



**Groundwater Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, and Data Validation Report,
SDG 1700483**

*Naval Air Station Meridian
Meridian, Mississippi*

July 2019

April 25, 2017

Vista Work Order No. 1700483

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 April 20, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name '679580 NAS Meridian'.

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

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

Sincerely,



Martha Maier
Laboratory Director



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

Vista Work Order No. 1700483

Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 537

The samples were extracted and analyzed for PFBS, PFOA and PFOS using 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 Laboratory Fortified Blank (LFB) and Laboratory Reagent Blank (LRB) were extracted and analyzed with the preparation batch. No analytes were detected in the LRB above 1/2 the LOQ. The LFB recoveries were within the method acceptance criteria

The surrogate recoveries for all QC and field samples were within the acceptance criteria.

A Laboratory Fortified Sample Matrix (LFSM) and Laboratory Fortified Sample Matrix Duplicate (LFSMD) were prepared and analyzed using sample "ME-RW02-0417".

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700483-01	ME-RW01-0417		17-Apr-17 10:43	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700483-02	ME-FB01-0417		17-Apr-17 10:44	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700483-03	ME-RW02-0417	MS/MSD	18-Apr-17 08:58	20-Apr-17 09:32	HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
1700483-04	ME-FB02-0417		18-Apr-17 08:59	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB						EPA Method 537			
Matrix: Drinking Water Sample Size: 0.250 L		QC Batch: B7D0099 Date Extracted: 20-Apr-2017 13:35		Lab Sample: B7D0099-BLK1 Date Analyzed: 21-Apr-17 19:15 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.49	10.0	20.0		SUR 13C2-PFHxA	90.0	70 - 130	
PFOA	ND	4.54	10.0	20.0		SUR 13C2-PFDA	85.5	70 - 130	
PFOS	ND	3.05	10.0	20.0					

DL - Detection limit
RL - Reporting limit

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: LFB

EPA Method 537

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0099 Date Extracted: 20-Apr-2017 13:35	Lab Sample: B7D0099-BS1 Date Analyzed: 21-Apr-17 18:38 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	7.94	8.84	89.8	70 - 130	SUR 13C2-PFHxA	89.7	70 - 130
PFOA	10.5	10.0	105	70 - 130	SUR 13C2-PFDA	83.6	70 - 130
PFOS	7.44	9.24	80.5	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: ME-RW01-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700483-01	Date Received:	20-Apr-2017 9:32	
Project:	679580 NAS Meridian	Sample Size:	0.276 L		QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35	
Date Collected:	17-Apr-2017 10:43				Date Analyzed:	21-Apr-17 19:27 Column: BEH C18			
Location:	ME-RW01								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.16	9.05	18.1		SUR 13C2-PFHxA	88.7	70 - 130	
PFOA	ND	4.11	9.05	18.1		SUR 13C2-PFDA	82.9	70 - 130	
PFOS	ND	2.76	9.05	18.1					

DL - Detection limit

RL - Reporting limit

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: ME-FB01-0417**EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1700483-02	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.283 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	17-Apr-2017 10:44			Date Analyzed:	21-Apr-17 19:40	Column:	BEH C18		
Location:									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.09	8.84	17.7		SUR 13C2-PFHxA	93.4	70 - 130	
PFOA	ND	4.01	8.84	17.7		SUR 13C2-PFDA	86.6	70 - 130	
PFOS	ND	2.70	8.84	17.7					

DL - Detection limit
 RL - Reporting limit

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: ME-RW02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700483-03	Date Received:	20-Apr-2017 9:32	
Project:	679580 NAS Meridian	Sample Size:	0.284 L		QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35	
Date Collected:	18-Apr-2017 8:58				Date Analyzed:	21-Apr-17 19:52 Column: BEH C18			
Location:	ME-RW02								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.07	8.80	17.6		SUR 13C2-PFHxA	84.0	70 - 130	
PFOA	ND	4.00	8.80	17.6		SUR 13C2-PFDA	79.2	70 - 130	
PFOS	ND	2.68	8.80	17.6					

DL - Detection limit

RL - Reporting limit

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.

LFSM Results

EPA Method 537

Source Client ID: ME-RW02-0417	QC Batch: B7D0099	Lab Sample: B7D0099-MS1/B7D0099-MSD1
Source LabNumber: 1700483-03	Date Extracted: 20-Apr-2017 13:35	Date Analyzed: 21-Apr-17 20:05 Column: BEH C18
Matrix: Drinking Water		21-Apr-17 20:17 Column: BEH C18
Sample Size: 0.287/0.273 L		

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
PFBS	7.70	103	J	8.08	101	1.96	J	70 - 130	30	SUR 13C2-PFHxA	82.9		89.0	
PFOA	8.71	84.3	J	9.14	95.2	12.1	J	70 - 130	30	SUR 13C2-PFDA	80.1		78.1	
PFOS	8.05	76.4	J	8.45	109	35.2	J, H	70 - 130	30					

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: ME-FB02-0417**EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1700483-04	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.285 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	18-Apr-2017 8:59			Date Analyzed:	21-Apr-17 20:29	Column:	BEH C18		
Location:									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.06	8.77	17.5		SUR 13C2-PFHxA	83.2	70 - 130	
PFOA	ND	3.98	8.77	17.5		SUR 13C2-PFDA	80.5	70 - 130	
PFOS	ND	2.67	8.77	17.5					

DL - Detection limit

RL - Reporting limit

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.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	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
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
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

For Laboratory Use Only

Laboratory Project ID: 1700483 Temp: 0.5 °C
Storage ID: WR-2, E-5 Storage Secured: Yes No

Project ID: 679580, NAS Meridian P.O.#: 100067106051 Sampler: John Towns
(name)

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

Invoice to: Name Katie Tippin Company CH2M Address _____ City _____ State _____ Ph# _____ Fax# _____

Relinquished by (printed name and signature) John Towns Date 4/19/17 Time 1300 Received by (printed name and signature) Benedict B. Benedict Date 04/20/17 Time 1000

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
Tracking No.: _____

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

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments		
ME-RW01-0417	4/17/17	1043	ME-RW01	2	P	DW																	X		
ME-FB01-0417	4/17/17	1044	n/a	2	P	AQ																		X	
ME-RW02-0417	4/18/17	0858	ME-RW02	2	P	DW																		X	
ME-FB02-0417	4/18/17	0859	n/a	2	P	AQ																		X	
ME-RW02-0417-MS	4/18/17	0858	ME-RW02	2	P	DW																		X	
ME-RW02-0417-SD	4/18/17	0858	ME-RW02	2	P	DW																		X	
ME-RW03-0417	4/19/17		ME-RW03	2	P	DW																		X	
ME-FB03-0417	4/19/17		ME-RW03	2	P	AQ																		X	

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Katie Tippin
Company: CH2M
Address: _____
City: _____ State: _____ Zip: _____
Phone: 757-831-1113 Fax: _____
Email: Katie.Tippin@ch2m.com

Container Types: A = 1 Liter Amber, G = Glass Jar
P = HDPE, O = Other: _____
Work Order 1700483

Bottle Preservation Type: T = Thiosulfate,
TZ = Trizma: _____

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: _____

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700483 TAT 7 days

Samples Arrival:	Date/Time <u>04/20/17 0932</u>	Initials: <u>BSB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>U/2</u>
Logged In:	Date/Time <u>4/20/17 1027</u>	Initials: <u>WJS</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>E-5</u>
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: <u>0.2</u> (uncorrected)	Time: <u>1000</u>		Thermometer ID: IR-1
Temp °C: <u>0.5</u> (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill			
Trk # <u>7862 1150 4978</u>	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	✓		
Preservation Documented:			
<u>Na₂S₂O₃</u> <u>Trizma</u>	<u>Yes</u>	<input type="radio"/> No	<input type="radio"/> NA
Shipping Container	<input checked="" type="radio"/> Vista	<input type="radio"/> Client	<input type="radio"/> Retain
	<input type="radio"/> Return	<input type="radio"/> Dispose	

Comments:

April 25, 2017

Vista Work Order No. 1700483

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 April 20, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name '679580 NAS Meridian'.

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

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

Sincerely,



Martha Maier
Laboratory Director



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

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700483-01	ME-RW01-0417		17-Apr-17 10:43	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700483-02	ME-FB01-0417		17-Apr-17 10:44	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1700483-03	ME-RW02-0417	MS/MSD	18-Apr-17 08:58	20-Apr-17 09:32	HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
1700483-04	ME-FB02-0417		18-Apr-17 08:59	20-Apr-17 09:32	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB						EPA Method 537			
Matrix: Drinking Water Sample Size: 0.250 L		QC Batch: B7D0099 Date Extracted: 20-Apr-2017 13:35		Lab Sample: B7D0099-BLK1 Date Analyzed: 21-Apr-17 19:15 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.49	10.0	20.0		SUR 13C2-PFHxA	90.0	70 - 130	
PFOA	ND	4.54	10.0	20.0		SUR 13C2-PFDA	85.5	70 - 130	
PFOS	ND	3.05	10.0	20.0					

DL - Detection limit
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Only the linear isomer is reported for all other analytes.

Sample ID: LFB**EPA Method 537**

Matrix: Drinking Water Sample Size: 0.250 L	QC Batch: B7D0099 Date Extracted: 20-Apr-2017 13:35	Lab Sample: B7D0099-BS1 Date Analyzed: 21-Apr-17 18:38 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	7.94	8.84	89.8	70 - 130	SUR 13C2-PFHxA	89.7	70 - 130
PFOA	10.5	10.0	105	70 - 130	SUR 13C2-PFDA	83.6	70 - 130
PFOS	7.44	9.24	80.5	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: ME-RW01-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700483-01	Date Received:	20-Apr-2017 9:32	
Project:	679580 NAS Meridian	Sample Size:	0.276 L		QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35	
Date Collected:	17-Apr-2017 10:43				Date Analyzed:	21-Apr-17 19:27 Column: BEH C18			
Location:	ME-RW01								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.16	9.05	18.1		SUR 13C2-PFHxA	88.7	70 - 130	
PFOA	ND	4.11	9.05	18.1		SUR 13C2-PFDA	82.9	70 - 130	
PFOS	ND	2.76	9.05	18.1					

DL - Detection limit

RL - Reporting limit

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: ME-FB01-0417**EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1700483-02	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.283 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	17-Apr-2017 10:44			Date Analyzed:	21-Apr-17 19:40	Column:	BEH C18		
Location:									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.09	8.84	17.7		SUR 13C2-PFHxA	93.4	70 - 130	
PFOA	ND	4.01	8.84	17.7		SUR 13C2-PFDA	86.6	70 - 130	
PFOS	ND	2.70	8.84	17.7					

DL - Detection limit
 RL - Reporting limit

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: ME-RW02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1700483-03	Date Received:	20-Apr-2017 9:32	
Project:	679580 NAS Meridian	Sample Size:	0.284 L		QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35	
Date Collected:	18-Apr-2017 8:58	Date Analyzed: 21-Apr-17 19:52 Column: BEH C18							
Location:	ME-RW02								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.07	8.80	17.6		SUR 13C2-PFHxA	84.0	70 - 130	
PFOA	ND	4.00	8.80	17.6		SUR 13C2-PFDA	79.2	70 - 130	
PFOS	ND	2.68	8.80	17.6					

DL - Detection limit

RL - Reporting limit

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.

LFSM Results

EPA Method 537

Source Client ID: ME-RW02-0417	QC Batch: B7D0099	Lab Sample: B7D0099-MS1/B7D0099-MSD1
Source LabNumber: 1700483-03	Date Extracted: 20-Apr-2017 13:35	Date Analyzed: 21-Apr-17 20:05 Column: BEH C18
Matrix: Drinking Water		21-Apr-17 20:17 Column: BEH C18
Sample Size: 0.287/0.273 L		

Analyte	Spike-MS (ng/L)	MS %R	MS Qual.	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit	Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
PFBS	7.70	103	J	8.08	101	1.96	J	70 - 130	30	SUR 13C2-PFHxA	82.9		89.0	
PFOA	8.71	84.3	J	9.14	95.2	12.1	J	70 - 130	30	SUR 13C2-PFDA	80.1		78.1	
PFOS	8.05	76.4	J	8.45	109	35.2	J, H	70 - 130	30					

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: ME-FB02-0417**EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Aqueous		Lab Sample:	1700483-04	Date Received:	20-Apr-2017 9:32	
Project:	679580 NAS Meridian	Sample Size:	0.285 L		QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35	
Date Collected:	18-Apr-2017 8:59				Date Analyzed:	21-Apr-17 20:29 Column: BEH C18			
Location:									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.06	8.77	17.5		SUR 13C2-PFHxA	83.2	70 - 130	
PFOA	ND	3.98	8.77	17.5		SUR 13C2-PFDA	80.5	70 - 130	
PFOS	ND	2.67	8.77	17.5					

DL - Detection limit

RL - Reporting limit

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.
M	Estimated Maximum Possible Concentration. (CA Region 2 projects only)
*	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
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
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

For Laboratory Use Only

Laboratory Project ID: 1700483 Temp: 0.5 °C
 Storage ID: WR-2, E-5 Storage Secured: Yes No

Project ID: 679580, NAS Meridian P.O.#: 100067106051 Sampler: John Towns
 (name)

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

Invoice to: Name Katie Tippin Company CH2M Address _____ City _____ State _____ Ph# _____ Fax# _____

Relinquished by (printed name and signature) John Towns Date 4/19/17 Time 1300 Received by (printed name and signature) Benedict B. Benedict Date 04/20/17 Time 1000

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

Add Analysis(es) Requested

Container(s)

ATTN: Martha Maier

Tracking No.: _____

			EPA 1613	EPA 8290	EPA 8280	EPA 1668	EPA 1814	CAR8429							
Quantity	Type	Matrix	2378-TCDD	PCDD/PCDF	2378-TCDD	PCDD/PCDF	2378-TCDD	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	PCDD/PCDF	2378-TCDD	PCDD/PCDF	2378-TCDD	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments	
ME-RW01-0417	4/17/17	1043	ME-RW01	2	P	DW														X	
ME-FB01-0417	4/17/17	1044	n/a	2	P	AQ														X	
ME-RW02-0417	4/18/17	0858	ME-RW02	2	P	DW														X	
ME-FB02-0417	4/18/17	0859	n/a	2	P	AQ														X	
ME-RW02-0417-MS	4/18/17	0858	ME-RW02	2	P	DW														X	
ME-RW02-0417-SD	4/18/17	0858	ME-RW02	2	P	DW														X	
ME-RW03-0417	4/19/17		ME-RW03	2	P	DW														X	
ME-FB03-0417	4/19/17		ME-RW03	2	P	AQ														X	

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:

Name: Katie Tippin
 Company: CH2M
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: 757-831-1113 Fax: _____
 Email: Katie.Tippin@ch2m.com

Container Types: A = 1 Liter Amber, G = Glass Jar
 P = HDPE, O = Other: _____
 Work Order 1700483

Bottle Preservation Type: T = Thiosulfate,
 TZ = Trizma: _____

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: _____

SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700483 TAT 7 days

Samples Arrival:	Date/Time <u>04/20/17 0932</u>	Initials: <u>BSB</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>U/2</u>
Logged In:	Date/Time <u>4/20/17 1027</u>	Initials: <u>WJS</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>E-5</u>
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: <u>0.2</u> (uncorrected)	Time: <u>1000</u>	Thermometer ID: IR-1	
Temp °C: <u>0.5</u> (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	Trk # <u>7862 1150 4978</u>	✓	
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	✓		
Preservation Documented:	<u>Na₂S₂O₃</u>	<u>Trizma</u>	<u>Yes</u>
	No	NA	
Shipping Container	<u>Vista</u>	Client	<u>Retain</u>
	<u>Return</u>		Dispose

Comments:

EXTRACTION INFORMATION

Process Sheet
Workorder: 1700483



Prep Expiration: 2017-May-01
Client: CH2M Hill

Workorder Due: 27-Apr-17 00:00

TAT: 7

Method: 537 PFAS DW DoD Unmodified
Matrix: Drinking Water

Prep Batch: B7D0099

Prep Data Entered: BP 4.21.17
Date and Initials

Version: PFOA, PFOS, & PFBS

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700483-01	<input checked="" type="checkbox"/>	ME-RW01-0417	20-Apr-17 09:32	WR-2 E-5	
1700483-02	<input checked="" type="checkbox"/>	ME-FB01-0417	20-Apr-17 09:32	WR-2 E-5	
1700483-03	<input checked="" type="checkbox"/>	ME-RW02-0417	20-Apr-17 09:32	WR-2 E-5	MS/MSD
1700483-04	<input checked="" type="checkbox"/>	ME-FB02-0417	20-Apr-17 09:32	WR-2 E-5	

Vista PM: Martha Maier

Vial Box ID: Monkey Business

Sample Reconciled By: [Signature]

Page 1 of 1

4.29.17

Batch: B7D0099

Matrix: Drinking Water

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700483-01	0.27639 ✓	NA	NA	1000	20-Apr-17 13:35	BAP			Drinking Water	537 PFAS DW DoD Unmoc
1700483-02	0.28277 ✓			1000	20-Apr-17 13:35	BAP			Aqueous	537 PFAS DW DoD Unmoc
1700483-03	0.28407 ✓			1000	20-Apr-17 13:35	BAP			Drinking Water	537 PFAS DW DoD Unmoc
1700483-04	0.2852 ✓			1000	20-Apr-17 13:35	BAP			Aqueous	537 PFAS DW DoD Unmoc
B7D0099-BLK1	0.25 ✓			1000	20-Apr-17 13:35	BAP				QC
B7D0099-BS1	0.25 ✓			1000	20-Apr-17 13:35	BAP	17D1901 ✓	10 ✓		QC
B7D0099-MS1	0.28697 ✓			1000	20-Apr-17 13:35	BAP	17D1901 ✓	10 ✓		QC
B7D0099-MSD1	0.27346 ✓			1000	20-Apr-17 13:35	BAP	17D1901	10 ✓		QC

JP 4.25.17

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7D0099

Chemist: BP

Prep Date/Time: 20-Apr-17 13:35

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	NS/NR CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
<input type="checkbox"/>	B7D0099-BLK1 (A)	N/A	N/A	(0.250)	BP HC 4/20/17		BP HC 4/21/17
<input type="checkbox"/>	B7D0099-BS1 (A)	↓	↓	↓	—	—	—
<input type="checkbox"/>	B7D0099-MS1 1700483-03	313.52	26.55	0.28697 -	SS C7D0097	↓	↓
<input type="checkbox"/>	B7D0099-MSD1 1700483-03	301.03	27.57	0.27346 -			
<input type="checkbox"/>	1700483-01	304.46	28.07	0.27639 ✓			
<input type="checkbox"/>	1700483-02	310.13	27.36	0.28277 ✓			
<input type="checkbox"/>	1700483-03	311.85	27.78	0.28407 -			
<input type="checkbox"/>	1700483-04	312.87	27.67	0.2852 -			

(A) to make sure all bottles are used

NS Name <u>17D1704, SOL</u> (B)	NS Name <u>17D1901, SOL</u>	RS Name <u>17D1706, SOL</u> (B)	SPE Chem: <u>Strata X 33um 50um/bm</u>	Check Out: Chemist/Date: <u>HC 4/20/17</u>
			Ele SOLV: <u>MeOH</u>	Check In: Chemist/Date: <u>N/A</u>
			Final Volume(s): <u>1ul</u>	Balance ID: <u>HRMS-8</u>

Comments: Assume 1 g = 1 mL

SAMPLE DATA –EPA METHOD 537

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-8.qld

Last Altered: Monday, April 24, 2017 13:12:27 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:13:14 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-BLK1 LRB 0.25, Description: LRB, Name: 170421G3_8, Date: 21-Apr-2017, Time: 19:15:32

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.173e3		0.250			
2	4 PFOA	413 > 368.7		6.770e3		0.250			
3	5 PFOS	499 >79.9		9.173e3		0.250			
4	7 13C2-PFHxA	315.0 > 269.8	2.732e3	6.770e3	0.449	0.250	3.29	36.0	90.0
5	8 13C2-PFDA	515.1>469.9	4.648e3	6.770e3	0.803	0.250	4.85	34.2	85.5
6	9 13C2-PFOA	414.9 > 369.7	6.770e3	6.770e3	1.000	0.250	4.22	40.0	100
7	10 13C4-PFOS	503.0 > 79.9	9.173e3	9.173e3	1.000	0.250	4.62	115	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-8.qld

Last Altered: Monday, April 24, 2017 13:12:27 Pacific Daylight Time

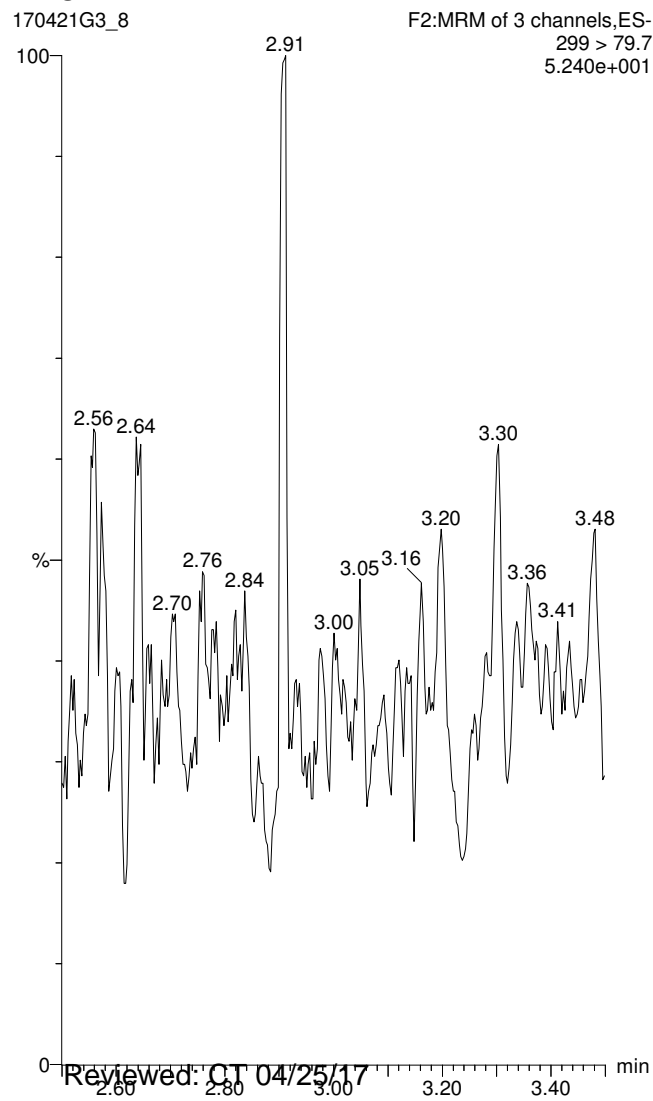
Printed: Monday, April 24, 2017 13:13:14 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

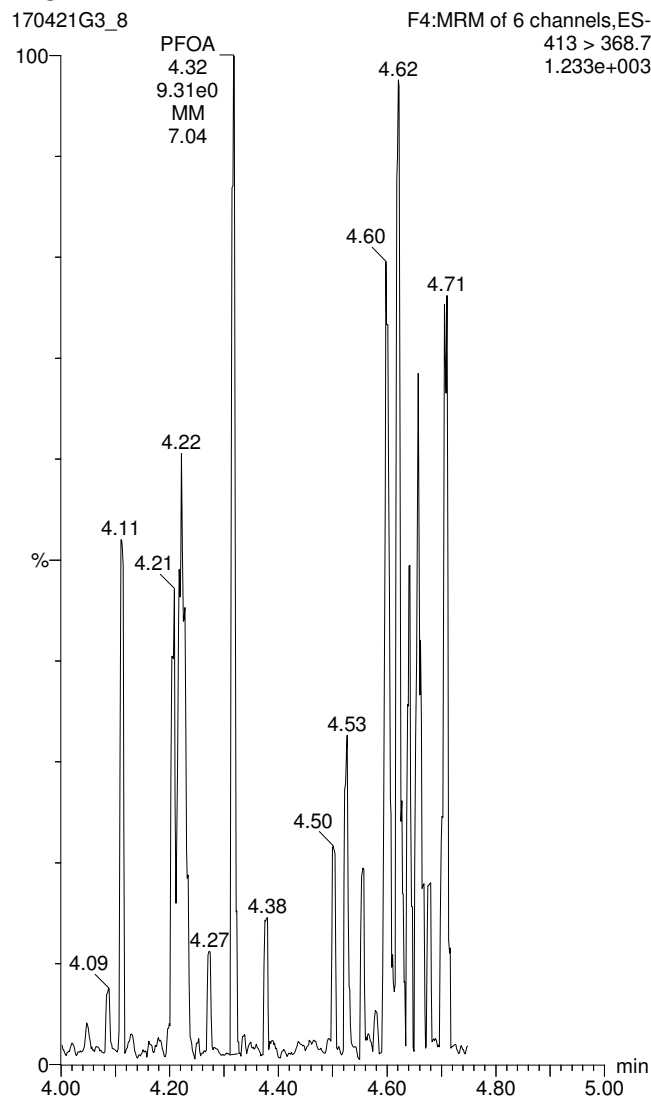
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-BLK1 LRB 0.25, Description: LRB, Name: 170421G3_8, Date: 21-Apr-2017, Time: 19:15:32, Instrument: , Lab: , User:

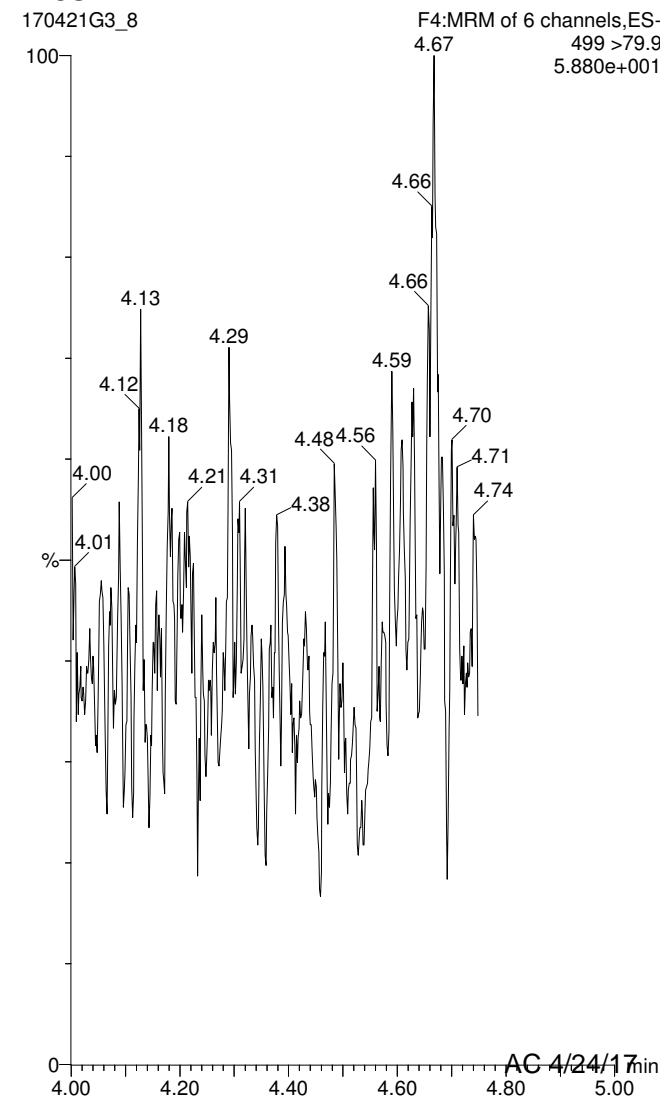
PFBS



PFOA



PFOS



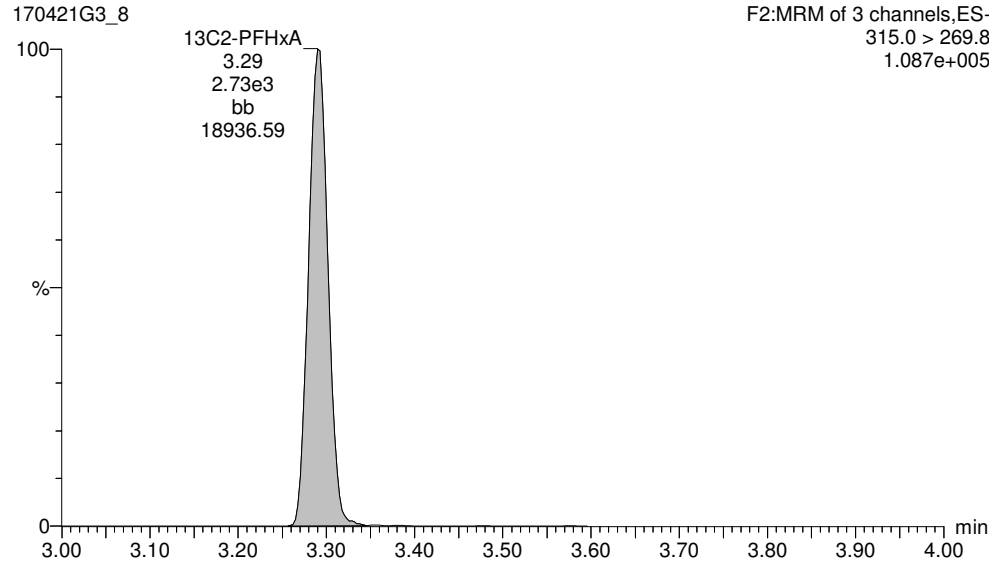
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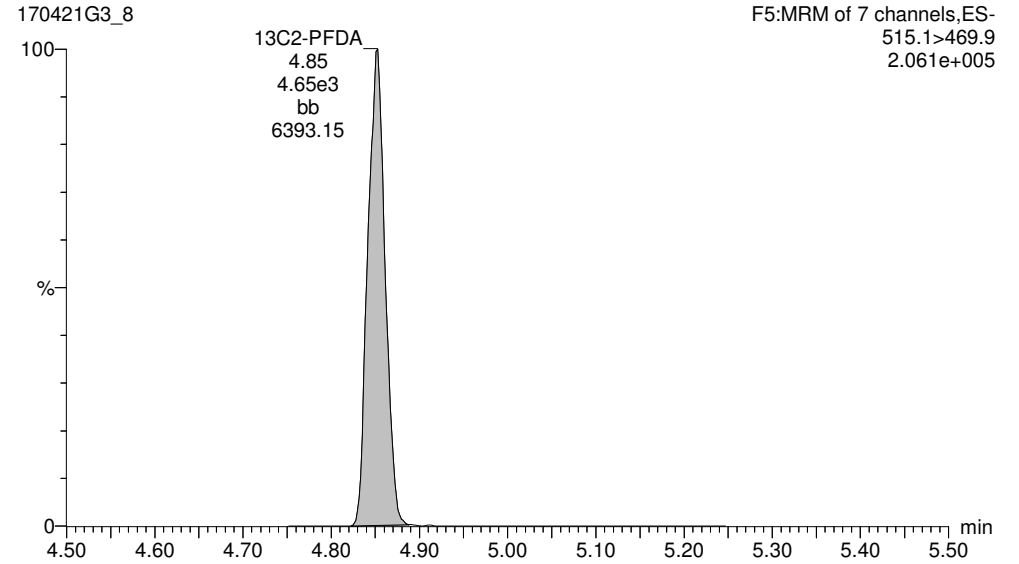
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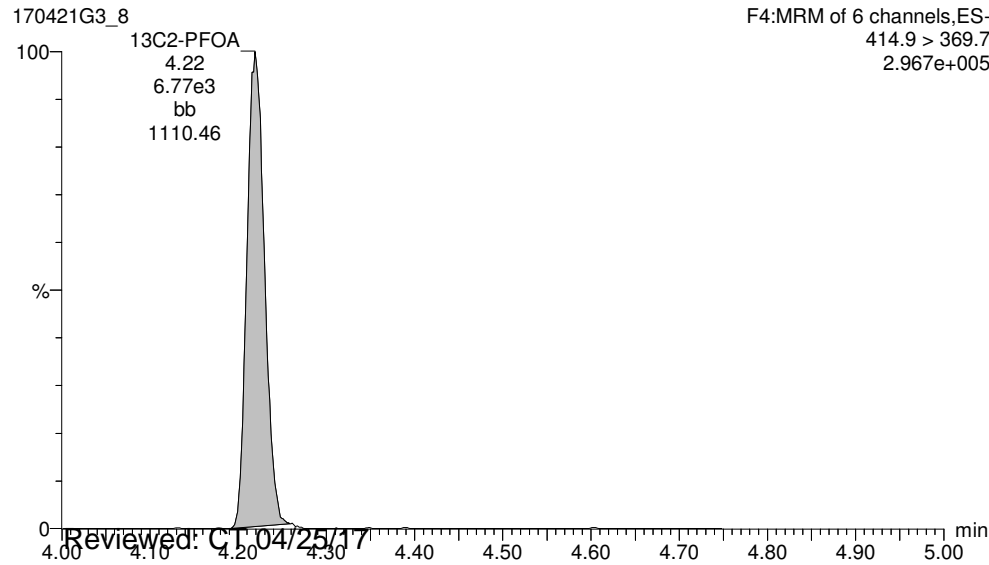
13C2-PFHxA



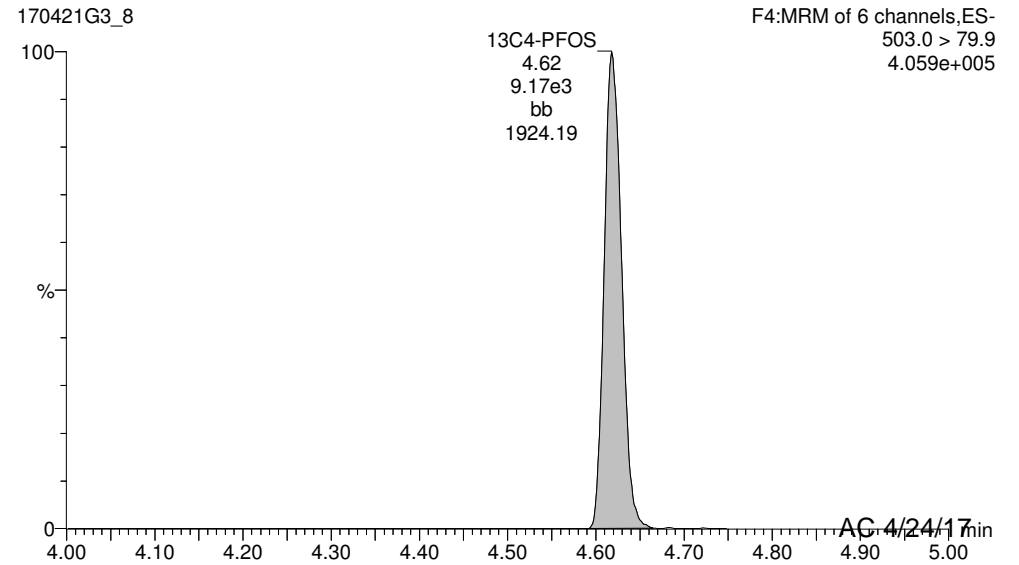
13C2-PFDA



13C2-PFOA



13C4-PFOS



Reviewed: C:\04/25/17

Work Order 1700483

AG 4/24/17

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-5.qld

Last Altered: Monday, April 24, 2017 09:29:32 Pacific Daylight Time

Printed: Monday, April 24, 2017 09:30:31 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-BS1 LFB 0.25, Description: LFB, Name: 170421G3_5, Date: 21-Apr-2017, Time: 18:38:17

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	5.780e2	9.115e3		0.250	2.91	7.94	89.7
2	4 PFOA	413 > 368.7	1.324e3	6.478e3		0.250	4.22	10.5	105
3	5 PFOS	499 >79.9	2.060e2	9.115e3		0.250	4.62	7.44	80.0
4	7 13C2-PFHxA	315.0 > 269.8	2.608e3	6.478e3	0.449	0.250	3.29	35.9	89.7
5	8 13C2-PFDA	515.1>469.9	4.350e3	6.478e3	0.803	0.250	4.85	33.5	83.6
6	9 13C2-PFOA	414.9 > 369.7	6.478e3	6.478e3	1.000	0.250	4.22	40.0	100
7	10 13C4-PFOS	503.0 > 79.9	9.115e3	9.115e3	1.000	0.250	4.62	115	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-5.qld

Last Altered: Monday, April 24, 2017 09:29:32 Pacific Daylight Time

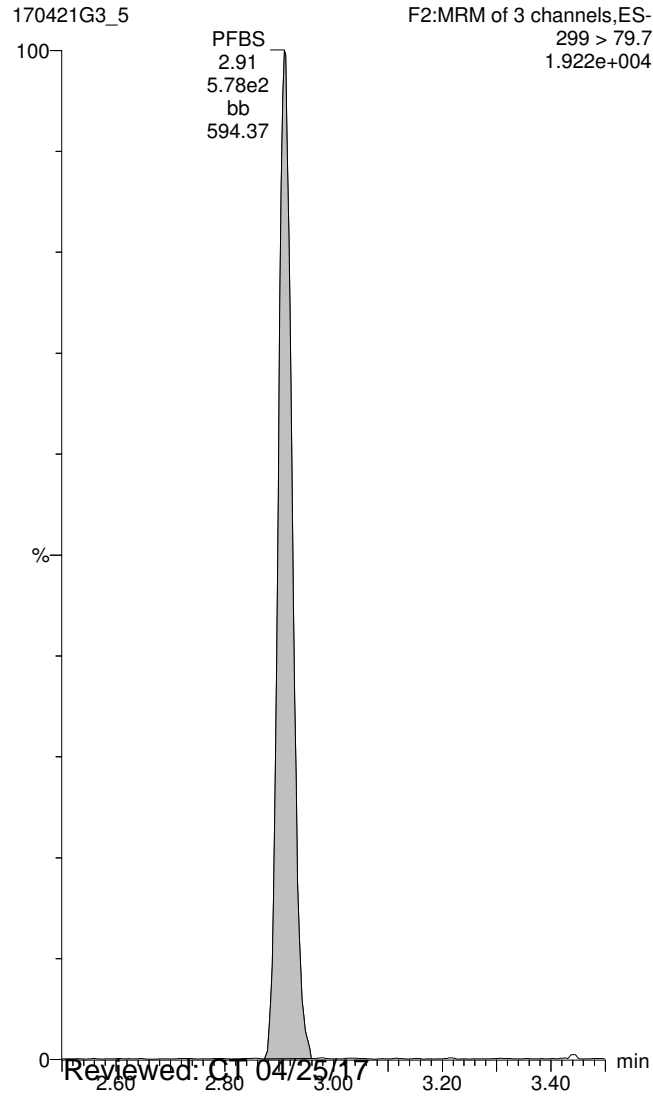
Printed: Monday, April 24, 2017 09:30:31 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

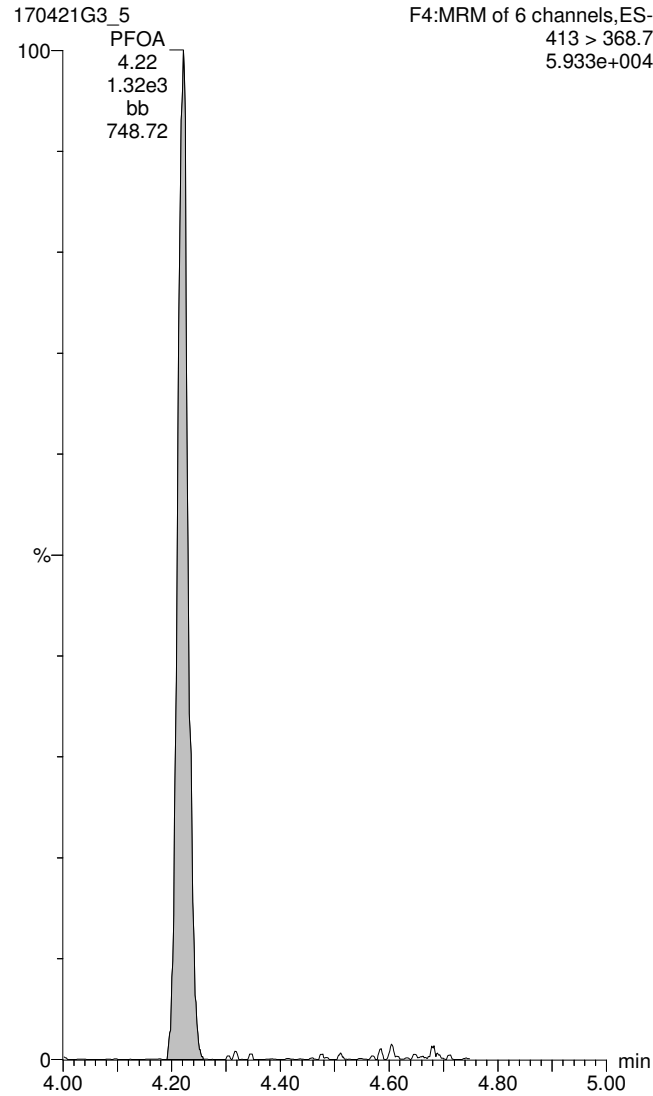
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-BS1 LFB 0.25, Description: LFB, Name: 170421G3_5, Date: 21-Apr-2017, Time: 18:38:17, Instrument: , Lab: , User:

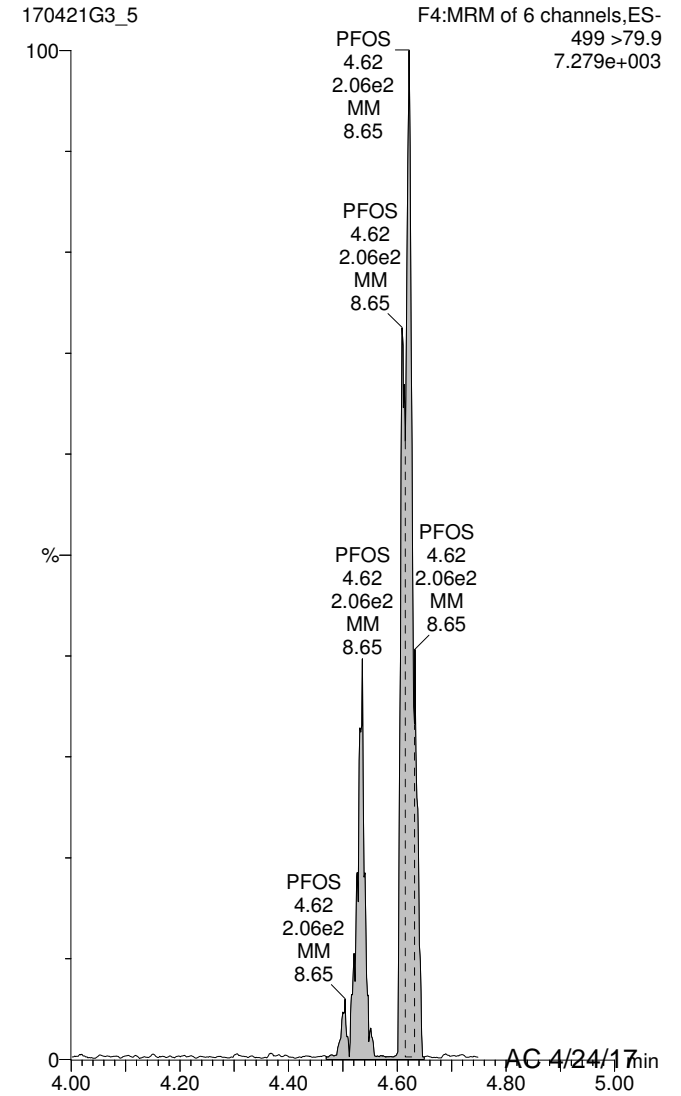
PFBS



PFOA



PFOS



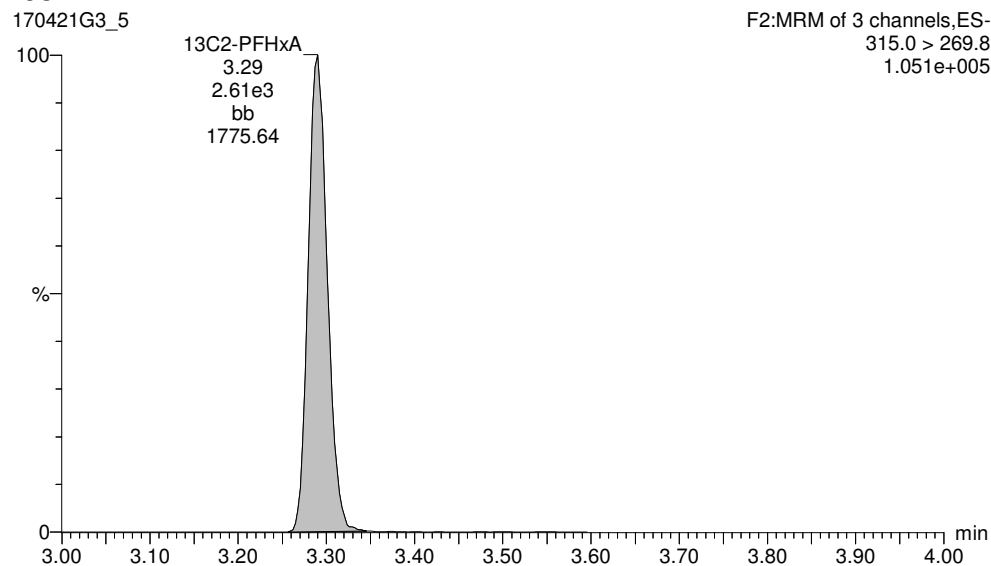
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Last Altered: Monday, April 24, 2017 09:29:32 Pacific Daylight Time

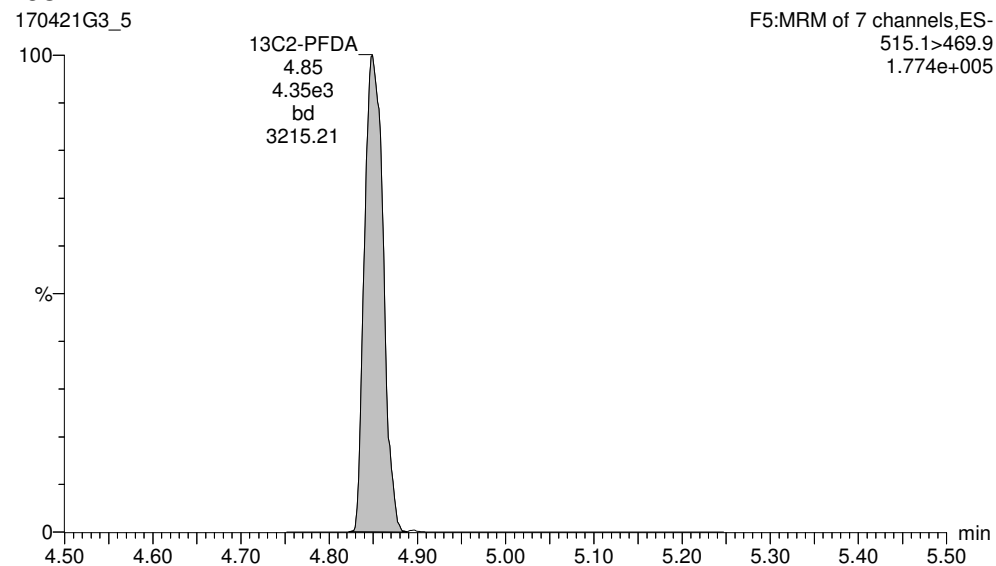
Printed: Monday, April 24, 2017 09:30:31 Pacific Daylight Time

ID: B7D0099-BS1 LFB 0.25, Description: LFB, Name: 170421G3_5, Date: 21-Apr-2017, Time: 18:38:17, Instrument: , Lab: , User:

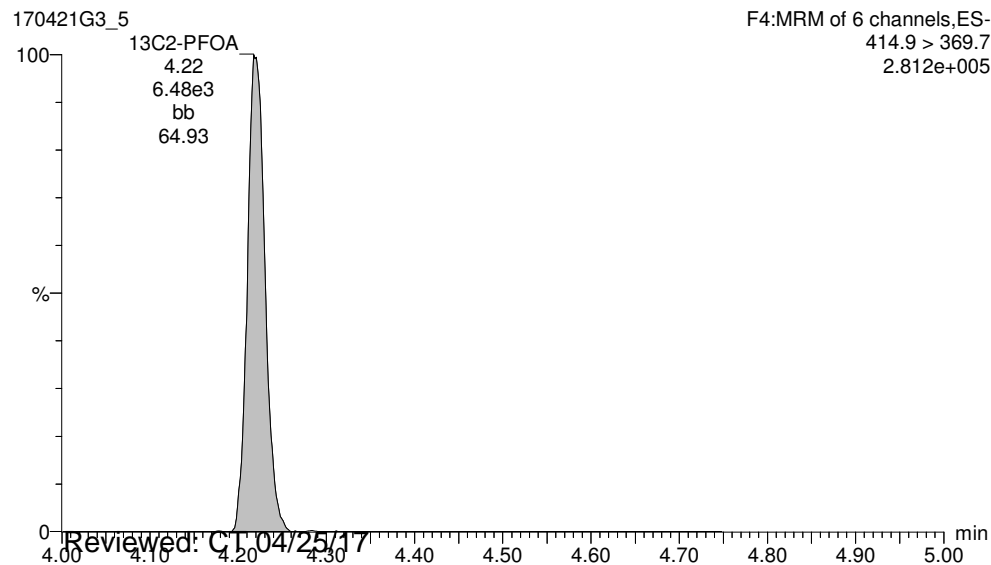
13C2-PFHxA



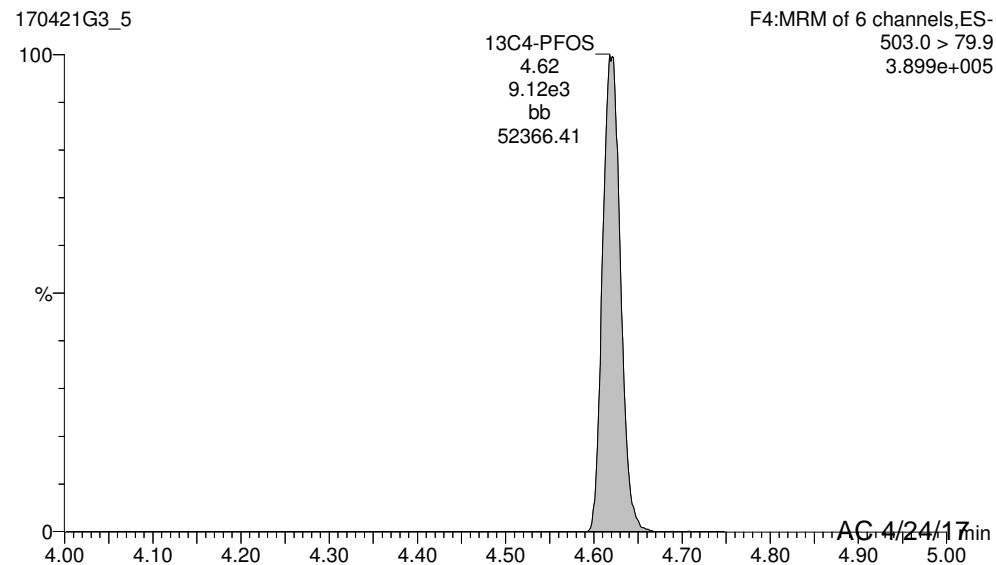
13C2-PFDA



13C2-PFOA



13C4-PFOS



Reviewed: C:\04/25/17

Work Order 1700483

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-9.qld

Last Altered: Monday, April 24, 2017 13:14:24 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:14:59 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-01 ME-RW01-0417 0.25, Description: ME-RW01-0417, Name: 170421G3_9, Date: 21-Apr-2017, Time: 19:27:53

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.855e3		0.276			
2	4 PFOA	413 > 368.7	3.269e1	6.428e3		0.276	4.23	0.236	
3	5 PFOS	499 >79.9		8.855e3		0.276			
4	7 13C2-PFHxA	315.0 > 269.8	2.557e3	6.428e3	0.449	0.276	3.29	32.1	88.7
5	8 13C2-PFDA	515.1>469.9	4.276e3	6.428e3	0.803	0.276	4.85	30.0	82.9
6	9 13C2-PFOA	414.9 > 369.7	6.428e3	6.428e3	1.000	0.276	4.22	36.2	100
7	10 13C4-PFOS	503.0 > 79.9	8.855e3	8.855e3	1.000	0.276	4.62	104	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-9.qld

Last Altered: Monday, April 24, 2017 13:14:24 Pacific Daylight Time

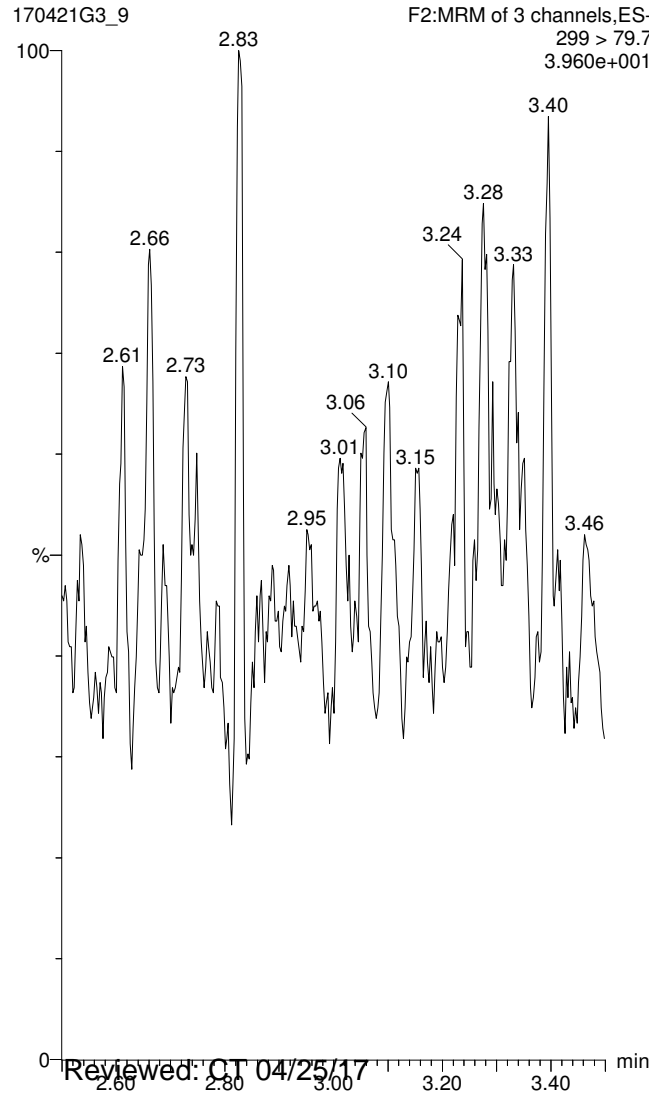
Printed: Monday, April 24, 2017 13:14:59 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

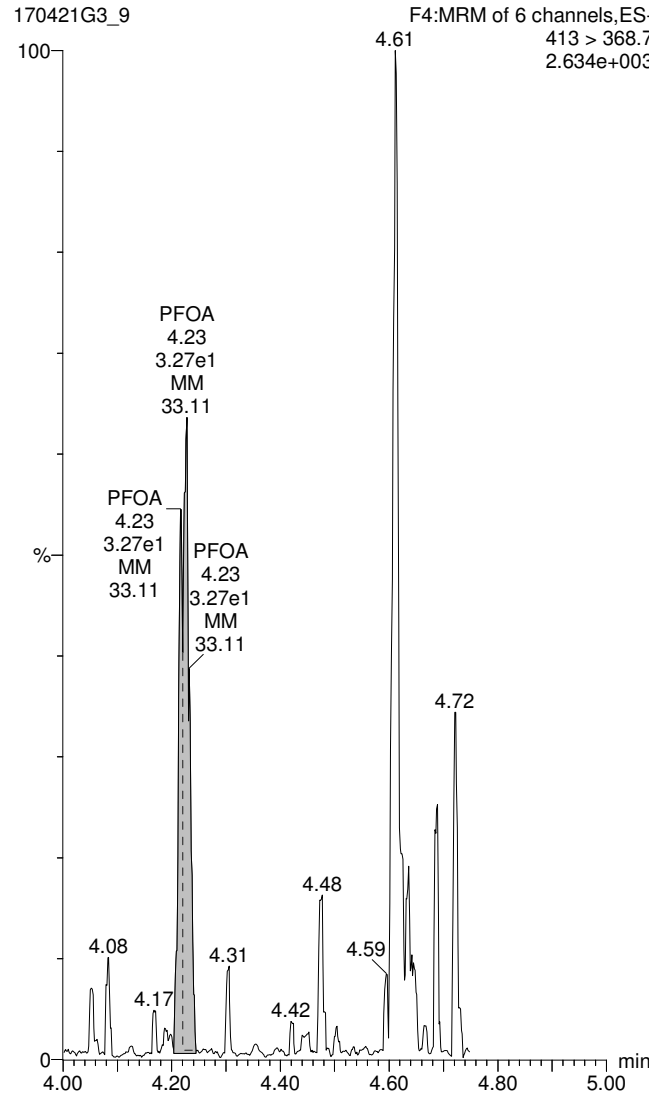
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-01 ME-RW01-0417 0.25, Description: ME-RW01-0417, Name: 170421G3_9, Date: 21-Apr-2017, Time: 19:27:53, Instrument: , Lab: , User:

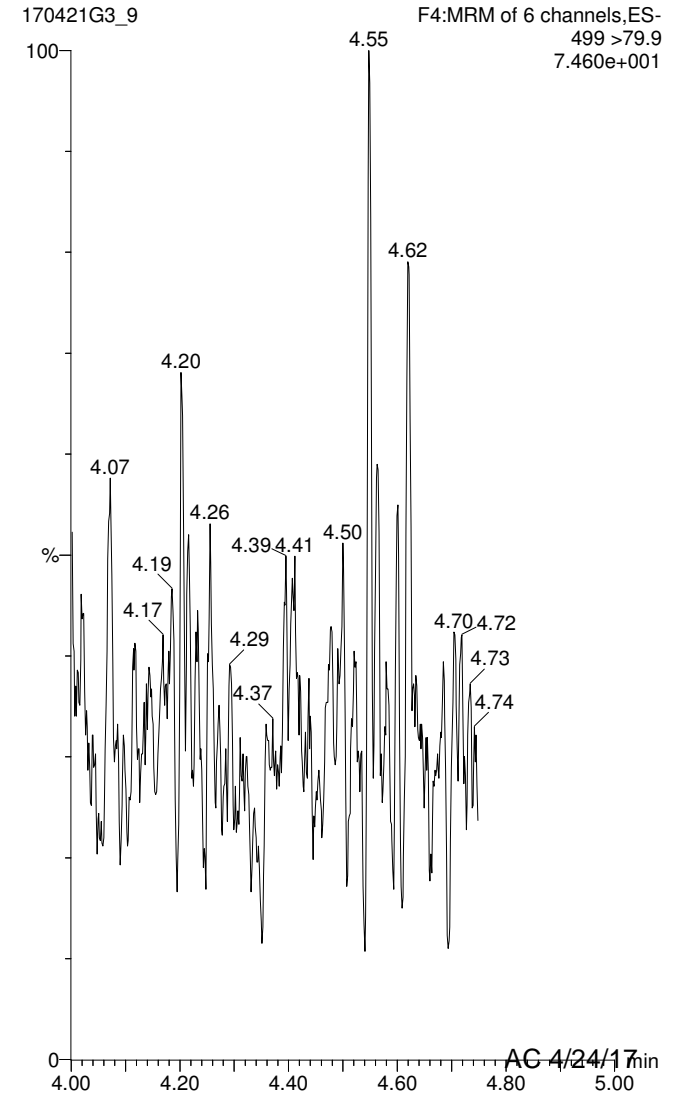
PFBS



PFOA



PFOS



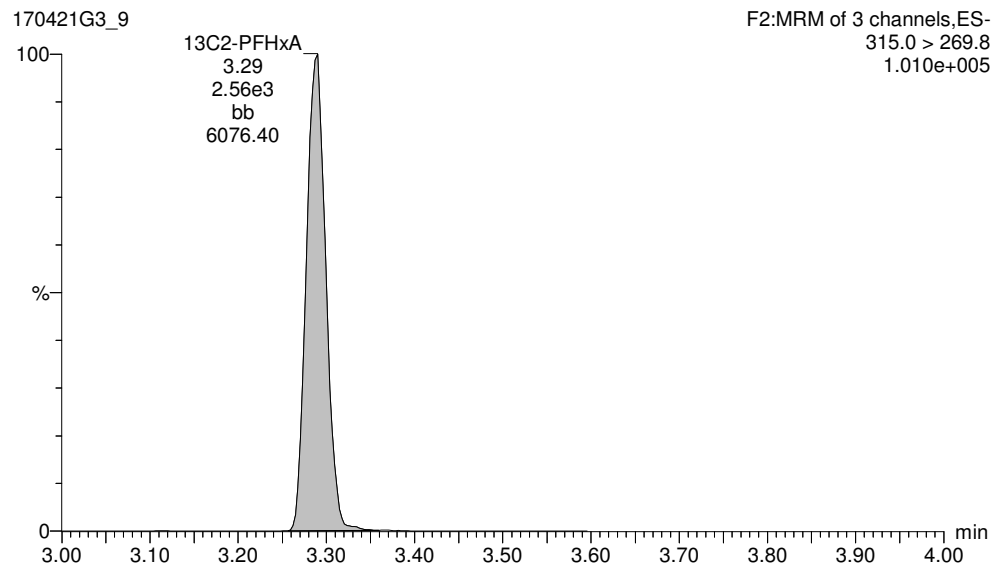
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Last Altered: Monday, April 24, 2017 13:14:24 Pacific Daylight Time

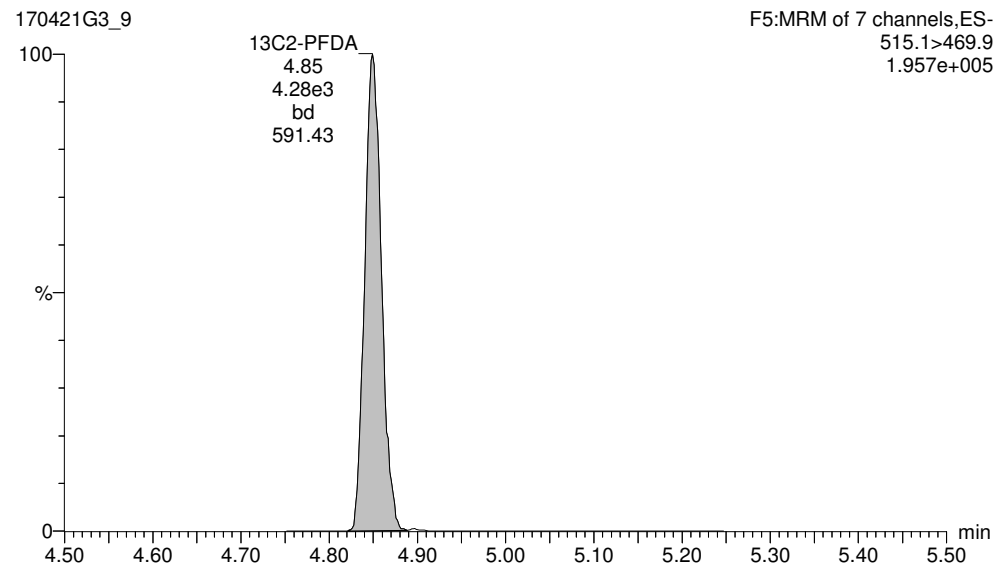
Printed: Monday, April 24, 2017 13:14:59 Pacific Daylight Time

ID: 1700483-01 ME-RW01-0417 0.25, Description: ME-RW01-0417, Name: 170421G3_9, Date: 21-Apr-2017, Time: 19:27:53, Instrument: , Lab: , User:

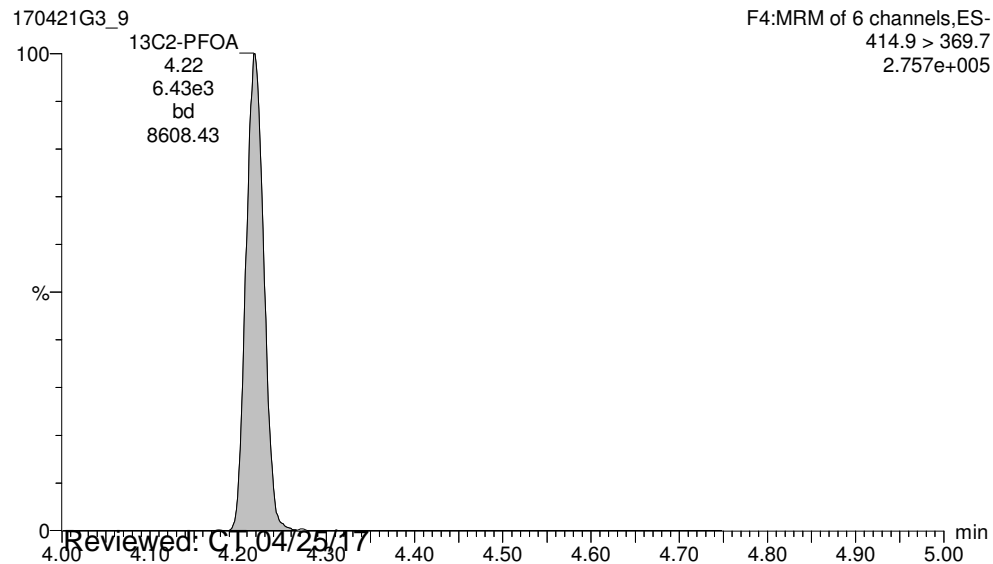
13C2-PFHxA



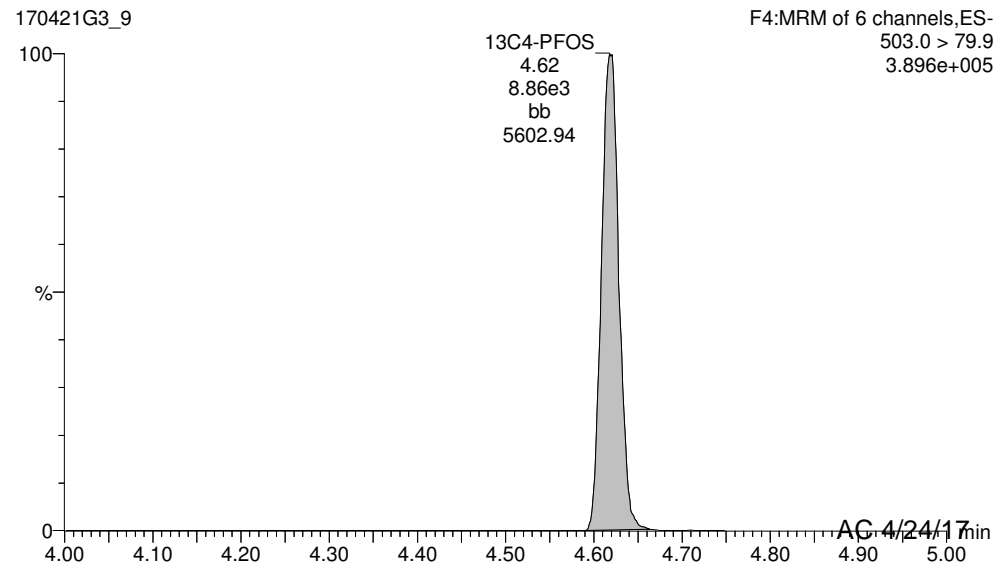
13C2-PFDA



13C2-PFOA



13C4-PFOS



Reviewed: C:\170425\17

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-10.qld

Last Altered: Monday, April 24, 2017 13:16:38 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:16:59 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-02 ME-FB01-0417 0.25, Description: ME-FB01-0417, Name: 170421G3_10, Date: 21-Apr-2017, Time: 19:40:16

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.031e3		0.283			
2	4 PFOA	413 > 368.7	2.639e1	6.422e3		0.283	4.22	0.186	
3	5 PFOS	499 >79.9		9.031e3		0.283			
4	7 13C2-PFHxA	315.0 > 269.8	2.692e3	6.422e3	0.449	0.283	3.29	33.0	93.4
5	8 13C2-PFDA	515.1>469.9	4.464e3	6.422e3	0.803	0.283	4.85	30.6	86.6
6	9 13C2-PFOA	414.9 > 369.7	6.422e3	6.422e3	1.000	0.283	4.22	35.4	100
7	10 13C4-PFOS	503.0 > 79.9	9.031e3	9.031e3	1.000	0.283	4.62	101	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-10.qld

Last Altered: Monday, April 24, 2017 13:16:38 Pacific Daylight Time

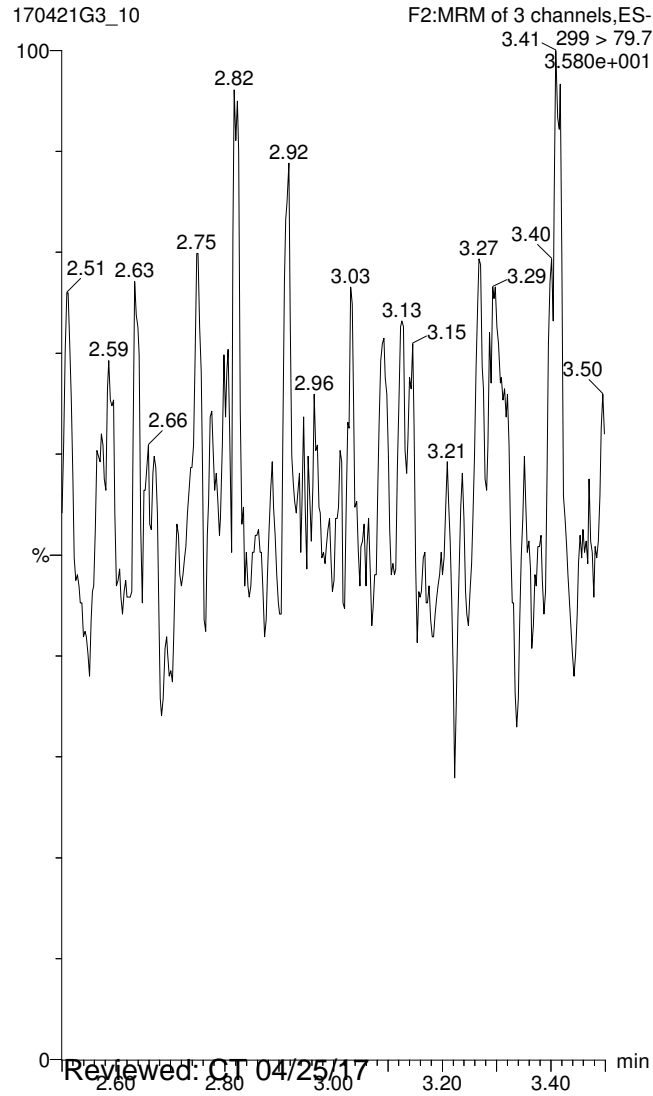
Printed: Monday, April 24, 2017 13:16:59 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

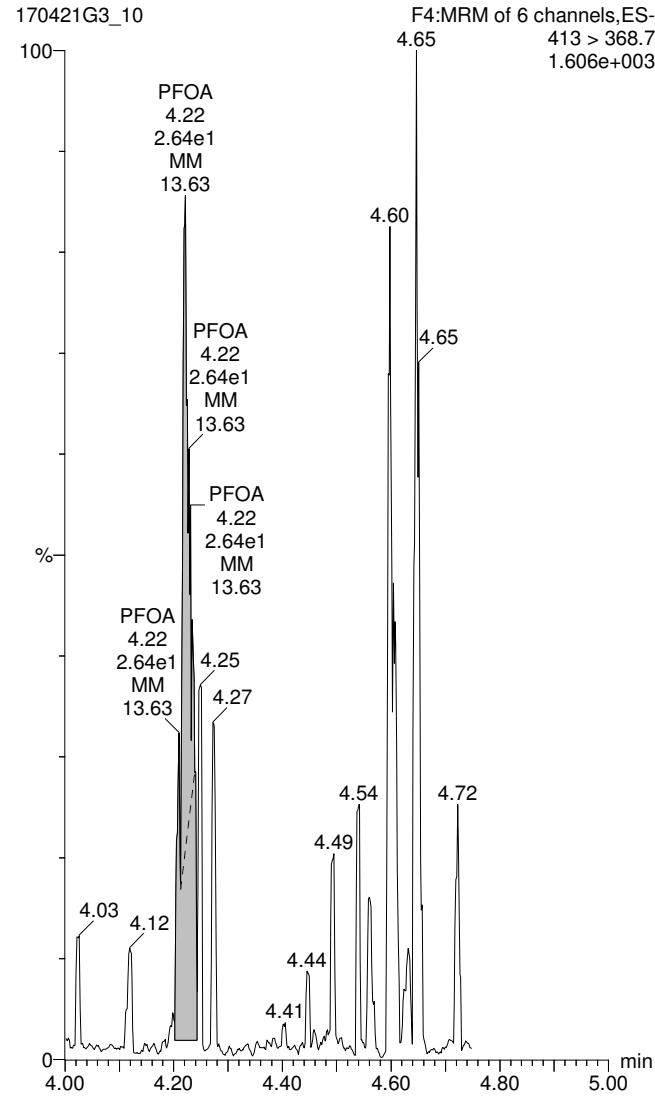
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-02 ME-FB01-0417 0.25, Description: ME-FB01-0417, Name: 170421G3_10, Date: 21-Apr-2017, Time: 19:40:16, Instrument: , Lab: , User:

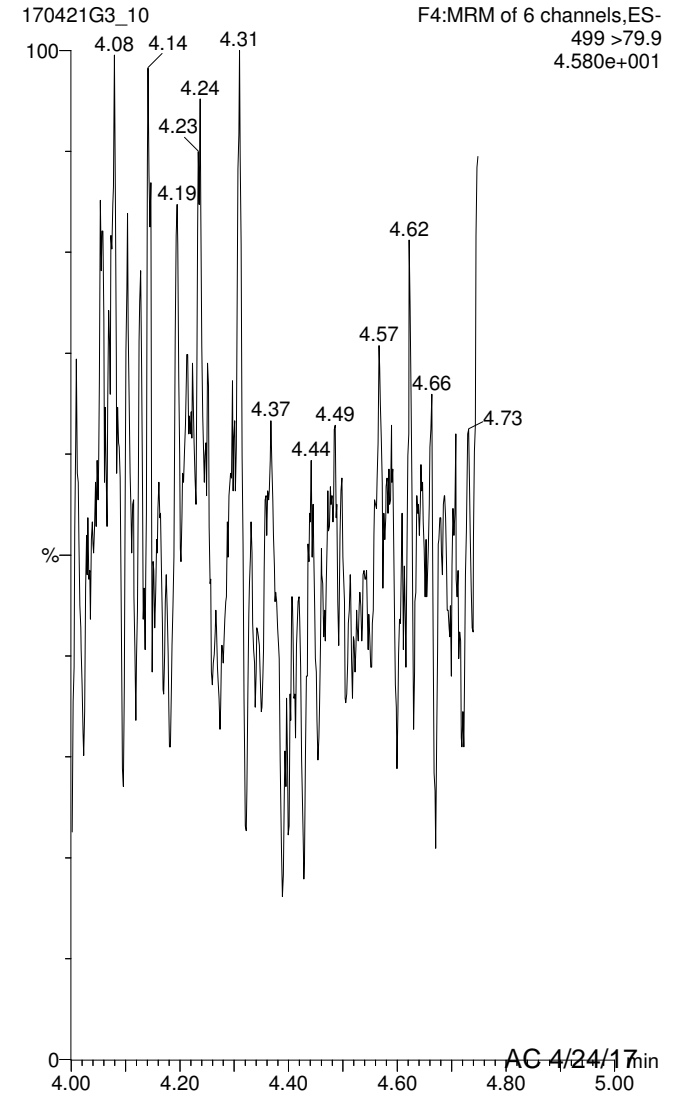
PFBS



PFOA



PFOS



Reviewed: 01/04/25/17

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-10.qld

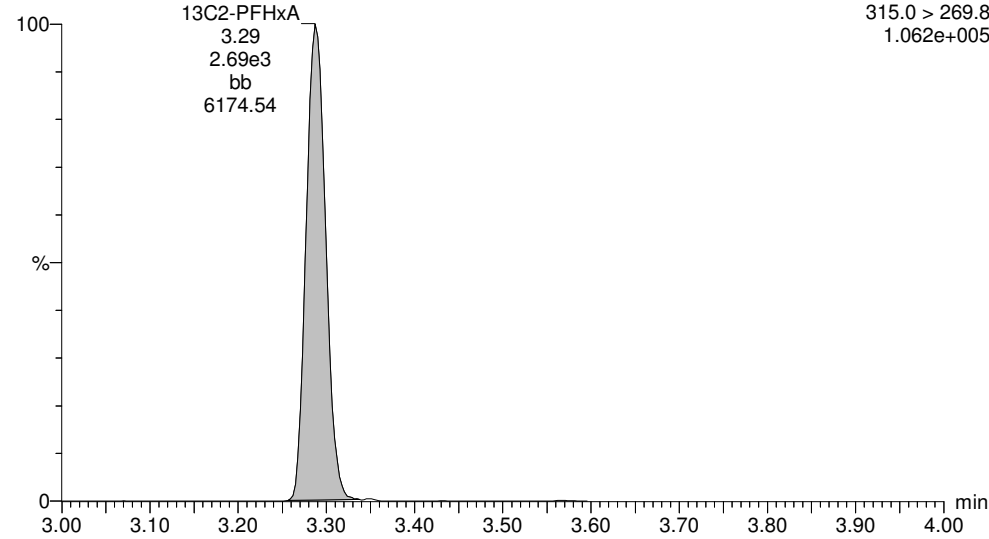
Last Altered: Monday, April 24, 2017 13:16:38 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:16:59 Pacific Daylight Time

ID: 1700483-02 ME-FB01-0417 0.25, Description: ME-FB01-0417, Name: 170421G3_10, Date: 21-Apr-2017, Time: 19:40:16, Instrument: , Lab: , User:

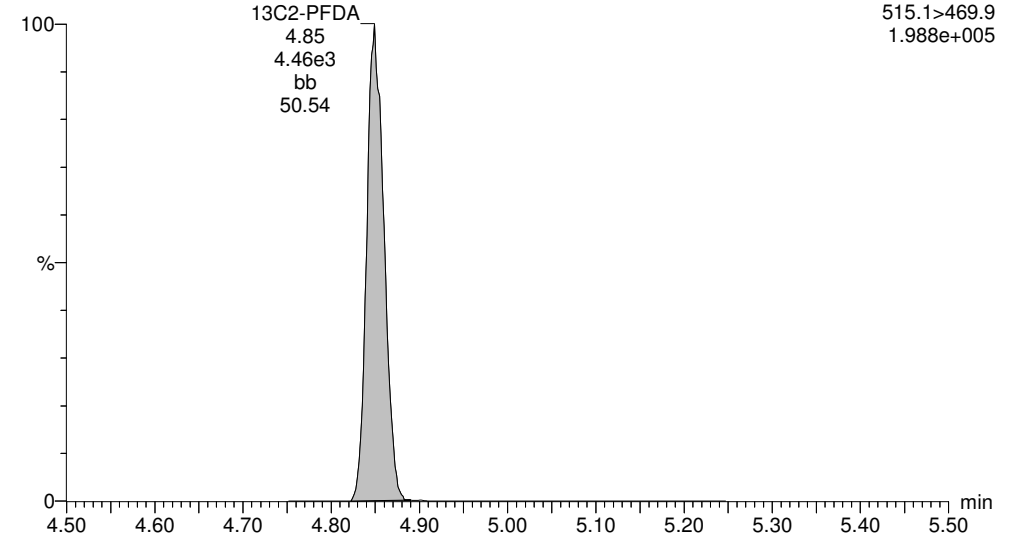
13C2-PFHxA

170421G3_10



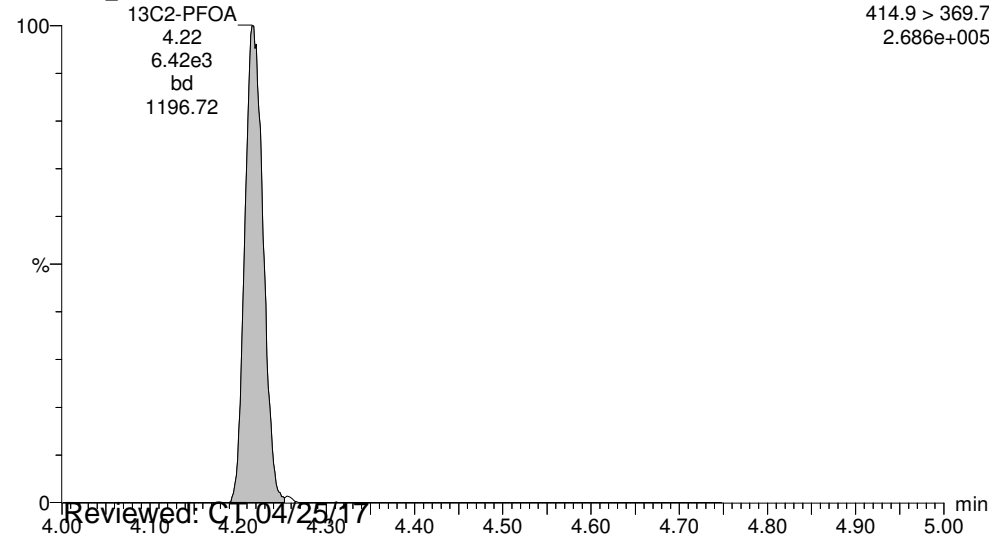
13C2-PFDA

170421G3_10



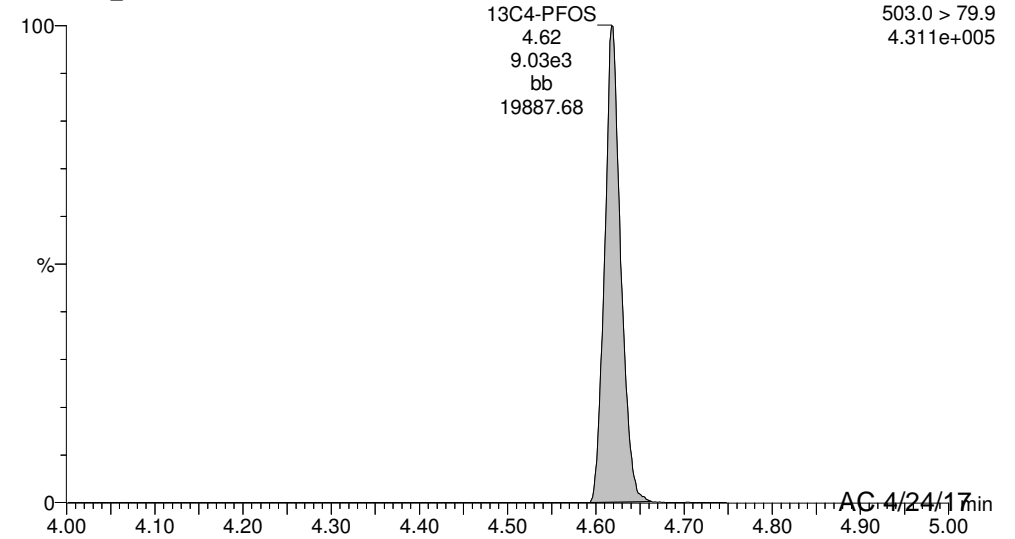
13C2-PFOA

170421G3_10



13C4-PFOS

170421G3_10



Reviewed: C:\104\25\17

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-11.qld

Last Altered: Monday, April 24, 2017 13:18:02 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:18:23 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-03 ME-RW02-0417 0.25, Description: ME-RW02-0417, Name: 170421G3_11, Date: 21-Apr-2017, Time: 19:52:38

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.710e3		0.284			
2	4 PFOA	413 > 368.7		7.236e3		0.284			
3	5 PFOS	499 > 79.9		9.710e3		0.284			
4	7 13C2-PFHxA	315.0 > 269.8	2.726e3	7.236e3	0.449	0.284	3.29	29.6	84.0
5	8 13C2-PFDA	515.1 > 469.9	4.602e3	7.236e3	0.803	0.284	4.85	27.9	79.2
6	9 13C2-PFOA	414.9 > 369.7	7.236e3	7.236e3	1.000	0.284	4.22	35.2	100
7	10 13C4-PFOS	503.0 > 79.9	9.710e3	9.710e3	1.000	0.284	4.62	101	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-11.qld

Last Altered: Monday, April 24, 2017 13:18:02 Pacific Daylight Time

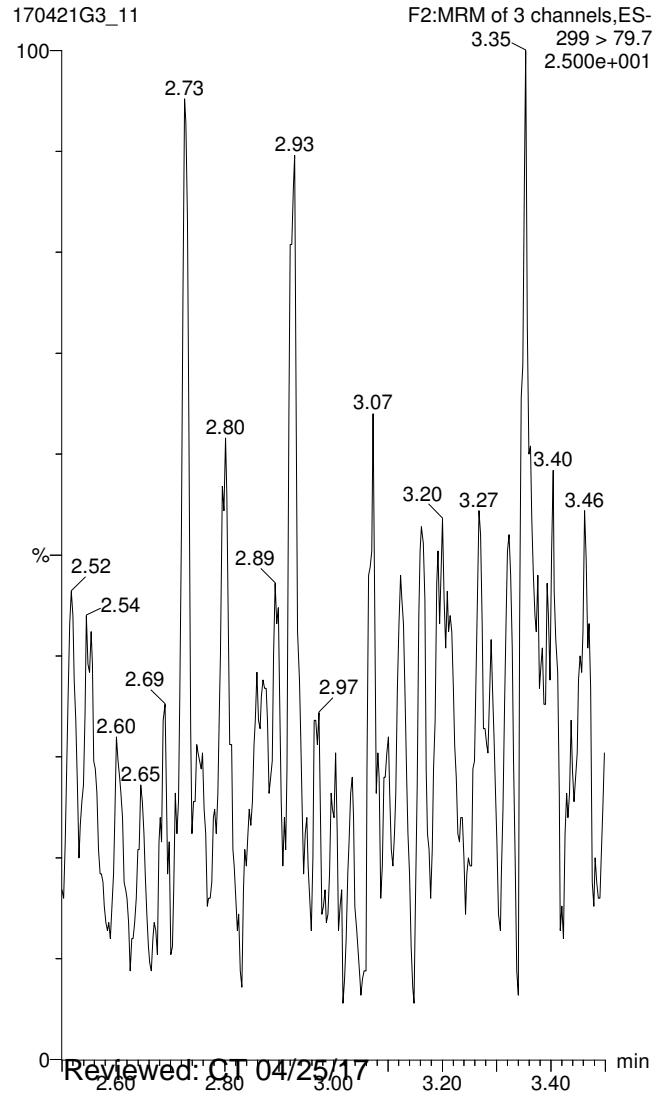
Printed: Monday, April 24, 2017 13:18:23 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

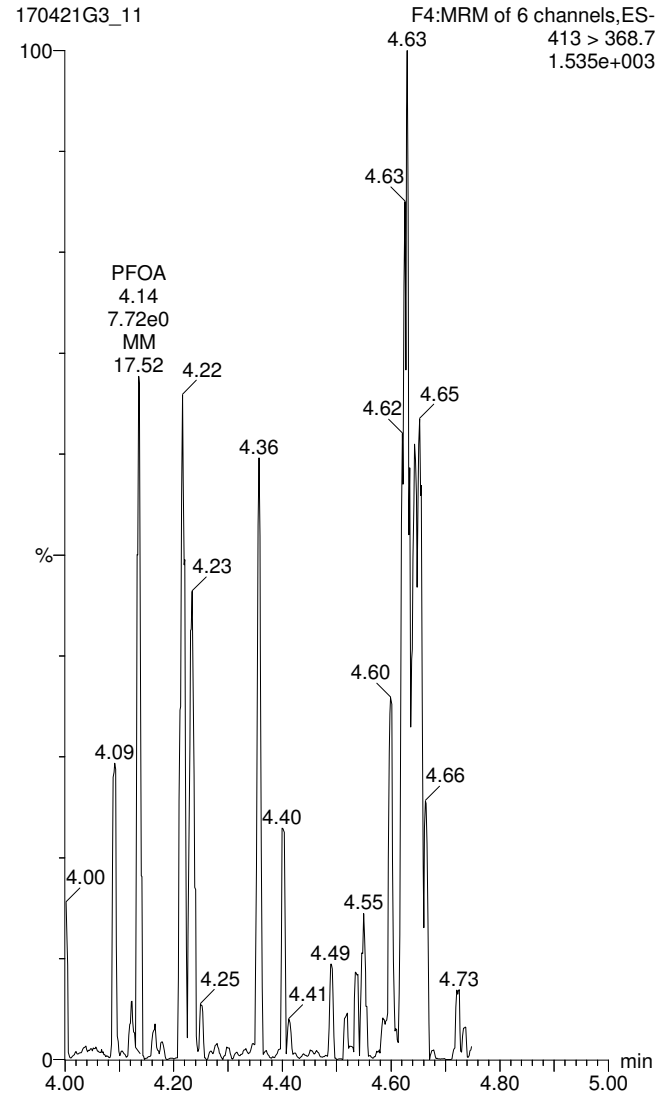
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-03 ME-RW02-0417 0.25, Description: ME-RW02-0417, Name: 170421G3_11, Date: 21-Apr-2017, Time: 19:52:38, Instrument: , Lab: , User:

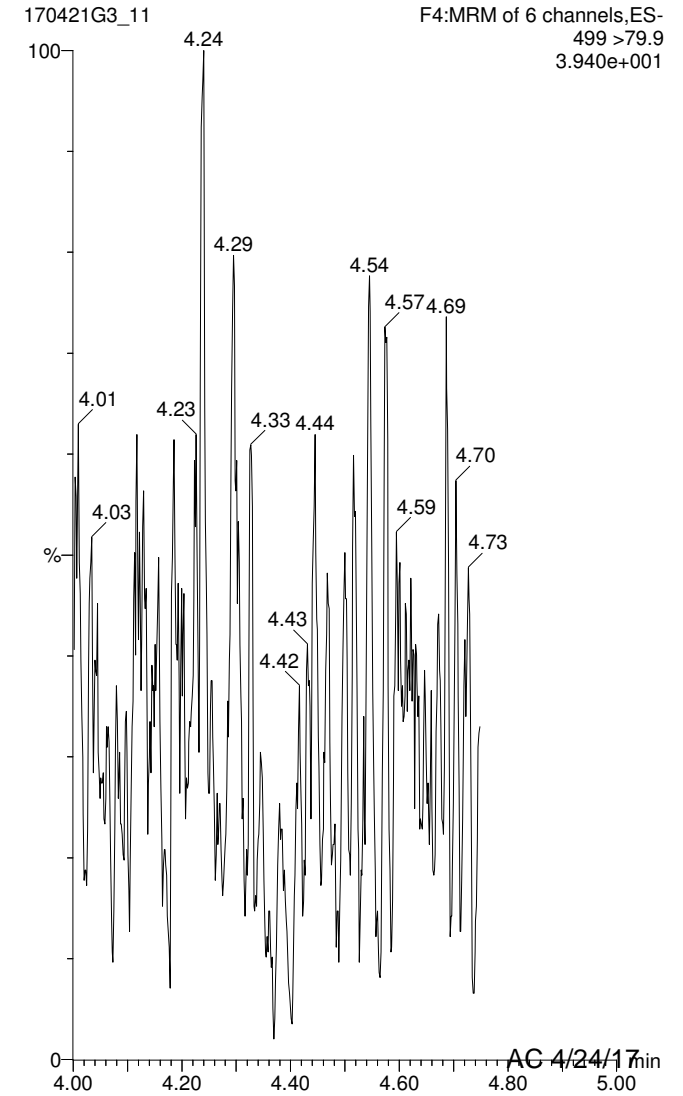
PFBS



PFOA



PFOS



Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-11.qld

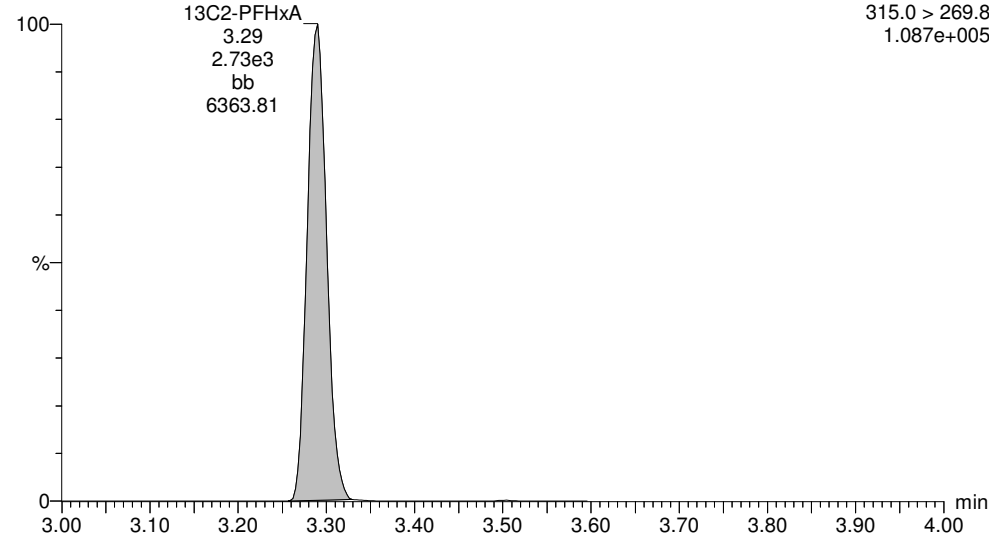
Last Altered: Monday, April 24, 2017 13:18:02 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:18:23 Pacific Daylight Time

ID: 1700483-03 ME-RW02-0417 0.25, Description: ME-RW02-0417, Name: 170421G3_11, Date: 21-Apr-2017, Time: 19:52:38, Instrument: , Lab: , User:

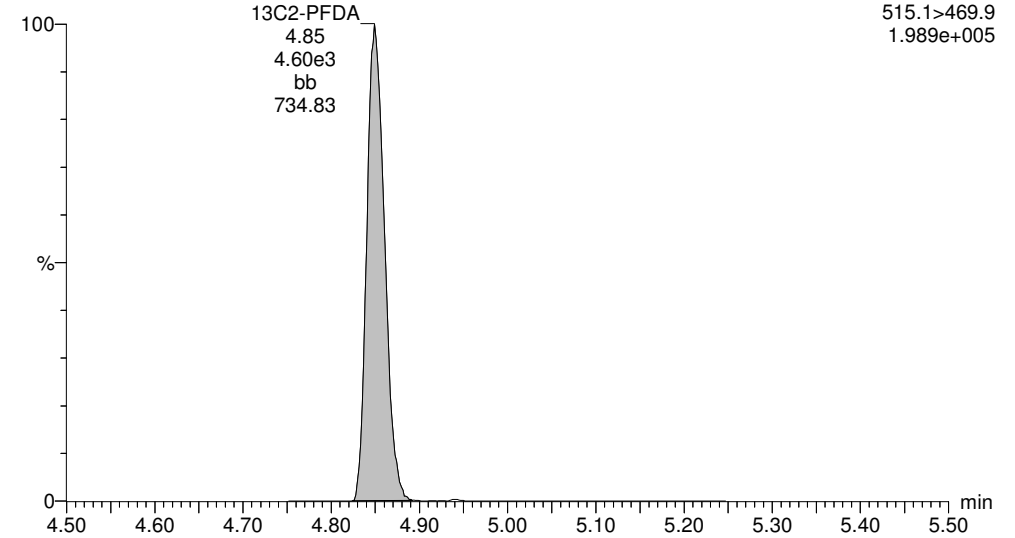
13C2-PFHxA

170421G3_11



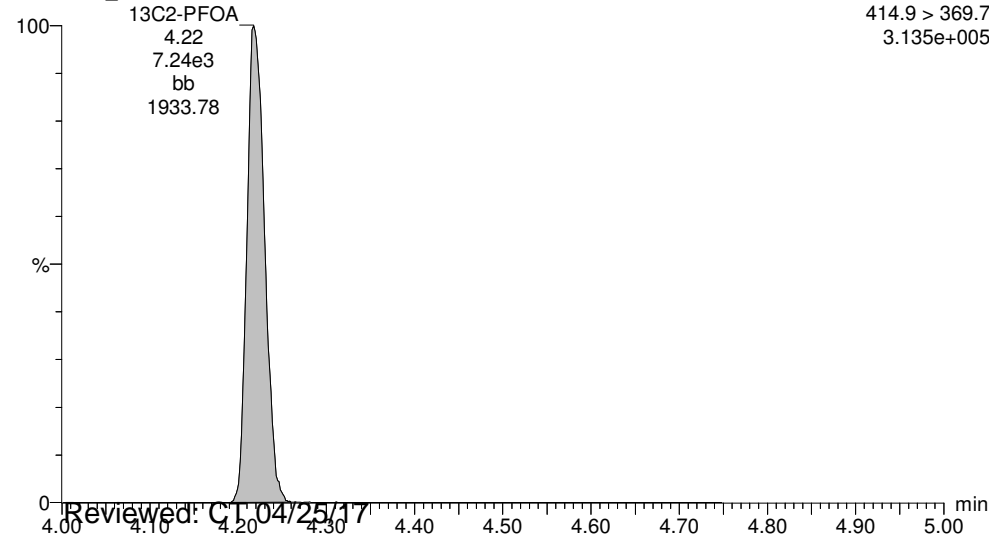
13C2-PFDA

170421G3_11



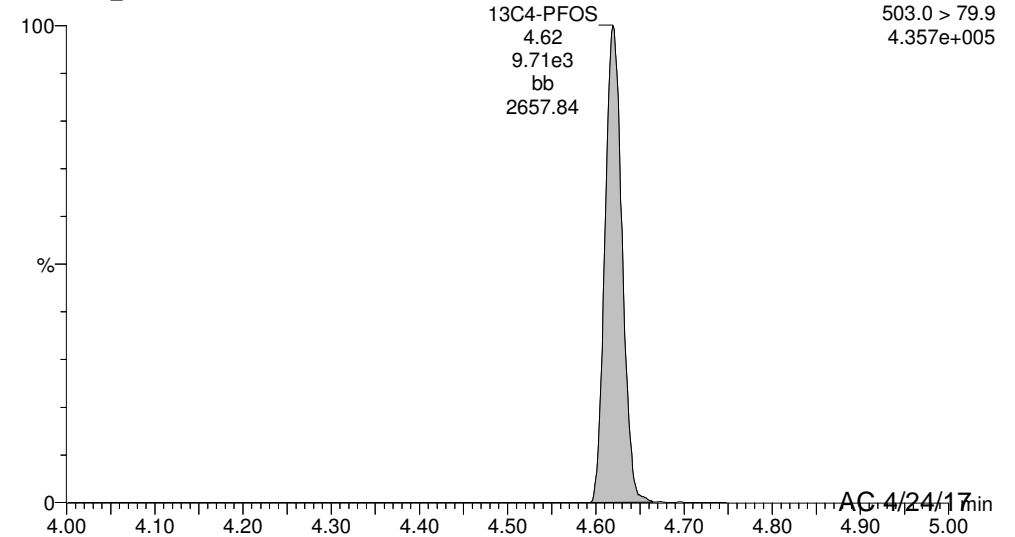
13C2-PFOA

170421G3_11



13C4-PFOS

170421G3_11



Reviewed: C:\104\25\17

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-12.qld

Last Altered: Monday, April 24, 2017 13:19:35 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:20:02 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-MS1 LFSM 0.25, Description: LFSM, Name: 170421G3_12, Date: 21-Apr-2017, Time: 20:05:02

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	6.394e2	8.758e3		0.287	2.91	7.97	
2	4 PFOA	413 > 368.7	1.143e3	6.970e3		0.287	4.22	7.34	
3	5 PFOS	499 >79.9	1.879e2	8.758e3		0.287	4.62	6.15	
4	7 13C2-PFHxA	315.0 > 269.8	2.591e3	6.970e3	0.449	0.287	3.29	28.9	82.9
5	8 13C2-PFDA	515.1>469.9	4.480e3	6.970e3	0.803	0.287	4.85	27.9	80.1
6	9 13C2-PFOA	414.9 > 369.7	6.970e3	6.970e3	1.000	0.287	4.22	34.8	100
7	10 13C4-PFOS	503.0 > 79.9	8.758e3	8.758e3	1.000	0.287	4.62	100	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-12.qld

Last Altered: Monday, April 24, 2017 13:19:35 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:20:02 Pacific Daylight Time

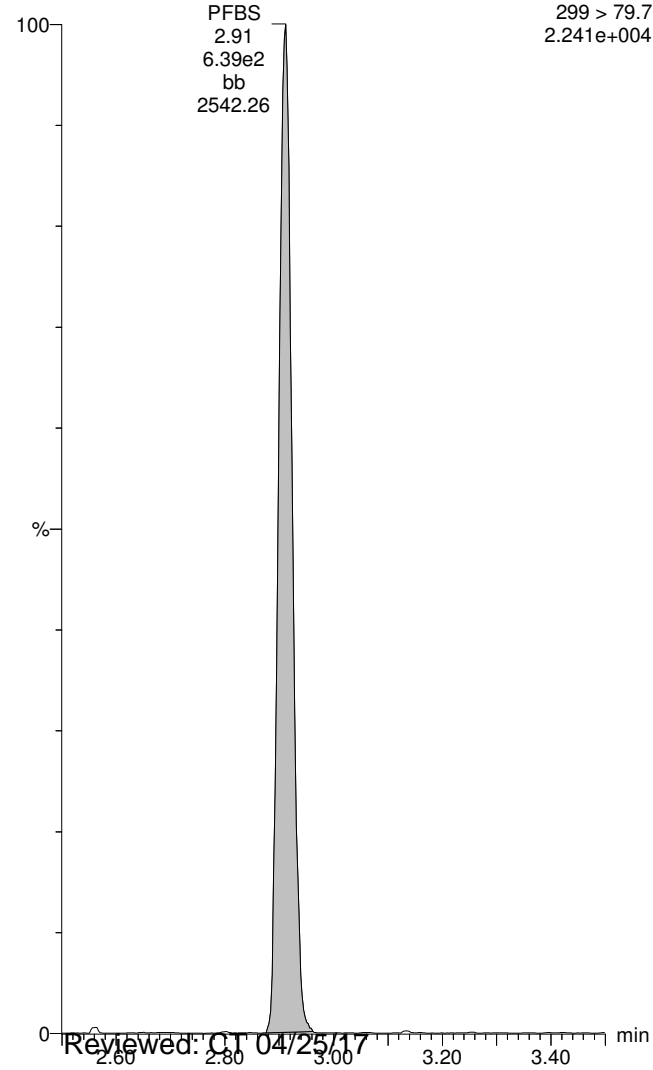
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-MS1 LFSM 0.25, Description: LFSM, Name: 170421G3_12, Date: 21-Apr-2017, Time: 20:05:02, Instrument: , Lab: , User:

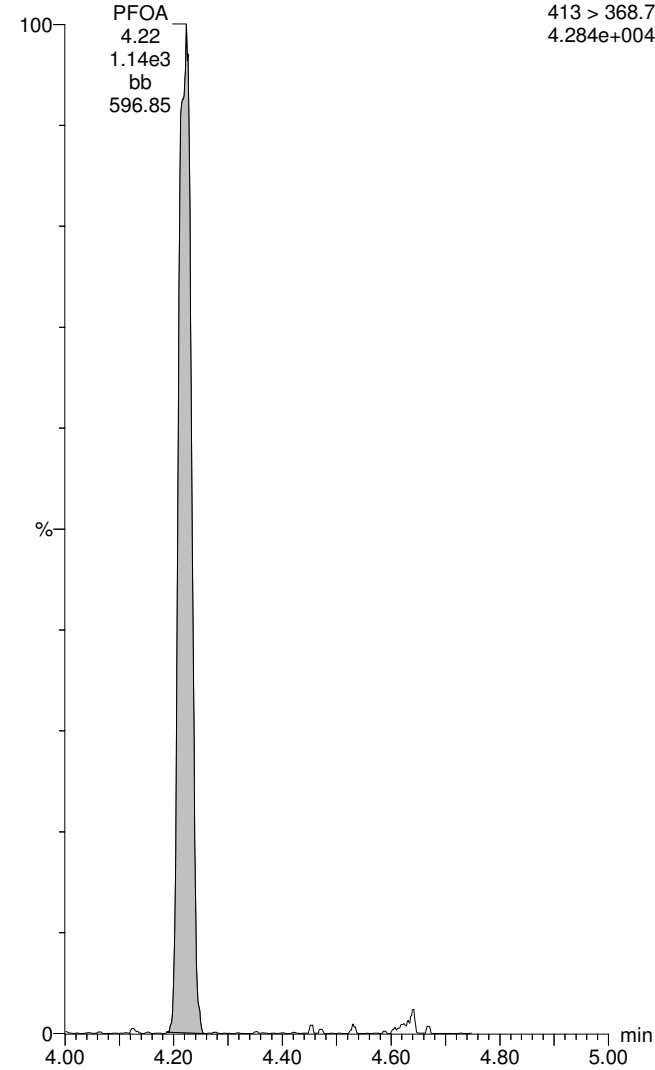
PFBS

170421G3_12



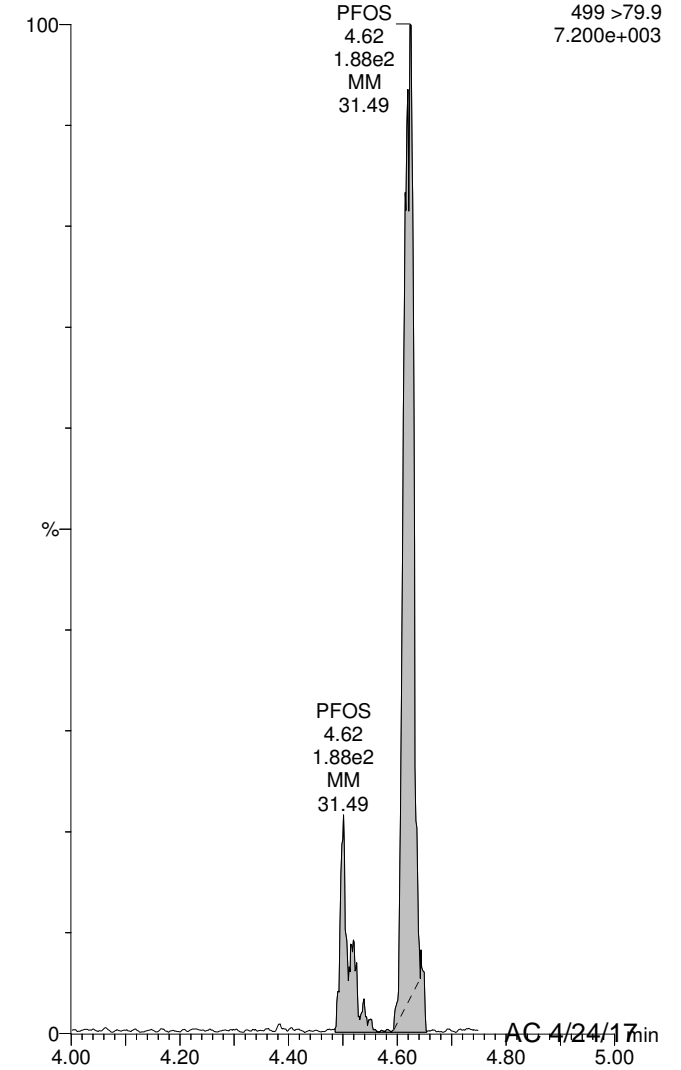
PFOA

170421G3_12



PFOS

170421G3_12



Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-12.qld

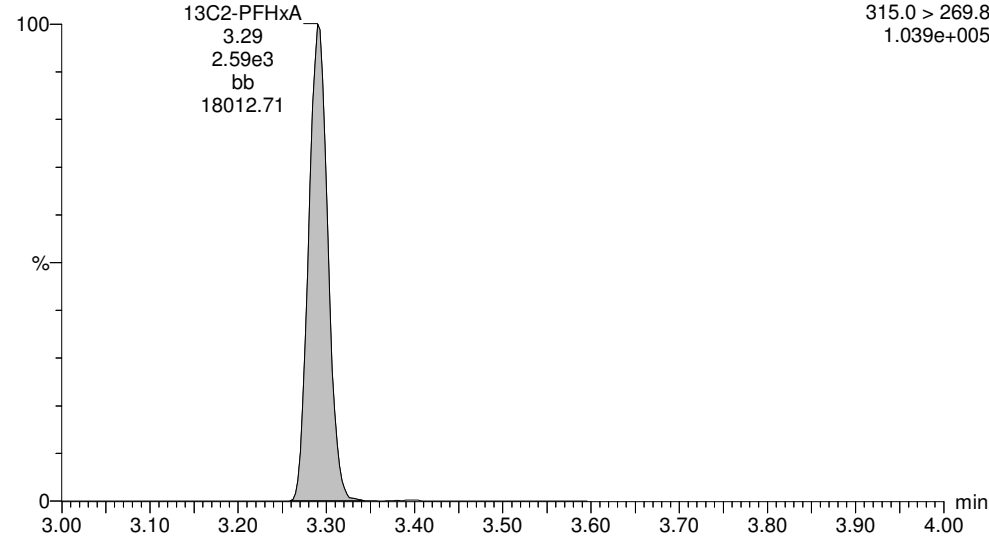
Last Altered: Monday, April 24, 2017 13:19:35 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:20:02 Pacific Daylight Time

ID: B7D0099-MS1 LFSM 0.25, Description: LFSM, Name: 170421G3_12, Date: 21-Apr-2017, Time: 20:05:02, Instrument: , Lab: , User:

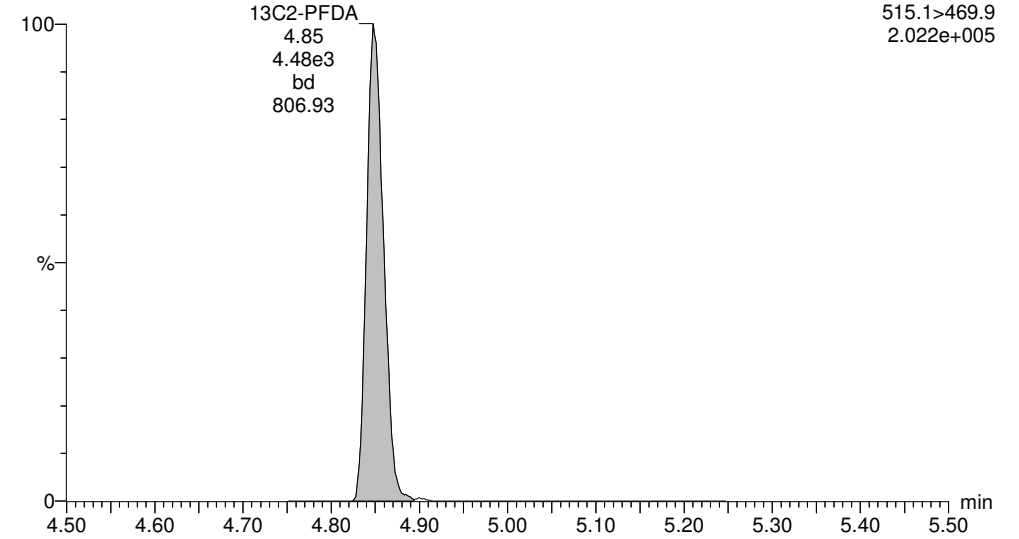
13C2-PFHxA

170421G3_12



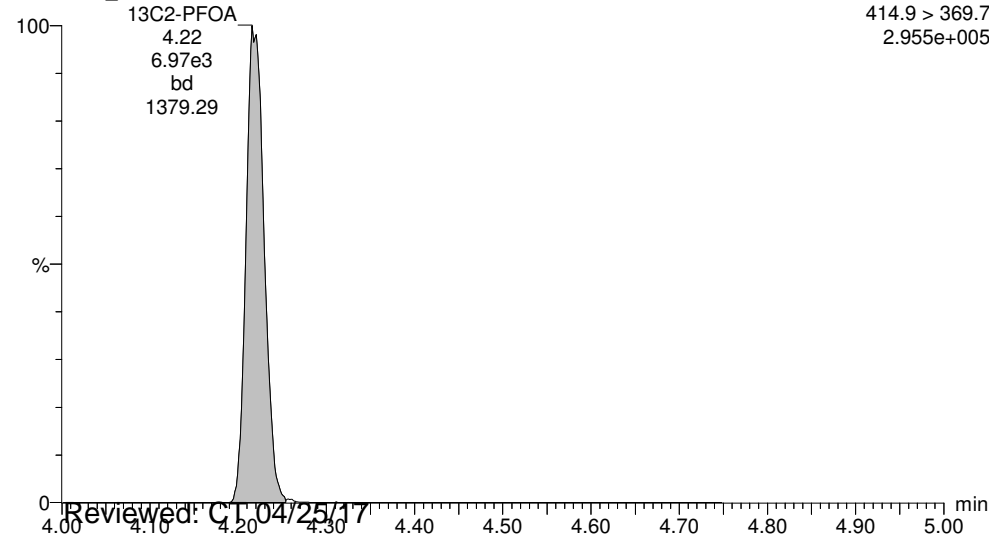
13C2-PFDA

170421G3_12



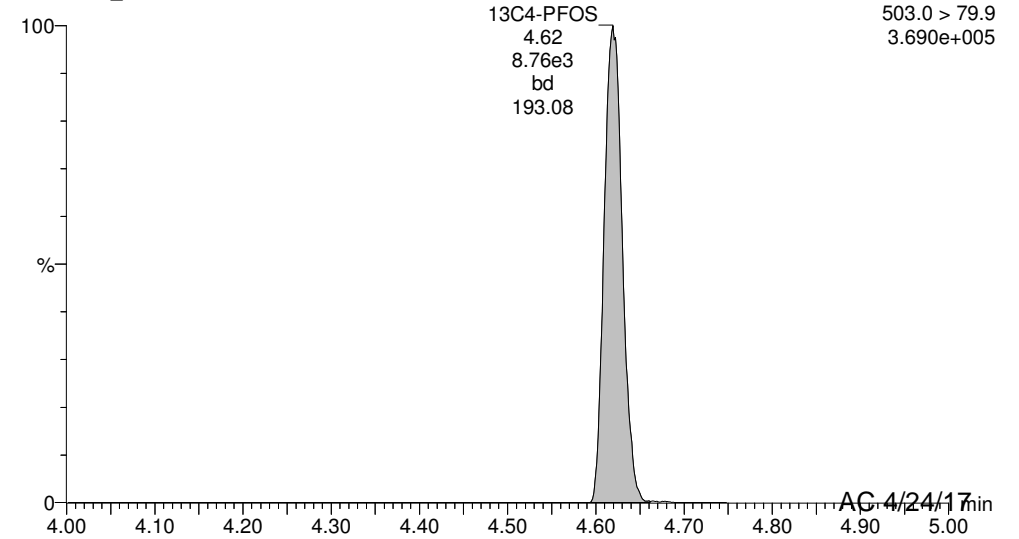
13C2-PFOA

170421G3_12



13C4-PFOS

170421G3_12



Reviewed: C:\04/25/17

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Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-13.qld

Last Altered: Monday, April 24, 2017 13:22:26 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:22:58 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-MSD1 LFSMD 0.25, Description: LFSMD, Name: 170421G3_13, Date: 21-Apr-2017, Time: 20:17:25

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	6.223e2	8.725e3		0.273	2.91	8.17	
2	4 PFOA	413 > 368.7	1.213e3	6.553e3		0.273	4.22	8.70	
3	5 PFOS	499 >79.9	2.668e2	8.725e3		0.273	4.62	9.22	
4	7 13C2-PFHxA	315.0 > 269.8	2.616e3	6.553e3	0.449	0.273	3.29	32.5	89.0
5	8 13C2-PFDA	515.1>469.9	4.107e3	6.553e3	0.803	0.273	4.85	28.6	78.1
6	9 13C2-PFOA	414.9 > 369.7	6.553e3	6.553e3	1.000	0.273	4.22	36.6	100
7	10 13C4-PFOS	503.0 > 79.9	8.725e3	8.725e3	1.000	0.273	4.62	105	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-13.qld

Last Altered: Monday, April 24, 2017 13:22:26 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:22:58 Pacific Daylight Time

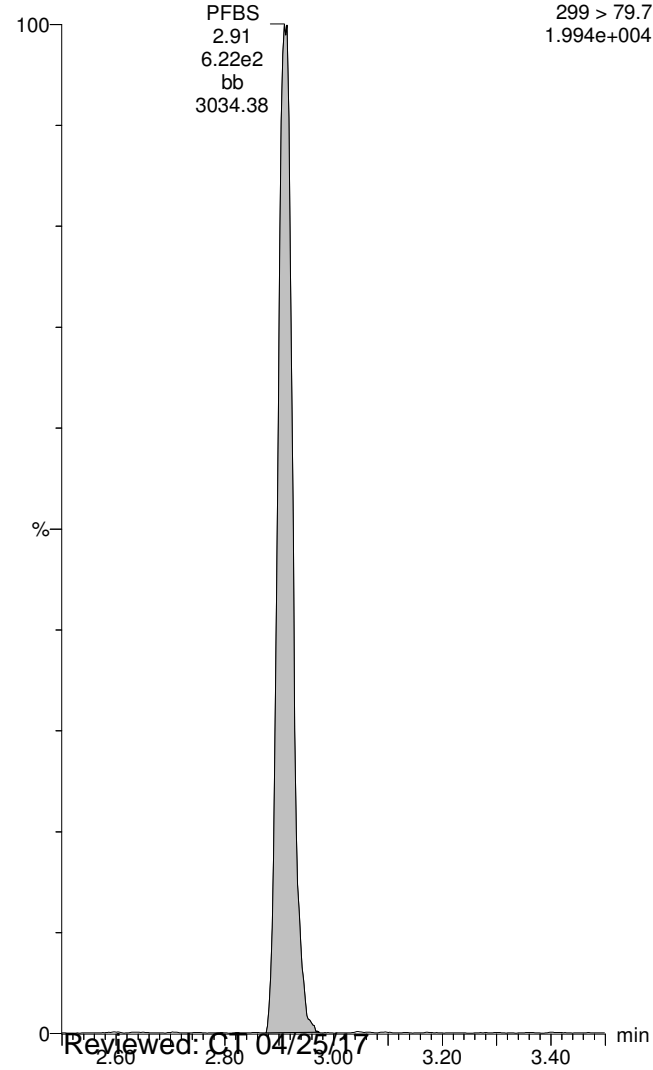
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: B7D0099-MSD1 LFSMD 0.25, Description: LFSMD, Name: 170421G3_13, Date: 21-Apr-2017, Time: 20:17:25, Instrument: , Lab: , User:

PFBS

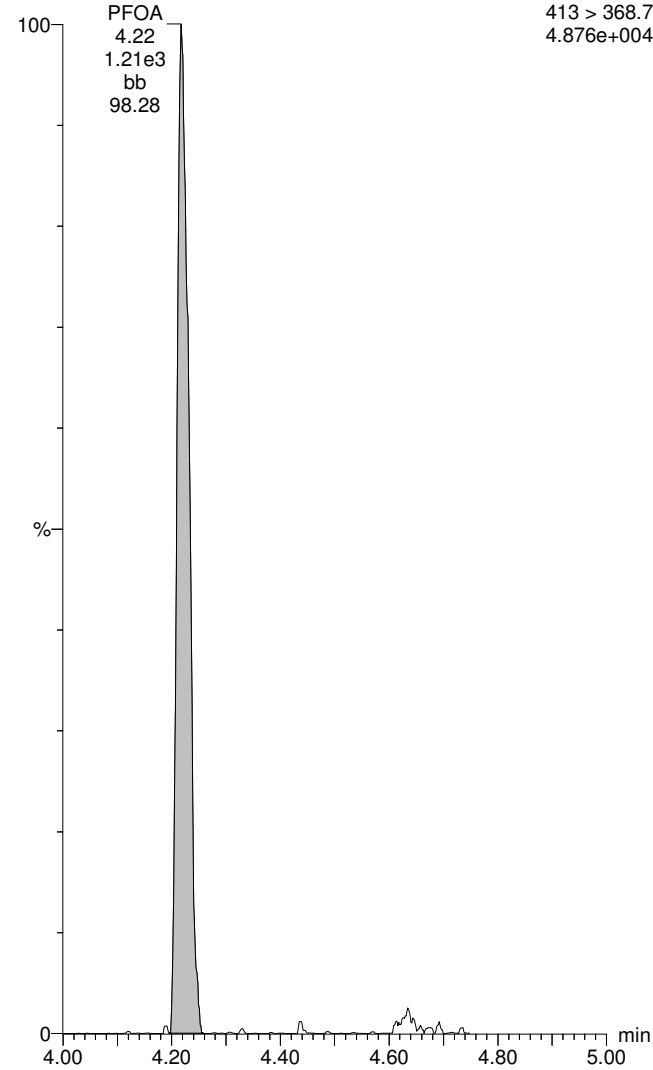
170421G3_13



F2:MRM of 3 channels,ES-
299 > 79.7
1.994e+004

PFOA

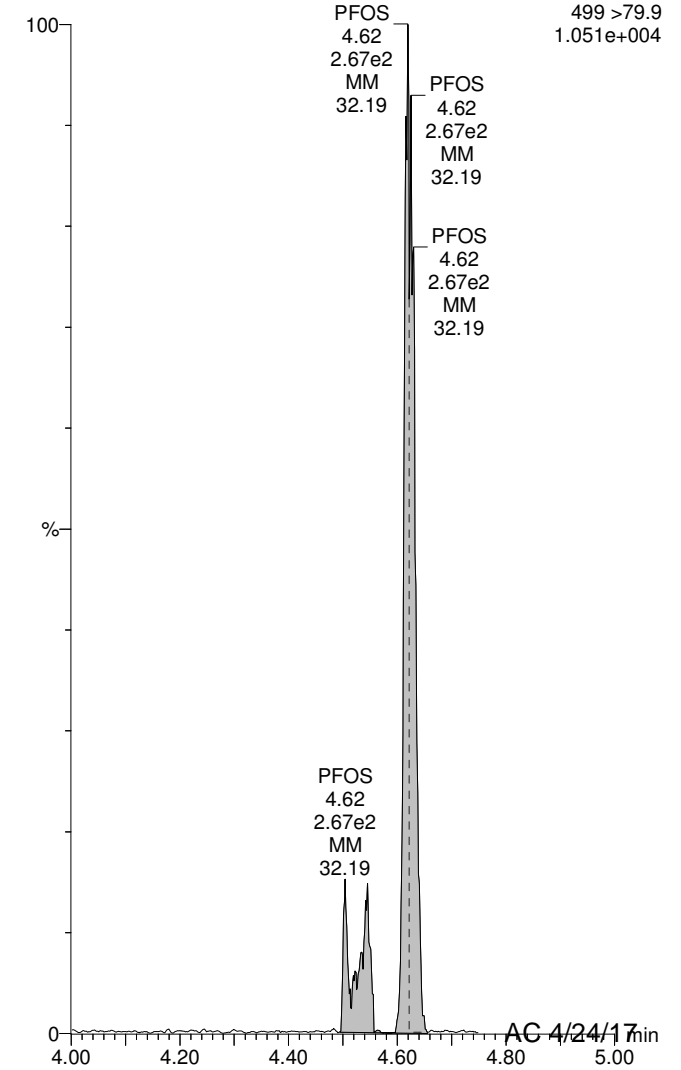
170421G3_13



F4:MRM of 6 channels,ES-
413 > 368.7
4.876e+004

PFOS

170421G3_13



F4:MRM of 6 channels,ES-
499 > 79.9
1.051e+004

Reviewed: 01/04/25/17

AC 4/24/17

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-13.qld

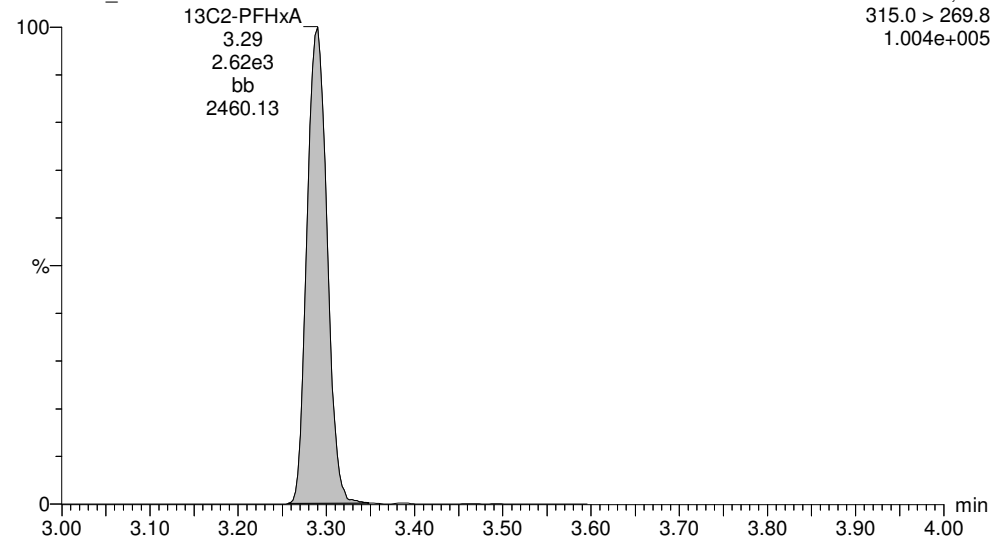
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Printed: Monday, April 24, 2017 13:22:58 Pacific Daylight Time

ID: B7D0099-MSD1 LFSMD 0.25, Description: LFSMD, Name: 170421G3_13, Date: 21-Apr-2017, Time: 20:17:25, Instrument: , Lab: , User:

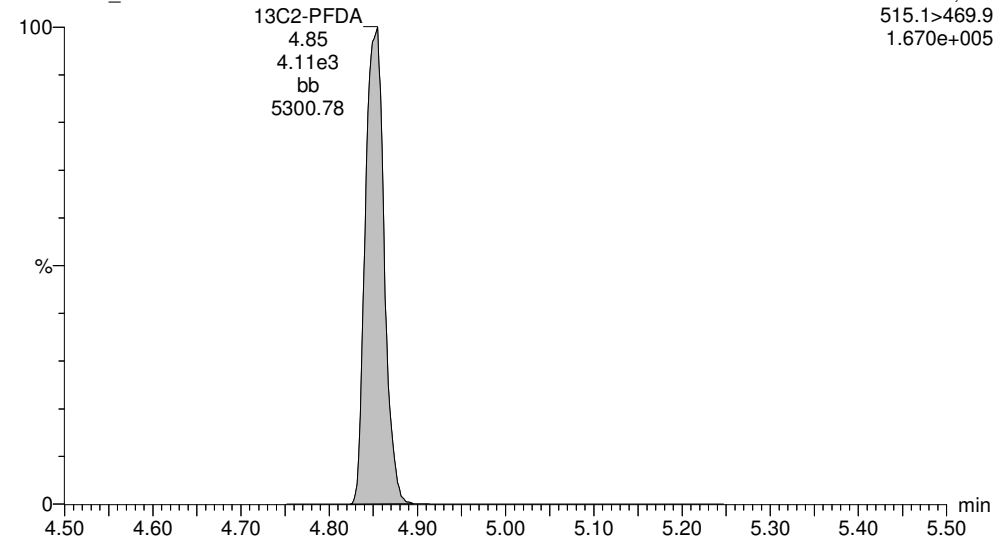
13C2-PFHxA

170421G3_13



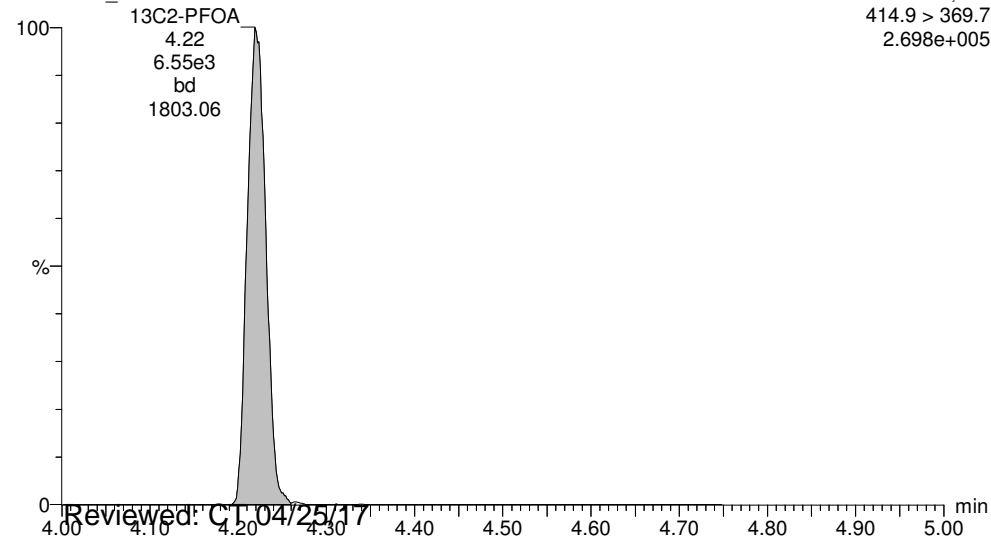
13C2-PFDA

170421G3_13



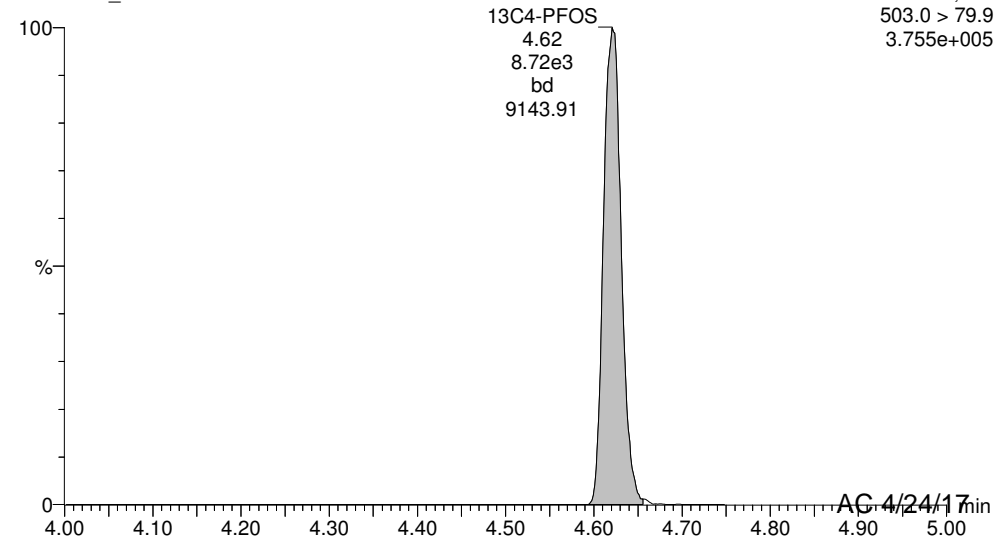
13C2-PFOA

170421G3_13



13C4-PFOS

170421G3_13



Reviewed: C:\04/25/17

Work Order 1700483

AG 4/24/17

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-14.qld

Last Altered: Monday, April 24, 2017 13:24:06 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:24:38 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-04 ME-FB02-0417 0.25, Description: ME-FB02-0417, Name: 170421G3_14, Date: 21-Apr-2017, Time: 20:29:52

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.319e3		0.285			
2	4 PFOA	413 > 368.7	3.011e1	7.601e3		0.285	4.22	0.178	
3	5 PFOS	499 >79.9		9.319e3		0.285			
4	7 13C2-PFHxA	315.0 > 269.8	2.838e3	7.601e3	0.449	0.285	3.29	29.2	83.2
5	8 13C2-PFDA	515.1>469.9	4.912e3	7.601e3	0.803	0.285	4.85	28.2	80.5
6	9 13C2-PFOA	414.9 > 369.7	7.601e3	7.601e3	1.000	0.285	4.22	35.1	100
7	10 13C4-PFOS	503.0 > 79.9	9.319e3	9.319e3	1.000	0.285	4.62	101	100

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-14.qld

Last Altered: Monday, April 24, 2017 13:24:06 Pacific Daylight Time

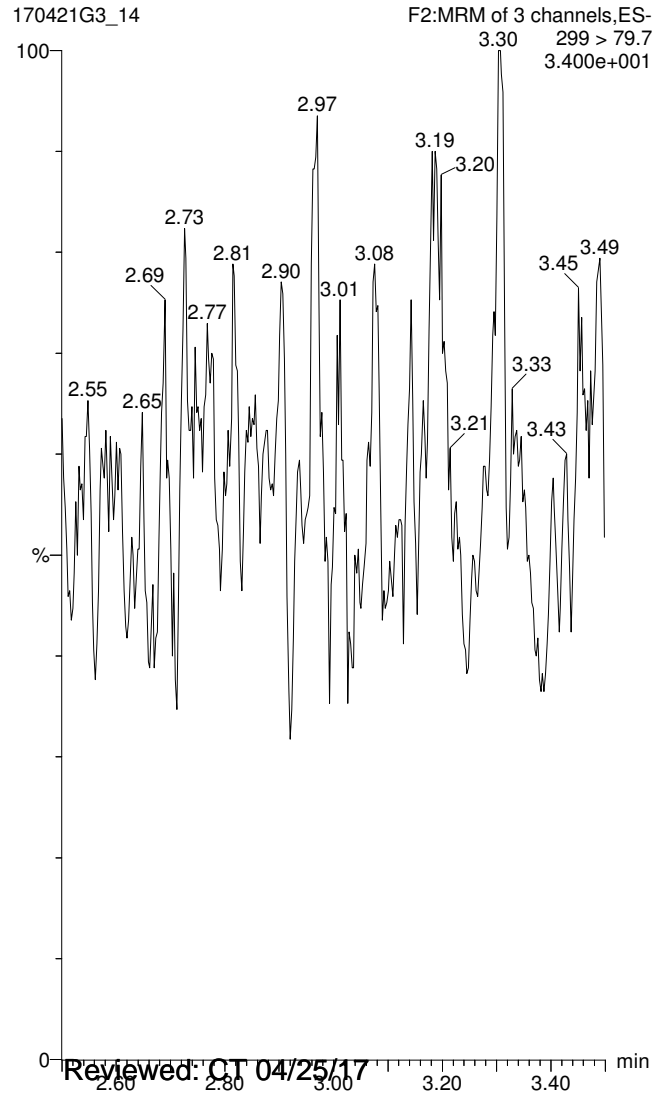
Printed: Monday, April 24, 2017 13:24:38 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

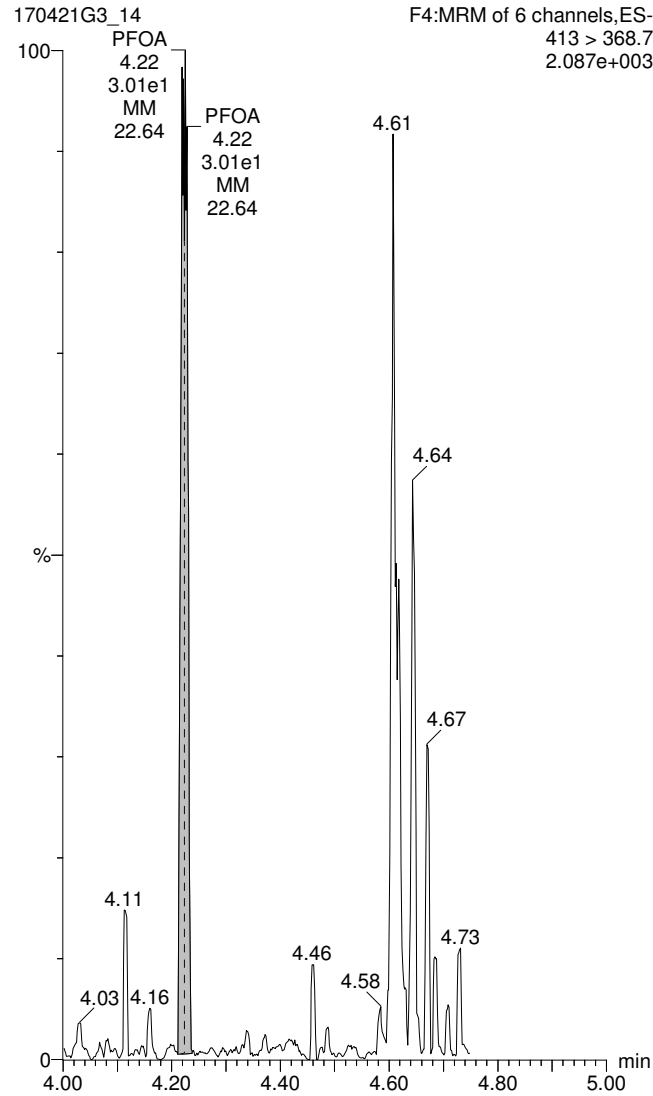
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

ID: 1700483-04 ME-FB02-0417 0.25, Description: ME-FB02-0417, Name: 170421G3_14, Date: 21-Apr-2017, Time: 20:29:52, Instrument: , Lab: , User:

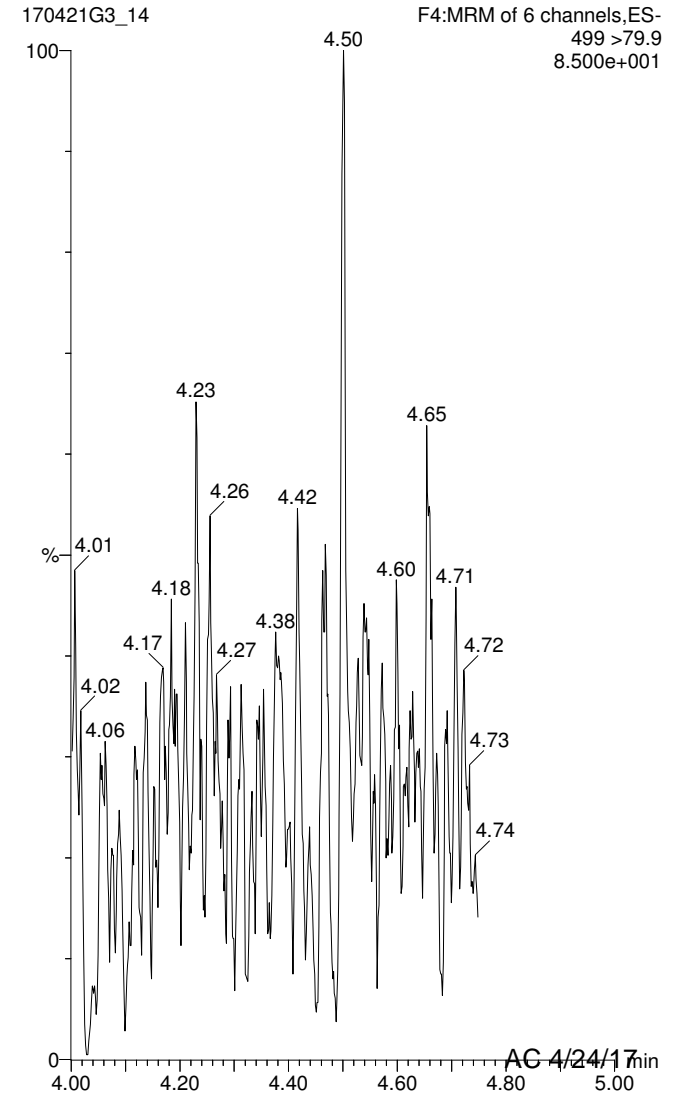
PFBS



PFOA



PFOS



Reviewed: 04/25/17

AC 4/24/17

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-14.qld

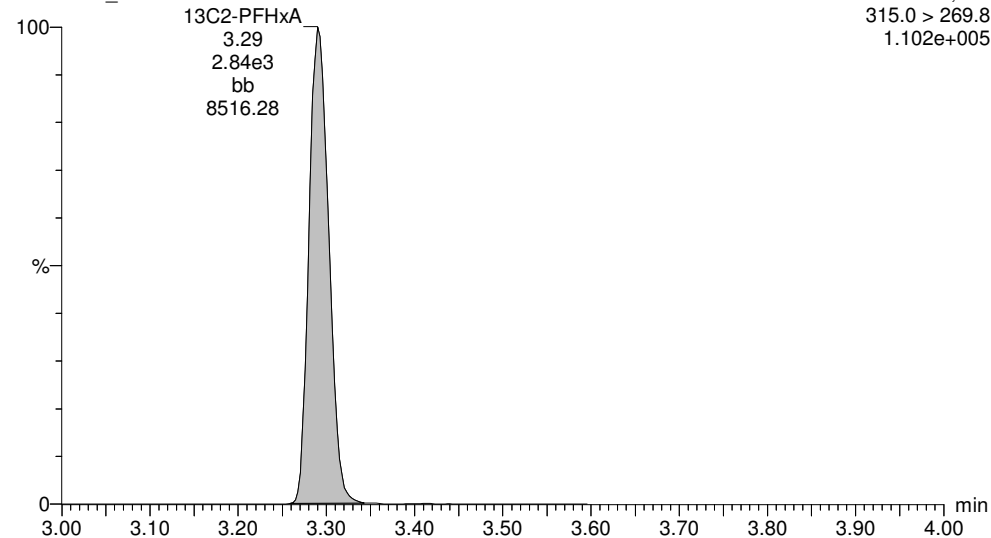
Last Altered: Monday, April 24, 2017 13:24:06 Pacific Daylight Time

Printed: Monday, April 24, 2017 13:24:38 Pacific Daylight Time

ID: 1700483-04 ME-FB02-0417 0.25, Description: ME-FB02-0417, Name: 170421G3_14, Date: 21-Apr-2017, Time: 20:29:52, Instrument: , Lab: , User:

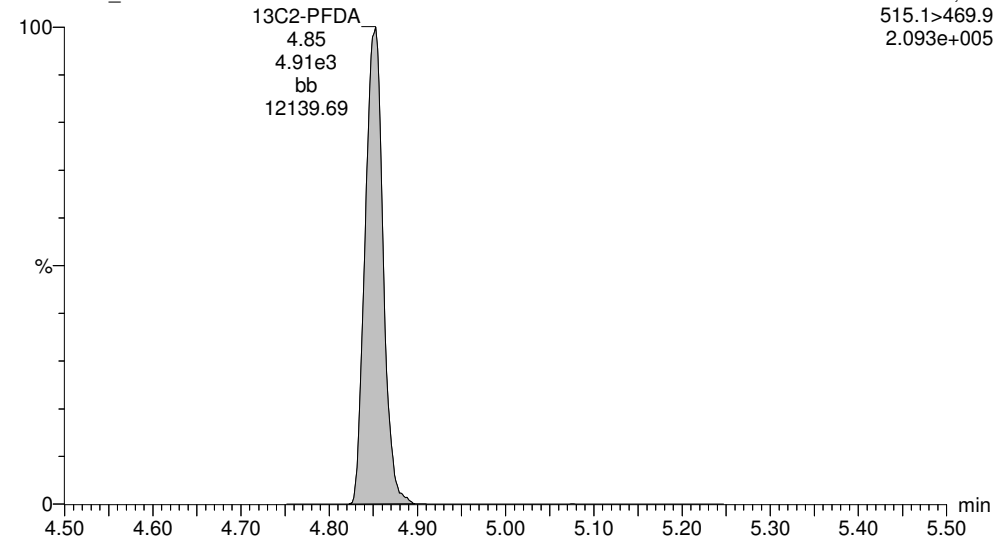
13C2-PFHxA

170421G3_14



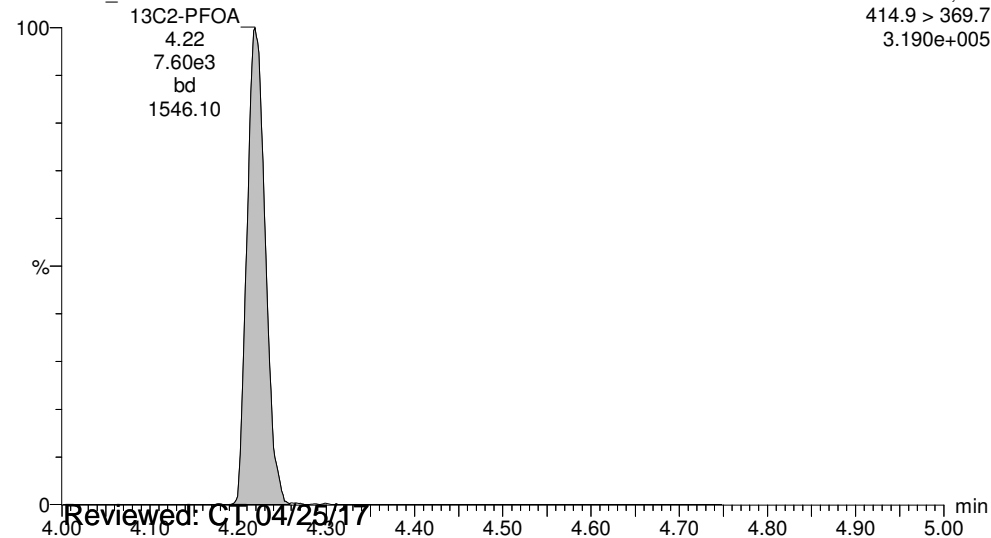
13C2-PFDA

170421G3_14



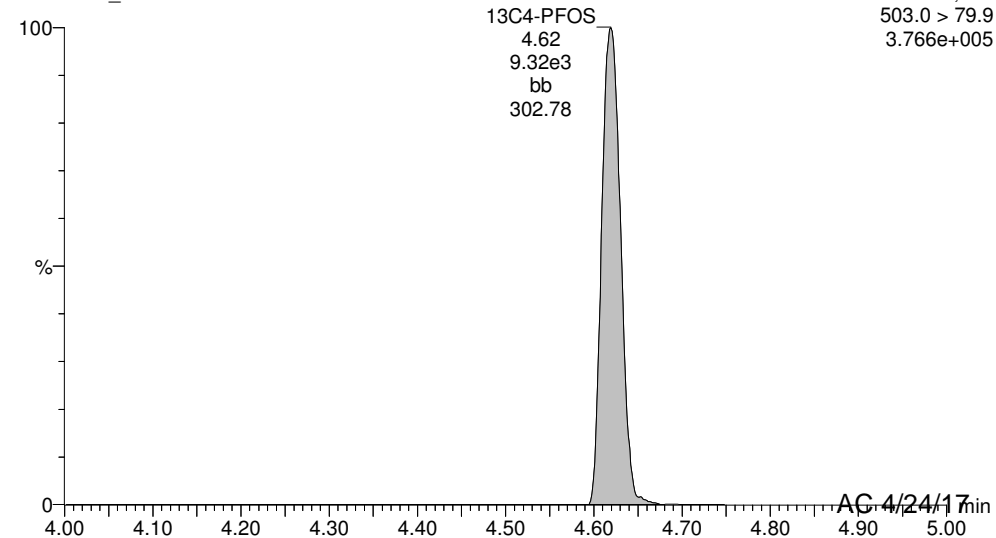
13C2-PFOA

170421G3_14



13C4-PFOS

170421G3_14



Reviewed: C1 04/25/17

Work Order 1700483

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CONTINUING CALIBRATION

Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-2.qld

Last Altered: Monday, April 24, 2017 08:46:35 Pacific Daylight Time
Printed: Monday, April 24, 2017 08:48:11 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170421G3_2, Date: 21-Apr-2017, Time: 18:01:05, ID: ST170421G3-1 PFC CS-2 17D2008, Description: PFC CS-2 17D2008

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	3.72e2	1.21e4		1.000	2.91	0.964	108.9
2	2 PFHpA	363 > 318.9	8.14e2	9.37e3		1.000	3.80	0.969	96.9
3	3 PFHxS	398.9 > 79.6	4.00e2	1.21e4		1.000	3.92	0.897	98.6
4	4 PFOA	413 > 368.7	7.69e2	9.37e3		1.000	4.22	1.05	105.2
5	5 PFOS	499 > 79.9	9.99e1	1.21e4		1.000	4.61	0.679	73.0
6	6 PFNA	463 > 418.8	1.19e3	9.37e3		1.000	4.56	0.929	92.9
7	7 13C2-PFHxA	315.0 > 269.8	3.91e3	9.37e3	0.449	1.000	3.29	9.30	93.0
8	8 13C2-PFDA	515.1 > 469.9	6.90e3	9.37e3	0.803	1.000	4.85	9.17	91.7
9	9 13C2-PFOA	414.9 > 369.7	9.37e3	9.37e3	1.000	1.000	4.22	10.0	100.0
10	10 13C4-PFOS	503.0 > 79.9	1.21e4	1.21e4	1.000	1.000	4.62	28.7	100.0

70-130
AC
4/24/17

Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:56:50 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:59:26 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Compound name: PFBS

	Name	ID	Acq.Date	Acq Time
1	170421G3_1	IPA	21-Apr-17	17:48:24
2	170421G3_2	ST170421G3-1 PFC CS-2 17D2008	21-Apr-17	18:01:05
3	170421G3_3	IPA	21-Apr-17	18:13:27
4	170421G3_4	B7D0069-BS1 LFB 0.5	21-Apr-17	18:25:52
5	170421G3_5	B7D0099-BS1 LFB 0.25	21-Apr-17	18:38:17
6	170421G3_6	IPA	21-Apr-17	18:50:41
7	170421G3_7	B7D0069-BLK1 LRB 0.5	21-Apr-17	19:03:07
8	170421G3_8	B7D0099-BLK1 LRB 0.25	21-Apr-17	19:15:32
9	170421G3_9	1700483-01 ME-RW01-0417 0.25	21-Apr-17	19:27:53
10	170421G3_10	1700483-02 ME-FB01-0417 0.25	21-Apr-17	19:40:16
11	170421G3_11	1700483-03 ME-RW02-0417 0.25	21-Apr-17	19:52:38
12	170421G3_12	B7D0099-MS1 LFSM 0.25	21-Apr-17	20:05:02
13	170421G3_13	B7D0099-MSD1 LFSMD 0.25	21-Apr-17	20:17:25
14	170421G3_14	1700483-04 ME-FB02-0417 0.25	21-Apr-17	20:29:52
15	170421G3_15	1700387-01 PT# 38292 0.001	21-Apr-17	20:42:16
16	170421G3_16	B7D0096-BS1 LFB 0.25	21-Apr-17	20:54:42
17	170421G3_17	IPA	21-Apr-17	21:07:03
18	170421G3_18	B7D0096-BLK1 LRB 0.25	21-Apr-17	21:19:29
19	170421G3_19	1700466-01 RW05-20170417 0.25	21-Apr-17	21:31:50
20	170421G3_20	1700466-02 FRB-05-20170417 0.25	21-Apr-17	21:44:13
21	170421G3_21	1700466-03 RW10-20170417 0.25	21-Apr-17	21:56:35
22	170421G3_22	1700466-04 FRB-10-20170417 0.25	21-Apr-17	22:08:59
23	170421G3_23	1700466-05 RW18-20170417 0.25	21-Apr-17	22:21:22
24	170421G3_24	1700466-06 FRB-18-20170417 0.25	21-Apr-17	22:33:47
25	170421G3_25	1700466-07 RW07-20170417 0.25	21-Apr-17	22:46:13
26	170421G3_26	B7D0096-DUP1 Duplicate 0.25	21-Apr-17	22:58:35
27	170421G3_27	1700466-08 FRB-07-20170417 0.25	21-Apr-17	23:10:56
28	170421G3_28	1700466-09 RW03-20170417 0.25	21-Apr-17	23:23:19
29	170421G3_29	B7D0096-MS1 LFSM 0.25	21-Apr-17	23:35:41
30	170421G3_30	1700466-10 FRB-03-20170417 0.25	21-Apr-17	23:48:05
31	170421G3_31	1700466-11 RW16-20170417 0.25	22-Apr-17	00:00:29

Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:56:50 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:59:26 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170421G3_32	1700466-12 FRB-16-20170417 0.25	22-Apr-17	00:12:53
33	170421G3_33	1700466-13 RW14-20170418 0.25	22-Apr-17	00:25:18
34	170421G3_34	IPA	22-Apr-17	00:37:41
35	170421G3_35	ST170421G3-2 PFC CS2 17D2012	22-Apr-17	00:50:05
36	170421G3_36	IPA	22-Apr-17	01:02:28

LC Calibration Standards Review Checklist

Q1

Calibration ID:	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
ST170421G3-1 (L) M H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
↓ -2 (L) M H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (A)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
_____ L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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_____ L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Full Mass Cal. Date: 4/5/17

Run Log Present:

of Samples per Sequence Checked:

Reviewed By: elm 4/24/17
Initials/Date

Comments:
 (A) Does not meet criteria for PFNA. not used. AC 4/24/17

Dataset: Untitled

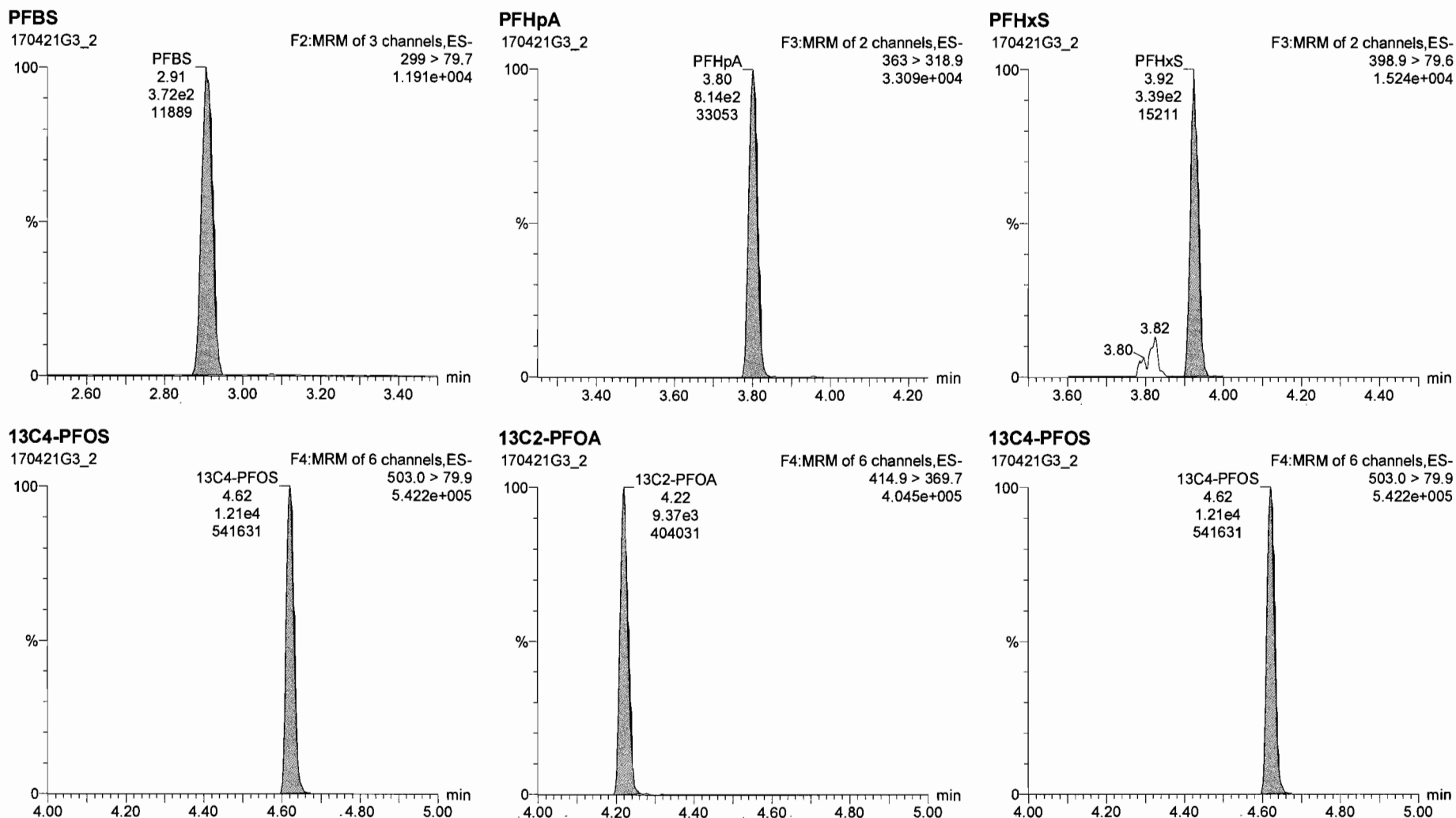
Last Altered: Monday, April 24, 2017 08:44:46 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:45:10 Pacific Daylight Time

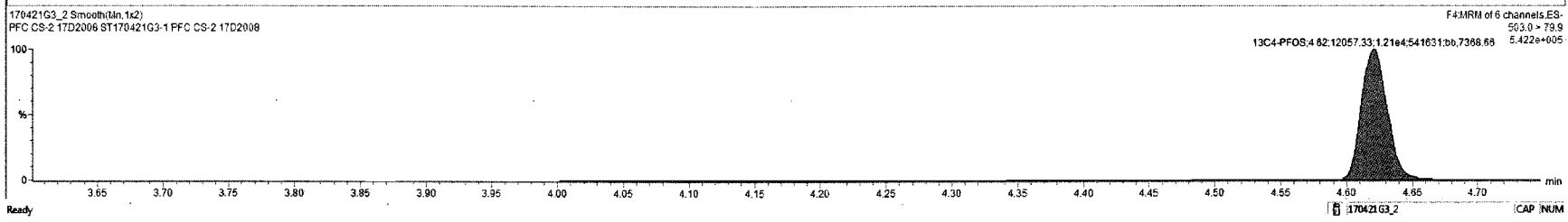
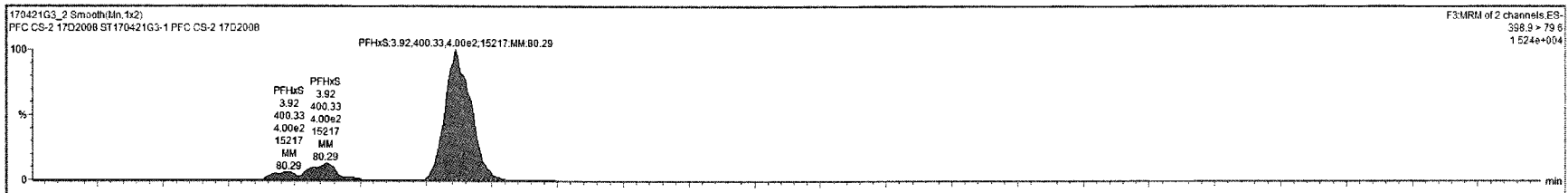
Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\IC18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170421G3_2, Date: 21-Apr-2017, Time: 18:01:05, ID: ST170421G3-1 PFC CS-2 17D2008, Description: PFC CS-2 17D2008



Name	Trace	Area	RRF	MMMin	Prod.RT	RT	Conc	+MDL	%Rec	DC
1 PFBS	299 > 79.9	3.72e2		1.000	2.91	2.91	0.964	NO	108.9	0.0015297
2 PFHpA	303 > 318.9	8.14e2		1.000	3.00	3.00	0.969	NO	96.9	0.0004296
3 PFHxS	390 > 39.9	4.00e2		1.000	3.92	3.92	0.897	NO	96.6	0.0235813
4 PFDA	413 > 388.7	7.69e2		1.000	4.22	4.22	1.05	NO	105.2	0.0148684
5 PFOS	499 > 79.9	2.80e1		1.000	4.61	4.61	0.150	NO	20.5	0.0937619
6 PFNA	462 > 418.8	1.19e3		1.000	4.55	4.56	0.925	NO	92.9	0.0045500
7 13C2-PFHxA	515.0 > 269.8	3.91e3	0.449	1.000	3.28	3.29	9.30	NO	93.0	0.0009460
8 13C2-PFDA	515.1 > 469.9	6.90e3	0.803	1.000	4.85	4.85	9.17	NO	91.7	0.1553211
9 13C2-PFOA	414.9 > 369.7	9.37e3	1.90	1.000	4.22	4.22	10.0	NO	100.0	0.0139482
10 13C4-PFOS	503.0 > 79.9	1.21e4	1.90	1.000	4.62	4.62	28.7	NO	100.0	0.0097372



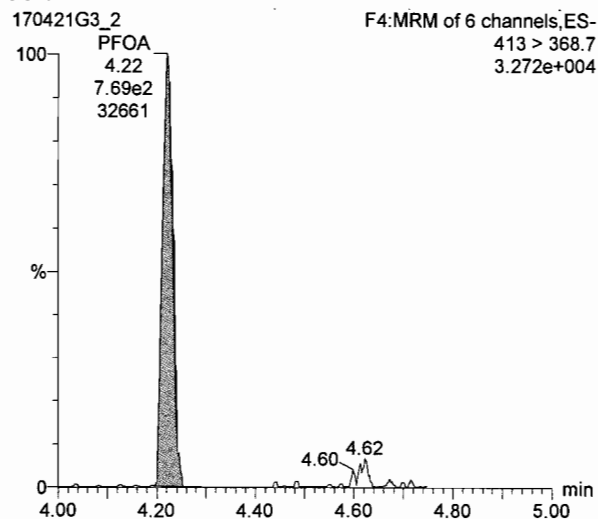
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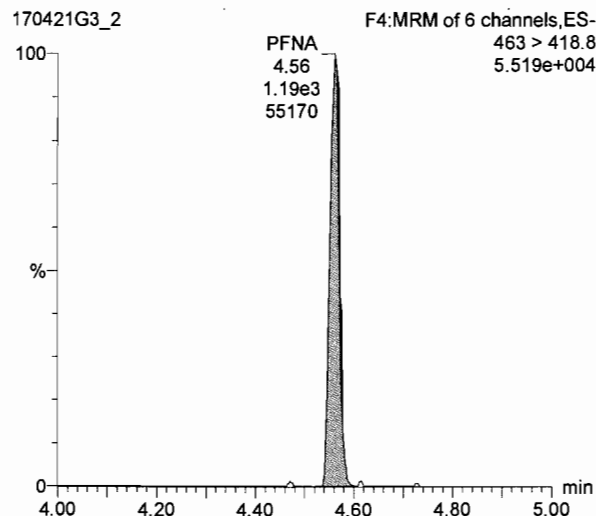
Printed: Monday, April 24, 2017 08:45:10 Pacific Daylight Time

Name: 170421G3_2, Date: 21-Apr-2017, Time: 18:01:05, ID: ST170421G3-1 PFC CS-2 17D2008, Description: PFC CS-2 17D2008

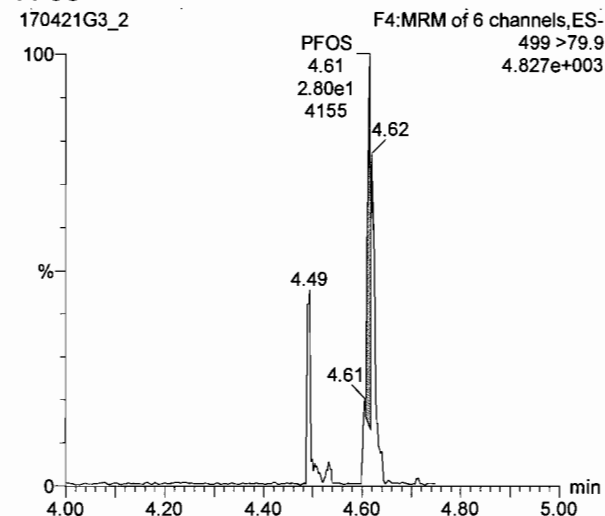
PFOA



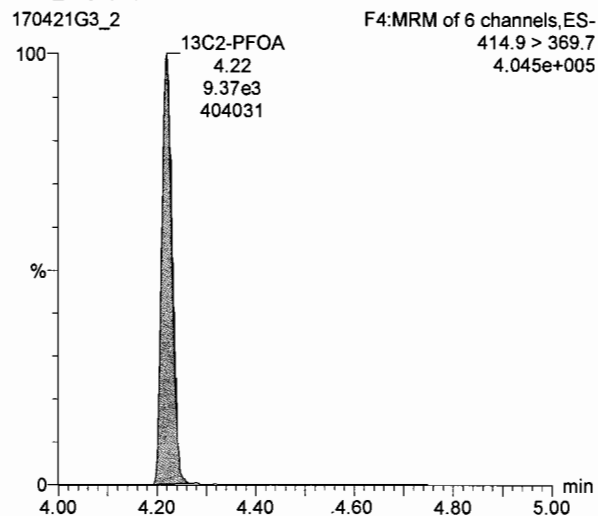
PFNA



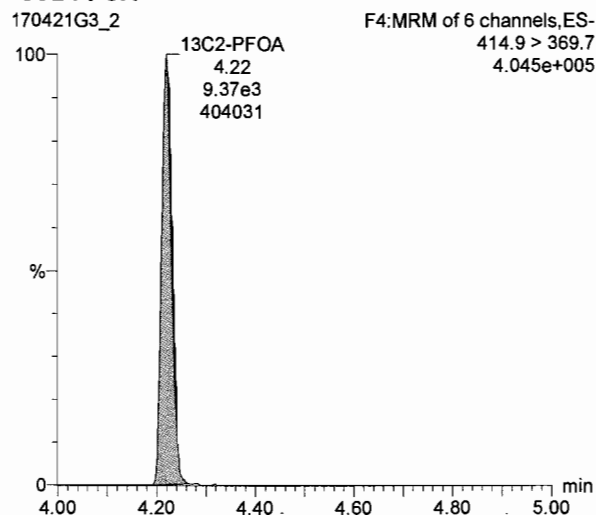
PFOS



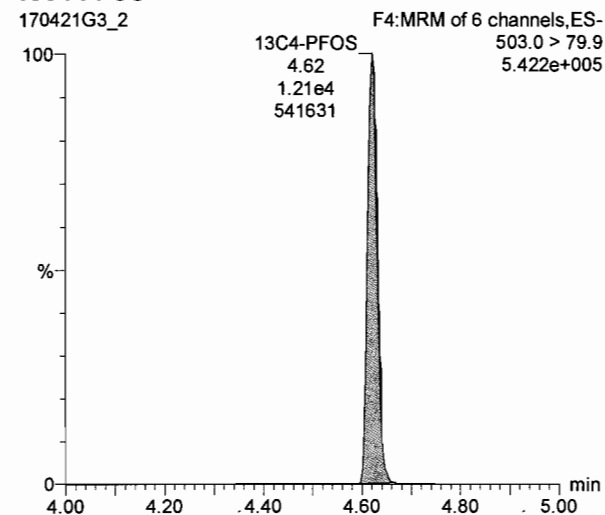
13C2-PFOA



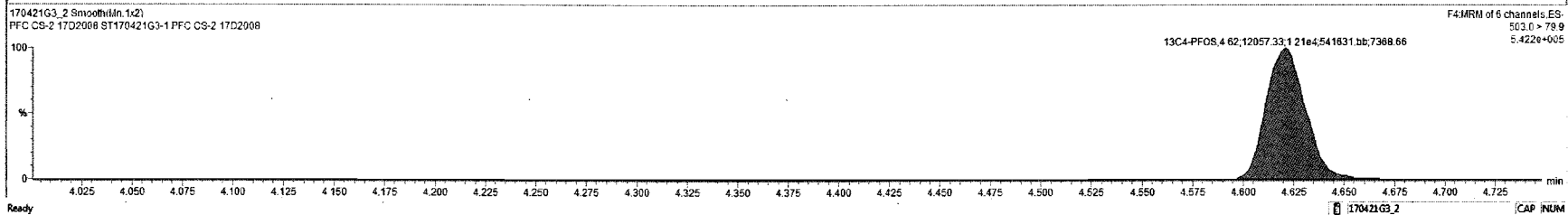
13C2-PFOA



13C4-PFOS



Name	Trace	Area	RFI	Wt%Vol	Prod.RT	RT	Conc.	+MDL	%Rec	DL
1	PFBS	299 > 79.7	3.72e2	1.000	2.91	2.91	0.964	NO	108.9	0.0015297
2	PFHpA	363 > 316.9	8.14e2	1.000	3.80	3.80	0.989	NO	96.9	0.0024288
3	PFHpS	368.9 > 79.8	4.00e2	1.000	3.92	3.92	0.897	NO	96.6	0.0226813
4	PFDA	413 > 368.7	7.69e2	1.000	4.22	4.22	1.05	NO	105.2	0.0149634
5	PFOS	463 > 79.9	8.89e2	1.000	4.55	4.55	0.679	NO	73.0	0.0037619
6	PFNA	463 > 418.8	1.19e3	1.000	4.55	4.56	0.929	NO	92.9	0.0045500
7	13C3-PFHxA	315.0 > 268.8	3.91e3	0.449	1.000	3.28	3.28	9.30	93.0	0.0009460
8	13C3-PFDA	515.1 > 469.9	8.90e3	0.803	1.000	4.85	4.85	9.17	91.7	0.1553211
9	13C3-PFOA	414.8 > 368.7	9.37e3	1.00	1.000	4.22	4.22	10.0	100.0	0.0139482
10	13C4-PFOS	503.0 > 79.9	1.21e4	1.00	1.000	4.61	4.62	28.7	100.0	0.0097372



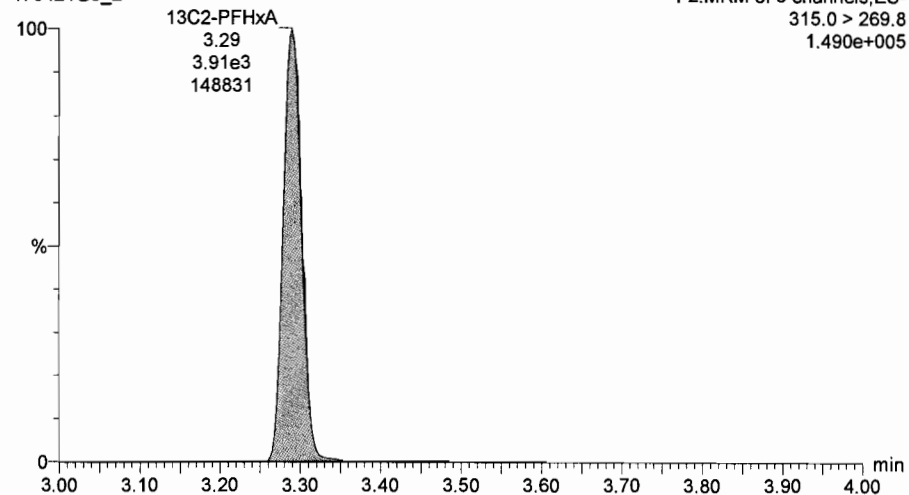
Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:44:46 Pacific Daylight Time
Printed: Monday, April 24, 2017 08:45:10 Pacific Daylight Time

Name: 170421G3_2, Date: 21-Apr-2017, Time: 18:01:05, ID: ST170421G3-1 PFC CS-2 17D2008, Description: PFC CS-2 17D2008

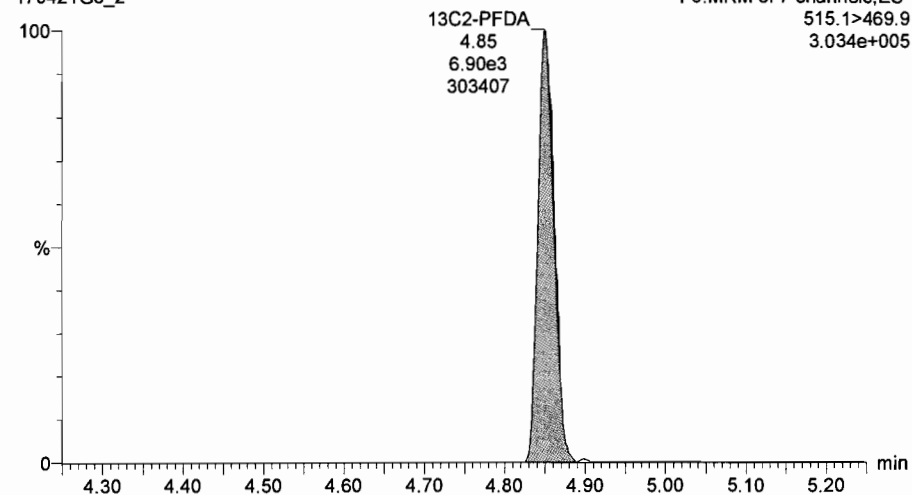
13C2-PFHxA

170421G3_2



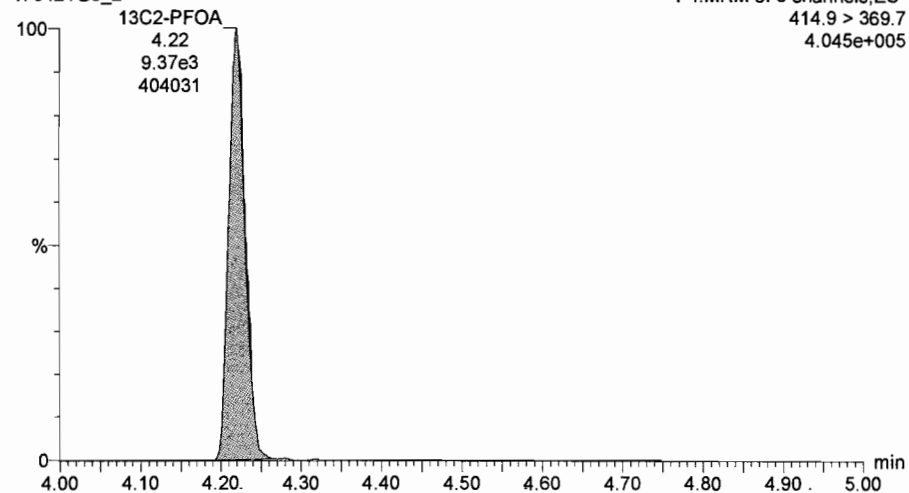
13C2-PFDA

170421G3_2



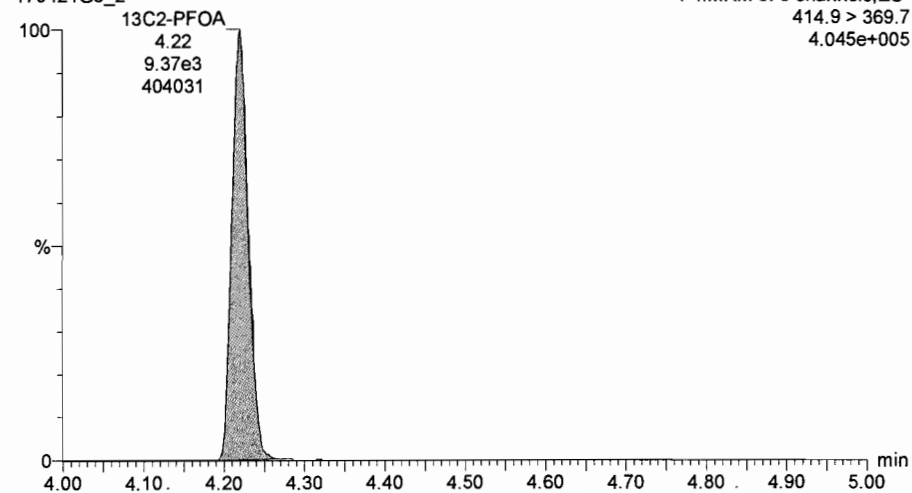
13C2-PFOA

170421G3_2



13C2-PFOA

170421G3_2



Dataset: U:\G1.PRO\Results\2017\170421G3\170421G3-35.qld

Last Altered: Monday, April 24, 2017 08:50:30 Pacific Daylight Time
Printed: Monday, April 24, 2017 08:51:37 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170421G3_35, Date: 22-Apr-2017, Time: 00:50:05, ID: ST170421G3-2 PFC CS2 17D2012, Description: PFC CS2 17D2012

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	7.27e3	1.60e4		1.000	2.93	14.6	82.7
2	2 PFHpA	363 > 318.9	1.83e4	1.37e4		1.000	3.81	15.2	76.0
3	3 PFHxS	398.9 > 79.6	8.82e3	1.60e4		1.000	3.94	15.5	85.4
4	4 PFOA	413 > 368.7	1.53e4	1.37e4		1.000	4.23	14.6	73.0
5	5 PFOS	499 > 79.9	2.54e3	1.60e4		1.000	4.63	13.6	73.0
6	6 PFNA	463 > 418.8	2.44e4	1.37e4		1.000	4.57	13.4	66.8
7	7 13C2-PFHxA	315.0 > 269.8	6.22e3	1.37e4	0.449	1.000	3.30	10.1	101.3
8	8 13C2-PFDA	515.1 > 469.9	9.62e3	1.37e4	0.803	1.000	4.86	8.76	87.6
9	9 13C2-PFOA	414.9 > 369.7	1.37e4	1.37e4	1.000	1.000	4.23	10.0	100.0
10	10 13C4-PFOS	503.0 > 79.9	1.60e4	1.60e4	1.000	1.000	4.63	28.7	100.0

70-130
↓

ⓐ outside limits.

DC
4/24/17

Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:56:50 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:59:26 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170421G3_1	IPA	21-Apr-17	17:48:24
2	170421G3_2	ST170421G3-1 PFC CS-2 17D2008	21-Apr-17	18:01:05
3	170421G3_3	IPA	21-Apr-17	18:13:27
4	170421G3_4	B7D0069-BS1 LFB 0.5	21-Apr-17	18:25:52
5	170421G3_5	B7D0099-BS1 LFB 0.25	21-Apr-17	18:38:17
6	170421G3_6	IPA	21-Apr-17	18:50:41
7	170421G3_7	B7D0069-BLK1 LRB 0.5	21-Apr-17	19:03:07
8	170421G3_8	B7D0099-BLK1 LRB 0.25	21-Apr-17	19:15:32
9	170421G3_9	1700483-01 ME-RW01-0417 0.25	21-Apr-17	19:27:53
10	170421G3_10	1700483-02 ME-FB01-0417 0.25	21-Apr-17	19:40:16
11	170421G3_11	1700483-03 ME-RW02-0417 0.25	21-Apr-17	19:52:38
12	170421G3_12	B7D0099-MS1 LFSM 0.25	21-Apr-17	20:05:02
13	170421G3_13	B7D0099-MSD1 LFSMD 0.25	21-Apr-17	20:17:25
14	170421G3_14	1700483-04 ME-FB02-0417 0.25	21-Apr-17	20:29:52
15	170421G3_15	1700387-01 PT# 38292 0.001	21-Apr-17	20:42:16
16	170421G3_16	B7D0096-BS1 LFB 0.25	21-Apr-17	20:54:42
17	170421G3_17	IPA	21-Apr-17	21:07:03
18	170421G3_18	B7D0096-BLK1 LRB 0.25	21-Apr-17	21:19:29
19	170421G3_19	1700466-01 RW05-20170417 0.25	21-Apr-17	21:31:50
20	170421G3_20	1700466-02 FRB-05-20170417 0.25	21-Apr-17	21:44:13
21	170421G3_21	1700466-03 RW10-20170417 0.25	21-Apr-17	21:56:35
22	170421G3_22	1700466-04 FRB-10-20170417 0.25	21-Apr-17	22:08:59
23	170421G3_23	1700466-05 RW18-20170417 0.25	21-Apr-17	22:21:22
24	170421G3_24	1700466-06 FRB-18-20170417 0.25	21-Apr-17	22:33:47
25	170421G3_25	1700466-07 RW07-20170417 0.25	21-Apr-17	22:46:13
26	170421G3_26	B7D0096-DUP1 Duplicate 0.25	21-Apr-17	22:58:35
27	170421G3_27	1700466-08 FRB-07-20170417 0.25	21-Apr-17	23:10:56
28	170421G3_28	1700466-09 RW03-20170417 0.25	21-Apr-17	23:23:19
29	170421G3_29	B7D0096-MS1 LFSM 0.25	21-Apr-17	23:35:41
30	170421G3_30	1700466-10 FRB-03-20170417 0.25	21-Apr-17	23:48:05
31	170421G3_31	1700466-11 RW16-20170417 0.25	22-Apr-17	00:00:29

Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:56:50 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:59:26 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170421G3_32	1700466-12 FRB-16-20170417 0.25	22-Apr-17	00:12:53
33	170421G3_33	1700466-13 RW14-20170418 0.25	22-Apr-17	00:25:18
34	170421G3_34	IPA	22-Apr-17	00:37:41
35	170421G3_35	ST170421G3-2 PFC CS2 17D2012	22-Apr-17	00:50:05
36	170421G3_36	IPA	22-Apr-17	01:02:28

Dataset: Untitled

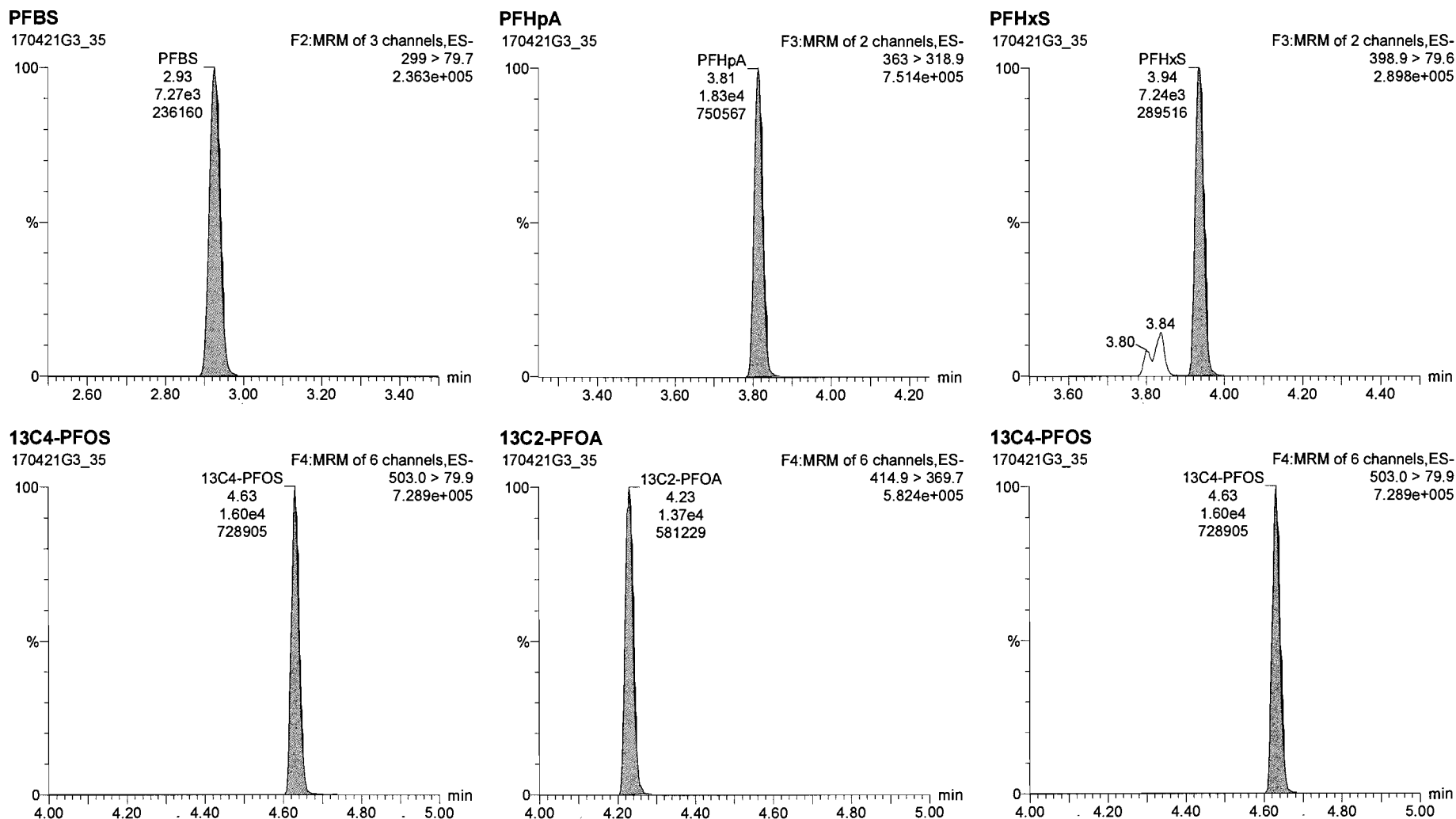
Last Altered: Monday, April 24, 2017 08:45:19 Pacific Daylight Time

Printed: Monday, April 24, 2017 08:45:26 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

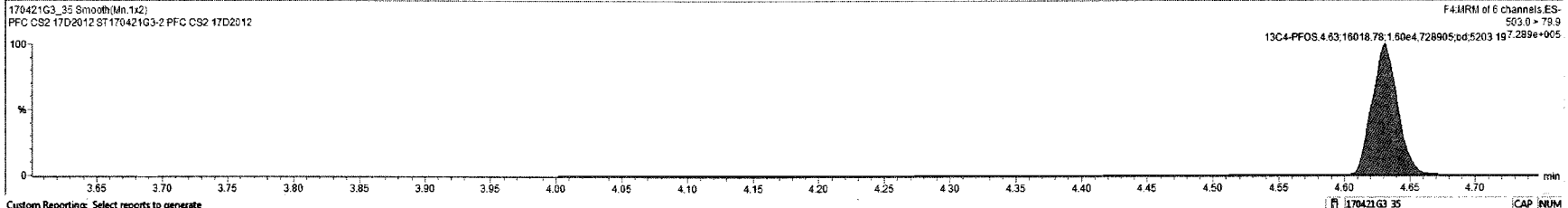
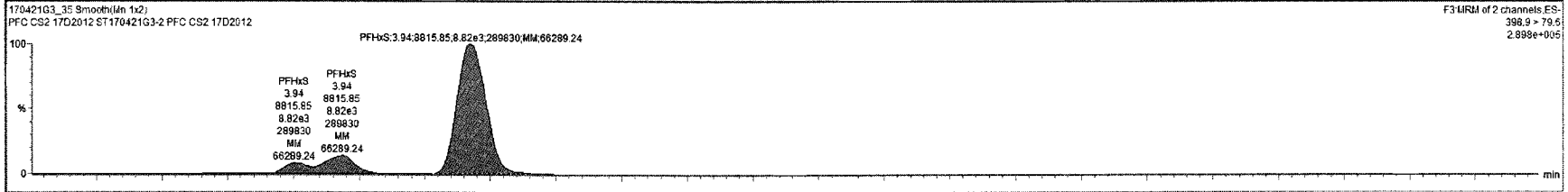
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170421G3_35, Date: 22-Apr-2017, Time: 00:50:05, ID: ST170421G3-2 PFC CS2 17D2012, Description: PFC CS2 17D2012



170421G3_35 - ST:170421G3-2 PFC CS2 17D2012 - PFC CS2 17D2012

2)	Name	Trace	Area	RRF	WVVol.	Prod.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	296 > 79.7	7.27e3		1.000	2.91	2.93	14.6	YES	62.7	0.0090418
2	PFHpA	383 > 319.9	1.83e4		1.000	3.80	3.81	15.2	YES	76.0	0.0045171
3	PFHxS	396.9 > 79.8	8.82e3		1.000	3.94	3.94	15.5	YES	65.4	0.0094942
4	PFDA	413 > 368.7	1.53e4		1.000	4.23	4.23	14.6	YES	73.0	0.0096206
5	PFOS	496 > 79.9	1.87e3		1.000	4.81	4.63	9.87	YES	53.1	0.2732312
6	PFNA	463 > 418.8	2.44e4		1.000	4.55	4.57	13.4	YES	66.8	0.0076663
7	13C2-PFHxA	315.0 > 269.8	6.22e3	0.449	1.000	3.28	3.30	10.1	NO	101.3	0.0027619
8	13C2-PFDA	515.1 > 489.9	9.82e3	0.803	1.000	4.85	4.86	8.76	NO	87.6	0.0113688
9	13C2-PFOA	414.9 > 369.7	1.37e4	1.00	1.000	4.72	4.23	10.0	NO	100.0	0.0297085
10	13C4-PFOS	503.0 > 79.9	1.60e4	1.00	1.000	4.81	4.63	28.7	NO	100.0	0.0137696



Custom Reporting: Select reports to generate

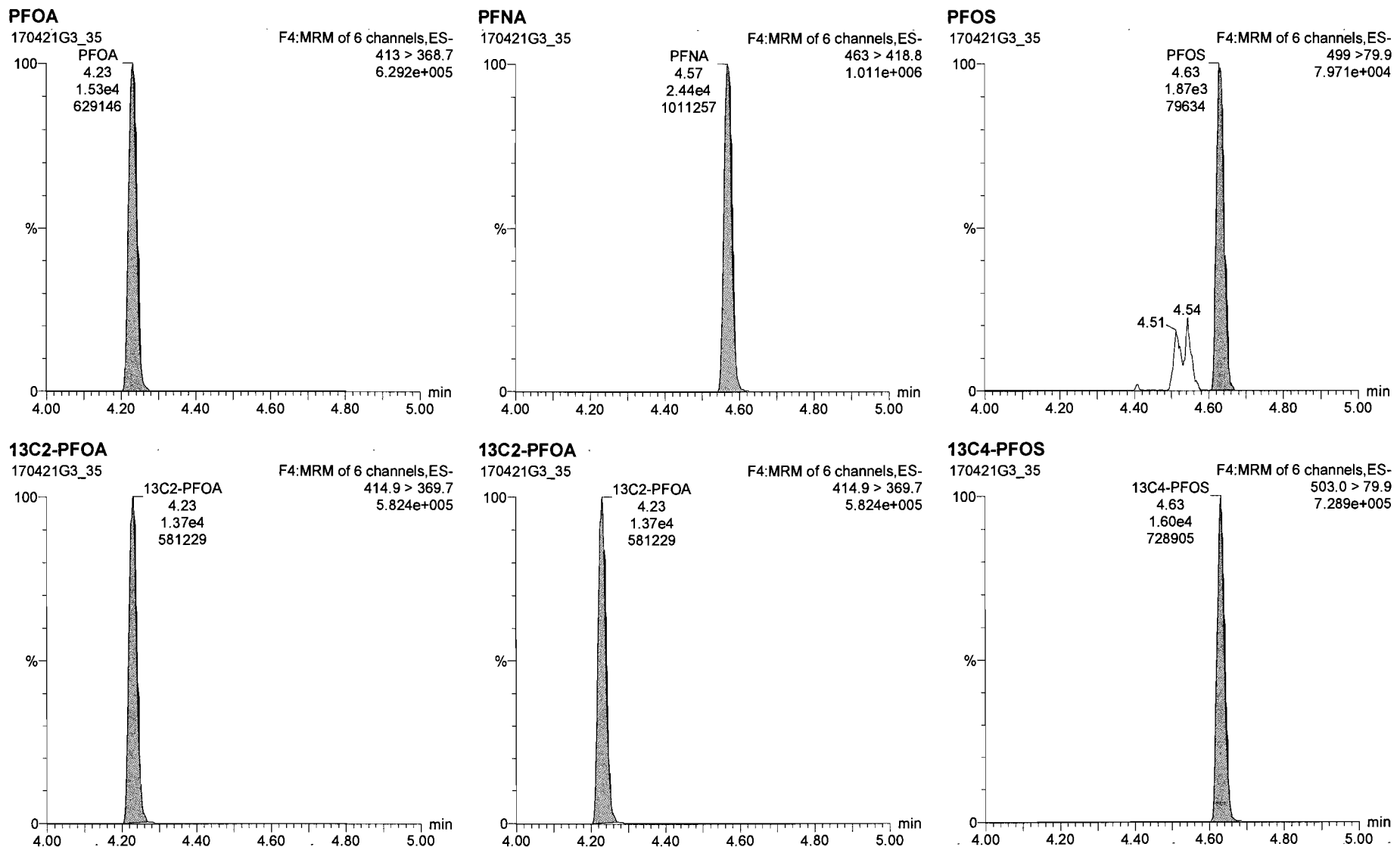
170421G3_35 CAP NUM

Dataset: Untitled

Last Altered: Monday, April 24, 2017 08:45:19 Pacific Daylight Time

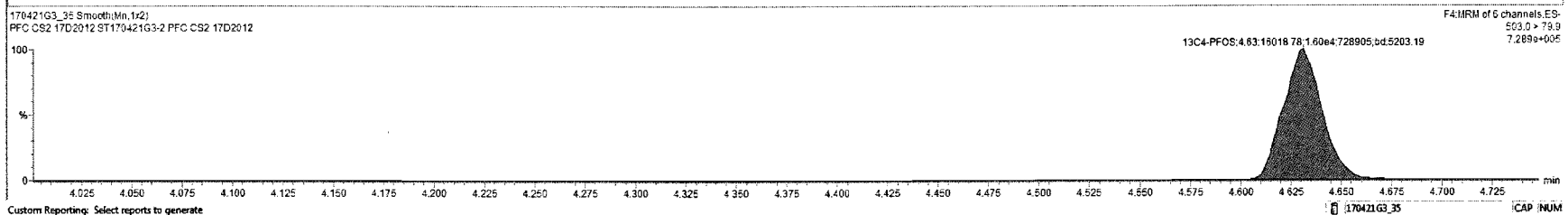
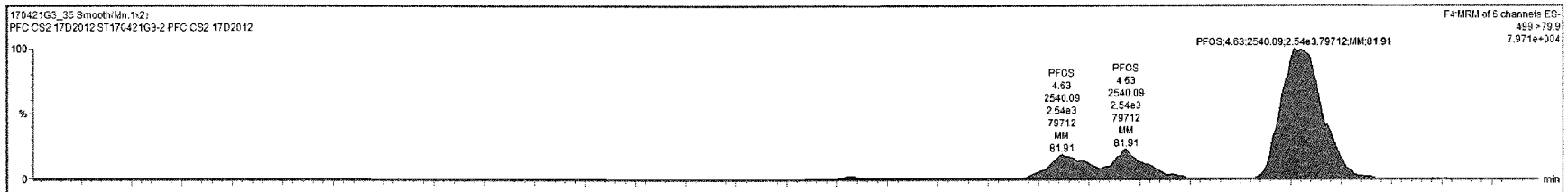
Printed: Monday, April 24, 2017 08:45:26 Pacific Daylight Time

Name: 170421G3_35, Date: 22-Apr-2017, Time: 00:50:05, ID: ST170421G3-2 PFC CS2 17D2012, Description: PFC CS2 17D2012



170421G3_35 - ST170421G3-2 PFC CS2 17D2012 - PFC CS2 17D2012

ID	Name	Trace	Area	RRF	VM/ML	Prod.RT	RT	Conc	>MUL	%Rec	DL
1	PFBS	299 > 79.7	7.27e3		1.000	2.91	2.92	14.6	YES	82.7	0.0090410
2	PFHpA	363 > 316.9	1.83e4		1.000	3.60	3.61	15.2	YES	76.0	0.0045171
3	PFHxS	368.9 > 79.6	8.82e3		1.000	3.92	3.94	15.5	YES	85.4	0.0004042
4	PFDA	413 > 368.7	1.53e4		1.000	4.23	4.23	14.6	YES	73.0	0.0096206
5	PFOS	469 > 79.9	2.54e3		1.000	4.63	4.63	13.6	YES	73.0	0.2732712
6	PFNA	463 > 416.8	2.44e4		1.000	4.55	4.57	13.4	YES	66.8	0.0076663
7	13C2-PFHxA	515.0 > 259.8	6.22e3	0.449	1.000	3.29	3.30	10.1	NO	101.3	0.0027819
8	13C2-PFDA	515.1 > 469.9	9.62e3	0.803	1.000	4.65	4.66	8.76	NO	87.6	0.0113688
9	13C2-PFOA	414.9 > 369.7	1.37e4	1.00	1.000	4.22	4.23	10.0	NO	100.0	0.0287085
10	13C4-PFOS	503.0 > 79.9	1.60e4	1.00	1.000	4.61	4.63	28.7	NO	100.0	0.0137896



Custom Reporting: Select reports to generate

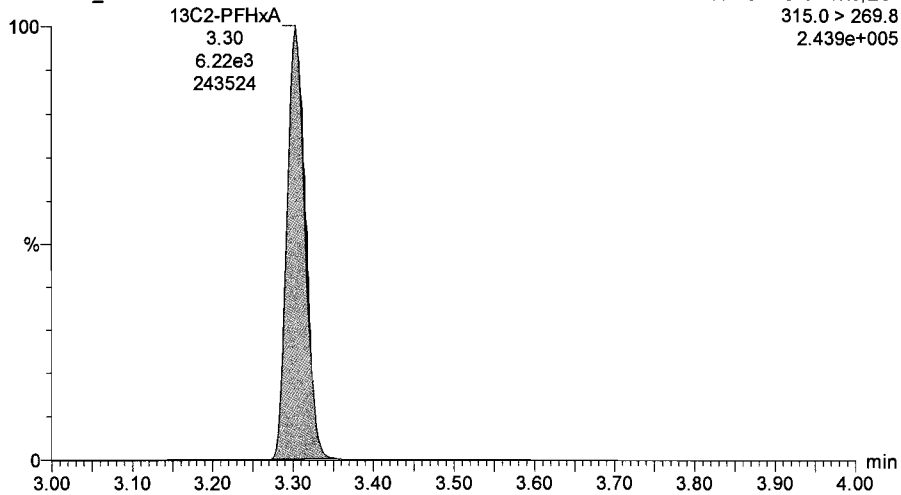
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Last Altered: Monday, April 24, 2017 08:45:19 Pacific Daylight Time

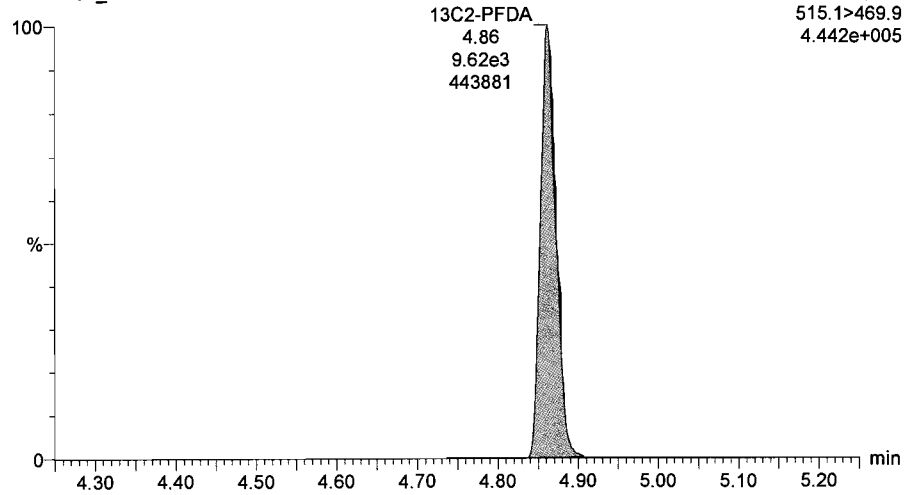
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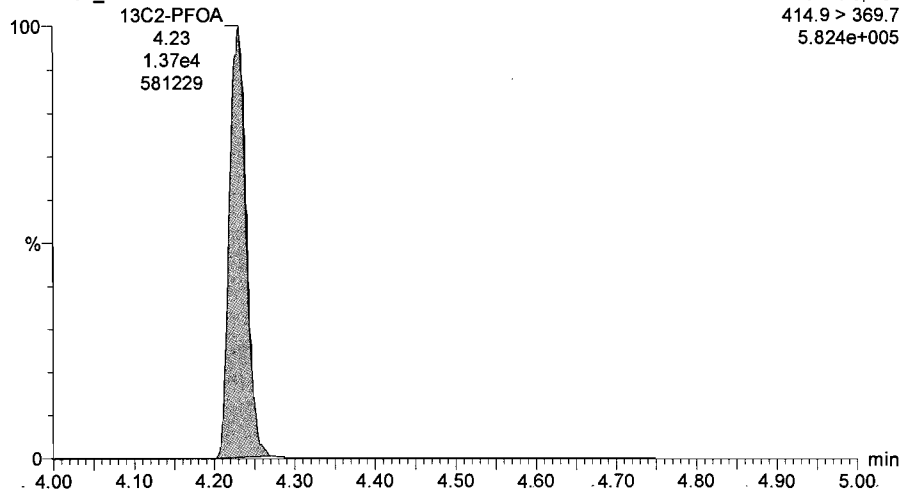
13C2-PFHxA
170421G3_35



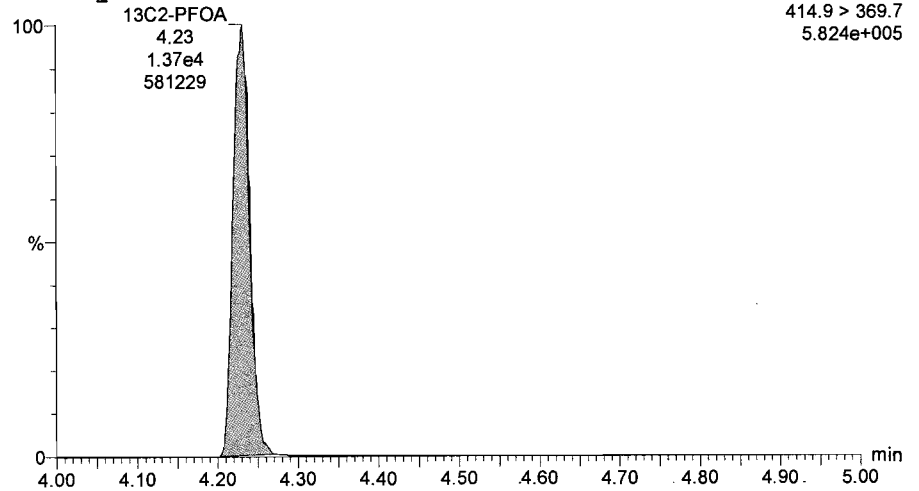
13C2-PFDA
170421G3_35



13C2-PFOA
170421G3_35



13C2-PFOA
170421G3_35



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:37:08 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Compound name: PFBS

Coefficient of Determination: R² = 0.999454

Calibration curve: -0.00214273 * x² + 0.921483 * x

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	0.885	2.91	3.00e2	1.07e4	0.877	-0.9	0.912
2	2 170420G1_4	1.77	2.89	5.59e2	1.05e4	1.67	-5.9	0.864
3	3 170420G1_5	4.42	2.89	1.52e3	1.11e4	4.29	-2.9	0.886
4	4 170420G1_6	8.85	2.89	2.99e3	1.03e4	9.26	4.7	0.944
5	5 170420G1_7	13.3	2.88	4.36e3	1.07e4	13.1	-1.4	0.881
6	6 170420G1_8	17.7	2.89	5.52e3	9.94e3	18.0	1.9	0.900
7	7 170420G1_9	22.1	2.89	6.37e3	9.61e3	21.7	-1.6	0.861
8	8 170420G1_10	44.2	2.89	1.32e4	1.03e4	44.2	0.1	0.827
9	9 170420G1_11	97.2	2.89	2.36e4	8.80e3	114	17.0	0.793

DM
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AC
4/21/17

Ⓐ Excluded

Compound name: PFHpA

Coefficient of Determination: R² = 0.999320

Calibration curve: -0.0012775 * x² + 0.897966 * x

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	1.00	3.80	6.69e2	7.58e3	0.985	-1.5	0.883
2	2 170420G1_4	2.00	3.78	1.32e3	7.48e3	1.96	-1.8	0.879
3	3 170420G1_5	5.00	3.78	3.37e3	7.49e3	5.05	1.0	0.901
4	4 170420G1_6	10.0	3.78	6.90e3	7.22e3	10.8	8.1	0.956
5	5 170420G1_7	15.0	3.78	9.65e3	7.42e3	14.8	-1.4	0.867
6	6 170420G1_8	20.0	3.79	1.25e4	7.06e3	20.3	1.5	0.885
7	7 170420G1_9	25.0	3.78	1.47e4	6.80e3	24.9	-0.3	0.864
8	8 170420G1_10	50.0	3.78	2.90e4	7.15e3	48.5	-3.1	0.810
9	9 170420G1_11	110	3.78	5.44e4	6.50e3	111	0.7	0.762

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time
 Printed: Friday, April 21, 2017 10:37:08 Pacific Daylight Time

Compound name: PFHxS

Coefficient of Determination: R² = 0.998827

Calibration curve: -0.00311585 * x² + 1.06481 * x

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

Ⓐ Excluded

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	0.910	3.92	3.44e2	1.07e4	0.873	-4.1	1.02
2	2 170420G1_4	1.82	3.91	6.67e2	1.05e4	1.72	-5.5	1.00
3	3 170420G1_5	4.56	3.90	1.67e3	1.11e4	4.09	-10.2	0.944
4	4 170420G1_6	9.12	3.90	3.55e3	1.03e4	9.60	5.2	1.09
5	5 170420G1_7	13.7	3.91	5.28e3	1.07e4	13.8	1.2	1.03
6	6 170420G1_8	18.2	3.91	6.48e3	9.94e3	18.6	2.1	1.03
7	7 170420G1_9	22.8	3.91	7.50e3	9.61e3	22.5	-1.3	0.982
8	8 170420G1_10	45.6	3.91	1.51e4	1.03e4	45.5	-0.3	0.921
9	9 170420G1_11	100	3.91	2.83e4	8.80e3		Ⓐ	0.921

Compound name: PFOA

Coefficient of Determination: R² = 0.999188

Calibration curve: -0.00107552 * x² + 0.780551 * x

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	1.00	4.21	6.48e2	7.58e3	1.10	9.8	0.856
2	2 170420G1_4	2.00	4.20	1.01e3	7.48e3	1.73	-13.5	0.673
3	3 170420G1_5	5.00	4.20	3.07e3	7.49e3	5.28	5.6	0.818
4	4 170420G1_6	10.0	4.20	5.90e3	7.22e3	10.6	6.3	0.818
5	5 170420G1_7	15.0	4.20	8.49e3	7.42e3	15.0	-0.3	0.762
6	6 170420G1_8	20.0	4.21	1.09e4	7.06e3	20.3	1.5	0.770
7	7 170420G1_9	25.0	4.20	1.24e4	6.80e3	24.3	-2.9	0.732
8	8 170420G1_10	50.0	4.20	2.57e4	7.15e3	49.3	-1.3	0.718
9	9 170420G1_11	110	4.20	4.75e4	6.50e3	110	0.4	0.664

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time
 Printed: Friday, April 21, 2017 10:37:08 Pacific Daylight Time

Compound name: PFOS

Coefficient of Determination: $R^2 = 0.994127$
 Calibration curve: $-0.00117183 * x^2 + 0.3509 * x$
 Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
 Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

Ⓐ Excluded.

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	0.930	4.62	6.68e1	1.07e4	0.513	-44.8	0.193
2	2 170420G1_4	1.86	4.60	2.40e2	1.05e4	1.88	1.3	0.353
3	3 170420G1_5	4.64	4.60	5.15e2	1.11e4	3.84	-17.2	0.287
4	4 170420G1_6	9.26	4.61	1.15e3	1.03e4	9.50	2.6	0.348
5	5 170420G1_7	13.9	4.61	1.74e3	1.07e4	13.9	-0.0	0.334
6	6 170420G1_8	18.6	4.61	2.15e3	9.94e3	18.9	1.5	0.334
7	7 170420G1_9	23.1	4.61	2.69e3	9.61e3	25.0	7.9	0.347
8	8 170420G1_10	46.3	4.61	4.85e3	1.03e4	45.1	-2.5	0.290
9	9 170420G1_11	102	4.61	9.70e3	8.80e3		Ⓐ	0.310

Compound name: PFNA

Coefficient of Determination: $R^2 = 0.999465$
 Calibration curve: $-0.00226354 * x^2 + 1.36399 * x$
 Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
 Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	1.00	4.55	1.02e3	7.58e3	0.986	-1.4	1.34
2	2 170420G1_4	2.00	4.54	2.04e3	7.48e3	2.00	0.1	1.36
3	3 170420G1_5	5.00	4.54	4.84e3	7.49e3	4.78	-4.4	1.29
4	4 170420G1_6	10.0	4.55	1.01e4	7.22e3	10.5	4.5	1.40
5	5 170420G1_7	15.0	4.55	1.48e4	7.42e3	15.0	0.3	1.33
6	6 170420G1_8	20.0	4.55	1.93e4	7.06e3	20.8	4.0	1.37
7	7 170420G1_9	25.0	4.55	2.17e4	6.80e3	24.3	-2.7	1.27
8	8 170420G1_10	50.0	4.55	4.41e4	7.15e3	49.2	-1.6	1.23
9	9 170420G1_11	110	4.55	7.99e4	6.50e3	110	0.4	1.12

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:37:08 Pacific Daylight Time

Compound name: 13C2-PFHxA

Response Factor: 0.448587

RRF SD: 0.0203778, Relative SD: 4.54266

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	10.0	3.28	3.10e3	7.58e3	9.12	-8.8	0.409
2	2 170420G1_4	10.0	3.27	3.17e3	7.48e3	9.45	-5.5	0.424
3	3 170420G1_5	10.0	3.27	3.36e3	7.49e3	10.0	-0.0	0.448
4	4 170420G1_6	10.0	3.27	3.19e3	7.22e3	9.86	-1.4	0.442
5	5 170420G1_7	10.0	3.27	3.47e3	7.42e3	10.4	4.3	0.468
6	6 170420G1_8	10.0	3.27	3.30e3	7.06e3	10.4	4.1	0.467
7	7 170420G1_9	10.0	3.27	3.14e3	6.80e3	10.3	3.0	0.462
8	8 170420G1_10	10.0	3.27	3.29e3	7.15e3	10.3	2.6	0.460
9	9 170420G1_11	10.0	3.27	2.97e3	6.50e3	10.2	1.8	0.457

Compound name: 13C2-PFDA

Response Factor: 0.802798

RRF SD: 0.0243912, Relative SD: 3.03828

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	10.0	4.85	6.25e3	7.58e3	10.3	2.7	0.825
2	2 170420G1_4	10.0	4.84	6.09e3	7.48e3	10.1	1.4	0.814
3	3 170420G1_5	10.0	4.85	5.99e3	7.49e3	9.96	-0.4	0.800
4	4 170420G1_6	10.0	4.85	5.61e3	7.22e3	9.67	-3.3	0.777
5	5 170420G1_7	10.0	4.85	6.18e3	7.42e3	10.4	3.7	0.832
6	6 170420G1_8	10.0	4.85	5.81e3	7.06e3	10.3	2.6	0.824
7	7 170420G1_9	10.0	4.85	5.26e3	6.80e3	9.64	-3.6	0.774
8	8 170420G1_10	10.0	4.85	5.49e3	7.15e3	9.57	-4.3	0.768
9	9 170420G1_11	10.0	4.85	5.28e3	6.50e3	10.1	1.2	0.812

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:37:08 Pacific Daylight Time

Compound name: 13C2-PFOA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	10.0	4.21	7.58e3	7.58e3	10.0	0.0	1.00
2	2 170420G1_4	10.0	4.20	7.48e3	7.48e3	10.0	0.0	1.00
3	3 170420G1_5	10.0	4.20	7.49e3	7.49e3	10.0	0.0	1.00
4	4 170420G1_6	10.0	4.20	7.22e3	7.22e3	10.0	0.0	1.00
5	5 170420G1_7	10.0	4.20	7.42e3	7.42e3	10.0	0.0	1.00
6	6 170420G1_8	10.0	4.21	7.06e3	7.06e3	10.0	0.0	1.00
7	7 170420G1_9	10.0	4.20	6.80e3	6.80e3	10.0	0.0	1.00
8	8 170420G1_10	10.0	4.20	7.15e3	7.15e3	10.0	0.0	1.00
9	9 170420G1_11	10.0	4.20	6.50e3	6.50e3	10.0	0.0	1.00

Ⓐ Excluded.

Compound name: 13C4-PFOS

Response Factor: 1

RRF SD: 4.19625e-017, Relative SD: 4.19625e-015

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170420G1_3	28.7	4.62	1.07e4	1.07e4	28.7	0.0	1.00
2	2 170420G1_4	28.7	4.61	1.05e4	1.05e4	28.7	0.0	1.00
3	3 170420G1_5	28.7	4.61	1.11e4	1.11e4	28.7	0.0	1.00
4	4 170420G1_6	28.7	4.61	1.03e4	1.03e4	28.7	0.0	1.00
5	5 170420G1_7	28.7	4.61	1.07e4	1.07e4	28.7	0.0	1.00
6	6 170420G1_8	28.7	4.61	9.94e3	9.94e3	28.7	-0.0	1.00
7	7 170420G1_9	28.7	4.61	9.61e3	9.61e3	28.7	0.0	1.00
8	8 170420G1_10	28.7	4.61	1.03e4	1.03e4	28.7	0.0	1.00
9	9 170420G1_11	28.7	4.61	8.80e3	8.80e3	28.7	0.0	1.00

Ⓐ

Dataset: Untitled

Last Altered: Friday, April 21, 2017 10:41:36 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:41:56 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170420G1_1	IPA	20-Apr-17	16:46:55
2	170420G1_2	ST170420G1-1 PFC CS-3 17D2007	20-Apr-17	16:59:38
3	170420G1_3	ST170420G1-2 PFC CS-2 17D2008	20-Apr-17	17:12:23
4	170420G1_4	ST170420G1-3 PFC CS-1 17D2009	20-Apr-17	17:24:44
5	170420G1_5	ST170420G1-4 PFC CS0 17D2010	20-Apr-17	17:37:07
6	170420G1_6	ST170420G1-5 PFC CS1 17D2011	20-Apr-17	17:49:31
7	170420G1_7	ST170420G1-6 PFC CS2 17D2012	20-Apr-17	18:01:56
8	170420G1_8	ST170420G1-7 PFC CS3 17D2013	20-Apr-17	18:14:20
9	170420G1_9	ST170420G1-8 PFC CS4 17D2014	20-Apr-17	18:26:46
10	170420G1_10	ST170420G1-9 PFC CS5 17D2015	20-Apr-17	18:39:14
11	170420G1_11	ST170420G1-10 PFC CS6 17D2016	20-Apr-17	18:51:40
12	170420G1_12	IPA	20-Apr-17	19:04:03
13	170420G1_13	SS170420G1-1 PFC SSS 17D2017	20-Apr-17	19:16:27
14	170420G1_14	IPA	20-Apr-17	19:28:50
15	170420G1_15	B7D0096-BS1 LFB 0.25	20-Apr-17	19:41:16
16	170420G1_16	IPA	20-Apr-17	19:53:38
17	170420G1_17	B7D0096-BLK1 LRB 0.25	20-Apr-17	20:06:03
18	170420G1_18	1700466-01 RW05-20170417 0.25	20-Apr-17	20:18:28
19	170420G1_19	1700466-02 FRB-05-20170417 0.25	20-Apr-17	20:30:54
20	170420G1_20	1700466-03 RW10-20170417 0.25	20-Apr-17	20:43:19
21	170420G1_21	1700466-04 FRB-10-20170417 0.25	20-Apr-17	20:55:45
22	170420G1_22	1700466-05 RW18-20170417 0.25	20-Apr-17	21:08:07
23	170420G1_23	1700466-06 FRB-18-20170417 0.25	20-Apr-17	21:20:28
24	170420G1_24	1700466-07 RW07-20170417 0.25	20-Apr-17	21:32:51
25	170420G1_25	B7D0096-DUP1 Duplicate 0.25	20-Apr-17	21:45:14
26	170420G1_26	1700466-08 FRB-07-20170417 0.25	20-Apr-17	21:57:38
27	170420G1_27	1700466-09 RW03-20170417 0.25	20-Apr-17	22:10:03
28	170420G1_28	B7D0096-MS1 LFSM 0.25	20-Apr-17	22:22:28
29	170420G1_29	1700466-10 FRB-03-20170417 0.25	20-Apr-17	22:34:54
30	170420G1_30	1700466-11 RW16-20170417 0.25	20-Apr-17	22:47:14
31	170420G1_31	1700466-12 FRB-16-20170417 0.25	20-Apr-17	22:59:51

Dataset: Untitled

Last Altered: Friday, April 21, 2017 10:41:36 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:41:56 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170420G1_32	1700466-13 RW14-20170418 0.25	20-Apr-17	23:12:14
33	170420G1_33	1700466-14 FRB-14-20170418 0.25	20-Apr-17	23:24:37
34	170420G1_34	1700466-15 RW20-20170418 0.25	20-Apr-17	23:37:01
35	170420G1_35	1700466-16 FRB-20-20170418 0.25	20-Apr-17	23:49:24
36	170420G1_36	1700466-17 RW06-20170418 0.25	21-Apr-17	00:01:49
37	170420G1_37	1700466-18 FRB-06-20170418 0.25	21-Apr-17	00:14:14
38	170420G1_38	1700466-19 RW01-20170418 0.25	21-Apr-17	00:26:36
39	170420G1_39	1700466-20 FRB-01-20170418 0.25	21-Apr-17	00:38:59
40	170420G1_40	IPA	21-Apr-17	00:51:22
41	170420G1_41	ST170420G1-11 PFC CS3 17D2013	21-Apr-17	01:03:47
42	170420G1_42	IPA	21-Apr-17	01:16:13

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_537_DW.mdb 21 Apr 2017 09:43:59

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

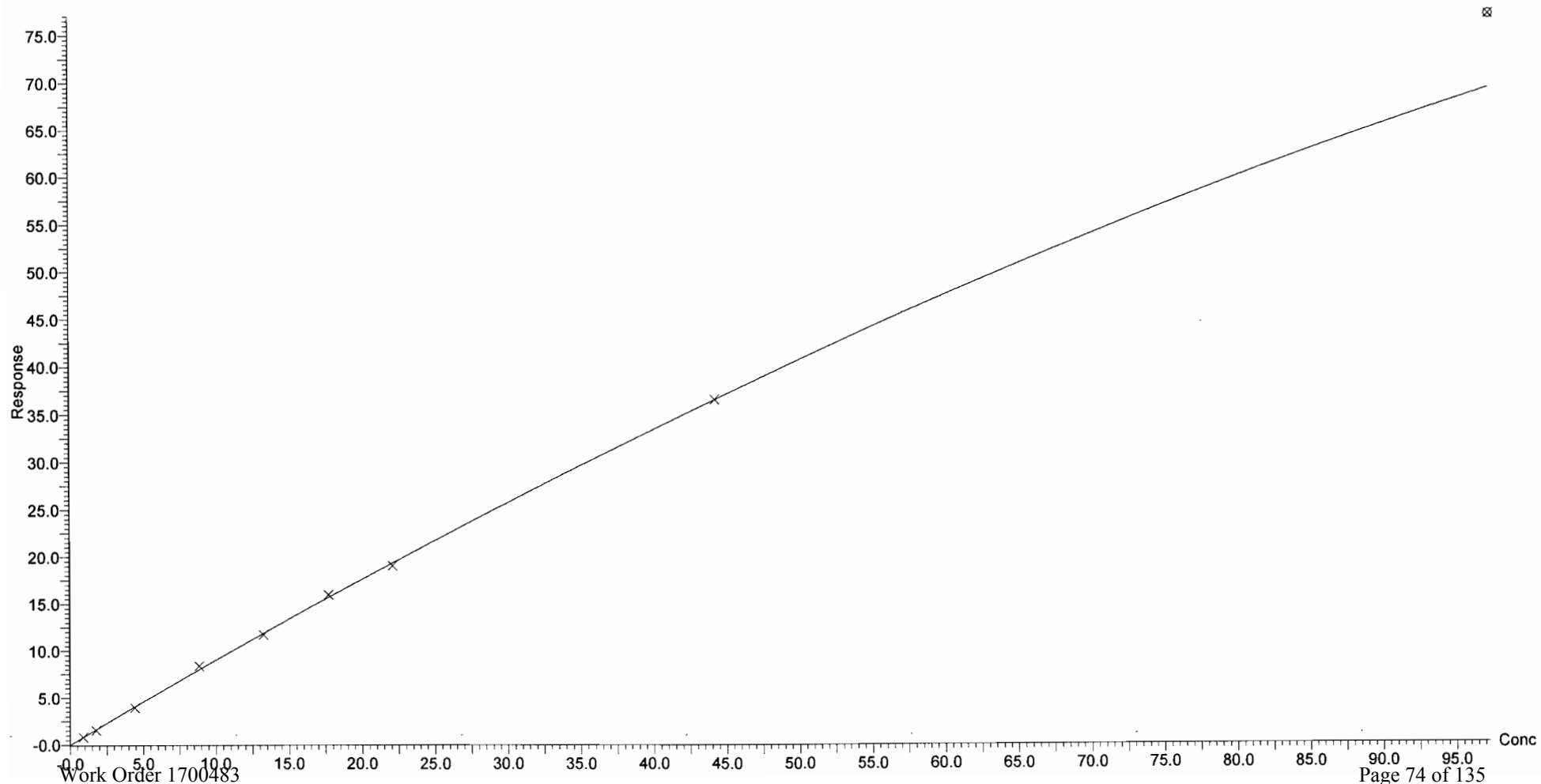
Compound name: PFBS

Coefficient of Determination: $R^2 = 0.999454$

Calibration curve: $-0.00214273 * x^2 + 0.921483 * x$

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

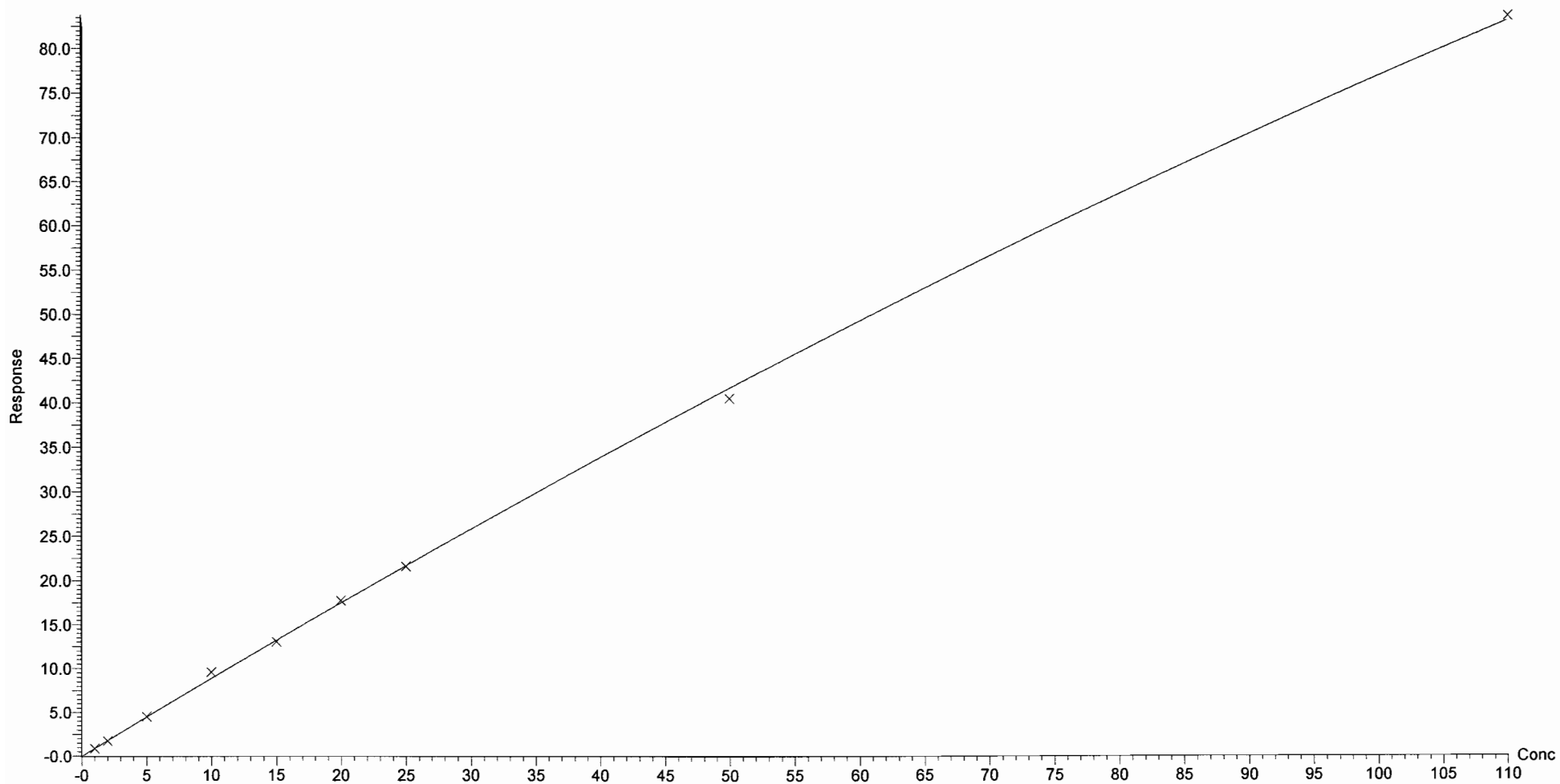
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: $R^2 = 0.999320$
Calibration curve: $-0.0012775 * x^2 + 0.897966 * x$
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

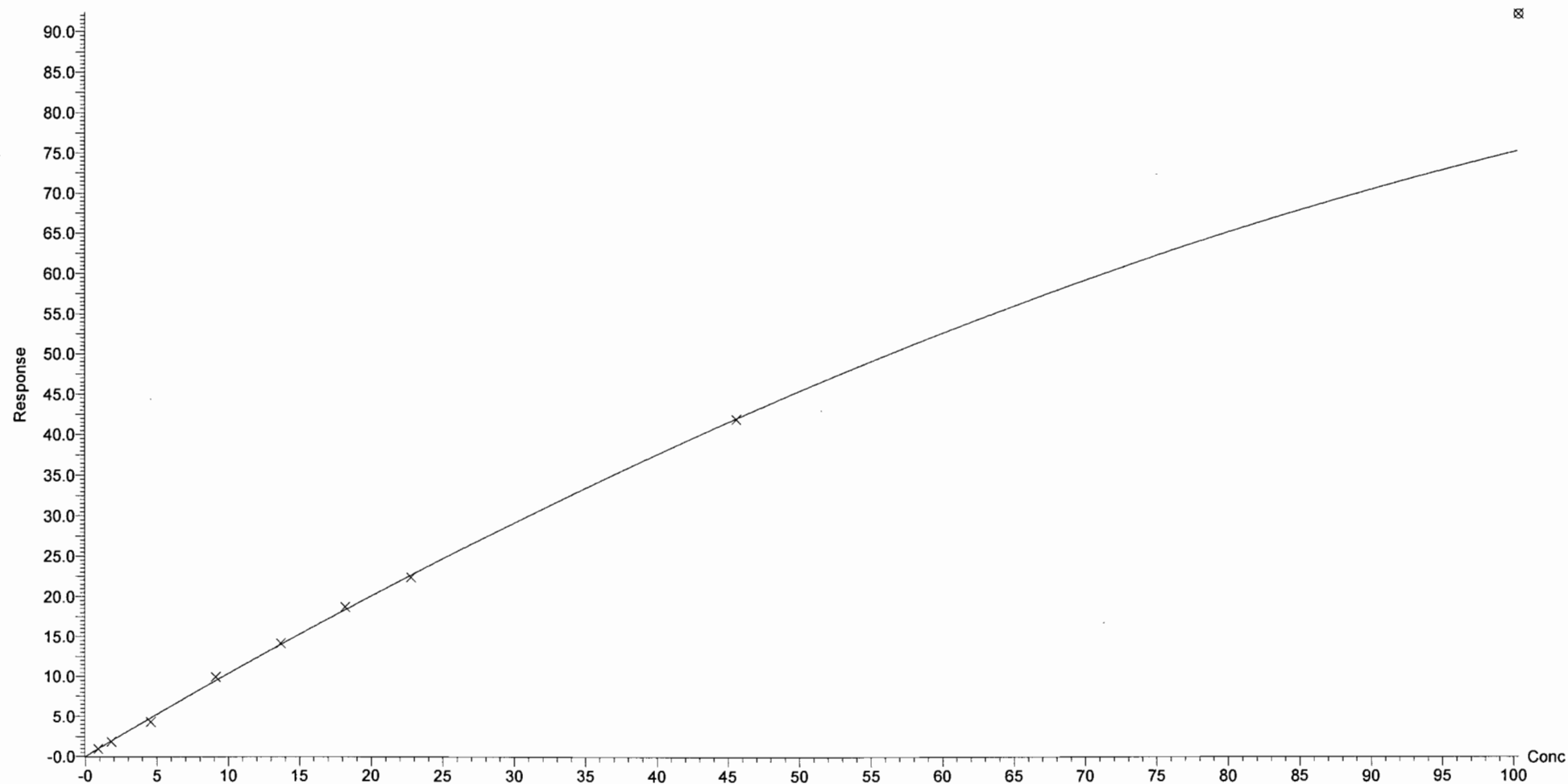
Compound name: PFHxS

Coefficient of Determination: $R^2 = 0.998827$

Calibration curve: $-0.00311585 * x^2 + 1.06481 * x$

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

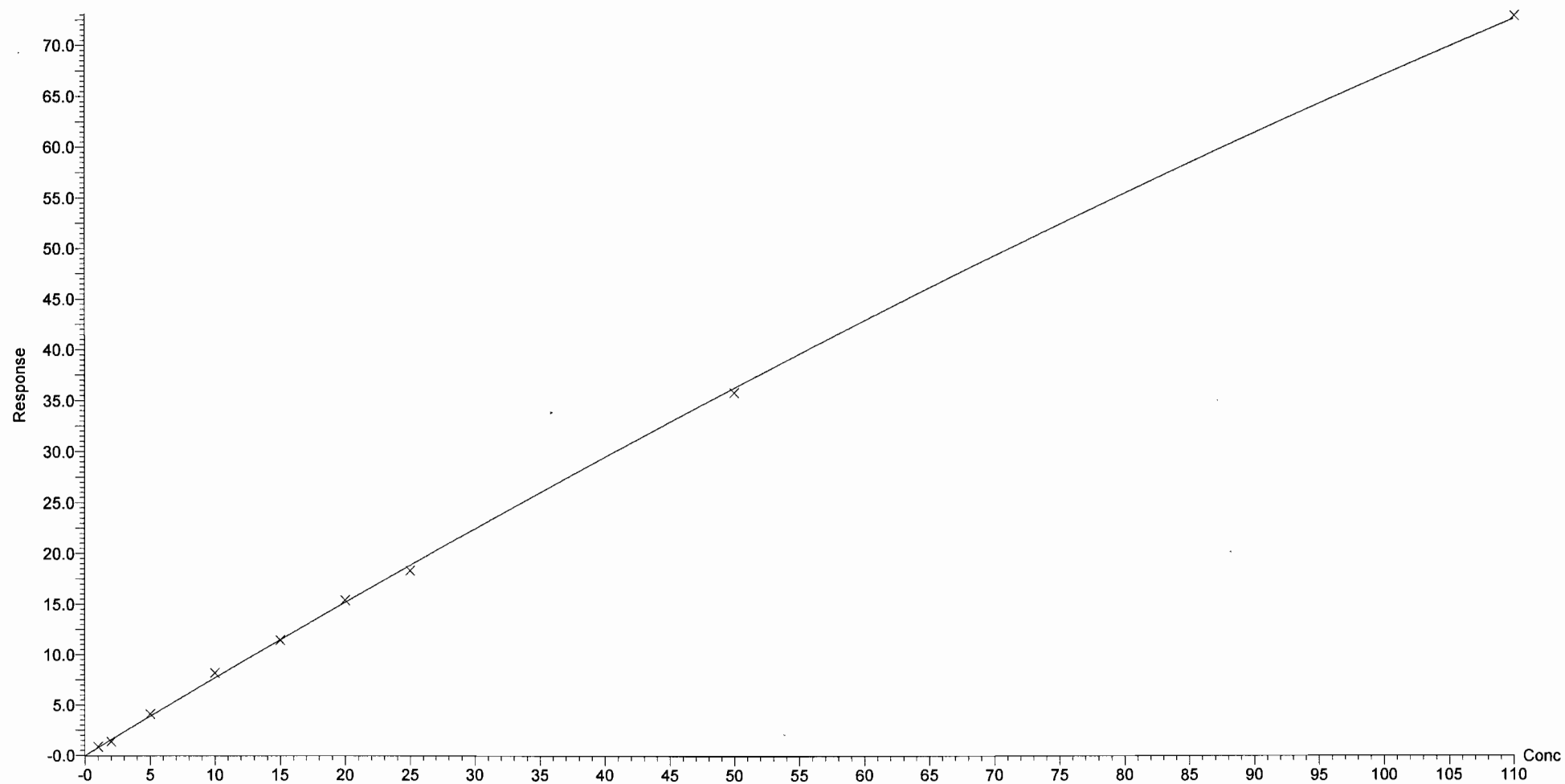
Compound name: PFOA

Coefficient of Determination: $R^2 = 0.999188$

Calibration curve: $-0.00107552 * x^2 + 0.780551 * x$

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

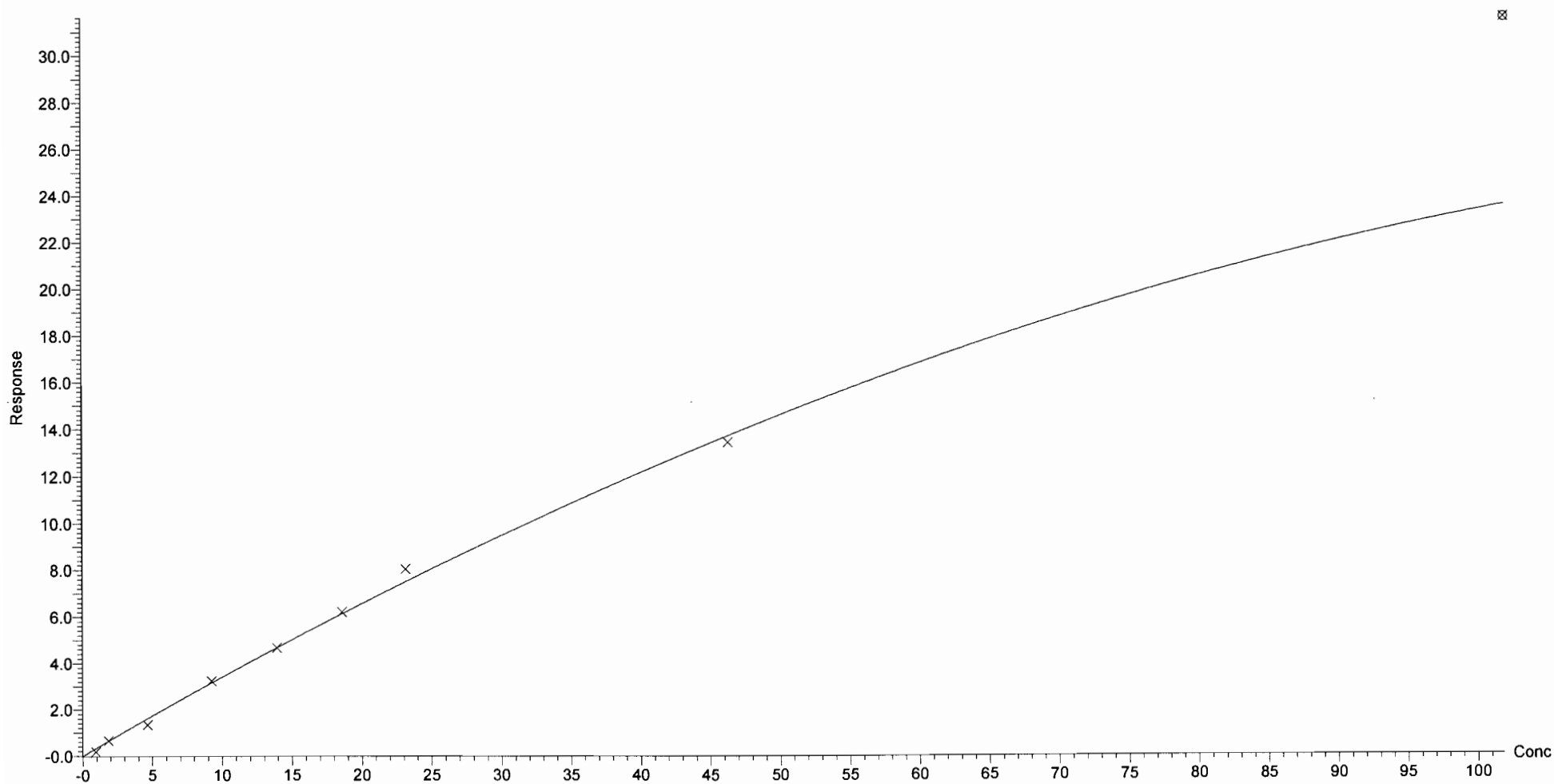
Compound name: PFOS

Coefficient of Determination: $R^2 = 0.994127$

Calibration curve: $-0.00117183 * x^2 + 0.3509 * x$

Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



Quantify Compound Summary Report

Printed Fri Apr 21 09:50:13 2017

Compound 10: 13C4-PFOS

#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Fid	Conc.	%Dev	Acq.Date	Acq.Time	Cal.Date	%Rec	RRF	Divisor1	
1	170420G1_3	Standard	28.7	4.62	10662.84	10662.84	28.7	bd	28.7	0	20-Apr-17	17:12:23	21-Apr-17	100	1	1	
2	170420G1_4	Standard	28.7	4.61	10498.31	10498.31	28.7	bd	28.7	0	20-Apr-17	17:24:44	21-Apr-17	100	1	1	
3	170420G1_5	Standard	28.7	4.61	11113.83	11113.83	28.7	bb	28.7	0	20-Apr-17	17:37:07	21-Apr-17	100	1	1	
4	170420G1_6	Standard	28.7	4.61	10261.95	10261.95	28.7	bb	28.7	0	20-Apr-17	17:49:31	21-Apr-17	100	1	1	
5	170420G1_7	Standard	28.7	4.61	10716.27	10716.27	28.7	bb	28.7	0	20-Apr-17	18:01:56	21-Apr-17	100	1	1	
6	170420G1_8	Standard	28.7	4.61	9943.103	9943.103	28.7	bd	28.7	0	20-Apr-17	18:14:20	21-Apr-17	100	1	1	
7	170420G1_9	Standard	28.7	4.61	9611.602	9611.602	28.7	bd	28.7	0	20-Apr-17	18:26:46	21-Apr-17	100	1	1	
8	170420G1_10	Standard	28.7	4.61	10345.49	10345.49	28.7	bb	28.7	0	20-Apr-17	18:39:14	21-Apr-17	100	1	1	

Compound 10: 13C4-PFOS

RPD	HIGH AREA	11114	
	LOW AREA	9612	
	RPD %	14.5	

INSTRUCTIONS: IN TARGETLNX, VERIFY YOU ARE USING THE LIST14 DW LAYOUT. RIGHT CLICK ON THE SUMMARY BOX AND SELECT "LIST BY COMPOUND". SELECT 13C2-PFOA, 13C4-PFOS OR D3-NMEFOSAA. CLICK ON EDIT. SELECT COPY CURRENT SUMMARY. PASTE IN CELL A1.

Quantify Compound Summary Report

Printed Fri Apr 21 09:47:34 2017

Compound 9: 13C2-PFOA

#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Primary Fla	Conc.	%Dev	Acq.Date	Acq.Time	Cal.Date	%Rec	RRF	Divisor1
1	170420G1_3	Standard	10	4.21	7576.826	7576.826	10	bd	10	0	20-Apr-17	17:12:23	21-Apr-17	100	1	1
2	170420G1_4	Standard	10	4.2	7479.476	7479.476	10	bd	10	0	20-Apr-17	17:24:44	21-Apr-17	100	1	1
3	170420G1_5	Standard	10	4.2	7492.731	7492.731	10	bb	10	0	20-Apr-17	17:37:07	21-Apr-17	100	1	1
4	170420G1_6	Standard	10	4.2	7221.838	7221.838	10	bb	10	0	20-Apr-17	17:49:31	21-Apr-17	100	1	1
5	170420G1_7	Standard	10	4.2	7421.516	7421.516	10	bb	10	0	20-Apr-17	18:01:56	21-Apr-17	100	1	1
6	170420G1_8	Standard	10	4.21	7055.997	7055.997	10	bb	10	0	20-Apr-17	18:14:20	21-Apr-17	100	1	1
7	170420G1_9	Standard	10	4.21	6797.896	6797.896	10	bb	10	0	20-Apr-17	18:26:46	21-Apr-17	100	1	1
8	170420G1_10	Standard	10	4.2	7149.535	7149.535	10	bb	10	0	20-Apr-17	18:39:14	21-Apr-17	100	1	1
9	170420G1_11	Standard	10	4.21	6496.95	6496.95	10	bd	10	0	20-Apr-17	18:51:40	21-Apr-17	100	1	1

Compound 9: 13C2-PFOA

RPD	HIGH AREA	7577
	LOW AREA	6497
	RPD %	15.3

INSTRUCTIONS: IN TARGETLYNX, VERIFY YOU ARE USING THE LIST14 DW LAYOUT. RIGHT CLICK ON THE SUMMARY BOX AND SELECT "LIST BY COMPOUND". SELECT 13C2-PFOA, 13C4-PFOS OR D3-NMEFOSAA. CLICK ON EDIT. SELECT COPY CURRENT SUMMARY. PASTE IN CELL A1.

Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-CRV.qld

Last Altered: Friday, April 21, 2017 10:28:44 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:34:42 Pacific Daylight Time

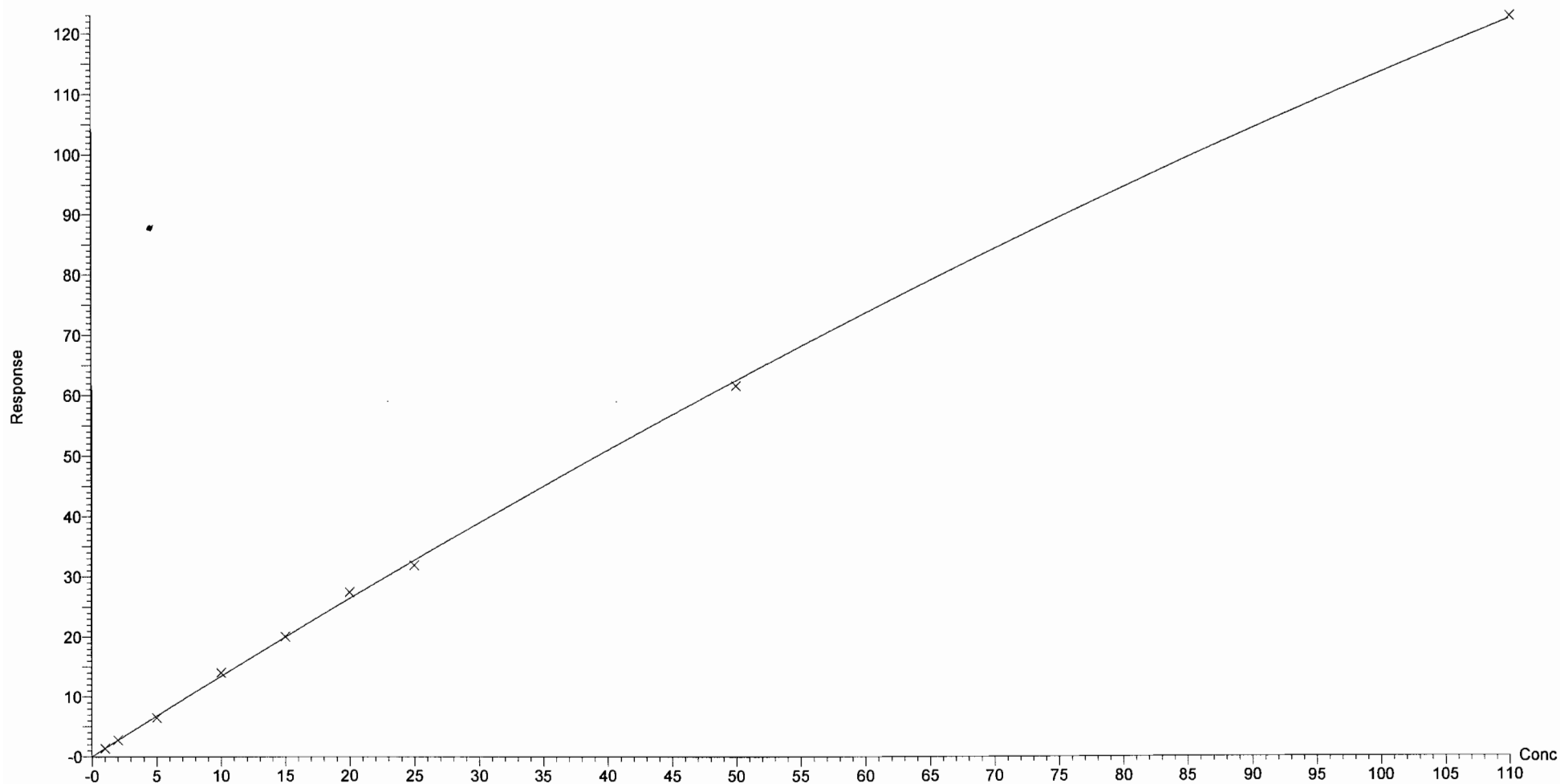
Compound name: PFNA

Coefficient of Determination: $R^2 = 0.999465$

Calibration curve: $-0.00226354 * x^2 + 1.36399 * x$

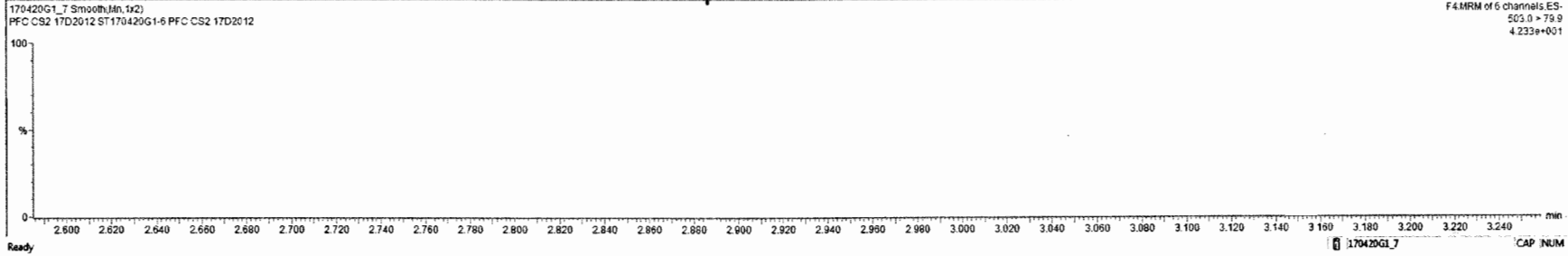
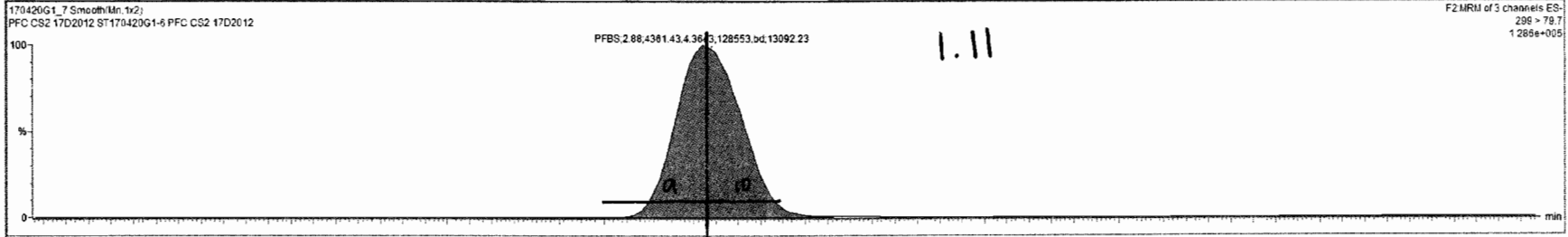
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



170420G1_7 - ST170420G1-6 PFC CS2 17D2012 - PFC CS2 17D2012

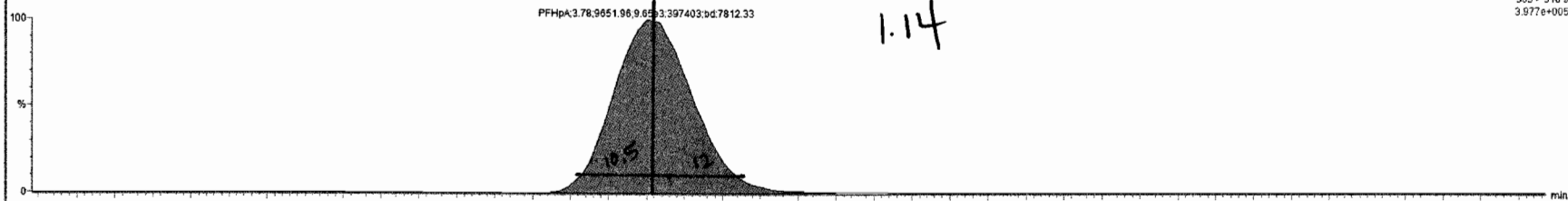
Name	Resp	RRF	wtVol	RT	RA	n/y	Conc.	%Rec	DL	EMPC
1 PFBS	4.36e3		1.000	2.88			43.1	98.6	0.00170	
2 PFHpA	9.65e3		1.000	3.78			14.6	98.6	0.00448	
3 PFHxS	5.28e3		1.000	3.91			13.6	101	0.0238	
4 PFQA	8.48e3		1.000	4.20			15.0	99.7	0.0304	
5 PFOS	1.74e3		1.000	4.61			13.9	100	0.136	
6 PFNA	1.48e4		1.000	4.55			16.0	100	0.08900	
7 13C2-PFHxA	3.47e3	0.45	1.000	3.27			10.4	104	0.00215	
8 13C2-PFDA	6.18e3	0.80	1.000	4.85			10.4	104	0.00647	
9 13C2-PFOA	7.42e3	1.00	1.000	4.20			10.0	100	0.0103	
10 13C4-PFOS	1.07e4	1.00	1.000	4.61			28.7	100	0.0478	



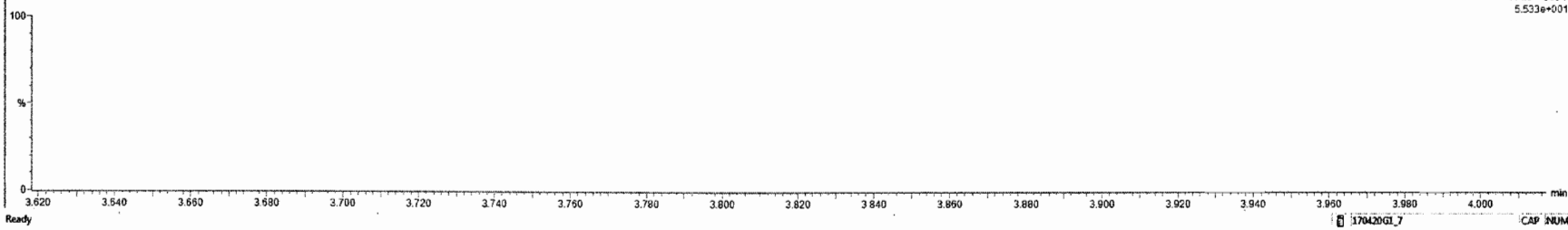
170420G1_7 - ST170420G1-6 PFC CS2 17D2012 - PFC CS2 17D2012

#	Name	Disp	RRF	width	RT	RA	Qty	Conc.	NRec	DL	EMPC
1	PFBS	4.36e3	1.00	2.68				13.1	99.9	0.00170	
2	PFHpA	9.65e3	1.00	3.78				14.8	98.8	0.00449	
3	PFHxS	5.28e3	1.00	3.91				13.8	101	0.0238	
4	PFDA	8.49e3	1.00	4.20				15.0	99.7	0.0204	
5	PFOS	1.74e3	1.00	4.61				13.9	100	0.138	
6	PFNA	1.48e4	1.00	4.55				15.0	100	0.06800	
7	13C2-PFHxA	3.47e3	0.45	1.00	3.27			10.4	104	0.00215	
8	13C2-PFDA	6.15e3	0.60	1.00	4.85			10.4	104	0.00847	
9	13C2-PFOA	7.42e3	1.00	1.00	4.20			10.0	100	0.0103	
10	13C4-PFOS	1.07e4	1.00	1.00	4.61			26.7	100	0.0478	

170420G1_7 Smooth(Mn.t1x2)
 PFC CS2 17D2012 ST170420G1-6 PFC CS2 17D2012
 F3.MRM1 of 2 channels ES-
 363 + 316.0
 3.977e+005



170420G1_7 Smooth(Mn.t1x2)
 PFC CS2 17D2012 ST170420G1-6 PFC CS2 17D2012
 F4.MRM1 of 6 channels ES-
 414.9 + 360.7
 5.533e+001



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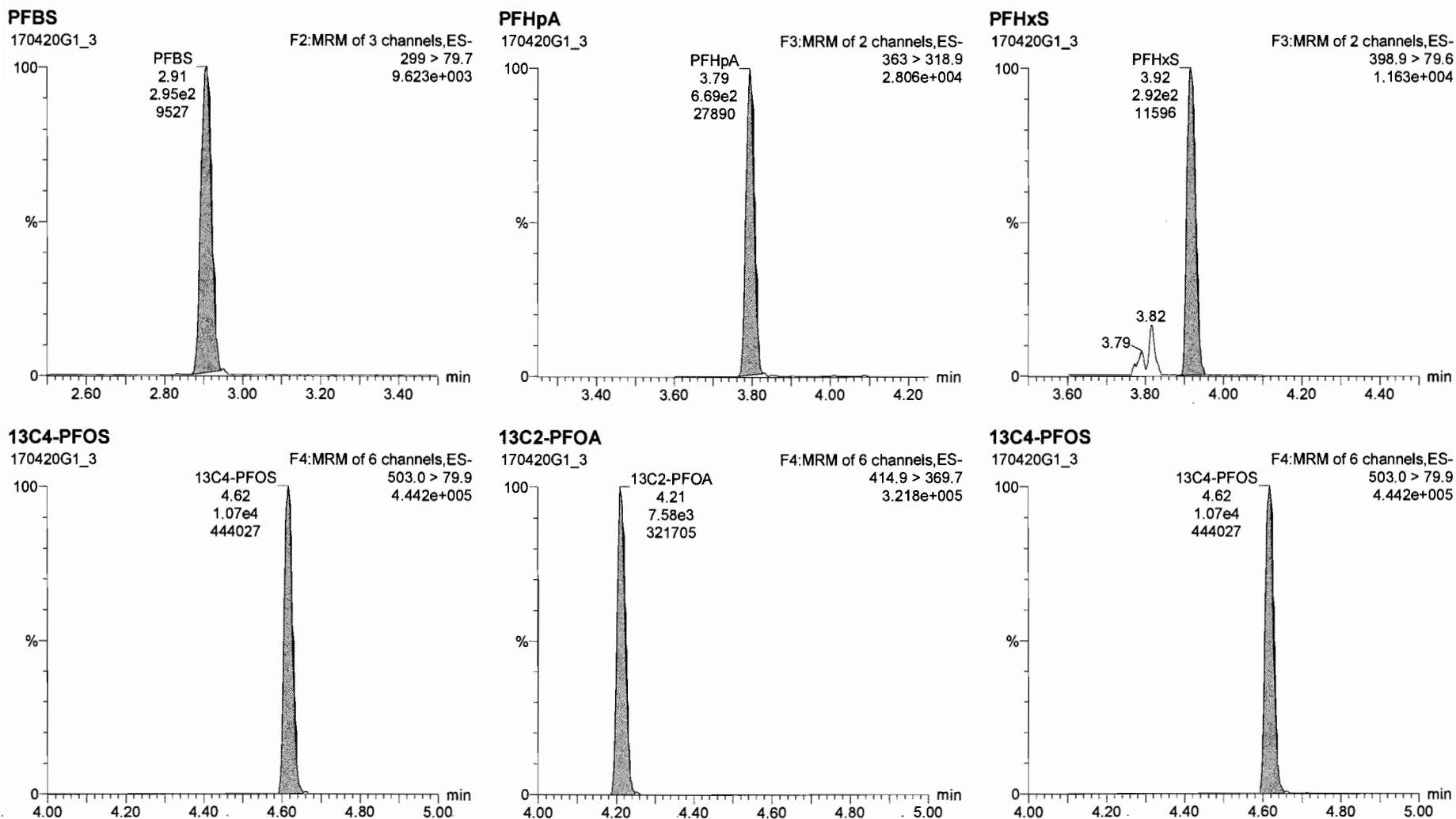
Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

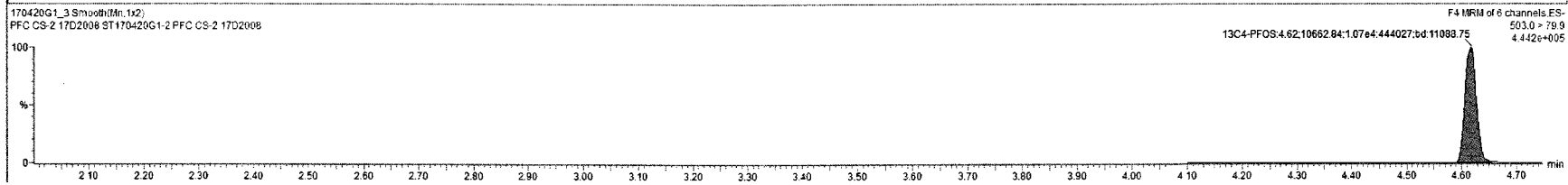
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Calibration: 21 Apr 2017 10:17:30

Name: 170420G1_3, Date: 20-Apr-2017, Time: 17:12:23, ID: ST170420G1-2 PFC CS-2 17D2008, Description: PFC CS-2 17D2008



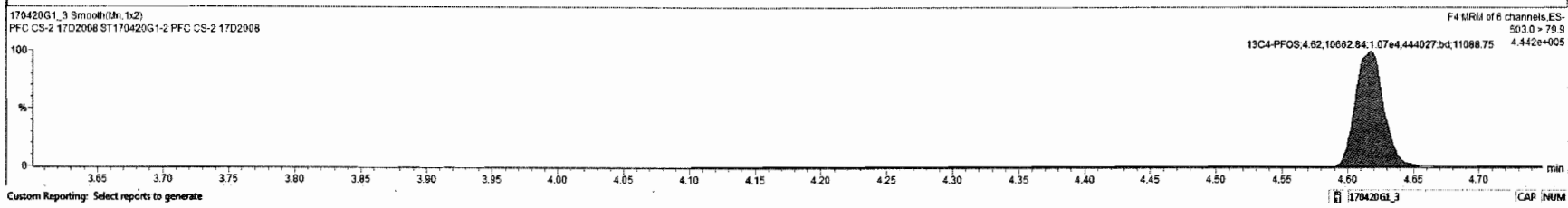
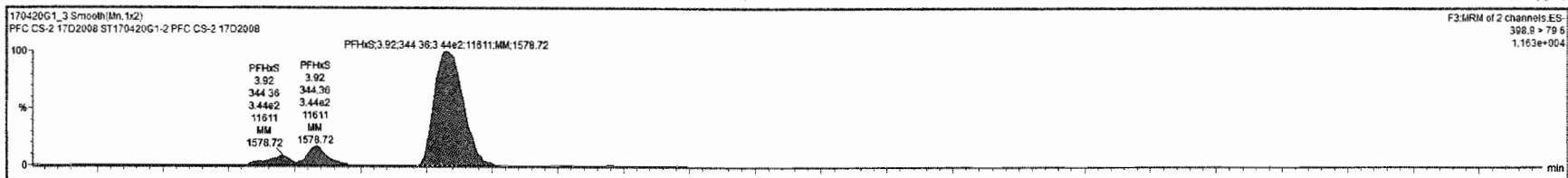
Peak	Name	Resp	RRF	wfYol	RT	RA	NY	Conc	%Rec	OL	EMPC
1	PFBS	3.00e2		1.000	2.91			0.877	99.1	0.00125	
2	PFHpA	6.69e2		1.000	3.80			0.985	98.5	0.00147	
3	PFHxS	3.44e2		1.000	3.92			0.873	95.9	0.00112	
4	PFOA	6.48e2		1.000	4.21			1.10	110	0.0441	
5	PFOS	6.68e1		1.000	4.62			0.513	55.2	0.0260	
6	PFNA	1.02e3		1.000	4.55			0.986	98.6	0.0378	
7	13C3-PFHxA	3.10e3	0.45	1.000	3.28			9.12	91.2	0.00382	
8	13C3-PFDA	6.25e3	0.80	1.000	4.85			10.3	103	0.285	
9	13C3-PFOA	7.58e3	1.00	1.000	4.21			10.0	100	0.278	
10	13C4-PFOS	1.07e4	1.00	1.000	4.62			28.7	100	0.09647	



Custom Reporting: Select reports to generate

170420G1_3 - ST170420G1-2 PFC CS-2 17D2008 - PFC CS-2 17D2008

Name	Resp	RRF	wt/wt	RT	RA	wy	Conc	%Rec	DL	EMPC
1 PFBS	2.95e2	1.000	2.91				0.006	100	0.00120	
2 PFHPA	6.69e2	1.000	3.80				0.985	98.5	0.00147	
3 PFHS	3.44e2	1.000	3.92				1.12	123	0.00142	
4 PFOA	6.48e2	1.000	4.21				1.10	110	0.0441	
5 PFOS	6.68e1	1.000	4.62				0.696	74.9	0.0354	
6 PFNA	1.62e3	1.000	4.55				0.996	98.6	0.0376	
7 13C2-PFHxA	3.10e3	0.45	1.000	3.28			9.12	91.2	0.00392	
8 13C2-PFDA	6.25e3	0.80	1.000	4.85			10.3	103	0.285	
9 13C2-PFOA	7.58e3	1.00	1.000	4.21			10.0	100	0.278	
10 13C4-PFOS	1.07e4	1.00	1.000	4.62			28.7	100	0.00647	

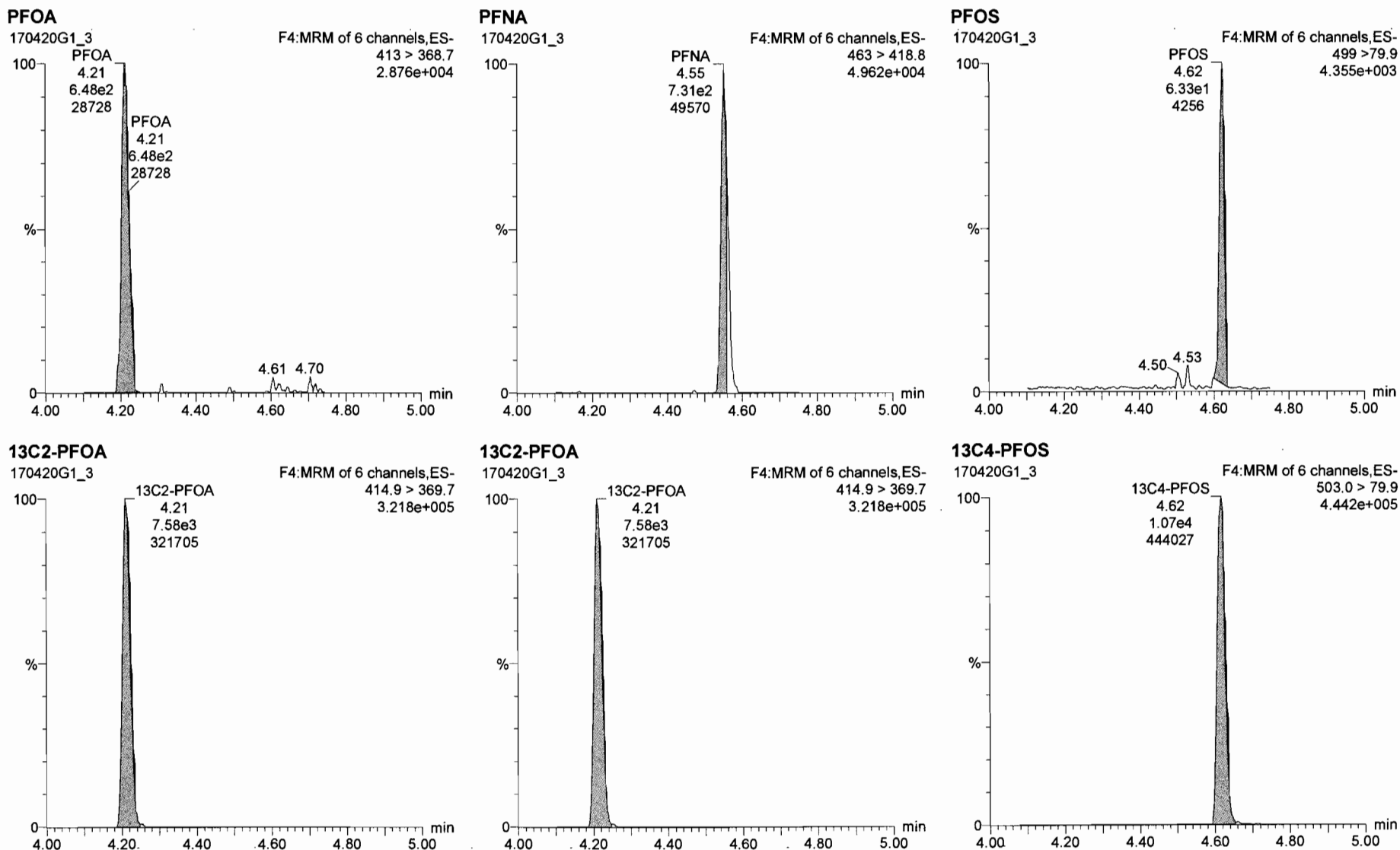


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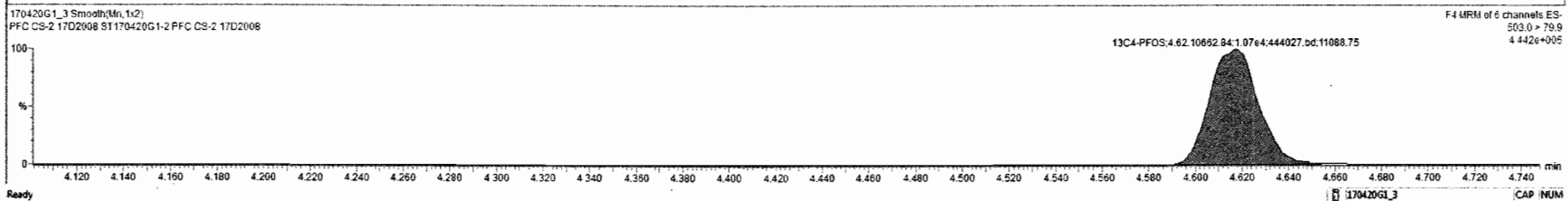
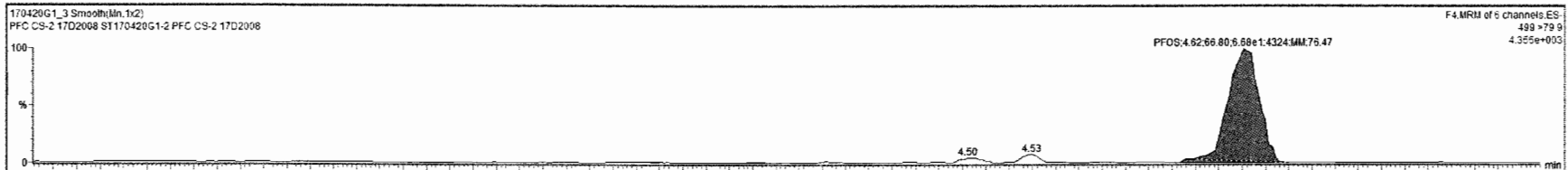
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_3, Date: 20-Apr-2017, Time: 17:12:23, ID: ST170420G1-2 PFC CS-2 17D2008, Description: PFC CS-2 17D2008



#	Name	Resp	RRF	wtVol	RT	RA	ny	Coac	%Rec	DL	EMPC
1	PFBS	2.95e2	1.000	2.91				0.886	100	0.00126	
2	PFHpA	6.69e2	1.000	3.00				0.985	98.5	0.00147	
3	PFHxS	3.44e2	1.000	3.92				0.916	101	0.00117	
4	PFDA	6.48e2	1.000	4.21				1.10	110	0.0441	
5	PFOS	9.89e1	1.000	4.62				0.696	74.9	0.0354	
6	PFNA	1.02e3	1.000	4.55				0.906	98.6	0.0378	
7	13C2-PFHxA	3.10e3	0.45	1.000	3.28			9.12	91.2	0.00392	
8	13C2-PFDA	6.25e3	0.80	1.000	4.85			10.3	103	0.285	
9	13C2-PFOA	7.58e3	1.00	1.000	4.21			10.9	100	0.278	
10	13C4-PFOS	1.07e4	1.00	1.000	4.62			28.7	100	0.00647	



Dataset: Untitled

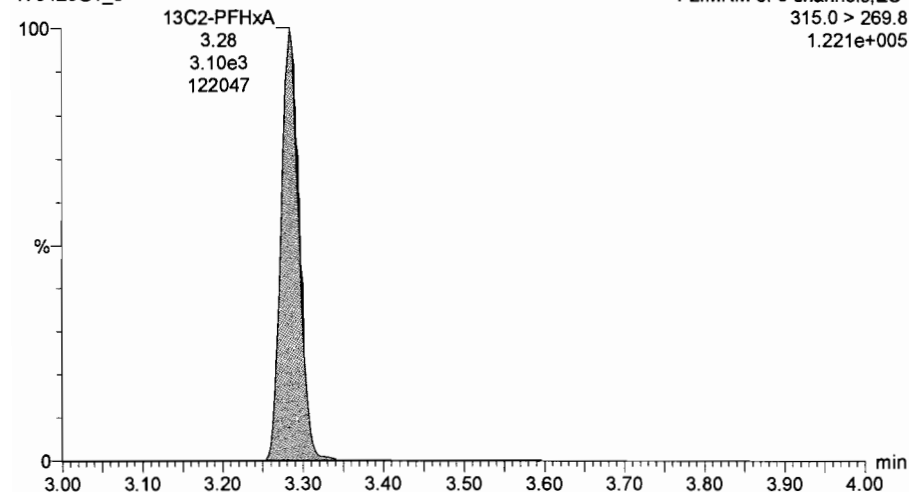
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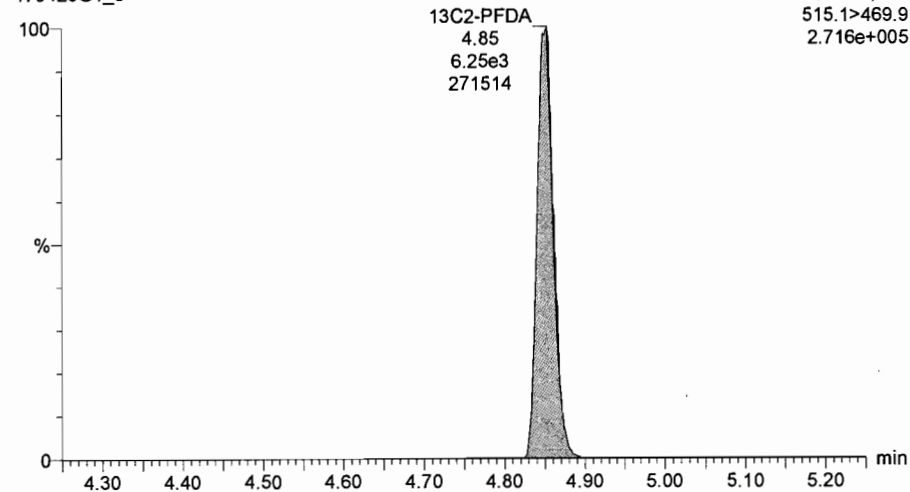
13C2-PFHxA

170420G1_3



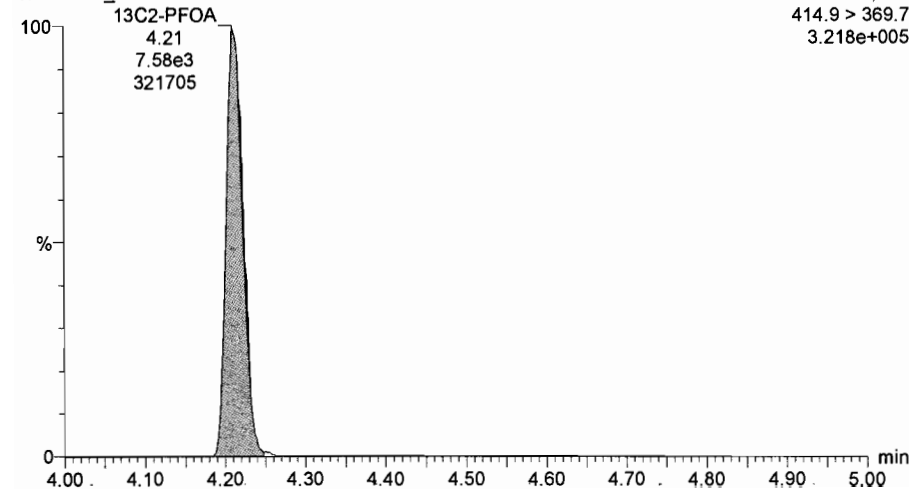
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170420G1_3



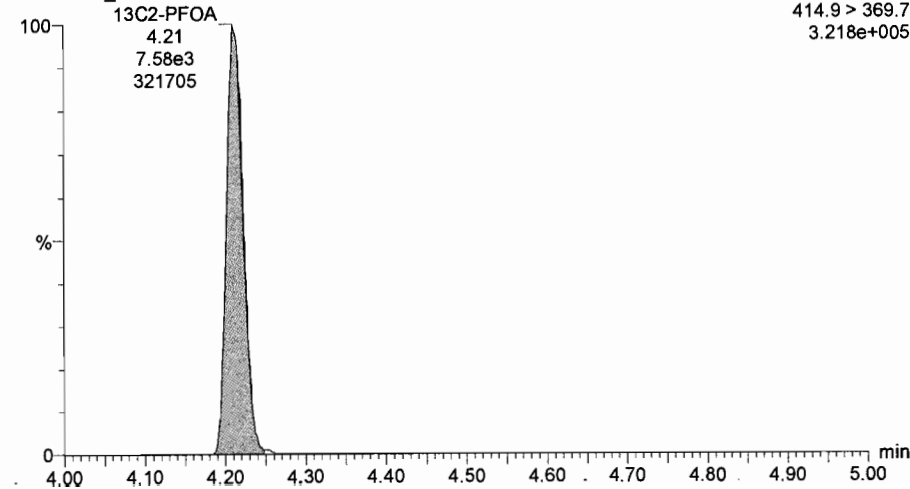
13C2-PFOA

170420G1_3



13C2-PFOA

170420G1_3

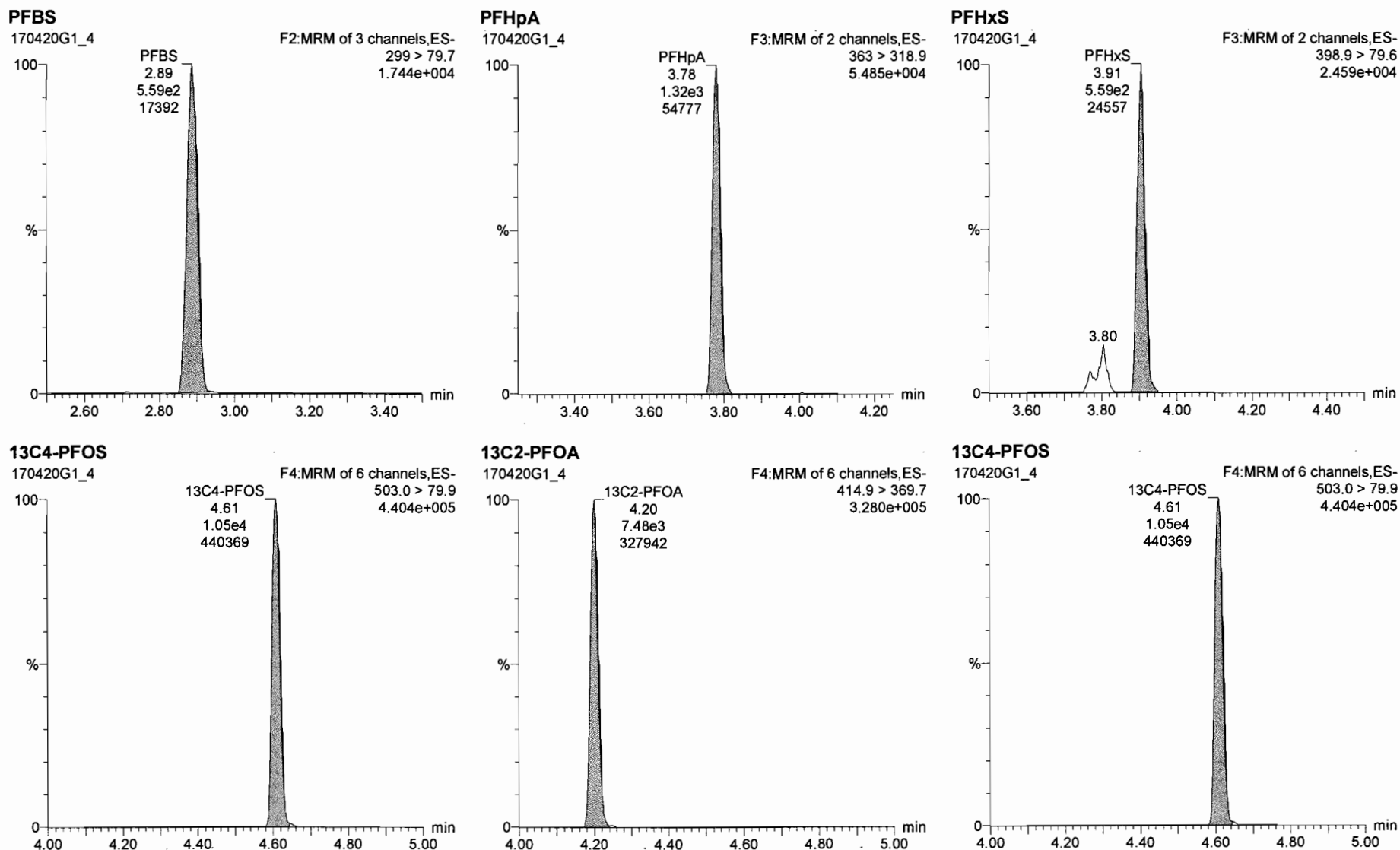


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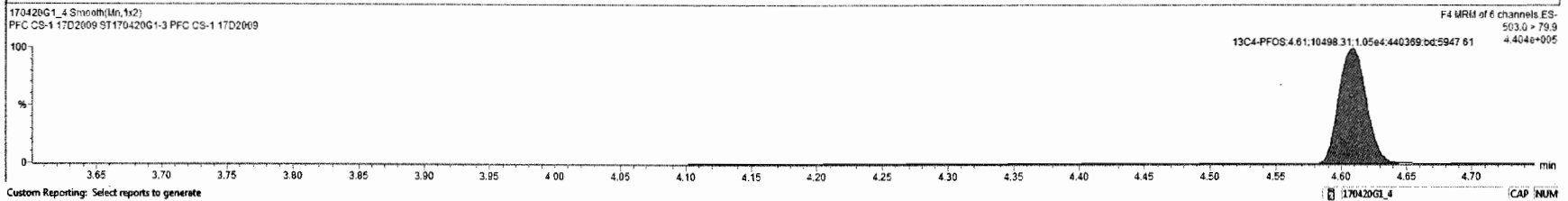
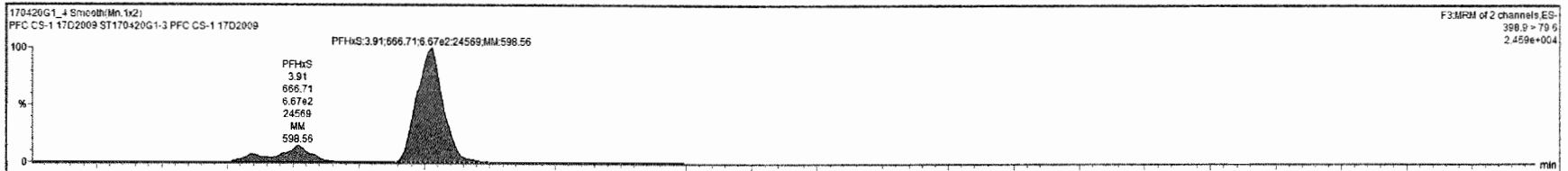
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Name: 170420G1_4, Date: 20-Apr-2017, Time: 17:24:44, ID: ST170420G1-3 PFC CS-1 17D2009, Description: PFC CS-1 17D2009



170420G1_4 - ST170420G1-3 PFC CS-1 17D2009 - PFC CS-1 17D2009

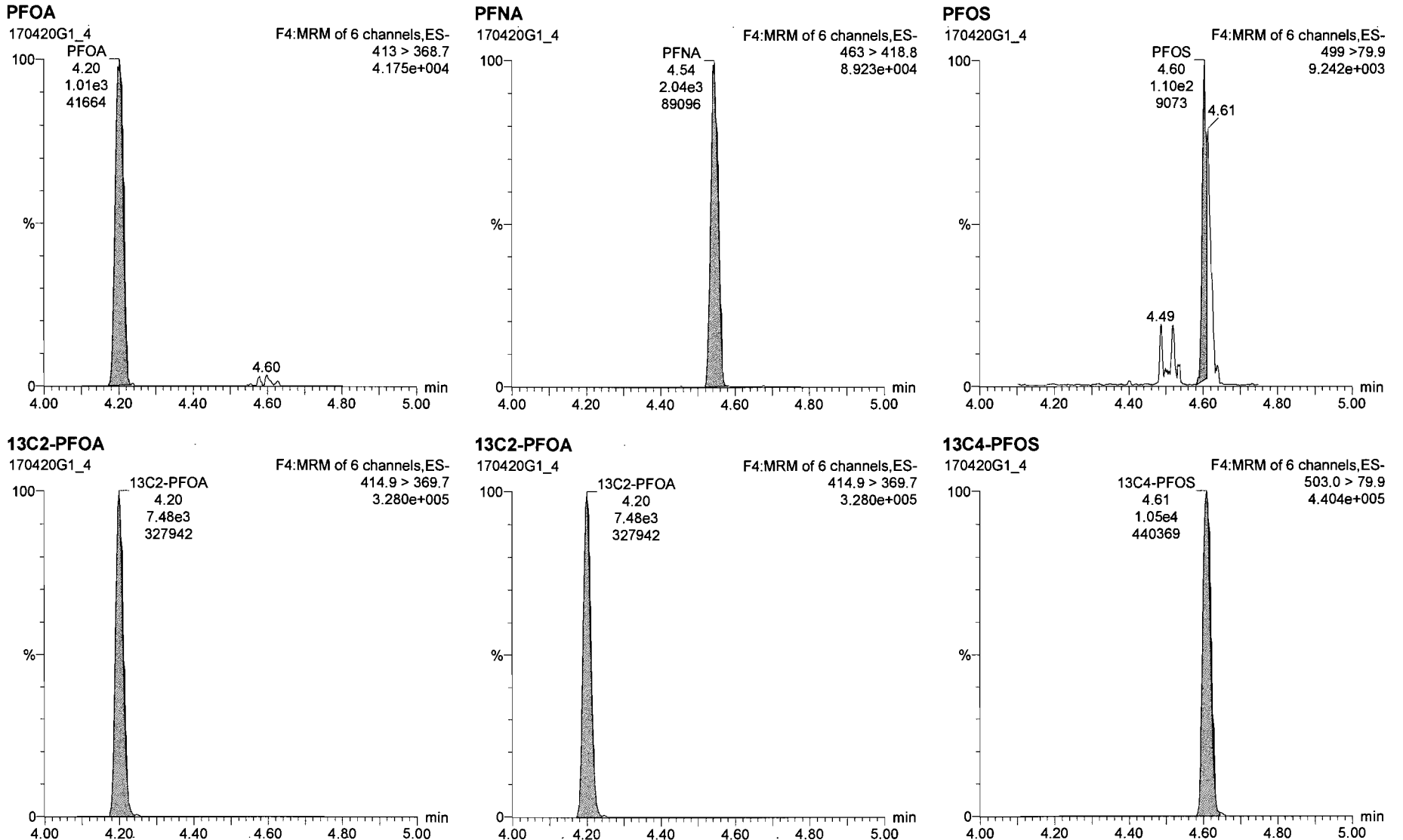
ID	Name	Base	RRF	wt/vol	RT	RA	my	Conc.	%Rec	DL	EMPC
1	PFBS	5.59e2		1.000	2.89			1.71	96.6	0.00361	
2	PFNA	1.32e3		1.000	3.78			1.99	96.2	0.00208	
3	PFHxS	6.67e2		1.000	3.91			2.19	120	0.00990	
4	PFDA	1.01e3		1.000	4.20			1.73	86.5	0.0203	
5	PFOS	2.49e2		1.000	4.60			2.64	142	0.342	
6	PFNA	2.94e3		1.000	4.54			2.00	190	0.0149	
7	13C2-PFHxA	3.17e3	0.45	1.000	3.27			9.45	84.5	0.00174	
8	13C2-PFDA	6.09e3	6.80	1.000	4.84			10.0	181	6.136	
9	13C2-PFOA	7.48e3	1.00	1.000	4.20			10.0	180	0.0168	
10	13C4-PFOS	1.05e4	1.00	1.000	4.61			28.7	190	0.0121	



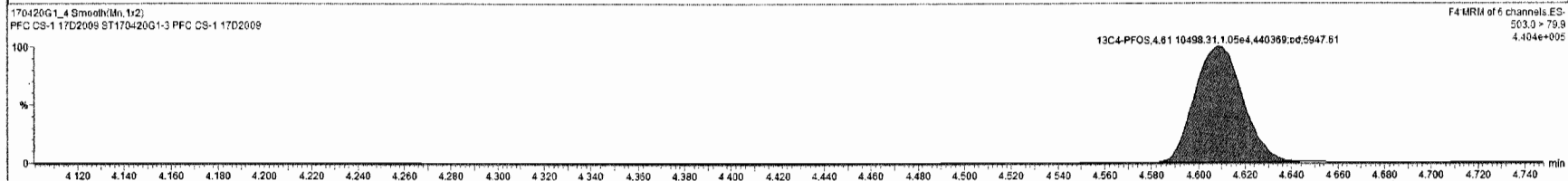
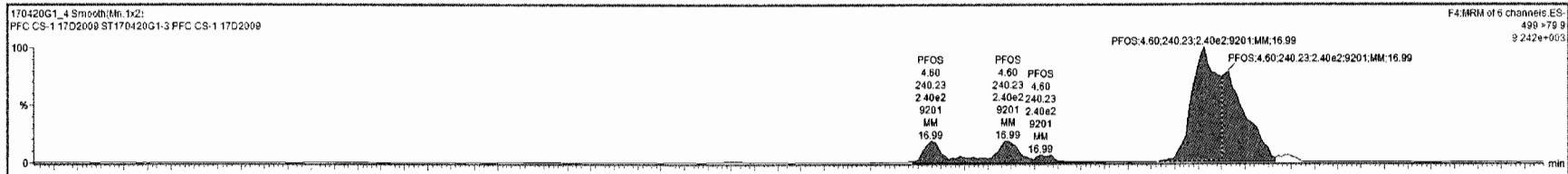
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Name: 170420G1_4, Date: 20-Apr-2017, Time: 17:24:44, ID: ST170420G1-3 PFC CS-1 17D2009, Description: PFC CS-1 17D2009



Name	Resp	RDF	width	RT	RA	rel	Conc.	%Rec.	DL	EMPC
1 PFBS	5.59e2		1.000	2.89			1.71	96.9	0.00351	
2 PFHxA	1.32e3		1.000	3.78			1.96	98.2	0.00208	
3 PFHxS	8.67e2		1.000	3.91			1.80	99.0	0.00660	
4 PFDA	1.01e3		1.000	4.20			1.73	86.5	0.0203	
5 PFOS	2.40e2		1.000	4.60			2.45	137	0.242	
6 PFNA	2.84e3		1.000	4.54			2.00	100	0.0149	
7 13C2-PFHxA	3.17e2	0.45	1.000	3.27			9.45	94.5	0.00174	
8 13C2-PFDA	6.09e3	0.80	1.000	4.64			10.1	101	0.136	
9 13C2-PFOS	7.48e3	1.00	1.000	4.20			10.0	100	0.0168	
10 13C4-PFOS	1.05e4	1.00	1.000	4.61			28.7	100	0.0121	



Dataset: Untitled

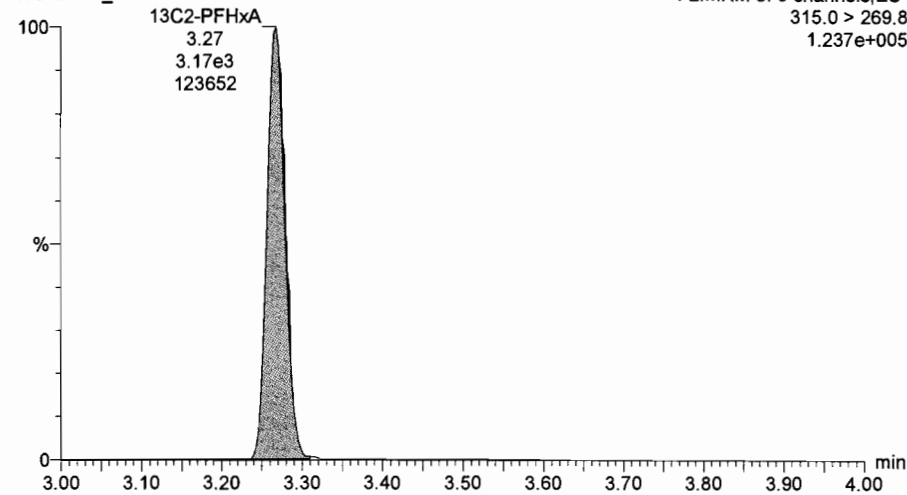
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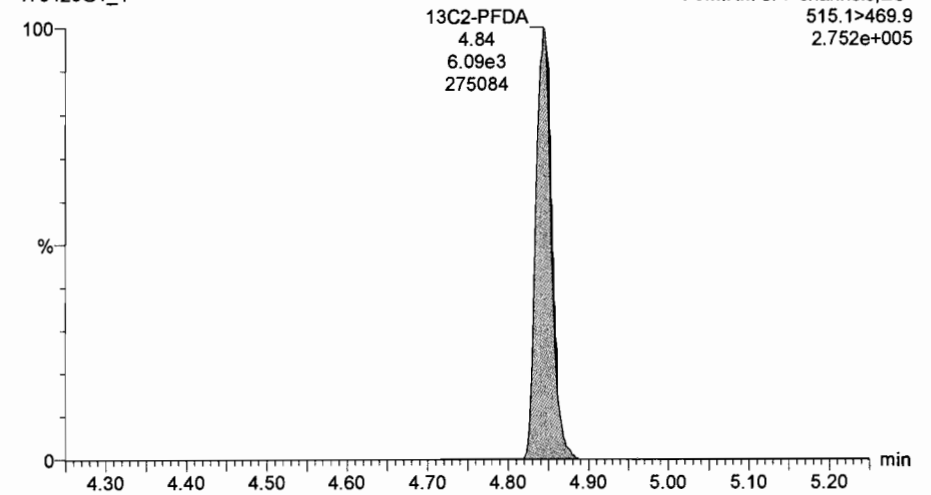
13C2-PFHxA

170420G1_4



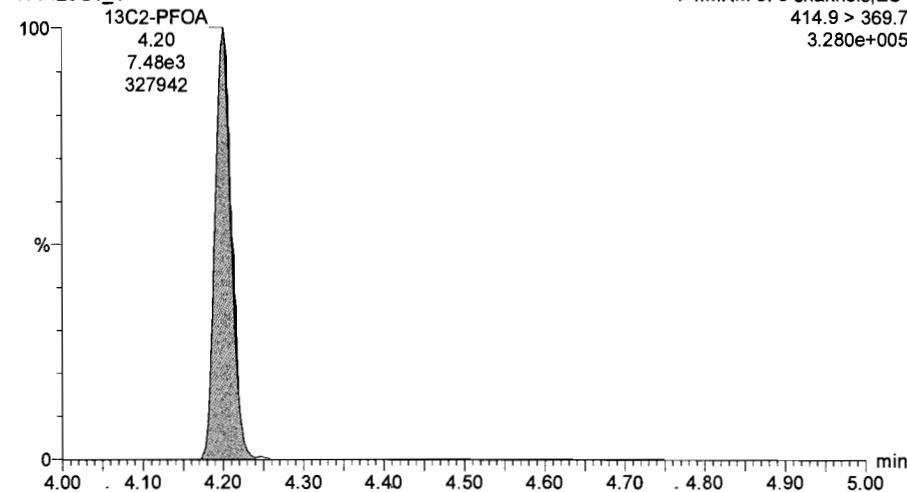
13C2-PFDA

170420G1_4



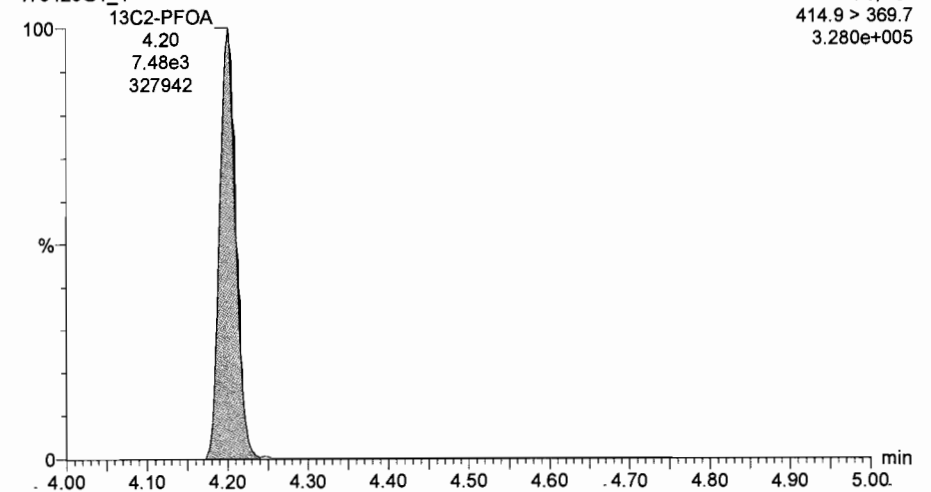
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170420G1_4



13C2-PFOA

170420G1_4

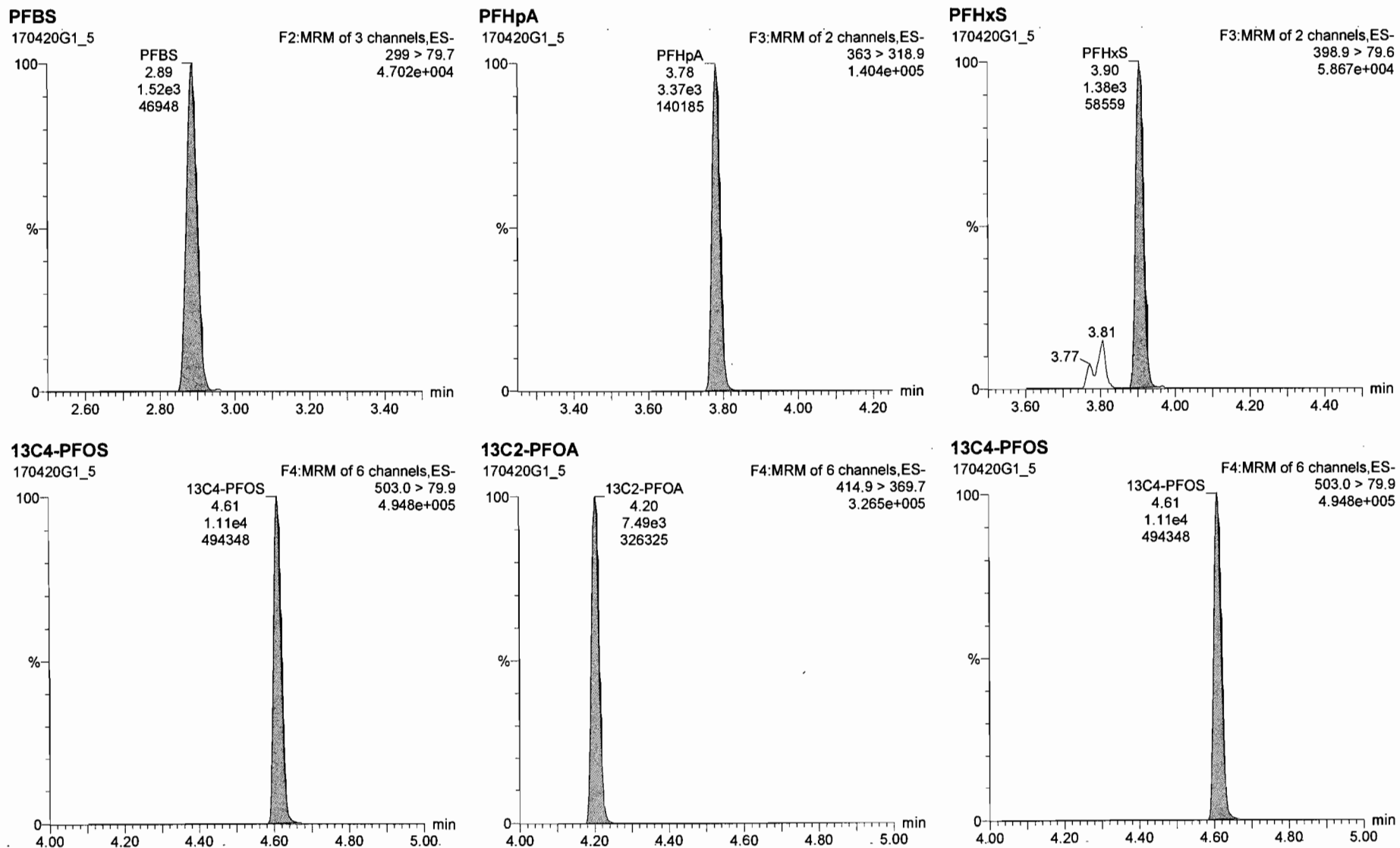


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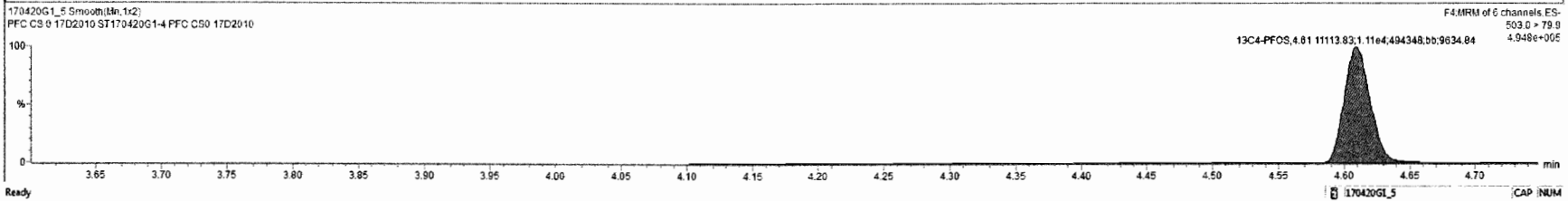
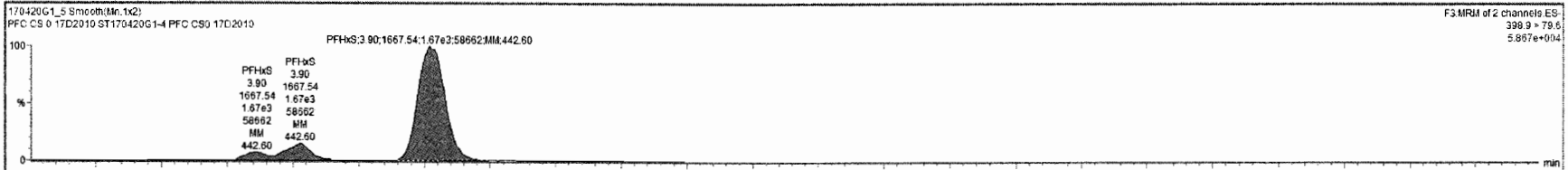
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Name: 170420G1_5, Date: 20-Apr-2017, Time: 17:37:07, ID: ST170420G1-4 PFC CS0 17D2010, Description: PFC CS 0 17D2010



Name	Resp	RRF	wb%vol	RT	RA	by	Conc.	%Rec	DL	EMPC
1 PFOS	1.52e3		1.000	2.88			4.39	99.3	0.00113	
2 PFHpA	3.37e3		1.000	3.78			5.05	101	0.00372	
3 PFHxS	1.67e3		1.000	3.90			5.11	112	0.0227	
4 PFDA	3.67e3		1.000	4.20			5.29	106	0.0229	
5 PFOS	5.15e2		1.000	4.98			5.18	112	0.0900	
6 PFNA	4.84e3		1.000	4.54			4.78	95.8	0.02259	
7 13C2-PFHxA	3.35e3	0.45	1.000	3.27			10.0	100	0.00418	
8 13C2-PFDA	5.99e3	0.88	1.000	4.85			9.96	99.8	0.00788	
9 13C2-PFOA	7.49e3	1.00	1.000	4.20			10.0	100	0.0177	
10 13C4-PFOS	1.11e4	1.00	1.000	4.61			26.7	100	0.00745	



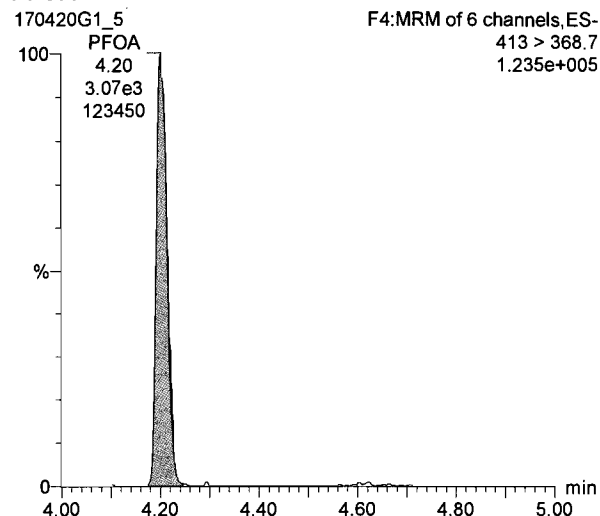
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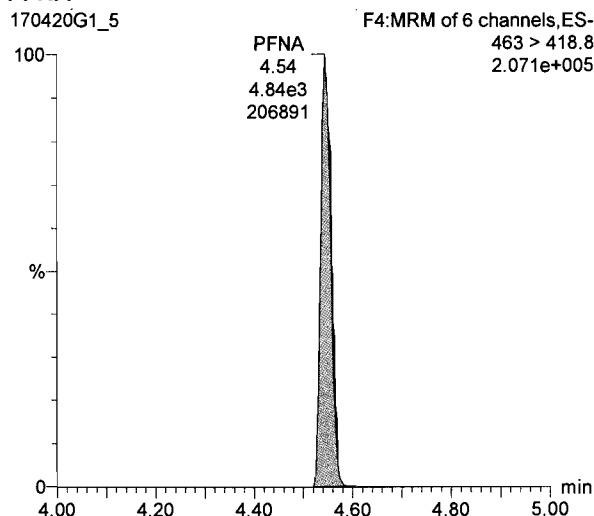
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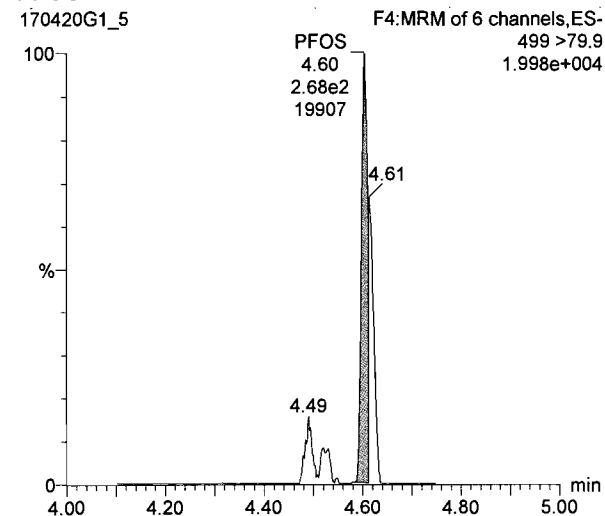
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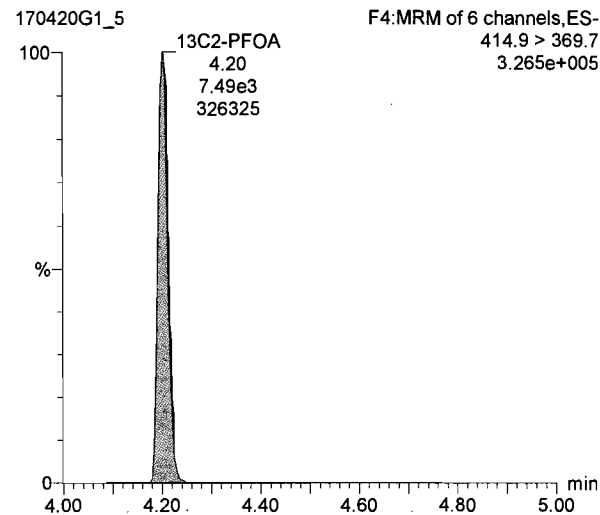
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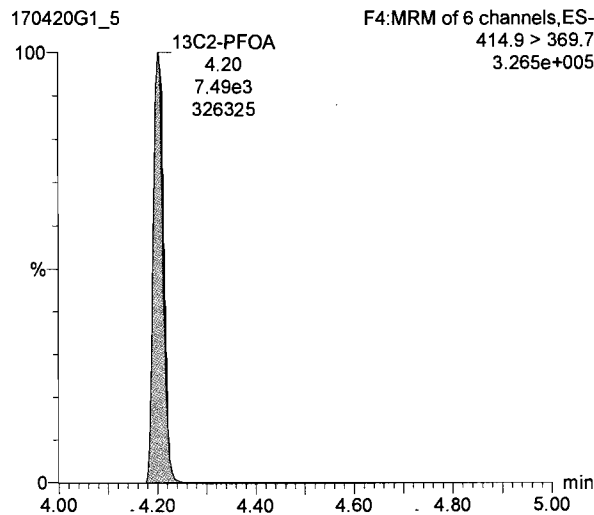
PFOS



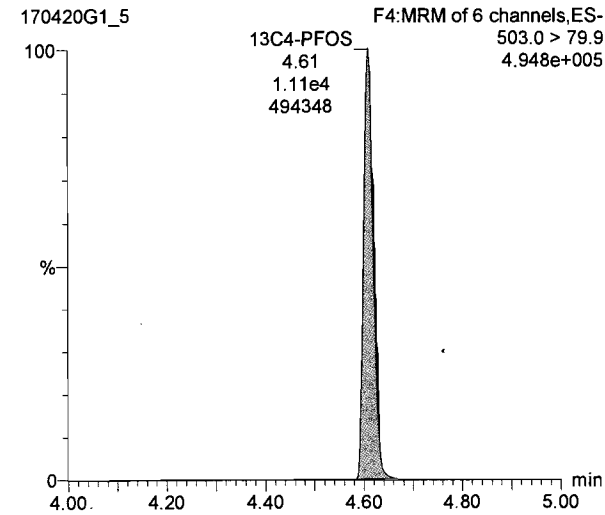
13C2-PFOA



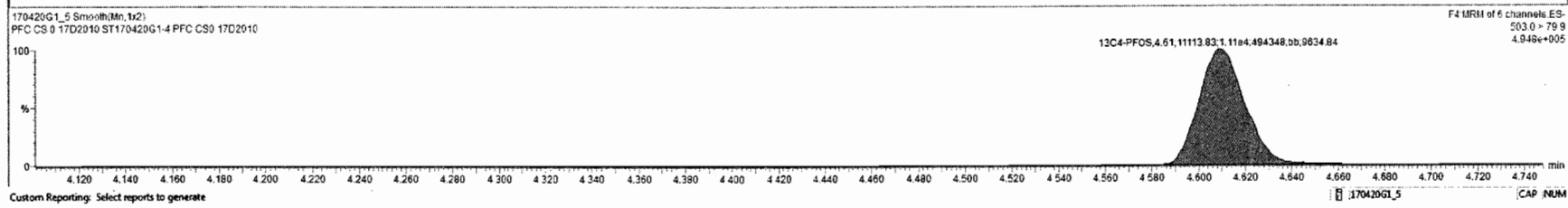
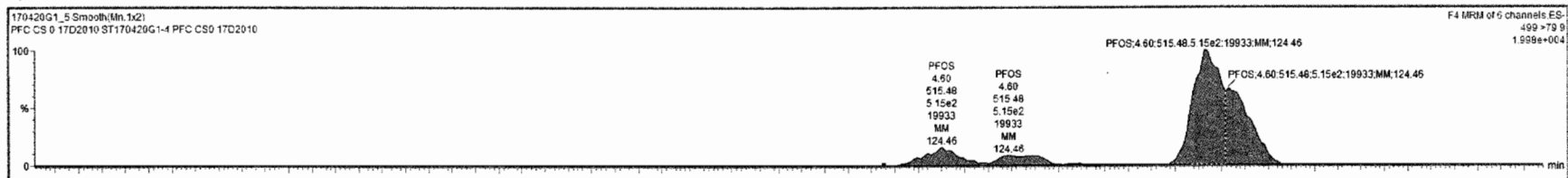
13C2-PFOA



13C4-PFOS



Name	Resp	RRF	retVol	RT	RA	Qty	Conc	%Rec	DL	EMPC
1 PFBS	1.52e3	1.000	2.89				4.39	99.3	0.00113	
2 PFHpA	3.37e3	1.000	3.78				5.05	101	0.00372	
3 PFHxS	1.67e3	1.000	3.90				4.27	93.6	0.0190	
4 PFDA	3.07e3	1.000	4.20				5.28	106	0.0329	
5 PFOS	5.15e2	1.000	4.68				5.19	112	1.0901	
6 PFNA	4.84e3	1.000	4.54				4.78	95.6	0.00259	
7 13C2-PFHxA	3.35e3	0.45	1.000	3.27			10.0	100	0.00418	
8 13C2-PFDA	5.99e3	0.80	1.000	4.85			9.96	98.6	0.00768	
9 13C2-PFOA	7.49e3	1.00	1.000	4.20			10.0	100	0.0177	
10 13C4-PFOS	1.11e4	1.00	1.000	4.61			26.7	100	0.00745	



Custom Reporting: Select reports to generate

Dataset: Untitled

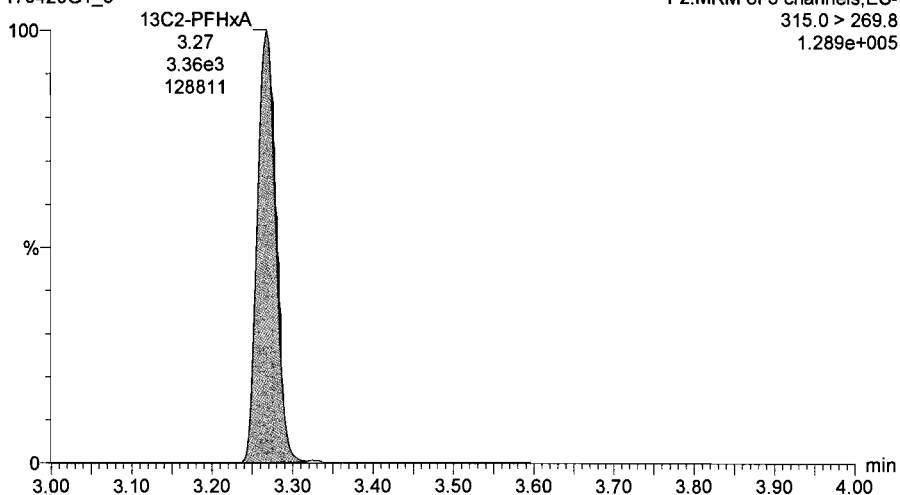
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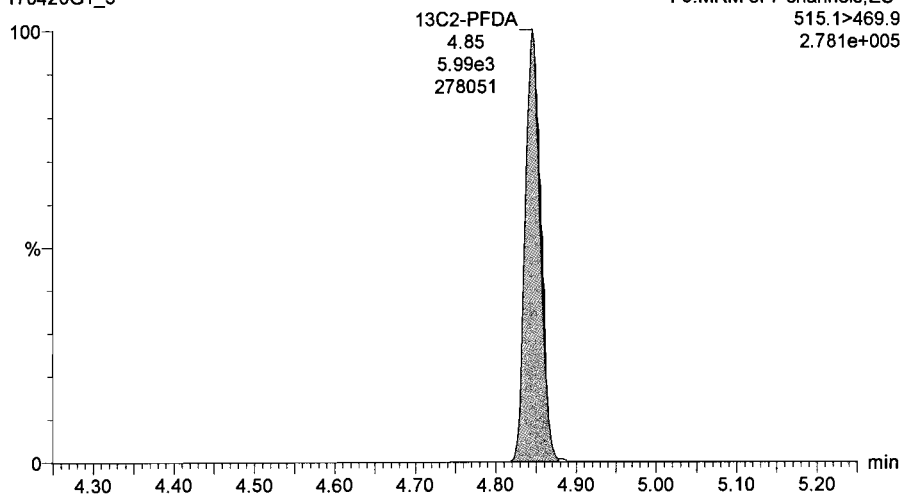
13C2-PFHxA

170420G1_5



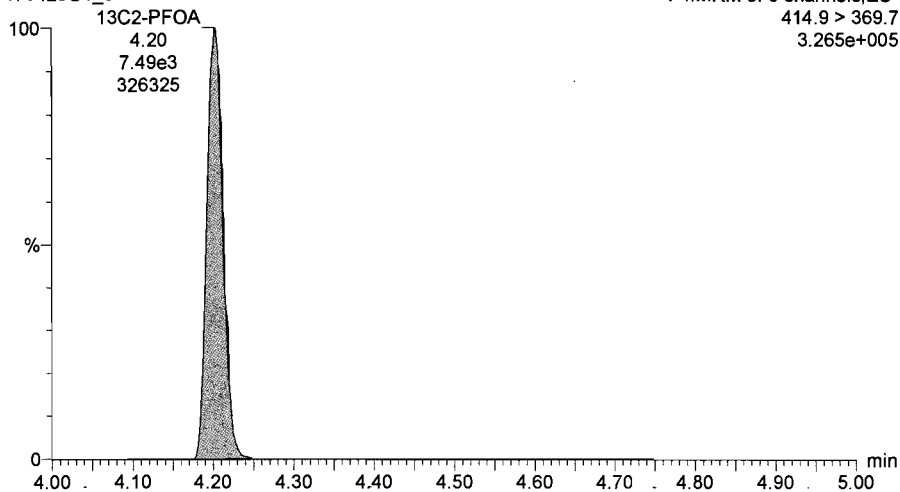
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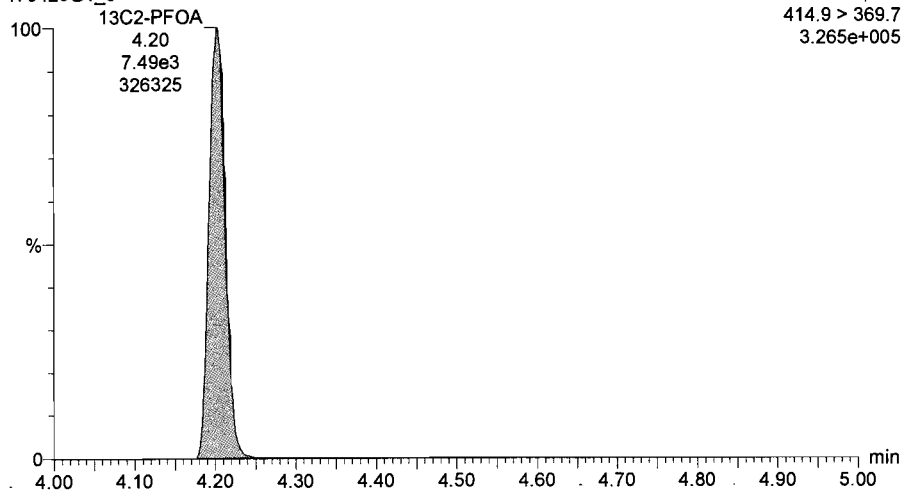
13C2-PFOA

170420G1_5



13C2-PFOA

170420G1_5

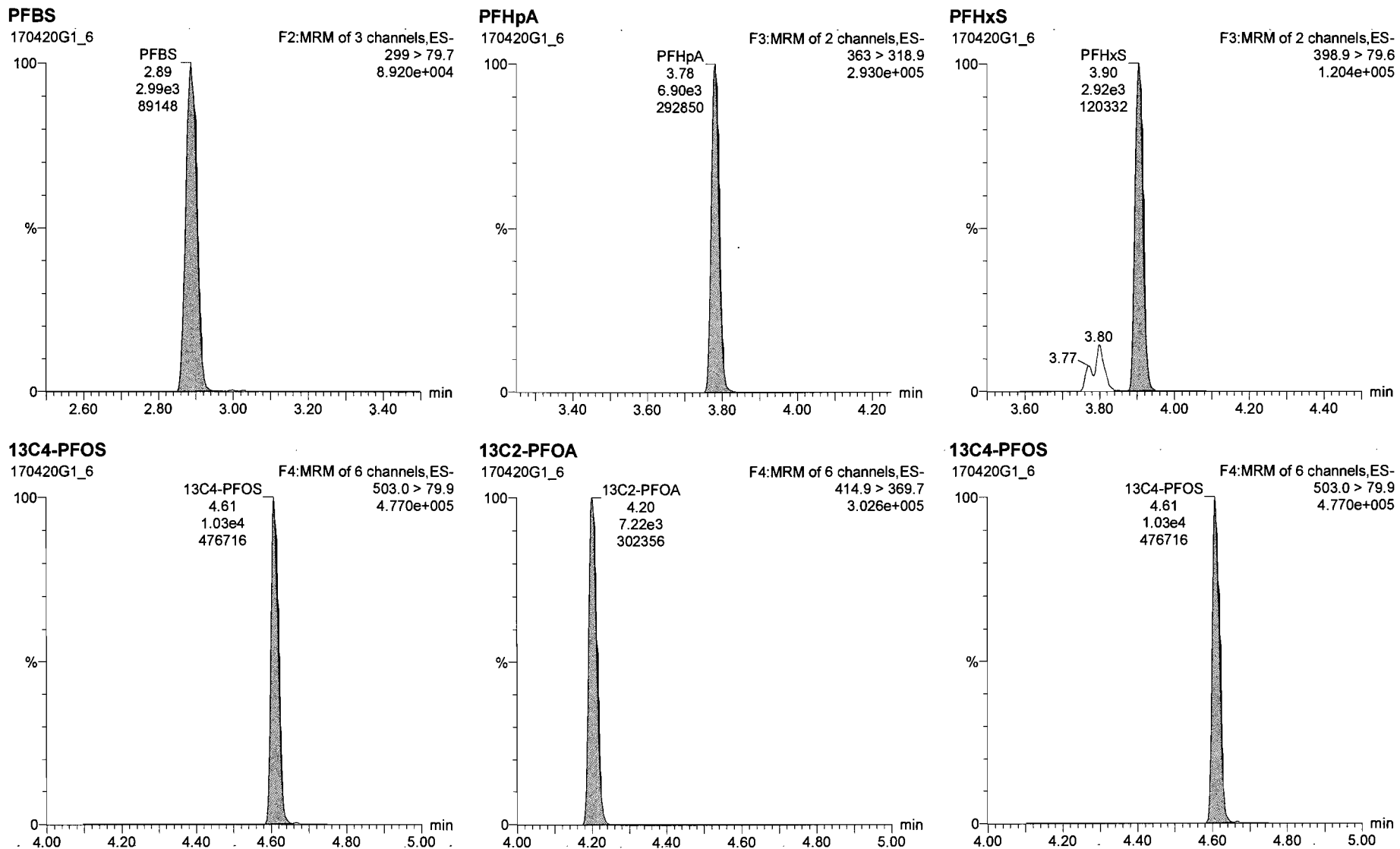


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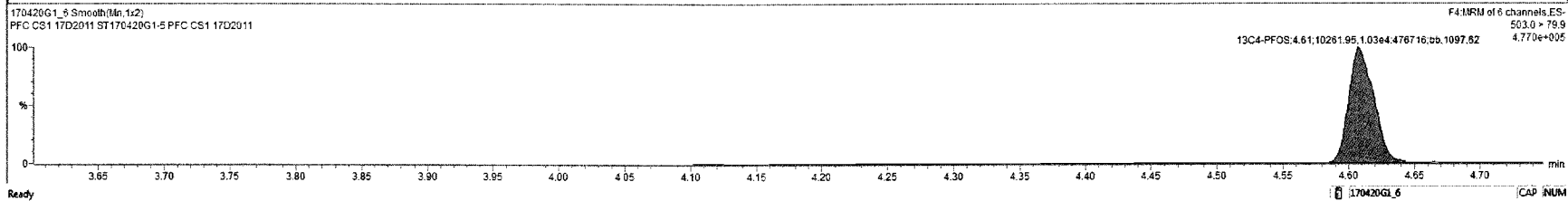
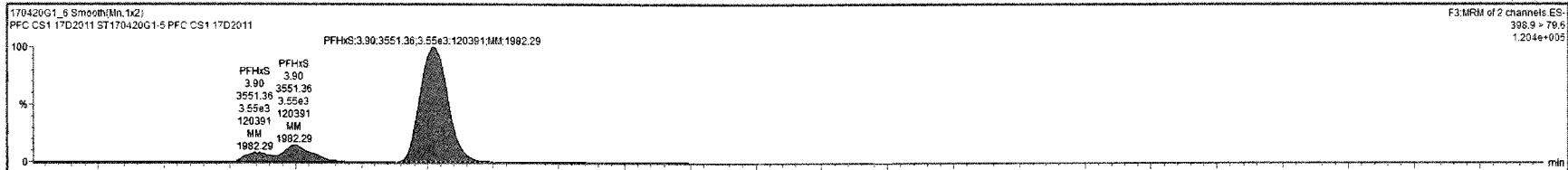
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Name: 170420G1_6, Date: 20-Apr-2017, Time: 17:49:31, ID: ST170420G1-5 PFC CS1 17D2011, Description: PFC CS1 17D2011



170420G1_6_ST170420G1-5-PFC CS1 17D2011_PFC CS1 17D2011

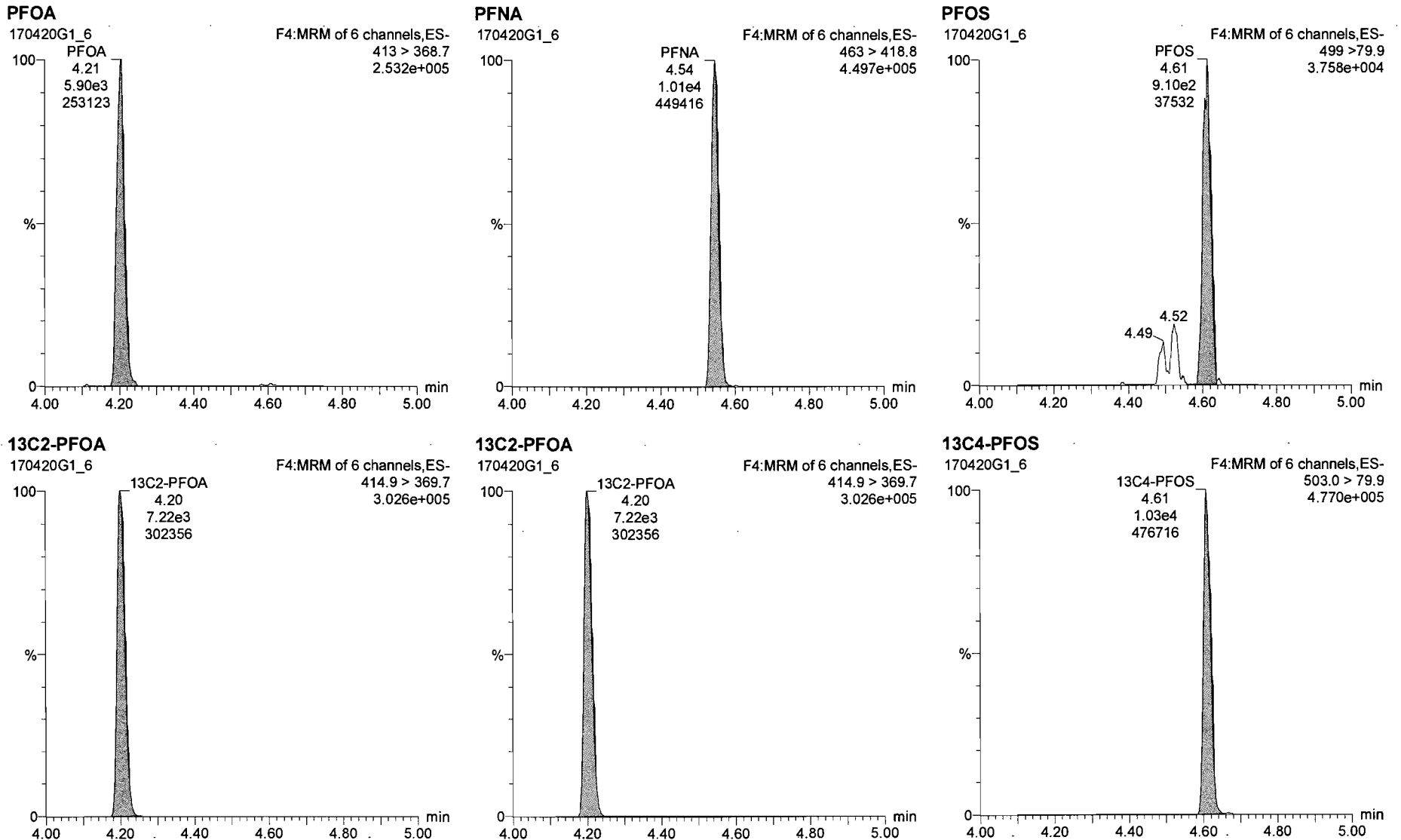
#	Name	Resp	RRF	wt/vol	RT	RA	Int	Conc.	%Rec	DL	EMPC
1	PFBS	2.95e3		1.000	2.89			9.42	106	0.0192	
2	PFHpA	6.90e3		1.000	3.78			10.8	106	0.0201	
3	PFHxS	3.55e3		1.000	3.90			11.6	127	0.0105	
4	PFOA	5.90e3		1.000	4.20			10.8	106	0.0690	
5	PFOS	9.10e2		1.000	4.61			9.95	107	0.151	
6	PFNA	1.01e4		1.000	4.55			10.5	105	0.00474	
7	13C2-PFHxA	3.19e3	0.45	1.000	3.27			9.06	96.6	0.00262	
8	13C2-PFOA	5.61e3	0.80	1.000	4.65			9.67	96.7	0.00749	
9	13C2-PFOA	7.22e3	1.00	1.000	4.20			10.0	100	0.0714	
10	13C4-PFOS	1.83e4	1.00	1.000	4.61			28.7	100	0.0654	



Dataset: Untitled

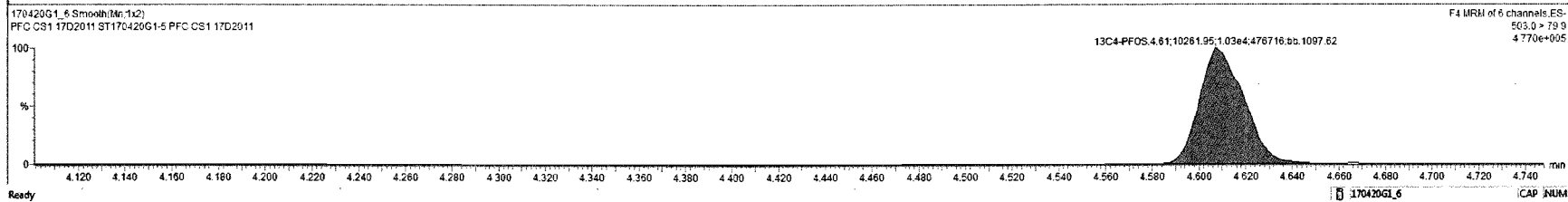
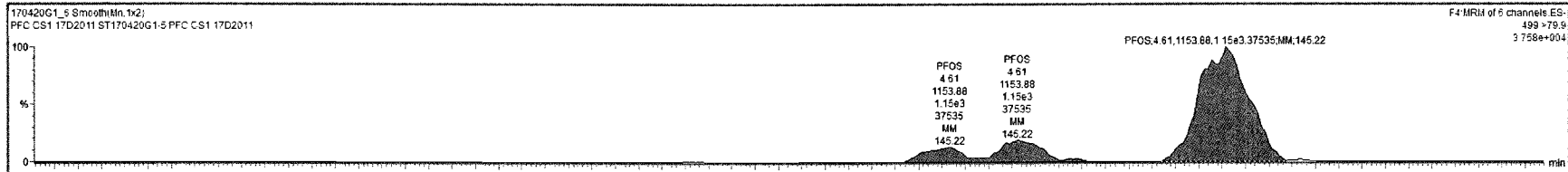
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_6, Date: 20-Apr-2017, Time: 17:49:31, ID: ST170420G1-5 PFC CS1 17D2011, Description: PFC CS1 17D2011



170420G1_6 - ST170420G1-5 PFC CS1 17D2011 - PFC CS1 17D2011

#	Name	Resp	RRR	wt/wal	RT	RA	n/y	Conc.	%Rec	DL	EMPC
1	PFB	2.89e3		1.000	2.89			9.42	105	0.0192	
2	PFNA	6.59e3		1.000	3.78			10.8	105	0.0201	
3	PFNS	3.55e3		1.000	3.90			9.90	109	0.00902	
4	PFOA	5.90e3		1.000	4.20			10.6	105	0.00990	
5	PFOS	1.15e3		1.000	4.61			12.3	132	0.1195	
6	PFNA	1.01e4		1.000	4.55			10.5	105	0.00474	
7	13C2-PFtxA	3.19e3	0.45	1.000	3.27			9.86	88.6	0.00262	
8	13C2-PFOA	5.61e3	0.80	1.000	4.85			9.67	96.7	0.00140	
9	13C2-PFOA	7.22e3	1.00	1.000	4.30			10.0	100	0.0714	
10	13C4-PFOS	1.03e4	1.00	1.000	4.61			26.7	100	0.0654	



Dataset: Untitled

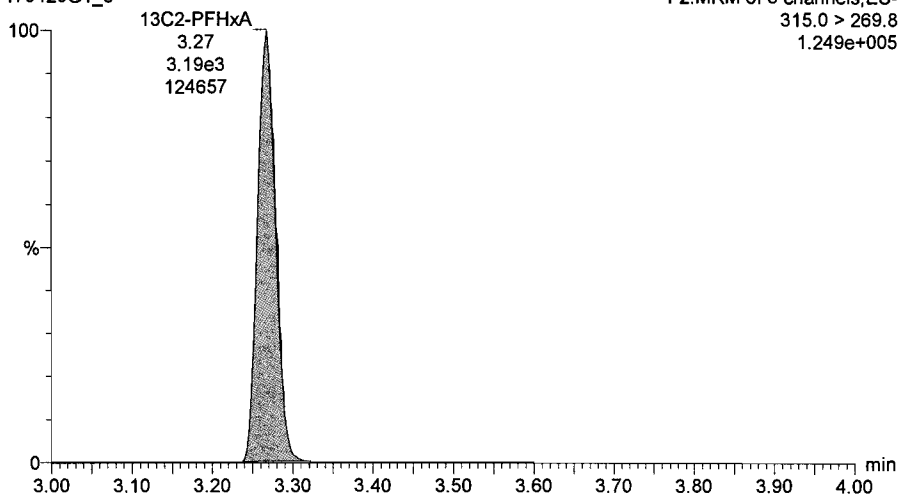
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Name: 170420G1_6, Date: 20-Apr-2017, Time: 17:49:31, ID: ST170420G1-5 PFC CS1 17D2011, Description: PFC CS1 17D2011

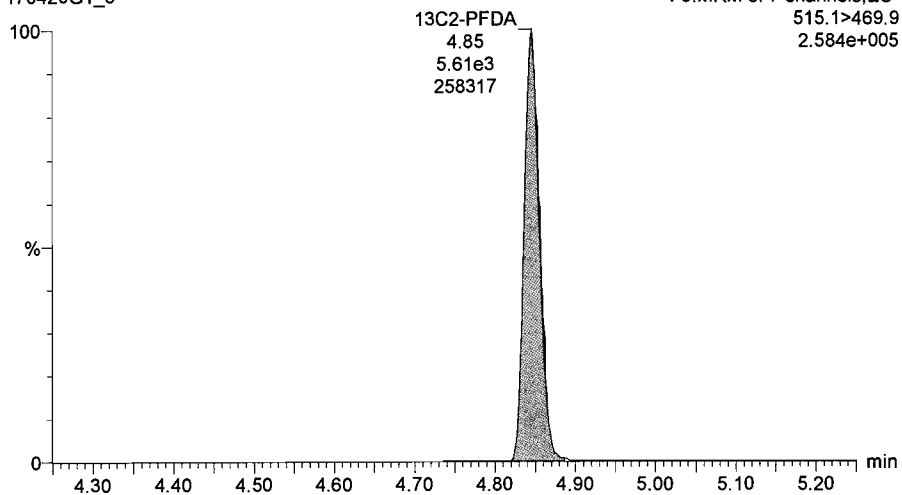
13C2-PFHxA

170420G1_6



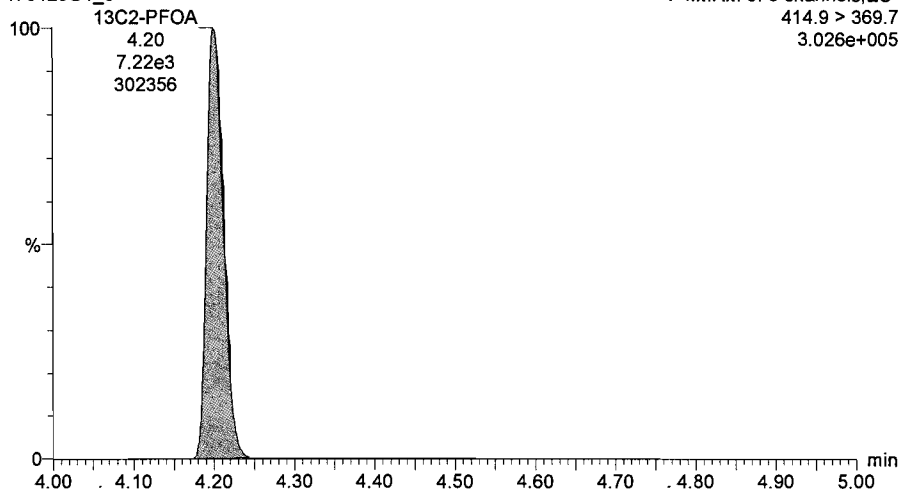
13C2-PFDA

170420G1_6



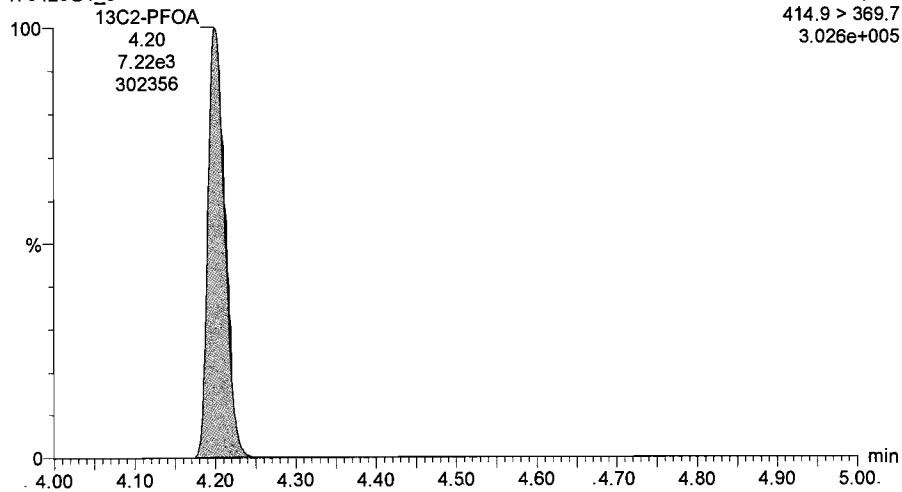
13C2-PFOA

170420G1_6



13C2-PFOA

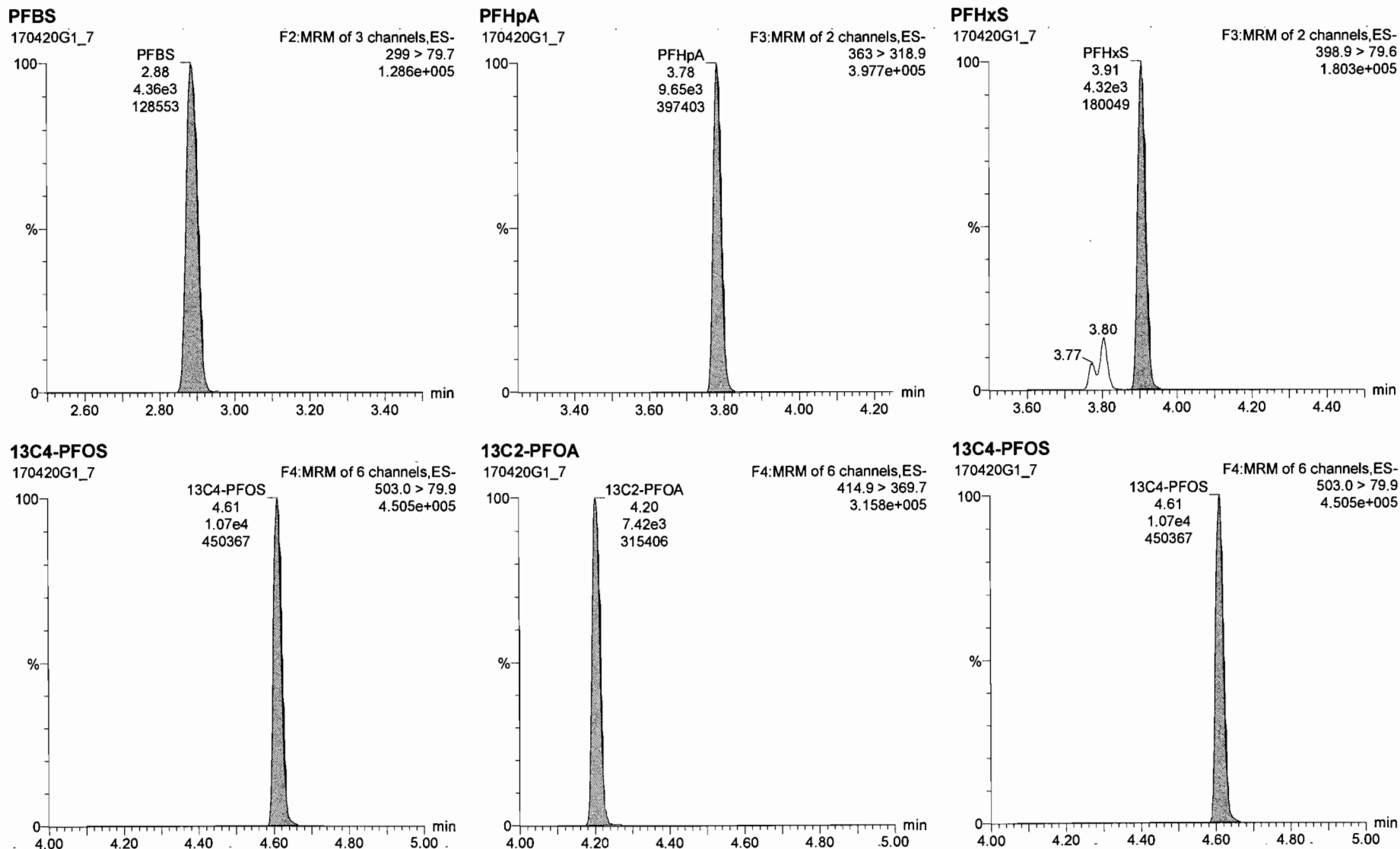
170420G1_6



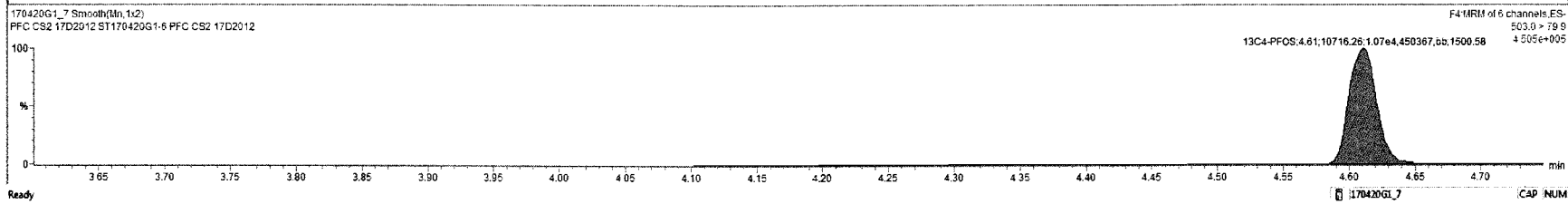
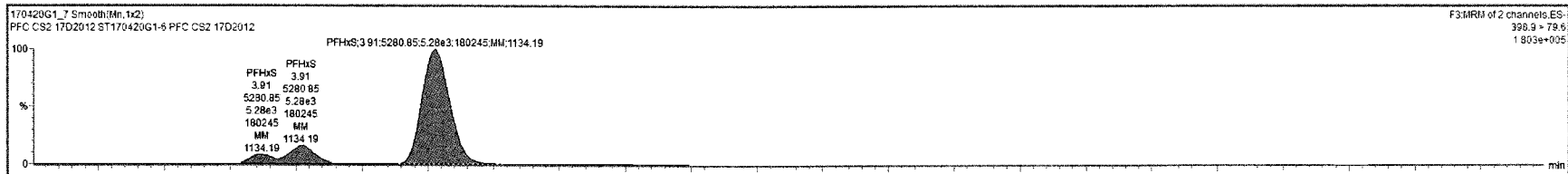
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_7, Date: 20-Apr-2017, Time: 18:01:56, ID: ST170420G1-6 PFC CS2 17D2012, Description: PFC CS2 17D2012



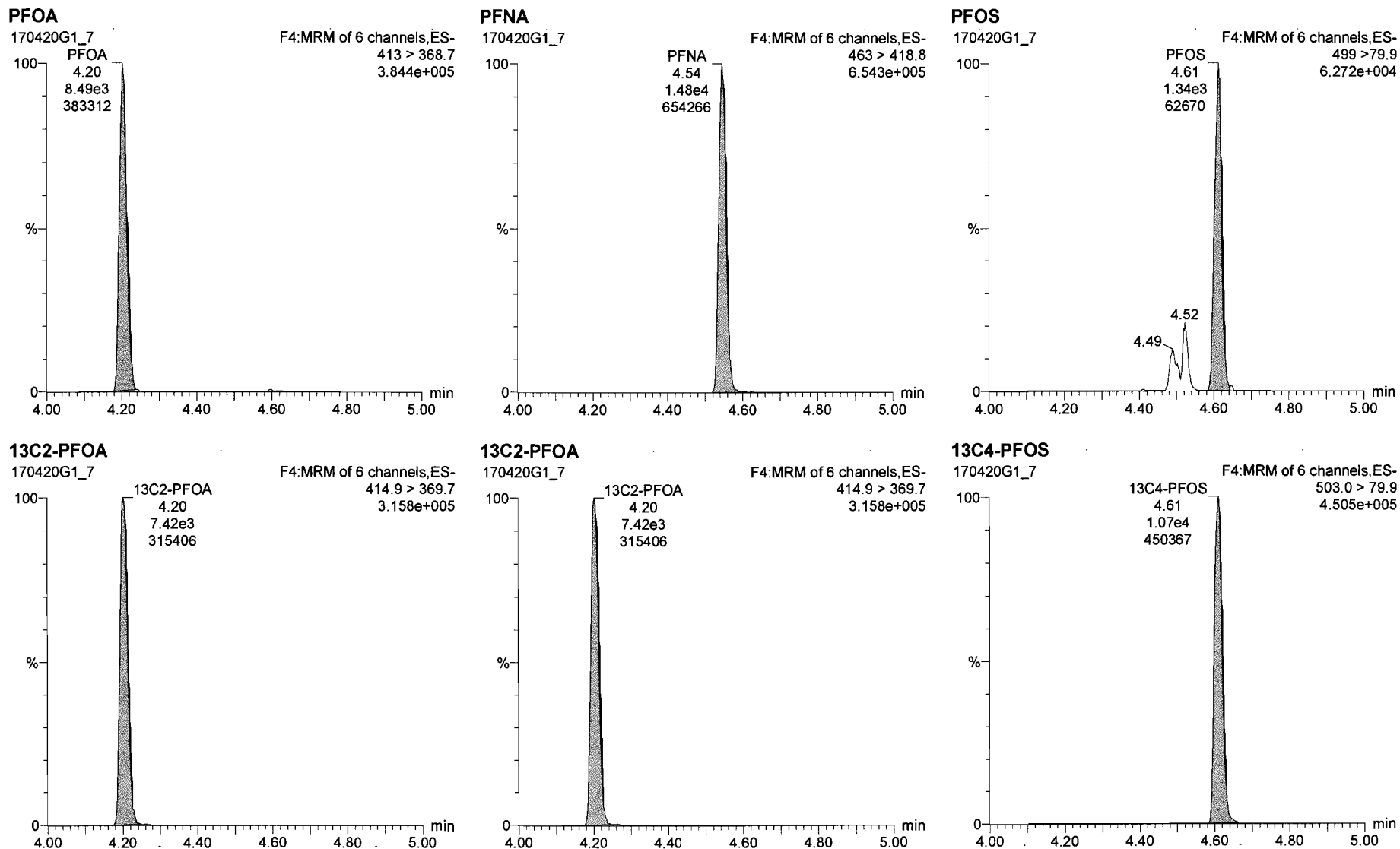
#	Name	Retap	RRF	wb/wt	RT	RA	AW	Conc.	%Rec	DL	EMPC
1	PFBS	4.26e3		1.000	2.88			12.2	99.9	0.00174	
2	PFHxA	9.05e3		1.000	3.78			14.8	98.5	0.00449	
3	PFHS	5.28e3		1.000	3.91			16.7	117	0.0278	
4	PFDA	8.49e3		1.000	4.20			15.0	99.7	0.0304	
5	PFOS	1.34e3		1.000	4.61			14.1	101	9.185	
6	PFNA	1.48e4		1.000	4.55			15.0	100	0.00500	
7	13C2-PFHxA	3.47e3	0.45	1.000	3.27			10.4	104	0.00215	
8	13C2-PFDA	6.18e3	0.80	1.000	4.85			10.4	104	0.00647	
9	13C2-PFOA	7.42e3	1.00	1.000	4.20			10.0	100	0.0103	
10	13C4-PFOS	1.07e4	1.00	1.000	4.61			26.7	100	0.0478	



Dataset: Untitled

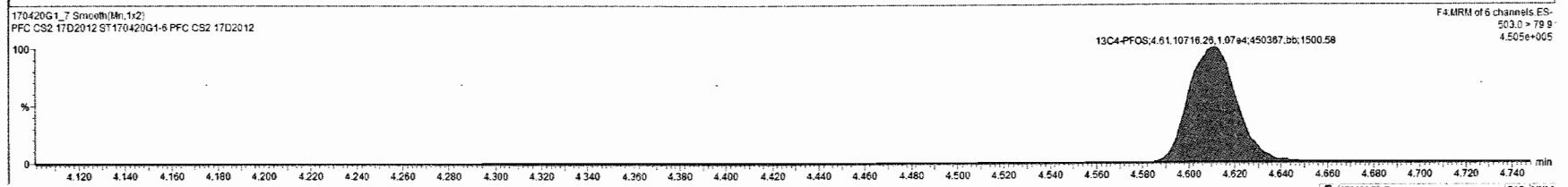
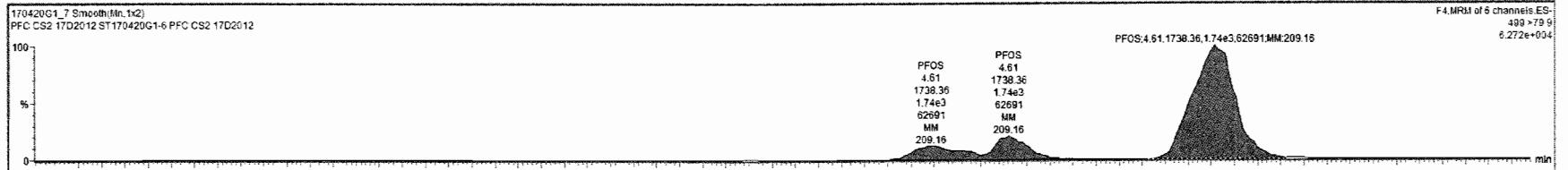
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Name: 170420G1_7, Date: 20-Apr-2017, Time: 18:01:56, ID: ST170420G1-6 PFC CS2 17D2012, Description: PFC CS2 17D2012



170420G1_7 - ST170420G1-6 PFC CS2 17D2012 - PFC CS2 17D2012

Name	Resp	RRF	wt/wt	RT	RA	rv	Conc.	%Rec	DL	EMPC
1 PFOS	4.35e3		1.000	2.88			13.2	99.9	0.00174	
2 PFHpA	9.65e3		1.000	3.78			14.8	98.8	0.00449	
3 PFHxS	5.28e3		1.000	3.91			14.2	104	0.0250	
4 PFDA	8.49e3		1.000	4.20			15.0	99.7	0.0304	
5 PFOS	1.70e3		1.000	4.61			17.6	122	0.169	
6 PFNA	1.48e4		1.000	4.55			15.0	100	0.02800	
7 13C2-PFHxA	3.47e3	0.45	1.000	3.27			10.4	104	0.00215	
8 13C2-PFDA	6.15e3	0.80	1.000	4.85			10.4	104	0.00647	
9 13C2-PFOA	7.42e3	1.00	1.000	4.20			10.0	100	0.0103	
10 13C4-PFOS	1.07e4	1.00	1.000	4.61			28.7	100	0.0478	



Custom Reporting: Select reports to generate

170420G1_7 CAP NUM

Dataset: Untitled

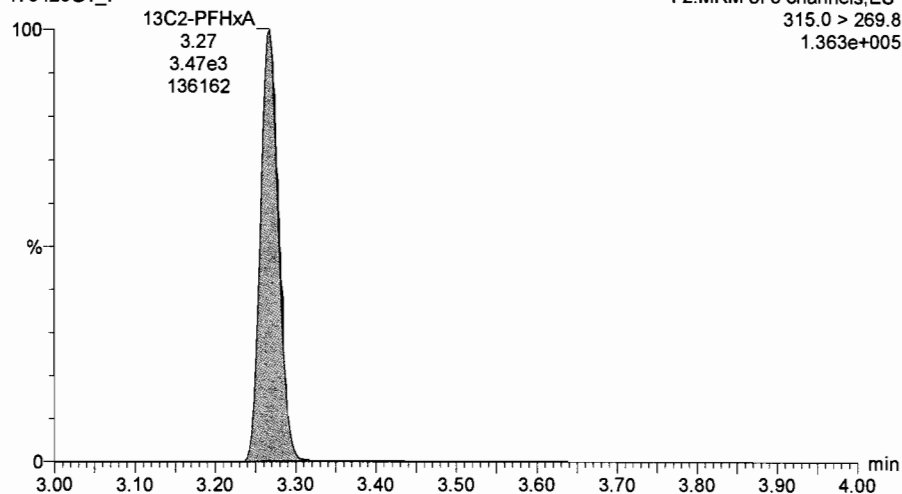
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_7, Date: 20-Apr-2017, Time: 18:01:56, ID: ST170420G1-6 PFC CS2 17D2012, Description: PFC CS2 17D2012

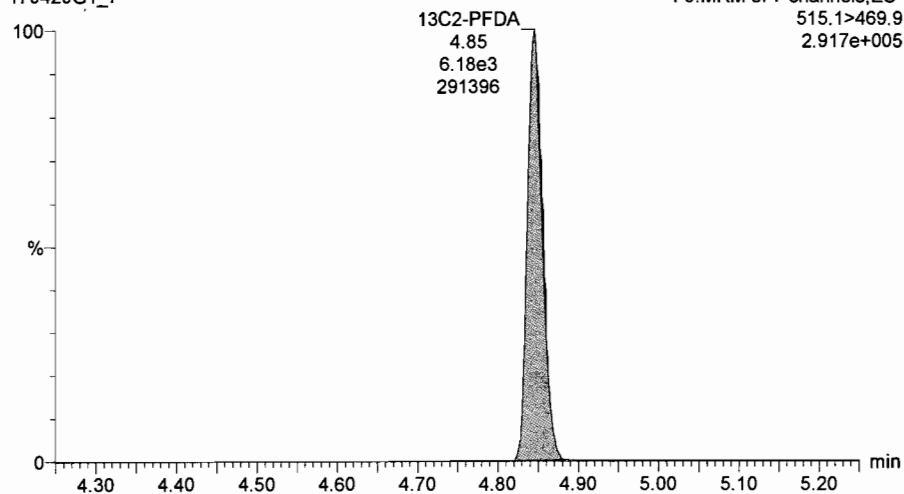
13C2-PFHxA

170420G1_7



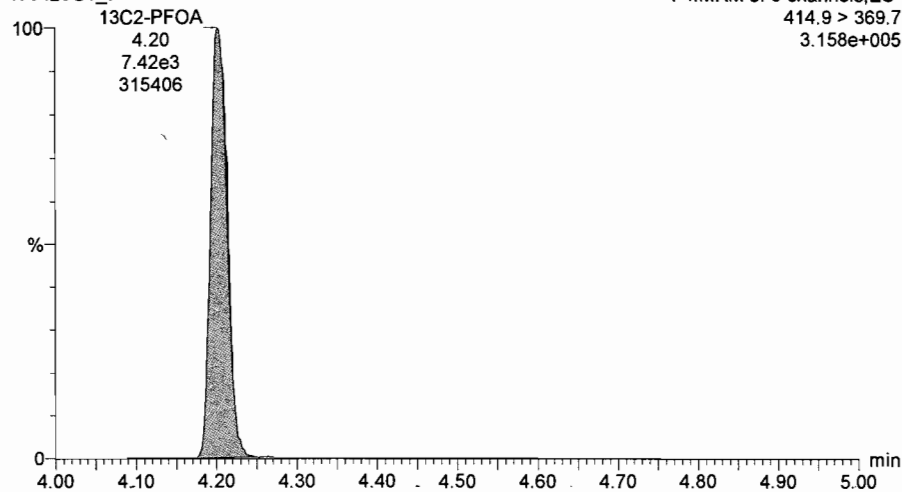
13C2-PFDA

170420G1_7



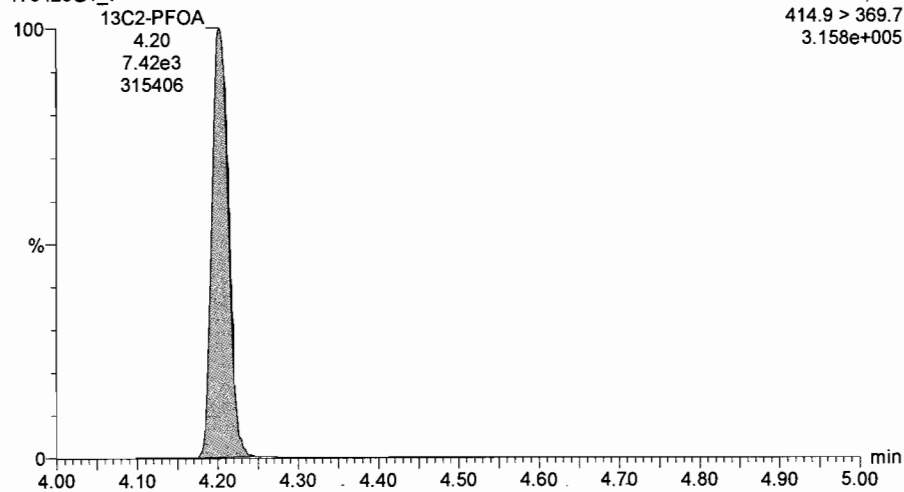
13C2-PFOA

170420G1_7



13C2-PFOA

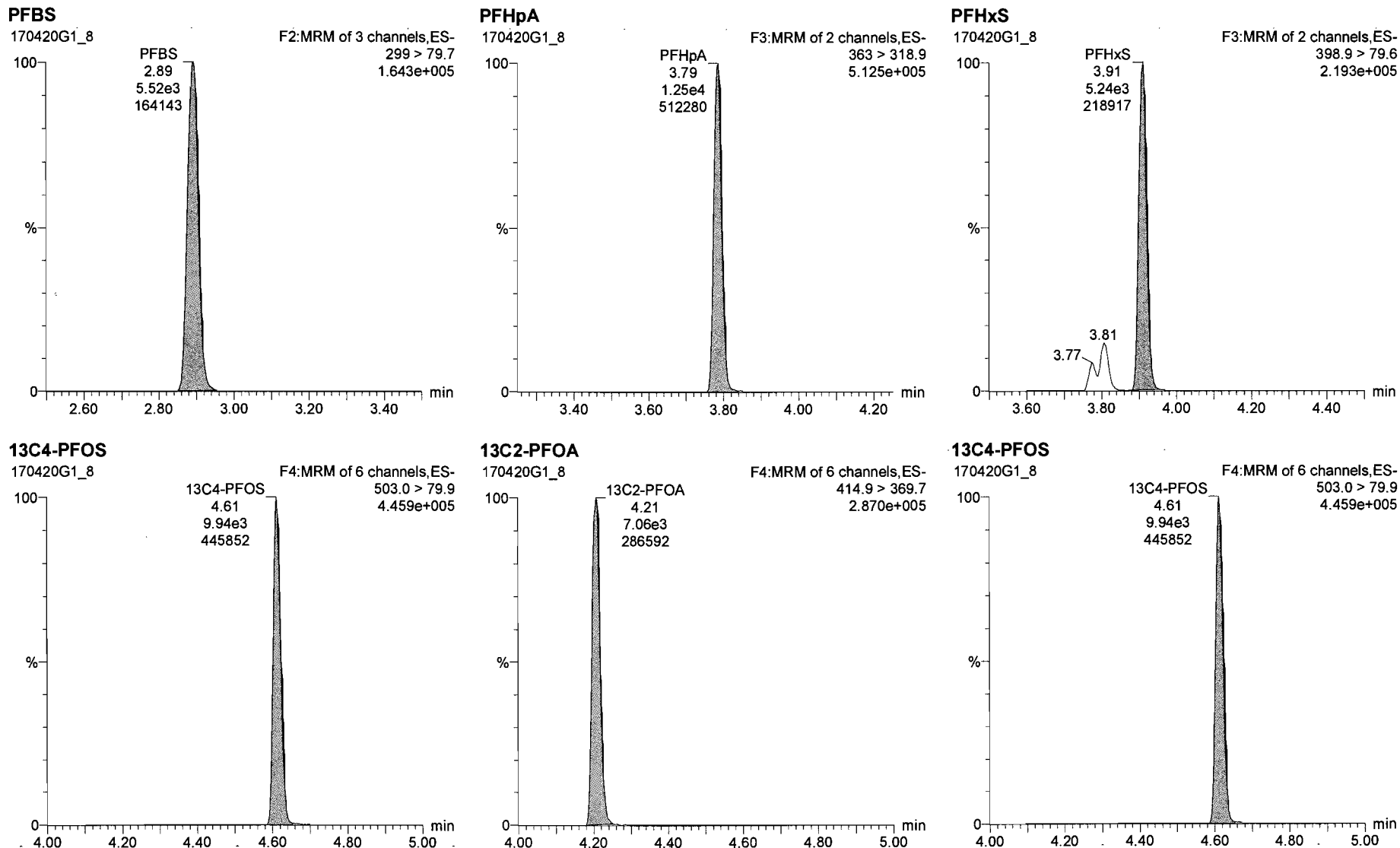
170420G1_7



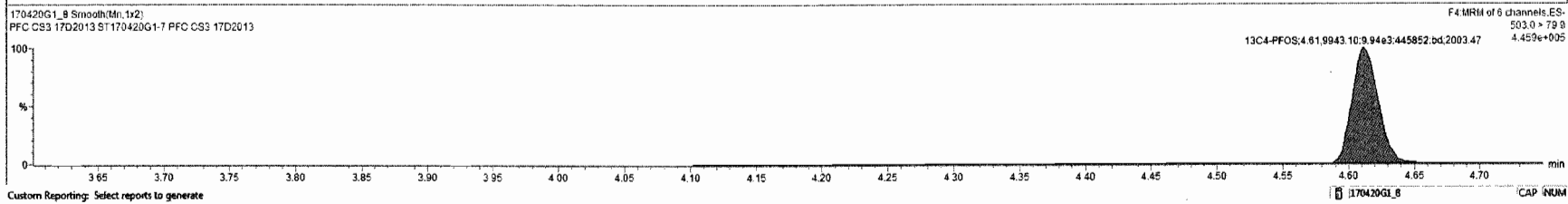
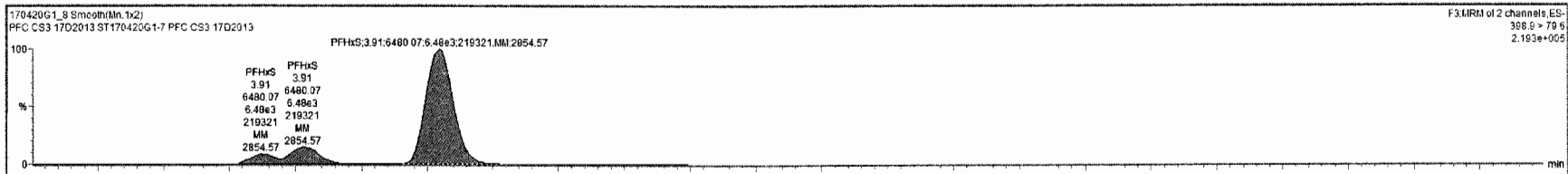
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_8, Date: 20-Apr-2017, Time: 18:14:20, ID: ST170420G1-7 PFC CS3 17D2013, Description: PFC CS3 17D2013



Name	Resp	RRF	WtVol	RF	RA	My	Conc	WRec	DL	EMPC
PFBS	5.52e3		1.000	2.88			18.2	103	0.00810	
PFHpA	1.25e4		1.000	3.79			20.3	101	0.0201	
PFHxS	5.48e3		1.000	3.91			20.8	103	0.0129	
PFOA	1.09e4		1.000	4.21			20.3	101	0.0405	
PFOS	1.84e3		1.000	4.61			18.7	101	0.412	
PFNA	1.93e4		1.000	4.55			20.8	104	0.0167	
13C2-PFHxA	3.30e3	0.45	1.000	3.27			10.4	104	0.0145	
13C2-PFDA	5.81e3	0.80	1.000	4.85			10.3	103	0.326	
13C2-PFOA	7.06e3	1.00	1.000	4.21			10.0	100	0.0451	
13C4-PFOS	9.94e3	1.00	1.000	4.61			28.7	100	0.0358	



Custom Reporting: Select reports to generate

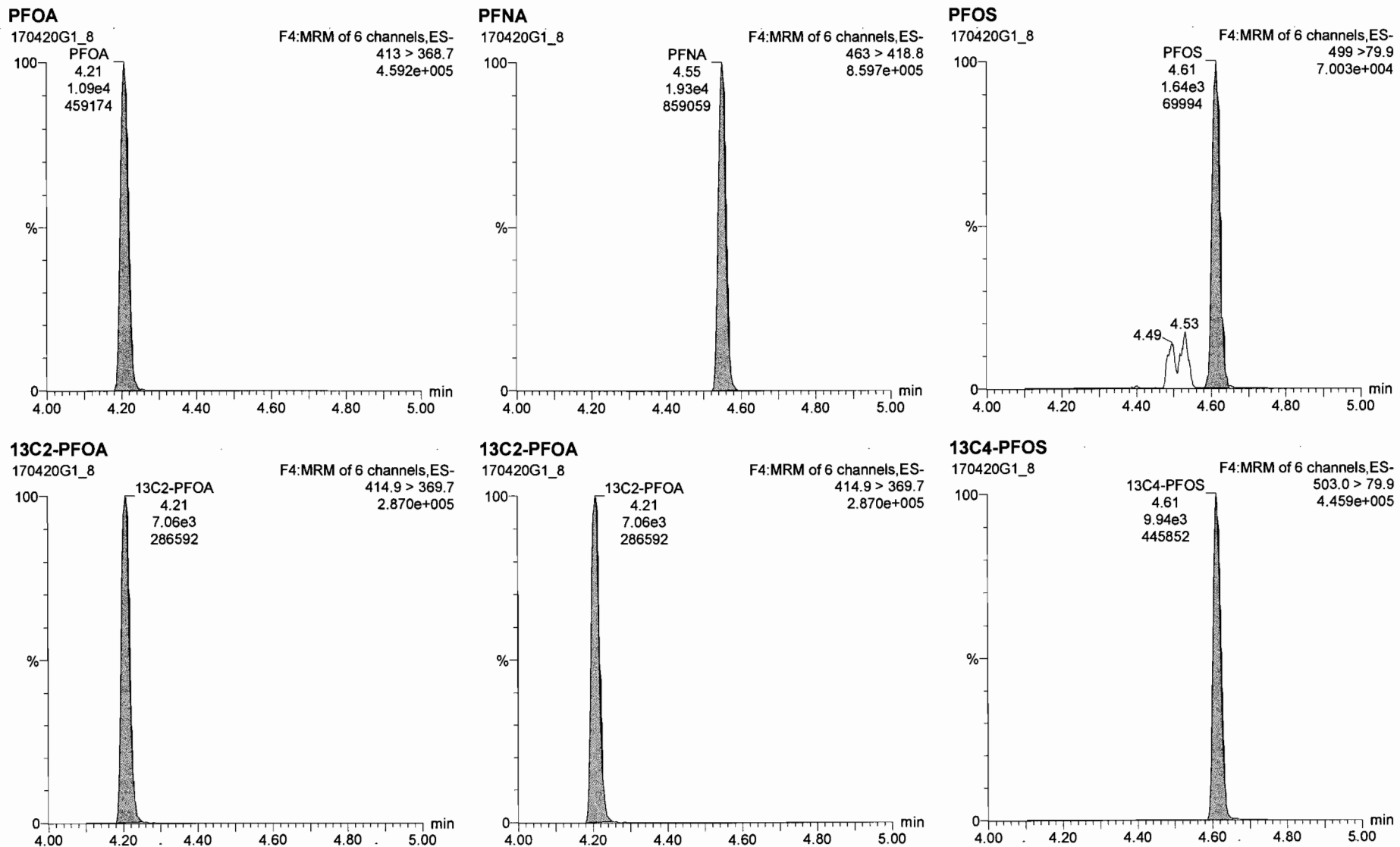
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Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time

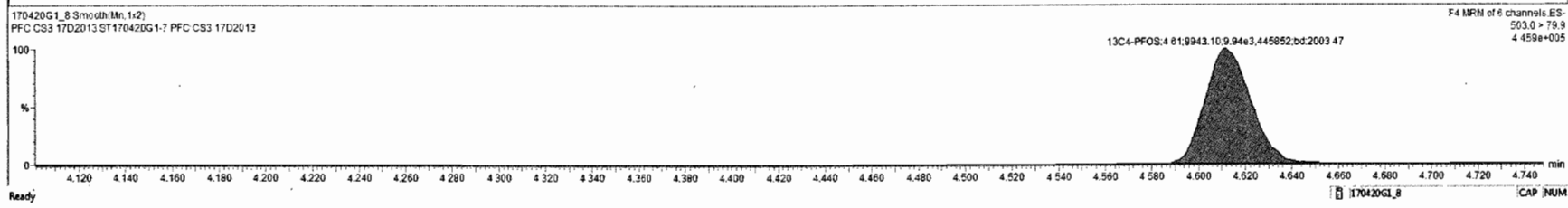
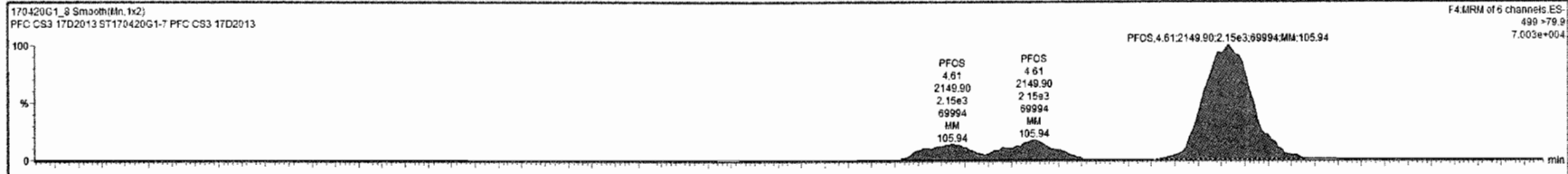
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Name: 170420G1_8, Date: 20-Apr-2017, Time: 18:14:20, ID: ST170420G1-7 PFC CS3 17D2013, Description: PFC CS3 17D2013



170420G1_8 - ST170420G1-7 PFC CS3 17D2013 - PFC CS3 17D2013

#	Name	Resp	RF	WtVal	RT	RA	nV	Conc	%Rec	DL	EMPC
1	PFBS	5.52e3		1.000	2.89			18.2	103		0.00010
2	PFHpA	1.25e4		1.000	3.79			20.3	101		0.0201
3	PFHxS	6.48e3		1.000	3.91			18.8	103		0.0122
4	PFDA	1.09e4		1.000	4.21			20.3	101		0.0406
5	PFOS	2.15e3		1.000	4.61			21.7	117		0.353
6	PFNA	1.93e4		1.000	4.55			20.8	104		0.0167
7	13C2-PFHxA	3.38e3	0.45	1.000	3.27			10.4	104		0.0145
8	13C2-PFDA	5.81e3	0.80	1.000	4.85			10.3	103		0.326
9	13C2-PFOA	7.06e3	1.00	1.000	4.21			10.0	100		0.0451
10	13C4-PFOS	9.94e3	1.00	1.000	4.61			28.7	100		0.0358



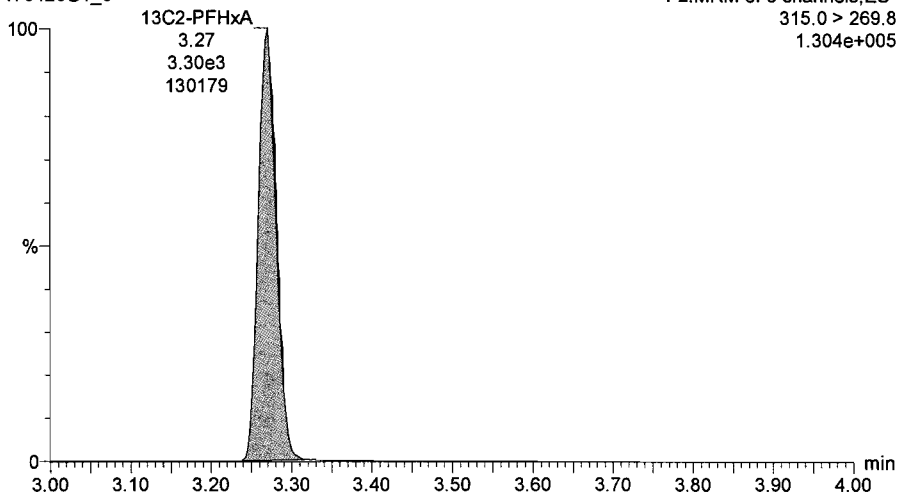
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Name: 170420G1_8, Date: 20-Apr-2017, Time: 18:14:20, ID: ST170420G1-7 PFC CS3 17D2013, Description: PFC CS3 17D2013

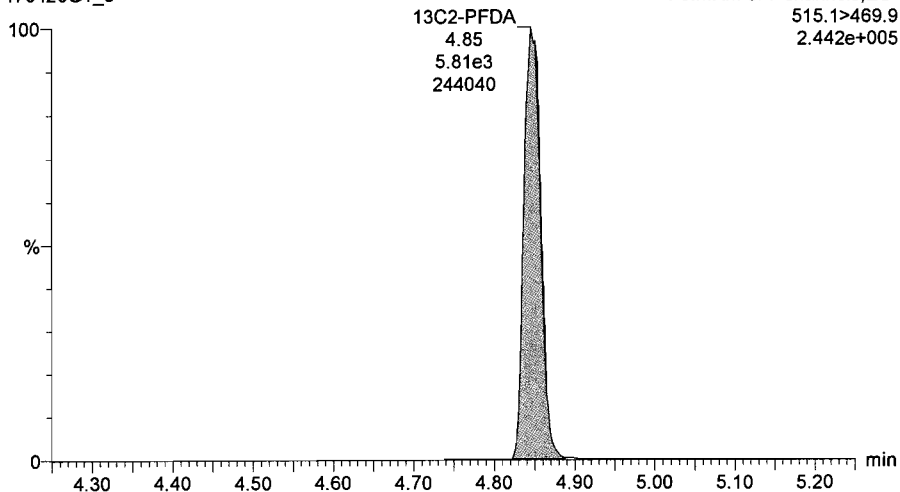
13C2-PFHxA

170420G1_8



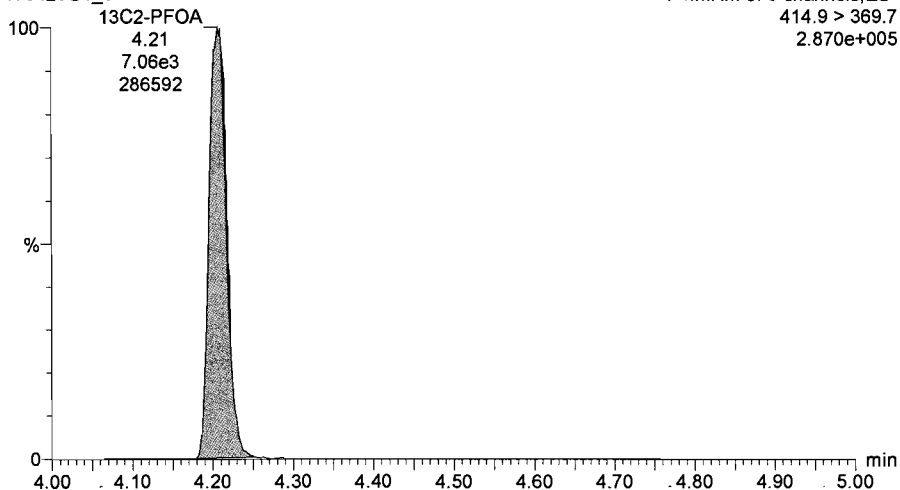
13C2-PFDA

170420G1_8



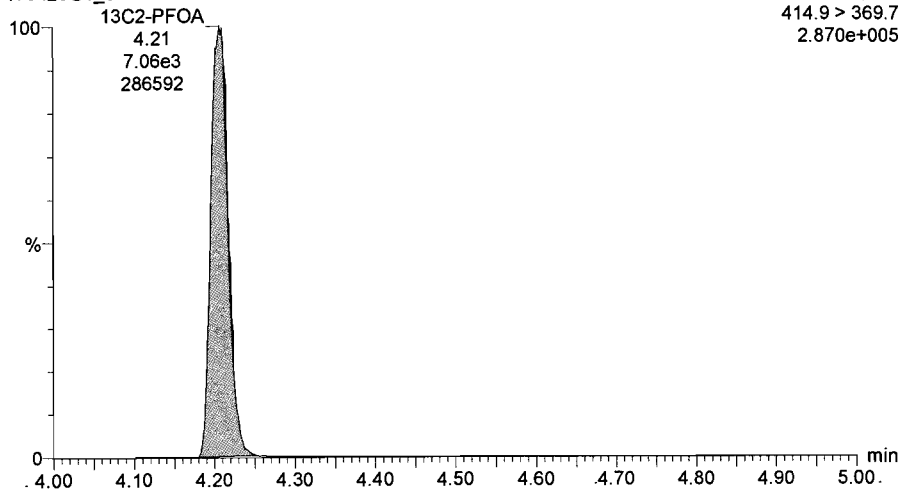
13C2-PFOA

170420G1_8



13C2-PFOA

170420G1_8

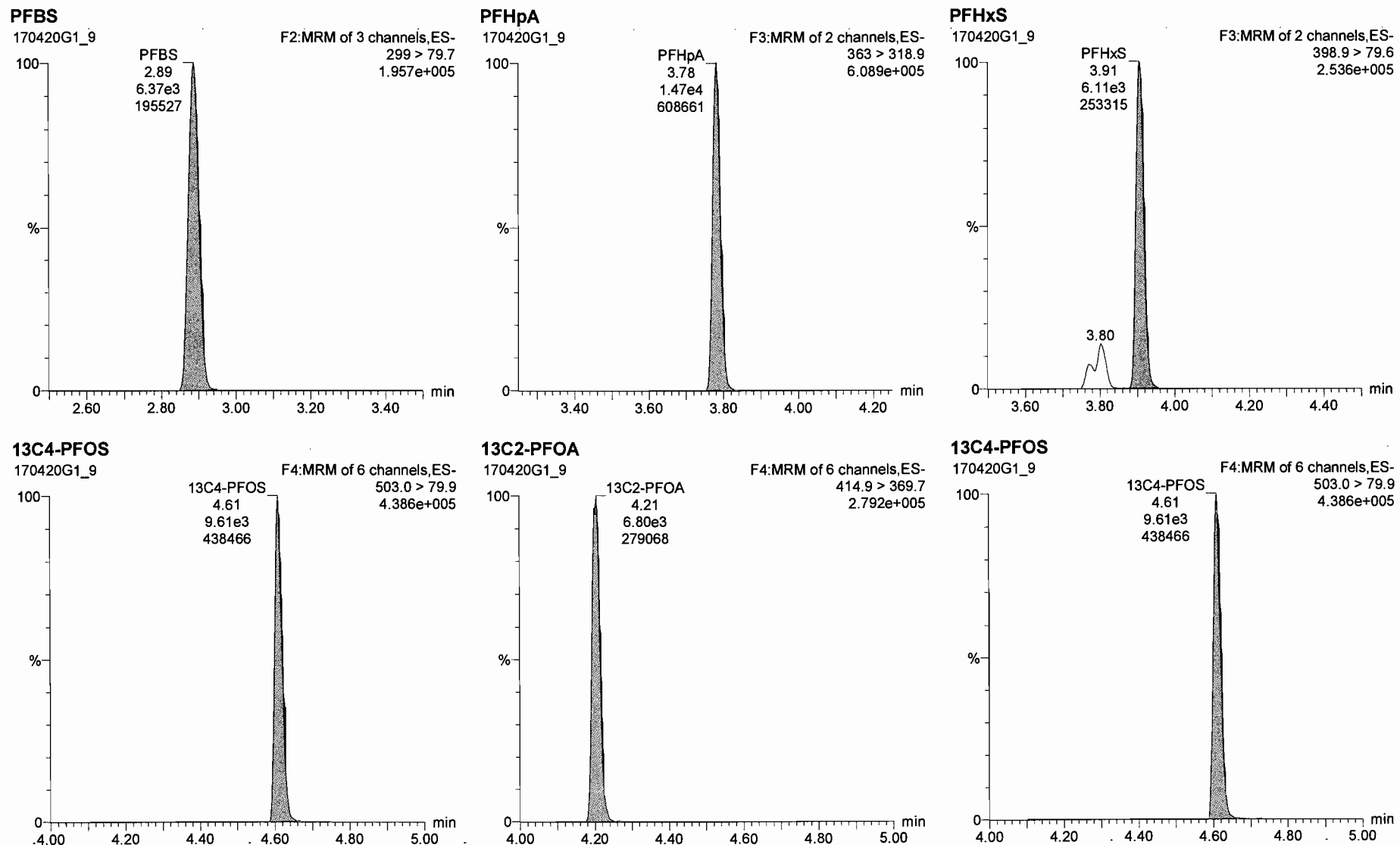


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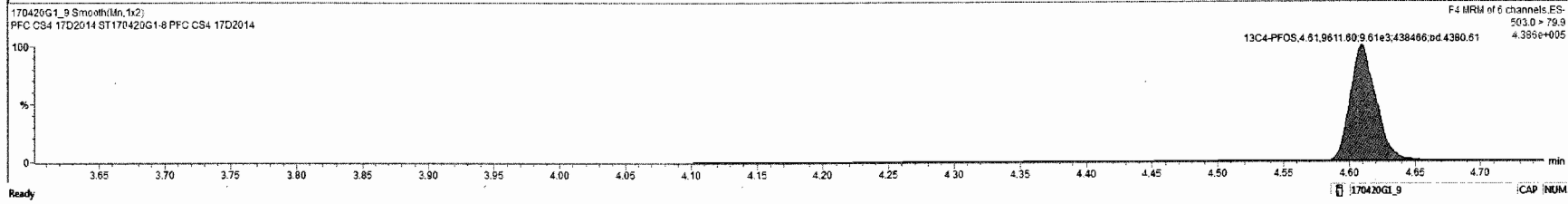
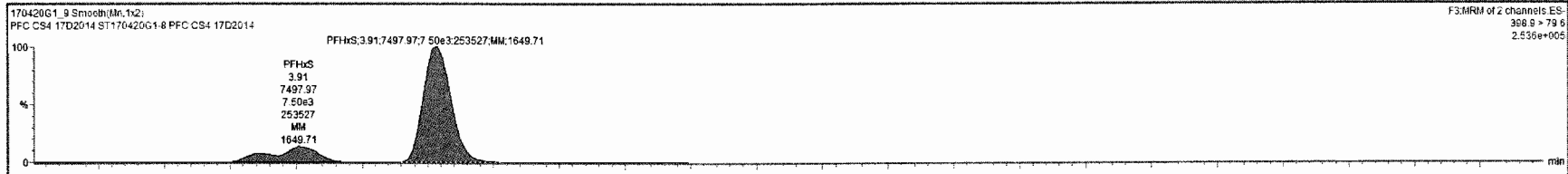
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Name: 170420G1_9, Date: 20-Apr-2017, Time: 18:26:46, ID: ST170420G1-8 PFC CS4 17D2014, Description: PFC CS4 17D2014



Name	Resp	RRF	WtFac	RT	RA	WY	Conc	Minip	CL	EMPC
1 PFBS	6.37e3		1.000	2.89			21.8	98.6	0.00448	
2 PFHpA	1.47e4		1.000	3.78			24.9	99.7	0.0180	
3 PFHxS	7.50e3		1.000	3.91			23.8	100	0.0290	
4 PFDA	1.24e4		1.000	4.20			24.3	97.1	0.0290	
5 PFOS	2.03e3		1.000	4.61			24.1	104	0.179	
6 PFNA	2.17e4		1.000	4.55			24.3	97.3	0.0509	
7 13C2-PFHxA	3.14e3	0.45	1.000	3.27			10.3	193	0.00746	
8 13C2-PFDA	5.26e3	0.89	1.000	4.85			9.64	96.4	0.0155	
9 13C2-PFOA	6.80e3	1.00	1.000	4.20			10.0	100	0.0274	
10 13C4-PFOS	9.81e3	1.00	1.000	4.61			28.7	100	0.0164	



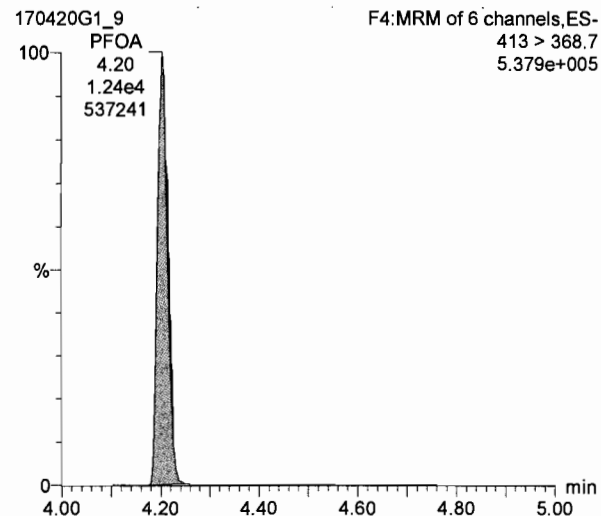
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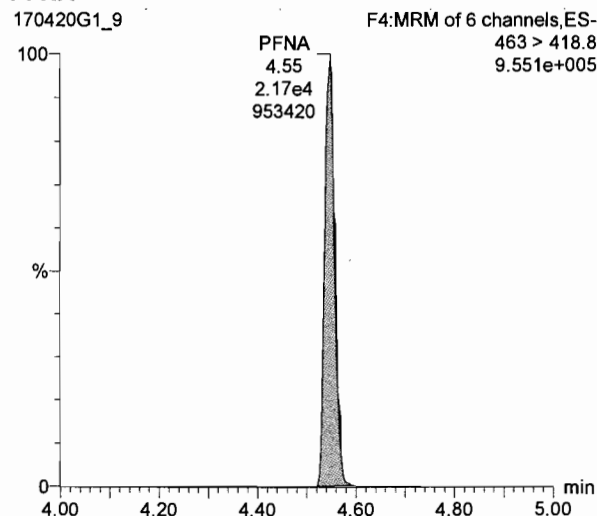
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Name: 170420G1_9, Date: 20-Apr-2017, Time: 18:26:46, ID: ST170420G1-8 PFC CS4 17D2014, Description: PFC CS4 17D2014

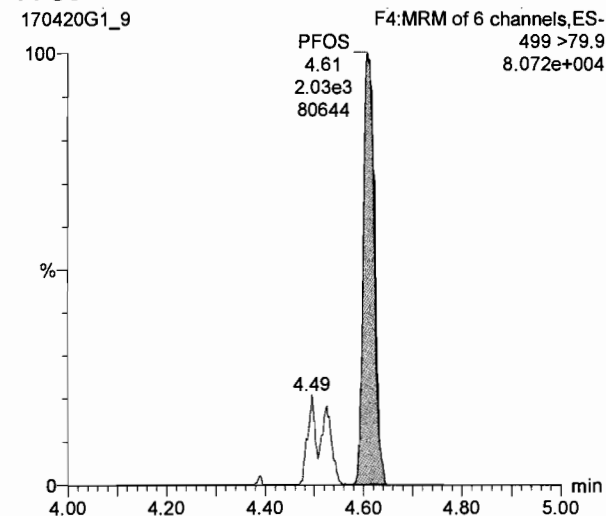
PFOA



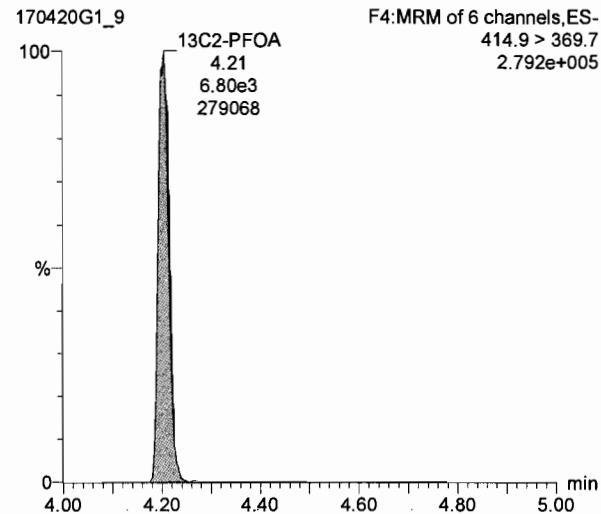
PFNA



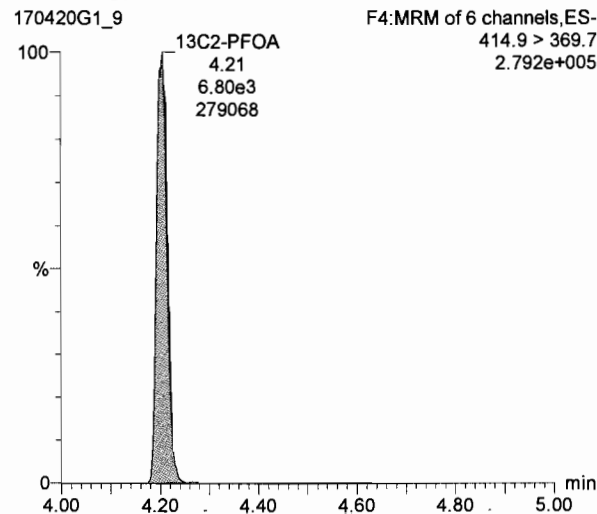
PFOS



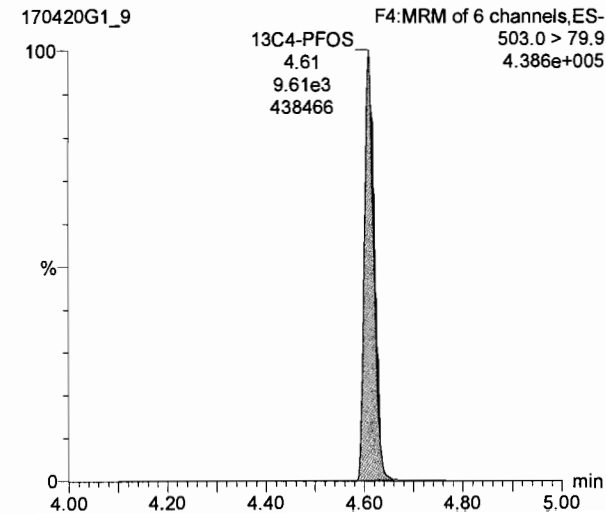
13C2-PFOA



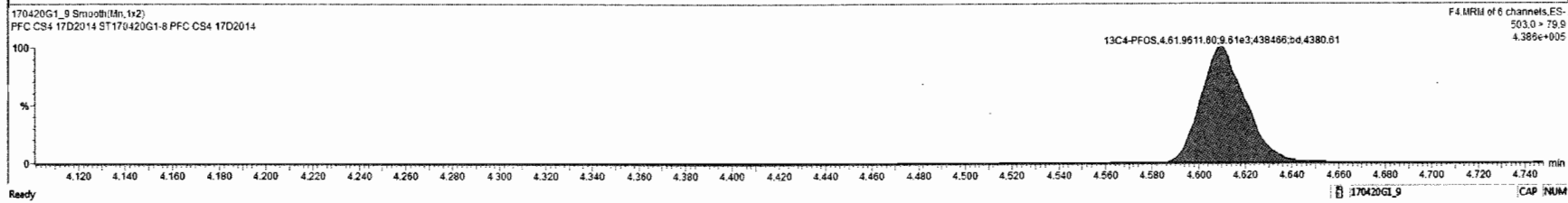
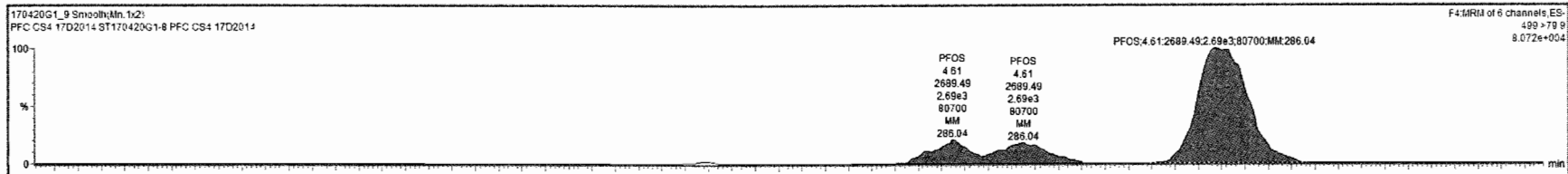
13C2-PFOA



13C4-PFOS



#	Name	Resp	RFU	wt/vol	RT	RA	rel	Calc.	%Rec	DL	EMPC
1	PFBS	6.37e3		1.000	2.05			21.8	98.6	0.03448	
2	PFHpA	1.47e4		1.000	3.78			24.9	99.7	0.0180	
3	PFHxS	7.50e3		1.000	3.91			22.6	99.1	0.0248	
4	PFOA	1.24e4		1.000	4.20			24.3	97.1	0.0290	
5	PFOS	2.89e3		1.000	4.61			26.8	116	0.142	
6	PFNA	2.17e4		1.000	4.55			24.3	97.3	0.0509	
7	13C2-PFHxA	3.14e3	0.45	1.000	3.27			10.3	103	0.00746	
8	13C2-PFOA	5.26e3	0.80	1.000	4.85			9.64	96.4	0.0155	
9	13C2-PFOA	6.86e3	1.00	1.000	4.20			10.8	100	0.0274	
10	13C4-PFOS	9.61e1	1.00	1.000	4.61			28.7	100	0.0164	



Dataset: Untitled

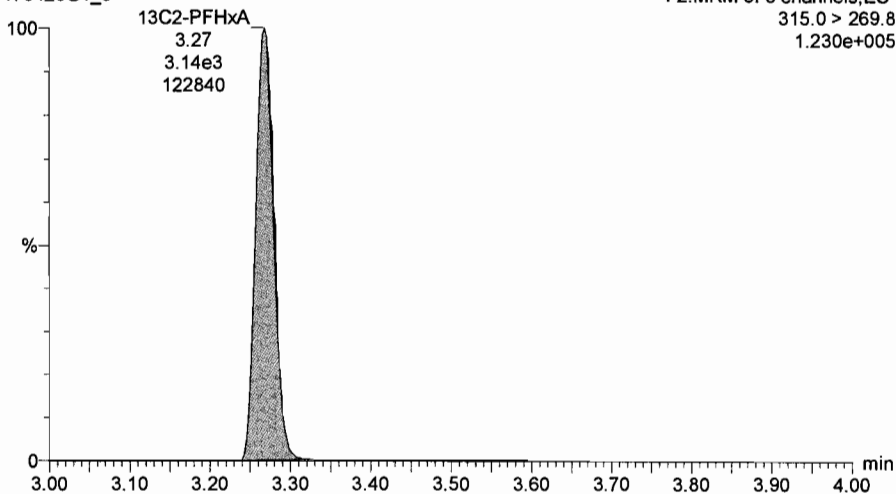
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Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_9, Date: 20-Apr-2017, Time: 18:26:46, ID: ST170420G1-8 PFC CS4 17D2014, Description: PFC CS4 17D2014

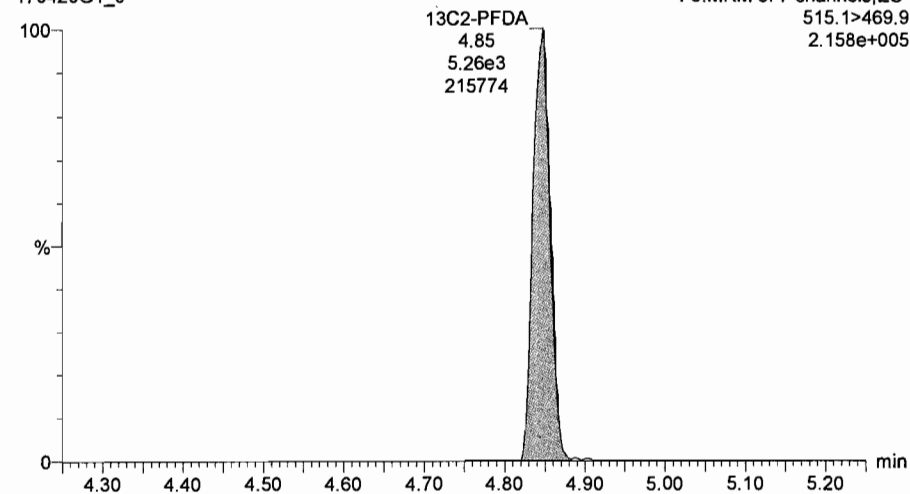
13C2-PFHxA

170420G1_9



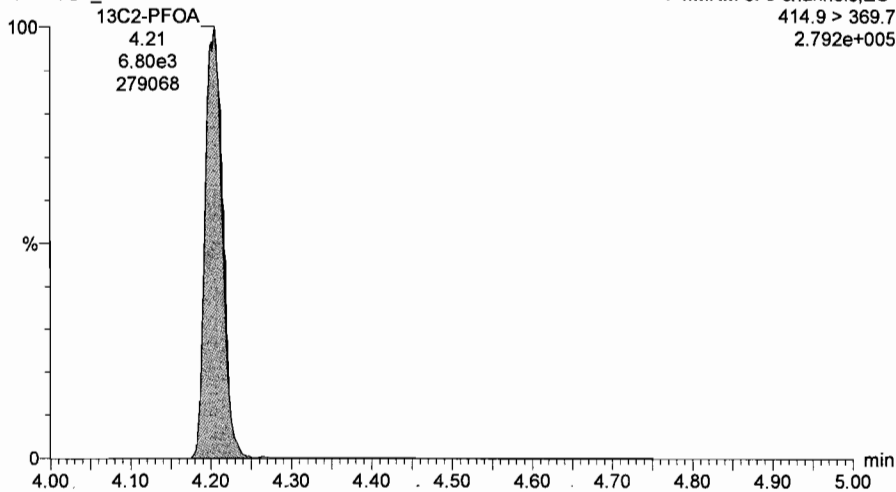
13C2-PFDA

170420G1_9



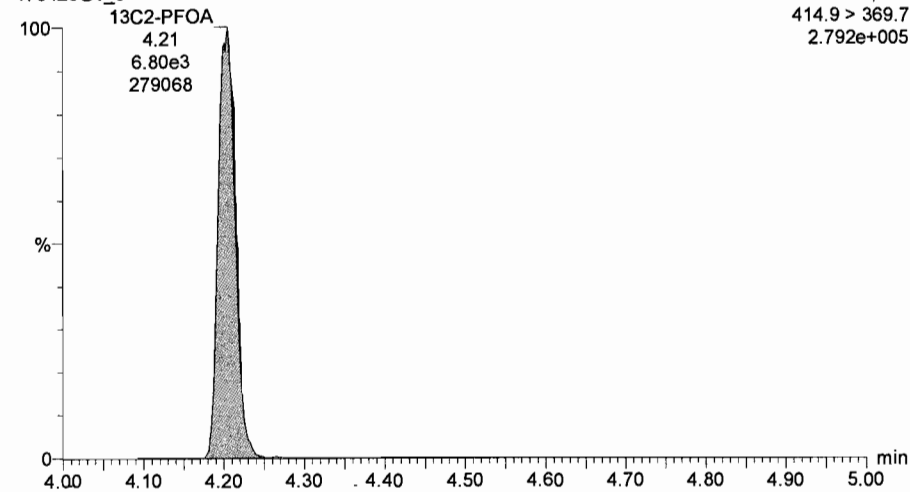
13C2-PFOA

170420G1_9



13C2-PFOA

170420G1_9

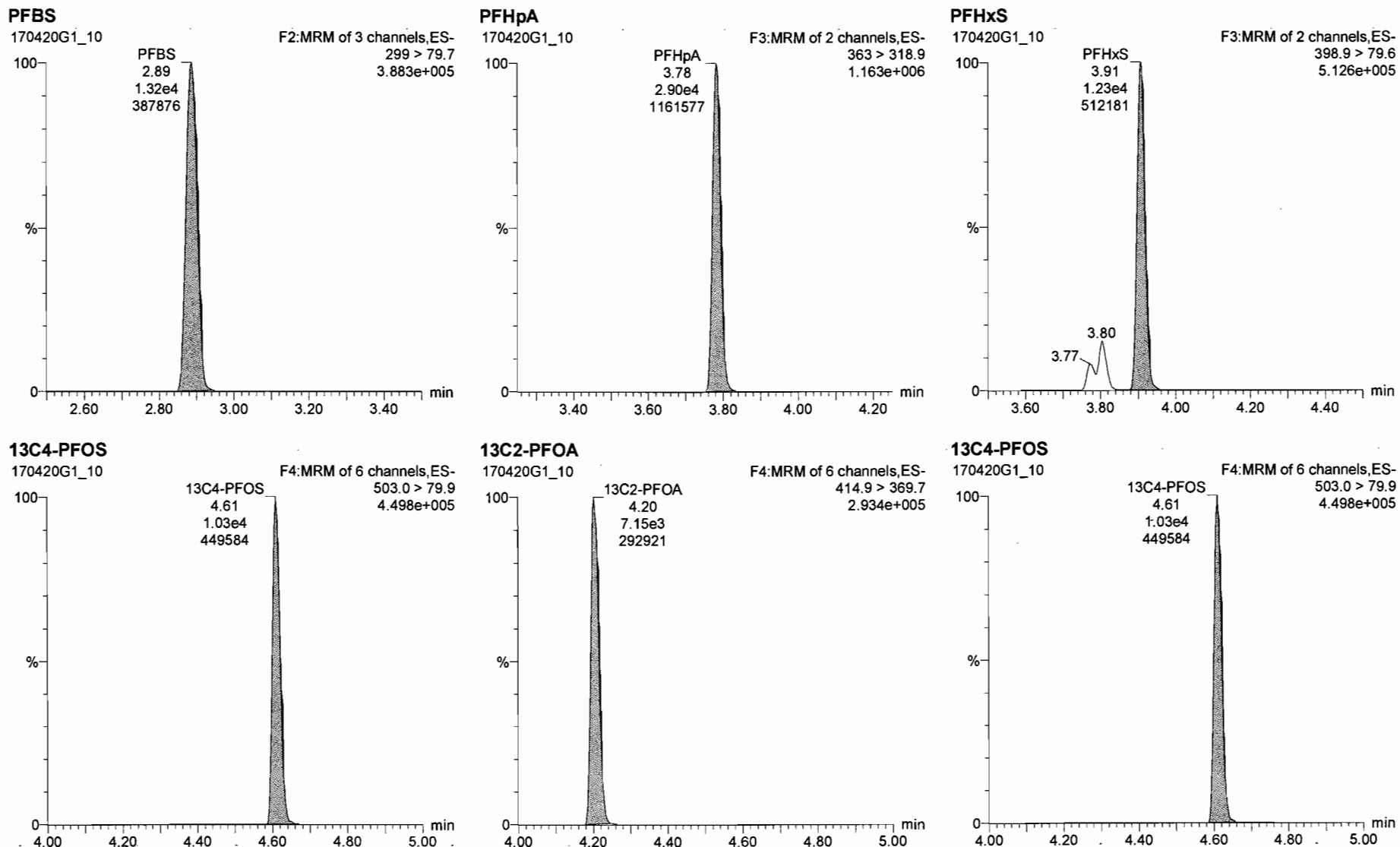


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Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time

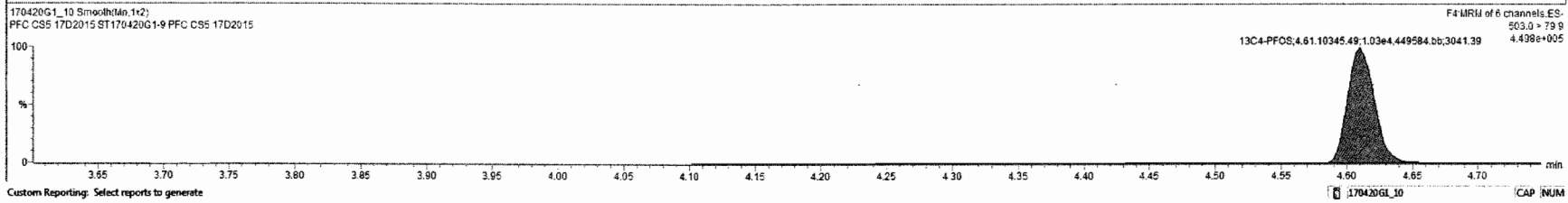
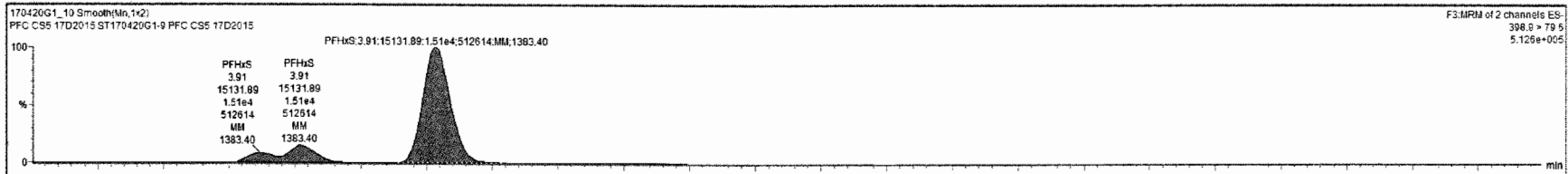
Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_10, Date: 20-Apr-2017, Time: 18:39:14, ID: ST170420G1-9 PFC CS5 17D2015, Description: PFC CS5 17D2015



170420G1_10 - ST170420G1-9 PFC CS5 17D2015 - PFC CS5 17D2015

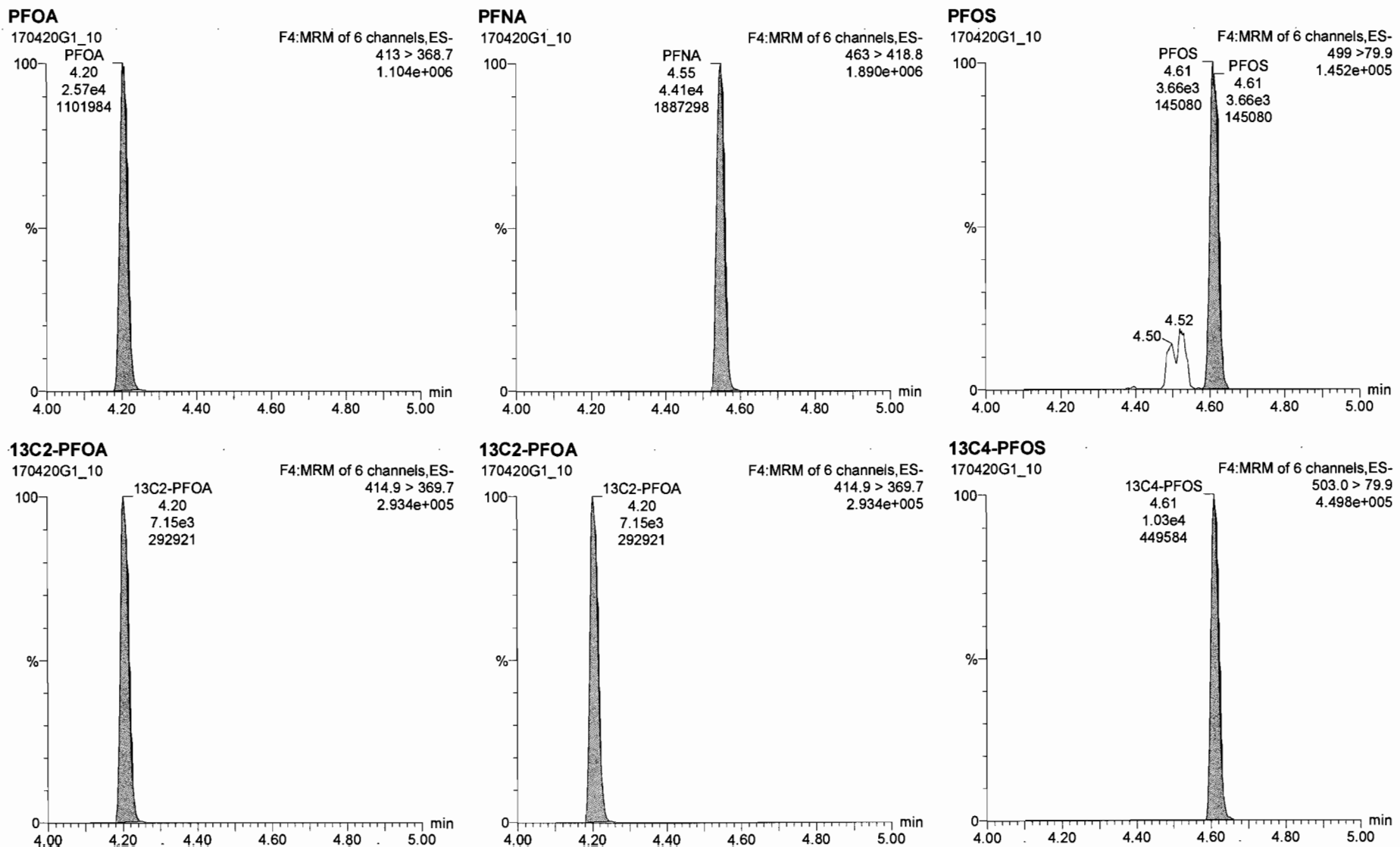
#	Name	Resp.	RRR	wt%sm	RT	RA	wy	Conc.	%Rec	DL	EMPC
1	PFBS	1.32e4		1.000	2.89			43.1	97.4	0.00557	
2	PFHxA	2.90e4		1.000	3.70			48.5	99.9	0.0133	
3	PFHxS	1.51e4		1.000	3.91			48.6	100	0.0054	
4	PFDA	2.57e4		1.000	4.20			49.3	98.7	0.880	
5	PFOS	3.66e3		1.000	4.61			41.1	88.7	0.305	
6	PFNA	4.41e4		1.000	4.55			49.2	98.4	0.0499	
7	13C2-PFHxA	3.29e3	0.45	1.000	3.27			10.3	103	0.00264	
8	13C2-PFDA	5.49e3	0.80	1.000	4.85			9.57	95.7	0.00283	
9	13C2-PFOA	7.15e3	1.00	1.000	4.20			10.0	100	0.00454	
10	13C4-PFOS	1.03e4	1.00	1.000	4.61			28.7	100	0.0236	



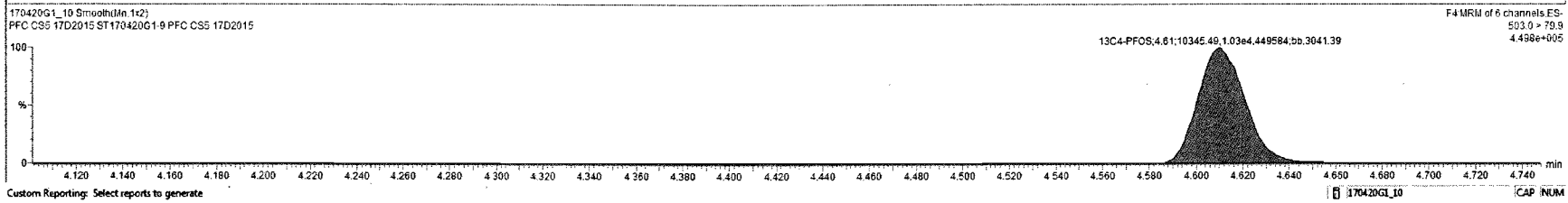
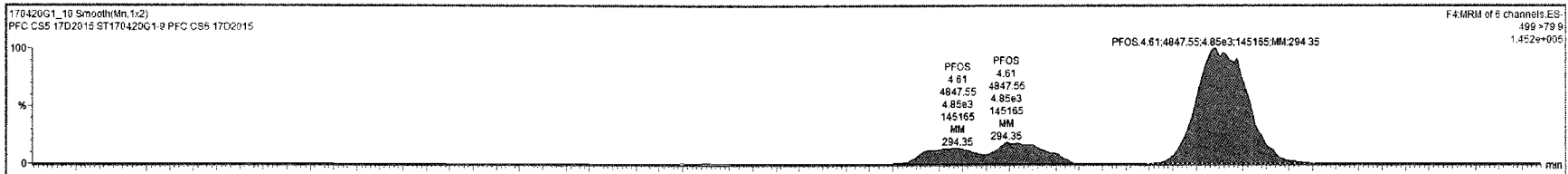
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Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_10, Date: 20-Apr-2017, Time: 18:39:14, ID: ST170420G1-9 PFC CS5 17D2015, Description: PFC CS5 17D2015



#	Name	Class	RRF	Method	RT	RA	Qty	Conc.	%Rec.	DL	EMPC
1	PFBS	1.32e4	1.000	2.89				43.1	97.4	0.00557	
2	PFHpA	2.90e4	1.000	3.78				48.5	98.9	0.0133	
3	PFHxS	1.51e4	1.000	3.91				43.3	94.9	0.0264	
4	PFDA	2.57e4	1.000	4.20				49.3	98.7	0.080	
5	PFOS	4.85e3	1.000	4.61				45.0	87.7	0.0228	
6	PFNA	4.41e4	1.000	4.55				49.2	98.4	0.0409	
7	13C2-PFHxA	3.29e3	0.45	1.000	3.27			10.3	103	0.00264	
8	13C2-PFDA	5.49e3	0.80	1.000	4.45			9.57	95.7	0.00283	
9	13C2-PFOA	7.15e3	1.00	1.000	4.20			10.0	100	0.00454	
10	13C4-PFOS	1.03e4	1.00	1.000	4.61			26.7	100	0.0236	



Dataset: Untitled

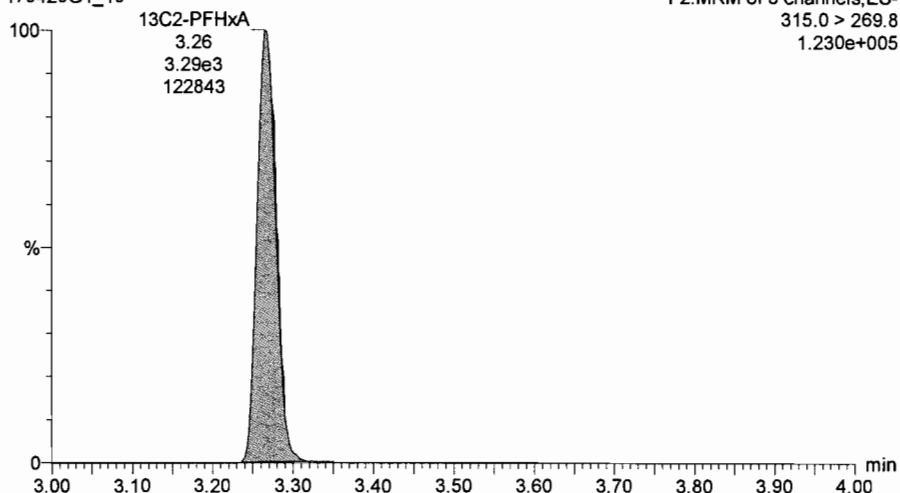
Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time

Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_10, Date: 20-Apr-2017, Time: 18:39:14, ID: ST170420G1-9 PFC CS5 17D2015, Description: PFC CS5 17D2015

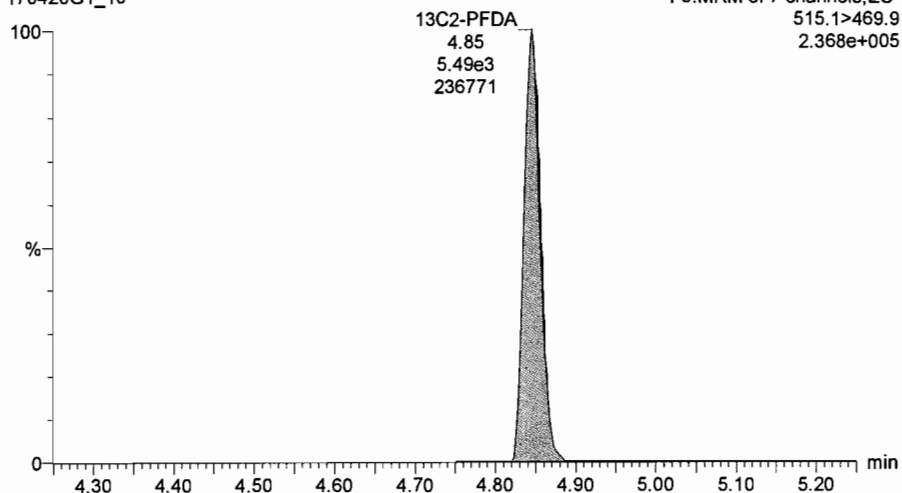
13C2-PFHxA

170420G1_10



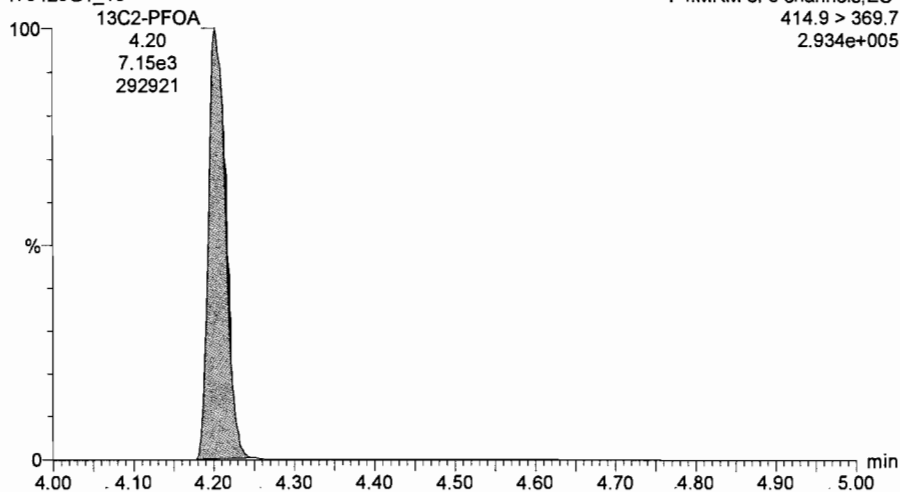
13C2-PFDA

170420G1_10



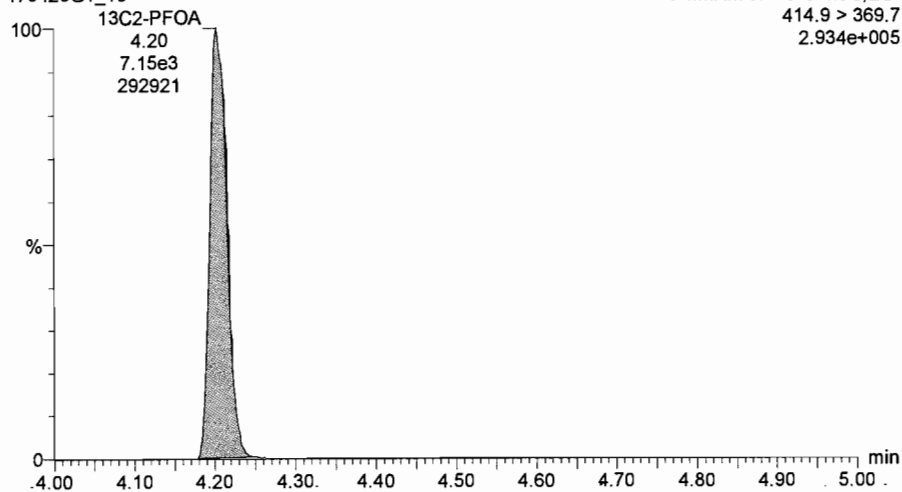
13C2-PFOA

170420G1_10



13C2-PFOA

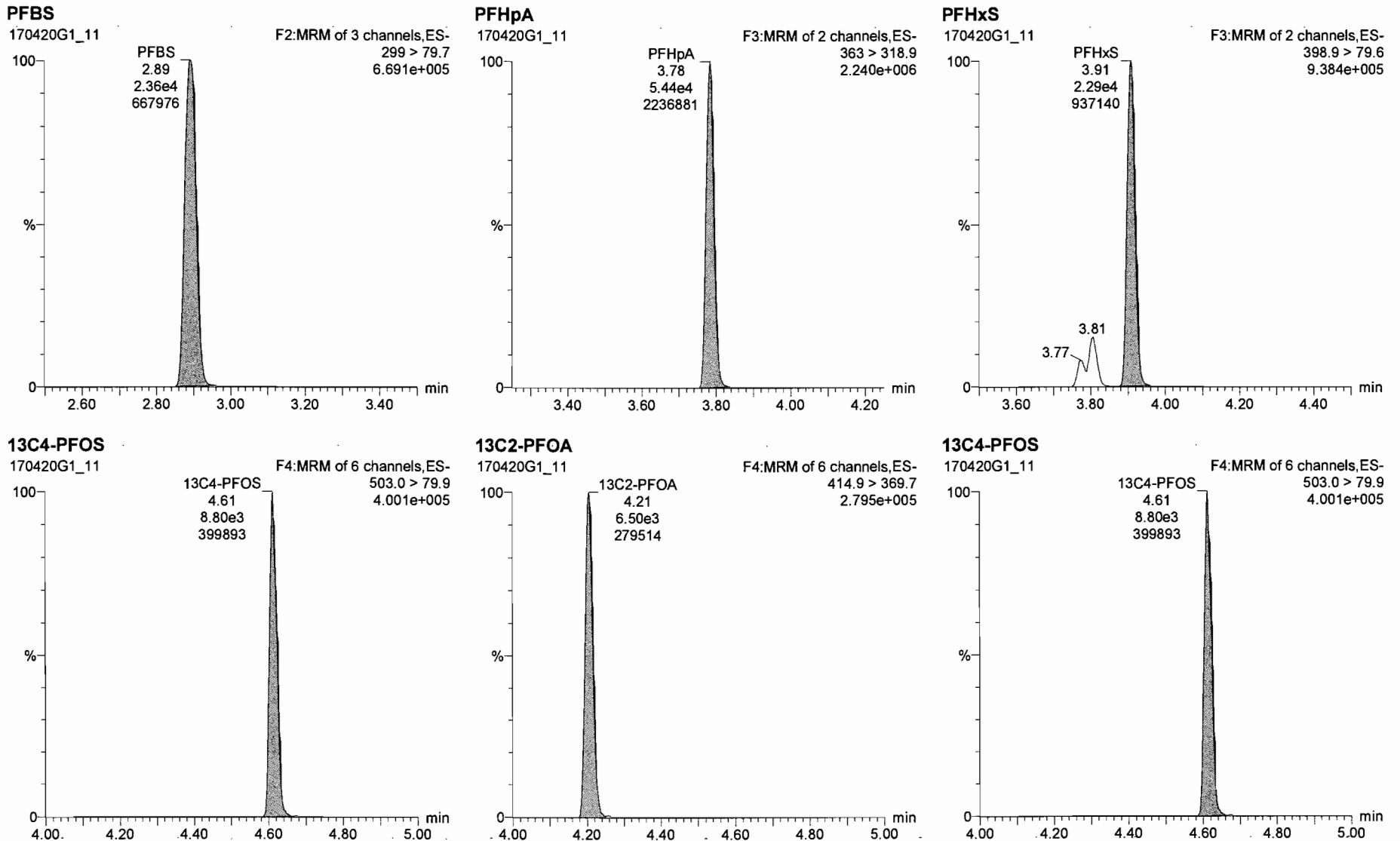
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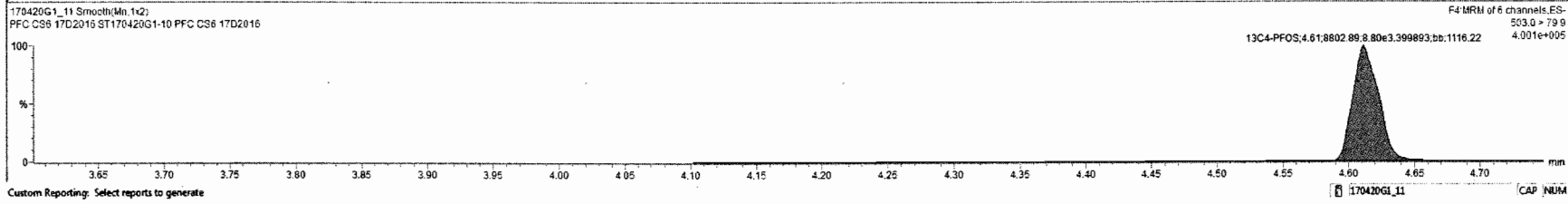
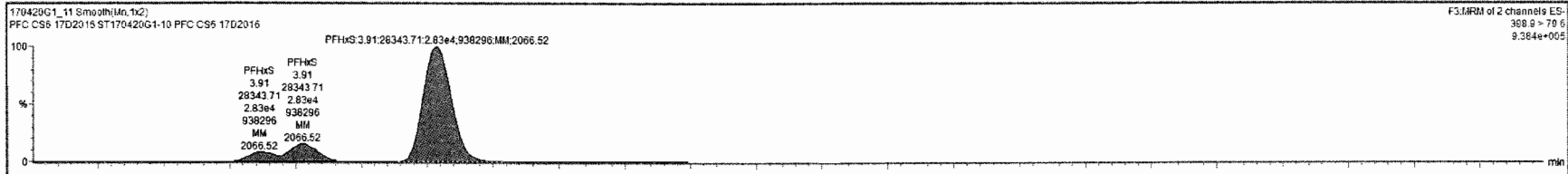
Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_11, Date: 20-Apr-2017, Time: 18:51:40, ID: ST170420G1-10 PFC CS6 17D2016, Description: PFC CS6 17D2016



170420G1_11 - ST170420G1-10 PFC CS6 17D2016 - PFC CS6 17D2016

Name	Resp	RRF	WtPct	RT	RA	dy	Conc.	%Rec	CI	EMPC
1 PFBS	2.36e4		1.000	2.89			97.8	101	0.0144	
2 PFHpA	5.44e4		1.000	3.78			111	101	0.0177	
3 PFHxS	2.83e4		1.000	3.91			101	101	0.0204	
4 PFDA	4.75e4		1.000	4.20			110	100	0.934	
5 PFOS	7.34e3		1.000	4.61			104	102	0.950	
6 PFNA	7.99e4		1.000	4.55			110	100	0.0608	
7 13C2-PFHxA	2.97e3	0.45	1.000	3.27			16.2	102	0.00567	
8 13C2-PFDA	5.28e3	0.80	1.000	4.85			10.1	101	0.0248	
9 13C2-PFOA	6.50e3	1.00	1.000	4.20			10.0	100	0.0132	
10 13C4-PFOS	8.80e1	1.00	1.000	4.61			26.7	100	0.0643	



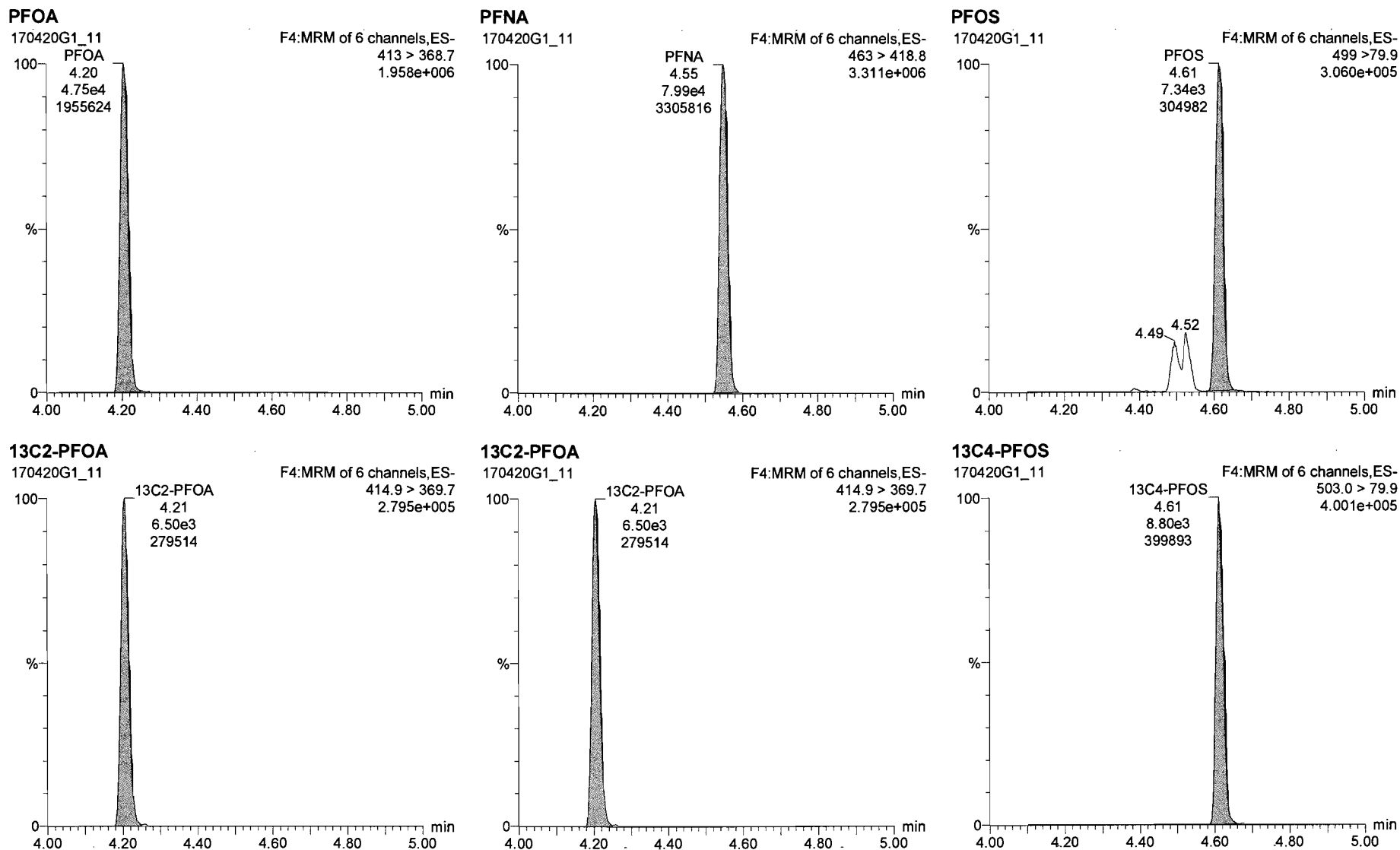
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170420G1_11 CAP NUM

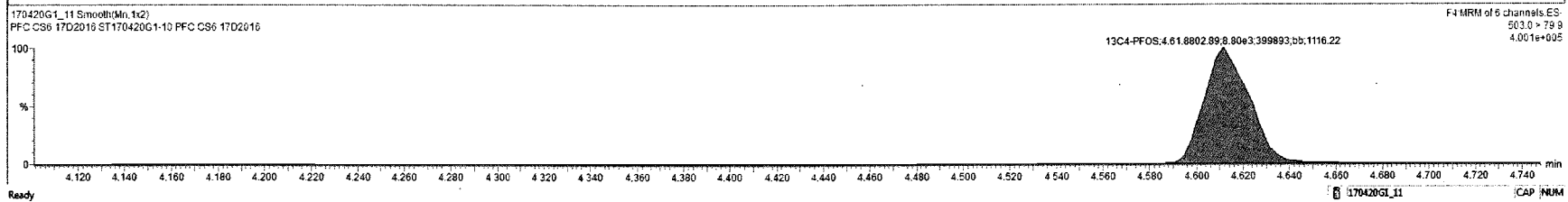
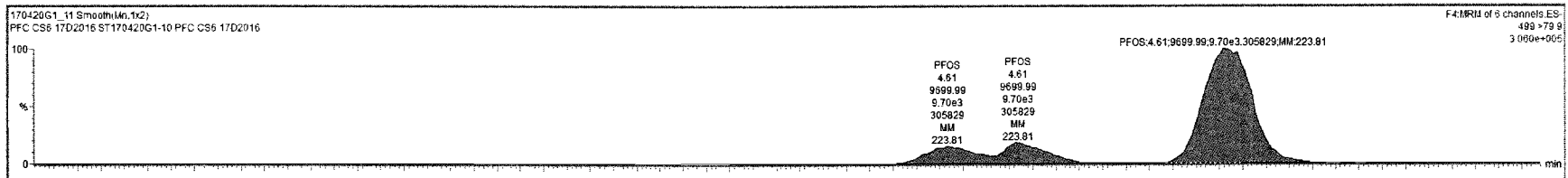
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Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_11, Date: 20-Apr-2017, Time: 18:51:40, ID: ST170420G1-10 PFC CS6 17D2016, Description: PFC CS6 17D2016



Name	Area	Area%	RT	RA	WV	Conc.	%Rec	DL	EMPC
1 PFBS	2.32e4	1.00	2.89			97.8	101	0.0144	
2 PFHpA	5.44e4	1.00	3.78			111	101	0.0177	
3 PFHzS	2.83e4	1.00	3.91			101	101	0.0964	
4 PFDA	4.75e4	1.00	4.20			110	100	0.934	
5 PFOS	8.20e3	1.00	4.61			109	101	0.275	
6 PFNA	7.99e4	1.00	4.55			110	100	0.950	
7 13C2-PFHzA	2.97e3	0.45	1.99	3.27		10.2	102	0.00567	
8 13C2-PFDA	5.28e3	0.80	1.99	4.85		10.1	101	0.0248	
9 13C2-PFOA	6.59e3	1.00	1.99	4.20		10.0	100	0.0132	
10 13C4-PFOS	8.80e3	1.00	1.99	4.61		28.7	100	0.0643	



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Last Altered: Friday, April 21, 2017 10:17:30 Pacific Daylight Time

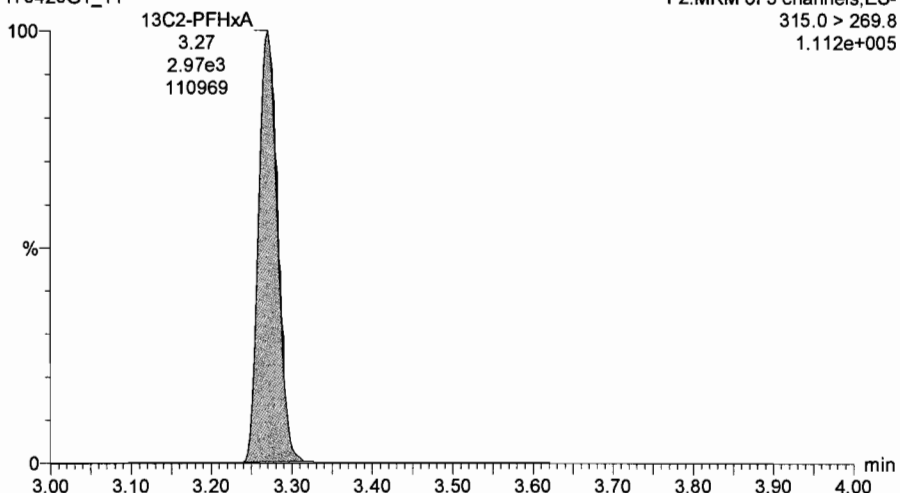
Printed: Friday, April 21, 2017 10:20:56 Pacific Daylight Time

Name: 170420G1_11, Date: 20-Apr-2017, Time: 18:51:40, ID: ST170420G1-10 PFC CS6 17D2016, Description: PFC CS6 17D2016

13C2-PFHxA

170420G1_11

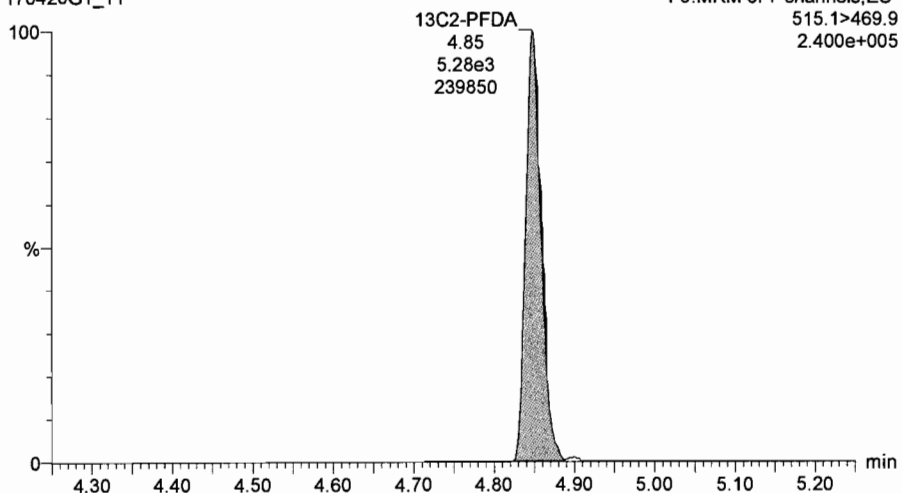
F2:MRM of 3 channels,ES-
315.0 > 269.8
1.112e+005



13C2-PFDA

170420G1_11

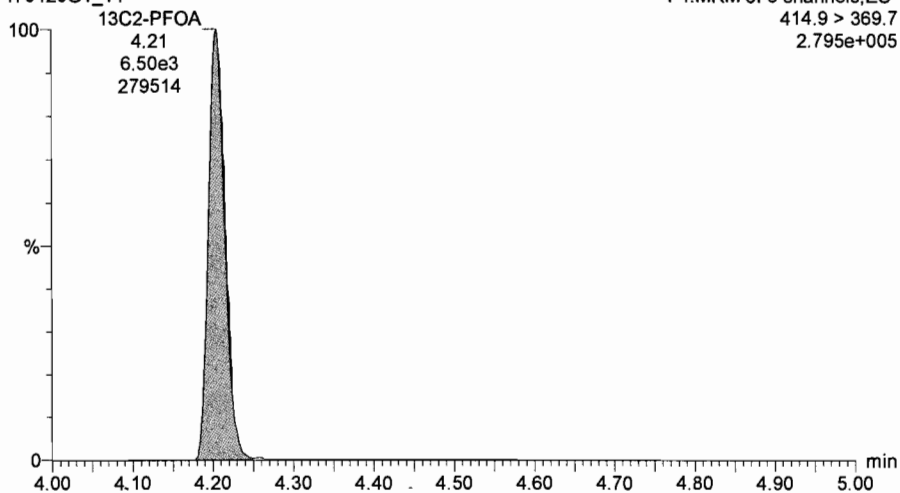
F5:MRM of 7 channels,ES-
515.1>469.9
2.400e+005



13C2-PFOA

170420G1_11

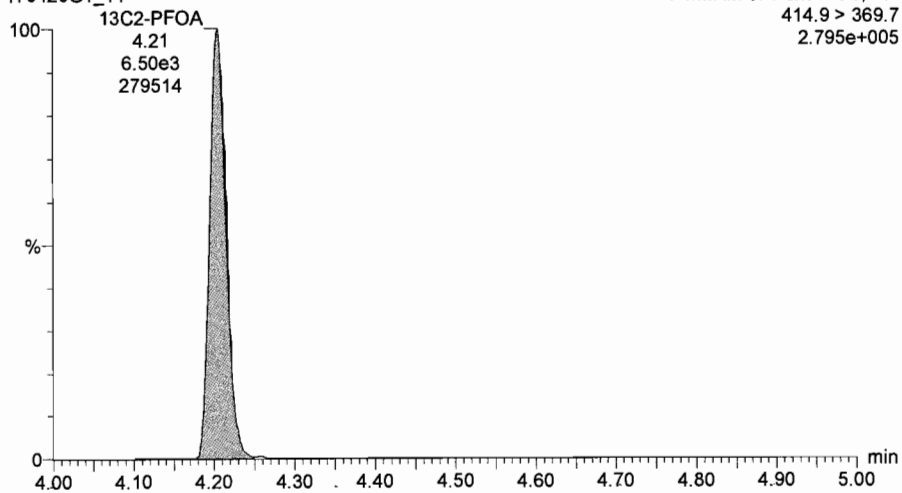
F4:MRM of 6 channels,ES-
414.9 > 369.7
2.795e+005



13C2-PFOA

170420G1_11

F4:MRM of 6 channels,ES-
414.9 > 369.7
2.795e+005



Dataset: U:\G1.PRO\Results\2017\170420G1\170420G1-13.qld

Last Altered: Friday, April 21, 2017 10:44:42 Pacific Daylight Time
Printed: Friday, April 21, 2017 10:45:28 Pacific Daylight Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170420G1_13, Date: 20-Apr-2017, Time: 19:16:27, ID: SS170420G1-1 PFC SSS 17D2017, Description: PFC SSS 17D2017

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	3.57e3	1.04e4		1.000	2.89	11.0	109.9
2	2 PFHpA	363 > 318.9	6.95e3	7.86e3		1.000	3.78	9.99	99.9
3	3 PFHxS	398.9 > 79.6	3.93e3	1.04e4		1.000	3.91	10.5	105.2
4	4 PFOA	413 > 368.7	6.20e3	7.86e3		1.000	4.21	10.3	102.5
5	5 PFOS	499 > 79.9	1.25e3	1.04e4		1.000	4.61	10.2	101.7
6	6 PFNA	463 > 418.8	1.05e4	7.86e3		1.000	4.55	9.96	99.6
7	7 13C2-PFHxA	315.0 > 269.8	3.34e3	7.86e3	0.449	1.000	3.27	9.48	94.8
8	8 13C2-PFDA	515.1 > 469.9	5.87e3	7.86e3	0.803	1.000	4.85	9.30	93.0
9	9 13C2-PFOA	414.9 > 369.7	7.86e3	7.86e3	1.000	1.000	4.20	10.0	100.0
10	10 13C4-PFOS	503.0 > 79.9	1.04e4	1.04e4	1.000	1.000	4.61	28.7	100.0

70-130
↓
AC
4/21/17

Dataset: Untitled

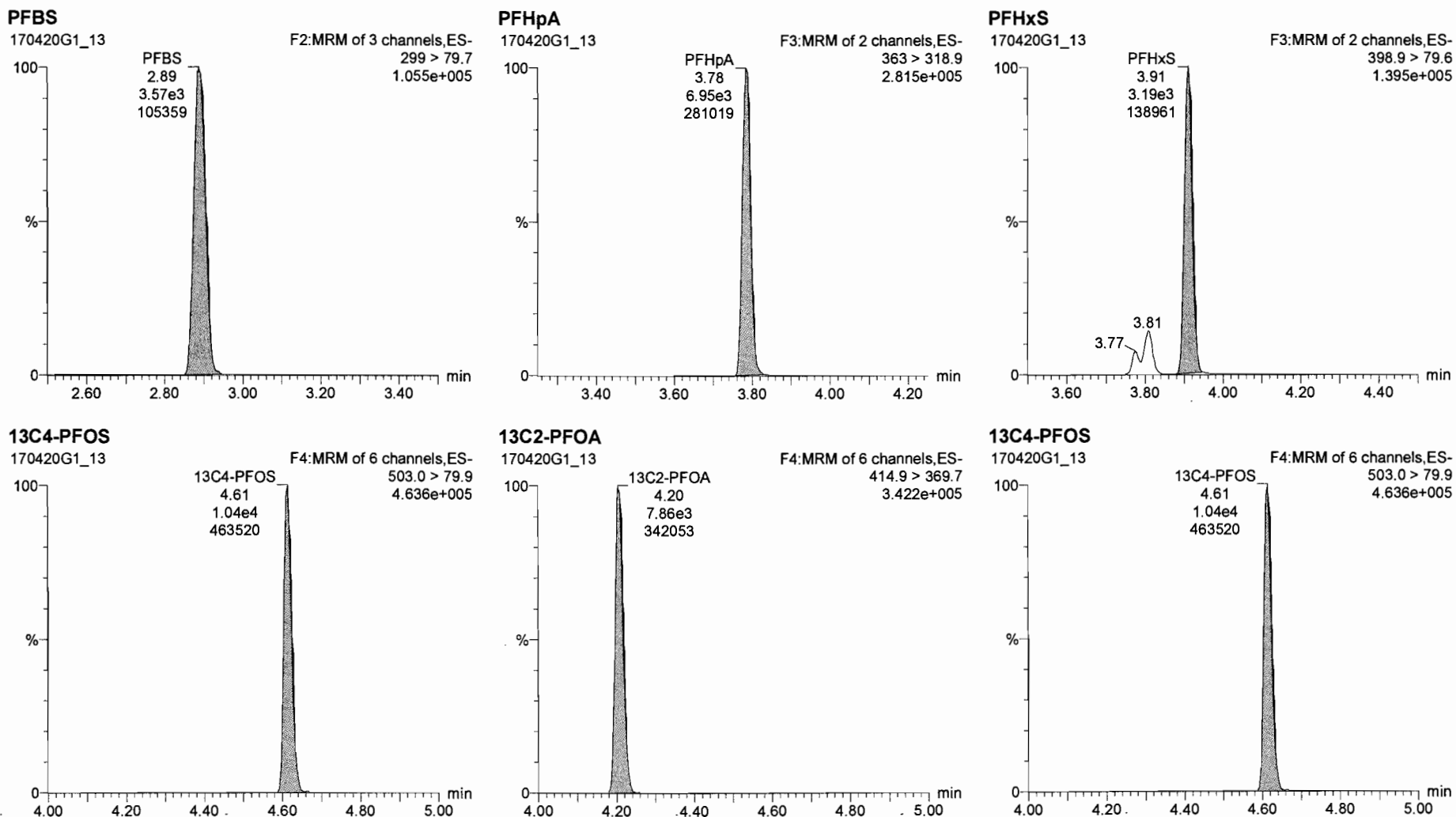
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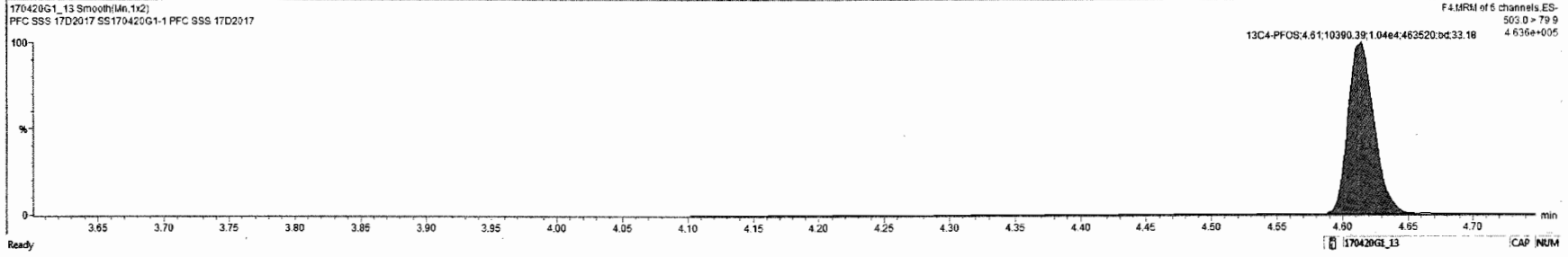
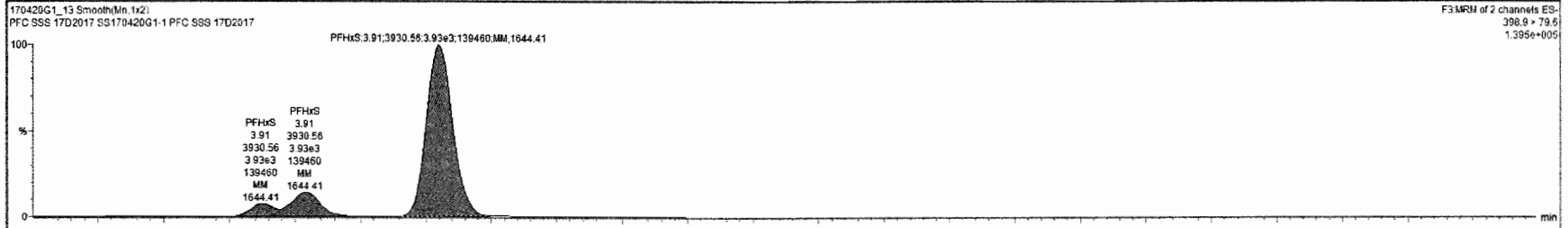
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_04-20-17_L6.cdb 21 Apr 2017 10:28:44

Name: 170420G1_13, Date: 20-Apr-2017, Time: 19:16:27, ID: SS170420G1-1 PFC SSS 17D2017, Description: PFC SSS 17D2017



#	Name	Resp	RRF	wtVol	RT	RA	nly	Conc	%Rec	DL	EMPC
1	PFBS	3.57e3		1.000	2.89			11.0	110	0.0825	
2	PFHpA	6.95e3		1.000	3.78			9.99	99.9	0.00714	
3	PFHxS	3.93e3		1.000	3.91			10.5	105	0.0123	
4	PFDA	6.20e3		1.000	4.21			10.3	103	0.00981	
5	PFOS	1.25e3		1.000	4.61			10.2	102	0.380	
6	PFNA	1.05e4		1.000	4.55			9.96	99.8	0.00256	
7	13C2-PFHxA	3.34e3	0.45	1.000	3.27			9.48	94.8	0.00207	
8	13C2-PFDA	5.87e3	0.80	1.000	4.85			9.30	93.0	0.00524	
9	13C2-PFOA	7.86e3	1.00	1.000	4.20			10.0	100	0.00424	
10	13C4-PFOS	1.04e4	1.00	1.000	4.61			28.7	100	2.16	

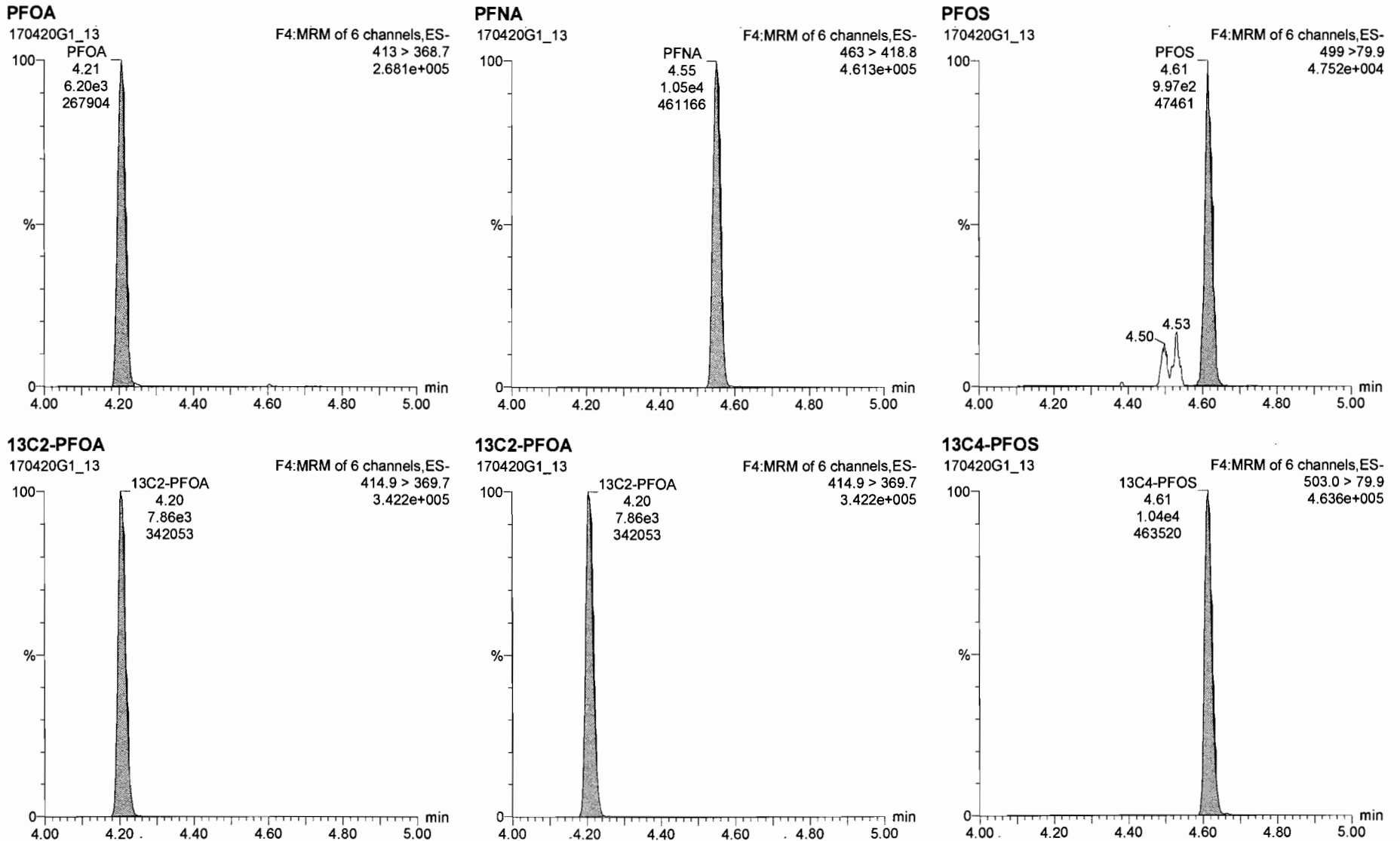


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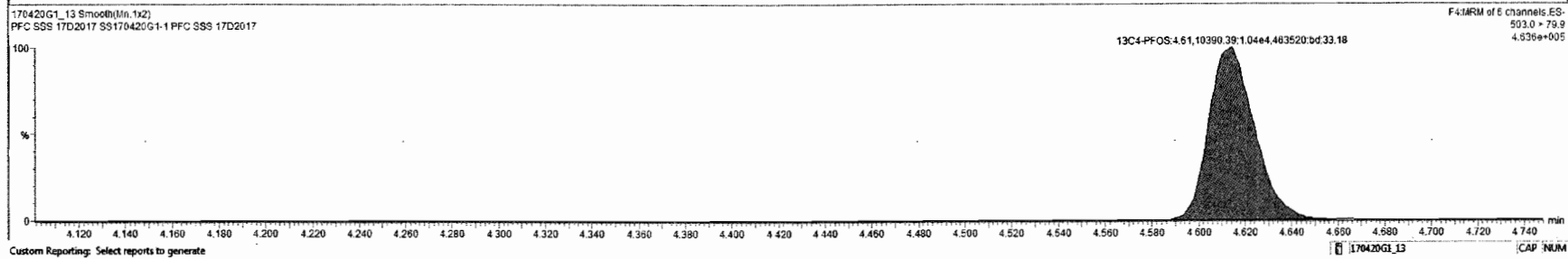
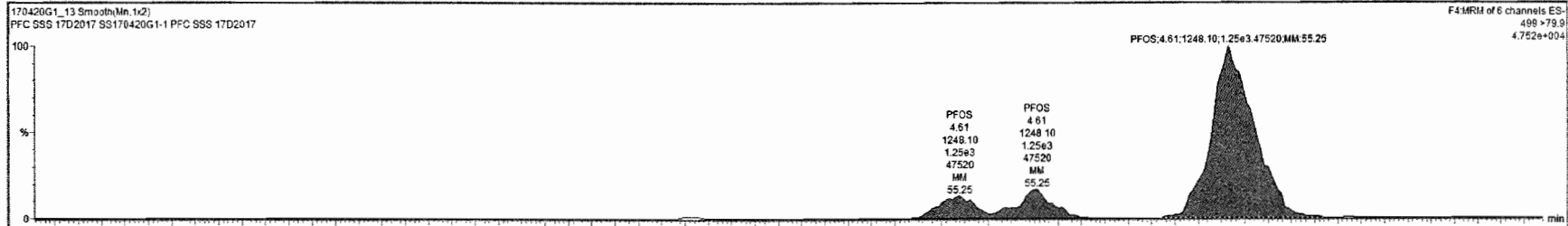
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Printed: Friday, April 21, 2017 10:43:23 Pacific Daylight Time

Name: 170420G1_13, Date: 20-Apr-2017, Time: 19:16:27, ID: SS170420G1-1 PFC SSS 17D2017, Description: PFC SSS 17D2017



#	Name	Resp	RRF	Wt/Wal	RT	RA	Qty	Conc.	%Rec	DL	EMPC
1	PFBS	3.57e3		1.000	2.89			11.0	119	0.0025	
2	PFHpA	6.95e3		1.000	3.78			3.99	99.9	0.00714	
3	PFHxS	3.93e3		1.000	3.91			10.5	105	0.0123	
4	PFOA	6.20e3		1.000	4.21			10.3	103	0.00961	
5	PFOS	1.25e3		1.000	4.61			10.2	102	0.00961	
6	PFNA	1.05e4		1.000	4.55			9.96	99.6	0.00256	
7	13C2-PFhxA	3.34e3	0.45	1.000	3.27			5.48	94.8	0.00207	
8	13C2-PFOA	5.87e3	0.80	1.000	4.85			9.30	93.0	0.00524	
9	13C2-PFOA	7.86e3	1.00	1.000	4.20			10.0	100	0.00421	
10	13C4-PFOS	1.04e4	1.00	1.000	4.61			28.7	100	2.16	



Dataset: Untitled

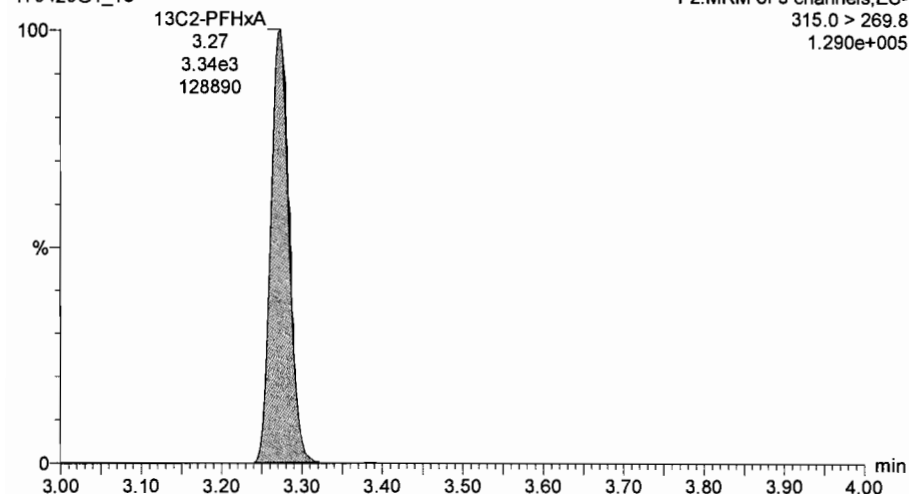
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Name: 170420G1_13, Date: 20-Apr-2017, Time: 19:16:27, ID: SS170420G1-1 PFC SSS 17D2017, Description: PFC SSS 17D2017

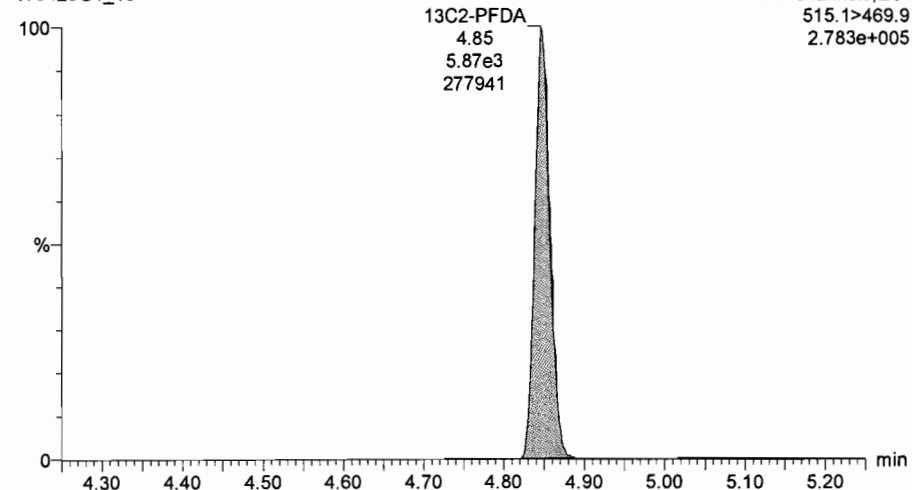
13C2-PFHxA

170420G1_13



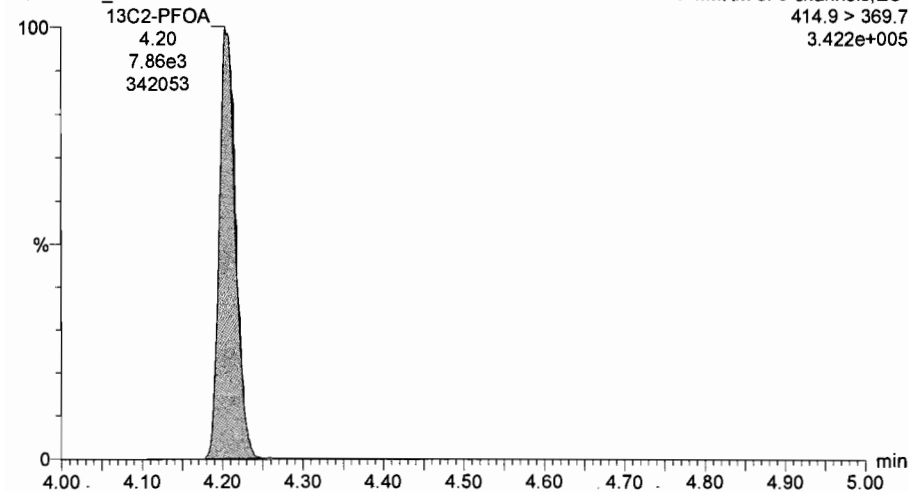
13C2-PFDA

170420G1_13



13C2-PFOA

170420G1_13



13C2-PFOA

170420G1_13

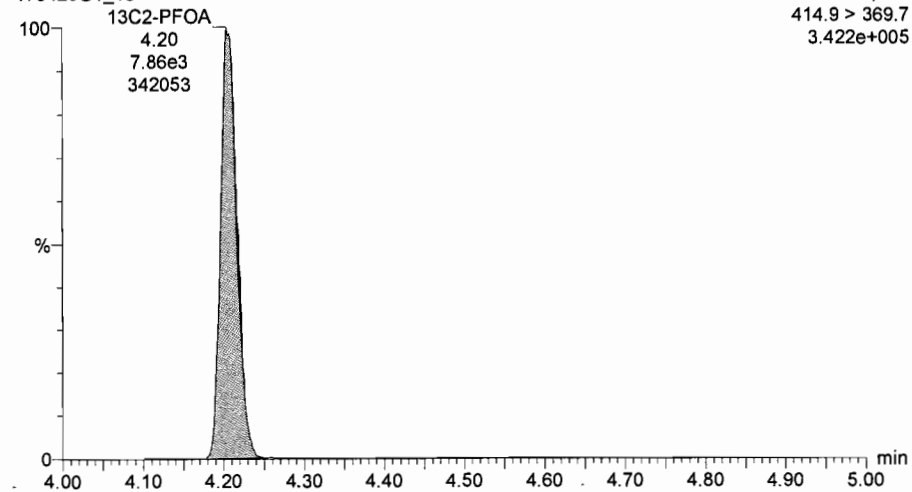


Table with columns: Contract ID, DO, CTO, Phase, Installation ID, Sample Name, Lab Code, Lab Name, Lachema, Sample, Extraction, Result, Lab_OC, Sample_M, QC Level, Date/Time Collected, Data Received, Lachema, Lachema, Extraction Date, Extraction_Tm, Analysis Date, Analysis_Tm, Lab, Sample ID, Dilution, Run Number, Percent, Percent, Chem Name, Analysis ID, Analyte, Original, Analyte Value, Result Units, Lab, Qual, Validator, QC Column, Analysis Result_Type, Result Narrative, QC Control Limit Code, QC Accuracy Upper, QC Accuracy Lower, Control Limit Date, QC Narrative, MDL, Detection Limit, QM Version, DL, LOD, SOG, Analysis Batch, Validator Name, Val Date. Rows include various chemical analyses like Perfluorobutanesulfonic acid (PFBS), Perfluorobutane Sulfonate (PFOS), 1,3,5-Trichloro-2,4,6-Trinitrobenzene (1,3,5-Tris), etc.

**DATA VALIDATION SUMMARY REPORT
NAS MERIDIAN, MISSISSIPPI**

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1700483
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: NAS Meridian, Mississippi, CTO-0008
Date: May 2, 2017

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	ME-RW01-0417	1700483-01	Water
2	ME-FB01-0417	1700483-02	Water
3	ME-RW02-0417	1700483-03	Water
3MS	ME-RW02-0417MS	1700483-03MS	Water
3MSD	ME-RW02-0417MSD	1700483-03MSD	Water
4	ME-FB02-0417	1700483-04	Water

A full data validation was performed on the analytical data for two water samples and two aqueous field blank samples collected on April 17-18, 2017 by CH2M HILL at the NAS Meridian site in Mississippi. The samples were analyzed under the EPA Method "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)".

Specific method references are as follows:

Analysis
PFCs

Method References
USEPA Method 537 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM), Version 5.0 (July 2013) and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation

- Holding times
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate recovery (%R)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Ongoing Precision and Recovery (OPR)
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were no rejections of data.

Overall the data is acceptable for the intended purposes. There were no qualifications.

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required. All criteria were met.

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

Initial Calibration

- All percent difference (%D) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- The field blank samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
ME-FB01-0417	None - ND	-	-	-
ME-FB02-0417	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and RPD values except for the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/RPD	Qualifier	Affected Samples
3	PFOS	OK/OK/35.2	None	Sample ND

Ongoing Precision and Recovery (OPR)

- The OPR samples exhibited acceptable percent recoveries (%R) values.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

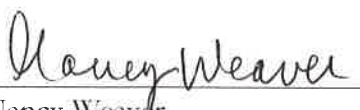
- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed:


Nancy Weaver
Senior Chemist

Dated: 5/3/17

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

Sample ID: ME-RW01-0417

EPA Method 537

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700483-01				
Project:	679580 NAS Meridian	Sample Size:	0.276 L	QC Batch:	B7D0099				
Date Collected:	17-Apr-2017 10:43			Date Analyzed:	21-Apr-17 19:27				
Location:	ME-RW01			Column:	BEH C18				
				Date Received:	20-Apr-2017 9:32				
				Date Extracted:	20-Apr-2017 13:35				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.16	9.05	18.1		SUR 13C2-PFHxA	88.7	70 - 130	
PFOA	ND	4.11	9.05	18.1		SUR 13C2-PFDA	82.9	70 - 130	
PFOS	ND	2.76	9.05	18.1					

DL - Detection limit
 RL - Reporting limit

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

mw 5/2/17

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Sample ID: ME-FB01-0417				EPA Method 537					
Client Data		Sample Data		Laboratory Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1700483-02	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.283 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	17-Apr-2017 10:44			Date Analyzed:	21-Apr-17 19:40	Column:	BEH C18		
Location:									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.09	8.84	17.7		SUR 13C2-PFHxA	93.4	70 - 130	
PFOA	ND	4.01	8.84	17.7		SUR 13C2-PFDA	86.6	70 - 130	
PFOS	ND	2.70	8.84	17.7					

DL - Detection limit
 RL - Reporting limit

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

MW 5/2/17

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Sample ID: ME-RW02-0417				EPA Method 537					
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1700483-03	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.284 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	18-Apr-2017 8:58			Date Analyzed:	21-Apr-17 19:52	Column:	BEH C18		
Location:	ME-RW02								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.07	8.80	17.6		SUR I3C2-PFHxA	84.0	70 - 130	
PFOA	ND	4.00	8.80	17.6		SUR I3C2-PFDA	79.2	70 - 130	
PFOS	ND	2.68	8.80	17.6					

DL - Detection limit
 RL - Reporting limit

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.

rw 5/2/17

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Sample ID: ME-FB02-0417				EPA Method 537					
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1700483-04	Date Received:	20-Apr-2017 9:32		
Project:	679580 NAS Meridian	Sample Size:	0.285 L	QC Batch:	B7D0099	Date Extracted:	20-Apr-2017 13:35		
Date Collected:	18-Apr-2017 8:59			Date Analyzed:	21-Apr-17 20:29	Column:	BEH C18		
Location:									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	3.06	8.77	17.5		SUR 13C2-PFHxA	83.2	70 - 130	
PFOA	ND	3.98	8.77	17.5		SUR 13C2-PFDA	80.5	70 - 130	
PFOS	ND	2.67	8.77	17.5					

DL - Detection limit
 RL - Reporting limit
 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

W 5/21/17