NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1601388

Naval Air Station Oceana
Virginia Beach, Virginia

July 2019

November 16, 2016

Vista Work Order No. 1601388

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 November 01, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Oceana PFCs CTO-WE14'.

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,

Karen Lopez for

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. 1601388
Case Narrative

Sample Condition on Receipt:

Nine groundwater samples and one field blank sample 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 6 PFAS using Modified EPA Method 537.

Holding Times

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

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method 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 the LOQ. The OPR recoveries were within the method acceptance criteria

The labeled standard recoveries for all QC and field samples were within the QAPP acceptance criteria.

As requested, an MS/MSD was performed on sample "MW-BG09-1016".

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1601388-01	MW-BG07-1016		28-Oct-16 09:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-02	MW-BG06-1016		28-Oct-16 10:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-03	MW-BG05-1016		28-Oct-16 11:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-04	MW-BG05P-1016		28-Oct-16 11:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-05	MW-BG04-1016		28-Oct-16 12:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-06	OC-FB-102816		28-Oct-16 13:00	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-07	MW-BG01-1016		31-Oct-16 10:00	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-08	MW-BG09-1016	MS/MSD	31-Oct-16 11:50	01-Nov-16 09:08	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1601388-09	OC-MW04-1016		31-Oct-16 13:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-10	MW-BG11-1016		31-Oct-16 14:30	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0053	Lab Sample:	B6K0053-BLK1
Sample Size:	0.125 L	Date Extracted:	08-Nov-2016 9:39	Date Analyzed:	13-Nov-16 14:56 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFHpA	ND	0.591	2.00	8.00	
PFHxS	ND	0.947	2.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	1.48	0.807	0.900	8.00	J
PFNA	0.933	0.810	2.00	8.00	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	87.5	60 - 150	
IS	13C4-PFHpA	88.4	60 - 150	
IS	18O2-PFHxS	86.2	60 - 150	
IS	13C2-PFOA	86.5	60 - 150	
IS	13C8-PFOS	83.3	60 - 150	
IS	13C5-PFNA	74.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0053	Lab Sample:	B6K0053-BS1
Sample Size:	0.125 L	Date Extracted:	08-Nov-2016 9:39	Date Analyzed:	13-Nov-16 13:53 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	90.0	80.0	112	60 - 130
PFHpA	92.7	80.0	116	70 - 130
PFHxS	86.4	80.0	108	70 - 130
PFOA	95.4	80.0	119	70 - 130
PFOS	90.4	80.0	113	70 - 130
PFNA	96.8	80.0	121	50 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	93.7	60 - 150
IS	13C4-PFHpA	94.9	60 - 150
IS	18O2-PFHxS	96.3	60 - 150
IS	13C2-PFOA	78.1	60 - 150
IS	13C8-PFOS	90.8	60 - 150
IS	13C5-PFNA	90.0	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: MW-BG07-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 9:40
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.126 L

Laboratory Data

Lab Sample: 1601388-01 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 11:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.77	3.97	7.93	
PFHpA	ND	0.585	1.98	7.93	
PFHxS	5.48	0.938	1.98	7.93	J
PFOA	1.65	0.645	1.98	7.93	J
PFOS	29.2	0.799	0.893	7.93	B
PFNA	1.11	0.802	1.98	7.93	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	99.9	60 - 150	
IS	13C4-PFHpA	92.5	60 - 150	
IS	18O2-PFHxS	95.7	60 - 150	
IS	13C2-PFOA	89.0	60 - 150	
IS	13C8-PFOS	104	60 - 150	
IS	13C5-PFNA	76.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG06-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 10:35
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.124 L

Laboratory Data

Lab Sample: 1601388-02 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:06 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.81	4.03	8.09	
PFHpA	ND	0.598	2.02	8.09	
PFHxS	ND	0.958	2.02	8.09	
PFOA	ND	0.659	2.02	8.09	
PFOS	11.4	0.817	0.907	8.09	B
PFNA	ND	0.820	2.02	8.09	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	91.1	60 - 150	
IS	13C4-PFHpA	81.3	60 - 150	
IS	18O2-PFHxS	90.4	60 - 150	
IS	13C2-PFOA	80.1	60 - 150	
IS	13C8-PFOS	90.2	60 - 150	
IS	13C5-PFNA	80.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG05-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 11:35
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.127 L

Laboratory Data

Lab Sample: 1601388-03 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:19 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.76	3.94	7.85	
PFHpA	0.665	0.580	1.97	7.85	J
PFHxS	3.02	0.929	1.97	7.85	J
PFOA	1.26	0.638	1.97	7.85	J
PFOS	1.36	0.791	0.886	7.85	J, B
PFNA	ND	0.794	1.97	7.85	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	98.7	60 - 150	
IS	13C4-PFHpA	94.2	60 - 150	
IS	18O2-PFHxS	97.8	60 - 150	
IS	13C2-PFOA	91.7	60 - 150	
IS	13C8-PFOS	98.1	60 - 150	
IS	13C5-PFNA	85.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG05P-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 11:40
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.124 L

Laboratory Data

Lab Sample: 1601388-04 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:31 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.81	4.03	8.08	
PFHpA	0.598	0.597	2.02	8.08	J
PFHxS	2.78	0.957	2.02	8.08	J
PFOA	2.02	0.658	2.02	8.08	J
PFOS	4.27	0.815	0.907	8.08	J, B
PFNA	ND	0.819	2.02	8.08	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	96.8	60 - 150	
IS	13C4-PFHpA	97.9	60 - 150	
IS	18O2-PFHxS	108	60 - 150	
IS	13C2-PFOA	86.2	60 - 150	
IS	13C8-PFOS	85.1	60 - 150	
IS	13C5-PFNA	78.3	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG04-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 12:35
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.131 L

Laboratory Data

Lab Sample: 1601388-05 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:44 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.71	3.82	7.63	
PFHpA	ND	0.564	1.91	7.63	
PFHxS	1.10	0.903	1.91	7.63	J
PFOA	ND	0.621	1.91	7.63	
PFOS	1.61	0.770	0.859	7.63	J, B
PFNA	ND	0.773	1.91	7.63	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	89.2	60 - 150	
IS	13C4-PFHpA	93.1	60 - 150	
IS	18O2-PFHxS	96.5	60 - 150	
IS	13C2-PFOA	80.9	60 - 150	
IS	13C8-PFOS	79.7	60 - 150	
IS	13C5-PFNA	68.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-FB-102816

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Oceana PFCs CTO-WE14
Date Collected:	28-Oct-2016 13:00
Location:	OCEANA

Sample Data

Matrix:	Groundwater
Sample Size:	0.128 L

Laboratory Data

Lab Sample:	1601388-06	Date Received:	01-Nov-2016 9:08
QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Analyzed:	16-Nov-16 12:56 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.75	3.91	7.83	
PFHpA	ND	0.578	1.95	7.83	
PFHxS	ND	0.927	1.95	7.83	
PFOA	ND	0.637	1.95	7.83	
PFOS	1.22	0.790	0.879	7.83	J, B
PFNA	ND	0.793	1.95	7.83	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	95.8	60 - 150	
IS	13C4-PFHpA	97.3	60 - 150	
IS	18O2-PFHxS	102	60 - 150	
IS	13C2-PFOA	102	60 - 150	
IS	13C8-PFOS	105	60 - 150	
IS	13C5-PFNA	93.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG01-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 10:00
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.123 L

Laboratory Data

Lab Sample: 1601388-07 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 13:09 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.82	4.07	8.14	
PFHpA	ND	0.602	2.03	8.14	
PFHxS	3.81	0.964	2.03	8.14	J
PFOA	13.5	0.663	2.03	8.14	
PFOS	20.2	0.822	0.915	8.14	B
PFNA	1.46	0.825	2.03	8.14	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	97.6	60 - 150	
IS	13C4-PFHpA	94.8	60 - 150	
IS	18O2-PFHxS	109	60 - 150	
IS	13C2-PFOA	87.6	60 - 150	
IS	13C8-PFOS	107	60 - 150	
IS	13C5-PFNA	82.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG09-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 11:50
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.125 L

Laboratory Data

Lab Sample: 1601388-08 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 13:22 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.78	4.00	7.98	
PFHpA	ND	0.589	2.00	7.98	
PFHxS	10.1	0.944	2.00	7.98	
PFOA	3.15	0.649	2.00	7.98	J
PFOS	4.98	0.805	0.900	7.98	J, B
PFNA	0.922	0.808	2.00	7.98	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	93.7	60 - 150	
IS	13C4-PFHpA	84.8	60 - 150	
IS	18O2-PFHxS	97.3	60 - 150	
IS	13C2-PFOA	82.7	60 - 150	
IS	13C8-PFOS	102	60 - 150	
IS	13C5-PFNA	80.6	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Matrix Spike Results

Modified EPA Method 537

Source Client ID: MW-BG09-1016
Source LabNumber: 1601388-08
Matrix: Aqueous
Sample Size: 0.130/0.125 L

QC Batch: B6K0053
Date Extracted: 08-Nov-2016 9:39

Lab Sample: B6K0053-MS1/B6K0053-MSD1
Date Analyzed: 16-Nov-16 13:34 Column: BEH C18
16-Nov-16 13:47 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	76.9	113		80.1	114	0.881		60 - 130	25
PFHpA	76.9	113		80.1	114	0.881		70 - 130	25
PFHxS	76.9	108		80.1	108	0		70 - 130	25
PFOA	76.9	114		80.1	118	3.45		70 - 130	25
PFOS	76.9	96.5	B	80.1	95.0	1.57	B	70 - 130	25
PFNA	76.9	106	B	80.1	104	1.90	B	50 - 130	25

	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
IS	13C3-PFBS	94.9		101	
IS	13C4-PFHpA	86.9		89.7	
IS	18O2-PFHxS	98.2		103	
IS	13C2-PFOA	93.5		90.0	
IS	13C8-PFOS	103		103	
IS	13C5-PFNA	86.8		83.1	

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-MW04-1016

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1601388-09	Date Received:	01-Nov-2016 9:08
Project:	Oceana PFCs CTO-WE14	Sample Size:	0.126 L	QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Collected:	31-Oct-2016 13:40			Date Analyzed:	16-Nov-16 14:00	Column:	BEH C18
Location:	OCEAN						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.03	1.78	3.97	7.94	J
PFHpA	6.37	0.587	1.98	7.94	J
PFHxS	42.8	0.940	1.98	7.94	
PFOA	6.84	0.646	1.98	7.94	J
PFOS	39.6	0.801	0.893	7.94	B
PFNA	1.00	0.804	1.98	7.94	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	99.9	60 - 150	
IS	13C4-PFHpA	102	60 - 150	
IS	18O2-PFHxS	102	60 - 150	
IS	13C2-PFOA	94.2	60 - 150	
IS	13C8-PFOS	98.4	60 - 150	
IS	13C5-PFNA	79.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG11-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 14:30
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.122 L

Laboratory Data

Lab Sample: 1601388-10 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 14:12 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.83	4.10	8.20	
PFHpA	ND	0.606	2.05	8.20	
PFHxS	19.3	0.971	2.05	8.20	
PFOA	ND	0.667	2.05	8.20	
PFOS	15.6	0.827	0.922	8.20	B
PFNA	1.66	0.830	2.05	8.20	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	106	60 - 150	
IS	13C4-PFHpA	89.0	60 - 150	
IS	18O2-PFHxS	104	60 - 150	
IS	13C2-PFOA	85.0	60 - 150	
IS	13C8-PFOS	106	60 - 150	
IS	13C5-PFNA	83.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

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 Reporting Limit/LOQ.**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Laboratory Project ID: 1601388 Temp: 2.0 °C
Storage ID: WR-5 Storage Secured: Yes ☐ No ☐

PFC

Project ID: CTO-WE14 Oceanwa P.O.#: 1600b-T-105690 Sampler: M. Ost / M Clay (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	Chem Hill	5701 Cleveland ST	Virginia Beach	VA	541 768 3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
ML Ost	10/31/16	1700	B. Benedict	11/01/16	0923

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

Method of Shipment: Fedex

ATTN: Martha Maier

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 8280 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
MW-13g07-1016	10/28	0940	Oceanwa	2	O	Gw															2		
MW-13g06-1016	10/28	1035	Oceanwa	2	O	Gw															2		
MW-13g05-1016	10/28	1135	Oceanwa	2	O	Gw															2		
MW-13g05P-1016	10/28	1140	Oceanwa	2	O	Gw															2		
MW-13g04-1016	10/28	1235	Oceanwa	2	O	Gw															2		
OC-FB-102816	10/28	1350	Oceanwa	2	O	FB															2		Field Blank
MW-13g01-1016	10/31	1000	Oceanwa	2	O	Gw															2		
MW-13g09-1016	10/31	1150	Oceanwa	2	O	Gw															2		
MW-13g09-1016MS	10/31	1150	Oceanwa	2	O	MS															2		MS
MW-13g09-1016SD	10/31	1150	Oceanwa	2	O	SD															2		SD

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: Chem
Address: 5701 Cleveland ST STE 2
City: Virginia Bch State: VA Zip: 23462
Phone: 541 768 3109 Fax:
Email: Tiffany.Hill@chem.com

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

Bottle Preservation Type: T = Thiosulfate,
O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:
GW - groundwater

Vista Analytical Laboratory

CHAIN OF CUSTODY

1601388

For Laboratory Use Only
Laboratory Project ID: _____ Temp: _____ °C
Storage ID: _____ Storage Secured: Yes ☐ No ☐

Project ID: CTO-WE14 OCEANA PFC P.O.#: 100016-7-105690 Sampler: M OST/MCLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify: _____

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
TIFFANY HILL	CH2M HILL	5701 CLEVLAND ST	VIRGINIA BEACH	VA	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
ML OST	10/31/16	1700	B. Benedict	11/01/16	0923
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

Method of Shipment: FEDEX

ATTN: MARTHA MAIER

Tracking No.: _____

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OC-MW04-1016	10/31/16	1340	OCEANA	2	O	GW															2		
MW-BG11-1016	10/31/16	1430	OCEANA	2	O	GW															2		

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: TIFFANY HILL
Company: CH2M
Address: 5701 CLEVLAND ST SUITE 2
City: VIRGINIA BEACH State: VA Zip: 23462
Phone: 541. 768 3109 Fax: _____
Email: TIFFANY.HILL@CH2M.COM

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

Bottle Preservation Type: T = Thiosulfate, O = Other: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____
GW = GROUNDWATER

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1601388 **TAT** STD.

Samples Arrival:	**Date/Time** 11/01/16 0908	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 11/01/16 1240	**Initials:** KL BLB	**Location:** WR-2 **Shelf/Rack:** A4

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice		Dry Ice		None

Temp °C: 0 2.3 (uncorrected)	**Time:** 0923	**Thermometer ID:** IR-1
Temp °C: 2.0 (corrected)	**Probe used:** Yes☐ No☑	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7845 0888 4343	✓		
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?							✓
Preservation Documented:	$Na_2S_2O_3$		Trizma			Yes	No / (NA)
Shipping Container	Vista	(Client)	Retain	(Return)		Dispose	

Comments:

BLA 09/06/2016

November 16, 2016

Vista Work Order No. 1601388

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 November 01, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Oceana PFCs CTO-WE14'.

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,

Karen Lopez for

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. 1601388
Case Narrative

Sample Condition on Receipt:

Nine groundwater samples and one field blank sample 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 6 PFAS using Modified EPA Method 537.

Holding Times

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

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method 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 the LOQ. The OPR recoveries were within the method acceptance criteria

The labeled standard recoveries for all QC and field samples were within the QAPP acceptance criteria.

As requested, an MS/MSD was performed on sample "MW-BG09-1016".

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1601388-01	MW-BG07-1016		28-Oct-16 09:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-02	MW-BG06-1016		28-Oct-16 10:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-03	MW-BG05-1016		28-Oct-16 11:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-04	MW-BG05P-1016		28-Oct-16 11:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-05	MW-BG04-1016		28-Oct-16 12:35	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-06	OC-FB-102816		28-Oct-16 13:00	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-07	MW-BG01-1016		31-Oct-16 10:00	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-08	MW-BG09-1016	MS/MSD	31-Oct-16 11:50	01-Nov-16 09:08	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1601388-09	OC-MW04-1016		31-Oct-16 13:40	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1601388-10	MW-BG11-1016		31-Oct-16 14:30	01-Nov-16 09:08	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0053	Lab Sample:	B6K0053-BLK1
Sample Size:	0.125 L	Date Extracted:	08-Nov-2016 9:39	Date Analyzed:	13-Nov-16 14:56 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFHpA	ND	0.591	2.00	8.00	
PFHxS	ND	0.947	2.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	1.48	0.807	0.900	8.00	J
PFNA	0.933	0.810	2.00	8.00	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	87.5	60 - 150	
IS	13C4-PFHpA	88.4	60 - 150	
IS	18O2-PFHxS	86.2	60 - 150	
IS	13C2-PFOA	86.5	60 - 150	
IS	13C8-PFOS	83.3	60 - 150	
IS	13C5-PFNA	74.1	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B6K0053	Lab Sample:	B6K0053-BS1
Sample Size:	0.125 L	Date Extracted:	08-Nov-2016 9:39	Date Analyzed:	13-Nov-16 13:53 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	90.0	80.0	112	60 - 130
PFHpA	92.7	80.0	116	70 - 130
PFHxS	86.4	80.0	108	70 - 130
PFOA	95.4	80.0	119	70 - 130
PFOS	90.4	80.0	113	70 - 130
PFNA	96.8	80.0	121	50 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	93.7	60 - 150
IS	13C4-PFHpA	94.9	60 - 150
IS	18O2-PFHxS	96.3	60 - 150
IS	13C2-PFOA	78.1	60 - 150
IS	13C8-PFOS	90.8	60 - 150
IS	13C5-PFNA	90.0	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: MW-BG07-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 9:40
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.126 L

Laboratory Data

Lab Sample: 1601388-01 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 11:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.77	3.97	7.93	
PFHpA	ND	0.585	1.98	7.93	
PFHxS	5.48	0.938	1.98	7.93	J
PFOA	1.65	0.645	1.98	7.93	J
PFOS	29.2	0.799	0.893	7.93	B
PFNA	1.11	0.802	1.98	7.93	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	99.9	60 - 150	
IS	13C4-PFHpA	92.5	60 - 150	
IS	18O2-PFHxS	95.7	60 - 150	
IS	13C2-PFOA	89.0	60 - 150	
IS	13C8-PFOS	104	60 - 150	
IS	13C5-PFNA	76.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG06-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 10:35
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.124 L

Laboratory Data

Lab Sample: 1601388-02 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:06 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.81	4.03	8.09	
PFHpA	ND	0.598	2.02	8.09	
PFHxS	ND	0.958	2.02	8.09	
PFOA	ND	0.659	2.02	8.09	
PFOS	11.4	0.817	0.907	8.09	B
PFNA	ND	0.820	2.02	8.09	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	91.1	60 - 150	
IS	13C4-PFHpA	81.3	60 - 150	
IS	18O2-PFHxS	90.4	60 - 150	
IS	13C2-PFOA	80.1	60 - 150	
IS	13C8-PFOS	90.2	60 - 150	
IS	13C5-PFNA	80.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG05-1016

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Oceana PFCs CTO-WE14
Date Collected:	28-Oct-2016 11:35
Location:	OCEANA

Sample Data

Matrix:	Groundwater
Sample Size:	0.127 L

Laboratory Data

Lab Sample:	1601388-03	Date Received:	01-Nov-2016 9:08
QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Analyzed:	16-Nov-16 12:19 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.76	3.94	7.85	
PFHpA	0.665	0.580	1.97	7.85	J
PFHxS	3.02	0.929	1.97	7.85	J
PFOA	1.26	0.638	1.97	7.85	J
PFOS	1.36	0.791	0.886	7.85	J, B
PFNA	ND	0.794	1.97	7.85	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	98.7	60 - 150	
IS	13C4-PFHpA	94.2	60 - 150	
IS	18O2-PFHxS	97.8	60 - 150	
IS	13C2-PFOA	91.7	60 - 150	
IS	13C8-PFOS	98.1	60 - 150	
IS	13C5-PFNA	85.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG05P-1016

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Oceana PFCs CTO-WE14
Date Collected:	28-Oct-2016 11:40
Location:	OCEANA

Sample Data

Matrix:	Groundwater
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1601388-04	Date Received:	01-Nov-2016 9:08
QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Analyzed:	16-Nov-16 12:31	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.81	4.03	8.08	
PFHpA	0.598	0.597	2.02	8.08	J
PFHxS	2.78	0.957	2.02	8.08	J
PFOA	2.02	0.658	2.02	8.08	J
PFOS	4.27	0.815	0.907	8.08	J, B
PFNA	ND	0.819	2.02	8.08	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	96.8	60 - 150	
IS	13C4-PFHpA	97.9	60 - 150	
IS	18O2-PFHxS	108	60 - 150	
IS	13C2-PFOA	86.2	60 - 150	
IS	13C8-PFOS	85.1	60 - 150	
IS	13C5-PFNA	78.3	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG04-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 28-Oct-2016 12:35
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.131 L

Laboratory Data

Lab Sample: 1601388-05 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 12:44 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.71	3.82	7.63	
PFHpA	ND	0.564	1.91	7.63	
PFHxS	1.10	0.903	1.91	7.63	J
PFOA	ND	0.621	1.91	7.63	
PFOS	1.61	0.770	0.859	7.63	J, B
PFNA	ND	0.773	1.91	7.63	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	89.2	60 - 150	
IS	13C4-PFHpA	93.1	60 - 150	
IS	18O2-PFHxS	96.5	60 - 150	
IS	13C2-PFOA	80.9	60 - 150	
IS	13C8-PFOS	79.7	60 - 150	
IS	13C5-PFNA	68.8	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-FB-102816

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Oceana PFCs CTO-WE14
Date Collected:	28-Oct-2016 13:00
Location:	OCEANA

Sample Data

Matrix:	Groundwater
Sample Size:	0.128 L

Laboratory Data

Lab Sample:	1601388-06	Date Received:	01-Nov-2016 9:08
QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Analyzed:	16-Nov-16 12:56 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.75	3.91	7.83	
PFHpA	ND	0.578	1.95	7.83	
PFHxS	ND	0.927	1.95	7.83	
PFOA	ND	0.637	1.95	7.83	
PFOS	1.22	0.790	0.879	7.83	J, B
PFNA	ND	0.793	1.95	7.83	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	95.8	60 - 150	
IS	13C4-PFHpA	97.3	60 - 150	
IS	18O2-PFHxS	102	60 - 150	
IS	13C2-PFOA	102	60 - 150	
IS	13C8-PFOS	105	60 - 150	
IS	13C5-PFNA	93.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG01-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 10:00
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.123 L

Laboratory Data

Lab Sample: 1601388-07 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 13:09 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.82	4.07	8.14	
PFHpA	ND	0.602	2.03	8.14	
PFHxS	3.81	0.964	2.03	8.14	J
PFOA	13.5	0.663	2.03	8.14	
PFOS	20.2	0.822	0.915	8.14	B
PFNA	1.46	0.825	2.03	8.14	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	97.6	60 - 150	
IS	13C4-PFHpA	94.8	60 - 150	
IS	18O2-PFHxS	109	60 - 150	
IS	13C2-PFOA	87.6	60 - 150	
IS	13C8-PFOS	107	60 - 150	
IS	13C5-PFNA	82.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG09-1016

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Oceana PFCs CTO-WE14
Date Collected:	31-Oct-2016 11:50
Location:	OCEANA

Sample Data

Matrix:	Groundwater
Sample Size:	0.125 L

Laboratory Data

Lab Sample:	1601388-08	Date Received:	01-Nov-2016 9:08
QC Batch:	B6K0053	Date Extracted:	08-Nov-2016 9:39
Date Analyzed:	16-Nov-16 13:22 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.78	4.00	7.98	
PFHpA	ND	0.589	2.00	7.98	
PFHxS	10.1	0.944	2.00	7.98	
PFOA	3.15	0.649	2.00	7.98	J
PFOS	4.98	0.805	0.900	7.98	J, B
PFNA	0.922	0.808	2.00	7.98	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	93.7	60 - 150	
IS	13C4-PFHpA	84.8	60 - 150	
IS	18O2-PFHxS	97.3	60 - 150	
IS	13C2-PFOA	82.7	60 - 150	
IS	13C8-PFOS	102	60 - 150	
IS	13C5-PFNA	80.6	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Matrix Spike Results

Modified EPA Method 537

Source Client ID: MW-BG09-1016
Source LabNumber: 1601388-08
Matrix: Aqueous
Sample Size: 0.130/0.125 L

QC Batch: B6K0053
Date Extracted: 08-Nov-2016 9:39

Lab Sample: B6K0053-MS1/B6K0053-MSD1
Date Analyzed: 16-Nov-16 13:34 Column: BEH C18
16-Nov-16 13:47 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	76.9	113		80.1	114	0.881		60 - 130	25
PFHpA	76.9	113		80.1	114	0.881		70 - 130	25
PFHxS	76.9	108		80.1	108	0		70 - 130	25
PFOA	76.9	114		80.1	118	3.45		70 - 130	25
PFOS	76.9	96.5	B	80.1	95.0	1.57	B	70 - 130	25
PFNA	76.9	106	B	80.1	104	1.90	B	50 - 130	25

	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
IS	13C3-PFBS	94.9		101	
IS	13C4-PFHpA	86.9		89.7	
IS	18O2-PFHxS	98.2		103	
IS	13C2-PFOA	93.5		90.0	
IS	13C8-PFOS	103		103	
IS	13C5-PFNA	86.8		83.1	

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: OC-MW04-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 13:40
Location: OCEAN

Sample Data

Matrix: Groundwater
Sample Size: 0.126 L

Laboratory Data

Lab Sample: 1601388-09 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 14:00 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	4.03	1.78	3.97	7.94	J
PFHpA	6.37	0.587	1.98	7.94	J
PFHxS	42.8	0.940	1.98	7.94	
PFOA	6.84	0.646	1.98	7.94	J
PFOS	39.6	0.801	0.893	7.94	B
PFNA	1.00	0.804	1.98	7.94	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	99.9	60 - 150	
IS	13C4-PFHpA	102	60 - 150	
IS	18O2-PFHxS	102	60 - 150	
IS	13C2-PFOA	94.2	60 - 150	
IS	13C8-PFOS	98.4	60 - 150	
IS	13C5-PFNA	79.7	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Sample ID: MW-BG11-1016

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: Oceana PFCs CTO-WE14
Date Collected: 31-Oct-2016 14:30
Location: OCEANA

Sample Data

Matrix: Groundwater
Sample Size: 0.122 L

Laboratory Data

Lab Sample: 1601388-10 Date Received: 01-Nov-2016 9:08
QC Batch: B6K0053 Date Extracted: 08-Nov-2016 9:39
Date Analyzed: 16-Nov-16 14:12 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.83	4.10	8.20	
PFHpA	ND	0.606	2.05	8.20	
PFHxS	19.3	0.971	2.05	8.20	
PFOA	ND	0.667	2.05	8.20	
PFOS	15.6	0.827	0.922	8.20	B
PFNA	1.66	0.830	2.05	8.20	J, B

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	106	60 - 150	
IS	13C4-PFHpA	89.0	60 - 150	
IS	18O2-PFHxS	104	60 - 150	
IS	13C2-PFOA	85.0	60 - 150	
IS	13C8-PFOS	106	60 - 150	
IS	13C5-PFNA	83.2	50 - 150	

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

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 Reporting Limit/LOQ.**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
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

Vista Analytical Laboratory

For Laboratory Use Only
Laboratory Project ID: 1601388 Temp: 2.0 °C
Storage ID: WR-5 Storage Secured: Yes ☐ No ☐

PFC

Project ID: CTO-WE14 Oceanwa P.O.#: 1600b-T-105690 Sampler: M. Ost / M Clay (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	Chevron Hill	5701 Cleveland ST	Virginia Beach	VA	541 768 3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
ML Ost	10/31/16	1700	B. Benedict	11/01/16	0923

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

Method of Shipment: Fedex

ATTN: Martha Maier

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 1668 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
MW-13g07-1016	10/28	0940	Oceanwa	2	O	Gw															2		
MW-13g06-1016	10/28	1035	Oceanwa	2	O	Gw															2		
MW-13g05-1016	10/28	1135	Oceanwa	2	O	Gw															2		
MW-13g05P-1016	10/28	1140	Oceanwa	2	O	Gw															2		
MW-13g04-1016	10/28	1235	Oceanwa	2	O	Gw															2		
OC-FB-102816	10/28	1350	Oceanwa	2	O	FB															2		Field Blank
MW-13g01-1016	10/31	1000	Oceanwa	2	O	Gw															2		
MW-13g09-1016	10/31	1150	Oceanwa	2	O	Gw															2		
MW-13g09-1016MS	10/31	1150	Oceanwa	2	O	MS															2		MS
MW-13g09-1016SD	10/31	1150	Oceanwa	2	O	SD															2		SD

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: Chevron
Address: 5701 Cleveland ST STE 2
City: Virginia Beach State: VA Zip: 23462
Phone: 541 768 3109 Fax:
Email: Tiffany.Hill@Chevron.com

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

Bottle Preservation Type: T = Thiosulfate,
O = Other:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:
GW - groundwater

Vista Analytical Laboratory

CHAIN OF CUSTODY

1601388

For Laboratory Use Only
Laboratory Project ID: _____ Temp: _____ °C
Storage ID: _____ Storage Secured: Yes ☐ No ☐

Project ID: CTO-WE14 OCEANA PFC P.O.#: 100016-7-105690 Sampler: M OST/MCLAY (name)

TAT (check one): Standard: ☐ 21 days; Rush (surcharge may apply): ☑ 14 days ☐ 7 days Specify: _____

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
TIFFANY HILL	CH2M HILL	5701 CLEVLAND ST	VIRGINIA BEACH	VA	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
ML OST	10/31/16	1700	B. Benedict	11/01/16	0923
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

Method of Shipment: FEDEX

ATTN: MARTHA MAIER

Tracking No.: _____

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
OC-MW04-1016	10/31/16	1340	OCEANA	2	O	GW															2		
MW-BG11-1016	10/31/16	1430	OCEANA	2	O	GW															2		

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: TIFFANY HILL
Company: CH2M
Address: 5701 CLEVLAND ST SUITE 2
City: VIRGINIA BEACH State: VA Zip: 23462
Phone: 541. 768 3109 Fax: _____
Email: TIFFANY.HILL@CH2M.COM

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

Bottle Preservation Type: T = Thiosulfate, O = Other: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____
GW = GROUNDWATER

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1601388 **TAT** STD.

Samples Arrival:	**Date/Time** 11/01/16 0908	**Initials:** BLB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 11/01/16 1240	**Initials:** KL BLB	**Location:** WR-2 **Shelf/Rack:** A4

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice		Dry Ice	None	

Temp °C: 2.3 (uncorrected)	**Time:** 0923	**Thermometer ID:** IR-1
Temp °C: 2.0 (corrected)	**Probe used:** Yes☐ No☑	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 7845 0888 4343	✓		
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?						✓
Preservation Documented:	$Na_2S_2O_3$	Trizma			Yes	No	(NA)
Shipping Container	Vista	(Client)	Retain	(Return)	Dispose	

Comments:

BLA 09/06/2016

EXTRACTION INFORMATION

Process Sheet

Workorder: 1601388

Prep Expiration: 11/11/2016
Client: CH2M Hill

Workorder Due: 15-Nov-16 00:00

TAT: 14

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

Prep Batch: B16K005 3

Prep Data Entered: 11/4/16 AMSC
Date and Initials

Version: UCMR 3 (6 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601388-01	☑	MW-BG07-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-02	☑	MW-BG06-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-03	☑	MW-BG05-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-04	☑	MW-BG05P-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-05	☑	MW-BG04-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-06	☑	OC-FB-102816	01-Nov-16 09:08	WR-2 A-4	
1601388-07	☑	MW-BG01-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-08	☑	MW-BG09-1016	01-Nov-16 09:08	WR-2 A-4	**MS/MSD**
1601388-09	☑	OC-MW04-1016	01-Nov-16 09:08	WR-2 A-4	
1601388-10	☑	MW-BG11-1016	01-Nov-16 09:08	WR-2 A-4	

Oceana

WO Comments: **List of 6, include Total PFOA.**

Vista PM:Martha Maier

Vial Box ID: _____

Sample Reconciled By: _____ 11/8/16

Page 1 of 1

Percent Solids

Vista Analytical Laboratory

Project: B6K0053 **Balance ID:** HRMS8

Sample ID	Chemist: NA Date: Time: Boat Wt.	Sample + Boat Wt.	Chemist: NA Date: Time: Residue + Boat Wt.	Chemist/Date JS 11/8/16 pH before	pH* after	Cl
1601388-01	(A)			5	2	0
-02				5	2	0
-03				5	2	0
-04				5	2	0
-05				5	2	0
-06			JS	5	2	0
-07		11/8/16		6	2	0
-08A				5	2	0
-08B				5	2	0
-08C				5	2	0
-09				6	2	0
-10				5	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:

(A) 2 drops HCl used to adjust pH JS 11/8/16

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

%Solids rmh 5/2011

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DOD (LOO as mRL)

B6K0053

Chemist: E Schneider

Prep Date/Time: 08-Nov-16 09:39

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE (B6K0043)	RS CHEM/WIT DATE
☐	B6K0053-BLK1 ✓	NA	NA	(0.125) ✓	EB JS 11/8/16	JS 11/8/16	EB JS 11/8/16
☐	B6K0053-BS1	↓	↓	↓			
☐	B6K0053-MS1 1601388-08 (A)	157.54	27.46	0.13008 ✓			
☐	B6K0053-MSD1 1601388-08 (A)	152.40	27.54	0.12486			
☐	1601388-01 (A)	153.73	27.55	0.12618 ✓			
☐	1601388-02 (A)	151.06	27.52	0.12354 ✓			
☐	1601388-03	154.92	27.46	0.12746 ✓			
☐	1601388-04	151.24	27.54	0.12370 ✓			
☐	1601388-05	158.51	27.49	0.13102 ✓			
☐	1601388-06	155.20	27.44	0.12776 ✓			
☐	1601388-07 (A)	150.25	27.46	0.12279 ✓			
☐	1601388-08 (A)	152.81	27.45	0.12536 ✓			
☐	1601388-09	153.34	27.39	0.12595 ✓			
☐	1601388-10 (A)	149.45	27.49	0.12196 ✓			

(A) Sample contained particulate. Transferred to secondary container and centrifuged the decanted back into original container. 11/8/16 JS

IS Name	NS Name	RS Name		
(V4) 16I2604, 10mL	(V2) 16I1601, 10mL	(V1) 16I2603, 10mL	SPE Chem: Strata-X-AW 33um 200mg/6mL Ele SOLV: 0.5% NH4OH in MeOH + MeOH Final Volume(s): 1mL	Check Out: Chemist/Date: JS 11/8/16 Check In: Chemist/Date: NA Balance ID: HRMSB

Comments: Assume 1 g = 1 mL

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:28 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.060e3		0.125			
2	3	PFHpA	363 > 318.9	3.505e1	1.722e4		0.125	4.04		
3	4	PFHxS	398.9 > 79.6	3.918e1	4.873e3		0.125	4.16		
4	5	PFOA	413 > 368.7	3.080e2	2.292e4		0.125	4.44		
5	6	PFOS	499 >79.9	1.949e1	4.762e3		0.125	4.83	1.48	
6	7	PFNA	463 > 418.8	2.185e2	8.626e3		0.125	4.77	0.933	
7	9	13C3-PFBS	302.0 > 98.8	6.060e3	2.773e4	0.250	0.125	3.15	87.5	87.5
8	10	13C2-PFHxA	315 > 269.8	7.197e3	2.773e4	0.741	0.125	3.51	35.0	87.5
9	11	13C4-PFHpA	367.2 > 321.8	1.722e4	9.376e3	2.077	0.125	4.05	88.4	88.4
10	12	18O2-PFHxS	403 > 102.6	4.873e3	9.376e3	0.603	0.125	4.16	86.2	86.2
11	13	13C2-PFOA	414.9 > 369.7	2.292e4	1.086e4	2.438	0.125	4.44	86.5	86.5
12	14	13C8-PFOS	507.0 > 79.9	4.762e3	5.417e3	1.055	0.125	4.83	83.3	83.3
13	15	13C5-PFNA	468.2 > 422.9	8.626e3	1.005e4	1.158	0.125	4.77	74.1	74.1
14	16	13C2-PFDA	515.1 > 469.9	7.885e3	9.528e3	1.164	0.125	5.06	71.1	71.1
15	17	13C5-PFHxA	318.0 > 272.9	2.773e4	2.773e4	1.000	0.125	3.51	100	100
16	18	13C3-PFHxS	401.9 > 79.9	9.376e3	9.376e3	1.000	0.125	4.16	100	100
17	19	13C8-PFOA	421.3 > 376	1.086e4	1.086e4	1.000	0.125	4.44	100	100
18	20	13C4-PFOS	503.0 > 79.9	5.417e3	5.417e3	1.000	0.125	4.83	100	100
19	21	13C9-PFNA	472.2 > 426.9	1.005e4	1.005e4	1.000	0.125	4.77	100	100
20	22	13C6-PFDA	519.1 > 473.7	9.528e3	9.528e3	1.000	0.125	5.06	100	100
21	23	Total PFBS	299 > 79.7		6.060e3		0.125			
22	24	Total PFHxS	398.9 > 79.6		4.873e3		0.125			
23	25	Total PFOA	413 > 368.7		2.292e4		0.125			
24	26	Total PFOS	499 > 79.9		4.762e3		0.125		1.48	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:28 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1							

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.16	39.181	4873.239	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.44	307.995	22916.941	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.83	19.487	4762.094	1.5

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

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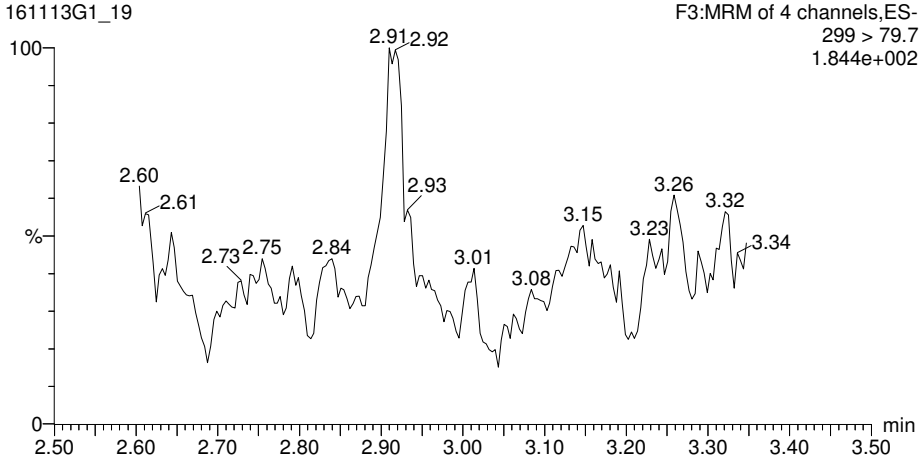
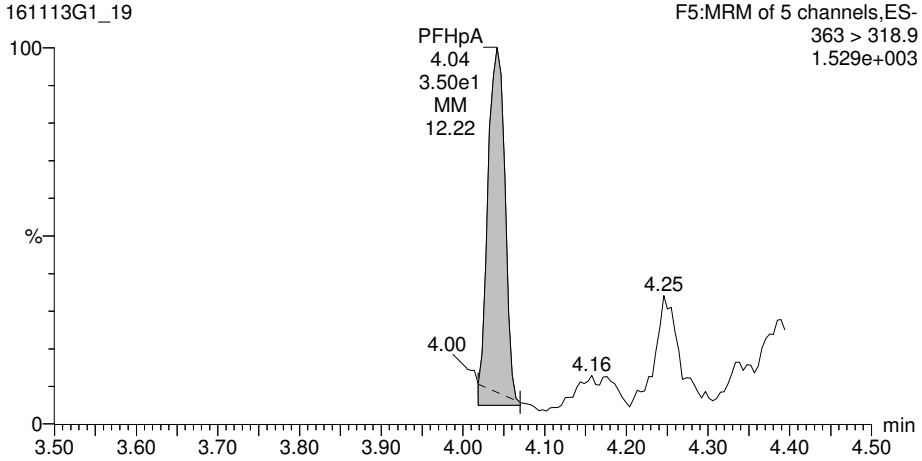
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54, Instrument: , Lab: , User:

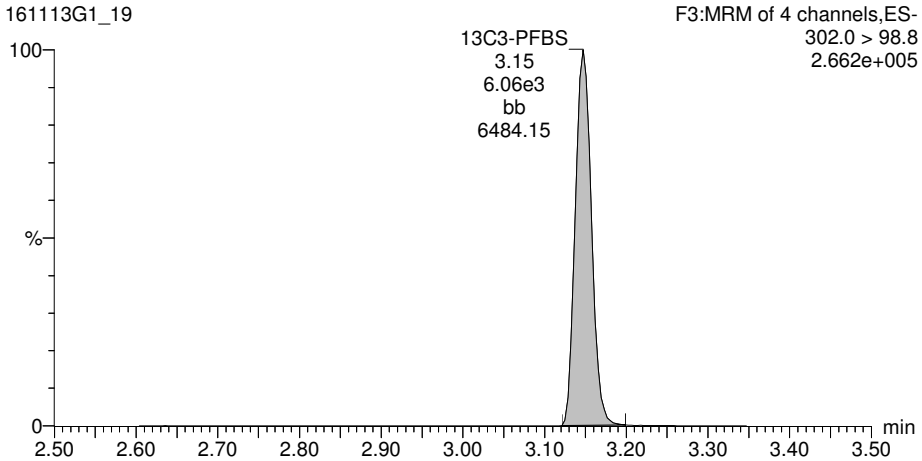
Total PFBS



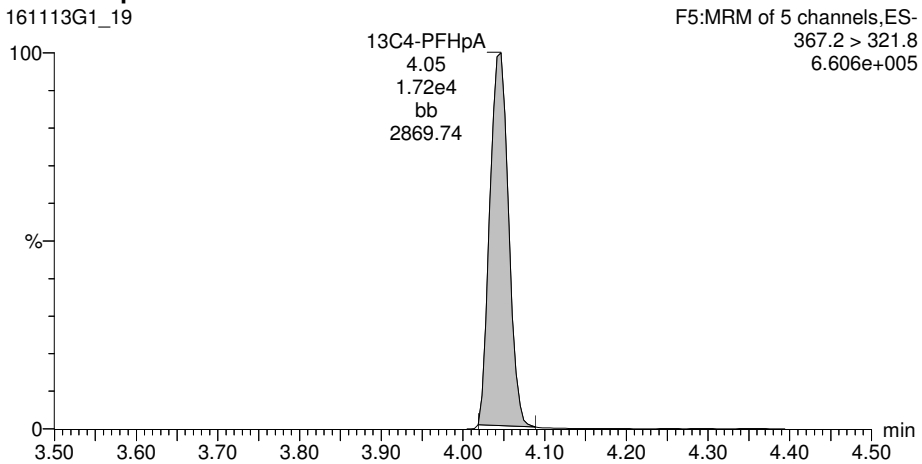
PFHpA



13C3-PFBS



13C4-PFHpA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
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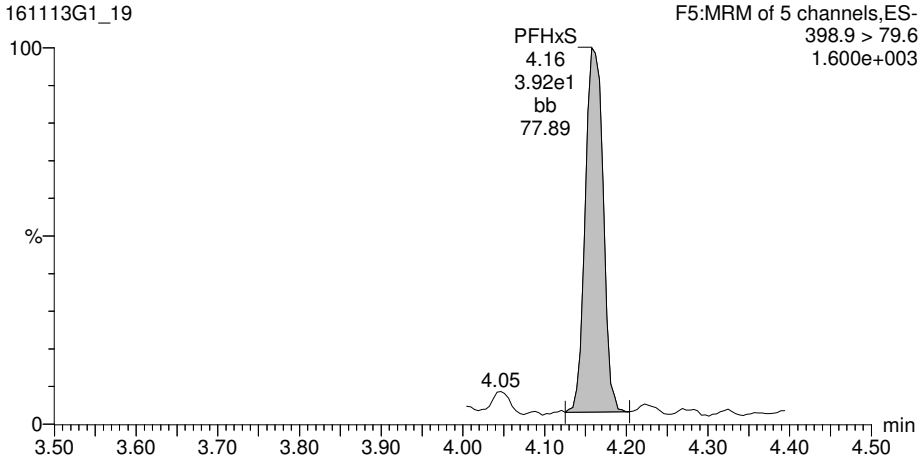
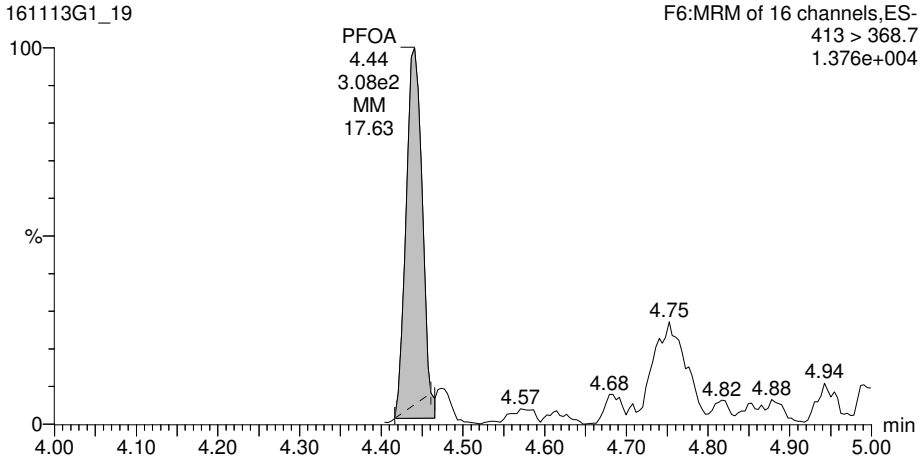
ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54, Instrument: , Lab: , User:

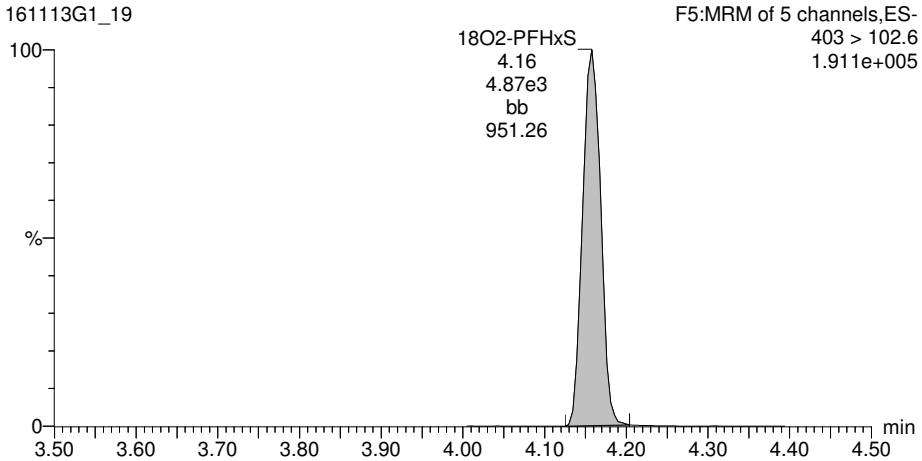
Total PFHxS



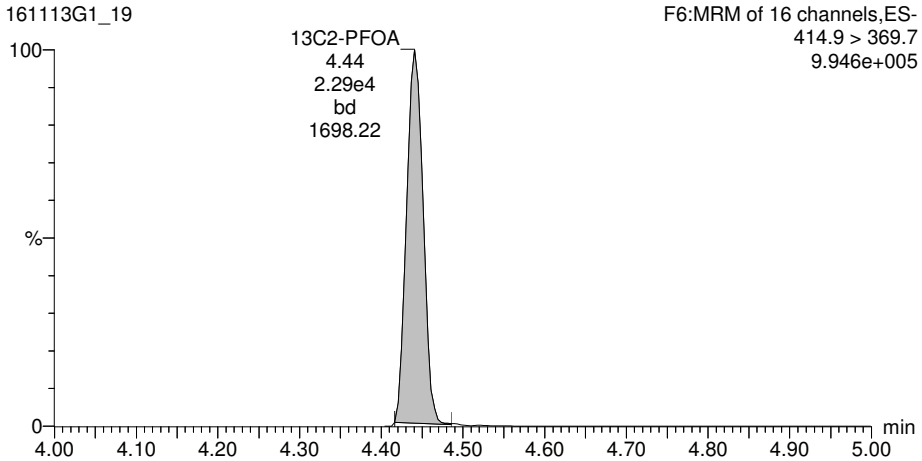
Total PFOA



18O2-PFHxS



13C2-PFOA



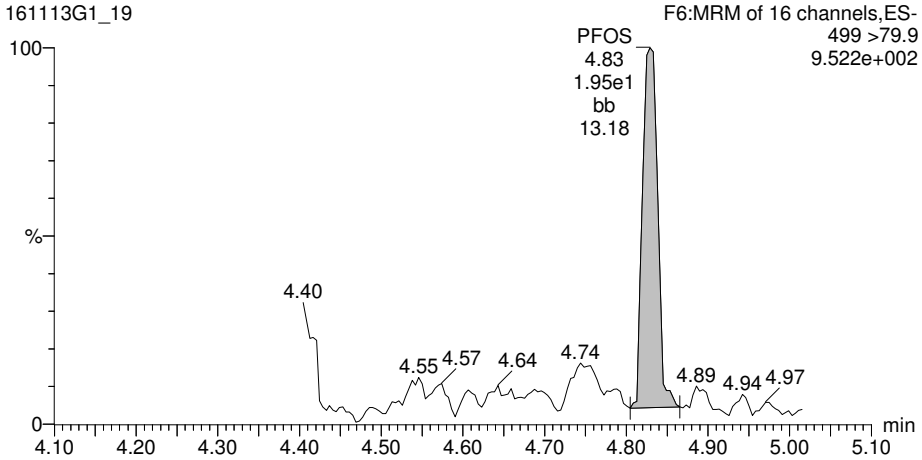
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:28 Pacific Standard Time

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54, Instrument: , Lab: , User:

Total PFOS



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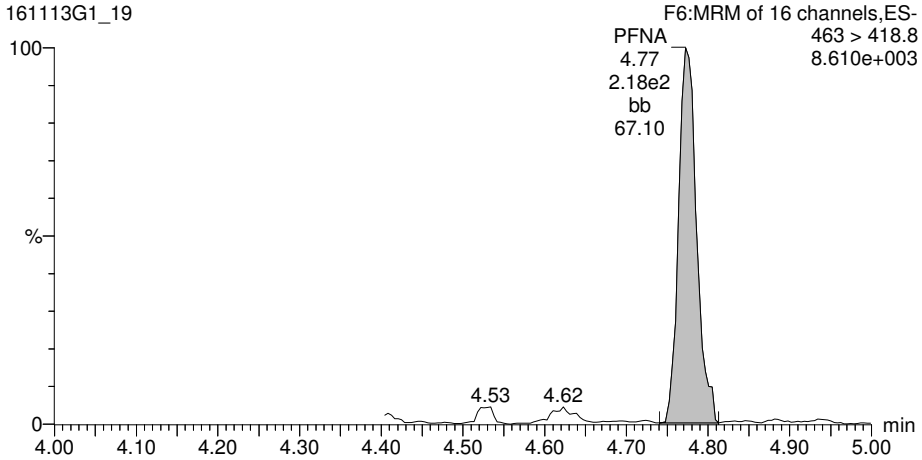
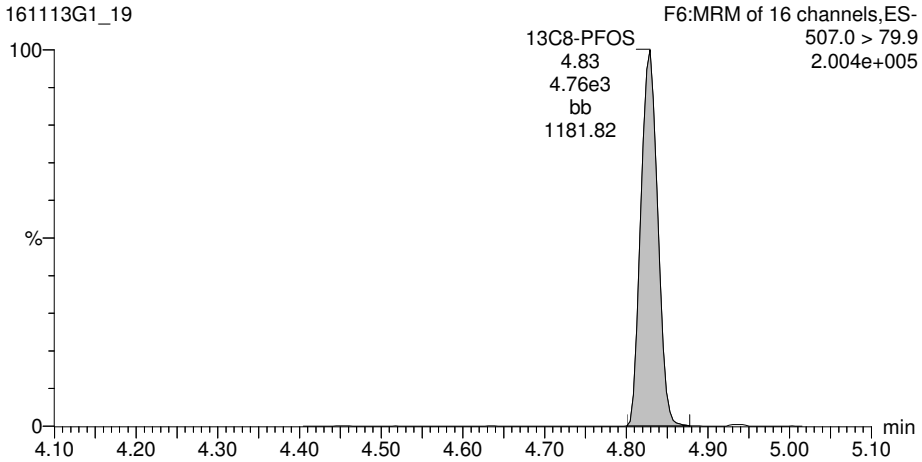
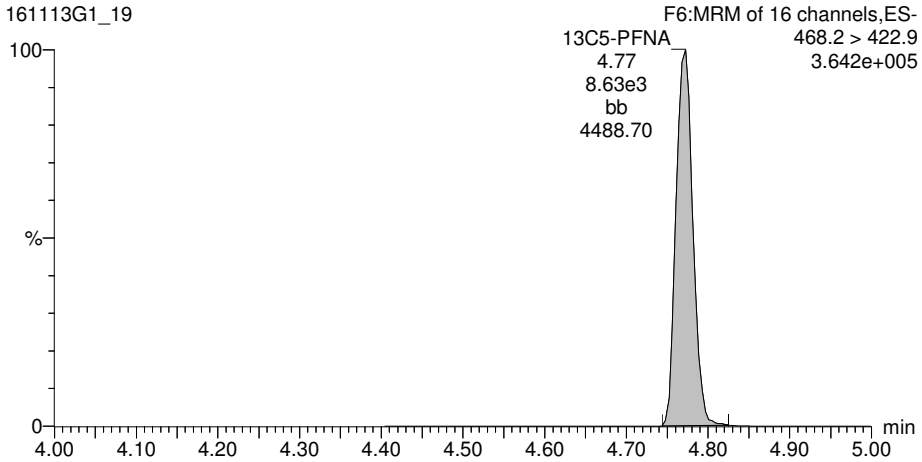


13C8-PFOS



13C5-PFNA



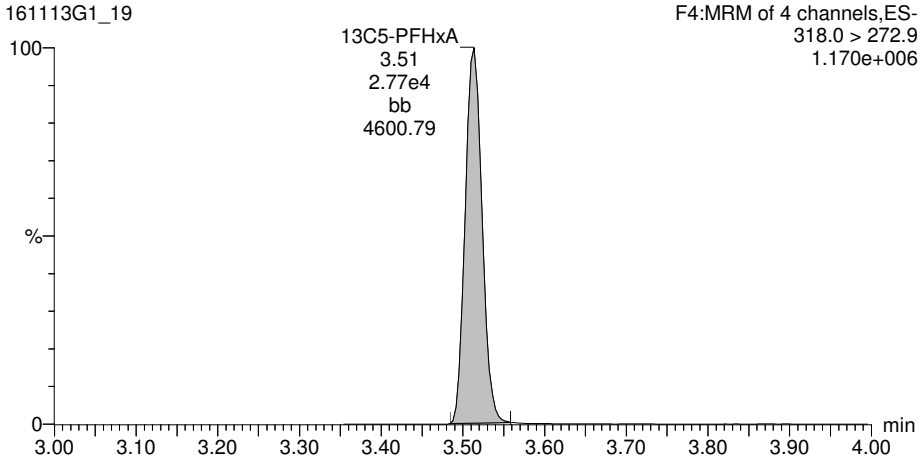
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

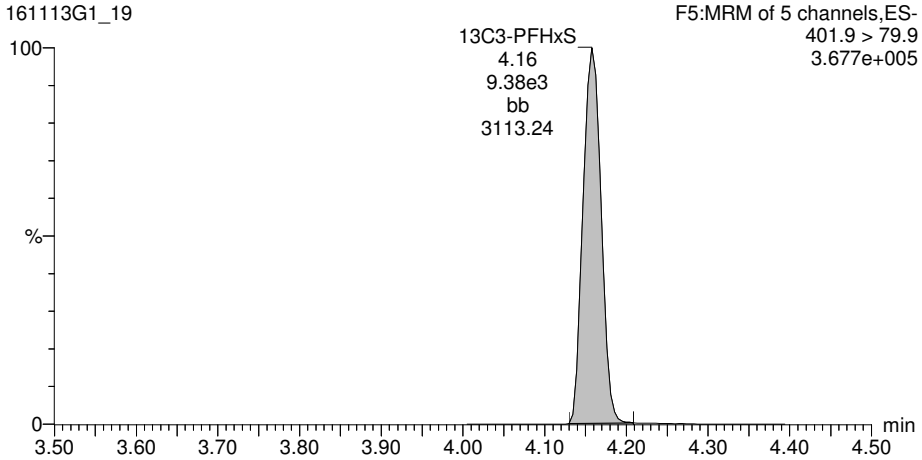
Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:28 Pacific Standard Time

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54, Instrument: , Lab: , User:

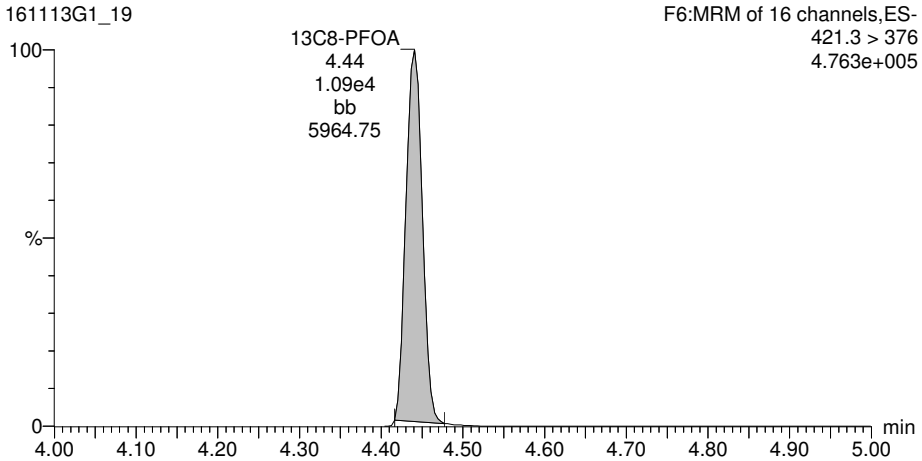
13C5-PFHxA



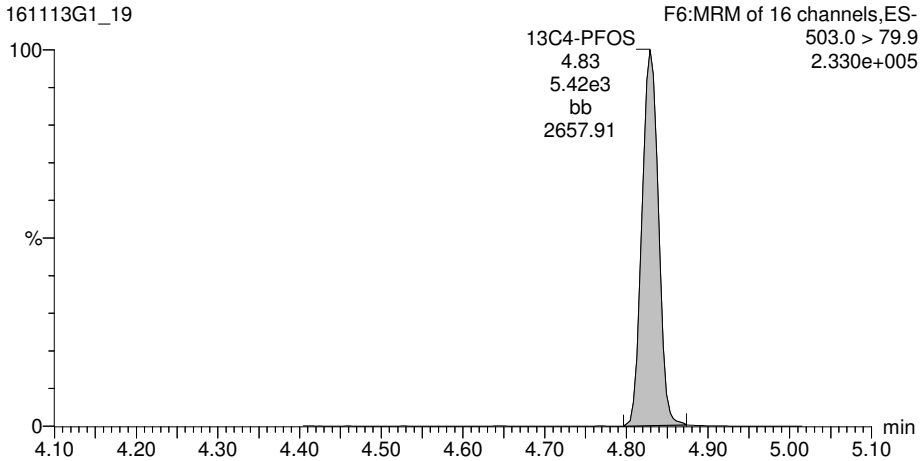
13C3-PFHxS



13C8-PFOA



13C4-PFOS



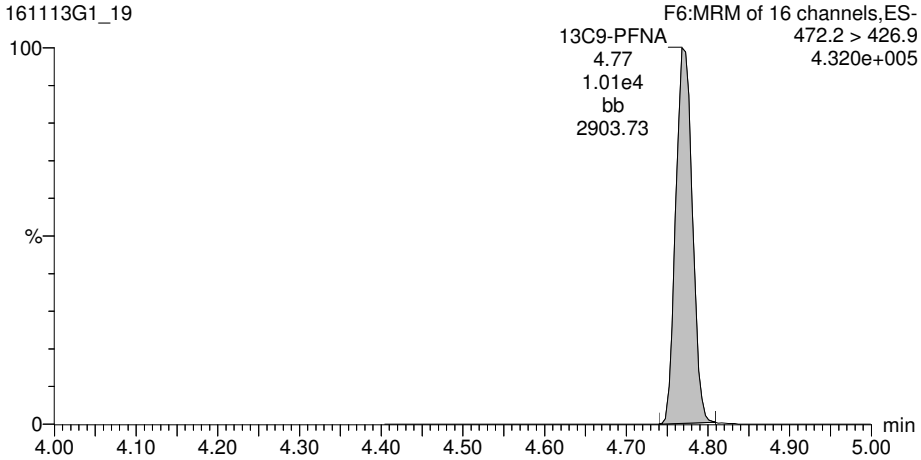
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-19.qld

Last Altered: Wednesday, November 16, 2016 12:08:46 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:28 Pacific Standard Time

ID: B6K0053-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161113G1_19, Date: 13-Nov-2016, Time: 14:56:54, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:55 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	8.085e3	6.529e3		0.125	3.15	90.0	112
2	3	PFHpA	363 > 318.9	2.099e4	1.873e4		0.125	4.05	92.7	116
3	4	PFHxS	398.9 > 79.6	6.261e3	5.515e3		0.125	4.16	86.4	108
4	5	PFOA	413 > 368.7	1.855e4	2.374e4		0.125	4.44	95.4	119
5	6	PFOS	499 >79.9	3.829e3	5.881e3		0.125	4.83	90.4	113
6	7	PFNA	463 > 418.8	1.529e4	9.885e3		0.125	4.77	96.8	121
7	9	13C3-PFBS	302.0 > 98.8	6.529e3	2.790e4	0.250	0.125	3.15	93.7	93.7
8	10	13C2-PFHxA	315 > 269.8	7.752e3	2.790e4	0.741	0.125	3.51	37.5	93.7
9	11	13C4-PFHpA	367.2 > 321.8	1.873e4	9.500e3	2.077	0.125	4.05	94.9	94.9
10	12	18O2-PFHxS	403 > 102.6	5.515e3	9.500e3	0.603	0.125	4.16	96.3	96.3
11	13	13C2-PFOA	414.9 > 369.7	2.374e4	1.247e4	2.438	0.125	4.44	78.1	78.1
12	14	13C8-PFOS	507.0 > 79.9	5.881e3	6.141e3	1.055	0.125	4.83	90.8	90.8
13	15	13C5-PFNA	468.2 > 422.9	9.885e3	9.490e3	1.158	0.125	4.77	90.0	90.0
14	16	13C2-PFDA	515.1 > 469.9	8.992e3	1.029e4	1.164	0.125	5.06	75.1	75.1
15	17	13C5-PFHxA	318.0 > 272.9	2.790e4	2.790e4	1.000	0.125	3.51	100	100
16	18	13C3-PFHxS	401.9 > 79.9	9.500e3	9.500e3	1.000	0.125	4.16	100	100
17	19	13C8-PFOA	421.3 > 376	1.247e4	1.247e4	1.000	0.125	4.44	100	100
18	20	13C4-PFOS	503.0 > 79.9	6.141e3	6.141e3	1.000	0.125	4.83	100	100
19	21	13C9-PFNA	472.2 > 426.9	9.490e3	9.490e3	1.000	0.125	4.77	100	100
20	22	13C6-PFDA	519.1 > 473.7	1.029e4	1.029e4	1.000	0.125	5.06	100	100
21	23	Total PFBS	299 > 79.7		6.529e3		0.125		90.0	
22	24	Total PFHxS	398.9 > 79.6		5.515e3		0.125		86.4	
23	25	Total PFOA	413 > 368.7		2.374e4		0.125		95.4	
24	26	Total PFOS	499 > 79.9		5.881e3		0.125		90.4	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.15	8084.612	6528.511	90.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.16	6260.714	5515.089	86.4

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.44	18551.475	23743.943	95.4

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.83	3828.702	5881.337	90.4

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

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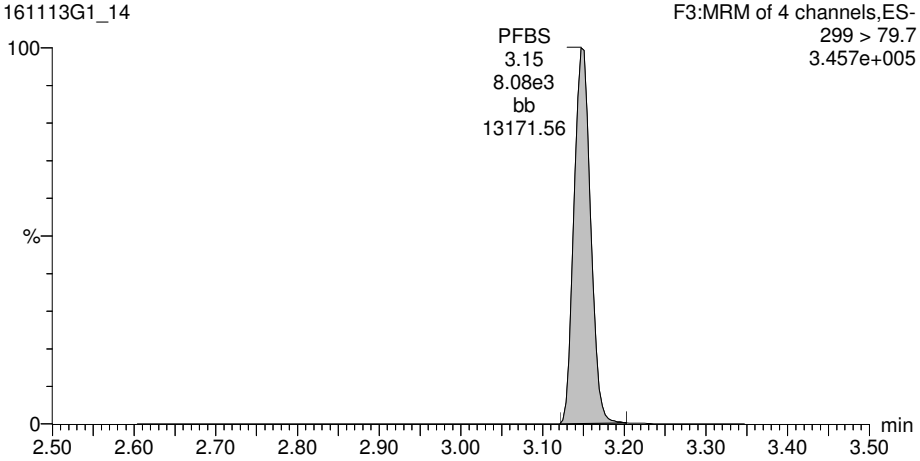
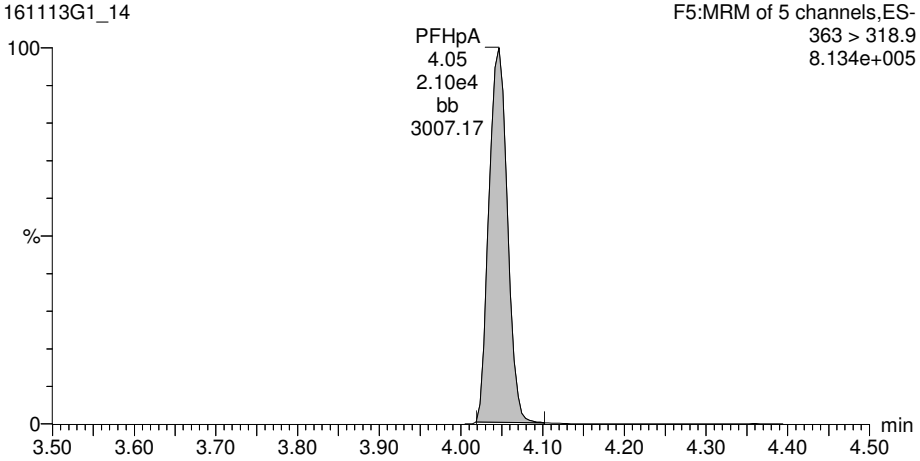
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48, Instrument: , Lab: , User:

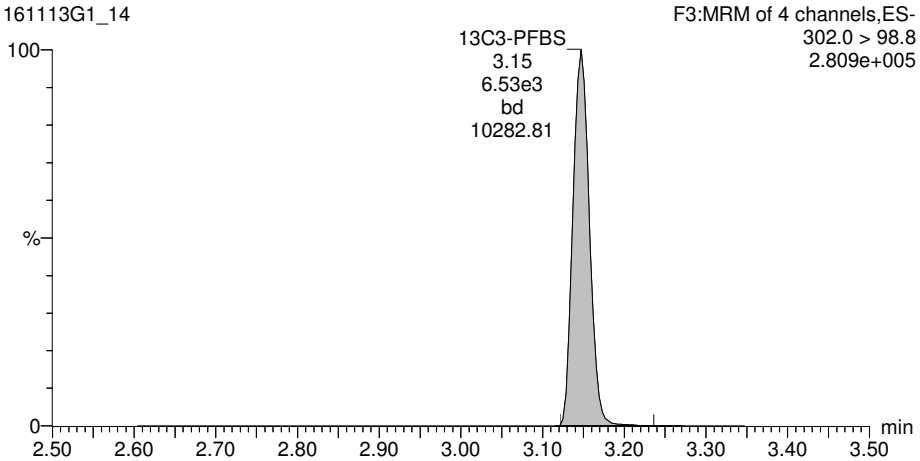
Total PFBS



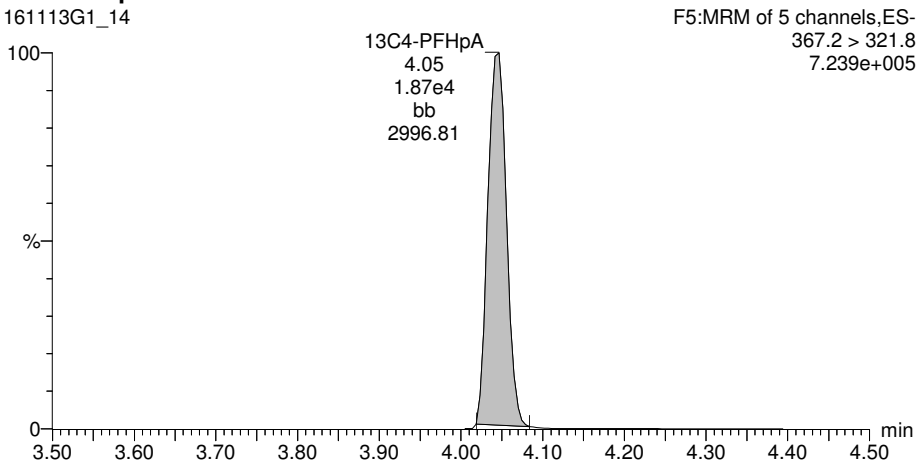
PFHpA



13C3-PFBS



13C4-PFHpA



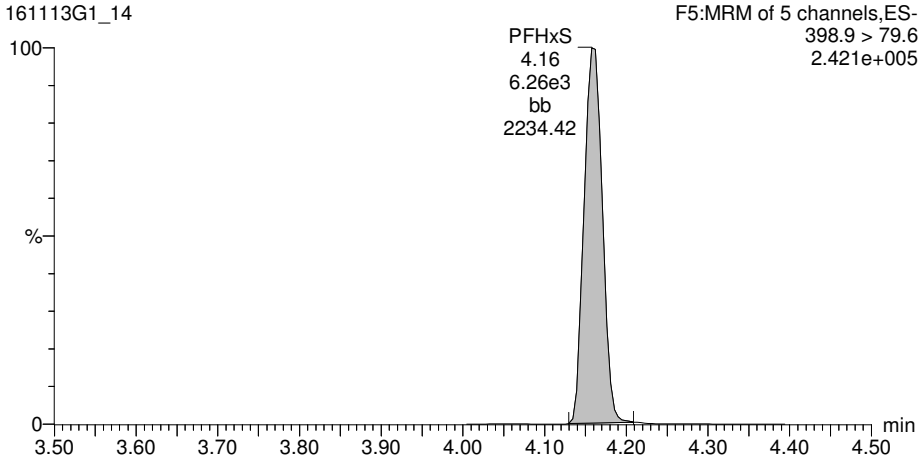
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

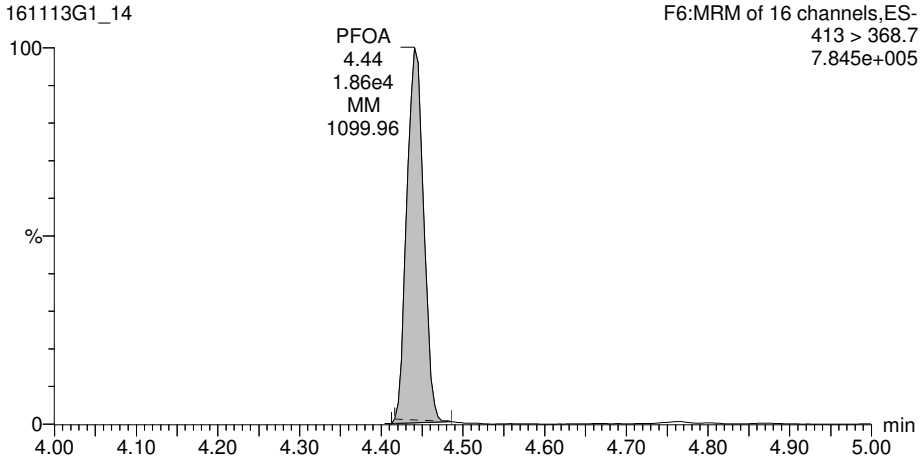
Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:55 Pacific Standard Time

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48, Instrument: , Lab: , User:

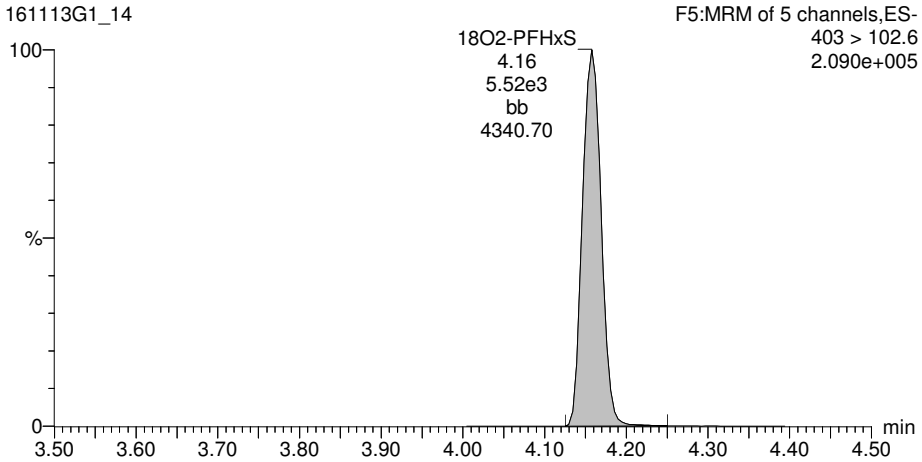
Total PFHxS



Total PFOA



18O2-PFHxS



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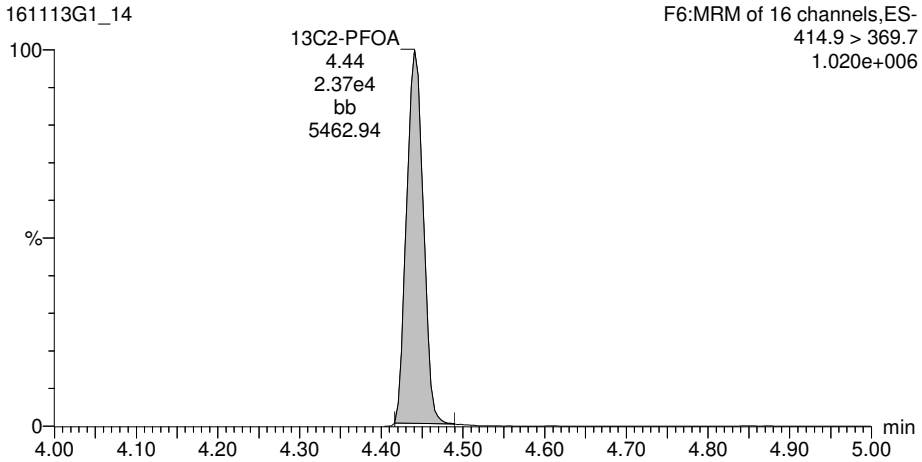


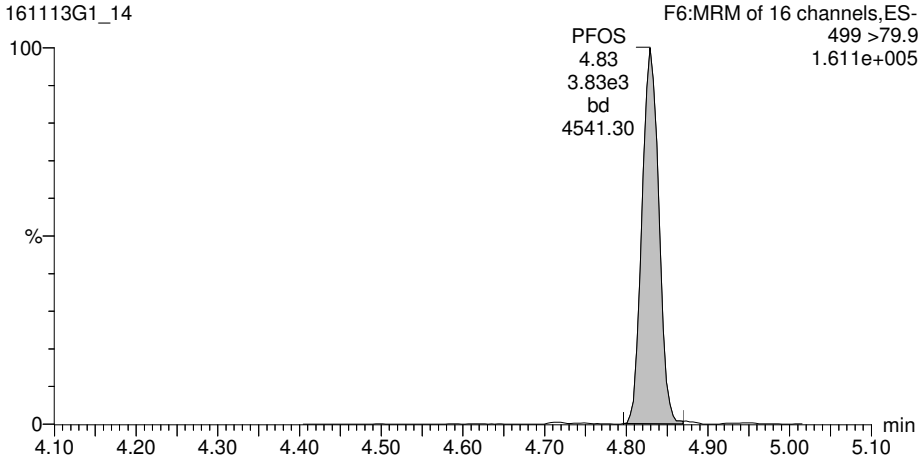
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

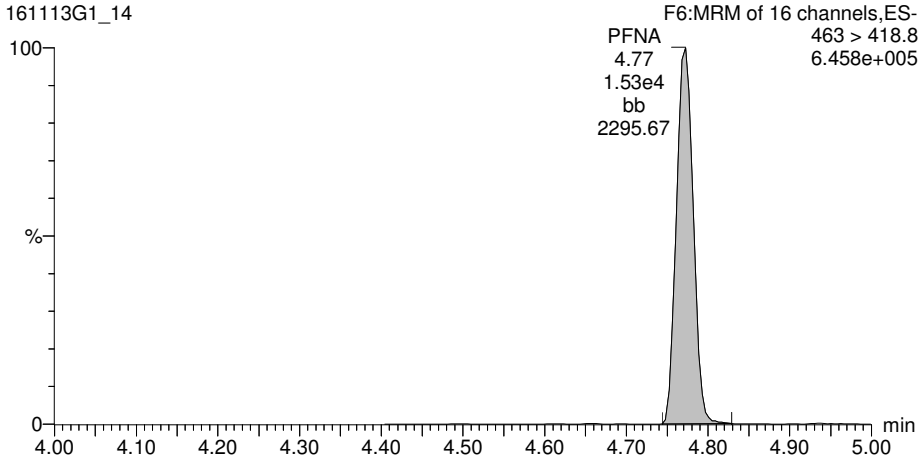
Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:55 Pacific Standard Time

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48, Instrument: , Lab: , User:

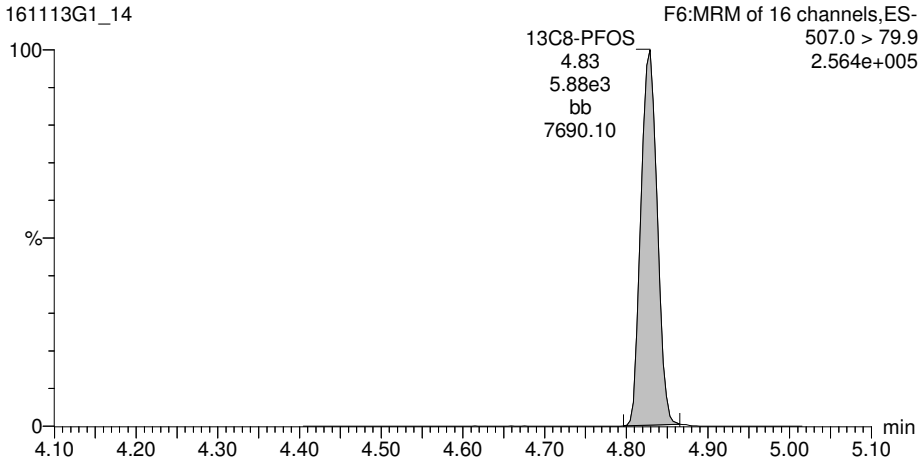
Total PFOS



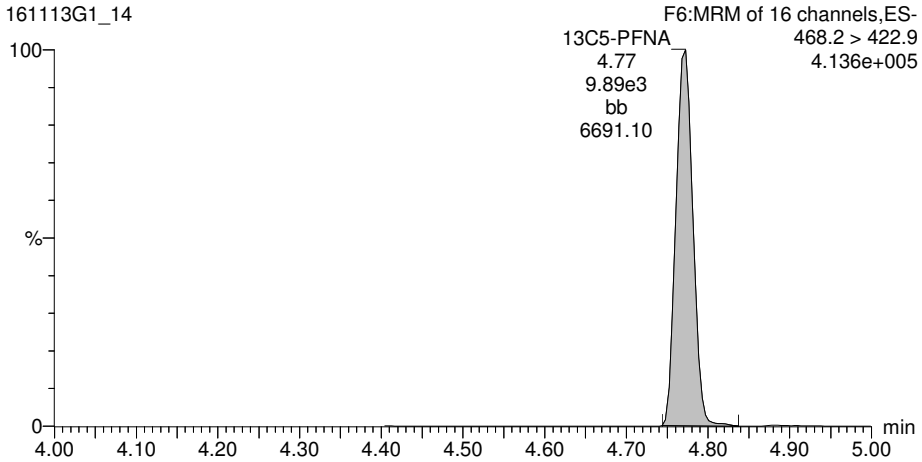
PFNA



13C8-PFOS



13C5-PFNA



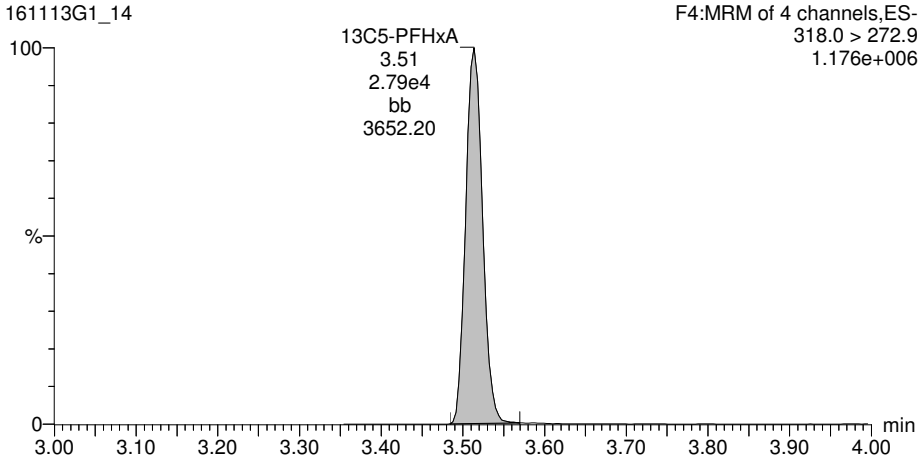
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

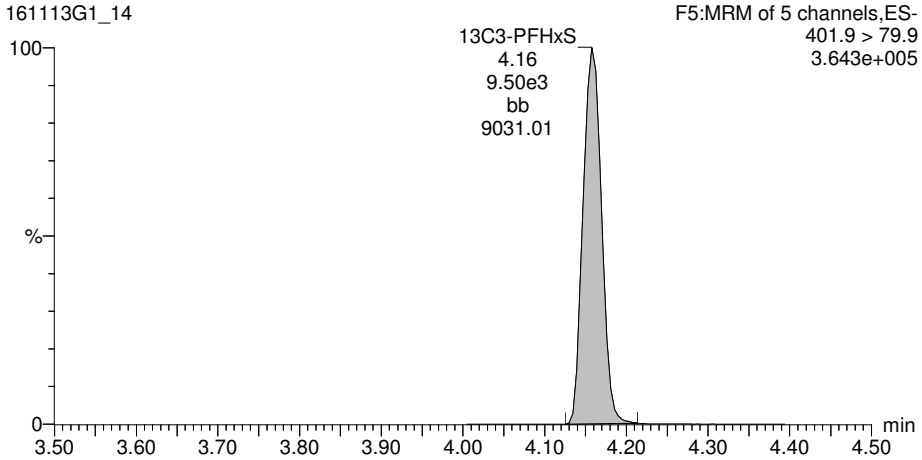
Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:55 Pacific Standard Time

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48, Instrument: , Lab: , User:

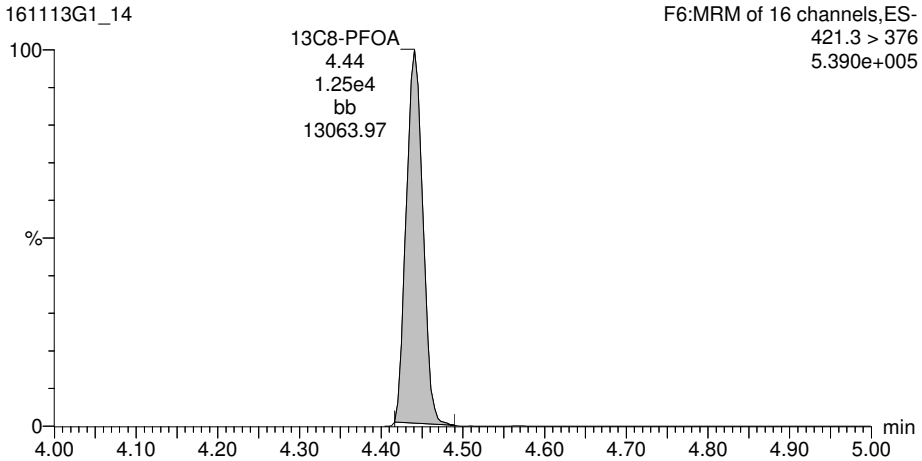
13C5-PFHxA



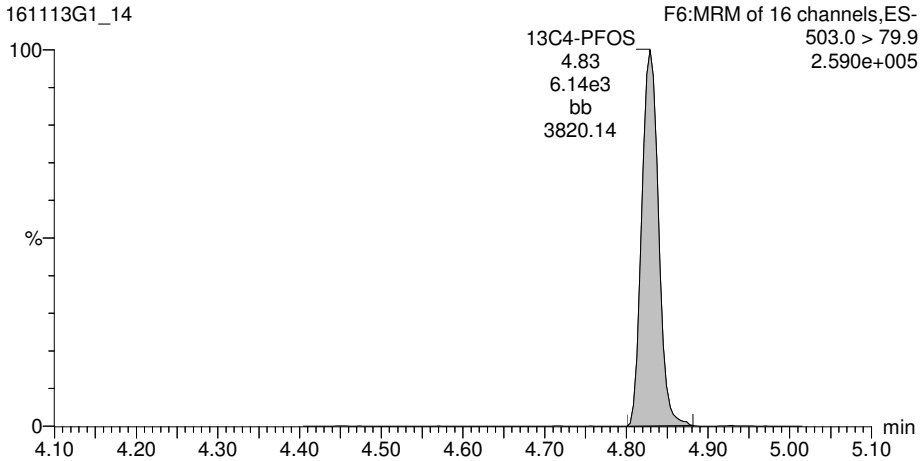
13C3-PFHxS



13C8-PFOA



13C4-PFOS



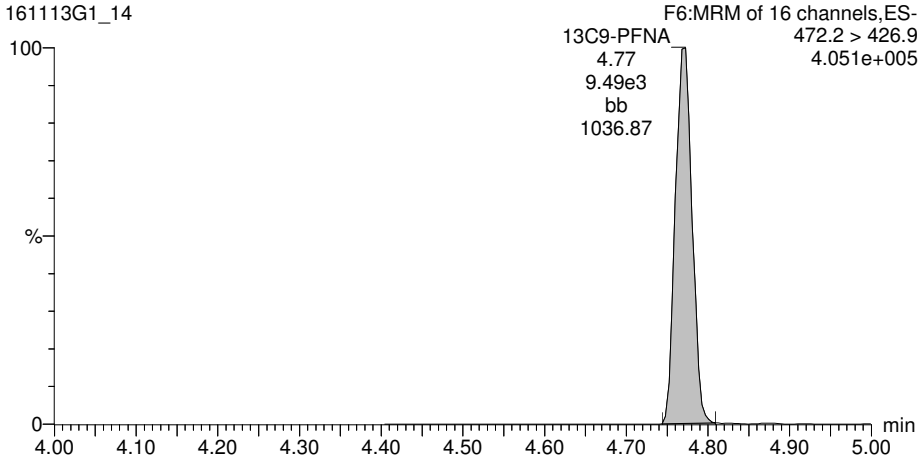
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-14.qld

Last Altered: Wednesday, November 16, 2016 12:05:28 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:25:55 Pacific Standard Time

ID: B6K0053-BS1 OPR 0.125, Description: OPR, Name: 161113G1_14, Date: 13-Nov-2016, Time: 13:53:48, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.732e1	6.602e3		0.126	3.09		
2	3	PFHpA	363 > 318.9	2.166e2	1.849e4		0.126	3.98		
3	4	PFHxS	398.9 > 79.6	4.587e2	5.549e3		0.126	4.09	5.45	
4	5	PFOA	413 > 368.7	7.771e2	2.496e4		0.126	4.37	1.65	
5	6	PFOS	499 >79.9	7.526e2	5.346e3		0.126	4.77	20.1	
6	7	PFNA	463 > 418.8	2.490e2	8.790e3		0.126	4.71	1.11	
7	9	13C3-PFBS	302.0 > 98.8	6.602e3	2.644e4	0.250	0.126	3.09	99.0	99.9
8	10	13C2-PFHxA	315 > 269.8	7.141e3	2.644e4	0.741	0.126	3.46	36.1	91.1
9	11	13C4-PFHpA	367.2 > 321.8	1.849e4	9.620e3	2.077	0.126	3.97	91.7	92.5
10	12	18O2-PFHxS	403 > 102.6	5.549e3	9.620e3	0.603	0.126	4.09	94.8	95.7
11	13	13C2-PFOA	414.9 > 369.7	2.496e4	1.151e4	2.438	0.126	4.37	88.1	89.0
12	14	13C8-PFOS	507.0 > 79.9	5.346e3	4.865e3	1.055	0.126	4.77	103	104
13	15	13C5-PFNA	468.2 > 422.9	8.790e3	9.970e3	1.158	0.126	4.71	75.4	76.2
14	16	13C2-PFDA	515.1 > 469.9	7.864e3	8.981e3	1.164	0.126	5.02	74.5	75.2
15	17	13C5-PFHxA	318.0 > 272.9	2.644e4	2.644e4	1.000	0.126	3.45	99.1	100
16	18	13C3-PFHxS	401.9 > 79.9	9.620e3	9.620e3	1.000	0.126	4.09	99.1	100
17	19	13C8-PFOA	421.3 > 376	1.151e4	1.151e4	1.000	0.126	4.37	99.1	100
18	20	13C4-PFOS	503.0 > 79.9	4.865e3	4.865e3	1.000	0.126	4.77	99.1	100
19	21	13C9-PFNA	472.2 > 426.9	9.970e3	9.970e3	1.000	0.126	4.71	99.1	100
20	22	13C6-PFDA	519.1 > 473.7	8.981e3	8.981e3	1.000	0.126	5.02	99.1	100
21	23	Total PFBS	299 > 79.7		6.602e3		0.126			
22	24	Total PFHxS	398.9 > 79.6		5.549e3		0.126		5.48	
23	25	Total PFOA	413 > 368.7		2.496e4		0.126		1.65	
24	26	Total PFOS	499 > 79.9		5.346e3		0.126		29.2	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	57.320	6601.544	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	458.729	5548.826	5.4
2	24	Total PFHxS	398.9 > 79.6	4.00	64.113	5548.826	0.0

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.37	777.116	24962.857	1.7
2	25	Total PFOA	413 > 368.7	4.28	73.498	24962.857	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.77	752.596	5345.678	20.1
2	26	Total PFOS	499 >79.9	4.68	68.745	5345.678	2.7
3	26	Total PFOS	499 >79.9	4.66	219.526	5345.678	6.5

Reviewed: WJL 11/16/2016 AC 11/16/16

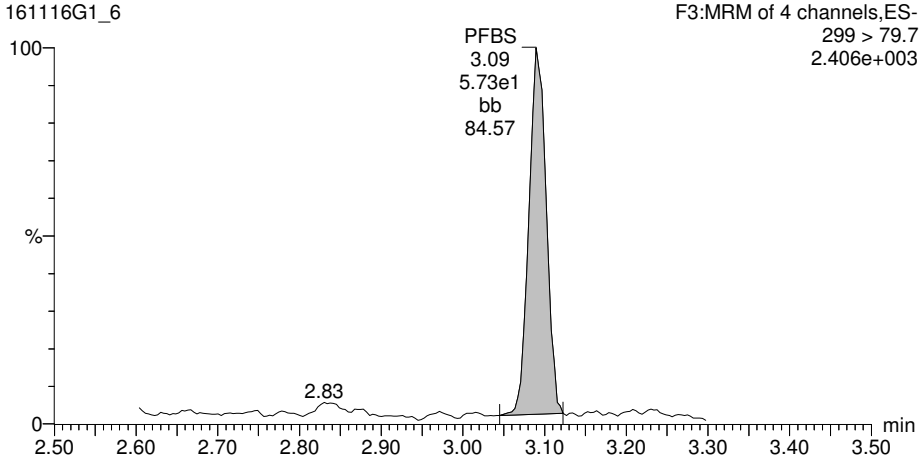
Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

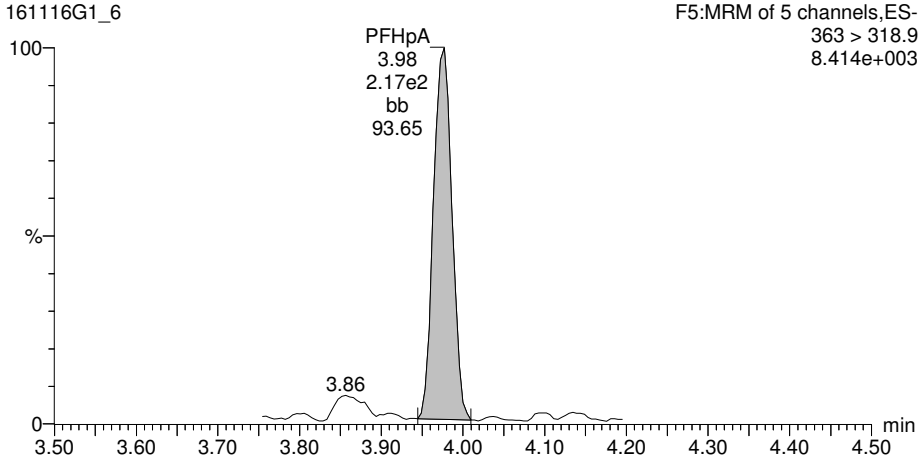
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52, Instrument: , Lab: , User:

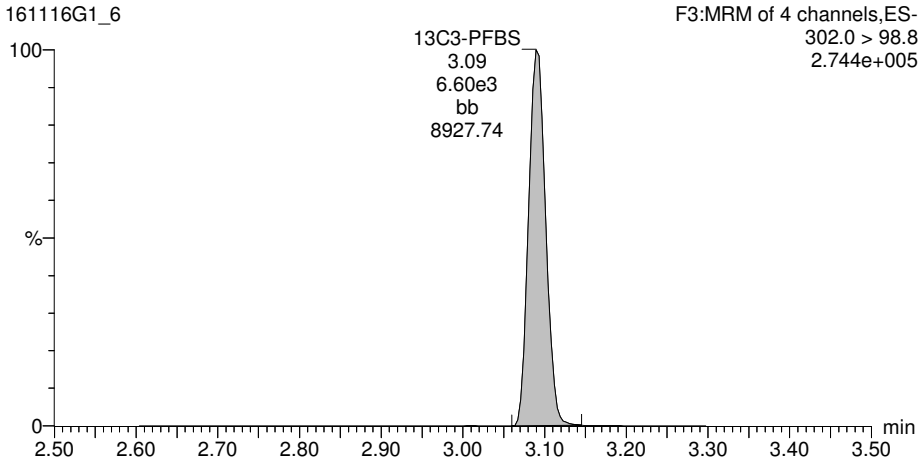
Total PFBS



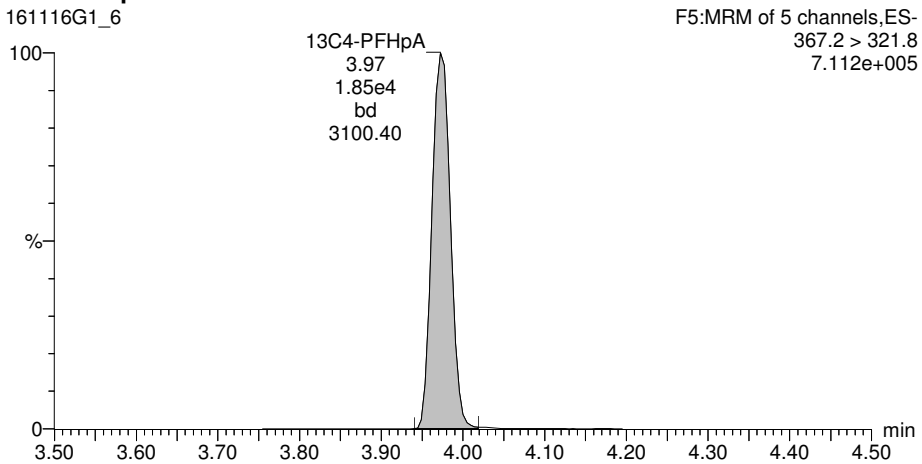
PFHpA



13C3-PFBS



13C4-PFHpA



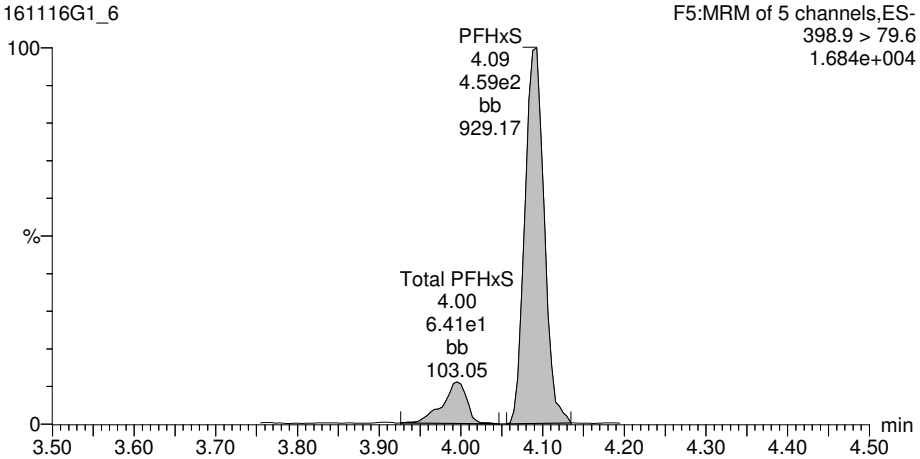
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

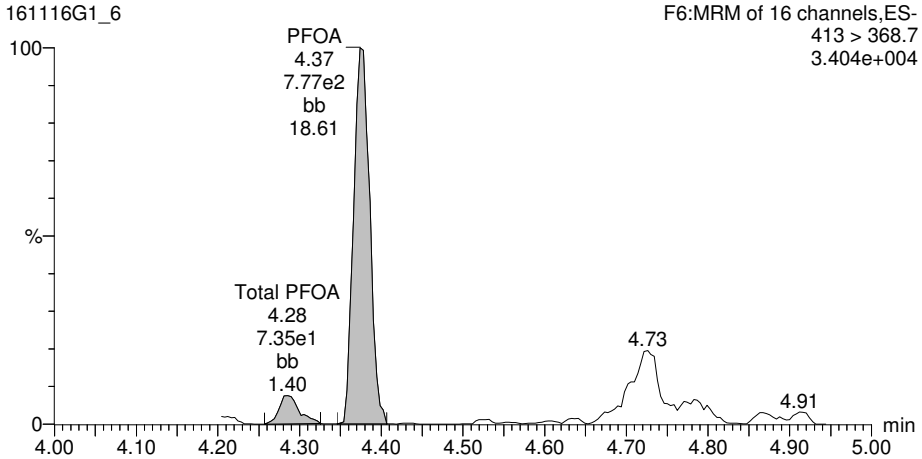
Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52, Instrument: , Lab: , User:

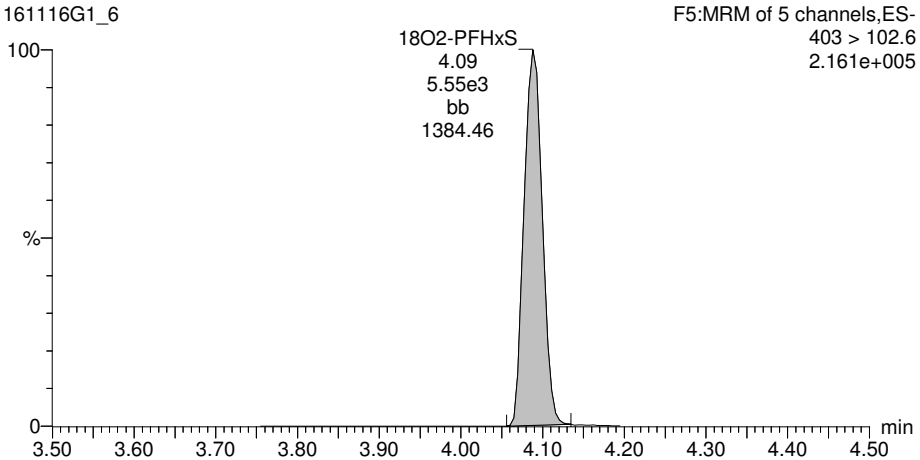
Total PFHxS



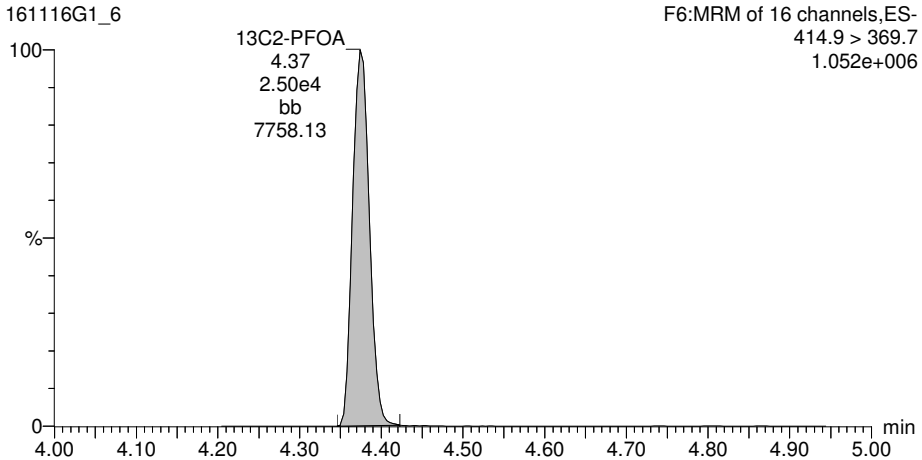
Total PFOA



18O2-PFHxS



13C2-PFOA



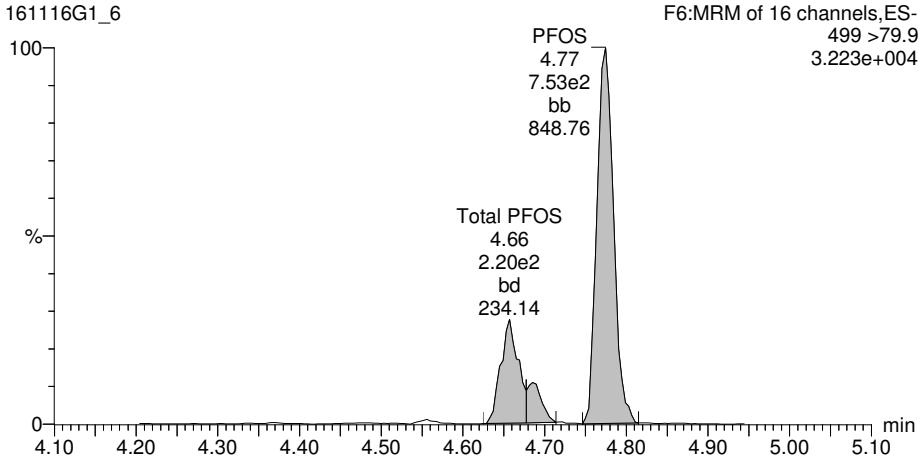
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52, Instrument: , Lab: , User:

Total PFOS



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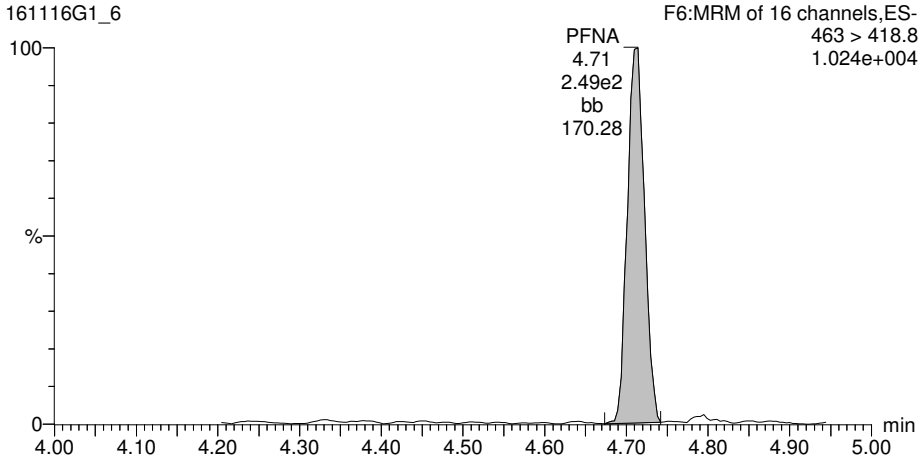
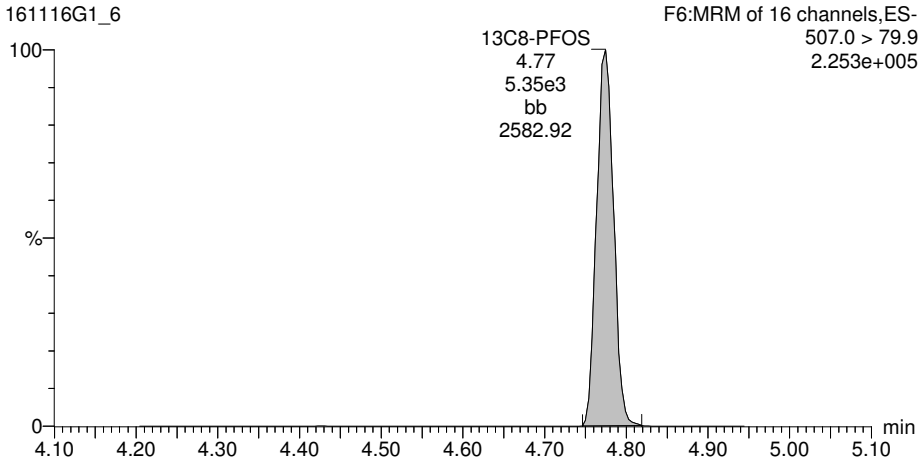
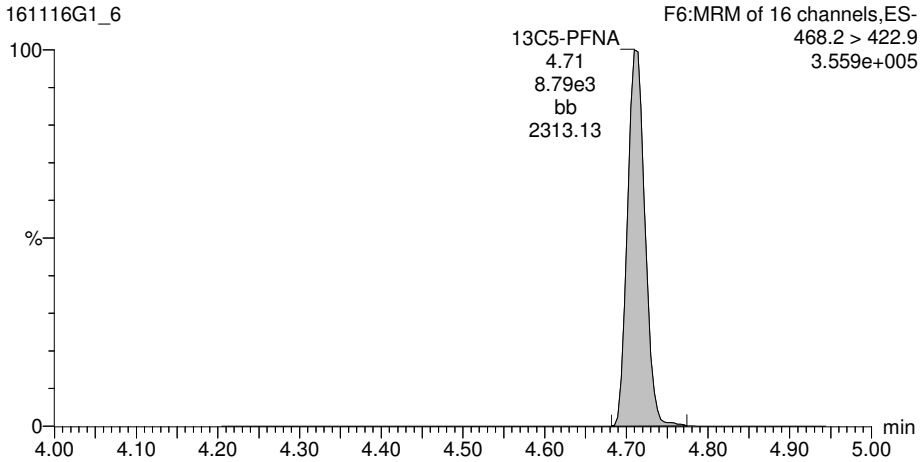


13C8-PFOS



13C5-PFNA



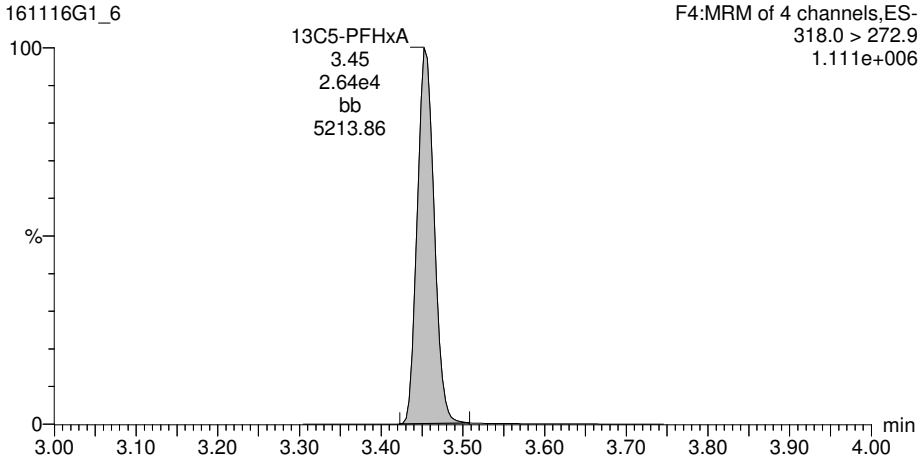
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

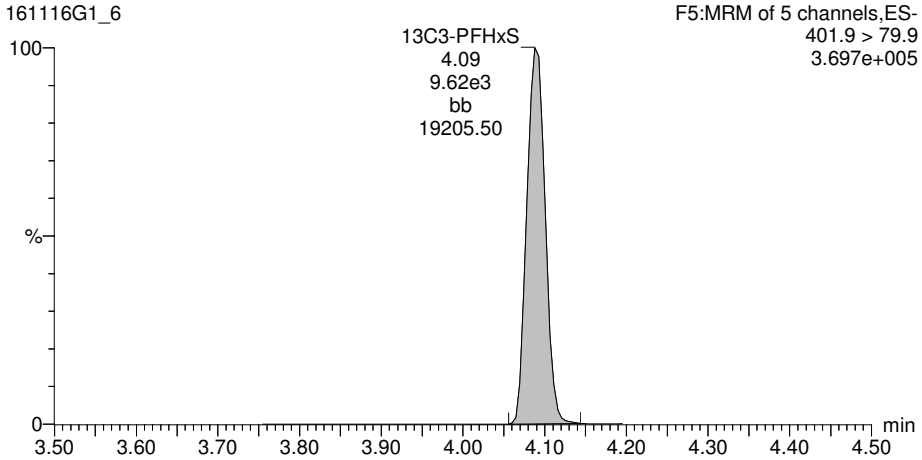
Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52, Instrument: , Lab: , User:

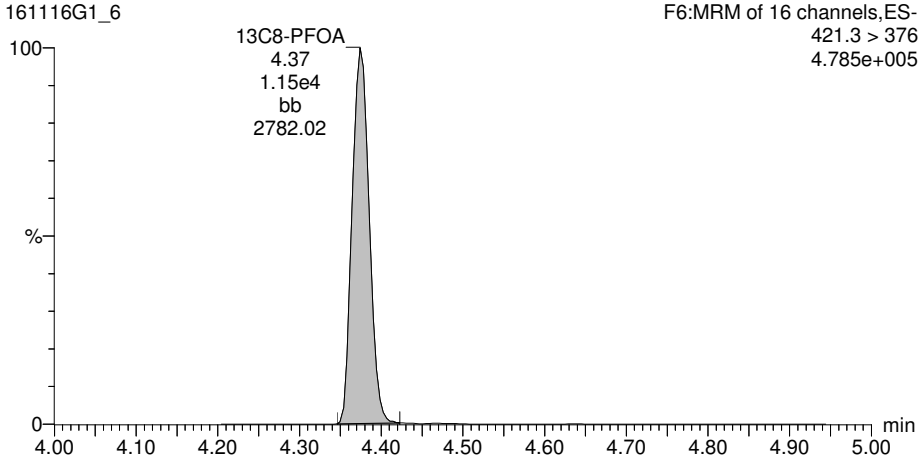
13C5-PFHxA



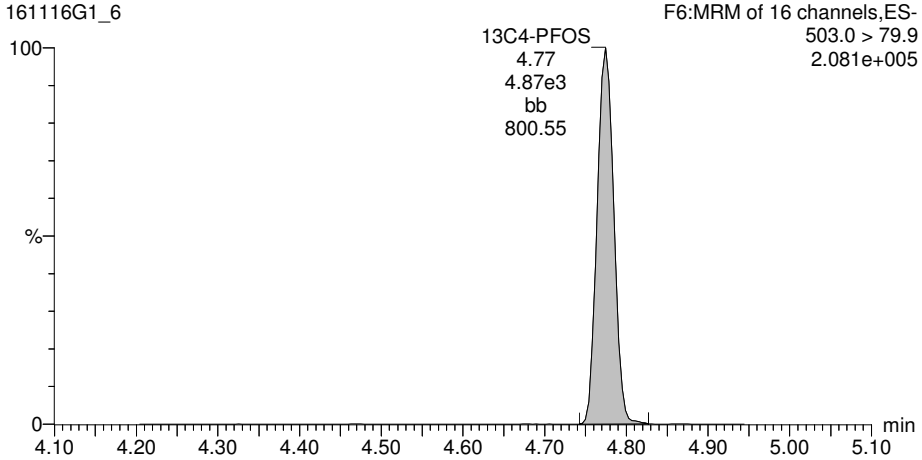
13C3-PFHxS



13C8-PFOA



13C4-PFOS



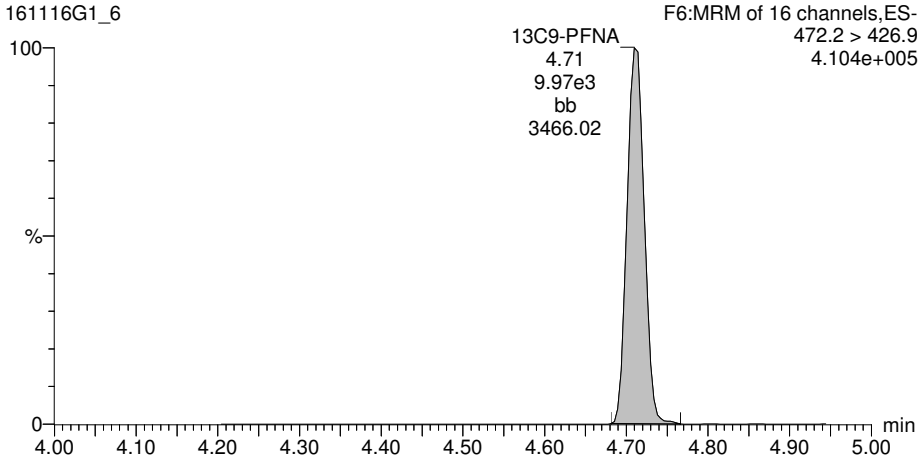
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-6.qld

Last Altered: Wednesday, November 16, 2016 13:11:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:16:08 Pacific Standard Time

ID: 1601388-01 MW-BG07-1016 0.12618, Description: MW-BG07-1016, Name: 161116G1_6, Date: 16-Nov-2016, Time: 11:53:52, Instrument: , Lab: , User:

13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-7.qld

Last Altered: Wednesday, November 16, 2016 13:13:50 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:17:17 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-02 MW-BG06-1016 0.12354, Description: MW-BG06-1016, Name: 161116G1_7, Date: 16-Nov-2016, Time: 12:06:28

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	7.156e0	6.124e3		0.124	3.09		
2	3	PFHpA	363 > 318.9	5.366e1	1.659e4		0.124	3.98		
3	4	PFHxS	398.9 > 79.6	7.194e1	5.351e3		0.124	4.09	0.178	
4	5	PFOA	413 > 368.7	3.482e2	2.261e4		0.124	4.37		
5	6	PFOS	499 >79.9	2.482e2	4.873e3		0.124	4.77	8.02	
6	7	PFNA	463 > 418.8	1.643e2	8.793e3		0.124	4.71	0.521	
7	9	13C3-PFBS	302.0 > 98.8	6.124e3	2.692e4	0.250	0.124	3.09	92.1	91.1
8	10	13C2-PFHxA	315 > 269.8	6.734e3	2.692e4	0.741	0.124	3.46	34.1	84.4
9	11	13C4-PFHpA	367.2 > 321.8	1.659e4	9.819e3	2.077	0.124	3.97	82.3	81.3
10	12	18O2-PFHxS	403 > 102.6	5.351e3	9.819e3	0.603	0.124	4.09	91.5	90.4
11	13	13C2-PFOA	414.9 > 369.7	2.261e4	1.158e4	2.438	0.124	4.37	81.0	80.1
12	14	13C8-PFOS	507.0 > 79.9	4.873e3	5.119e3	1.055	0.124	4.77	91.3	90.2
13	15	13C5-PFNA	468.2 > 422.9	8.793e3	9.436e3	1.158	0.124	4.71	81.4	80.5
14	16	13C2-PFDA	515.1 > 469.9	7.570e3	9.822e3	1.164	0.124	5.02	67.0	66.2
15	17	13C5-PFHxA	318.0 > 272.9	2.692e4	2.692e4	1.000	0.124	3.45	101	100
16	18	13C3-PFHxS	401.9 > 79.9	9.819e3	9.819e3	1.000	0.124	4.09	101	100
17	19	13C8-PFOA	421.3 > 376	1.158e4	1.158e4	1.000	0.124	4.37	101	100
18	20	13C4-PFOS	503.0 > 79.9	5.119e3	5.119e3	1.000	0.124	4.77	101	100
19	21	13C9-PFNA	472.2 > 426.9	9.436e3	9.436e3	1.000	0.124	4.71	101	100
20	22	13C6-PFDA	519.1 > 473.7	9.822e3	9.822e3	1.000	0.124	5.02	101	100
21	23	Total PFBS	299 > 79.7		6.124e3		0.124			
22	24	Total PFHxS	398.9 > 79.6		5.351e3		0.124		0.178	
23	25	Total PFOA	413 > 368.7		2.261e4		0.124			
24	26	Total PFOS	499 > 79.9		4.873e3		0.124		11.4	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-7.qld

Last Altered: Wednesday, November 16, 2016 13:13:50 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:17:17 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-02 MW-BG06-1016 0.12354, Description: MW-BG06-1016, Name: 161116G1_7, Date: 16-Nov-2016, Time: 12:06:28

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	7.156	6123.951	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	71.936	5351.375	0.2
2	24	Total PFHxS	398.9 > 79.6	3.99	10.711	5351.375	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.37	348.205	22607.096	
2	25	Total PFOA	413 > 368.7	4.30	23.905	22607.096	
3	25	Total PFOA	413 > 368.7	4.28	10.577	22607.096	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.77	248.204	4872.900	8.0
2	26	Total PFOS	499 >79.9	4.68	44.478	4872.900	2.2
3	26	Total PFOS	499 >79.9	4.66	7.247	4872.900	1.1

Reviewed: WJL 11/16/2016 AC 11/16/16

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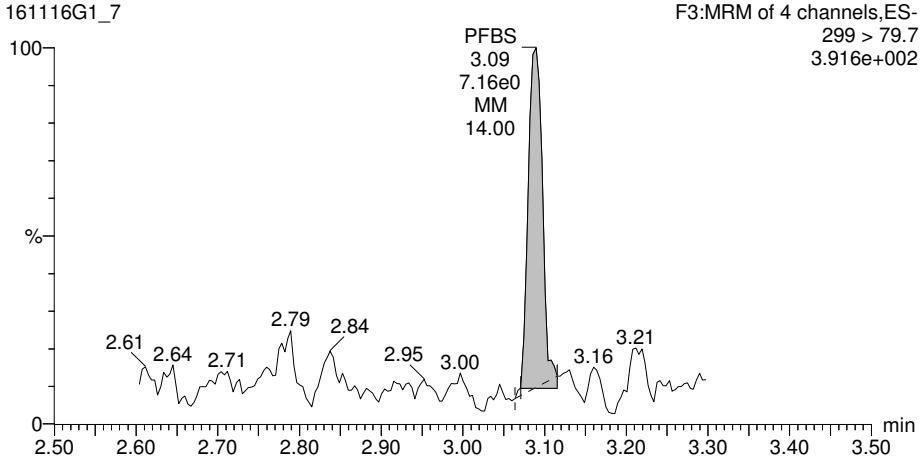
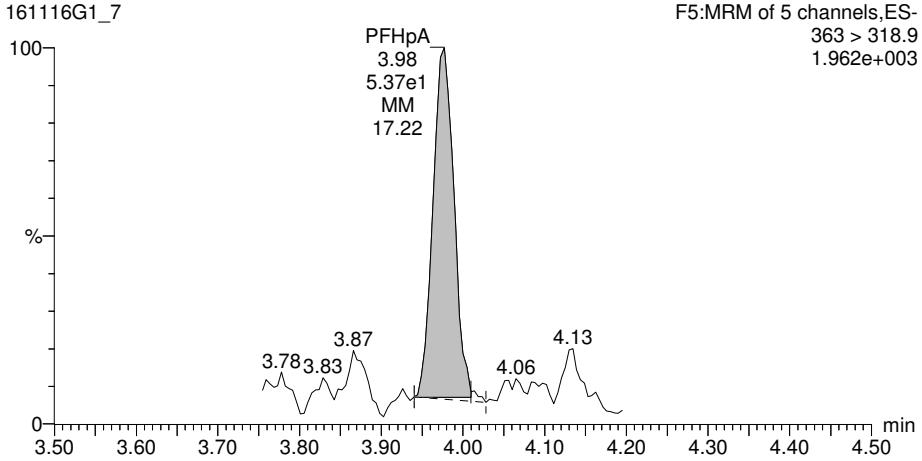
ID: 1601388-02 MW-BG06-1016 0.12354, Description: MW-BG06-1016, Name: 161116G1_7, Date: 16-Nov-2016, Time: 12:06:28, Instrument: , Lab: , User:

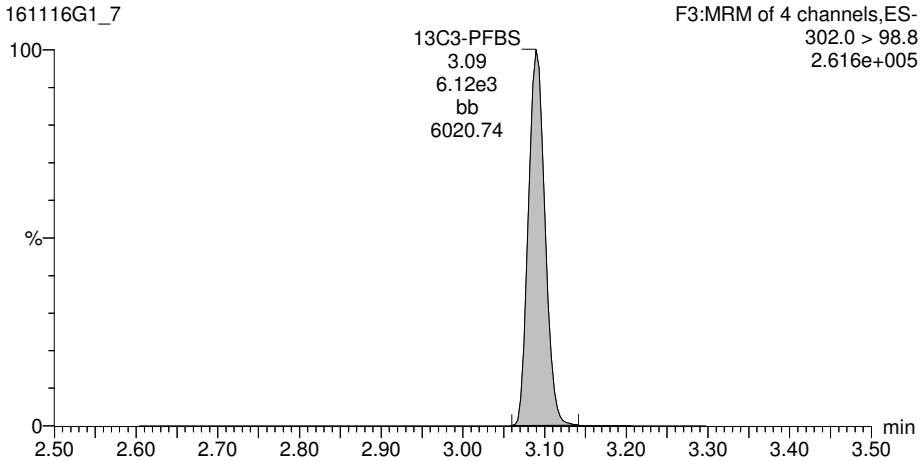
Total PFBS



PFHpA



13C3-PFBS



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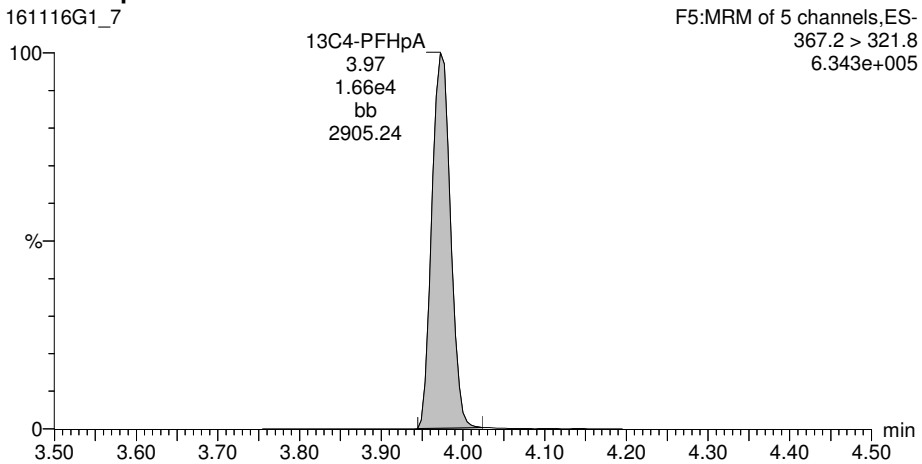

Reviewed: WJL 11/16/2016 AC 11/16/16

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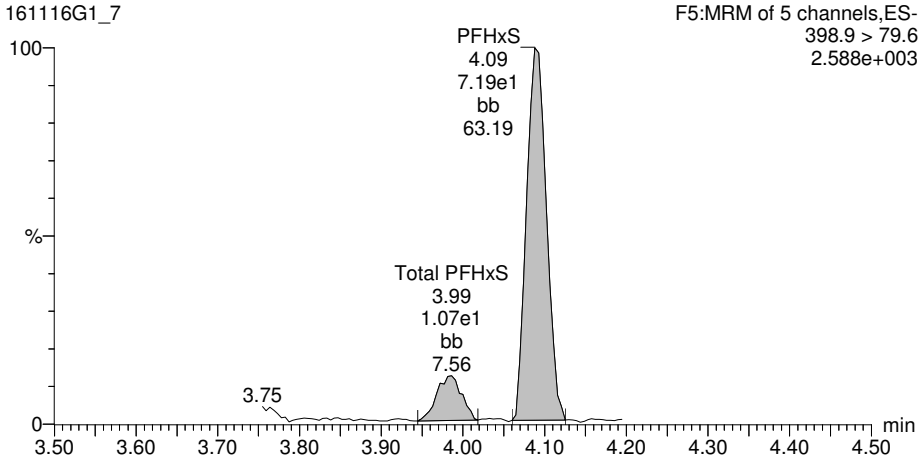
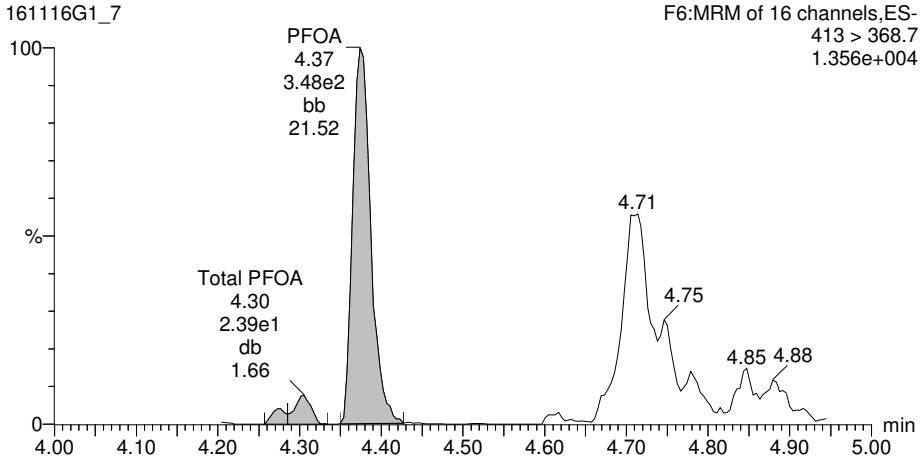
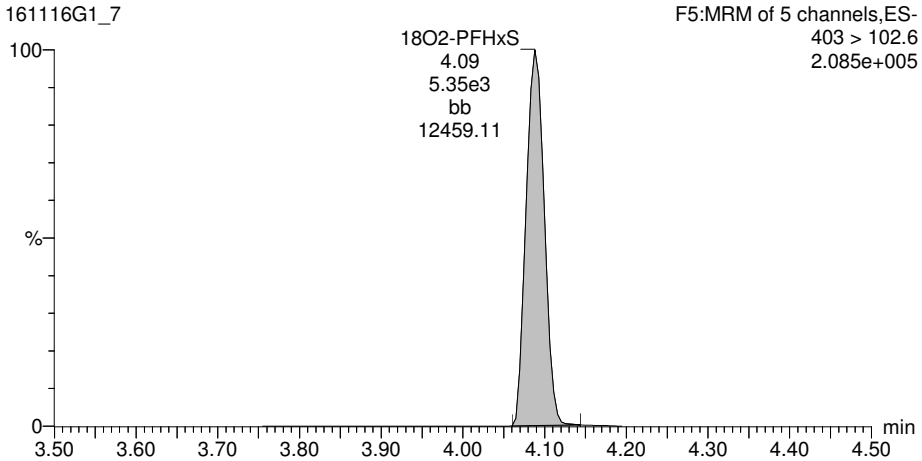
Total PFHxS



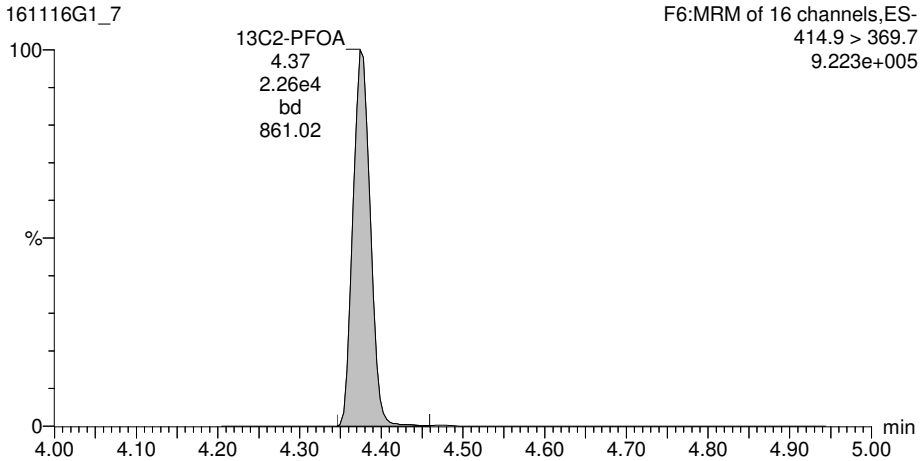
Total PFOA



18O2-PFHxS



13C2-PFOA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-7.qld

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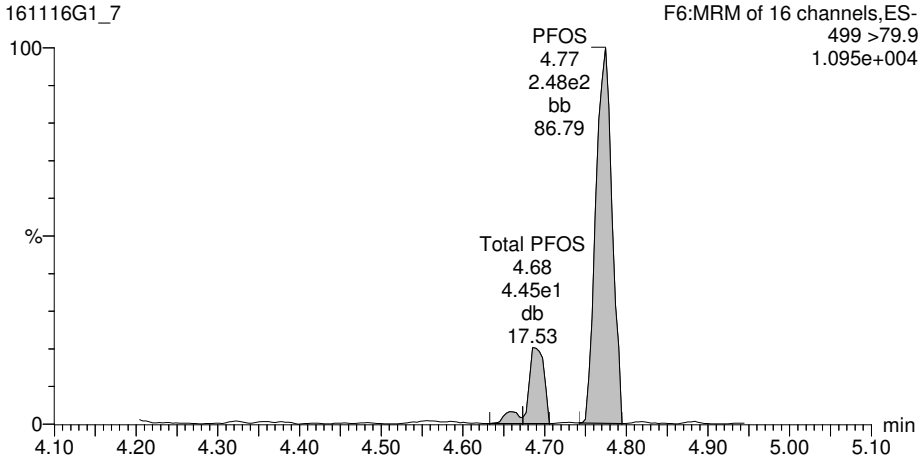
Total PFOS



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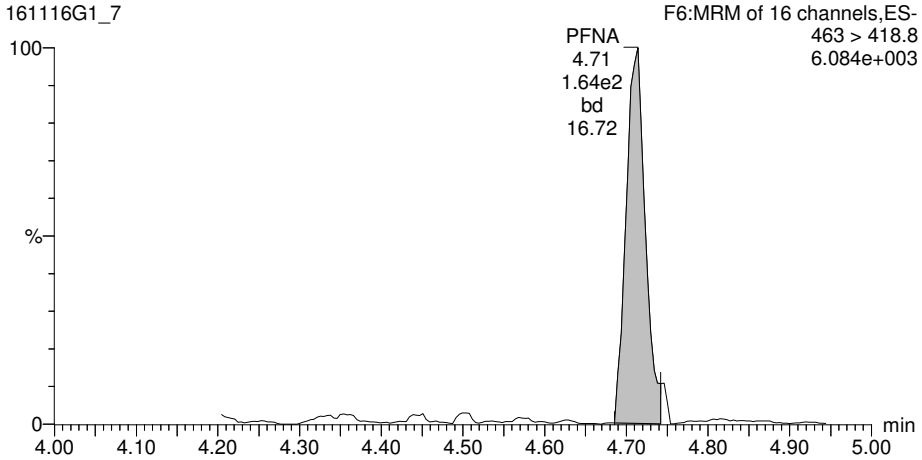

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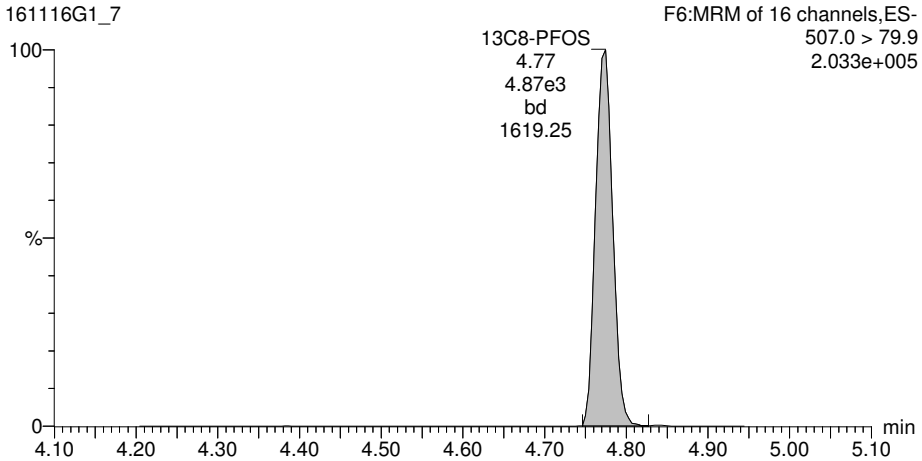

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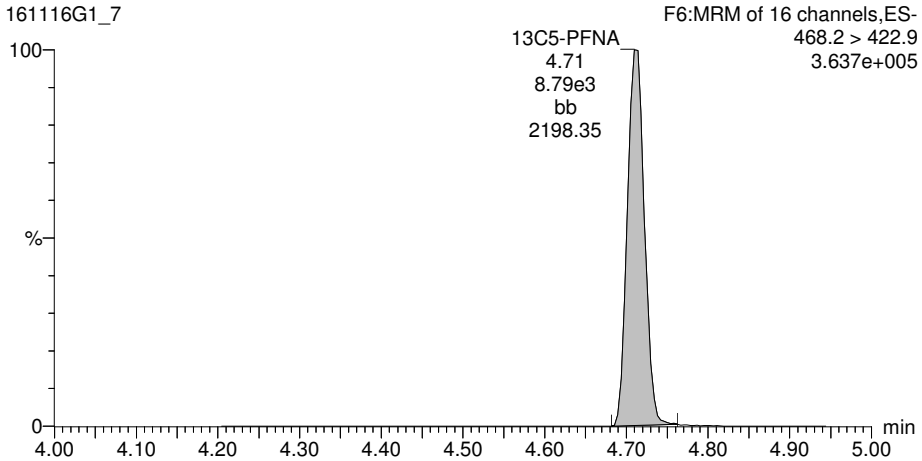

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-7.qld

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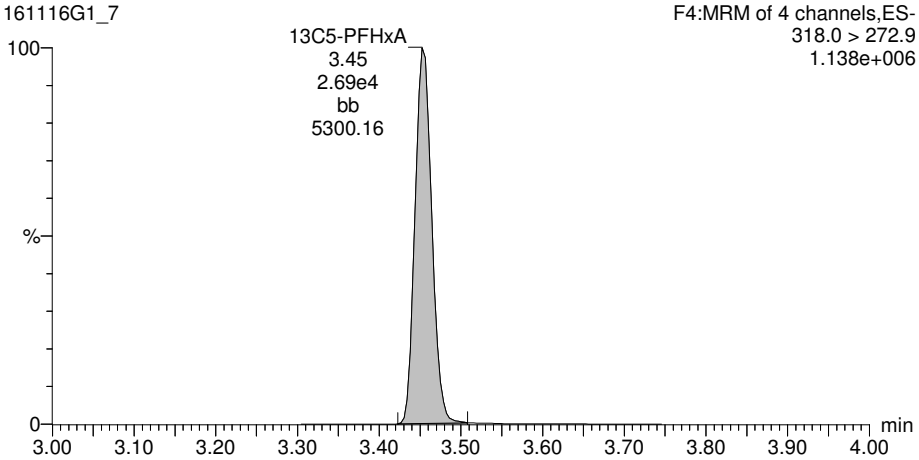
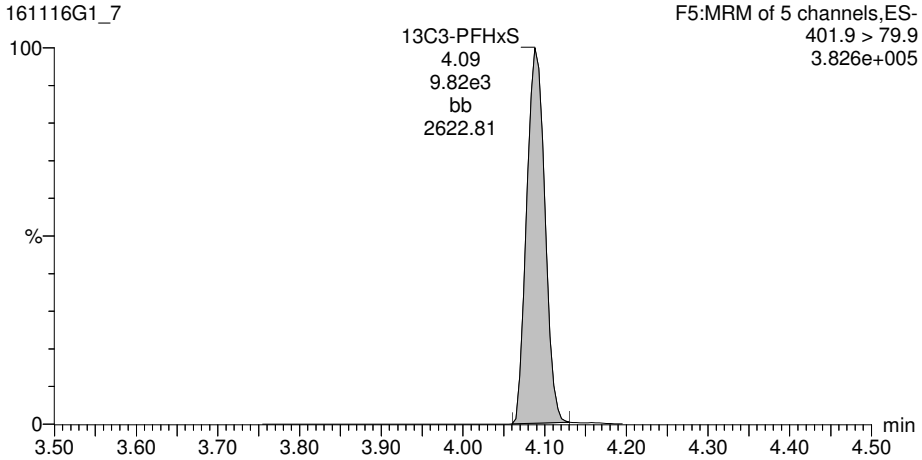
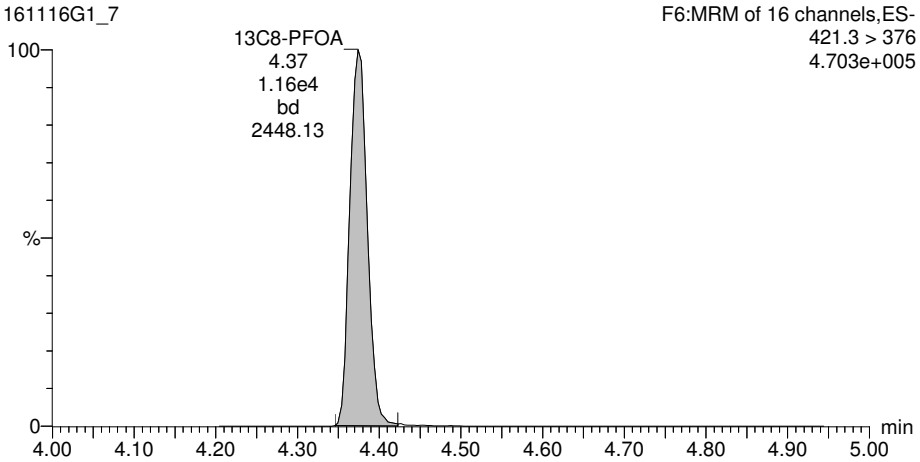
13C5-PFHxA



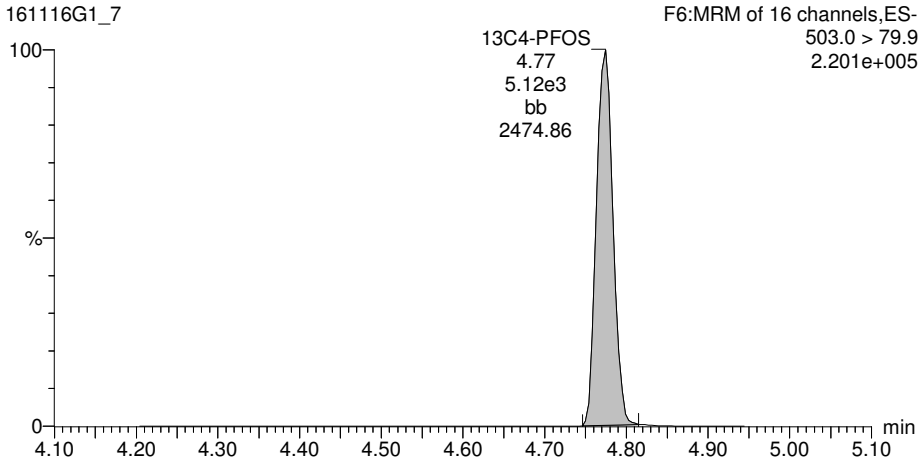
13C3-PFHxS



13C8-PFOA



13C4-PFOS



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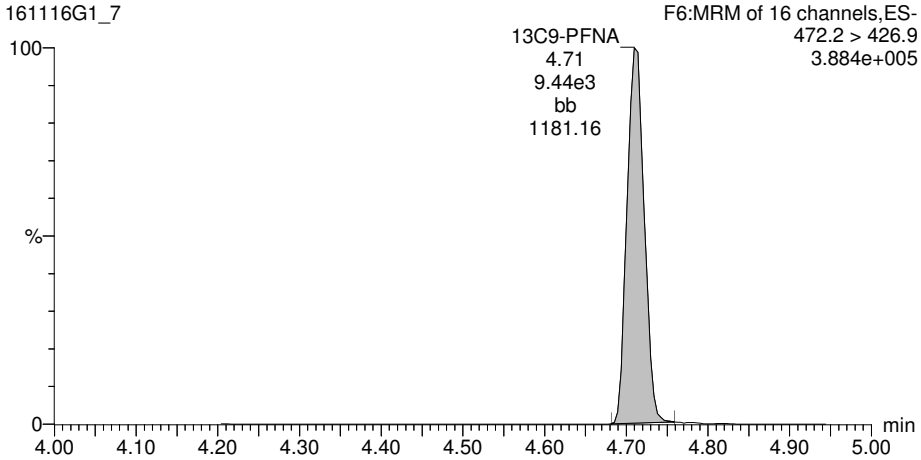
13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-8.qld

Last Altered: Wednesday, November 16, 2016 13:16:23 Pacific Standard Time
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Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-03 MW-BG05-1016 0.12746, Description: MW-BG05-1016, Name: 161116G1_8, Date: 16-Nov-2016, Time: 12:19:05

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	8.793e1	6.869e3		0.127	3.09	0.231	
2	3	PFHpA	363 > 318.9	3.992e2	1.829e4		0.127	3.98	0.665	
3	4	PFHxS	398.9 > 79.6	2.824e2	5.515e3		0.127	4.09	3.02	
4	5	PFOA	413 > 368.7	6.935e2	2.471e4		0.127	4.38	1.26	
5	6	PFOS	499 >79.9	1.669e1	4.941e3		0.127	4.68	1.36	
6	7	PFNA	463 > 418.8	1.651e2	8.992e3		0.127	4.71	0.485	
7	9	13C3-PFBS	302.0 > 98.8	6.869e3	2.786e4	0.250	0.127	3.09	96.8	98.7
8	10	13C2-PFHxA	315 > 269.8	7.245e3	2.786e4	0.741	0.127	3.45	34.4	87.7
9	11	13C4-PFHpA	367.2 > 321.8	1.829e4	9.350e3	2.077	0.127	3.97	92.4	94.2
10	12	18O2-PFHxS	403 > 102.6	5.515e3	9.350e3	0.603	0.127	4.09	96.0	97.8
11	13	13C2-PFOA	414.9 > 369.7	2.471e4	1.105e4	2.438	0.127	4.37	89.9	91.7
12	14	13C8-PFOS	507.0 > 79.9	4.941e3	4.772e3	1.055	0.127	4.77	96.2	98.1
13	15	13C5-PFNA	468.2 > 422.9	8.992e3	9.089e3	1.158	0.127	4.71	83.8	85.5
14	16	13C2-PFDA	515.1 > 469.9	5.665e3	8.447e3	1.164	0.127	5.02	56.5	57.6
15	17	13C5-PFHxA	318.0 > 272.9	2.786e4	2.786e4	1.000	0.127	3.45	98.1	100
16	18	13C3-PFHxS	401.9 > 79.9	9.350e3	9.350e3	1.000	0.127	4.09	98.1	100
17	19	13C8-PFOA	421.3 > 376	1.105e4	1.105e4	1.000	0.127	4.37	98.1	100
18	20	13C4-PFOS	503.0 > 79.9	4.772e3	4.772e3	1.000	0.127	4.77	98.1	100
19	21	13C9-PFNA	472.2 > 426.9	9.089e3	9.089e3	1.000	0.127	4.71	98.1	100
20	22	13C6-PFDA	519.1 > 473.7	8.447e3	8.447e3	1.000	0.127	5.01	98.1	100
21	23	Total PFBS	299 > 79.7		6.869e3		0.127		0.231	
22	24	Total PFHxS	398.9 > 79.6		5.515e3		0.127		3.02	
23	25	Total PFOA	413 > 368.7		2.471e4		0.127		1.26	
24	26	Total PFOS	499 > 79.9		4.941e3		0.127		1.36	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

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ID: 1601388-03 MW-BG05-1016 0.12746, Description: MW-BG05-1016, Name: 161116G1_8, Date: 16-Nov-2016, Time: 12:19:05

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	87.927	6869.384	0.2

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	282.394	5514.836	3.0
2	24	Total PFHxS	398.9 > 79.6	4.00	12.862	5514.836	
3	24	Total PFHxS	398.9 > 79.6	3.97	6.901	5514.836	
4	24	Total PFHxS	398.9 > 79.6	3.97	6.901	5514.836	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	693.482	24705.891	1.3
2	25	Total PFOA	413 > 368.7	4.31	29.046	24705.891	
3	25	Total PFOA	413 > 368.7	4.28	68.154	24705.891	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.68	16.693	4940.722	1.4

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Vista Analytical Laboratory Q1

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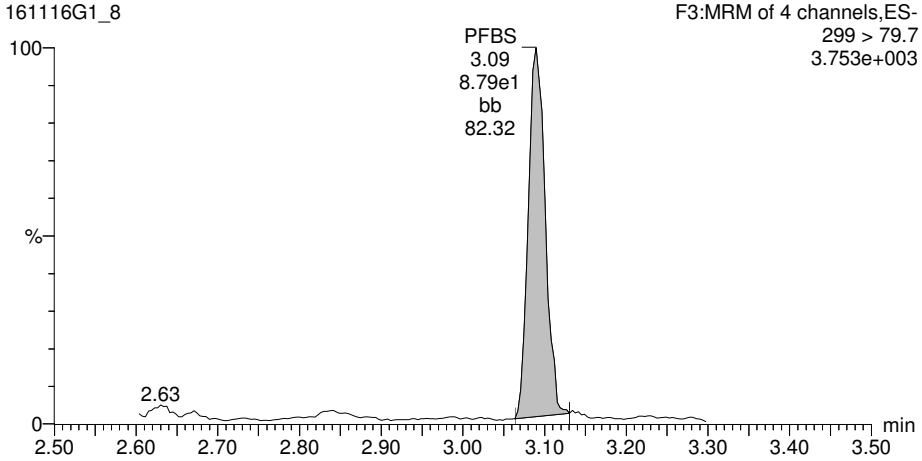
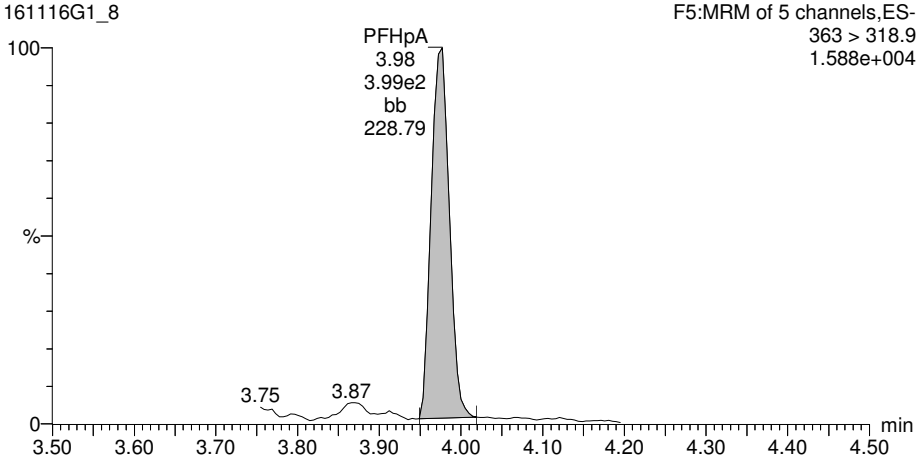
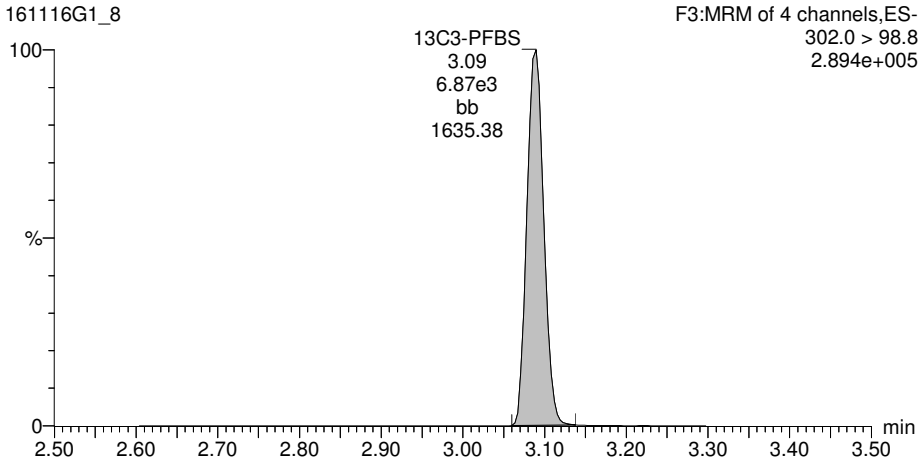
Total PFBS



PFHpA



13C3-PFBS



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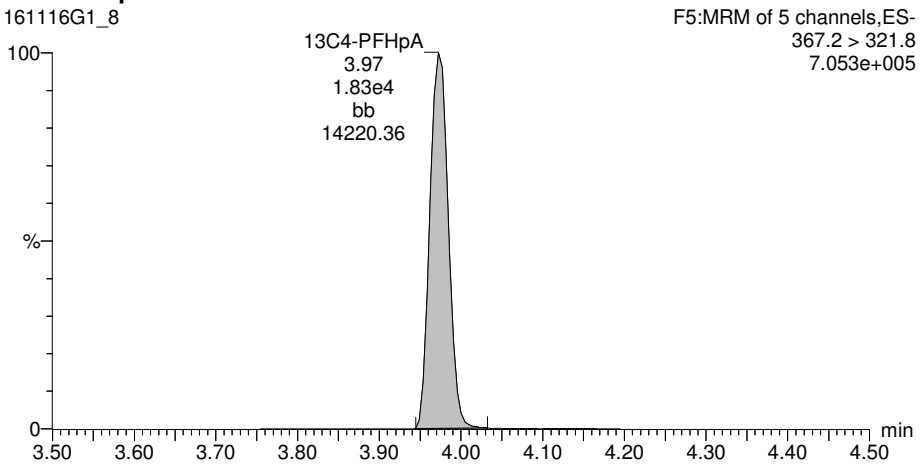

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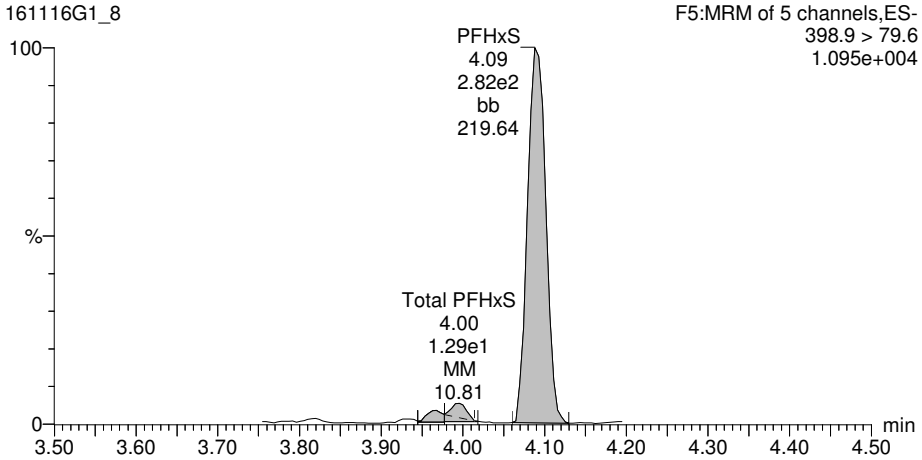
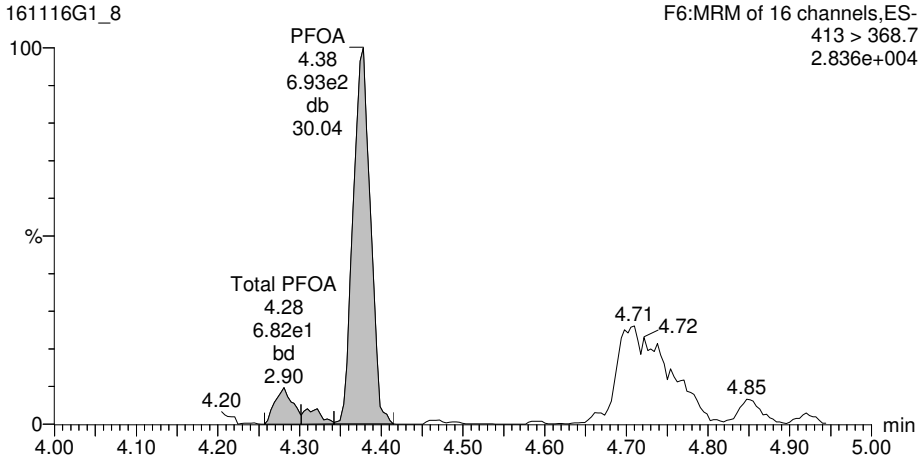
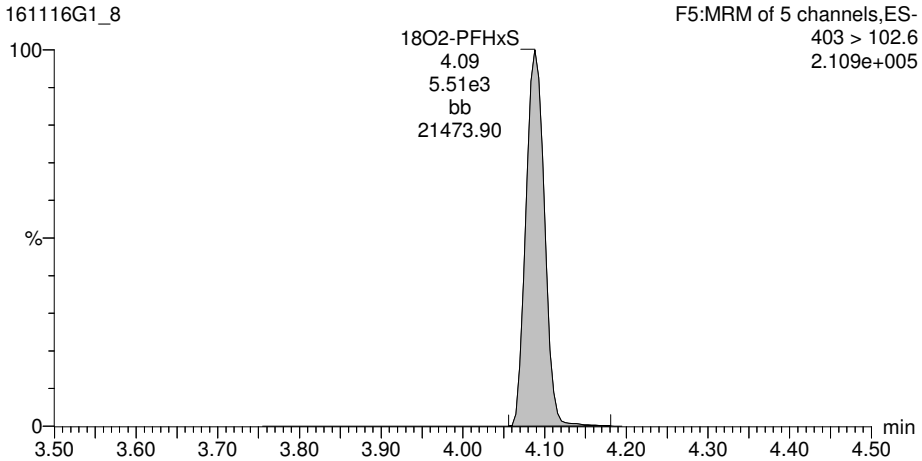
Total PFHxS



Total PFOA



18O2-PFHxS



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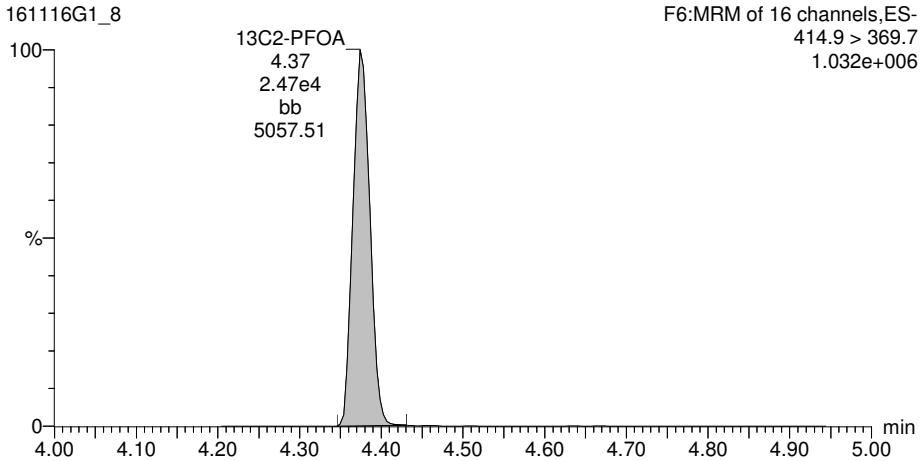

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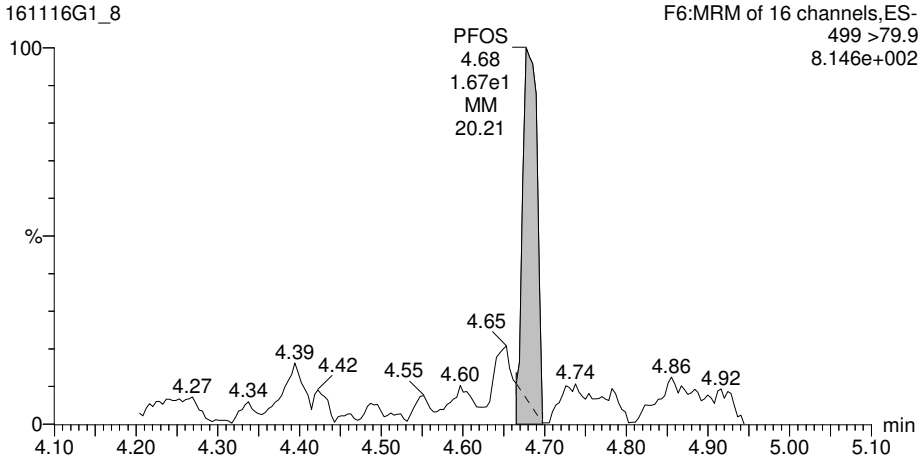
Total PFOS



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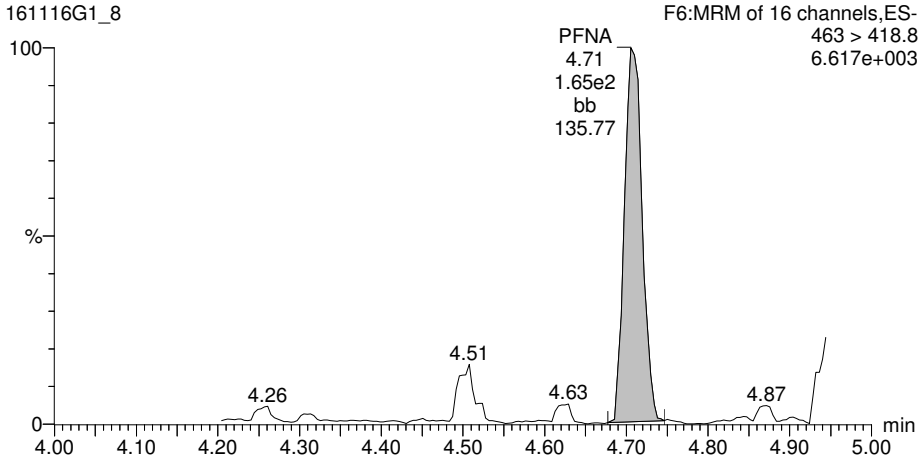
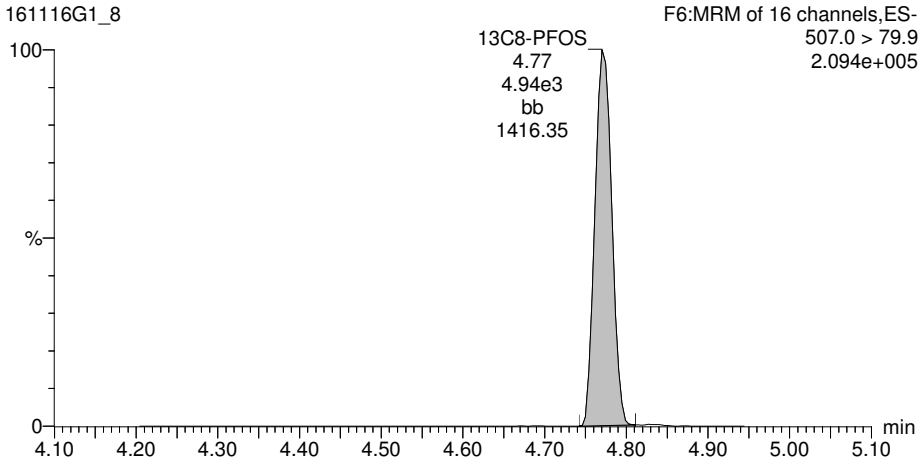
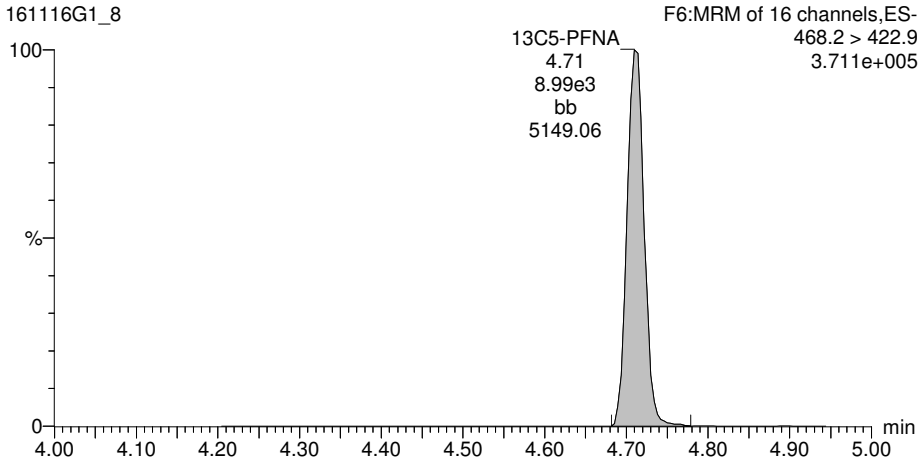


13C8-PFOS



13C5-PFNA



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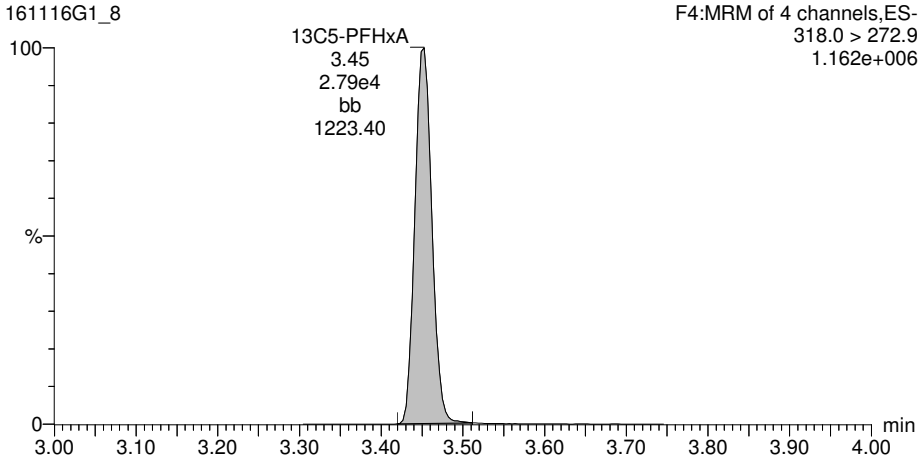
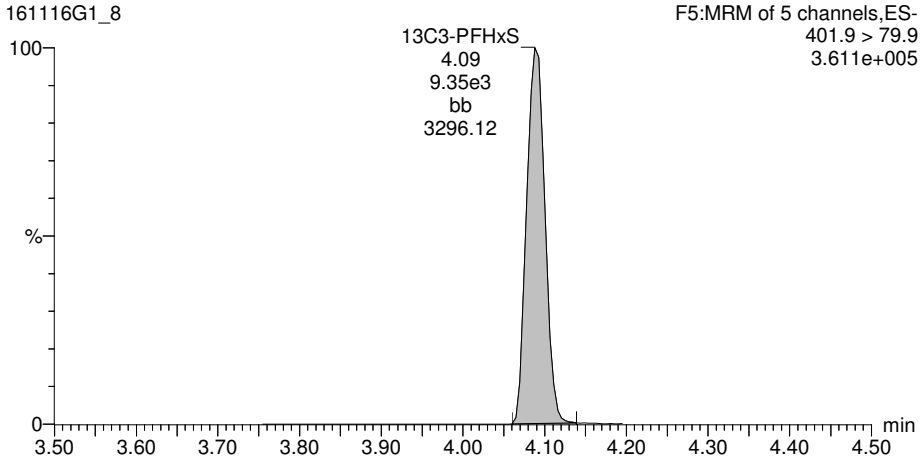
ID: 1601388-03 MW-BG05-1016 0.12746, Description: MW-BG05-1016, Name: 161116G1_8, Date: 16-Nov-2016, Time: 12:19:05, Instrument: , Lab: , User:

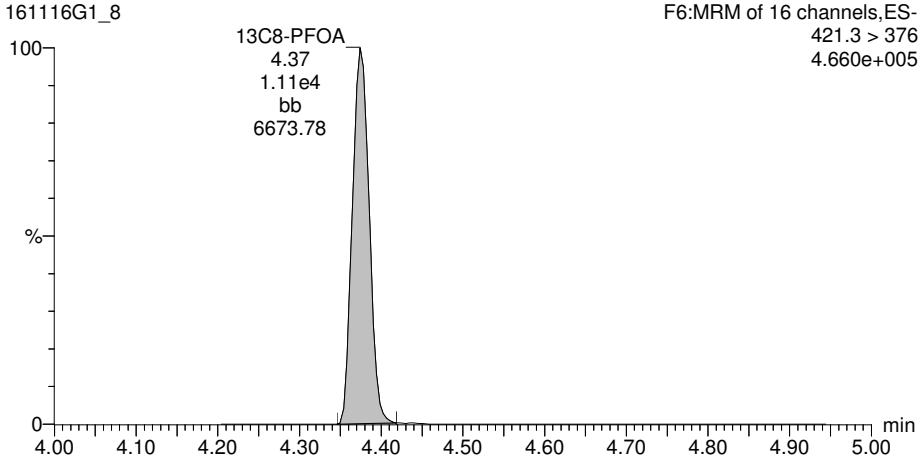
13C5-PFHxA



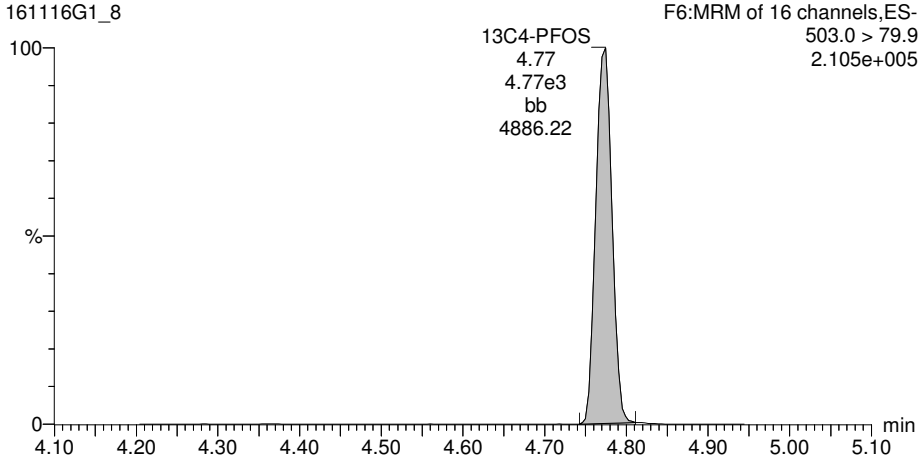
13C3-PFHxS



13C8-PFOA



13C4-PFOS



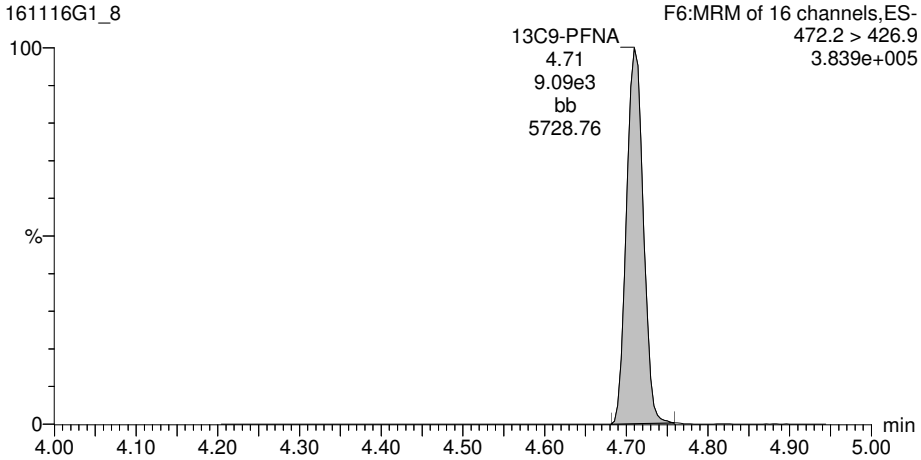
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-8.qld

Last Altered: Wednesday, November 16, 2016 13:16:23 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:19 Pacific Standard Time

ID: 1601388-03 MW-BG05-1016 0.12746, Description: MW-BG05-1016, Name: 161116G1_8, Date: 16-Nov-2016, Time: 12:19:05, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	7.201e1	6.880e3		0.124	3.10	0.0659	
2	3	PFHpA	363 > 318.9	3.658e2	1.758e4		0.124	3.98	0.598	
3	4	PFHxS	398.9 > 79.6	2.639e2	5.624e3		0.124	4.09	2.78	
4	5	PFOA	413 > 368.7	8.098e2	2.399e4		0.124	4.37	2.02	
5	6	PFOS	499 >79.9	3.806e1	4.298e3		0.124	4.78	2.16	
6	7	PFNA	463 > 418.8	1.332e2	8.237e3		0.124	4.71	0.360	
7	9	13C3-PFBS	302.0 > 98.8	6.880e3	2.844e4	0.250	0.124	3.09	97.9	96.8
8	10	13C2-PFHxA	315 > 269.8	7.460e3	2.844e4	0.741	0.124	3.46	35.8	88.5
9	11	13C4-PFHpA	367.2 > 321.8	1.758e4	8.650e3	2.077	0.124	3.97	98.9	97.9
10	12	18O2-PFHxS	403 > 102.6	5.624e3	8.650e3	0.603	0.124	4.09	109	108
11	13	13C2-PFOA	414.9 > 369.7	2.399e4	1.142e4	2.438	0.124	4.38	87.1	86.2
12	14	13C8-PFOS	507.0 > 79.9	4.298e3	4.788e3	1.055	0.124	4.77	86.0	85.1
13	15	13C5-PFNA	468.2 > 422.9	8.237e3	9.084e3	1.158	0.124	4.71	79.1	78.3
14	16	13C2-PFDA	515.1 > 469.9	5.165e3	8.520e3	1.164	0.124	5.02	52.6	52.1
15	17	13C5-PFHxA	318.0 > 272.9	2.844e4	2.844e4	1.000	0.124	3.45	101	100
16	18	13C3-PFHxS	401.9 > 79.9	8.650e3	8.650e3	1.000	0.124	4.09	101	100
17	19	13C8-PFOA	421.3 > 376	1.142e4	1.142e4	1.000	0.124	4.37	101	100
18	20	13C4-PFOS	503.0 > 79.9	4.788e3	4.788e3	1.000	0.124	4.77	101	100
19	21	13C9-PFNA	472.2 > 426.9	9.084e3	9.084e3	1.000	0.124	4.71	101	100
20	22	13C6-PFDA	519.1 > 473.7	8.520e3	8.520e3	1.000	0.124	5.02	101	100
21	23	Total PFBS	299 > 79.7		6.880e3		0.124		0.0659	
22	24	Total PFHxS	398.9 > 79.6		5.624e3		0.124		2.78	
23	25	Total PFOA	413 > 368.7		2.399e4		0.124		2.02	
24	26	Total PFOS	499 > 79.9		4.298e3		0.124		4.27	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.10	72.010	6879.656	0.1

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	263.917	5624.180	2.8
2	24	Total PFHxS	398.9 > 79.6	3.99	18.731	5624.180	
3	24	Total PFHxS	398.9 > 79.6	3.97	17.817	5624.180	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.37	809.835	23994.518	2.0
2	25	Total PFOA	413 > 368.7	4.28	67.525	23994.518	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.78	38.062	4298.256	2.2
2	26	Total PFOS	499 >79.9	4.68	36.501	4298.256	2.1

Reviewed: WJL 11/16/2016 AC 11/16/16

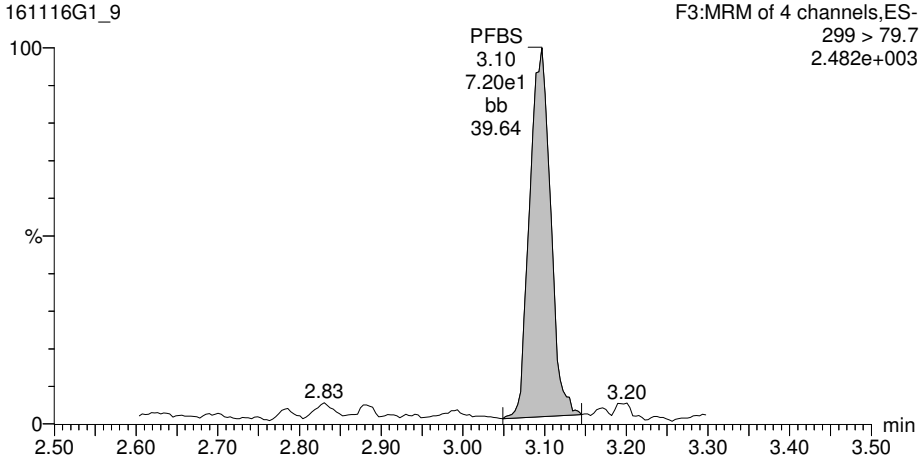
Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

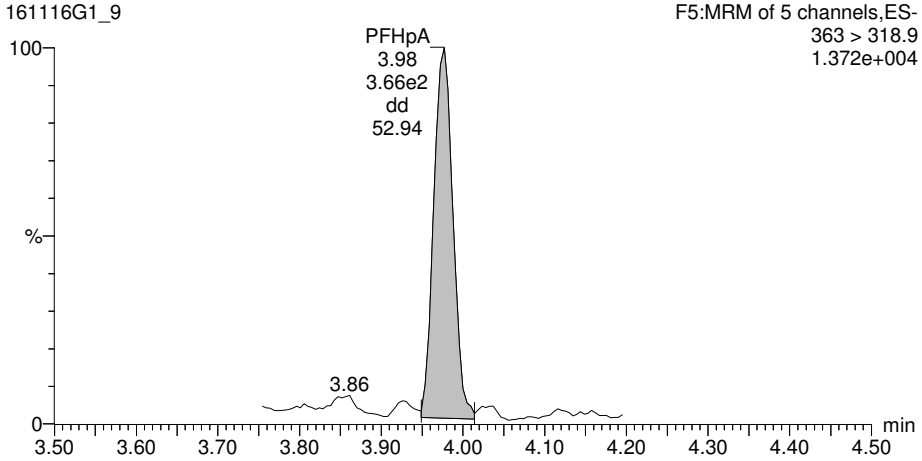
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42, Instrument: , Lab: , User:

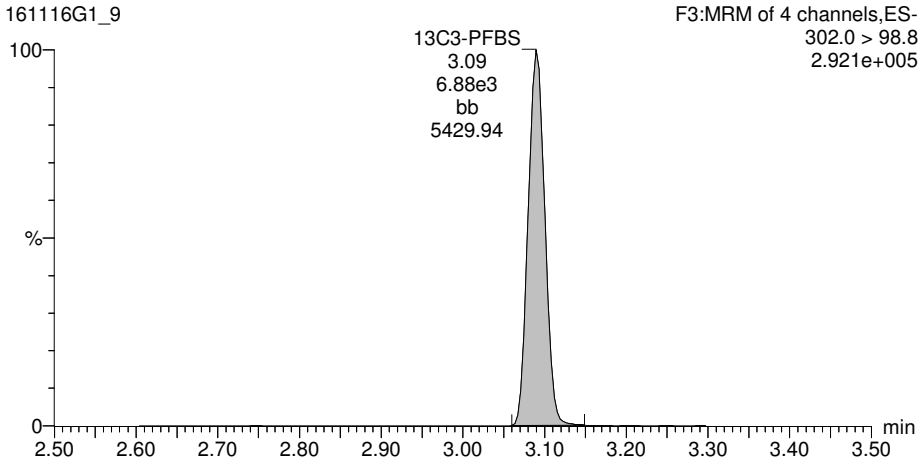
Total PFBS



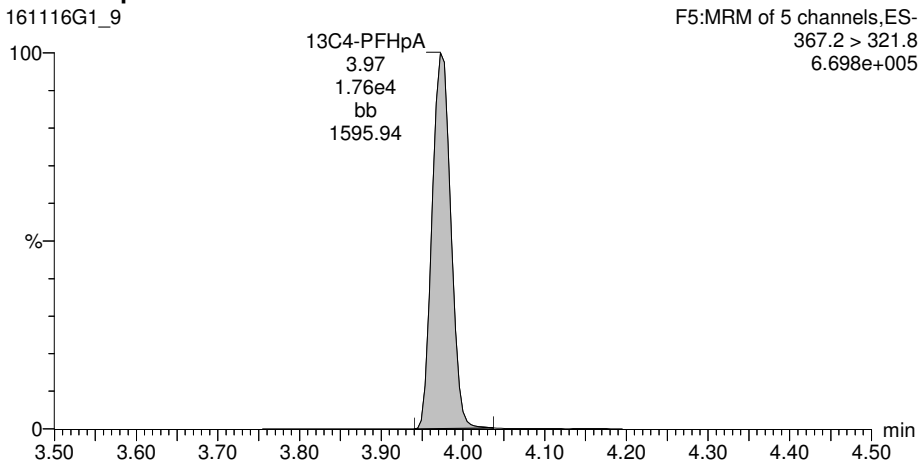
PFHpA



13C3-PFBS



13C4-PFHpA



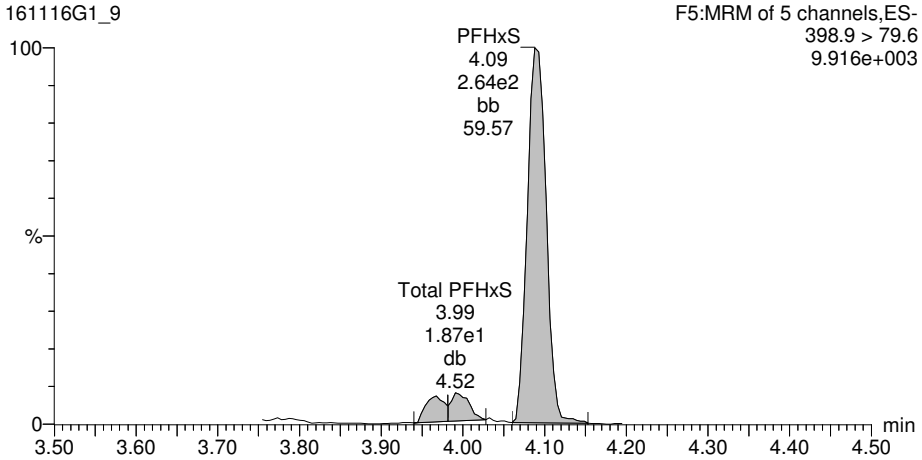
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

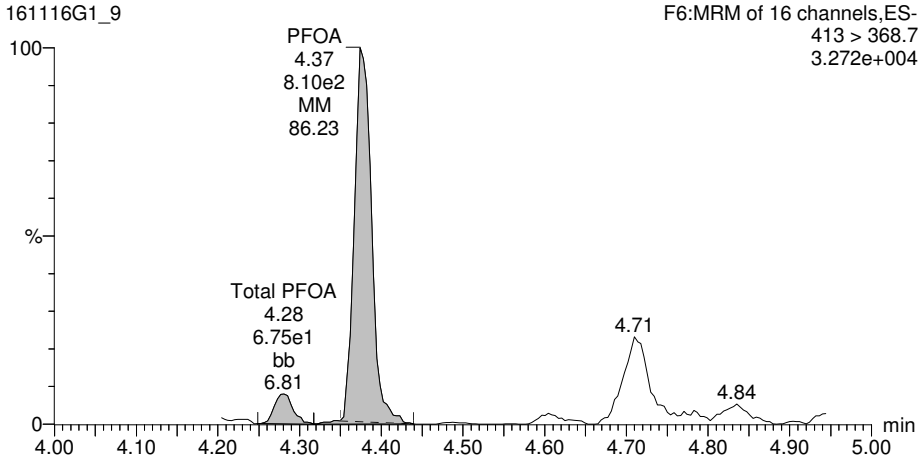
Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42, Instrument: , Lab: , User:

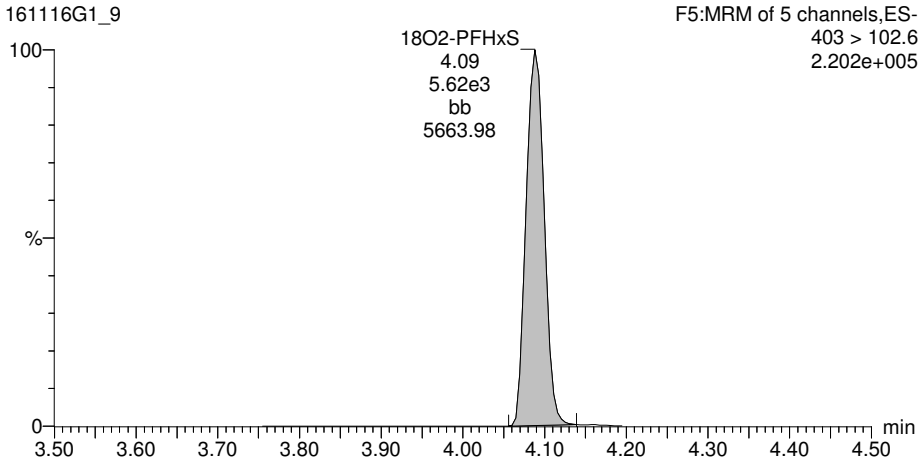
Total PFHxS



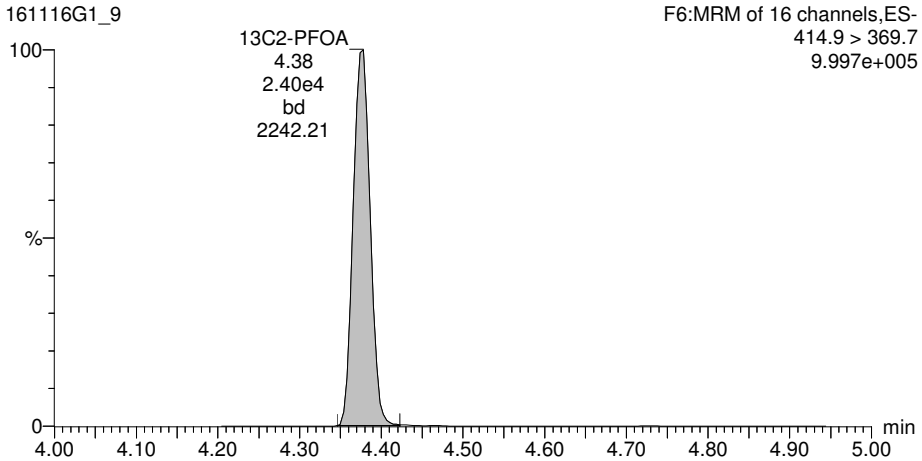
Total PFOA



18O2-PFHxS



13C2-PFOA



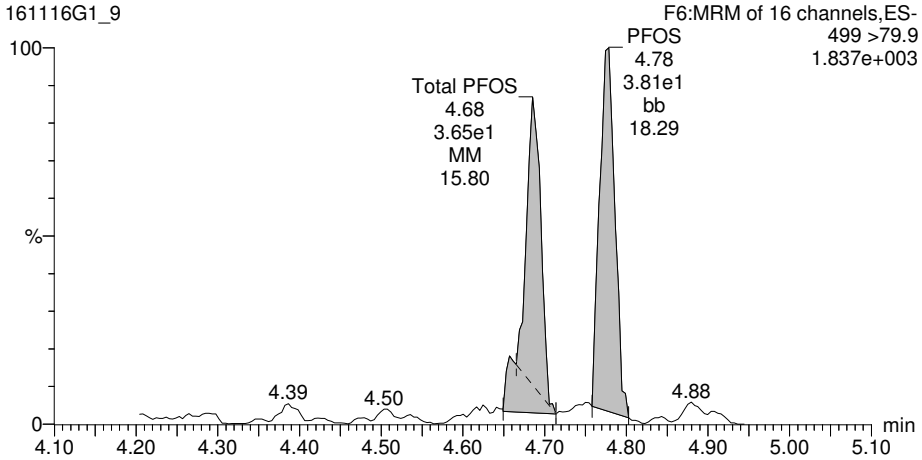
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

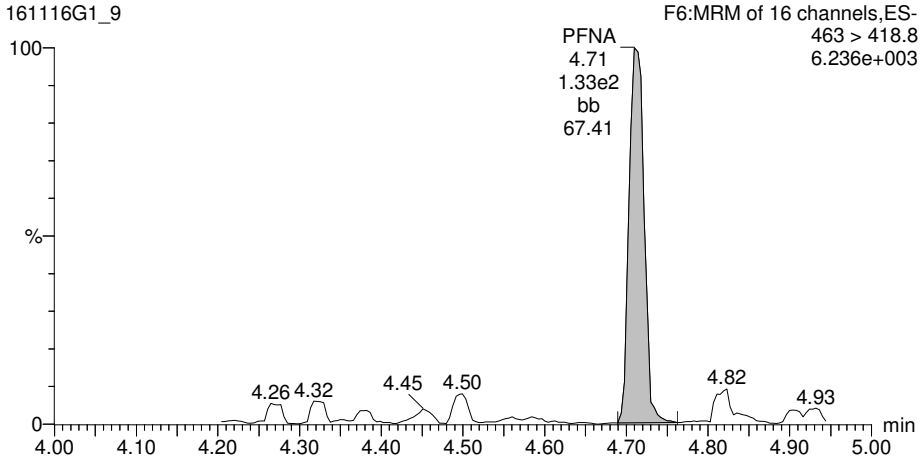
Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42, Instrument: , Lab: , User:

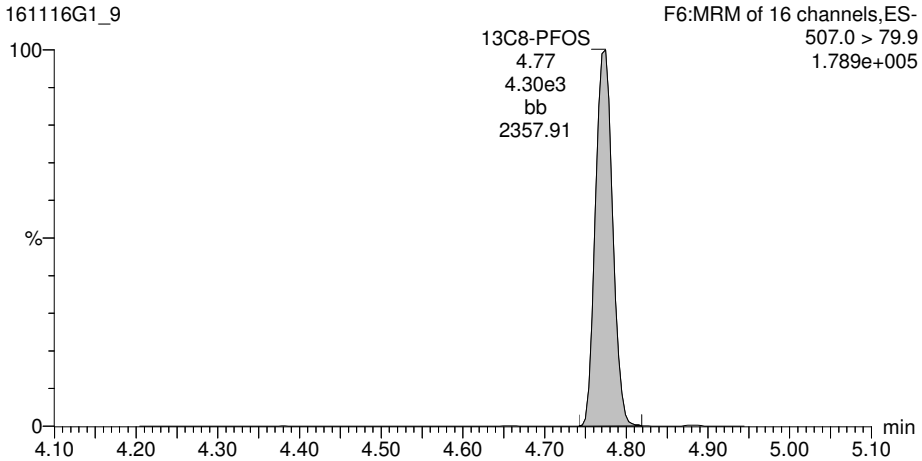
Total PFOS



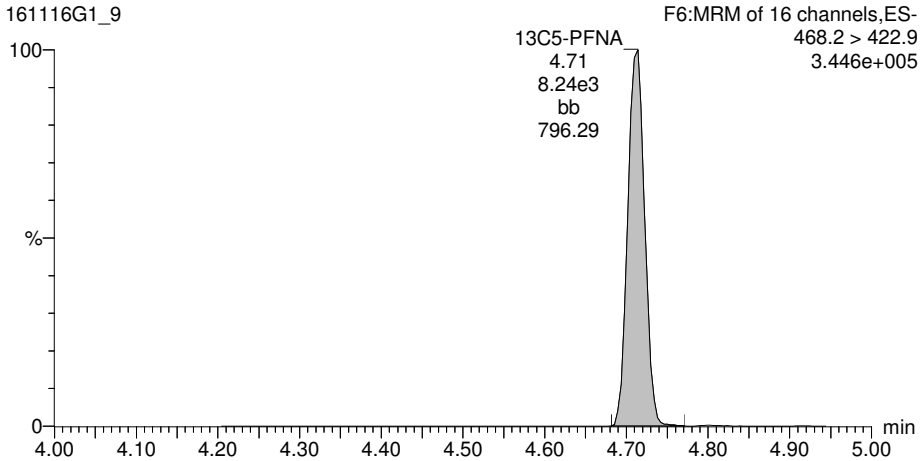
PFNA



13C8-PFOS



13C5-PFNA



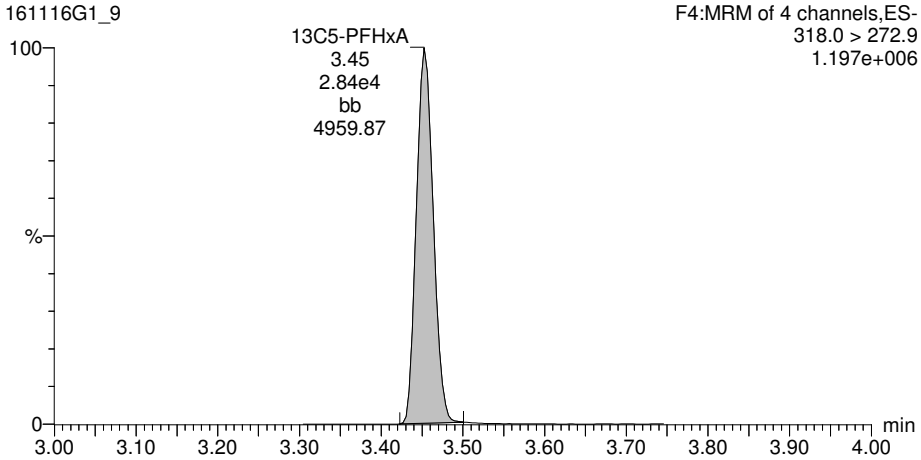
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

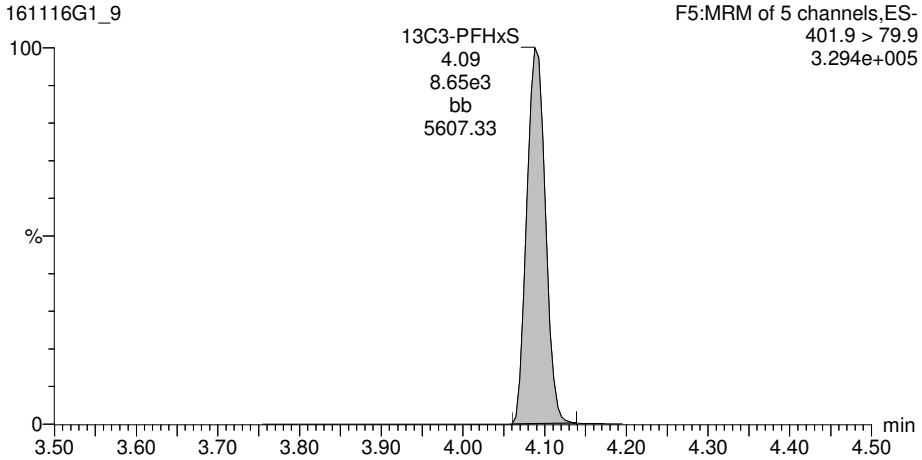
Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:18:50 Pacific Standard Time

ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42, Instrument: , Lab: , User:

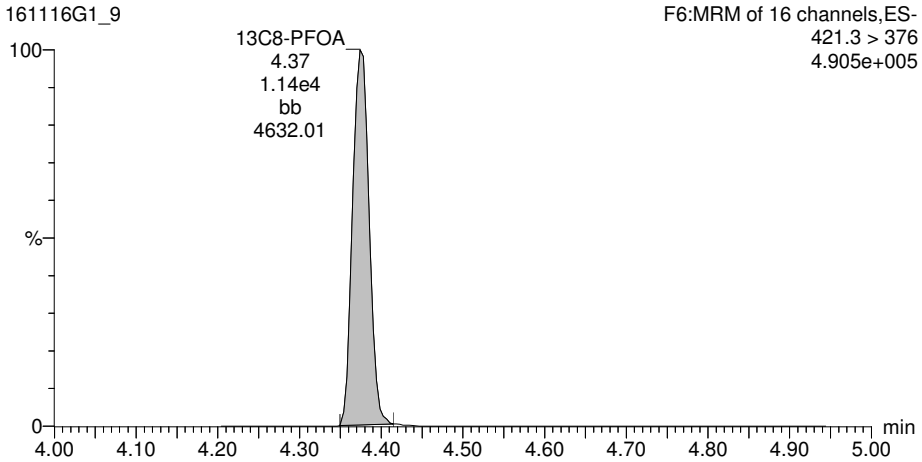
13C5-PFHxA



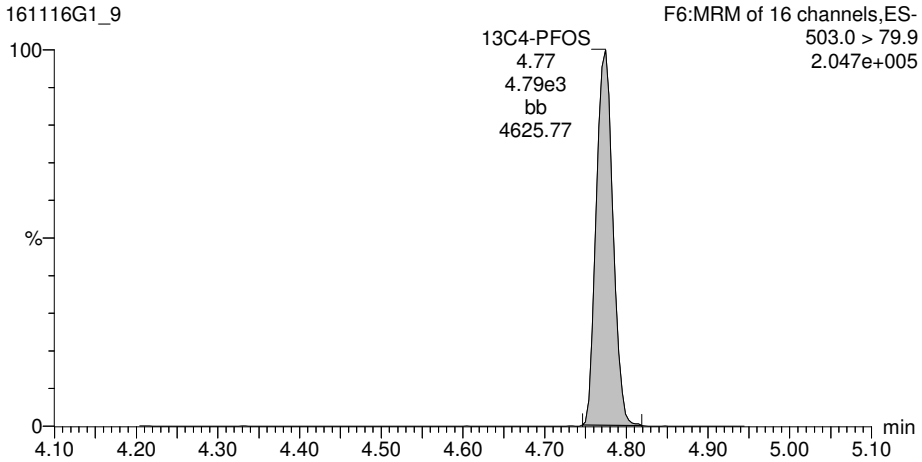
13C3-PFHxS



13C8-PFOA



13C4-PFOS



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-9.qld

Last Altered: Wednesday, November 16, 2016 13:21:45 Pacific Standard Time
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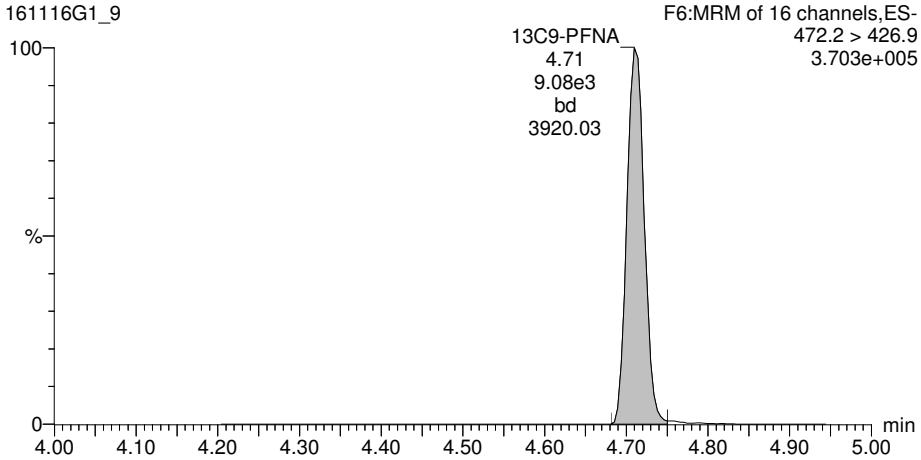
ID: 1601388-04 MW-BG05P-1016 0.1237, Description: MW-BG05P-1016, Name: 161116G1_9, Date: 16-Nov-2016, Time: 12:31:42, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

Last Altered: Wednesday, November 16, 2016 13:23:59 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:19:39 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.493e1	6.463e3		0.131	3.09		
2	3	PFHpA	363 > 318.9	4.218e1	1.922e4		0.131	3.98		
3	4	PFHxS	398.9 > 79.6	1.514e2	5.785e3		0.131	4.09	1.10	
4	5	PFOA	413 > 368.7	2.495e2	2.389e4		0.131	4.38		
5	6	PFOS	499 >79.9	2.176e1	3.911e3		0.131	4.69	1.61	
6	7	PFNA	463 > 418.8	1.679e2	8.364e3		0.131	4.72	0.574	
7	9	13C3-PFBS	302.0 > 98.8	6.463e3	2.901e4	0.250	0.131	3.09	85.1	89.2
8	10	13C2-PFHxA	315 > 269.8	7.161e3	2.901e4	0.741	0.131	3.45	31.8	83.2
9	11	13C4-PFHpA	367.2 > 321.8	1.922e4	9.944e3	2.077	0.131	3.97	88.8	93.1
10	12	18O2-PFHxS	403 > 102.6	5.785e3	9.944e3	0.603	0.131	4.09	92.1	96.5
11	13	13C2-PFOA	414.9 > 369.7	2.389e4	1.212e4	2.438	0.131	4.38	77.1	80.9
12	14	13C8-PFOS	507.0 > 79.9	3.911e3	4.652e3	1.055	0.131	4.77	76.0	79.7
13	15	13C5-PFNA	468.2 > 422.9	8.364e3	1.051e4	1.158	0.131	4.71	65.6	68.8
14	16	13C2-PFDA	515.1 > 469.9	4.540e3	7.439e3	1.164	0.131	5.02	50.0	52.4
15	17	13C5-PFHxA	318.0 > 272.9	2.901e4	2.901e4	1.000	0.131	3.45	95.4	100
16	18	13C3-PFHxS	401.9 > 79.9	9.944e3	9.944e3	1.000	0.131	4.09	95.4	100
17	19	13C8-PFOA	421.3 > 376	1.212e4	1.212e4	1.000	0.131	4.38	95.4	100
18	20	13C4-PFOS	503.0 > 79.9	4.652e3	4.652e3	1.000	0.131	4.77	95.4	100
19	21	13C9-PFNA	472.2 > 426.9	1.051e4	1.051e4	1.000	0.131	4.71	95.4	100
20	22	13C6-PFDA	519.1 > 473.7	7.439e3	7.439e3	1.000	0.131	5.01	95.4	100
21	23	Total PFBS	299 > 79.7		6.463e3		0.131			
22	24	Total PFHxS	398.9 > 79.6		5.785e3		0.131		1.10	
23	25	Total PFOA	413 > 368.7		2.389e4		0.131			
24	26	Total PFOS	499 > 79.9		3.911e3		0.131		1.61	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

Last Altered: Wednesday, November 16, 2016 13:23:59 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:19:39 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	54.926	6462.521	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	151.393	5784.712	1.1
2	24	Total PFHxS	398.9 > 79.6	3.99	5.024	5784.712	
3	24	Total PFHxS	398.9 > 79.6	3.96	19.017	5784.712	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	249.477	23888.887	
2	25	Total PFOA	413 > 368.7	4.29	33.744	23888.887	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.69	21.759	3911.419	1.6

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

Last Altered: Wednesday, November 16, 2016 13:23:59 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:19:39 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20, Instrument: , Lab: , User:

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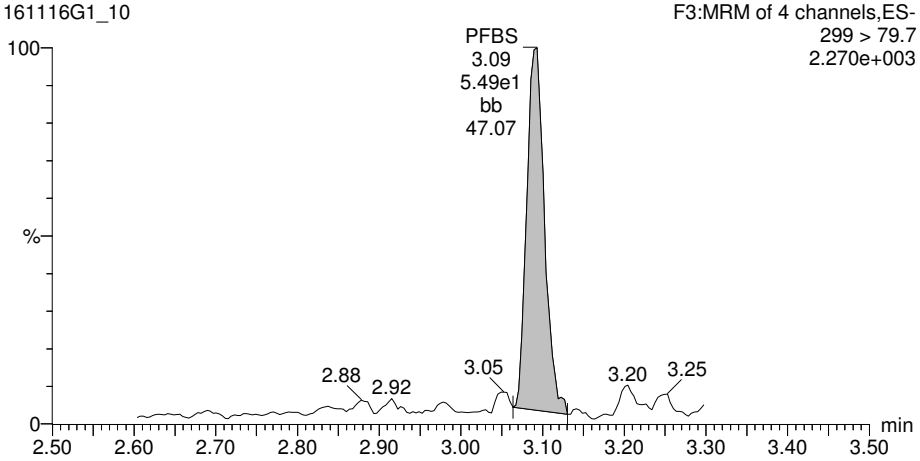
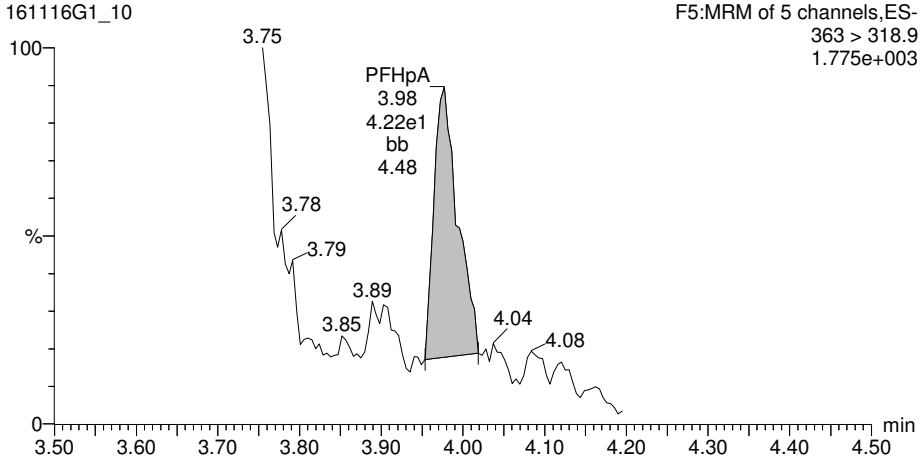
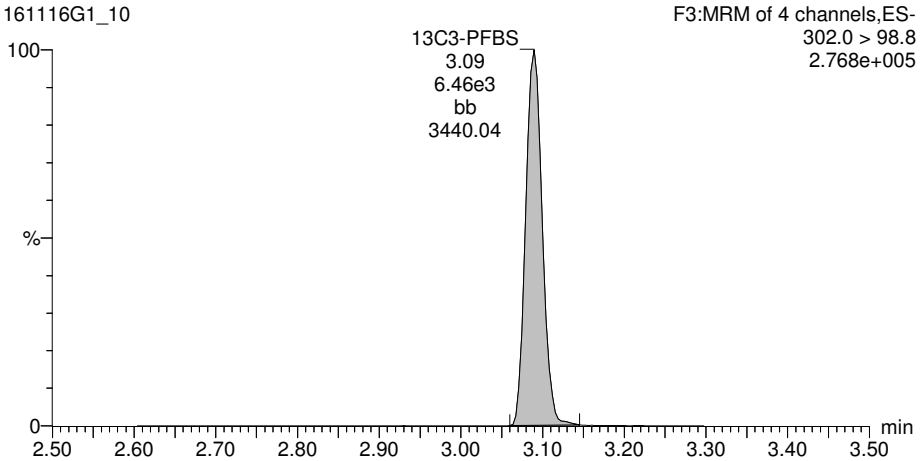


PFHpA



13C3-PFBS



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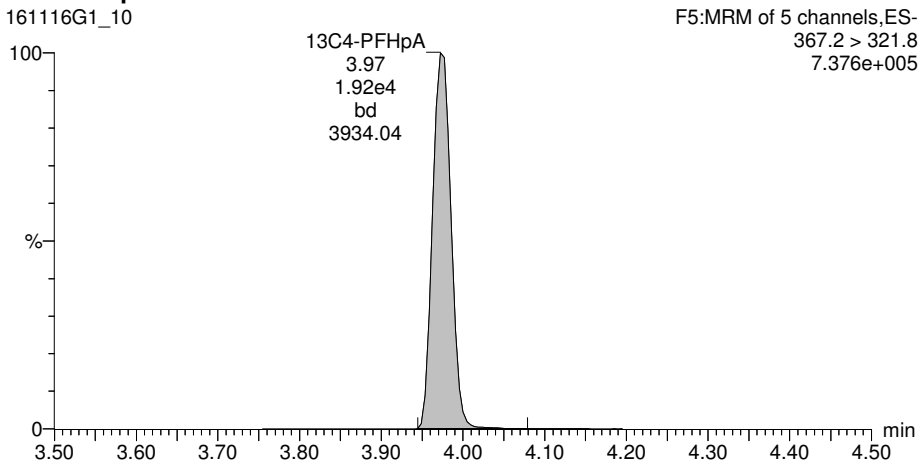


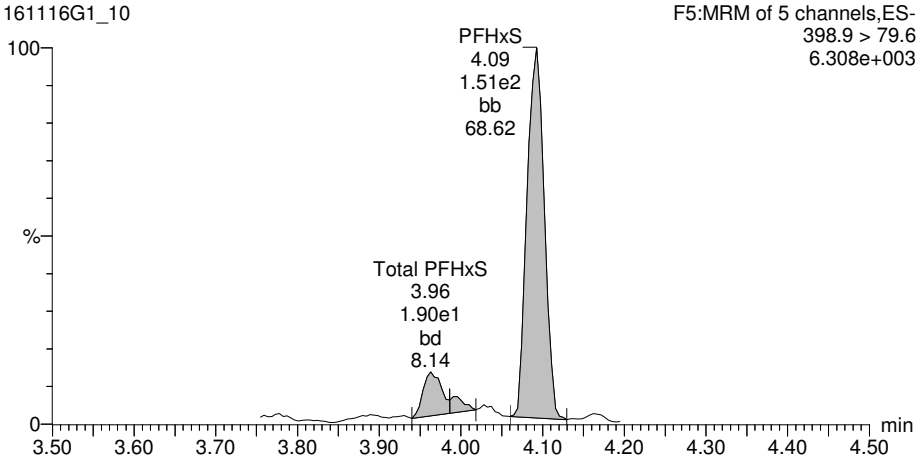
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

Last Altered: Wednesday, November 16, 2016 13:23:59 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:19:39 Pacific Standard Time

ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20, Instrument: , Lab: , User:

Total PFHxS



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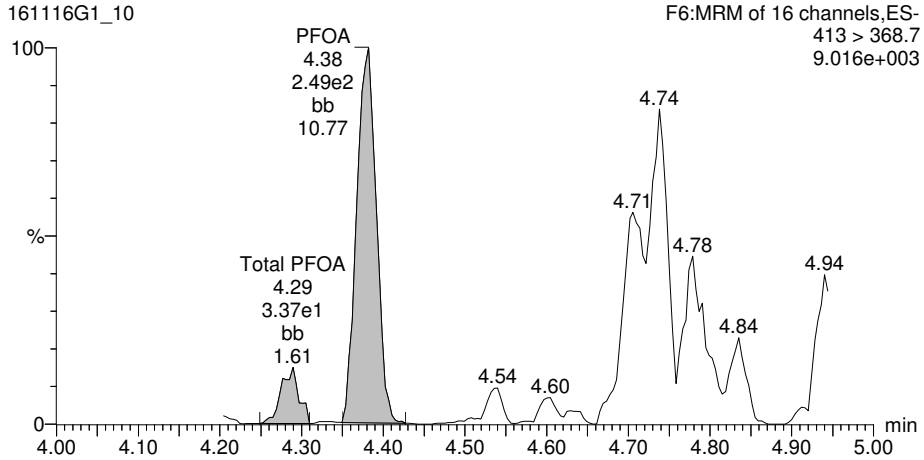
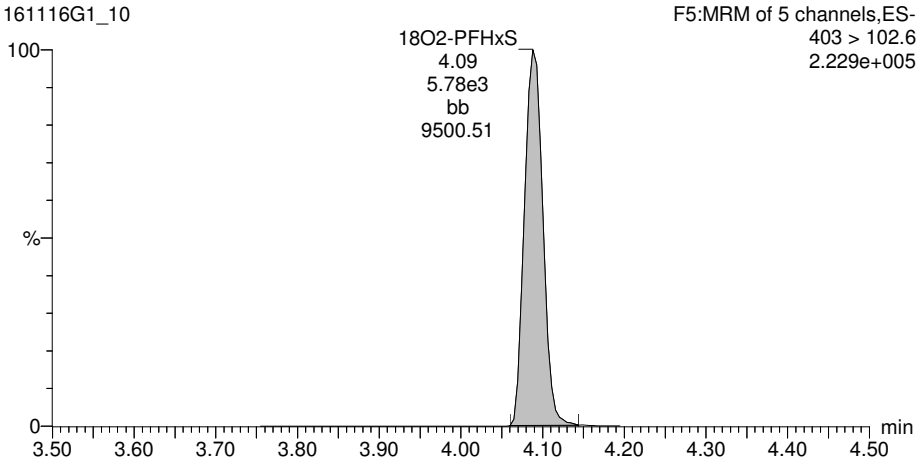
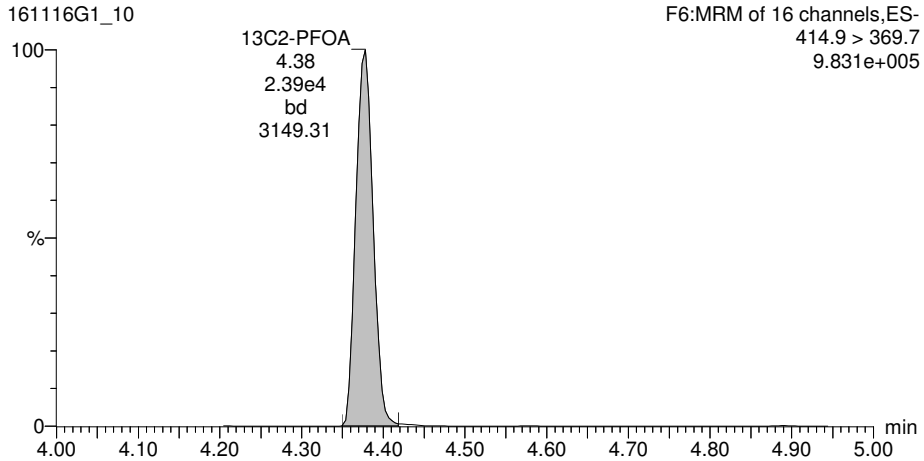


18O2-PFHxS



13C2-PFOA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

Last Altered: Wednesday, November 16, 2016 13:23:59 Pacific Standard Time
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ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20, Instrument: , Lab: , User:

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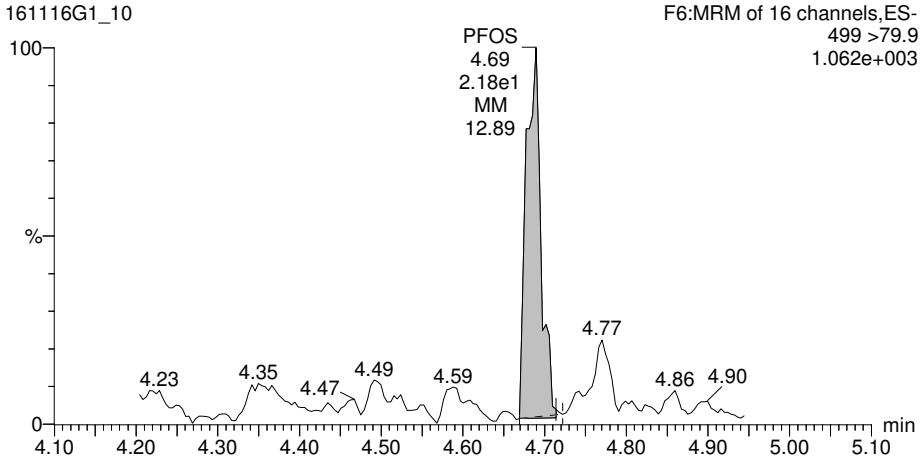

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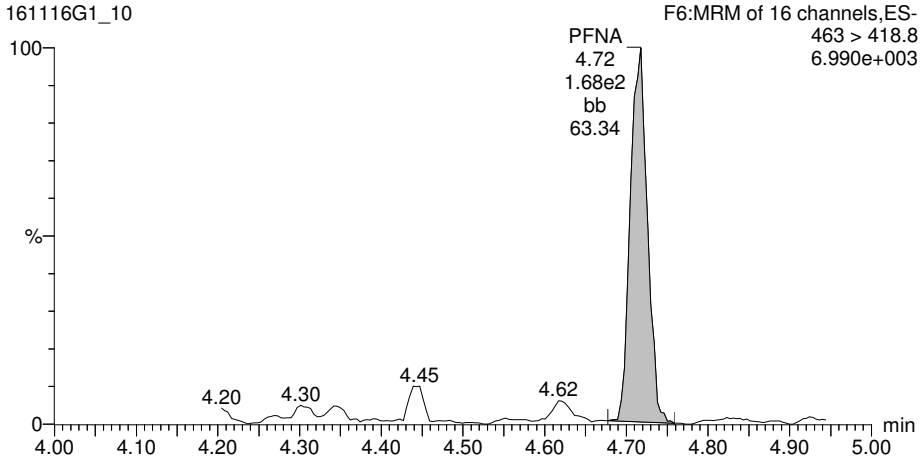
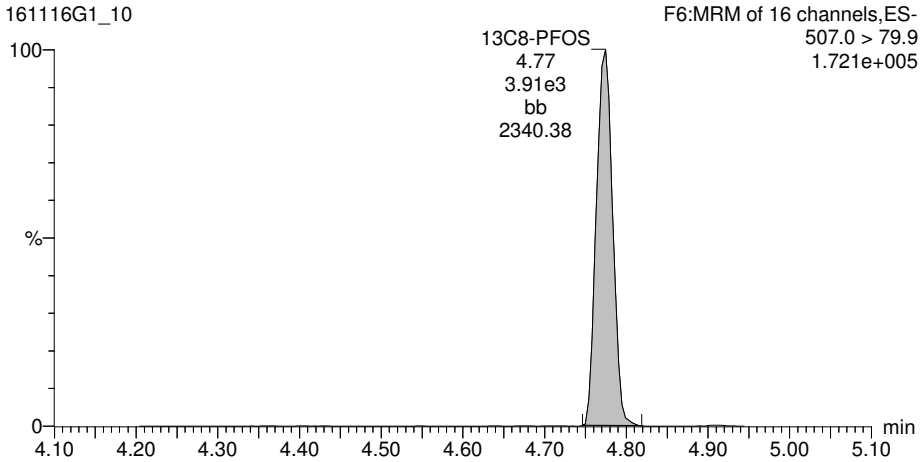
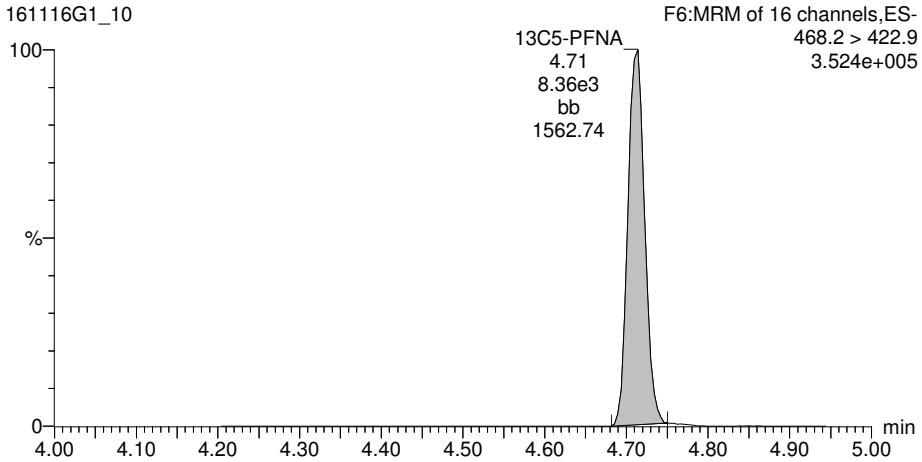


13C8-PFOS



13C5-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

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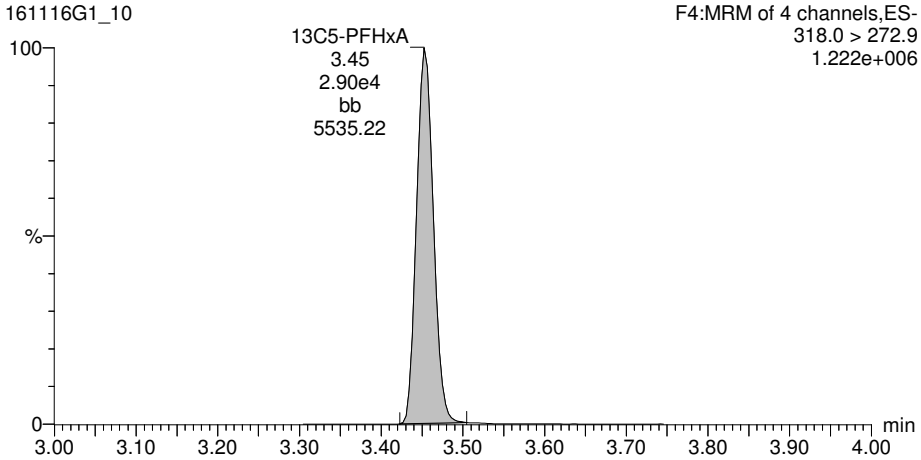
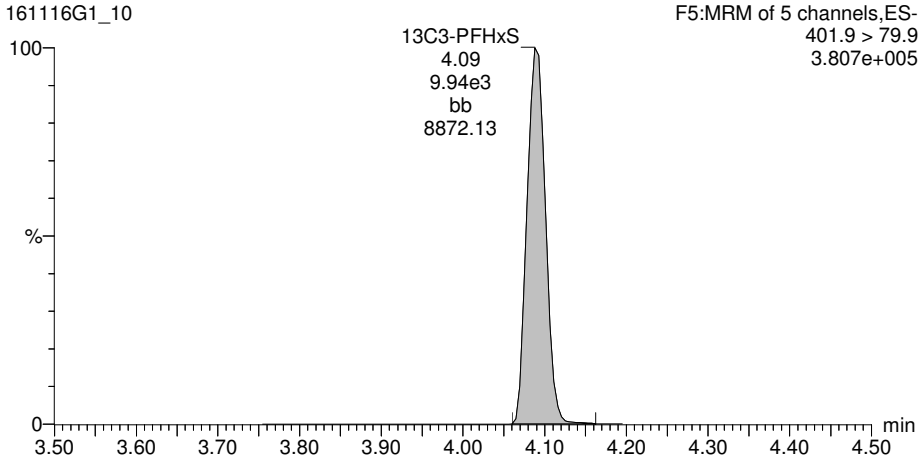
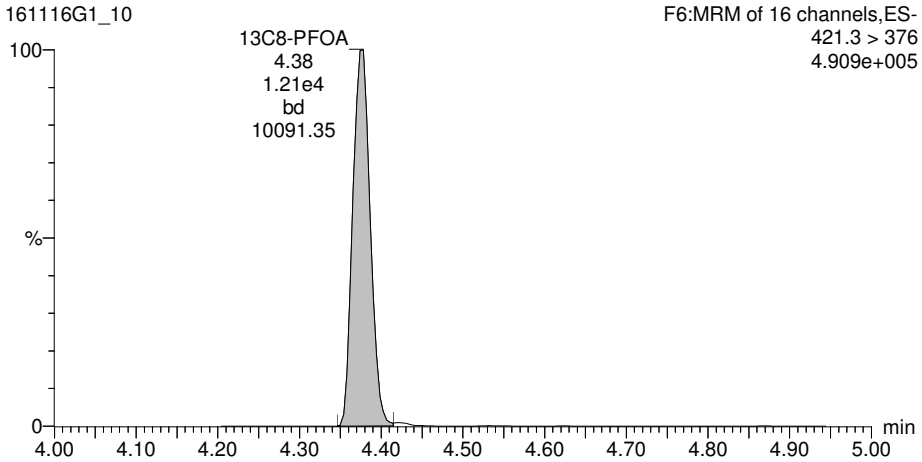
13C5-PFHxA



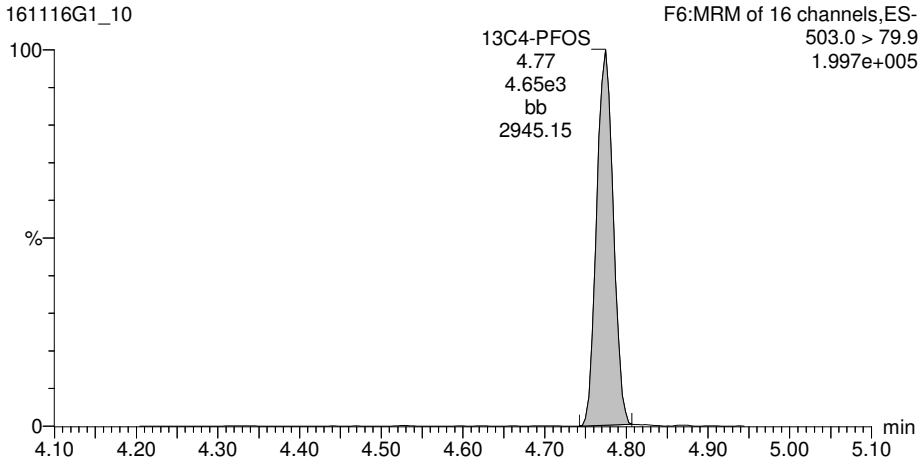
13C3-PFHxS



13C8-PFOA



13C4-PFOS



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-10.qld

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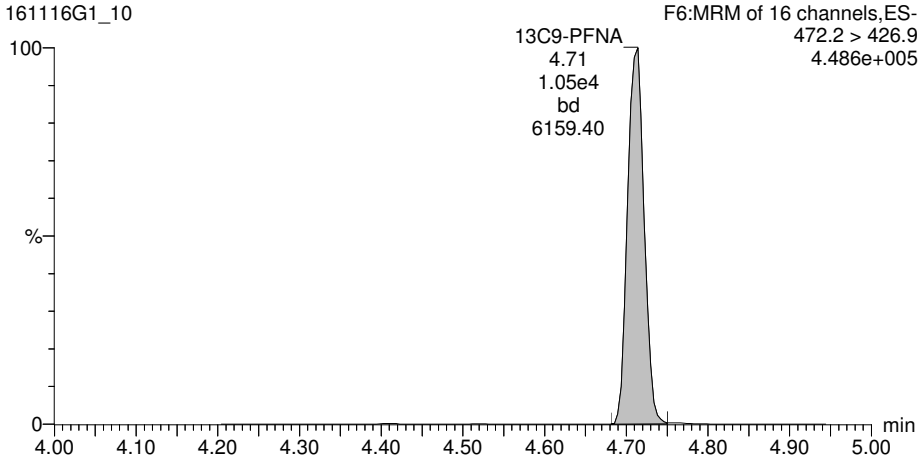
ID: 1601388-05 MW-BG04-1016 0.13102, Description: MW-BG04-1016, Name: 161116G1_10, Date: 16-Nov-2016, Time: 12:44:20, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-11.qld

Last Altered: Wednesday, November 16, 2016 13:28:18 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:16 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-06 OC-FB-102816 0.12776, Description: OC-FB-102816, Name: 161116G1_11, Date: 16-Nov-2016, Time: 12:56:58

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.596e3		0.128			
2	3	PFHpA	363 > 318.9	3.128e1	1.694e4		0.128	3.98		
3	4	PFHxS	398.9 > 79.6	3.940e1	5.144e3		0.128	4.09		
4	5	PFOA	413 > 368.7	2.131e2	2.287e4		0.128	4.38		
5	6	PFOS	499 >79.9	1.264e1	5.342e3		0.128	4.77	1.22	
6	7	PFNA	463 > 418.8	2.224e2	1.004e4		0.128	4.71	0.717	
7	9	13C3-PFBS	302.0 > 98.8	6.596e3	2.755e4	0.250	0.128	3.09	93.8	95.8
8	10	13C2-PFHxA	315 > 269.8	7.230e3	2.755e4	0.741	0.128	3.46	34.6	88.5
9	11	13C4-PFHpA	367.2 > 321.8	1.694e4	8.386e3	2.077	0.128	3.98	95.2	97.3
10	12	18O2-PFHxS	403 > 102.6	5.144e3	8.386e3	0.603	0.128	4.09	99.5	102
11	13	13C2-PFOA	414.9 > 369.7	2.287e4	9.180e3	2.438	0.128	4.38	100	102
12	14	13C8-PFOS	507.0 > 79.9	5.342e3	4.837e3	1.055	0.128	4.77	102	105
13	15	13C5-PFNA	468.2 > 422.9	1.004e4	9.257e3	1.158	0.128	4.71	91.7	93.7
14	16	13C2-PFDA	515.1 > 469.9	8.342e3	1.030e4	1.164	0.128	5.02	68.1	69.6
15	17	13C5-PFHxA	318.0 > 272.9	2.755e4	2.755e4	1.000	0.128	3.46	97.8	100
16	18	13C3-PFHxS	401.9 > 79.9	8.386e3	8.386e3	1.000	0.128	4.09	97.8	100
17	19	13C8-PFOA	421.3 > 376	9.180e3	9.180e3	1.000	0.128	4.37	97.8	100
18	20	13C4-PFOS	503.0 > 79.9	4.837e3	4.837e3	1.000	0.128	4.77	97.8	100
19	21	13C9-PFNA	472.2 > 426.9	9.257e3	9.257e3	1.000	0.128	4.71	97.8	100
20	22	13C6-PFDA	519.1 > 473.7	1.030e4	1.030e4	1.000	0.128	5.02	97.8	100
21	23	Total PFBS	299 > 79.7		6.596e3		0.128			
22	24	Total PFHxS	398.9 > 79.6		5.144e3		0.128			
23	25	Total PFOA	413 > 368.7		2.287e4		0.128			
24	26	Total PFOS	499 > 79.9		5.342e3		0.128		1.22	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-11.qld

Last Altered: Wednesday, November 16, 2016 13:28:18 Pacific Standard Time
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ID: 1601388-06 OC-FB-102816 0.12776, Description: OC-FB-102816, Name: 161116G1_11, Date: 16-Nov-2016, Time: 12:56:58

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1							

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	39.396	5143.841	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	213.136	22874.146	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.77	12.640	5342.301	1.2

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-11.qld

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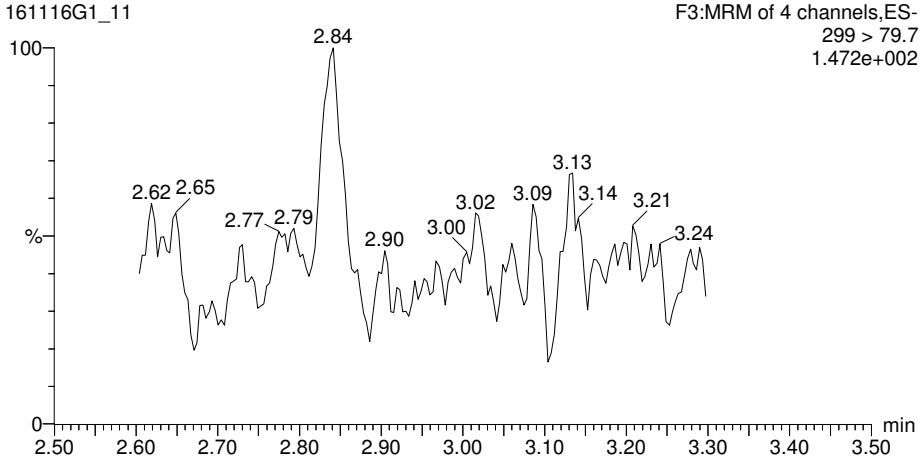
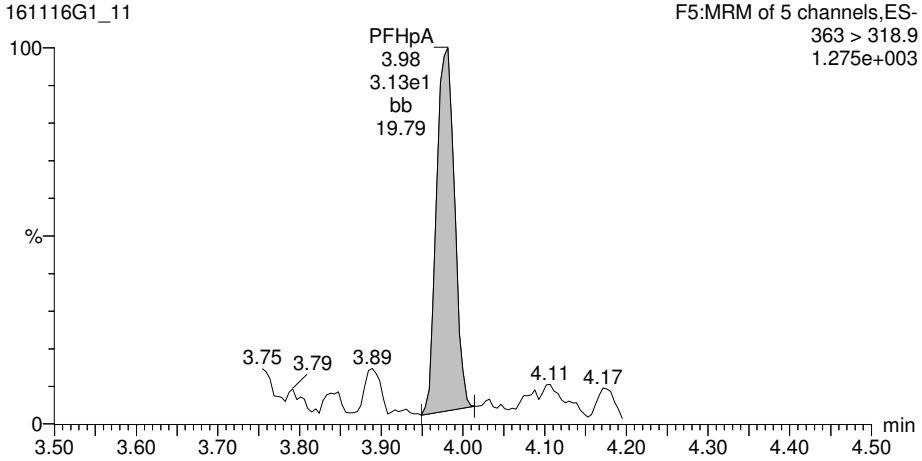
ID: 1601388-06 OC-FB-102816 0.12776, Description: OC-FB-102816, Name: 161116G1_11, Date: 16-Nov-2016, Time: 12:56:58, Instrument: , Lab: , User:

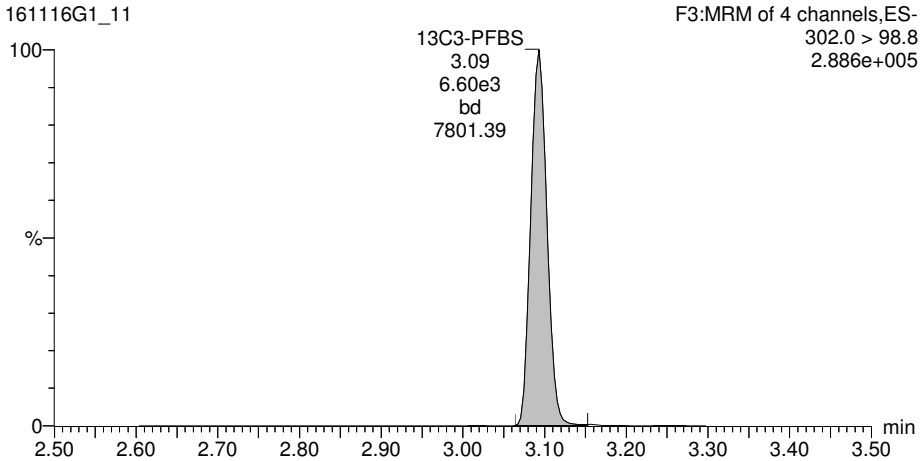
Total PFBS



PFHpA



13C3-PFBS



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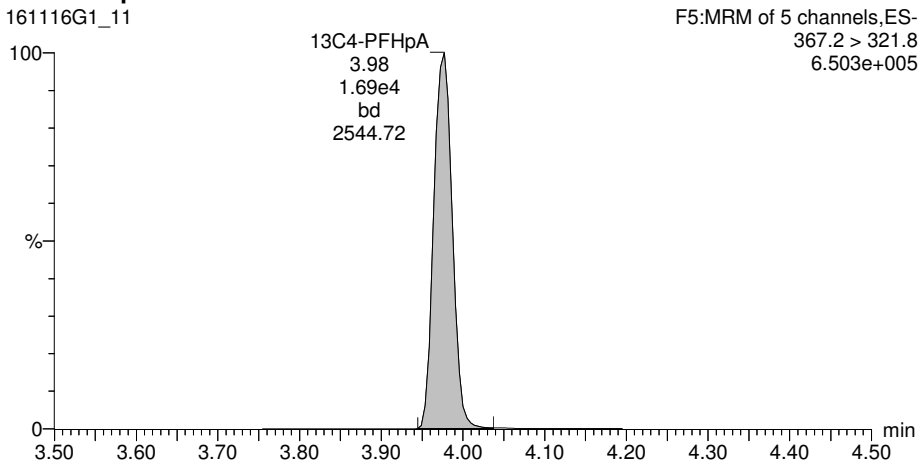

Reviewed: WJL 11/16/2016 AC 11/16/16

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Last Altered: Wednesday, November 16, 2016 13:28:18 Pacific Standard Time
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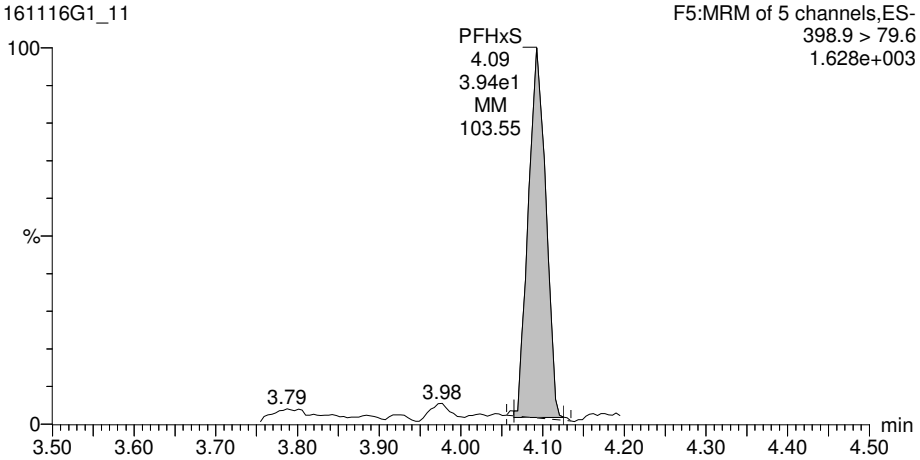
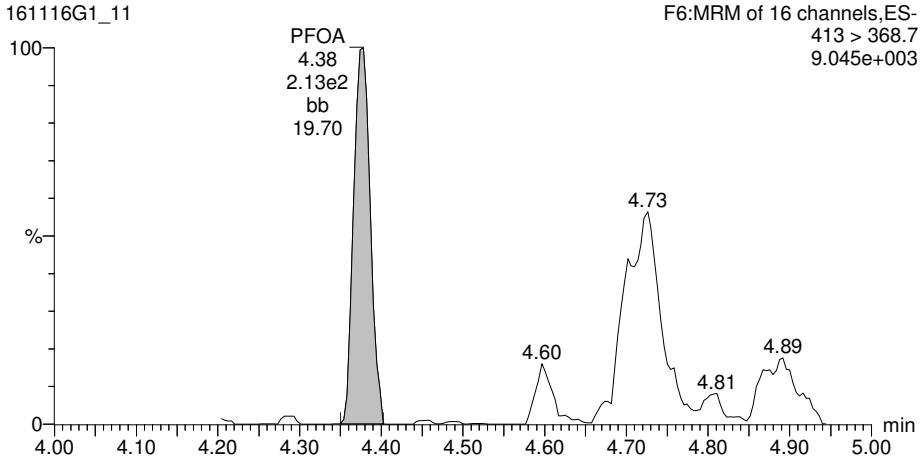
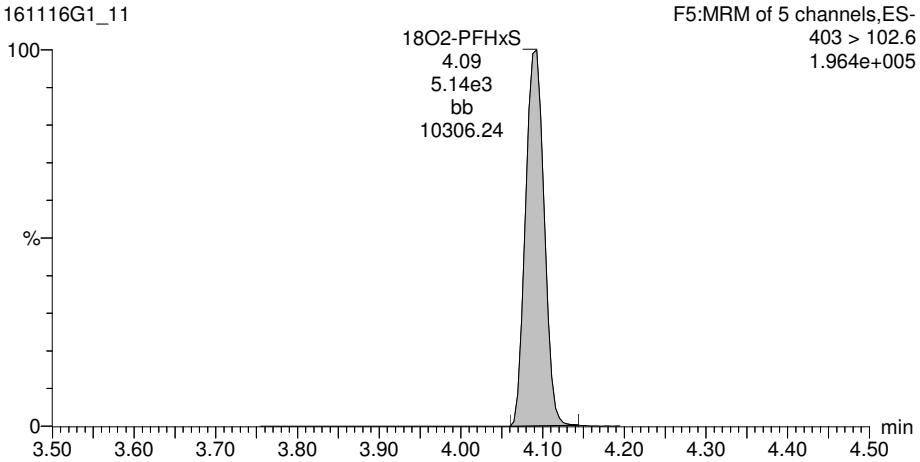
Total PFHxS



Total PFOA



18O2-PFHxS



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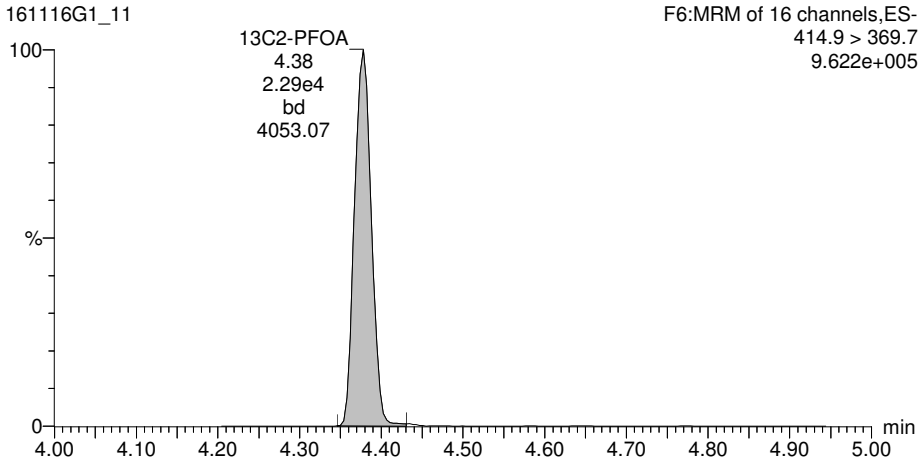

Reviewed: WJL 11/16/2016 AC 11/16/16

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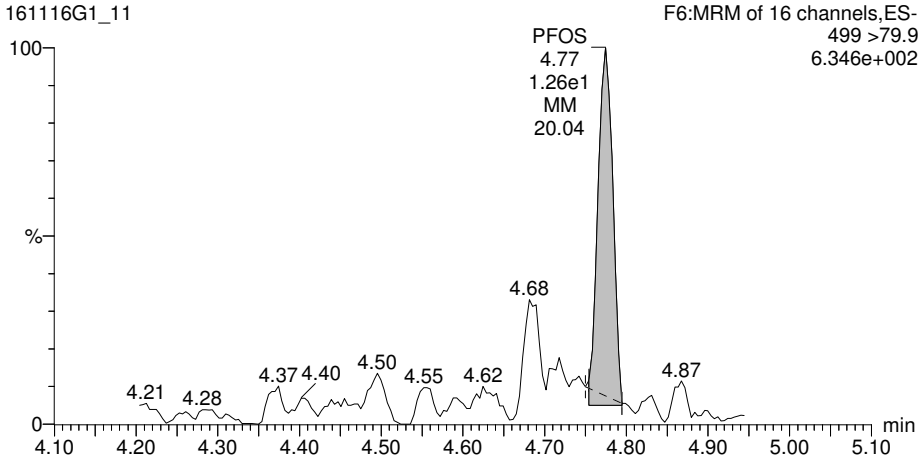
Total PFOS



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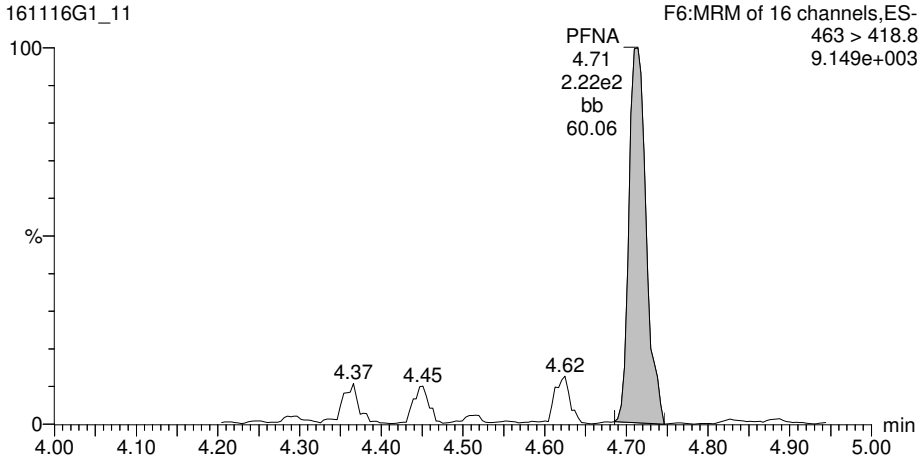
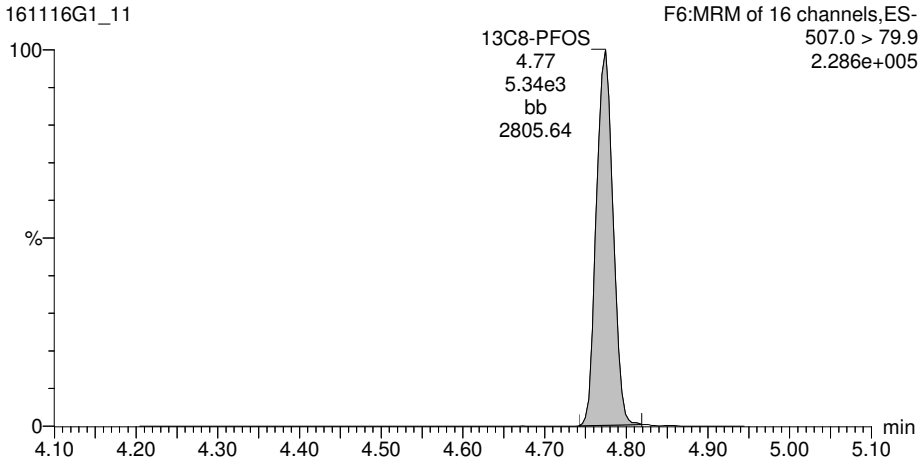
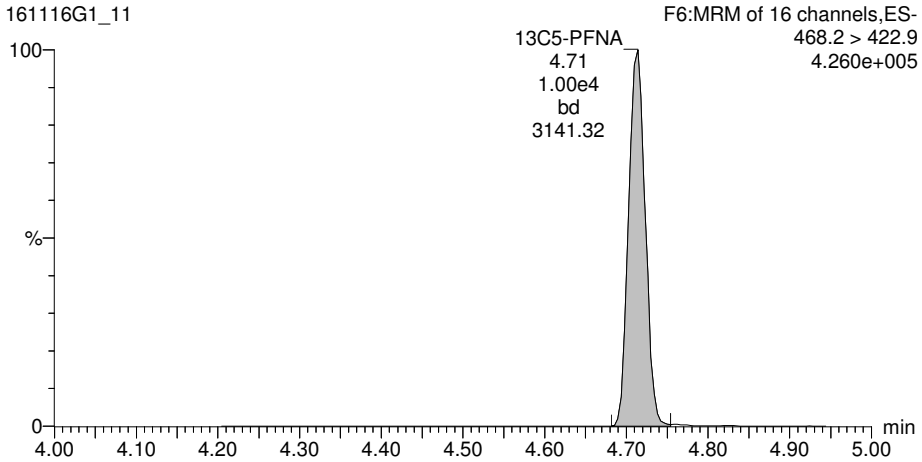


13C8-PFOS



13C5-PFNA



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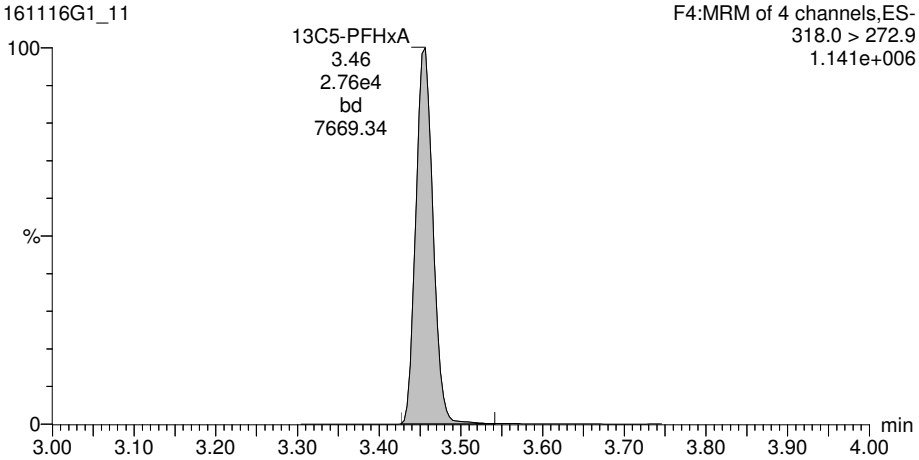
13C5-PFHxA



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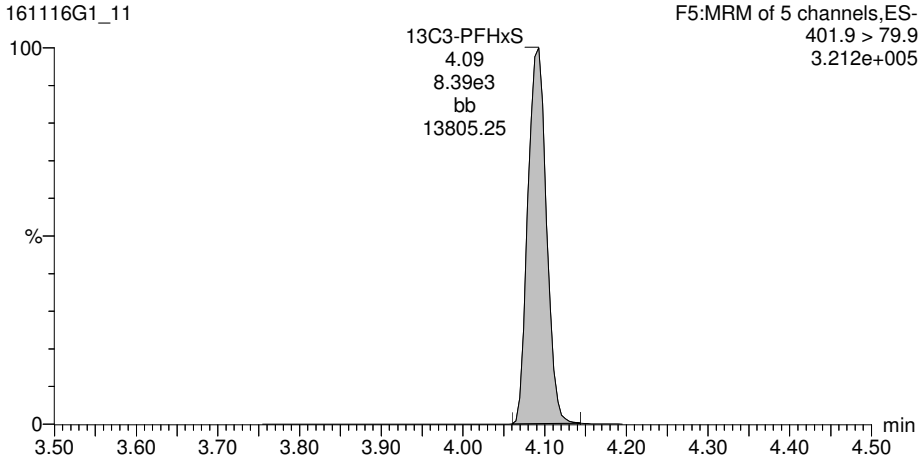

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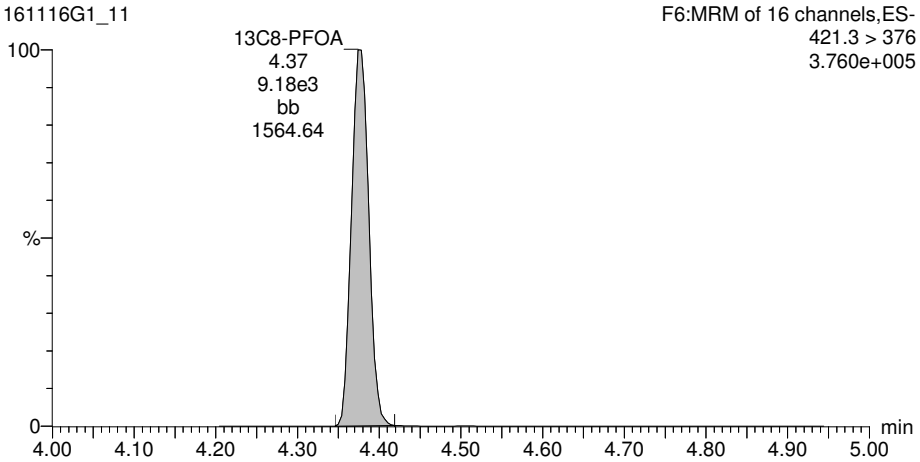
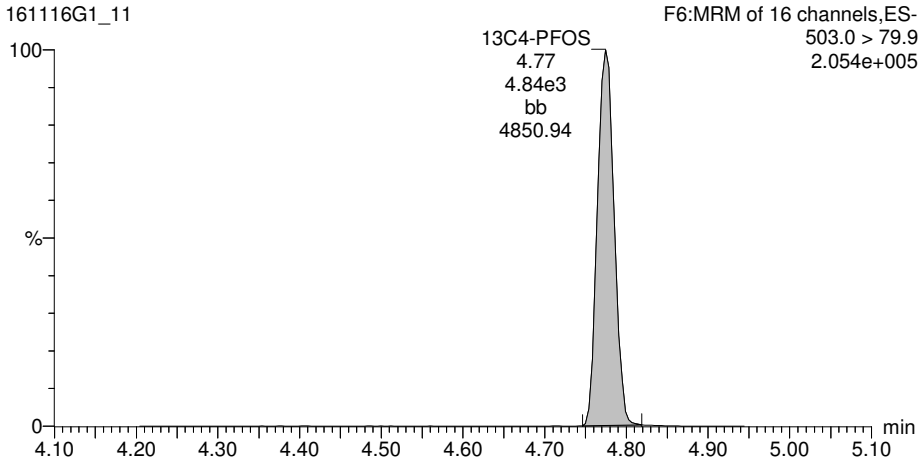


13C4-PFOS



Reviewed: WJL 11/16/2016 AC 11/16/16

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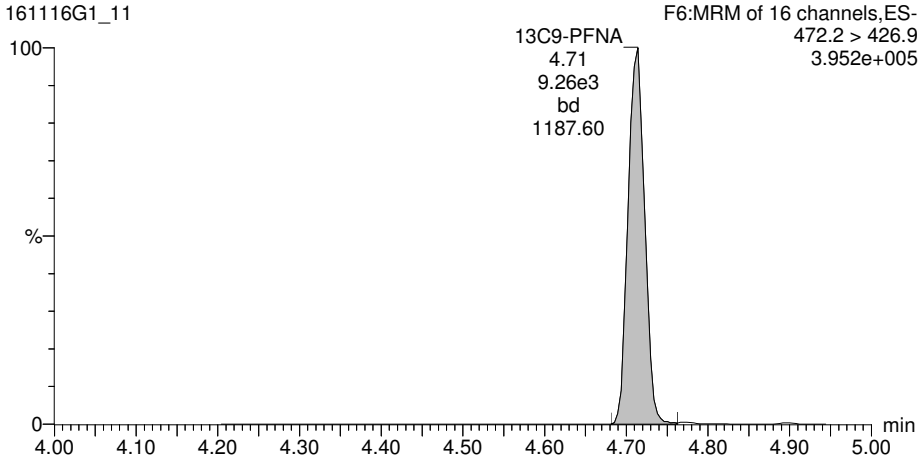
13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

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Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	9.733e1	6.613e3		0.123	3.09	0.383	
2	3	PFHpA	363 > 318.9	1.937e2	1.899e4		0.123	3.98		
3	4	PFHxS	398.9 > 79.6	3.809e2	6.365e3		0.123	4.09	3.81	
4	5	PFOA	413 > 368.7	3.286e3	2.646e4		0.123	4.38	13.5	
5	6	PFOS	499 >79.9	3.267e2	4.654e3		0.123	4.77	10.8	
6	7	PFNA	463 > 418.8	2.932e2	8.814e3		0.123	4.71	1.46	
7	9	13C3-PFBS	302.0 > 98.8	6.613e3	2.713e4	0.250	0.123	3.09	99.3	97.6
8	10	13C2-PFHxA	315 > 269.8	7.556e3	2.713e4	0.741	0.123	3.46	38.3	93.9
9	11	13C4-PFHpA	367.2 > 321.8	1.899e4	9.648e3	2.077	0.123	3.98	96.5	94.8
10	12	18O2-PFHxS	403 > 102.6	6.365e3	9.648e3	0.603	0.123	4.09	111	109
11	13	13C2-PFOA	414.9 > 369.7	2.646e4	1.240e4	2.438	0.123	4.38	89.1	87.6
12	14	13C8-PFOS	507.0 > 79.9	4.654e3	4.138e3	1.055	0.123	4.77	108	107
13	15	13C5-PFNA	468.2 > 422.9	8.814e3	9.290e3	1.158	0.123	4.71	83.4	82.0
14	16	13C2-PFDA	515.1 > 469.9	6.335e3	6.942e3	1.164	0.123	5.01	79.8	78.4
15	17	13C5-PFHxA	318.0 > 272.9	2.713e4	2.713e4	1.000	0.123	3.45	102	100
16	18	13C3-PFHxS	401.9 > 79.9	9.648e3	9.648e3	1.000	0.123	4.09	102	100
17	19	13C8-PFOA	421.3 > 376	1.240e4	1.240e4	1.000	0.123	4.38	102	100
18	20	13C4-PFOS	503.0 > 79.9	4.138e3	4.138e3	1.000	0.123	4.77	102	100
19	21	13C9-PFNA	472.2 > 426.9	9.290e3	9.290e3	1.000	0.123	4.71	102	100
20	22	13C6-PFDA	519.1 > 473.7	6.942e3	6.942e3	1.000	0.123	5.01	102	100
21	23	Total PFBS	299 > 79.7		6.613e3		0.123		0.383	
22	24	Total PFHxS	398.9 > 79.6		6.365e3		0.123		3.81	
23	25	Total PFOA	413 > 368.7		2.646e4		0.123		13.5	
24	26	Total PFOS	499 > 79.9		4.654e3		0.123		20.2	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-12.qld

Last Altered: Wednesday, November 16, 2016 13:31:53 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	97.332	6612.590	0.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	380.891	6365.448	3.8
2	24	Total PFHxS	398.9 > 79.6	4.00	49.859	6365.448	
3	24	Total PFHxS	398.9 > 79.6	3.97	11.688	6365.448	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	25	Total PFOA	413 > 368.7	4.28	358.911	26464.377	
2	5	PFOA	413 > 368.7	4.38	3286.467	26464.377	13.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.77	326.744	4653.576	10.8
2	26	Total PFOS	499 >79.9	4.69	80.583	4653.576	3.4
3	26	Total PFOS	499 >79.9	4.66	126.814	4653.576	4.7
4	26	Total PFOS	499 >79.9	4.55	13.448	4653.576	1.3

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-12.qld

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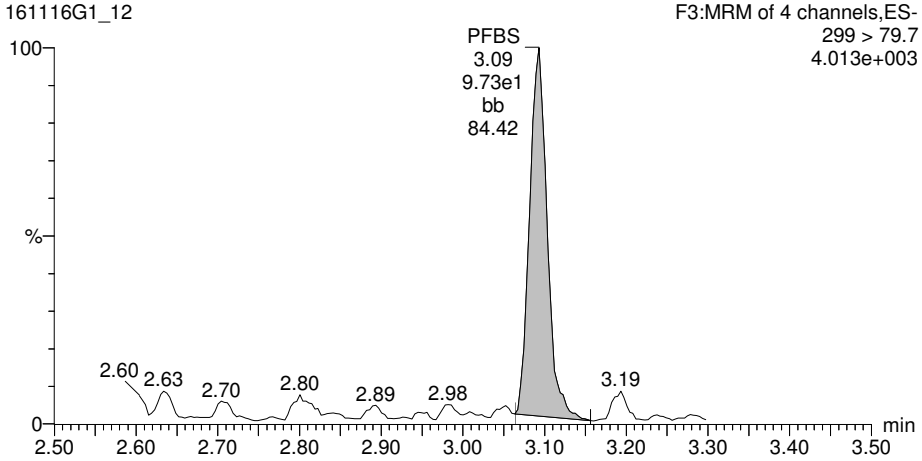
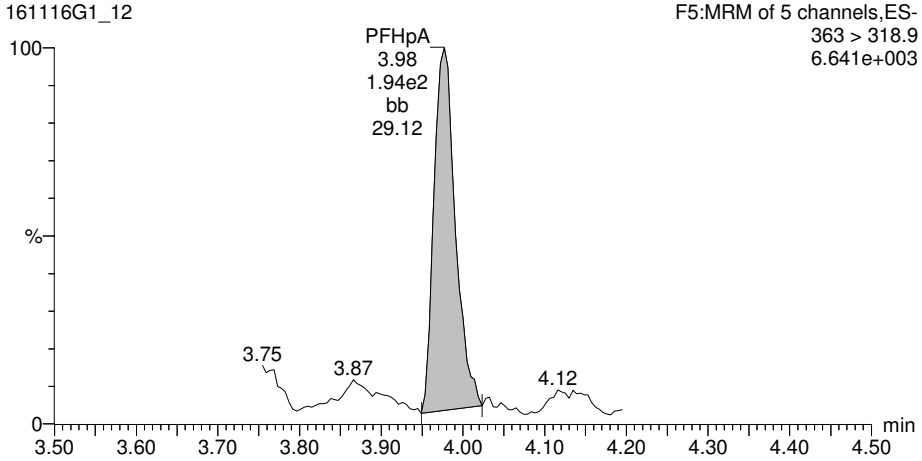
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37, Instrument: , Lab: , User:

Total PFBS



PFHpA



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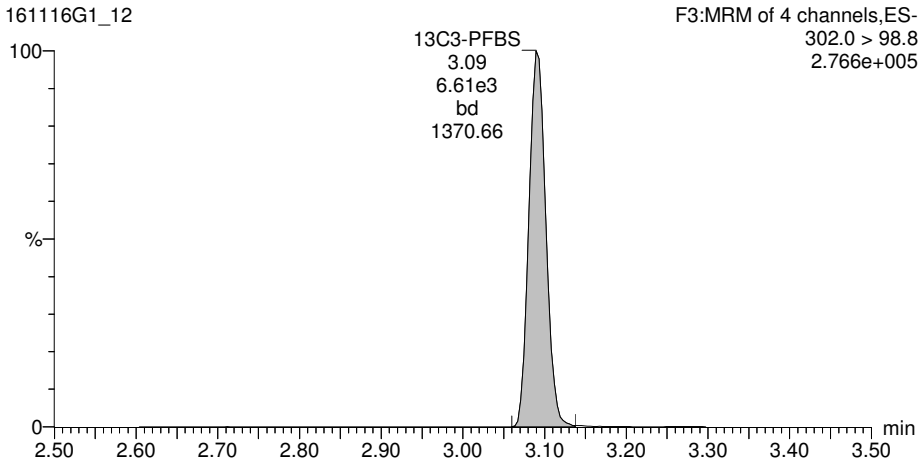

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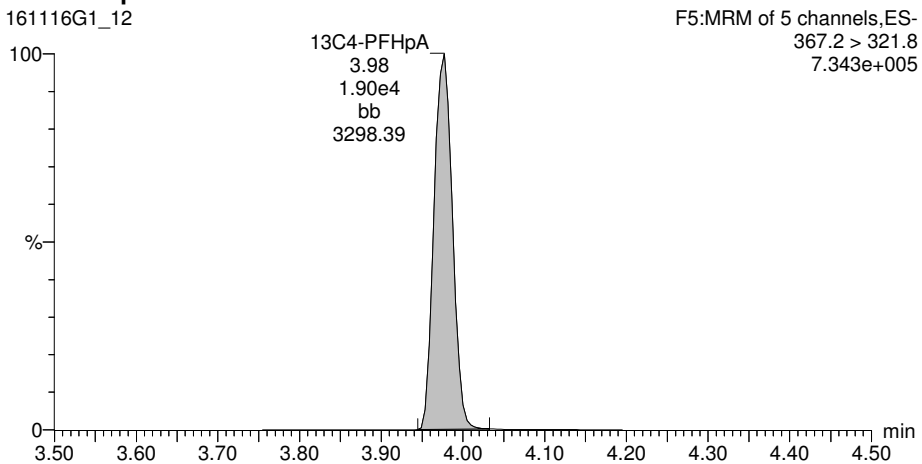


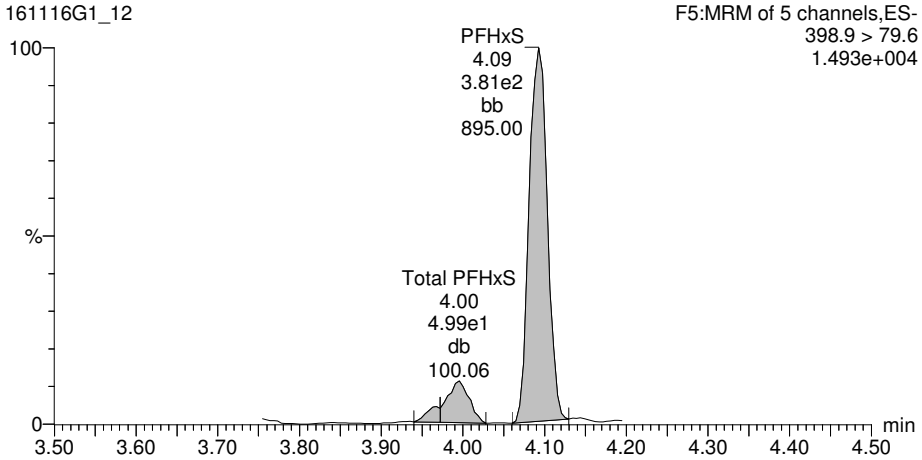
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-12.qld

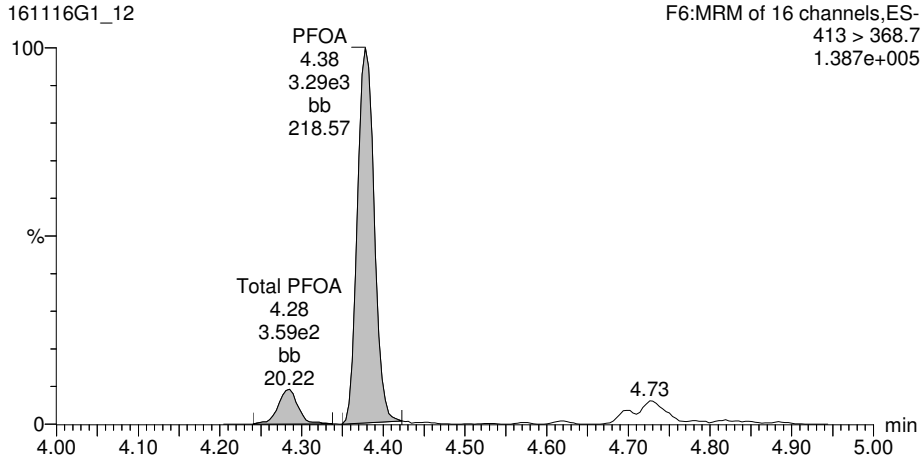
Last Altered: Wednesday, November 16, 2016 13:31:53 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37, Instrument: , Lab: , User:

Total PFHxS



Total PFOA



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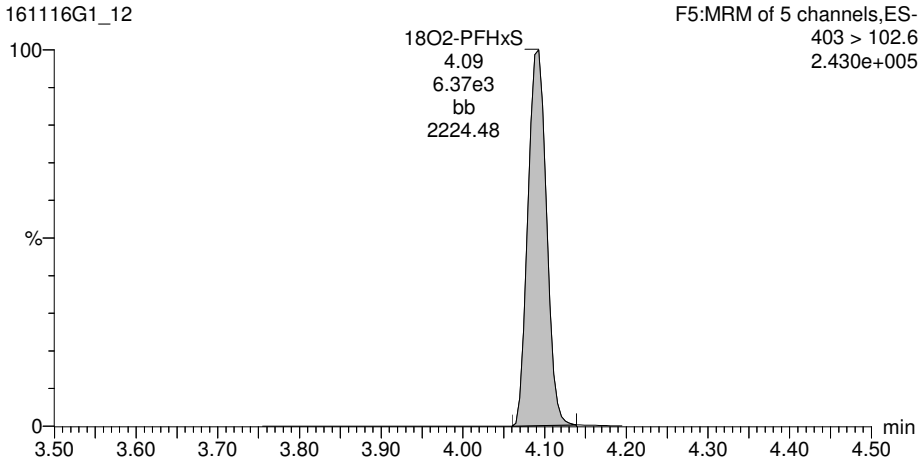
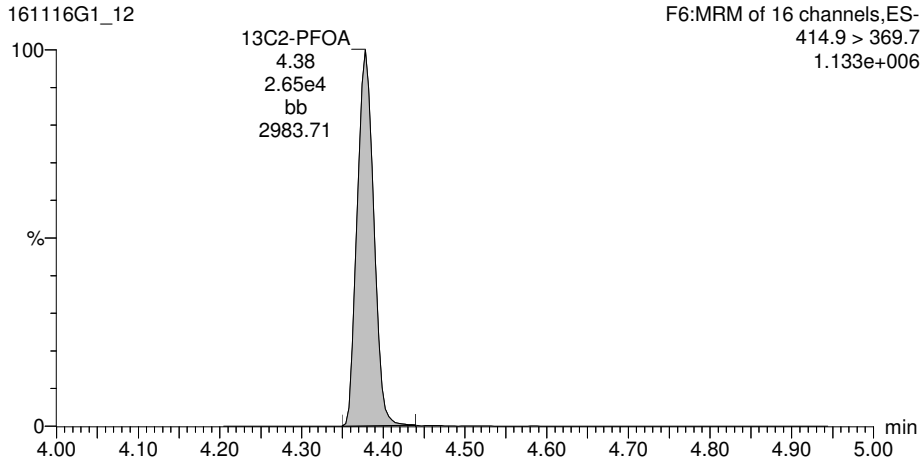


13C2-PFOA



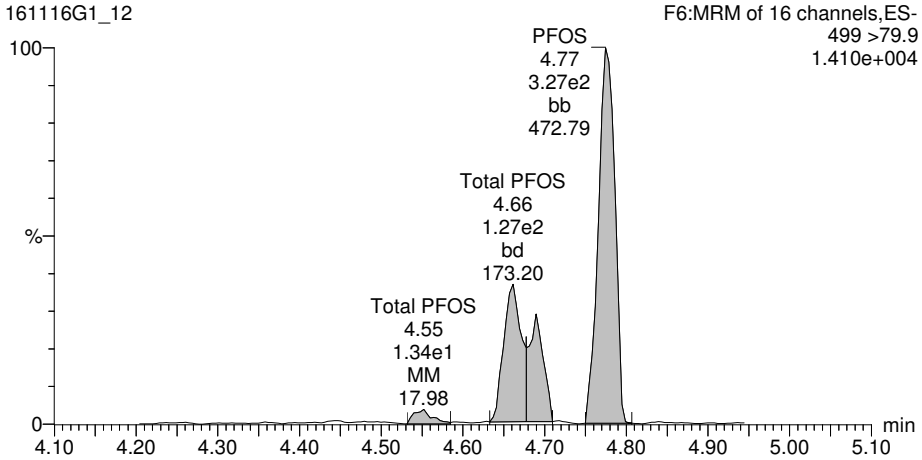
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-12.qld

Last Altered: Wednesday, November 16, 2016 13:31:53 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37, Instrument: , Lab: , User:

Total PFOS



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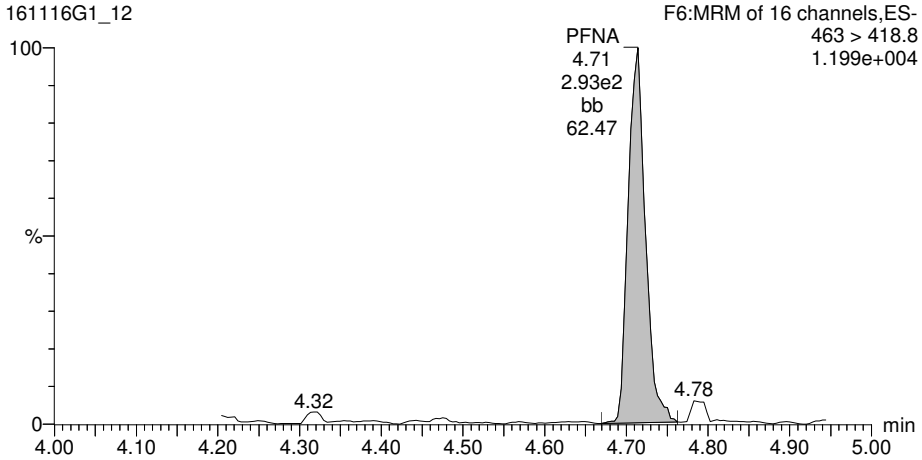
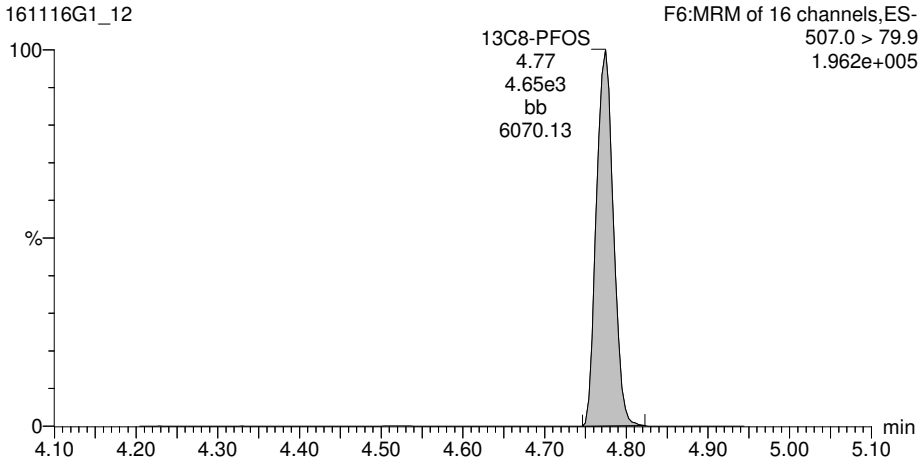
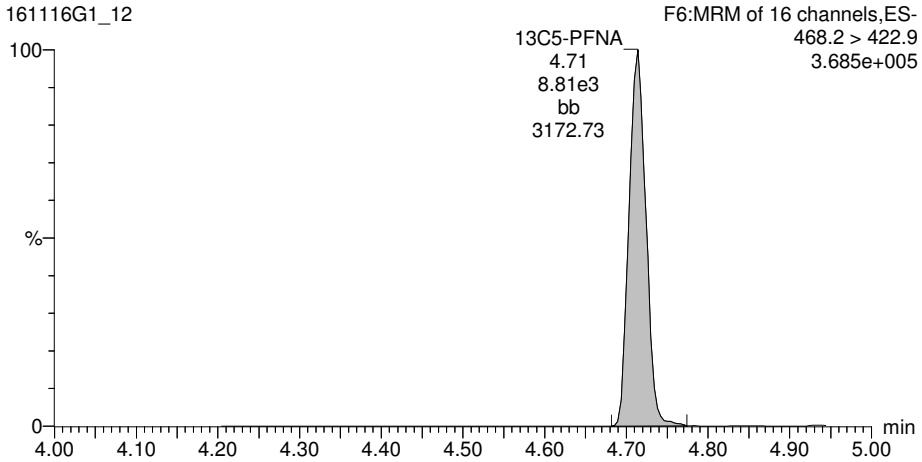


13C8-PFOS



13C5-PFNA



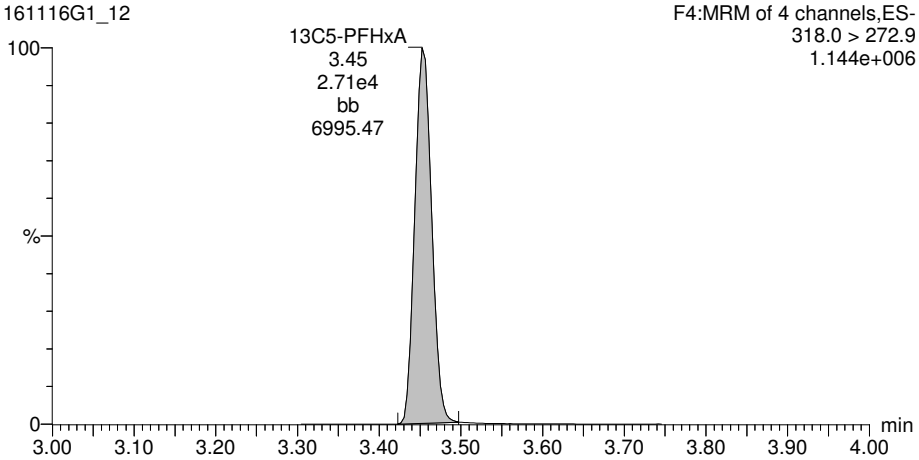
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-12.qld

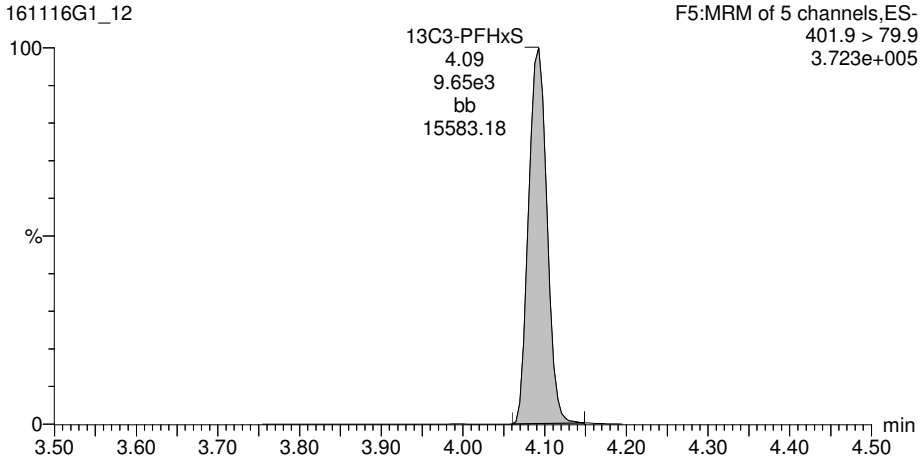
Last Altered: Wednesday, November 16, 2016 13:31:53 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37, Instrument: , Lab: , User:

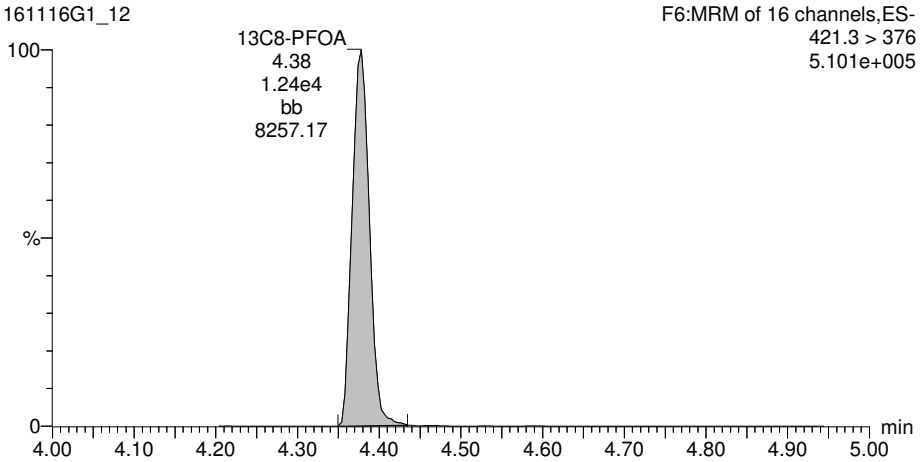
13C5-PFHxA



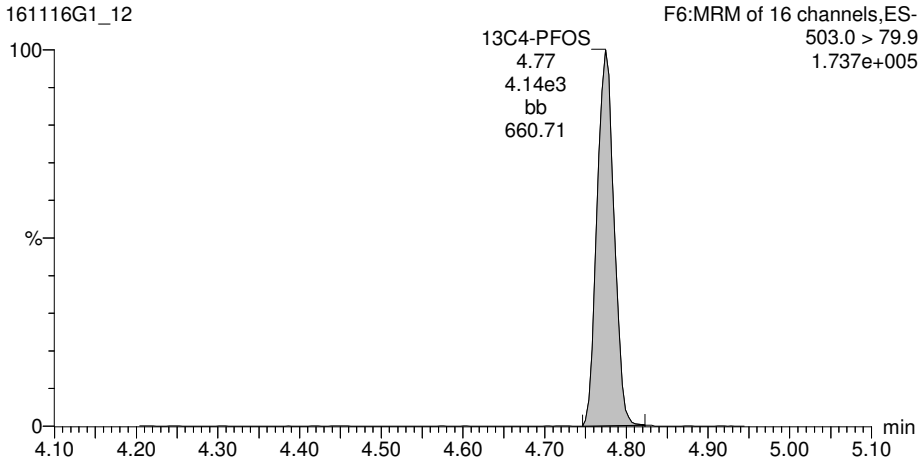
13C3-PFHxS



13C8-PFOA



13C4-PFOS



Reviewed: WJL 11/16/2016 AC 11/16/16

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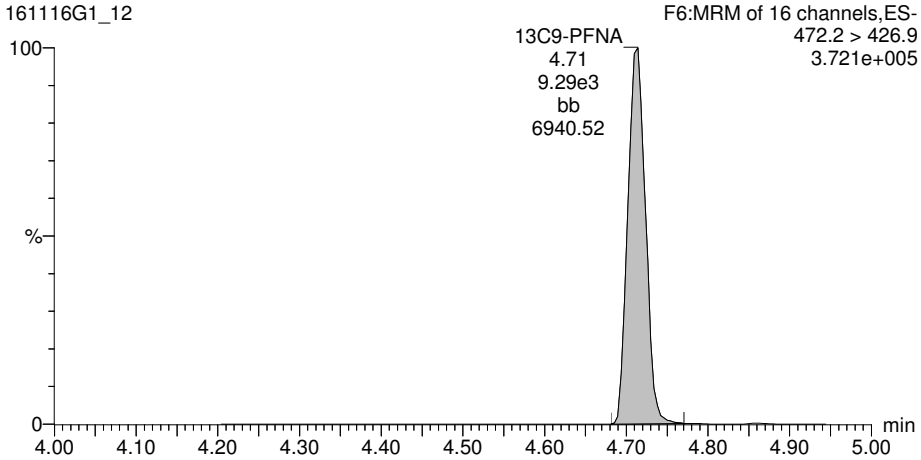
Last Altered: Wednesday, November 16, 2016 13:31:53 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:20:46 Pacific Standard Time

ID: 1601388-07 MW-BG01-1016 0.12279, Description: MW-BG01-1016, Name: 161116G1_12, Date: 16-Nov-2016, Time: 13:09:37, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

Last Altered: Wednesday, November 16, 2016 13:33:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:21:12 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.976e1	6.239e3		0.125	3.09	0.0000139	
2	3	PFHpA	363 > 318.9	9.751e1	1.774e4		0.125	3.98		
3	4	PFHxS	398.9 > 79.6	8.124e2	5.905e3		0.125	4.09	9.69	
4	5	PFOA	413 > 368.7	1.070e3	2.487e4		0.125	4.38	3.15	
5	6	PFOS	499 >79.9	3.378e1	5.338e3		0.125	4.77	1.78	
6	7	PFNA	463 > 418.8	2.299e2	9.125e3		0.125	4.71	0.922	
7	9	13C3-PFBS	302.0 > 98.8	6.239e3	2.666e4	0.250	0.125	3.09	93.4	93.7
8	10	13C2-PFHxA	315 > 269.8	6.567e3	2.666e4	0.741	0.125	3.46	33.1	83.1
9	11	13C4-PFHpA	367.2 > 321.8	1.774e4	1.007e4	2.077	0.125	3.98	84.6	84.8
10	12	18O2-PFHxS	403 > 102.6	5.905e3	1.007e4	0.603	0.125	4.09	97.0	97.3
11	13	13C2-PFOA	414.9 > 369.7	2.487e4	1.233e4	2.438	0.125	4.38	82.5	82.7
12	14	13C8-PFOS	507.0 > 79.9	5.338e3	4.957e3	1.055	0.125	4.77	102	102
13	15	13C5-PFNA	468.2 > 422.9	9.125e3	9.777e3	1.158	0.125	4.71	80.4	80.6
14	16	13C2-PFDA	515.1 > 469.9	6.882e3	8.734e3	1.164	0.125	5.02	67.5	67.7
15	17	13C5-PFHxA	318.0 > 272.9	2.666e4	2.666e4	1.000	0.125	3.45	99.7	100
16	18	13C3-PFHxS	401.9 > 79.9	1.007e4	1.007e4	1.000	0.125	4.09	99.7	100
17	19	13C8-PFOA	421.3 > 376	1.233e4	1.233e4	1.000	0.125	4.38	99.7	100
18	20	13C4-PFOS	503.0 > 79.9	4.957e3	4.957e3	1.000	0.125	4.77	99.7	100
19	21	13C9-PFNA	472.2 > 426.9	9.777e3	9.777e3	1.000	0.125	4.71	99.7	100
20	22	13C6-PFDA	519.1 > 473.7	8.734e3	8.734e3	1.000	0.125	5.02	99.7	100
21	23	Total PFBS	299 > 79.7		6.239e3		0.125		0.0000139	
22	24	Total PFHxS	398.9 > 79.6		5.905e3		0.125		10.1	
23	25	Total PFOA	413 > 368.7		2.487e4		0.125		3.15	
24	26	Total PFOS	499 > 79.9		5.338e3		0.125		4.98	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

Last Altered: Wednesday, November 16, 2016 13:33:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:21:12 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	59.756	6239.454	0.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	812.444	5905.390	9.7
2	24	Total PFHxS	398.9 > 79.6	4.00	100.377	5905.390	0.4

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	1069.901	24868.205	3.1
2	25	Total PFOA	413 > 368.7	4.28	92.218	24868.205	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.77	33.776	5338.484	1.8
2	26	Total PFOS	499 >79.9	4.69	5.907	5338.484	1.1
3	26	Total PFOS	499 >79.9	4.65	47.046	5338.484	2.1

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

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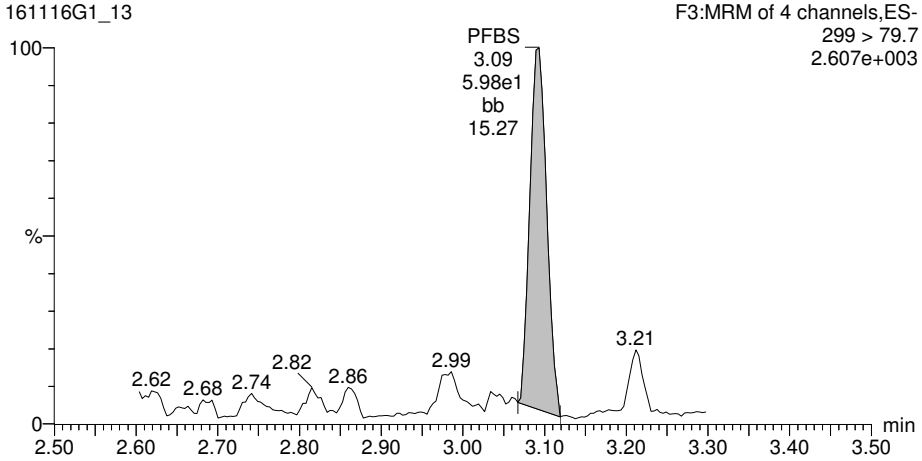
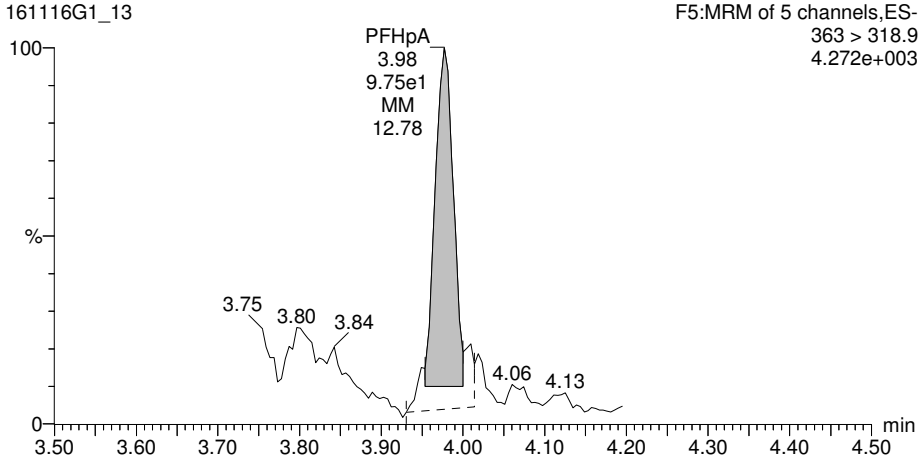
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13, Instrument: , Lab: , User:

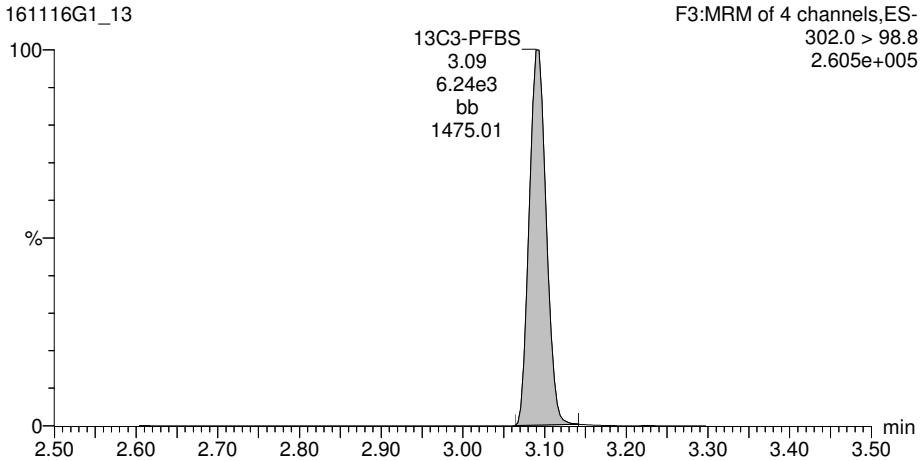
Total PFBS



PFHpA



13C3-PFBS



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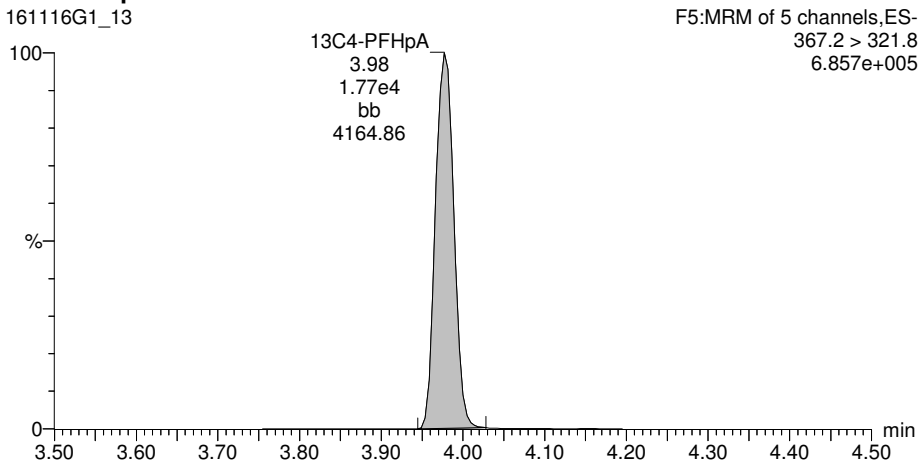

Reviewed: WJL 11/16/2016 AC 11/16/16

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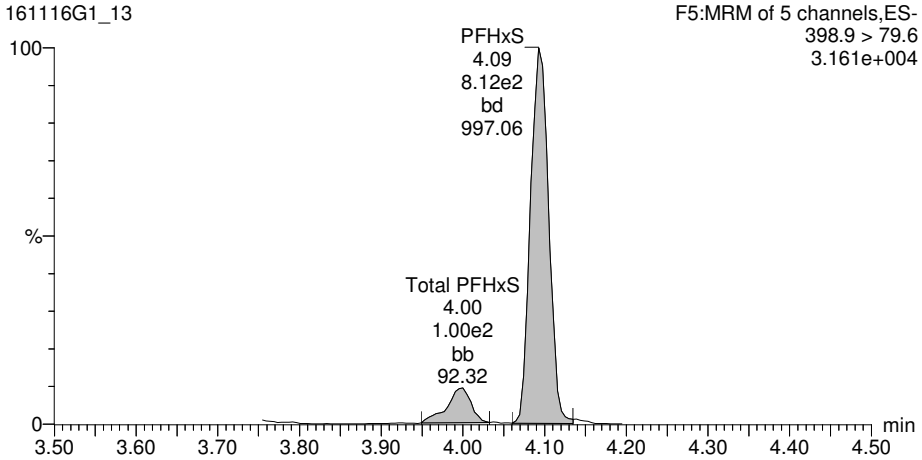
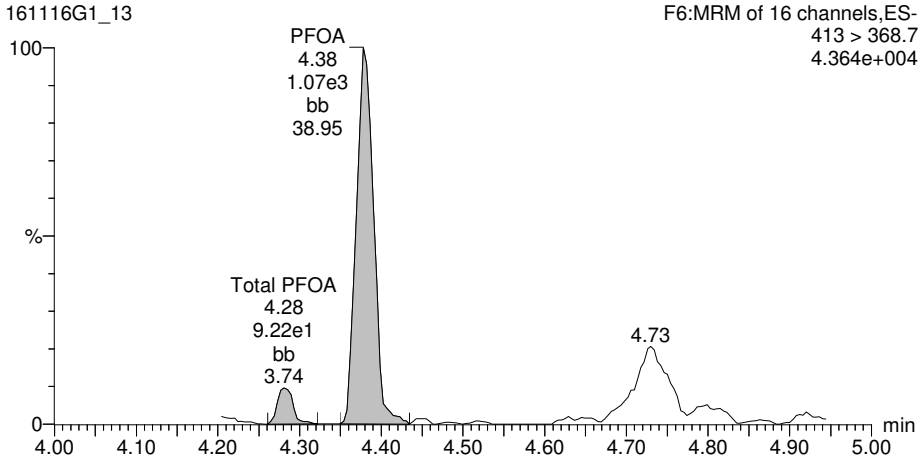
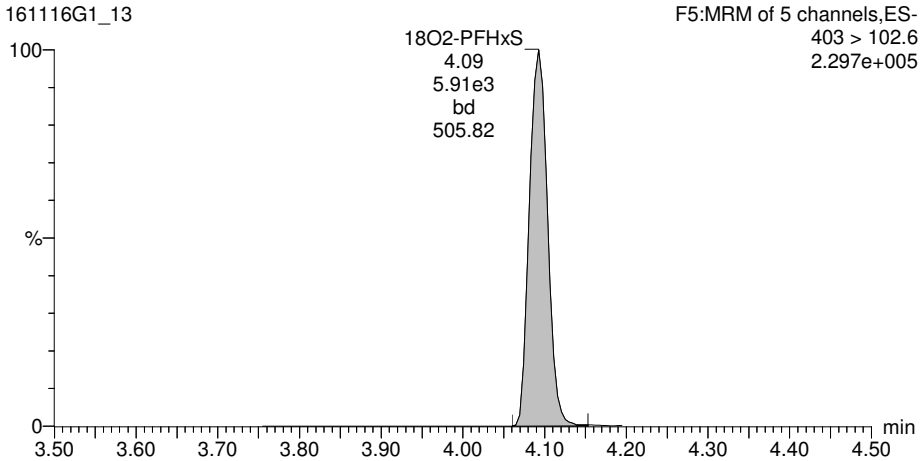
Total PFHxS



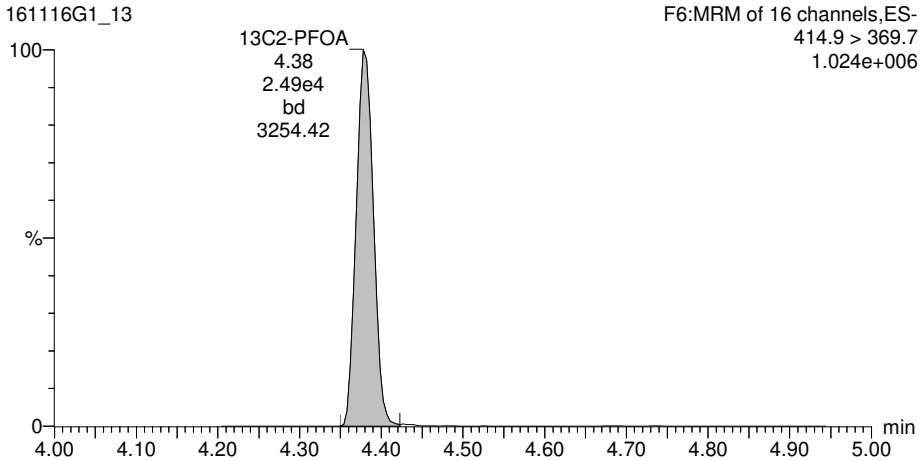
Total PFOA



18O2-PFHxS



13C2-PFOA



Reviewed: WJL 11/16/2016 AC 11/16/16

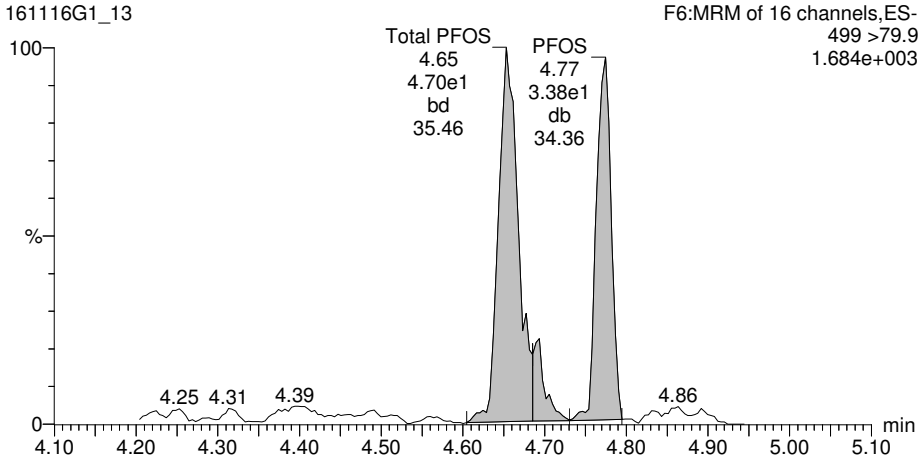
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

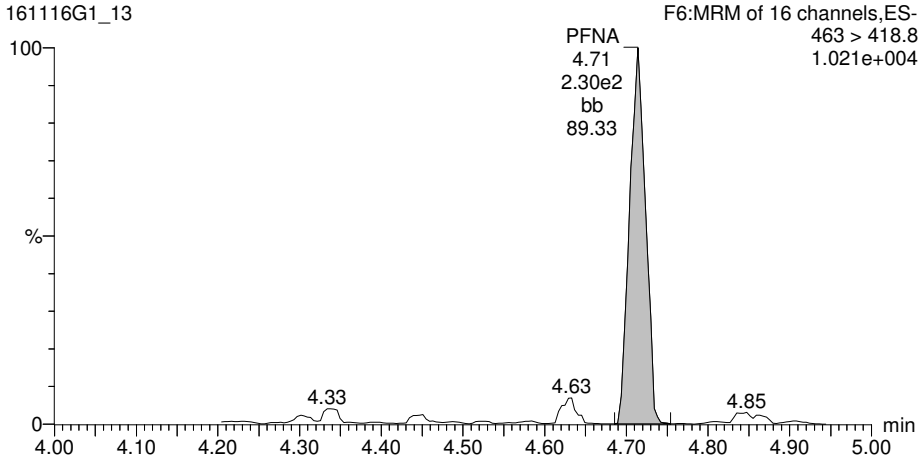
Last Altered: Wednesday, November 16, 2016 13:33:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:21:12 Pacific Standard Time

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13, Instrument: , Lab: , User:

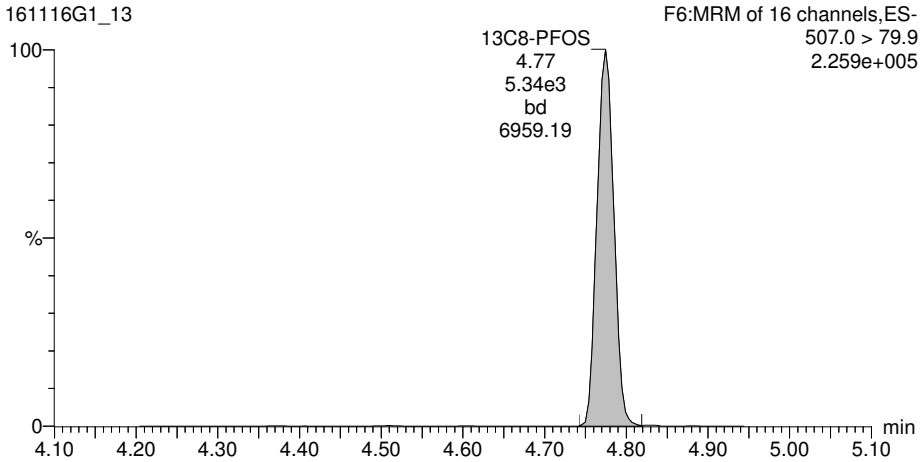
Total PFOS



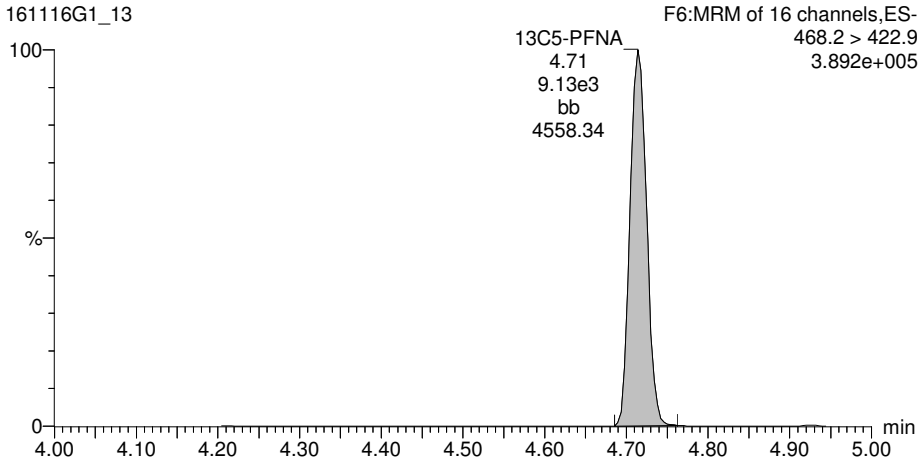
PFNA



13C8-PFOS



13C5-PFNA



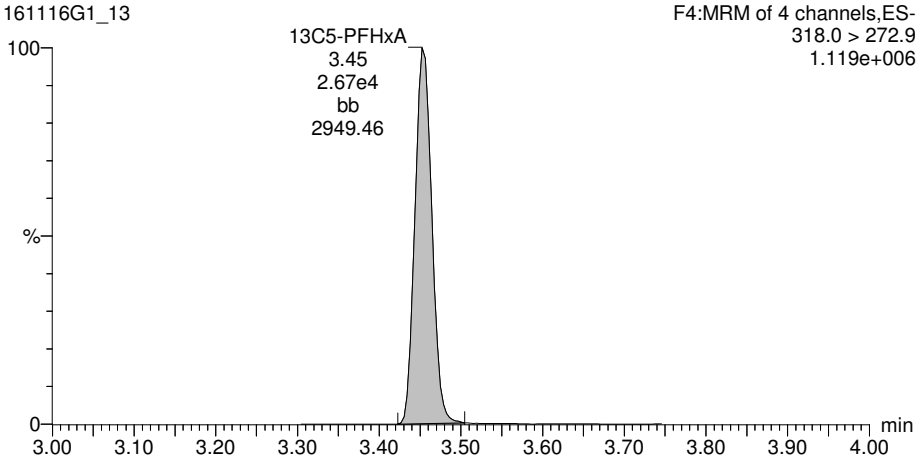
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

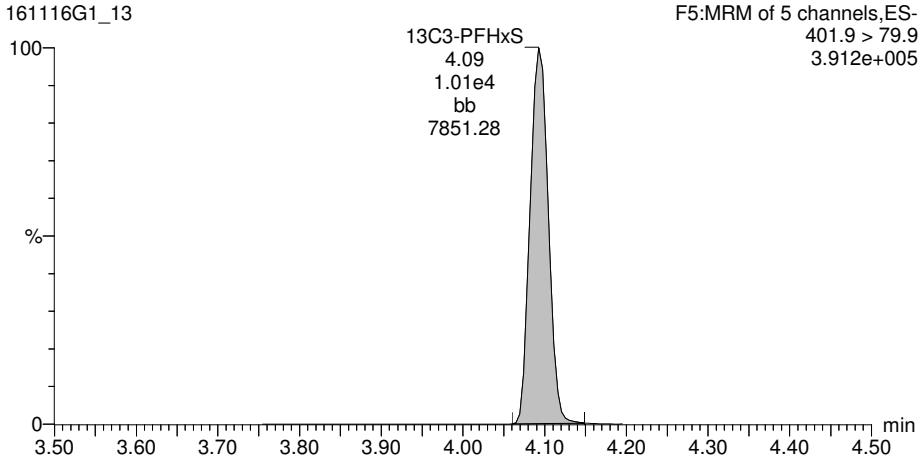
Last Altered: Wednesday, November 16, 2016 13:33:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:21:12 Pacific Standard Time

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13, Instrument: , Lab: , User:

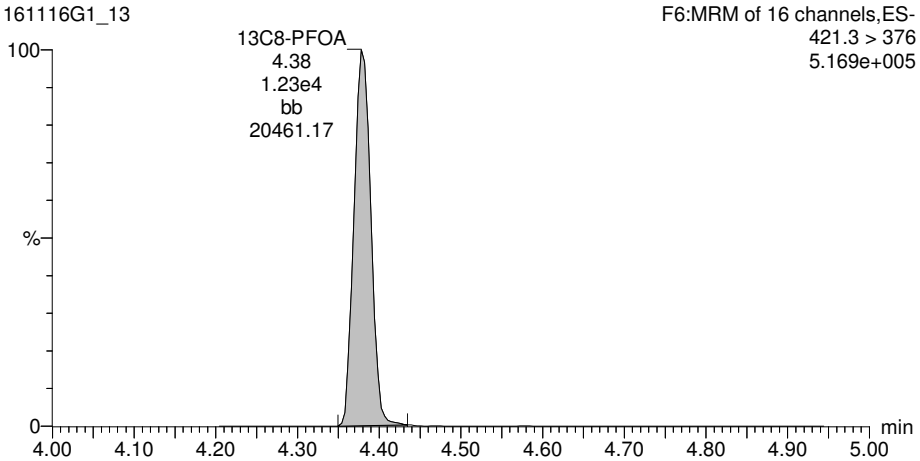
13C5-PFHxA



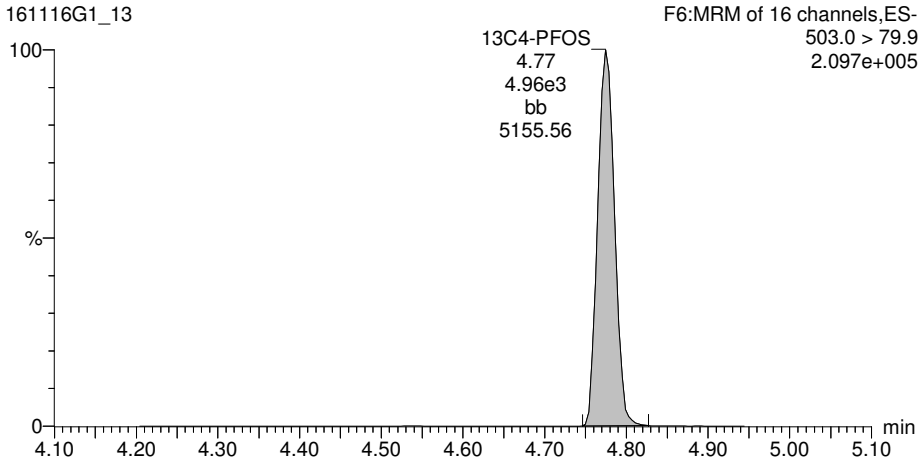
13C3-PFHxS



13C8-PFOA



13C4-PFOS



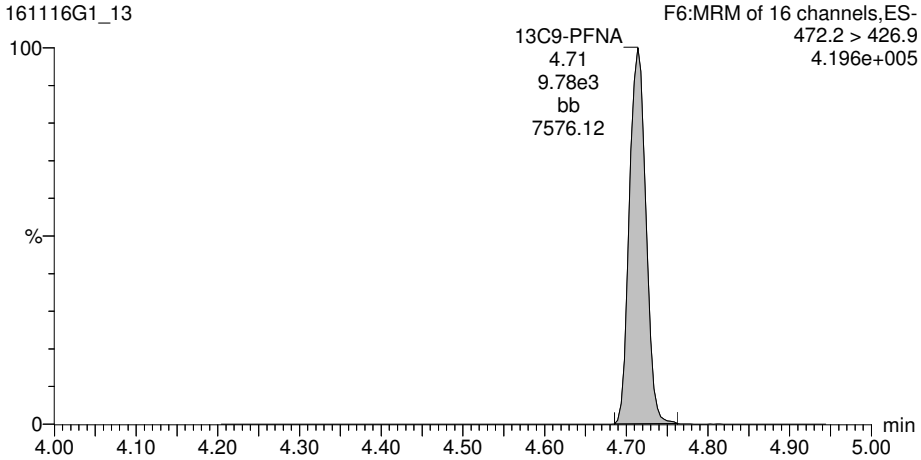
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-13.qld

Last Altered: Wednesday, November 16, 2016 13:33:34 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:21:12 Pacific Standard Time

ID: 1601388-08 MW-BG09-1016 0.12536, Description: MW-BG09-1016, Name: 161116G1_13, Date: 16-Nov-2016, Time: 13:22:13, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	7.754e3	6.245e3		0.130	3.09	86.7	
2	3	PFHpA	363 > 318.9	1.862e4	1.695e4		0.130	3.98	87.2	
3	4	PFHxS	398.9 > 79.6	7.028e3	5.563e3		0.130	4.09	92.5	
4	5	PFOA	413 > 368.7	2.031e4	2.622e4		0.130	4.38	90.9	
5	6	PFOS	499 >79.9	2.995e3	5.312e3		0.130	4.78	75.4	
6	7	PFNA	463 > 418.8	1.281e4	9.342e3		0.130	4.71	82.3	
7	9	13C3-PFBS	302.0 > 98.8	6.245e3	2.633e4	0.250	0.130	3.09	91.2	94.9
8	10	13C2-PFHxA	315 > 269.8	7.175e3	2.633e4	0.741	0.130	3.46	35.3	91.9
9	11	13C4-PFHpA	367.2 > 321.8	1.695e4	9.394e3	2.077	0.130	3.98	83.5	86.9
10	12	18O2-PFHxS	403 > 102.6	5.563e3	9.394e3	0.603	0.130	4.09	94.4	98.2
11	13	13C2-PFOA	414.9 > 369.7	2.622e4	1.150e4	2.438	0.130	4.38	89.9	93.5
12	14	13C8-PFOS	507.0 > 79.9	5.312e3	4.891e3	1.055	0.130	4.77	98.9	103
13	15	13C5-PFNA	468.2 > 422.9	9.342e3	9.299e3	1.158	0.130	4.71	83.4	86.8
14	16	13C2-PFDA	515.1 > 469.9	7.732e3	8.443e3	1.164	0.130	5.02	75.6	78.7
15	17	13C5-PFHxA	318.0 > 272.9	2.633e4	2.633e4	1.000	0.130	3.46	96.1	100
16	18	13C3-PFHxS	401.9 > 79.9	9.394e3	9.394e3	1.000	0.130	4.09	96.1	100
17	19	13C8-PFOA	421.3 > 376	1.150e4	1.150e4	1.000	0.130	4.38	96.1	100
18	20	13C4-PFOS	503.0 > 79.9	4.891e3	4.891e3	1.000	0.130	4.77	96.1	100
19	21	13C9-PFNA	472.2 > 426.9	9.299e3	9.299e3	1.000	0.130	4.71	96.1	100
20	22	13C6-PFDA	519.1 > 473.7	8.443e3	8.443e3	1.000	0.130	5.02	96.1	100
21	23	Total PFBS	299 > 79.7		6.245e3		0.130		86.7	
22	24	Total PFHxS	398.9 > 79.6		5.563e3		0.130		93.0	
23	25	Total PFOA	413 > 368.7		2.622e4		0.130		90.9	
24	26	Total PFOS	499 > 79.9		5.312e3		0.130		79.2	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	7753.904	6244.973	86.7

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.09	7028.215	5562.825	92.5
2	24	Total PFHxS	398.9 > 79.6	4.00	97.856	5562.825	0.5
3	24	Total PFHxS	398.9 > 79.6	3.97	22.720	5562.825	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	20308.732	26221.115	90.9
2	25	Total PFOA	413 > 368.7	4.28	181.072	26221.115	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	26	Total PFOS	499 >79.9	4.69	39.800	5312.135	1.9
2	26	Total PFOS	499 >79.9	4.66	42.523	5312.135	1.9
3	6	PFOS	499 >79.9	4.78	2995.054	5312.135	75.4

Vista Analytical Laboratory Q1

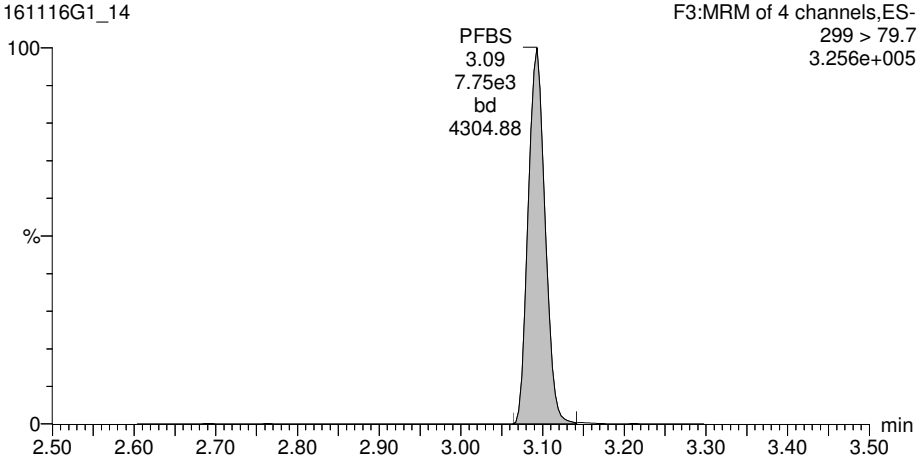
Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

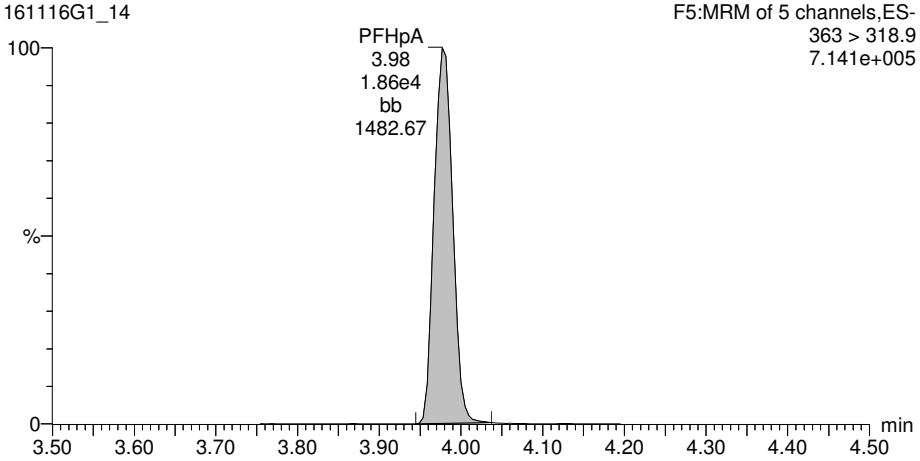
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48, Instrument: , Lab: , User:

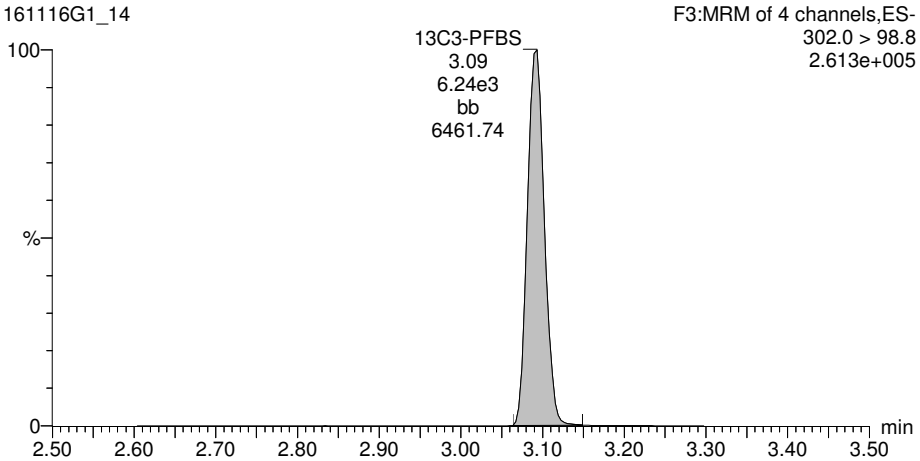
Total PFBS



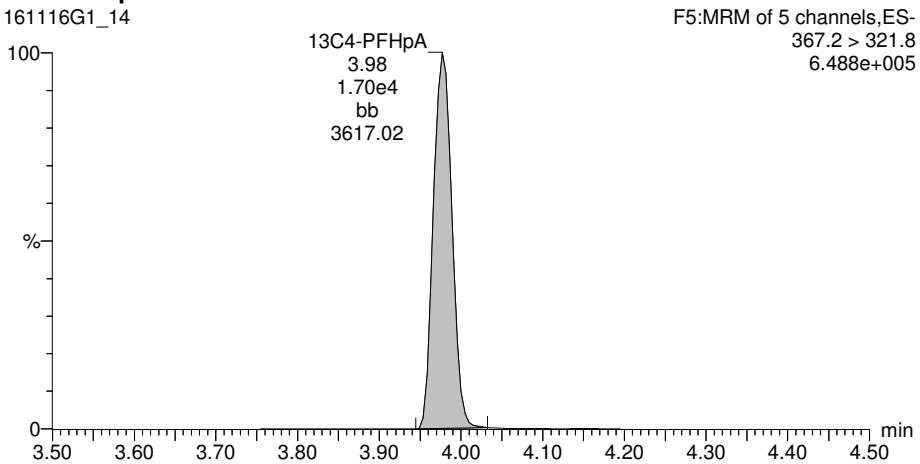
PFHpA



13C3-PFBS



13C4-PFHpA



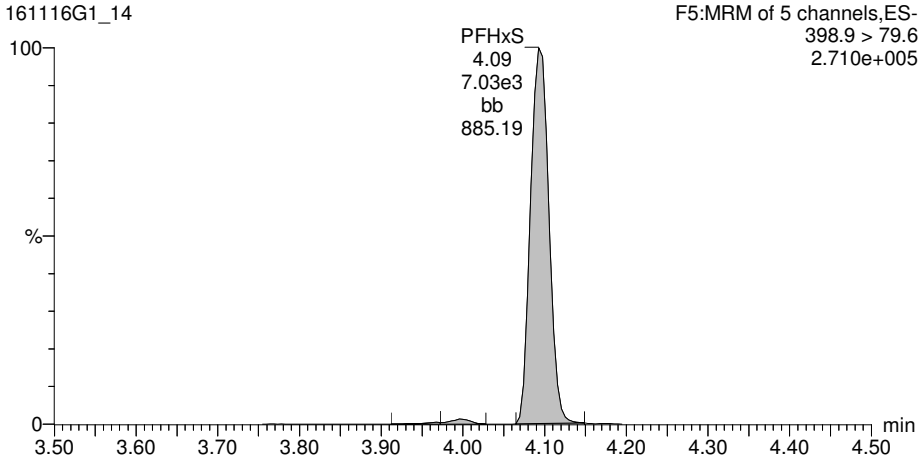
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

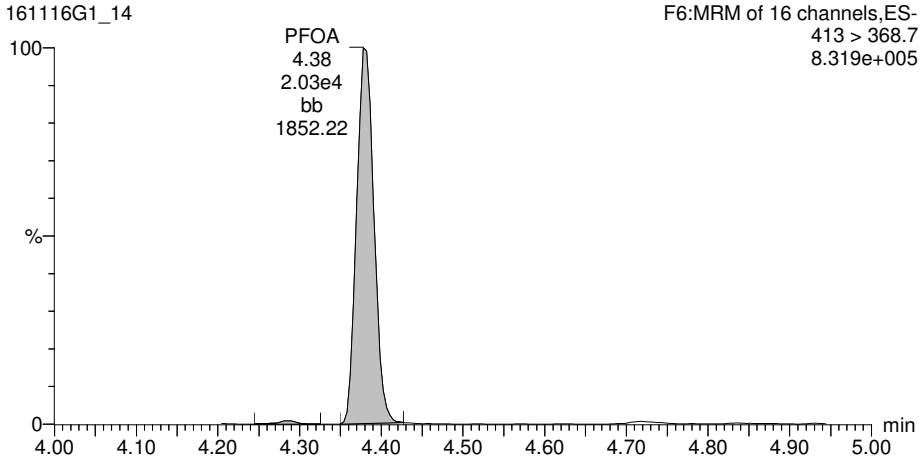
Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48, Instrument: , Lab: , User:

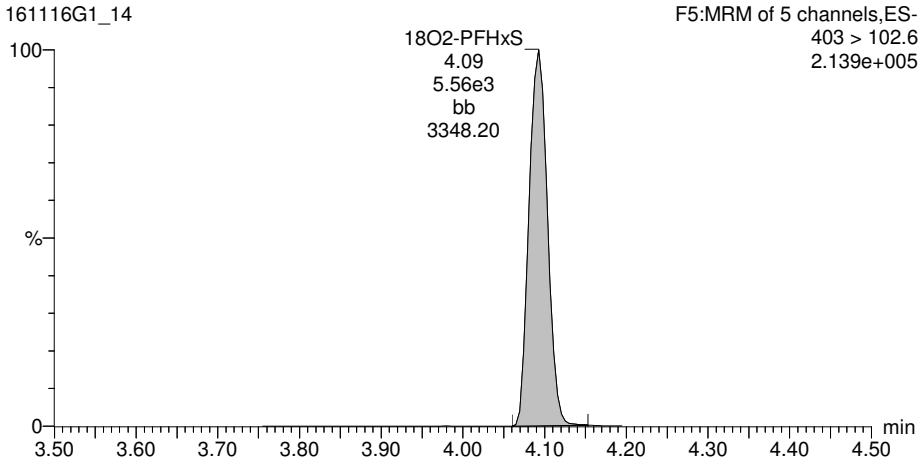
Total PFHxS



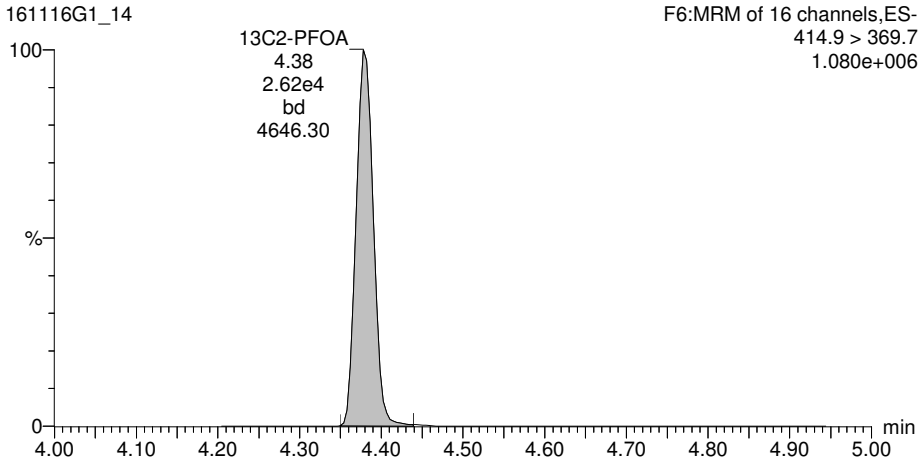
Total PFOA



18O2-PFHxS



13C2-PFOA



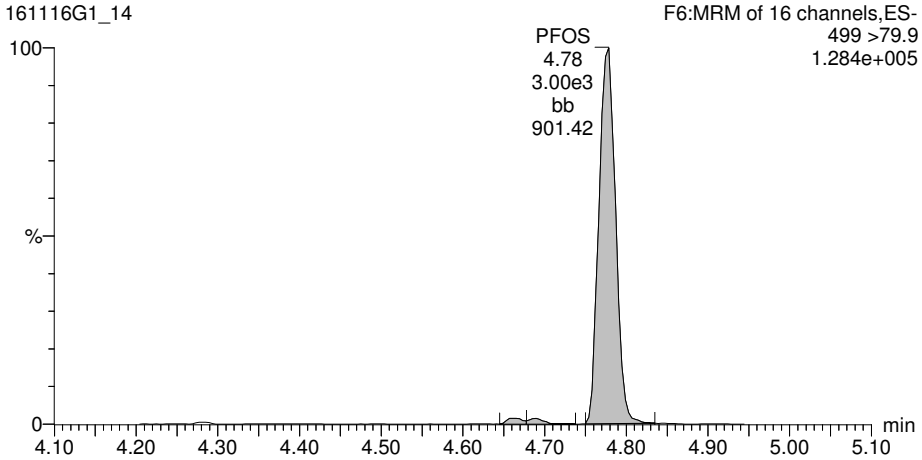
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

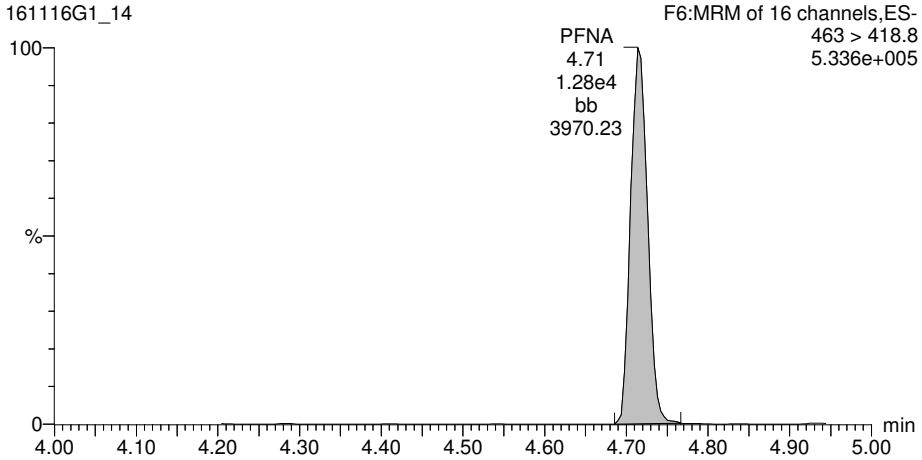
Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48, Instrument: , Lab: , User:

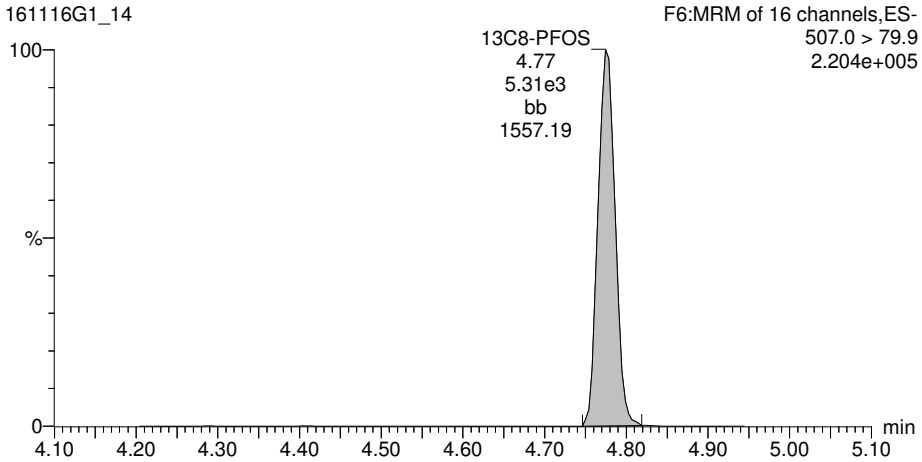
Total PFOS



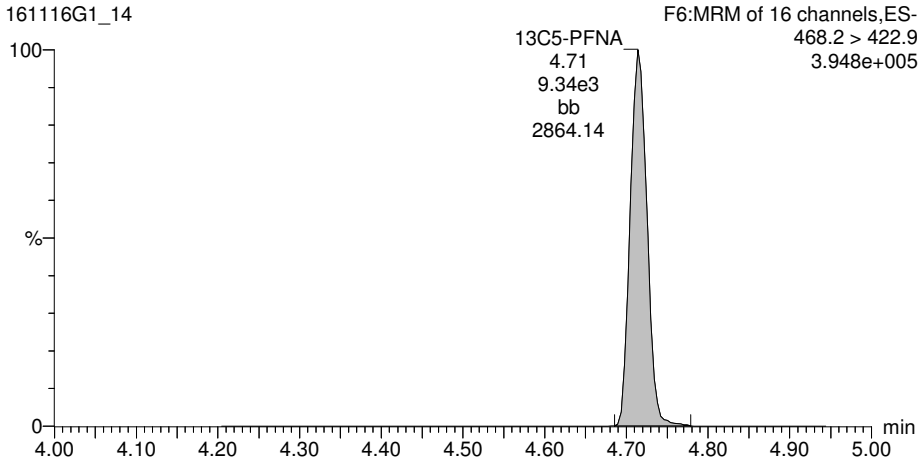
PFNA



13C8-PFOS



13C5-PFNA



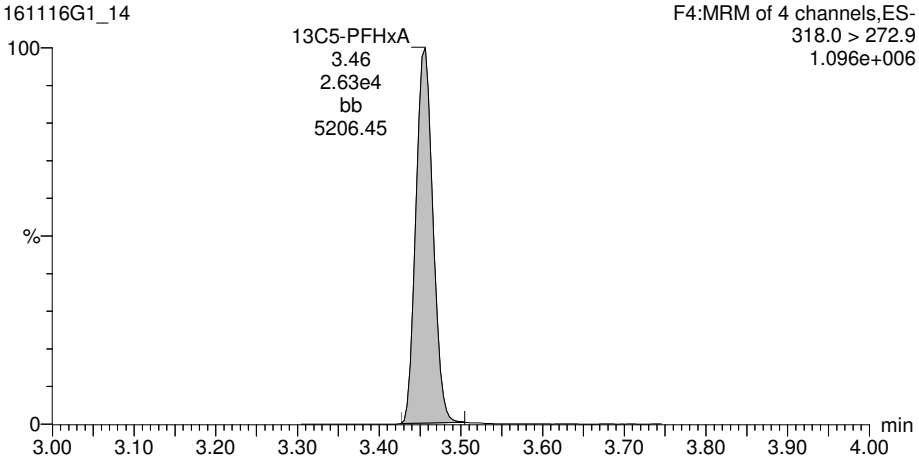
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

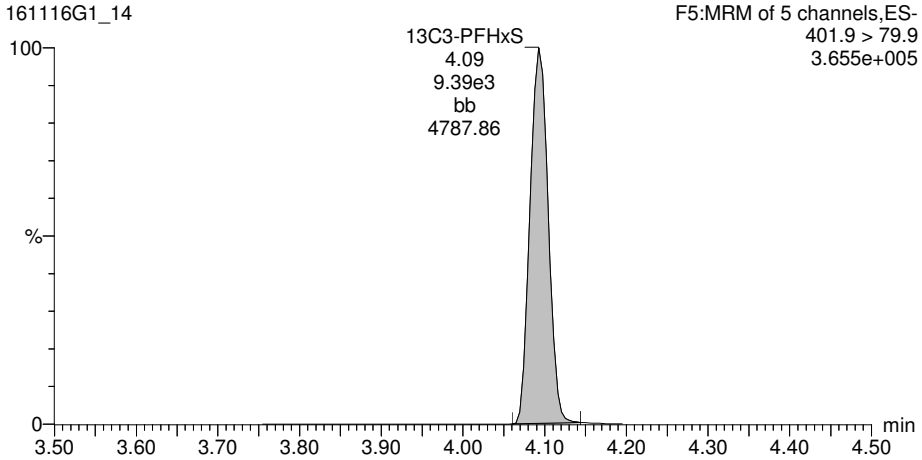
Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48, Instrument: , Lab: , User:

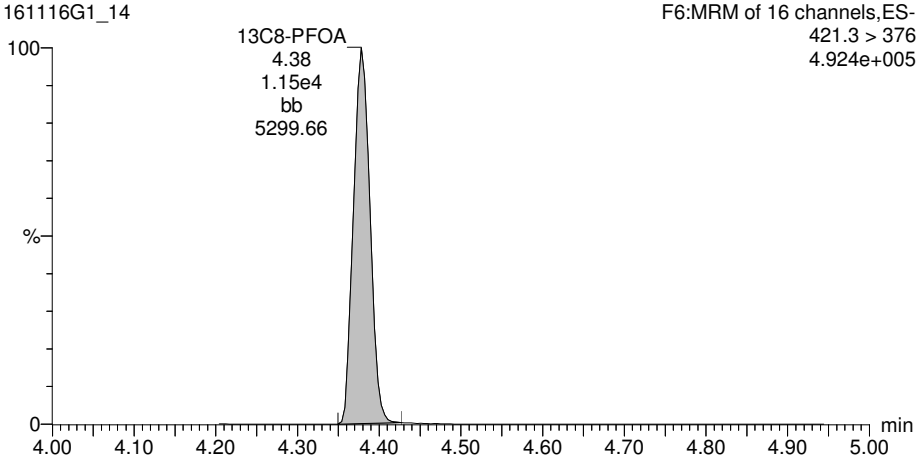
13C5-PFHxA



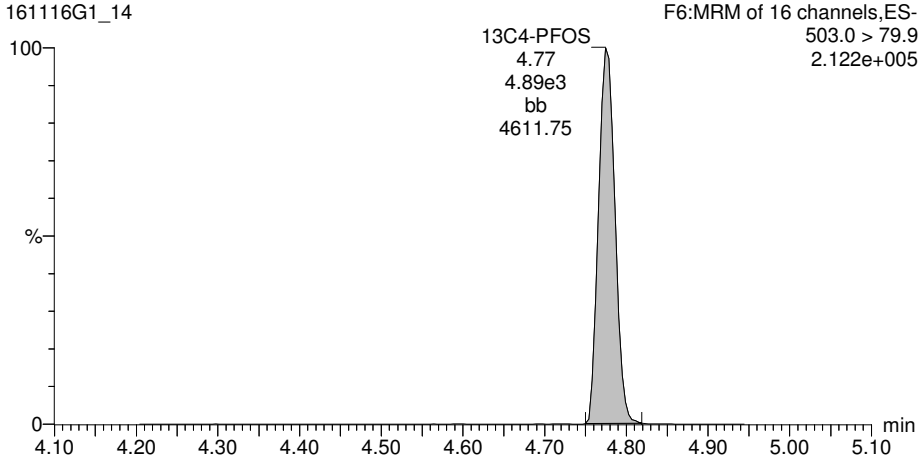
13C3-PFHxS



13C8-PFOA



13C4-PFOS



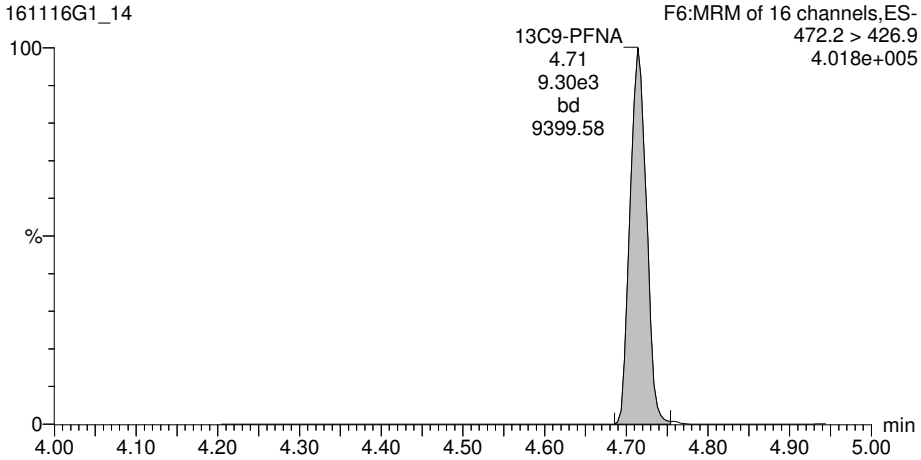
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-14.qld

Last Altered: Wednesday, November 16, 2016 13:51:13 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:02 Pacific Standard Time

ID: B6K0053-MS1 Matrix Spike 0.13008, Description: Matrix Spike, Name: 161116G1_14, Date: 16-Nov-2016, Time: 13:34:48, Instrument: , Lab: , User:

13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

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Printed: Wednesday, November 16, 2016 15:23:40 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-MSD1 Matrix Spike Dup 0.12486, Description: Matrix Spike Dup, Name: 161116G1_15, Date: 16-Nov-2016, Time: 13:47:24

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	8.114e3	6.490e3		0.125	3.09	91.0	
2	3	PFHpA	363 > 318.9	1.913e4	1.730e4		0.125	3.98	91.5	
3	4	PFHxS	398.9 > 79.6	7.327e3	5.770e3		0.125	4.10	96.9	
4	5	PFOA	413 > 368.7	1.907e4	2.387e4		0.125	4.38	97.7	
5	6	PFOS	499 >79.9	2.667e3	4.902e3		0.125	4.78	75.8	
6	7	PFNA	463 > 418.8	1.282e4	9.517e3		0.125	4.72	84.3	
7	9	13C3-PFBS	302.0 > 98.8	6.490e3	2.562e4	0.250	0.125	3.09	102	101
8	10	13C2-PFHxA	315 > 269.8	7.199e3	2.562e4	0.741	0.125	3.46	37.9	94.8
9	11	13C4-PFHpA	367.2 > 321.8	1.730e4	9.285e3	2.077	0.125	3.98	89.8	89.7
10	12	18O2-PFHxS	403 > 102.6	5.770e3	9.285e3	0.603	0.125	4.09	103	103
11	13	13C2-PFOA	414.9 > 369.7	2.387e4	1.087e4	2.438	0.125	4.38	90.1	90.0
12	14	13C8-PFOS	507.0 > 79.9	4.902e3	4.513e3	1.055	0.125	4.78	103	103
13	15	13C5-PFNA	468.2 > 422.9	9.517e3	9.890e3	1.158	0.125	4.72	83.2	83.1
14	16	13C2-PFDA	515.1 > 469.9	6.619e3	8.876e3	1.164	0.125	5.02	64.1	64.1
15	17	13C5-PFHxA	318.0 > 272.9	2.562e4	2.562e4	1.000	0.125	3.46	100	100
16	18	13C3-PFHxS	401.9 > 79.9	9.285e3	9.285e3	1.000	0.125	4.10	100	100
17	19	13C8-PFOA	421.3 > 376	1.087e4	1.087e4	1.000	0.125	4.38	100	100
18	20	13C4-PFOS	503.0 > 79.9	4.513e3	4.513e3	1.000	0.125	4.78	100	100
19	21	13C9-PFNA	472.2 > 426.9	9.890e3	9.890e3	1.000	0.125	4.72	100	100
20	22	13C6-PFDA	519.1 > 473.7	8.876e3	8.876e3	1.000	0.125	5.02	100	100
21	23	Total PFBS	299 > 79.7		6.490e3		0.125		91.0	
22	24	Total PFHxS	398.9 > 79.6		5.770e3		0.125		96.9	
23	25	Total PFOA	413 > 368.7		2.387e4		0.125		97.7	
24	26	Total PFOS	499 > 79.9		4.902e3		0.125		81.1	

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

Last Altered: Wednesday, November 16, 2016 13:58:31 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:40 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: B6K0053-MSD1 Matrix Spike Dup 0.12486, Description: Matrix Spike Dup, Name: 161116G1_15, Date: 16-Nov-2016, Time: 13:47:24

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	8113.810	6489.904	91.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.10	7327.209	5770.434	96.9
2	24	Total PFHxS	398.9 > 79.6	4.00	67.975	5770.434	0.0
3	24	Total PFHxS	398.9 > 79.6	3.97	23.183	5770.434	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	19070.805	23870.639	97.7
2	25	Total PFOA	413 > 368.7	4.28	162.232	23870.639	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.78	2667.176	4902.355	75.8
2	26	Total PFOS	499 >79.9	4.69	65.512	4902.355	2.8
3	26	Total PFOS	499 >79.9	4.66	56.909	4902.355	2.5

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

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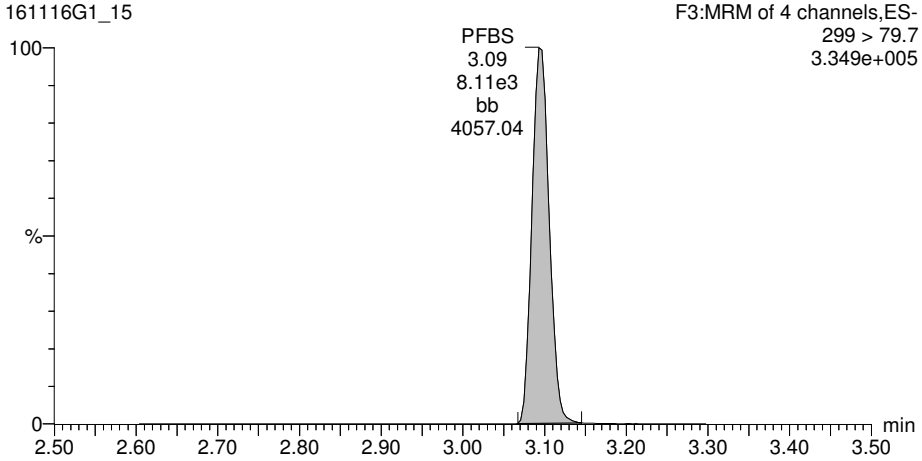
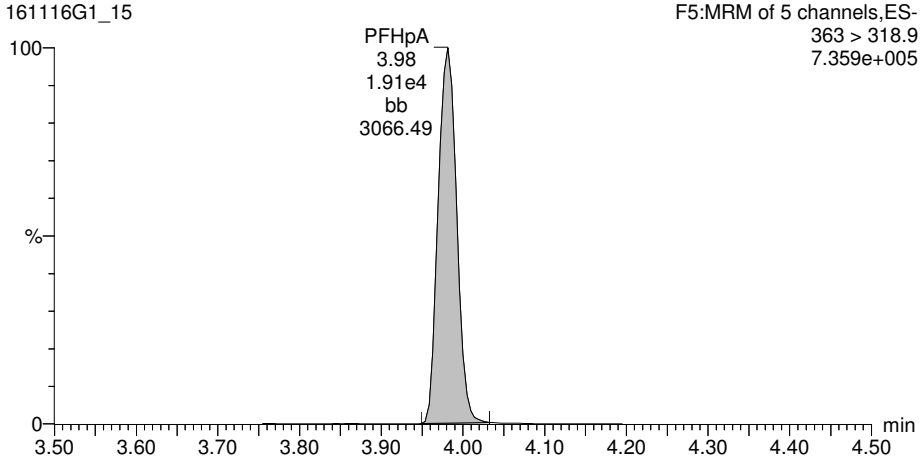
ID: B6K0053-MSD1 Matrix Spike Dup 0.12486, Description: Matrix Spike Dup, Name: 161116G1_15, Date: 16-Nov-2016, Time: 13:47:24, Instrument: , Lab: , User:

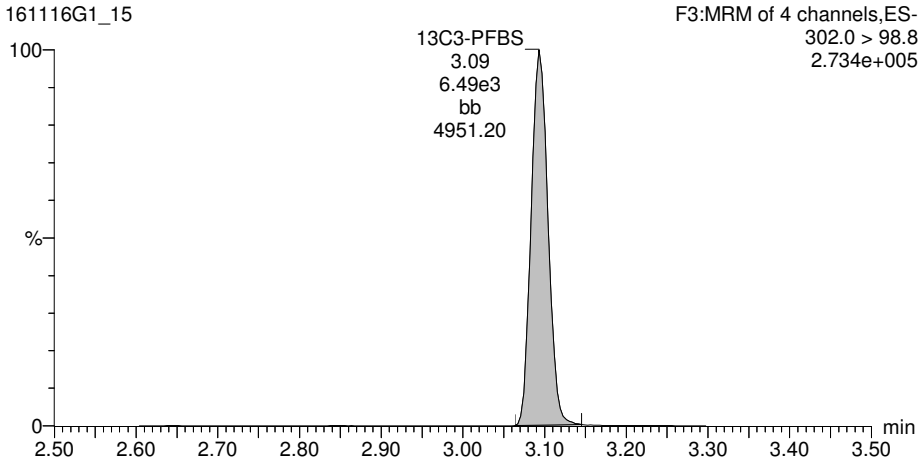
Total PFBS



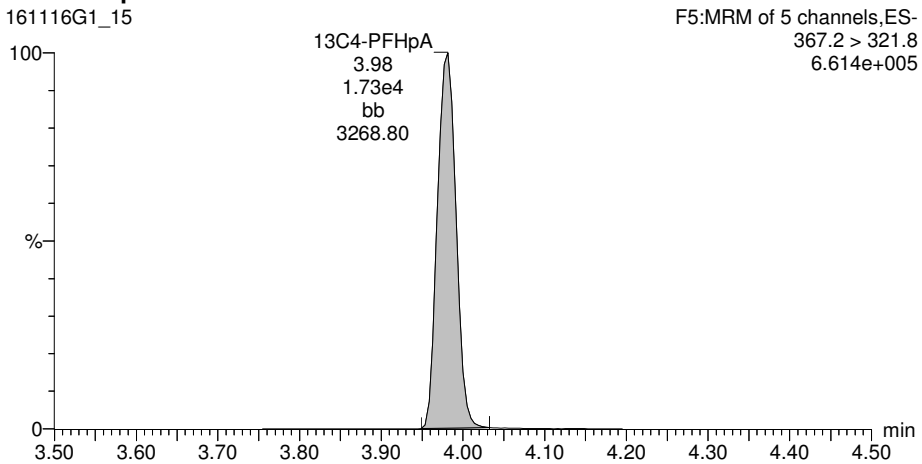
PFHpA



13C3-PFBS



13C4-PFHpA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

Last Altered: Wednesday, November 16, 2016 13:58:31 Pacific Standard Time
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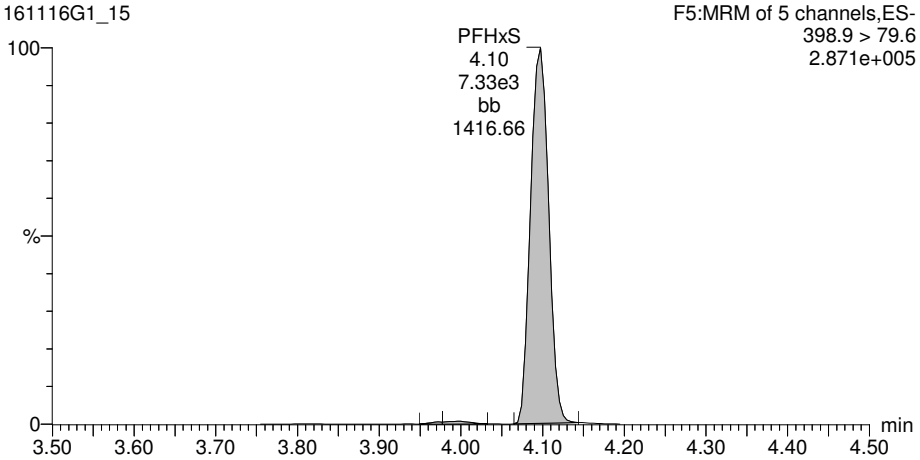
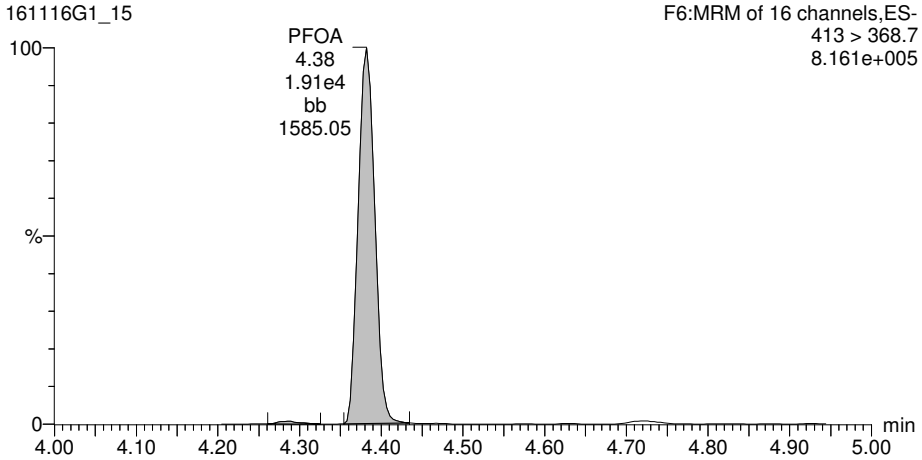
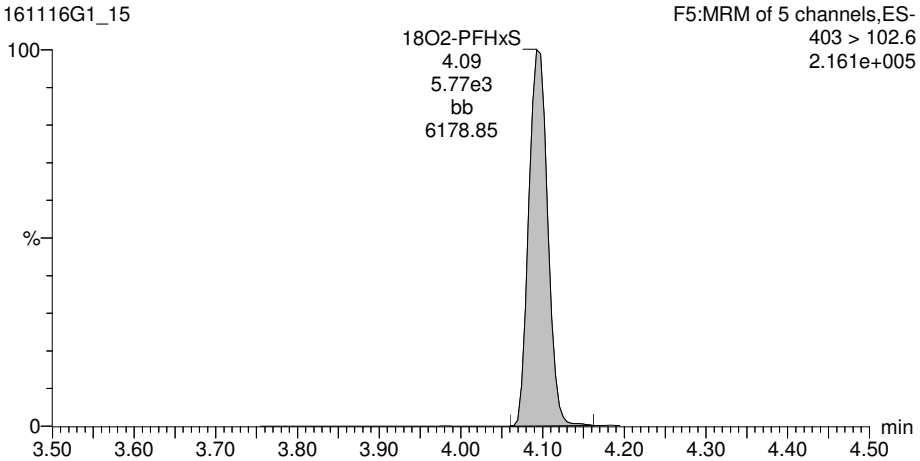
Total PFHxS



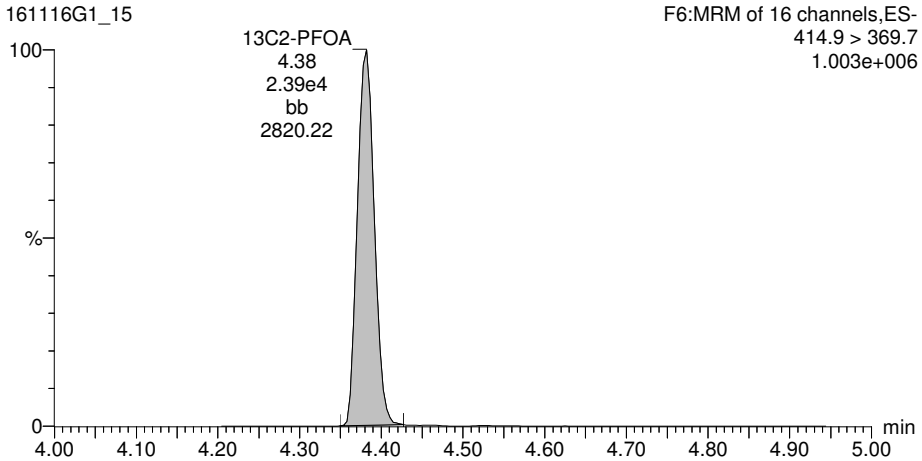
Total PFOA



18O2-PFHxS



13C2-PFOA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

Last Altered: Wednesday, November 16, 2016 13:58:31 Pacific Standard Time
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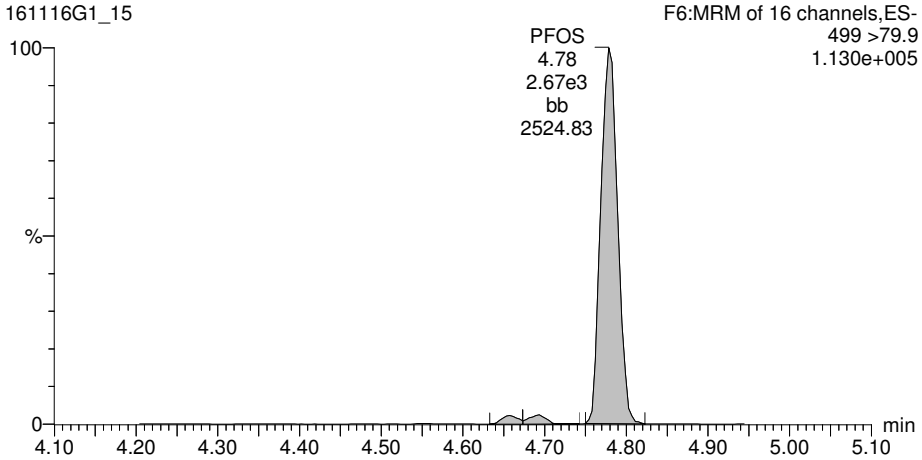
Total PFOS



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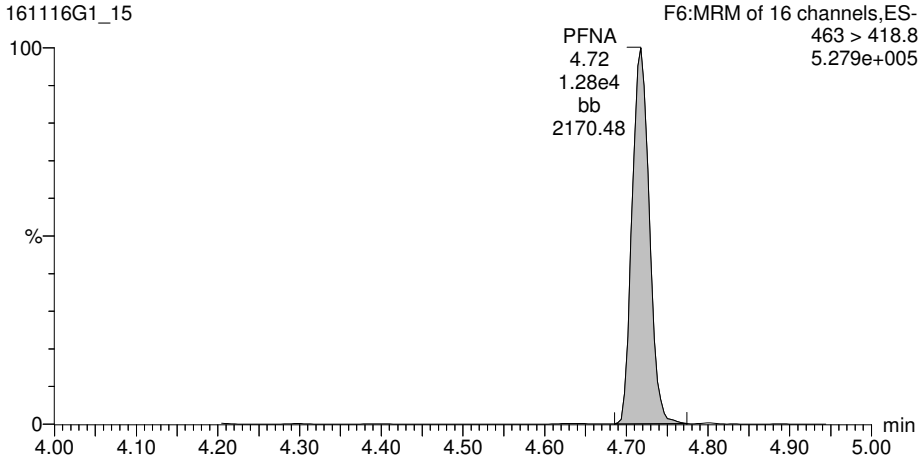

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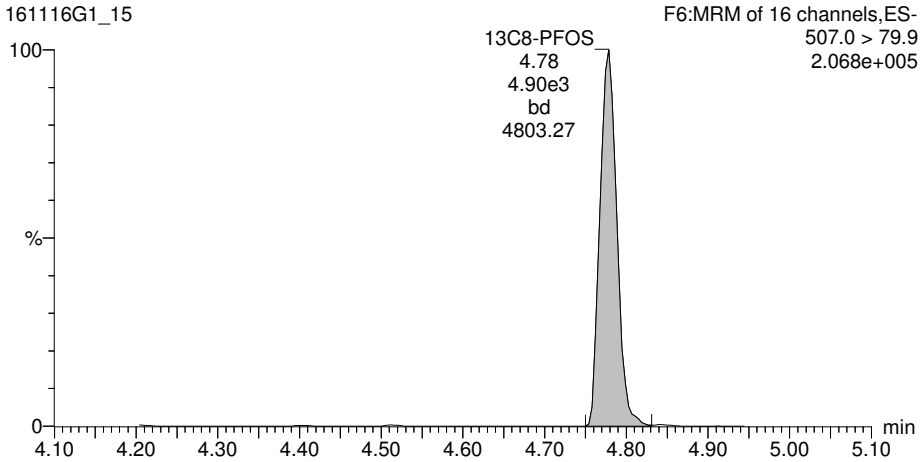
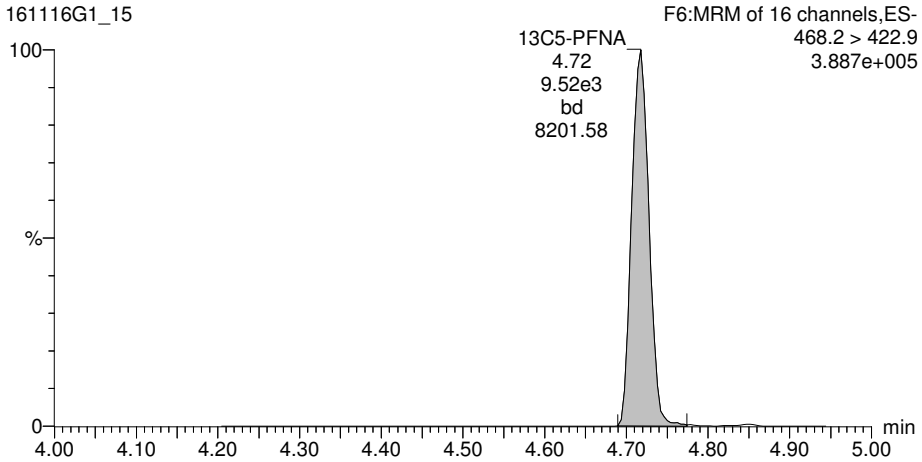


13C5-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-15.qld

Last Altered: Wednesday, November 16, 2016 13:58:31 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:23:40 Pacific Standard Time

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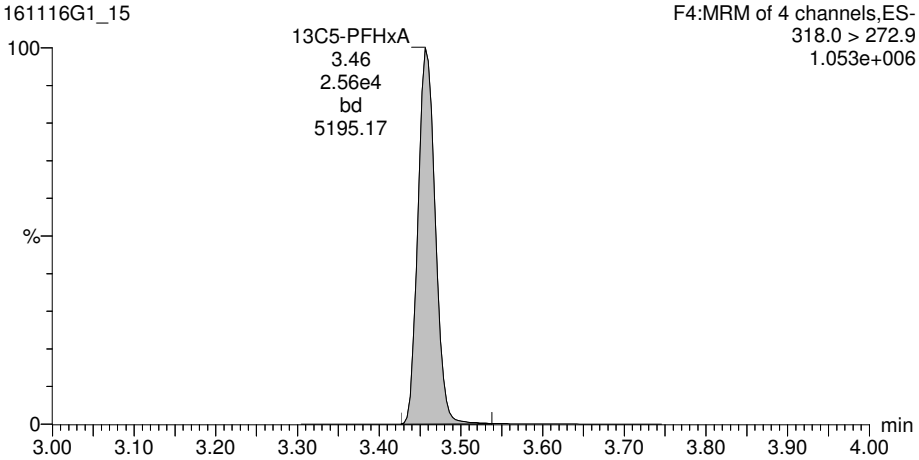
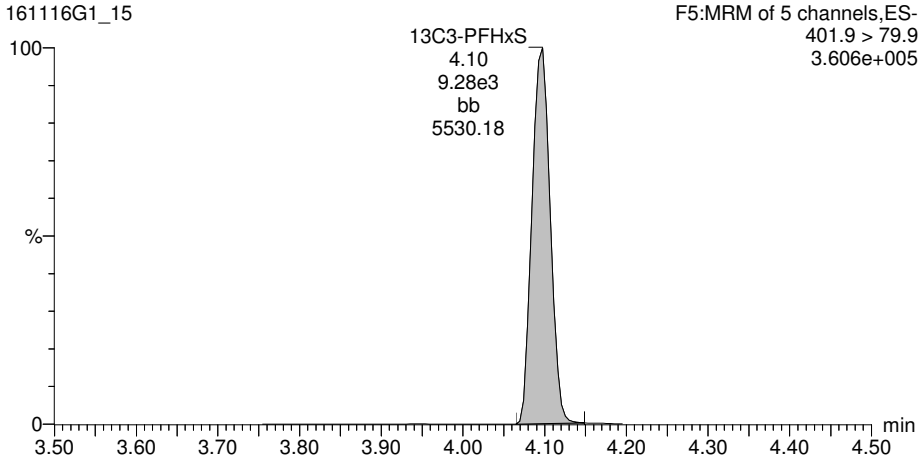
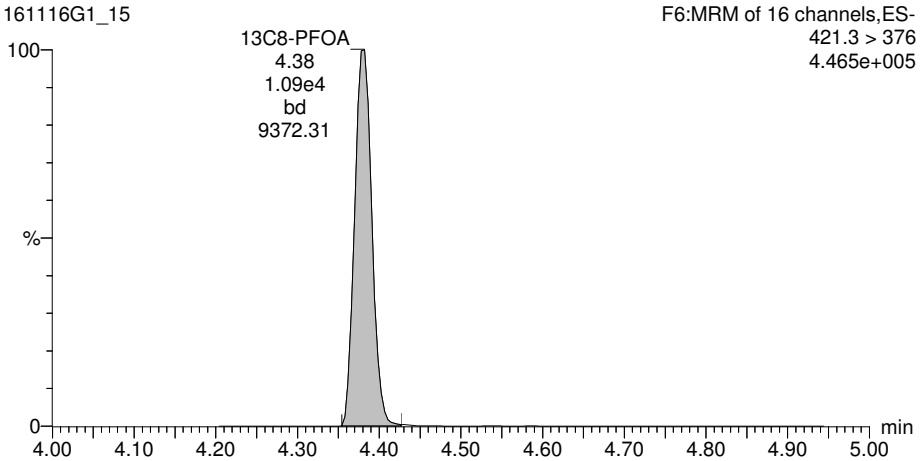
13C5-PFHxA



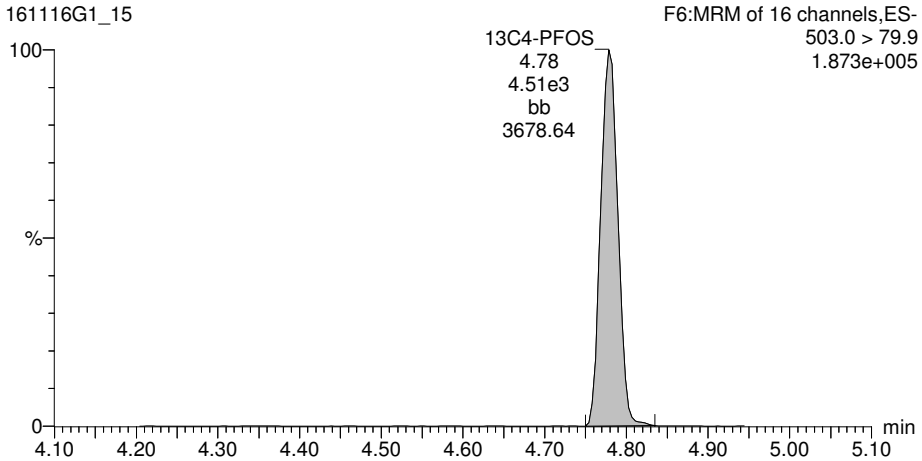
13C3-PFHxS



13C8-PFOA



13C4-PFOS



Reviewed: WJL 11/16/2016 AC 11/16/16

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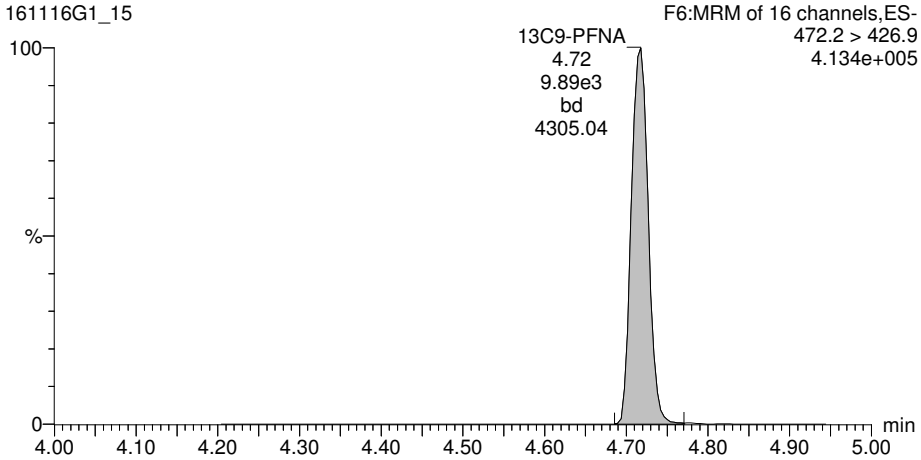
ID: B6K0053-MSD1 Matrix Spike Dup 0.12486, Description: Matrix Spike Dup, Name: 161116G1_15, Date: 16-Nov-2016, Time: 13:47:24, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-16.qld

Last Altered: Wednesday, November 16, 2016 14:13:05 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:06 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-09 OC-MW04-1016 0.12595, Description: OC-MW04-1016, Name: 161116G1_16, Date: 16-Nov-2016, Time: 14:00:04

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.423e2	6.807e3		0.126	3.09	4.03	
2	3	PFHpA	363 > 318.9	1.595e3	1.765e4		0.126	3.98	6.37	
3	4	PFHxS	398.9 > 79.6	2.570e3	5.106e3		0.126	4.10	37.6	
4	5	PFOA	413 > 368.7	1.736e3	2.382e4		0.126	4.38	6.84	
5	6	PFOS	499 >79.9	4.925e2	4.294e3		0.126	4.78	16.6	
6	7	PFNA	463 > 418.8	2.339e2	8.802e3		0.126	4.72	1.00	
7	9	13C3-PFBS	302.0 > 98.8	6.807e3	2.727e4	0.250	0.126	3.09	99.2	99.9
8	10	13C2-PFHxA	315 > 269.8	7.469e3	2.727e4	0.741	0.126	3.46	36.7	92.4
9	11	13C4-PFHpA	367.2 > 321.8	1.765e4	8.311e3	2.077	0.126	3.98	101	102
10	12	18O2-PFHxS	403 > 102.6	5.106e3	8.311e3	0.603	0.126	4.09	101	102
11	13	13C2-PFOA	414.9 > 369.7	2.382e4	1.037e4	2.438	0.126	4.38	93.5	94.2
12	14	13C8-PFOS	507.0 > 79.9	4.294e3	4.136e3	1.055	0.126	4.78	97.7	98.4
13	15	13C5-PFNA	468.2 > 422.9	8.802e3	9.537e3	1.158	0.126	4.72	79.1	79.7
14	16	13C2-PFDA	515.1 > 469.9	6.418e3	8.203e3	1.164	0.126	5.02	66.7	67.2
15	17	13C5-PFHxA	318.0 > 272.9	2.727e4	2.727e4	1.000	0.126	3.46	99.2	100
16	18	13C3-PFHxS	401.9 > 79.9	8.311e3	8.311e3	1.000	0.126	4.10	99.2	100
17	19	13C8-PFOA	421.3 > 376	1.037e4	1.037e4	1.000	0.126	4.38	99.2	100
18	20	13C4-PFOS	503.0 > 79.9	4.136e3	4.136e3	1.000	0.126	4.78	99.2	100
19	21	13C9-PFNA	472.2 > 426.9	9.537e3	9.537e3	1.000	0.126	4.72	99.2	100
20	22	13C6-PFDA	519.1 > 473.7	8.203e3	8.203e3	1.000	0.126	5.02	99.2	100
21	23	Total PFBS	299 > 79.7		6.807e3		0.126		4.03	
22	24	Total PFHxS	398.9 > 79.6		5.106e3		0.126		42.8	
23	25	Total PFOA	413 > 368.7		2.382e4		0.126		6.84	
24	26	Total PFOS	499 > 79.9		4.294e3		0.126		39.6	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-16.qld

Last Altered: Wednesday, November 16, 2016 14:13:05 Pacific Standard Time
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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-09 OC-MW04-1016 0.12595, Description: OC-MW04-1016, Name: 161116G1_16, Date: 16-Nov-2016, Time: 14:00:04

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	442.293	6806.514	4.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.10	2570.494	5105.780	37.6
2	24	Total PFHxS	398.9 > 79.6	4.00	320.511	5105.780	3.9
3	24	Total PFHxS	398.9 > 79.6	3.97	143.901	5105.780	1.3

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	1736.179	23820.943	6.8
2	25	Total PFOA	413 > 368.7	4.28	373.145	23820.943	
3	25	Total PFOA	413 > 368.7	4.24	25.690	23820.943	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.78	492.525	4294.437	16.6
2	26	Total PFOS	499 >79.9	4.69	243.336	4294.437	8.6
3	26	Total PFOS	499 >79.9	4.66	365.838	4294.437	12.5
4	26	Total PFOS	499 >79.9	4.56	30.811	4294.437	1.9

Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-16.qld

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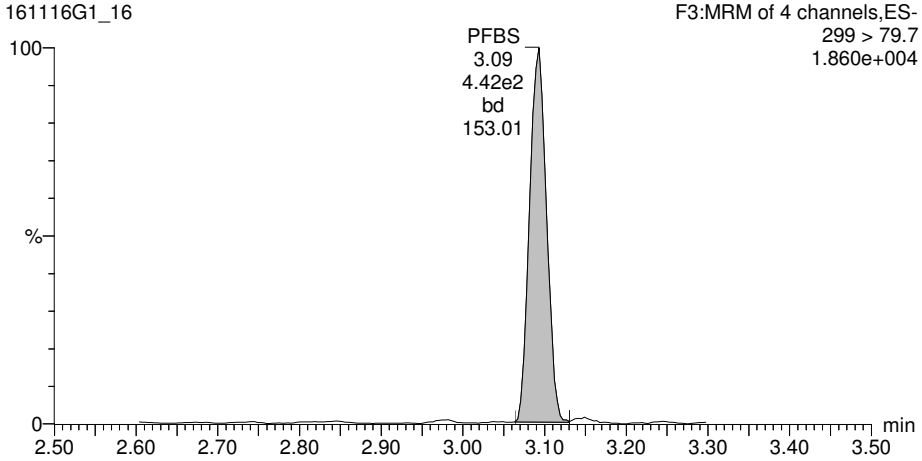
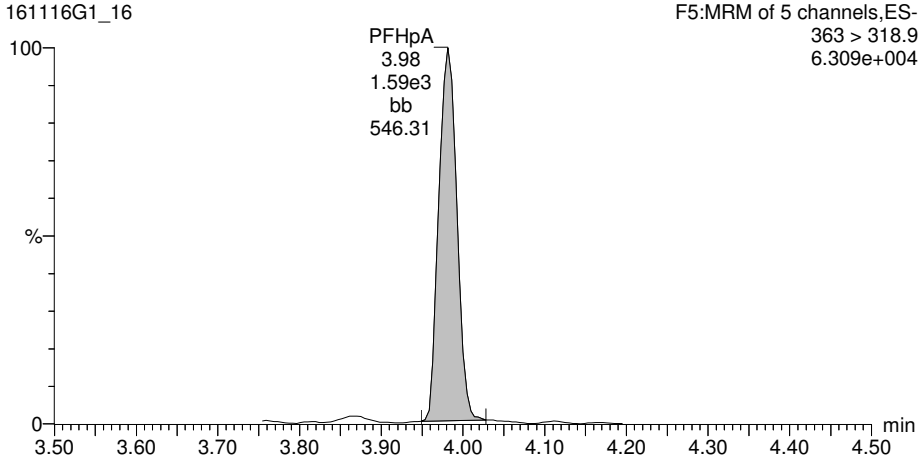
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-09 OC-MW04-1016 0.12595, Description: OC-MW04-1016, Name: 161116G1_16, Date: 16-Nov-2016, Time: 14:00:04, Instrument: , Lab: , User:

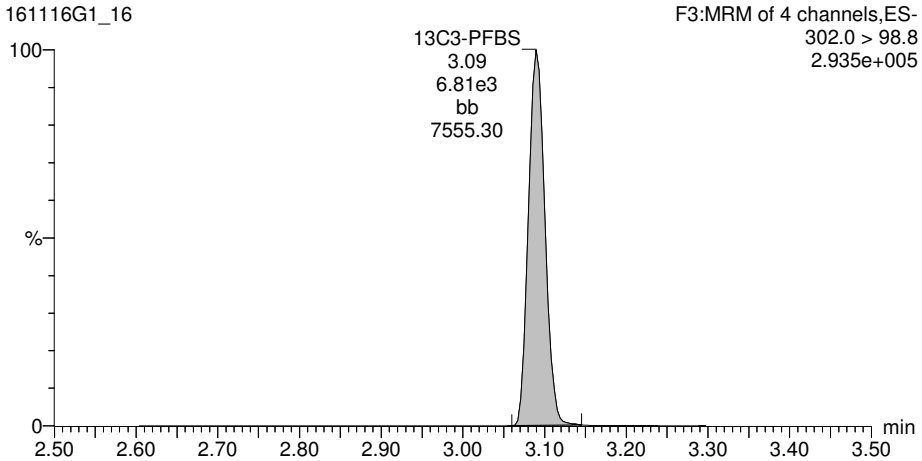
Total PFBS



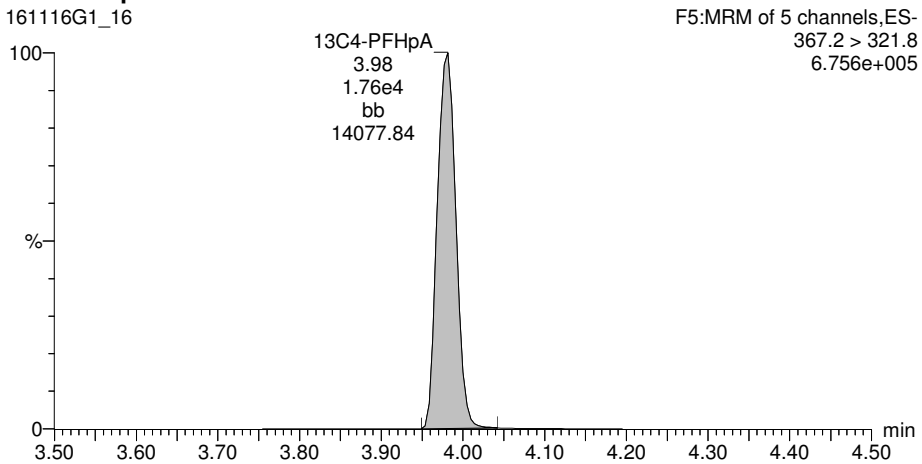
PFHpA



13C3-PFBS



13C4-PFHpA



Reviewed: WJL 11/16/2016 AC 11/16/16

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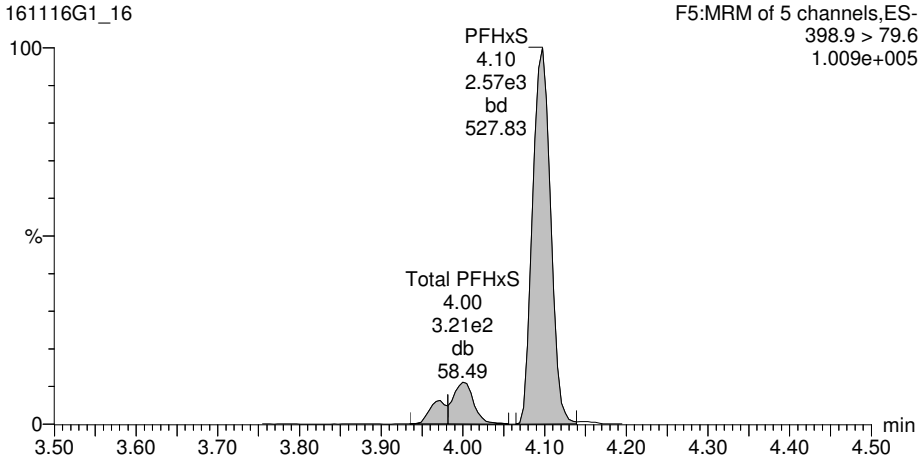
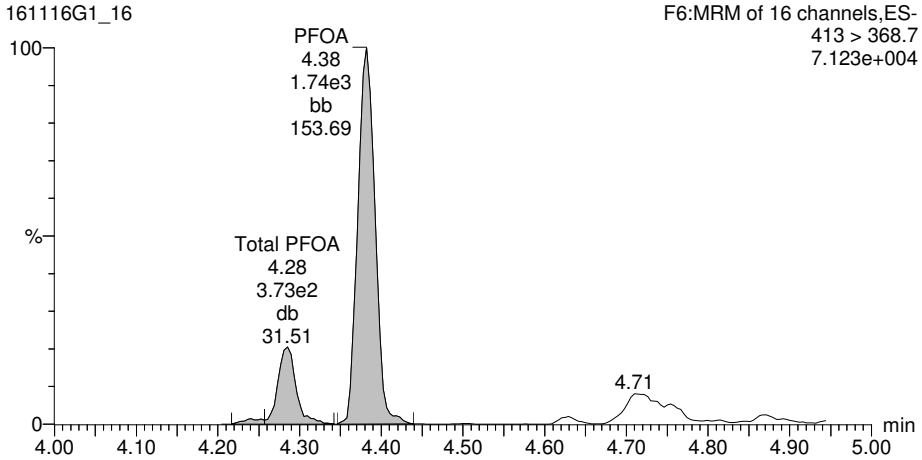
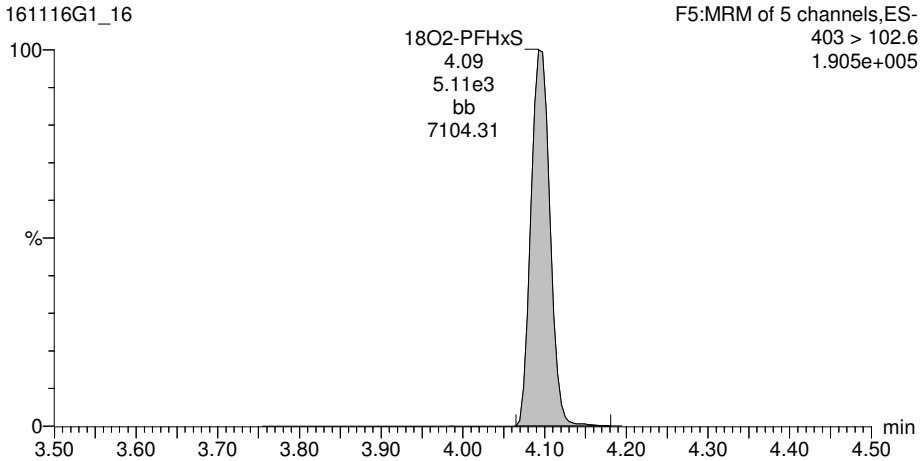
Total PFHxS



Total PFOA



18O2-PFHxS



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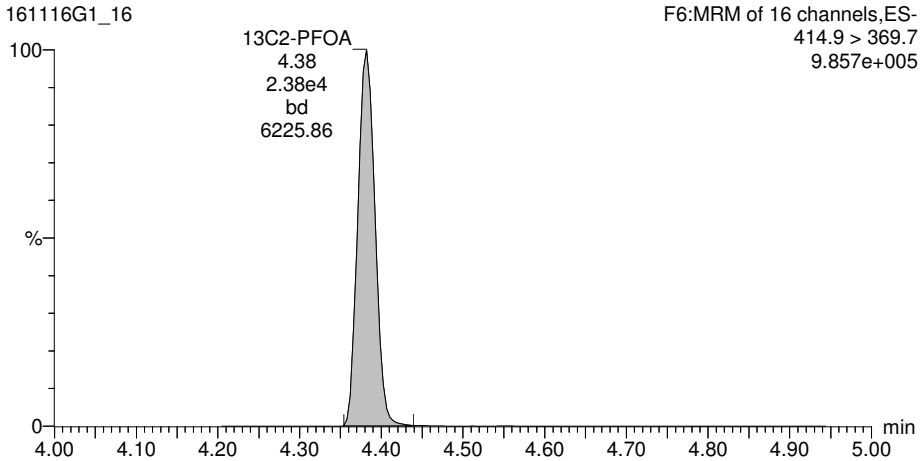

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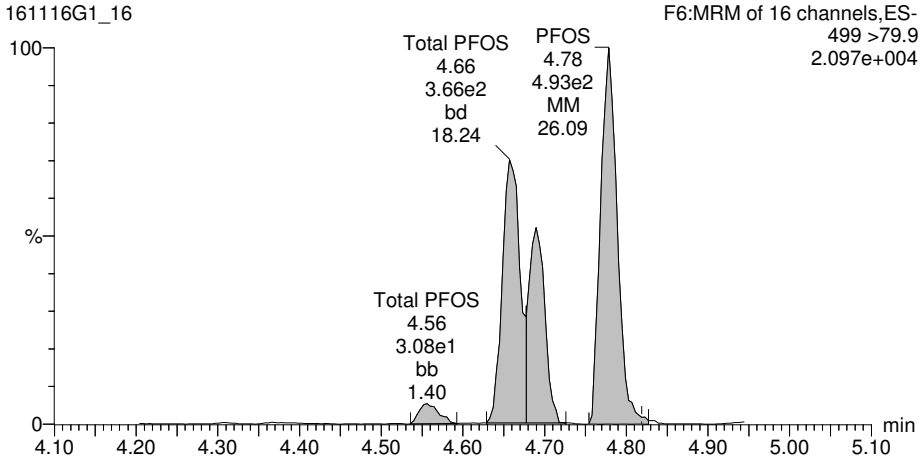
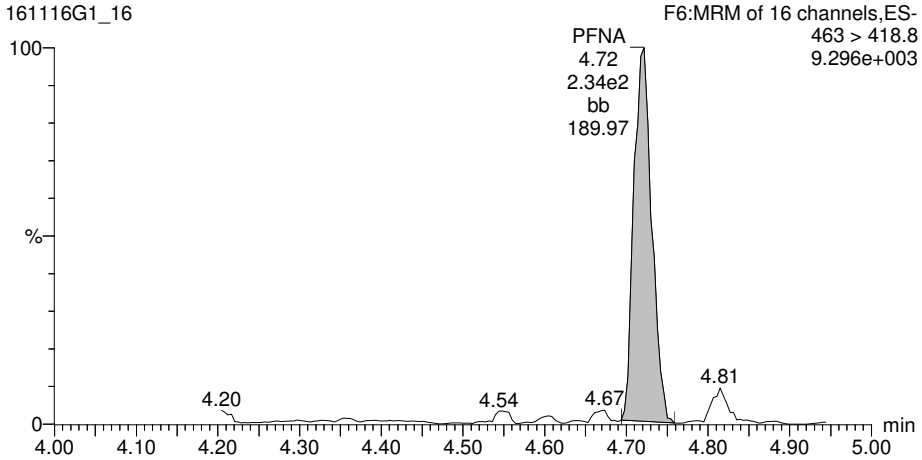
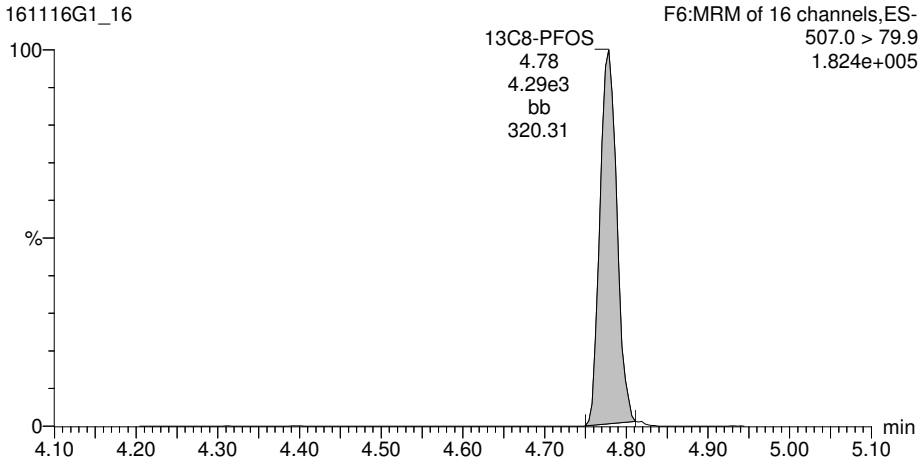
Total PFOS



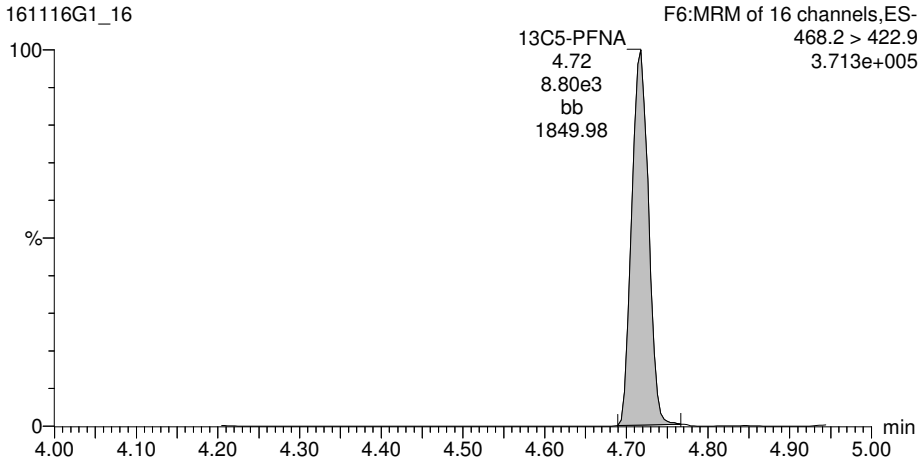
PFNA



13C8-PFOS



13C5-PFNA



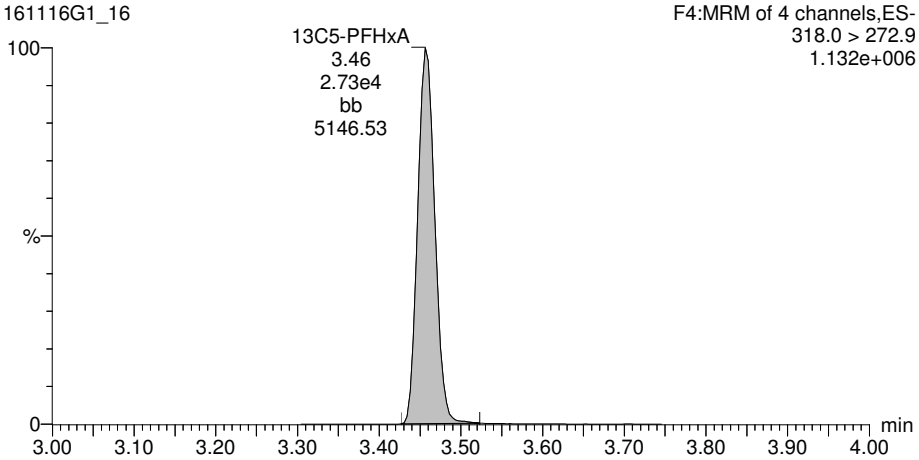
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-16.qld

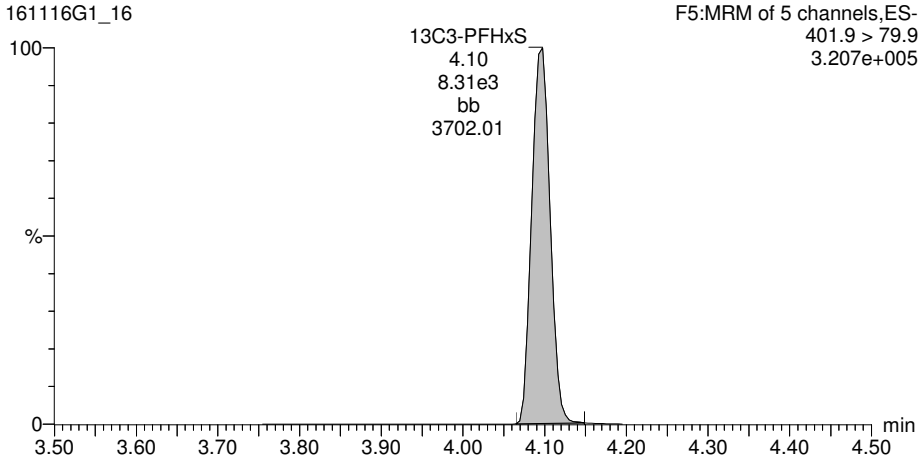
Last Altered: Wednesday, November 16, 2016 14:13:05 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:06 Pacific Standard Time

ID: 1601388-09 OC-MW04-1016 0.12595, Description: OC-MW04-1016, Name: 161116G1_16, Date: 16-Nov-2016, Time: 14:00:04, Instrument: , Lab: , User:

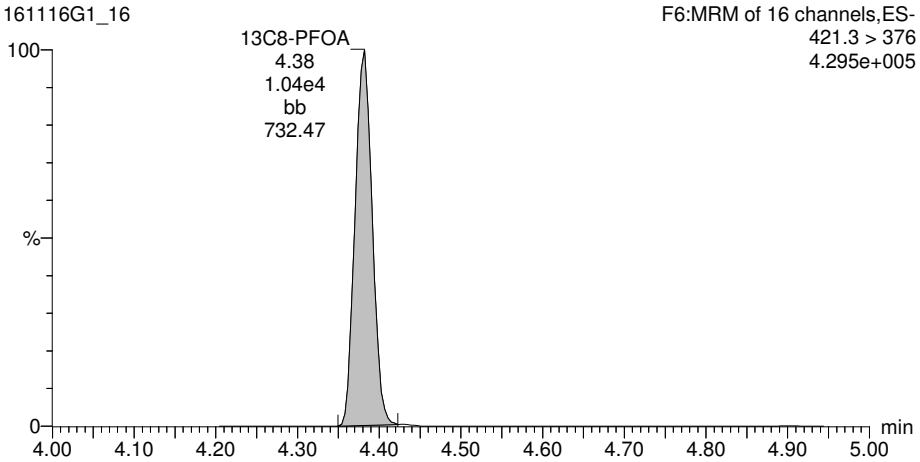
13C5-PFHxA



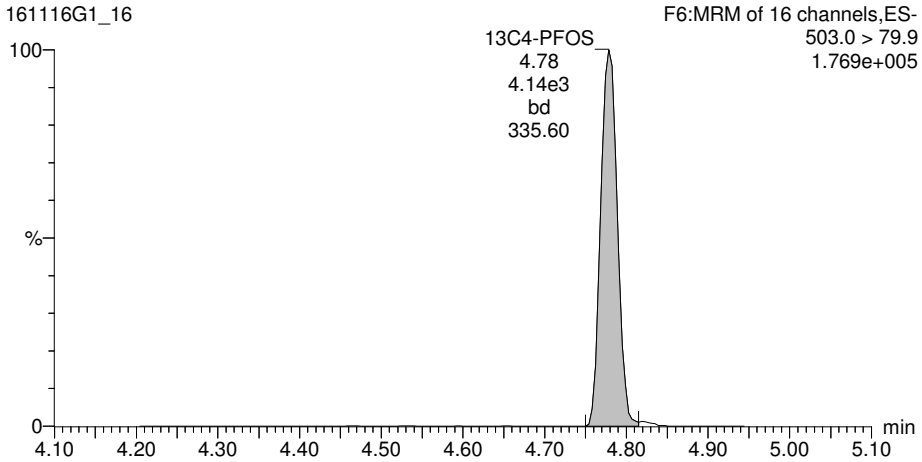
13C3-PFHxS



13C8-PFOA



13C4-PFOS



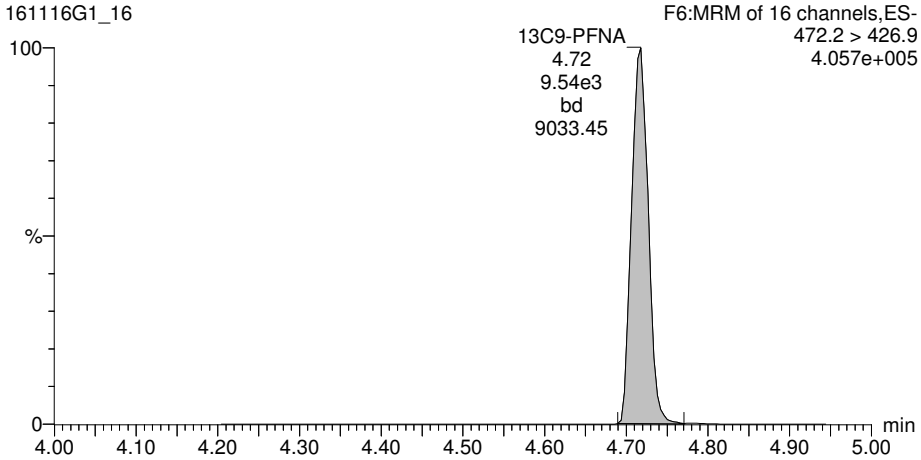
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-16.qld

Last Altered: Wednesday, November 16, 2016 14:13:05 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:06 Pacific Standard Time

ID: 1601388-09 OC-MW04-1016 0.12595, Description: OC-MW04-1016, Name: 161116G1_16, Date: 16-Nov-2016, Time: 14:00:04, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.927e2	6.846e3		0.122	3.09	1.39	
2	3	PFHpA	363 > 318.9	2.074e2	1.918e4		0.122	3.98		
3	4	PFHxS	398.9 > 79.6	1.558e3	6.505e3		0.122	4.10	18.0	
4	5	PFOA	413 > 368.7	5.539e2	2.437e4		0.122	4.38	0.636	
5	6	PFOS	499 >79.9	1.048e2	4.417e3		0.122	4.78	4.29	
6	7	PFNA	463 > 418.8	3.235e2	8.912e3		0.122	4.72	1.66	
7	9	13C3-PFBS	302.0 > 98.8	6.846e3	2.591e4	0.250	0.122	3.09	108	106
8	10	13C2-PFHxA	315 > 269.8	7.301e3	2.591e4	0.741	0.122	3.46	39.0	95.0
9	11	13C4-PFHpA	367.2 > 321.8	1.918e4	1.038e4	2.077	0.122	3.98	91.2	89.0
10	12	18O2-PFHxS	403 > 102.6	6.505e3	1.038e4	0.603	0.122	4.09	107	104
11	13	13C2-PFOA	414.9 > 369.7	2.437e4	1.176e4	2.438	0.122	4.38	87.1	85.0
12	14	13C8-PFOS	507.0 > 79.9	4.417e3	3.950e3	1.055	0.122	4.78	109	106
13	15	13C5-PFNA	468.2 > 422.9	8.912e3	9.256e3	1.158	0.122	4.72	85.2	83.2
14	16	13C2-PFDA	515.1 > 469.9	4.901e3	5.972e3	1.164	0.122	5.02	72.3	70.5
15	17	13C5-PFHxA	318.0 > 272.9	2.591e4	2.591e4	1.000	0.122	3.46	102	100
16	18	13C3-PFHxS	401.9 > 79.9	1.038e4	1.038e4	1.000	0.122	4.10	102	100
17	19	13C8-PFOA	421.3 > 376	1.176e4	1.176e4	1.000	0.122	4.38	102	100
18	20	13C4-PFOS	503.0 > 79.9	3.950e3	3.950e3	1.000	0.122	4.78	102	100
19	21	13C9-PFNA	472.2 > 426.9	9.256e3	9.256e3	1.000	0.122	4.72	102	100
20	22	13C6-PFDA	519.1 > 473.7	5.972e3	5.972e3	1.000	0.122	5.02	102	100
21	23	Total PFBS	299 > 79.7		6.846e3		0.122		1.39	
22	24	Total PFHxS	398.9 > 79.6		6.505e3		0.122		19.3	
23	25	Total PFOA	413 > 368.7		2.437e4		0.122		0.636	
24	26	Total PFOS	499 > 79.9		4.417e3		0.122		15.6	

Reviewed: WJL 11/16/2016 AC 11/16/16

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	1	PFBS	299 > 79.7	3.09	192.681	6845.542	1.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	4	PFHxS	398.9 > 79.6	4.10	1558.472	6505.219	18.0
2	24	Total PFHxS	398.9 > 79.6	4.00	182.730	6505.219	1.3
3	24	Total PFHxS	398.9 > 79.6	3.97	52.355	6505.219	

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Conc.
1	5	PFOA	413 > 368.7	4.38	553.852	24365.840	0.6

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Conc.
1	6	PFOS	499 >79.9	4.78	104.816	4416.896	4.3
2	26	Total PFOS	499 >79.9	4.69	100.956	4416.896	4.2
3	26	Total PFOS	499 >79.9	4.66	195.515	4416.896	7.2

Reviewed: WJL 11/16/2016 AC 11/16/16

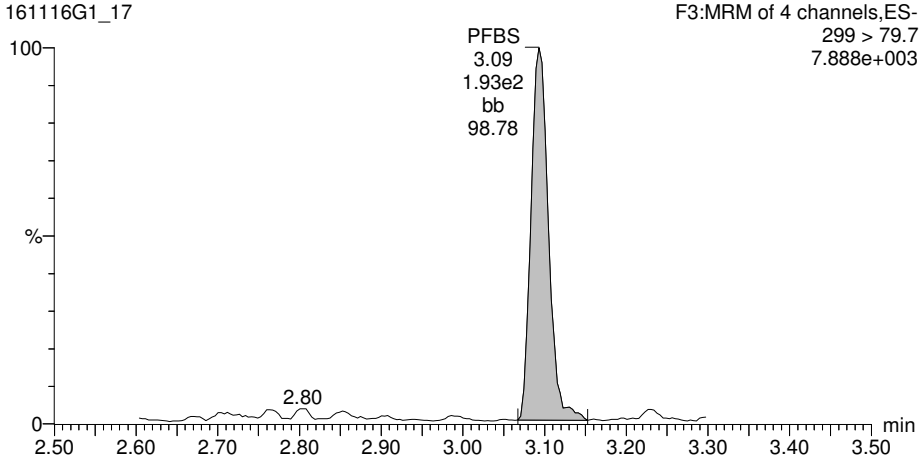
Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

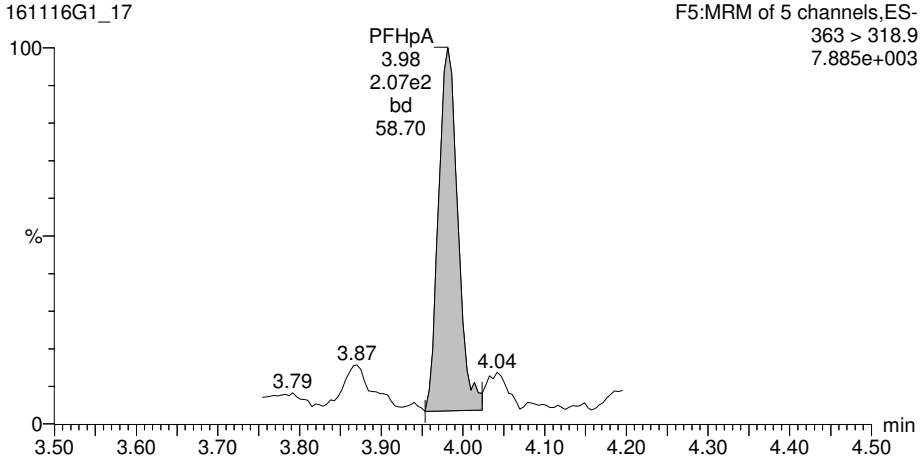
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46, Instrument: , Lab: , User:

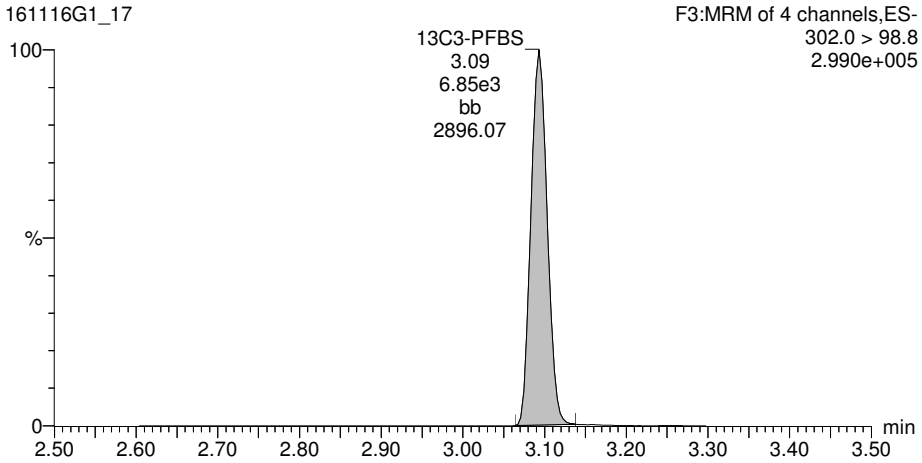
Total PFBS



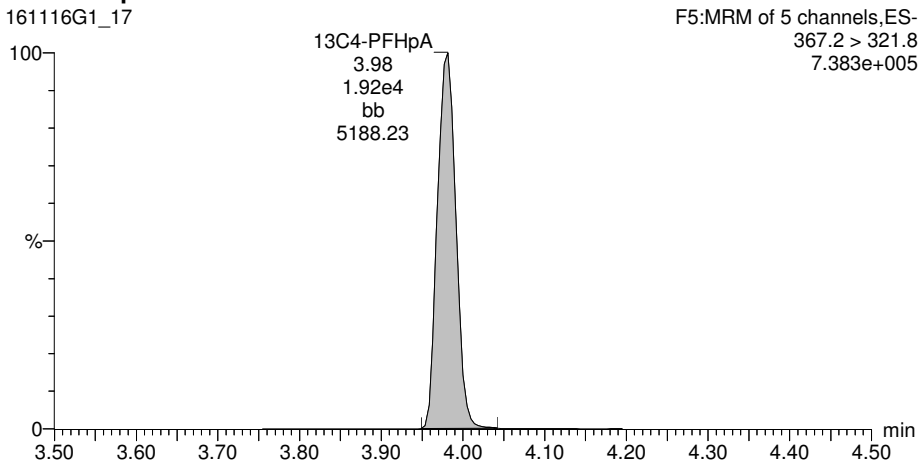
PFHpA



13C3-PFBS



13C4-PFHpA



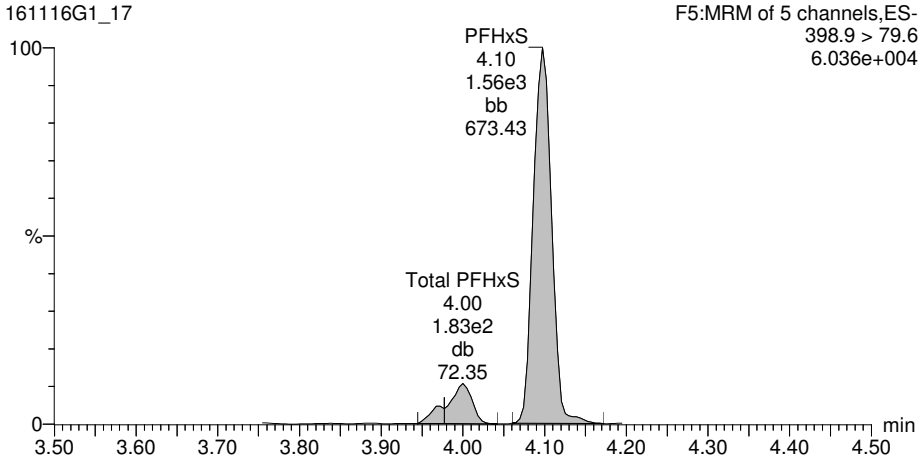
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

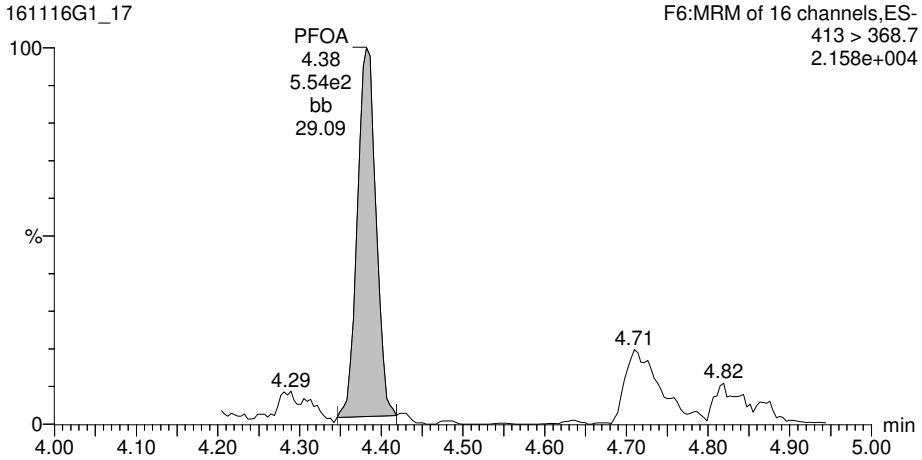
Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46, Instrument: , Lab: , User:

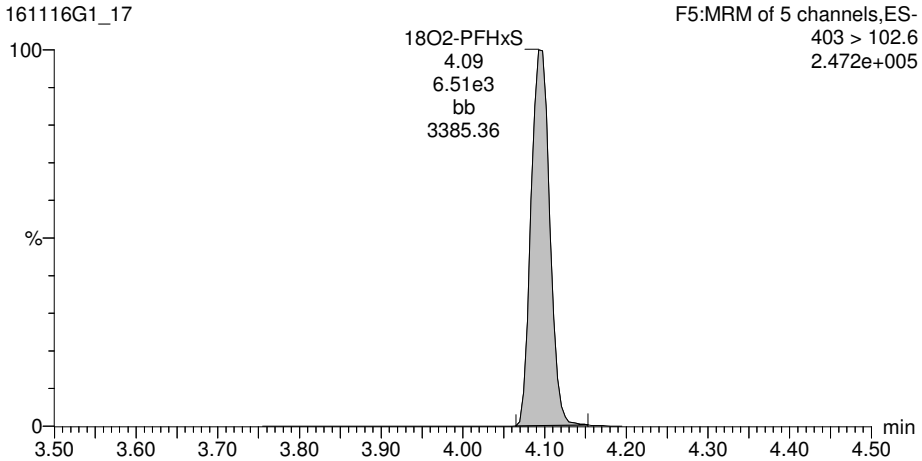
Total PFHxS



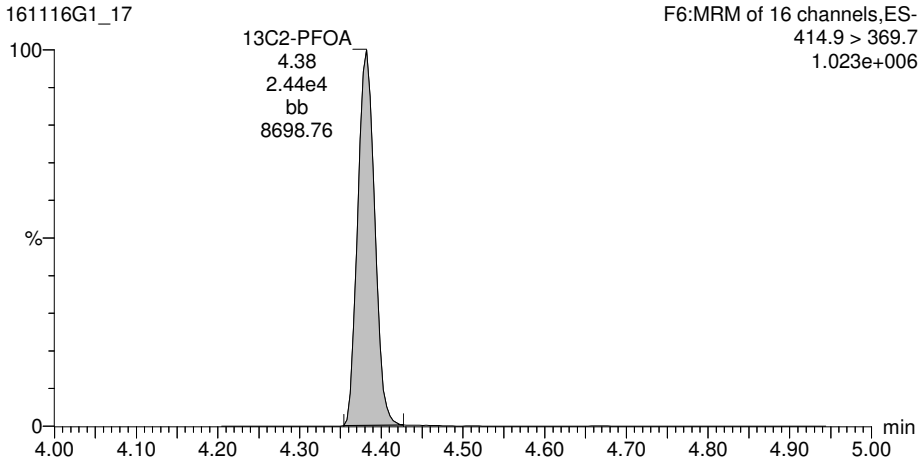
Total PFOA



18O2-PFHxS



13C2-PFOA



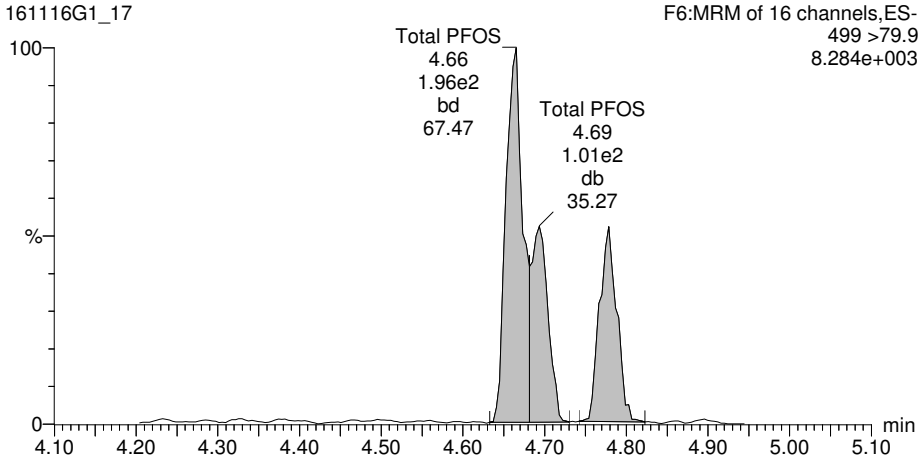
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

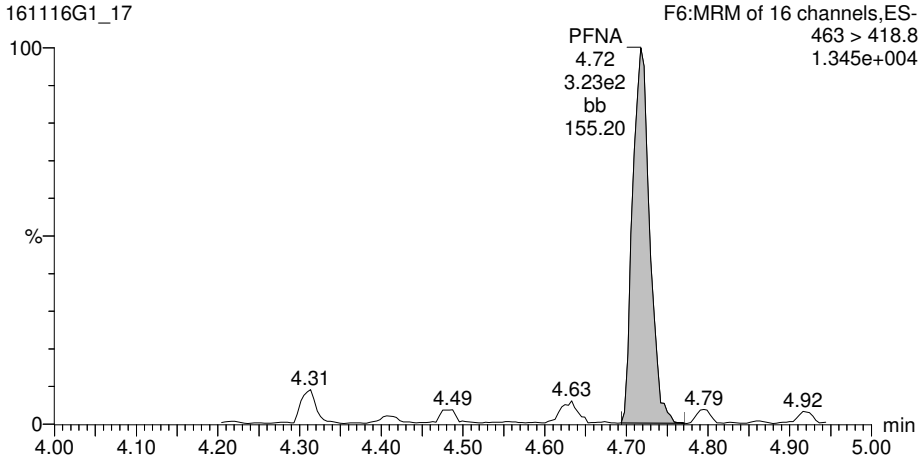
Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46, Instrument: , Lab: , User:

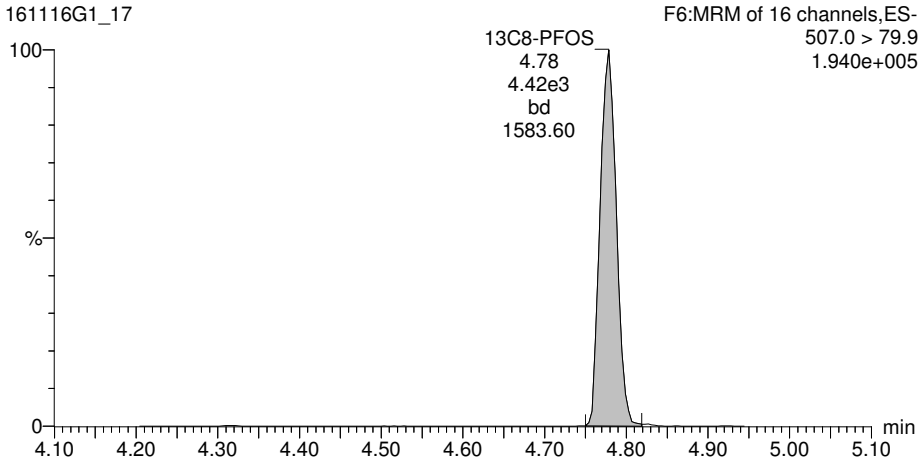
Total PFOS



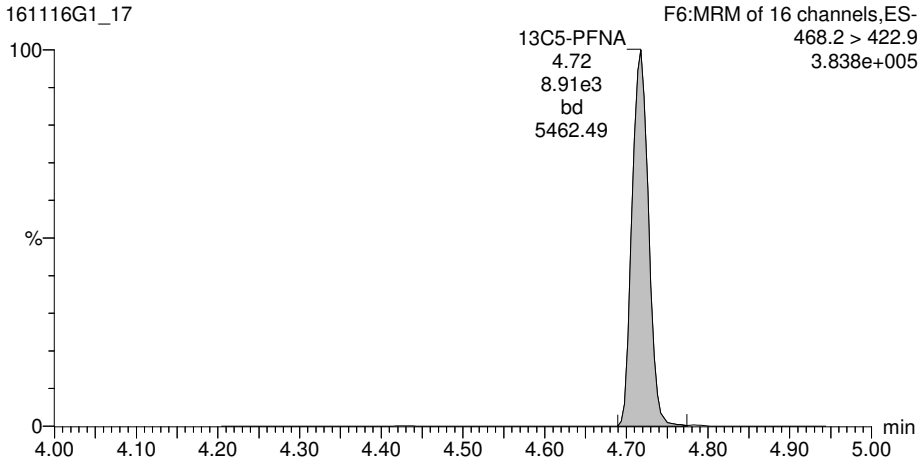
PFNA



13C8-PFOS



13C5-PFNA



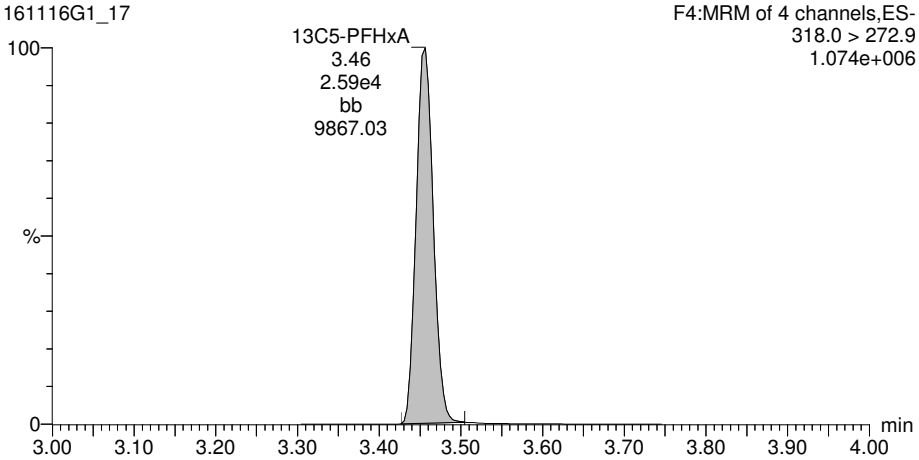
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

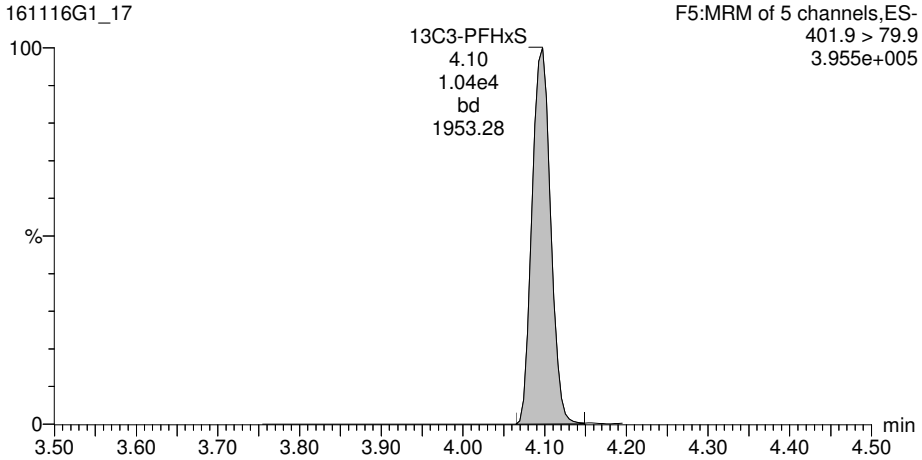
Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46, Instrument: , Lab: , User:

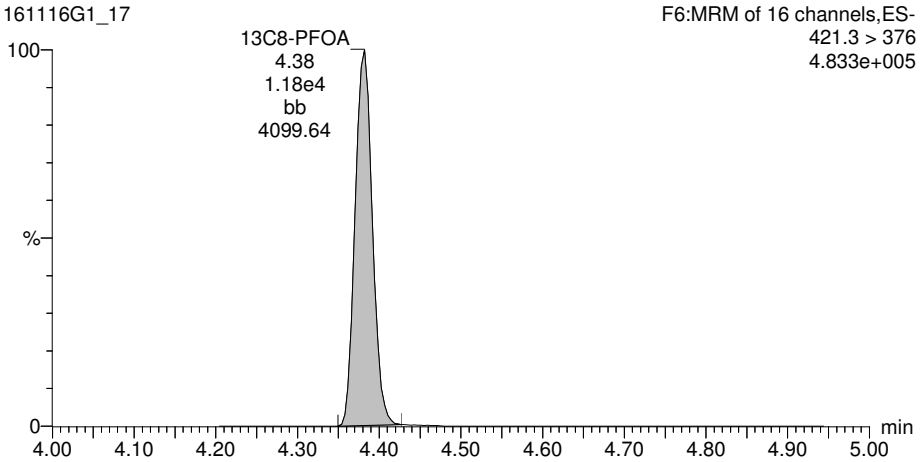
13C5-PFHxA



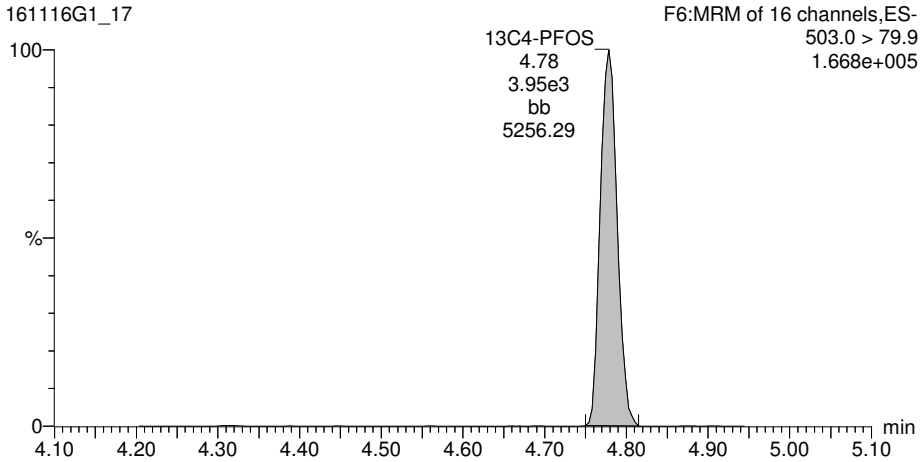
13C3-PFHxS



13C8-PFOA



13C4-PFOS



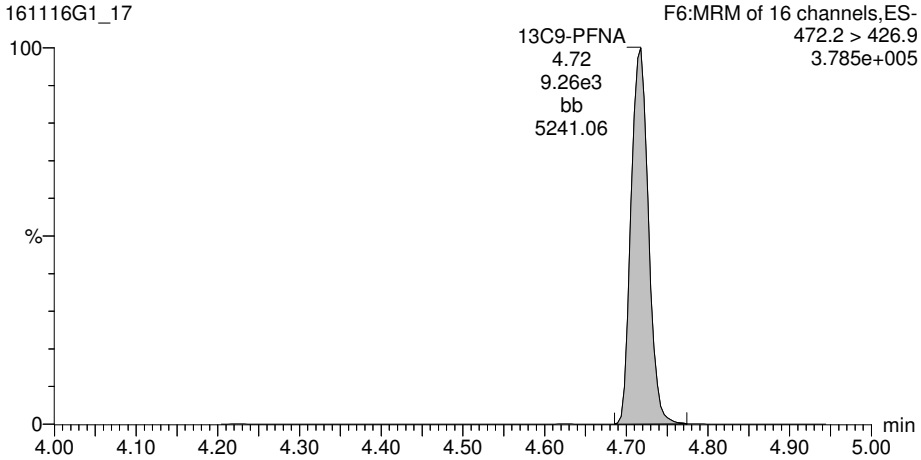
Reviewed: WJL 11/16/2016 AC 11/16/16

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-17.qld

Last Altered: Wednesday, November 16, 2016 14:21:24 Pacific Standard Time
Printed: Wednesday, November 16, 2016 15:24:30 Pacific Standard Time

ID: 1601388-10 MW-BG11-1016 0.12196, Description: MW-BG11-1016, Name: 161116G1_17, Date: 16-Nov-2016, Time: 14:12:46, Instrument: , Lab: , User:

13C9-PFNA



Reviewed: WJL 11/16/2016 AC 11/16/16

CONTINUING CALIBRATION

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-2.qld

Last Altered: Wednesday, November 16, 2016 13:42:08 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:44:30 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161116G1_2, Date: 16-Nov-2016, Time: 11:03:24, ID: ST161116G1-1 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec	
1	1	PFBS	299 > 79.7	7.32e3	6.15e3		1.000	3.10	10.8	108.1	75-125
2	2	PFHxA	313.2 > 268.9	8.58e3	6.93e3		1.000	3.46	11.4	114.3	
3	3	PFHpA	363 > 318.9	1.93e4	1.71e4		1.000	3.98	11.7	116.7	
4	4	PFHxS	398.9 > 79.6	6.04e3	5.50e3		1.000	4.10	10.4	104.4	
5	5	PFOA	413 > 368.7	1.77e4	2.45e4		1.000	4.38	11.0	110.0	
6	6	PFOS	499 >79.9	1.96e3	3.45e3		1.000	4.78	9.88	98.8	
7	7	PFNA	463 > 418.8	1.17e4	8.49e3		1.000	4.72	10.8	107.9	
8	8	PFDA	513 > 468.8	1.93e3	3.98e3		1.000	5.03	11.0	110.0	
9	9	13C3-PFBS	302.0 > 98.8	6.15e3	3.15e4	0.250	1.000	3.10	9.76	78.1	60-150
10	10	13C2-PFHxA	315 > 269.8	6.93e3	3.15e4	0.741	1.000	3.46	3.71	74.2	
11	11	13C4-PFHpA	367.2 > 321.8	1.71e4	1.02e4	2.077	1.000	3.98	10.0	80.3	
12	12	18O2-PFHxS	403 > 102.6	5.50e3	1.02e4	0.603	1.000	4.10	11.1	89.2	
13	13	13C2-PFOA	414.9 > 369.7	2.45e4	1.27e4	2.438	1.000	4.38	9.87	78.9	
14	14	13C8-PFOS	507.0 > 79.9	3.45e3	3.77e3	1.055	1.000	4.78	10.8	86.7	
15	15	13C5-PFNA	468.2 > 422.9	8.49e3	1.03e4	1.158	1.000	4.72	8.89	71.1	50-150
16	16	13C2-PFDA	515.1 > 469.9	3.98e3	5.29e3	1.164	1.000	5.03	8.08	64.6	60-150
17	17	13C5-PFHxA	318.0 > 272.9	3.15e4	3.15e4	1.000	1.000	3.46	12.5	100.0	
18	18	13C3-PFHxS	401.9 > 79.9	1.02e4	1.02e4	1.000	1.000	4.10	12.5	100.0	
19	19	13C8-PFOA	421.3 > 376	1.27e4	1.27e4	1.000	1.000	4.38	12.5	100.0	
20	20	13C4-PFOS	503.0 > 79.9	3.77e3	3.77e3	1.000	1.000	4.78	12.5	100.0	
21	21	13C9-PFNA	472.2 > 426.9	1.03e4	1.03e4	1.000	1.000	4.72	12.5	100.0	
22	22	13C6-PFDA	519.1 > 473.7	5.29e3	5.29e3	1.000	1.000	5.02	12.5	100.0	

AC
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PW
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Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Wednesday, November 16, 2016 14:55:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:55:16 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	161116G1_1	IPA	16-Nov-16	10:50:46
2	161116G1_2	ST161116G1-1 PFC CS3 16K1605	16-Nov-16	11:03:24
3	161116G1_3	B6K0076-BS1 OPR 0.125	16-Nov-16	11:16:03
4	161116G1_4	IPA	16-Nov-16	11:28:39
5	161116G1_5	B6K0076-BS1 OPR 0.125	16-Nov-16	11:41:16
6	161116G1_6	1601388-01 MW-BG07-1016 0.12618	16-Nov-16	11:53:52
7	161116G1_7	1601388-02 MW-BG06-1016 0.12354	16-Nov-16	12:06:28
8	161116G1_8	1601388-03 MW-BG05-1016 0.12746	16-Nov-16	12:19:05
9	161116G1_9	1601388-04 MW-BG05P-1016 0.1237	16-Nov-16	12:31:42
10	161116G1_10	1601388-05 MW-BG04-1016 0.13102	16-Nov-16	12:44:20
11	161116G1_11	1601388-06 OC-FB-102816 0.12776	16-Nov-16	12:56:58
12	161116G1_12	1601388-07 MW-BG01-1016 0.12279	16-Nov-16	13:09:37
13	161116G1_13	1601388-08 MW-BG09-1016 0.12536	16-Nov-16	13:22:13
14	161116G1_14	B6K0053-MS1 Matrix Spike 0.13008	16-Nov-16	13:34:48
15	161116G1_15	B6K0053-MSD1 Matrix Spike Dup 0.12486	16-Nov-16	13:47:24
16	161116G1_16	1601388-09 OC-MW04-1016 0.12595	16-Nov-16	14:00:04
17	161116G1_17	1601388-10 MW-BG11-1016 0.12196	16-Nov-16	14:12:46
18	161116G1_18	IPA	16-Nov-16	14:25:24
19	161116G1_19	ST161116G1-2 PFC CS3 16K1605	16-Nov-16	14:38:02

LC Calibration Standards Review Checklist Q1

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manaul Integrations	N/A
Calibration ID:	ST161116G1-1	L [✓ M] H	N/A ☐	☑	☑	☑	☑	☑	☐
Calibration ID:	-2	L [✓ M] H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/29/16

Comments:
L14 A

Reviewed By: PW 11/16/16
Initials/Date

Vista Analytical Laboratory Q1

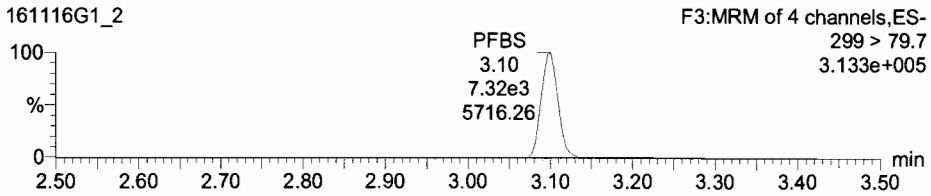
Dataset: Untitled

Last Altered: Wednesday, November 16, 2016 13:42:08 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:42:51 Pacific Standard Time

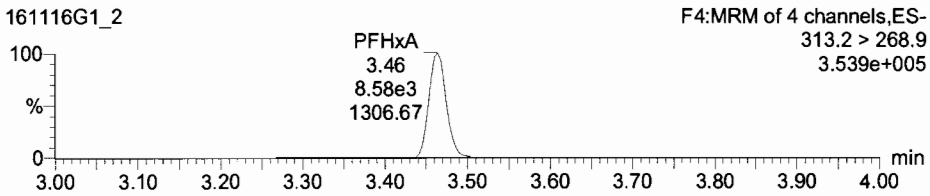
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161116G1_2, Date: 16-Nov-2016, Time: 11:03:24, ID: ST161116G1-1 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

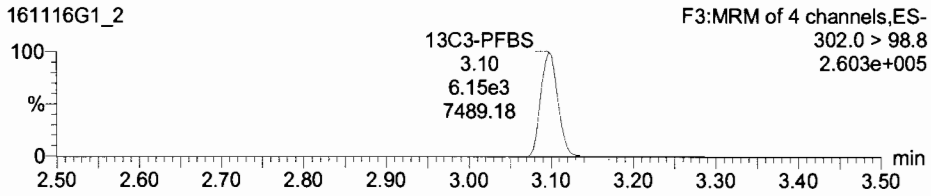
Total PFBS



PFHxA



13C3-PFBS



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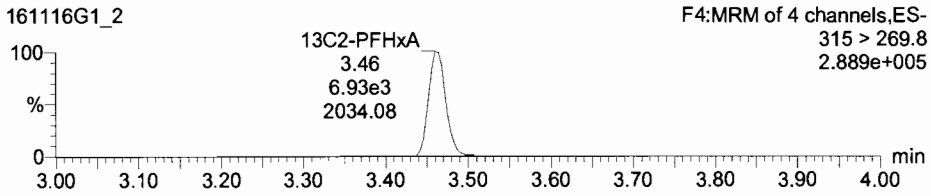
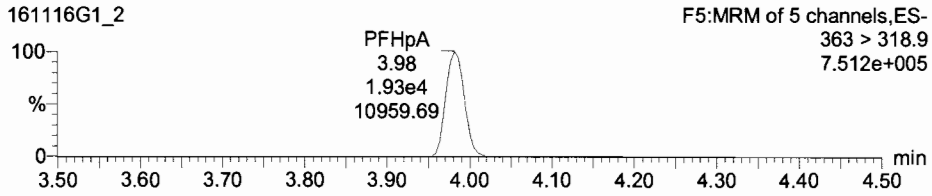
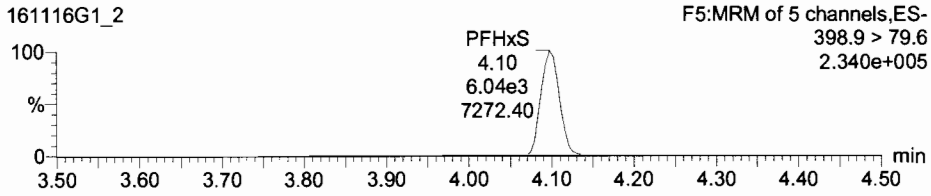


PFHpA



Total PFHxS



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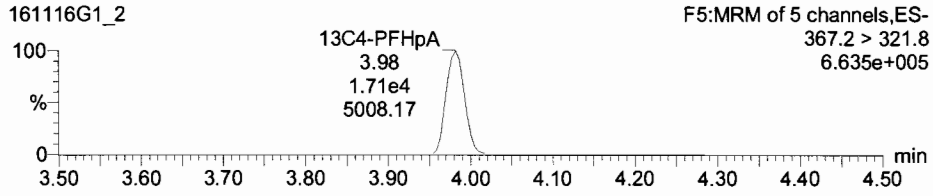
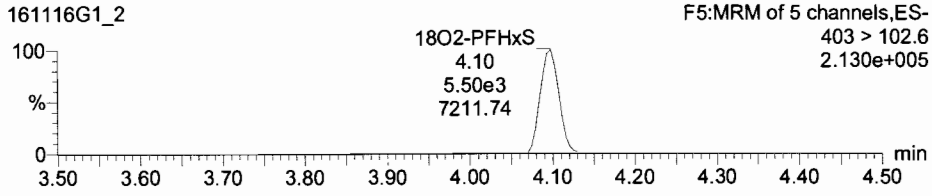


18O2-PFHxS



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Last Altered: Wednesday, November 16, 2016 13:42:08 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:42:51 Pacific Standard Time

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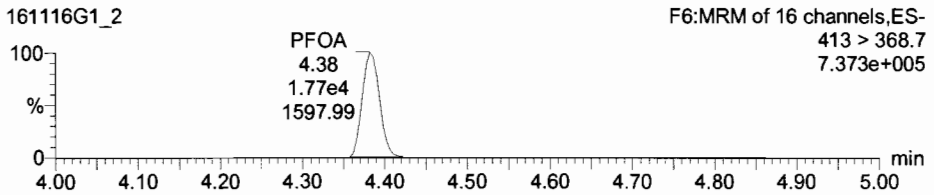
Total PFOA



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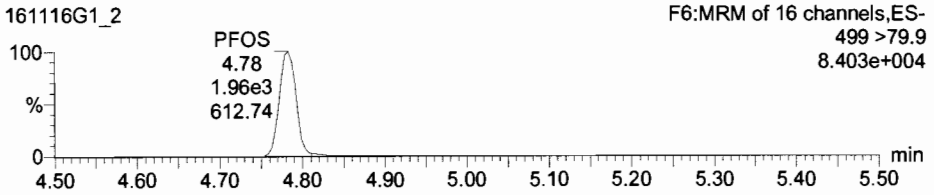
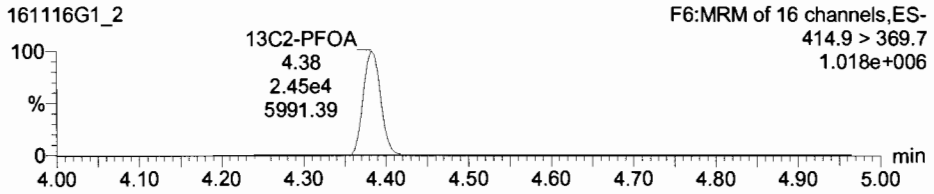
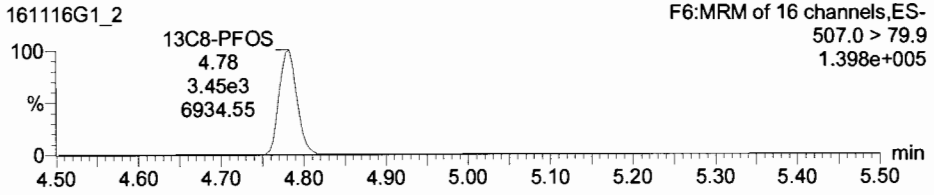


13C2-PFOA



13C8-PFOS



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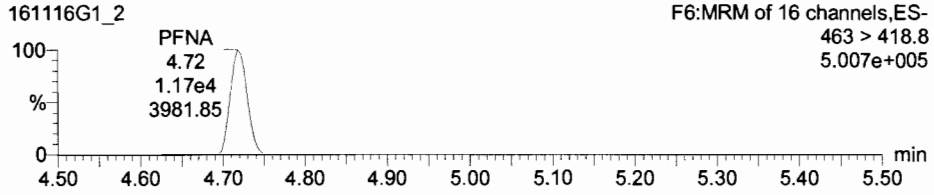

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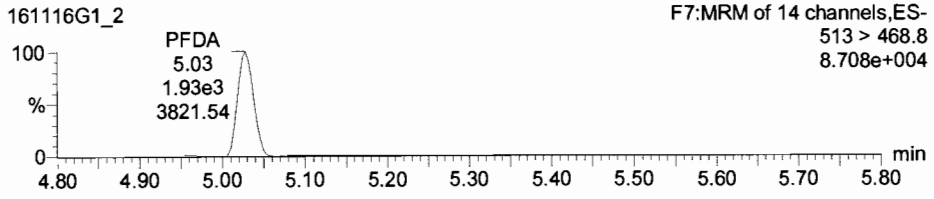
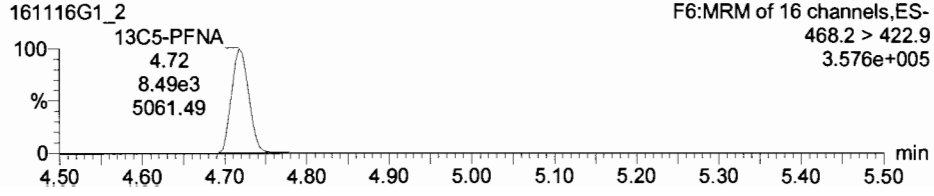
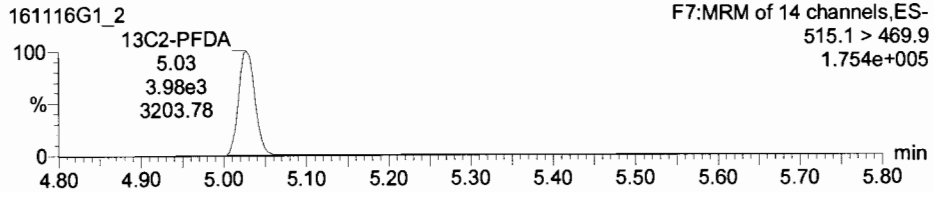


13C5-PFNA



13C2-PFDA



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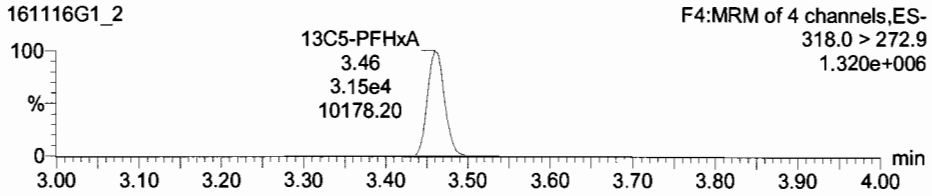
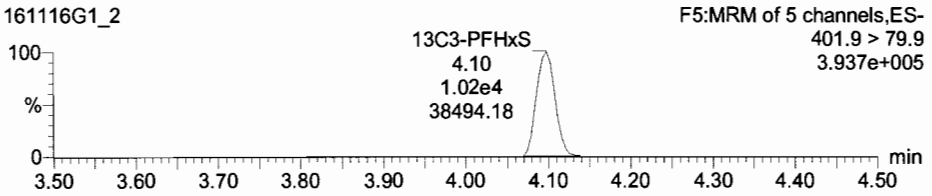
Last Altered: Wednesday, November 16, 2016 13:42:08 Pacific Standard Time
Printed: Wednesday, November 16, 2016 13:42:51 Pacific Standard Time

Name: 161116G1_2, Date: 16-Nov-2016, Time: 11:03:24, ID: ST161116G1-1 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

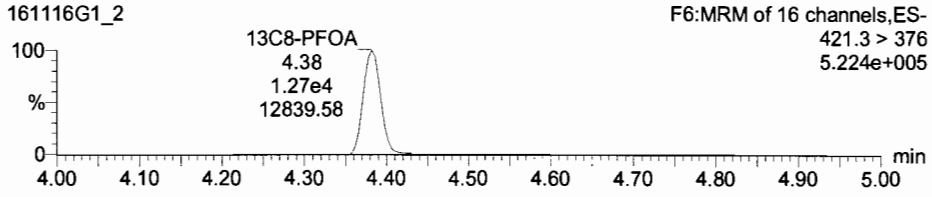
13C5-PFHxA



13C3-PFHxS



13C8-PFOA



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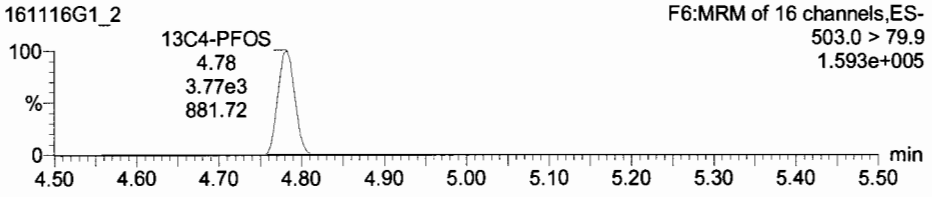

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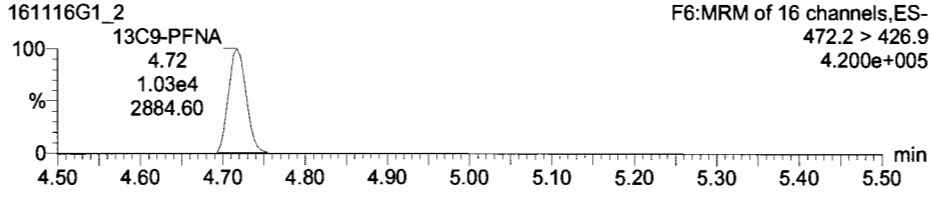
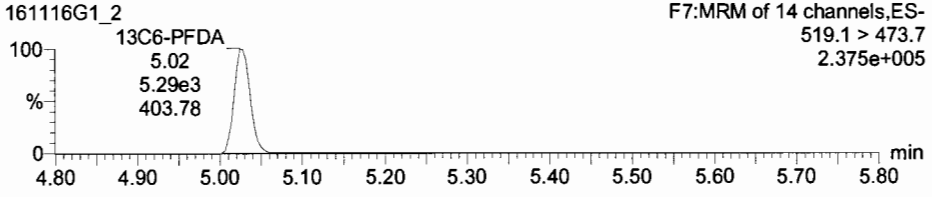


13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161116G1\161116G1-19.qld

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Printed: Wednesday, November 16, 2016 14:53:32 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161116G1_19, Date: 16-Nov-2016, Time: 14:38:02, ID: ST161116G1-2 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

	#-Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec	
1	1 PFBS	299 > 79.7	7.60e3	6.22e3		1.000	3.10	11.1	110.9	75-125
2	2 PFHxA	313.2 > 268.9	9.19e3	7.48e3		1.000	3.46	11.4	113.6	
3	3 PFHpA	363 > 318.9	2.14e4	1.87e4		1.000	3.98	11.8	118.3	
4	4 PFHxS	398.9 > 79.6	7.05e3	6.33e3		1.000	4.10	10.6	106.0	
5	5 PFOA	413 > 368.7	2.18e4	2.90e4		1.000	4.38	11.5	114.7	
6	6 PFOS	499 >79.9	2.66e3	4.69e3		1.000	4.78	9.87	98.7	
7	7 PFNA	463 > 418.8	1.46e4	1.06e4		1.000	4.72	10.7	107.3	
8	8 PFDA	513 > 468.8	3.31e3	6.81e3		1.000	5.02	11.0	110.1	
9	9 13C3-PFBS	302.0 > 98.8	6.22e3	3.40e4	0.250	1.000	3.10	9.15	73.2	60-150
10	10 13C2-PFHxA	315 > 269.8	7.48e3	3.40e4	0.741	1.000	3.46	3.70	74.1	
11	11 13C4-PFHpA	367.2 > 321.8	1.87e4	1.27e4	2.077	1.000	3.98	8.87	70.9	
12	12 18O2-PFHxS	403 > 102.6	6.33e3	1.27e4	0.603	1.000	4.10	10.3	82.7	
13	13 13C2-PFOA	414.9 > 369.7	2.90e4	1.64e4	2.438	1.000	4.38	9.05	72.4	
14	14 13C8-PFOS	507.0 > 79.9	4.69e3	5.51e3	1.055	1.000	4.78	10.1	80.6	
15	15 13C5-PFNA	468.2 > 422.9	1.06e4	1.23e4	1.158	1.000	4.72	9.34	74.7	50-150
16	16 13C2-PFDA	515.1 > 469.9	6.81e3	8.46e3	1.164	1.000	5.02	8.65	69.2	60-150
17	17 13C5-PFHxA	318.0 > 272.9	3.40e4	3.40e4	1.000	1.000	3.46	12.5	100.0	
18	18 13C3-PFHxS	401.9 > 79.9	1.27e4	1.27e4	1.000	1.000	4.10	12.5	100.0	
19	19 13C8-PFOA	421.3 > 376	1.64e4	1.64e4	1.000	1.000	4.38	12.5	100.0	
20	20 13C4-PFOS	503.0 > 79.9	5.51e3	5.51e3	1.000	1.000	4.78	12.5	100.0	
21	21 13C9-PFNA	472.2 > 426.9	1.23e4	1.23e4	1.000	1.000	4.72	12.5	100.0	
22	22 13C6-PFDA	519.1 > 473.7	8.46e3	8.46e3	1.000	1.000	5.02	12.5	100.0	

AC 11/16/16

PW 11/16/16

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Wednesday, November 16, 2016 14:55:01 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:55:16 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	161116G1_1	IPA	16-Nov-16	10:50:46
2	161116G1_2	ST161116G1-1 PFC CS3 16K1605	16-Nov-16	11:03:24
3	161116G1_3	B6K0076-BS1 OPR 0.125	16-Nov-16	11:16:03
4	161116G1_4	IPA	16-Nov-16	11:28:39
5	161116G1_5	B6K0076-BS1 OPR 0.125	16-Nov-16	11:41:16
6	161116G1_6	1601388-01 MW-BG07-1016 0.12618	16-Nov-16	11:53:52
7	161116G1_7	1601388-02 MW-BG06-1016 0.12354	16-Nov-16	12:06:28
8	161116G1_8	1601388-03 MW-BG05-1016 0.12746	16-Nov-16	12:19:05
9	161116G1_9	1601388-04 MW-BG05P-1016 0.1237	16-Nov-16	12:31:42
10	161116G1_10	1601388-05 MW-BG04-1016 0.13102	16-Nov-16	12:44:20
11	161116G1_11	1601388-06 OC-FB-102816 0.12776	16-Nov-16	12:56:58
12	161116G1_12	1601388-07 MW-BG01-1016 0.12279	16-Nov-16	13:09:37
13	161116G1_13	1601388-08 MW-BG09-1016 0.12536	16-Nov-16	13:22:13
14	161116G1_14	B6K0053-MS1 Matrix Spike 0.13008	16-Nov-16	13:34:48
15	161116G1_15	B6K0053-MSD1 Matrix Spike Dup 0.12486	16-Nov-16	13:47:24
16	161116G1_16	1601388-09 OC-MW04-1016 0.12595	16-Nov-16	14:00:04
17	161116G1_17	1601388-10 MW-BG11-1016 0.12196	16-Nov-16	14:12:46
18	161116G1_18	IPA	16-Nov-16	14:25:24
19	161116G1_19	ST161116G1-2 PFC CS3 16K1605	16-Nov-16	14:38:02

Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Wednesday, November 16, 2016 14:52:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:52:33 Pacific Standard Time

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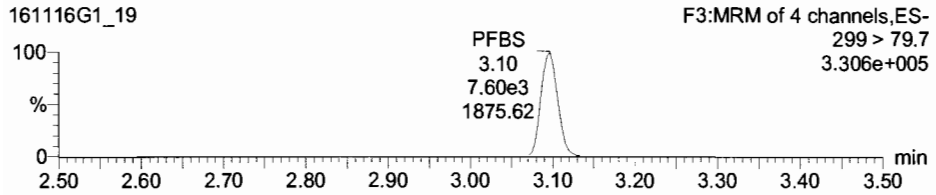
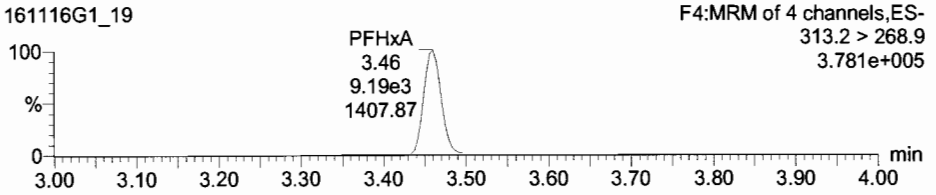
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161116G1_19, Date: 16-Nov-2016, Time: 14:38:02, ID: ST161116G1-2 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

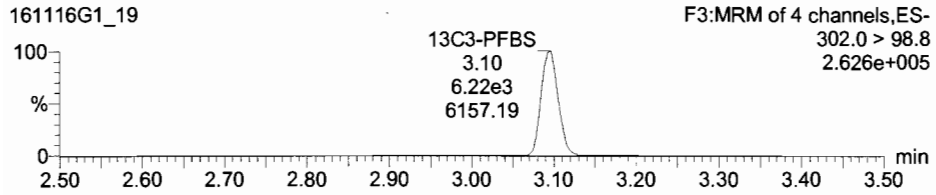
Total PFBS



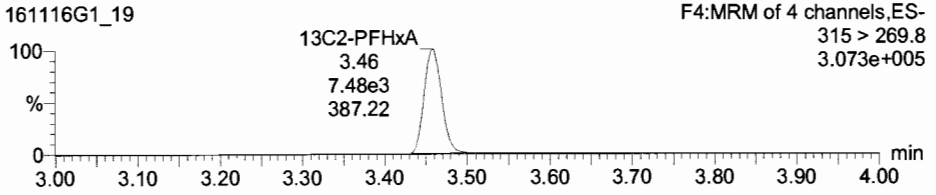
PFHxA



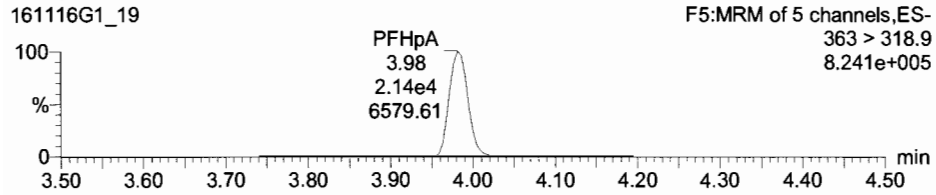
13C3-PFBS



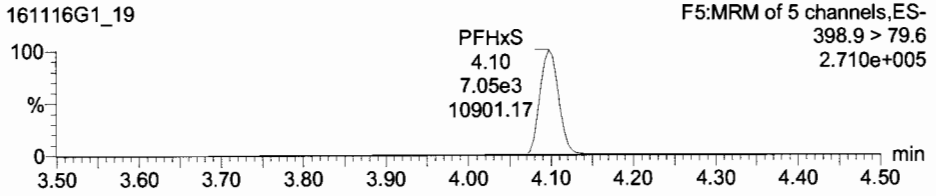
13C2-PFHxA



PFHpA



Total PFHxS



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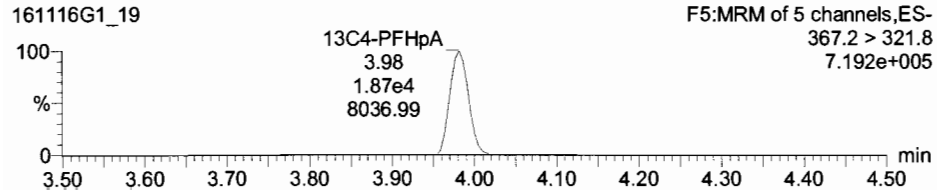
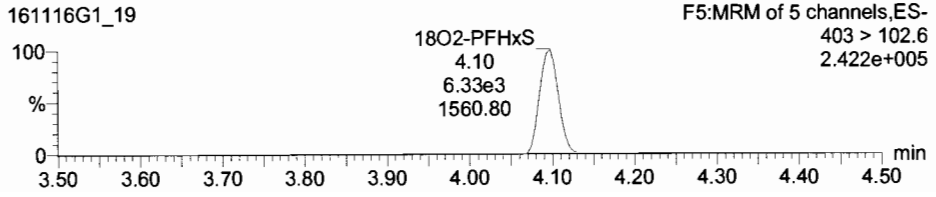


18O2-PFHxS



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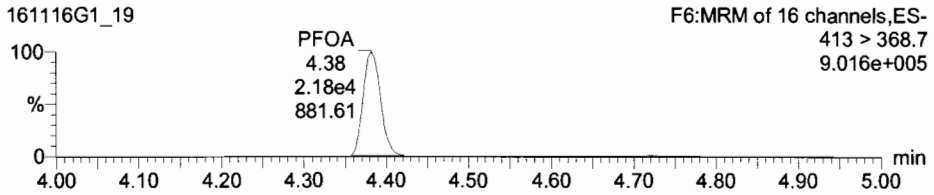
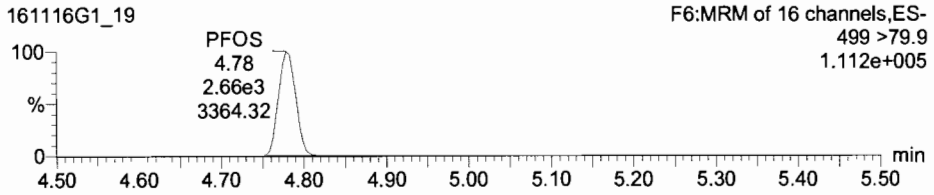
Last Altered: Wednesday, November 16, 2016 14:52:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:52:33 Pacific Standard Time

Name: 161116G1_19, Date: 16-Nov-2016, Time: 14:38:02, ID: ST161116G1-2 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

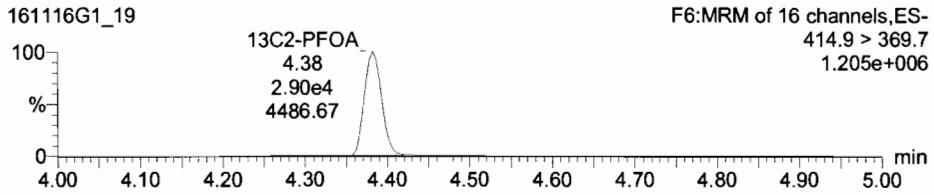
Total PFOA



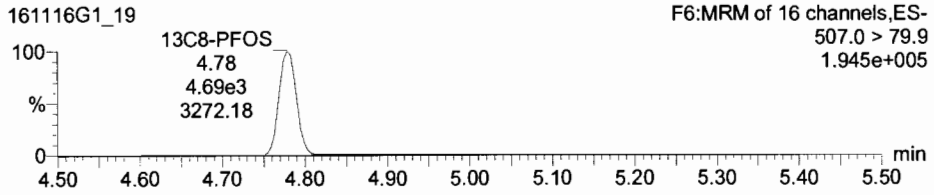
Total PFOS



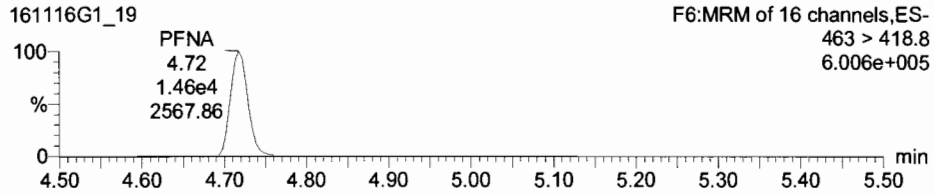
13C2-PFOA



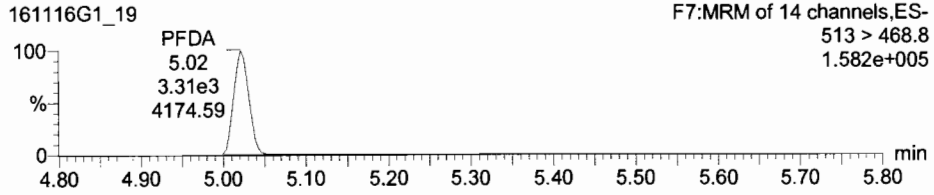
13C8-PFOS



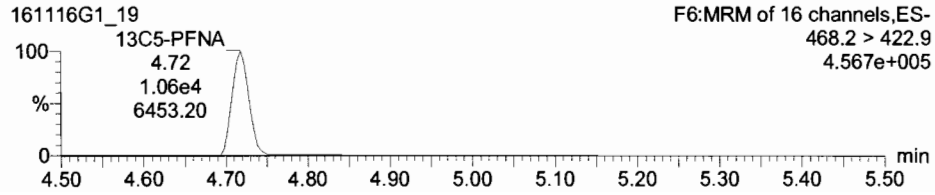
PFNA



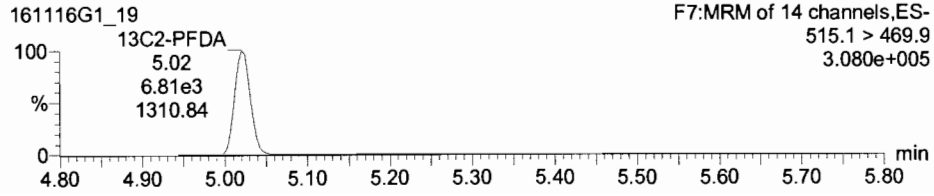
PFDA



13C5-PFNA



13C2-PFDA



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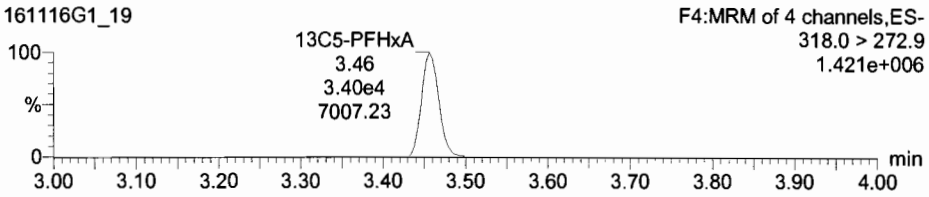
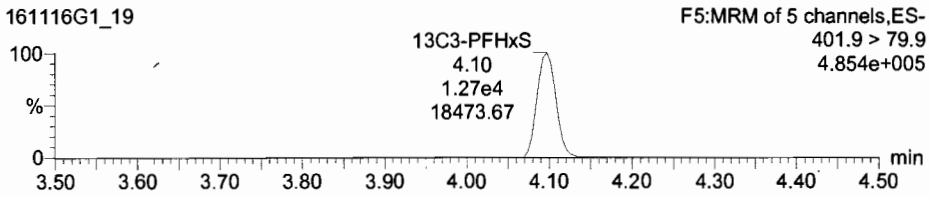
Last Altered: Wednesday, November 16, 2016 14:52:03 Pacific Standard Time
Printed: Wednesday, November 16, 2016 14:52:33 Pacific Standard Time

Name: 161116G1_19, Date: 16-Nov-2016, Time: 14:38:02, ID: ST161116G1-2 PFC CS3 16K1605, Description: PFC CS3 16K1605 A

13C5-PFHxA



13C3-PFHxS



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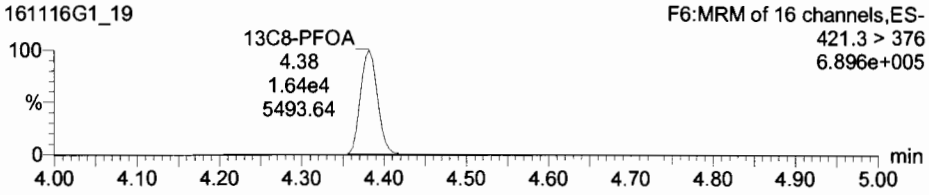
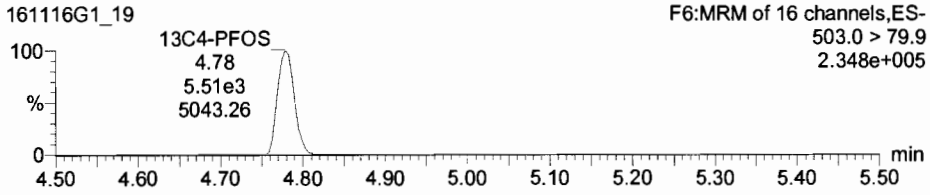
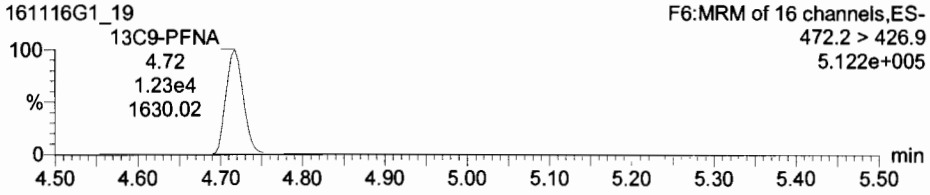


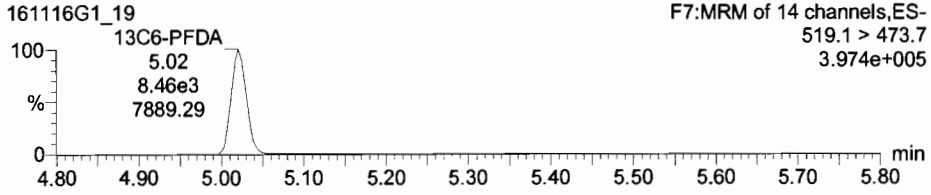
13C4-PFOS



13C9-PFNA



13C6-PFDA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-34.qld

Last Altered: Monday, November 14, 2016 09:47:37 Pacific Standard Time
Printed: Monday, November 14, 2016 09:48:34 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161113G1_34, Date: 13-Nov-2016, Time: 18:06:14, ID: ST161113G1-11 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

	#-Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.50e4	7.60e3		1.000	3.14	30.0	119.9
2	2 PFHxA	313.2 > 268.9	3.18e4	9.50e3		1.000	3.51	31.2	124.9
3	3 PFHpA	363 > 318.9	6.98e4	2.53e4		1.000	4.04	28.8	115.0
4	4 PFHxS	398.9 > 79.6	2.15e4	7.08e3		1.000	4.16	29.1	116.3
5	5 PFOA	413 > 368.7	6.82e4	3.43e4		1.000	4.44	30.8	123.2
6	6 PFOS	499 >79.9	8.97e3	5.19e3		1.000	4.83	29.8	119.2
7	7 PFNA	463 > 418.8	4.67e4	1.26e4		1.000	4.77	29.1	116.4
8	8 PFDA	513 > 468.8	9.45e3	6.91e3		1.000	5.06	31.1	124.3
9	9 13C3-PFBS	302.0 > 98.8	7.60e3	4.41e4	0.250	1.000	3.14	8.62	69.0
10	10 13C2-PFHxA	315 > 269.8	9.50e3	4.41e4	0.741	1.000	3.51	3.63	72.6
11	11 13C4-PFHpA	367.2 > 321.8	2.53e4	1.52e4	2.077	1.000	4.04	10.0	80.0
12	12 18O2-PFHxS	403 > 102.6	7.08e3	1.52e4	0.603	1.000	4.16	9.65	77.2
13	13 13C2-PFOA	414.9 > 369.7	3.43e4	1.75e4	2.438	1.000	4.44	10.0	80.3
14	14 13C8-PFOS	507.0 > 79.9	5.19e3	6.94e3	1.055	1.000	4.82	8.85	70.8
15	15 13C5-PFNA	468.2 > 422.9	1.26e4	1.47e4	1.158	1.000	4.77	9.28	74.2
16	16 13C2-PFDA	515.1 > 469.9	6.91e3	7.85e3	1.164	1.000	5.06	9.45	75.6
17	17 13C5-PFHxA	318.0 > 272.9	4.41e4	4.41e4	1.000	1.000	3.51	12.5	100.0
18	18 13C3-PFHxS	401.9 > 79.9	1.52e4	1.52e4	1.000	1.000	4.16	12.5	100.0
19	19 13C8-PFOA	421.3 > 376	1.75e4	1.75e4	1.000	1.000	4.44	12.5	100.0
20	20 13C4-PFOS	503.0 > 79.9	6.94e3	6.94e3	1.000	1.000	4.83	12.5	100.0
21	21 13C9-PFNA	472.2 > 426.9	1.47e4	1.47e4	1.000	1.000	4.77	12.5	100.0
22	22 13C6-PFDA	519.1 > 473.7	7.85e3	7.85e3	1.000	1.000	5.06	12.5	100.0

75-125
60-150
50-150
60-150

DC 11/14/16

PW 11/14/16

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Monday, November 14, 2016 09:50:16 Pacific Standard Time
Printed: Monday, November 14, 2016 09:50:32 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	161113G1_1	IPA	13-Nov-16	11:09:29
2	161113G1_2	ST161113G1-1 PFC CS-2 16K1124	13-Nov-16	11:22:09
3	161113G1_3	ST161113G1-2 PFC CS-1 16K1125	13-Nov-16	11:34:46
4	161113G1_4	ST161113G1-3 PFC CS0 16K1126	13-Nov-16	11:47:22
5	161113G1_5	ST161113G1-4 PFC CS1 16K1127	13-Nov-16	12:00:00
6	161113G1_6	ST161113G1-5 PFC CS2 16K1128	13-Nov-16	12:12:39
7	161113G1_7	ST161113G1-6 PFC CS3 16K1129	13-Nov-16	12:25:17
8	161113G1_8	ST161113G1-7 PFC CS3.5 16K0923	13-Nov-16	12:37:58
9	161113G1_9	ST161113G1-8 PFC CS4 16K1130	13-Nov-16	12:50:37
10	161113G1_10	ST161113G1-9 PFC CS4.5 16K1131	13-Nov-16	13:03:18
11	161113G1_11	ST161113G1-10 PFC CS5 16K1132	13-Nov-16	13:15:55
12	161113G1_12	IPA	13-Nov-16	13:28:31
13	161113G1_13	SS161113G1-1 PFC SSS 16J1810	13-Nov-16	13:41:09
14	161113G1_14	B6K0053-BS1 OPR 0.125	13-Nov-16	13:53:48
15	161113G1_15	B6K0054-BS1 OPR 0.125	13-Nov-16	14:06:24
16	161113G1_16	B6K0054-BSD1 LCS Dup 0.125	13-Nov-16	14:19:01
17	161113G1_17	B6K0055-BS1 OPR 1	13-Nov-16	14:31:39
18	161113G1_18	IPA	13-Nov-16	14:44:17
19	161113G1_19	B6K0053-BLK1 Method Blank 0.125	13-Nov-16	14:56:54
20	161113G1_20	B6K0054-BLK1 Method Blank 0.125	13-Nov-16	15:09:33
21	161113G1_21	B6K0055-BLK1 Method Blank 1	13-Nov-16	15:22:08
22	161113G1_22	1601388-01 MW-BG07-1016 0.12618	13-Nov-16	15:34:43
23	161113G1_23	1601388-02 MW-BG06-1016 0.12354	13-Nov-16	15:47:19
24	161113G1_24	1601388-03 MW-BG05-1016 0.12746	13-Nov-16	15:59:55
25	161113G1_25	1601388-04 MW-BG05P-1016 0.1237	13-Nov-16	16:12:32
26	161113G1_26	1601388-05 MW-BG04-1016 0.13102	13-Nov-16	16:25:10
27	161113G1_27	1601388-06 OC-FB-102816 0.12776	13-Nov-16	16:37:48
28	161113G1_28	1601388-07 MW-BG01-1016 0.12279	13-Nov-16	16:50:26
29	161113G1_29	1601388-08 MW-BG09-1016 0.12536	13-Nov-16	17:03:01
30	161113G1_30	B6K0053-MS1 Matrix Spike 0.13008	13-Nov-16	17:15:36
31	161113G1_31	B6K0053-MSD1 Matrix Spike Dup 0.12486	13-Nov-16	17:28:12

Dataset: Untitled

Last Altered: Monday, November 14, 2016 09:50:16 Pacific Standard Time
Printed: Monday, November 14, 2016 09:50:32 Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	161113G1_32	1601388-09 OC-MW04-1016 0.12595	13-Nov-16	17:40:48
33	161113G1_33	IPA	13-Nov-16	17:53:25
34	161113G1_34	ST161113G1-11 PFC CS3.5 16K0923	13-Nov-16	18:06:14
35	161113G1_35	IPA	13-Nov-16	18:18:52

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manaul Integrations	N/A
Calibration ID: ST161113G1-11	L [✓ M] H	N/A	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/29/16

Comments:

Reviewed By: PW 11/14/16
Initials/Date

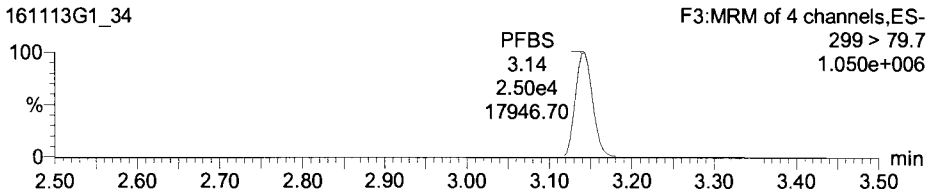
Dataset: Untitled

Last Altered: Monday, November 14, 2016 09:45:34 Pacific Standard Time
Printed: Monday, November 14, 2016 09:45:52 Pacific Standard Time

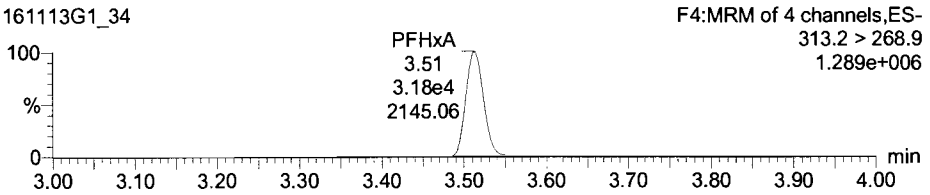
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161113G1_34, Date: 13-Nov-2016, Time: 18:06:14, ID: ST161113G1-11 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

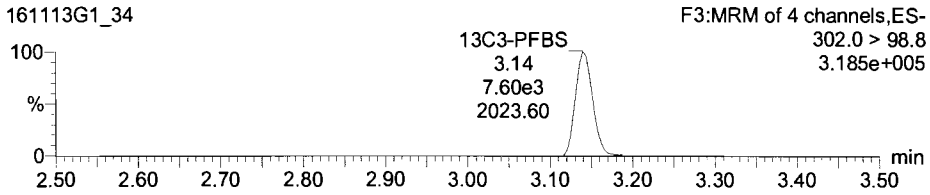
Total PFBS



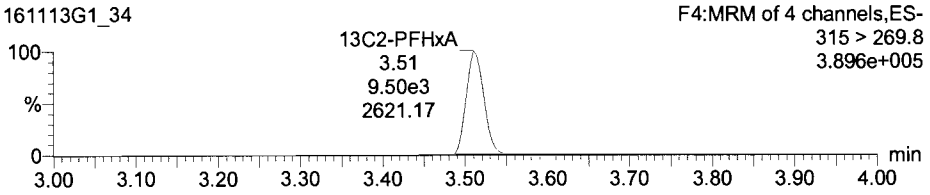
PFHxA



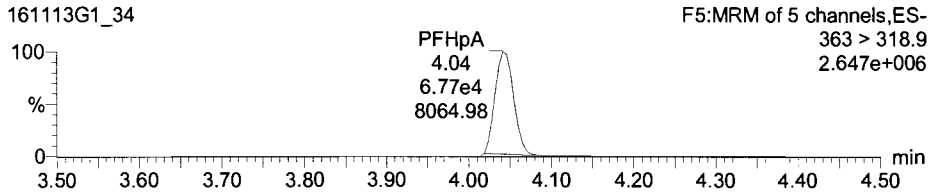
13C3-PFBS



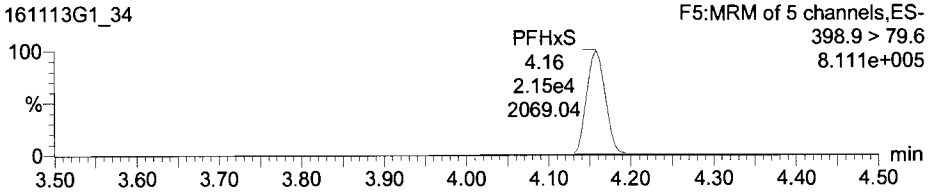
13C2-PFHxA



PFHpA



Total PFHxS



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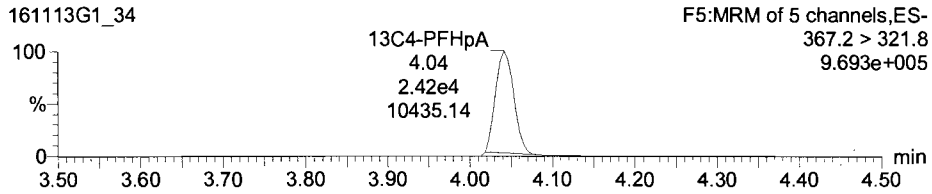
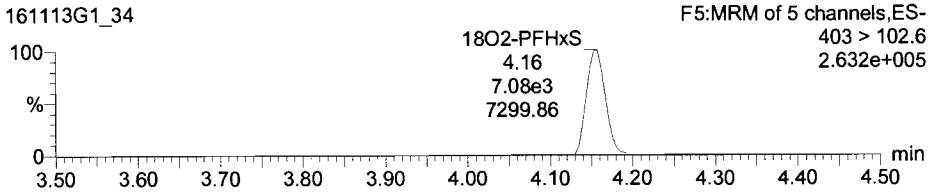


18O2-PFHxS

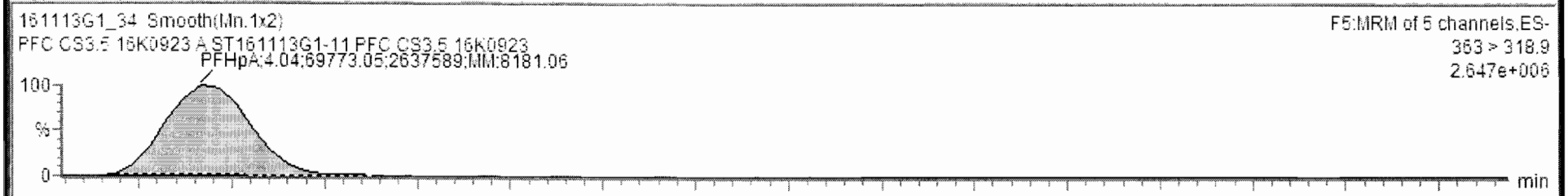


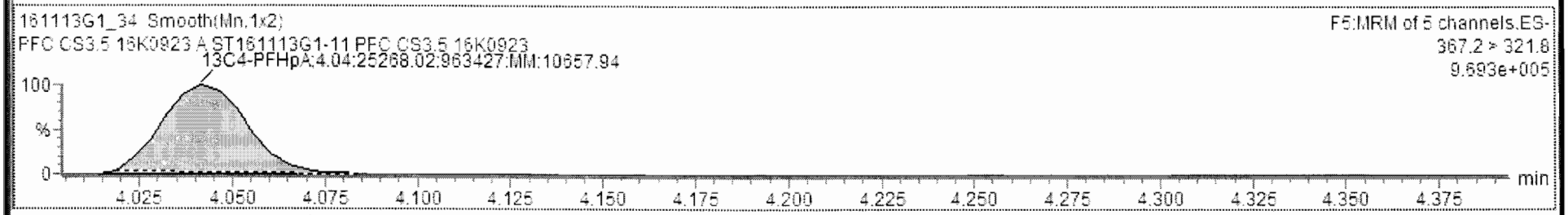
TargetLynx - 161113G1-34.qld * - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_34 - ST161113G1-11 PFC CS3.5 16K0923 - PFC CS3.5 16K0923 A

	Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	2.50e4		1.000	3.14	3.14	30.0	YES	119.9	0.0000000
2	PFHxA	313.2 > 268.9	3.18e4		1.000	3.51	3.51	31.2	YES	124.9	0.0000000
3	PFHpA	363 > 318.9	6.98e4		1.000	4.04	4.04	28.8	YES	115.0	0.0000000
4	PFHxS	398.9 > 79.6	2.15e4		1.000	4.16	4.16	29.1	YES	116.3	0.0000000
5	PFOA	413 > 368.7	6.82e4		1.000	4.44	4.44	30.8	YES	123.2	0.0000000
6	PFOS	499 >79.9	8.97e3		1.000	4.83	4.83	29.8	YES	119.2	0.1278883
7	PFNA	463 > 418.8	4.67e4		1.000	4.77	4.77	29.1	YES	116.4	0.0000000
8	PFDA	513 > 468.8	9.45e3		1.000	5.06	5.06	31.1	NO	124.3	0.0000000
9	13C3-PFBS	302.0 > 98.8	7.60e3	0.250	1.000	3.13	3.14	8.62	NO	69.0	0.0107849
10	13C2-PFHxA	315 > 269.8	9.50e3	0.741	1.000	3.51	3.51	3.63	NO	72.6	0.0034362
11	13C4-PFHpA	367.2 > 321.8	2.53e4	2.08	1.000	4.03	4.04	10.0	NO	80.0	0.0023593
12	18O2-PFHxS	403 > 102.6	7.08e3	0.603	1.000	4.16	4.16	9.65	NO	77.2	0.0032373
13	13C2-PFOA	414.9 > 369.7	3.43e4	2.44	1.000	4.44	4.44	10.0	NO	80.3	0.0116859
14	13C8-PFOS	507.0 > 79.9	5.19e3	1.06	1.000	4.83	4.82	8.85	NO	70.8	0.0052429
15	13C5-PFNA	468.2 > 422.9	1.26e4	1.16	1.000	4.77	4.77	9.28	NO	74.2	0.0018329
16	13C2-PFDA	515.1 > 469.9	6.91e3	1.16	1.000	5.06	5.06	9.45	NO	75.6	0.0130709
17	13C5-PFHxA	318.0 > 272.9	4.41e4	1.00	1.000	3.52	3.51	12.5	NO	100.0	0.0029926





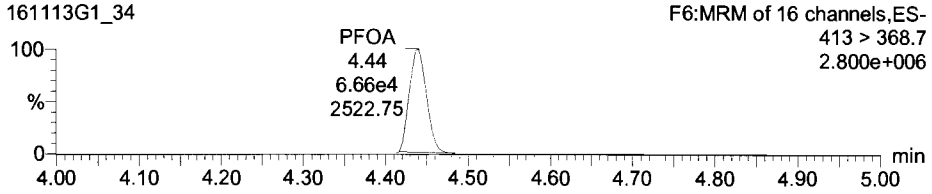
Ready 161113G1_34 CAP NUM

Dataset: Untitled

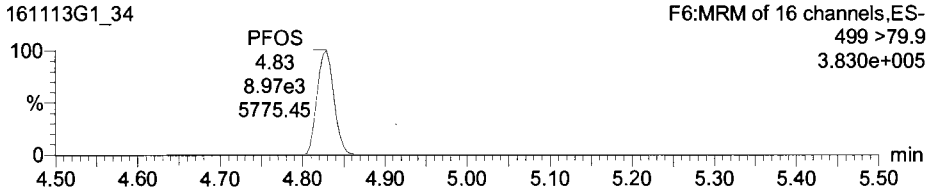
Last Altered: Monday, November 14, 2016 09:45:34 Pacific Standard Time
Printed: Monday, November 14, 2016 09:45:52 Pacific Standard Time

Name: 161113G1_34, Date: 13-Nov-2016, Time: 18:06:14, ID: ST161113G1-11 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

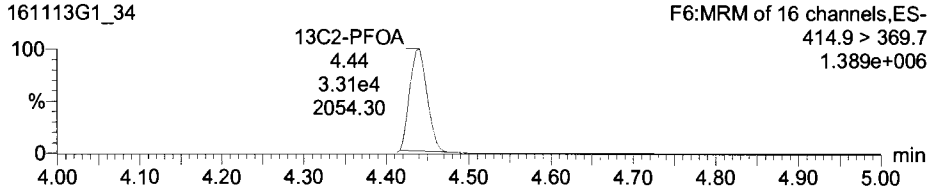
Total PFOA



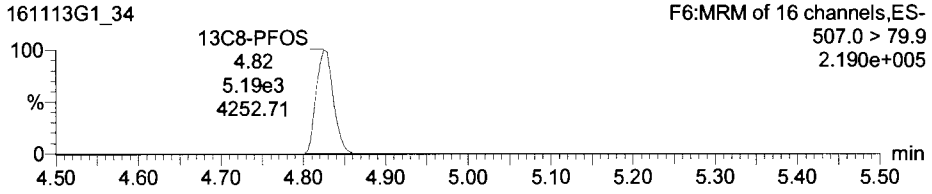
Total PFOS



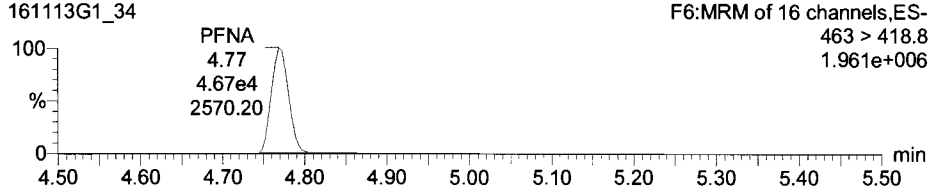
13C2-PFOA



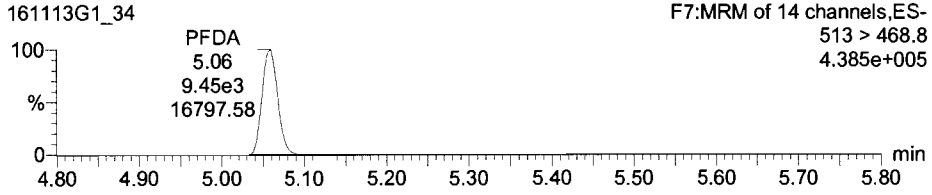
13C8-PFOS



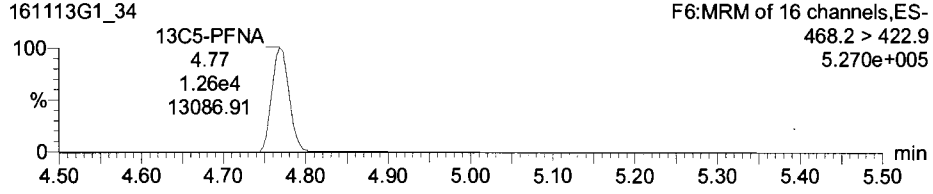
PFNA



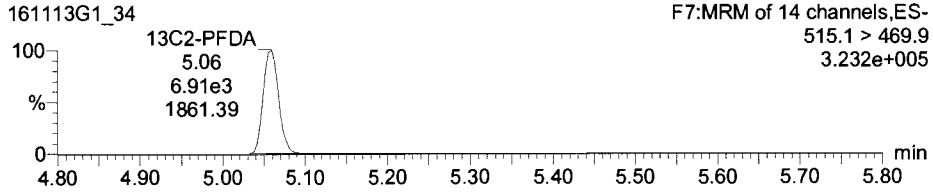
PFDA



13C5-PFNA



13C2-PFDA

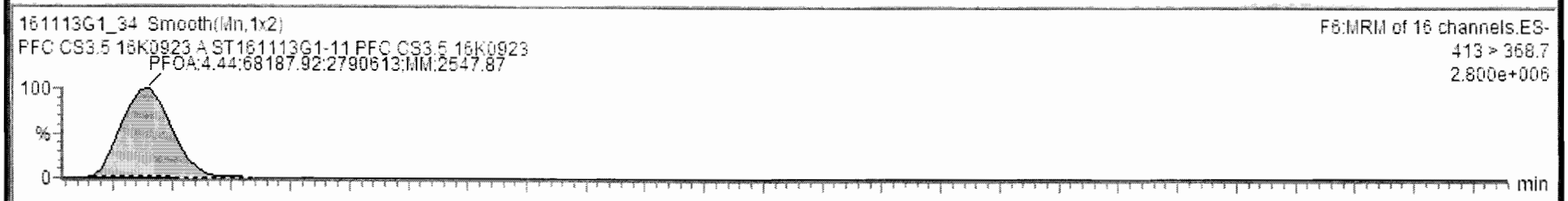


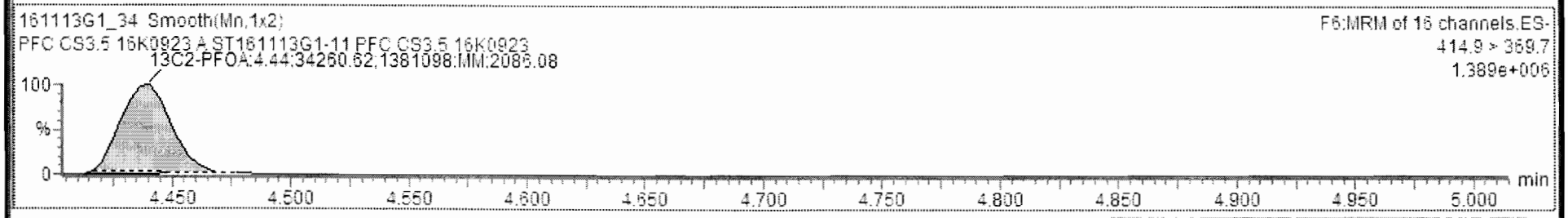
TargetLynx - 161113G1-34.qld * - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_34 - ST161113G1-11 PFC CS3.5 16K0923 - PFC CS3.5 16K0923 A

	Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	2.50e4		1.000	3.14	3.14	30.0	YES	119.9	0.0000000
2	PFHxA	313.2 > 268.9	3.18e4		1.000	3.51	3.51	31.2	YES	124.9	0.0000000
3	PFHpA	363 > 318.9	6.77e4		1.000	4.04	4.04	29.2	YES	116.6	0.0000000
4	PFHxS	398.9 > 79.6	2.15e4		1.000	4.16	4.16	29.1	YES	116.3	0.0000000
5	PFOA	413 > 368.7	6.82e4		1.000	4.44	4.44	30.8	YES	123.2	0.0000000
6	PFOS	499 >79.9	8.97e3		1.000	4.83	4.83	29.8	YES	119.2	0.1278883
7	PFNA	463 > 418.8	4.67e4		1.000	4.77	4.77	29.1	YES	116.4	0.0000000
8	PFDA	513 > 468.8	9.45e3		1.000	5.06	5.06	31.1	NO	124.3	0.0000000
9	13C3-PFBS	302.0 > 98.8	7.60e3	0.250	1.000	3.13	3.14	8.62	NO	69.0	0.0107949
10	13C2-PFHxA	315 > 269.8	9.50e3	0.741	1.000	3.51	3.51	3.63	NO	72.6	0.0034362
11	13C4-PFHpA	367.2 > 321.8	2.42e4	2.08	1.000	4.03	4.04	9.57	NO	76.6	0.0023593
12	18O2-PFHxS	403 > 102.6	7.08e3	0.603	1.000	4.16	4.16	9.65	NO	77.2	0.0032373
13	13C2-PFOA	414.9 > 369.7	3.43e4	2.44	1.000	4.44	4.44	10.0	NO	80.3	0.0116859
14	13C8-PFOS	507.0 > 79.9	5.19e3	1.06	1.000	4.83	4.82	8.85	NO	70.8	0.0052429
15	13C5-PFNA	468.2 > 422.9	1.26e4	1.16	1.000	4.77	4.77	9.28	NO	74.2	0.0018329
16	13C2-PFDA	515.1 > 469.9	6.91e3	1.16	1.000	5.06	5.06	9.45	NO	75.6	0.0130709
17	13C5-PFHxA	318.0 > 272.9	4.41e4	1.00	1.000	3.52	3.51	12.5	NO	100.0	0.0029926





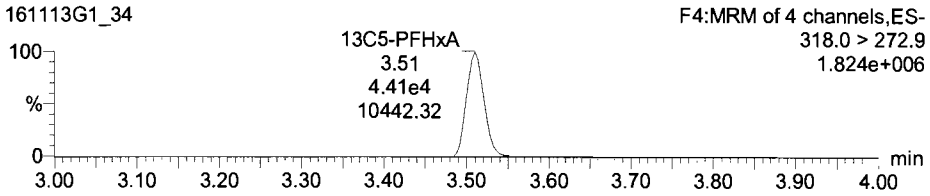
161113G1_34 CAP NUM

Dataset: Untitled

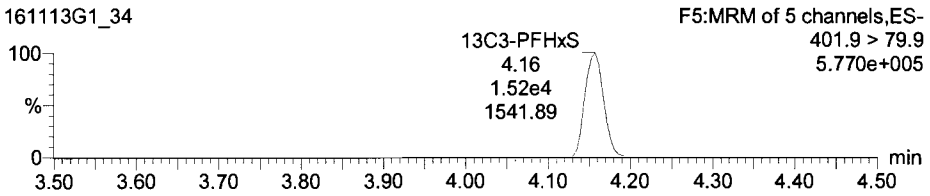
Last Altered: Monday, November 14, 2016 09:45:34 Pacific Standard Time
Printed: Monday, November 14, 2016 09:45:52 Pacific Standard Time

Name: 161113G1_34, Date: 13-Nov-2016, Time: 18:06:14, ID: ST161113G1-11 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

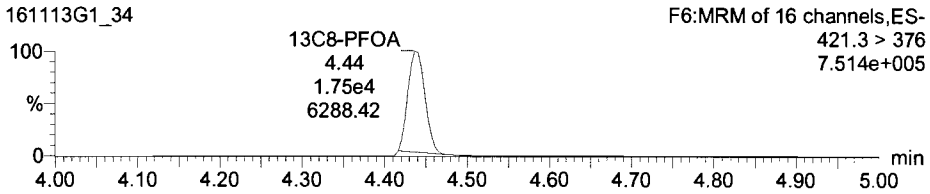
13C5-PFHxA



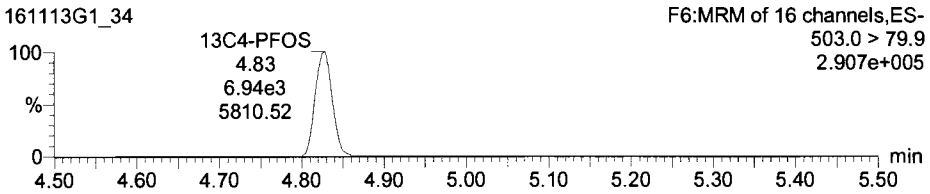
13C3-PFHxS



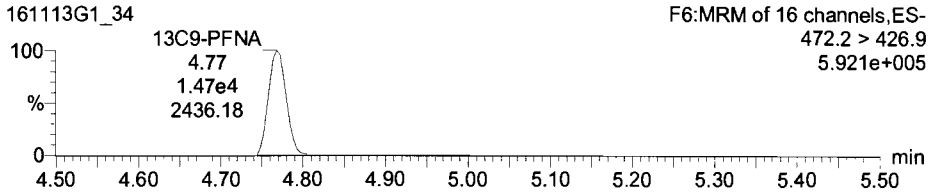
13C8-PFOA



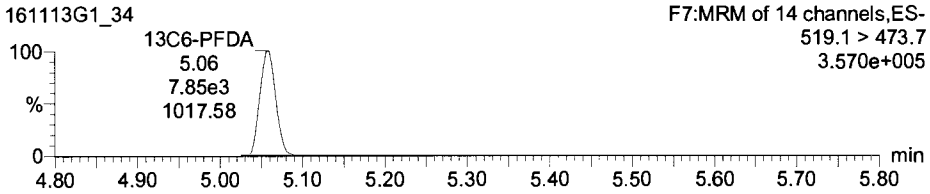
13C4-PFOS



13C9-PFNA



13C6-PFDA



INITIAL CALIBRATION

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:26:39 Pacific Standard Time

Scanned KC 11-14-16

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Compound name: PFBS
Correlation coefficient: r = 0.993420, r^2 = 0.986884
Calibration curve: 1.36557 * x + 0.119712
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	3.25	5.89e2	8.09e3	0.578	1.82	15.6
2	2 161113G1_4	1.00	3.25	1.12e3	9.40e3	1.00	1.48	-0.0
3	3 161113G1_5	2.00	3.25	1.80e3	9.15e3	1.72	1.23	-14.2
4	4 161113G1_6	5.00	3.25	3.80e3	8.99e3	3.78	1.06	-24.4
5	5 161113G1_7	10.0	3.25	1.05e4	8.47e3	11.3	1.55	12.6
6	6 161113G1_8	25.0	3.25	2.26e4	6.85e3	30.1	1.65	20.2
7	7 161113G1_9	50.0	3.25	4.08e4	8.27e3	45.1	1.23	-9.9
8	8 161113G1_10	75.0	3.25	5.89e4	7.17e3	75.1	1.37	0.1

AC 11/14/16

PW 11/14/16

Compound name: PFHxA
Correlation coefficient: r = 0.992075, r^2 = 0.984213
Calibration curve: 0.533409 * x + 0.0903449
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	3.64	7.85e2	9.91e3	0.573	0.792	14.6
2	2 161113G1_4	1.00	3.64	1.18e3	1.02e4	0.914	0.578	-8.6
3	3 161113G1_5	2.00	3.64	2.03e3	1.06e4	1.63	0.480	-18.5
4	4 161113G1_6	5.00	3.64	4.71e3	1.06e4	4.01	0.445	-19.9
5	5 161113G1_7	10.0	3.64	1.22e4	9.51e3	11.8	0.641	18.4
6	6 161113G1_8	25.0	3.65	2.79e4	8.36e3	31.1	0.666	24.3
7	7 161113G1_9	50.0	3.65	5.23e4	1.03e4	47.5	0.509	-4.9
8	8 161113G1_10	75.0	3.64	7.02e4	9.25e3	70.9	0.506	-5.4

PFDA excluded from CS(-1).

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
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Compound name: PFHpA
Correlation coefficient: r = 0.993436, r^2 = 0.986915
Calibration curve: 1.19442 * x + 0.171662
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	4.14	1.77e3	2.62e4	0.564	1.69	12.8
2	2 161113G1_4	1.00	4.14	3.12e3	2.87e4	0.995	1.36	-0.5
3	3 161113G1_5	2.00	4.14	4.34e3	2.54e4	1.65	1.07	-17.7
4	4 161113G1_6	5.00	4.14	1.15e4	2.79e4	4.16	1.03	-16.9
5	5 161113G1_7	10.0	4.14	2.94e4	2.82e4	10.8	1.30	7.8
6	6 161113G1_8	25.0	4.14	6.90e4	2.32e4	31.0	1.49	24.1
7	7 161113G1_9	50.0	4.14	1.21e5	2.69e4	46.8	1.12	-6.3
8	8 161113G1_10	75.0	4.14	1.81e5	2.60e4	72.5	1.16	-3.3

Compound name: PFHxS
Correlation coefficient: r = 0.992500, r^2 = 0.985056
Calibration curve: 1.30086 * x + 0.139374
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	4.25	5.42e2	7.72e3	0.568	1.76	13.5
2	2 161113G1_4	1.00	4.25	9.58e2	8.16e3	1.02	1.47	2.1
3	3 161113G1_5	2.00	4.25	1.31e3	7.55e3	1.56	1.09	-21.8
4	4 161113G1_6	5.00	4.25	3.64e3	8.23e3	4.14	1.11	-17.2
5	5 161113G1_7	10.0	4.25	8.85e3	7.97e3	10.6	1.39	5.7
6	6 161113G1_8	25.0	4.25	2.06e4	6.31e3	31.2	1.63	25.0
7	7 161113G1_9	50.0	4.25	4.08e4	7.78e3	50.3	1.31	0.5
8	8 161113G1_10	75.0	4.25	5.67e4	7.87e3	69.1	1.20	-7.8

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:26:39 Pacific Standard Time

Compound name: PFOA
Correlation coefficient: r = 0.995660, r^2 = 0.991339
Calibration curve: 0.800305 * x + 0.222058
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	4.52	2.17e3	3.88e4	0.597	1.40	19.4
2	2 161113G1_4	1.00	4.52	3.09e3	4.05e4	0.913	0.953	-8.7
3	3 161113G1_5	2.00	4.52	4.41e3	3.73e4	1.57	0.739	-21.6
4	4 161113G1_6	5.00	4.52	1.16e4	3.92e4	4.34	0.739	-13.3
5	5 161113G1_7	10.0	4.52	3.02e4	4.06e4	11.3	0.930	13.5
6	6 161113G1_8	25.0	4.53	6.61e4	3.49e4	29.3	0.946	17.1
7	7 161113G1_9	50.0	4.53	1.28e5	4.02e4	49.3	0.793	-1.4
8	8 161113G1_10	75.0	4.52	1.76e5	3.84e4	71.2	0.762	-5.1

Compound name: PFOS
Correlation coefficient: r = 0.997531, r^2 = 0.995068
Calibration curve: 0.727385 * x + -0.0835443
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	4.90	1.13e2	4.68e3	0.530	0.604	6.0
2	2 161113G1_4	1.00	4.90	3.80e2	6.90e3	1.06	0.688	6.1
3	3 161113G1_5	2.00	4.90	4.73e2	5.54e3	1.58	0.533	-20.9
4	4 161113G1_6	5.00	4.90	1.88e3	7.02e3	4.72	0.670	-5.6
5	5 161113G1_7	10.0	4.90	4.12e3	6.81e3	10.5	0.757	5.2
6	6 161113G1_8	25.0	4.90	8.64e3	5.23e3	28.5	0.826	14.0
7	7 161113G1_9	50.0	4.90	2.19e4	7.58e3	49.7	0.721	-0.6
8	8 161113G1_10	75.0	4.90	3.43e4	8.21e3	71.9	0.696	-4.1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
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Compound name: PFNA
Correlation coefficient: r = 0.991334, r^2 = 0.982742
Calibration curve: 1.58768 * x + 0.131445
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	4.85	1.03e3	1.32e4	0.531	1.95	6.3
2	2 161113G1_4	1.00	4.85	2.07e3	1.46e4	1.03	1.77	3.3
3	3 161113G1_5	2.00	4.85	3.03e3	1.48e4	1.53	1.28	-23.7
4	4 161113G1_6	5.00	4.85	8.54e3	1.56e4	4.23	1.37	-15.3
5	5 161113G1_7	10.0	4.85	2.13e4	1.40e4	11.9	1.90	18.8
6	6 161113G1_8	25.0	4.85	4.61e4	1.18e4	30.8	1.96	23.3
7	7 161113G1_9	50.0	4.85	9.20e4	1.64e4	44.0	1.40	-12.0
8	8 161113G1_10	75.0	4.85	1.43e5	1.51e4	74.5	1.58	-0.7

(A) excluded

Compound name: PFDA
Correlation coefficient: r = 0.993024, r^2 = 0.986097
Calibration curve: 0.548079 * x + 0.0475241
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	0.500	5.13	2.19e2	7.36e3	0.591	0.743	18.2 (A)
2	2 161113G1_4	1.00	5.13	6.97e2	1.15e4	1.30	0.760	30.0
3	3 161113G1_5	2.00	5.13	8.00e2	9.53e3	1.83	0.525	-8.6
4	4 161113G1_6	5.00	5.13	1.91e3	1.13e4	3.78	0.424	-24.4
5	5 161113G1_7	10.0	5.13	5.15e3	1.12e4	10.4	0.575	4.0
6	6 161113G1_8	25.0	5.13	9.45e3	6.91e3	31.1	0.684	24.5
7	7 161113G1_9	50.0	5.13	2.99e4	1.40e4	48.6	0.534	-2.7
8	8 161113G1_10	75.0	5.13	4.77e4	1.53e4	70.9	0.519	-5.4

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
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Compound name: 13C3-PFBS
Response Factor: 0.249812
RRF SD: 0.0343471, Relative SD: 13.7492
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	3.25	8.09e3	3.80e4	10.7	0.213	-14.8
2	2 161113G1_4	12.5	3.25	9.40e3	3.52e4	13.4	0.267	7.0
3	3 161113G1_5	12.5	3.25	9.15e3	3.20e4	14.3	0.286	14.6
4	4 161113G1_6	12.5	3.25	8.99e3	3.27e4	13.7	0.275	10.0
5	5 161113G1_7	12.5	3.25	8.47e3	3.23e4	13.1	0.263	5.2
6	6 161113G1_8	12.5	3.25	6.85e3	3.74e4	9.18	0.183	-26.6
7	7 161113G1_9	12.5	3.25	8.27e3	3.22e4	12.9	0.257	2.9
8	8 161113G1_10	12.5	3.25	7.17e3	2.82e4	12.7	0.254	1.7

Compound name: 13C2-PFHxA
Response Factor: 0.74126
RRF SD: 0.0946175, Relative SD: 12.7644
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	5.00	3.64	9.91e3	3.80e4	4.40	0.652	-12.1
2	2 161113G1_4	5.00	3.64	1.02e4	3.52e4	4.91	0.728	-1.8
3	3 161113G1_5	5.00	3.64	1.06e4	3.20e4	5.59	0.828	11.7
4	4 161113G1_6	5.00	3.64	1.06e4	3.27e4	5.45	0.808	9.0
5	5 161113G1_7	5.00	3.64	9.51e3	3.23e4	4.97	0.737	-0.6
6	6 161113G1_8	5.00	3.64	8.36e3	3.74e4	3.77	0.559	-24.5
7	7 161113G1_9	5.00	3.64	1.03e4	3.22e4	5.39	0.799	7.7
8	8 161113G1_10	5.00	3.64	9.25e3	2.82e4	5.53	0.819	10.5

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

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Compound name: 13C4-PFHpA
Response Factor: 2.07704
RRF SD: 0.223378, Relative SD: 10.7547
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.14	2.62e4	1.44e4	10.9	1.82	-12.5
2	2 161113G1_4	12.5	4.14	2.87e4	1.33e4	13.0	2.15	3.7
3	3 161113G1_5	12.5	4.14	2.54e4	1.22e4	12.5	2.08	0.4
4	4 161113G1_6	12.5	4.14	2.79e4	1.23e4	13.6	2.27	9.2
5	5 161113G1_7	12.5	4.14	2.82e4	1.32e4	12.8	2.13	2.7
6	6 161113G1_8	12.5	4.14	2.32e4	1.40e4	9.98	1.66	-20.2
7	7 161113G1_9	12.5	4.14	2.69e4	1.21e4	13.4	2.23	7.5
8	8 161113G1_10	12.5	4.14	2.60e4	1.15e4	13.6	2.27	9.2

Compound name: 18O2-PFHxS
Response Factor: 0.602831
RRF SD: 0.0762623, Relative SD: 12.6507
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.24	7.72e3	1.44e4	11.1	0.536	-11.1
2	2 161113G1_4	12.5	4.24	8.16e3	1.33e4	12.7	0.613	1.7
3	3 161113G1_5	12.5	4.24	7.55e3	1.22e4	12.9	0.620	2.9
4	4 161113G1_6	12.5	4.24	8.23e3	1.23e4	13.8	0.668	10.8
5	5 161113G1_7	12.5	4.24	7.97e3	1.32e4	12.5	0.603	0.1
6	6 161113G1_8	12.5	4.25	6.31e3	1.40e4	9.36	0.451	-25.1
7	7 161113G1_9	12.5	4.25	7.78e3	1.21e4	13.4	0.645	7.0
8	8 161113G1_10	12.5	4.25	7.87e3	1.15e4	14.2	0.686	13.8

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

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Compound name: 13C2-PFOA
Response Factor: 2.43832
RRF SD: 0.272715, Relative SD: 11.1845
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.52	3.88e4	1.72e4	11.6	2.25	-7.6
2	2 161113G1_4	12.5	4.52	4.05e4	1.60e4	12.9	2.52	3.5
3	3 161113G1_5	12.5	4.52	3.73e4	1.33e4	14.4	2.81	15.0
4	4 161113G1_6	12.5	4.52	3.92e4	1.56e4	12.9	2.51	2.9
5	5 161113G1_7	12.5	4.52	4.06e4	1.65e4	12.6	2.47	1.1
6	6 161113G1_8	12.5	4.53	3.49e4	1.86e4	9.64	1.88	-22.9
7	7 161113G1_9	12.5	4.53	4.02e4	1.63e4	12.7	2.47	1.3
8	8 161113G1_10	12.5	4.52	3.84e4	1.48e4	13.3	2.60	6.6

Compound name: 13C8-PFOS
Response Factor: 1.05531
RRF SD: 0.151169, Relative SD: 14.3247
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.90	4.68e3	5.56e3	9.97	0.842	-20.2
2	2 161113G1_4	12.5	4.90	6.90e3	5.89e3	13.9	1.17	10.9
3	3 161113G1_5	12.5	4.90	5.54e3	4.99e3	13.2	1.11	5.3
4	4 161113G1_6	12.5	4.90	7.02e3	6.24e3	13.3	1.12	6.5
5	5 161113G1_7	12.5	4.90	6.81e3	5.41e3	14.9	1.26	19.3
6	6 161113G1_8	12.5	4.90	5.23e3	6.09e3	10.2	0.859	-18.6
7	7 161113G1_9	12.5	4.90	7.58e3	7.91e3	11.4	0.959	-9.2
8	8 161113G1_10	12.5	4.90	8.21e3	7.34e3	13.2	1.12	6.0

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

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Compound name: 13C5-PFNA
Response Factor: 1.15772
RRF SD: 0.162288, Relative SD: 14.0179
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.85	1.32e4	1.33e4	10.8	0.996	-14.0
2	2 161113G1_4	12.5	4.85	1.46e4	1.31e4	12.1	1.12	-3.4
3	3 161113G1_5	12.5	4.85	1.48e4	1.14e4	14.0	1.30	12.0
4	4 161113G1_6	12.5	4.85	1.56e4	1.21e4	13.9	1.28	10.8
5	5 161113G1_7	12.5	4.85	1.40e4	1.18e4	12.8	1.19	2.4
6	6 161113G1_8	12.5	4.85	1.18e4	1.38e4	9.23	0.855	-26.2
7	7 161113G1_9	12.5	4.85	1.64e4	1.25e4	14.3	1.32	14.0
8	8 161113G1_10	12.5	4.85	1.51e4	1.25e4	13.0	1.21	4.3

Compound name: 13C2-PFDA
Response Factor: 1.16403
RRF SD: 0.192878, Relative SD: 16.5699
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	5.13	7.36e3	7.75e3	10.2	0.950	-18.4
2	2 161113G1_4	12.5	5.13	1.15e4	1.02e4	12.1	1.13	-3.3
3	3 161113G1_5	12.5	5.13	9.53e3	7.68e3	13.3	1.24	6.6
4	4 161113G1_6	12.5	5.13	1.13e4	9.51e3	12.7	1.18	1.8
5	5 161113G1_7	12.5	5.13	1.12e4	8.53e3	14.1	1.31	12.8
6	6 161113G1_8	12.5	5.13	6.91e3	8.46e3	8.77	0.817	-29.8
7	7 161113G1_9	12.5	5.13	1.40e4	1.06e4	14.1	1.32	13.2
8	8 161113G1_10	12.5	5.13	1.53e4	1.12e4	14.7	1.37	17.3

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	3.64	3.80e4	3.80e4	12.5	1.00	0.0
2	2 161113G1_4	12.5	3.64	3.52e4	3.52e4	12.5	1.00	0.0
3	3 161113G1_5	12.5	3.64	3.20e4	3.20e4	12.5	1.00	0.0
4	4 161113G1_6	12.5	3.64	3.27e4	3.27e4	12.5	1.00	0.0
5	5 161113G1_7	12.5	3.64	3.23e4	3.23e4	12.5	1.00	0.0
6	6 161113G1_8	12.5	3.64	3.74e4	3.74e4	12.5	1.00	0.0
7	7 161113G1_9	12.5	3.64	3.22e4	3.22e4	12.5	1.00	0.0
8	8 161113G1_10	12.5	3.64	2.82e4	2.82e4	12.5	1.00	0.0

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.24	1.44e4	1.44e4	12.5	1.00	0.0
2	2 161113G1_4	12.5	4.24	1.33e4	1.33e4	12.5	1.00	0.0
3	3 161113G1_5	12.5	4.24	1.22e4	1.22e4	12.5	1.00	0.0
4	4 161113G1_6	12.5	4.25	1.23e4	1.23e4	12.5	1.00	0.0
5	5 161113G1_7	12.5	4.25	1.32e4	1.32e4	12.5	1.00	-0.0
6	6 161113G1_8	12.5	4.25	1.40e4	1.40e4	12.5	1.00	0.0
7	7 161113G1_9	12.5	4.25	1.21e4	1.21e4	12.5	1.00	0.0
8	8 161113G1_10	12.5	4.25	1.15e4	1.15e4	12.5	1.00	0.0

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.52	1.72e4	1.72e4	12.5	1.00	0.0
2	2 161113G1_4	12.5	4.52	1.60e4	1.60e4	12.5	1.00	0.0
3	3 161113G1_5	12.5	4.52	1.33e4	1.33e4	12.5	1.00	0.0
4	4 161113G1_6	12.5	4.52	1.56e4	1.56e4	12.5	1.00	0.0
5	5 161113G1_7	12.5	4.52	1.65e4	1.65e4	12.5	1.00	0.0
6	6 161113G1_8	12.5	4.52	1.86e4	1.86e4	12.5	1.00	0.0
7	7 161113G1_9	12.5	4.53	1.63e4	1.63e4	12.5	1.00	0.0
8	8 161113G1_10	12.5	4.52	1.48e4	1.48e4	12.5	1.00	0.0

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.90	5.56e3	5.56e3	12.5	1.00	0.0
2	2 161113G1_4	12.5	4.90	5.89e3	5.89e3	12.5	1.00	0.0
3	3 161113G1_5	12.5	4.90	4.99e3	4.99e3	12.5	1.00	0.0
4	4 161113G1_6	12.5	4.90	6.24e3	6.24e3	12.5	1.00	0.0
5	5 161113G1_7	12.5	4.90	5.41e3	5.41e3	12.5	1.00	0.0
6	6 161113G1_8	12.5	4.90	6.09e3	6.09e3	12.5	1.00	0.0
7	7 161113G1_9	12.5	4.90	7.91e3	7.91e3	12.5	1.00	0.0
8	8 161113G1_10	12.5	4.90	7.34e3	7.34e3	12.5	1.00	0.0

Vista Analytical Laboratory Q1

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Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 21), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	4.85	1.33e4	1.33e4	12.5	1.00	0.0
2	2 161113G1_4	12.5	4.85	1.31e4	1.31e4	12.5	1.00	0.0
3	3 161113G1_5	12.5	4.85	1.14e4	1.14e4	12.5	1.00	0.0
4	4 161113G1_6	12.5	4.85	1.21e4	1.21e4	12.5	1.00	0.0
5	5 161113G1_7	12.5	4.85	1.18e4	1.18e4	12.5	1.00	0.0
6	6 161113G1_8	12.5	4.85	1.38e4	1.38e4	12.5	1.00	0.0
7	7 161113G1_9	12.5	4.85	1.25e4	1.25e4	12.5	1.00	0.0
8	8 161113G1_10	12.5	4.85	1.25e4	1.25e4	12.5	1.00	0.0

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 22), Area * (IS Conc. / IS Area)
Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161113G1_3	12.5	5.13	7.75e3	7.75e3	12.5	1.00	0.0
2	2 161113G1_4	12.5	5.13	1.02e4	1.02e4	12.5	1.00	0.0
3	3 161113G1_5	12.5	5.13	7.68e3	7.68e3	12.5	1.00	0.0
4	4 161113G1_6	12.5	5.13	9.51e3	9.51e3	12.5	1.00	0.0
5	5 161113G1_7	12.5	5.13	8.53e3	8.53e3	12.5	1.00	-0.0
6	6 161113G1_8	12.5	5.13	8.46e3	8.46e3	12.5	1.00	0.0
7	7 161113G1_9	12.5	5.13	1.06e4	1.06e4	12.5	1.00	0.0
8	8 161113G1_10	12.5	5.13	1.12e4	1.12e4	12.5	1.00	0.0

Vista Analytical Laboratory VG-9

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Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	161113G1_1	IPA	13-Nov-16	11:09:29
2	161113G1_2	ST161113G1-1 PFC CS-2 16K1124	13-Nov-16	11:22:09
3	161113G1_3	ST161113G1-2 PFC CS-1 16K1125	13-Nov-16	11:34:46
4	161113G1_4	ST161113G1-3 PFC CS0 16K1126	13-Nov-16	11:47:22
5	161113G1_5	ST161113G1-4 PFC CS1 16K1127	13-Nov-16	12:00:00
6	161113G1_6	ST161113G1-5 PFC CS2 16K1128	13-Nov-16	12:12:39
7	161113G1_7	ST161113G1-6 PFC CS3 16K1129	13-Nov-16	12:25:17
8	161113G1_8	ST161113G1-7 PFC CS3.5 16K0923	13-Nov-16	12:37:58
9	161113G1_9	ST161113G1-8 PFC CS4 16K1130	13-Nov-16	12:50:37
10	161113G1_10	ST161113G1-9 PFC CS4.5 16K1131	13-Nov-16	13:03:18
11	161113G1_11	ST161113G1-10 PFC CS5 16K1132	13-Nov-16	13:15:55
12	161113G1_12	IPA	13-Nov-16	13:28:31
13	161113G1_13	SS161113G1-1 PFC SSS 16J1810	13-Nov-16	13:41:09
14	161113G1_14	B6K0053-BS1 OPR 0.125	13-Nov-16	13:53:48
15	161113G1_15	B6K0054-BS1 OPR 0.125	13-Nov-16	14:06:24
16	161113G1_16	B6K0054-BSD1 LCS Dup 0.125	13-Nov-16	14:19:01
17	161113G1_17	B6K0055-BS1 OPR 1	13-Nov-16	14:31:39
18	161113G1_18	IPA	13-Nov-16	14:44:17
19	161113G1_19	B6K0053-BLK1 Method Blank 0.125	13-Nov-16	14:56:54
20	161113G1_20	B6K0054-BLK1 Method Blank 0.125	13-Nov-16	15:09:33
21	161113G1_21	B6K0055-BLK1 Method Blank 1	13-Nov-16	15:22:08
22	161113G1_22	1601388-01 MW-BG07-1016 0.12618	13-Nov-16	15:34:43
23	161113G1_23	1601388-02 MW-BG06-1016 0.12354	13-Nov-16	15:47:19
24	161113G1_24	1601388-03 MW-BG05-1016 0.12746	13-Nov-16	15:59:55
25	161113G1_25	1601388-04 MW-BG05P-1016 0.1237	13-Nov-16	16:12:32
26	161113G1_26	1601388-05 MW-BG04-1016 0.13102	13-Nov-16	16:25:10
27	161113G1_27	1601388-06 OC-FB-102816 0.12776	13-Nov-16	16:37:48
28	161113G1_28	1601388-07 MW-BG01-1016 0.12279	13-Nov-16	16:50:26
29	161113G1_29	1601388-08 MW-BG09-1016 0.12536	13-Nov-16	17:03:01
30	161113G1_30	B6K0053-MS1 Matrix Spike 0.13008	13-Nov-16	17:15:36
31	161113G1_31	B6K0053-MSD1 Matrix Spike Dup 0.12486	13-Nov-16	17:28:12

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Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	161113G1_32	1601388-09 OC-MW04-1016 0.12595	13-Nov-16	17:40:48
33	161113G1_33	IPA	13-Nov-16	17:53:25
34	161113G1_34	ST161113G1-11 PFC CS3.5 16K0923	13-Nov-16	18:06:14
35	161113G1_35	IPA	13-Nov-16	18:18:52
36	161113G1_36	1601388-10 MW-BG11-1016 0.12196	13-Nov-16	18:31:31
37	161113G1_37	1601390-01 SP 4 0.12354	13-Nov-16	18:44:09
38	161113G1_38	1601390-02 SP 5 0.12756	13-Nov-16	18:56:47
39	161113G1_39	1601390-03 SP 6 0.12523	13-Nov-16	19:09:26
40	161113G1_40	1601390-04 102916-DUP 0.12766	13-Nov-16	19:22:01
41	161113G1_41	1601398-01 SW-NRES020-110116 0.12224	13-Nov-16	19:34:35
42	161113G1_42	1601399-01 860 SOUTH RD 0.12506	13-Nov-16	19:47:11
43	161113G1_43	1601382-02 AT028-SB15-102816-01-02 1	13-Nov-16	19:59:49
44	161113G1_44	1601382-03 AT028-SB15-102816-04-05 1	13-Nov-16	20:12:27
45	161113G1_45	1601382-04 AT028-SB16-102816-02-03 1	13-Nov-16	20:25:06
46	161113G1_46	IPA	13-Nov-16	20:37:46
47	161113G1_47	ST161113G1-12 PFC CS3.5 16K0923	13-Nov-16	20:50:25
48	161113G1_48	IPA	13-Nov-16	21:03:11

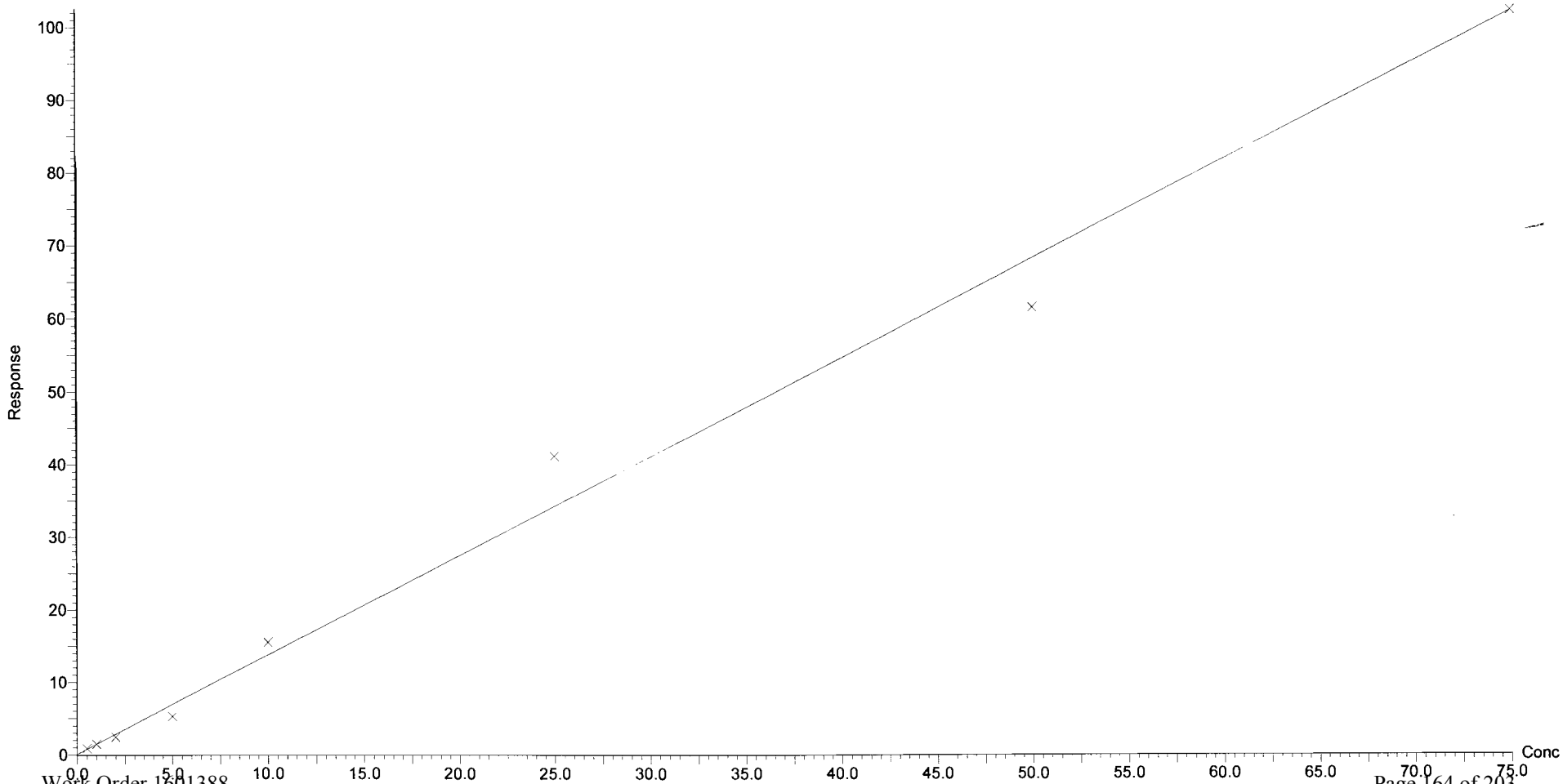
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

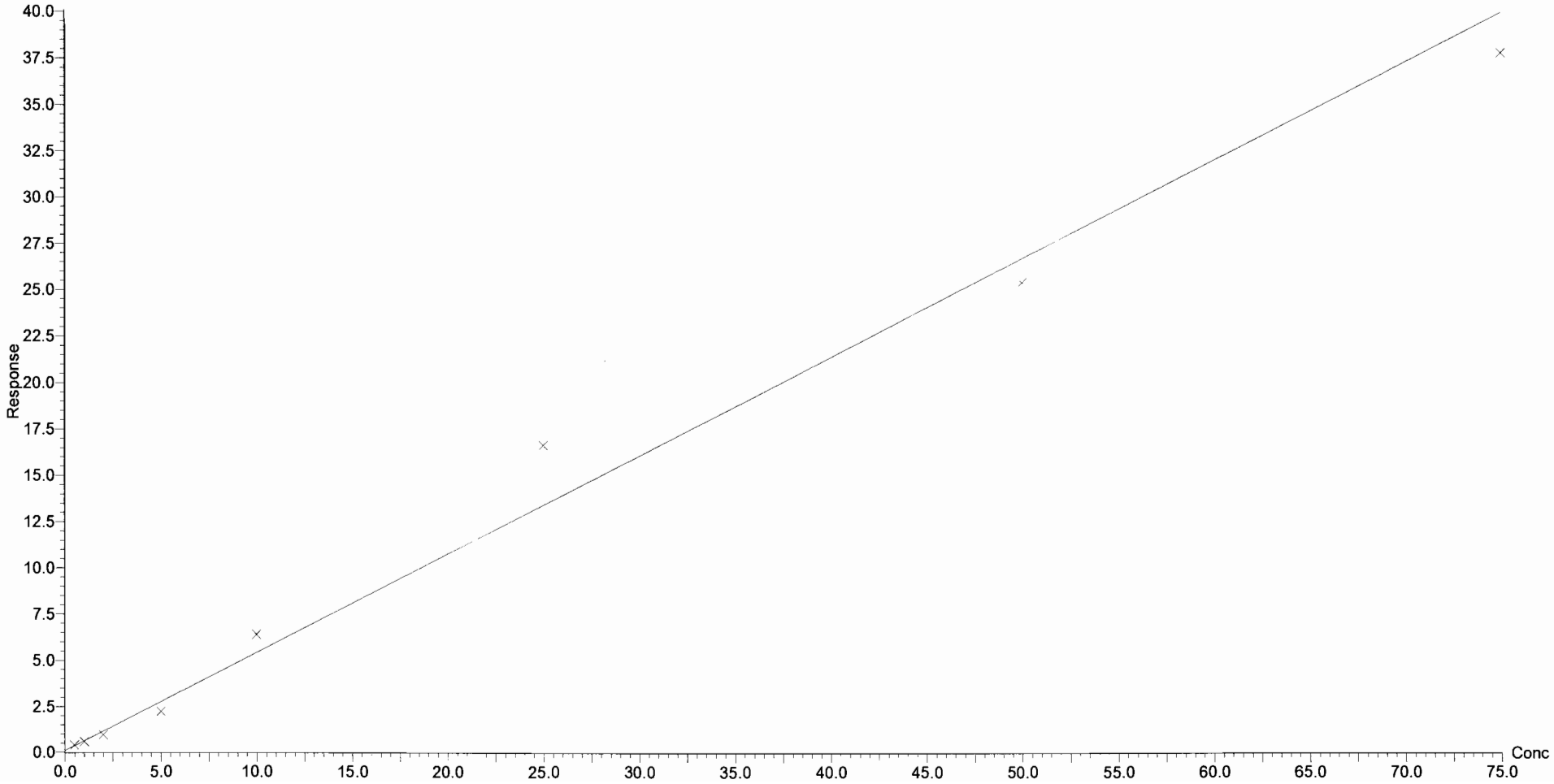
Compound name: PFBS
Correlation coefficient: r = 0.993420, r^2 = 0.986884
Calibration curve: 1.36557 * x + 0.119712
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

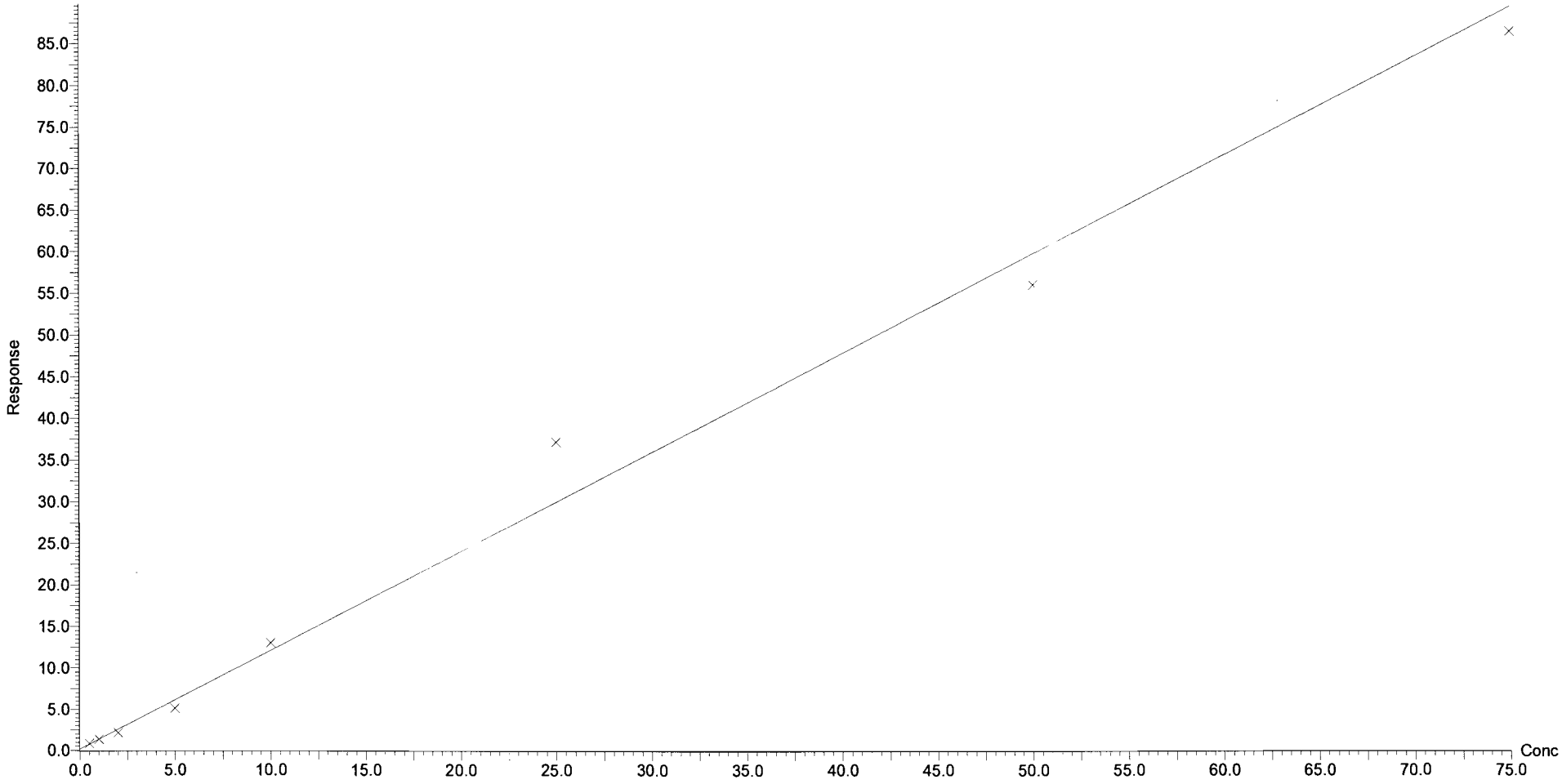
Compound name: PFHxA
Correlation coefficient: r = 0.992075, r^2 = 0.984213
Calibration curve: 0.533409 * x + 0.0903449
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

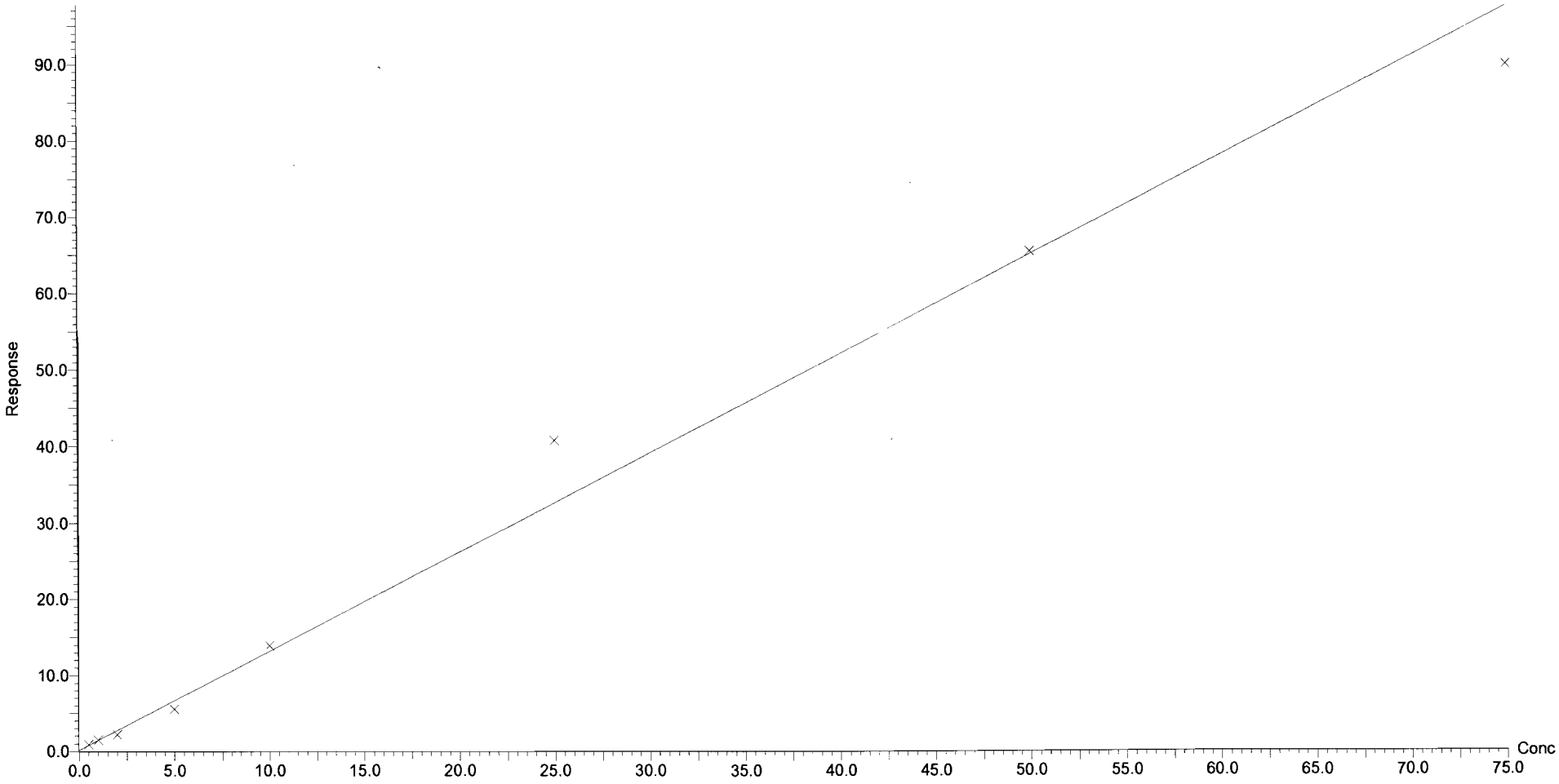
Compound name: PFHpA
Correlation coefficient: r = 0.993436, r^2 = 0.986915
Calibration curve: 1.19442 * x + 0.171662
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

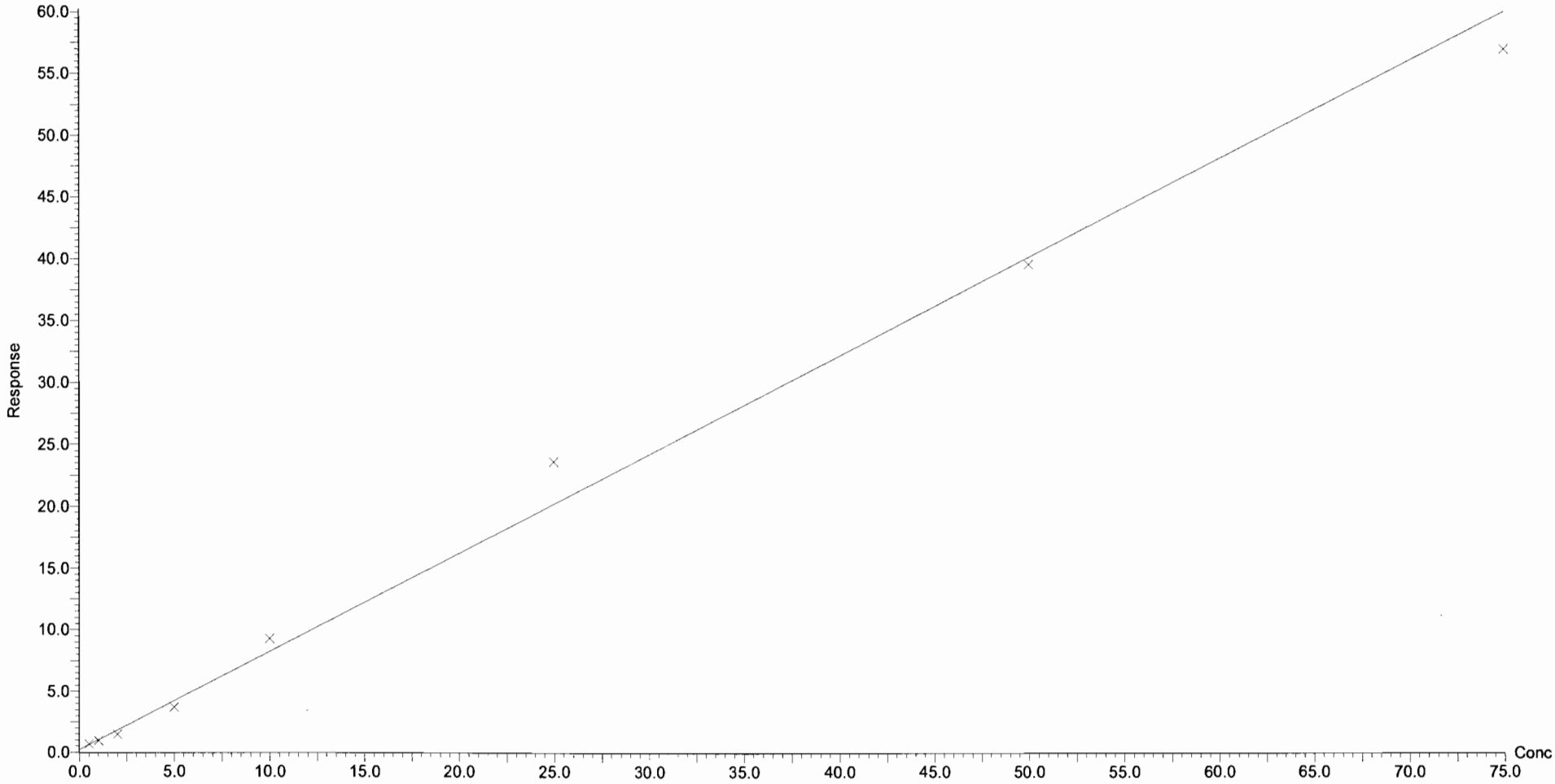
Compound name: PFHxS
Correlation coefficient: r = 0.992500, r^2 = 0.985056
Calibration curve: 1.30086 * x + 0.139374
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

Compound name: PFOA
Correlation coefficient: r = 0.995660, r^2 = 0.991339
Calibration curve: 0.800305 * x + 0.222058
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

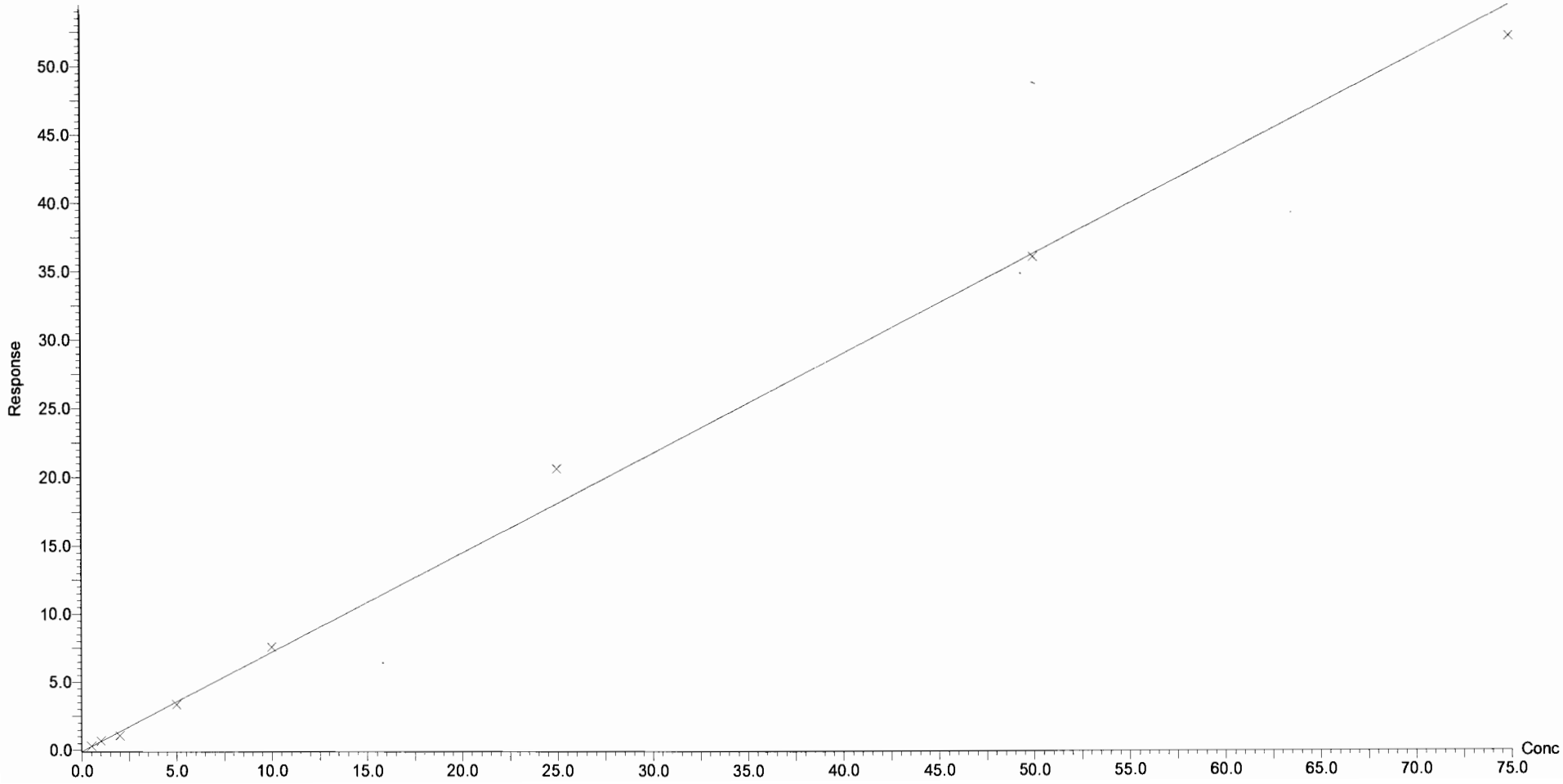


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

Compound name: PFOS
Correlation coefficient: r = 0.997531, r^2 = 0.995068
Calibration curve: 0.727385 * x + -0.0835443
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

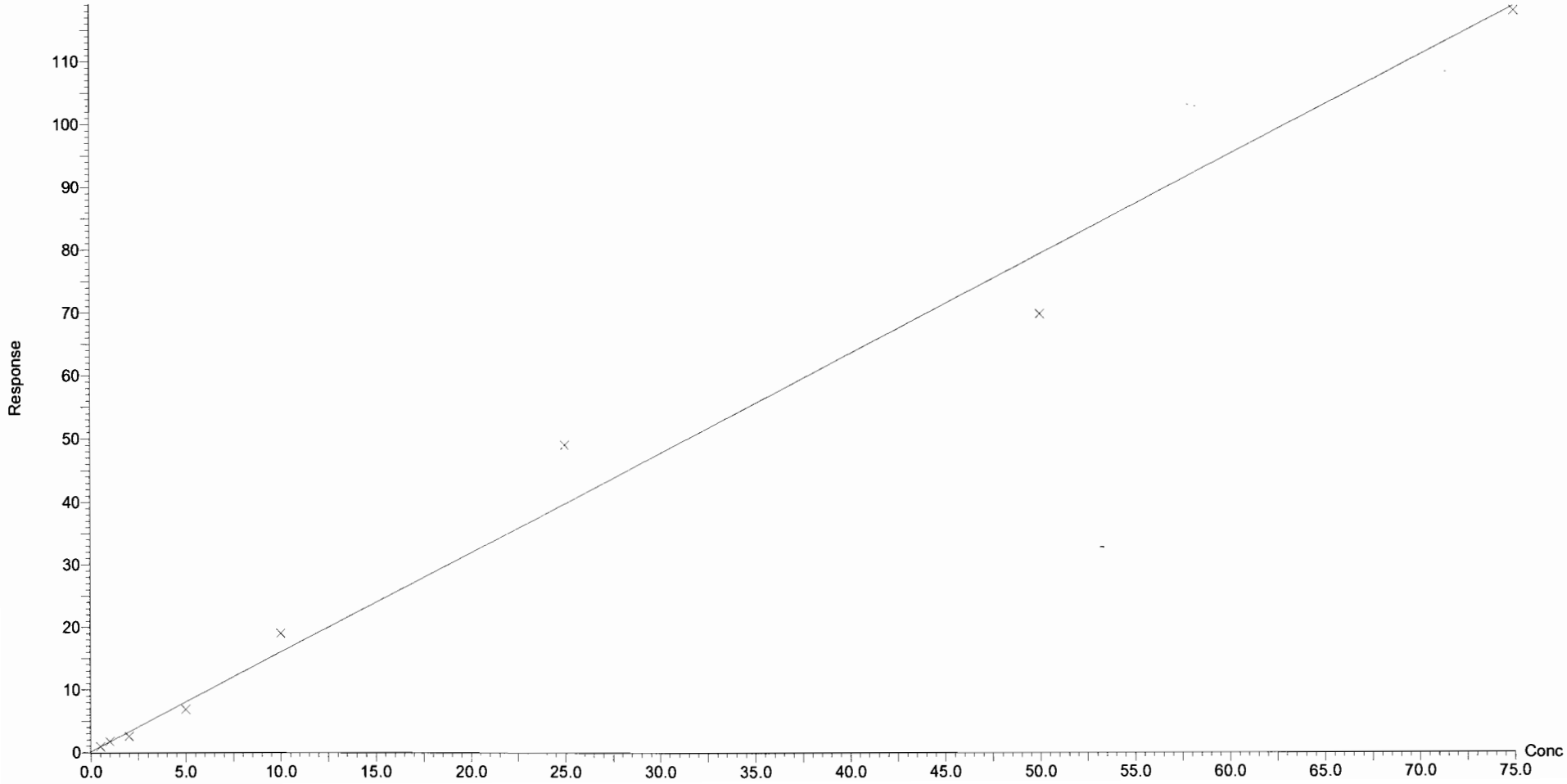


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

Compound name: PFNA
Correlation coefficient: r = 0.991334, r^2 = 0.982742
Calibration curve: 1.58768 * x + 0.131445
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

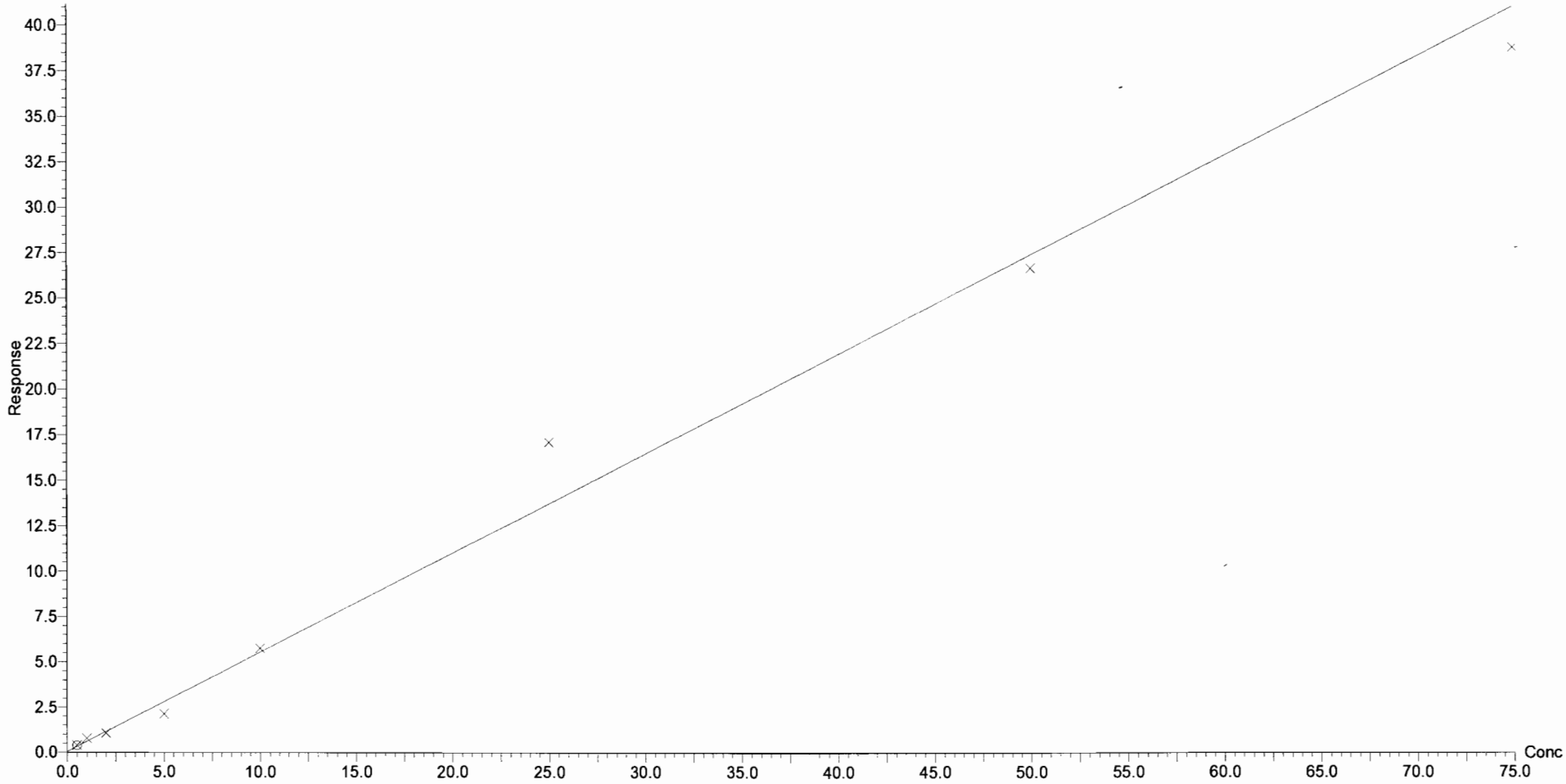


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-CRV.qld

Last Altered: Monday, November 14, 2016 09:22:23 Pacific Standard Time
Printed: Monday, November 14, 2016 09:25:20 Pacific Standard Time

Compound name: PFDA
Correlation coefficient: r = 0.993024, r^2 = 0.986097
Calibration curve: 0.548079 * x + 0.0475241
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

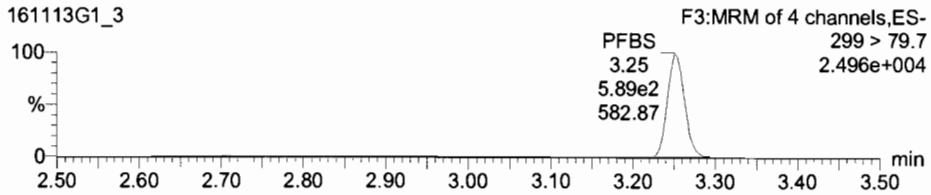
Dataset: Untitled

Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

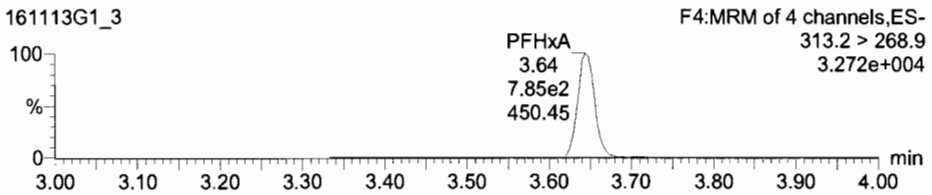
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: 14 Nov 2016 09:09:17

Name: 161113G1_3, Date: 13-Nov-2016, Time: 11:34:46, ID: ST161113G1-2 PFC CS-1 16K1125, Description: PFC CS-1 16K1125 A

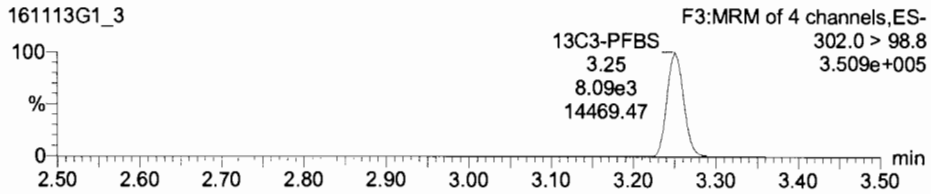
Total PFBS



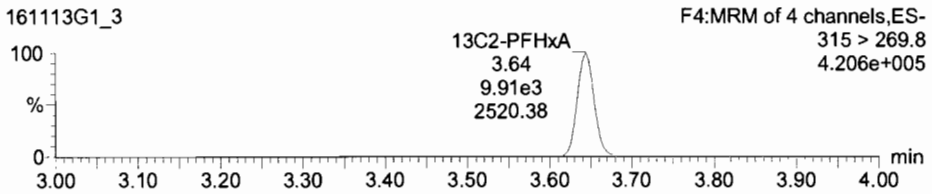
PFHxA



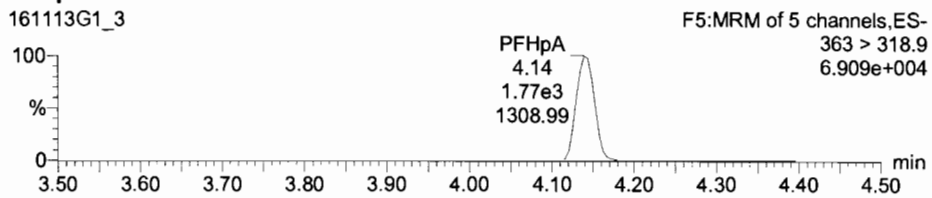
13C3-PFBS



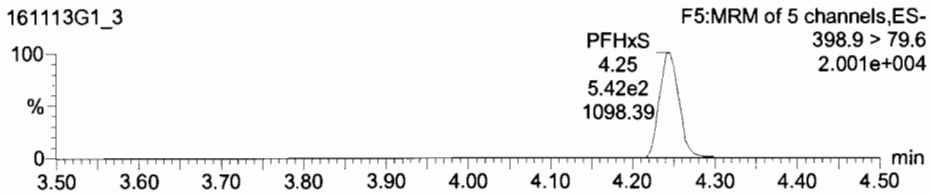
13C2-PFHxA



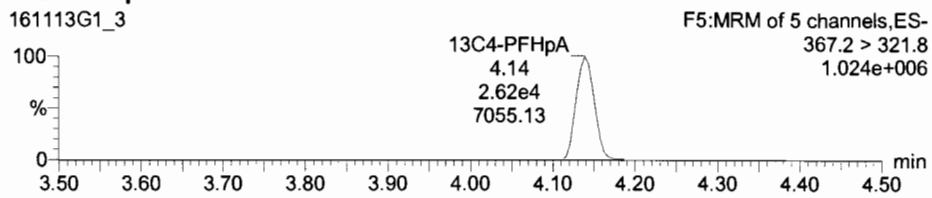
PFHpA



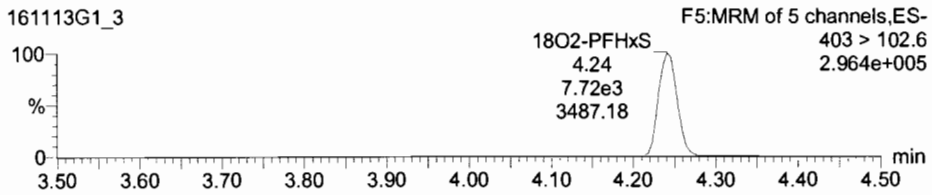
Total PFHxS



13C4-PFHpA



18O2-PFHxS

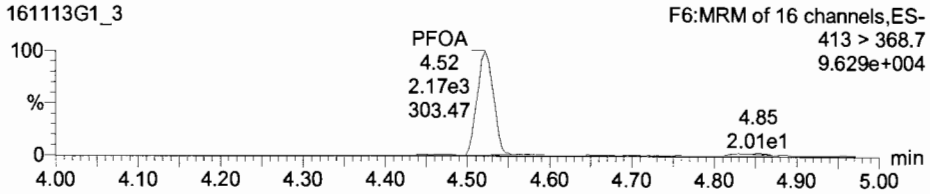


Dataset: Untitled

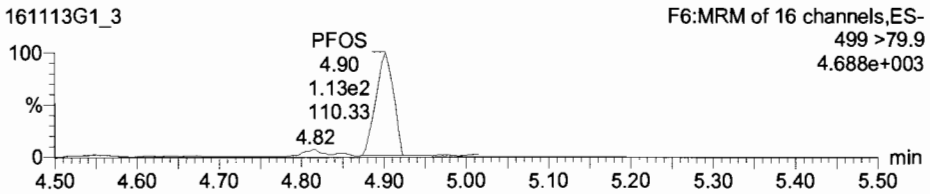
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_3, Date: 13-Nov-2016, Time: 11:34:46, ID: ST161113G1-2 PFC CS-1 16K1125, Description: PFC CS-1 16K1125 A

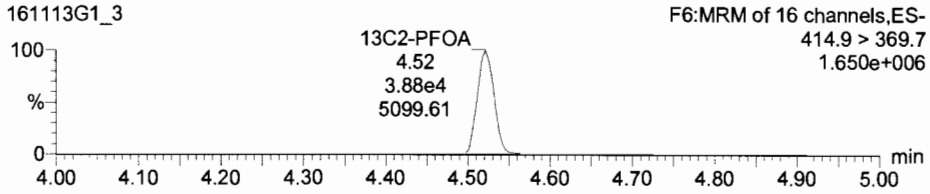
Total PFOA



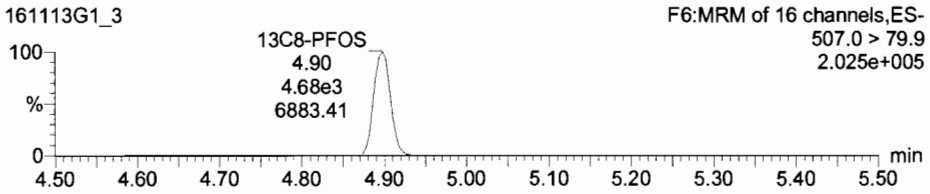
Total PFOS



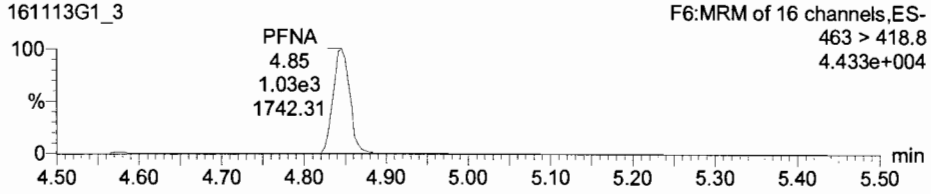
13C2-PFOA



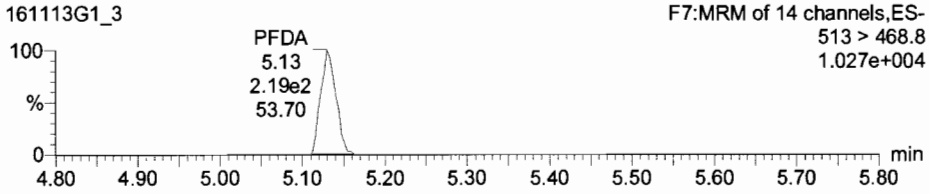
13C8-PFOS



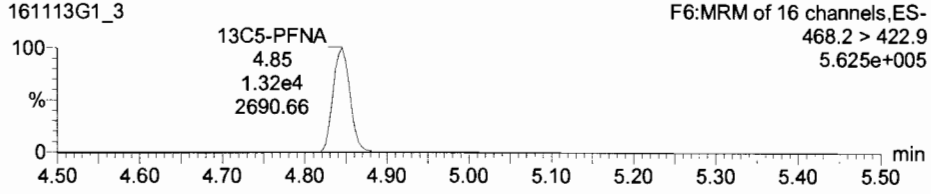
PFNA



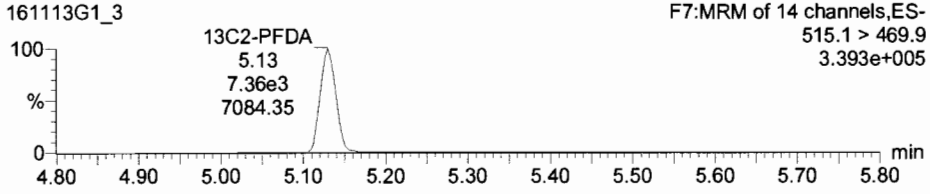
PFDA



13C5-PFNA



13C2-PFDA

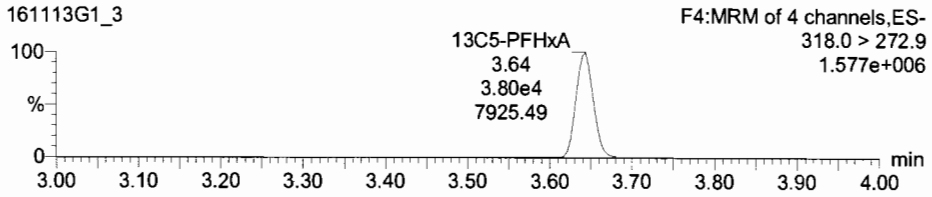


Dataset: Untitled

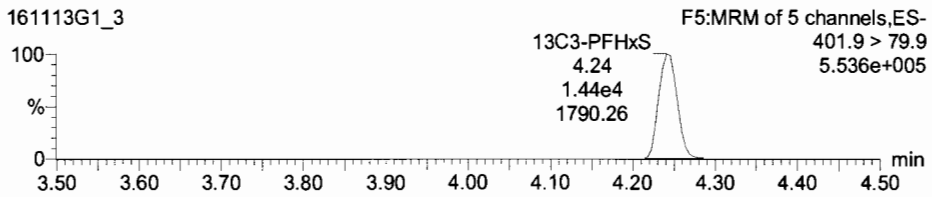
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_3, Date: 13-Nov-2016, Time: 11:34:46, ID: ST161113G1-2 PFC CS-1 16K1125, Description: PFC CS-1 16K1125 A

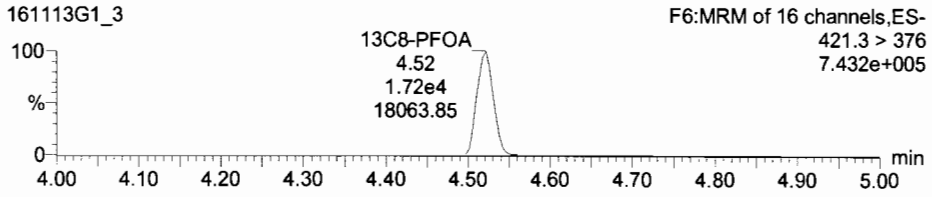
13C5-PFHxA



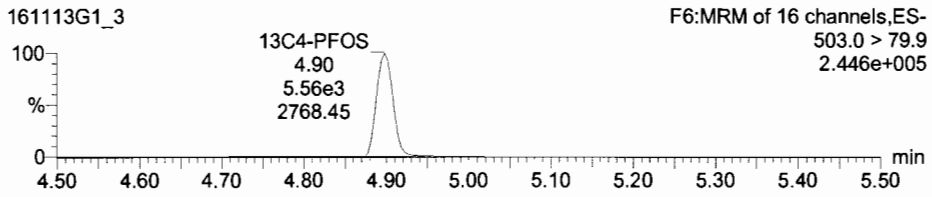
13C3-PFHxS



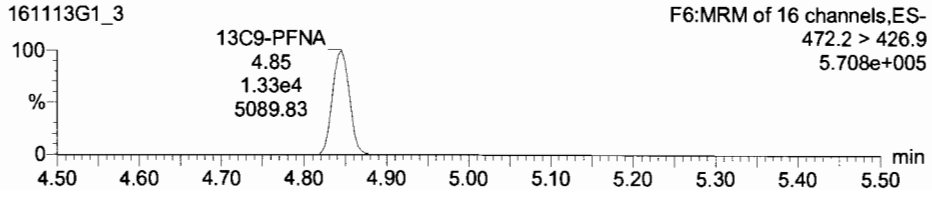
13C8-PFOA



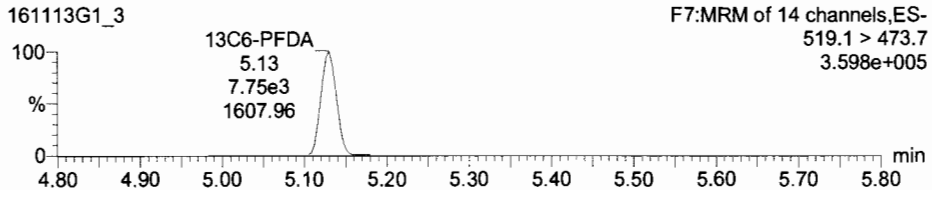
13C4-PFOS



13C9-PFNA



13C6-PFDA

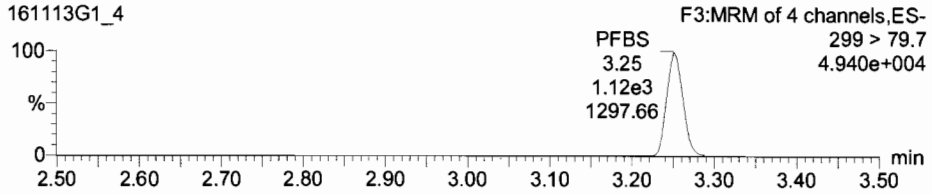


Dataset: Untitled

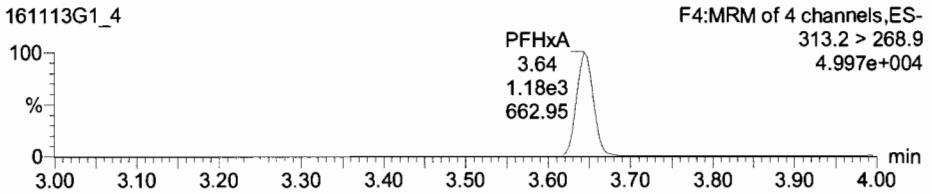
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_4, Date: 13-Nov-2016, Time: 11:47:22, ID: ST161113G1-3 PFC CS0 16K1126, Description: PFC CS0 16K1126 A

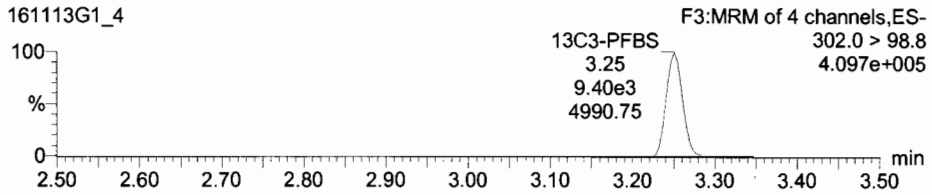
Total PFBS



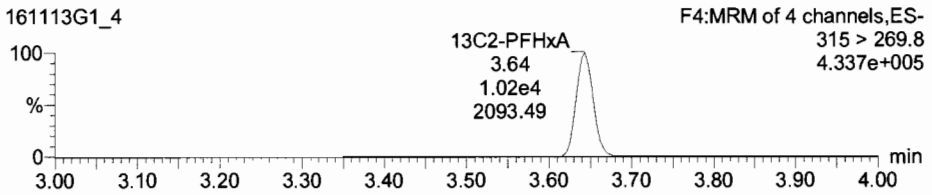
PFHxA



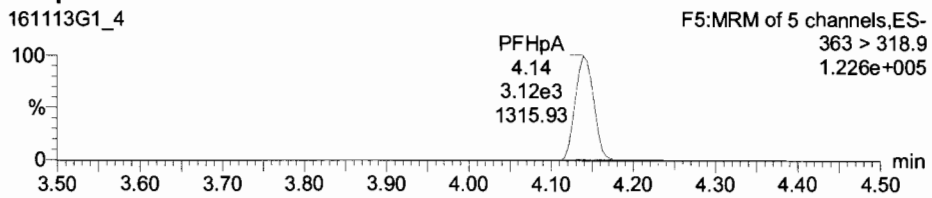
13C3-PFBS



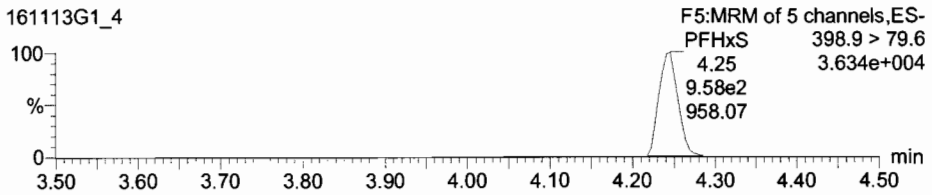
13C2-PFHxA



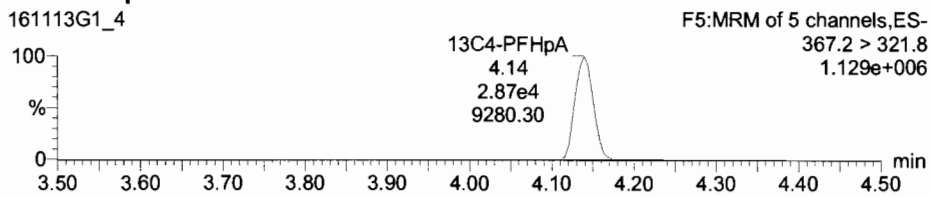
PFHpA



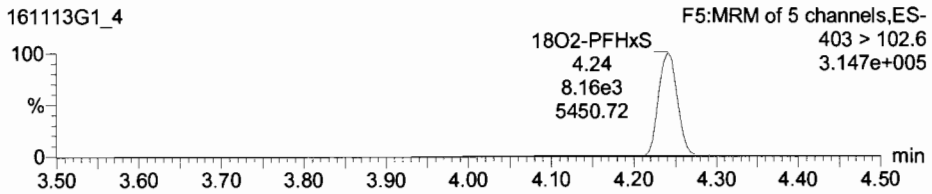
Total PFHxS



13C4-PFHpA



18O2-PFHxS

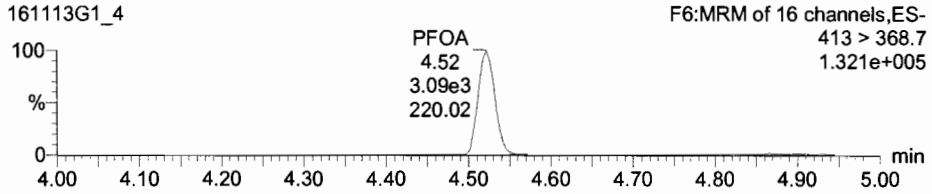


Dataset: Untitled

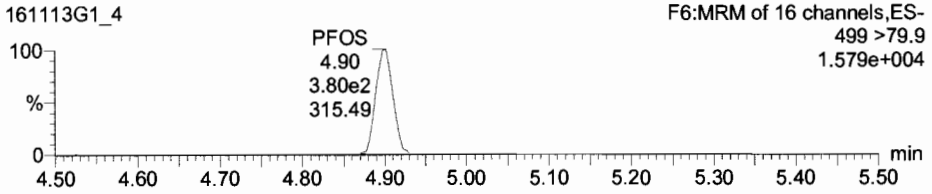
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_4, Date: 13-Nov-2016, Time: 11:47:22, ID: ST161113G1-3 PFC CS0 16K1126, Description: PFC CS0 16K1126 A

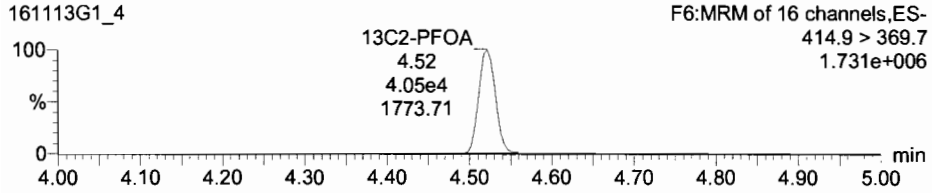
Total PFOA



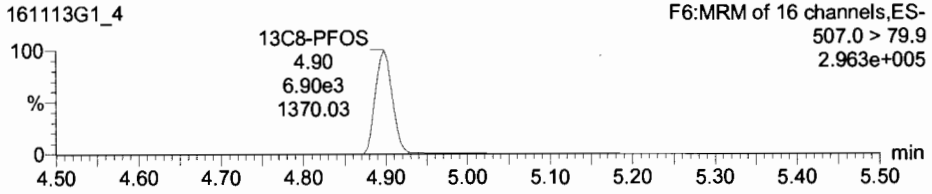
Total PFOS



13C2-PFOA



13C8-PFOS



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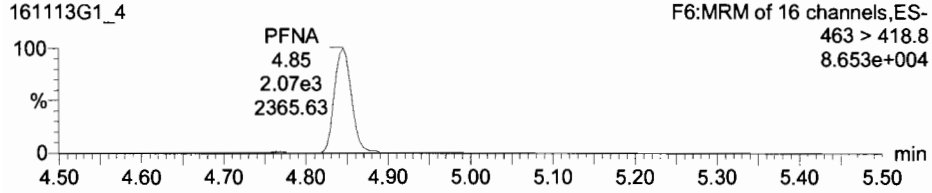

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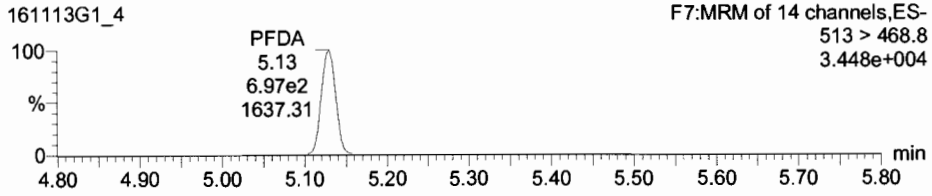
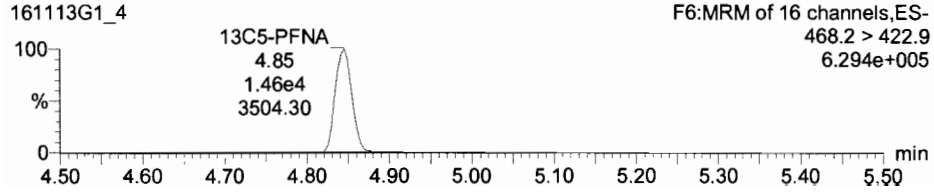


13C5-PFNA



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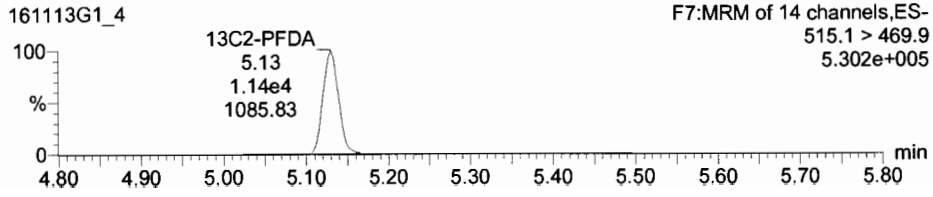

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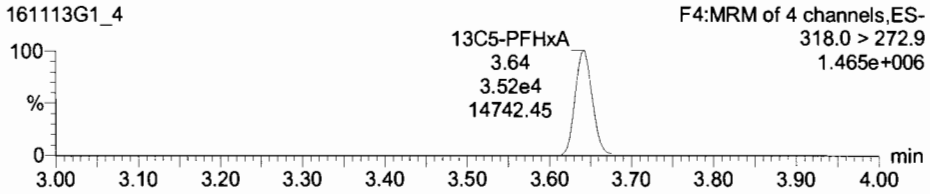
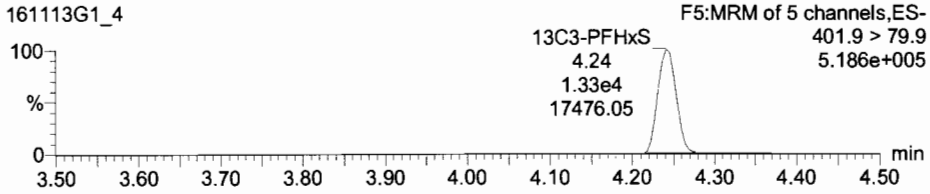
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_4, Date: 13-Nov-2016, Time: 11:47:22, ID: ST161113G1-3 PFC CS0 16K1126, Description: PFC CS0 16K1126 A

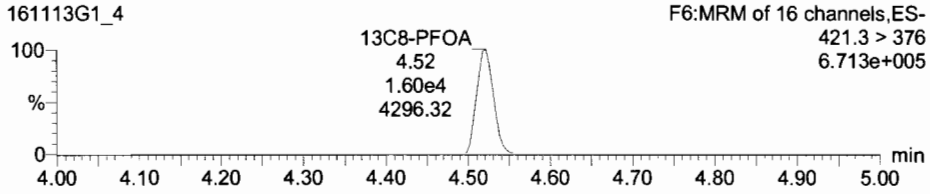
13C5-PFHxA



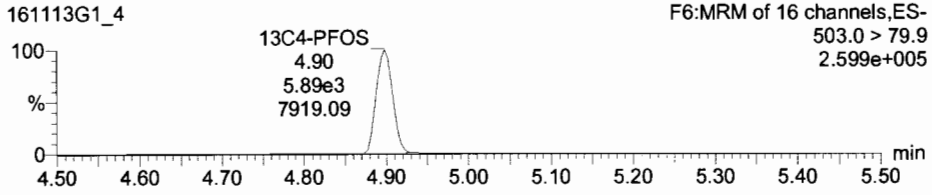
13C3-PFHxS



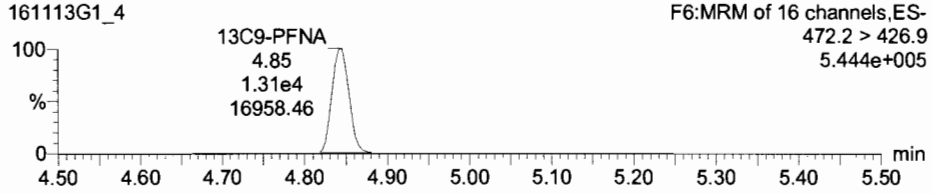
13C8-PFOA



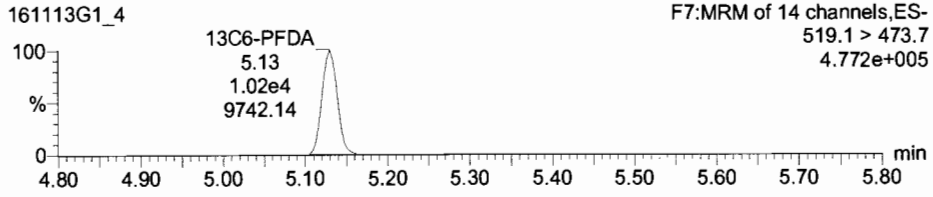
13C4-PFOS



13C9-PFNA



13C6-PFDA



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Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_5, Date: 13-Nov-2016, Time: 12:00:00, ID: ST161113G1-4 PFC CS1 16K1127, Description: PFC CS1 16K1127 A

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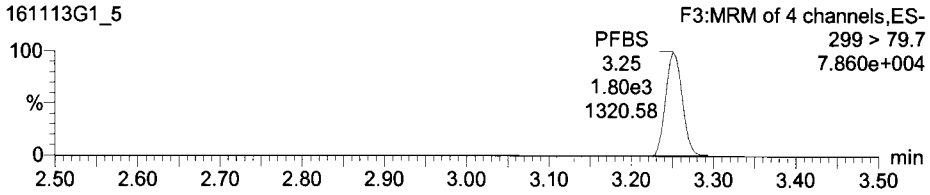
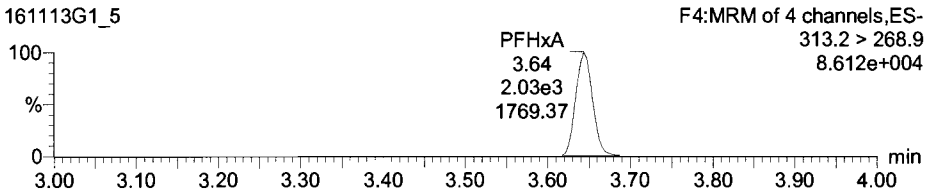


PFHxA



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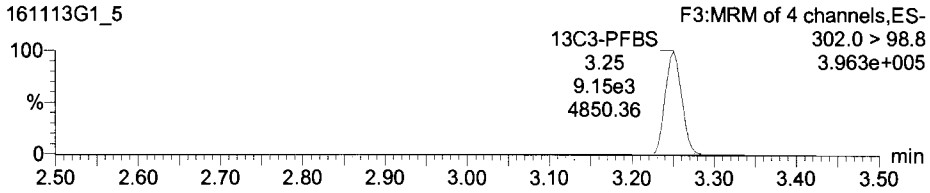

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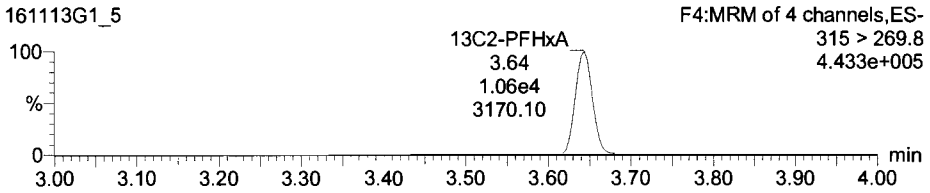
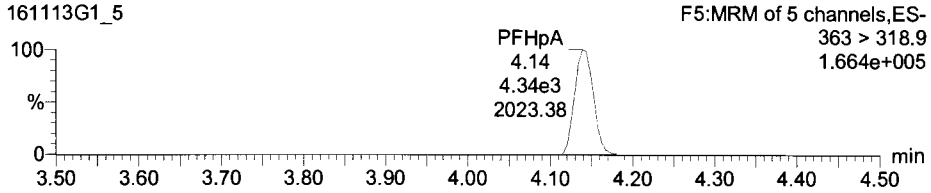


PFHpA



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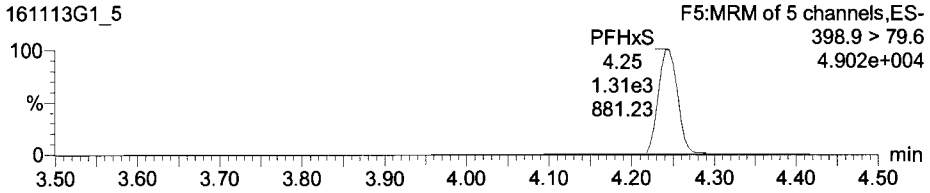

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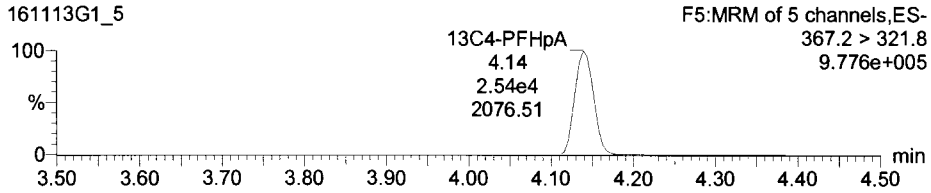
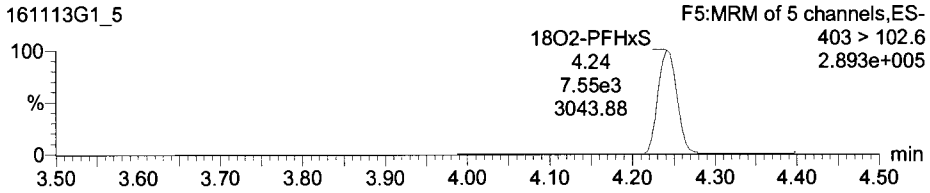


18O2-PFHxS



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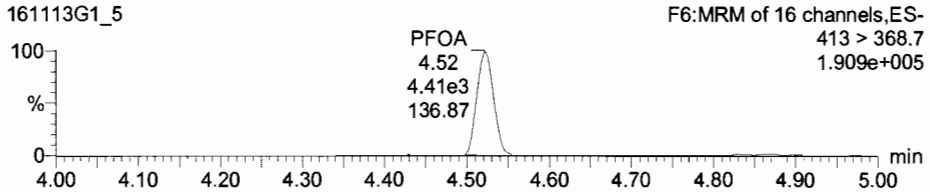
Name: 161113G1_5, Date: 13-Nov-2016, Time: 12:00:00, ID: ST161113G1-4 PFC CS1 16K1127, Description: PFC CS1 16K1127 A

Total PFOA



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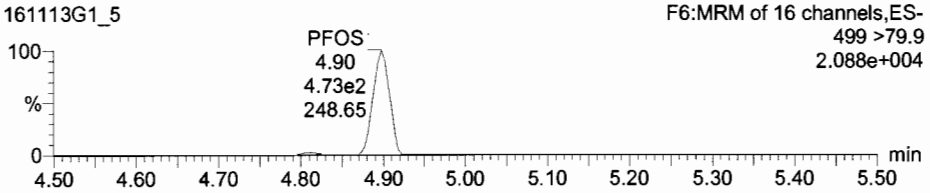

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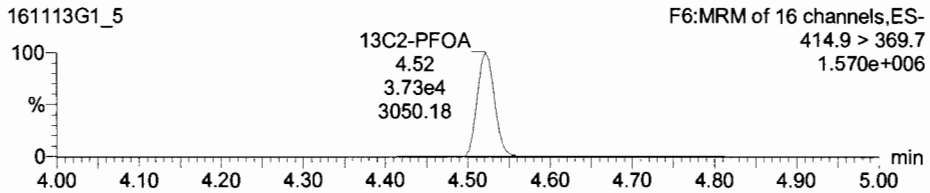

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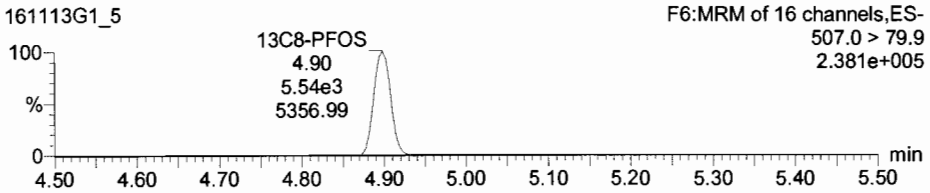

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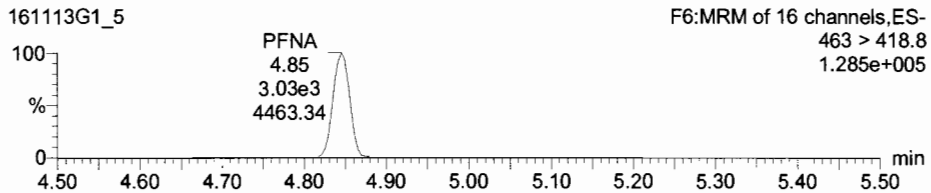

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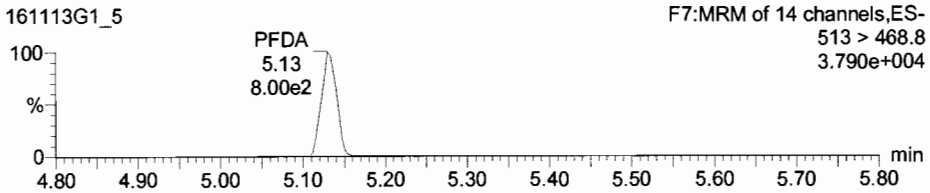
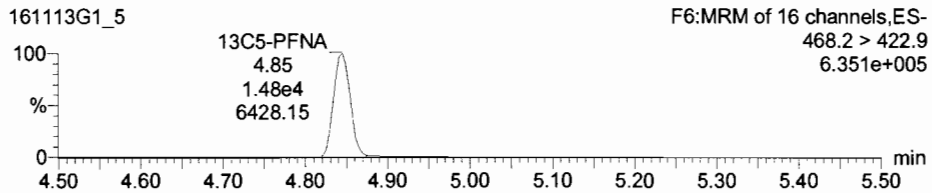


13C5-PFNA



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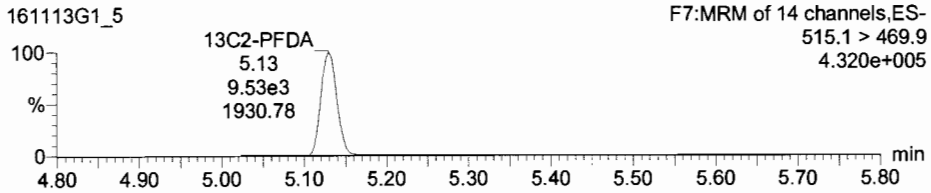

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Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
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Name: 161113G1_5, Date: 13-Nov-2016, Time: 12:00:00, ID: ST161113G1-4 PFC CS1 16K1127, Description: PFC CS1 16K1127 A

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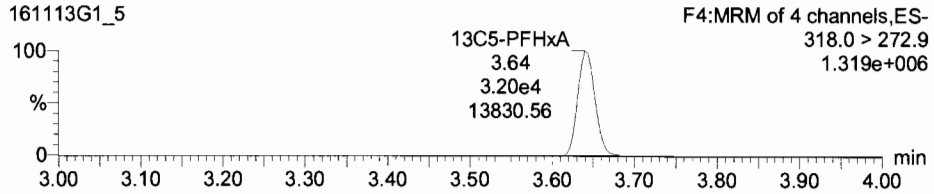

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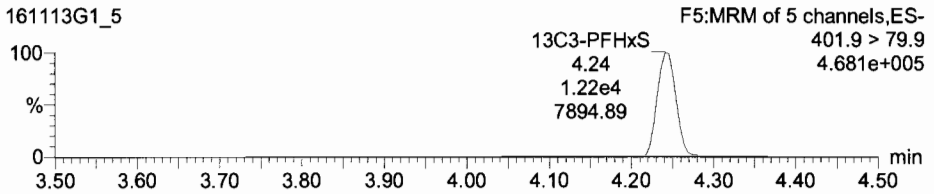
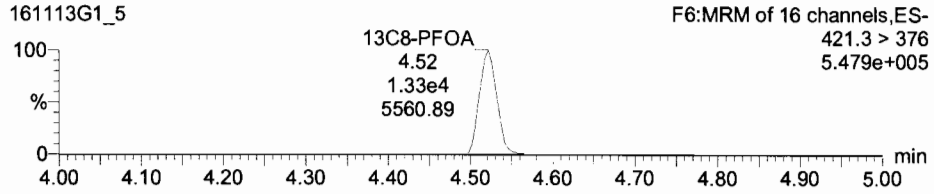
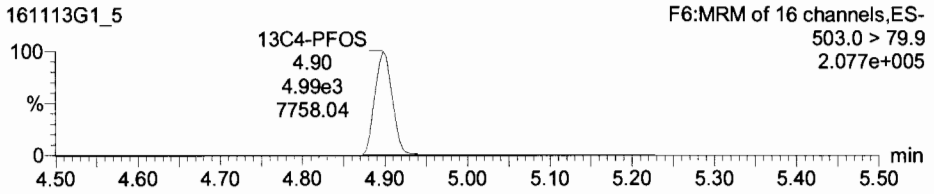


13C8-PFOA



13C4-PFOS



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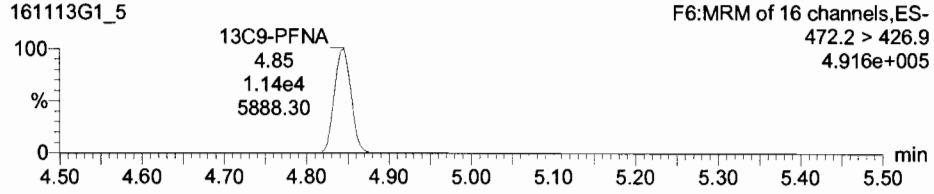
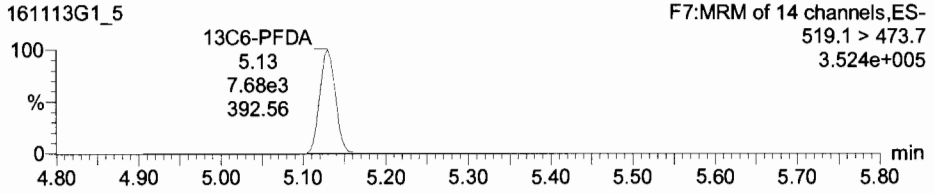


13C6-PFDA



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Name: 161113G1_6, Date: 13-Nov-2016, Time: 12:12:39, ID: ST161113G1-5 PFC CS2 16K1128, Description: PFC CS2 16K1128 A

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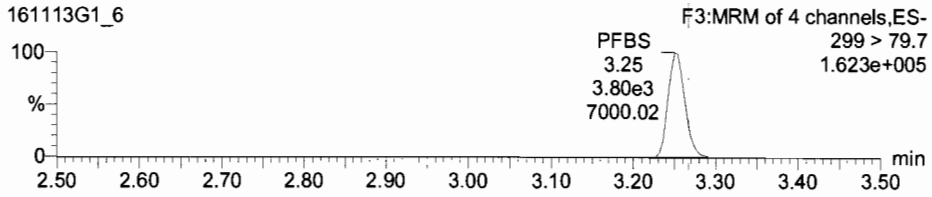

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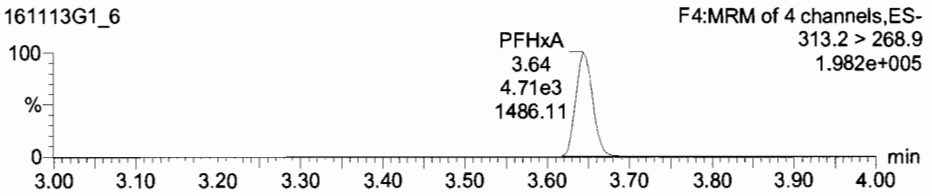

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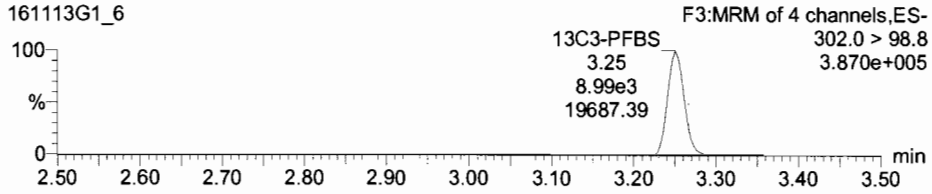

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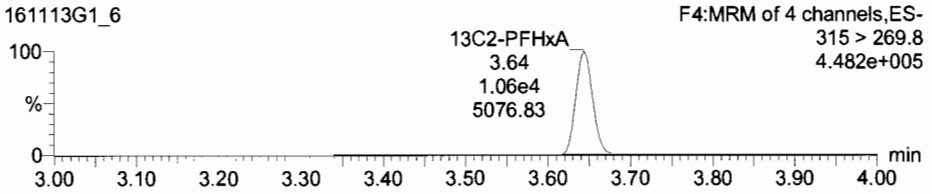

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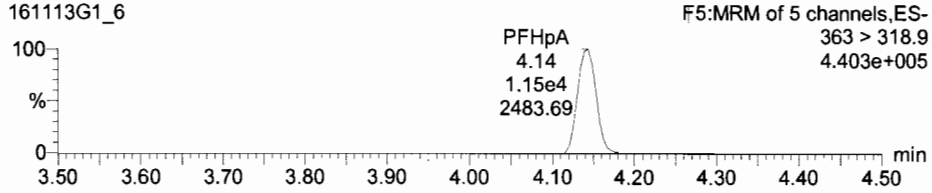

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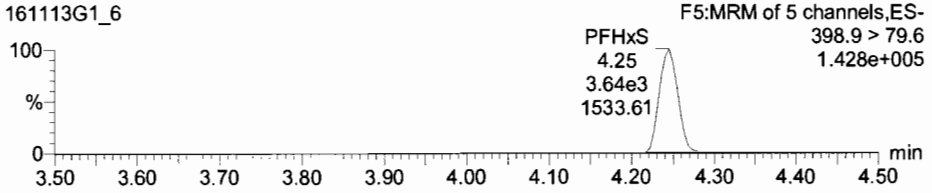

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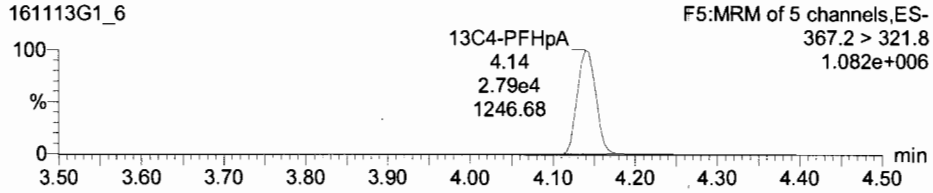
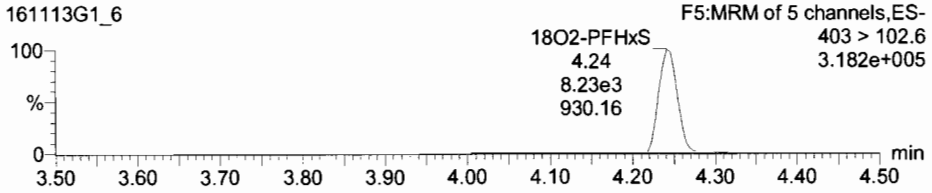


18O2-PFHxS



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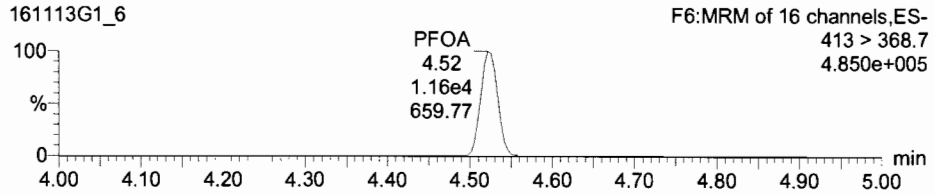
Name: 161113G1_6, Date: 13-Nov-2016, Time: 12:12:39, ID: ST161113G1-5 PFC CS2 16K1128, Description: PFC CS2 16K1128 A

Total PFOA



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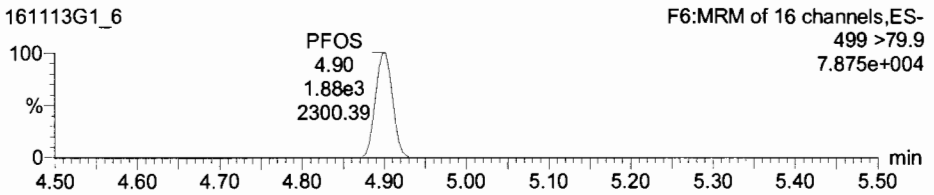

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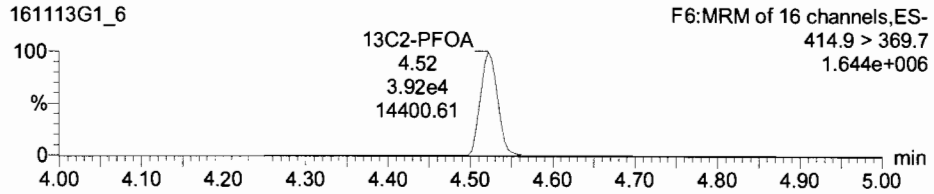

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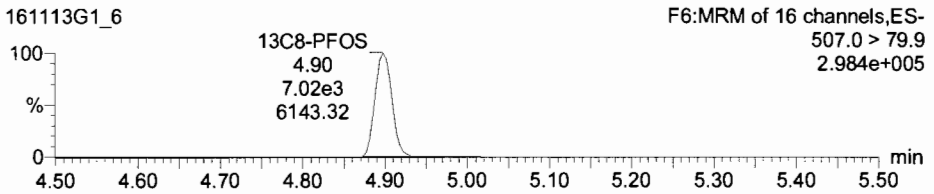

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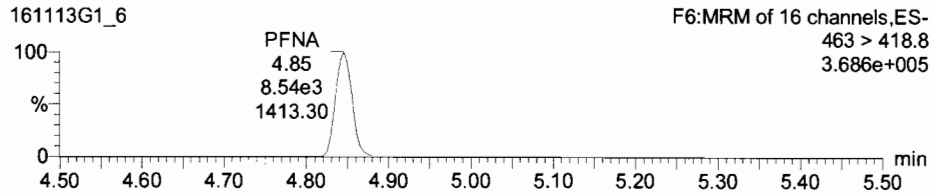
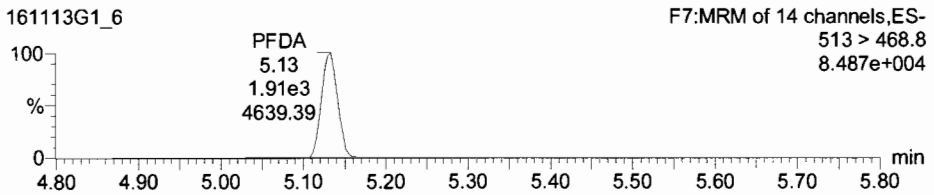
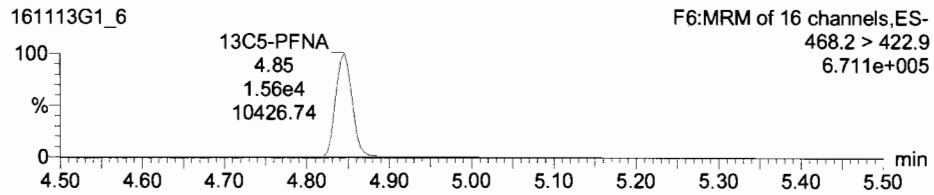


PFDA



13C5-PFNA



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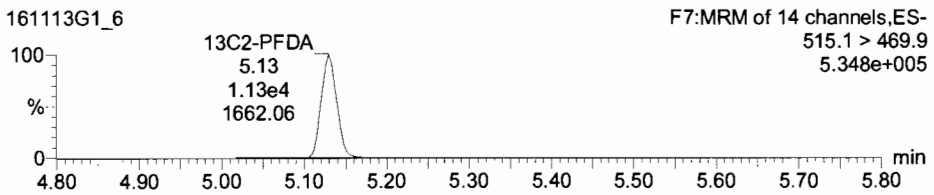
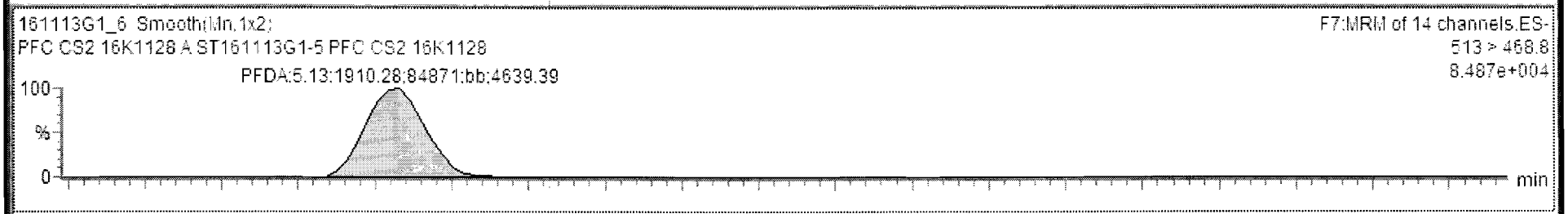


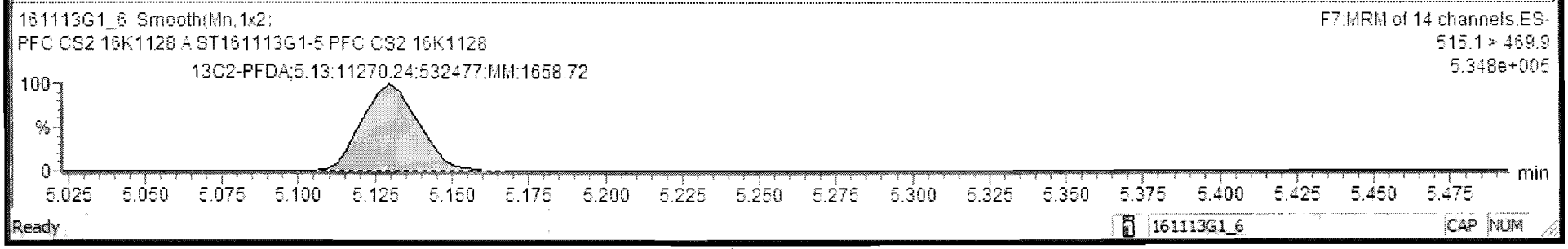
TargetLynx - 161113G1-CRV.qld - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_6 - ST161113G1-5 PFC CS2 16K1128 - PFC CS2 16K1128 A

	Name	Trace	Area	Response	RRF	Wt/VoL	RT	Conc.	%Rec	DL	%RSD	Coeff. Of D...
1	PFBS	299 > 79.7	3.80e3	5.284	1.057	1.000	3.25	3.78	75.6	0.0000000		0.9869
2	PFHxA	313.2 > 268.9	4.71e3	2.227	0.445	1.000	3.64	4.01	80.1	0.0000000		0.9842
3	PFHpA	363 > 318.9	1.15e4	5.135	1.027	1.000	4.14	4.16	83.1	0.0000000		0.9869
4	PFHxS	398.9 > 79.6	3.64e3	5.528	1.106	1.000	4.25	4.14	82.8	0.0000000		0.9851
5	PFOA	413 > 368.7	1.16e4	3.693	0.739	1.000	4.52	4.34	86.7	0.0000000		0.9913
6	PFOS	499 >79.9	1.88e3	3.348	0.670	1.000	4.90	4.72	94.4	0.1197636		0.9951
7	PFNA	463 > 418.8	8.54e3	6.854	1.371	1.000	4.85	4.23	84.7	0.0000000		0.9827
8	PFDA	513 > 468.8	1.91e3	2.119	0.424	1.000	5.13	3.75	75.0	0.0000000		0.9862
9	13C3-PFBS	302.0 > 98.8	8.99e3	3.434	0.275	1.000	3.25	13.7	110.0	0.0017850	13.7	
10	13C2-PFHxA	315 > 269.8	1.06e4	4.040	0.808	1.000	3.64	5.45	109.0	0.0026978	12.8	
11	13C4-PFHpA	367.2 > 321.8	2.79e4	28.342	2.267	1.000	4.14	13.6	109.2	0.0273797	10.8	
12	18O2-PFHxS	403 > 102.6	8.23e3	8.347	0.668	1.000	4.24	13.8	110.8	0.0372324	12.7	
13	13C2-PFOA	414.9 > 369.7	3.92e4	31.375	2.510	1.000	4.52	12.9	102.9	0.0022195	11.2	
14	13C8-PFOS	507.0 > 79.9	7.02e3	14.052	1.124	1.000	4.90	13.3	106.5	0.0053721	14.3	
15	13C5-PFNA	468.2 > 422.9	1.56e4	16.036	1.283	1.000	4.85	13.9	110.8	0.0033300	14.0	
16	13C2-PFDA	515.1 > 469.9	1.13e4	14.806	1.185	1.000	5.13	12.7	101.8	0.0196539	16.6	
17	13C5-PFHxA	318.0 > 272.9	3.27e4	12.500	1.000	1.000	3.64	12.5	100.0	0.0023257	0.000000...	





Ready 161113G1_6 CAP NUM

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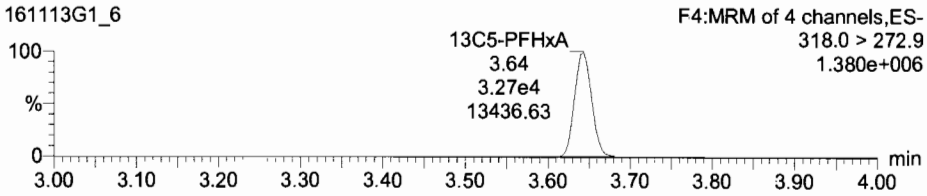
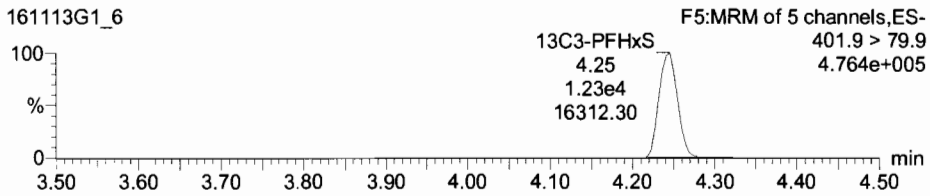
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_6, Date: 13-Nov-2016, Time: 12:12:39, ID: ST161113G1-5 PFC CS2 16K1128, Description: PFC CS2 16K1128 A

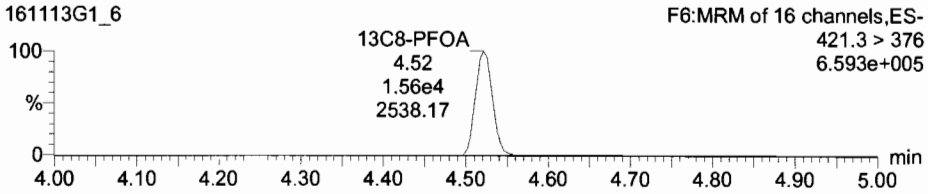
13C5-PFHxA



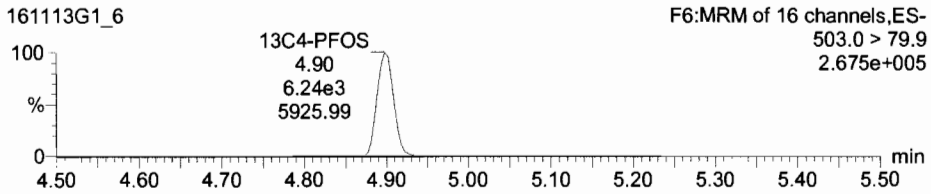
13C3-PFHxS



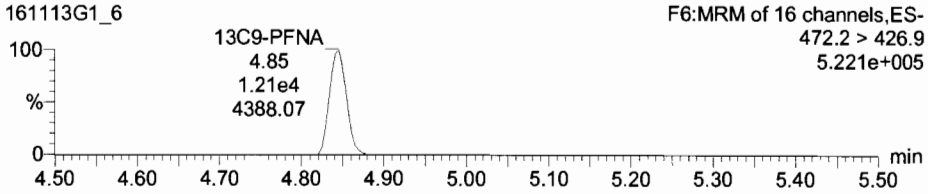
13C8-PFOA



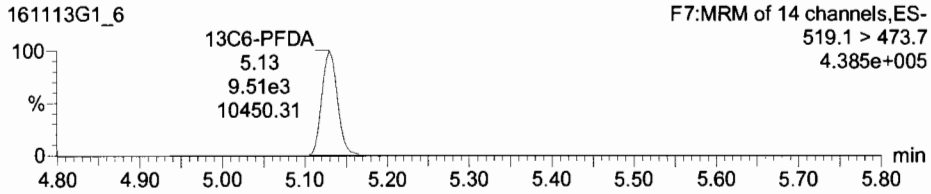
13C4-PFOS



13C9-PFNA



13C6-PFDA



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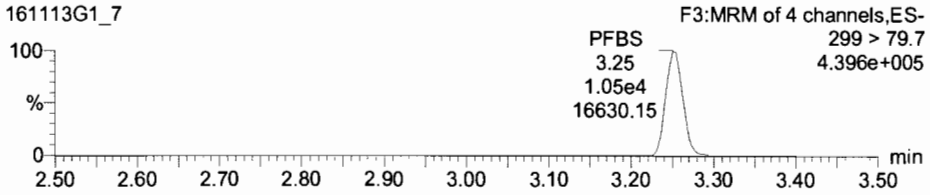
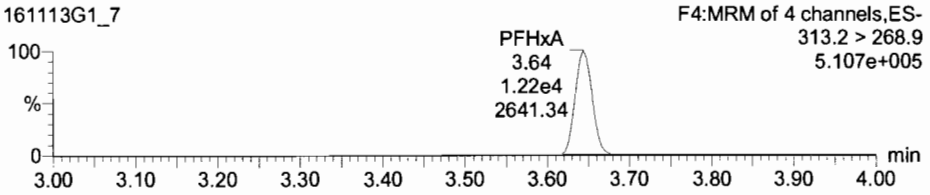
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_7, Date: 13-Nov-2016, Time: 12:25:17, ID: ST161113G1-6 PFC CS3 16K1129, Description: PFC CS3 16K1129 A

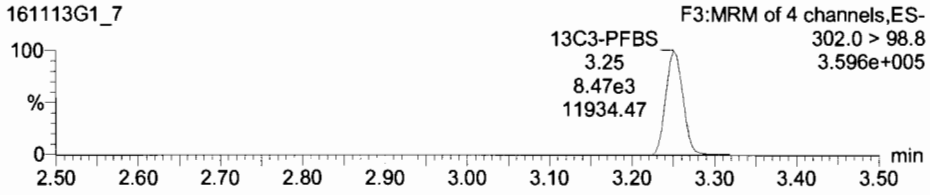
Total PFBS



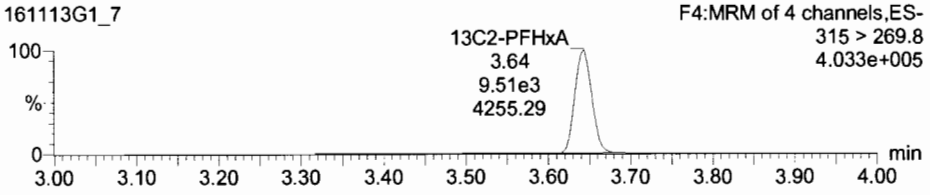
PFHxA



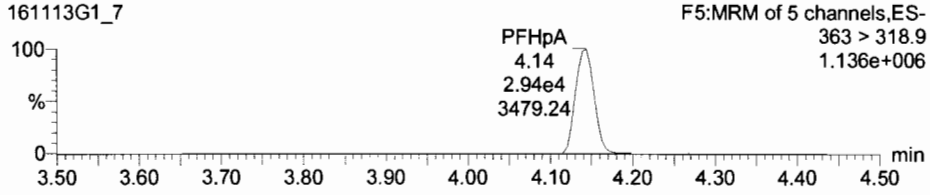
13C3-PFBS



13C2-PFHxA



PFHpA



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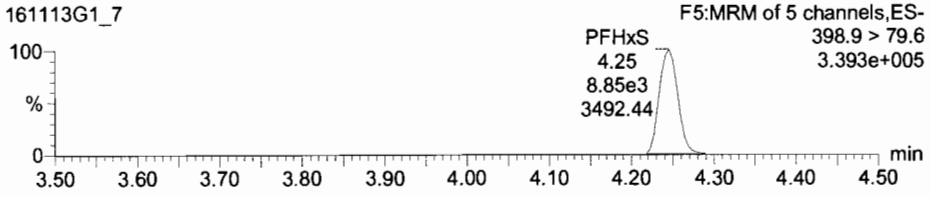
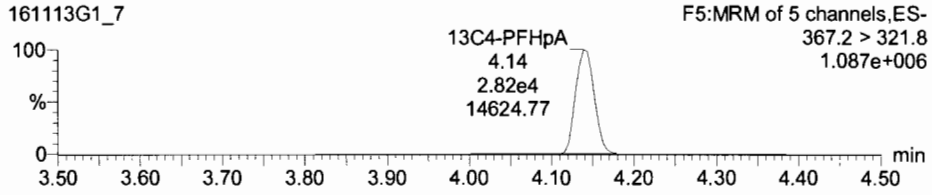
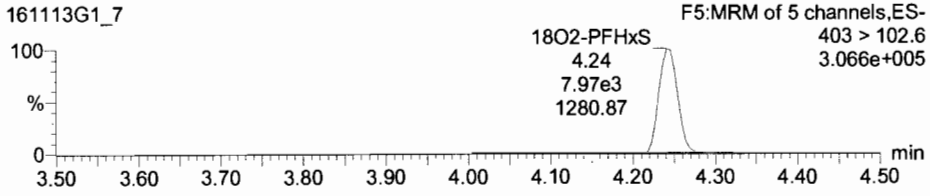


13C4-PFHpA



18O2-PFHxS



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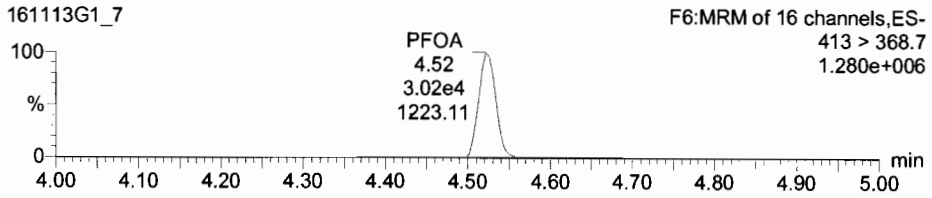
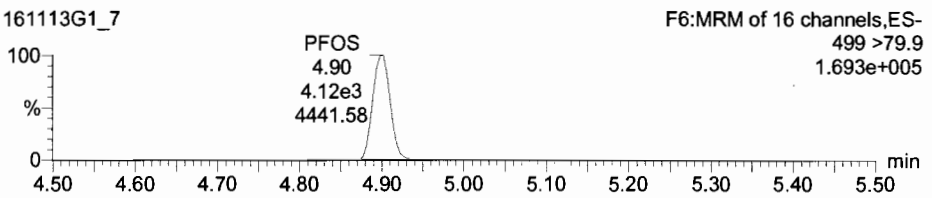
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_7, Date: 13-Nov-2016, Time: 12:25:17, ID: ST161113G1-6 PFC CS3 16K1129, Description: PFC CS3 16K1129 A

Total PFOA



Total PFOS



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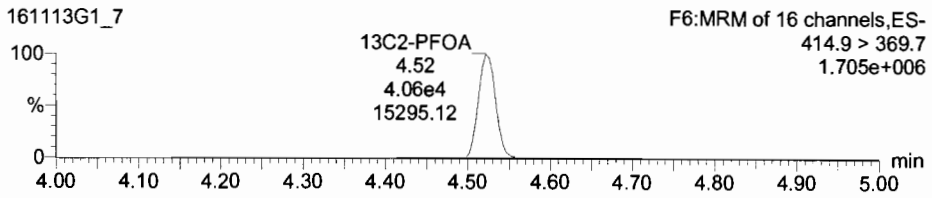
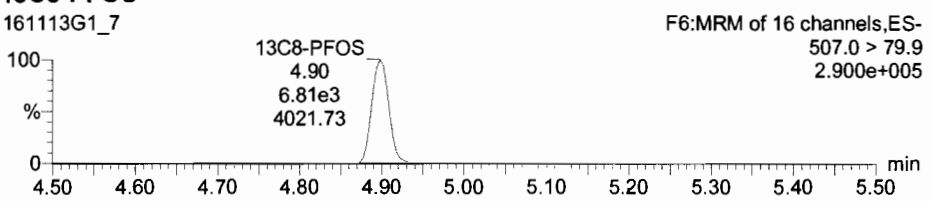


13C8-PFOS



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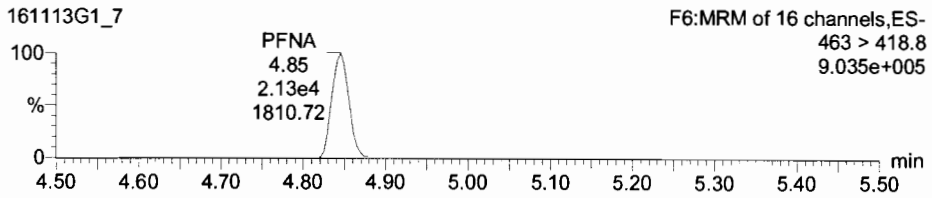

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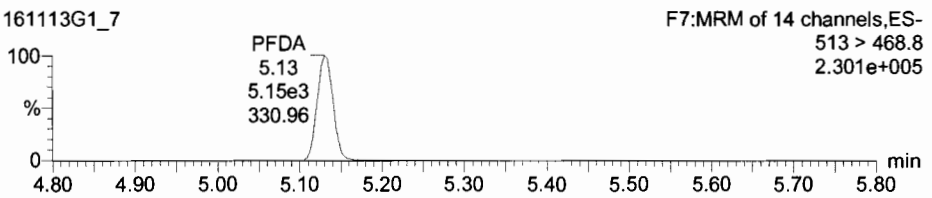
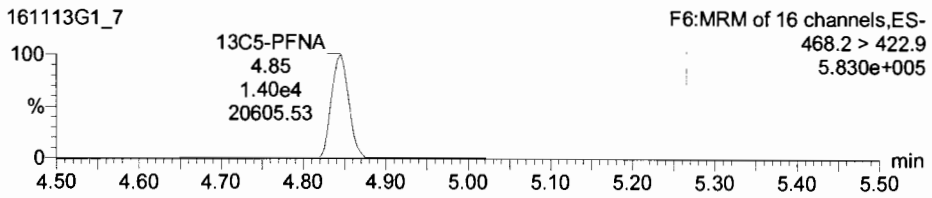


13C5-PFNA



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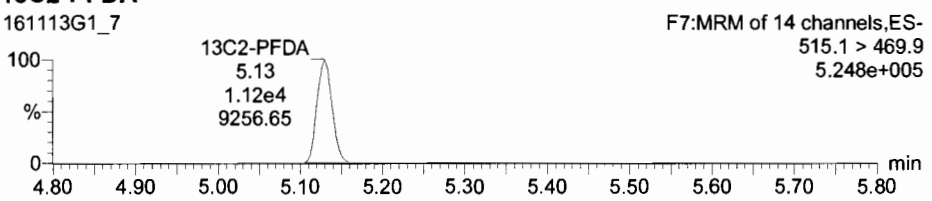

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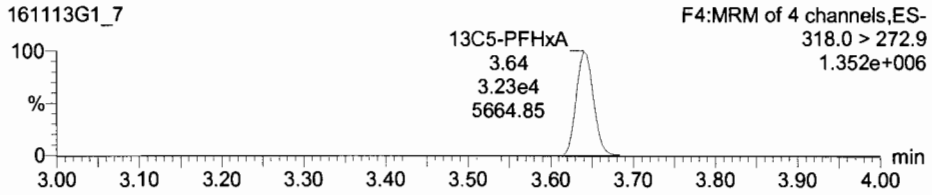
Name: 161113G1_7, Date: 13-Nov-2016, Time: 12:25:17, ID: ST161113G1-6 PFC CS3 16K1129, Description: PFC CS3 16K1129 A

13C5-PFHxA



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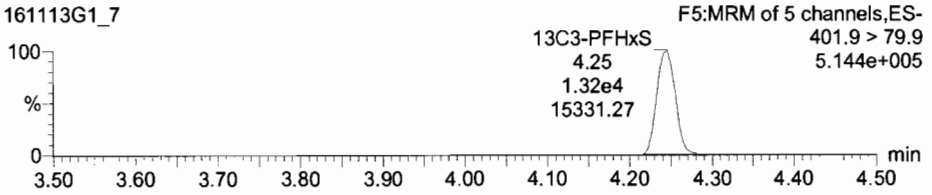
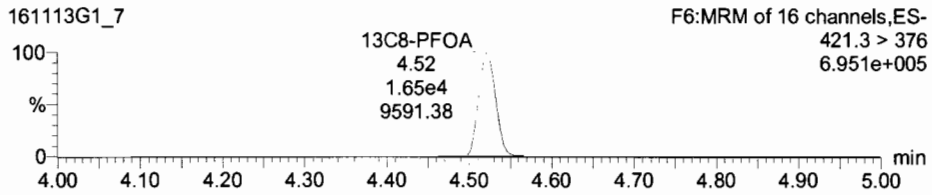
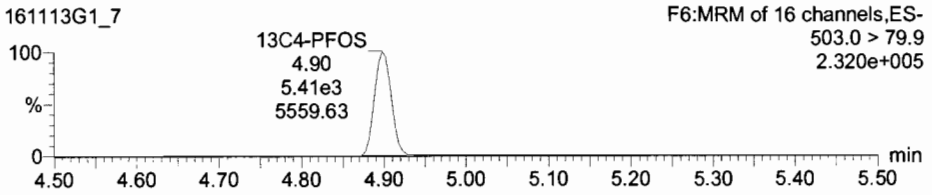


13C8-PFOA



13C4-PFOS



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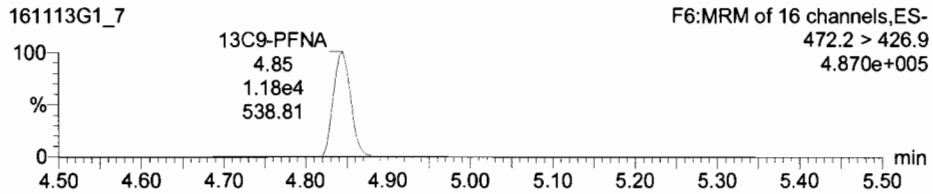
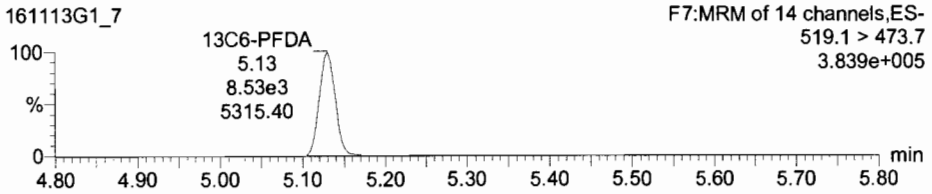


13C6-PFDA



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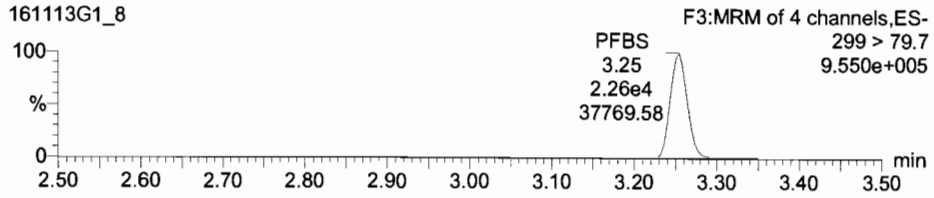
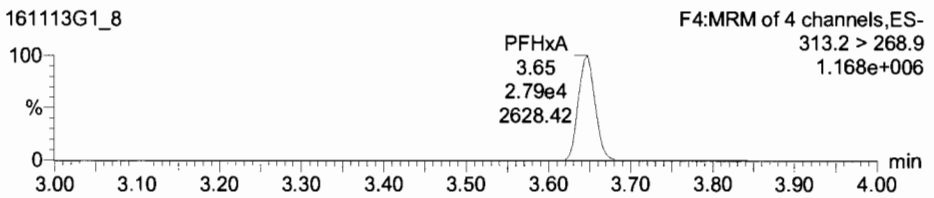
Name: 161113G1_8, Date: 13-Nov-2016, Time: 12:37:58, ID: ST161113G1-7 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

Total PFBS



PFHxA



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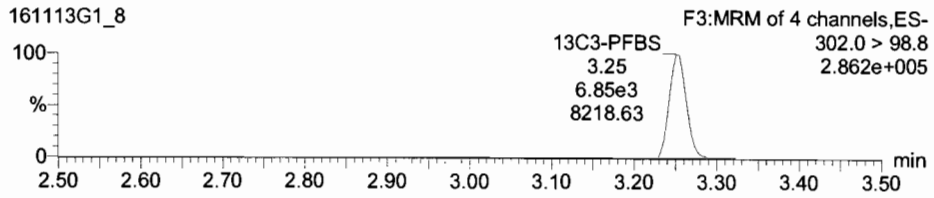

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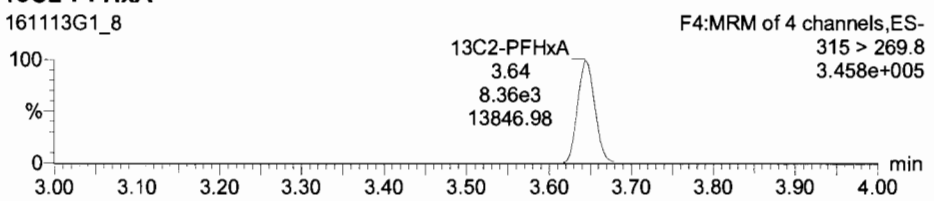
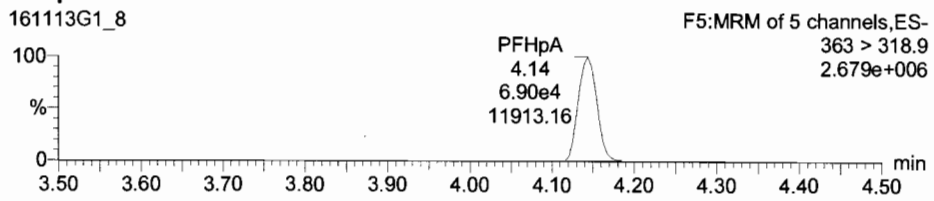


PFHpA



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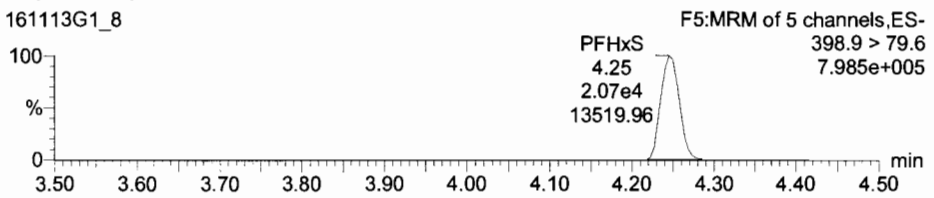

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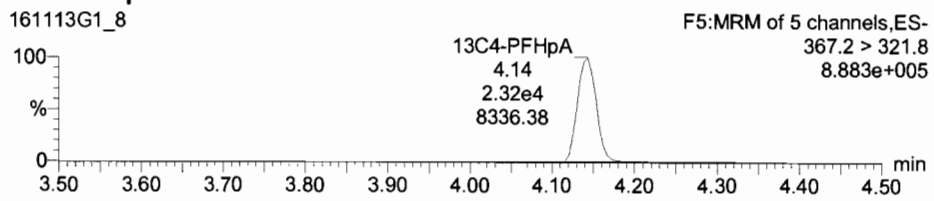
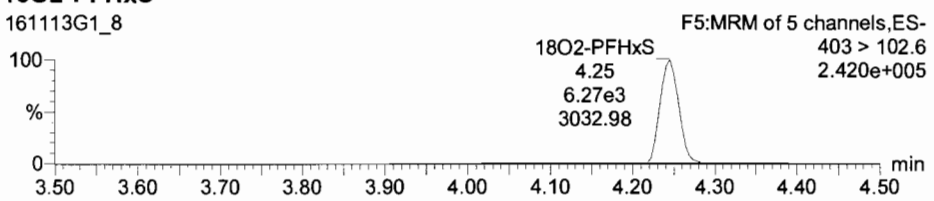


18O2-PFHxS

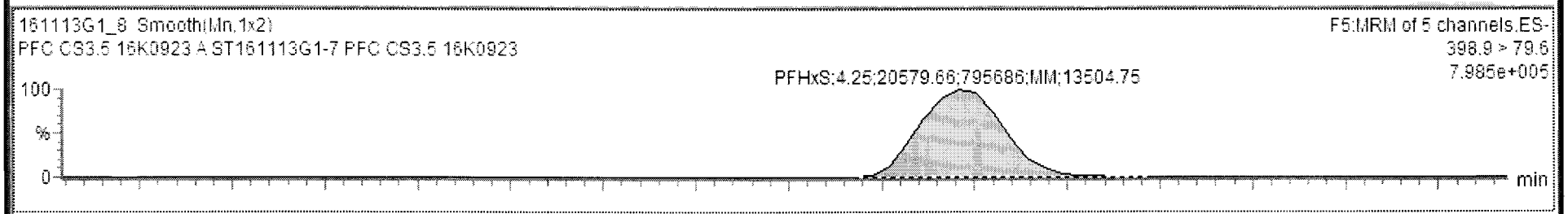


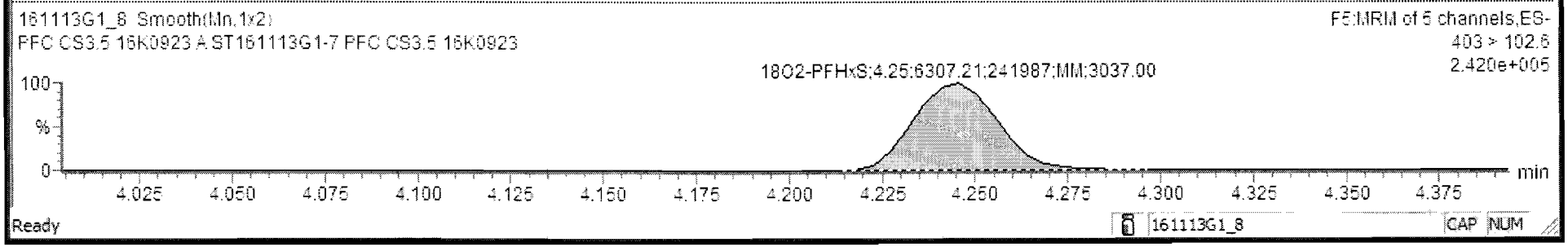
TargetLynx - 161113G1-CRV.qld - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_8 - ST161113G1-7 PFC CS3.5 16K0923 - PFC CS3.5 16K0923 A

	Name	Trace	Area	Response	RRF	Wt/VoL	RT	Conc.	%Rec	DL	%RSD	Coeff. Of D...
1	PFBS	299 > 79.7	2.26e4	41.168	1.647	1.000	3.25	30.1	120.2	0.0000000		0.9869
2	PFHxA	313.2 > 268.9	2.79e4	16.662	0.666	1.000	3.65	31.1	124.3	0.0000000		0.9842
3	PFHpA	363 > 318.9	6.90e4	37.241	1.490	1.000	4.14	31.0	124.1	0.0000000		0.9869
4	PFHxS	398.9 > 79.6	2.06e4	40.786	1.631	1.000	4.25	31.2	125.0	0.0000000		0.9851
5	PFOA	413 > 368.7	6.61e4	23.657	0.946	1.000	4.53	29.3	117.1	0.0000000		0.9913
6	PFOS	499 >79.9	8.64e3	20.638	0.826	1.000	4.90	28.5	114.0	0.1352703		0.9951
7	PFNA	463 > 418.8	4.61e4	49.063	1.963	1.000	4.85	30.8	123.3	0.0000000		0.9827
8	PFDA	513 > 468.8	9.45e3	17.105	0.684	1.000	5.13	31.1	124.5	0.0000000		0.9862
9	13C3-PFBS	302.0 > 98.8	6.85e3	2.292	0.183	1.000	3.25	9.18	73.4	0.0028420	13.7	
10	13C2-PFHxA	315 > 269.8	8.36e3	2.797	0.559	1.000	3.64	3.77	75.5	0.0006873	12.8	
11	13C4-PFHpA	367.2 > 321.8	2.32e4	20.720	1.658	1.000	4.14	9.98	79.8	0.0030063	10.8	
12	18O2-PFHxS	403 > 102.6	6.31e3	5.643	0.451	1.000	4.25	9.36	74.9	0.0077578	12.7	
13	13C2-PFOA	414.9 > 369.7	3.49e4	23.496	1.880	1.000	4.53	9.64	77.1	0.0222173	11.2	
14	13C8-PFOS	507.0 > 79.9	5.23e3	10.741	0.859	1.000	4.90	10.2	81.4	0.0294796	14.3	
15	13C5-PFNA	468.2 > 422.9	1.18e4	10.882	0.855	1.000	4.85	9.23	73.8	0.0014979	14.0	
16	13C2-PFDA	515.1 > 469.9	6.91e3	10.208	0.817	1.000	5.13	8.77	70.2	0.0019706	16.6	
17	13C5-PFHxA	318.0 > 272.9	3.74e4	12.500	1.000	1.000	3.64	12.5	100.0	0.0028158	0.000000...	





Ready 161113G1_8 CAP NUM

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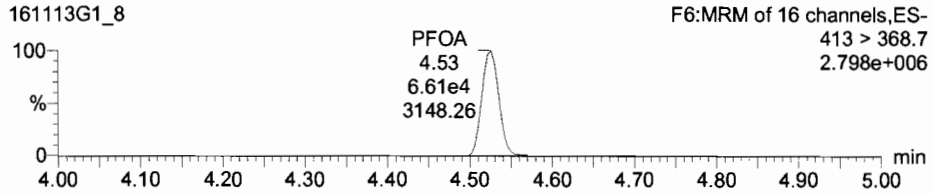
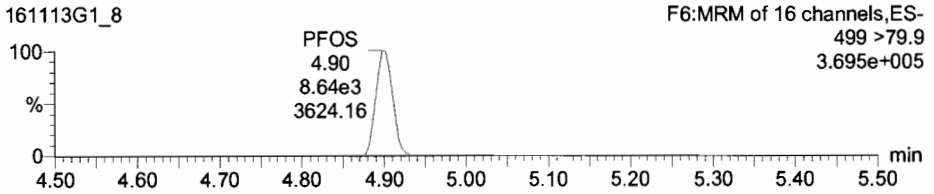
Last Altered: Monday, November 14, 2016 09:09:18 Pacific Standard Time
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_8, Date: 13-Nov-2016, Time: 12:37:58, ID: ST161113G1-7 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

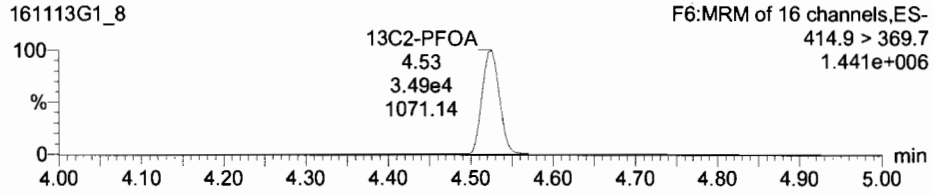
Total PFOA



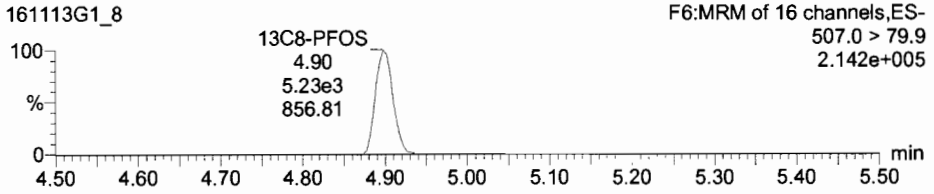
Total PFOS



13C2-PFOA



13C8-PFOS



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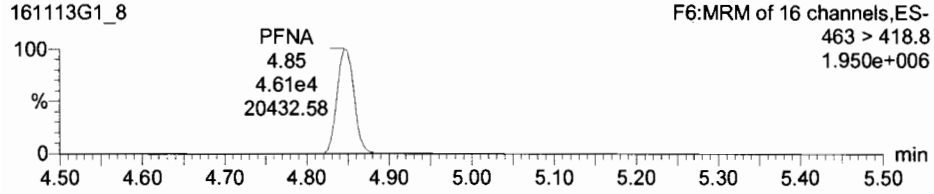

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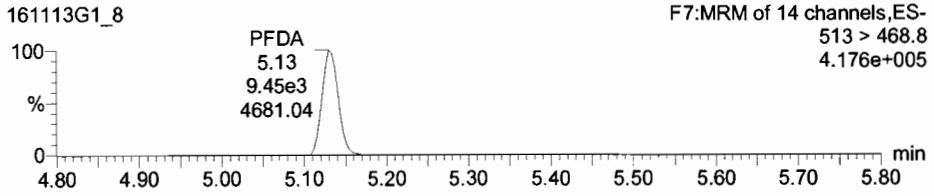
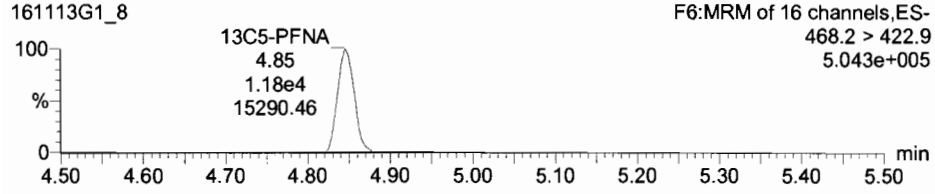
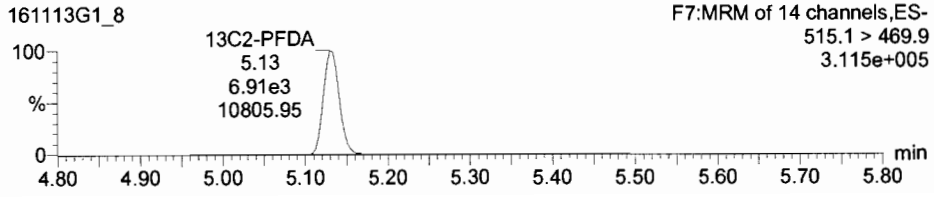


13C5-PFNA



13C2-PFDA



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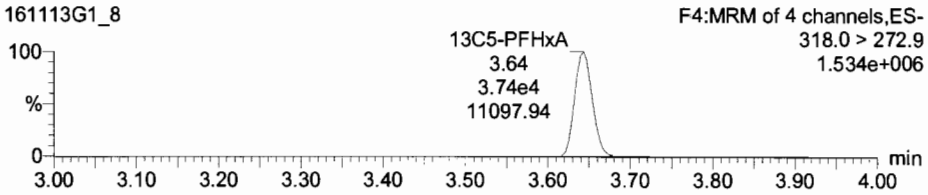
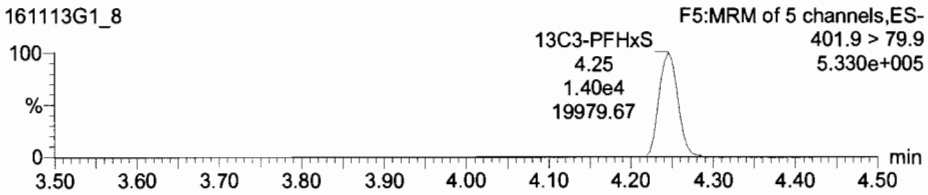
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_8, Date: 13-Nov-2016, Time: 12:37:58, ID: ST161113G1-7 PFC CS3.5 16K0923, Description: PFC CS3.5 16K0923 A

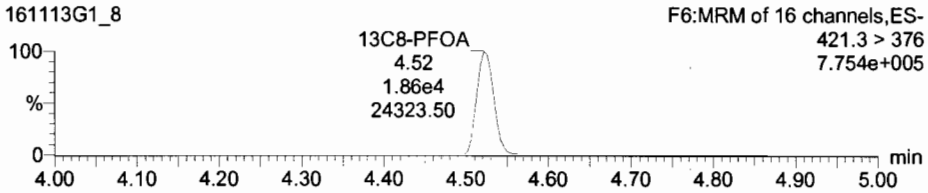
13C5-PFHxA



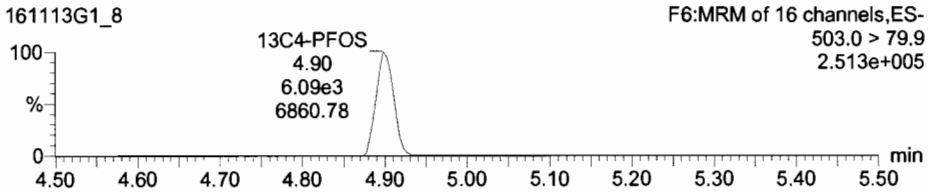
13C3-PFHxS



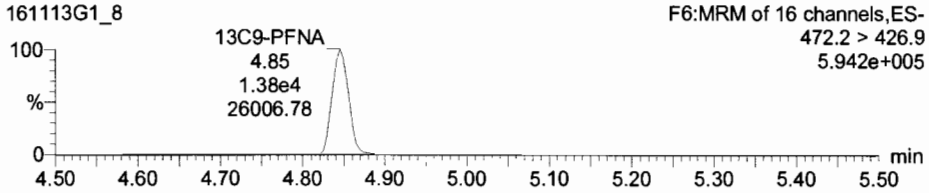
13C8-PFOA



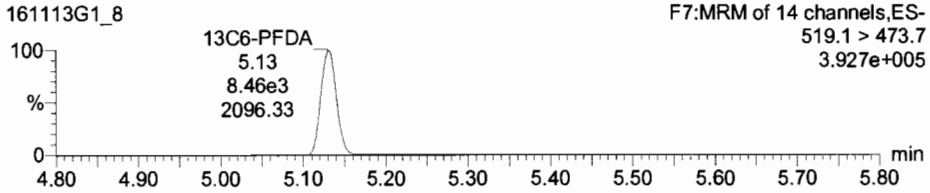
13C4-PFOS



13C9-PFNA



13C6-PFDA



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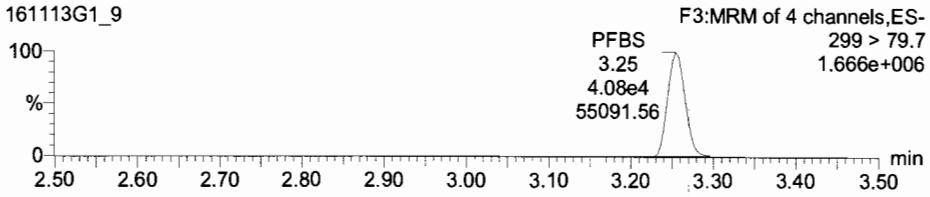
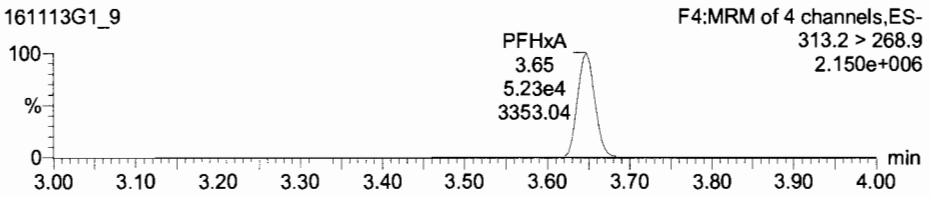
Name: 161113G1_9, Date: 13-Nov-2016, Time: 12:50:37, ID: ST161113G1-8 PFC CS4 16K1130, Description: PFC CS4 16K1130 A

Total PFBS



PFHxA



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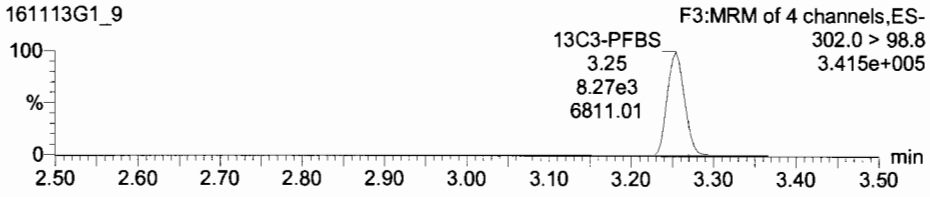
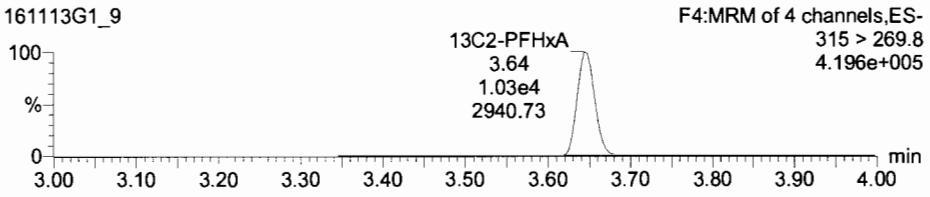
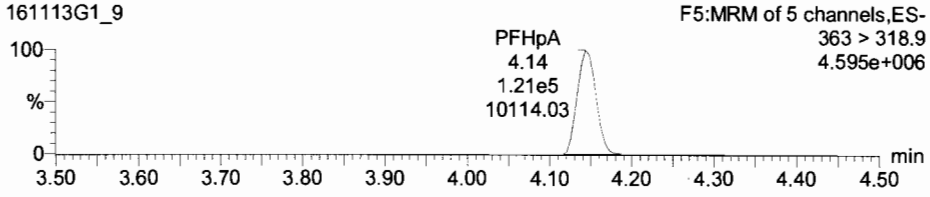


13C2-PFHxA



PFHpA



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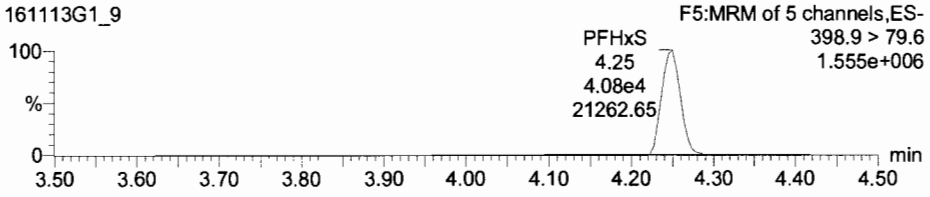
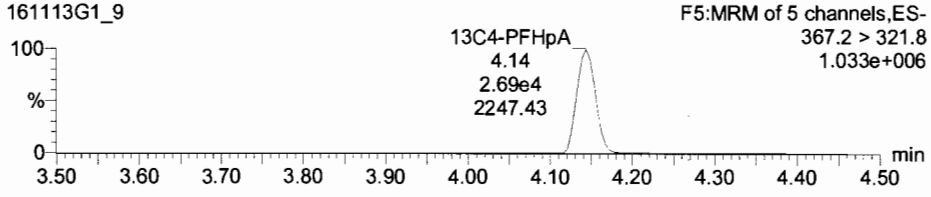
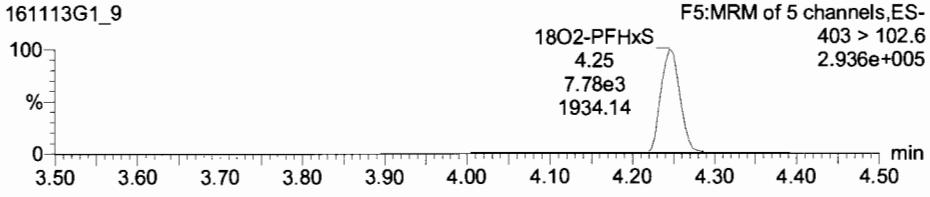


13C4-PFHpA



18O2-PFHxS



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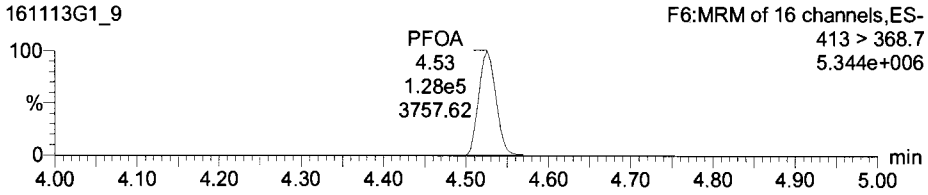
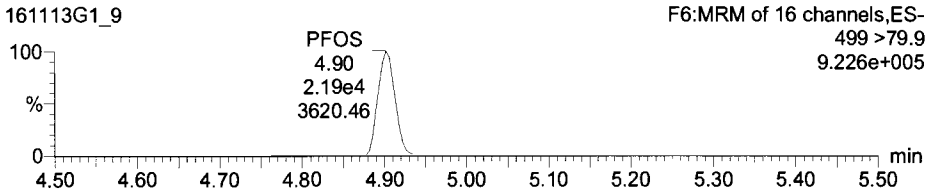
Printed: Monday, November 14, 2016 09:10:33 Pacific Standard Time

Name: 161113G1_9, Date: 13-Nov-2016, Time: 12:50:37, ID: ST161113G1-8 PFC CS4 16K1130, Description: PFC CS4 16K1130 A

Total PFOA



Total PFOS



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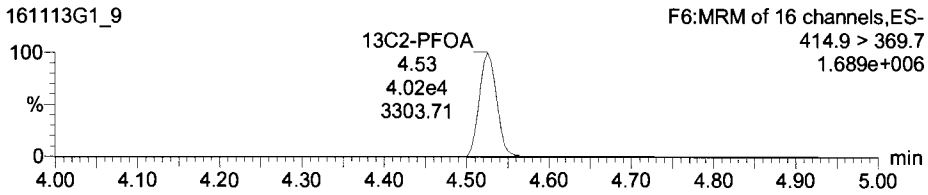
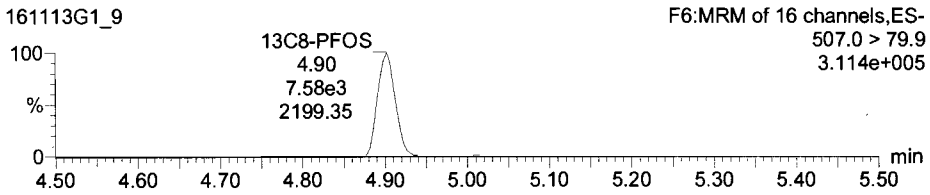


13C8-PFOS



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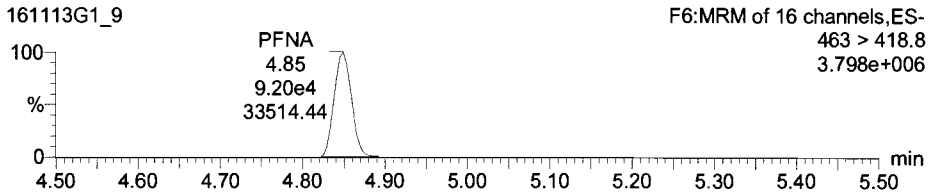

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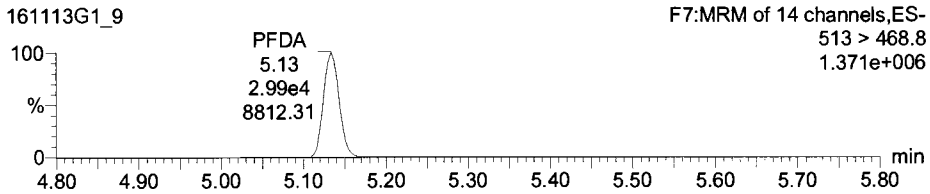
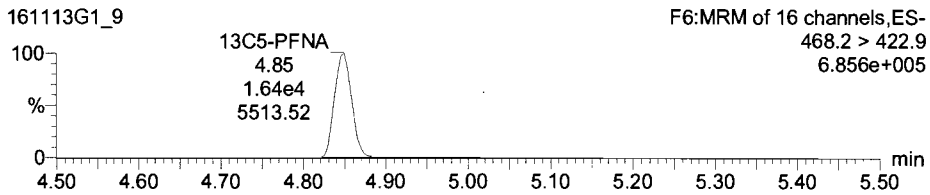


13C5-PFNA



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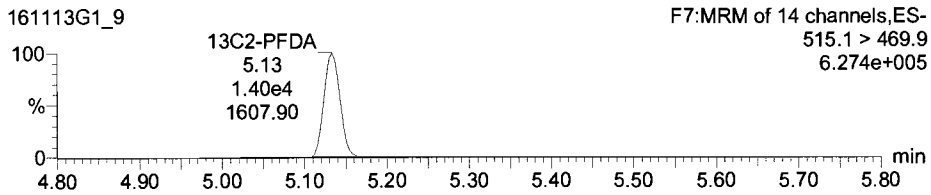

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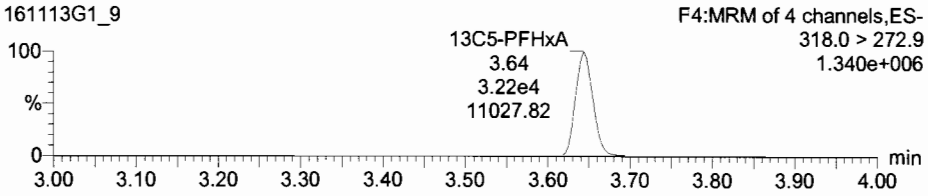
Name: 161113G1_9, Date: 13-Nov-2016, Time: 12:50:37, ID: ST161113G1-8 PFC CS4 16K1130, Description: PFC CS4 16K1130 A

13C5-PFHxA



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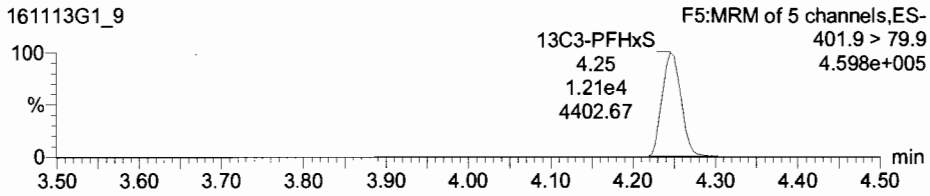
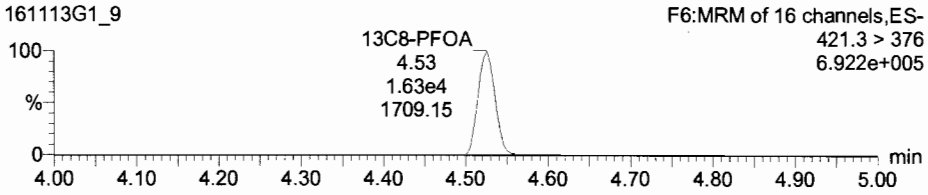


13C8-PFOA



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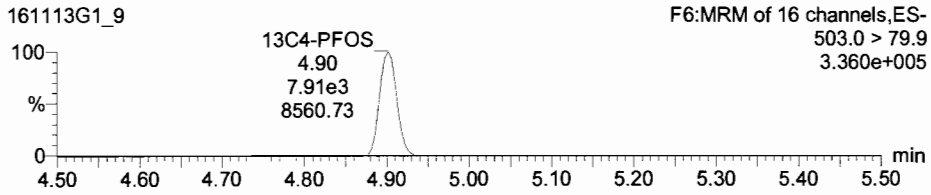
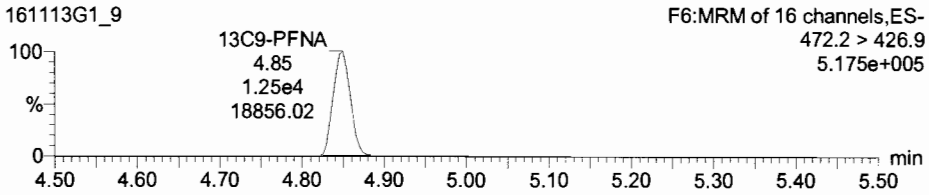


13C9-PFNA



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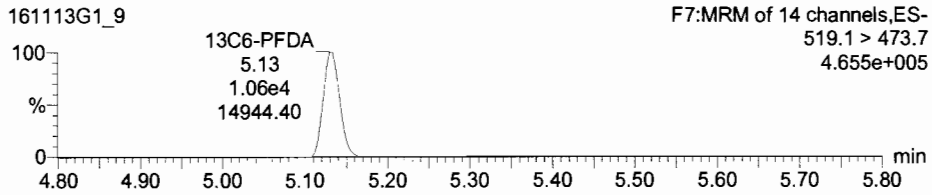

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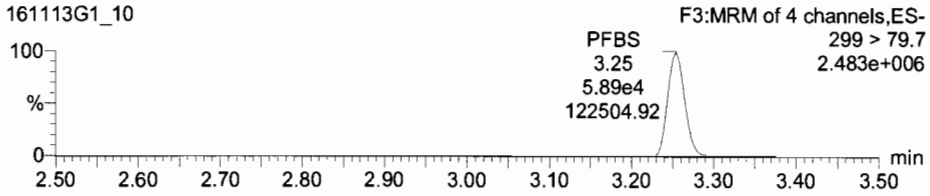
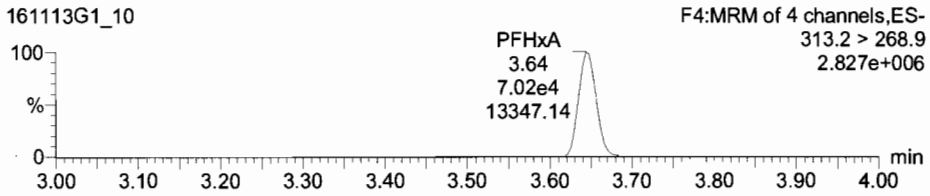
Name: 161113G1_10, Date: 13-Nov-2016, Time: 13:03:18, ID: ST161113G1-9 PFC CS4.5 16K1131, Description: PFC CS4.5 16K1131 A

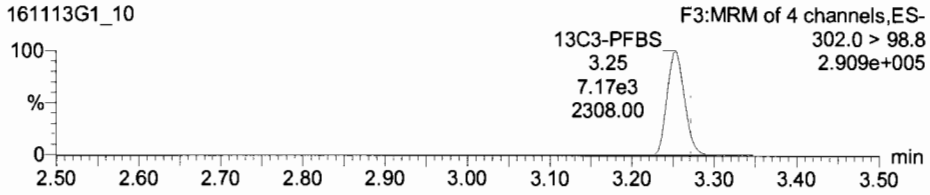
Total PFBS



PFHxA



13C3-PFBS



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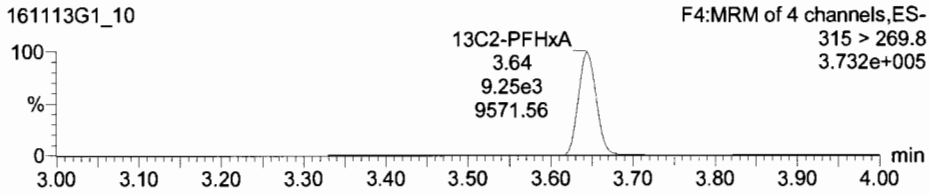
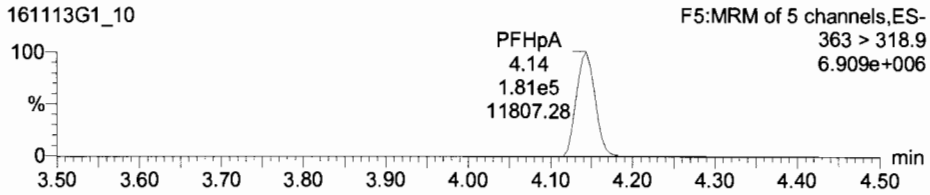
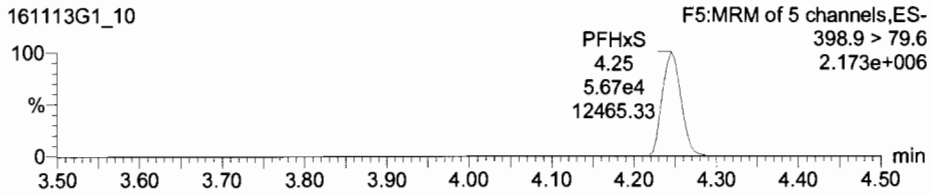


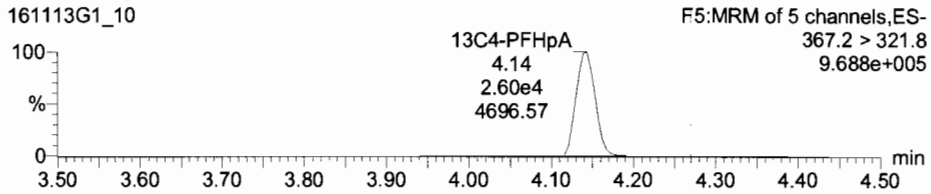
PFHpA



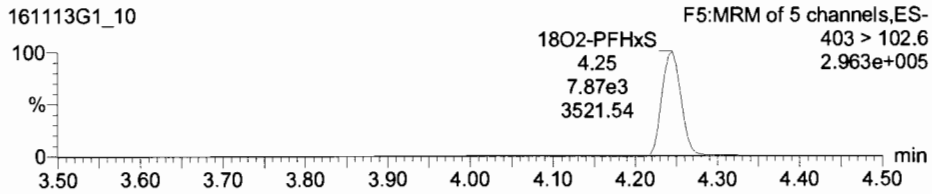
Total PFHxS



13C4-PFHpA



18O2-PFHxS



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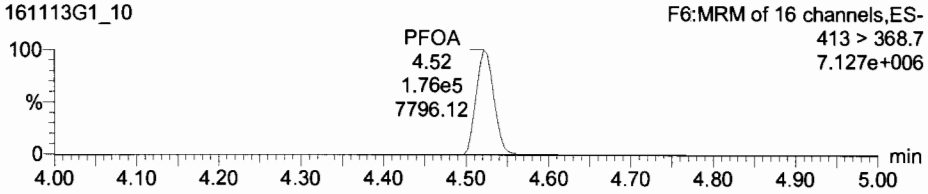
Name: 161113G1_10, Date: 13-Nov-2016, Time: 13:03:18, ID: ST161113G1-9 PFC CS4.5 16K1131, Description: PFC CS4.5 16K1131 A

Total PFOA



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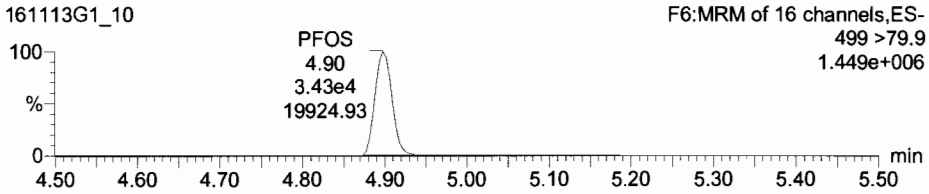

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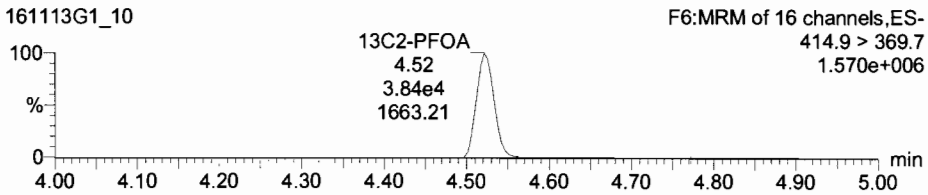

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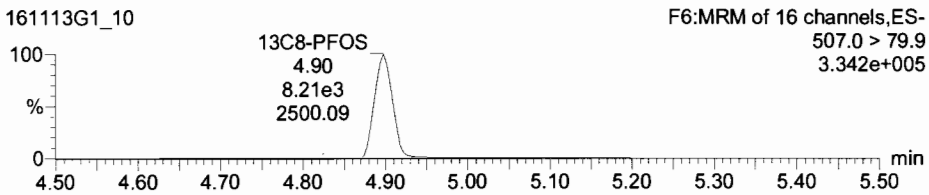

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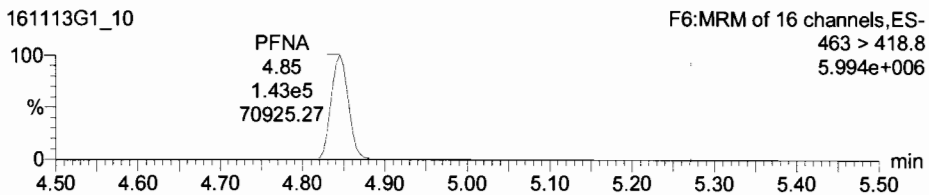
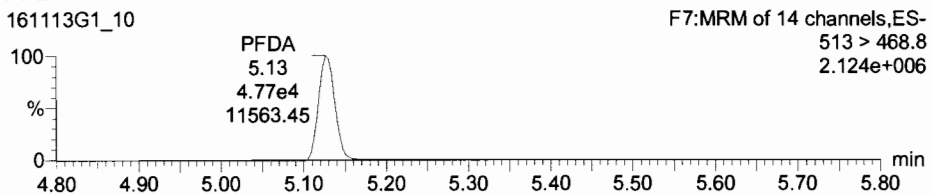


PFDA



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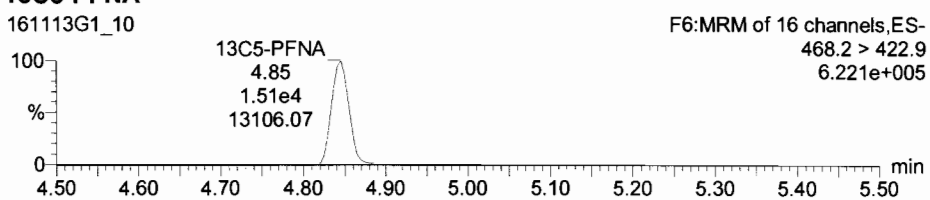

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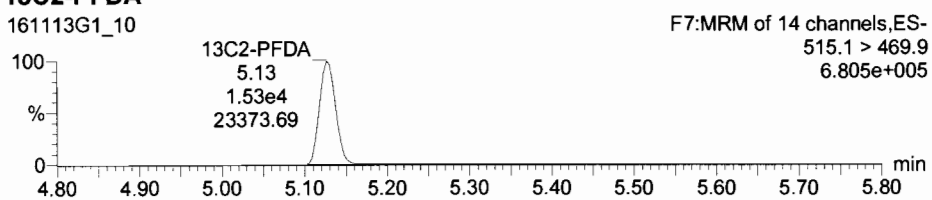

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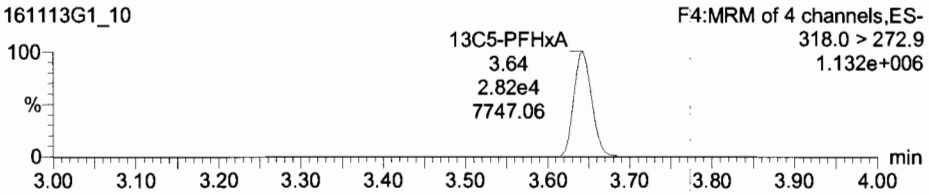
Name: 161113G1_10, Date: 13-Nov-2016, Time: 13:03:18, ID: ST161113G1-9 PFC CS4.5 16K1131, Description: PFC CS4.5 16K1131 A

13C5-PFHxA



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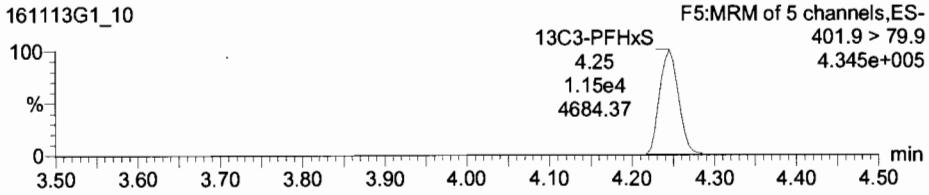

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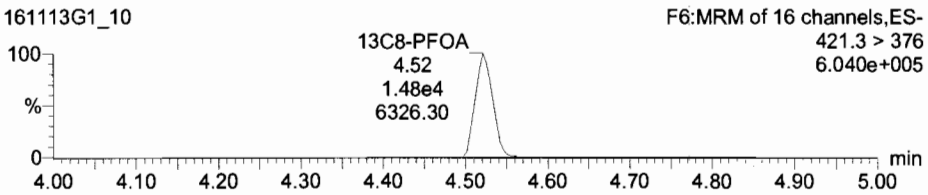

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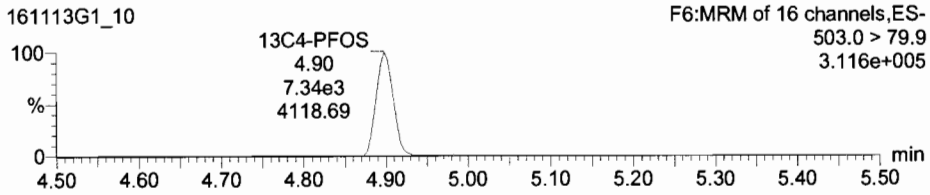
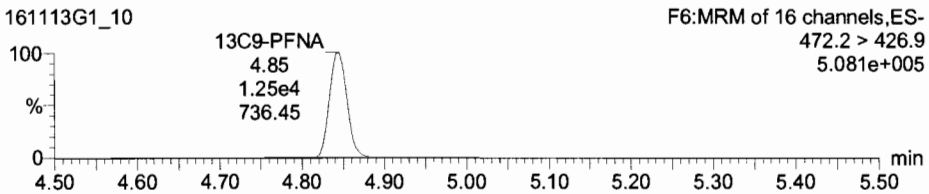
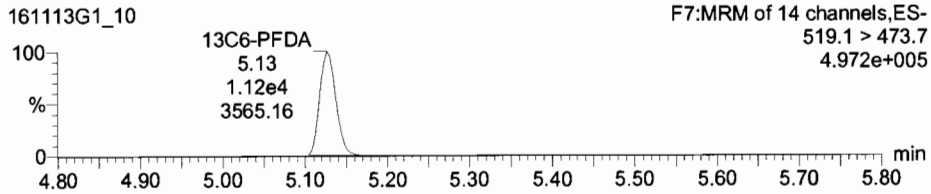


13C9-PFNA



13C6-PFDA



Dataset: U:\G1.PRO\Results\2016\161113G1\161113G1-13.qld

Last Altered: Monday, November 14, 2016 09:38:30 Pacific Standard Time
Printed: Monday, November 14, 2016 09:39:42 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161113G1_13, Date: 13-Nov-2016, Time: 13:41:09, ID: SS161113G1-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	2.28e4	7.22e3		1.000	3.15	28.8	115.0
2	2	PFHxA	313.2 > 268.9	3.08e4	9.35e3		1.000	3.52	30.7	122.7
3	3	PFHpA	363 > 318.9	6.83e4	2.31e4		1.000	4.05	30.8	123.0
4	4	PFHxS	398.9 > 79.6	1.75e4	6.71e3		1.000	4.16	24.9	123 ~~99.6~~
5	5	PFOA	413 > 368.7	5.12e4	3.20e4		1.000	4.44	24.8	125 ~~99.0~~
6	6	PFOS	499 >79.9	5.76e3	4.36e3		1.000	4.83	22.8	116 ~~91.3~~
7	7	PFNA	463 > 418.8	4.47e4	1.12e4		1.000	4.77	31.2	124.9
8	8	PFDA	513 > 468.8	7.90e3	5.76e3		1.000	5.06	31.2	124.7
9	9	13C3-PFBS	302.0 > 98.8	7.22e3	3.14e4	0.250	1.000	3.15	11.5	92.0
10	10	13C2-PFHxA	315 > 269.8	9.35e3	3.14e4	0.741	1.000	3.52	5.02	100.4
11	11	13C4-PFHpA	367.2 > 321.8	2.31e4	1.21e4	2.077	1.000	4.05	11.5	92.3
12	12	18O2-PFHxS	403 > 102.6	6.71e3	1.21e4	0.603	1.000	4.16	11.5	92.3
13	13	13C2-PFOA	414.9 > 369.7	3.20e4	1.43e4	2.438	1.000	4.44	11.5	92.0
14	14	13C8-PFOS	507.0 > 79.9	4.36e3	4.59e3	1.055	1.000	4.83	11.2	90.0
15	15	13C5-PFNA	468.2 > 422.9	1.12e4	1.04e4	1.158	1.000	4.77	11.6	93.1
16	16	13C2-PFDA	515.1 > 469.9	5.76e3	4.97e3	1.164	1.000	5.06	12.5	99.6
17	17	13C5-PFHxA	318.0 > 272.9	3.14e4	3.14e4	1.000	1.000	3.52	12.5	100.0
18	18	13C3-PFHxS	401.9 > 79.9	1.21e4	1.21e4	1.000	1.000	4.16	12.5	100.0
19	19	13C8-PFOA	421.3 > 376	1.43e4	1.43e4	1.000	1.000	4.44	12.5	100.0
20	20	13C4-PFOS	503.0 > 79.9	4.59e3	4.59e3	1.000	1.000	4.83	12.5	100.0
21	21	13C9-PFNA	472.2 > 426.9	1.04e4	1.04e4	1.000	1.000	4.77	12.5	100.0
22	22	13C6-PFDA	519.1 > 473.7	4.97e3	4.97e3	1.000	1.000	5.06	12.5	100.0

75-125

AC
11/14/16

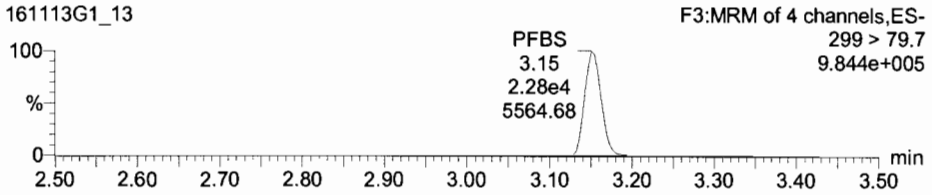
Dataset: Untitled

Last Altered: Monday, November 14, 2016 09:29:44 Pacific Standard Time
Printed: Monday, November 14, 2016 09:30:01 Pacific Standard Time

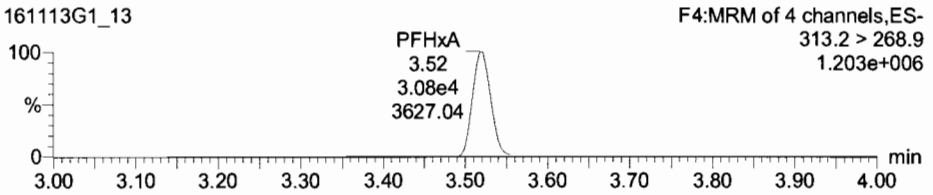
Method: U:\G1.PRO\MethDB\PFAS_14_A_LINEAR.mdb 11 Nov 2016 08:55:34
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_11-13-16_L14_A.cdb 14 Nov 2016 09:22:23

Name: 161113G1_13, Date: 13-Nov-2016, Time: 13:41:09, ID: SS161113G1-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

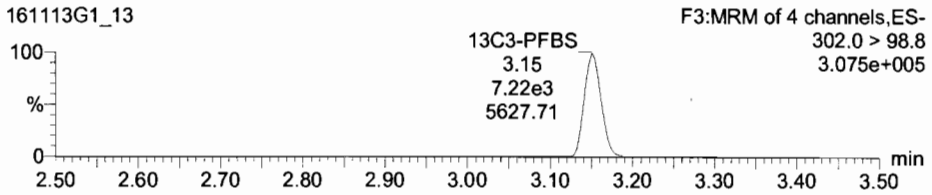
Total PFBS



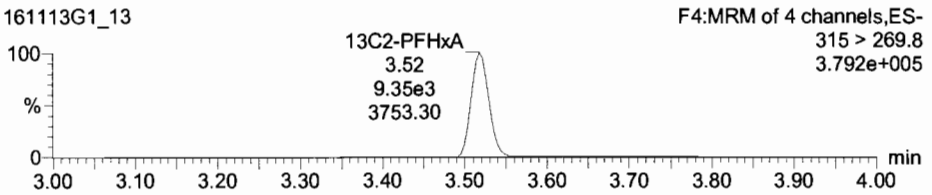
PFHxA



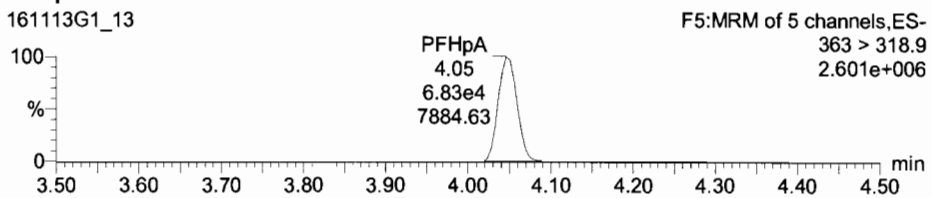
13C3-PFBS



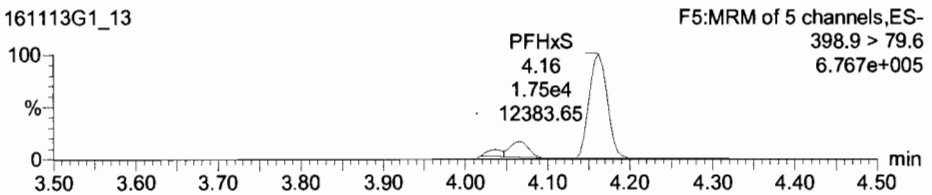
13C2-PFHxA



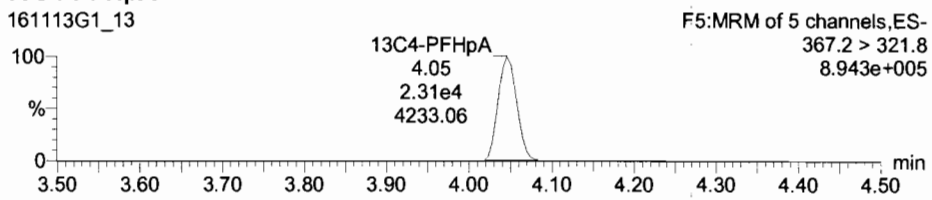
PFHpA



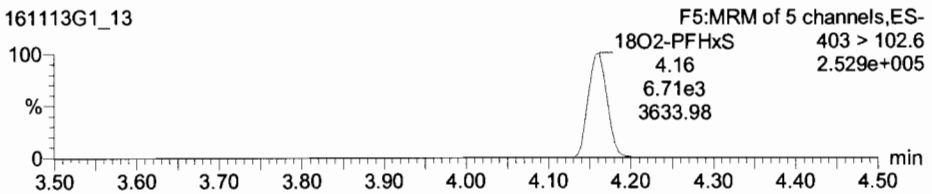
Total PFHxS



13C4-PFHpA



18O2-PFHxS

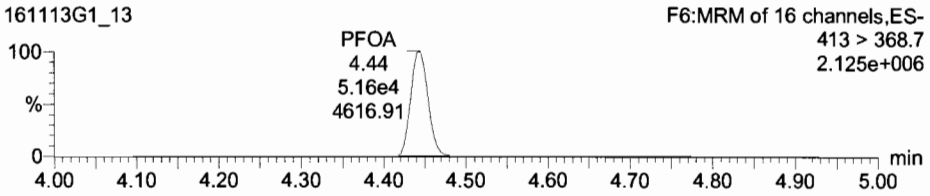


Dataset: Untitled

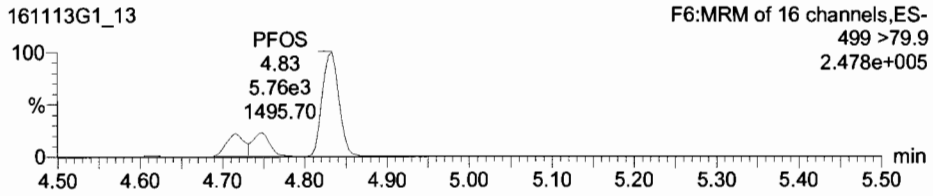
Last Altered: Monday, November 14, 2016 09:29:44 Pacific Standard Time
Printed: Monday, November 14, 2016 09:30:01 Pacific Standard Time

Name: 161113G1_13, Date: 13-Nov-2016, Time: 13:41:09, ID: SS161113G1-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

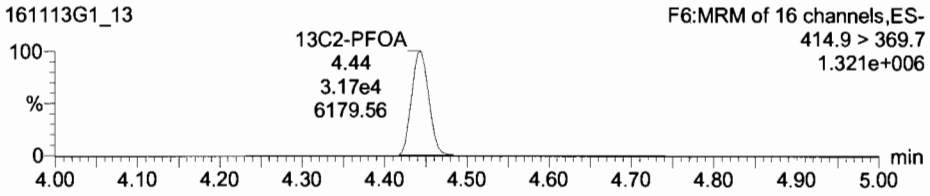
Total PFOA



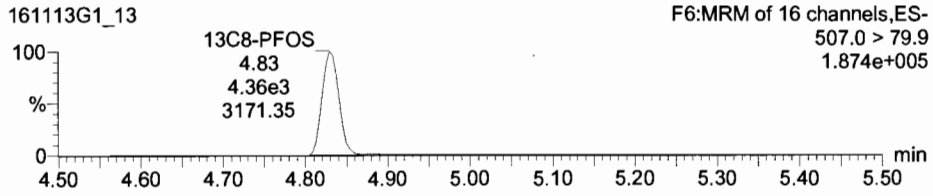
Total PFOS



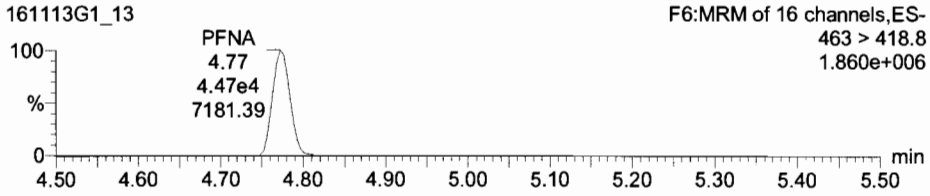
13C2-PFOA



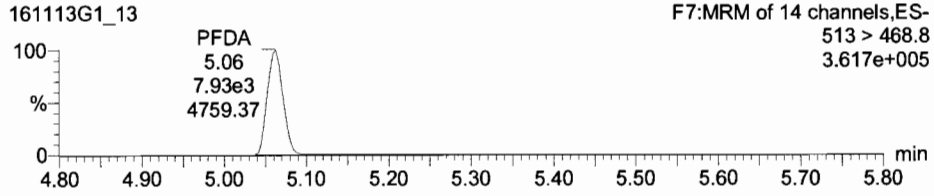
13C8-PFOS



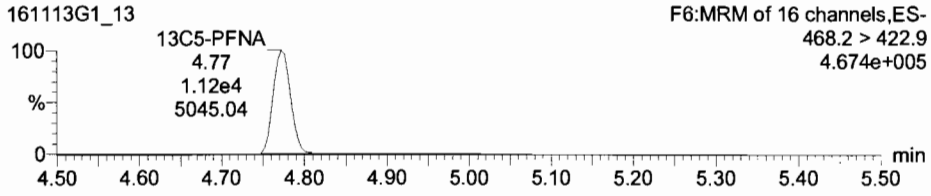
PFNA



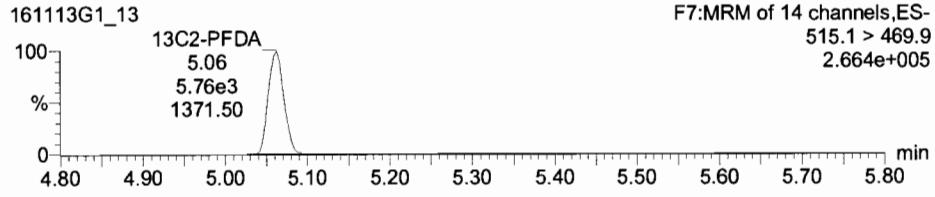
PFDA



13C5-PFNA



13C2-PFDA

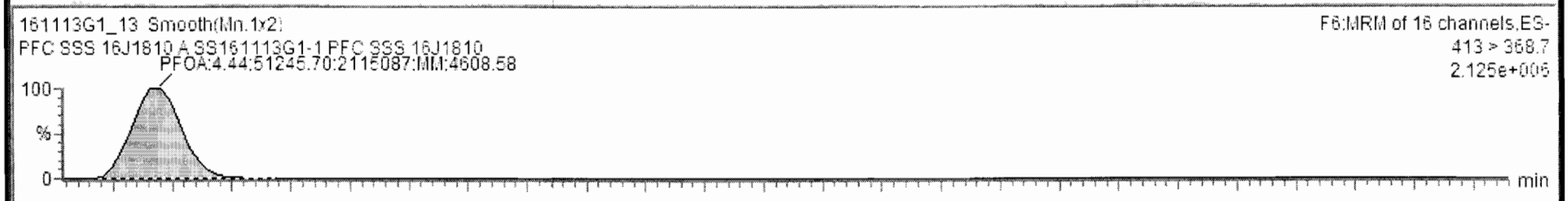


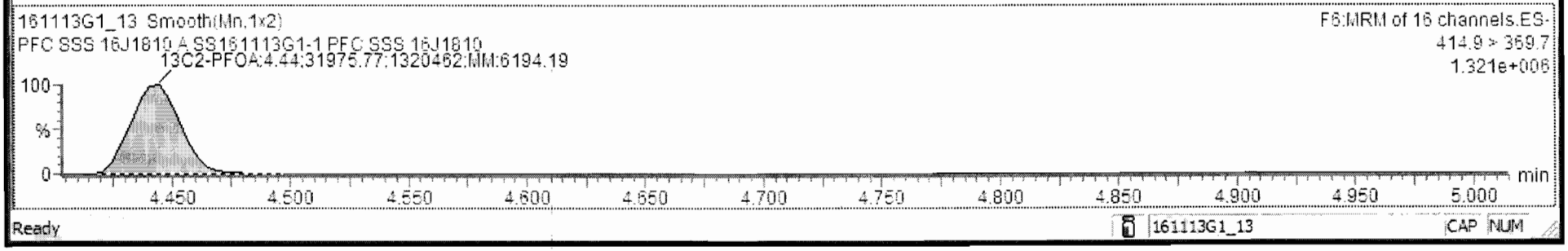
TargetLynx - 161113G1-13.qld - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_13 - SS161113G1-1 PFC SSS 16J1810 - PFC SSS 16J1810 A

	Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	2.28e4		1.000	3.15	3.15	28.8	YES	115.0	0.0000000
2	PFHxA	313.2 > 268.9	3.08e4		1.000	3.52	3.52	30.7	YES	122.7	0.0000000
3	PFHpA	363 > 318.9	6.83e4		1.000	4.05	4.05	30.8	YES	123.0	0.0000000
4	PFHxS	398.9 > 79.6	1.75e4		1.000	4.16	4.16	24.9	YES	99.8	0.0000000
5	PFOA	413 > 368.7	5.12e4		1.000	4.44	4.44	24.8	YES	99.0	0.0000000
6	PFOS	499 >79.9	5.76e3		1.000	4.83	4.83	22.8	YES	91.3	0.1526328
7	PFNA	463 > 418.8	4.47e4		1.000	4.77	4.77	31.2	YES	124.9	0.0000000
8	PFDA	513 > 468.8	7.80e3		1.000	5.06	5.06	31.2	NO	124.7	0.0000000
9	13C3-PFBS	302.0 > 98.8	7.22e3	0.250	1.000	3.14	3.15	11.5	NO	92.0	0.0053520
10	13C2-PFHxA	315 > 269.8	9.35e3	0.741	1.000	3.52	3.52	5.02	NO	100.4	0.0033329
11	13C4-PFHpA	367.2 > 321.8	2.31e4	2.08	1.000	4.04	4.05	11.5	NO	92.3	0.0069201
12	18O2-PFHxS	403 > 102.6	6.71e3	0.603	1.000	4.16	4.16	11.5	NO	92.3	0.0078731
13	13C2-PFOA	414.9 > 369.7	3.20e4	2.44	1.000	4.44	4.44	11.5	NO	92.0	0.0045674
14	13C8-PFOS	507.0 > 79.9	4.36e3	1.06	1.000	4.83	4.83	11.2	NO	90.0	0.0090422
15	13C5-PFNA	468.2 > 422.9	1.12e4	1.16	1.000	4.77	4.77	11.6	NO	93.1	0.0059095
16	13C2-PFDA	515.1 > 469.9	5.76e3	1.16	1.000	5.06	5.06	12.5	NO	99.6	0.0228154
17	13C5-PFHxA	318.0 > 272.9	3.14e4	1.00	1.000	3.52	3.52	12.5	NO	100.0	0.0038206





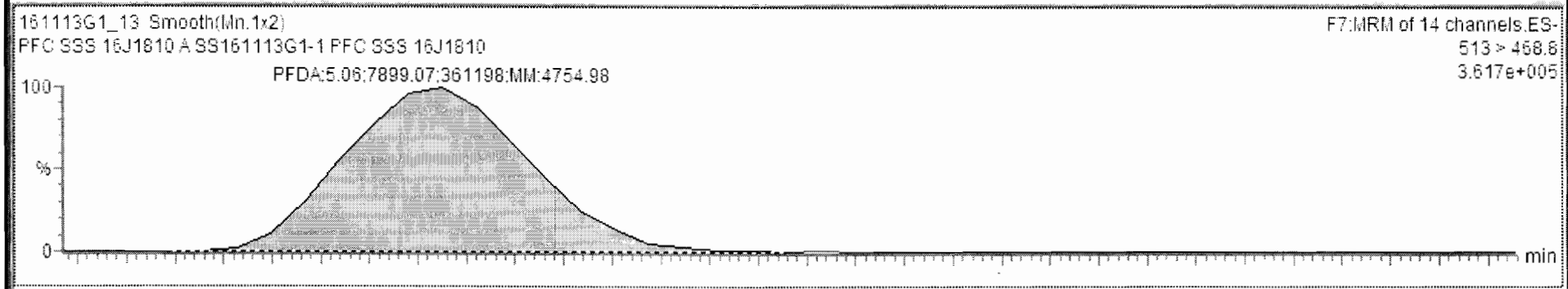
Ready 161113G1_13 CAP NUM

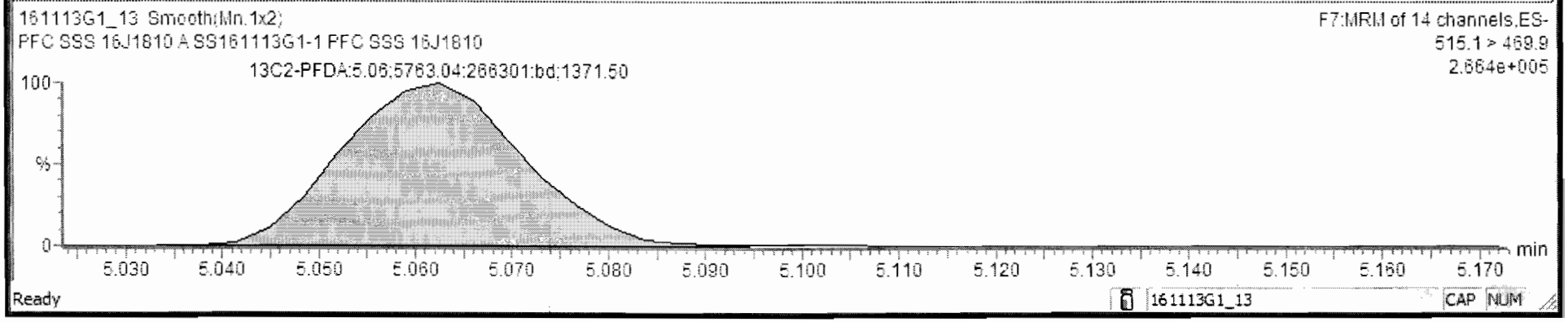
TargetLynx - untitled * - [Chromatogram]

File Edit View Display Processing Window Help

161113G1_13 - SS161113G1-1 PFC SSS 16J1810 - PFC SSS 16J1810 A

	Name	Trace	Area	Response	RRF	Wt/Vol	RT	Conc.	%Rec	DL	%RSD	Coeff. Of D...
1	PFBS	299 > 79.7	2.28e4	39.391	1.576	1.000	3.15	26.8	115.0	0.0000000		0.9869
2	PFHxA	313.2 > 268.9	3.08e4	18.448	0.658	1.000	3.52	30.7	122.7	0.0000000		0.9842
3	PFHpA	363 > 318.9	6.83e4	36.914	1.477	1.000	4.05	30.8	123.0	0.0000000		0.9869
4	PFHxS	398.9 > 79.8	1.75e4	32.580	1.303	1.000	4.16	24.9	99.8	0.0000000		0.9851
5	PFOA	413 > 368.7	5.16e4	20.317	0.813	1.000	4.44	25.1	100.4	0.0000000		0.9913
6	PFOS	499 >79.9	5.76e3	16.514	0.661	1.000	4.83	22.8	91.3	0.1528328		0.9951
7	PFNA	463 > 418.8	4.47e4	49.719	1.989	1.000	4.77	31.2	124.9	0.0000000		0.9827
8	PFDA	513 > 468.8	7.90e3	17.133	0.685	1.000	5.06	31.2	124.7	0.0000000		0.9861
9	13C3-PFBS	302.0 > 98.8	7.22e3	2.873	0.230	1.000	3.15	11.5	92.0	0.0053520	13.7	
10	13C2-PFHxA	315 > 269.8	9.35e3	3.720	0.744	1.000	3.52	5.02	100.4	0.0033329	12.8	
11	13C4-PFHpA	367.2 > 321.8	2.31e4	23.958	1.917	1.000	4.05	11.5	92.3	0.0069201	10.8	





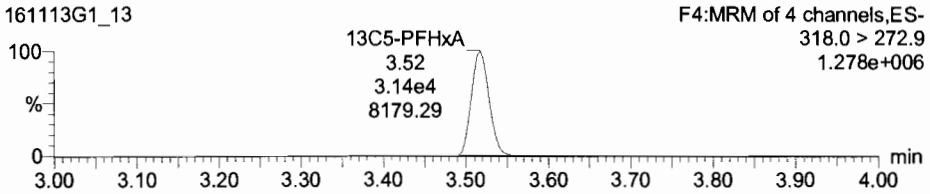
Ready 161113G1_13 CAP NUM

Dataset: Untitled

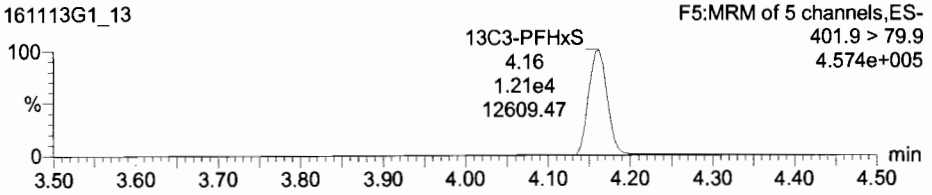
Last Altered: Monday, November 14, 2016 09:29:44 Pacific Standard Time
Printed: Monday, November 14, 2016 09:30:01 Pacific Standard Time

Name: 161113G1_13, Date: 13-Nov-2016, Time: 13:41:09, ID: SS161113G1-1 PFC SSS 16J1810, Description: PFC SSS 16J1810 A

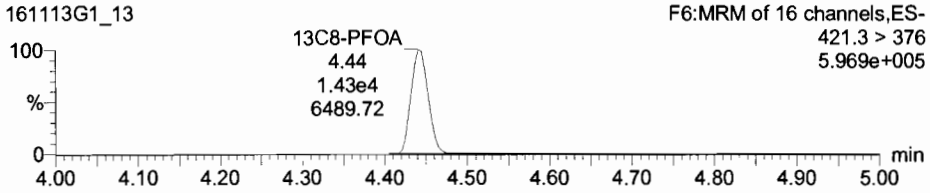
13C5-PFHxA



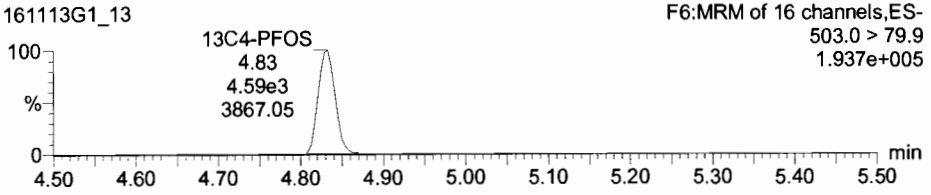
13C3-PFHxS



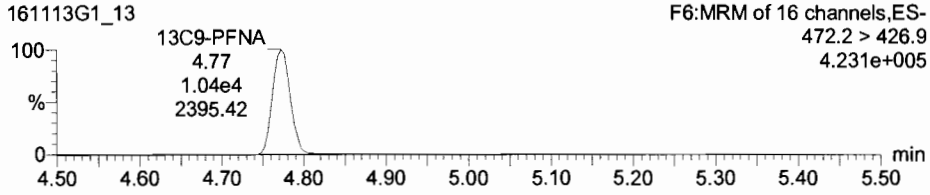
13C8-PFOA



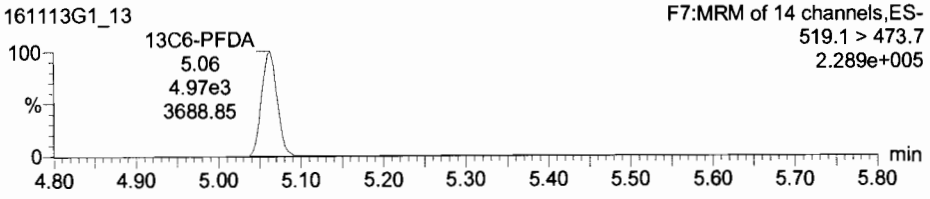
13C4-PFOS



13C9-PFNA



13C6-PFDA



| Common_ID | SDG_ITSS_Number | Phase | Investigation_ID | Sample_Name | EHDR_Code | Analysis_Group | Analytical_Method | REC_Code | Lab_Code | Lab_Name | Leaching_Method | Sample_Basis | Extraction_Method | Basis_Type | Lab_ID_Type | Sample_Medium | QC_Level | Date_Time_Collected | Date_Received | Leachate_Date | Leachate_Time | Extraction_Date | Extraction_Time | Analysis_Date | Analysis_Time | Lab_Sample_ID | Dilution | Run_Number | Percent_Moisture | Percent_Lipid | Param_Name | Analyte_ID | Analyte_Value | Original_Analyte_Value | Basis_Units | Lab_Qual1or | Validator_Qual1or | QC_Columns_Type | Analyte_Result_Type | Result_Narrative | QC_Control_Limit_Code | QC_Accuracy_Lower | QC_Accuracy_Upper | QC_Accuracy_Lower | Control_Limit_Data | QC_Narrative | MDL | Detection_Limit | QAM_Version | DL | LOD | LOQ | ESD | Analysis_Batch | Validator_Name | Val_Date |
|---|---|---

Results

Common_ID	SQL2103_Number	Phase	Investigation_ID	Sample_Name	Analyte_Code	Analysis_Group	Analyzed_Method	Analyzed_Method	REG_Code	Lab_Code	Lab_Name	Leaching_Method	Sample_Basis	Extraction_Method	Basis_Type	Lab_QC_Type	Sample_Medium	QC_Level	Date_Time_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Basis_Units	Lab_Qualifier	Validation_Qualifier	QC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QAM_Version	SLI	LOD	LOQ	EDD	Analysis_Batch	Validation_Name	Val_Date
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1	1.63		NG_L	JB		PR	TRG									5.0	0.770	3.839	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			Perfluorononanoic acid (PFNA)	375-95-1	1.80		NG_L	U		PR	TRG									5.0	0.772	1.91	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			1SC3-PFBS	1763-23-1	89.2		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			13C4-PFHpA	1763-23-1	93.1		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			1802-PFHxS	1763-23-1	96.5		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			13C2-PFOA	1763-23-1	79.7		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			13C4-PFBA	1763-23-1	79.7		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 12:35	11/01/2016			20161108	09:39:00	20161116	12:44:00	16013866-05	1	-999			13C5-PFNA	1763-23-1	68.8		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			Perfluorohexanesulfonic acid (PFHS)	355-46-4	1.75		NG_L	U		PR	TRG									5.0	1.75	3.91	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			Perfluorohexanoic acid (PFHxA)	307-24-4	1.80		NG_L	U		PR	TRG									5.0	0.578	1.95	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9	1.85		NG_L	U		PR	TRG									5.0	0.827	1.95	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	1.22		NG_L	JB		PR	TRG									5.0	0.790	0.879	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			Perfluorononanoic acid (PFNA)	375-95-1	1.80		NG_L	U		PR	TRG									5.0	0.790	1.95	7.83	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			1SC3-PFBS	1763-23-1	96.8		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			13C4-PFHpA	1763-23-1	97.3		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			1802-PFHxS	1763-23-1	102		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			13C2-PFOA	1763-23-1	102		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			13C4-PFBA	1763-23-1	97.3		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	OC-PB-102816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/28/2016 13:00	11/01/2016			20161108	09:39:00	20161116	12:56:00	16013866-06	1	-999			13C5-PFNA	1763-23-1	97.3		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluorodecanesulfonic acid (PFDS)	375-73-5	1.67		NG_L	U		PR	TRG									5.0	1.82	4.07	8.14	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9	2.03		NG_L	U		PR	TRG									5.0	0.632	2.03	8.14	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluorohexanesulfonic acid (PFHS)	355-46-4	3.81		NG_L	J		PR	TRG									5.0	0.964	2.03	8.14	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1	2.03		NG_L	U		PR	TRG									5.0	0.632	2.03	8.14	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	3.23		NG_L	JB		PR	TRG									5.0	0.825	2.03	8.14	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			Perfluorononanoic acid (PFNA)	375-95-1	1.46		NG_L	JB		PR	TRG									5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			1SC3-PFBS	1763-23-1	97.5		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			13C4-PFHpA	1763-23-1	94.8		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			1802-PFHxS	1763-23-1	97.8		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			13C2-PFOA	1763-23-1	94.2		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGA1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 10:00	11/01/2016			20161108	09:39:00	20161118	13:09:00	16013866-07	1	-999			13C8-PFOS	1763-23-1	107		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			1SC3-PFBS	1763-23-1	92.0		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluorodecanesulfonic acid (PFDS)	375-73-5	4.00		NG_L	U		PR	TRG									5.0	1.78	4.00	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9	1.98		NG_L	U		PR	TRG									5.0	0.644	2.00	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluorohexanesulfonic acid (PFHS)	355-46-4	2.00		NG_L	U		PR	TRG									5.0	0.849	2.00	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1	2.15		NG_L	J		PR	TRG									5.0	0.644	2.00	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	4.99		NG_L	JB		PR	TRG									5.0	0.805	0.900	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			Perfluorononanoic acid (PFNA)	375-95-1	0.922		NG_L	JB		PR	TRG									5.0	0.908	2.00	7.98	1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			1SC3-PFBS	1763-23-1	94.8		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			13C4-PFHpA	1763-23-1	94.8		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			1802-PFHxS	1763-23-1	97.3		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			13C2-PFOA	1763-23-1	92.2		PCT_REC			PR	IS		SLSA	150	60							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	MW-BGB-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 11:50	11/01/2016			20161108	09:39:00	20161118	13:22:00	16013866-08	1	-999			13C8-PFOS	1763-23-1	104		PCT_REC			PR	IS		SLSA	150	50							5.0				1601388	SW0336		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluorodecanesulfonic acid (PFDS)	375-73-5	4.00		NG_L	U		PR	TRG									5.0	1.78	4.00	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9	2.00		NG_L	U		PR	TRG									5.0	0.644	2.00	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluorohexanesulfonic acid (PFHS)	355-46-4	2.00		NG_L	U		PR	TRG									5.0	0.849	2.00	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1	2.15		NG_L	J		PR	TRG									5.0	0.644	2.00	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	4.68		NG_L	JB		PR	TRG									5.0	0.805	0.900	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			Perfluorononanoic acid (PFNA)	375-95-1	1.68		NG_L	J		PR	TRG									5.0	0.908	2.00	8.01	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			1SC3-PFBS	1763-23-1	98.1		PCT_REC			PR	IS		SLSA	150	60							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			13C4-PFHpA	1763-23-1	94.9		PCT_REC			PR	IS		SLSA	150	60							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			1802-PFHxS	1763-23-1	95.0		PCT_REC			PR	IS		SLSA	150	60							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			13C2-PFOA	1763-23-1	88.7		PCT_REC			PR	IS		SLSA	150	60							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			13C8-PFOS	1763-23-1	92.8		PCT_REC			PR	IS		SLSA	150	50							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	JTC-MW-B-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 14:20	11/03/2016			20161111	09:53:00	20161115	01:01:00	16014001-01	1	-999			13C5-PFNA	1763-23-1	74.6		PCT_REC			PR	IS		SLSA	150	50							5.0				1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	OC-MW04-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 13:40	11/01/2016			20161108	09:39:00	20161116	13:47:00	16013866-09	1	-999			Perfluorodecanesulfonic acid (PFDS)	375-73-5	1.77		NG_L	U		PR	TRG									5.0	1.77	3.97	7.91	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	OC-MW04-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 13:40	11/01/2016			20161108	09:39:00	20161116	13:47:00	16013866-09	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9	4.19		NG_L	U		PR	TRG									5.0	0.595	1.98	7.91	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	OC-MW04-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	A	10/31/2016 13:40	11/01/2016			20161108	09:39:00	20161116	13:47:00	16013866-09	1	-999			Perfluorohexanesulfonic acid (PFHS)	355-46-4	5.62		NG_L	J		PR	TRG									5.0	0.907	1.98	7.91	1601401	SW0347		
WQAR151620000	WE14		OCEANA_NAS	OC-MW04-1016	NONS	SVOA	537_M

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	CH2M_Code	Analysis_Group	Analytical_Method	PRC_Code	Lab_Code	Lab_Name	Leachate_Method	Sample_Basis	Extraction_Method	Result_Type	Lab_QC_Type	Sample_Medium	QC_Level	DateTime_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validator_Name	Val_Date
N6247016D9000	WE14		OCEANA_NAS	OC-FB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:52	11/03/2016			20161111	09:53:00	20161115	02:51:00	1601401-11	1	-999			18O2-PFHxS	18O2-PFHxS		89.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-FB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:52	11/03/2016			20161111	09:53:00	20161115	02:51:00	1601401-11	1	-999			13C2-PFOA	13C2-PFOA		80.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-FB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:52	11/03/2016			20161111	09:53:00	20161115	02:51:00	1601401-11	1	-999			13C8-PFOS	13C8-PFOS		92.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-FB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:52	11/03/2016			20161111	09:53:00	20161115	02:51:00	1601401-11	1	-999			13C5-PFNA	13C5-PFNA		76.4	PCT_REC			PR	IS		SLSA	150	50					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.13	NG_L	U		PR	TRG									5.0	1.84	4.13	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		2.07	NG_L	U		PR	TRG									5.0	0.608	2.07	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		2.07	NG_L	U		PR	TRG									5.0	0.975	2.07	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		0.731	NG_L	J		PR	TRG									5.0	0.670	2.07	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.930	NG_L	U		PR	TRG									5.0	0.831	0.930	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		2.07	NG_L	U		PR	TRG									5.0	0.834	2.07	8.24	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			13C3-PFBS	13C3-PFBS		92.8	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			13C4-PFHpA	13C4-PFHpA		79.8	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			18O2-PFHxS	18O2-PFHxS		86.9	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			13C2-PFOA	13C2-PFOA		80.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			13C8-PFOS	13C8-PFOS		85.9	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	OC-EB-110216	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 12:20	11/03/2016			20161111	09:53:00	20161115	03:03:00	1601401-12	1	-999			13C5-PFNA	13C5-PFNA		81.2	PCT_REC			PR	IS		SLSA	150	50					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.20	NG_L	U		PR	TRG									5.0	1.87	4.20	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		2.10	NG_L	U		PR	TRG									5.0	0.619	2.10	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		2.90	NG_L	J		PR	TRG									5.0	0.992	2.10	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.85	NG_L	J		PR	TRG									5.0	0.682	2.10	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.23	NG_L	J		PR	TRG									5.0	0.845	0.945	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		2.10	NG_L	U		PR	TRG									5.0	0.848	2.10	8.38	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			13C3-PFBS	13C3-PFBS		97.6	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			13C4-PFHpA	13C4-PFHpA		80.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			18O2-PFHxS	18O2-PFHxS		88.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			13C2-PFOA	13C2-PFOA		79.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			13C8-PFOS	13C8-PFOS		86.9	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	MW-BG10-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/02/2016 14:25	11/03/2016			20161111	09:53:00	20161115	03:15:00	1601401-13	1	-999			13C5-PFNA	13C5-PFNA		74.4	PCT_REC			PR	IS		SLSA	150	50					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.00	NG_L	U		PR	TRG									5.0	1.79	4.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		2.00	NG_L	U		PR	TRG									5.0	0.591	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		2.00	NG_L	U		PR	TRG									5.0	0.947	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.00	NG_L	U		PR	TRG									5.0	0.651	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.900	NG_L	U		PR	TRG									5.0	0.807	0.900	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		2.00	NG_L	U		PR	TRG									5.0	0.810	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			13C3-PFBS	13C3-PFBS		94.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			13C4-PFHpA	13C4-PFHpA		81.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			18O2-PFHxS	18O2-PFHxS		81.3	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			13C2-PFOA	13C2-PFOA		82.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			13C8-PFOS	13C8-PFOS		79.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161114	17:52:00	B6K0078-BLK1	1	-999			13C5-PFNA	13C5-PFNA		74.3	PCT_REC			PR	IS		SLSA	150	50					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		104	NG_L			PR	TRG		LSA	130	60					5.0	1.79	4.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		95.9	NG_L			PR	TRG		LSA	130	70					5.0	0.591	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		90.7	NG_L			PR	TRG		LSA	130	70					5.0	0.947	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		101	NG_L			PR	TRG		LSA	130	70					5.0	0.651	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		94.2	NG_L			PR	TRG		LSA	130	70					5.0	0.807	0.900	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		95.2	NG_L			PR	TRG		LSA	130	50					5.0	0.810	2.00	8.00	1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			13C3-PFBS	13C3-PFBS		95.9	PCT_REC			PR	IS		LSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			13C4-PFHpA	13C4-PFHpA		83.7	PCT_REC			PR	IS		LSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			18O2-PFHxS	18O2-PFHxS		85.4	PCT_REC			PR	IS		LSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			13C2-PFOA	13C2-PFOA		79.4	PCT_REC			PR	IS		LSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			13C8-PFOS	13C8-PFOS		89.5	PCT_REC			PR	IS		LSA	150	60					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/11/2016 09:53	11/11/2016			20161111	09:53:00	20161115	16:19:00	B6K0078-BS1	1	-999			13C5-PFNA	13C5-PFNA		80.3	PCT_REC			PR	IS		LSA	150	50					5.0				1601401	S6K0047		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		7.94	NG_L	J		PR	TRG									5.0	2.08	4.63	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		8.36	NG_L	JB		PR	TRG									5.0	0.687	2.31	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		11.0	NG_L			PR	TRG									5.0	1.10	2.31	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		90.3	NG_L			PR	TRG									5.0	0.757	2.31	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		40.1	NG_L	B		PR	TRG									5.0	0.938	1.04	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		3.59	NG_L	J		PR	TRG									5.0	0.942	2.31	9.30	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			13C3-PFBS	13C3-PFBS		114	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			13C4-PFHpA	13C4-PFHpA		67.5	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			18O2-PFHxS	18O2-PFHxS		94.8	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			13C2-PFOA	13C2-PFOA		83.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			13C8-PFOS	13C8-PFOS		78.3	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	FTWG-MW-02-1116	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 08:00	11/09/2016			20161117	09:42:00	20161122	20:07:00	1601420-01	1	-999			13C5-PFNA	13C5-PFNA		76.0	PCT_REC			PR	IS		SLSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.79	NG_L	U		PR	TRG									5.0	1.69	3.79	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		0.771	NG_L	JB		PR	TRG									5.0	0.560	1.89	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		1.89	NG_L	U		PR	TRG									5.0	0.897	1.89	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.89	NG_L	U		PR	TRG									5.0	0.616	1.89	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.75	NG_L	JB		PR	TRG									5.0	0.764	0.852	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		1.89	NG_L	U		PR	TRG									5.0	0.767	1.89	7.58	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			13C3-PFBS	13C3-PFBS		99.4	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			13C4-PFHpA	13C4-PFHpA		83.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			18O2-PFHxS	18O2-PFHxS		95.5	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			13C2-PFOA	13C2-PFOA		82.5	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			13C8-PFOS	13C8-PFOS		92.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-EB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:05	11/09/2016			20161117	09:42:00	20161122	20:20:00	1601420-02	1	-999			13C5-PFNA	13C5-PFNA		83.5	PCT_REC			PR	IS		SLSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.91	NG_L	U		PR	TRG									5.0	1.75	3.91	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		0.780	NG_L	JB		PR	TRG									5.0	0.579	1.95	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		1.95	NG_L	U		PR	TRG									5.0	0.928	1.95	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.95	NG_L	U		PR	TRG									5.0	0.638	1.95	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		3.48	NG_L	JB		PR	TRG									5.0	0.791	0.879	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		0.866	NG_L	J		PR	TRG									5.0	0.793	1.95	7.84	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			13C3-PFBS	13C3-PFBS		108	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			13C4-PFHpA	13C4-PFHpA		88.8	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			18O2-PFHxS	18O2-PFHxS		94.5	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			13C2-PFOA	13C2-PFOA		97.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			13C8-PFOS	13C8-PFOS		86.4	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OC-FB110816	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/08/2016 09:10	11/09/2016			20161117	09:42:00	20161122	20:32:00	1601420-03	1	-999			13C5-PFNA	13C5-PFNA		86.0	PCT_REC			PR	IS		SLSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.00	NG_L	U		PR	TRG									5.0	1.79	4.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		0.802	NG_L	J		PR	TRG									5.0	0.591	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		2.00	NG_L	U		PR	TRG									5.0	0.947	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.00	NG_L	U		PR	TRG									5.0	0.651	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.71	NG_L	J		PR	TRG									5.0	0.807	0.900	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		2.00	NG_L	U		PR	TRG									5.0	0.810	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			13C3-PFBS	13C3-PFBS		115	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			13C4-PFHpA	13C4-PFHpA		95.3	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			18O2-PFHxS	18O2-PFHxS		92.1	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			13C2-PFOA	13C2-PFOA		92.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			13C8-PFOS	13C8-PFOS		111	PCT_REC			PR	IS		SLSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	19:17:00	B6K0124-BLK1	1	-999			13C5-PFNA	13C5-PFNA		90.5	PCT_REC			PR	IS		SLSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		88.8	NG_L			PR	TRG		LSA	130	60					5.0	1.79	4.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		88.0	NG_L	B		PR	TRG		LSA	130	70					5.0	0.591	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		90.1	NG_L			PR	TRG		LSA	130	70					5.0	0.947	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		84.6	NG_L			PR	TRG		LSA	130	70					5.0	0.651	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		89.7	NG_L	B		PR	TRG		LSA	130	70					5.0	0.807	0.900	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		88.2	NG_L			PR	TRG		LSA	130	50					5.0	0.810	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			13C3-PFBS	13C3-PFBS		100	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			13C4-PFHpA	13C4-PFHpA		89.1	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			18O2-PFHxS	18O2-PFHxS		89.4	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			13C2-PFOA	13C2-PFOA		81.1	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			13C8-PFOS	13C8-PFOS		93.6	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:39:00	B6K0124-BS1	1	-999			13C5-PFNA	13C5-PFNA		80.8	PCT_REC			PR	IS		LSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		83.0	NG_L			PR	TRG		LSA	130	60					5.0	1.79	4.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		86.0	NG_L	B		PR	TRG		LSA	130	70					5.0	0.591	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		88.9	NG_L			PR	TRG		LSA	130	70					5.0	0.947	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		93.9	NG_L			PR	TRG		LSA	130	70					5.0	0.651	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		84.4	NG_L	B		PR	TRG		LSA	130	70					5.0	0.807	0.900	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		75.3	NG_L			PR	TRG		LSA	130	50					5.0	0.810	2.00	8.00	1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			13C3-PFBS	13C3-PFBS		100	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			13C4-PFHpA	13C4-PFHpA		91.5	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			18O2-PFHxS	18O2-PFHxS		91.4	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			13C2-PFOA	13C2-PFOA		82.6	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			13C8-PFOS	13C8-PFOS		104	PCT_REC			PR	IS		LSA	150	60					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	LCS Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/17/2016 09:42	11/17/2016			20161117	09:42:00	20161122	18:51:00	B6K0124-BSD1	1	-999			13C5-PFNA	13C5-PFNA		93.3	PCT_REC			PR	IS		LSA	150	50					5.0				1601420	S6K0058		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW9-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 10:30	10/27/2016			20161116	08:11:00	20161128	23:41:00	1601437-01	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		91000	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW9-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 10:30	10/27/2016			20161116	08:11:00	20161128	23:41:00	1601437-01	50	-999			13C8-PFOS	13C8-PFOS		101	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW9P-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 10:35	10/27/2016			20161116	08:11:00	20161128	23:53:00	1601437-02	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		116000	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW9P-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 10:35	10/27/2016			20161116	08:11:00	20161128	23:53:00	1601437-02	50	-999			13C8-PFOS	13C8-PFOS		77.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 12:25	10/27/2016			20161116	08:11:00	20161129	00:06:00	1601437-03	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		217000	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW1-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 12:25	10/27/2016			20161116	08:11:00	20161129	00:06:00	1601437-03	50	-999			13C8-PFOS	13C8-PFOS		81.6	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW7-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 13:20	10/27/2016			20161116	08:11:00	20161129	00:18:00	1601437-04	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		296000	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW7-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 13:20	10/27/2016			20161116	08:11:00	20161129	00:18:00	1601437-04	50	-999			13C8-PFOS	13C8-PFOS		72.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW5-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 14:10	10/27/2016			20161116	08:11:00	20161129	00:30:00	1601437-05	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		69500	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW5-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/25/2016 14:10	10/27/2016			20161116	08:11:00	20161129	00:30:00	1601437-05	50	-999			13C8-PFOS	13C8-PFOS		93.2	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW6-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/26/2016 09:45	10/27/2016			20161116	08:11:00	20161129	00:42:00	1601437-06	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		101000	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW6-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/26/2016 09:45	10/27/2016			20161116	08:11:00	20161129	00:42:00	1601437-06	50	-999			13C8-PFOS	13C8-PFOS		90.0	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/26/2016 10:40	10/27/2016			20161116	08:11:00	20161129	00:55:00	1601437-07	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		33200	NG_L			PR	TRG									5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	OW11-MW4-1016	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	REG	W	4	10/26/2016 10:40	10/27/2016			20161116	08:11:00	20161129	00:55:00	1601437-07	50	-999			13C8-PFOS	13C8-PFOS		121	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161118	22:32:00	B6K0111-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		11.3	NG_L	U		PR	TRG									5.0	10.1	11.3	100	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161118	22:32:00	B6K0111-BLK1	1	-999			13C8-PFOS	13C8-PFOS		93.7	PCT_REC			PR	IS		SLSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161122	12:32:00	B6K0111-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1170	NG_L			PR	TRG		LSA	130	70					5.0	10.1	11.3	100	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161122	12:32:00	B6K0111-BS1	1	-999			13C8-PFOS	13C8-PFOS		80.4	PCT_REC			PR	IS		LSA	150	60					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	MS	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161129	01:07:00	B6K0111-MS1	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		83400	NG_L			PR	TRG		LSA	130	70					5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	MS	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161129	01:07:00	B6K0111-MS1	50	-999			13C8-PFOS	13C8-PFOS		71.1	PCT_REC			PR	IS		LSA	150	150					5.0				1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	MSD	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161129	01:19:00	B6K0111-MSD1	50	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		85400	NG_L			PR	TRG		LSA	130	70					5.0	504	563.	5000	1601437	S6K0056		
N6247016D9000	WE14		OCEANA_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	DL1	MSD	W	4	11/16/2016 08:11	11/16/2016			20161116	08:11:00	20161129	01:19:00	B6K0111-MSD1	50	-999			13C8-PFOS	13C8-PFOS		71.2	PCT_REC			PR	IS		LSA	150	150					5.0				1601437	S6K0056		

Data Validation Summary

Oceana CTO-WE44, NALF Fentress

TO: Tiffany Hill/CVO

Anita Dodson/VBO

FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: December 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
1601370	OW11-MW9-1016	Water
1601370	OW11-MW9P-1016	Water
1601370	OW11-MW8-1016	Water
1601370	OW11-MW1-1016	Water
1601370	OW11-MW7-1016	Water
1601370	OW11-MW5-1016	Water
1601370	OW11-MW6-1016	Water
1601370	OW11-MW4-1016	Water
1601370	MW-BG13-1016	Water
1601370	MW-BG13P-1016	Water
1601370	MW-BG12-1016	Water
1601388	MW-BG07-1016	Water

SDG	Sample Name	Matrix
1601388	MW-BG06-1016	Water
1601388	MW-BG05-1016	Water
1601388	MW-BG05P-1016	Water
1601388	MW-BG04-1016	Water
1601388	OC-FB-102816	Water
1601388	MW-BG01-1016	Water
1601388	MW-BG09-1016	Water
1601388	OC-MW04-1016	Water
1601388	MW-BG11-1016	Water
1601401	203MW-19-1116	Water
1601401	JTC-MW-B-1116	Water
1601401	MW-BG10-1116	Water
1601401	OW2C-MW19-1116	Water
1601401	OW2E-MW19-1116	Water
1601401	OW2B-MW41-1116	Water
1601401	OC-EB-110216	Water
1601401	OC-MW03-1116	Water
1601401	OC-MW01-1116	Water
1601401	OC-FB-110216	Water
1601401	OC-MW02-1116	Water
1601401	OW26-MW1-1116	Water
1601401	OW26-MW1P 1116	Water
1601420	FTWG-MW-02-1116	Water
1601420	OC-EB110816	Water
1601420	OC-FB110816	Water
1601437	OW11-MW1-1016	Water
1601437	OW11-MW4-1016	Water
1601437	OW11-MW5-1016	Water
1601437	OW11-MW6-1016	Water
1601437	OW11-MW7-1016	Water
1601437	OW11-MW9-1016	Water
1601437	OW11-MW9P-1016	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 Site Inspection for Perfluorinated Compounds Naval Air Station Oceana Virginia Beach, Virginia CTO-WE44 (October 2016) and National Functional Guidelines for Superfund Organic Methods Data Review (September 2016), 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 10/25/16 through 11/8/16. Samples were received at the laboratory 10/27/16 through 11/9/16. All sample preparation and analyses were originally performed within holding time requirements with the exception of selected samples in SDG 1601437, which were re-extracted 15 days out of holding time. These samples were reanalyzed for Perfluorooctane Sulfonate (PFOS) only due to the high concentration detected in the original sample analysis. Affected data are summarized in **Attachment 1**.

Blanks

Target compounds were detected in the method blanks, equipment blanks, and field blanks as listed in the table below. Affected data are summarized in **Attachment 1**.

Blank ID	Compound	Conc.	Units
B6K0053-BLK1	Perfluorooctane Sulfonate (PFOS)	1.48	NG_L
B6K0124-BLK1	Perfluorooctane Sulfonate (PFOS)	1.71	NG_L
B6K0001-BLK1	Perfluorooctanoic acid (PFOA)	0.818	NG_L
B6K0053-BLK1	Perfluorononanoic acid (PFNA)	0.933	NG_L
OC-FB-110216	Perfluorooctanoic acid (PFOA)	0.691	NG_L
OC-EB-110216	Perfluorooctanoic acid (PFOA)	0.731	NG_L
OC-FB110816	Perfluorononanoic acid (PFNA)	0.866	NG_L
B6K0124-BLK1	Perfluoroheptanoic acid (PFHpA)	0.802	NG_L

Field Duplicate Precision

Native sample MW-BG13-1016 and field duplicate MW-BG13P-1016 did not meet precision criteria for perfluorohexanesulfonic acid (PFHxS) and PFOS. Affected data are summarized in **Attachment 1**.

Internal Standards

Sample MW-BG13P-1016 exhibited low recoveries in the internal standards. Samples OW26-MW1-1116 and OW26-MW1P 1116 exhibited high recoveries in the internal standards. Affected data are summarized in **Attachment 1**.

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,

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

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05-1016	WG	Ground water	28-Oct-16
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05-1016	WG	Ground water	28-Oct-16
MW-BG01	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12205407.4	3473989.18	Perfluoroalkyl Compounds	MW-BG01-1016	WG	Ground water	31-Oct-16
MW-BG04	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12213382.7	3464722.26	Perfluoroalkyl Compounds	MW-BG04-1016	WG	Ground water	28-Oct-16
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05P-1016	WG	Ground water	28-Oct-16
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05P-1016	WG	Ground water	28-Oct-16
MW-BG09	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12205477.9	3457884.31	Perfluoroalkyl Compounds	MW-BG09-1016	WG	Ground water	31-Oct-16
MW-BG01	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12205407.4	3473989.18	Perfluoroalkyl Compounds	MW-BG01-1016	WG	Ground water	31-Oct-16
MW-BG07	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12207913.7	3462236.32	Perfluoroalkyl Compounds	MW-BG07-1016	WG	Ground water	28-Oct-16
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05-1016	WG	Ground water	28-Oct-16
MW-BG05	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12212125	3461556.36	Perfluoroalkyl Compounds	MW-BG05P-1016	WG	Ground water	28-Oct-16
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		OCEANA_NAS			1601388			Perfluoroalkyl Compounds	OC-FB-102816	WQ	Water for QC samples	28-Oct-16
MW-BG11	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12201198.9	3460476.59	Perfluoroalkyl Compounds	MW-BG11-1016	WG	Ground water	31-Oct-16
MW-BG06	BACKGROUND	OCEANA_NAS	WLM	Monitoring well	1601388	12209116	3463218.23	Perfluoroalkyl Compounds	MW-BG06-1016	WG	Ground water	28-Oct-16
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OC-MW04	SWMU 00011	OCEANA_NAS	WLM	Monitoring well	1601388	12201899.6	3460106.99	Perfluoroalkyl Compounds	OC-MW04-1016	WG	Ground water	31-Oct-16
		OCEANA_NAS			1601388			Perfluoroalkyl Compounds	OC-FB-102816	WQ	Water for QC samples	28-Oct-16
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