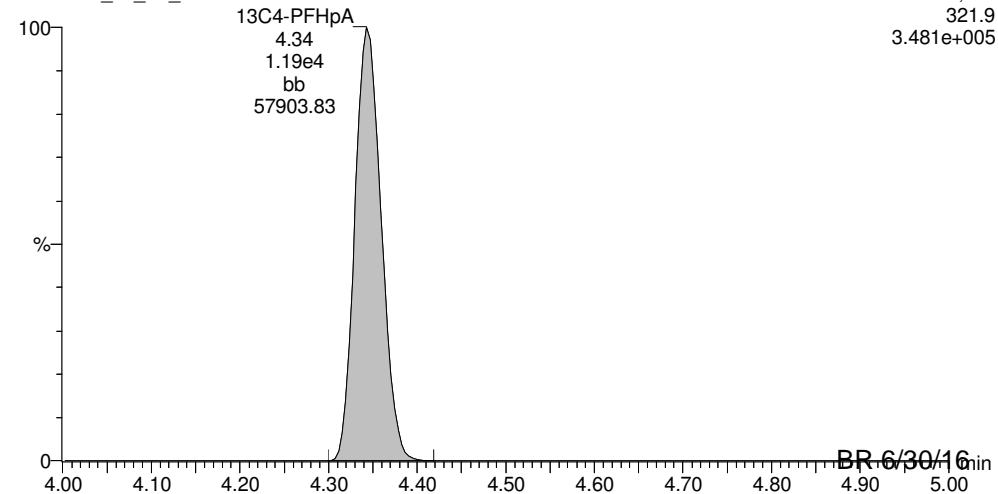
13C3-PFBS

160628J1_33_P1_E1



13C4-PFHpA

160628J1_33_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

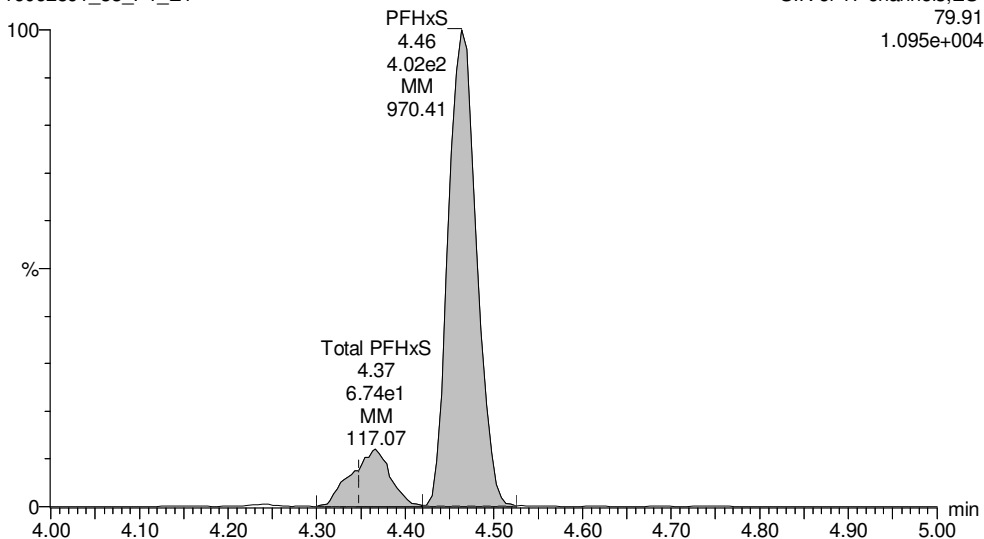
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Printed: Thursday, June 30, 2016 10:58:59 AM Pacific Daylight Time

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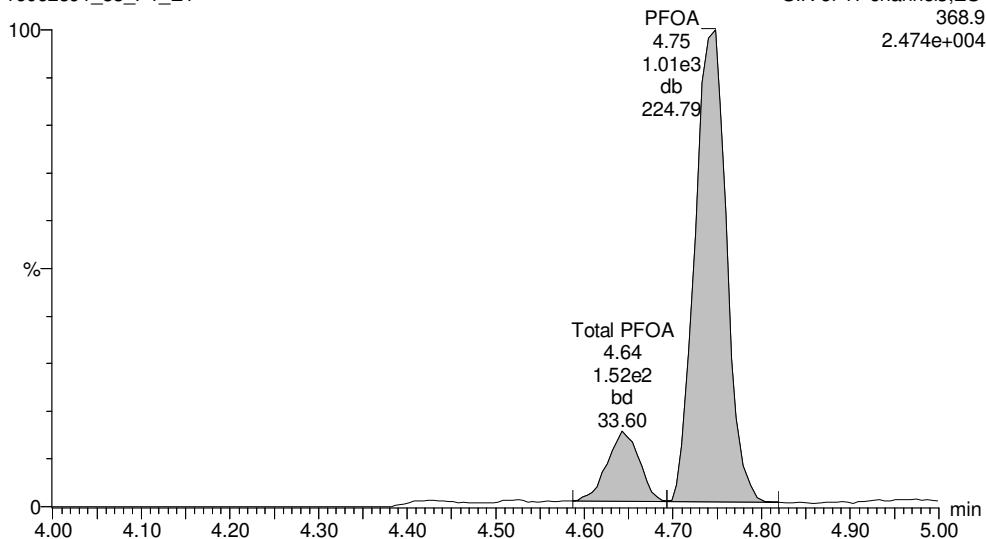
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160628J1_33_P1_E1



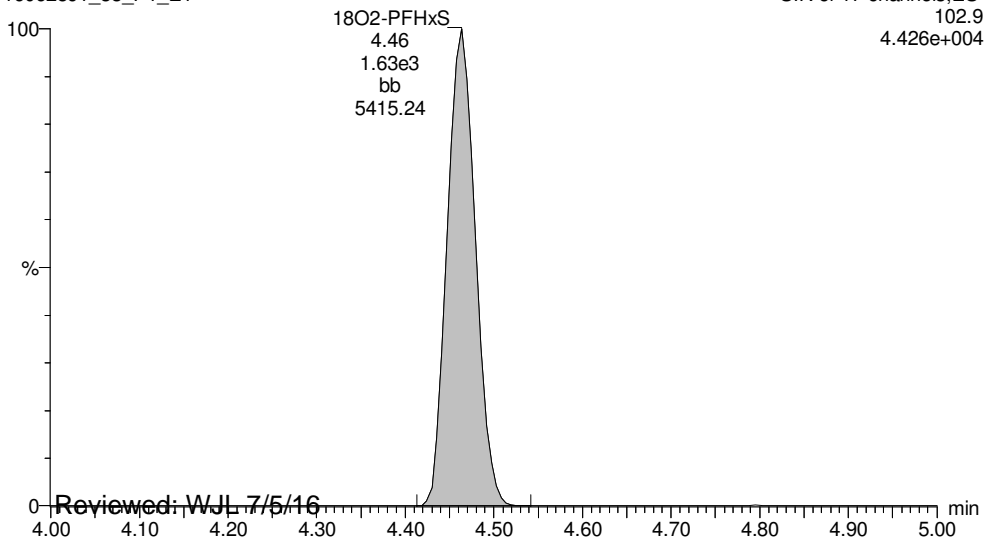
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160628J1_33_P1_E1



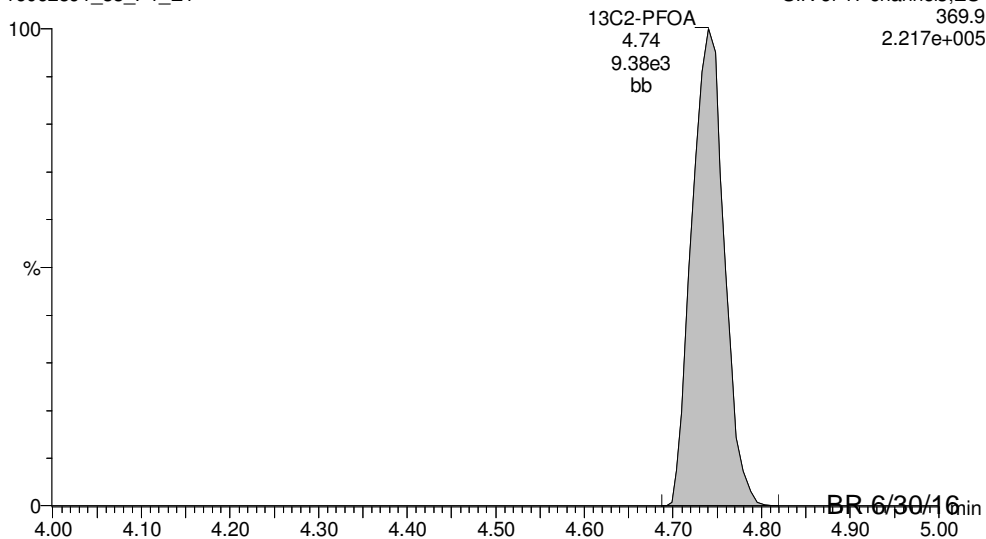
18O2-PFHxS

160628J1_33_P1_E1



13C2-PFOA

160628J1_33_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

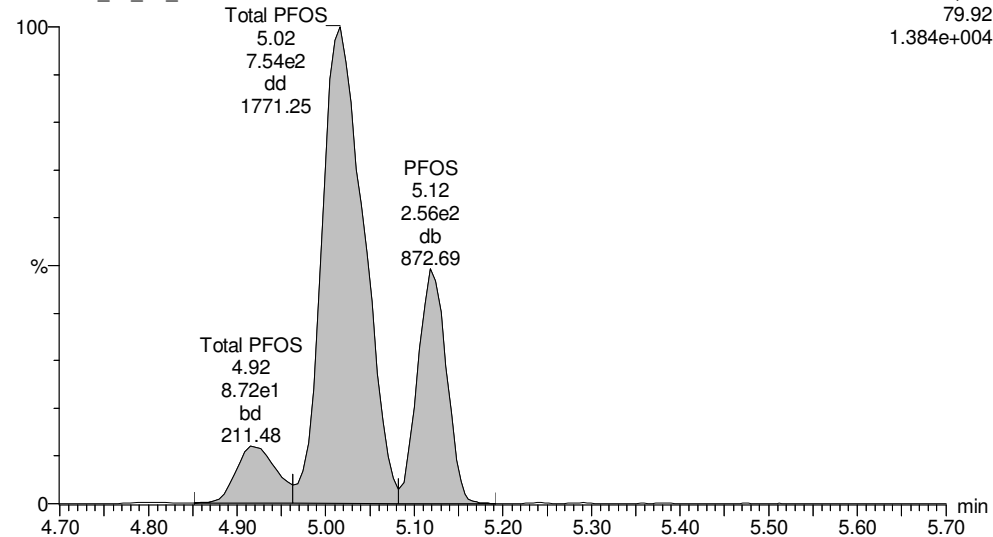
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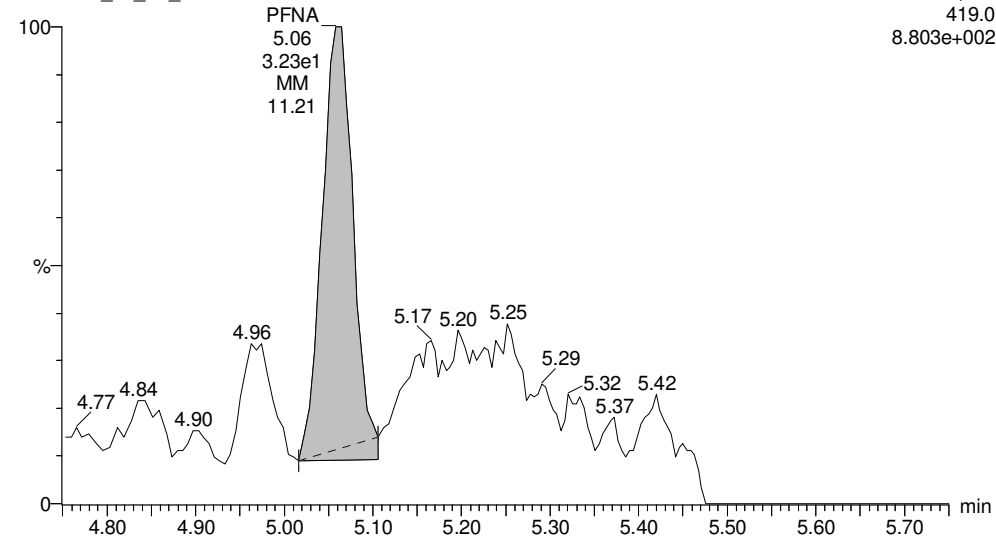
Total PFOS

160628J1_33_P1_E1



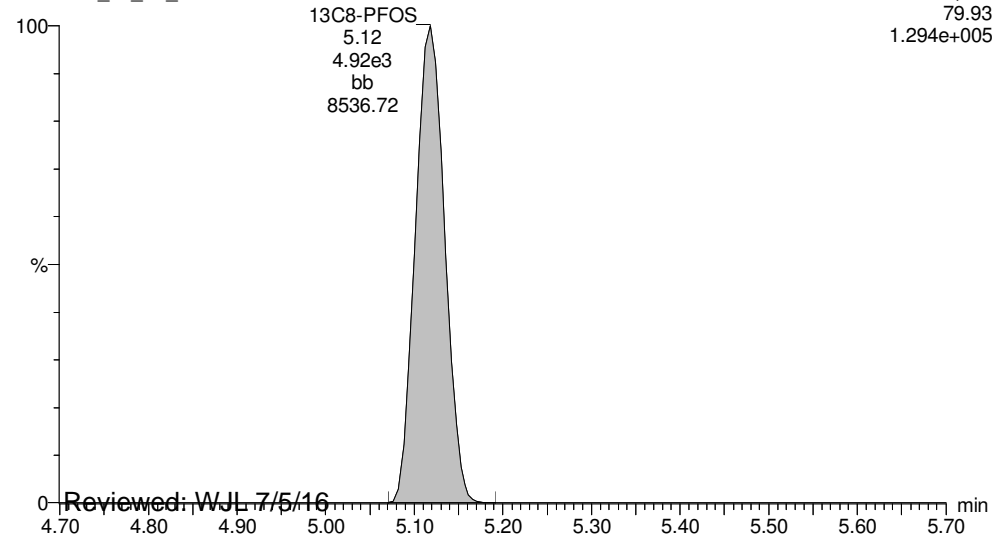
PFNA

160628J1_33_P1_E1



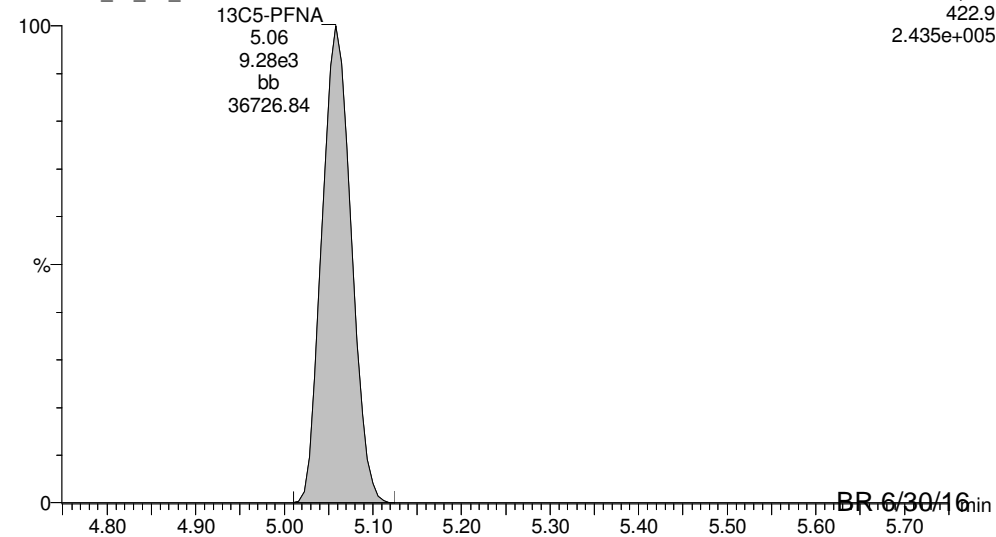
13C8-PFOS

160628J1_33_P1_E1



13C5-PFNA

160628J1_33_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

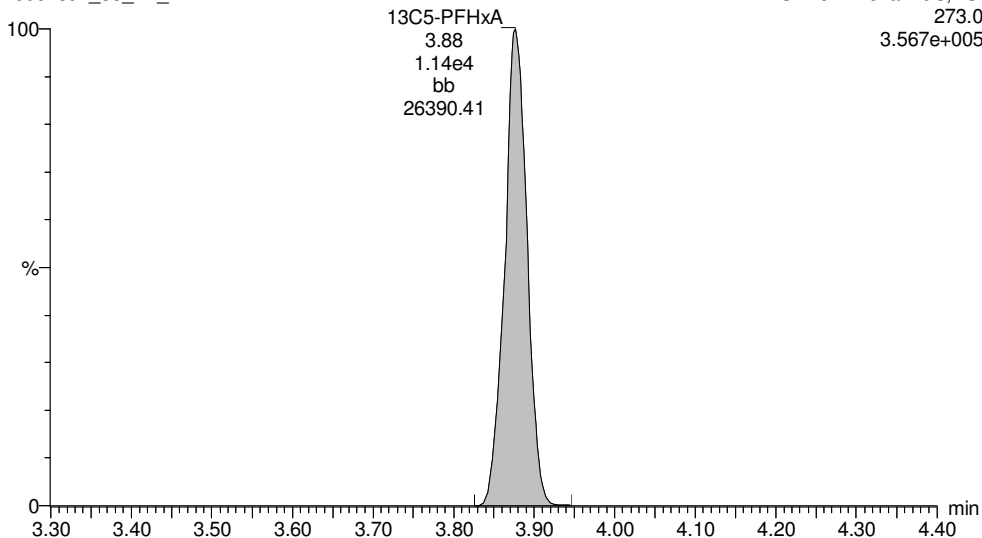
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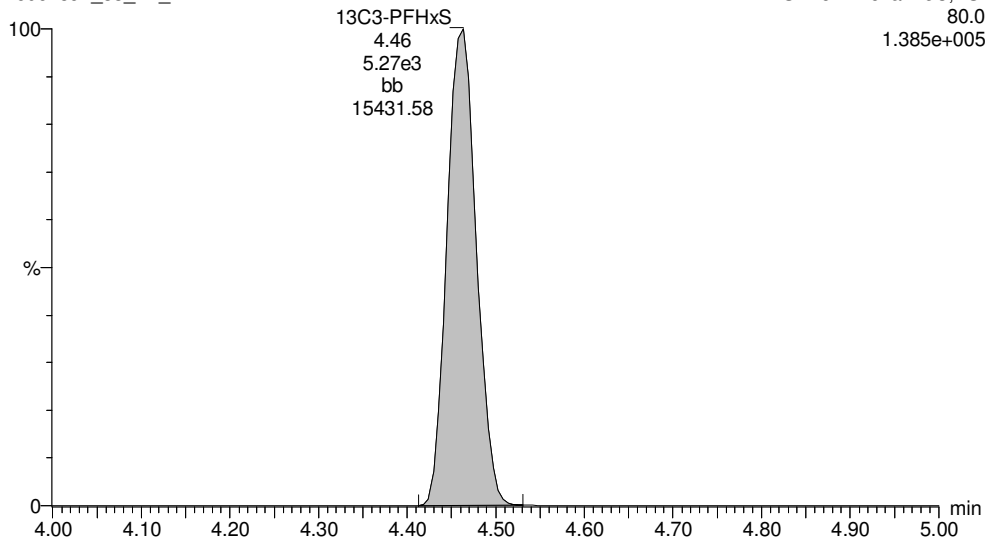
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160628J1_33_P1_E1



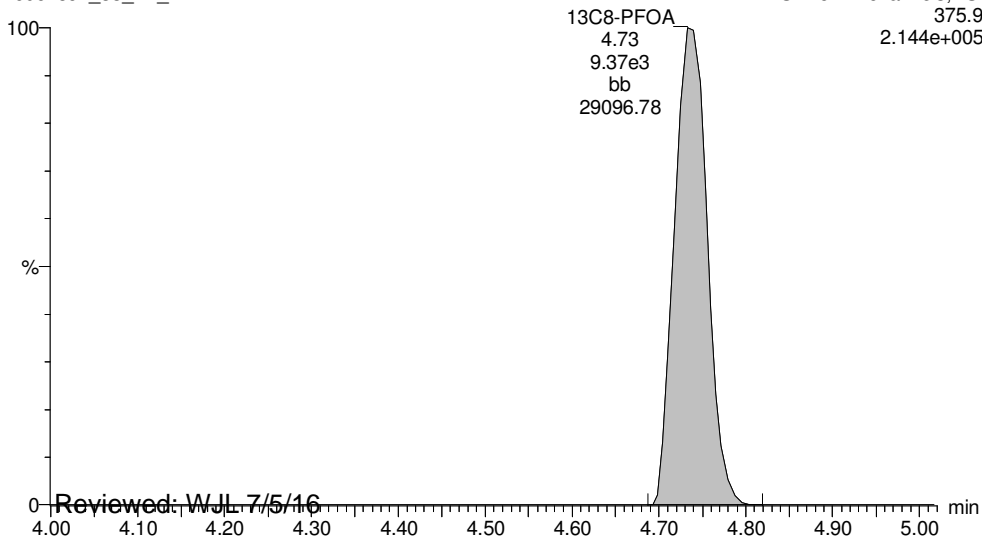
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160628J1_33_P1_E1



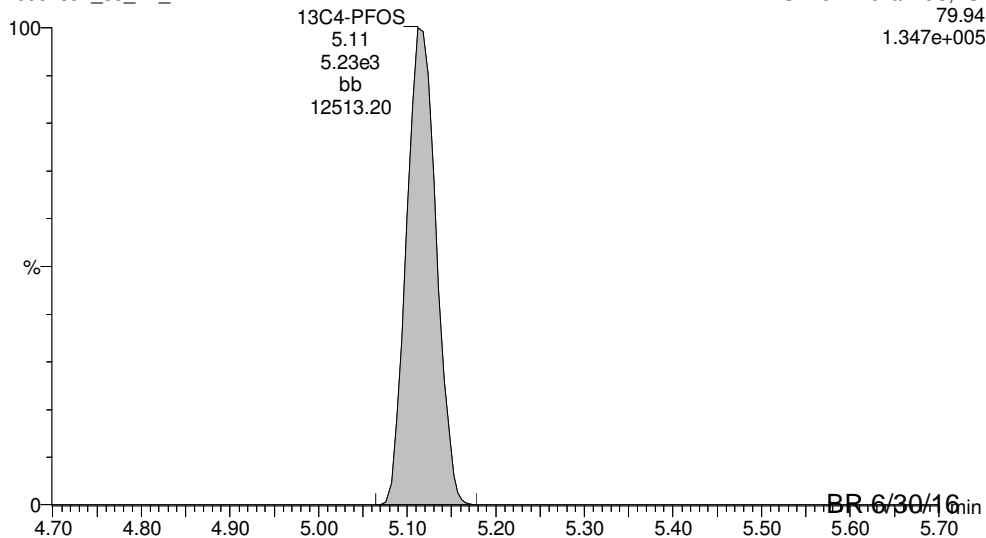
13C8-PFOA

160628J1_33_P1_E1



13C4-PFOS

160628J1_33_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_33.qld

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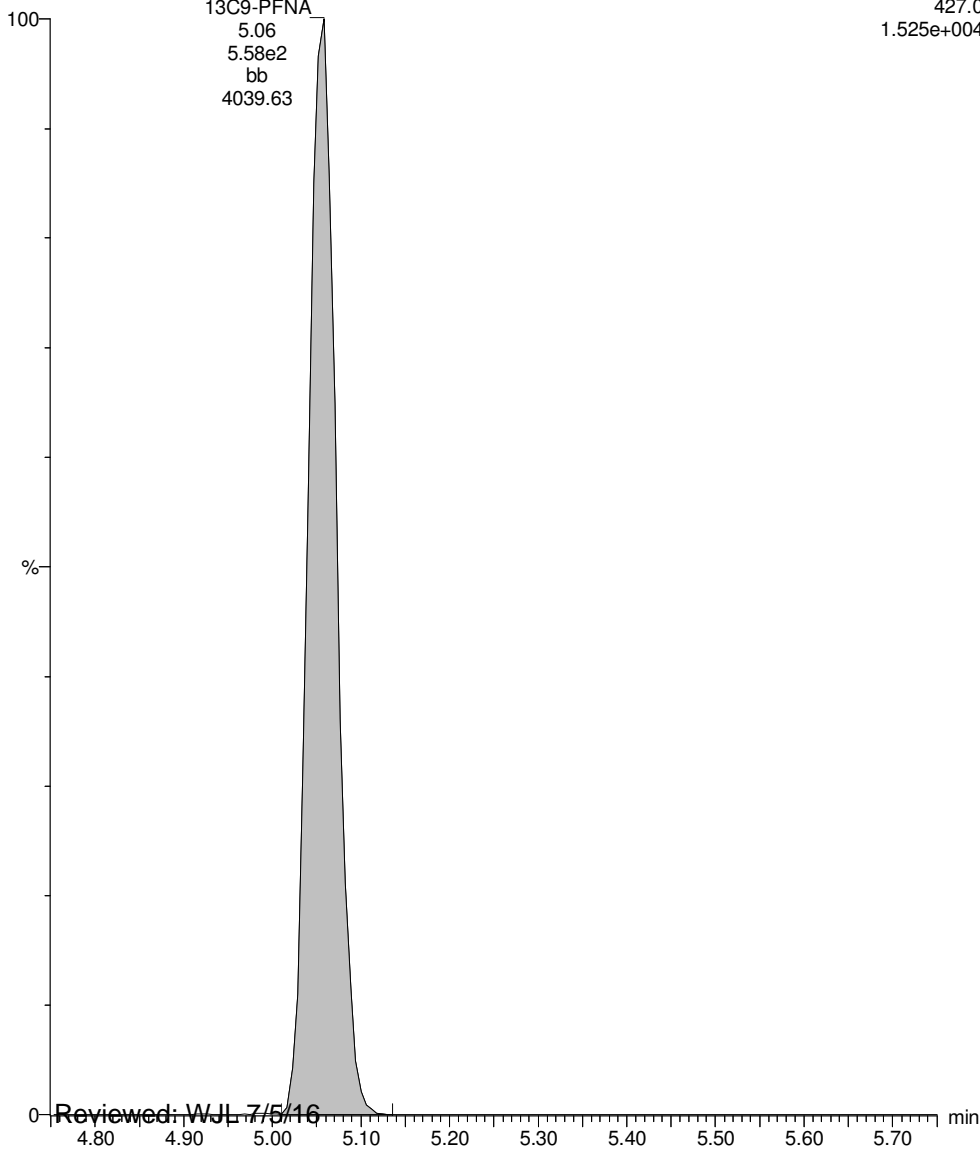
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13C9-PFNA

160628J1_33_P1_E1

SIR of 17 channels, ES-
427.0
1.525e+004



Reviewed: WJL 7/5/16

Work Order 1600818

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

Last Altered: Thursday, June 30, 2016 11:01:29 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:01:36 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-12, Description: OF-MW12D-0616, Name: 160628J1_34.wiff, Date: 28-Jun-2016, Time: 22:39:43

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	2.915e1	6.152e3		0.129	3.47	2.27	
2	2 PFHpA	318.9		1.093e4		0.129			
3	3 PFHxS	79.91	2.814e2	1.500e3		0.129	4.47	28.4	
4	4 PFOA	368.9	1.074e2	8.876e3		0.129	4.74	2.77	
5	5 PFOS	79.92	8.870e2	3.973e3		0.129	5.12	31.7	
6	6 PFNA	419.0		8.366e3		0.129			
7	7 13C3-PFBS	79.95	6.152e3	1.050e4	0.546	0.129	3.46	104	107
8	8 13C4-PFHpA	321.9	1.093e4	1.050e4	1.075	0.129	4.35	94.0	96.8
9	9 18O2-PFHxS	102.9	1.500e3	4.887e3	0.307	0.129	4.47	96.9	99.9
10	10 13C2-PFOA	369.9	8.876e3	8.862e3	1.042	0.129	4.74	93.3	96.2
11	11 13C8-PFOS	79.93	3.973e3	4.355e3	1.026	0.129	5.12	86.3	88.9
12	12 13C5-PFNA	422.9	8.366e3	4.295e2	21.158	0.129	5.06	89.3	92.1
13	13 13C5-PFHxA	273.0	1.050e4	1.050e4	1.000	0.129	3.87	97.0	100
14	14 13C3-PFHxS	80.0	4.887e3	4.887e3	1.000	0.129	4.47	97.0	100
15	15 13C8-PFOA	375.9	8.862e3	8.862e3	1.000	0.129	4.74	97.0	100
16	16 13C4-PFOS	79.94	4.355e3	4.355e3	1.000	0.129	5.12	97.0	100
17	17 13C9-PFNA	427.0	4.295e2	4.295e2	1.000	0.129	5.06	97.0	100
18	18 Total PFBS	79.9		6.152e3		0.129		2.27	
19	19 Total PFHxS	79.91		1.500e3		0.129		32.1	
20	20 Total PFOA	368.9		8.876e3		0.129		2.77	
21	21 Total PFOS	79.92		3.973e3		0.129		55.1	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

Last Altered: Thursday, June 30, 2016 11:01:29 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:01:36 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-12, Description: OF-MW12D-0616, Name: 160628J1_34.wiff, Date: 28-Jun-2016, Time: 22:39:43

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	29.153	6151.597	2.3

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	281.411	1500.068	28.4
2	19 Total PFHxS	79.91	4.36	37.487	1500.068	3.8

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	107.398	8876.303	2.8

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	4.91	61.013	3973.338	2.2
2	5 PFOS	79.92	5.12	887.031	3973.338	31.7
3	21 Total PFOS	79.92	5.01	592.456	3973.338	21.2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

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Printed: Thursday, June 30, 2016 11:01:36 AM Pacific Daylight Time

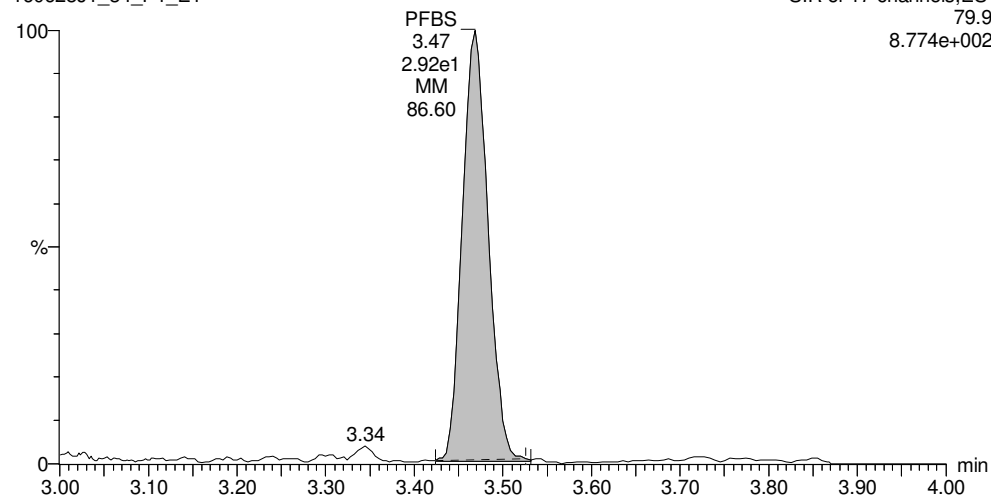
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ID: 1600818-12, Description: OF-MW12D-0616, Name: 160628J1_34.wiff, Date: 28-Jun-2016, Time: 22:39:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

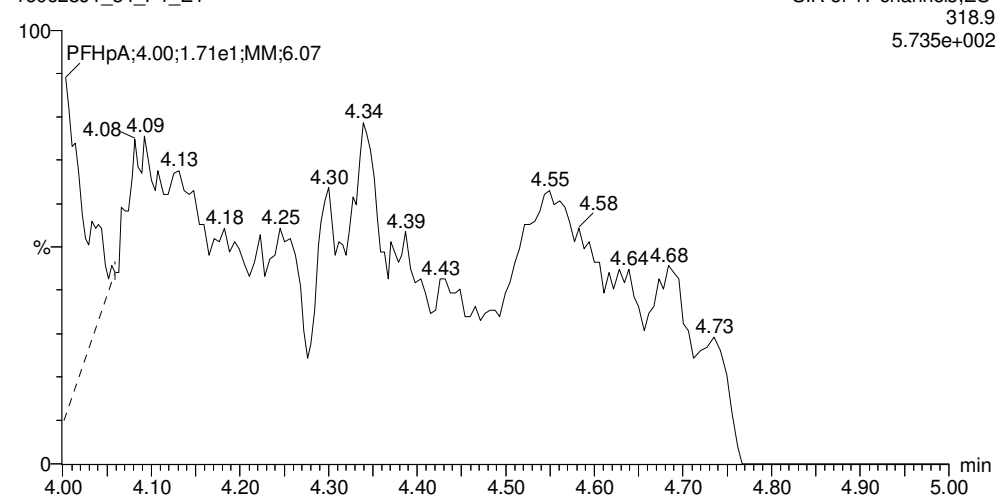
Total PFBS

160628J1_34_P1_E1



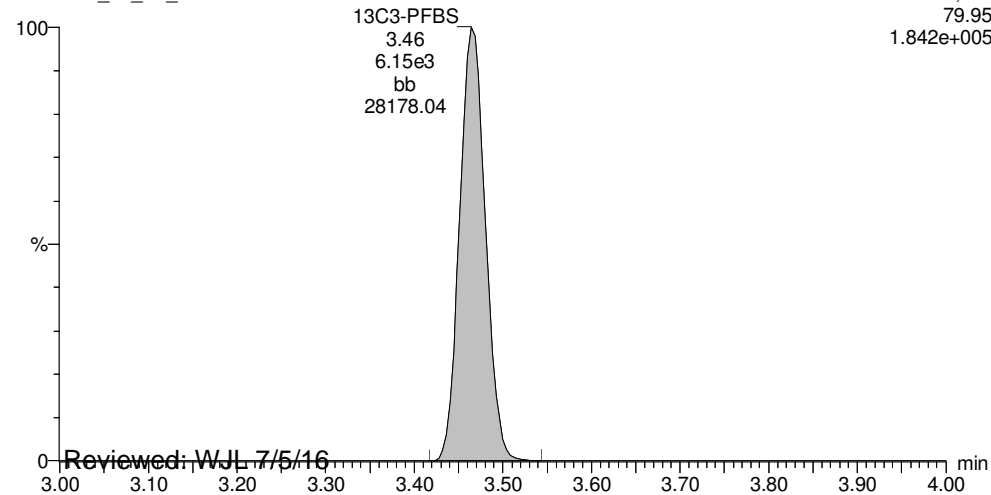
PFHpA

160628J1_34_P1_E1



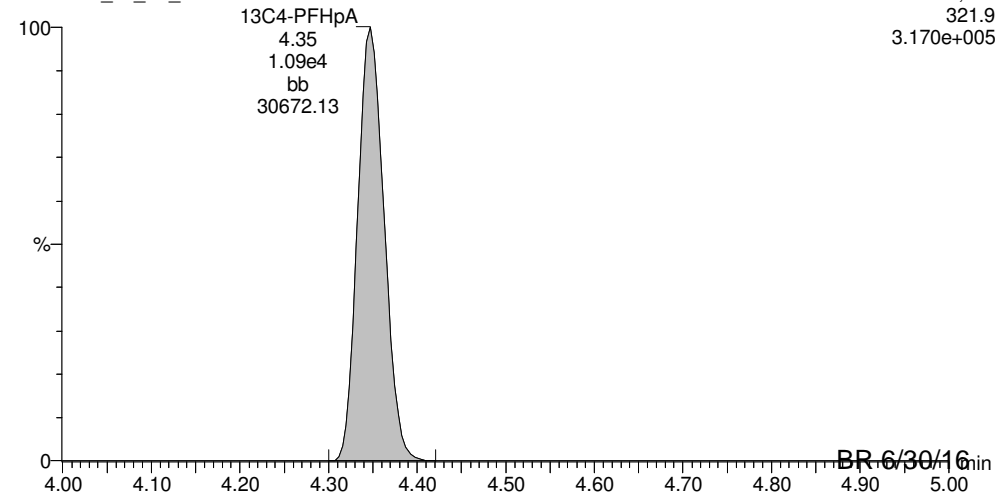
13C3-PFBS

160628J1_34_P1_E1



13C4-PFHpA

160628J1_34_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

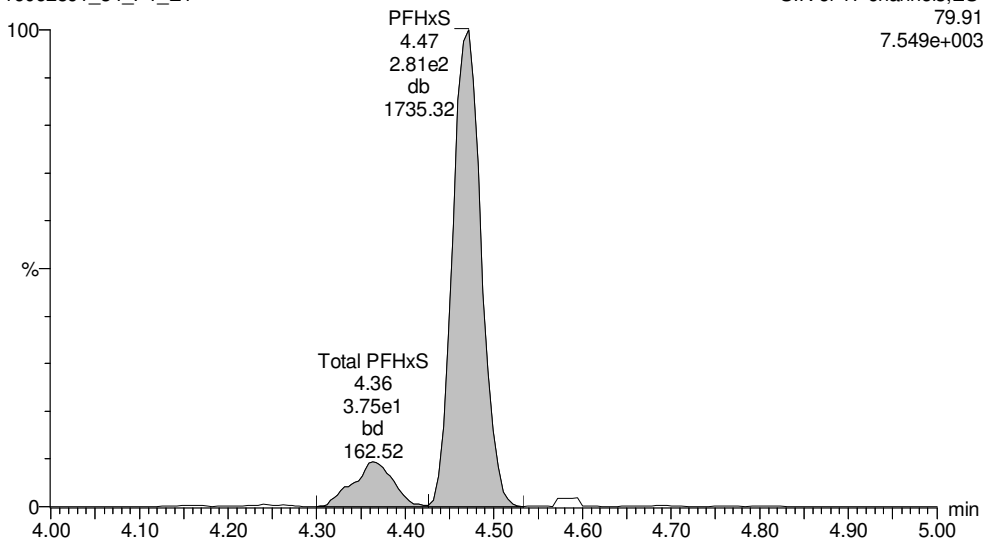
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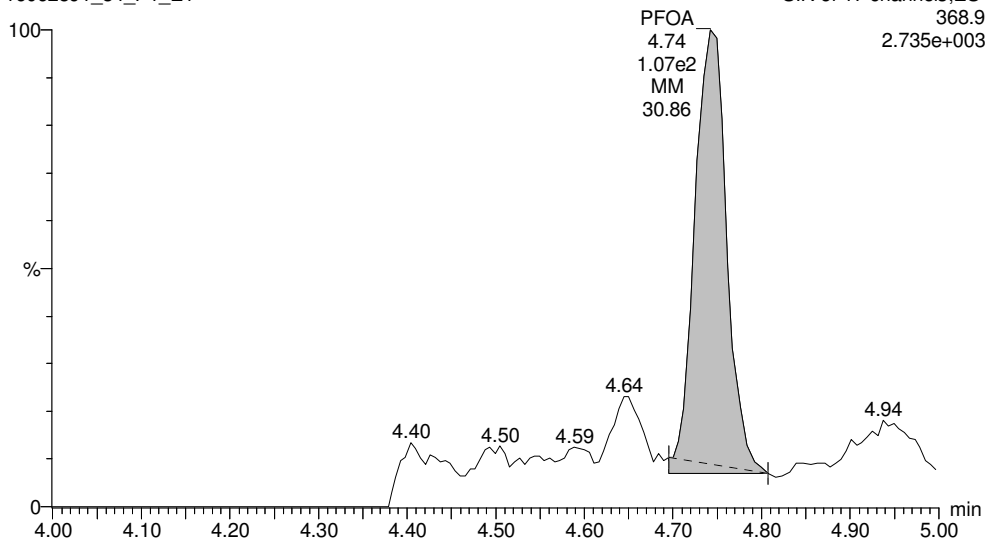
Total PFHxS

160628J1_34_P1_E1



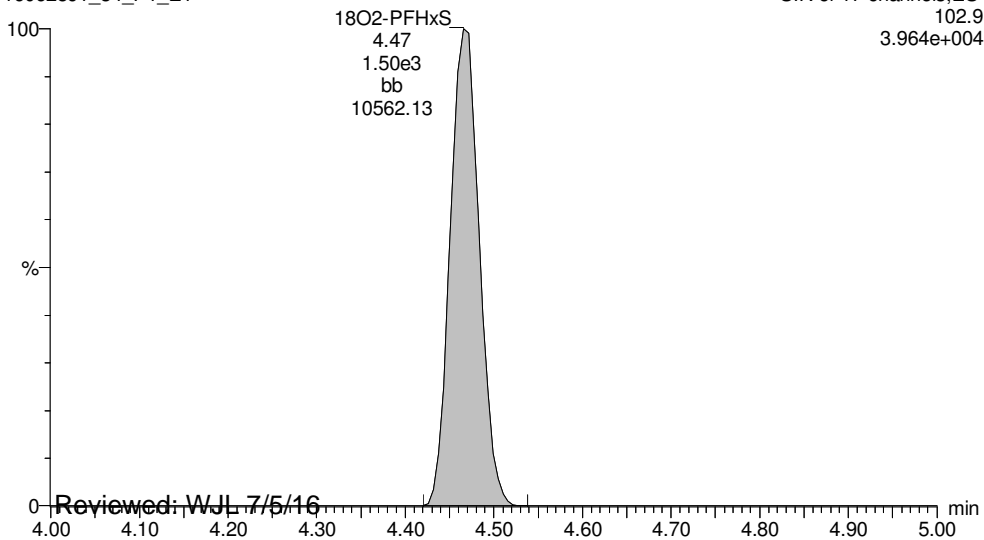
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160628J1_34_P1_E1



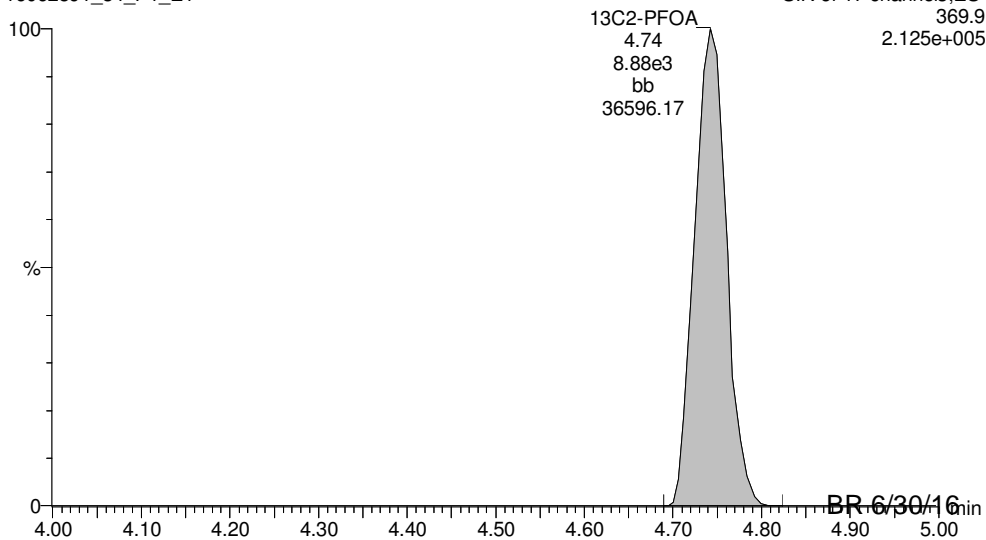
18O2-PFHxS

160628J1_34_P1_E1



13C2-PFOA

160628J1_34_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

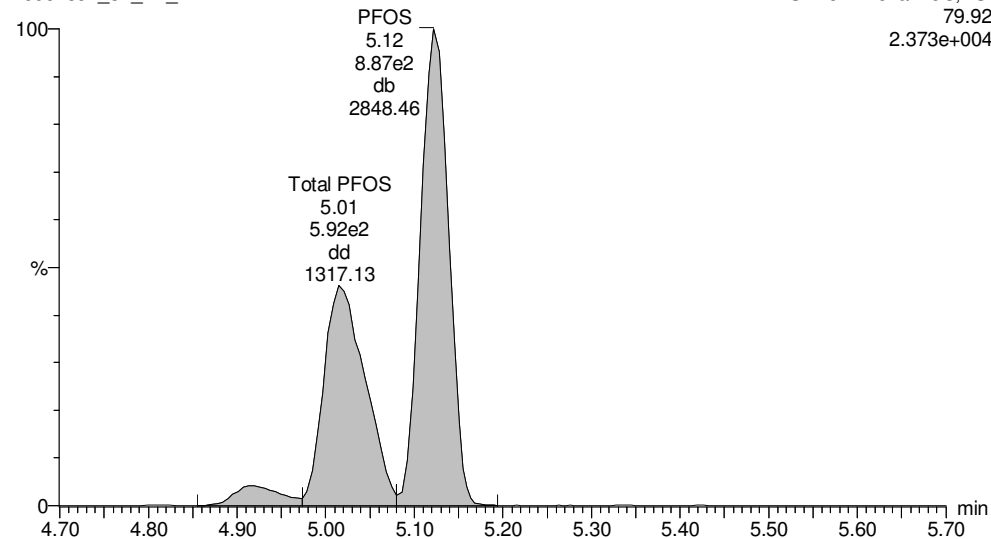
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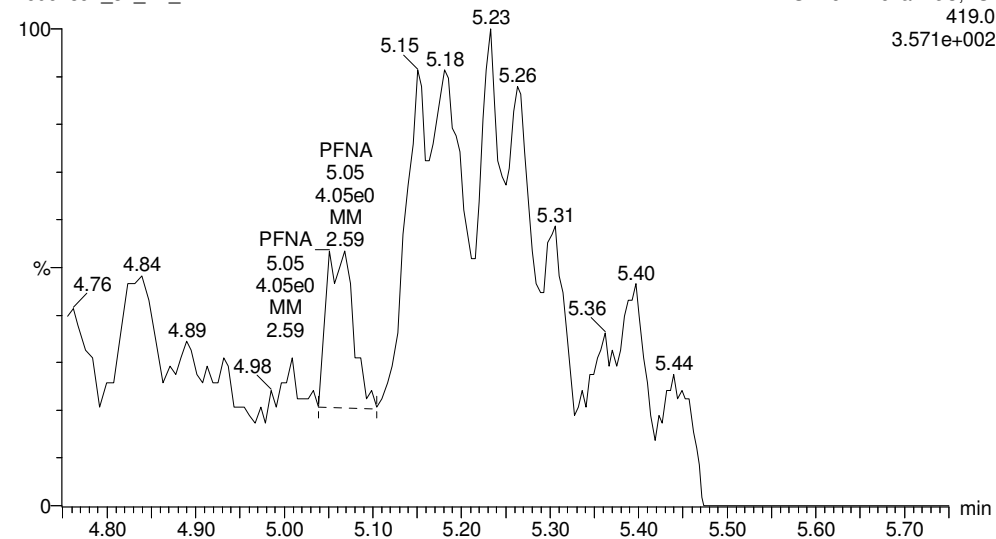
Total PFOS

160628J1_34_P1_E1



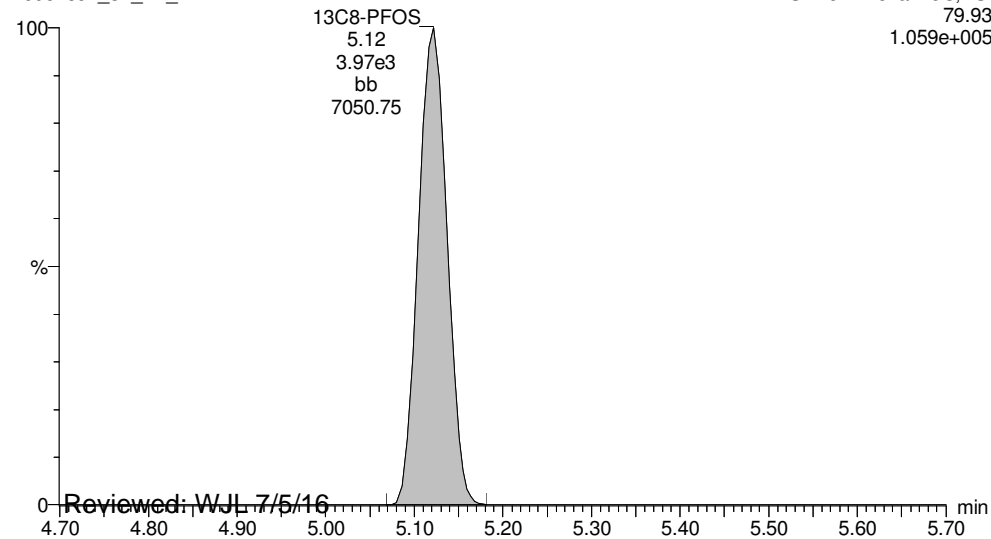
PFNA

160628J1_34_P1_E1



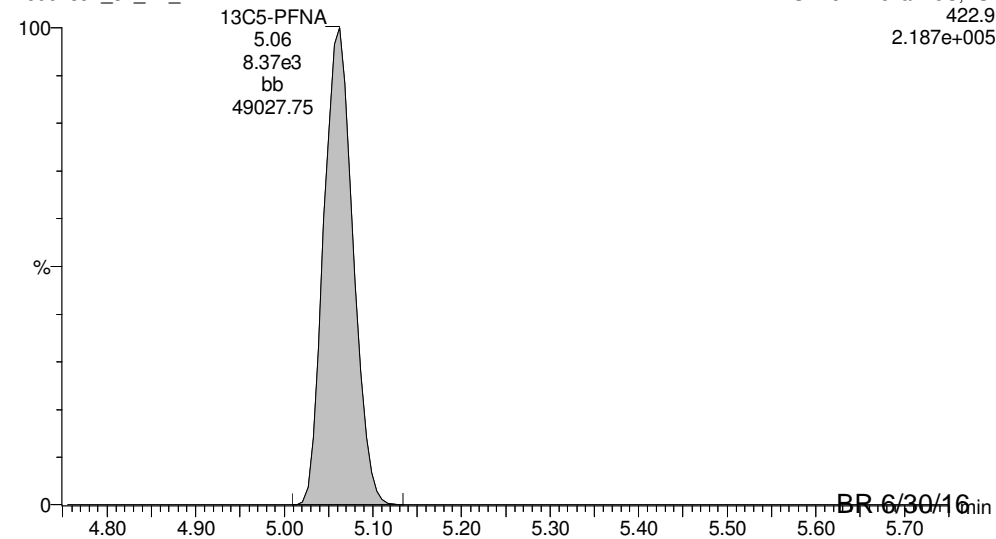
13C8-PFOS

160628J1_34_P1_E1



13C5-PFNA

160628J1_34_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_34.qld

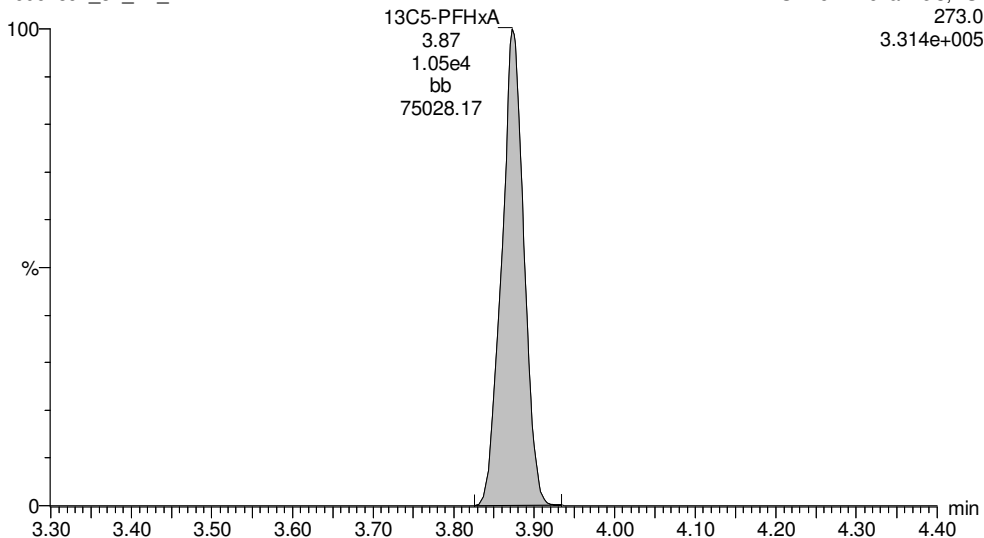
Last Altered: Thursday, June 30, 2016 11:01:29 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:01:36 AM Pacific Daylight Time

ID: 1600818-12, Description: OF-MW12D-0616, Name: 160628J1_34.wiff, Date: 28-Jun-2016, Time: 22:39:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

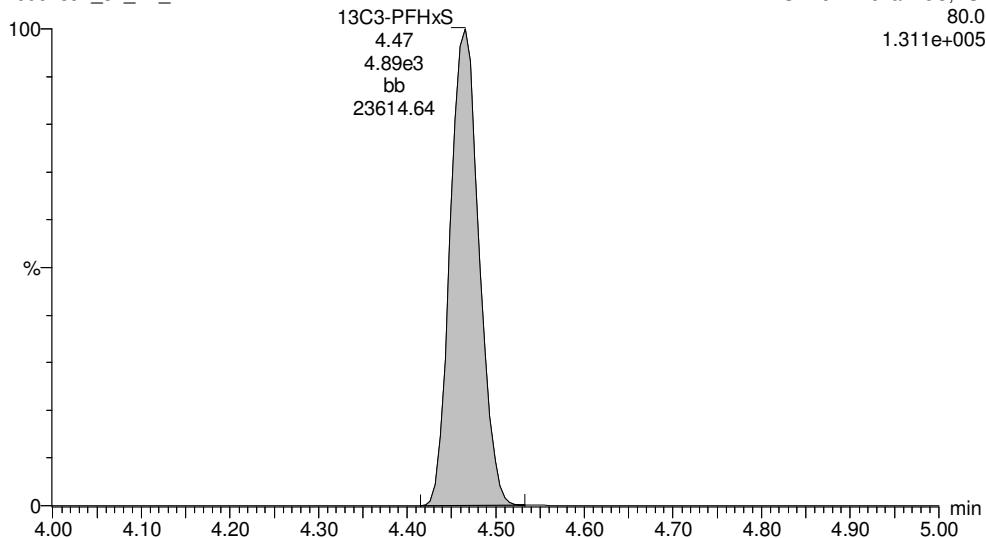
13C5-PFHxA

160628J1_34_P1_E1



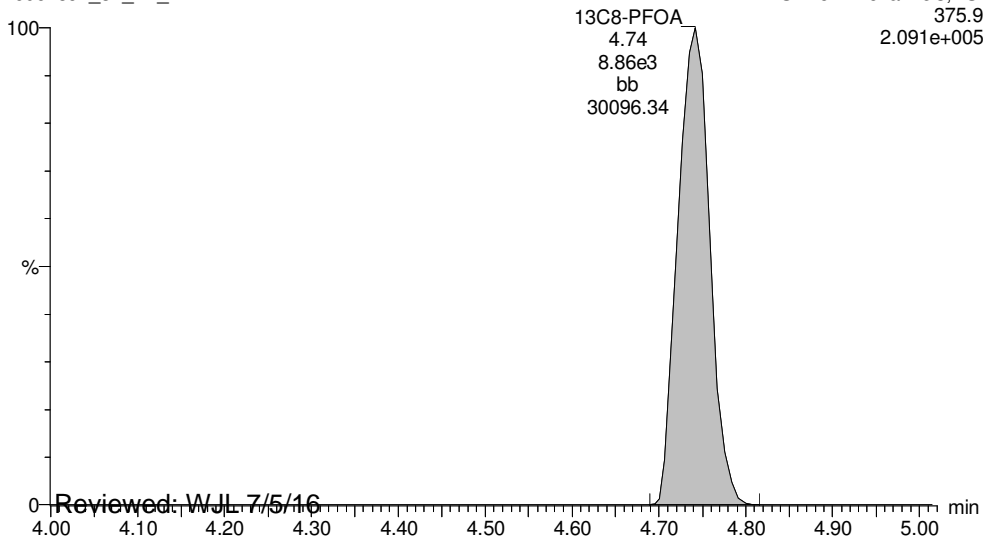
13C3-PFHxS

160628J1_34_P1_E1



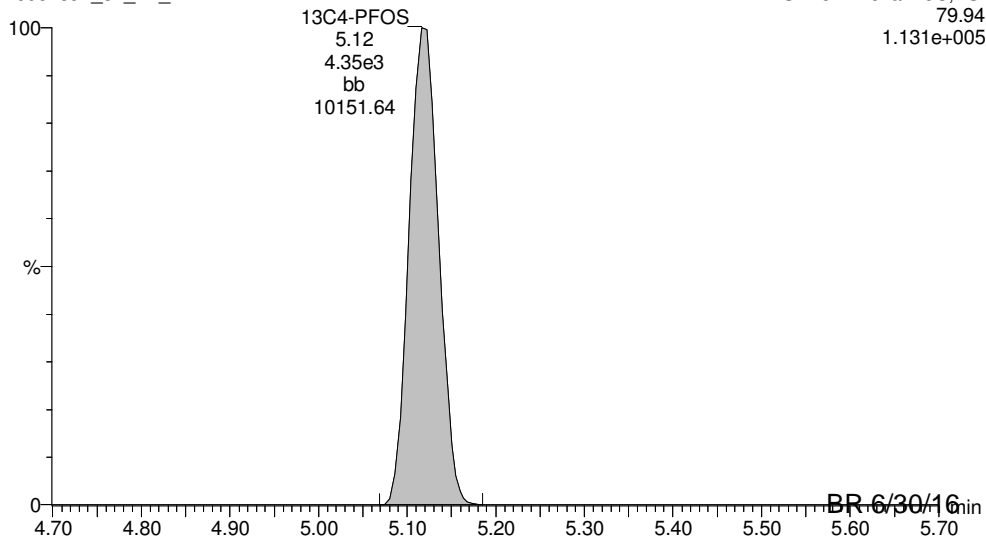
13C8-PFOA

160628J1_34_P1_E1



13C4-PFOS

160628J1_34_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

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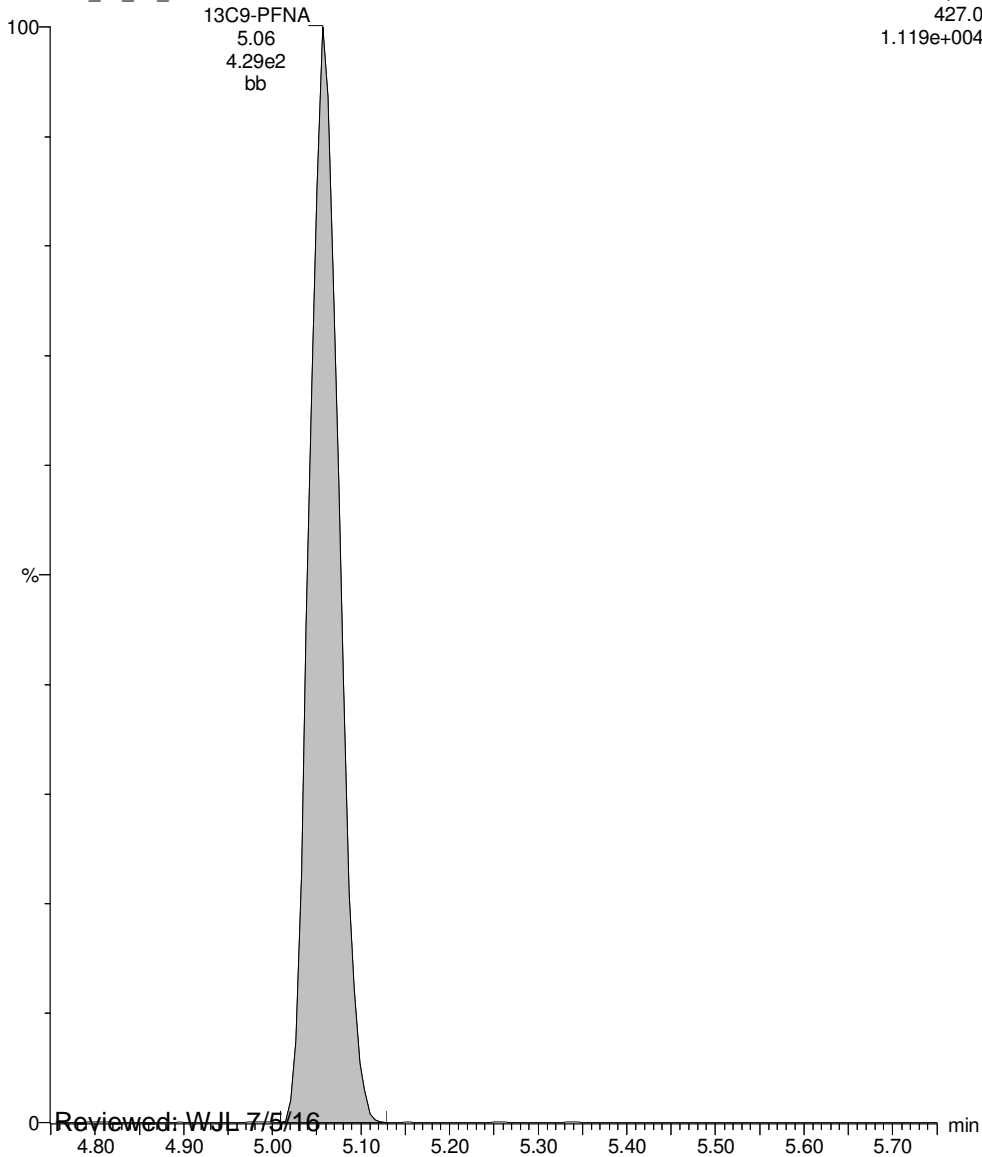
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ID: 1600818-12, Description: OF-MW12D-0616, Name: 160628J1_34.wiff, Date: 28-Jun-2016, Time: 22:39:43, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_34_P1_E1

SIR of 17 channels, ES-
427.0
1.119e+004



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	1.163e3	6.193e3		0.125	3.47	93.0	
2	2 PFHpA	318.9	8.926e2	1.168e4		0.125	4.35	40.9	
3	3 PFHxS	79.91	9.159e3	1.643e3		0.125	4.47	893	
4	4 PFOA	368.9	2.528e3	9.791e3		0.125	4.74	61.5	
5	5 PFOS	79.92	7.710e4	4.442e3		0.125	5.12	3880 E*	
6	6 PFNA	419.0	5.002e2	9.224e3		0.125	5.06	9.50	
7	7 13C3-PFBS	79.95	6.193e3	1.141e4	0.546	0.125	3.46	99.4	99.4
8	8 13C4-PFHpA	321.9	1.168e4	1.141e4	1.075	0.125	4.35	95.2	95.2
9	9 18O2-PFHxS	102.9	1.643e3	4.618e3	0.307	0.125	4.47	116	116
10	10 13C2-PFOA	369.9	9.791e3	9.067e3	1.042	0.125	4.74	104	104
11	11 13C8-PFOS	79.93	4.442e3	4.510e3	1.026	0.125	5.12	95.9 *	96.0
12	12 13C5-PFNA	422.9	9.224e3	4.739e2	21.158	0.125	5.06	91.9	92.0
13	13 13C5-PFHxA	273.0	1.141e4	1.141e4	1.000	0.125	3.88	100	100
14	14 13C3-PFHxS	80.0	4.618e3	4.618e3	1.000	0.125	4.47	100	100
15	15 13C8-PFOA	375.9	9.067e3	9.067e3	1.000	0.125	4.74	100	100
16	16 13C4-PFOS	79.94	4.510e3	4.510e3	1.000	0.125	5.12	100	100
17	17 13C9-PFNA	427.0	4.739e2	4.739e2	1.000	0.125	5.06	100	100
18	18 Total PFBS	79.9		6.193e3		0.125		95.1	
19	19 Total PFHxS	79.91		1.643e3		0.125		1040	
20	20 Total PFOA	368.9		9.791e3		0.125		69.8	
21	21 Total PFOS	79.92		4.442e3		0.125		5460	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50**Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23****ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56****Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	1163.314	6193.003	93.0
2	18 Total PFBS	79.9	3.34	26.698	6193.003	2.1

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	9158.691	1642.613	893.0
2	19 Total PFHxS	79.91	4.37	1469.348	1642.613	139.8
3	19 Total PFHxS	79.91	4.26	33.225	1642.613	3.1

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	2527.640	9790.717	61.5
2	20 Total PFOA	368.9	4.65	345.268	9790.717	8.3

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.12	77099.203	4441.699	3879.5
2	21 Total PFOS	79.92	5.02	39295.441	4441.699	1489.5
3	21 Total PFOS	79.92	4.92	2813.242	4441.699	93.2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

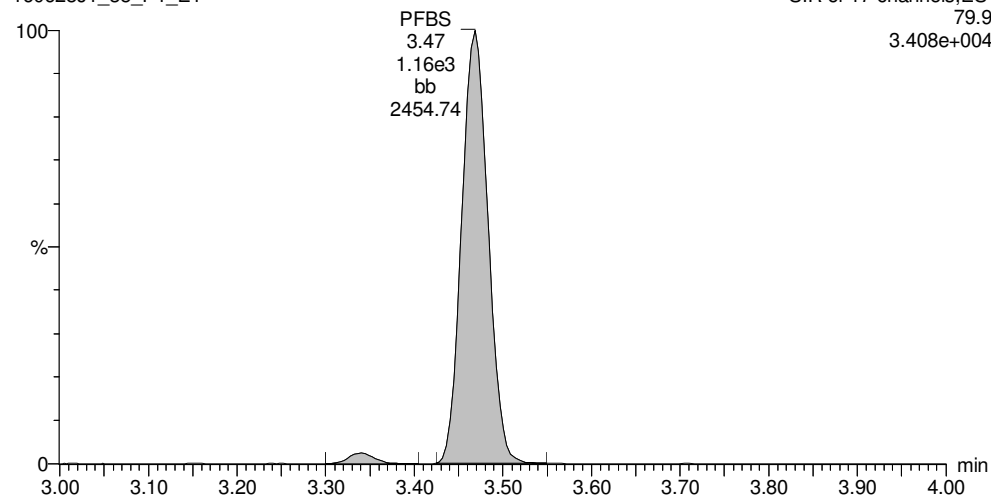
Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

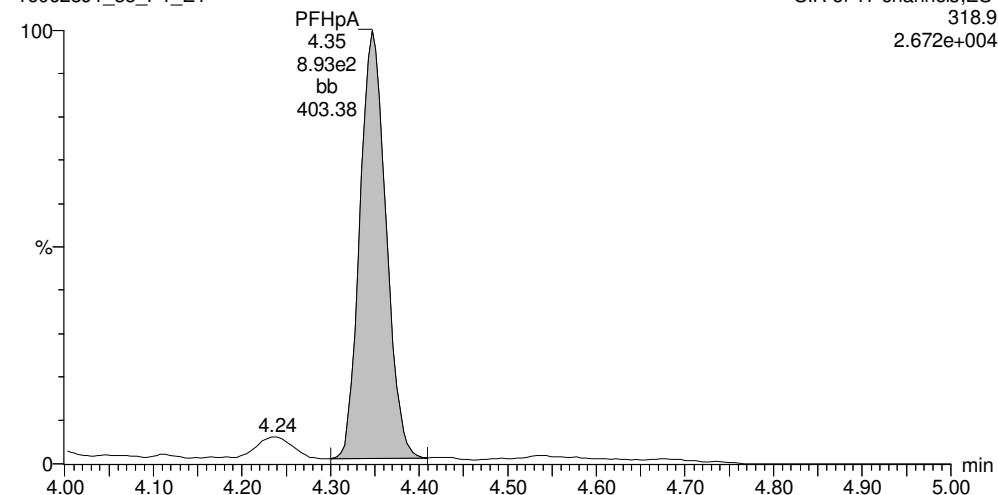
Total PFBS

160628J1_35_P1_E1



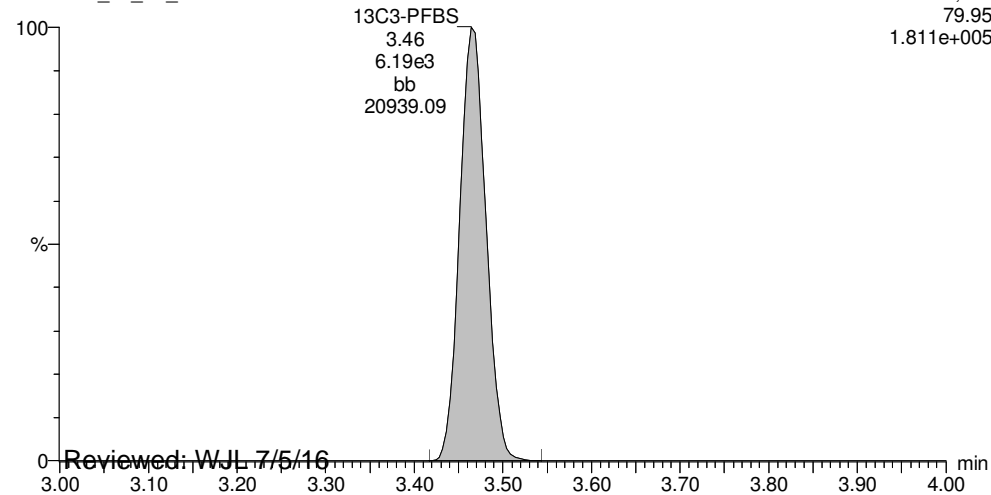
PFHpA

160628J1_35_P1_E1



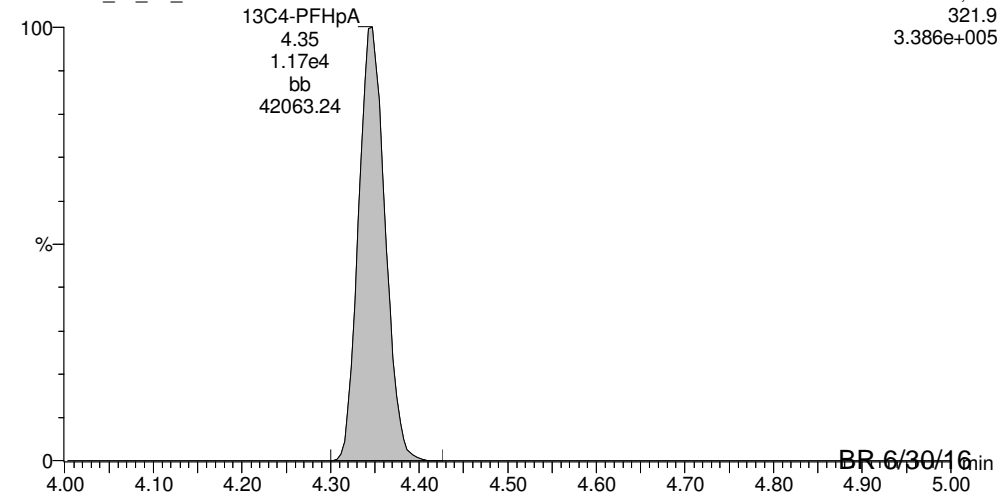
13C3-PFBS

160628J1_35_P1_E1



13C4-PFHpA

160628J1_35_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

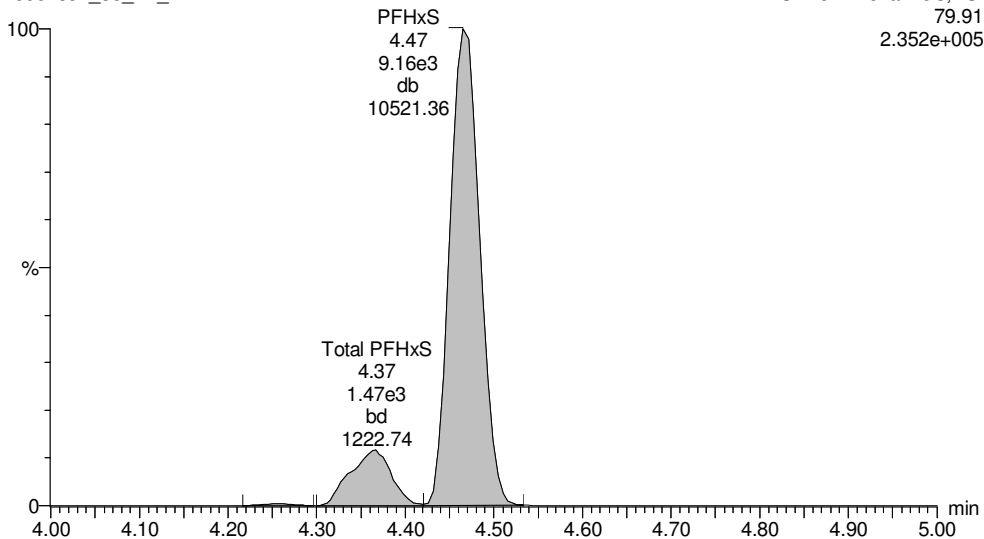
Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

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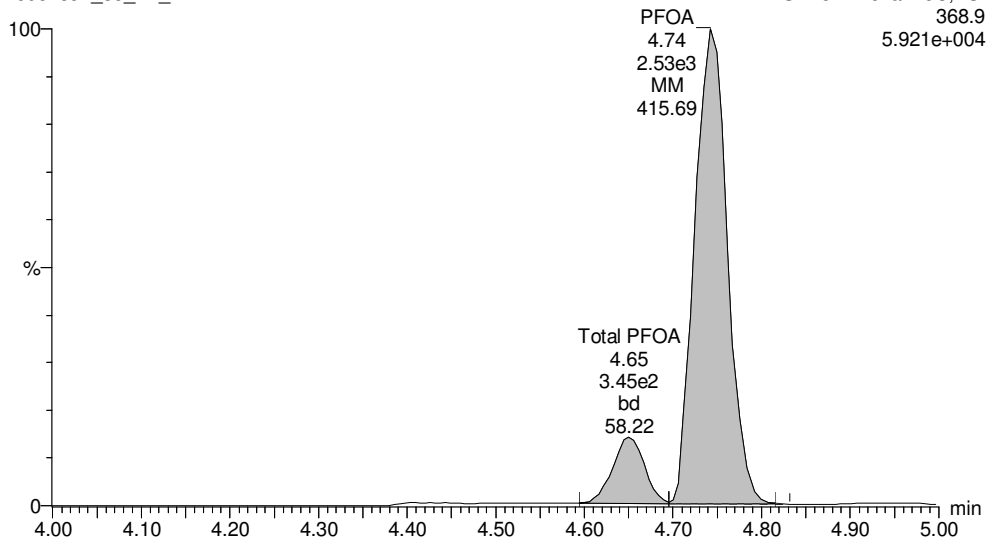
Total PFHxS

160628J1_35_P1_E1



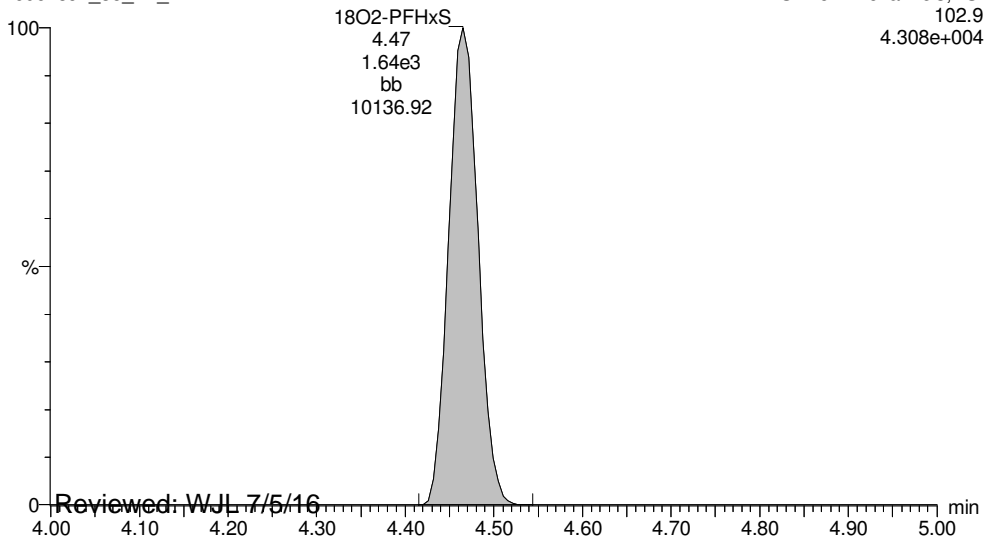
Total PFOA

160628J1_35_P1_E1



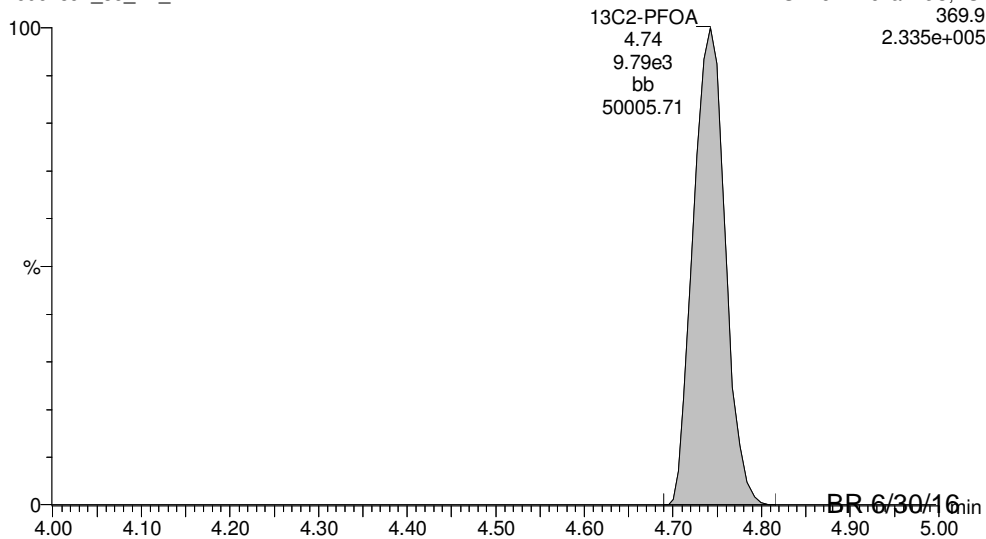
18O2-PFHxS

160628J1_35_P1_E1



13C2-PFOA

160628J1_35_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

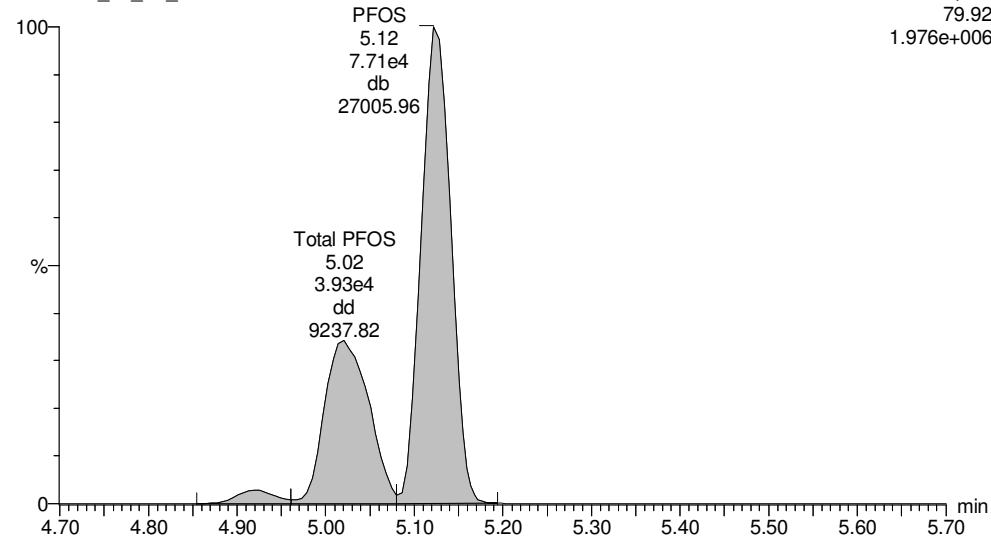
Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

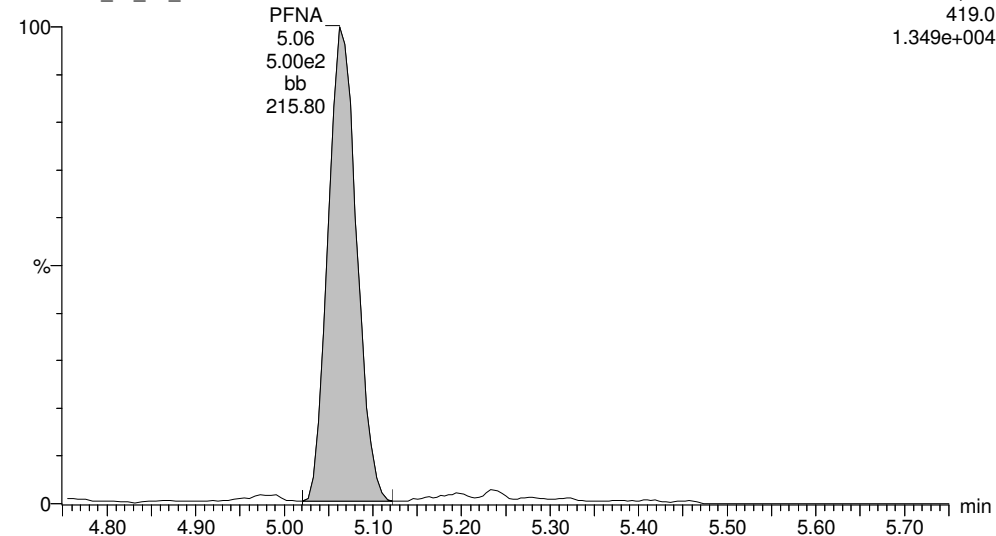
Total PFOS

160628J1_35_P1_E1



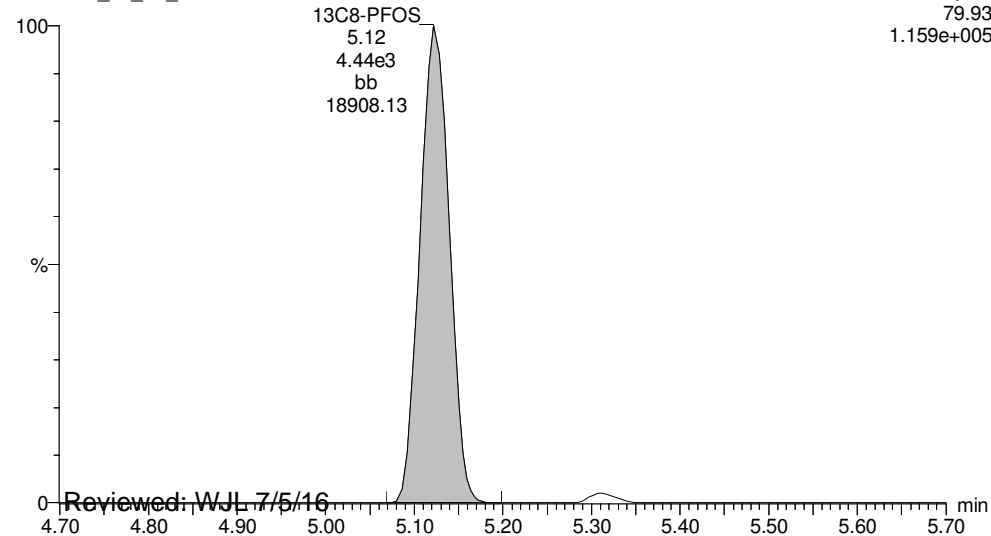
PFNA

160628J1_35_P1_E1



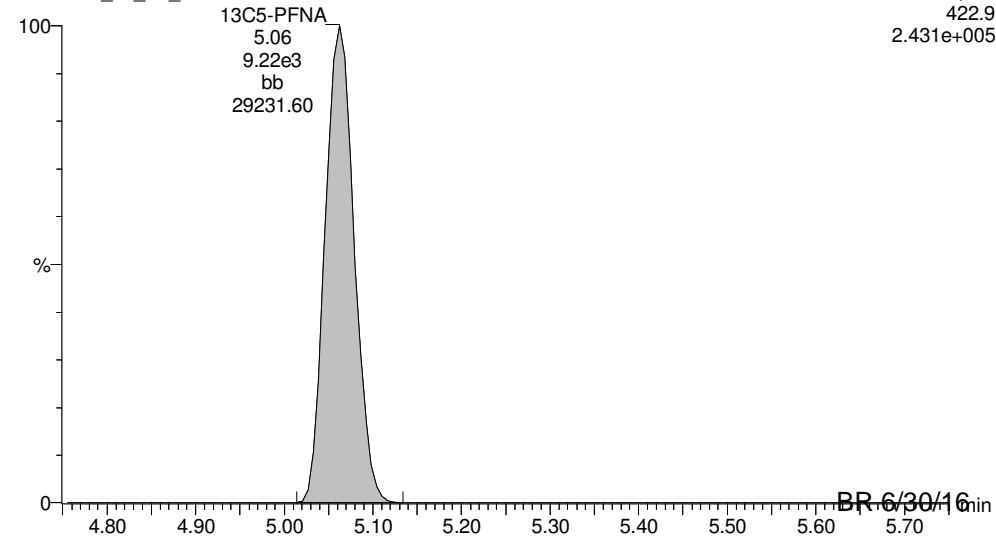
13C8-PFOS

160628J1_35_P1_E1



13C5-PFNA

160628J1_35_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

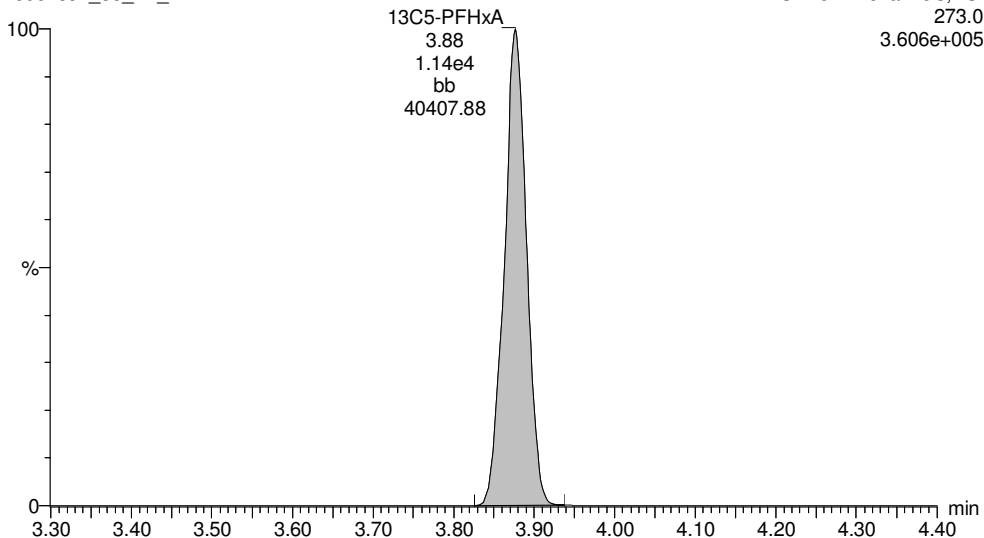
Last Altered: Thursday, June 30, 2016 11:03:25 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

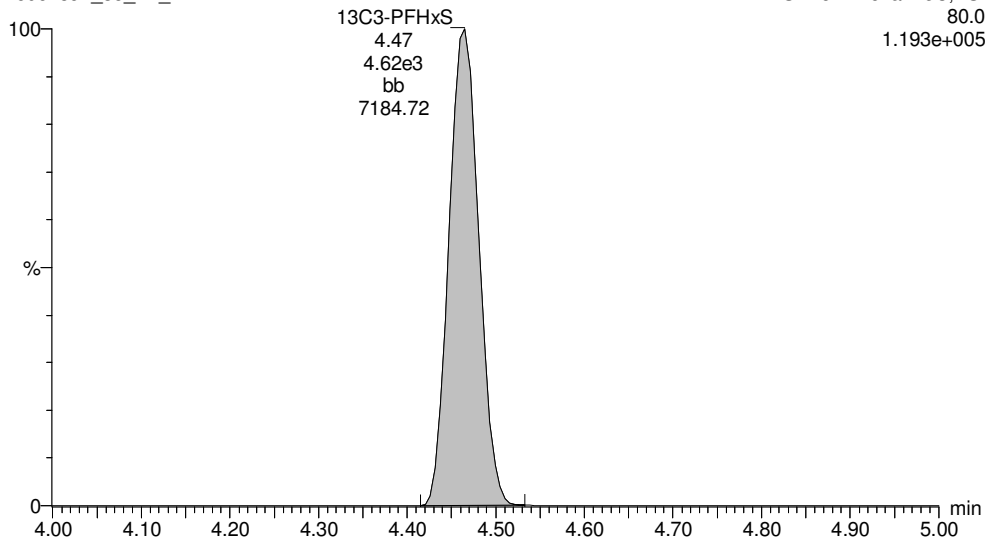
13C5-PFHxA

160628J1_35_P1_E1



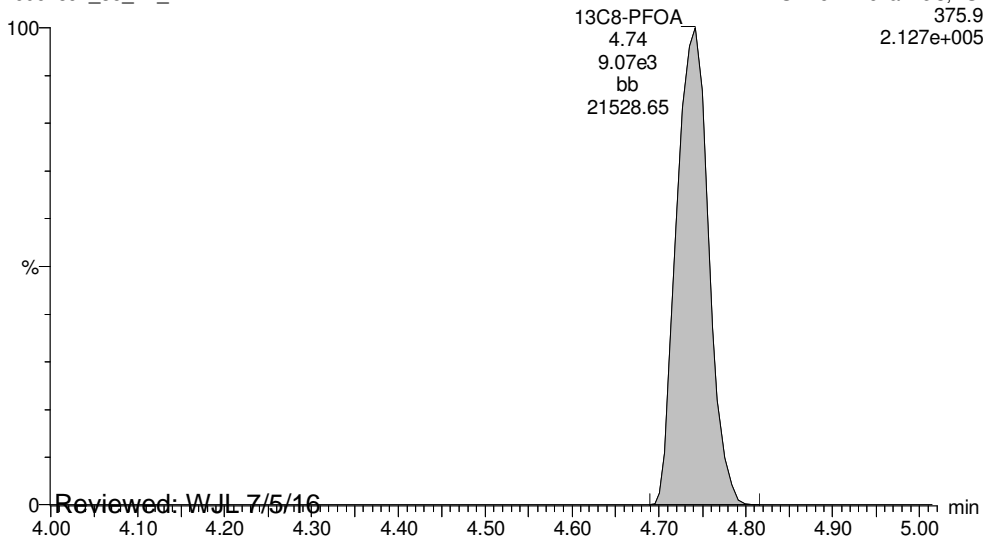
13C3-PFHxS

160628J1_35_P1_E1



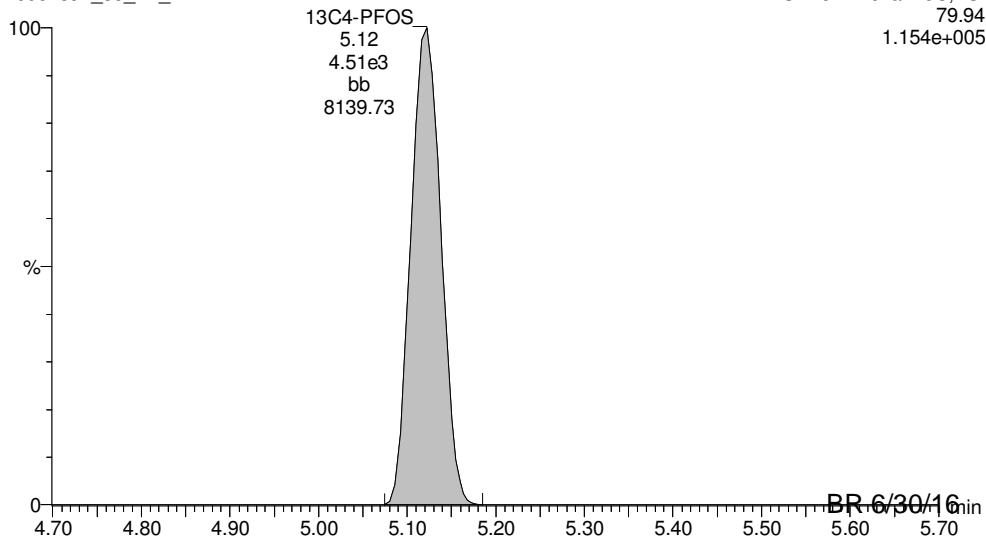
13C8-PFOA

160628J1_35_P1_E1



13C4-PFOS

160628J1_35_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_35.qld

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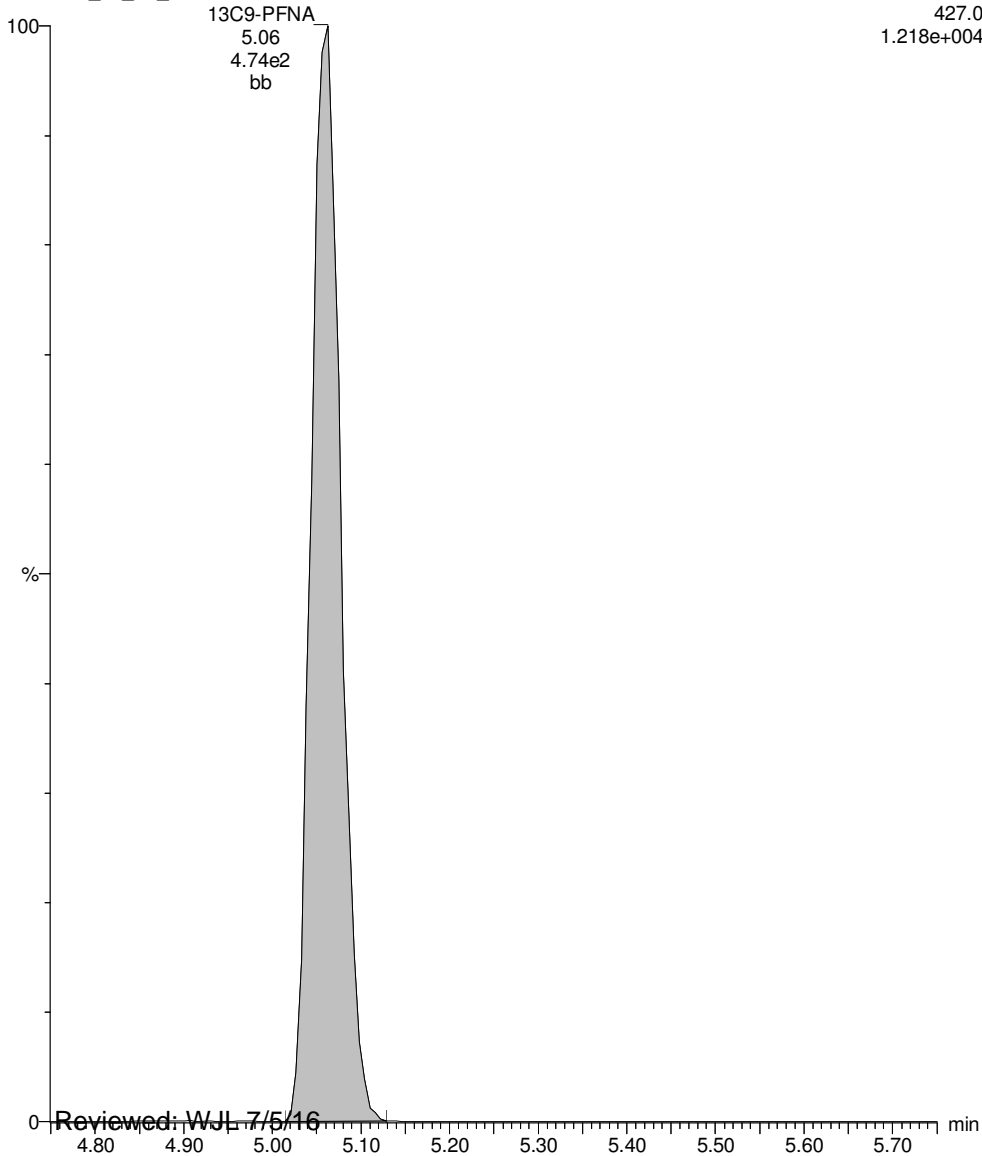
Printed: Thursday, June 30, 2016 11:03:41 AM Pacific Daylight Time

ID: 1600818-13, Description: OF-MW12-0616, Name: 160628J1_35.wiff, Date: 28-Jun-2016, Time: 22:51:56, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_35_P1_E1

SIR of 17 channels, ES-
427.0
1.218e+004



Dataset: U:\Q2.PRO\Results\160629J1\160629J1_04.qld

Last Altered: Thursday, June 30, 2016 15:01:04 Pacific Daylight Time

Printed: Thursday, June 30, 2016 15:05:41 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160629J1_04.wiff, Date: 29-Jun-2016, Time: 16:43:00, ID: 1600818-13@5x, Description: OF-MW12-0616

	# Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	5 PFOS	79.92	6.43e3	3.32e2		0.125	5.14	2.83	
2	11 13C8-PFOS	79.93	3.32e2	3.50e2	1.026	0.125	5.14	0.0925	92.5
3	16 13C4-PFOS	79.94	3.50e2	3.50e2	1.000	0.125	5.14	0.100	100.0
4	21 Total PFOS	79.92		3.32e2		0.125		4.22	

Target = ug/L

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160629J1\160629J1_04.qld

Last Altered: Thursday, June 30, 2016 15:01:04 Pacific Daylight Time

Printed: Thursday, June 30, 2016 15:05:41 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160629J1_04.wiff, Date: 29-Jun-2016, Time: 16:43:00, ID: 1600818-13@5x, Description: OF-MW12-0616

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.50	2.33e2	1.34e3	0.0859
2	18 Total PFBS	79.9	3.37	4.66e0	1.34e3	0.00172

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.49	1.14e3	2.00e2	0.890
2	19 Total PFHxS	79.91	4.38	1.69e2	2.00e2	0.131
3	19 Total PFHxS	79.91	4.35	3.28e1	2.00e2	0.0255

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	20 Total PFOA	368.9	4.67	3.14e1	1.06e3	0.00703
2	4 PFOA	368.9	4.76	3.06e2	1.06e3	0.0685

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.14	6.43e3	3.32e2	2.83
2	21 Total PFOS	79.92	5.03	2.93e3	3.32e2	1.29
3	21 Total PFOS	79.92	4.93	2.32e2	3.32e2	0.102

Dataset: U:\Q2.PRO\Results\160629J1\160629J1_04.qld

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Printed: Thursday, June 30, 2016 15:04:47 Pacific Daylight Time

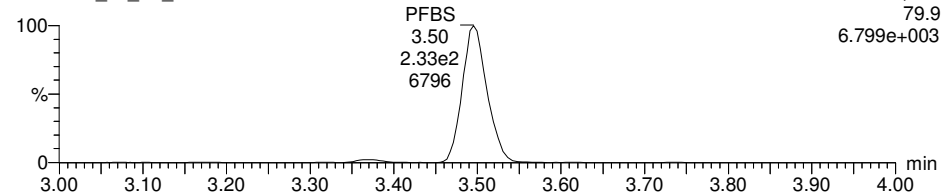
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160629J1_04.wiff, Date: 29-Jun-2016, Time: 16:43:00, ID: 1600818-13@5x, Description: OF-MW12-0616

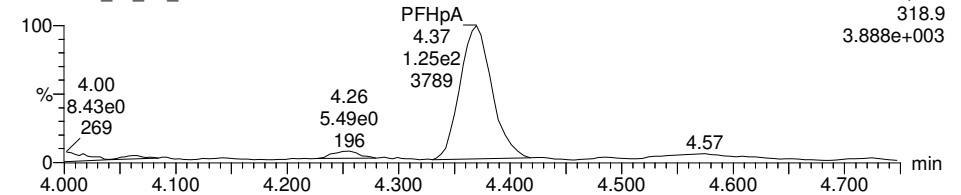
PFBS

160629J1_04_P1_E1



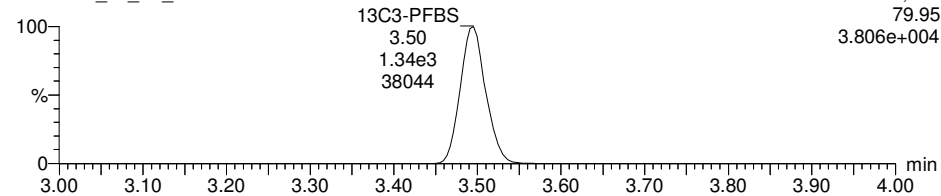
PFHpA

160629J1_04_P1_E1



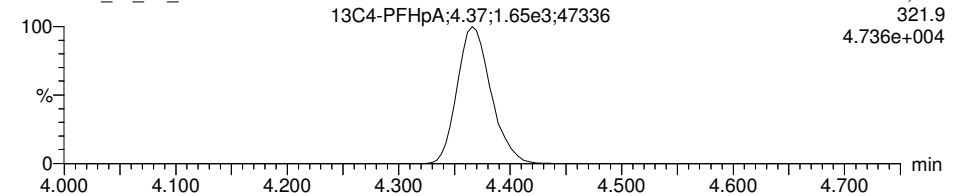
13C3-PFBS

160629J1_04_P1_E1



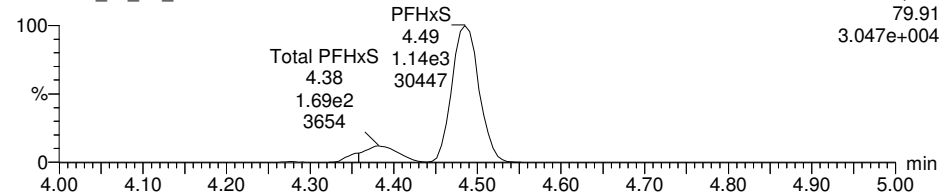
13C4-PFHpA

160629J1_04_P1_E1



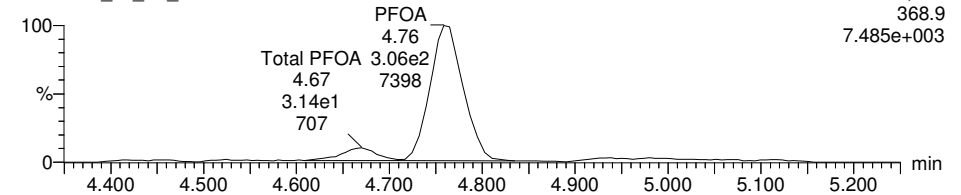
PFHxS

160629J1_04_P1_E1



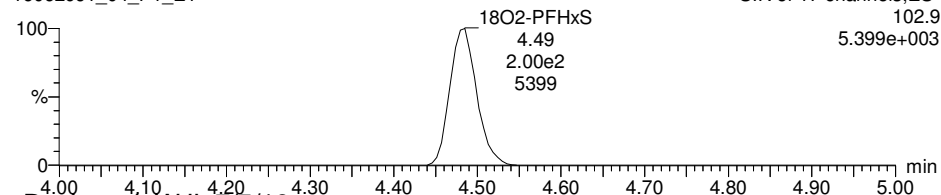
PFOA

160629J1_04_P1_E1



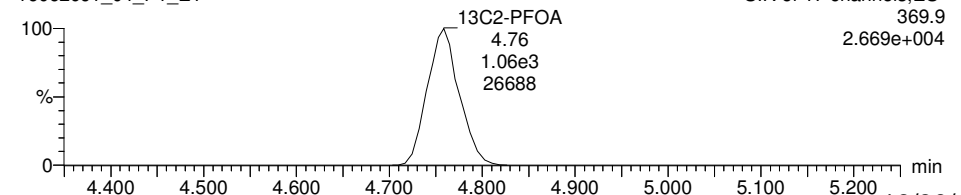
18O2-PFHxS

160629J1_04_P1_E1



13C2-PFOA

160629J1_04_P1_E1



Reviewed: WJL 7/5/16

pw 16/30/16

Dataset: U:\Q2.PRO\Results\160629J1\160629J1_04.qld

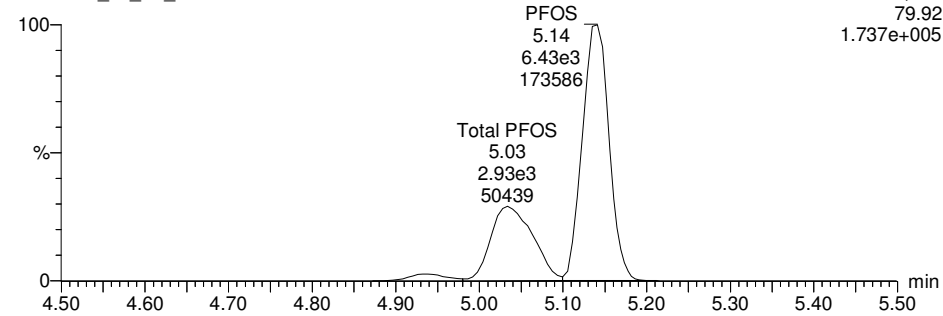
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Printed: Thursday, June 30, 2016 15:04:47 Pacific Daylight Time

Name: 160629J1_04.wiff, Date: 29-Jun-2016, Time: 16:43:00, ID: 1600818-13@5x, Description: OF-MW12-0616

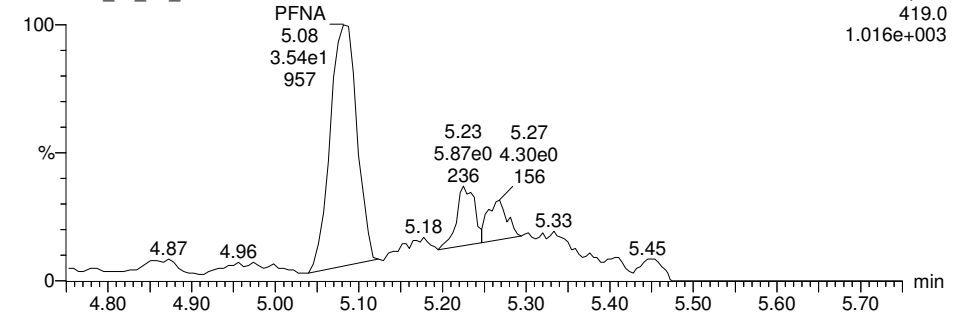
PFOS

160629J1_04_P1_E1



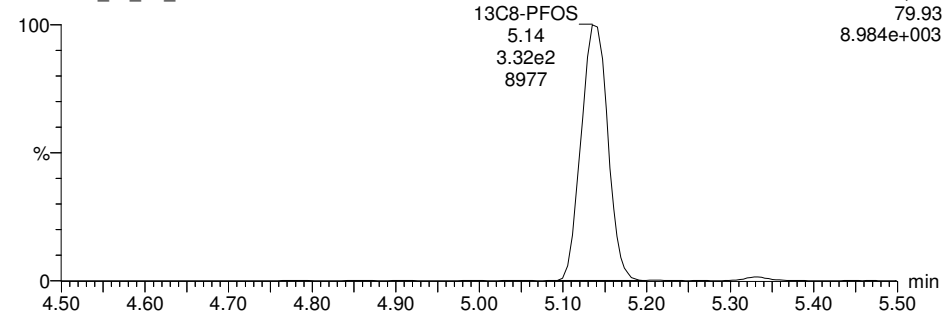
PFNA

160629J1_04_P1_E1



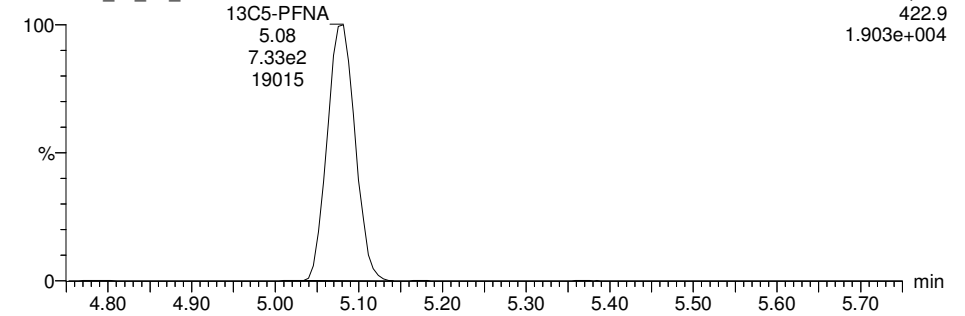
13C8-PFOS

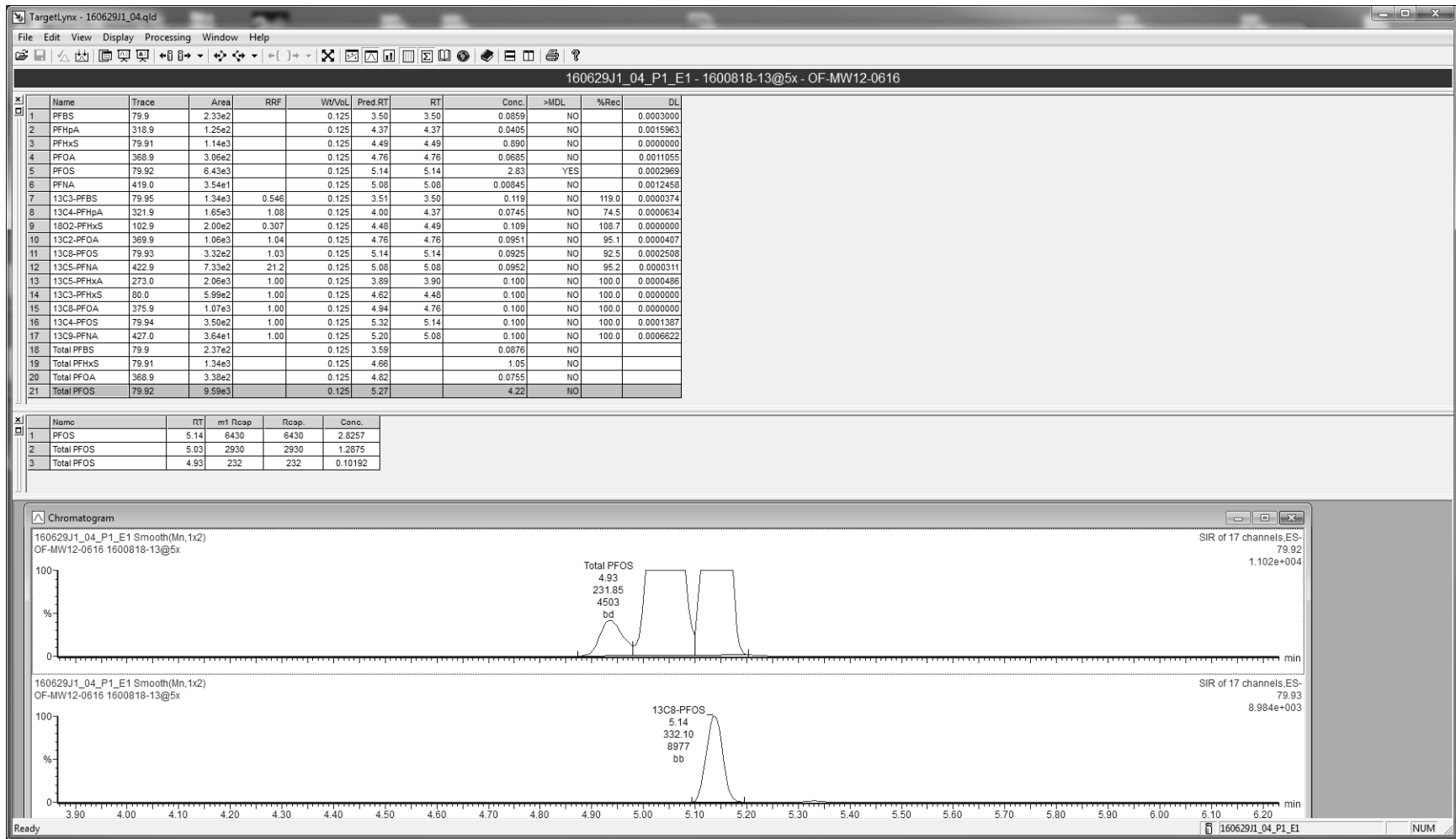
160629J1_04_P1_E1



13C5-PFNA

160629J1_04_P1_E1





Dataset: U:\Q2.PRO\Results\160629J1\160629J1_04.qld

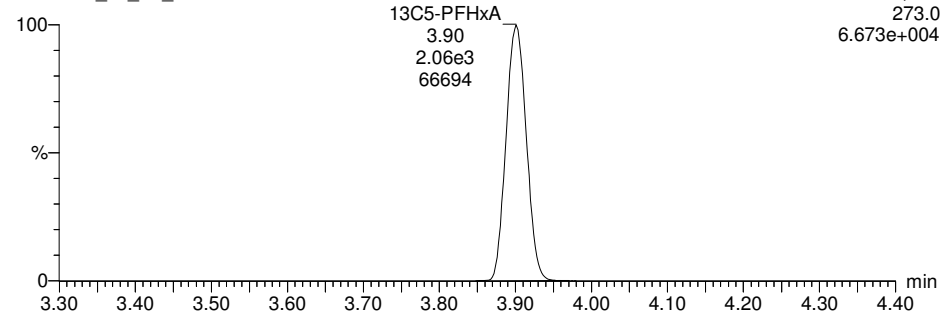
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Printed: Thursday, June 30, 2016 15:04:47 Pacific Daylight Time

Name: 160629J1_04.wiff, Date: 29-Jun-2016, Time: 16:43:00, ID: 1600818-13@5x, Description: OF-MW12-0616

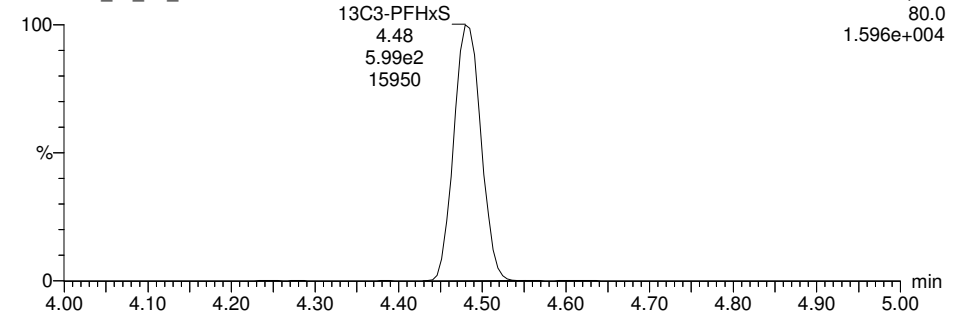
13C5-PFHxA

160629J1_04_P1_E1



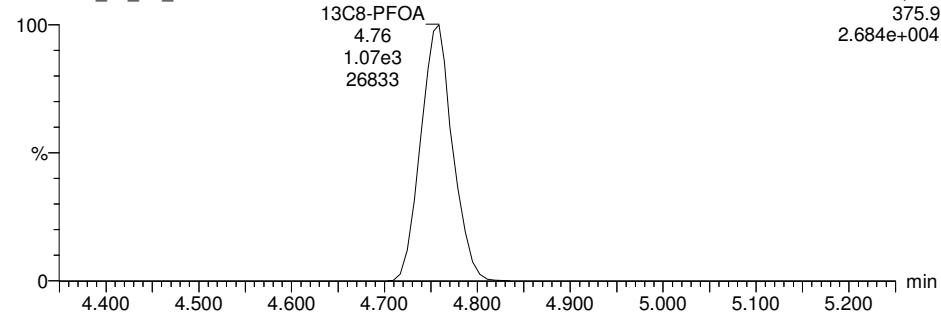
13C3-PFHxS

160629J1_04_P1_E1



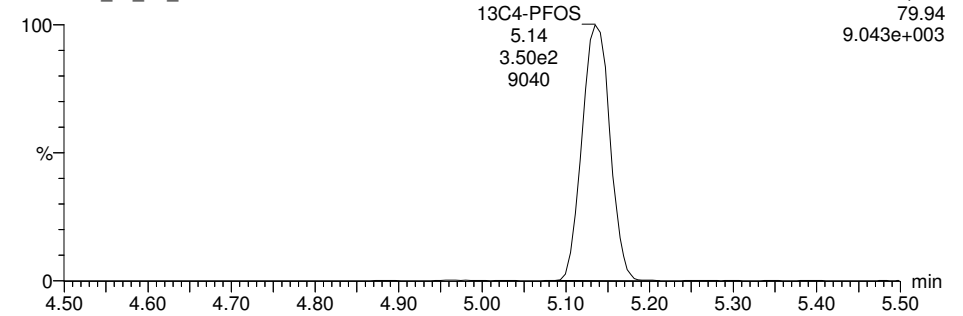
13C8-PFOA

160629J1_04_P1_E1



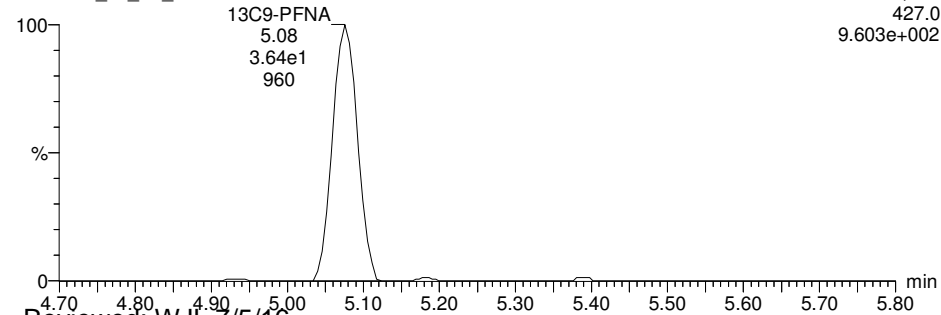
13C4-PFOS

160629J1_04_P1_E1



13C9-PFNA

160629J1_04_P1_E1



Reviewed: WJL 7/5/16

pw 16/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

Last Altered: Thursday, June 30, 2016 11:09:30 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:09:38 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-14, Description: OF-MW13D-0616, Name: 160628J1_36.wiff, Date: 28-Jun-2016, Time: 23:04:09

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	5.711e0	6.215e3		0.124	3.47	0.458	
2	2 PFHpA	318.9		1.107e4		0.124			
3	3 PFHxS	79.91	8.505e1	1.582e3		0.124	4.48	8.46	
4	4 PFOA	368.9	1.446e2	9.277e3		0.124	4.75	3.72	
5	5 PFOS	79.92	6.403e1	4.195e3		0.124	5.13	2.25	
6	6 PFNA	419.0	7.818e0	8.686e3		0.124	5.07	0.159	
7	7 13C3-PFBS	79.95	6.215e3	1.125e4	0.546	0.124	3.47	102	101
8	8 13C4-PFHpA	321.9	1.107e4	1.125e4	1.075	0.124	4.35	92.4	91.5
9	9 18O2-PFHxS	102.9	1.582e3	5.282e3	0.307	0.124	4.47	98.5	97.5
10	10 13C2-PFOA	369.9	9.277e3	9.133e3	1.042	0.124	4.75	98.5	97.5
11	11 13C8-PFOS	79.93	4.195e3	4.691e3	1.026	0.124	5.13	88.1	87.2
12	12 13C5-PFNA	422.9	8.686e3	4.544e2	21.158	0.124	5.07	91.3	90.3
13	13 13C5-PFHxA	273.0	1.125e4	1.125e4	1.000	0.124	3.88	101	100
14	14 13C3-PFHxS	80.0	5.282e3	5.282e3	1.000	0.124	4.47	101	100
15	15 13C8-PFOA	375.9	9.133e3	9.133e3	1.000	0.124	4.74	101	100
16	16 13C4-PFOS	79.94	4.691e3	4.691e3	1.000	0.124	5.13	101	100
17	17 13C9-PFNA	427.0	4.544e2	4.544e2	1.000	0.124	5.07	101	100
18	18 Total PFBS	79.9		6.215e3		0.124		0.458	
19	19 Total PFHxS	79.91		1.582e3		0.124		9.89	
20	20 Total PFOA	368.9		9.277e3		0.124		4.50	
21	21 Total PFOS	79.92		4.195e3		0.124		4.44	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

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Printed: Thursday, June 30, 2016 11:09:38 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-14, Description: OF-MW13D-0616, Name: 160628J1_36.wiff, Date: 28-Jun-2016, Time: 23:04:09

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	5.711	6215.470	0.5

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.48	85.049	1581.581	8.5
2	19 Total PFHxS	79.91	4.37	14.398	1581.581	1.4

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	144.560	9277.164	3.7
2	20 Total PFOA	368.9	4.65	30.638	9277.164	0.8

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.13	64.032	4194.806	2.3
2	21 Total PFOS	79.92	5.03	56.606	4194.806	2.0
3	21 Total PFOS	79.92	4.94	5.735	4194.806	0.2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

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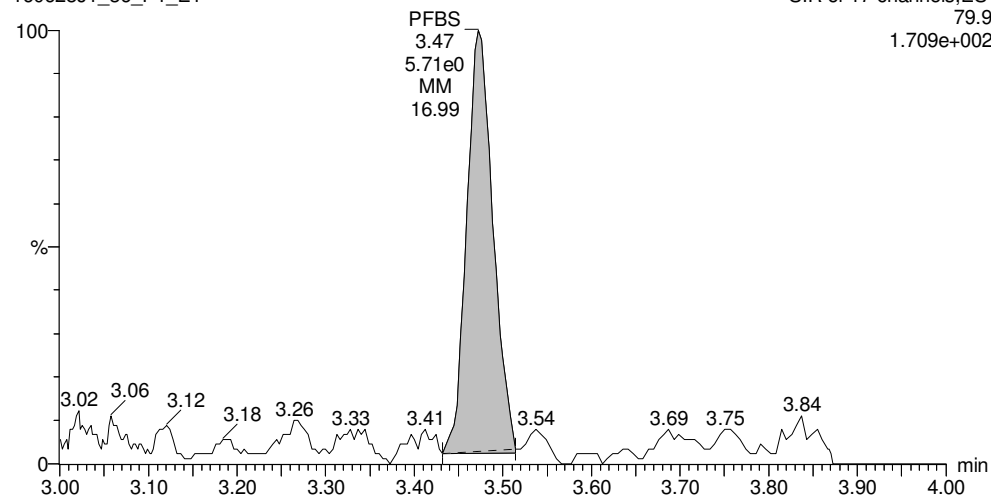
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ID: 1600818-14, Description: OF-MW13D-0616, Name: 160628J1_36.wiff, Date: 28-Jun-2016, Time: 23:04:09, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

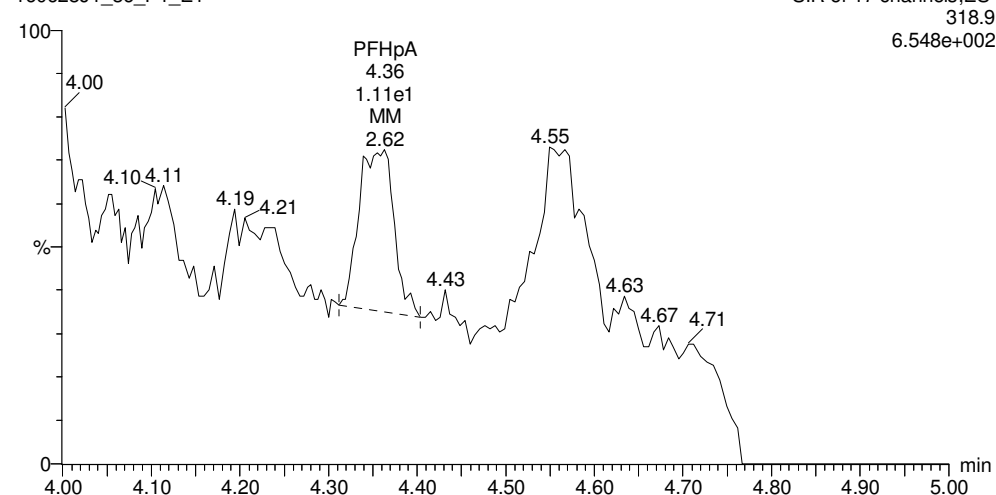
Total PFBS

160628J1_36_P1_E1



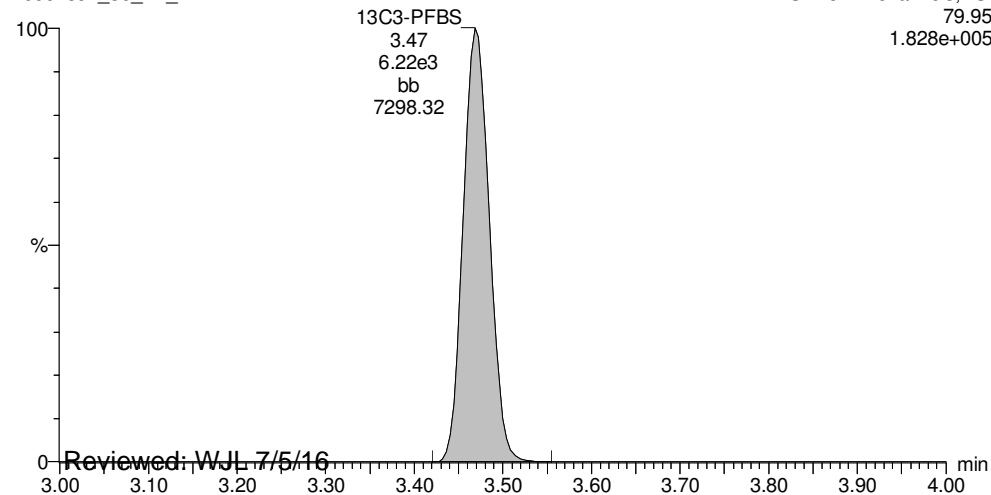
PFHpA

160628J1_36_P1_E1



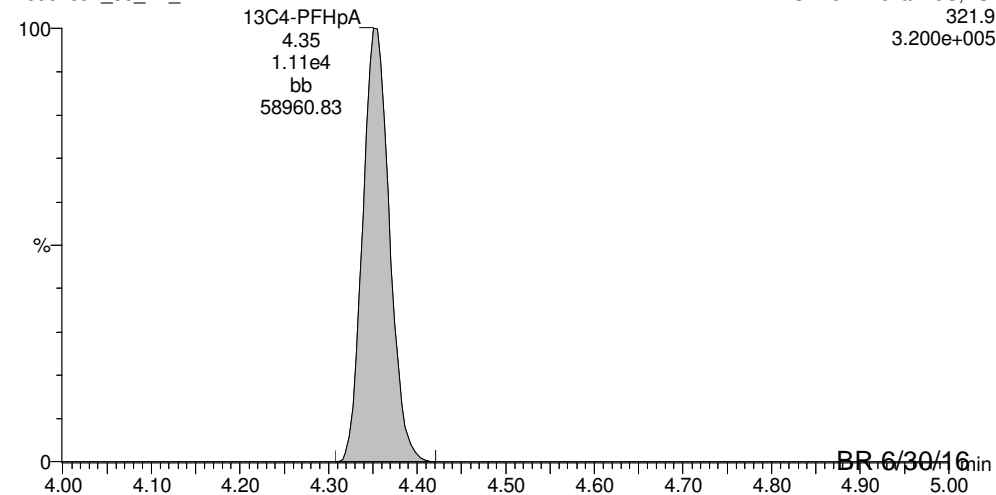
13C3-PFBS

160628J1_36_P1_E1



13C4-PFHpA

160628J1_36_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

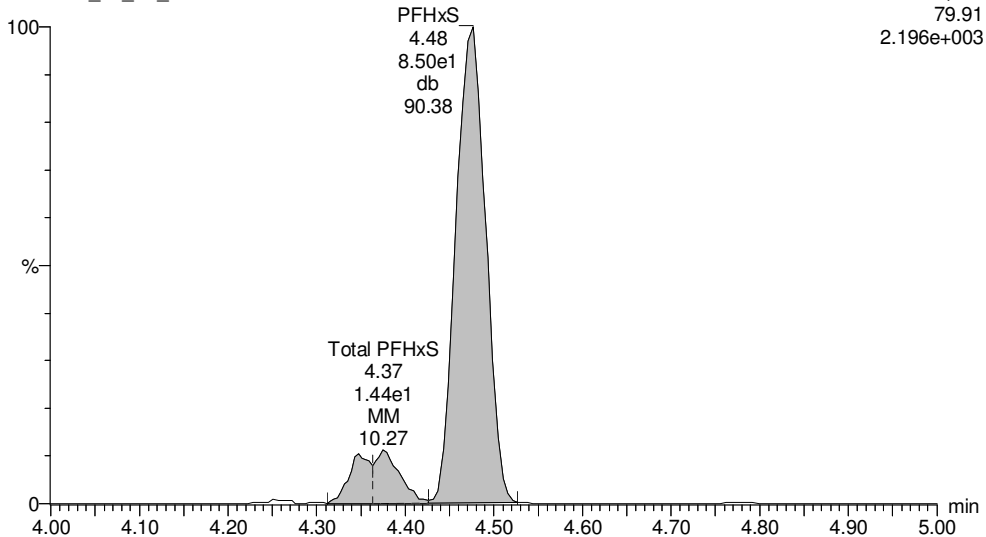
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Printed: Thursday, June 30, 2016 11:09:38 AM Pacific Daylight Time

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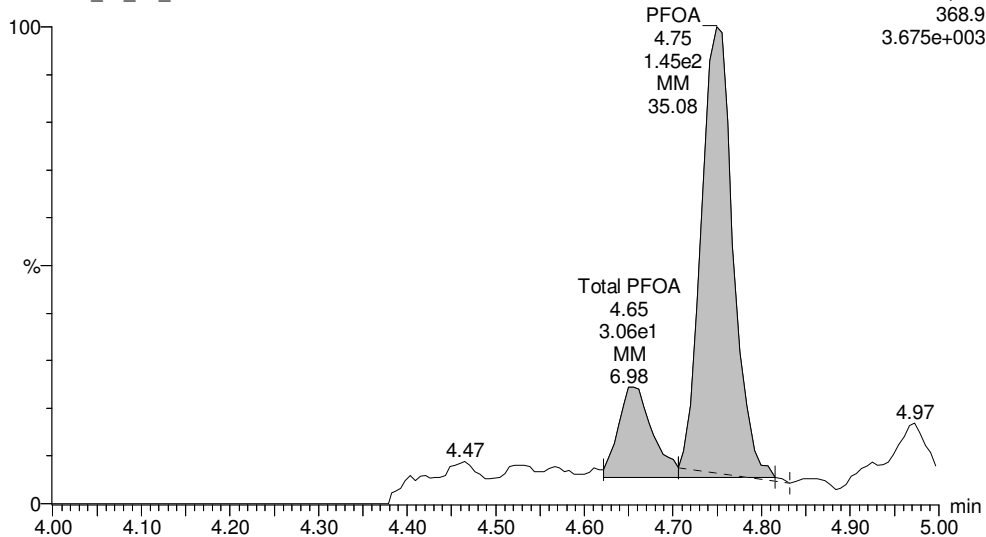
Total PFHxS

160628J1_36_P1_E1



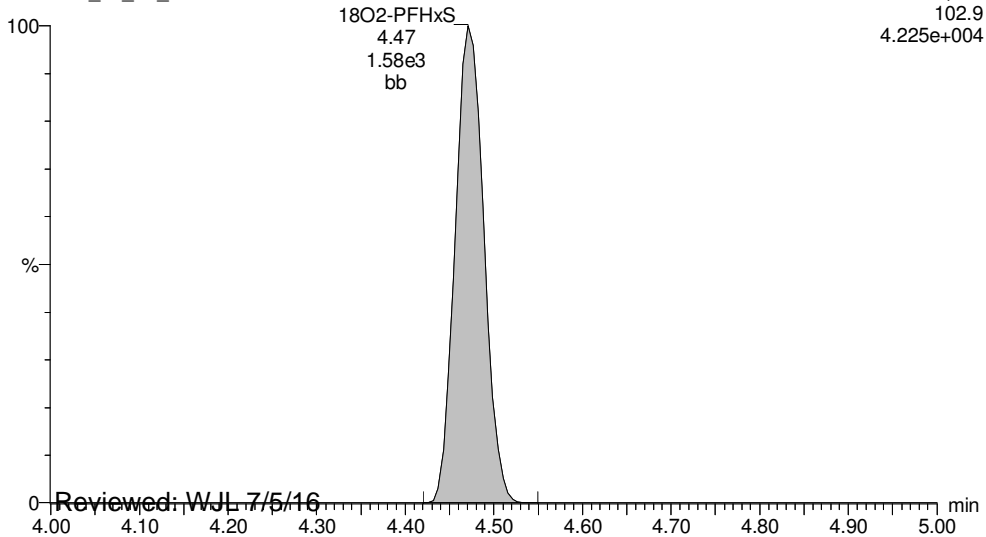
Total PFOA

160628J1_36_P1_E1



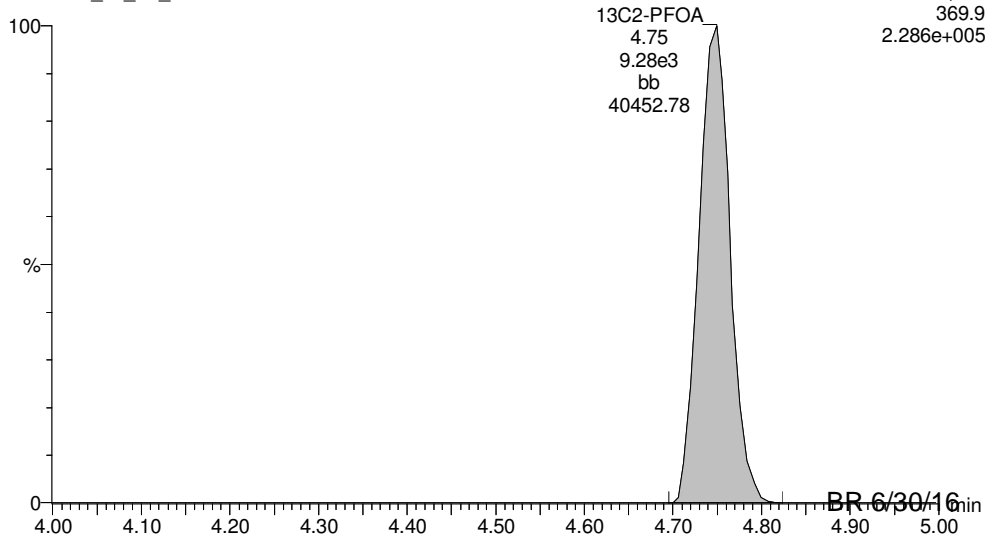
18O2-PFHxS

160628J1_36_P1_E1



13C2-PFOA

160628J1_36_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

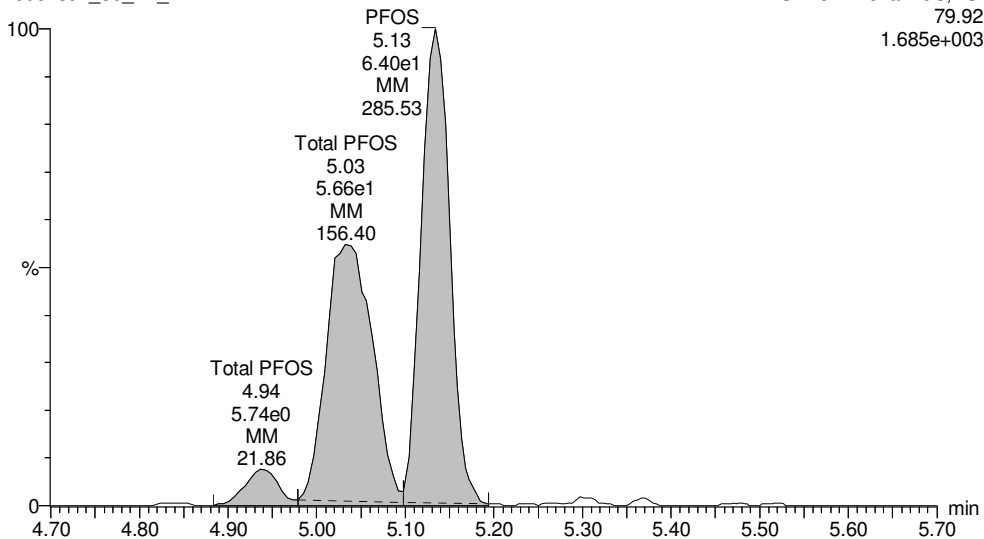
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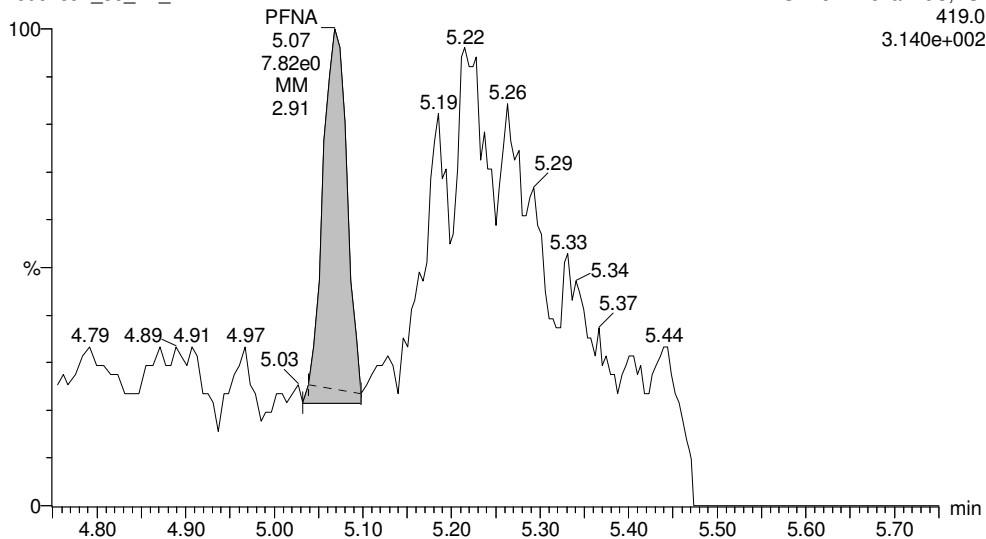
Total PFOS

160628J1_36_P1_E1



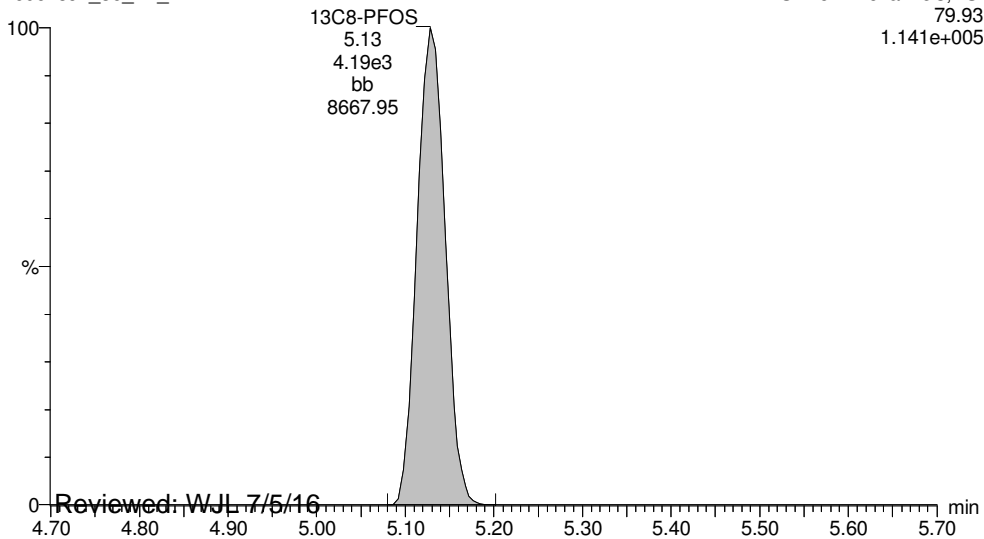
PFNA

160628J1_36_P1_E1



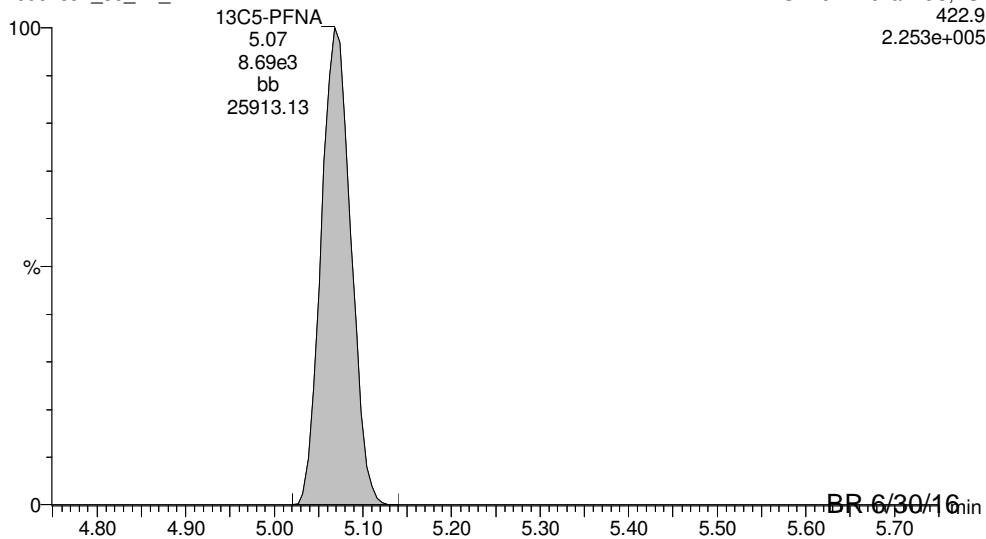
13C8-PFOS

160628J1_36_P1_E1



13C5-PFNA

160628J1_36_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

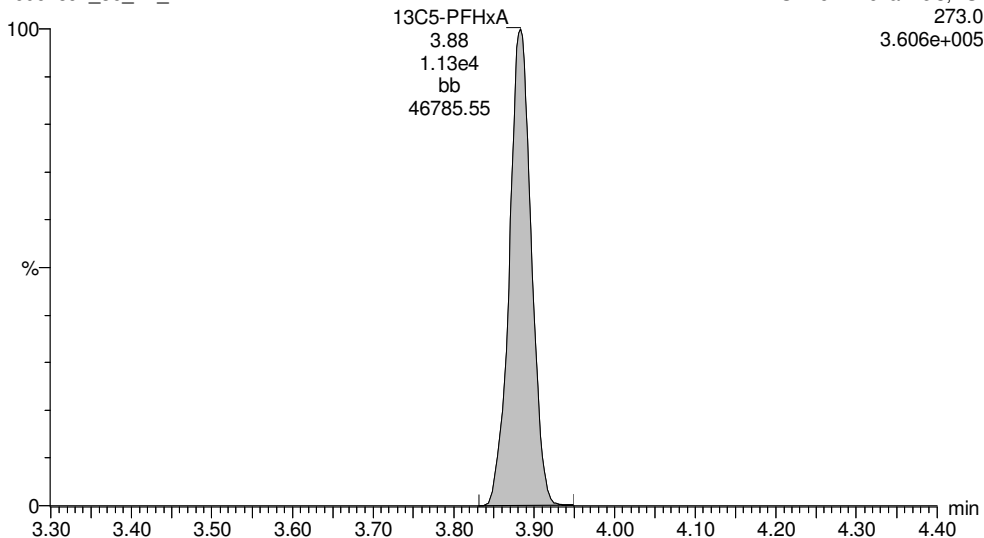
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ID: 1600818-14, Description: OF-MW13D-0616, Name: 160628J1_36.wiff, Date: 28-Jun-2016, Time: 23:04:09, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

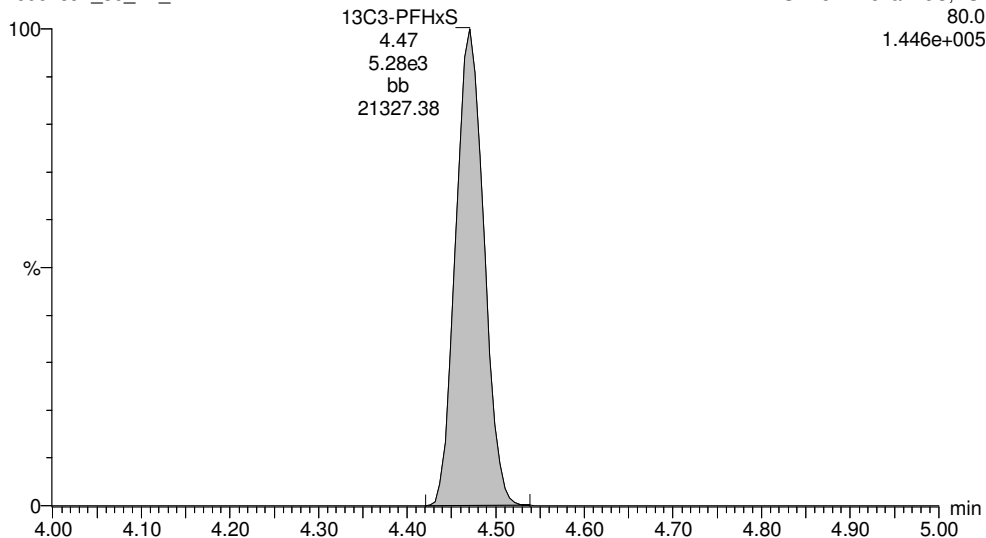
13C5-PFHxA

160628J1_36_P1_E1



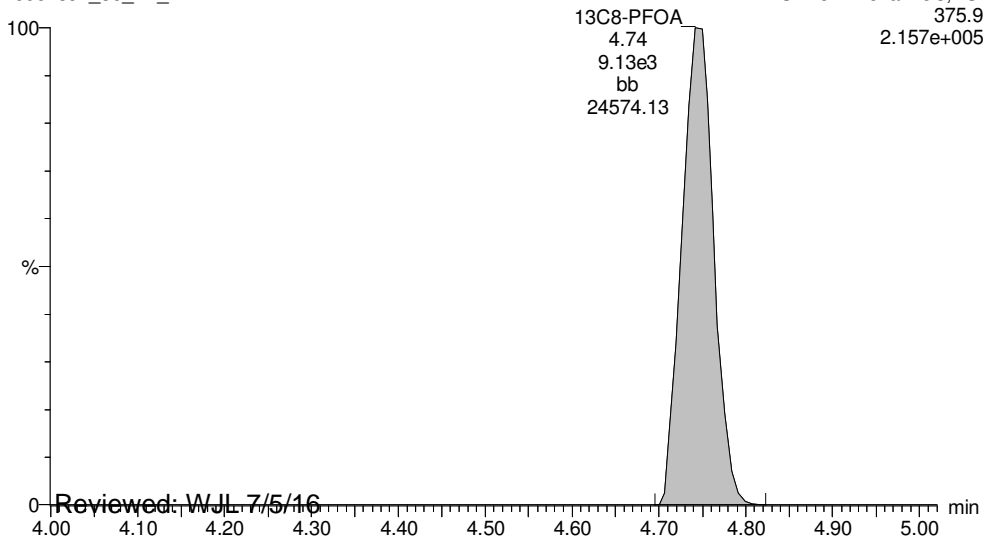
13C3-PFHxS

160628J1_36_P1_E1



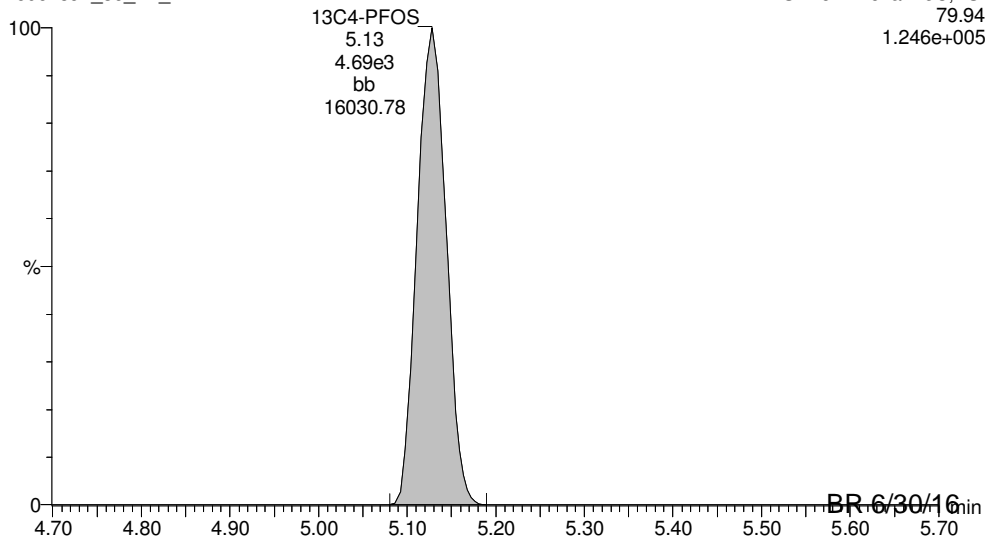
13C8-PFOA

160628J1_36_P1_E1



13C4-PFOS

160628J1_36_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_36.qld

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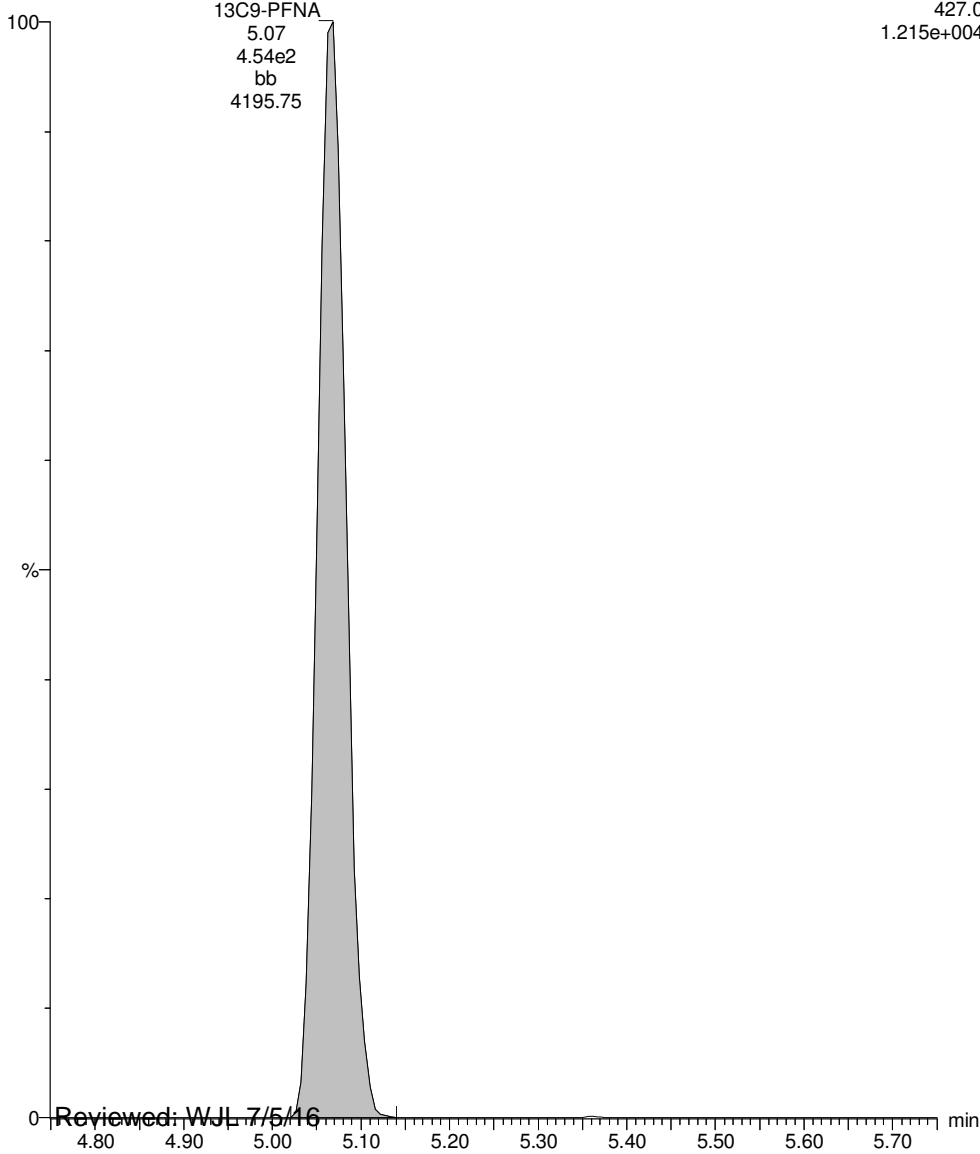
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ID: 1600818-14, Description: OF-MW13D-0616, Name: 160628J1_36.wiff, Date: 28-Jun-2016, Time: 23:04:09, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_36_P1_E1

SIR of 17 channels, ES-
427.0
1.215e+004



Reviewed: WJL 7/5/16

Work Order 1600818

BR 6/30/16

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

Last Altered: Thursday, June 30, 2016 11:14:01 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	7.168e0	6.455e3		0.119	3.47	0.577	
2	2 PFHpA	318.9	1.485e1	1.185e4		0.119	4.35	0.705	
3	3 PFHxS	79.91	7.736e1	1.551e3		0.119	4.47	8.17	
4	4 PFOA	368.9	1.207e2	1.017e4		0.119	4.75	2.95	
5	5 PFOS	79.92	3.487e1	4.321e3		0.119	5.14	1.24	
6	6 PFNA	419.0		8.624e3		0.119			
7	7 13C3-PFBS	79.95	6.455e3	1.125e4	0.546	0.119	3.47	111	105
8	8 13C4-PFHpA	321.9	1.185e4	1.125e4	1.075	0.119	4.35	103	98.0
9	9 18O2-PFHxS	102.9	1.551e3	5.168e3	0.307	0.119	4.47	103	97.7
10	10 13C2-PFOA	369.9	1.017e4	9.224e3	1.042	0.119	4.75	111	106
11	11 13C8-PFOS	79.93	4.321e3	4.889e3	1.026	0.119	5.14	90.6	86.1
12	12 13C5-PFNA	422.9	8.624e3	4.639e2	21.158	0.119	5.08	92.4	87.9
13	13 13C5-PFHxA	273.0	1.125e4	1.125e4	1.000	0.119	3.88	105	100
14	14 13C3-PFHxS	80.0	5.168e3	5.168e3	1.000	0.119	4.47	105	100
15	15 13C8-PFOA	375.9	9.224e3	9.224e3	1.000	0.119	4.75	105	100
16	16 13C4-PFOS	79.94	4.889e3	4.889e3	1.000	0.119	5.13	105	100
17	17 13C9-PFNA	427.0	4.639e2	4.639e2	1.000	0.119	5.07	105	100
18	18 Total PFBS	79.9		6.455e3		0.119		0.577	
19	19 Total PFHxS	79.91		1.551e3		0.119		9.50	
20	20 Total PFOA	368.9		1.017e4		0.119		3.50	
21	21 Total PFOS	79.92		4.321e3		0.119		2.71	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

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Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.47	7.168	6454.917	0.6

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	77.356	1550.828	8.2
2	19 Total PFHxS	79.91	4.38	11.758	1550.828	1.2
3	19 Total PFHxS	79.91	4.25	0.837	1550.828	0.1

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	20 Total PFOA	368.9	4.65	22.841	10166.877	0.6
2	4 PFOA	368.9	4.75	120.690	10166.877	2.9

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.14	34.866	4320.765	1.2
2	21 Total PFOS	79.92	5.03	37.889	4320.765	1.3
3	21 Total PFOS	79.92	4.93	3.532	4320.765	0.1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

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Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

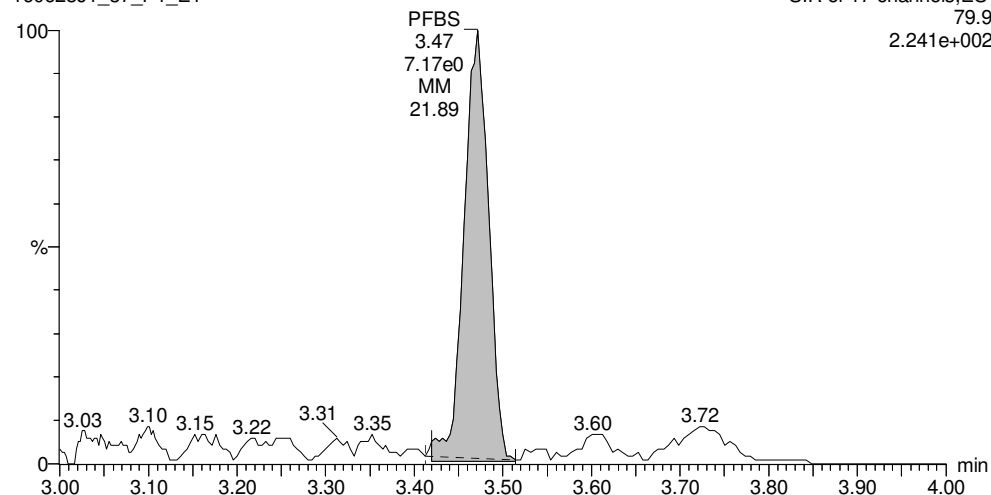
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ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

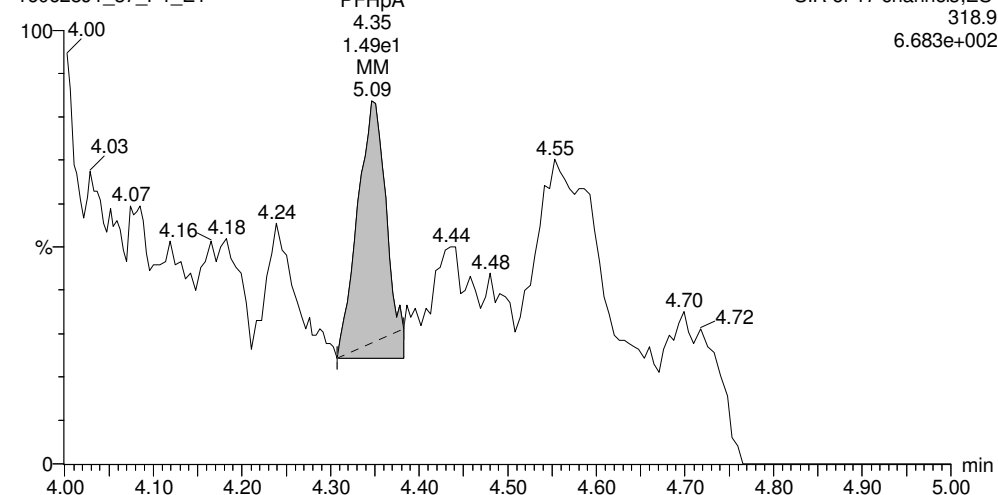
Total PFBS

160628J1_37_P1_E1



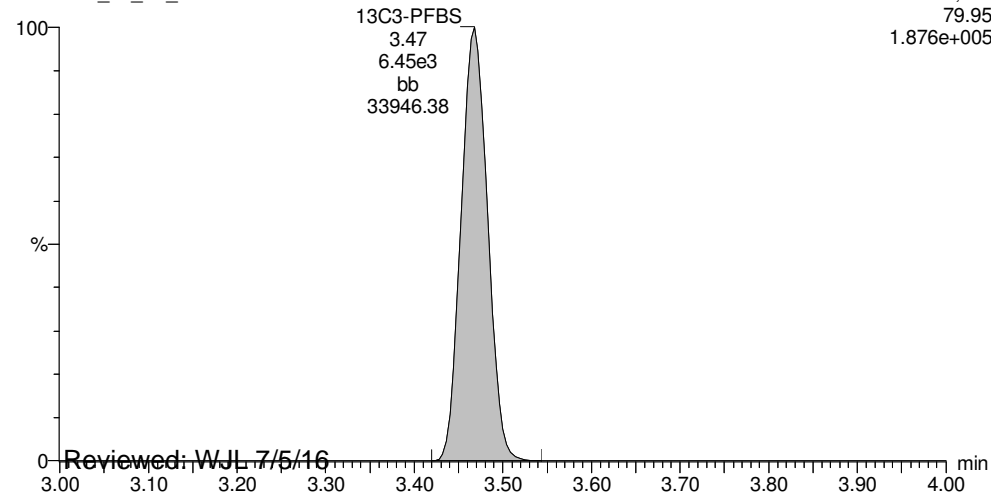
PFHpA

160628J1_37_P1_E1



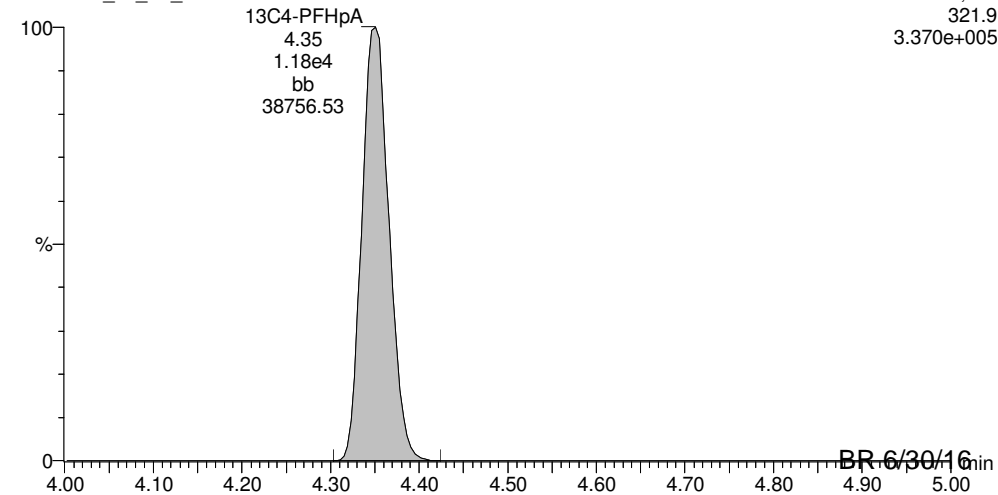
13C3-PFBS

160628J1_37_P1_E1



13C4-PFHpa

160628J1_37_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

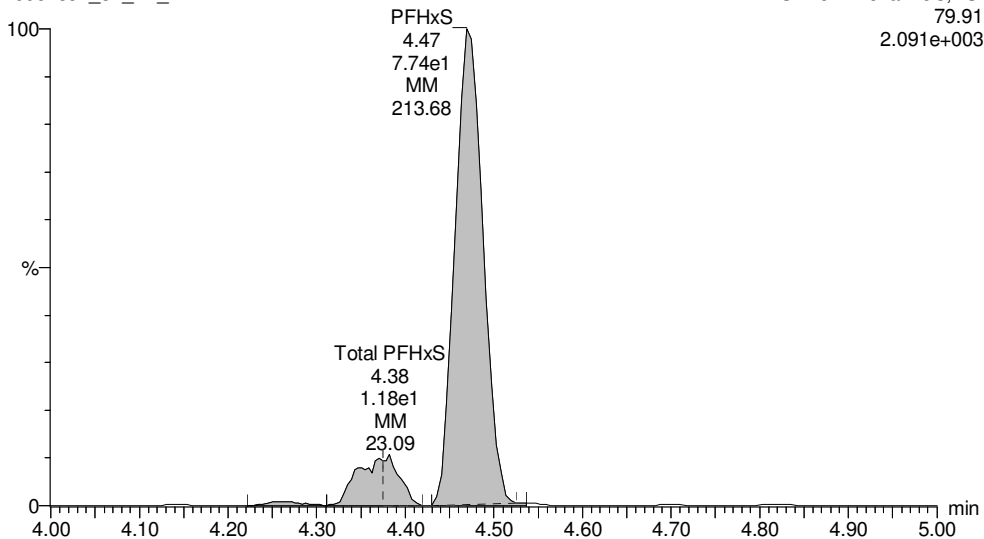
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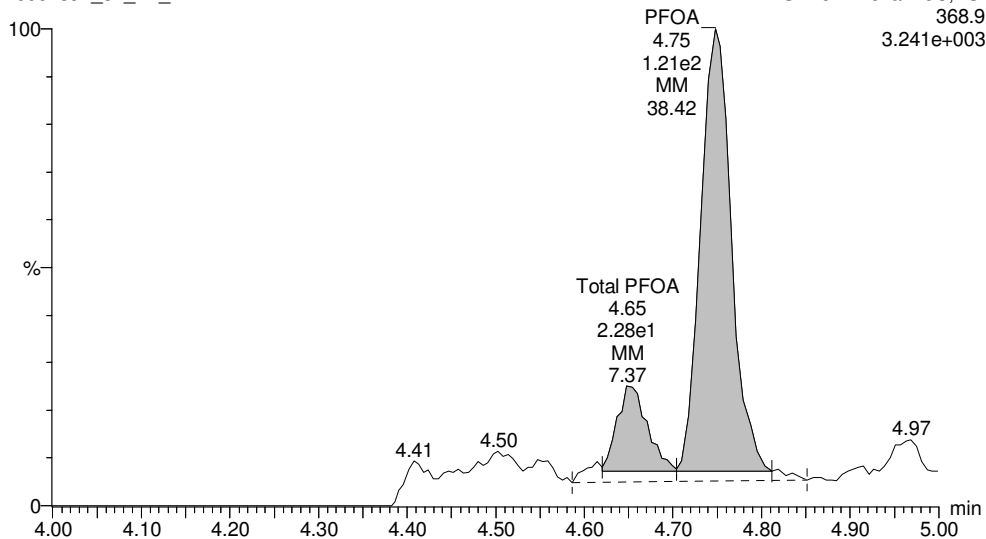
Total PFHxS

160628J1_37_P1_E1



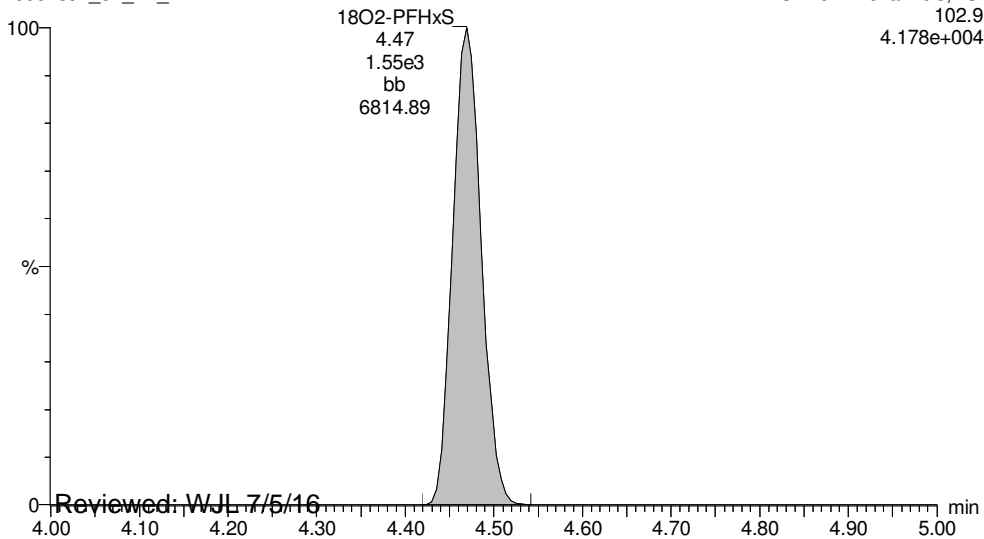
Total PFOA

160628J1_37_P1_E1



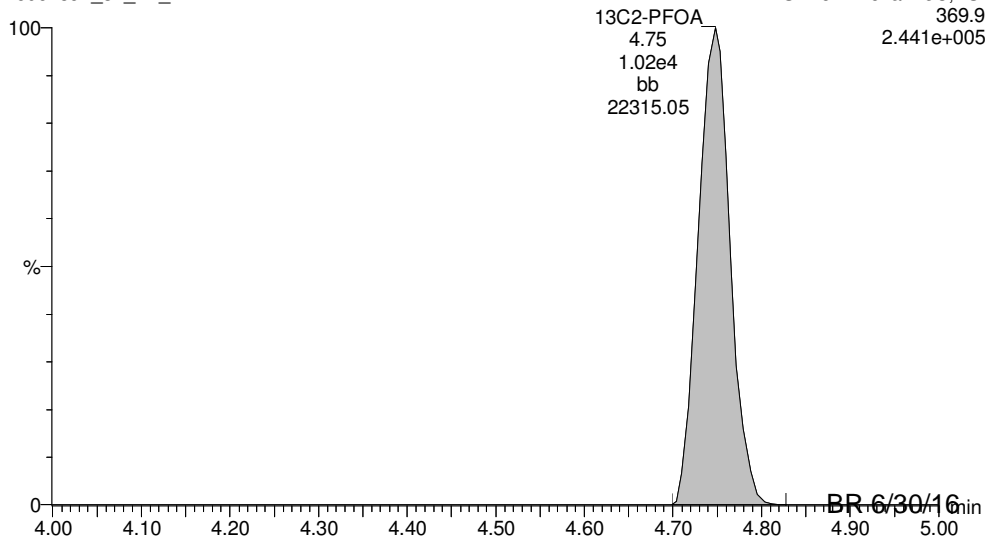
18O2-PFHxS

160628J1_37_P1_E1



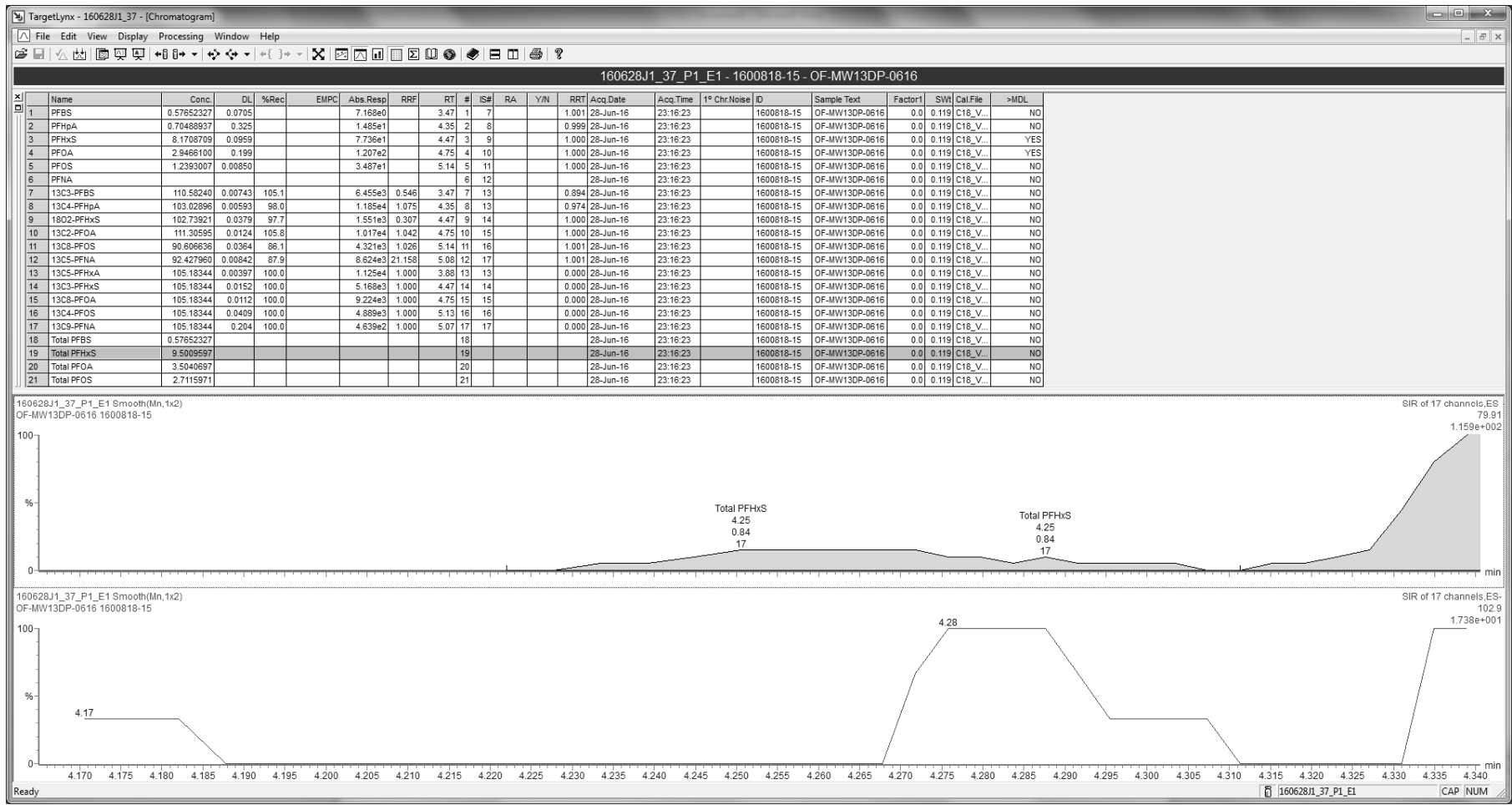
13C2-PFOA

160628J1_37_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16



Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

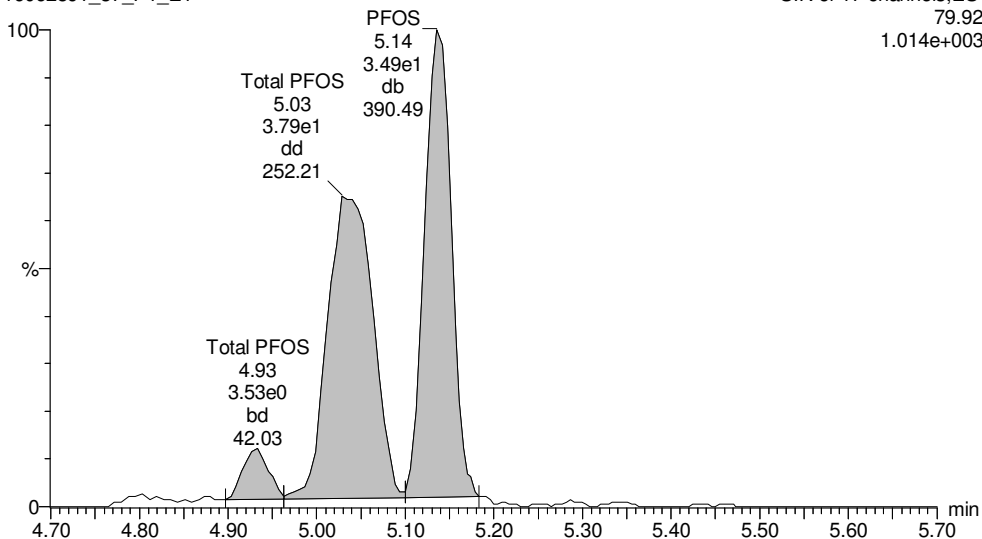
Last Altered: Thursday, June 30, 2016 11:14:01 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

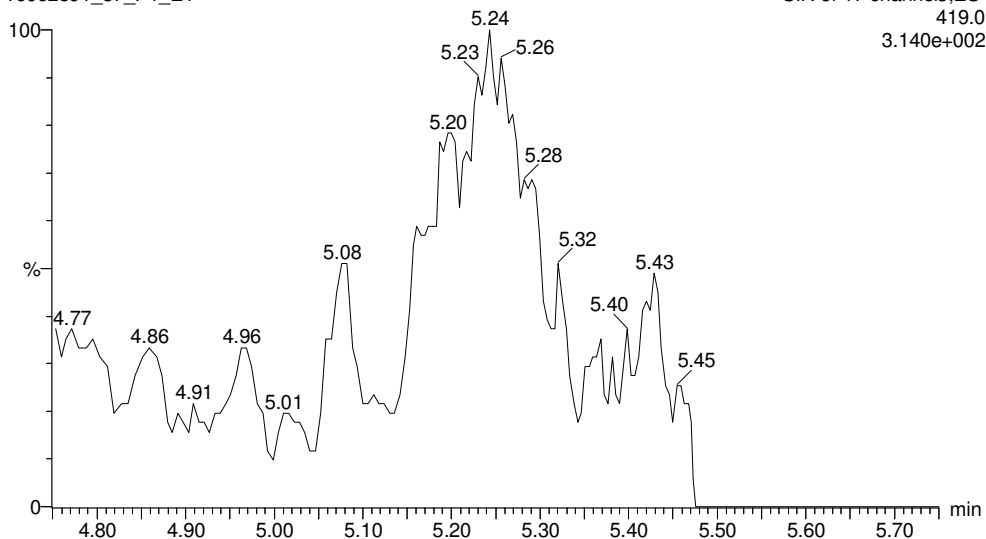
Total PFOS

160628J1_37_P1_E1



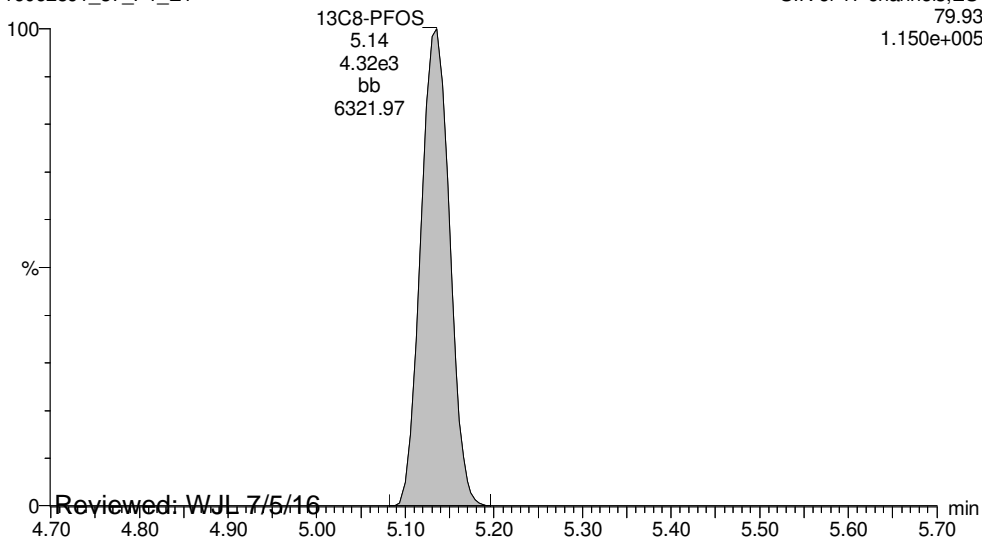
PFNA

160628J1_37_P1_E1



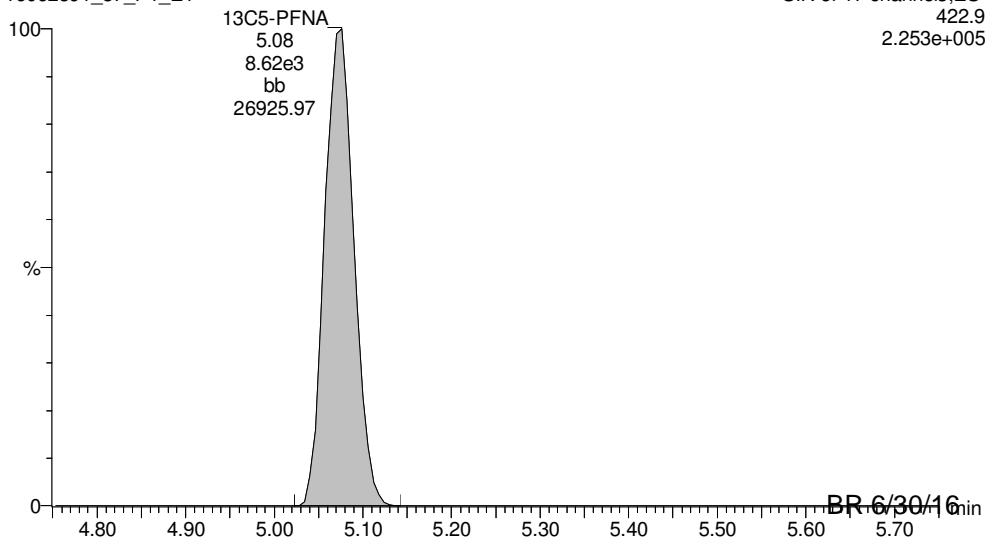
13C8-PFOS

160628J1_37_P1_E1



13C5-PFNA

160628J1_37_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

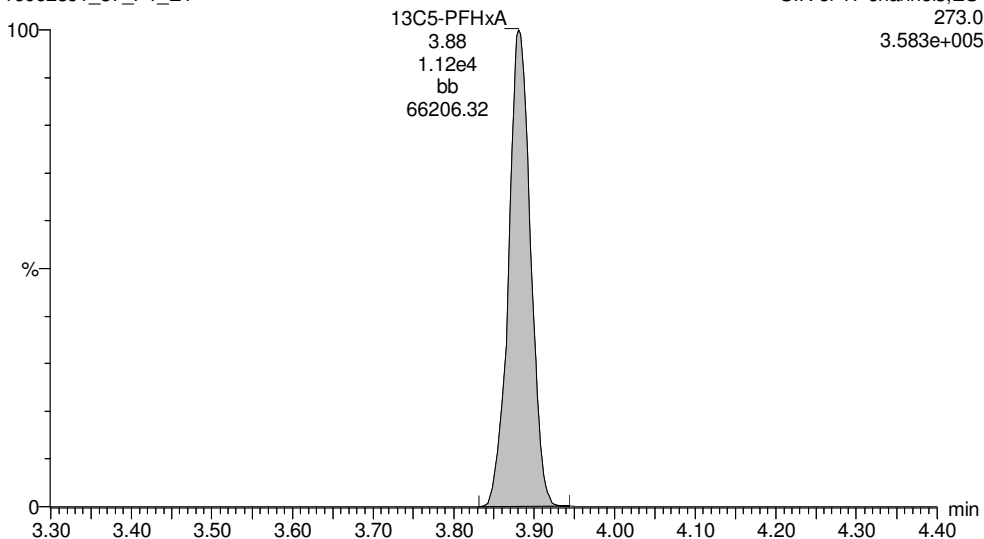
Last Altered: Thursday, June 30, 2016 11:14:01 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

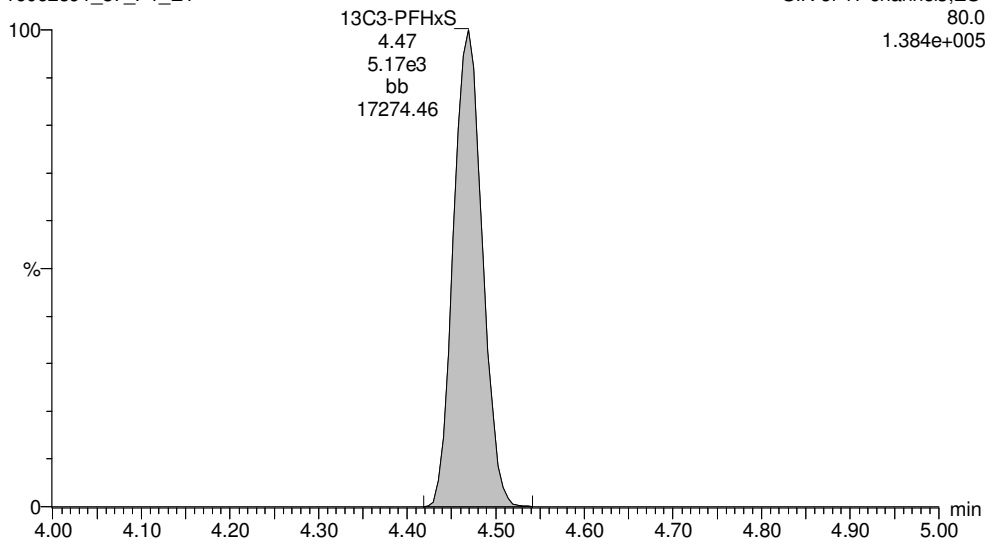
13C5-PFHxA

160628J1_37_P1_E1



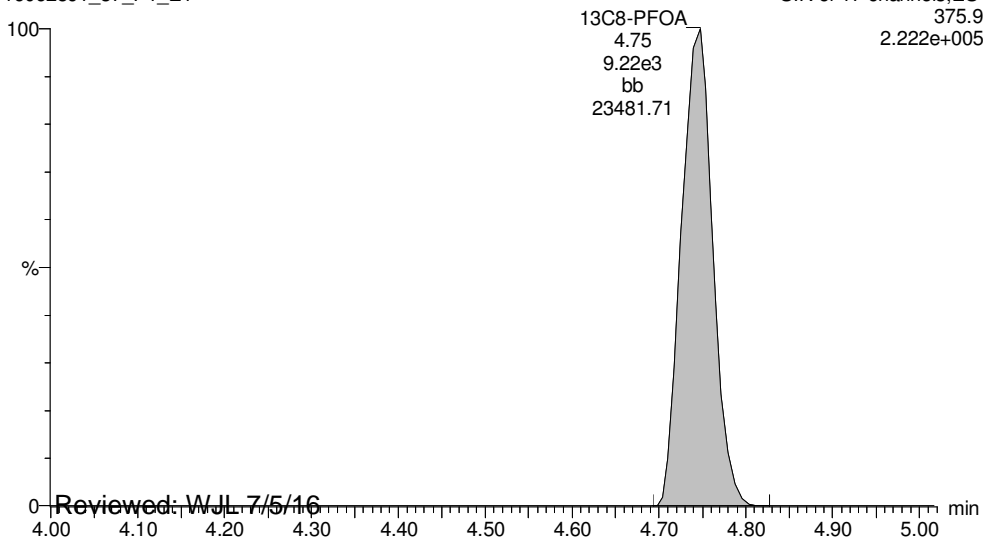
13C3-PFHxS

160628J1_37_P1_E1



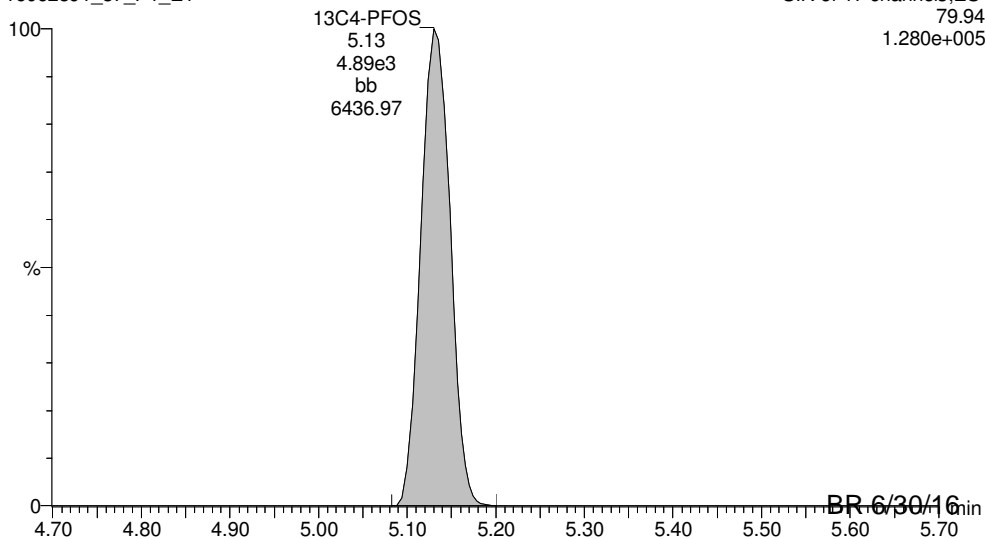
13C8-PFOA

160628J1_37_P1_E1



13C4-PFOS

160628J1_37_P1_E1



Reviewed: WJL 7/5/16

BR 6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_37.qld

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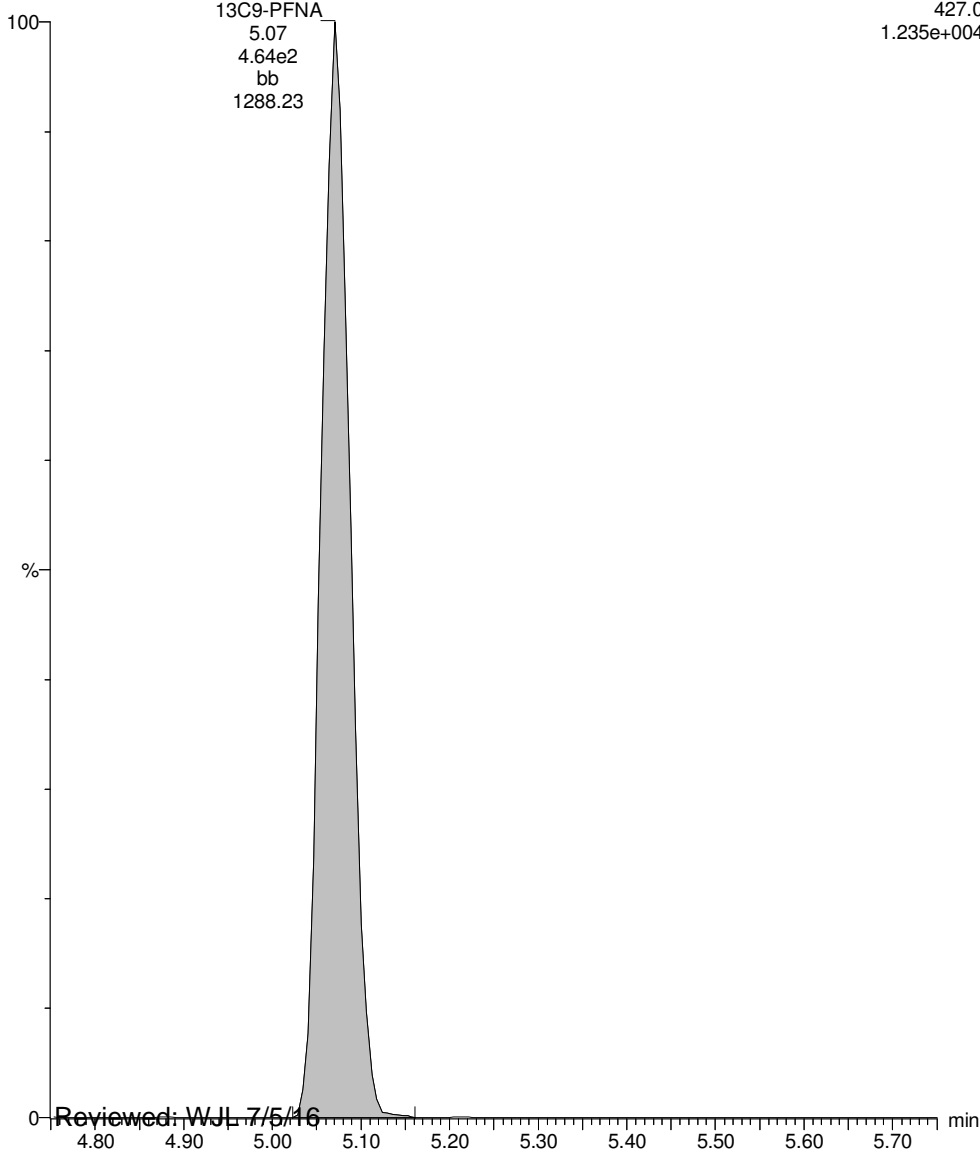
Printed: Thursday, June 30, 2016 11:14:21 AM Pacific Daylight Time

ID: 1600818-15, Description: OF-MW13DP-0616, Name: 160628J1_37.wiff, Date: 28-Jun-2016, Time: 23:16:23, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_37_P1_E1

SIR of 17 channels, ES-
427.0
1.235e+004



Reviewed: WJL 7/5/16

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	79.9	6.019e0	6.320e3		0.125	3.48	0.471	
2	2 PFHpA	318.9		1.113e4		0.125			
3	3 PFHxS	79.91	2.677e1	1.540e3		0.125	4.48	2.71	
4	4 PFOA	368.9	2.879e1	8.115e3		0.125	4.75	0.839	
5	5 PFOS	79.92	1.179e2	3.588e3		0.125	5.13	4.81	
6	6 PFNA	419.0		7.574e3		0.125			
7	7 13C3-PFBS	79.95	6.320e3	1.166e4	0.546	0.125	3.47	99.6	99.3
8	8 13C4-PFHpA	321.9	1.113e4	1.166e4	1.075	0.125	4.36	89.1	88.8
9	9 18O2-PFHxS	102.9	1.540e3	5.229e3	0.307	0.125	4.48	96.2	95.9
10	10 13C2-PFOA	369.9	8.115e3	9.451e3	1.042	0.125	4.75	82.7	82.4
11	11 13C8-PFOS	79.93	3.588e3	4.315e3	1.026	0.125	5.13	81.3	81.0
12	12 13C5-PFNA	422.9	7.574e3	4.367e2	21.158	0.125	5.07	82.2	82.0
13	13 13C5-PFHxA	273.0	1.166e4	1.166e4	1.000	0.125	3.88	100	100
14	14 13C3-PFHxS	80.0	5.229e3	5.229e3	1.000	0.125	4.47	100	100
15	15 13C8-PFOA	375.9	9.451e3	9.451e3	1.000	0.125	4.75	100	100
16	16 13C4-PFOS	79.94	4.315e3	4.315e3	1.000	0.125	5.13	100	100
17	17 13C9-PFNA	427.0	4.367e2	4.367e2	1.000	0.125	5.06	100	100
18	18 Total PFBS	79.9		6.320e3		0.125		0.471	
19	19 Total PFHxS	79.91		1.540e3		0.125		3.14	
20	20 Total PFOA	368.9		8.115e3		0.125		0.839	
21	21 Total PFOS	79.92		3.588e3		0.125		7.45	

Quantify Totals Report MassLynx 4.1 SCN815

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.48	6.019	6320.301	0.5

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.48	26.770	1540.332	2.7
2	19 Total PFHxS	79.91	4.38	2.490	1540.332	0.3
3	19 Total PFHxS	79.91	4.34	1.682	1540.332	0.2

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.75	28.786	8115.232	0.8

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	21 Total PFOS	79.92	5.02	60.665	3587.909	2.5
2	21 Total PFOS	79.92	4.93	3.844	3587.909	0.2
3	5 PFOS	79.92	5.13	117.869	3587.909	4.8

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

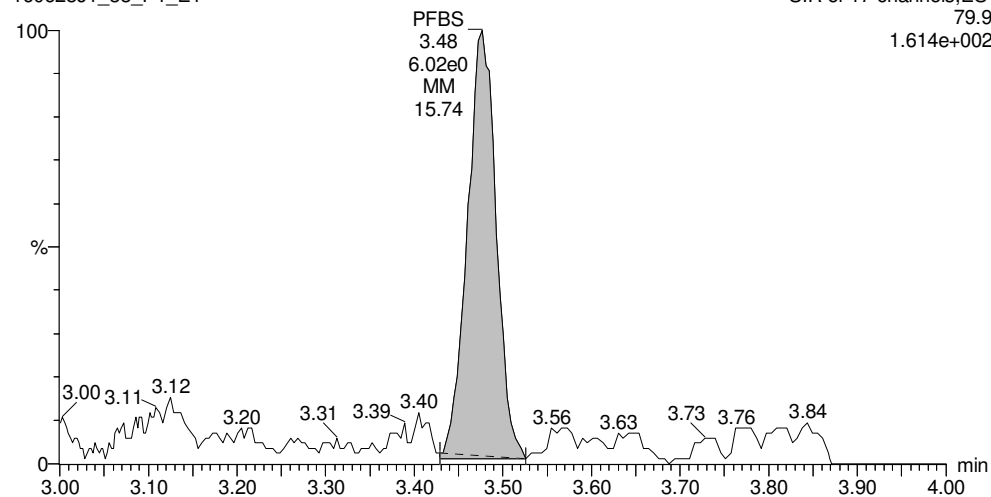
Method: U:\Q2.pro\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.pro\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

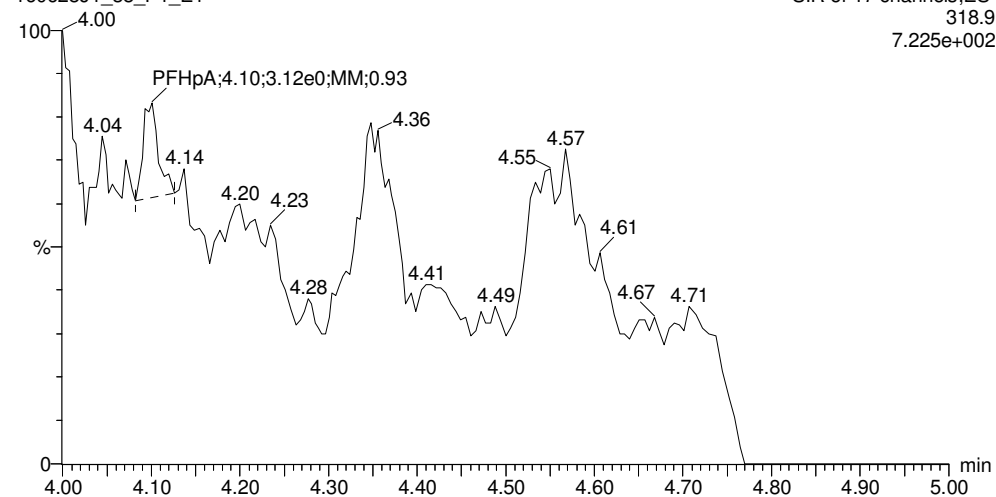
Total PFBS

160628J1_38_P1_E1



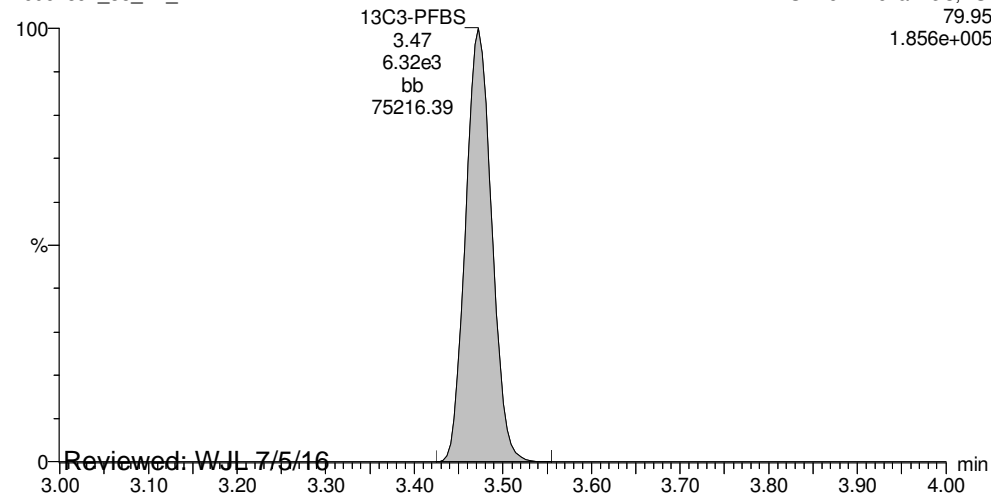
PFHpA

160628J1_38_P1_E1



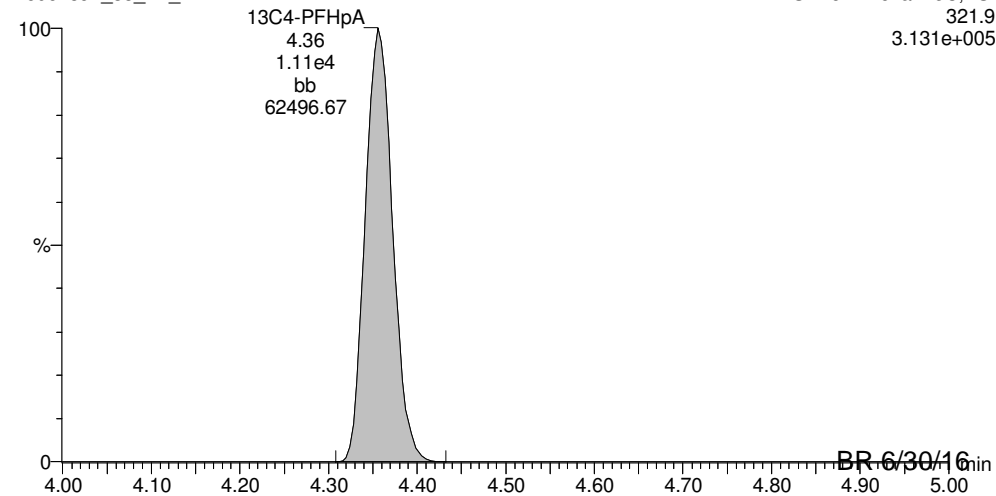
13C3-PFBS

160628J1_38_P1_E1



13C4-PFHpA

160628J1_38_P1_E1



Reviewed: WJL 7/5/16

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

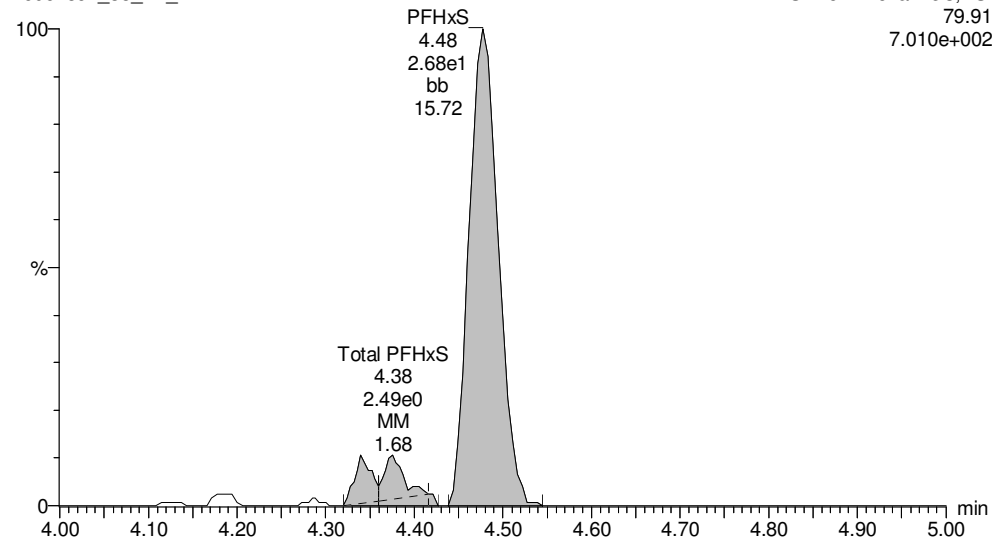
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Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

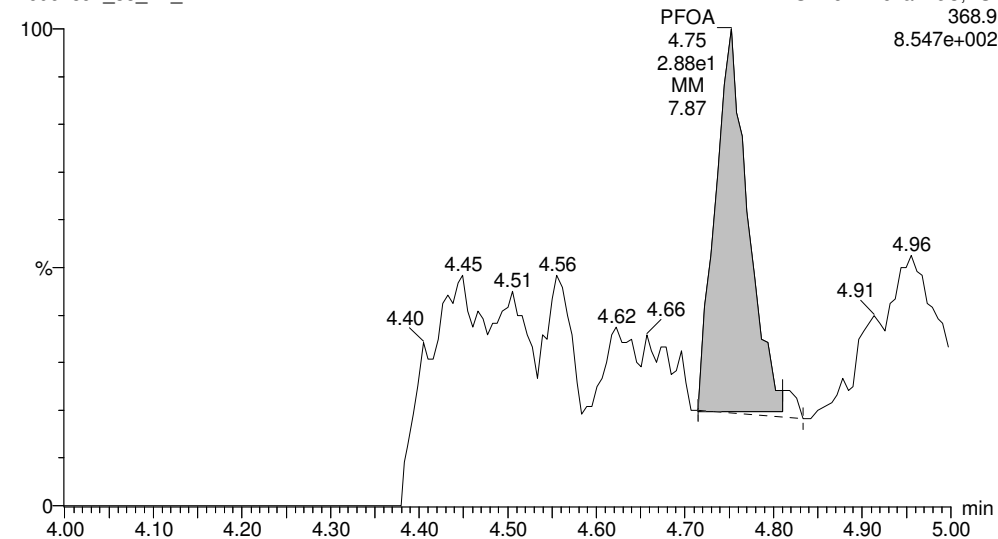
Total PFHxS

160628J1_38_P1_E1



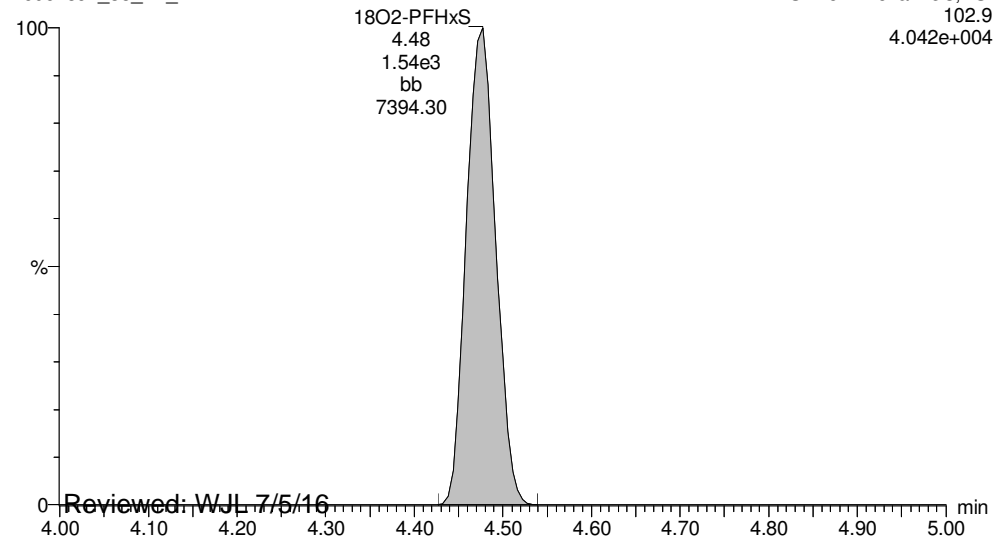
Total PFOA

160628J1_38_P1_E1



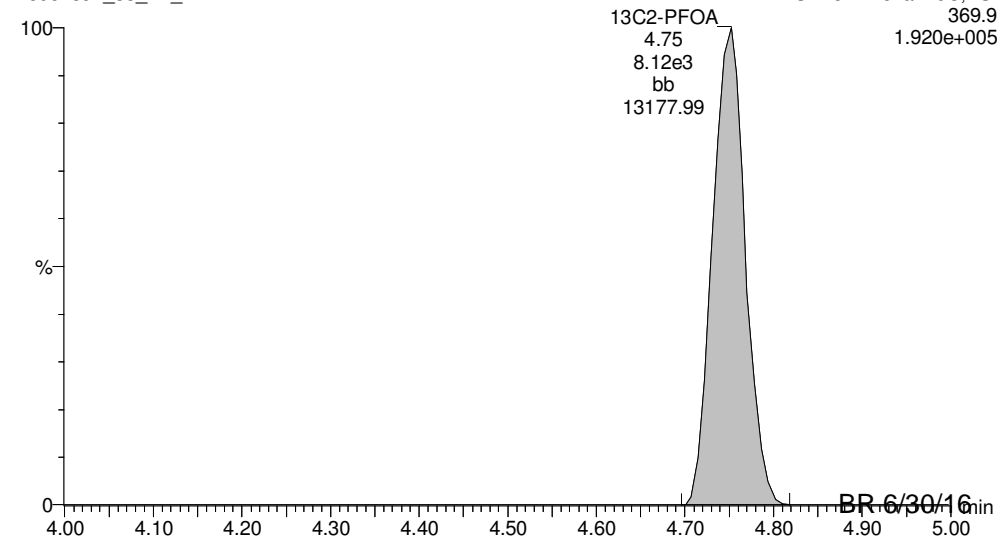
18O2-PFHxS

160628J1_38_P1_E1



13C2-PFOA

160628J1_38_P1_E1



Reviewed: WJL 7/5/16

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

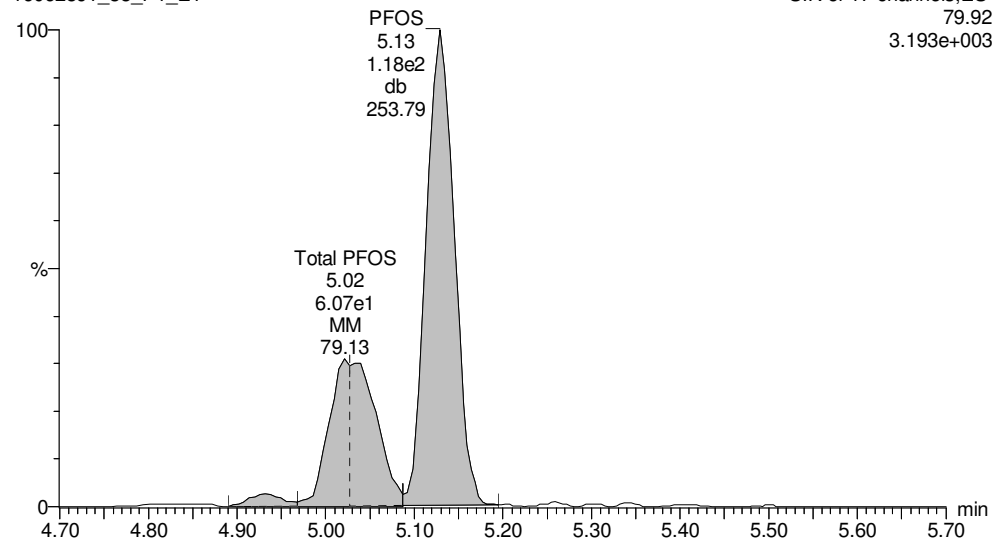
Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

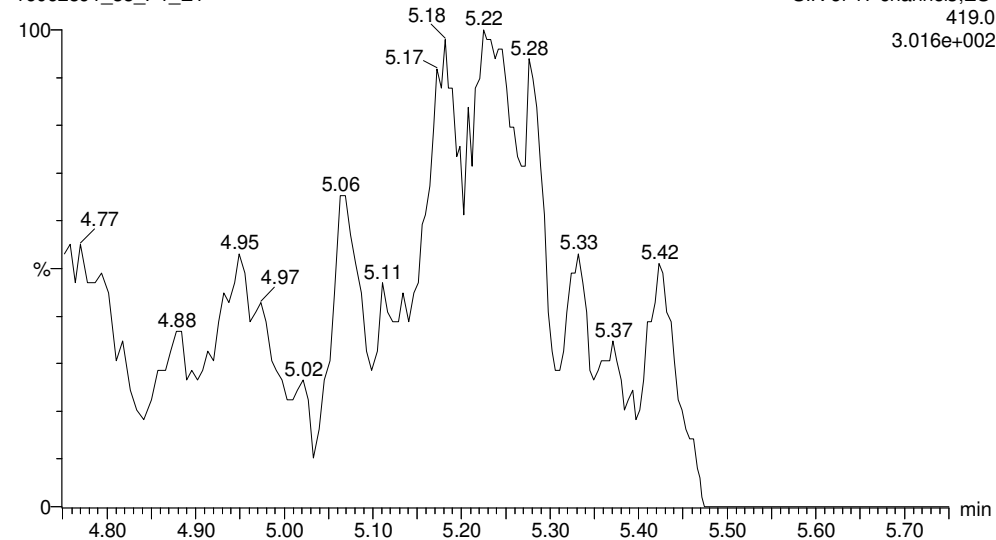
Total PFOS

160628J1_38_P1_E1



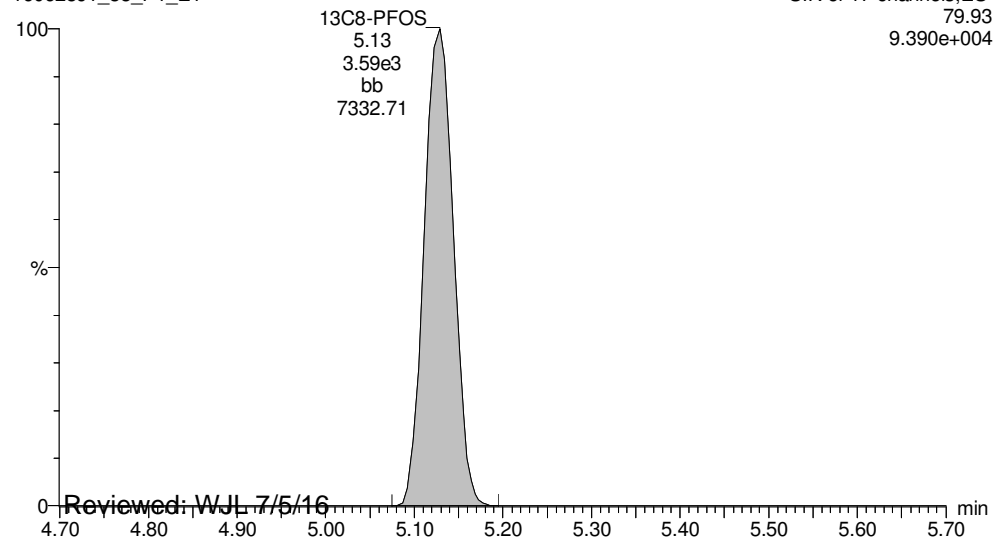
PFNA

160628J1_38_P1_E1



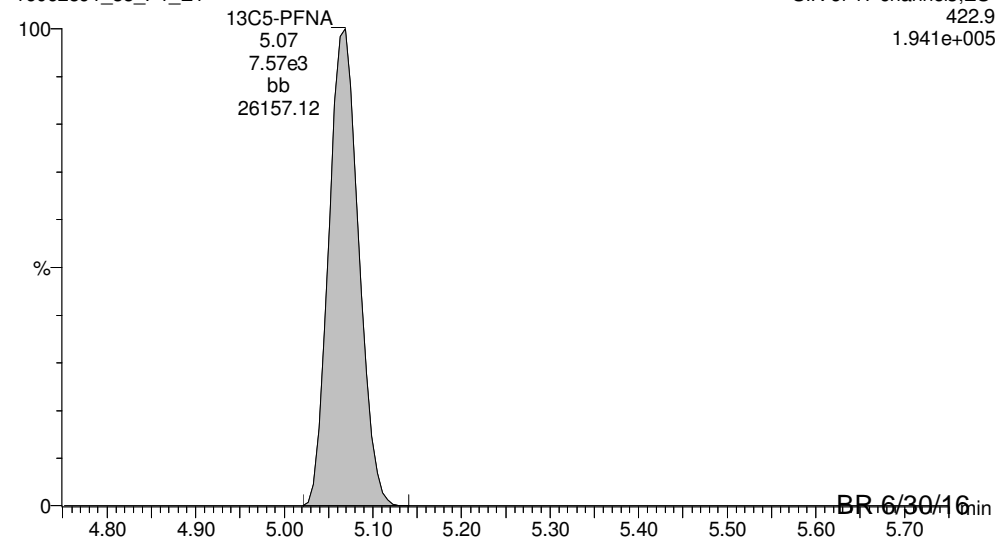
13C8-PFOS

160628J1_38_P1_E1



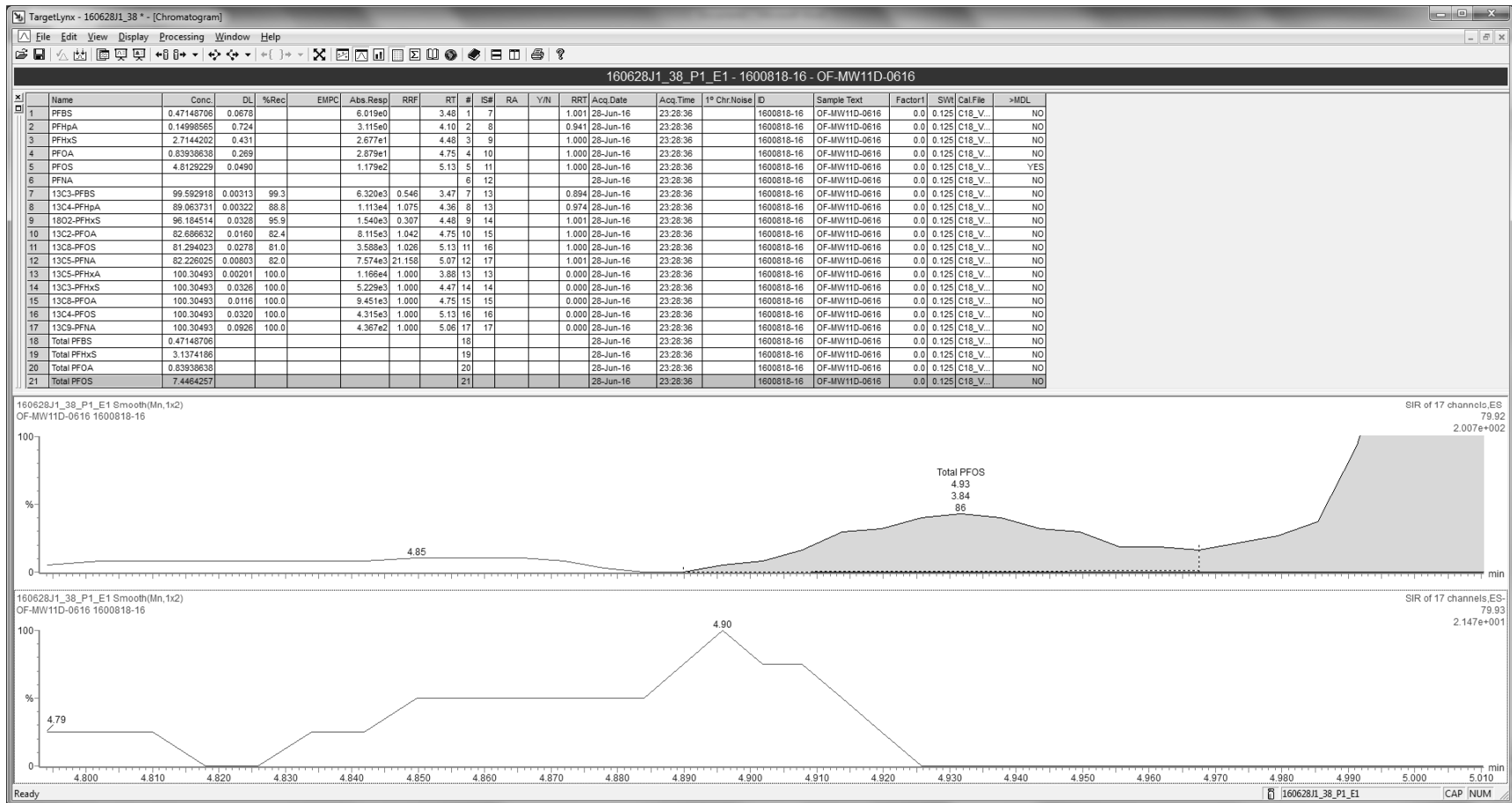
13C5-PFNA

160628J1_38_P1_E1



Reviewed: WJL 7/5/16

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Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

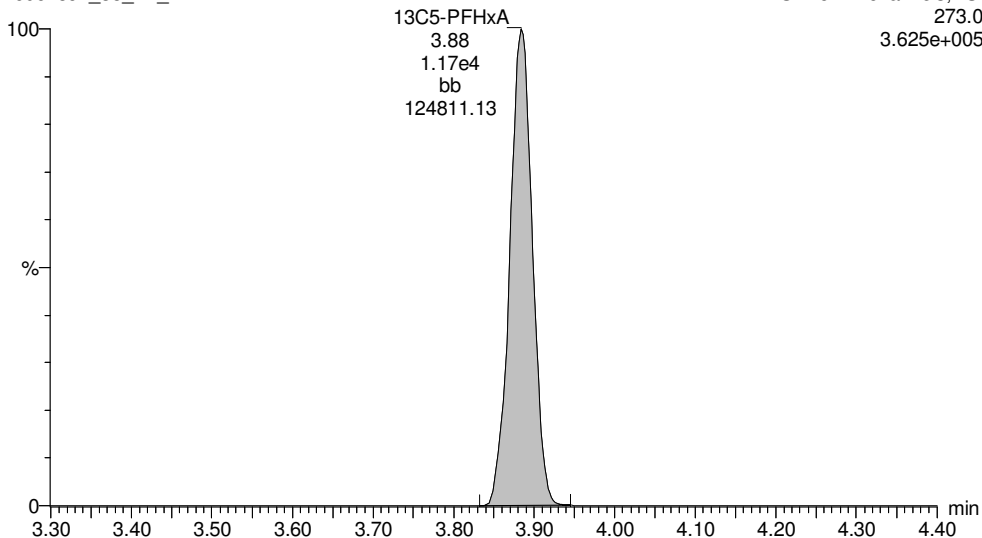
Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

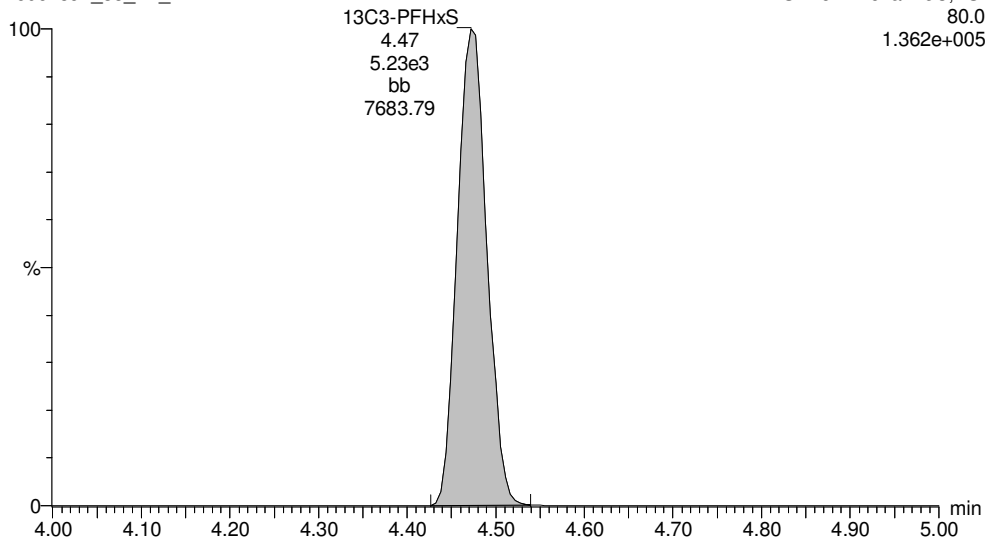
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160628J1_38_P1_E1



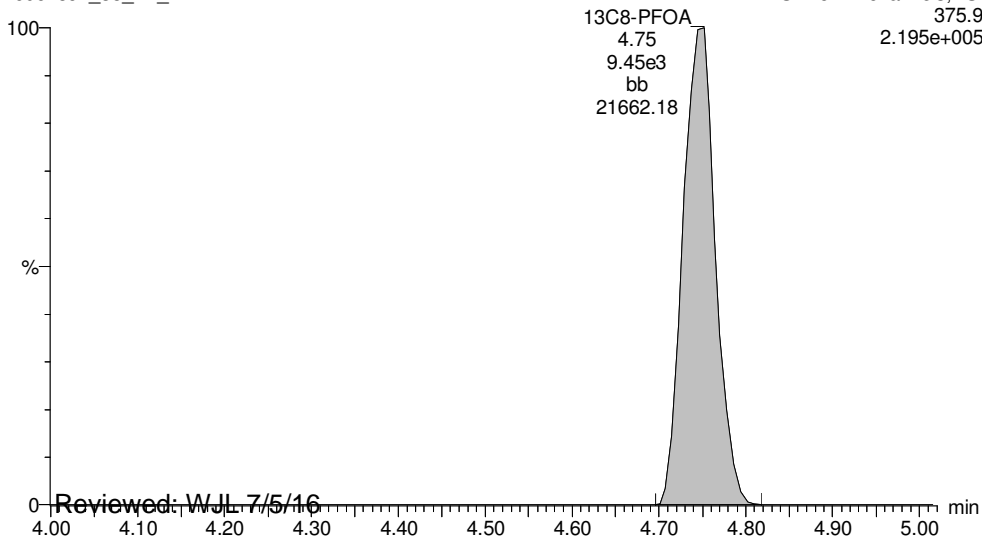
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160628J1_38_P1_E1



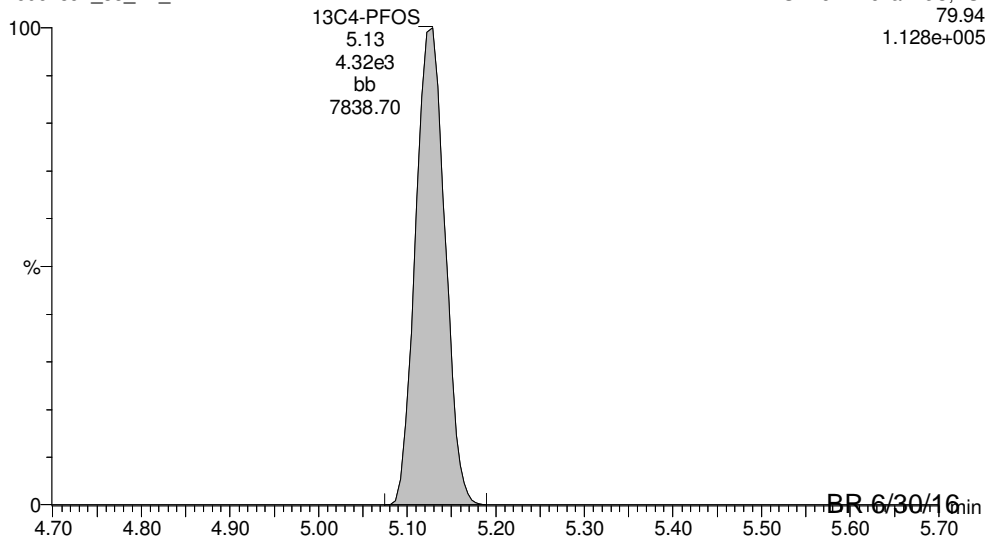
13C8-PFOA

160628J1_38_P1_E1



13C4-PFOS

160628J1_38_P1_E1



Reviewed: WJL 7/5/16

BR-6/30/16

Dataset: U:\Q2.PRO\Results\160628J1\160628J1_38.qld

Last Altered: Thursday, June 30, 2016 11:18:54 AM Pacific Daylight Time

Printed: Thursday, June 30, 2016 11:19:04 AM Pacific Daylight Time

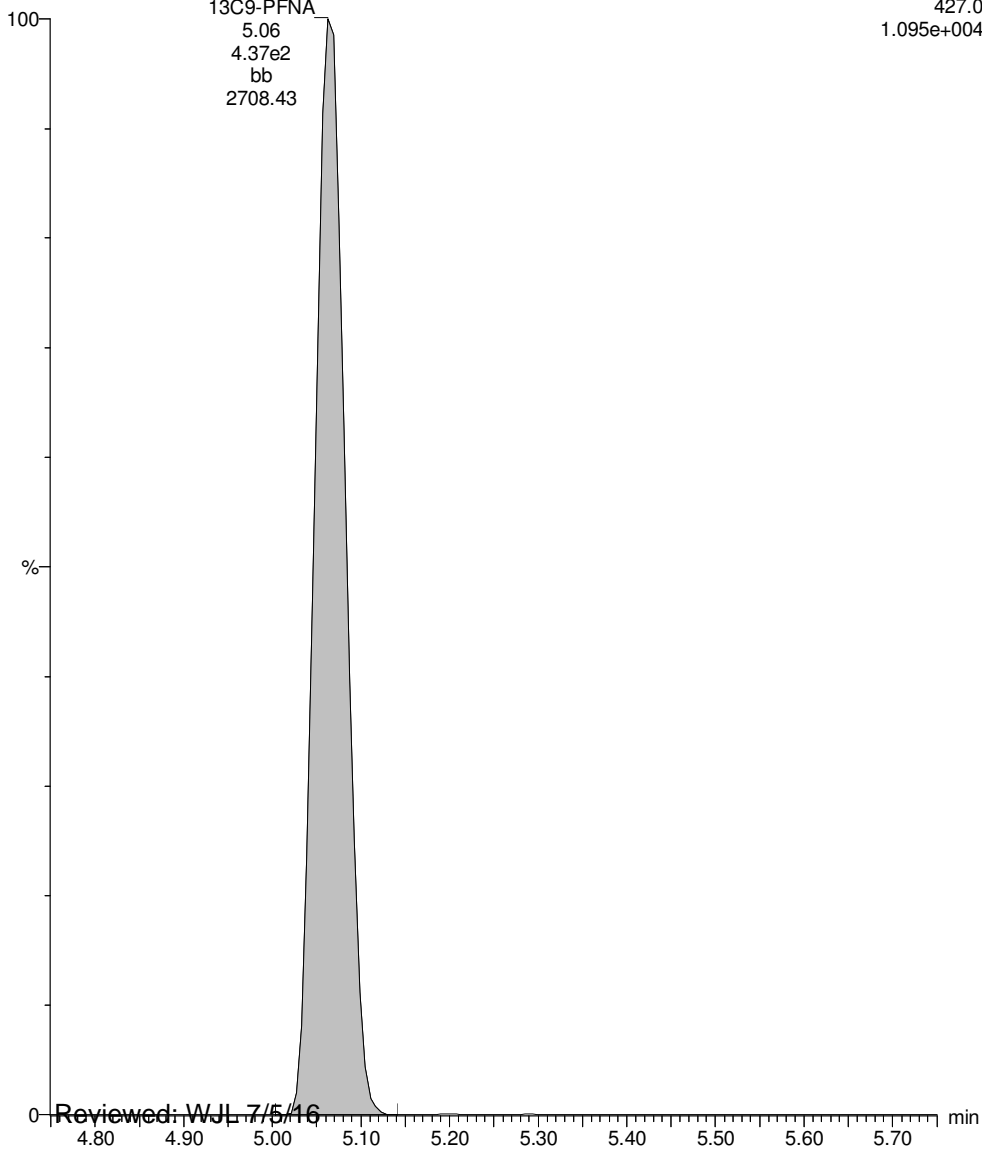
ID: 1600818-16, Description: OF-MW11D-0616, Name: 160628J1_38.wiff, Date: 28-Jun-2016, Time: 23:28:36, Instrument: , Lab: ©PE-SCIEX, User: pwoolley

13C9-PFNA

160628J1_38_P1_E1

SIR of 17 channels, ES-
427.0
1.095e+004

13C9-PFNA
5.06
4.37e2
bb
2708.43



Reviewed: WJL 7/5/16

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CONTINUING CALIBRATION

Dataset: U:\Q2.PRO\Results\160628J1\160628J_31.qld

Last Altered: Wednesday, June 29, 2016 12:47:51 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:48:25 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_31.wiff, Date: 28-Jun-2016, Time: 22:03:07, ID: ST160628J1-10 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	3.21e3	8.06e3		1.000	3.46	24.8	99.1
2	2 PFHpA	318.9	5.82e3	1.55e4		1.000	4.35	25.4	101.6
3	3 PFHxS	79.91	2.56e3	2.05e3		1.000	4.47	24.5	98.0
4	4 PFOA	368.9	9.70e3	1.35e4		1.000	4.74	21.7	86.9
5	5 PFOS	79.92	7.50e3	5.56e3		1.000	5.12	25.0	100.2
6	6 PFNA	419.0	1.31e4	1.13e4		1.000	5.06	26.1	104.4
7	7 13C3-PFBS	79.95	8.06e3	1.44e4	0.546	1.000	3.46	12.8	102.2
8	8 13C4-PFHpA	321.9	1.55e4	1.44e4	1.075	1.000	4.35	12.5	99.9
9	9 18O2-PFHxS	102.9	2.05e3	6.39e3	0.307	1.000	4.46	13.0	104.4
10	10 13C2-PFOA	369.9	1.35e4	1.21e4	1.042	1.000	4.74	13.4	107.0
11	11 13C8-PFOS	79.93	5.56e3	5.83e3	1.026	1.000	5.12	11.6	93.0
12	12 13C5-PFNA	422.9	1.13e4	5.90e2	21.158	1.000	5.06	11.3	90.3
13	13 13C5-PFHxA	273.0	1.44e4	1.44e4	1.000	1.000	3.87	12.5	100.0
14	14 13C3-PFHxS	80.0	6.39e3	6.39e3	1.000	1.000	4.46	12.5	100.0
15	15 13C8-PFOA	375.9	1.21e4	1.21e4	1.000	1.000	4.74	12.5	100.0
16	16 13C4-PFOS	79.94	5.83e3	5.83e3	1.000	1.000	5.12	12.5	100.0
17	17 13C9-PFNA	427.0	5.90e2	5.90e2	1.000	1.000	5.06	12.5	100.0
18	18 Total PFBS	79.9		8.06e3		1.000		24.8	
19	19 Total PFHxS	79.91		2.05e3		1.000		24.6	
20	20 Total PFOA	368.9		1.35e4		1.000		21.7	
21	21 Total PFOS	79.92		5.56e3		1.000		25.1	

75-125
 ↓
 6/29/16
 PW
 NA 60-150
 NA
 60-150
 ↓
 50-150

PW
 6/29/16
 JP 6/29/16 ✓

	Sample Name	Acquisition Date	Sample ID	Sample Comment
1	160628J1_01	6/28/2016 15:56:50	IPA	IPA
2	160628J1_02	6/28/2016 16:09:02	ST160628J1-1 PFC CS0 16F0701	PFC CS0 16F0701
3	160628J1_03	6/28/2016 16:21:13	ST160628J1-2 PFC CS1 16F0702	PFC CS1 16F0702
4	160628J1_04	6/28/2016 16:33:26	ST160628J1-3 PFC CS2 16F0703	PFC CS2 16F0703
5	160628J1_05	6/28/2016 16:45:38	ST160628J1-4 PFC CS3 16F0704	PFC CS3 16F0704
6	160628J1_06	6/28/2016 16:57:51	ST160628J1-5 PFC CS3.5 16F0705	PFC CS3.5 16F0705
7	160628J1_07	6/28/2016 17:10:01	ST160628J1-6 PFC CS4 16F0706	PFC CS4 16F0706
8	160628J1_08	6/28/2016 17:22:14	ST160628J1-7 PFC CS4.5 16F0707	PFC CS4.5 16F0707
9	160628J1_09	6/28/2016 17:34:27	ST160628J1-8 PFC CS5 16F0708	PFC CS5 16F0708
10	160628J1_10	6/28/2016 17:46:39	ST160628J1-9 PFC CS6 16F0709	PFC CS6 16F0709
11	160628J1_11	6/28/2016 17:58:52	IPA	IPA
12	160628J1_12	6/28/2016 18:11:06	IPA	IPA
13	160628J1_13	6/28/2016 18:23:17	SS160628J1-1 PFC SSS 16F0907	PFC SSS 16F0907
14	160628J1_14	6/28/2016 18:35:29	IPA	IPA
15	160628J1_15	6/28/2016 18:47:40	B6F0156-BS1	OPR
16	160628J1_16	6/28/2016 18:59:54	B6F0157-BS1	OPR
17	160628J1_17	6/28/2016 19:12:07	IPA	IPA
18	160628J1_18	6/28/2016 19:24:20	B6F0156-BLK1	Method Blank
19	160628J1_19	6/28/2016 19:36:32	B6F0157-BLK1	Method Blank
20	160628J1_20	6/28/2016 19:48:47	1600818-01	OF14-MW07S-0616
21	160628J1_21	6/28/2016 20:01:01	1600818-02	OF14-MW07D-0616
22	160628J1_22	6/28/2016 20:13:11	1600818-03	OF-MW14-0616
23	160628J1_23	6/28/2016 20:25:26	1600818-04	OF-MW16-0616
24	160628J1_24	6/28/2016 20:37:39	1600818-05	OF-FB062016
25	160628J1_25	6/28/2016 20:49:51	1600818-06	OF-EB062016
26	160628J1_26	6/28/2016 21:02:04	1600818-07	OF-MW15-0616
27	160628J1_27	6/28/2016 21:14:15	1600818-08	OF-MW15D-0616
28	160628J1_28	6/28/2016 21:26:29	1600818-09	OF14-MW06-0616
29	160628J1_29	6/28/2016 21:38:43	1600818-10	OF14-MW06D-0616
30	160628J1_30	6/28/2016 21:50:55	IPA	IPA
31	160628J1_31	6/28/2016 22:03:07	ST160628J1-10 PFC CS3.5 16F0705	PFC CS3.5 16F0705
32	160628J1_32	6/28/2016 22:15:20	IPA	IPA
33	160628J1_33	6/28/2016 22:27:29	1600818-11	OF-MW17-0616
34	160628J1_34	6/28/2016 22:39:43	1600818-12	OF-MW12D-0616
35	160628J1_35	6/28/2016 22:51:56	1600818-13	OF-MW12-0616
36	160628J1_36	6/28/2016 23:04:09	1600818-14	OF-MW13D-0616
37	160628J1_37	6/28/2016 23:16:23	1600818-15	OF-MW13DP-0616
38	160628J1_38	6/28/2016 23:28:36	1600818-16	OF-MW11D-0616
39	160628J1_39	6/28/2016 23:40:48	1600820-01	OF-MW10-0616
40	160628J1_40	6/28/2016 23:53:02	1600820-02	OF-MW08-0616
41	160628J1_41	6/29/2016 00:05:15	1600820-03	OF-MW08P-0616
42	160628J1_42	6/29/2016 00:17:24	1600820-04	OF-MW10D-0616
43	160628J1_43	6/29/2016 00:29:38	IPA	IPA
44	160628J1_44	6/29/2016 00:41:49	ST160628J1-11 PFC CS3.5 16F0705	PFC CS3.5 16E0705
45	160628J1_45	6/29/2016 00:54:00	IPA	IPA
46	160628J1_46	6/29/2016 01:06:12	1600820-05	OF-MW09-0616
47	160628J1_47	6/29/2016 01:18:25	1600820-06	OF-MW09D-0616
48	160628J1_48	6/29/2016 01:30:33	B6F0156-MS1	Matrix Spike
49	160628J1_49	6/29/2016 01:42:48	B6F0156-MSD1	Matrix Spike Dup
50	160628J1_50	6/29/2016 01:54:57	B6F0157-MS1	Matrix Spike
51	160628J1_51	6/29/2016 02:07:16	B6F0157-MSD1	Matrix Spike Dup
52	160628J1_52	6/29/2016 02:19:30	1600783-01@1:5	OFFPOL-MW-7-0616
53	160628J1_53	6/29/2016 02:31:44	1600783-01@1:20	OFFPOL-MW-7-0616
54	160628J1_54	6/29/2016 02:43:54	1600783-02@1:5	OFFPOL-MW-4-0616

	Sample Name	Acquisition Date	Sample ID	Sample Comment
55	160628J1_55	6/29/2016 02:56:06	1600783-02@1:20	OFPOL-MW-4-0616
56	160628J1_56	6/29/2016 03:08:22	IPA	IPA
57	160628J1_57	6/29/2016 03:20:34	ST160628J1-12 PFC CS3.5 16F0705	PFC CS3.5 16F0705
58	160628J1_58	6/29/2016 03:32:48	IPA	IPA
59	160628J1_59	6/29/2016 03:44:58	1600783-03@1:10	OFPOL-MW-8-0616
60	160628J1_60	6/29/2016 03:57:12	1600783-04@1:10	OFPOL-MW-6-0616
61	160628J1_61	6/29/2016 04:09:21	1600783-05@1:10	OFPOL-MW-3-0616
62	160628J1_62	6/29/2016 04:21:35	1600783-06@1:10	OFPOL-MW-3P-0616
63	160628J1_63	6/29/2016 04:33:48	1600783-07@1:10	OFPOL-MW-2-0616
64	160628J1_64	6/29/2016 04:45:59	1600783-08@1:5	OF-MW13-0616
65	160628J1_65	6/29/2016 04:58:10	1600783-09@1:5	OF-MW11-0616
66	160628J1_66	6/29/2016 05:10:22	IPA	IPA
67	160628J1_67	6/29/2016 05:22:31	ST160628J1-13 PFC CS3.5 16F0705	PFC CS3.5 16F0705
68	160628J1_68	6/29/2016 05:34:44	IPA	IPA

LC Calibration Standards Review Checklist Q2

Calibration ID:	LMH	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
<u>ST160628J1-10</u>	<input checked="" type="checkbox"/>	<u>NA</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>NA</u>
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Full Mass Cal. Date: 2/12/16

Reviewed By: BE 6/22/16
 Initials/Date

Comments:

Dataset: U:\Q2.PRO\Results\160628J1\160628J_31.qld

Last Altered: Wednesday, June 29, 2016 12:47:51 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 12:48:11 Pacific Daylight Time

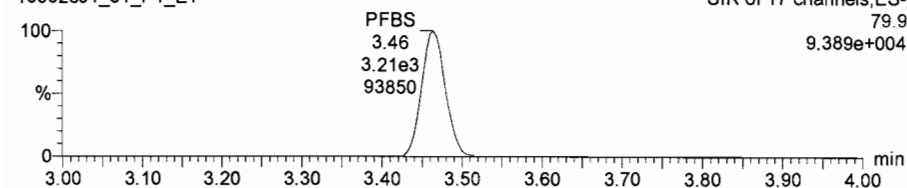
Method: U:\Q2.PRO\MethDB\PFList 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_31.wiff, Date: 28-Jun-2016, Time: 22:03:07, ID: ST160628J1-10 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

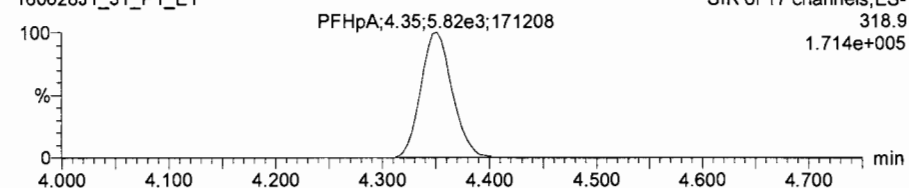
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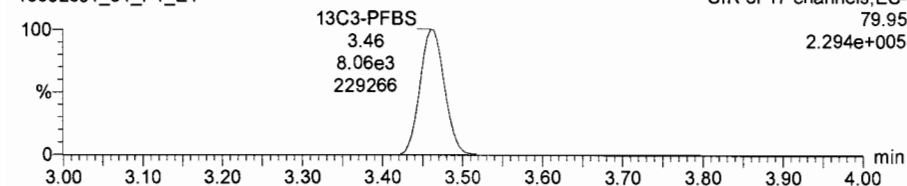
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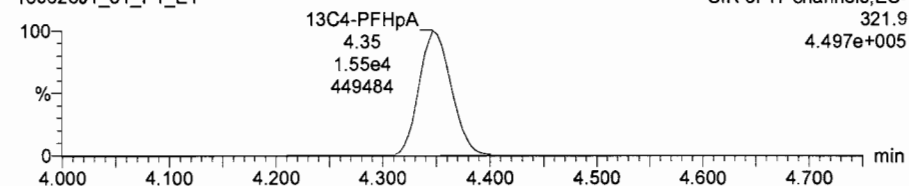
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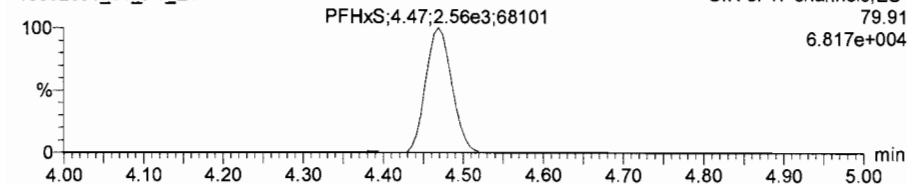
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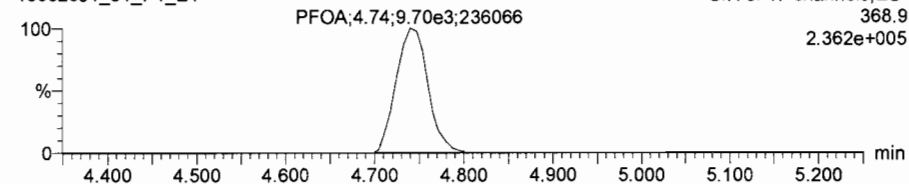
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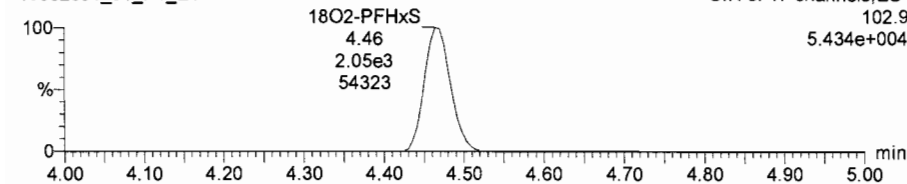
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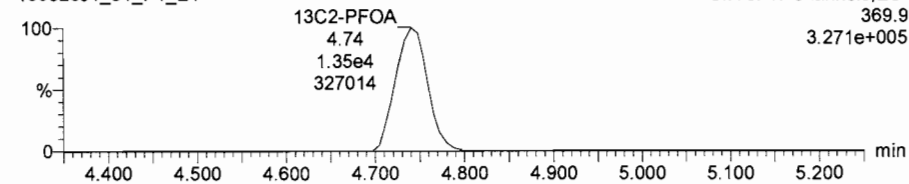
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160628J1_31_P1_E1



13C2-PFOA

160628J1_31_P1_E1



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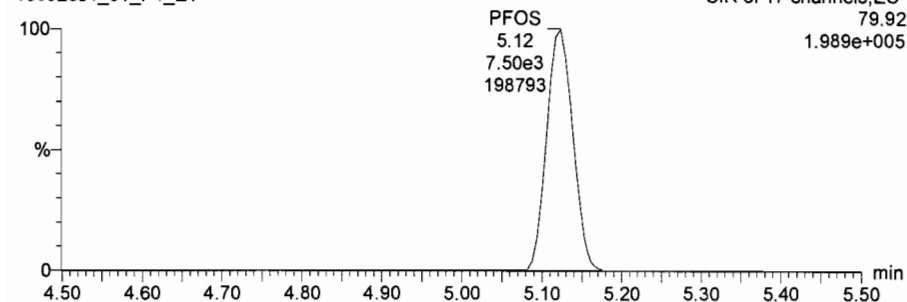
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Printed: Wednesday, June 29, 2016 12:48:11 Pacific Daylight Time

Name: 160628J1_31.wiff, Date: 28-Jun-2016, Time: 22:03:07, ID: ST160628J1-10 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

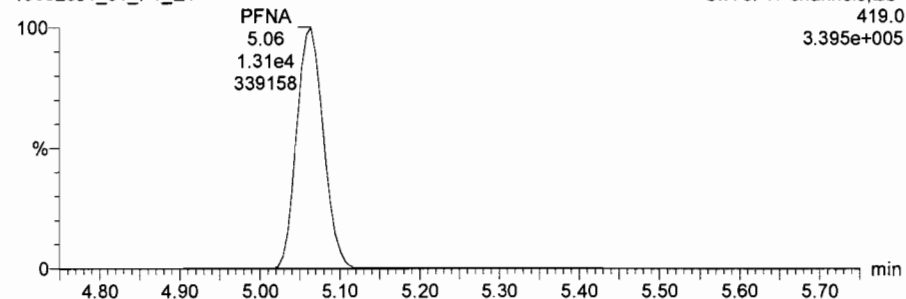
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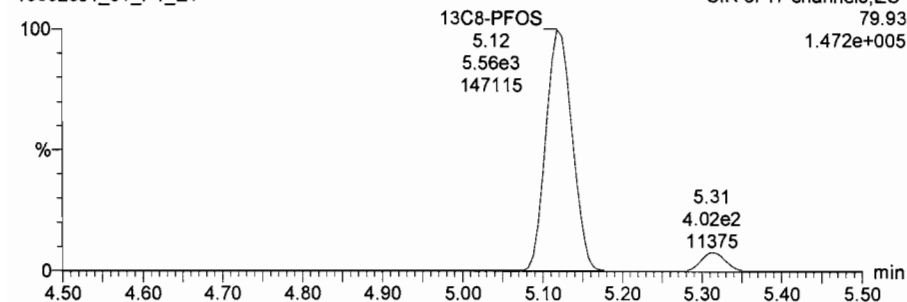
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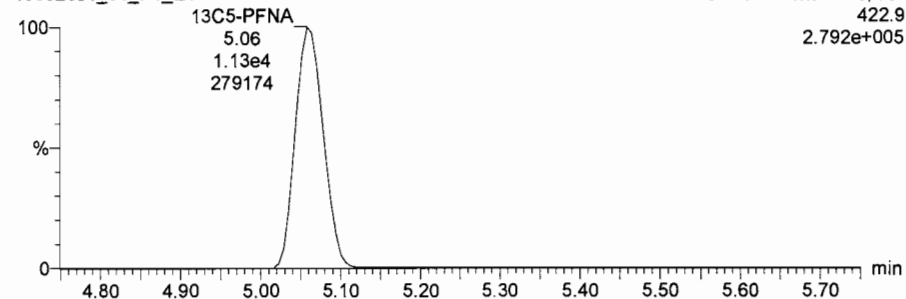
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160628J1_31_P1_E1



13C5-PFNA

160628J1_31_P1_E1



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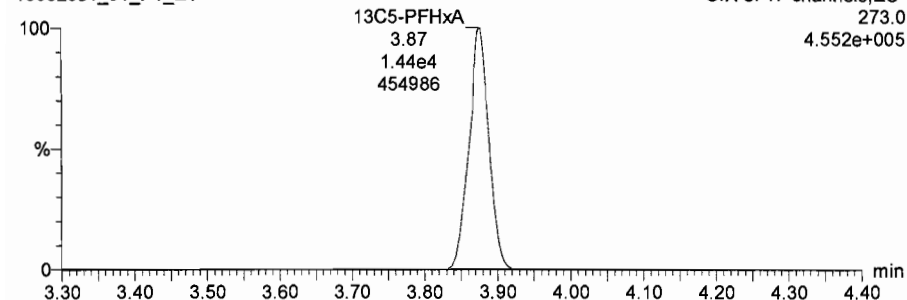
Last Altered: Wednesday, June 29, 2016 12:47:51 Pacific Daylight Time

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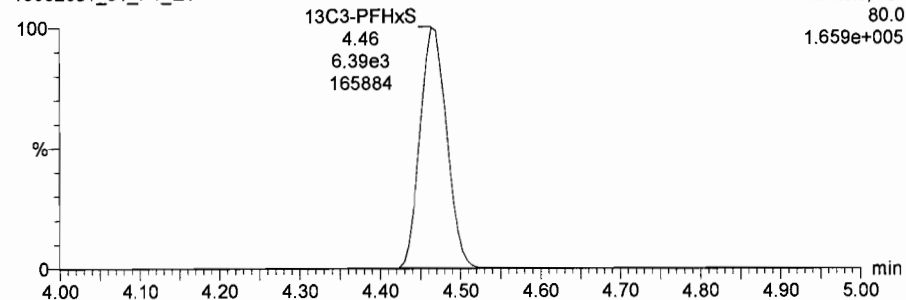
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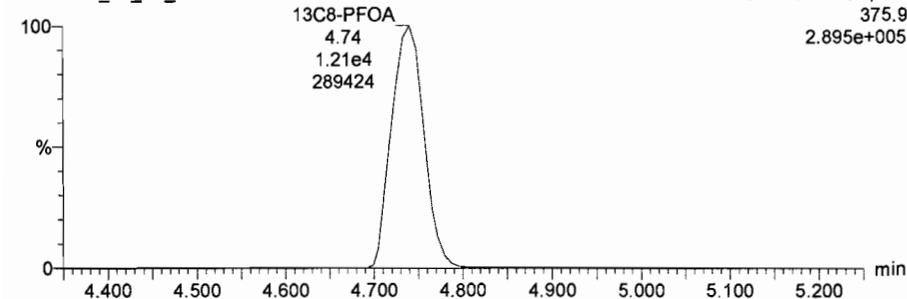
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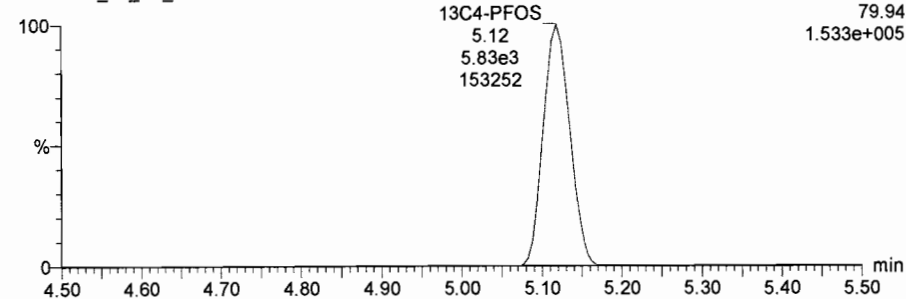
13C8-PFOA

160628J1_31_P1_E1



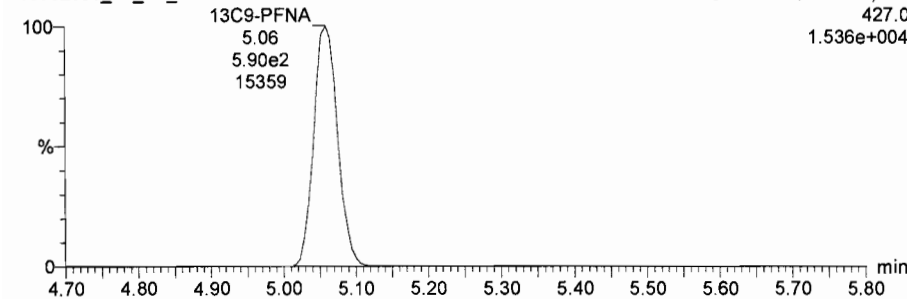
13C4-PFOS

160628J1_31_P1_E1



13C9-PFNA

160628J1_31_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_44.qld

Last Altered: Wednesday, June 29, 2016 12:50:48 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:51:54 Pacific Daylight Time

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Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_44.wiff, Date: 29-Jun-2016, Time: 00:41:49, ID: ST160628J1-11 PFC CS3.5 16F0705, Description: PFC CS3.5 16E0705

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc	%Rec
1	1 PFBS	79.9	3.18e3	7.90e3		1.000	3.47	25.0	100.0
2	2 PFHpA	318.9	5.66e3	1.52e4		1.000	4.36	25.2	100.8
3	3 PFHxS	79.91	2.54e3	2.03e3		1.000	4.48	24.6	98.2
4	4 PFOA	368.9	9.62e3	1.21e4		1.000	4.75	24.2	96.8
5	5 PFOS	79.92	7.36e3	5.79e3		1.000	5.13	23.6	94.3
6	6 PFNA	419.0	1.29e4	1.19e4		1.000	5.07	24.4	97.4
7	7 13C3-PFBS	79.95	7.90e3	1.43e4	0.546	1.000	3.47	12.7	101.5
8	8 13C4-PFHpA	321.9	1.52e4	1.43e4	1.075	1.000	4.36	12.4	99.2
9	9 18O2-PFHxS	102.9	2.03e3	6.29e3	0.307	1.000	4.47	13.1	104.9
10	10 13C2-PFOA	369.9	1.21e4	1.22e4	1.042	1.000	4.75	11.9	95.2
11	11 13C8-PFOS	79.93	5.79e3	5.66e3	1.026	1.000	5.13	12.5	99.7
12	12 13C5-PFNA	422.9	1.19e4	5.72e2	21.158	1.000	5.07	12.3	98.3
13	13 13C5-PFHxA	273.0	1.43e4	1.43e4	1.000	1.000	3.89	12.5	100.0
14	14 13C3-PFHxS	80.0	6.29e3	6.29e3	1.000	1.000	4.47	12.5	100.0
15	15 13C8-PFOA	375.9	1.22e4	1.22e4	1.000	1.000	4.75	12.5	100.0
16	16 13C4-PFOS	79.94	5.66e3	5.66e3	1.000	1.000	5.13	12.5	100.0
17	17 13C9-PFNA	427.0	5.72e2	5.72e2	1.000	1.000	5.07	12.5	100.0
18	18 Total PFBS	79.9		7.90e3		1.000		25.0	
19	19 Total PFHxS	79.91		2.03e3		1.000		24.6	
20	20 Total PFOA	368.9		1.21e4		1.000		24.2	
21	21 Total PFOS	79.92		5.79e3		1.000		23.7	

75-125

↓
NA 60-150

NA

60-150

↓
50-150

PW
6/29/16

BR 6/29/16 ✓

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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3	160628J1_03	6/28/2016 16:21:13	ST160628J1-2 PFC CS1 16F0702	PFC CS1 16F0702
4	160628J1_04	6/28/2016 16:33:26	ST160628J1-3 PFC CS2 16F0703	PFC CS2 16F0703
5	160628J1_05	6/28/2016 16:45:38	ST160628J1-4 PFC CS3 16F0704	PFC CS3 16F0704
6	160628J1_06	6/28/2016 16:57:51	ST160628J1-5 PFC CS3.5 16F0705	PFC CS3.5 16F0705
7	160628J1_07	6/28/2016 17:10:01	ST160628J1-6 PFC CS4 16F0706	PFC CS4 16F0706
8	160628J1_08	6/28/2016 17:22:14	ST160628J1-7 PFC CS4.5 16F0707	PFC CS4.5 16F0707
9	160628J1_09	6/28/2016 17:34:27	ST160628J1-8 PFC CS5 16F0708	PFC CS5 16F0708
10	160628J1_10	6/28/2016 17:46:39	ST160628J1-9 PFC CS6 16F0709	PFC CS6 16F0709
11	160628J1_11	6/28/2016 17:58:52	IPA	IPA
12	160628J1_12	6/28/2016 18:11:06	IPA	IPA
13	160628J1_13	6/28/2016 18:23:17	SS160628J1-1 PFC SSS 16F0907	PFC SSS 16F0907
14	160628J1_14	6/28/2016 18:35:29	IPA	IPA
15	160628J1_15	6/28/2016 18:47:40	B6F0156-BS1	OPR
16	160628J1_16	6/28/2016 18:59:54	B6F0157-BS1	OPR
17	160628J1_17	6/28/2016 19:12:07	IPA	IPA
18	160628J1_18	6/28/2016 19:24:20	B6F0156-BLK1	Method Blank
19	160628J1_19	6/28/2016 19:36:32	B6F0157-BLK1	Method Blank
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21	160628J1_21	6/28/2016 20:01:01	1600818-02	OF14-MW07D-0616
22	160628J1_22	6/28/2016 20:13:11	1600818-03	OF-MW14-0616
23	160628J1_23	6/28/2016 20:25:26	1600818-04	OF-MW16-0616
24	160628J1_24	6/28/2016 20:37:39	1600818-05	OF-FB062016
25	160628J1_25	6/28/2016 20:49:51	1600818-06	OF-EB062016
26	160628J1_26	6/28/2016 21:02:04	1600818-07	OF-MW15-0616
27	160628J1_27	6/28/2016 21:14:15	1600818-08	OF-MW15D-0616
28	160628J1_28	6/28/2016 21:26:29	1600818-09	OF14-MW06-0616
29	160628J1_29	6/28/2016 21:38:43	1600818-10	OF14-MW06D-0616
30	160628J1_30	6/28/2016 21:50:55	IPA	IPA
31	160628J1_31	6/28/2016 22:03:07	ST160628J1-10 PFC CS3.5 16F0705	PFC CS3.5 16F0705
32	160628J1_32	6/28/2016 22:15:20	IPA	IPA
33	160628J1_33	6/28/2016 22:27:29	1600818-11	OF-MW17-0616
34	160628J1_34	6/28/2016 22:39:43	1600818-12	OF-MW12D-0616
35	160628J1_35	6/28/2016 22:51:56	1600818-13	OF-MW12-0616
36	160628J1_36	6/28/2016 23:04:09	1600818-14	OF-MW13D-0616
37	160628J1_37	6/28/2016 23:16:23	1600818-15	OF-MW13DP-0616
38	160628J1_38	6/28/2016 23:28:36	1600818-16	OF-MW11D-0616
39	160628J1_39	6/28/2016 23:40:48	1600820-01	OF-MW10-0616
40	160628J1_40	6/28/2016 23:53:02	1600820-02	OF-MW08-0616
41	160628J1_41	6/29/2016 00:05:15	1600820-03	OF-MW08P-0616
42	160628J1_42	6/29/2016 00:17:24	1600820-04	OF-MW10D-0616
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44	160628J1_44	6/29/2016 00:41:49	ST160628J1-11 PFC CS3.5 16F0705	PFC CS3.5 16E0705
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46	160628J1_46	6/29/2016 01:06:12	1600820-05	OF-MW09-0616
47	160628J1_47	6/29/2016 01:18:25	1600820-06	OF-MW09D-0616
48	160628J1_48	6/29/2016 01:30:33	B6F0156-MS1	Matrix Spike
49	160628J1_49	6/29/2016 01:42:48	B6F0156-MSD1	Matrix Spike Dup
50	160628J1_50	6/29/2016 01:54:57	B6F0157-MS1	Matrix Spike
51	160628J1_51	6/29/2016 02:07:16	B6F0157-MSD1	Matrix Spike Dup
52	160628J1_52	6/29/2016 02:19:30	1600783-01@1:5	OFPOL-MW-7-0616
53	160628J1_53	6/29/2016 02:31:44	1600783-01@1:20	OFPOL-MW-7-0616
54	160628J1_54	6/29/2016 02:43:54	1600783-02@1:5	OFPOL-MW-4-0616

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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57	160628J1_57	6/29/2016 03:20:34	ST160628J1-12 PFC CS3.5 16F0705	PFC CS3.5 16F0705
58	160628J1_58	6/29/2016 03:32:48	IPA	IPA
59	160628J1_59	6/29/2016 03:44:58	1600783-03@1:10	OFFPOL-MW-8-0616
60	160628J1_60	6/29/2016 03:57:12	1600783-04@1:10	OFFPOL-MW-6-0616
61	160628J1_61	6/29/2016 04:09:21	1600783-05@1:10	OFFPOL-MW-3-0616
62	160628J1_62	6/29/2016 04:21:35	1600783-06@1:10	OFFPOL-MW-3P-0616
63	160628J1_63	6/29/2016 04:33:48	1600783-07@1:10	OFFPOL-MW-2-0616
64	160628J1_64	6/29/2016 04:45:59	1600783-08@1:5	OF-MW13-0616
65	160628J1_65	6/29/2016 04:58:10	1600783-09@1:5	OF-MW11-0616
66	160628J1_66	6/29/2016 05:10:22	IPA	IPA
67	160628J1_67	6/29/2016 05:22:31	ST160628J1-13 PFC CS3.5 16F0705	PFC CS3.5 16F0705
68	160628J1_68	6/29/2016 05:34:44	IPA	IPA

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Printed: Wednesday, June 29, 2016 12:52:07 Pacific Daylight Time

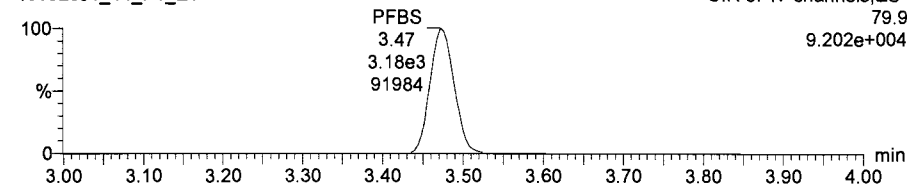
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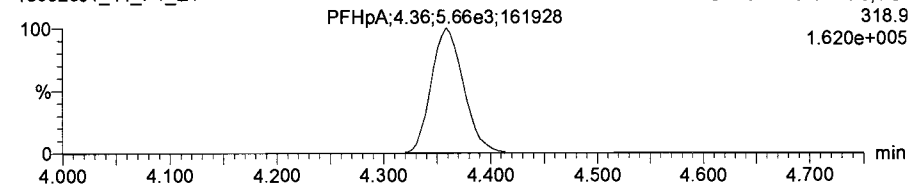
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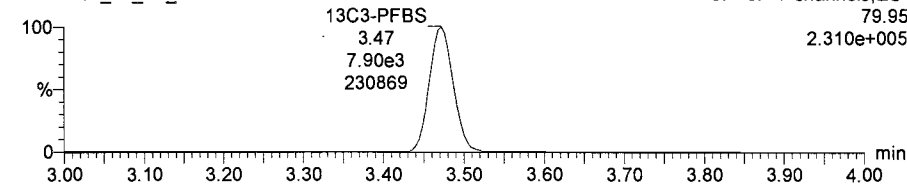
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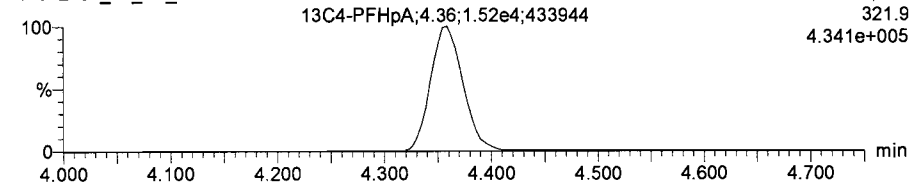
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160628J1_44_P1_E1



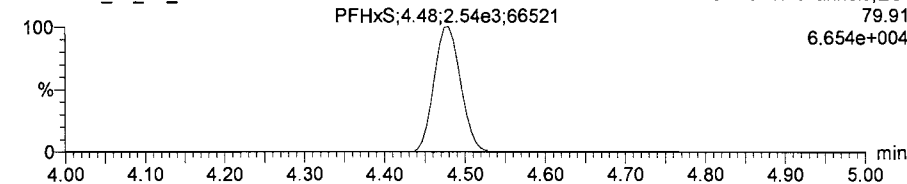
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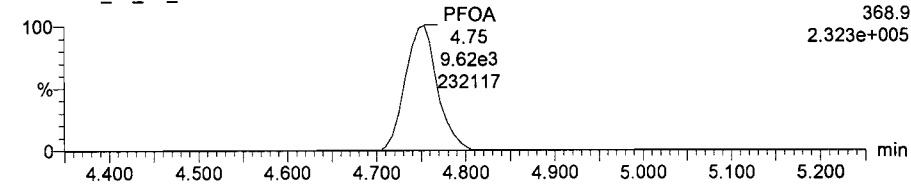
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160628J1_44_P1_E1



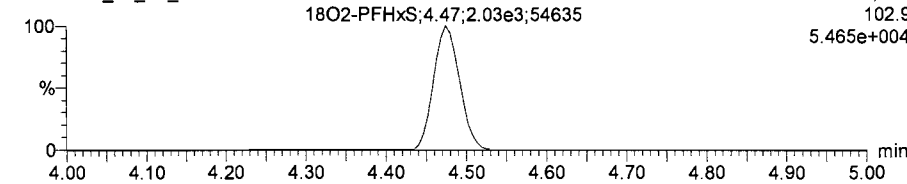
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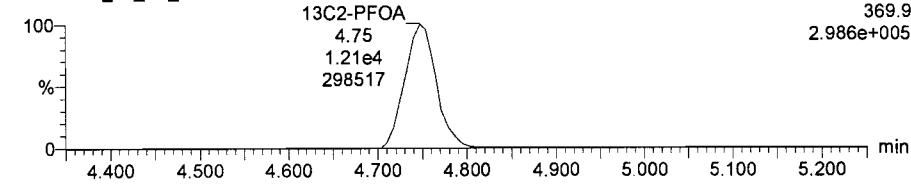
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13C2-PFOA

160628J1_44_P1_E1



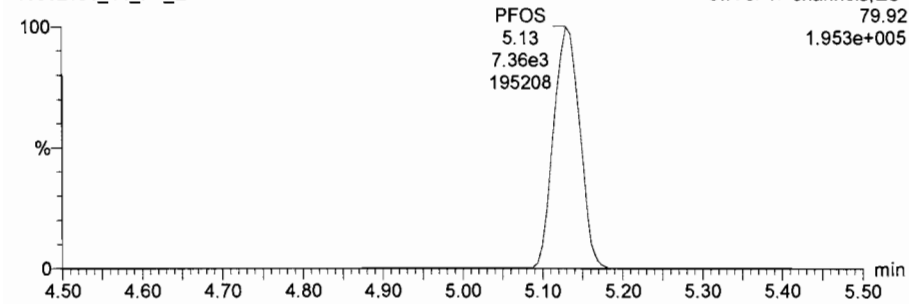
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Printed: Wednesday, June 29, 2016 12:52:07 Pacific Daylight Time

Name: 160628J1_44.wiff, Date: 29-Jun-2016, Time: 00:41:49, ID: ST160628J1-11 PFC CS3.5 16F0705, Description: PFC CS3.5 16E0705

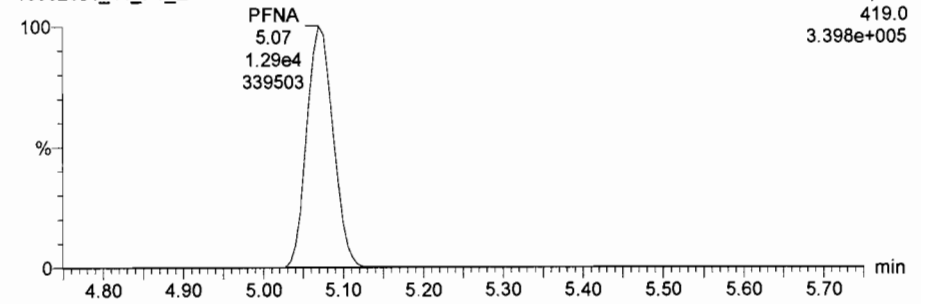
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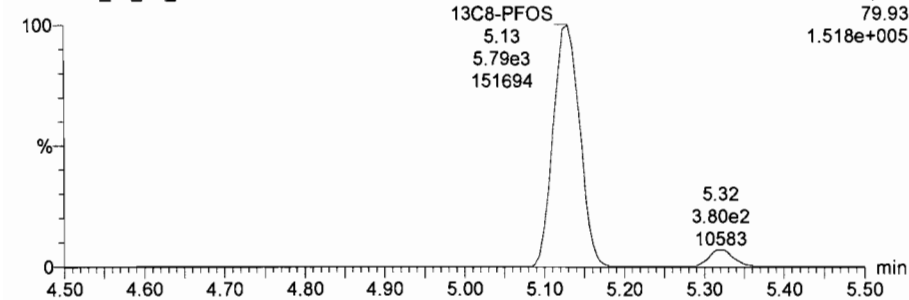
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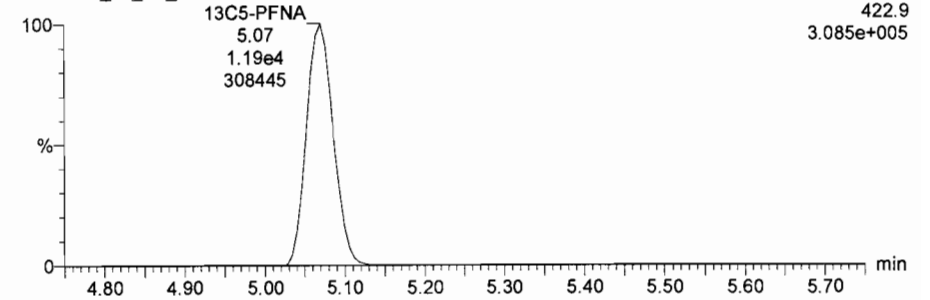
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13C5-PFNA

160628J1_44_P1_E1



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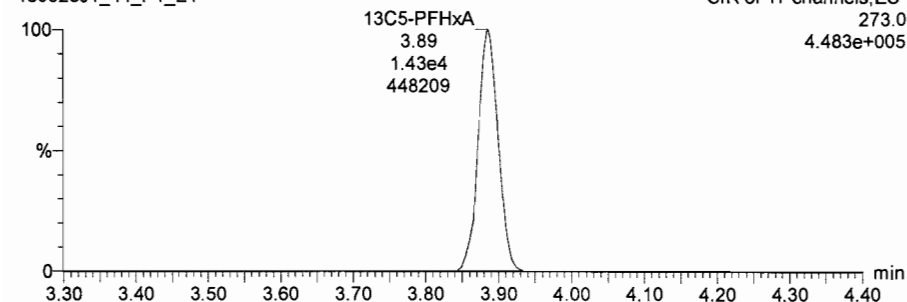
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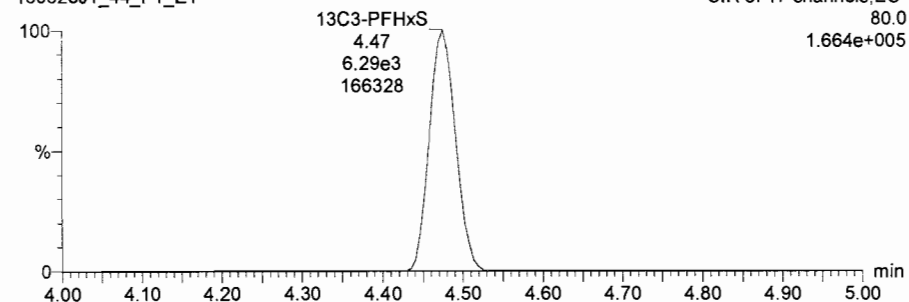
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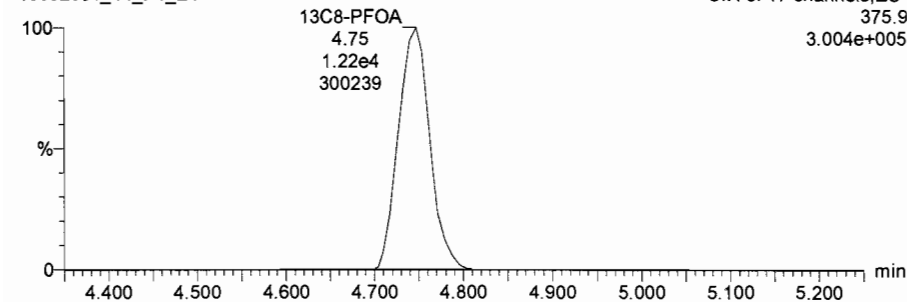
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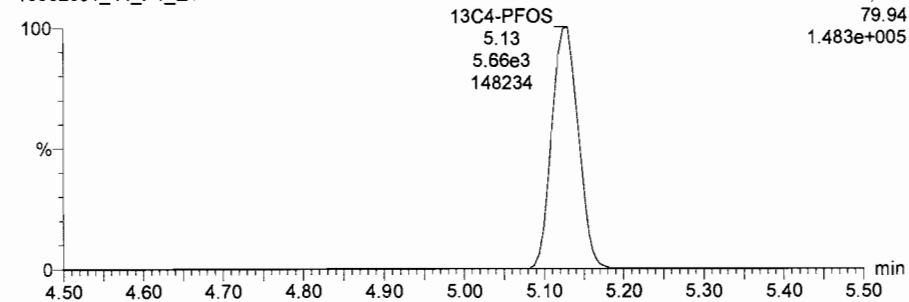
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160628J1_44_P1_E1



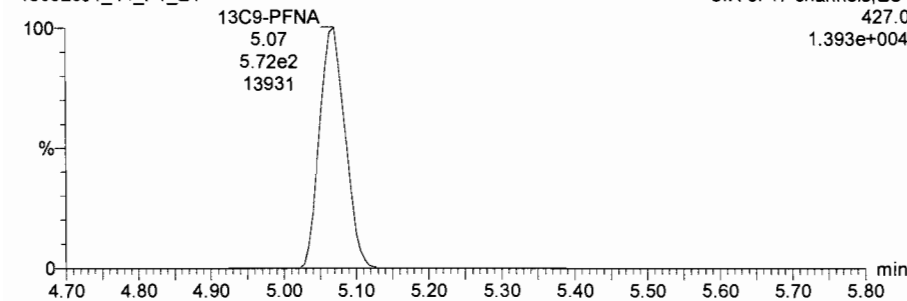
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160628J1_44_P1_E1



13C9-PFNA

160628J1_44_P1_E1



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 Printed: Wednesday, June 29, 2016 12:54:24 Pacific Daylight Time

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Name: 160628J1_57.wiff, Date: 29-Jun-2016, Time: 03:20:34, ID: ST160628J1-12 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	3.18e3	7.93e3		1.000	3.47	24.9	99.8
2	2 PFHpA	318.9	5.76e3	1.56e4		1.000	4.35	25.0	99.8
3	3 PFHxS	79.91	2.50e3	2.03e3		1.000	4.47	24.1	96.5
4	4 PFOA	368.9	9.52e3	1.24e4		1.000	4.74	23.4	93.6
5	5 PFOS	79.92	7.27e3	5.68e3		1.000	5.13	23.8	95.0
6	6 PFNA	419.0	1.29e4	1.22e4		1.000	5.07	23.7	94.8
7	7 13C3-PFBS	79.95	7.93e3	1.42e4	0.546	1.000	3.47	12.8	102.3
8	8 13C4-PFHpA	321.9	1.56e4	1.42e4	1.075	1.000	4.35	12.8	102.3
9	9 18O2-PFHxS	102.9	2.03e3	6.48e3	0.307	1.000	4.47	12.7	101.9
10	10 13C2-PFOA	369.9	1.24e4	1.22e4	1.042	1.000	4.74	12.2	97.4
11	11 13C8-PFOS	79.93	5.68e3	5.39e3	1.026	1.000	5.12	12.8	102.8
12	12 13C5-PFNA	422.9	1.22e4	5.64e2	21.158	1.000	5.06	12.8	102.3
13	13 13C5-PFHxA	273.0	1.42e4	1.42e4	1.000	1.000	3.88	12.5	100.0
14	14 13C3-PFHxS	80.0	6.48e3	6.48e3	1.000	1.000	4.47	12.5	100.0
15	15 13C8-PFOA	375.9	1.22e4	1.22e4	1.000	1.000	4.74	12.5	100.0
16	16 13C4-PFOS	79.94	5.39e3	5.39e3	1.000	1.000	5.12	12.5	100.0
17	17 13C9-PFNA	427.0	5.64e2	5.64e2	1.000	1.000	5.06	12.5	100.0
18	18 Total PFBS	79.9		7.93e3		1.000		24.9	
19	19 Total PFHxS	79.91		2.03e3		1.000		24.1	
20	20 Total PFOA	368.9		1.24e4		1.000		23.4	
21	21 Total PFOS	79.92		5.68e3		1.000		23.8	

75-125
 ↓
 NA 60-150
 NA
 60-150
 ↓
 50-150

PW
 2/29/16
 BR 6/29/16 ✓

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2	160628J1_02	6/28/2016 16:09:02	ST160628J1-1 PFC CS0 16F0701	PFC CS0 16F0701
3	160628J1_03	6/28/2016 16:21:13	ST160628J1-2 PFC CS1 16F0702	PFC CS1 16F0702
4	160628J1_04	6/28/2016 16:33:26	ST160628J1-3 PFC CS2 16F0703	PFC CS2 16F0703
5	160628J1_05	6/28/2016 16:45:38	ST160628J1-4 PFC CS3 16F0704	PFC CS3 16F0704
6	160628J1_06	6/28/2016 16:57:51	ST160628J1-5 PFC CS3.5 16F0705	PFC CS3.5 16F0705
7	160628J1_07	6/28/2016 17:10:01	ST160628J1-6 PFC CS4 16F0706	PFC CS4 16F0706
8	160628J1_08	6/28/2016 17:22:14	ST160628J1-7 PFC CS4.5 16F0707	PFC CS4.5 16F0707
9	160628J1_09	6/28/2016 17:34:27	ST160628J1-8 PFC CS5 16F0708	PFC CS5 16F0708
10	160628J1_10	6/28/2016 17:46:39	ST160628J1-9 PFC CS6 16F0709	PFC CS6 16F0709
11	160628J1_11	6/28/2016 17:58:52	IPA	IPA
12	160628J1_12	6/28/2016 18:11:06	IPA	IPA
13	160628J1_13	6/28/2016 18:23:17	SS160628J1-1 PFC SSS 16F0907	PFC SSS 16F0907
14	160628J1_14	6/28/2016 18:35:29	IPA	IPA
15	160628J1_15	6/28/2016 18:47:40	B6F0156-BS1	OPR
16	160628J1_16	6/28/2016 18:59:54	B6F0157-BS1	OPR
17	160628J1_17	6/28/2016 19:12:07	IPA	IPA
18	160628J1_18	6/28/2016 19:24:20	B6F0156-BLK1	Method Blank
19	160628J1_19	6/28/2016 19:36:32	B6F0157-BLK1	Method Blank
20	160628J1_20	6/28/2016 19:48:47	1600818-01	OF14-MW07S-0616
21	160628J1_21	6/28/2016 20:01:01	1600818-02	OF14-MW07D-0616
22	160628J1_22	6/28/2016 20:13:11	1600818-03	OF-MW14-0616
23	160628J1_23	6/28/2016 20:25:26	1600818-04	OF-MW16-0616
24	160628J1_24	6/28/2016 20:37:39	1600818-05	OF-FB062016
25	160628J1_25	6/28/2016 20:49:51	1600818-06	OF-EB062016
26	160628J1_26	6/28/2016 21:02:04	1600818-07	OF-MW15-0616
27	160628J1_27	6/28/2016 21:14:15	1600818-08	OF-MW15D-0616
28	160628J1_28	6/28/2016 21:26:29	1600818-09	OF14-MW06-0616
29	160628J1_29	6/28/2016 21:38:43	1600818-10	OF14-MW06D-0616
30	160628J1_30	6/28/2016 21:50:55	IPA	IPA
31	160628J1_31	6/28/2016 22:03:07	ST160628J1-10 PFC CS3.5 16F0705	PFC CS3.5 16F0705
32	160628J1_32	6/28/2016 22:15:20	IPA	IPA
33	160628J1_33	6/28/2016 22:27:29	1600818-11	OF-MW17-0616
34	160628J1_34	6/28/2016 22:39:43	1600818-12	OF-MW12D-0616
35	160628J1_35	6/28/2016 22:51:56	1600818-13	OF-MW12-0616
36	160628J1_36	6/28/2016 23:04:09	1600818-14	OF-MW13D-0616
37	160628J1_37	6/28/2016 23:16:23	1600818-15	OF-MW13DP-0616
38	160628J1_38	6/28/2016 23:28:36	1600818-16	OF-MW11D-0616
39	160628J1_39	6/28/2016 23:40:48	1600820-01	OF-MW10-0616
40	160628J1_40	6/28/2016 23:53:02	1600820-02	OF-MW08-0616
41	160628J1_41	6/29/2016 00:05:15	1600820-03	OF-MW08P-0616
42	160628J1_42	6/29/2016 00:17:24	1600820-04	OF-MW10D-0616
43	160628J1_43	6/29/2016 00:29:38	IPA	IPA
44	160628J1_44	6/29/2016 00:41:49	ST160628J1-11 PFC CS3.5 16F0705	PFC CS3.5 16E0705
45	160628J1_45	6/29/2016 00:54:00	IPA	IPA
46	160628J1_46	6/29/2016 01:06:12	1600820-05	OF-MW09-0616
47	160628J1_47	6/29/2016 01:18:25	1600820-06	OF-MW09D-0616
48	160628J1_48	6/29/2016 01:30:33	B6F0156-MS1	Matrix Spike
49	160628J1_49	6/29/2016 01:42:48	B6F0156-MSD1	Matrix Spike Dup
50	160628J1_50	6/29/2016 01:54:57	B6F0157-MS1	Matrix Spike
51	160628J1_51	6/29/2016 02:07:16	B6F0157-MSD1	Matrix Spike Dup
52	160628J1_52	6/29/2016 02:19:30	1600783-01@1:5	OFFPOL-MW-7-0616
53	160628J1_53	6/29/2016 02:31:44	1600783-01@1:20	OFFPOL-MW-7-0616
54	160628J1_54	6/29/2016 02:43:54	1600783-02@1:5	OFFPOL-MW-4-0616

	Sample Name	Acquisition Date	Sample ID	Sample Comment
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57	160628J1_57	6/29/2016 03:20:34	ST160628J1-12 PFC CS3.5 16F0705	PFC CS3.5 16F0705
58	160628J1_58	6/29/2016 03:32:48	IPA	IPA
59	160628J1_59	6/29/2016 03:44:58	1600783-03@1:10	OFFPOL-MW-8-0616
60	160628J1_60	6/29/2016 03:57:12	1600783-04@1:10	OFFPOL-MW-6-0616
61	160628J1_61	6/29/2016 04:09:21	1600783-05@1:10	OFFPOL-MW-3-0616
62	160628J1_62	6/29/2016 04:21:35	1600783-06@1:10	OFFPOL-MW-3P-0616
63	160628J1_63	6/29/2016 04:33:48	1600783-07@1:10	OFFPOL-MW-2-0616
64	160628J1_64	6/29/2016 04:45:59	1600783-08@1:5	OF-MW13-0616
65	160628J1_65	6/29/2016 04:58:10	1600783-09@1:5	OF-MW11-0616
66	160628J1_66	6/29/2016 05:10:22	IPA	IPA
67	160628J1_67	6/29/2016 05:22:31	ST160628J1-13 PFC CS3.5 16F0705	PFC CS3.5 16F0705
68	160628J1_68	6/29/2016 05:34:44	IPA	IPA

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Last Altered: Wednesday, June 29, 2016 12:53:56 Pacific Daylight Time

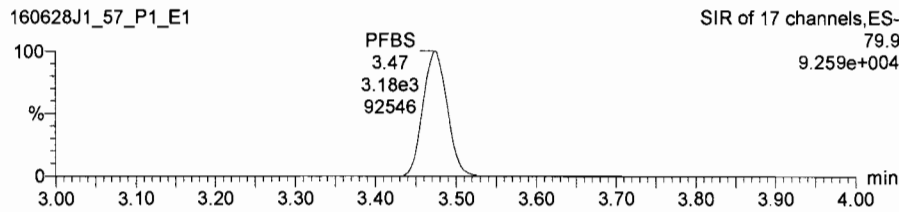
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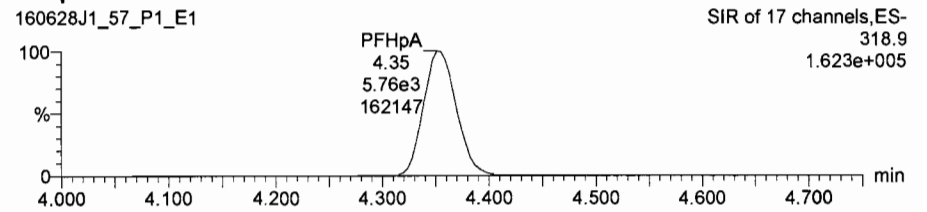
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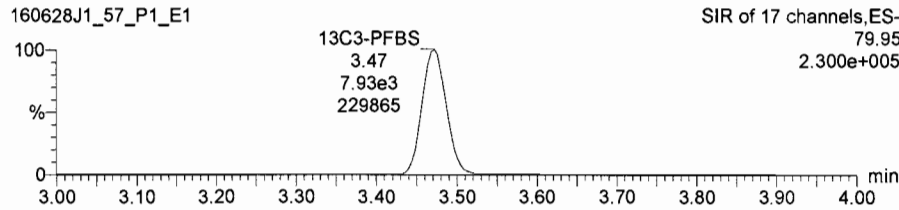
PFBS



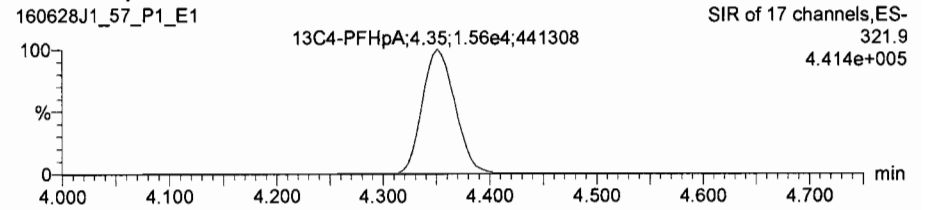
PFHpA



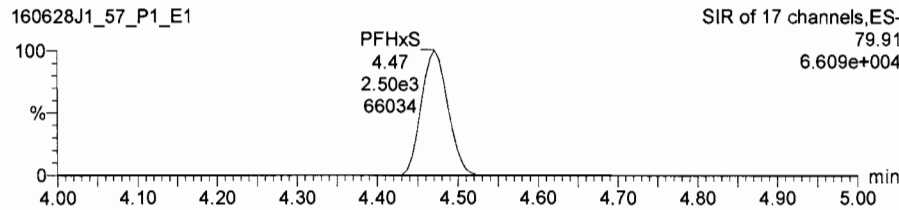
13C3-PFBS



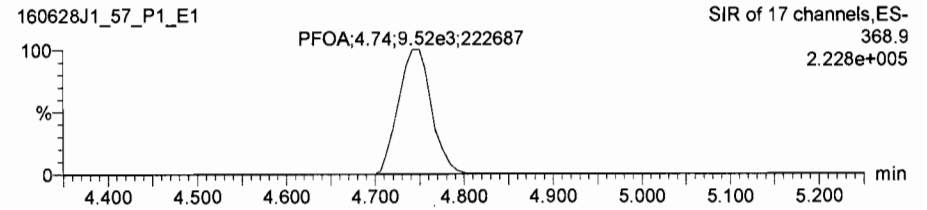
13C4-PFHpA



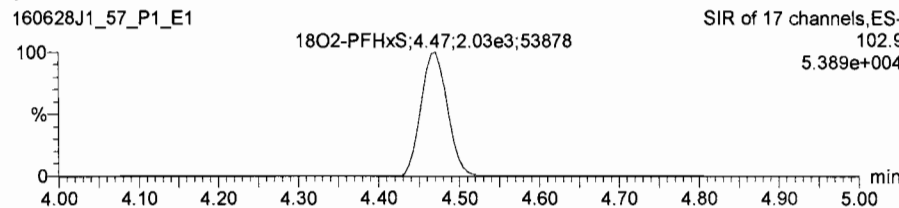
PFHxS



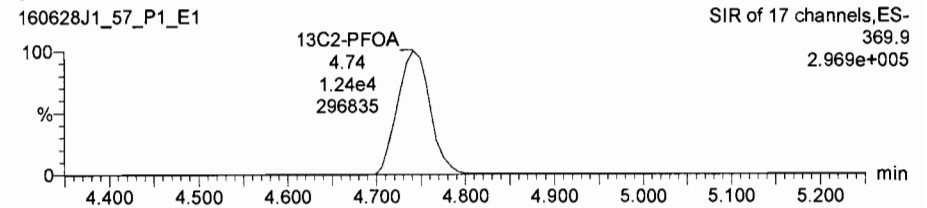
PFOA



18O2-PFHxS



13C2-PFOA



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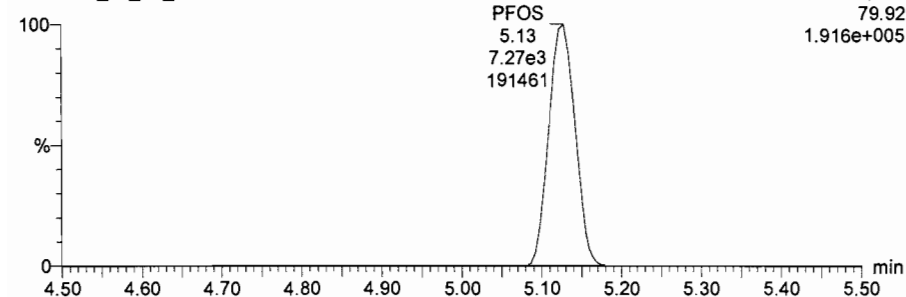
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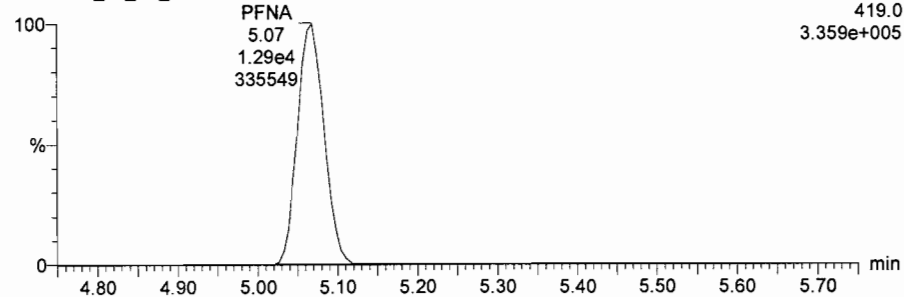
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160628J1_57_P1_E1



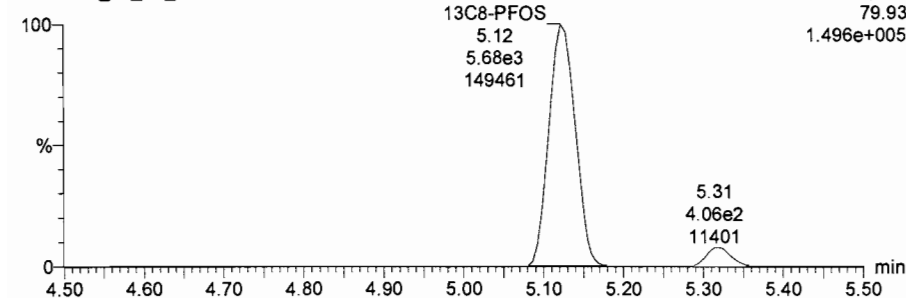
PFNA

160628J1_57_P1_E1



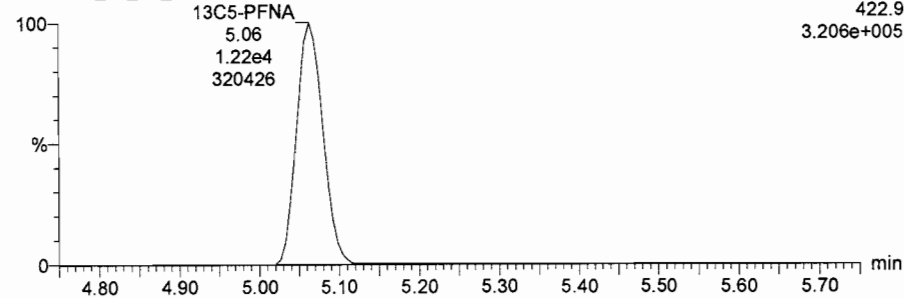
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160628J1_57_P1_E1



13C5-PFNA

160628J1_57_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_57.qld

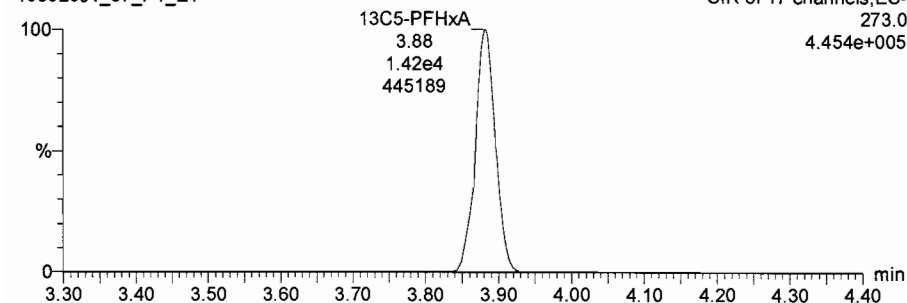
Last Altered: Wednesday, June 29, 2016 12:53:56 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 12:54:14 Pacific Daylight Time

Name: 160628J1_57.wiff, Date: 29-Jun-2016, Time: 03:20:34, ID: ST160628J1-12 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

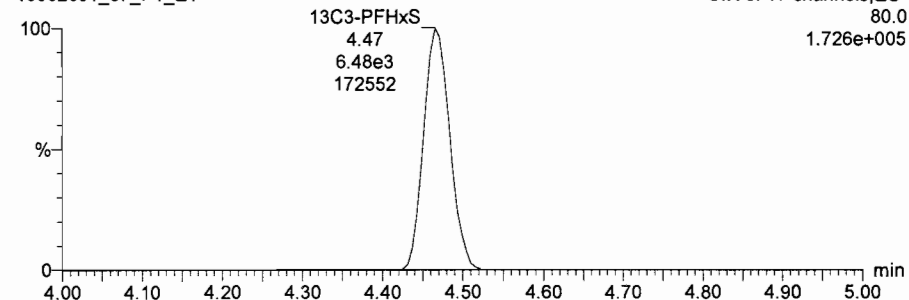
13C5-PFHxA

160628J1_57_P1_E1



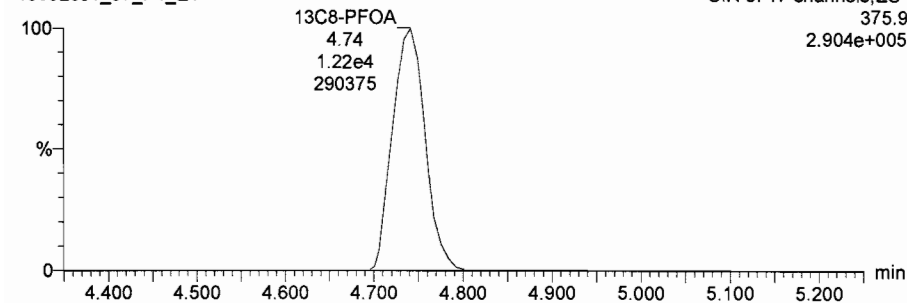
13C3-PFHxS

160628J1_57_P1_E1



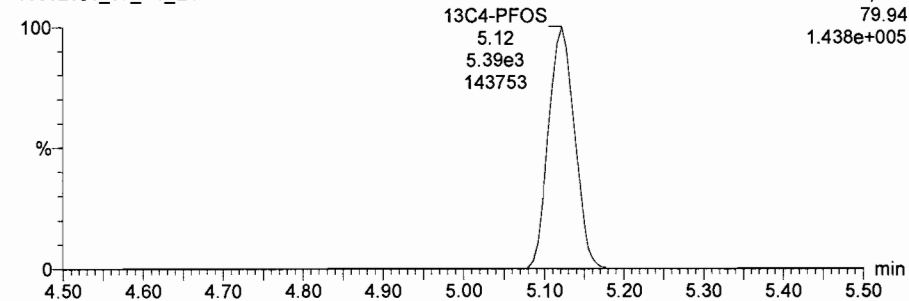
13C8-PFOA

160628J1_57_P1_E1



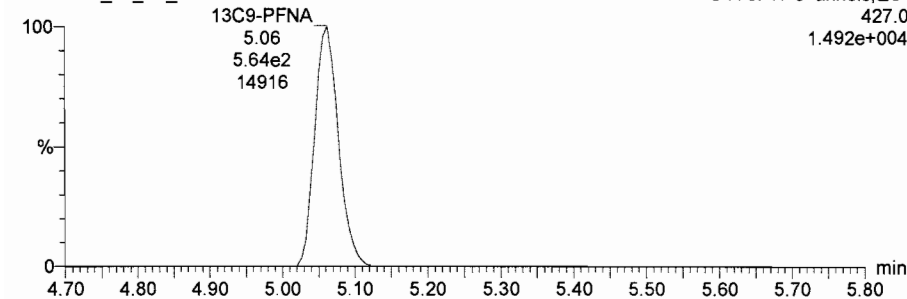
13C4-PFOS

160628J1_57_P1_E1



13C9-PFNA

160628J1_57_P1_E1



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1.crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 11:55:49 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Compound name: PFBS

Coefficient of Determination: $R^2 = 0.999029$

Calibration curve: $-5.7982e-005 * x^2 + 0.202603 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	3.48	1.69e2	9.01e3	1.16	15.7	0.234
2	2 160628J1_03_P1_...	2.00	3.47	3.62e2	9.75e3	2.29	14.5	0.232
3	3 160628J1_04_P1_...	5.00	3.47	8.11e2	8.66e3	5.79	15.8	0.234
4	4 160628J1_05_P1_...	10.0	3.48	1.39e3	8.29e3	10.3	3.5	0.209
5	5 160628J1_06_P1_...	25.0	3.47	3.37e3	8.26e3	25.4	1.4	0.204
6	6 160628J1_07_P1_...	50.0	3.47	7.26e3	9.27e3	49.0	-2.0	0.196
7	7 160628J1_08_P1_...	75.0	3.46	9.43e3	7.81e3	76.1	1.5	0.201
8	8 160628J1_09_P1_...	100	3.47	1.23e4	8.08e3	96.3	-3.7	0.190
9	9 160628J1_10_P1_...	200	3.47	2.41e4	7.81e3	202	0.9	0.193

PW
 3/ 6/29/16
 PW
 6/29/16
 BP 6/29/16 ✓

Compound name: PFHpA

Coefficient of Determination: $R^2 = 0.999129$

Calibration curve: $-9.64025e-005 * x^2 + 0.187132 * x$

Response type: Internal Std (Ref 8), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	4.37	2.97e2	1.66e4	1.20	19.8	0.224
2	2 160628J1_03_P1_...	2.00	4.35	6.36e2	1.88e4	2.27	13.3	0.212
3	3 160628J1_04_P1_...	5.00	4.35	1.46e3	1.70e4	5.74	14.8	0.214
4	4 160628J1_05_P1_...	10.0	4.36	2.38e3	1.56e4	10.2	2.4	0.191
5	5 160628J1_06_P1_...	25.0	4.35	5.83e3	1.54e4	25.6	2.6	0.189
6	6 160628J1_07_P1_...	50.0	4.35	1.26e4	1.82e4	47.5	-5.0	0.173
7	7 160628J1_08_P1_...	75.0	4.35	1.77e4	1.65e4	74.9	-0.1	0.180
8	8 160628J1_09_P1_...	100	4.35	2.36e4	1.67e4	99.7	-0.3	0.177
9	9 160628J1_10_P1_...	200	4.35	4.51e4	1.67e4	201	0.4	0.168

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 11:55:49 Pacific Daylight Time

Compound name: PFHxS

Coefficient of Determination: R² = 0.998712

Calibration curve: $-0.000163172 * x^2 + 0.642268 * x$

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	4.48	1.33e2	2.17e3	1.20	19.8	0.769
2	2 160628J1_03_P1_...	2.00	4.47	2.90e2	2.39e3	2.36	17.8	0.756
3	3 160628J1_04_P1_...	5.00	4.47	6.29e2	2.12e3	5.77	15.5	0.741
4	4 160628J1_05_P1_...	10.0	4.48	1.19e3	2.07e3	11.3	12.7	0.722
5	5 160628J1_06_P1_...	25.0	4.47	2.63e3	2.06e3	25.0	0.1	0.639
6	6 160628J1_07_P1_...	50.0	4.47	5.96e3	2.44e3	48.1	-3.9	0.610
7	7 160628J1_08_P1_...	75.0	4.46	8.10e3	2.15e3	74.8	-0.2	0.629
8	8 160628J1_09_P1_...	100	4.47	1.05e4	2.15e3	97.9	-2.1	0.613
9	9 160628J1_10_P1_...	200	4.47	2.06e4	2.09e3	202	0.8	0.614

Compound name: PFOA

Coefficient of Determination: R² = 0.998790

Calibration curve: $-0.000525715 * x^2 + 0.423933 * x$

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	4.76	5.61e2	1.48e4	1.12	11.9	0.474
2	2 160628J1_03_P1_...	2.00	4.75	1.06e3	1.36e4	2.31	15.6	0.489
3	3 160628J1_04_P1_...	5.00	4.75	2.71e3	1.44e4	5.57	11.4	0.469
4	4 160628J1_05_P1_...	10.0	4.75	4.19e3	1.24e4	10.1	0.7	0.422
5	5 160628J1_06_P1_...	25.0	4.75	1.03e4	1.35e4	23.2	-7.3	0.382
6	6 160628J1_07_P1_...	50.0	4.75	2.27e4	1.40e4	51.1	2.3	0.406
7	7 160628J1_08_P1_...	75.0	4.75	3.02e4	1.28e4	76.9	2.5	0.393
8	8 160628J1_09_P1_...	100	4.74	3.87e4	1.34e4	96.7	-3.3	0.361
9	9 160628J1_10_P1_...	200	4.75	7.27e4	1.42e4	201	0.6	0.320

Dataset: U:\Q2.PRO\Results\160628J1\160628J1 crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
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Compound name: PFOS

Coefficient of Determination: R² = 0.998757

Calibration curve: -0.000490003 * x² + 0.684949 * x

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	5.13	3.82e2	6.03e3	1.16	15.8	0.792
2	2 160628J1_03_P1_...	2.00	5.12	7.96e2	6.36e3	2.29	14.4	0.783
3	3 160628J1_04_P1_...	5.00	5.12	2.13e3	6.90e3	5.66	13.3	0.773
4	4 160628J1_05_P1_...	10.0	5.13	3.58e3	6.13e3	10.8	7.5	0.731
5	5 160628J1_06_P1_...	25.0	5.13	7.87e3	6.00e3	24.3	-2.6	0.655
6	6 160628J1_07_P1_...	50.0	5.13	1.85e4	7.14e3	49.0	-2.0	0.648
7	7 160628J1_08_P1_...	75.0	5.12	2.55e4	6.84e3	71.7	-4.5	0.621
8	8 160628J1_09_P1_...	100	5.12	3.18e4	6.08e3	103	3.1	0.654
9	9 160628J1_10_P1_...	200	5.13	6.29e4	6.70e3	200	0.0	0.587

Compound name: PFNA

Coefficient of Determination: R² = 0.998256

Calibration curve: -0.000543361 * x² + 0.571042 * x

Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00	5.07	6.82e2	1.24e4	1.20	20.2	0.686
2	2 160628J1_03_P1_...	2.00	5.06	1.53e3	1.34e4	2.50	25.1	0.713
3	3 160628J1_04_P1_...	5.00	5.06	3.78e3	1.43e4	5.81	16.2	0.660
4	4 160628J1_05_P1_...	10.0	5.07	6.38e3	1.26e4	11.2	11.7	0.631
5	5 160628J1_06_P1_...	25.0	5.07	1.37e4	1.29e4	23.7	-5.2	0.529
6	6 160628J1_07_P1_...	50.0	5.06	3.20e4	1.47e4	49.8	-0.4	0.542
7	7 160628J1_08_P1_...	75.0	5.06	4.25e4	1.34e4	74.7	-0.4	0.529
8	8 160628J1_09_P1_...	100	5.06	5.40e4	1.34e4	97.0	-3.0	0.503
9	9 160628J1_10_P1_...	200	5.07	1.01e5	1.35e4	202	1.1	0.466

Vista Analytical Laboratory Q2

Dataset: U:\Q2.PRO\Results\160628J1\160628J1 crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 11:55:49 Pacific Daylight Time

Compound name: 13C3-PFBS

Response Factor: 0.545966

RRF SD: 0.0193303, Relative SD: 3.54057

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	3.48	9.01e3	1.56e4	13.2	5.4	0.576
2	2 160628J1_03_P1_...	12.5	3.47	9.75e3	1.74e4	12.9	2.8	0.561
3	3 160628J1_04_P1_...	12.5	3.47	8.66e3	1.61e4	12.3	-1.8	0.536
4	4 160628J1_05_P1_...	12.5	3.48	8.29e3	1.51e4	12.5	0.3	0.548
5	5 160628J1_06_P1_...	12.5	3.46	8.26e3	1.48e4	12.8	2.5	0.560
6	6 160628J1_07_P1_...	12.5	3.46	9.27e3	1.67e4	12.7	1.8	0.556
7	7 160628J1_08_P1_...	12.5	3.46	7.81e3	1.46e4	12.3	-1.7	0.537
8	8 160628J1_09_P1_...	12.5	3.47	8.08e3	1.54e4	12.0	-3.7	0.526
9	9 160628J1_10_P1_...	12.5	3.47	7.81e3	1.52e4	11.8	-5.7	0.515

Compound name: 13C4-PFHpA

Response Factor: 1.07533

RRF SD: 0.0319761, Relative SD: 2.97361

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	4.36	1.66e4	1.56e4	12.3	-1.5	1.06
2	2 160628J1_03_P1_...	12.5	4.35	1.88e4	1.74e4	12.6	0.5	1.08
3	3 160628J1_04_P1_...	12.5	4.35	1.70e4	1.61e4	12.2	-2.0	1.05
4	4 160628J1_05_P1_...	12.5	4.36	1.56e4	1.51e4	12.0	-4.2	1.03
5	5 160628J1_06_P1_...	12.5	4.35	1.54e4	1.48e4	12.1	-3.1	1.04
6	6 160628J1_07_P1_...	12.5	4.35	1.82e4	1.67e4	12.7	1.5	1.09
7	7 160628J1_08_P1_...	12.5	4.34	1.65e4	1.46e4	13.1	5.1	1.13
8	8 160628J1_09_P1_...	12.5	4.35	1.67e4	1.54e4	12.6	1.0	1.09
9	9 160628J1_10_P1_...	12.5	4.35	1.67e4	1.52e4	12.8	2.6	1.10

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
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Compound name: 18O2-PFHxS

Response Factor: 0.307222

RRF SD: 0.0081325, Relative SD: 2.64711

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	4.48	2.17e3	6.89e3	12.8	2.4	0.315
2	2 160628J1_03_P1_...	12.5	4.47	2.39e3	7.96e3	12.2	-2.2	0.300
3	3 160628J1_04_P1_...	12.5	4.46	2.12e3	7.23e3	11.9	-4.4	0.294
4	4 160628J1_05_P1_...	12.5	4.47	2.07e3	6.79e3	12.4	-0.9	0.304
5	5 160628J1_06_P1_...	12.5	4.47	2.06e3	6.69e3	12.5	0.0	0.307
6	6 160628J1_07_P1_...	12.5	4.47	2.44e3	7.73e3	12.9	2.9	0.316
7	7 160628J1_08_P1_...	12.5	4.46	2.15e3	6.77e3	12.9	3.2	0.317
8	8 160628J1_09_P1_...	12.5	4.47	2.15e3	7.15e3	12.2	-2.2	0.301
9	9 160628J1_10_P1_...	12.5	4.47	2.09e3	6.73e3	12.7	1.2	0.311

Compound name: 13C2-PFOA

Response Factor: 1.0416

RRF SD: 0.0655859, Relative SD: 6.29663

Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	4.76	1.48e4	1.28e4	13.9	11.0	1.16
2	2 160628J1_03_P1_...	12.5	4.75	1.36e4	1.43e4	11.4	-8.7	0.951
3	3 160628J1_04_P1_...	12.5	4.75	1.44e4	1.33e4	13.0	4.4	1.09
4	4 160628J1_05_P1_...	12.5	4.75	1.24e4	1.25e4	12.0	-4.4	0.996
5	5 160628J1_06_P1_...	12.5	4.74	1.35e4	1.26e4	12.8	2.5	1.07
6	6 160628J1_07_P1_...	12.5	4.74	1.40e4	1.42e4	11.8	-5.3	0.986
7	7 160628J1_08_P1_...	12.5	4.74	1.28e4	1.27e4	12.1	-3.2	1.01
8	8 160628J1_09_P1_...	12.5	4.74	1.34e4	1.31e4	12.2	-2.0	1.02
9	9 160628J1_10_P1_...	12.5	4.75	1.42e4	1.29e4	13.2	5.8	1.10

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
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Compound name: 13C8-PFOS

Response Factor: 1.02589

RRF SD: 0.0401258, Relative SD: 3.91129

Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	5.13	6.03e3	5.62e3	13.1	4.6	1.07
2	2 160628J1_03_P1_...	12.5	5.12	6.36e3	6.54e3	11.8	-5.3	0.971
3	3 160628J1_04_P1_...	12.5	5.12	6.90e3	6.42e3	13.1	4.7	1.07
4	4 160628J1_05_P1_...	12.5	5.13	6.13e3	6.05e3	12.3	-1.2	1.01
5	5 160628J1_06_P1_...	12.5	5.12	6.00e3	5.70e3	12.8	2.6	1.05
6	6 160628J1_07_P1_...	12.5	5.12	7.14e3	7.09e3	12.3	-1.9	1.01
7	7 160628J1_08_P1_...	12.5	5.12	6.84e3	6.84e3	12.2	-2.5	1.00
8	8 160628J1_09_P1_...	12.5	5.12	6.08e3	6.21e3	11.9	-4.5	0.980
9	9 160628J1_10_P1_...	12.5	5.13	6.70e3	6.30e3	12.9	3.6	1.06

Compound name: 13C5-PFNA

Response Factor: 21.1576

RRF SD: 1.3736, Relative SD: 6.49222

Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	5.07	1.24e4	6.78e2	10.8	-13.4	18.3
2	2 160628J1_03_P1_...	12.5	5.06	1.34e4	6.73e2	11.8	-5.7	20.0
3	3 160628J1_04_P1_...	12.5	5.06	1.43e4	6.50e2	13.0	4.1	22.0
4	4 160628J1_05_P1_...	12.5	5.07	1.26e4	5.75e2	13.0	3.9	22.0
5	5 160628J1_06_P1_...	12.5	5.07	1.29e4	6.27e2	12.1	-2.8	20.6
6	6 160628J1_07_P1_...	12.5	5.06	1.47e4	6.72e2	13.0	3.8	22.0
7	7 160628J1_08_P1_...	12.5	5.06	1.34e4	6.44e2	12.3	-1.7	20.8
8	8 160628J1_09_P1_...	12.5	5.06	1.34e4	6.04e2	13.1	5.2	22.3
9	9 160628J1_10_P1_...	12.5	5.06	1.35e4	5.99e2	13.3	6.5	22.5

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
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Compound name: 13C5-PFHxA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	3.89	1.56e4	1.56e4	12.5	0.0	1.00
2	2 160628J1_03_P1_...	12.5	3.88	1.74e4	1.74e4	12.5	0.0	1.00
3	3 160628J1_04_P1_...	12.5	3.88	1.61e4	1.61e4	12.5	0.0	1.00
4	4 160628J1_05_P1_...	12.5	3.89	1.51e4	1.51e4	12.5	0.0	1.00
5	5 160628J1_06_P1_...	12.5	3.88	1.48e4	1.48e4	12.5	0.0	1.00
6	6 160628J1_07_P1_...	12.5	3.88	1.67e4	1.67e4	12.5	0.0	1.00
7	7 160628J1_08_P1_...	12.5	3.88	1.46e4	1.46e4	12.5	0.0	1.00
8	8 160628J1_09_P1_...	12.5	3.88	1.54e4	1.54e4	12.5	0.0	1.00
9	9 160628J1_10_P1_...	12.5	3.88	1.52e4	1.52e4	12.5	0.0	1.00

Compound name: 13C3-PFHxS

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	4.48	6.89e3	6.89e3	12.5	0.0	1.00
2	2 160628J1_03_P1_...	12.5	4.47	7.96e3	7.96e3	12.5	0.0	1.00
3	3 160628J1_04_P1_...	12.5	4.46	7.23e3	7.23e3	12.5	0.0	1.00
4	4 160628J1_05_P1_...	12.5	4.47	6.79e3	6.79e3	12.5	0.0	1.00
5	5 160628J1_06_P1_...	12.5	4.47	6.69e3	6.69e3	12.5	0.0	1.00
6	6 160628J1_07_P1_...	12.5	4.46	7.73e3	7.73e3	12.5	0.0	1.00
7	7 160628J1_08_P1_...	12.5	4.46	6.77e3	6.77e3	12.5	0.0	1.00
8	8 160628J1_09_P1_...	12.5	4.47	7.15e3	7.15e3	12.5	0.0	1.00
9	9 160628J1_10_P1_...	12.5	4.47	6.73e3	6.73e3	12.5	0.0	1.00

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

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Compound name: 13C8-PFOA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	4.76	1.28e4	1.28e4	12.5	0.0	1.00
2	2 160628J1_03_P1_...	12.5	4.75	1.43e4	1.43e4	12.5	0.0	1.00
3	3 160628J1_04_P1_...	12.5	4.74	1.33e4	1.33e4	12.5	0.0	1.00
4	4 160628J1_05_P1_...	12.5	4.75	1.25e4	1.25e4	12.5	0.0	1.00
5	5 160628J1_06_P1_...	12.5	4.74	1.26e4	1.26e4	12.5	0.0	1.00
6	6 160628J1_07_P1_...	12.5	4.74	1.42e4	1.42e4	12.5	0.0	1.00
7	7 160628J1_08_P1_...	12.5	4.74	1.27e4	1.27e4	12.5	0.0	1.00
8	8 160628J1_09_P1_...	12.5	4.74	1.31e4	1.31e4	12.5	0.0	1.00
9	9 160628J1_10_P1_...	12.5	4.74	1.29e4	1.29e4	12.5	0.0	1.00

Compound name: 13C4-PFOS

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	5.13	5.62e3	5.62e3	12.5	0.0	1.00
2	2 160628J1_03_P1_...	12.5	5.12	6.54e3	6.54e3	12.5	0.0	1.00
3	3 160628J1_04_P1_...	12.5	5.12	6.42e3	6.42e3	12.5	0.0	1.00
4	4 160628J1_05_P1_...	12.5	5.12	6.05e3	6.05e3	12.5	0.0	1.00
5	5 160628J1_06_P1_...	12.5	5.12	5.70e3	5.70e3	12.5	0.0	1.00
6	6 160628J1_07_P1_...	12.5	5.12	7.09e3	7.09e3	12.5	0.0	1.00
7	7 160628J1_08_P1_...	12.5	5.12	6.84e3	6.84e3	12.5	0.0	1.00
8	8 160628J1_09_P1_...	12.5	5.12	6.21e3	6.21e3	12.5	0.0	1.00
9	9 160628J1_10_P1_...	12.5	5.12	6.30e3	6.30e3	12.5	0.0	1.00

Dataset: U:\Q2.PRO\Results\160628J1\160628J1 crv.qld

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Compound name: 13C9-PFNA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5	5.07	6.78e2	6.78e2	12.5	0.0	1.00
2	2 160628J1_03_P1_...	12.5	5.06	6.73e2	6.73e2	12.5	0.0	1.00
3	3 160628J1_04_P1_...	12.5	5.06	6.50e2	6.50e2	12.5	0.0	1.00
4	4 160628J1_05_P1_...	12.5	5.07	5.75e2	5.75e2	12.5	0.0	1.00
5	5 160628J1_06_P1_...	12.5	5.06	6.27e2	6.27e2	12.5	0.0	1.00
6	6 160628J1_07_P1_...	12.5	5.06	6.72e2	6.72e2	12.5	0.0	1.00
7	7 160628J1_08_P1_...	12.5	5.06	6.44e2	6.44e2	12.5	0.0	1.00
8	8 160628J1_09_P1_...	12.5	5.06	6.04e2	6.04e2	12.5	0.0	1.00
9	9 160628J1_10_P1_...	12.5	5.06	5.99e2	5.99e2	12.5	0.0	1.00

Compound name: Total PFBS

Coefficient of Determination: R^2 = 0.999029

Calibration curve: $-5.7982e-005 * x^2 + 0.202603 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00			9.01e3	1.16		
2	2 160628J1_03_P1_...	2.00			9.75e3	2.29		
3	3 160628J1_04_P1_...	5.00			8.66e3	5.80		
4	4 160628J1_05_P1_...	10.0			8.29e3	10.3		
5	5 160628J1_06_P1_...	25.0			8.26e3	25.4		
6	6 160628J1_07_P1_...	50.0			9.27e3	49.0		
7	7 160628J1_08_P1_...	75.0			7.81e3	76.1		
8	8 160628J1_09_P1_...	100			8.08e3	96.3		
9	9 160628J1_10_P1_...	200			7.81e3	202		

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

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Compound name: Total PFHxS

Coefficient of Determination: R² = 0.998712

Calibration curve: -0.000163172 * x² + 0.642268 * x

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00			2.17e3	1.20		
2	2 160628J1_03_P1_...	2.00			2.39e3	2.36		
3	3 160628J1_04_P1_...	5.00			2.12e3	5.77		
4	4 160628J1_05_P1_...	10.0			2.07e3	11.3		
5	5 160628J1_06_P1_...	25.0			2.06e3	25.0		
6	6 160628J1_07_P1_...	50.0			2.44e3	48.1		
7	7 160628J1_08_P1_...	75.0			2.15e3	74.8		
8	8 160628J1_09_P1_...	100			2.15e3	97.9		
9	9 160628J1_10_P1_...	200			2.09e3	202		

Compound name: Total PFOA

Coefficient of Determination: R² = 0.998790

Calibration curve: -0.000525715 * x² + 0.423933 * x

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	12.5			1.48e4	1.12		
2	2 160628J1_03_P1_...	12.5			1.36e4	2.34		
3	3 160628J1_04_P1_...	12.5			1.44e4	5.61		
4	4 160628J1_05_P1_...	12.5			1.24e4	10.1		
5	5 160628J1_06_P1_...	12.5			1.35e4	23.2		
6	6 160628J1_07_P1_...	12.5			1.40e4	51.1		
7	7 160628J1_08_P1_...	12.5			1.28e4	77.0		
8	8 160628J1_09_P1_...	12.5			1.34e4	96.8		
9	9 160628J1_10_P1_...	12.5			1.42e4	201		

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

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Compound name: Total PFOS

Coefficient of Determination: $R^2 = 0.998757$

Calibration curve: $-0.000490003 * x^2 + 0.684949 * x$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 160628J1_02_P1_...	1.00			6.03e3	1.19		
2	2 160628J1_03_P1_...	2.00			6.36e3	2.31		
3	3 160628J1_04_P1_...	5.00			6.90e3	5.69		
4	4 160628J1_05_P1_...	10.0			6.13e3	10.8		
5	5 160628J1_06_P1_...	25.0			6.00e3	24.4		
6	6 160628J1_07_P1_...	50.0			7.14e3	49.2		
7	7 160628J1_08_P1_...	75.0			6.84e3	71.8		
8	8 160628J1_09_P1_...	100			6.08e3	103		
9	9 160628J1_10_P1_...	200			6.70e3	201		

Sample Name	Acquisition Date	Sample ID	Sample Comment
160628J1_01	6/28/2016 15:56:50	IPA	IPA
160628J1_02	6/28/2016 16:09:02	ST160628J1-1 PFC CS0 16F0701	PFC CS0 16F0701
160628J1_03	6/28/2016 16:21:13	ST160628J1-2 PFC CS1 16F0702	PFC CS1 16F0702
160628J1_04	6/28/2016 16:33:26	ST160628J1-3 PFC CS2 16F0703	PFC CS2 16F0703
160628J1_05	6/28/2016 16:45:38	ST160628J1-4 PFC CS3 16F0704	PFC CS3 16F0704
160628J1_06	6/28/2016 16:57:51	ST160628J1-5 PFC CS3.5 16F0705	PFC CS3.5 16F0705
160628J1_07	6/28/2016 17:10:01	ST160628J1-6 PFC CS4 16F0706	PFC CS4 16F0706
160628J1_08	6/28/2016 17:22:14	ST160628J1-7 PFC CS4.5 16F0707	PFC CS4.5 16F0707
160628J1_09	6/28/2016 17:34:27	ST160628J1-8 PFC CS5 16F0708	PFC CS5 16F0708
160628J1_10	6/28/2016 17:46:39	ST160628J1-9 PFC CS6 16F0709	PFC CS6 16F0709
160628J1_11	6/28/2016 17:58:52	IPA	IPA
160628J1_12	6/28/2016 18:11:06	IPA	IPA
160628J1_13	6/28/2016 18:23:17	SS160628J1-1 PFC SSS 16F0907	PFC SSS 16F0907
160628J1_14	6/28/2016 18:35:29	IPA	IPA
160628J1_15	6/28/2016 18:47:40	B6F0156-BS1	OPR
160628J1_16	6/28/2016 18:59:54	B6F0157-BS1	OPR
160628J1_17	6/28/2016 19:12:07	IPA	IPA
160628J1_18	6/28/2016 19:24:20	B6F0156-BLK1	Method Blank
160628J1_19	6/28/2016 19:36:32	B6F0157-BLK1	Method Blank
160628J1_20	6/28/2016 19:48:47	1600818-01	OF14-MW07S-0616
160628J1_21	6/28/2016 20:01:01	1600818-02	OF14-MW07D-0616
160628J1_22	6/28/2016 20:13:11	1600818-03	OF-MW14-0616
160628J1_23	6/28/2016 20:25:26	1600818-04	OF-MW16-0616
160628J1_24	6/28/2016 20:37:39	1600818-05	OF-FB062016
160628J1_25	6/28/2016 20:49:51	1600818-06	OF-EB062016
160628J1_26	6/28/2016 21:02:04	1600818-07	OF-MW15-0616
160628J1_27	6/28/2016 21:14:15	1600818-08	OF-MW15D-0616
160628J1_28	6/28/2016 21:26:29	1600818-09	OF14-MW06-0616
160628J1_29	6/28/2016 21:38:43	1600818-10	OF14-MW06D-0616
160628J1_30	6/28/2016 21:50:55	IPA	IPA
160628J1_31	6/28/2016 22:03:07	ST160628J1-10 PFC CS3.5 16F0705	PFC CS3.5 16F0705
160628J1_32	6/28/2016 22:15:20	IPA	IPA
160628J1_33	6/28/2016 22:27:29	1600818-11	OF-MW17-0616
160628J1_34	6/28/2016 22:39:43	1600818-12	OF-MW12D-0616
160628J1_35	6/28/2016 22:51:56	1600818-13	OF-MW12-0616
160628J1_36	6/28/2016 23:04:09	1600818-14	OF-MW13D-0616
160628J1_37	6/28/2016 23:16:23	1600818-15	OF-MW13DP-0616
160628J1_38	6/28/2016 23:28:36	1600818-16	OF-MW11D-0616
160628J1_39	6/28/2016 23:40:48	1600820-01	OF-MW10-0616
160628J1_40	6/28/2016 23:53:02	1600820-02	OF-MW08-0616
160628J1_41	6/29/2016 00:05:15	1600820-03	OF-MW08P-0616
160628J1_42	6/29/2016 00:17:24	1600820-04	OF-MW10D-0616
160628J1_43	6/29/2016 00:29:38	IPA	IPA
160628J1_44	6/29/2016 00:41:49	ST160628J1-11 PFC CS3.5 16F0705	PFC CS3.5 16E0705
160628J1_45	6/29/2016 00:54:00	IPA	IPA
160628J1_46	6/29/2016 01:06:12	1600820-05	OF-MW09-0616
160628J1_47	6/29/2016 01:18:25	1600820-06	OF-MW09D-0616
160628J1_48	6/29/2016 01:30:33	B6F0156-MS1	Matrix Spike
160628J1_49	6/29/2016 01:42:48	B6F0156-MSD1	Matrix Spike Dup
160628J1_50	6/29/2016 01:54:57	B6F0157-MS1	Matrix Spike
160628J1_51	6/29/2016 02:07:16	B6F0157-MSD1	Matrix Spike Dup
160628J1_52	6/29/2016 02:19:30	1600783-01@1:5	OPPOL-MW-7-0616
160628J1_53	6/29/2016 02:31:44	1600783-01@1:20	OPPOL-MW-7-0616
160628J1_54	6/29/2016 02:43:54	1600783-02@1:5	OPPOL-MW-4-0616

Sample Name	Acquisition Date	Sample ID	Sample Comment
160628J1_55	6/29/2016 02:56:06	1600783-02@1:20	OPOL-MW-4-0616
160628J1_56	6/29/2016 03:08:22	IPA	IPA
160628J1_57	6/29/2016 03:20:34	ST160628J1-12 PFC CS3.5 16F0705	PFC CS3.5 16F0705
160628J1_58	6/29/2016 03:32:48	IPA	IPA
160628J1_59	6/29/2016 03:44:58	1600783-03@1:10	OPOL-MW-8-0616
160628J1_60	6/29/2016 03:57:12	1600783-04@1:10	OPOL-MW-6-0616
160628J1_61	6/29/2016 04:09:21	1600783-05@1:10	OPOL-MW-3-0616
160628J1_62	6/29/2016 04:21:35	1600783-06@1:10	OPOL-MW-3P-0616
160628J1_63	6/29/2016 04:33:48	1600783-07@1:10	OPOL-MW-2-0616
160628J1_64	6/29/2016 04:45:59	1600783-08@1:5	OF-MW13-0616
160628J1_65	6/29/2016 04:58:10	1600783-09@1:5	OF-MW11-0616
160628J1_66	6/29/2016 05:10:22	IPA	IPA
160628J1_67	6/29/2016 05:22:31	ST160628J1-13 PFC CS3.5 16F0705	PFC CS3.5 16F0705
160628J1_68	6/29/2016 05:34:44	IPA	IPA

Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

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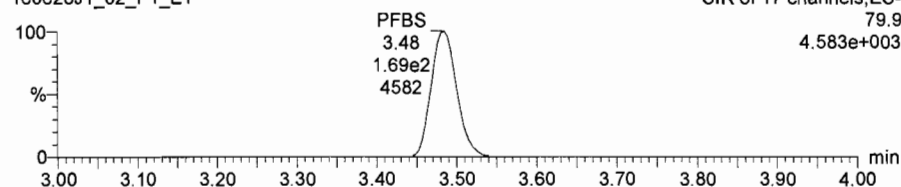
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Calibration: U:\Q2.PRO\CurveDB\IC18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

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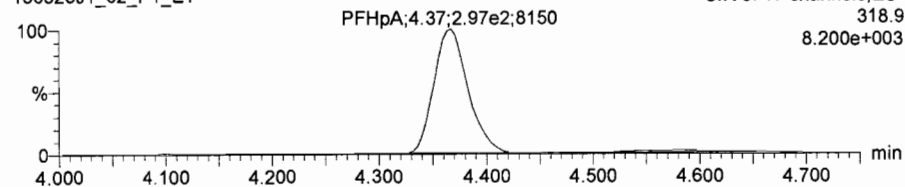
PFBS

160628J1_02_P1_E1



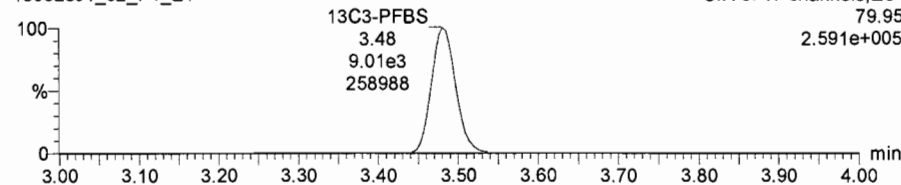
PFHpA

160628J1_02_P1_E1



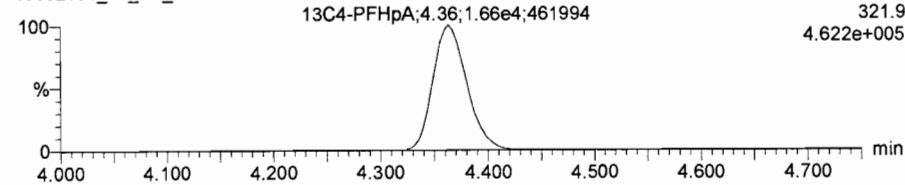
13C3-PFBS

160628J1_02_P1_E1



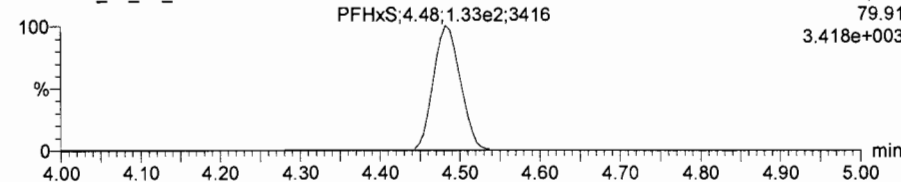
13C4-PFHpA

160628J1_02_P1_E1



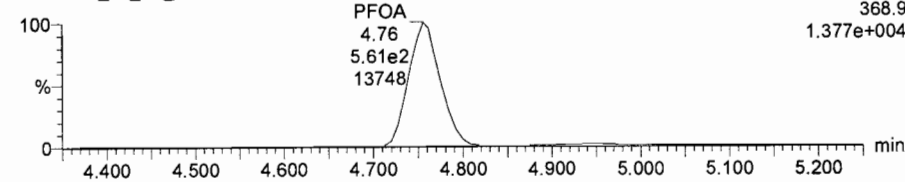
PFHxS

160628J1_02_P1_E1



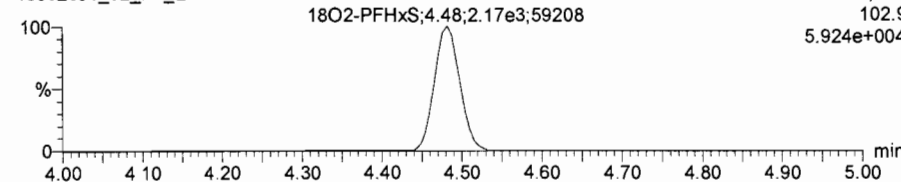
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160628J1_02_P1_E1



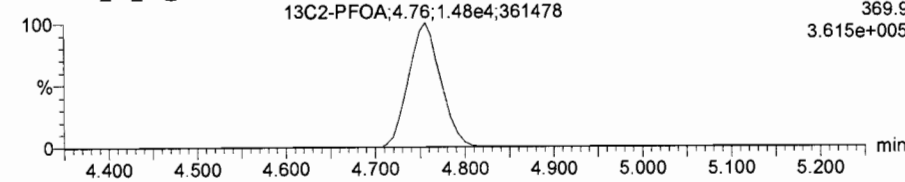
18O2-PFHxS

160628J1_02_P1_E1



13C2-PFOA

160628J1_02_P1_E1



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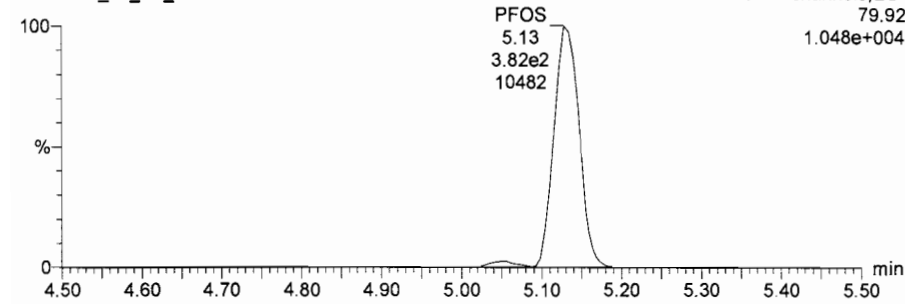
Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

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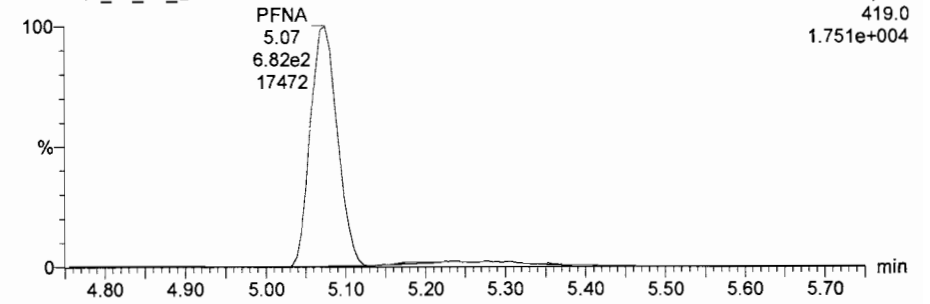
PFOS

160628J1_02_P1_E1



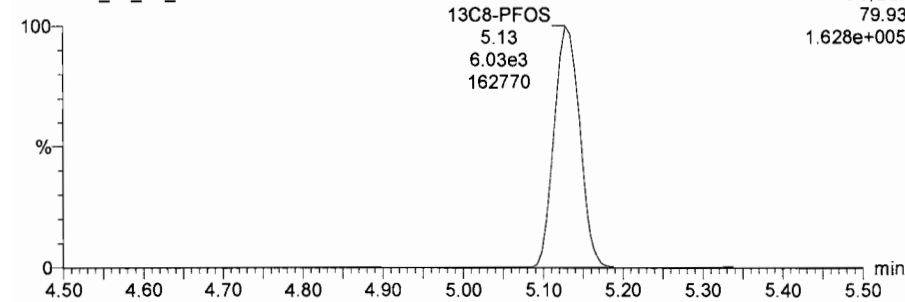
PFNA

160628J1_02_P1_E1



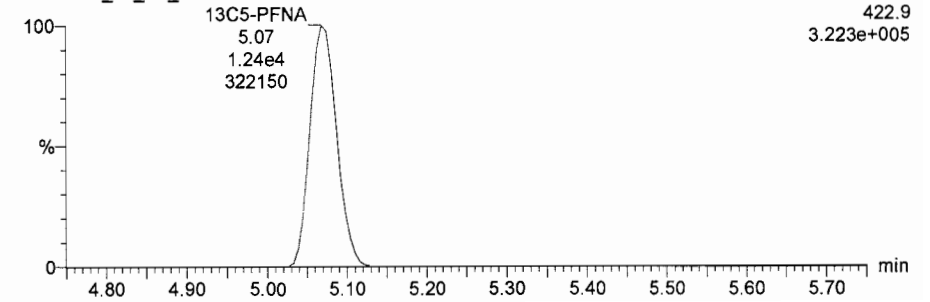
13C8-PFOS

160628J1_02_P1_E1



13C5-PFNA

160628J1_02_P1_E1



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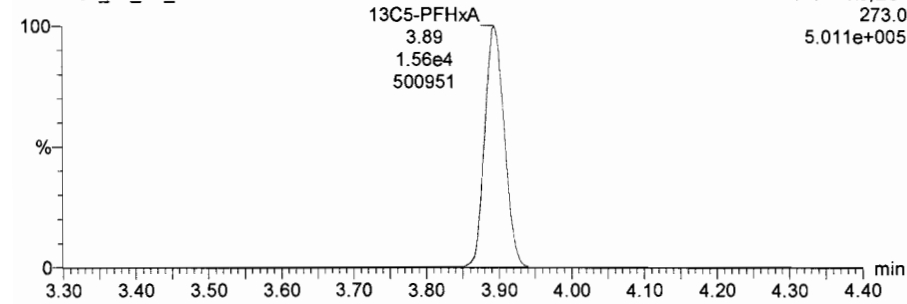
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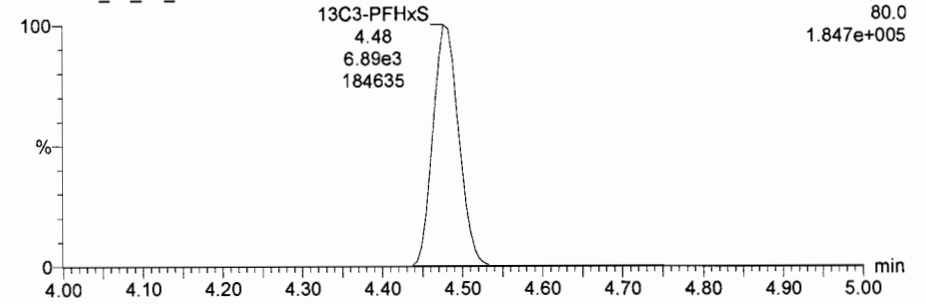
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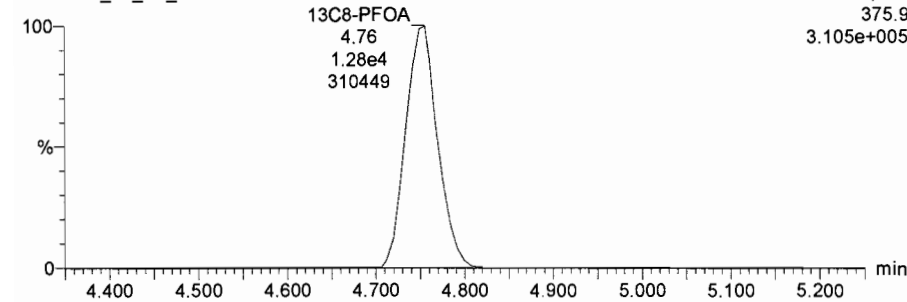
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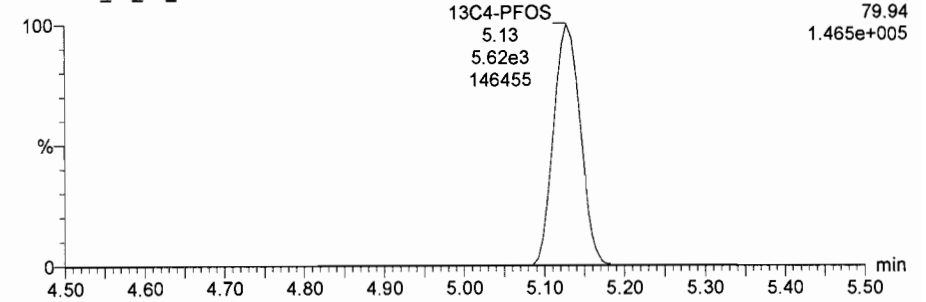
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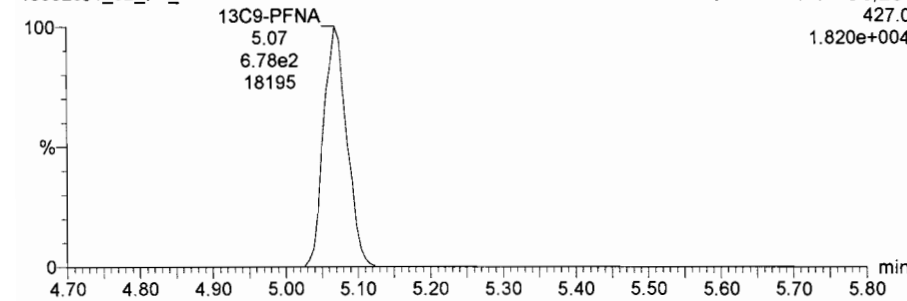
13C4-PFOS

160628J1_02_P1_E1



13C9-PFNA

160628J1_02_P1_E1



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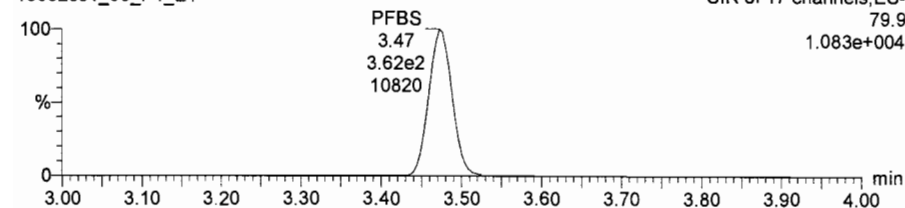
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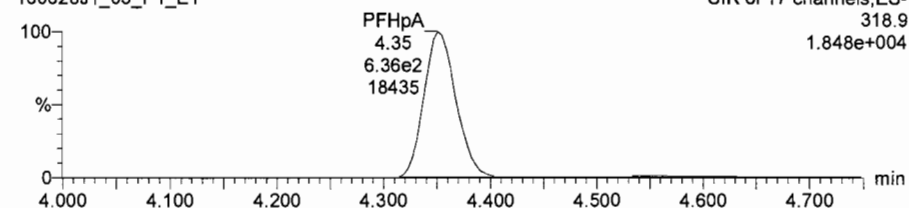
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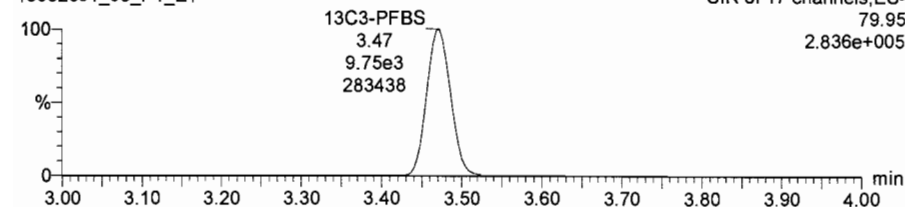
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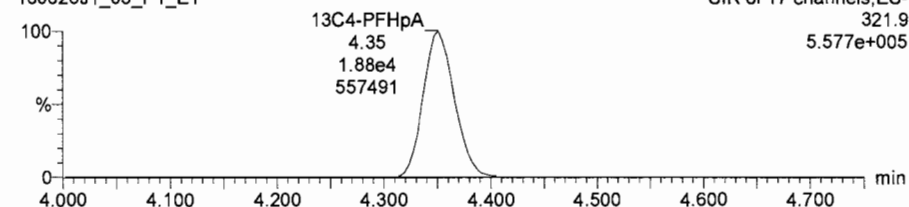
13C3-PFBS

160628J1_03_P1_E1



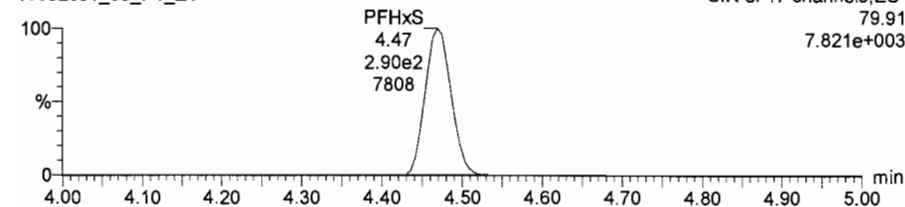
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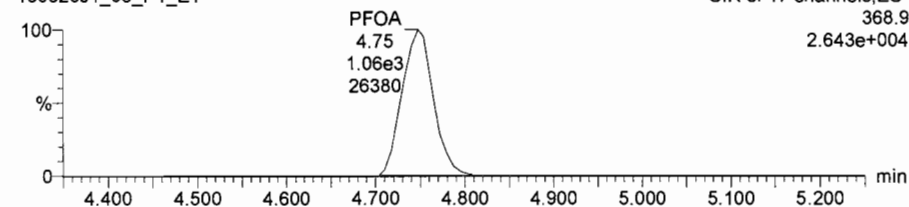
PFHxS

160628J1_03_P1_E1



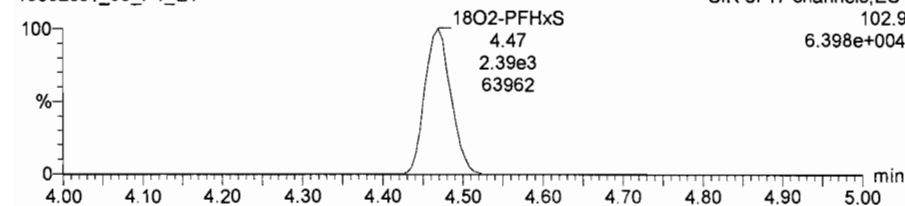
PFOA

160628J1_03_P1_E1



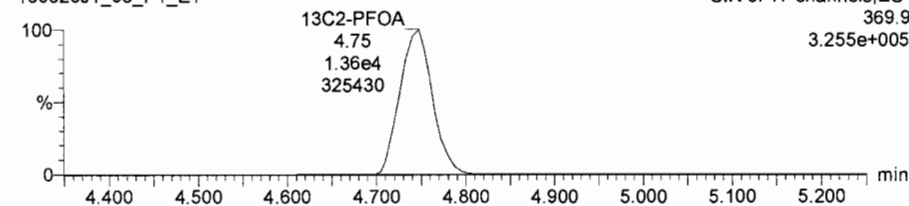
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160628J1_03_P1_E1



13C2-PFOA

160628J1_03_P1_E1



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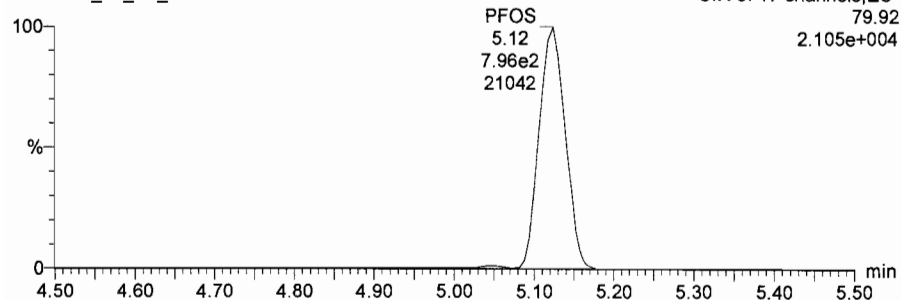
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Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

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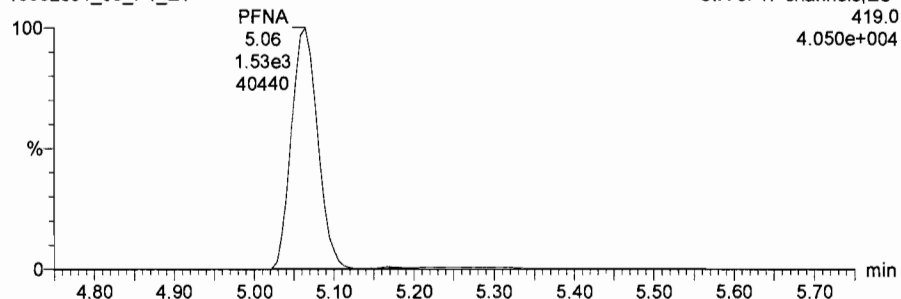
PFOS

160628J1_03_P1_E1



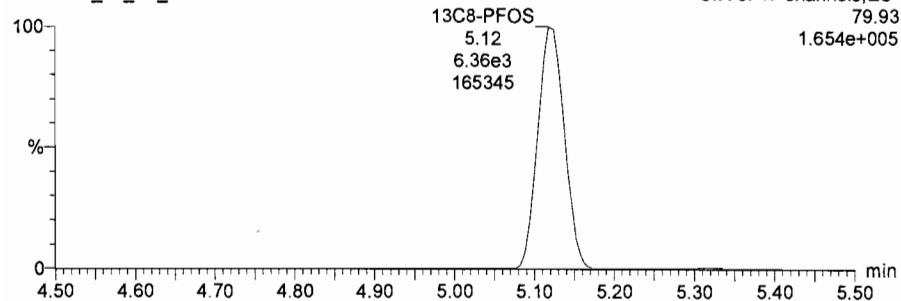
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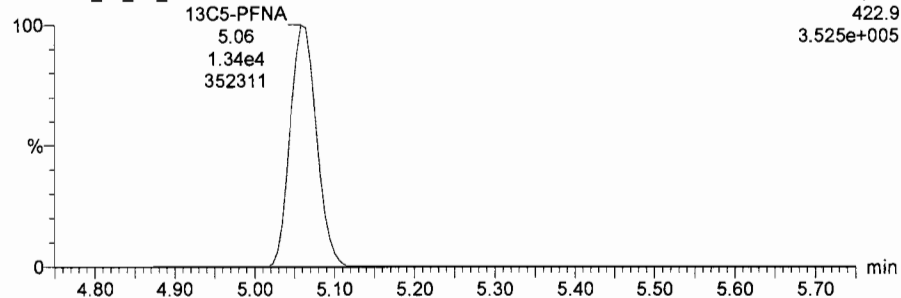
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160628J1_03_P1_E1



13C5-PFNA

160628J1_03_P1_E1



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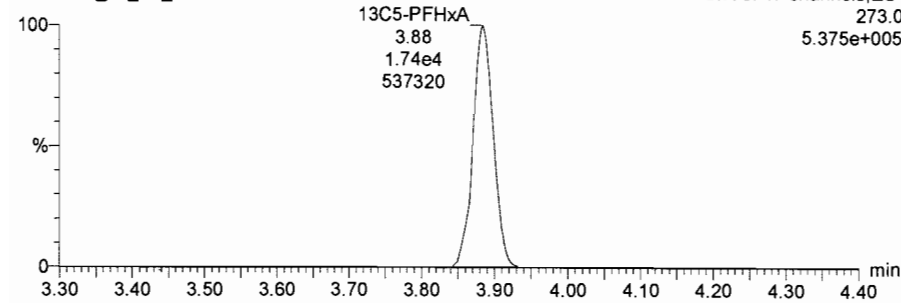
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Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

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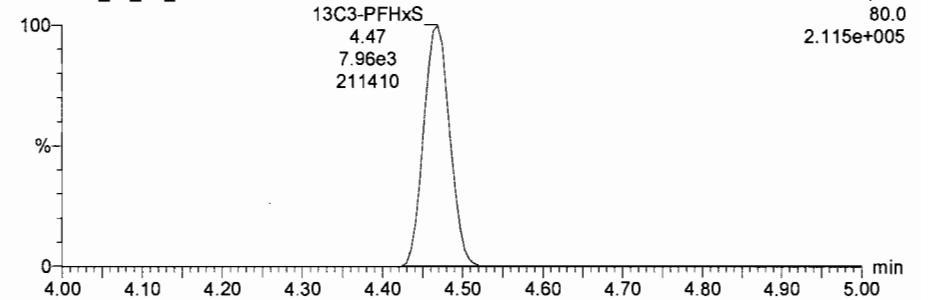
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160628J1_03_P1_E1



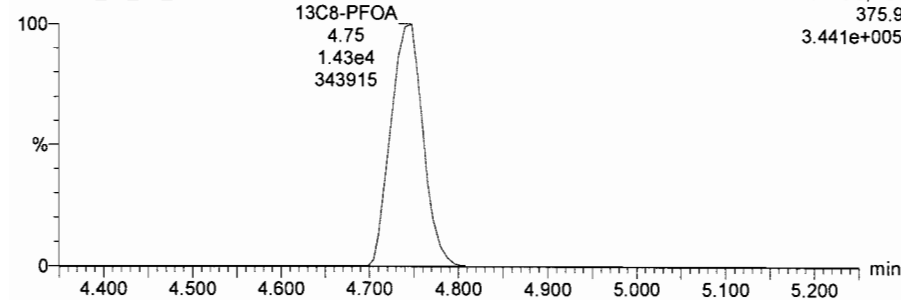
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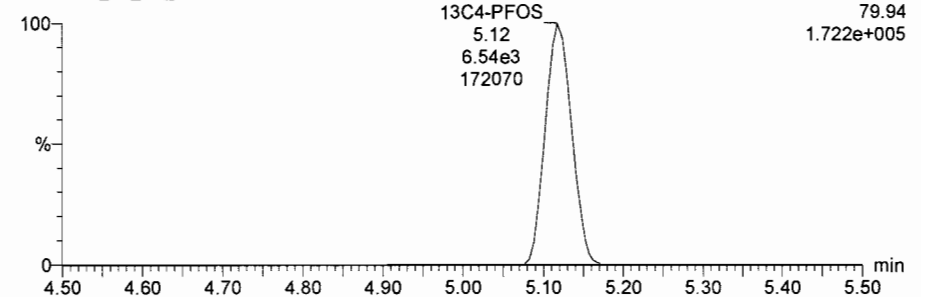
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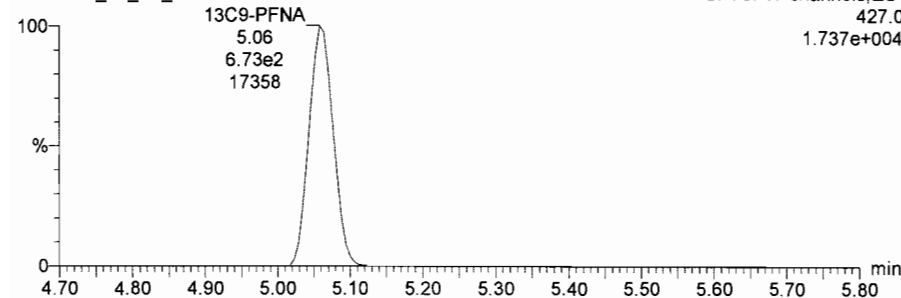
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160628J1_03_P1_E1



13C9-PFNA

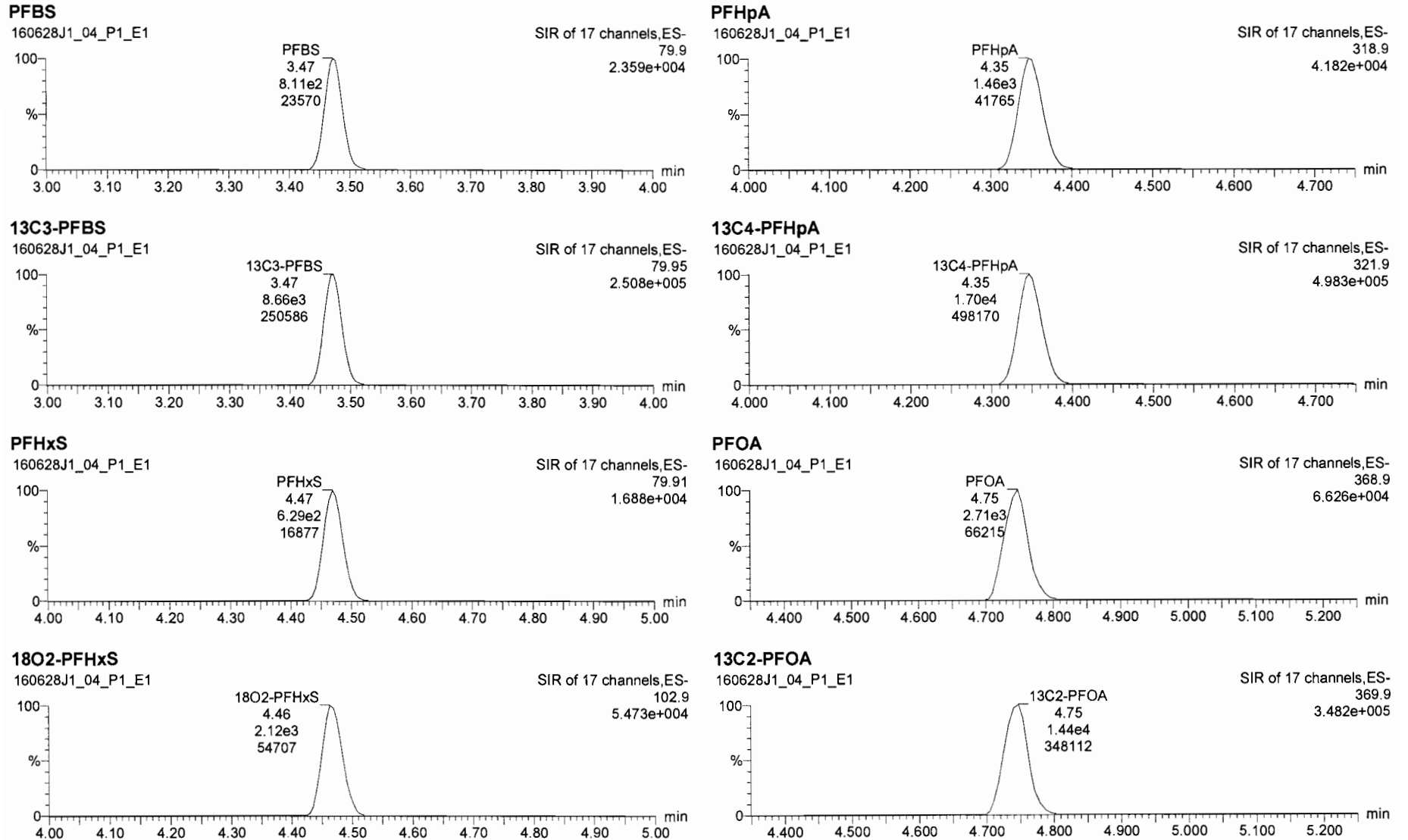
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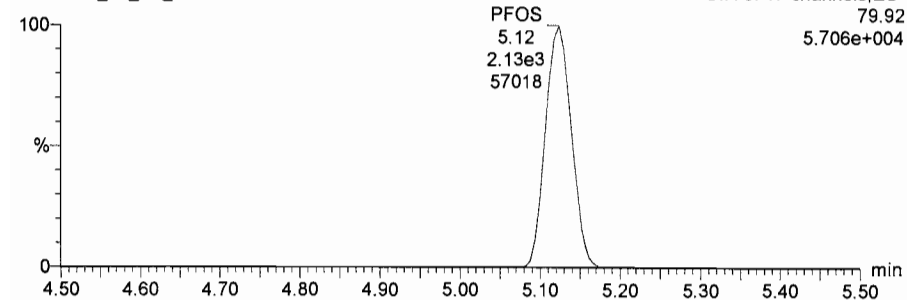
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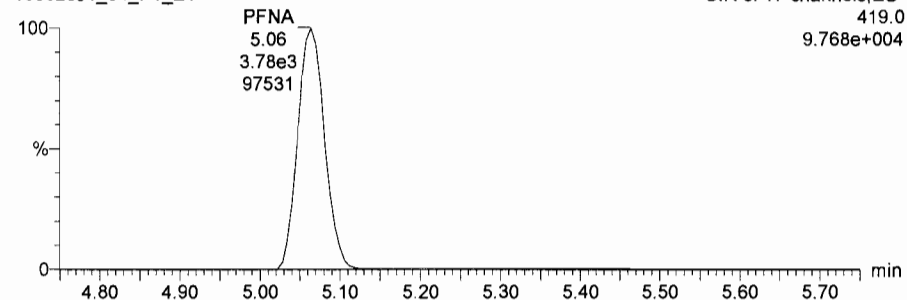
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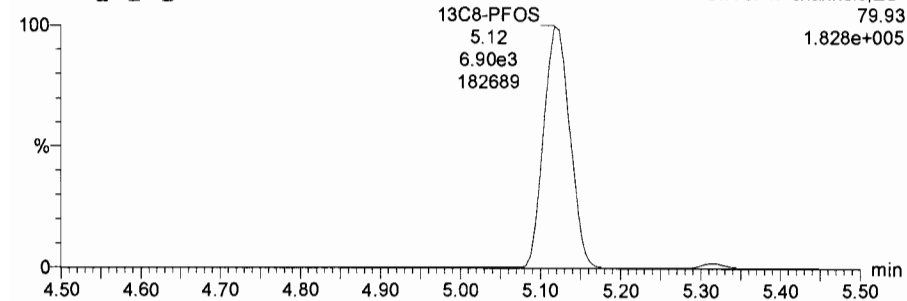
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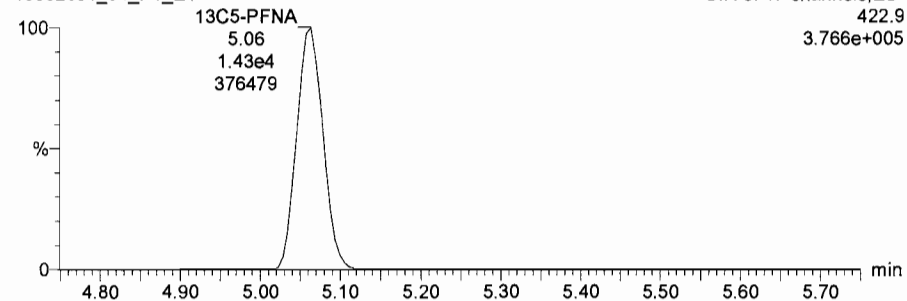
13C8-PFOS

160628J1_04_P1_E1



13C5-PFNA

160628J1_04_P1_E1



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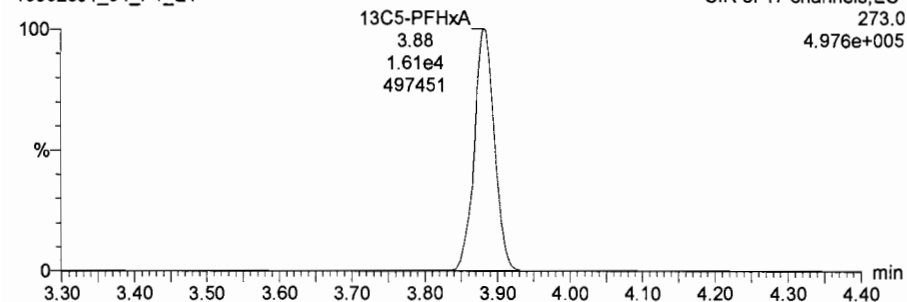
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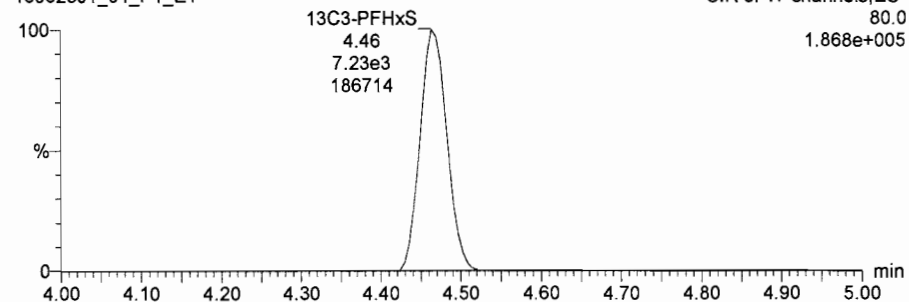
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160628J1_04_P1_E1



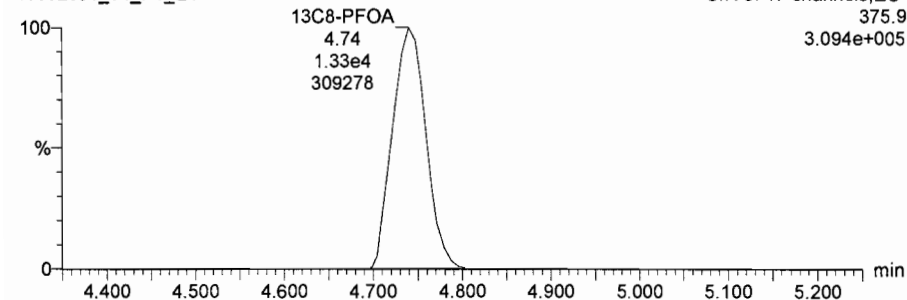
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160628J1_04_P1_E1



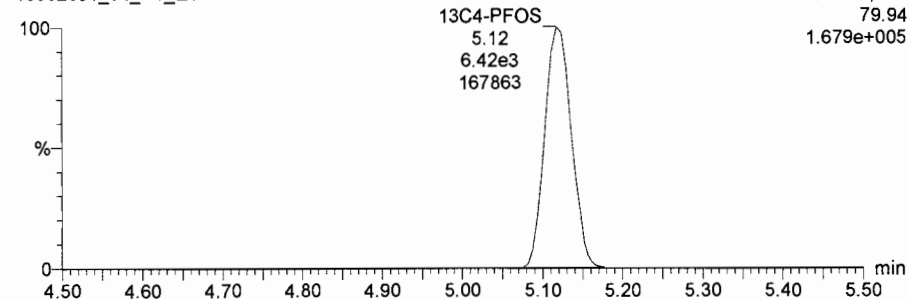
13C8-PFOA

160628J1_04_P1_E1



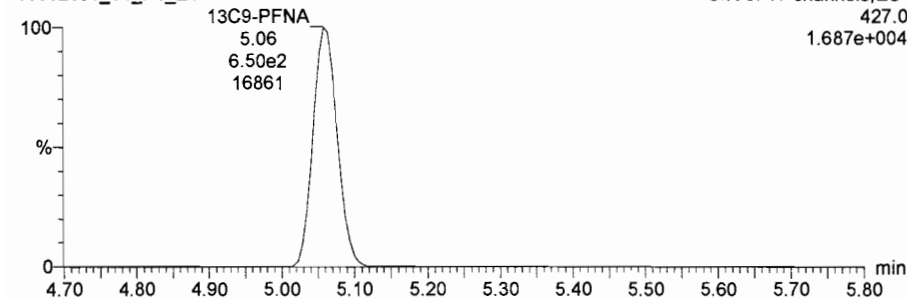
13C4-PFOS

160628J1_04_P1_E1



13C9-PFNA

160628J1_04_P1_E1



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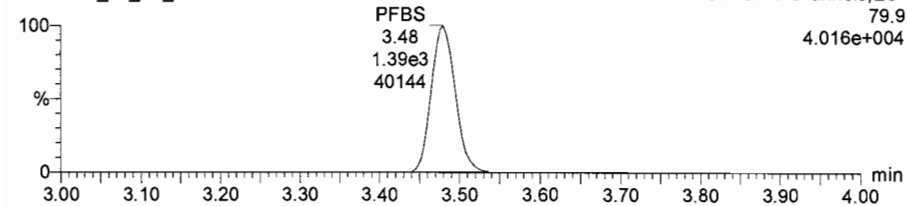
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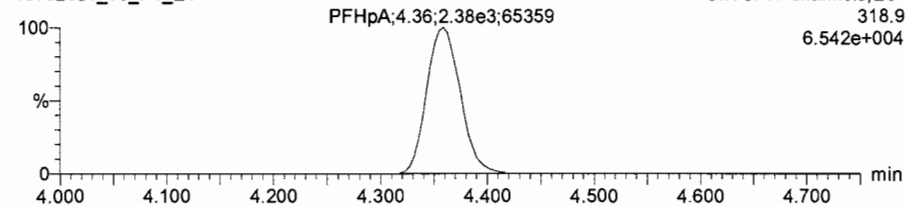
PFBS

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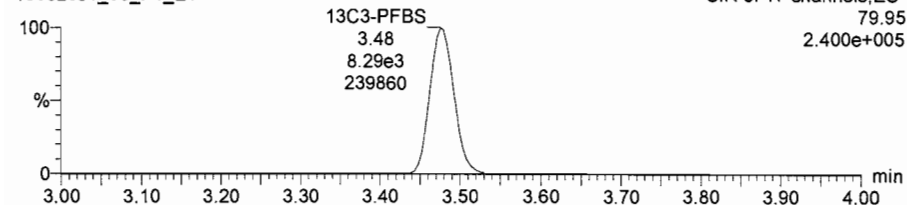
PFHpA

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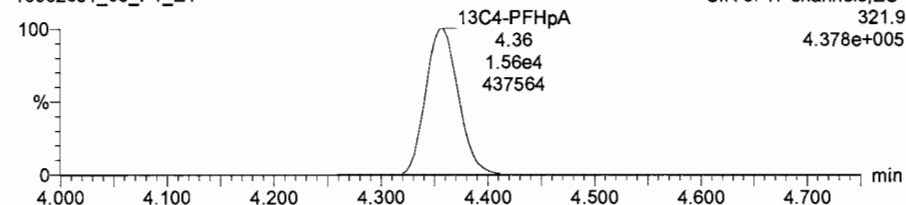
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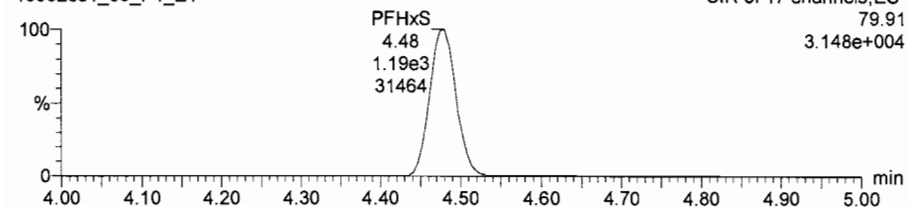
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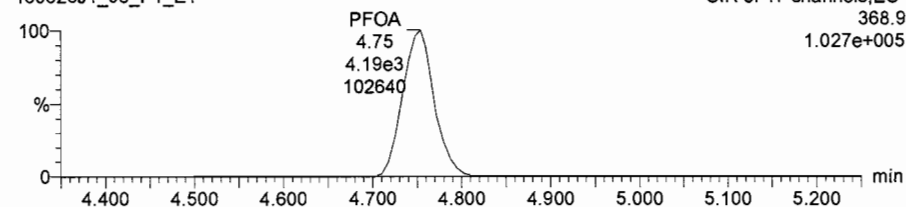
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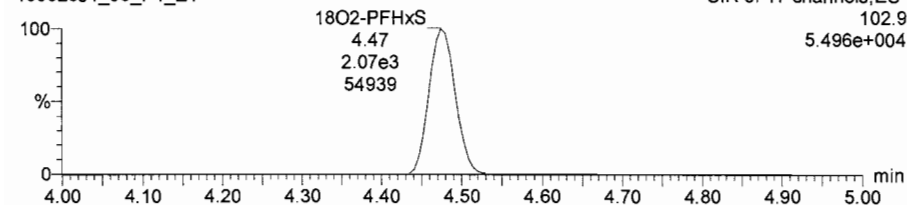
PFOA

160628J1_05_P1_E1



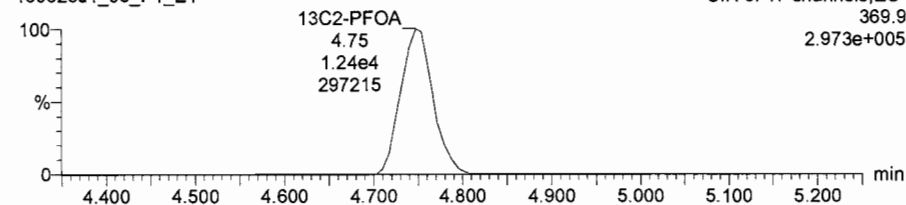
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160628J1_05_P1_E1



13C2-PFOA

160628J1_05_P1_E1



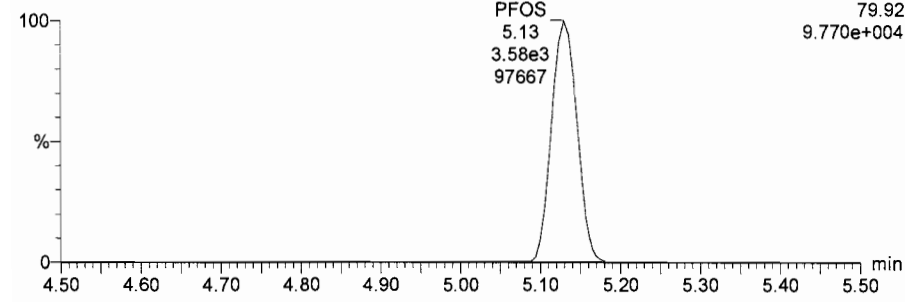
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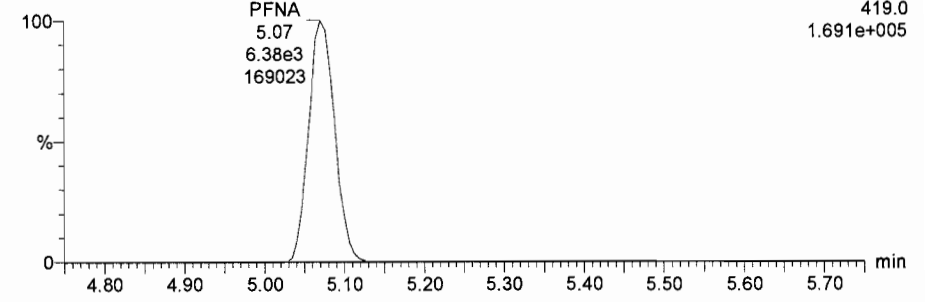
PFOS

160628J1_05_P1_E1



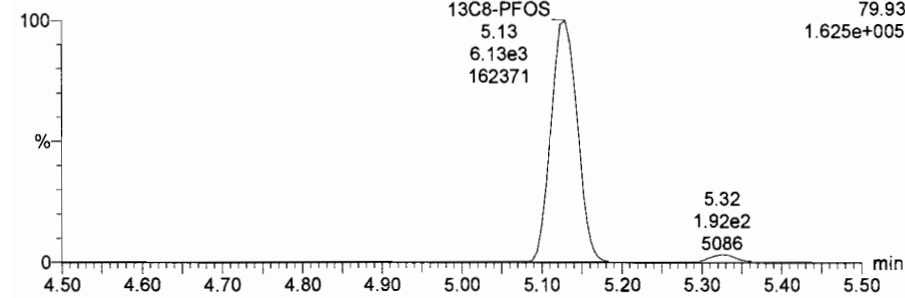
PFNA

160628J1_05_P1_E1



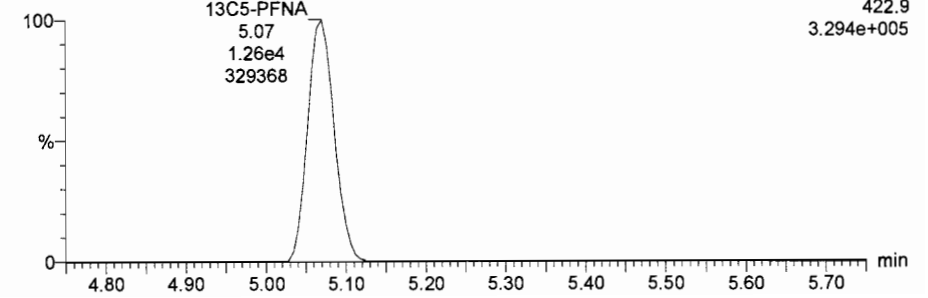
13C8-PFOS

160628J1_05_P1_E1



13C5-PFNA

160628J1_05_P1_E1



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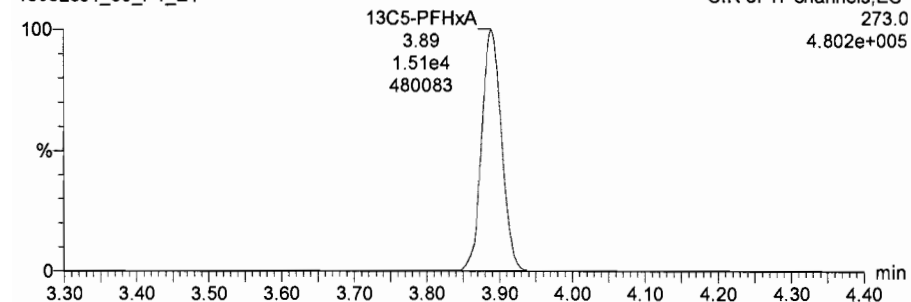
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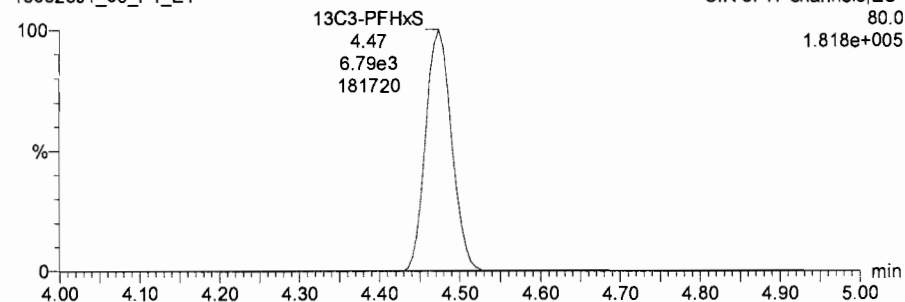
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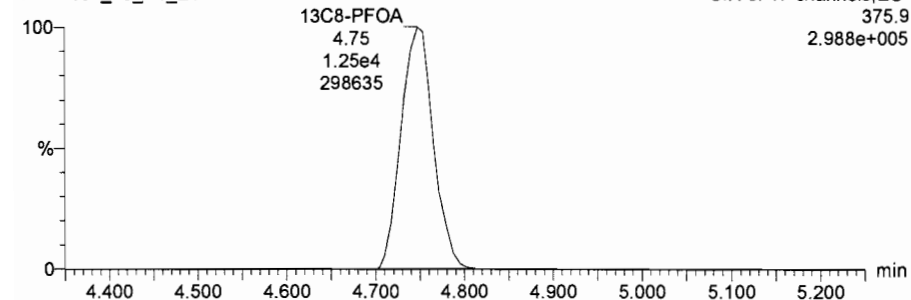
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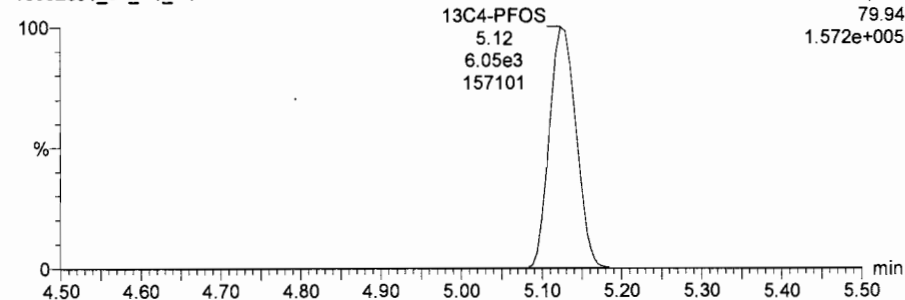
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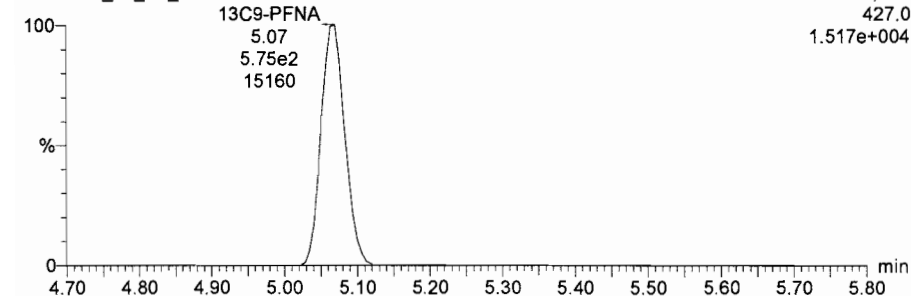
13C4-PFOS

160628J1_05_P1_E1



13C9-PFNA

160628J1_05_P1_E1



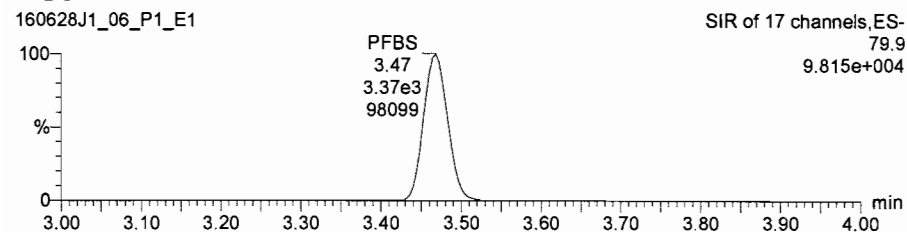
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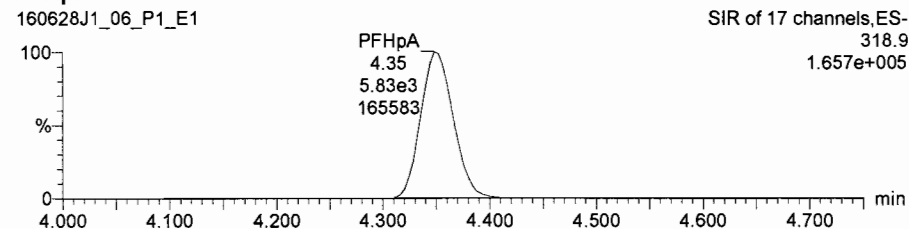
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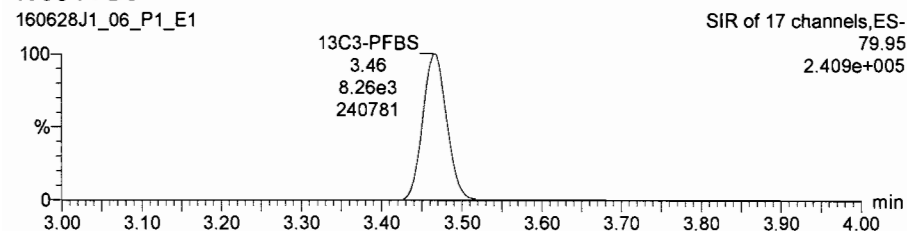
PFBS



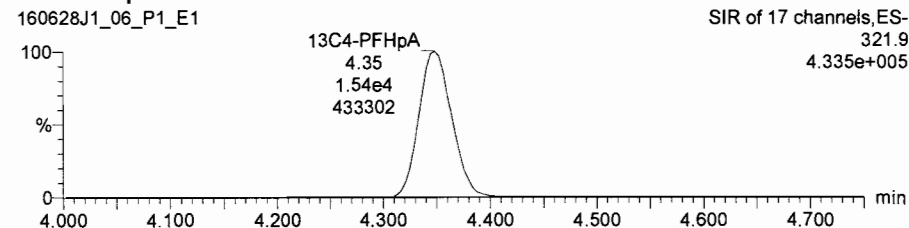
PFHpA



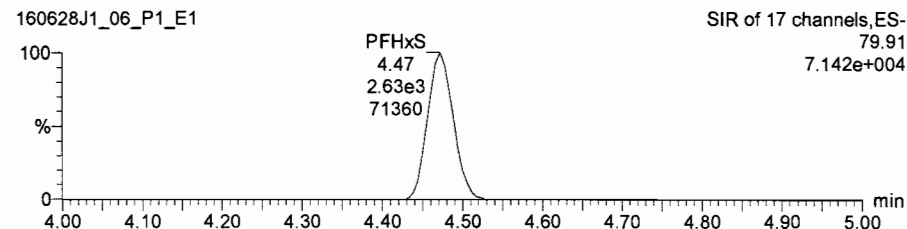
13C3-PFBS



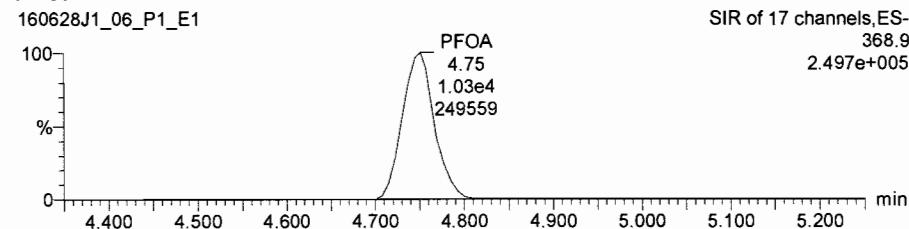
13C4-PFHpA



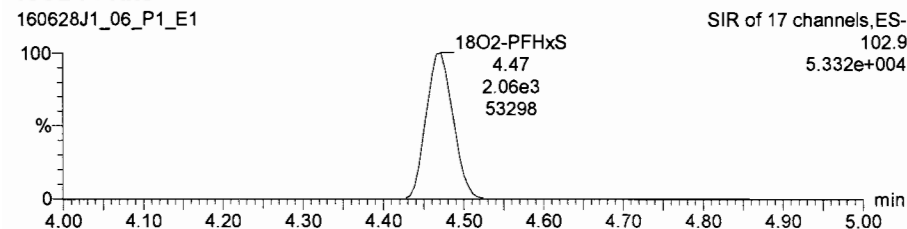
PFHxS



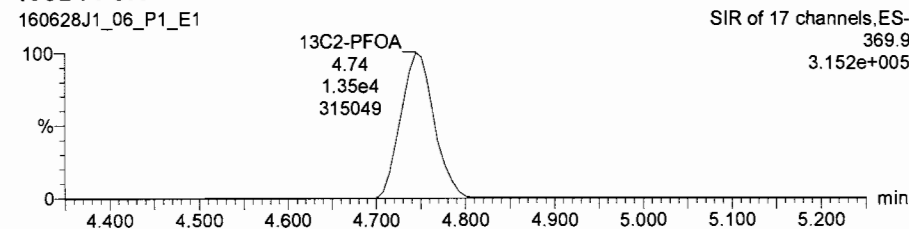
PFOA



18O2-PFHxS



13C2-PFOA



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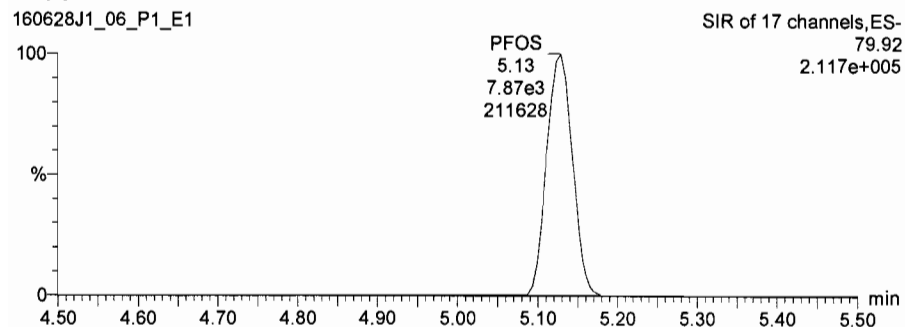
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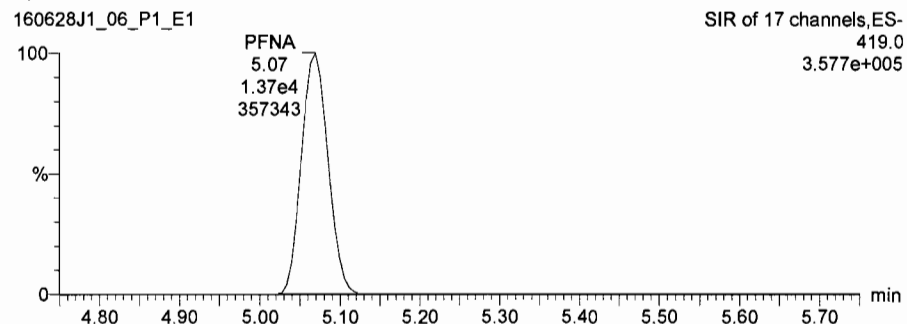
PFOS

160628J1_06_P1_E1



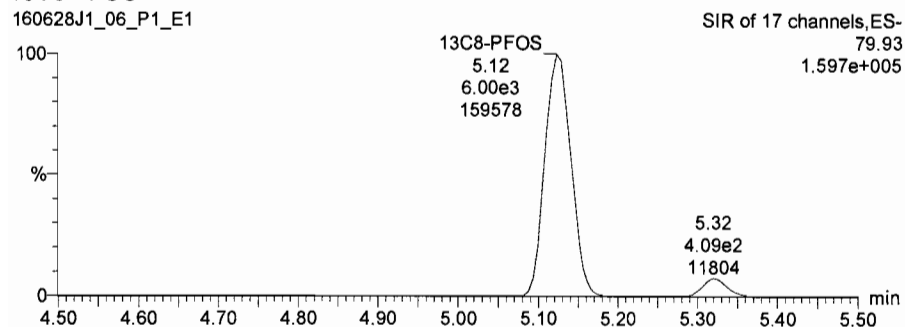
PFNA

160628J1_06_P1_E1



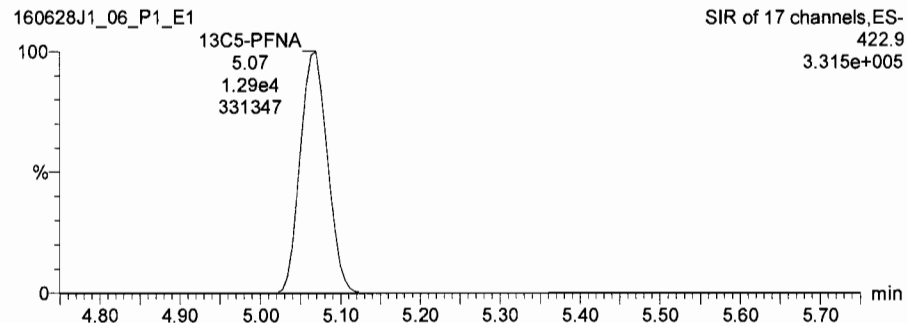
13C8-PFOS

160628J1_06_P1_E1



13C5-PFNA

160628J1_06_P1_E1



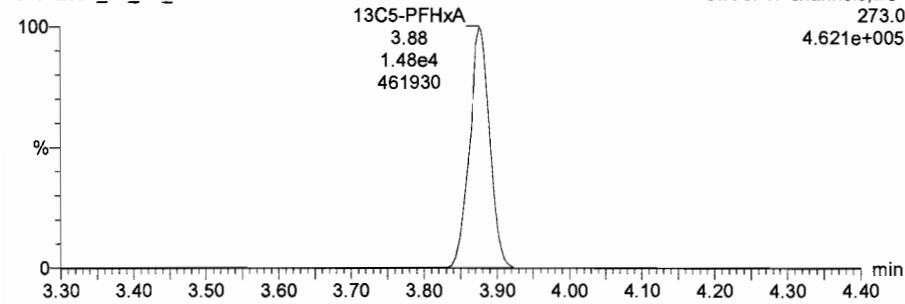
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Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

Name: 160628J1_06.wiff, Date: 28-Jun-2016, Time: 16:57:51, ID: ST160628J1-5 PFC CS3.5 16F0705, Description: PFC CS3.5 16F0705

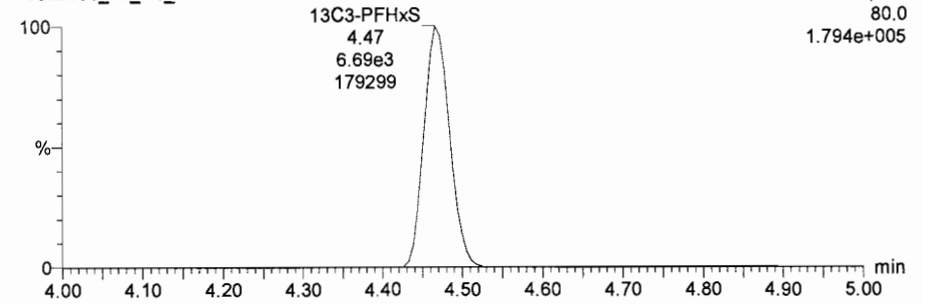
13C5-PFHxA

160628J1_06_P1_E1



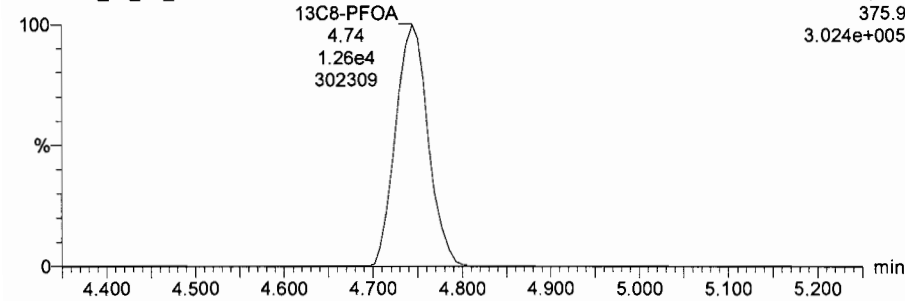
13C3-PFHxS

160628J1_06_P1_E1



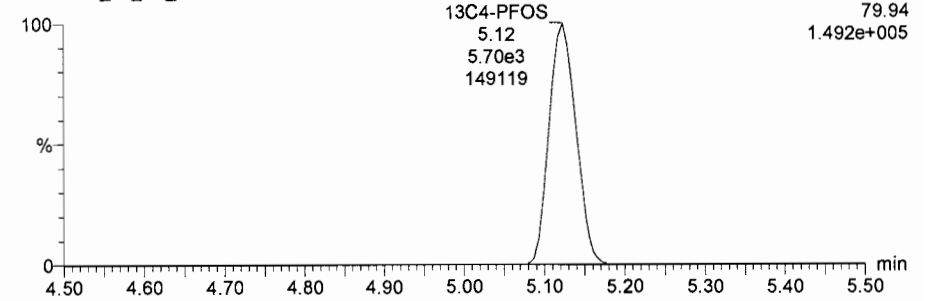
13C8-PFOA

160628J1_06_P1_E1



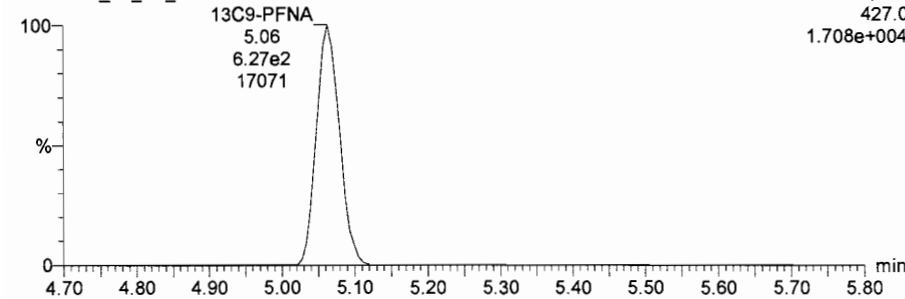
13C4-PFOS

160628J1_06_P1_E1



13C9-PFNA

160628J1_06_P1_E1



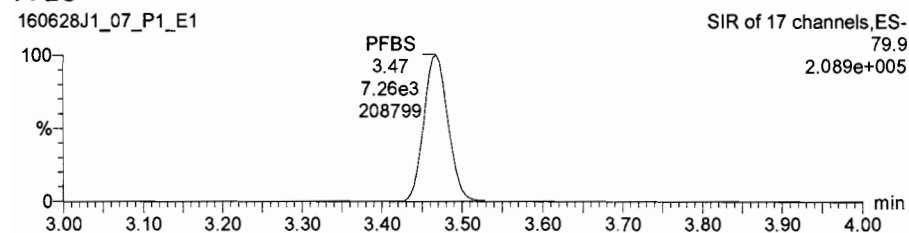
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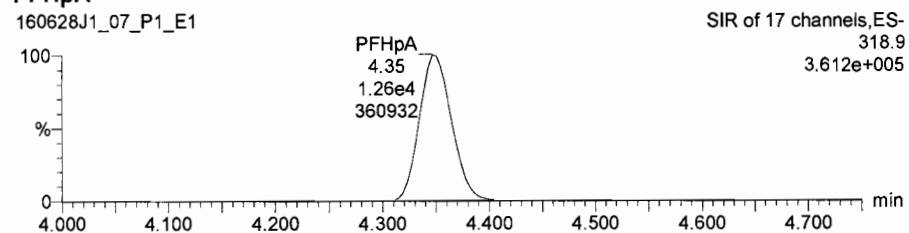
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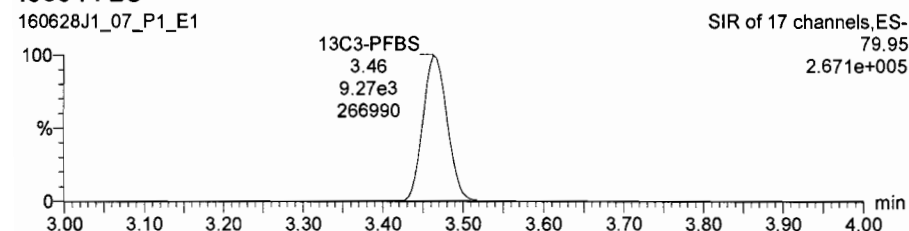
PFBS



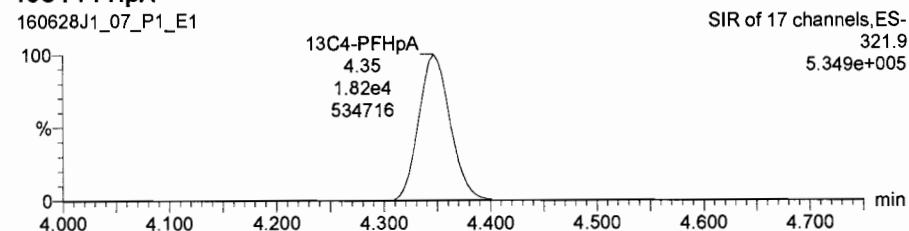
PFHpA



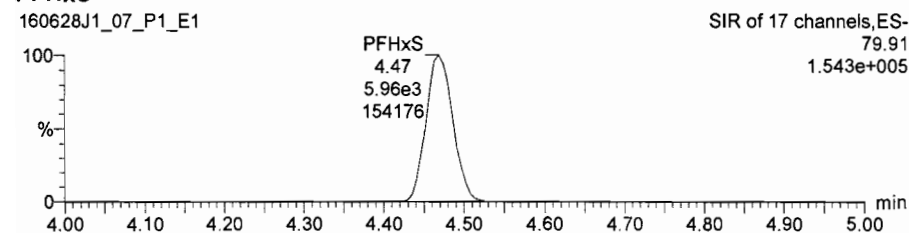
13C3-PFBS



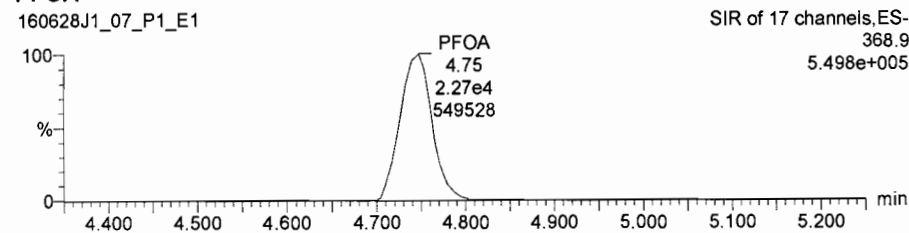
13C4-PFHpA



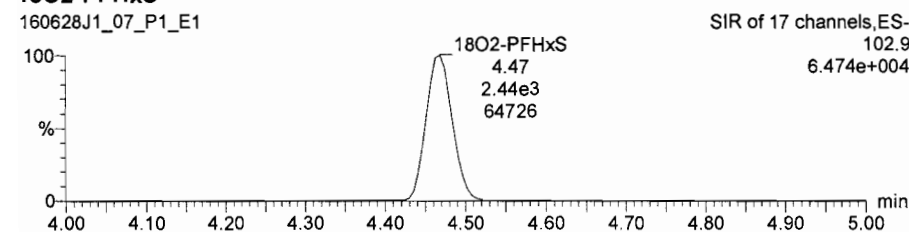
PFHxS



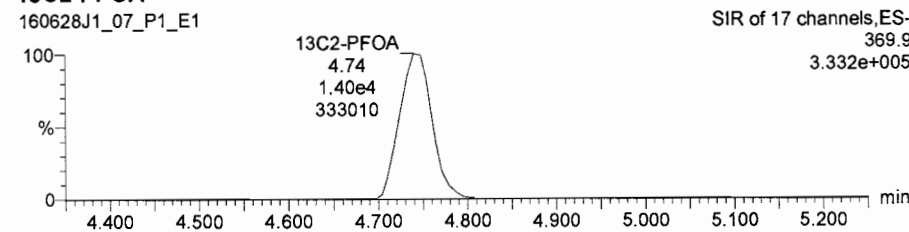
PFOA



18O2-PFHxS



13C2-PFOA



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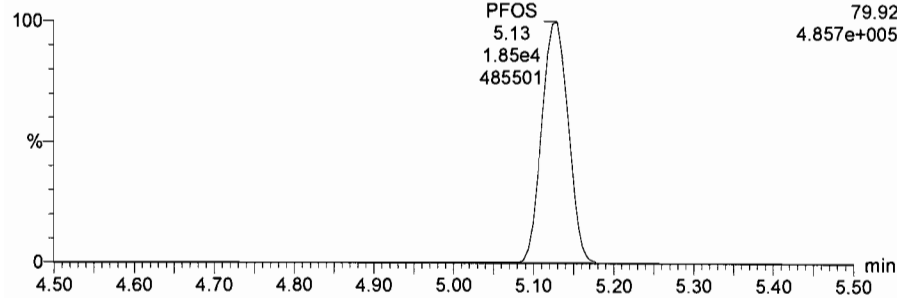
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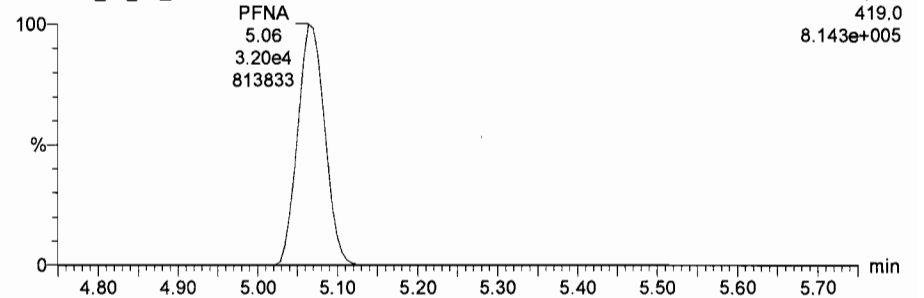
PFOS

160628J1_07_P1_E1



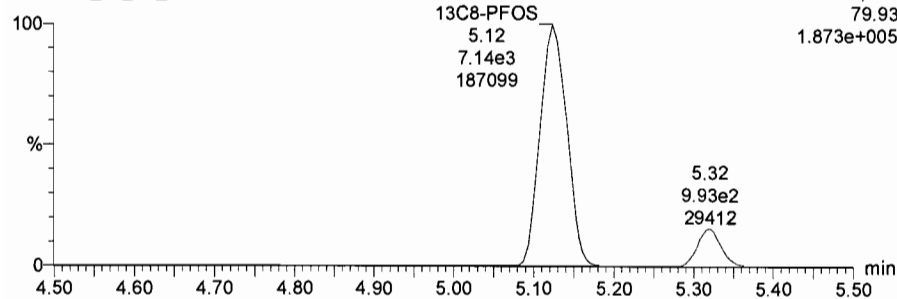
PFNA

160628J1_07_P1_E1



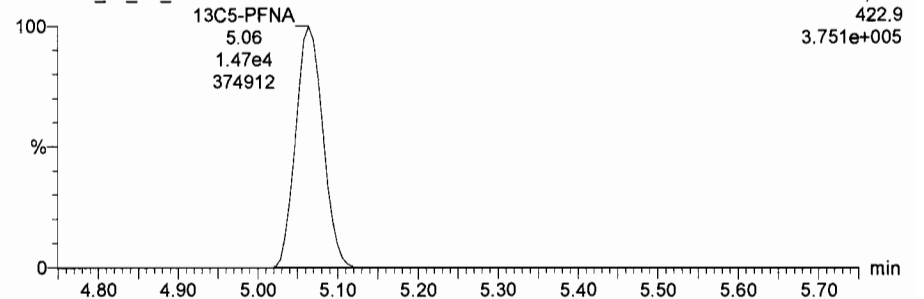
13C8-PFOS

160628J1_07_P1_E1



13C5-PFNA

160628J1_07_P1_E1



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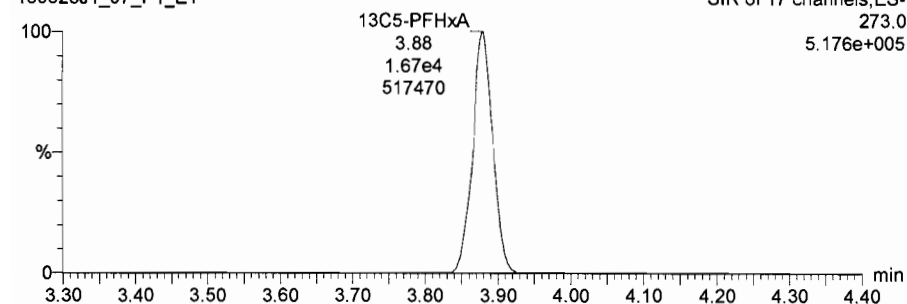
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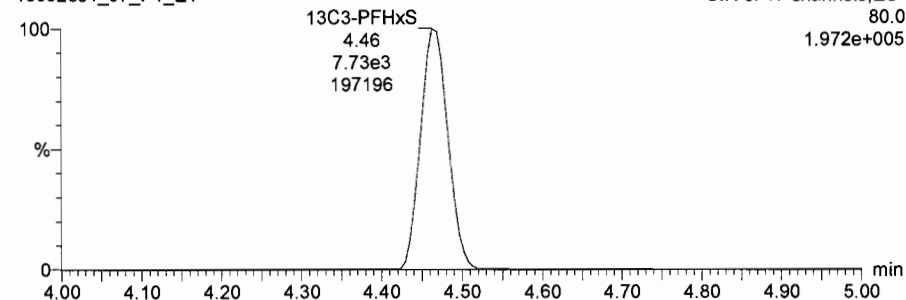
13C5-PFHxA

160628J1_07_P1_E1



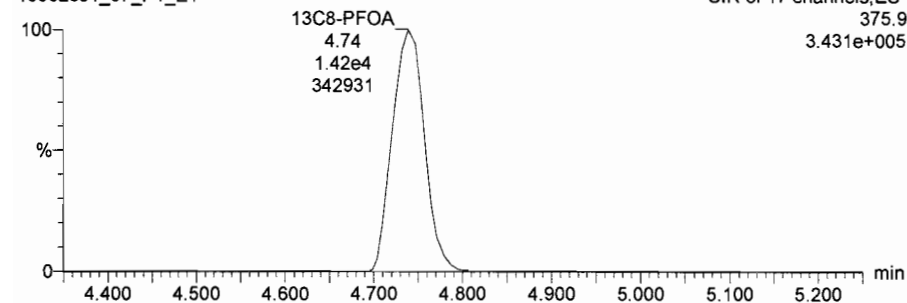
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160628J1_07_P1_E1



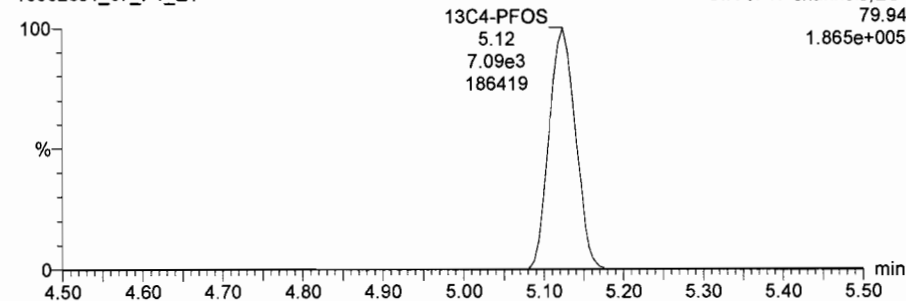
13C8-PFOA

160628J1_07_P1_E1



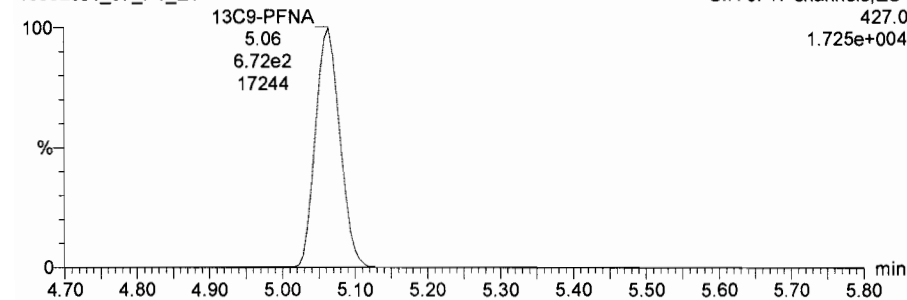
13C4-PFOS

160628J1_07_P1_E1



13C9-PFNA

160628J1_07_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

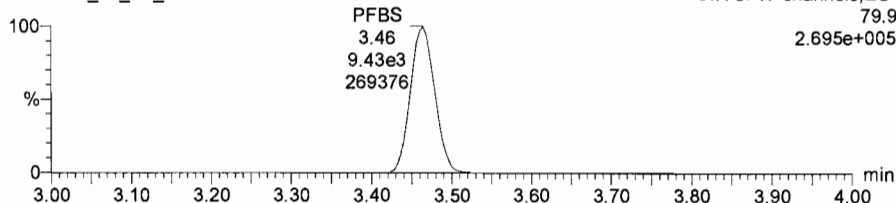
Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

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Name: 160628J1_08.wiff, Date: 28-Jun-2016, Time: 17:22:14, ID: ST160628J1-7 PFC CS4.5 16F0707, Description: PFC CS4.5 16F0707

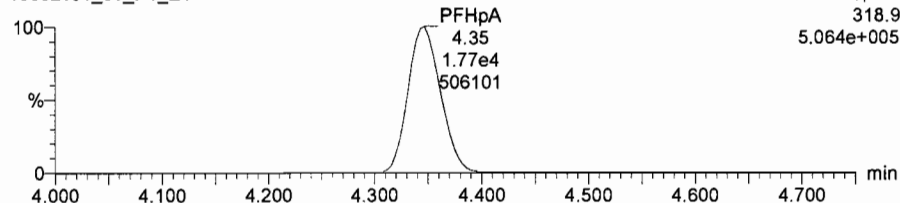
PFBS

160628J1_08_P1_E1



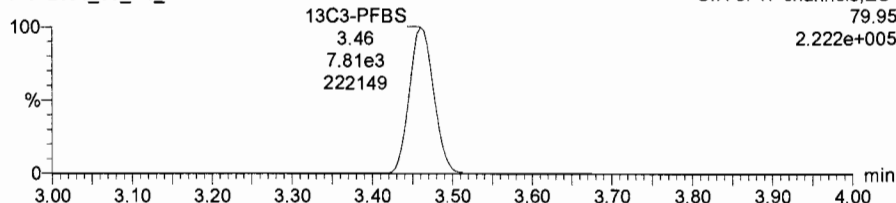
PFHpA

160628J1_08_P1_E1



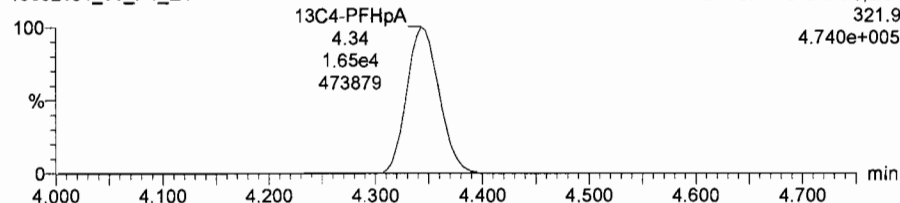
13C3-PFBS

160628J1_08_P1_E1



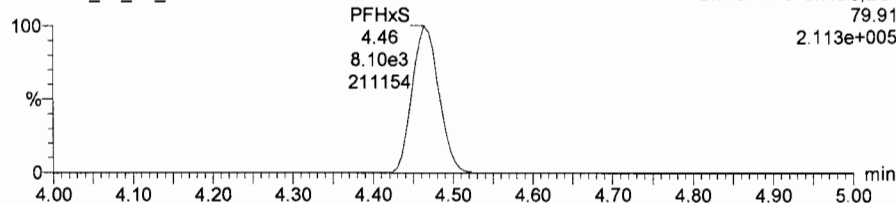
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160628J1_08_P1_E1



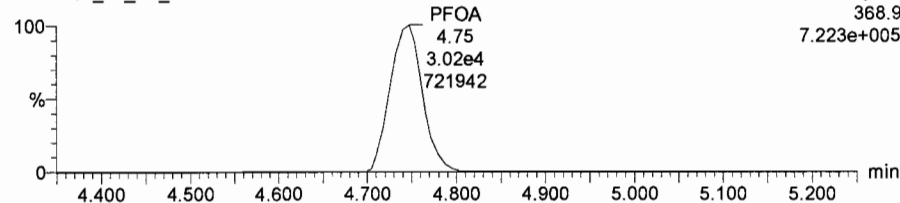
PFHxS

160628J1_08_P1_E1



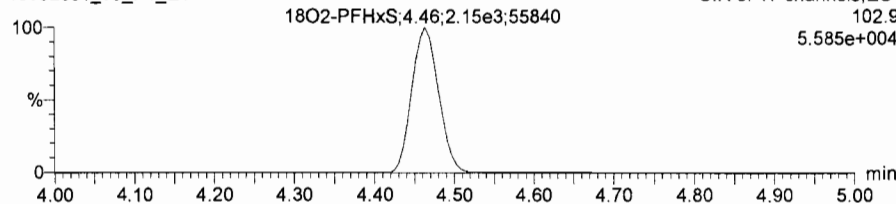
PFOA

160628J1_08_P1_E1



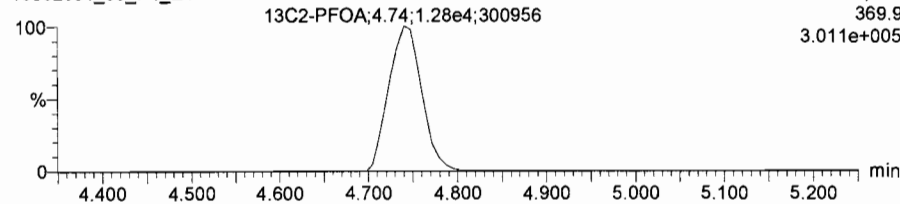
18O2-PFHxS

160628J1_08_P1_E1



13C2-PFOA

160628J1_08_P1_E1



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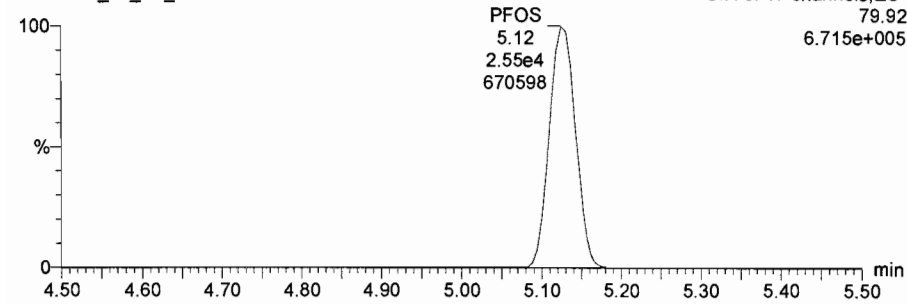
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Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

Name: 160628J1_08.wiff, Date: 28-Jun-2016, Time: 17:22:14, ID: ST160628J1-7 PFC CS4.5 16F0707, Description: PFC CS4.5 16F0707

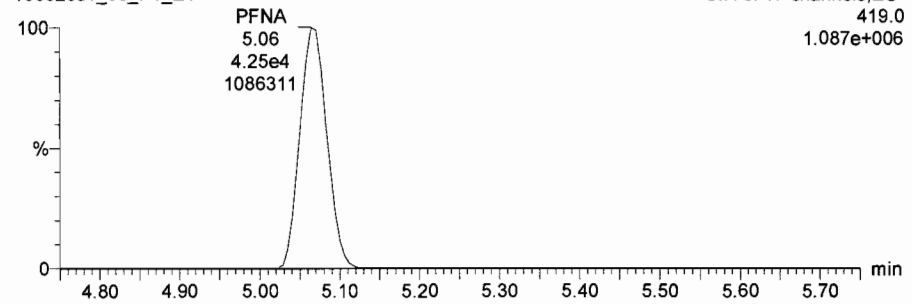
PFOS

160628J1_08_P1_E1



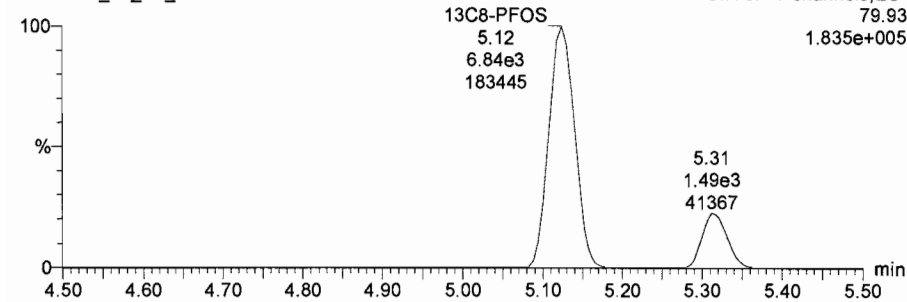
PFNA

160628J1_08_P1_E1



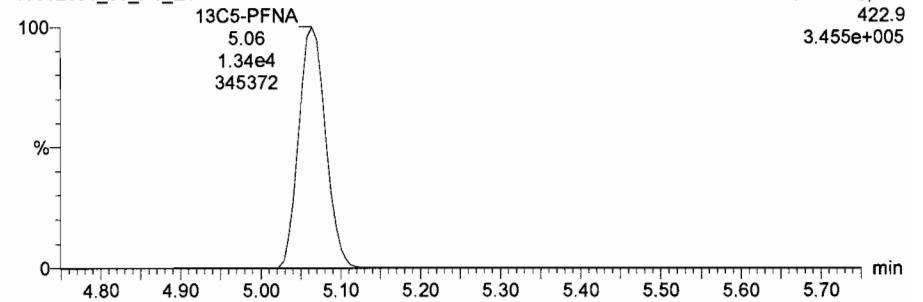
13C8-PFOS

160628J1_08_P1_E1



13C5-PFNA

160628J1_08_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

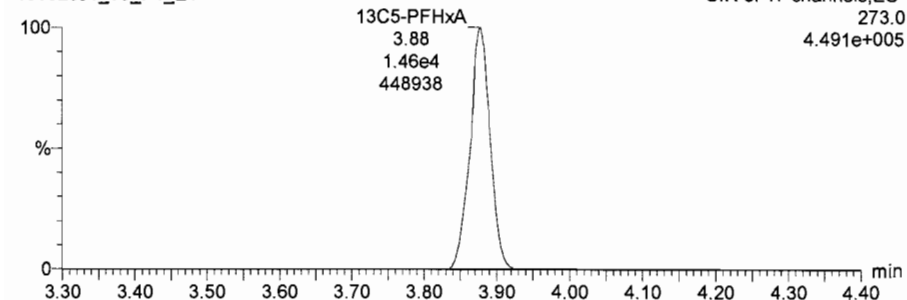
Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

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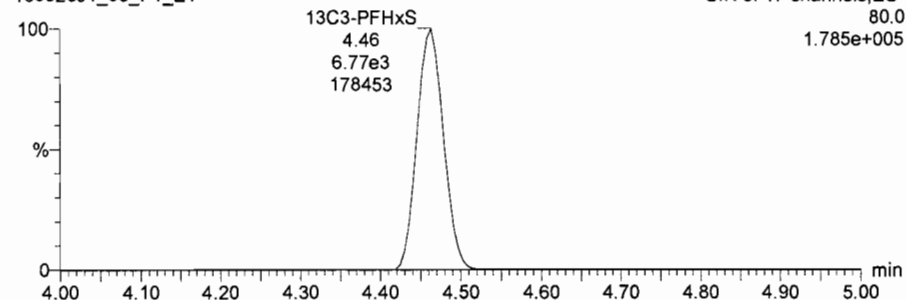
13C5-PFHxA

160628J1_08_P1_E1



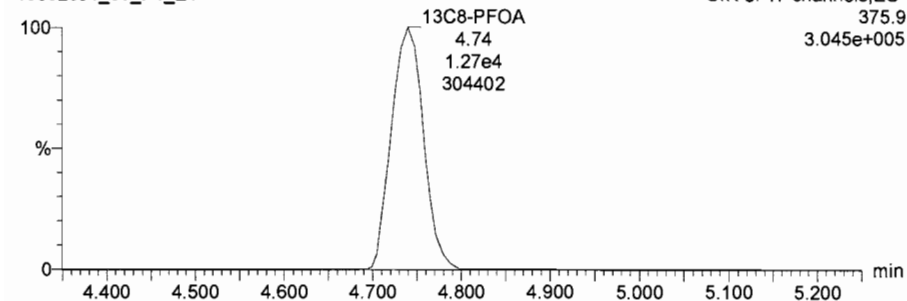
13C3-PFHxS

160628J1_08_P1_E1



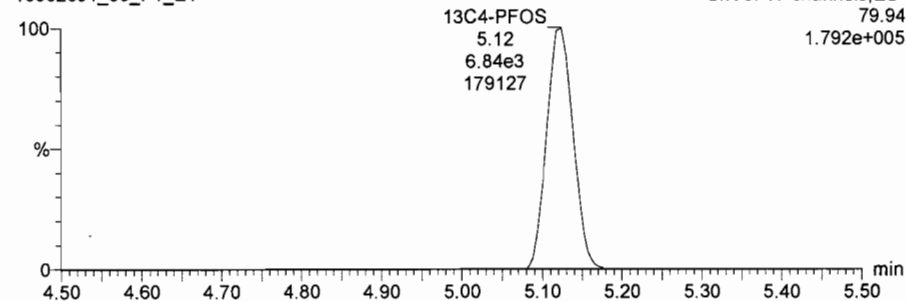
13C8-PFOA

160628J1_08_P1_E1



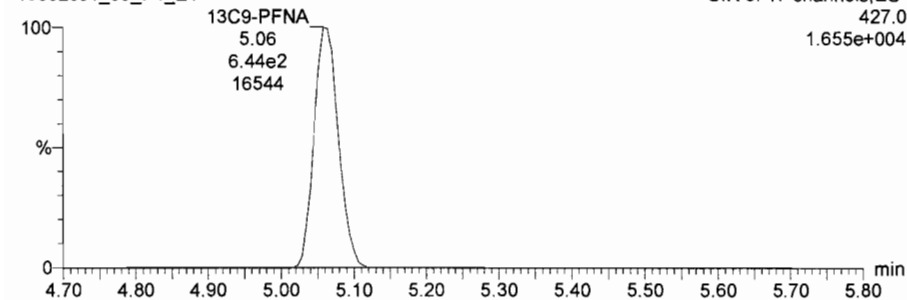
13C4-PFOS

160628J1_08_P1_E1



13C9-PFNA

160628J1_08_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

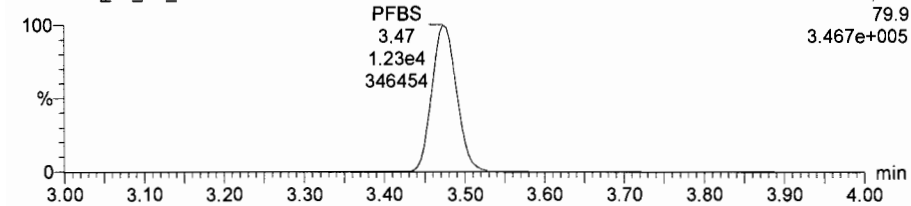
Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time

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Name: 160628J1_09.wiff, Date: 28-Jun-2016, Time: 17:34:27, ID: ST160628J1-8 PFC CS5 16F0708, Description: PFC CS5 16F0708

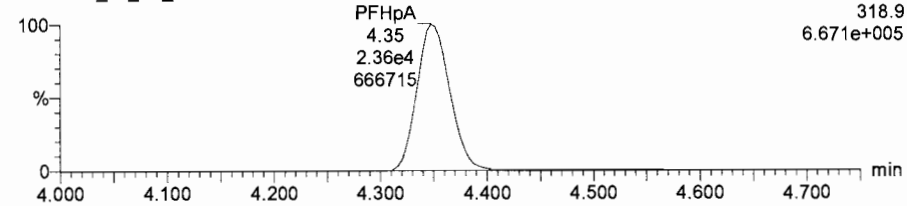
PFBS

160628J1_09_P1_E1



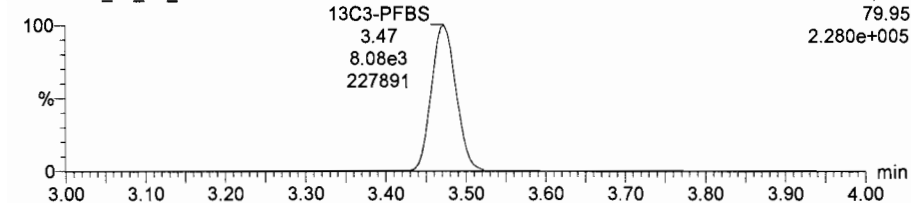
PFHpA

160628J1_09_P1_E1



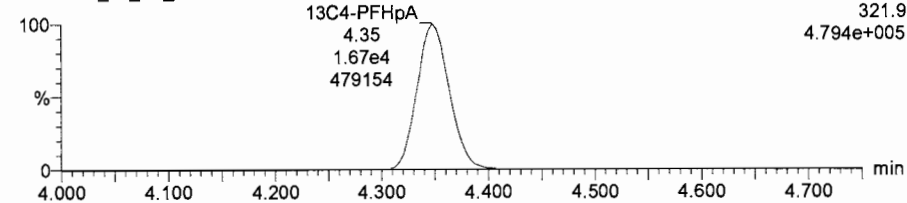
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160628J1_09_P1_E1



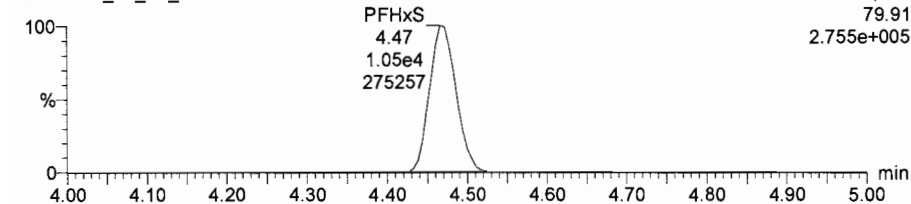
13C4-PFHpA

160628J1_09_P1_E1



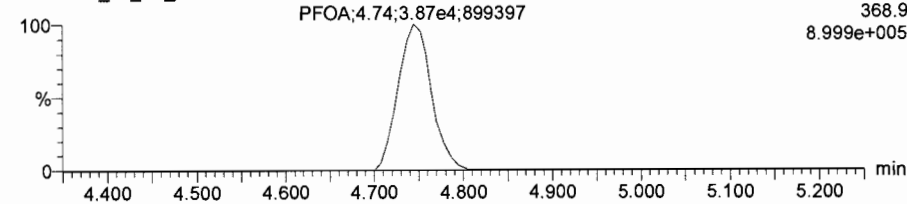
PFHxS

160628J1_09_P1_E1



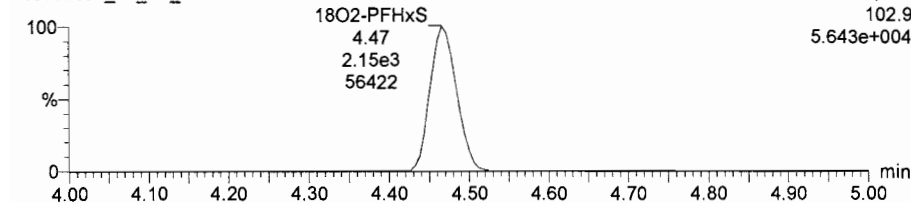
PFOA

160628J1_09_P1_E1



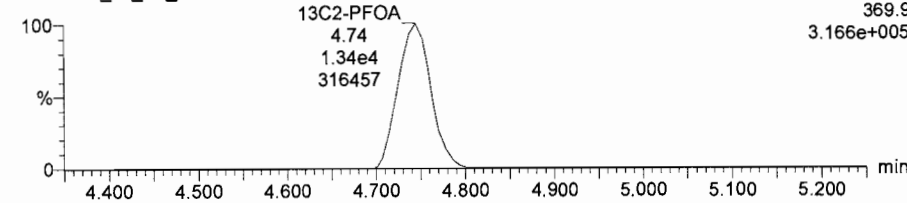
18O2-PFHxS

160628J1_09_P1_E1



13C2-PFOA

160628J1_09_P1_E1



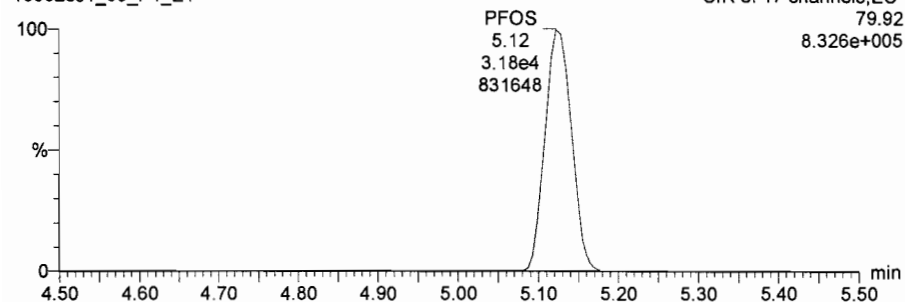
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Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

Name: 160628J1_09.wiff, Date: 28-Jun-2016, Time: 17:34:27, ID: ST160628J1-8 PFC CS5 16F0708, Description: PFC CS5 16F0708

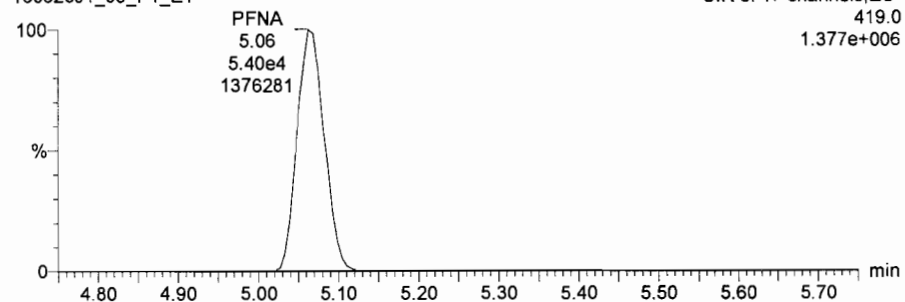
PFOS

160628J1_09_P1_E1



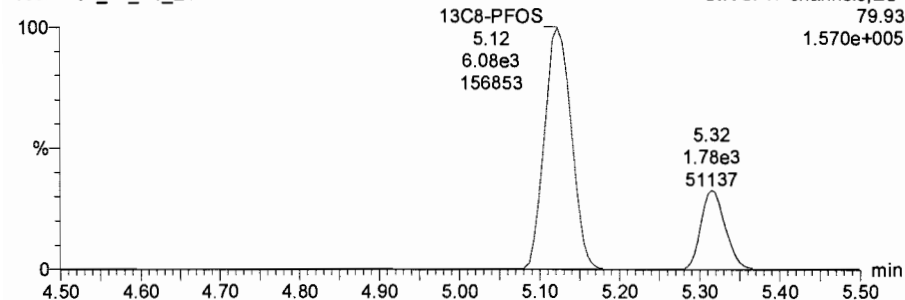
PFNA

160628J1_09_P1_E1



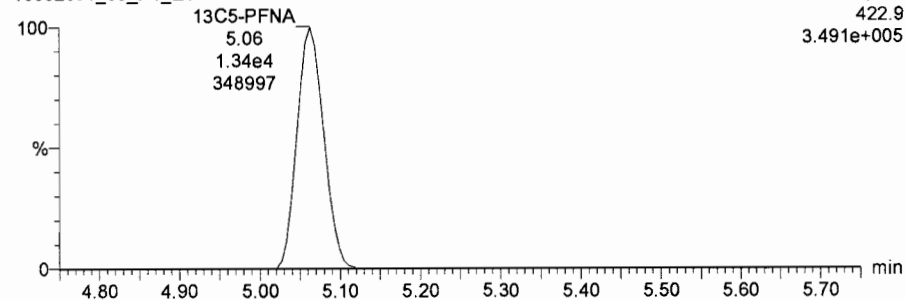
13C8-PFOS

160628J1_09_P1_E1



13C5-PFNA

160628J1_09_P1_E1



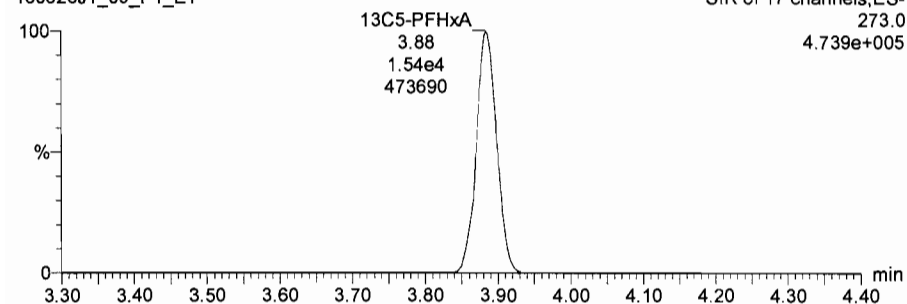
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Name: 160628J1_09.wiff, Date: 28-Jun-2016, Time: 17:34:27, ID: ST160628J1-8 PFC CS5 16F0708, Description: PFC CS5 16F0708

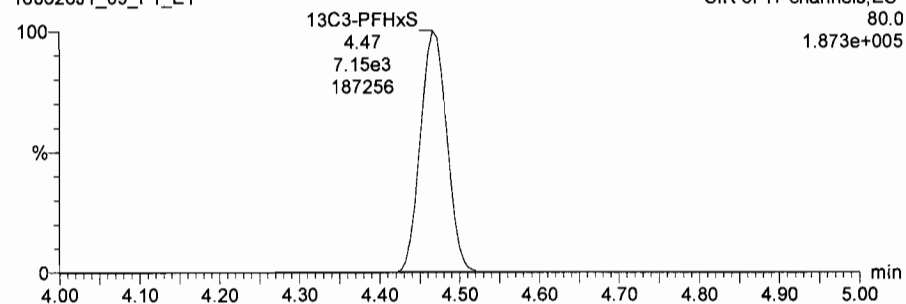
13C5-PFHxA

160628J1_09_P1_E1



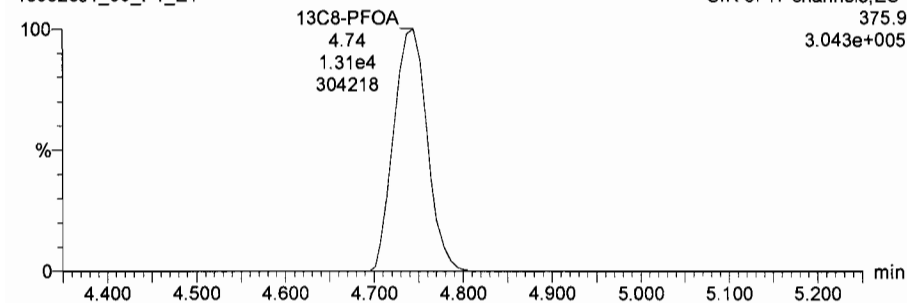
13C3-PFHxS

160628J1_09_P1_E1



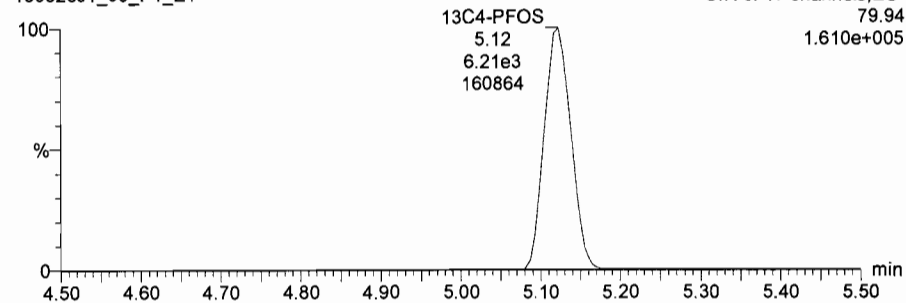
13C8-PFOA

160628J1_09_P1_E1



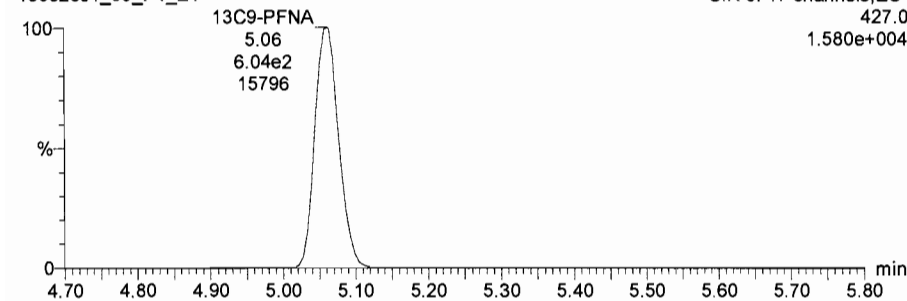
13C4-PFOS

160628J1_09_P1_E1



13C9-PFNA

160628J1_09_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J1crv.qld

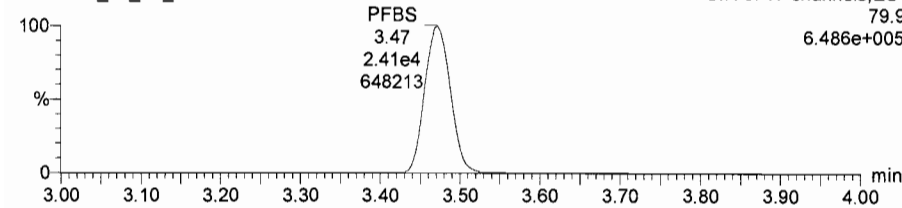
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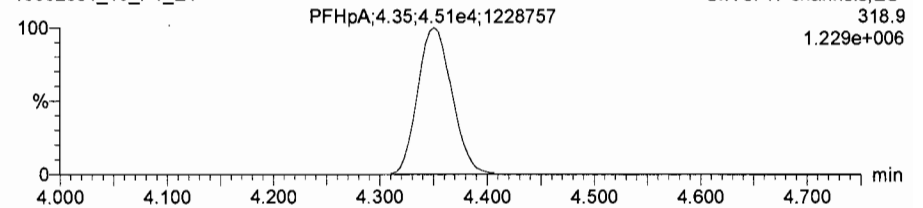
PFBS

160628J1_10_P1_E1



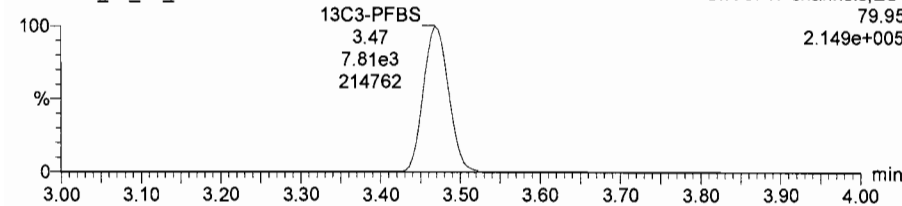
PFHpA

160628J1_10_P1_E1



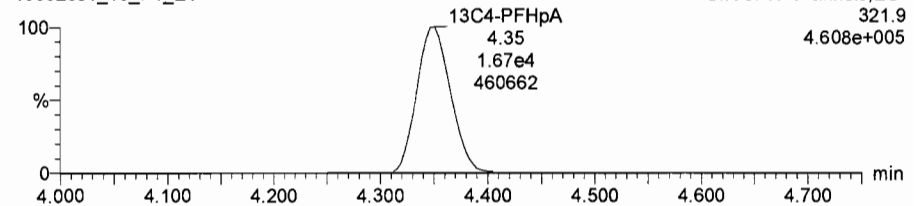
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160628J1_10_P1_E1



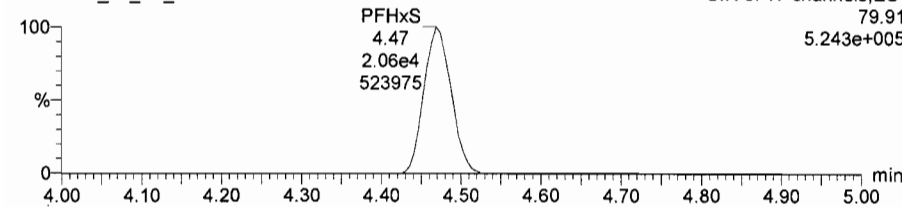
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160628J1_10_P1_E1



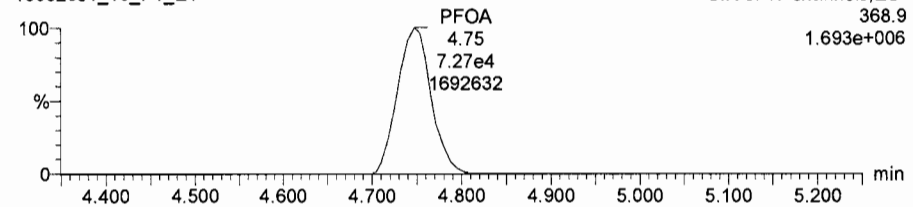
PFHxS

160628J1_10_P1_E1



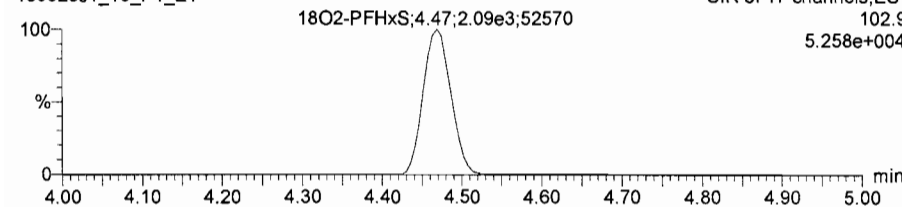
PFOA

160628J1_10_P1_E1



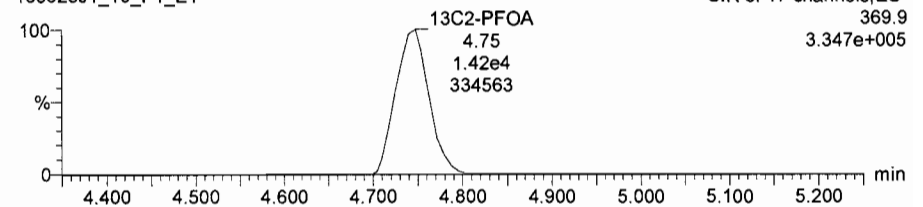
18O2-PFHxS

160628J1_10_P1_E1



13C2-PFOA

160628J1_10_P1_E1



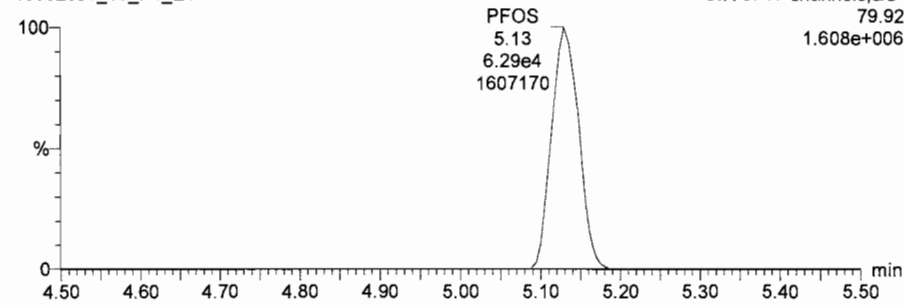
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Last Altered: Wednesday, June 29, 2016 11:45:23 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

Name: 160628J1_10.wiff, Date: 28-Jun-2016, Time: 17:46:39, ID: ST160628J1-9 PFC CS6 16F0709, Description: PFC CS6 16F0709

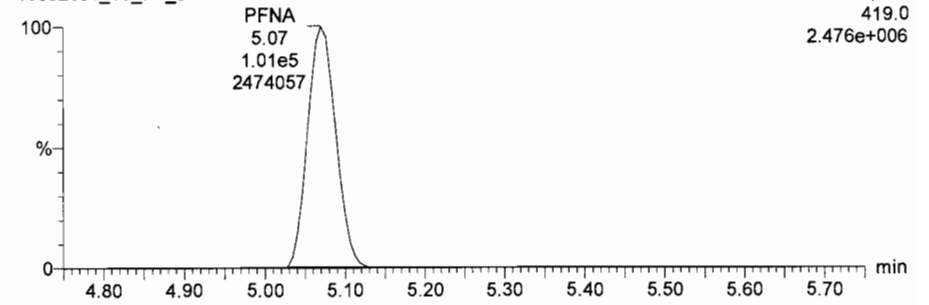
PFOS

160628J1_10_P1_E1



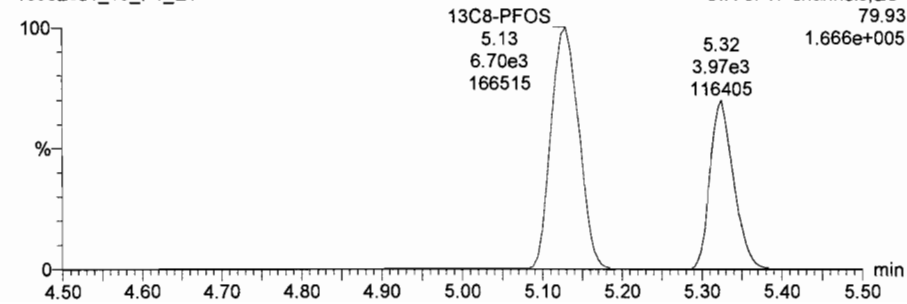
PFNA

160628J1_10_P1_E1



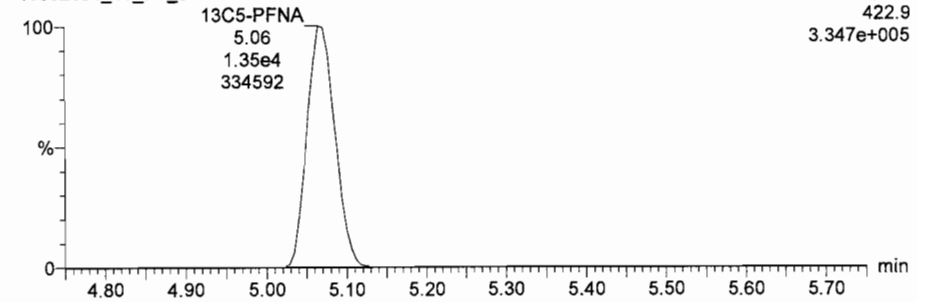
13C8-PFOS

160628J1_10_P1_E1



13C5-PFNA

160628J1_10_P1_E1



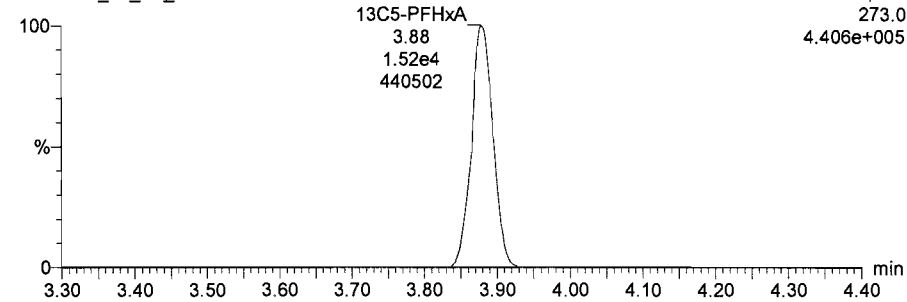
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Printed: Wednesday, June 29, 2016 11:56:13 Pacific Daylight Time

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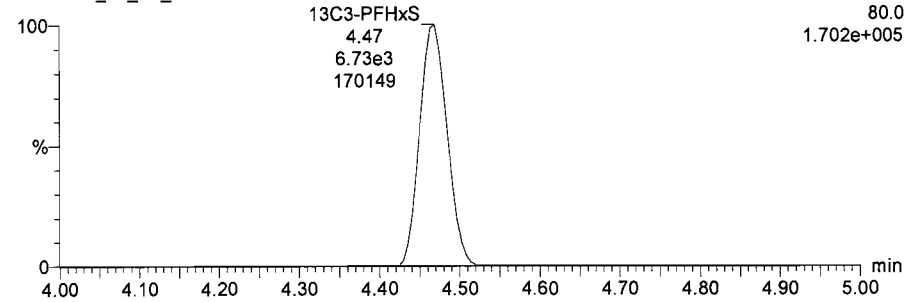
13C5-PFHxA

160628J1_10_P1_E1



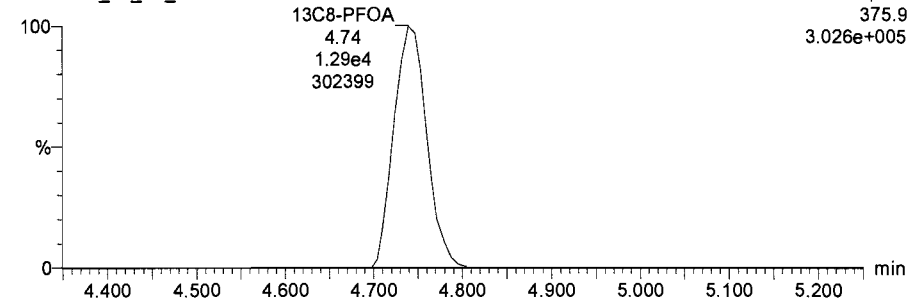
13C3-PFHxS

160628J1_10_P1_E1



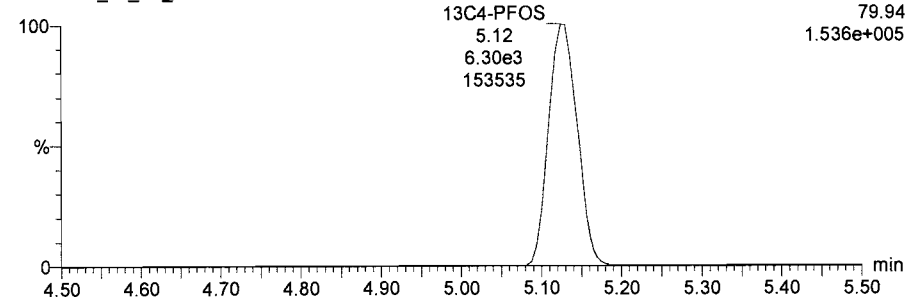
13C8-PFOA

160628J1_10_P1_E1



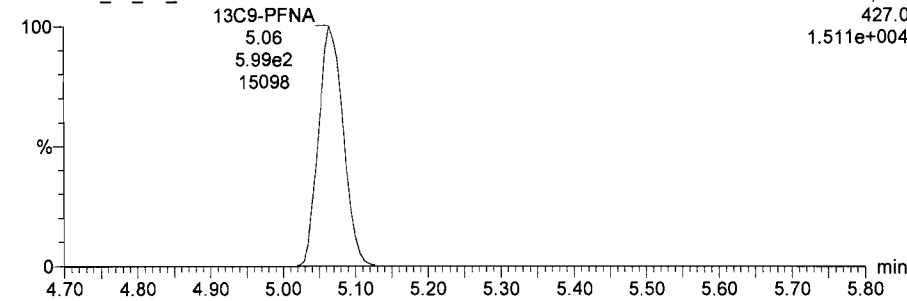
13C4-PFOS

160628J1_10_P1_E1



13C9-PFNA

160628J1_10_P1_E1



Dataset: U:\Q2.PRO\Results\160628J1\160628J_13.qld

Last Altered: Wednesday, June 29, 2016 12:35:29 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:36:25 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_13.wiff, Date: 28-Jun-2016, Time: 18:23:17, ID: SS160628J1-1 PFC SSS 16F0907, Description: PFC SSS 16F0907

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	79.9	3.62e3	8.73e3		1.000	3.46	25.8	103.0
2	2 PFHpA	318.9	7.70e3	1.75e4		1.000	4.35	29.8	119.4
3	3 PFHxS	79.91	2.58e3	2.29e3		1.000	4.47	22.1	88.2
4	4 PFOA	368.9	8.83e3	1.48e4		1.000	4.74	18.0	72.0
5	5 PFOS	79.92	6.16e3	7.43e3		1.000	5.13	15.3	61.2
6	6 PFNA	419.0	1.63e4	1.50e4		1.000	5.07	24.4	97.5
7	7 13C3-PFBS	79.95	8.73e3	1.45e4	0.546	1.000	3.46	13.8	110.0
8	8 13C4-PFHpA	321.9	1.75e4	1.45e4	1.075	1.000	4.34	14.0	112.1
9	9 18O2-PFHxS	102.9	2.29e3	6.83e3	0.307	1.000	4.47	13.6	108.9
10	10 13C2-PFOA	369.9	1.48e4	1.27e4	1.042	1.000	4.74	13.9	111.5
11	11 13C8-PFOS	79.93	7.43e3	6.74e3	1.026	1.000	5.13	13.4	107.5
12	12 13C5-PFNA	422.9	1.50e4	6.02e2	21.158	1.000	5.07	14.7	118.0
13	13 13C5-PFHxA	273.0	1.45e4	1.45e4	1.000	1.000	3.88	12.5	100.0
14	14 13C3-PFHxS	80.0	6.83e3	6.83e3	1.000	1.000	4.47	12.5	100.0
15	15 13C8-PFOA	375.9	1.27e4	1.27e4	1.000	1.000	4.74	12.5	100.0
16	16 13C4-PFOS	79.94	6.74e3	6.74e3	1.000	1.000	5.13	12.5	100.0
17	17 13C9-PFNA	427.0	6.02e2	6.02e2	1.000	1.000	5.06	12.5	100.0
18	18 Total PFBS	79.9		8.73e3		1.000		25.8	
19	19 Total PFHxS	79.91		2.29e3		1.000		26.3	
20	20 Total PFOA	368.9		1.48e4		1.000		21.2	
21	21 Total PFOS	79.92		7.43e3		1.000		25.7	

Limits
75-125

108.8 ⓐ
91.1 ⓐ
89.6 ⓐ

PW
6/29/16
BR 6/29/16 ✓

ⓐ % Rec Calc. as % of linear isomers in Branched/Technical mix.
PW 6/29/16

Vista Analytical Laboratory Q1

Dataset: U:\Q2.PRO\Results\160628J1\160628J_13.qld

Last Altered: Wednesday, June 29, 2016 12:35:29 Pacific Daylight Time

Printed: Wednesday, June 29, 2016 12:36:25 Pacific Daylight Time

Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50

Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_13.wiff, Date: 28-Jun-2016, Time: 18:23:17, ID: SS160628J1-1 PFC SSS 16F0907, Description: PFC SSS 16F0907

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	79.9	3.46	3.62e3	8.73e3	25.8

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	79.91	4.47	2.58e3	2.29e3	22.1
2	19 Total PFHxS	79.91	4.37	4.85e2	2.29e3	4.13
3	19 Total PFHxS	79.91	4.26	9.77e0	2.29e3	0.0832

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	368.9	4.74	8.83e3	1.48e4	18.0
2	20 Total PFOA	368.9	4.65	1.62e3	1.48e4	3.24

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1	5 PFOS	79.92	5.13	6.16e3	7.43e3	15.3
2	21 Total PFOS	79.92	5.02	3.90e3	7.43e3	9.64
3	21 Total PFOS	79.92	4.93	2.93e2	7.43e3	0.720

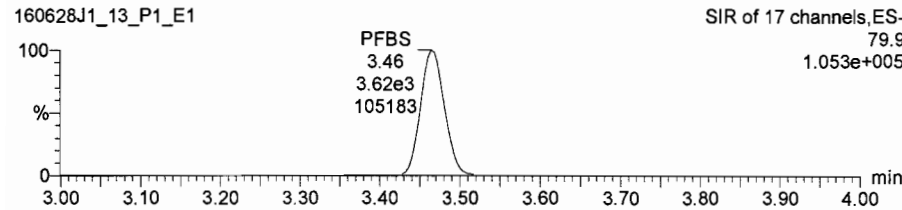
Dataset: U:\Q2.PRO\Results\160628J1\160628J_13.qld

Last Altered: Wednesday, June 29, 2016 12:35:29 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:36:44 Pacific Daylight Time

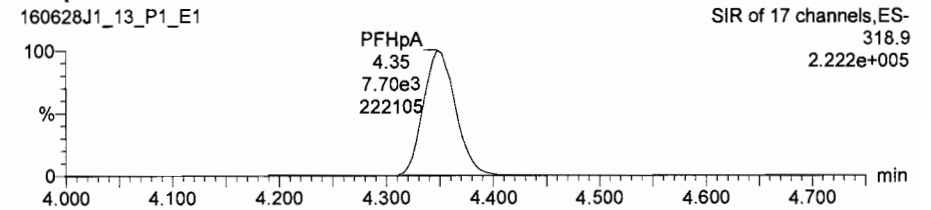
Method: U:\Q2.PRO\MethDB\PFC List 6.mdb 13 Jun 2016 10:04:50
Calibration: U:\Q2.PRO\CurveDB\C18_VAL-PFC_Q2_06-28-16_L6_A.cdb 29 Jun 2016 11:45:23

Name: 160628J1_13.wiff, Date: 28-Jun-2016, Time: 18:23:17, ID: SS160628J1-1 PFC SSS 16F0907, Description: PFC SSS 16F0907

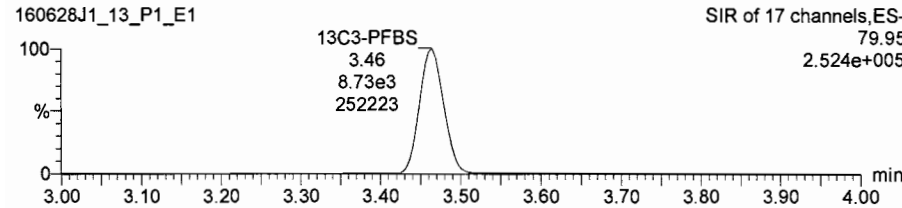
PFBS



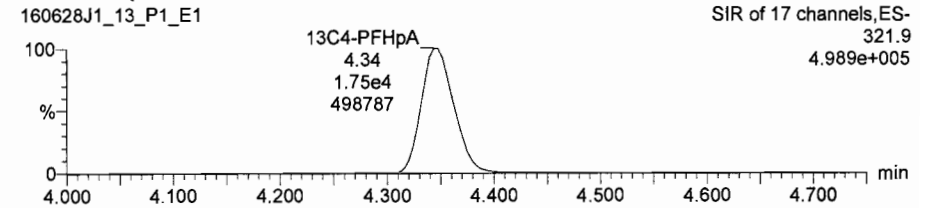
PFHpA



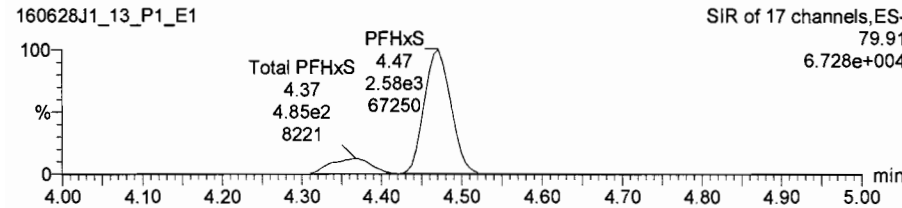
13C3-PFBS



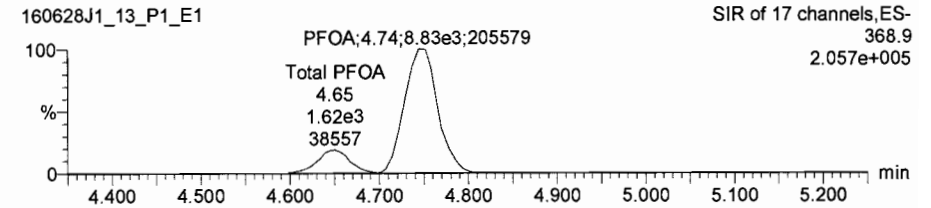
13C4-PFHpA



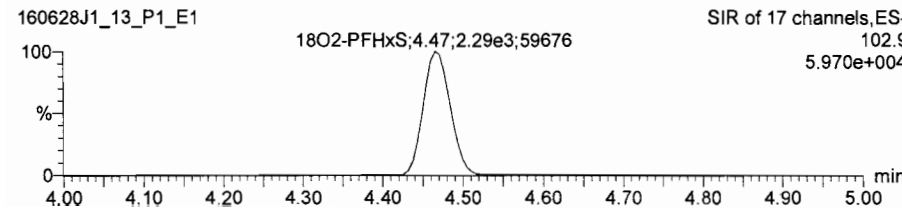
PFHxS



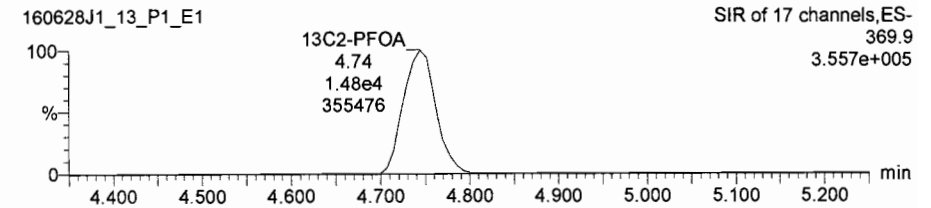
PFOA

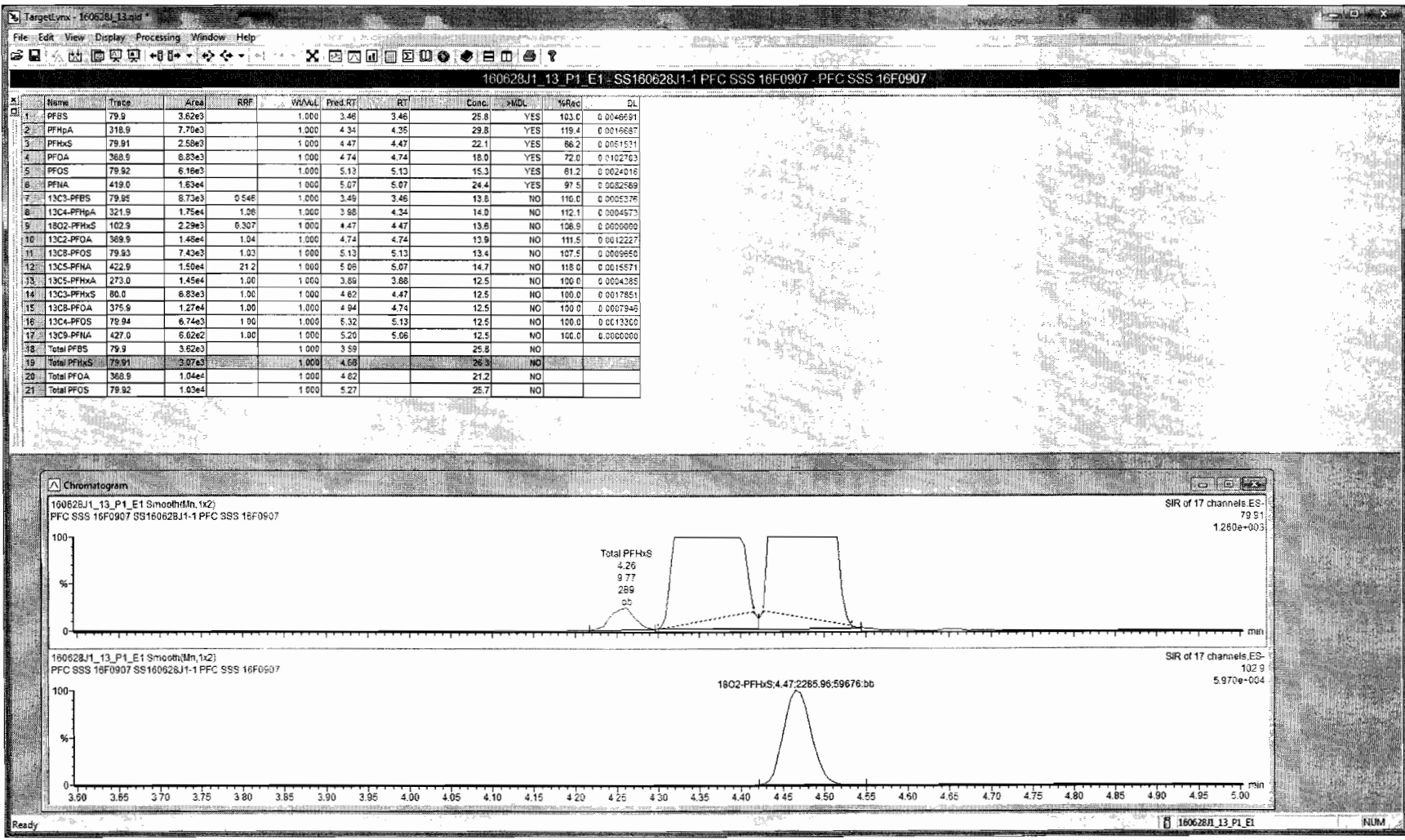


18O2-PFHxS



13C2-PFOA





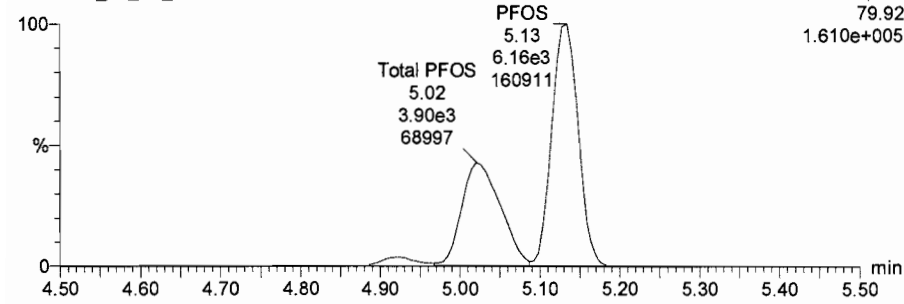
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Last Altered: Wednesday, June 29, 2016 12:35:29 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:36:44 Pacific Daylight Time

Name: 160628J1_13.wiff, Date: 28-Jun-2016, Time: 18:23:17, ID: SS160628J1-1 PFC SSS 16F0907, Description: PFC SSS 16F0907

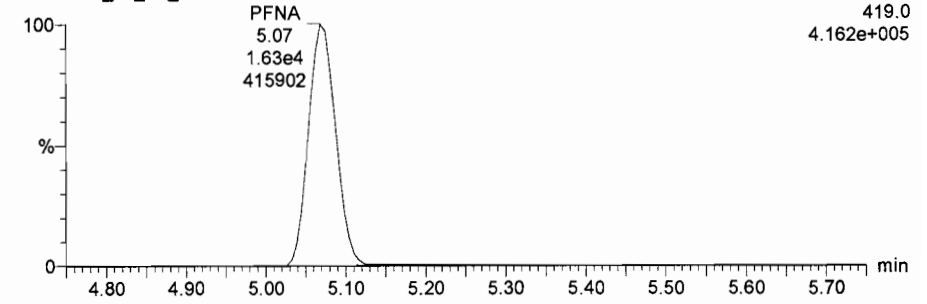
PFOS

160628J1_13_P1_E1



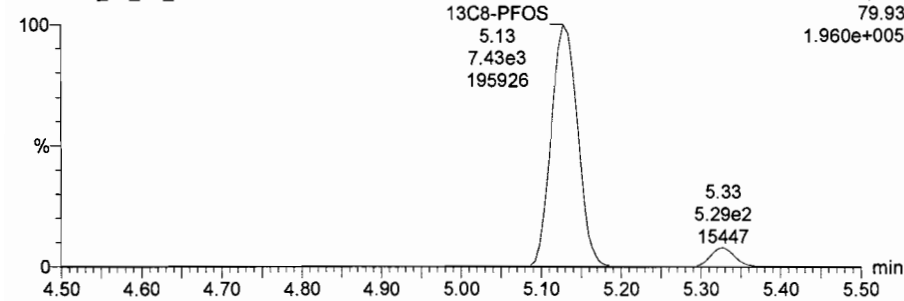
PFNA

160628J1_13_P1_E1



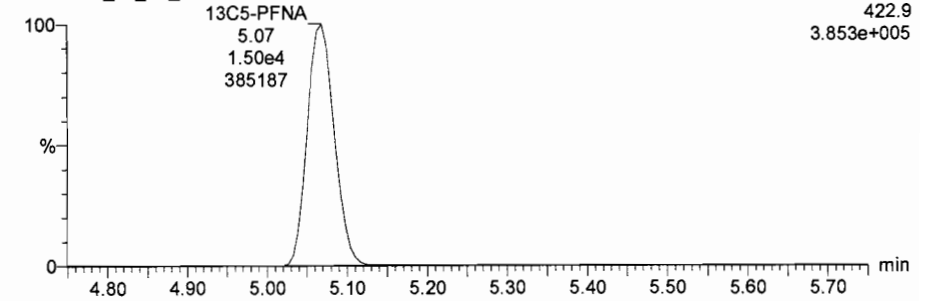
13C8-PFOS

160628J1_13_P1_E1



13C5-PFNA

160628J1_13_P1_E1



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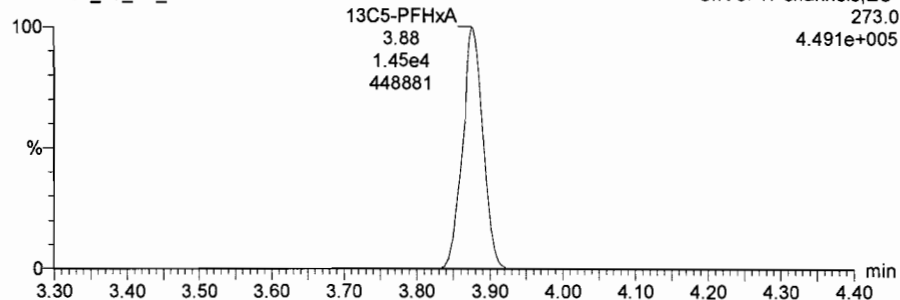
Last Altered: Wednesday, June 29, 2016 12:35:29 Pacific Daylight Time
Printed: Wednesday, June 29, 2016 12:36:44 Pacific Daylight Time

Name: 160628J1_13.wiff, Date: 28-Jun-2016, Time: 18:23:17, ID: SS160628J1-1 PFC SSS 16F0907, Description: PFC SSS 16F0907

13C5-PFHxA

160628J1_13_P1_E1

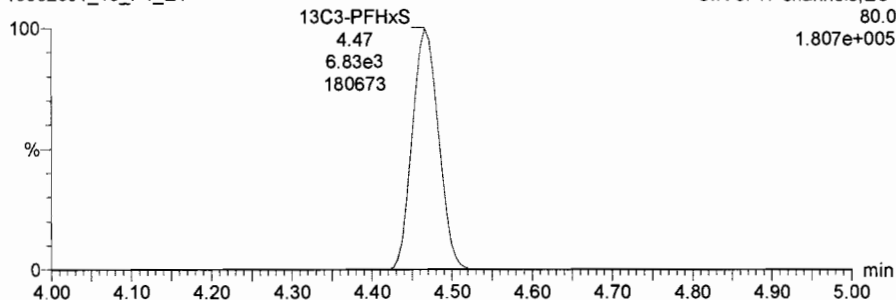
SIR of 17 channels, ES-
273.0
4.491e+005



13C3-PFHxS

160628J1_13_P1_E1

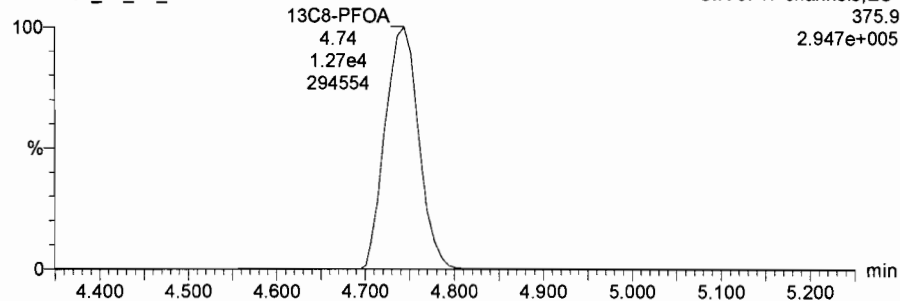
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1.807e+005



13C8-PFOA

160628J1_13_P1_E1

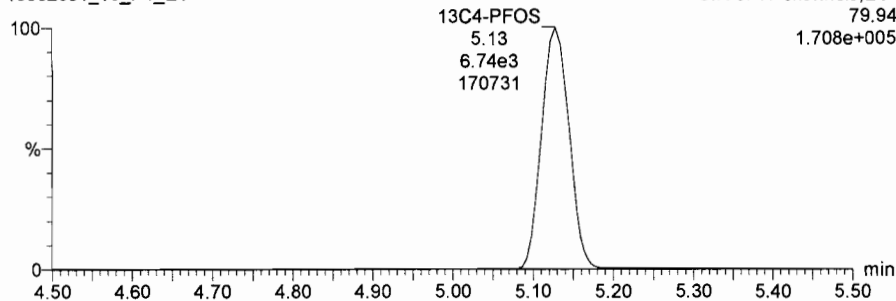
SIR of 17 channels, ES-
375.9
2.947e+005



13C4-PFOS

160628J1_13_P1_E1

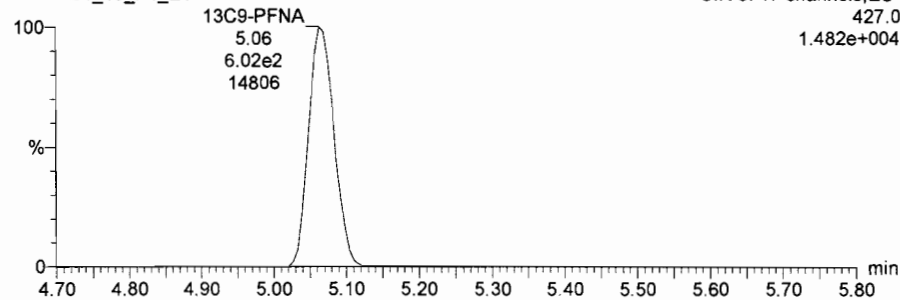
SIR of 17 channels, ES-
79.94
1.708e+005



13C9-PFNA

160628J1_13_P1_E1

SIR of 17 channels, ES-
427.0
1.482e+004



Data Validation Summary

Oceana CTO-WE44, NALF Fentress

TO: Tiffany Hill/CVO
Anita Dodson/VBO

FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: September 9, 2016

Introduction

The following data validation report discusses the data validation process and findings for Vista Analytical in the Sample Delivery Groups (SDGs) listed in the table below.

Samples were analyzed using the following analytical methods:

- 537 MOD Perfluorinated Hydrocarbons

The samples included in these SDGs are listed in the table below.

SDG	Sample_Name	Matrix
1600783	OFPOL-MW-7-0616	Water
1600783	OFPOL-MW-4-0616	Water
1600783	OFPOL-MW-8-0616	Water
1600783	OFPOL-MW-6-0616	Water
1600783	OFPOL-MW-3-0616	Water
1600783	OFPOL-MW-3P-0616	Water
1600783	OFPOL-MW-2-0616	Water
1600783	OF-MW13-0616	Water
1600783	OF-MW11-0616	Water
1600818	OF14-MW07S-0616	Water
1600818	OF14-MW07D-0616	Water
1600818	OF-MW14-0616	Water

SDG	Sample_Name	Matrix
1600818	OF-MW16-0616	Water
1600818	OF-FB062016	Water
1600818	OF-EB062016	Water
1600818	OF-MW15-0616	Water
1600818	OF-MW15D-0616	Water
1600818	OF14-MW06-0616	Water
1600818	OF14-MW06D-0616	Water
1600818	OF-MW17-0616	Water
1600818	OF-MW12D-0616	Water
1600818	OF-MW12-0616	Water
1600818	OF-MW13D-0616	Water
1600818	OF-MW13DP-0616	Water
1600818	OF-MW11D-0616	Water
1600820	OF-MW10-0616	Water
1600820	OF-MW08-0616	Water
1600820	OF-MW08P-0616	Water
1600820	OF-MW10D-0616	Water
1600820	OF-MW09-0616	Water
1600820	OF-MW09D-0616	Water
1600872	OF-MW28-0716	Water
1600872	OF-MW25-0716	Water
1600872	OF-MW31-0716	Water
1600872	OF-FB070616	Water
1600896	OF-MW24-0716	Water
1600896	OF-FB071116	Water
1600896	OF-MW27-0716	Water
1600903	OF-MW30-0716	Water
1600903	OF-MW30P-0716	Water
1600903	OF-MW30D-0716	Water
1600903	OF-MW28D-0716	Water
1600903	OF-MW32-0716	Water
1600903	OF-MW29-0716	Water
1600903	OF-MW08D-0716	Water
1600903	OF-MW34-0716	Water
1600903	OF-MW31D-0716	Water

Data Evaluation

Data was evaluated in accordance with the analytical methods and with the criteria found in the following guidance documents: Sampling and Analysis Plan Basewide Perfluorinated Compound Site Investigation, Naval Auxiliary Landing Field Fentress, Chesapeake, Virginia

Contract Task Order WE44 (August 2016) and National Functional Guidelines for Organic Data Review (August 2014) with Region 3 Modification (Use of 'B' qualifier) as applicable. The samples were evaluated based on the following criteria:

- Data Completeness
- Technical Holding Times
- Tuning Instrument
- Initial/Continuing Calibrations
- Blanks
- Internal Standards
- Laboratory Control Samples
- Isotope Dilution Analyte
- Field Duplicates
- Identification/Quantitation
- Reporting Limits

Overall Evaluation of Data/Potential Usability Issues

Specific details regarding qualification of the data are addressed in the sections below. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte, the validator has chosen the qualifier that best indicates possible bias in the results and qualified these data accordingly.

Data Completeness

The SDG was received complete and intact.

Technical Holding Times

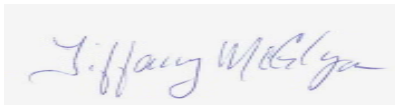
According to the chain of custody records, sampling was performed on 6/17/16 through 7/14/16. Samples were received at the laboratory 6/18/16 through 7/15/16. All sample preparation and analyses were performed within holding time requirements.

Conclusion

These data can be used in the project decision-making process as qualified by the data quality evaluation process.

Please do not hesitate to contact us about this validation report.

Sincerely,

A handwritten signature in blue ink, reading "Tiffany McGlynn", is displayed within a light gray rectangular box.

Tiffany McGlynn

Qualification Flags

Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory or field blanks.
L	Analyte present, estimated value potentially biased low.
K	Analyte present, estimated value potentially biased high.
N	Analyte identification presumptive; no second column analysis performed or GC/MS tentative identification.
J	Analyte present, estimated value.
NJ	Analysis indicates the presence of an analyte that was "tentatively identified" and the associated value represents its approximate concentration.
None	Placeholder for calculating quality control issues that do not require flagging.
=	Analyte was detected at a concentration greater than the quantitation limit.

Qualifier Code Reference

Value	Description
%SOL	High Moisture content
2C	Second Column – Poor Dual Column Reproducibility
2S	Second Source – Bad reproducibility between tandem detectors
BD	Blank Spike/Blank Spike Duplicate(LCS/LCSD) Precision
BRL	Below Reporting Limit
BSH	Blank Spike/LCS – High Recovery
BSL	Blank Spike/LCS – Low Recovery
CC	Continuing Calibration
CCBL	Continuing Calibration Blank Contamination
CCH	Continuing Calibration Verification – High Recovery
CCL	Continuing Calibration Verification – Low Recovery
DL	Redundant Result – due to Dilution
EBL	Equipment Blank Contamination
EMPC	Estimated Possible Maximum Concentration
ESH	Extraction Standard - High Recovery
ESL	Extraction Standard - Low Recovery
FBL	Field Blank Contamination
FD	Field Duplicate
HT	Holding Time
ICB	Initial Calibration – Bad Linearity or Curve Function
ICH	Initial Calibration – High Relative Response Factors
ICL	Initial Calibration – Low Relative Response Factors
IR15	Ion ratio exceeds +/- 15% difference
ISH	Internal Standard – High Recovery
ISL	Internal Standard – Low Recovery
LD	Lab Duplicate Reproducibility
LR	Concentration Exceeds Linear Range
MBL	Method Blank Contamination
MDP	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix interference obscuring the raw data

Value	Description
MSH	Matrix Spike and/or Matrix Spike Duplicate – High Recovery
MSL	Matrix Spike and/or Matrix Spike Duplicate – Low Recovery
OT	Other
PD	Pesticide Degradation
RE	Redundant Result - due to Reanalysis or Re-extraction
SD	Serial Dilution Reproducibility
SSH	Spiked Surrogate – High Recovery
SSL	Spiked Surrogate – Low Recovery
TBL	Trip Blank Contamination
TN	Tune

