



**Off-base Drinking Water Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Figure, SDG 1701752**

*Marine Corps Outlying Landing Field Atlantic
MCAS Cherry Point NC*

February 2019



November 30, 2017

Vista Work Order No. 1701752

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 21, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08, MCOLF Atlantic / PFAS DW Investigation'.

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

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

Sincerely,

Karoly Wolpenhuta
for

Martha Maier
Laboratory Director



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

Vista Work Order No. 1701752**Case Narrative****Sample Condition on Receipt:**

Eight drinking water 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.

Two Laboratory Fortified Blanks (LFB) and a Laboratory Reagent Blank (LRB) were extracted and analyzed with the preparation batch. No analytes were detected in the Laboratory Reagent Blank above 1/2 the LOQ. The LFB recoveries were within the method acceptance criteria.

The surrogate recoveries were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1701752-01	CH-AT-1RW65-1117	20-Nov-17 09:14	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-02	CH-AT-1FB65-1117	20-Nov-17 09:15	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-03	CH-AT-1RW66-1117	20-Nov-17 09:55	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-04	CH-AT-1FB66-1117	20-Nov-17 09:56	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-05	CH-AT-1RW67-1117	20-Nov-17 10:08	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-06	CH-AT-1FB67-1117	20-Nov-17 10:09	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-07	CH-AT-1RW68-1117	20-Nov-17 10:21	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-08	CH-AT-1FB68-1117	20-Nov-17 10:22	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

Sample ID: LFBD													EPA Method 537			
Name: CH2M Hill			Lab Sample: B7K0144-BS1/B7K0144-BSD1													
Project: CTO-08, MCOLF Atlantic / PFAS DW Investigatio			QC Batch: B7K0144							Date Extracted: 22-Nov-17						
Matrix: Drinking Water			Samp Size: 0.250/0.250 L							Column: BEH C18						
Analyte	LCS (ng/L)	LCS Spike Amt	LCS % Rec	LCS Quals	LCSD (ng/L)	LCSD Spike Amt	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil	
PFBS	64.1	70.8	90.5		64.4	70.8	90.9	0.458		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1	
PFOA	69.5	80.0	86.9		79.7	80.0	99.7	13.7		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1	
PFOS	72.3	74.0	97.7		64.3	74.0	86.9	11.7		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1	
Labeled Standards	Type		LCS % Rec	LCS Quals			LCSD % Rec		LCSD Quals	Limits		LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil	
13C2-PFHxA	SURR		84.2				89.8			70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1	

Sample ID: CH-AT-1RW65-1117					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08, MCOLF Atlantic / PFAS DW Investigation Matrix: Drinking Water Date Collected: 20-Nov-17 09:14					Laboratory Data					
					Lab Sample: 1701752-01		Column: BEH C18			
					Date Received: 21-Nov-17 10:13					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.424	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
PFOA	ND	1.03	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
PFOS	ND	0.995	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	78.9	70 - 130			B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
DL - Detection Limit		LOD - Limit of Detection		LCL-UCL- Lower control limit - upper control limit			When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.			
		LOO - Limit of quantitation		Results reported to the DL.			Only the linear isomer is reported for all other analytes.			

Sample ID: CH-AT-1RW66-1117					EPA Method 537					
Client Data Name: CH2M Hill										

Sample ID: CH-AT-1RW68-1117					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08, MCOLF Atlantic / PFAS DW Investigation Matrix: Drinking Water Date Collected: 20-Nov-17 10:21					Laboratory Data Lab Sample: 1701752-07 Date Received: 21-Nov-17 10:13 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.422	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02	1
PFOA	ND	1.03	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02	1
PFOS	ND	0.991	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	89.1	70 - 130		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02	1	
DL - Detection Limit		LOD - Limit of Detection		LCL-UCL- Lower control limit - upper control limit			When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.			
		LOO - Limit of quantitation		Results reported to the DL.			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
U	Not Detected (specific projects only)

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
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
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

Cooler 4-1 of 1 pages

CTO-08 679580.15.FI.FS

ID: LR - 537COC



CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1701752 Temp 0.2 °C
Storage ID: WR-2 Storage Secured Yes ☒ No ☐

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation
PO#: 10006-7-106051 Sampler: J. Towns / A. Ewalt/ K. Smith
(name)

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

Invoice to: Name Tiffany Hill Company CH2M Address 1100 NE Circle Blvd Suite #300 City Corvallis State Oregon Ph# 541-768-3109 Fax# _____

Relinquished by (printed name and signature) Kathryn Smith Date 11/20/17 Time 15:30 Received by (printed name and signature) B. Benedict Date 11/21/17 Time 1035
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

ATTN: Martha Maier

Method of Shipment: FEDEX
Tracking No. _____

Add Analysis(es) Requested

Container(s)

Mod EPA Method 537

EPA Method 537(DW only)

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List 6	537 List 14	Full List of 26	Other, Please List	PFOA/PFOS/PFBS	UCMR3 PFAS List 6	PFAS List 14	Comments
CH-AT-1RW65-1117	11/20/17	09:14		2	P	DW						X			TZ preservative
CH-AT-1FB65-1117	11/20/17	09:15		2	P	DW						X			TZ preservative
CH-AT-1RW66-1117	11/20/17	09:55		2	P	DW						X			TZ preservative
CH-AT-1FB66-1117	11/20/17	09:56		2	P	DW						X			TZ preservative
CH-AT-1RW67-1117	11/20/17	10:08		2	P	DW						X			TZ preservative
CH-AT-1FB67-1117	11/20/17	10:09		2	P	DW						X			TZ preservative
CH-AT-1RW68-1117	11/20/17	10:21		2	P	DW						X			TZ preservative
CH-AT-1FB68-1117	11/20/17	10:22		2	P	DW						X			TZ preservative

Special Instructions/Comments: 7 DAY TAT
Analysis of Drinking Water samples for PFOA/PFOS/PFBS

SEND
DOCUMENTATION
AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M HILL Inc.
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax: _____
Email: Tiffany.Hill@ch2m.com

Container Types: P= HDPE, PJ= HDPE Jar
O = Other _____

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 Work Order #: 1701752 TAT 7

Samples Arrival:	Date/Time <u>11/21/17</u> <u>1013</u>	Initials: <u>CRAB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>NA</u>
Logged In:	Date/Time <u>11/21/17</u> <u>1607</u>	Initials: <u>SR</u>	Location: <u>WR-2</u> Shelf/Rack: <u>F7</u>
Delivered By:	☒ FedEx	☐ UPS	☐ On Trac
	☐ GSO	☐ DHL	☐ Hand Delivered
	☐ Other		
Preservation:	☒ Ice	☐ Blue Ice	☐ Dry Ice
	☐ None		
Temp °C: <u>0.1</u> (uncorrected)	Time: <u>1035</u>	Thermometer ID: IR-1	
Temp °C: <u>0.2</u> (corrected)	Probe used: Yes ☐ No ☒		

	YES	NO	NA
Adequate Sample Volume Received?	☒		
Holding Time Acceptable?	☒		
Shipping Container(s) Intact?	☒		
Shipping Custody Seals Intact?	☒		
Shipping Documentation Present?	☒		
Airbill <u>4044</u> Trk # <u>77079375 1024</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:	☐ Na ₂ S ₂ O ₃	☒ Trizma	☐ None
	☒ Yes	☐ No	☐ NA
Shipping Container	☒ Vista	☐ Client	☐ Retain
	☐ Return	☐ Dispose	

Comments:



November 30, 2017

Vista Work Order No. 1701752

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 21, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08, MCOLF Atlantic / PFAS DW Investigation'.

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

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

Sincerely,

Karney Volpenko
for

Martha Maier
Laboratory Director



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

Vista Work Order No. 1701752**Case Narrative****Sample Condition on Receipt:**

Eight drinking water 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.

Two Laboratory Fortified Blanks (LFB) and a Laboratory Reagent Blank (LRB) were extracted and analyzed with the preparation batch. No analytes were detected in the Laboratory Reagent Blank above 1/2 the LOQ. The LFB recoveries were within the method acceptance criteria.

The surrogate recoveries were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1701752-01	CH-AT-1RW65-1117	20-Nov-17 09:14	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-02	CH-AT-1FB65-1117	20-Nov-17 09:15	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-03	CH-AT-1RW66-1117	20-Nov-17 09:55	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
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1701752-05	CH-AT-1RW67-1117	20-Nov-17 10:08	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1701752-06	CH-AT-1FB67-1117	20-Nov-17 10:09	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
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1701752-08	CH-AT-1FB68-1117	20-Nov-17 10:22	21-Nov-17 10:13	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LFBD										EPA Method 537					
Name: CH2M Hill				Lab Sample: B7K0144-BS1/B7K0144-BSD1				Date Extracted: 22-Nov-17				22-Nov-17			
Project: CTO-08, MCOLF Atlantic / PFAS DW Investigatio				QC Batch: B7K0144				Column: BEH C18							
Matrix: Drinking Water				Samp Size: 0.250/0.250 L											
Analyte	LCS (ng/L)	LCS Spike Amt	LCS % Rec	LCS Quals	LCSD (ng/L)	LCSD Spike Amt	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
PFBS	64.1	70.8	90.5		64.4	70.8	90.9	0.458		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1
PFOA	69.5	80.0	86.9		79.7	80.0	99.7	13.7		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1
PFOS	72.3	74.0	97.7		64.3	74.0	86.9	11.7		70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1
Labeled Standards	Type		LCS % Rec	LCS Quals			LCSD % Rec		LCSD Quals	Limits		LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C2-PFHxA	SURR		84.2				89.8			70-130		28-Nov-17 18:52	1	28-Nov-17 19:04	1

Sample ID: CH-AT-1RW65-1117					EPA Method 537					
Client Data					Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-01	Column:	BEH C18		
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation		Date Collected:	20-Nov-17 09:14	Date Received:	21-Nov-17 10:13				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.424	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
PFOA	ND	1.03	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
PFOS	ND	0.995	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	78.9	70 - 130			B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48	1
DL - Detection Limit		LOD - Limit of Detection		LCL-UCL- Lower control limit - upper control limit		When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.				
		LOO - Limit of quantitation		Results reported to the DL.		Only the linear isomer is reported for all other analytes.				

Sample ID: CH-AT-1RW67-1117										EPA Method 537	
Client Data Name: CH2M Hill											

Sample ID: CH-AT-1FB67-1117										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08, MCOLF Atlantic / PFAS DW Investigation Matrix: Drinking Water Date Collected: 20-Nov-17 10:09					Laboratory Data Lab Sample: 1701752-06 Date Received: 21-Nov-17 10:13 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.421	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50	1
PFOA	ND	1.03	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50	1
PFOS	ND	0.987	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	90.9	70 - 130			B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50	1
DL - Detection Limit		LOD - Limit of Detection LOO - Limit of quantitation	LCL-UCL- Lower control limit - upper control limit Results reported to the DL.			When reported, 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
U	Not Detected (specific projects only)

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
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
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

Cooler 4-1 of 1 pages

CTO-08 679580.15.FI.FS

ID: LR - 537COC



CHAIN OF CUSTODY

For Laboratory Use Only	
Work Order #:	1701752 Temp 0.2 °C
Storage ID:	WR-2 Storage Secured Yes ☒ No ☐

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation
PO#: 10006-7-106051
Sampler: J. Towns / A. Ewalt/ K. Smith (name)

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

Invoice to: Name Company Address City State Ph# Fax#
Tiffany Hill CH2M 1100 NE Circle Blvd Suite #300 Corvallis Oregon 541-768-3109

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
<i>Kathryn Smith</i>	11/20/17	15:30	<i>B. Benedict</i>	11/21/17	1035
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

ATTN: Martha Maier

Method of Shipment:
FEDEX
Tracking No: _____

Add Analysis(es) Requested

Container(s)

Mod EPA Method 537

EPA Method 537(DW only)

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List 6	537 List 14	Full List of 26	Other, Please List	PFOA/PFOS/PFS	UCMR3 PFAS List 6	PFAS List 14	Comments
CH-AT-1RW65-1117	11/20/17	09:14		2	P	DW						X			TZ preservative
CH-AT-1FB65-1117	11/20/17	09:15		2	P	DW						X			TZ preservative
CH-AT-1RW66-1117	11/20/17	09:55		2	P	DW						X			TZ preservative
CH-AT-1FB66-1117	11/20/17	09:56		2	P	DW						X			TZ preservative
CH-AT-1RW67-1117	11/20/17	10:08		2	P	DW						X			TZ preservative
CH-AT-1FB67-1117	11/20/17	10:09		2	P	DW						X			TZ preservative
CH-AT-1RW68-1117	11/20/17	10:21		2	P	DW						X			TZ preservative
CH-AT-1FB68-1117	11/20/17	10:22		2	P	DW						X			TZ preservative

Special Instructions/Comments: **7 DAY TAT**
Analysis of Drinking Water samples for PFOA/PFOS/PFS

SEND
DOCUMENTATION
AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M HILL Inc.
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax: _____
Email: Tiffany.Hill@ch2m.com

Container Types: P= HDPE, PJ= HDPE Jar
O = Other _____

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 Work Order #: 1701752 TAT 7

Samples Arrival:	Date/Time <u>11/21/17</u> <u>1013</u>	Initials: <u>CRAB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>NA</u>
Logged In:	Date/Time <u>11/21/17</u> <u>1607</u>	Initials: <u>SR</u>	Location: <u>WR-2</u> Shelf/Rack: <u>F7</u>
Delivered By:	☒ FedEx	☐ UPS	☐ On Trac
	☐ GSO	☐ DHL	☐ Hand Delivered
	☐ Other		
Preservation:	☒ Ice	☐ Blue Ice	☐ Dry Ice
	☐ None		
Temp °C: <u>0.1</u> (uncorrected)	Time: <u>1035</u>	Thermometer ID: IR-1	
Temp °C: <u>0.2</u> (corrected)	Probe used: Yes ☐ No ☒		

	YES	NO	NA
Adequate Sample Volume Received?	☒		
Holding Time Acceptable?	☒		
Shipping Container(s) Intact?	☒		
Shipping Custody Seals Intact?	☒		
Shipping Documentation Present?	☒		
Airbill <u>4044</u> Trk # <u>77079375 1024</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:	☐ Na ₂ S ₂ O ₃	☒ Trizma	☐ None
	☒ Yes	☐ No	☐ NA
Shipping Container	☒ Vista	☐ Client	☐ Retain
	☐ Return	☐ Dispose	

Comments:

EXTRACTION INFORMATION

Process Sheet
Workorder: 1701752



Prep Expiration: 2017-Dec-04
Client: CH2M Hill

Workorder Due: 30-Nov-17 00:00

TAT: 9

Method: 537 PFAS DW DoD Unmodified
Matrix: Drinking Water

Prep Batch: B7K0144

Prep Data Entered: 11.27.17 Hc
Date and Initials

Version: PFOA, PFOS, & PFBS
DoD: DoD QSM 5.1

Initial Sequence: _____

LabSampleID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1701752-01	(A)	☒	☒	CH-AT-1RW65-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-02		☒	☒	CH-AT-1FB65-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-03		☒	☒	CH-AT-1RW66-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-04		☒	☒	CH-AT-1FB66-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-05		☒	☒	CH-AT-1RW67-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-06		☒	☒	CH-AT-1FB67-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-07		☒	☒	CH-AT-1RW68-1117		WR-2 F-7	HDPE Bottle, 250 mL
1701752-08		☒	☒	CH-AT-1FB68-1117		WR-2 F-7	HDPE Bottle, 250 mL

LCS/LC80

Pre-Prep Check Out: Hc 11.22.17

Prep Check Out: NA

Prep Reconciled Initials/Date: Hc 11.22.17

Pre-Prep Check In: NA

Prep Check In: NA

Spike Reconciled Initials/Date: HN 11/22/17

VialBoxID: _____

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7K0144

Chemist: He

Prep Date/Time: 22-Nov-17 08:24

Prepared using: LCMS - SPE Extraction-LCMS

1400
He

Balance ID: <u>HRMS-8 He</u>							
Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B7K0144-BLK1 (A)	NA	NA	(6.250)	He HN 11-22-17	He 11-22-17	He LC 11-25-17
☐	B7K0144-BS1	↓	↓	(0.250)			
☐	B7K0144-BSD1	↓	↓	(0.250)			
☐	1701714-09RE1	285.86	26.91	0.25895			
☐	1701714-10RE1	293.91	26.93	0.26698			
☐	1701714-11RE1	284.91	27.70	0.25721			
☐	1701714-12RE1	290.01	26.94	0.26307			
☐	1701714-13RE1	289.09	28.16	0.26093			
☐	1701714-14RE1	291.41	27.85	0.26356			
☐	1701714-15RE1	284.17	26.50	0.25767			
☐	1701714-16RE1	291.95	26.86	0.26509			
☐	1701714-17RE1	280.75	27.45	0.25330			
☐	1701714-18RE1	287.78	27.51	0.26027			
☐	1701714-19RE1	293.04	28.05	0.26499			
☐	1701714-20RE1	286.41	27.83	0.25858			
☐	1701752-01	289.74	28.37	0.26137 ✓	↓	↓	↓

SS/IS: <u>17J3101, 50µL (V1)</u>	SPE Chem: <u>Strata X33µm 500mg/bul</u>	Notes: (A) 1.25g trizma added He 11-22-17
NS: <u>17I2601, 20µL (V2)</u>	Lot#: <u>517-001546</u>	
IS/RS: <u>17J3102, 50µL (V2)</u>	Ele SOLV: <u>MeOH</u>	
	Lot#: <u>DT006</u>	
	Final Volume(s) <u>1mL</u>	

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

Work Order 1701752

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7K0144

Chemist: He

Prep Date/Time: 22-Nov-17 08:24

Prepared using: LCMS - SPE Extraction-LCMS

1400

He

BalanceID: <u>HAMS-8 He</u>							
Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	1701752-02	288.51	27.66	0.26085 ✓	He HN 11-22-17	He 11-22-17	He VC 11-25-17
☐	1701752-03	288.28	27.47	0.26081 ✓			
☐	1701752-04	296.42	27.80	0.26862 ✓			
☐	1701752-05	288.62	27.45	0.26117 ✓			
☐	1701752-06	290.96	27.66	0.26330 ✓			
☐	1701752-07	290.49	28.12	0.26237 ✓			
☐	1701752-08	294.82	27.54	0.26728 ✓			

SS/IS: <u>17J3101, 50µL (v1)</u> NS: <u>17I2601, 20µL (v2)</u> IS/RS: <u>17J3102, 50µL (v2)</u>	SPE Chem: <u>Strata X-33µm 50µm/6mL</u> Lot#: <u>MeOH</u> Ele SOLV: <u>DT006</u> Lot#: <u>DT006</u> Final Volume(s) <u>1mL</u>	Notes:
---	--	--------

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

Work Order 1701752

Batch: B7K0144

Matrix: Drinking Water

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1701714-09RE1	0.25895 ✓	NA	NA	1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-10RE1	0.26698 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-11RE1	0.25721 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-12RE1	0.26307 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-13RE1	0.26093 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-14RE1	0.26356 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-15RE1	0.25767 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-16RE1	0.26509 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-17RE1	0.25333 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-18RE1	0.26027 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-19RE1	0.26499 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701714-20RE1	0.25858 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-01	0.26137 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-02	0.26085 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-03	0.26081 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-04	0.26862 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-05	0.26117 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-06	0.2633 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-07	0.26237 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1701752-08	0.26728 ✓			1000	22-Nov-17 14:00	HAC			Drinking Water	537 PFAS DW DoD Unmoc
B7K0144-BLK1	0.25			1000	22-Nov-17 14:00	HAC				QC
B7K0144-BS1	0.25			1000	22-Nov-17 14:00	HAC	17I2601 -	20 -		QC
B7K0144-BSD1	0.25			1000	22-Nov-17 14:00	HAC	17I2601 -	20 -		QC

HC
11-27-17

SAMPLE DATA –EPA METHOD 537

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-19.qld

Last Altered: Wednesday, November 29, 2017 10:40:33 Pacific Standard Time

Printed: Wednesday, November 29, 2017 10:40:57 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

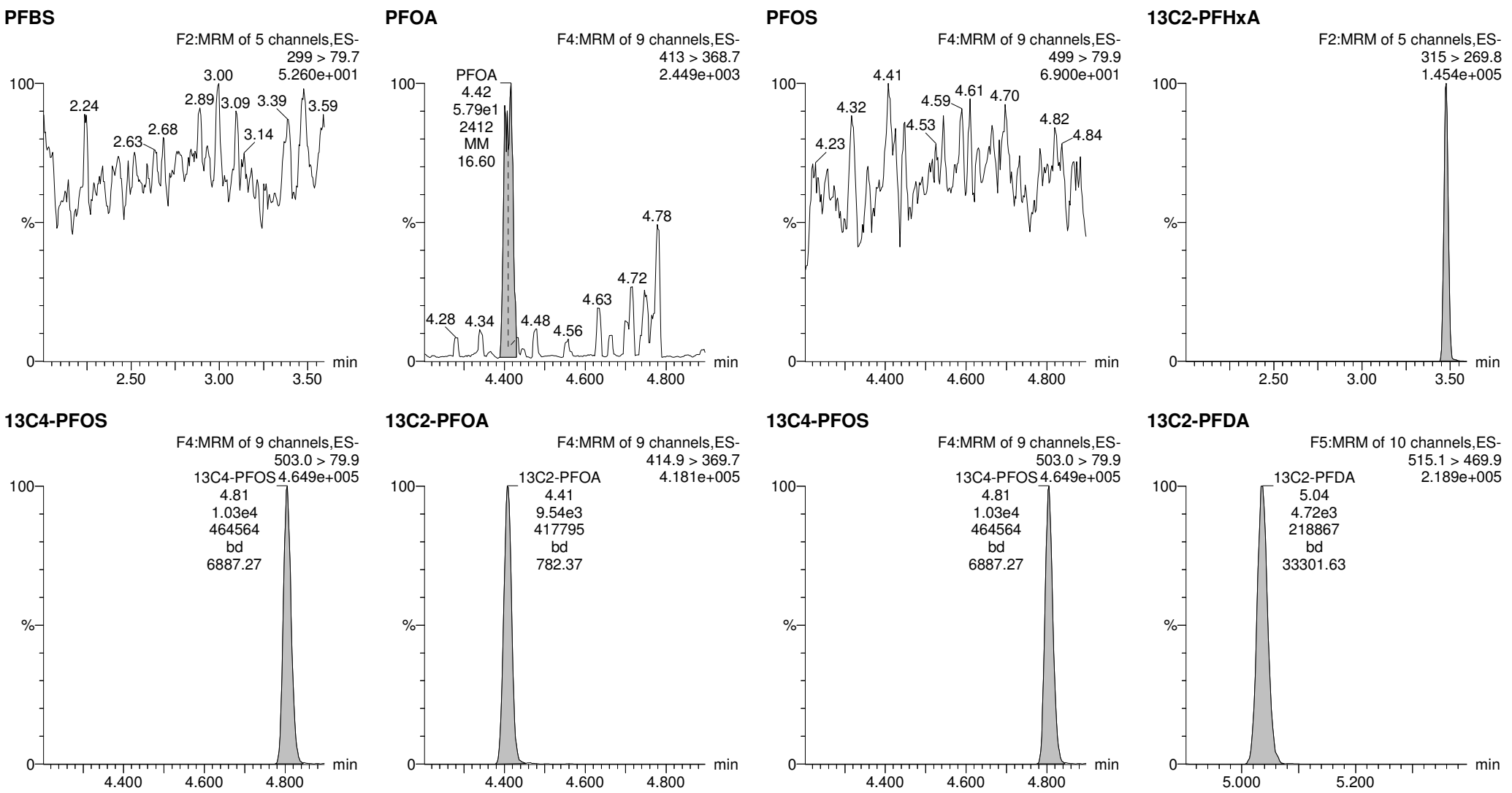
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Name: 171128G3_19, Date: 28-Nov-2017, Time: 19:29:28, ID: B7K0144-BLK1 LRB 0.25, Description: LRB

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.03e4		0.2500	3.11				
2	2 PFOA	413 > 368.7	5.79e1	9.54e3		0.2500	4.41	4.42	0.0607	0.289	
3	3 PFOS	499 >79.9		1.03e4		0.2500	4.81				
4	4 13C2-PFHxA	315 > 269.8	4.20e3	9.54e3	0.451	0.2500	3.47	3.48	4.40	39.0	97.5
5	5 13C2-PFDA	515.1 > 469.9	4.72e3	9.54e3	0.590	0.2500	5.04	5.04	4.95	33.6	83.9
6	6 13C2-PFOA	414.9 > 369.7	9.54e3	9.54e3	1.000	0.2500	4.41	4.41	10.0	40.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.03e4	1.03e4	1.000	0.2500	4.81	4.81	28.7	115	100.0

Last Altered: Wednesday, November 29, 2017 10:40:33 Pacific Standard Time
Printed: Wednesday, November 29, 2017 10:40:57 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30
Name: 171128G3_19, **Date:** 28-Nov-2017, **Time:** 19:29:28, **ID:** B7K0144-BLK1 LRB 0.25, **Description:** LRB



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-16.qld

Last Altered: Wednesday, November 29, 2017 13:59:40 Pacific Standard Time

Printed: Wednesday, November 29, 2017 13:59:50 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_16, Date: 28-Nov-2017, Time: 18:52:09, ID: B7K0144-BS1 LFB 0.25, Description: LFB

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	4.91e3	9.93e3		0.2500	3.11	3.12	14.2	64.1	90.5
2	2 PFOA	413 > 368.7	1.49e4	1.02e4		0.2500	4.41	4.41	14.6	69.5	86.9
3	3 PFOS	499 >79.9	7.39e3	9.93e3		0.2500	4.81	4.81	21.4	72.3	97.7
4	4 13C2-PFHxA	315 > 269.8	3.87e3	1.02e4	0.451	0.2500	3.47	3.48	3.80	33.7	84.2
5	5 13C2-PFDA	515.1 > 469.9	5.08e3	1.02e4	0.590	0.2500	5.04	5.04	4.98	33.8	84.4
6	6 13C2-PFOA	414.9 > 369.7	1.02e4	1.02e4	1.000	0.2500	4.41	4.41	10.0	40.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.93e3	9.93e3	1.000	0.2500	4.81	4.81	28.7	115	100.0

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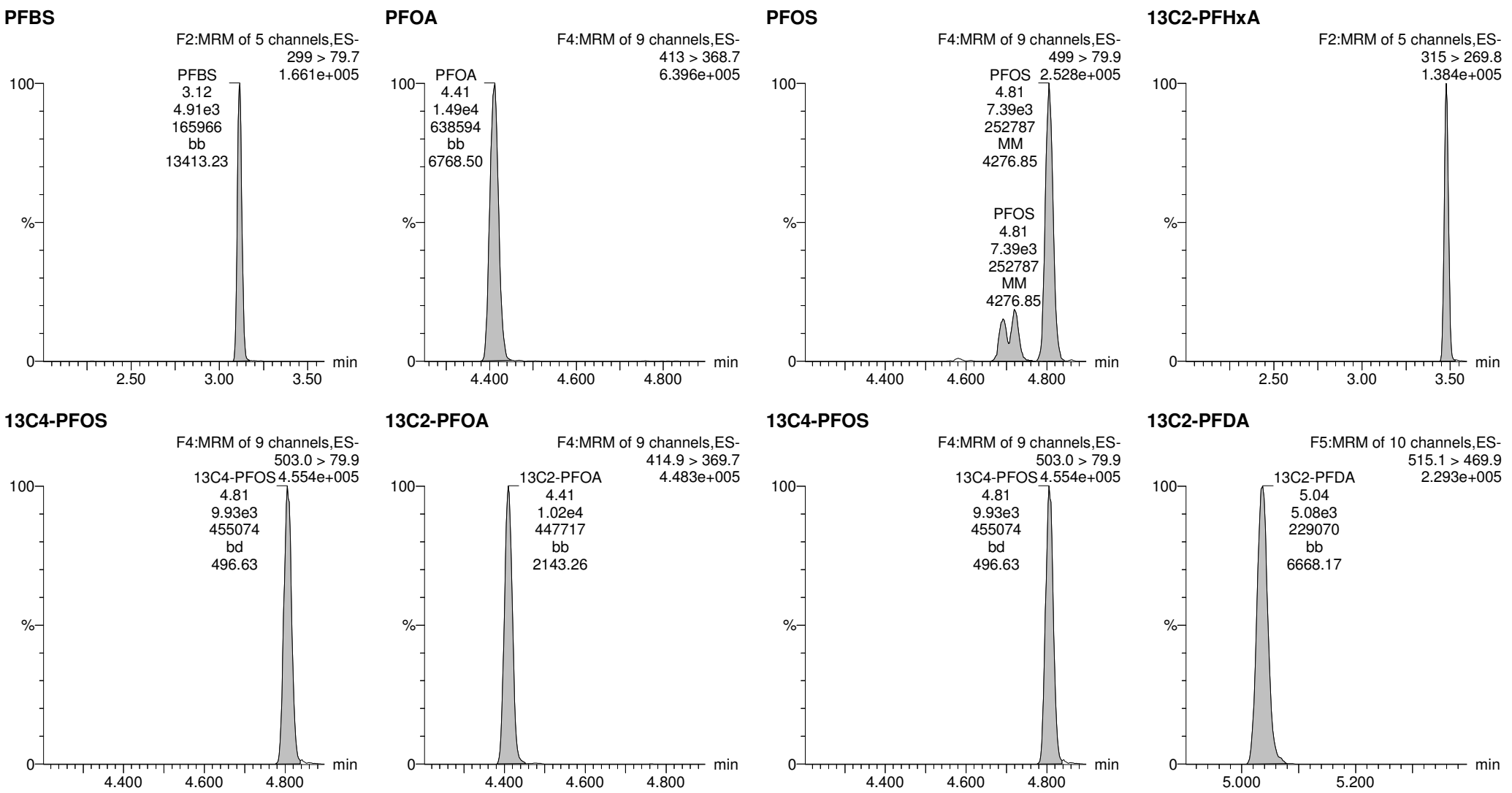
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Printed: Wednesday, November 29, 2017 13:59:50 Pacific Standard Time

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Name: 171128G3_16, Date: 28-Nov-2017, Time: 18:52:09, ID: B7K0144-BS1 LFB 0.25, Description: LFB



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Last Altered: Wednesday, November 29, 2017 13:59:17 Pacific Standard Time

Printed: Wednesday, November 29, 2017 14:00:11 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_17, Date: 28-Nov-2017, Time: 19:04:36, ID: B7K0144-BSD1 LFBD 0.25, Description: LFBD

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	5.55e3	1.12e4		0.2500	3.11	3.11	14.3	64.4	90.9
2	2 PFOA	413 > 368.7	1.61e4	9.63e3		0.2500	4.41	4.41	16.8	79.7	99.7
3	3 PFOS	499 >79.9	7.39e3	1.12e4		0.2500	4.81	4.81	19.0	64.3	86.9
4	4 13C2-PFHxA	315 > 269.8	3.90e3	9.63e3	0.451	0.2500	3.47	3.48	4.05	35.9	89.8
5	5 13C2-PFDA	515.1 > 469.9	4.96e3	9.63e3	0.590	0.2500	5.04	5.04	5.15	34.9	87.2
6	6 13C2-PFOA	414.9 > 369.7	9.63e3	9.63e3	1.000	0.2500	4.41	4.41	10.0	40.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.12e4	1.12e4	1.000	0.2500	4.81	4.81	28.7	115	100.0

Vista Analytical Laboratory

Rev'd: MM 11/29/17

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-17.qld

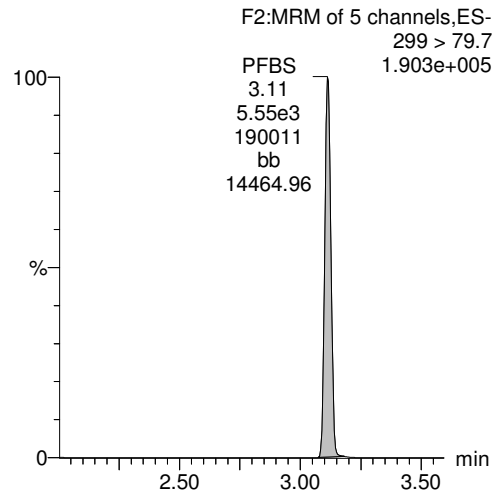
Last Altered: Wednesday, November 29, 2017 13:59:17 Pacific Standard Time

Printed: Wednesday, November 29, 2017 14:00:11 Pacific Standard Time

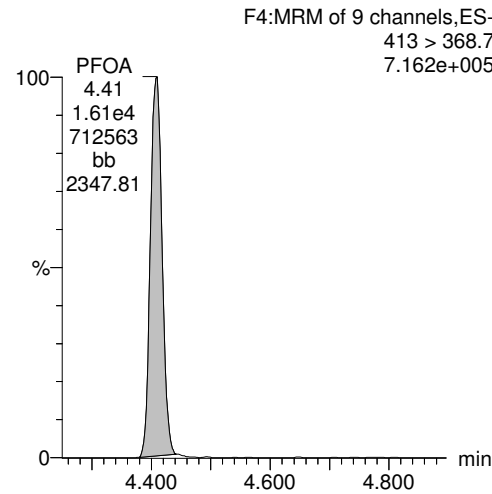
Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_17, Date: 28-Nov-2017, Time: 19:04:36, ID: B7K0144-BSD1 LFBD 0.25, Description: LFBD

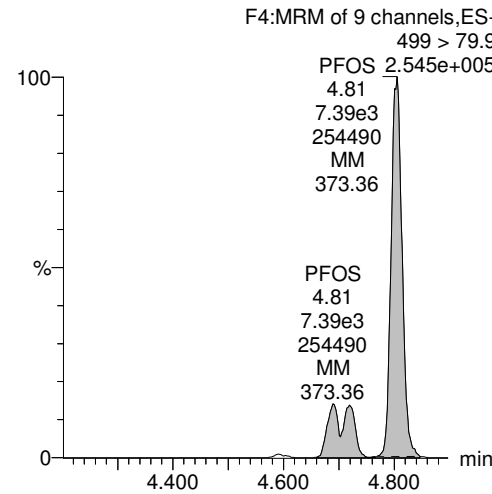
PFBS



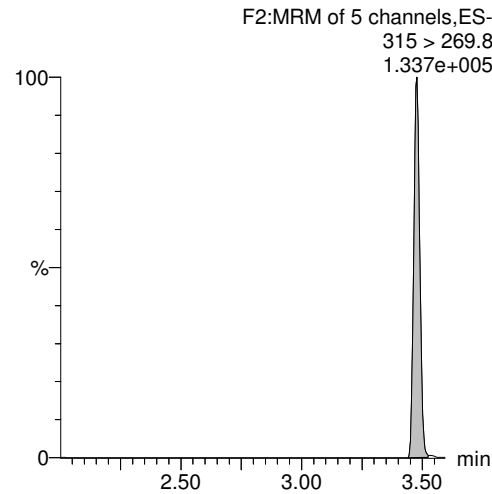
PFOA



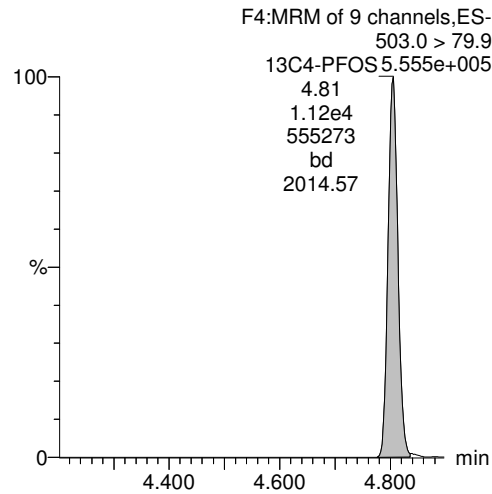
PFOS



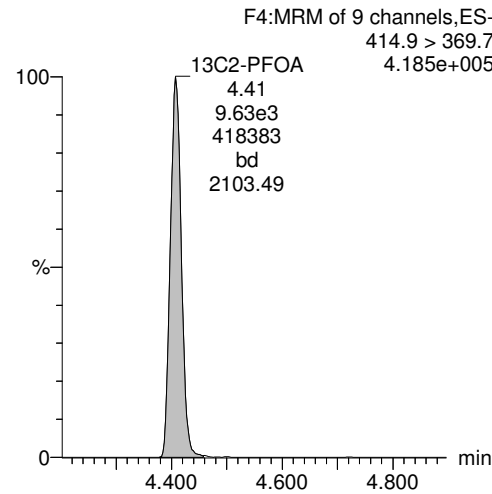
13C2-PFHxA



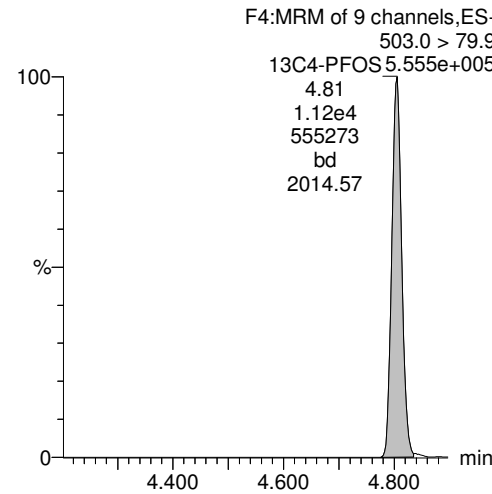
13C4-PFOS



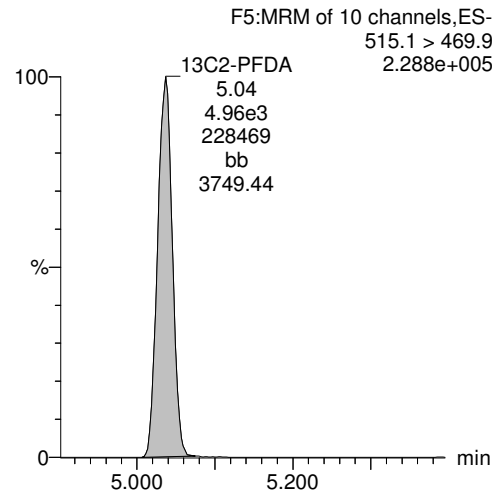
13C2-PFOA



13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-35.qld

Last Altered: Wednesday, November 29, 2017 11:26:48 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:27:29 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_35, Date: 28-Nov-2017, Time: 22:48:17, ID: 1701752-01 CH-AT-1RW65-1117 0.25, Description: CH-AT-1RW65-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.08e4		0.2614	3.11				
2	2 PFOA	413 > 368.7	7.91e1	1.07e4		0.2614	4.41	4.41	0.0737	0.335	
3	3 PFOS	499 >79.9		1.08e4		0.2614	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.82e3	1.07e4	0.451	0.2614	3.47	3.48	3.56	30.2	78.9
5	5 13C2-PFDA	515.1 > 469.9	4.33e3	1.07e4	0.590	0.2614	5.04	5.04	4.04	26.2	68.5
6	6 13C2-PFOA	414.9 > 369.7	1.07e4	1.07e4	1.000	0.2614	4.41	4.41	10.0	38.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.08e4	1.08e4	1.000	0.2614	4.81	4.81	28.7	110	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-35.qld

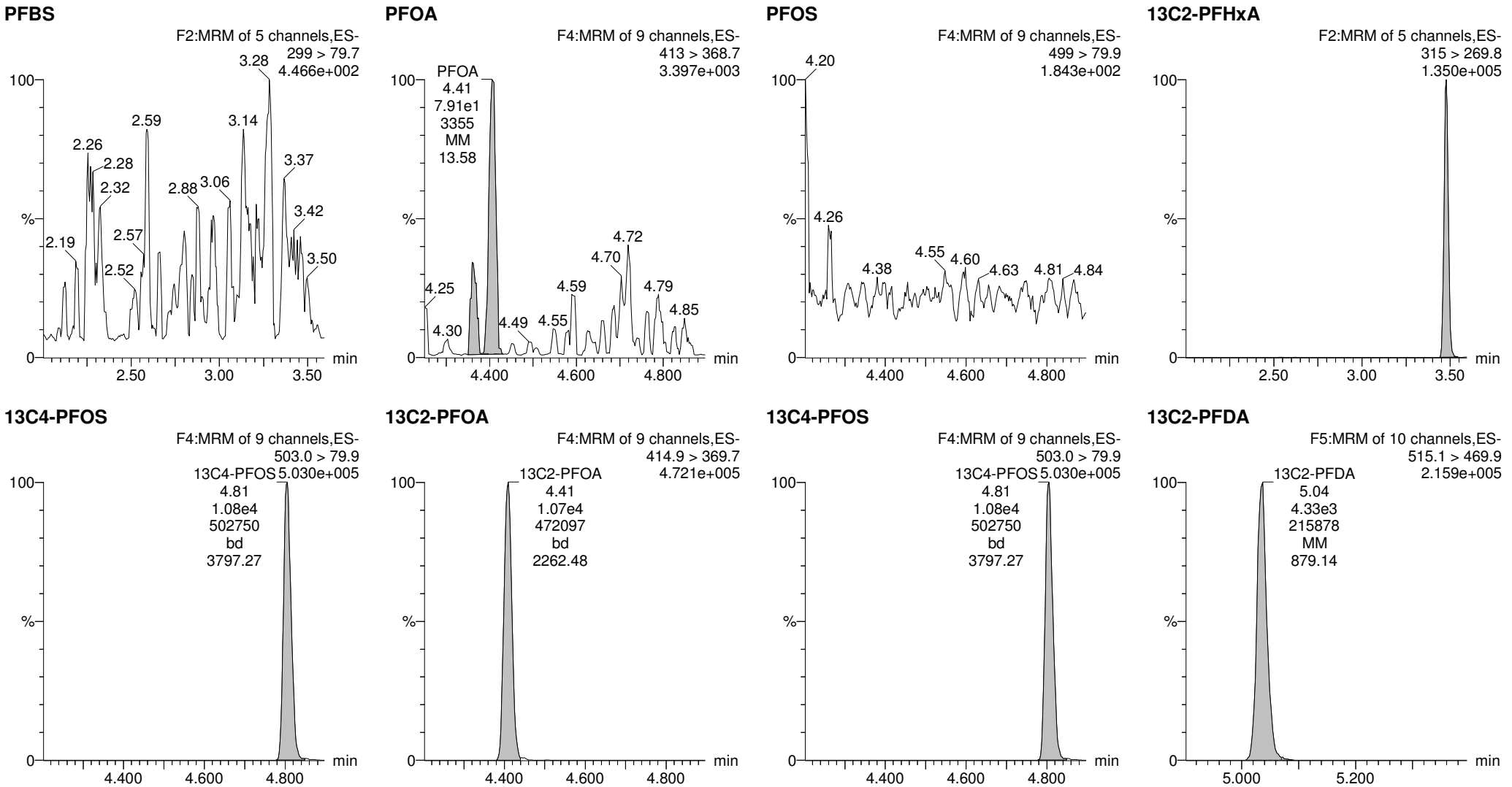
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Printed: Wednesday, November 29, 2017 11:27:29 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_35, Date: 28-Nov-2017, Time: 22:48:17, ID: 1701752-01 CH-AT-1RW65-1117 0.25, Description: CH-AT-1RW65-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-36.qld

Last Altered: Wednesday, November 29, 2017 11:28:54 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:29:12 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_36, Date: 28-Nov-2017, Time: 23:00:43, ID: 1701752-02 CH-AT-1FB65-1117 0.25, Description: CH-AT-1FB65-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.13e4		0.2609	3.11				
2	2 PFOA	413 > 368.7	4.32e1	1.03e4		0.2609	4.41	4.40	0.0418	0.191	
3	3 PFOS	499 >79.9		1.13e4		0.2609	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.89e3	1.03e4	0.451	0.2609	3.47	3.48	3.77	32.0	83.5
5	5 13C2-PFDA	515.1 > 469.9	4.69e3	1.03e4	0.590	0.2609	5.04	5.04	4.54	29.5	76.9
6	6 13C2-PFOA	414.9 > 369.7	1.03e4	1.03e4	1.000	0.2609	4.41	4.41	10.0	38.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.13e4	1.13e4	1.000	0.2609	4.81	4.81	28.7	110	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-36.qld

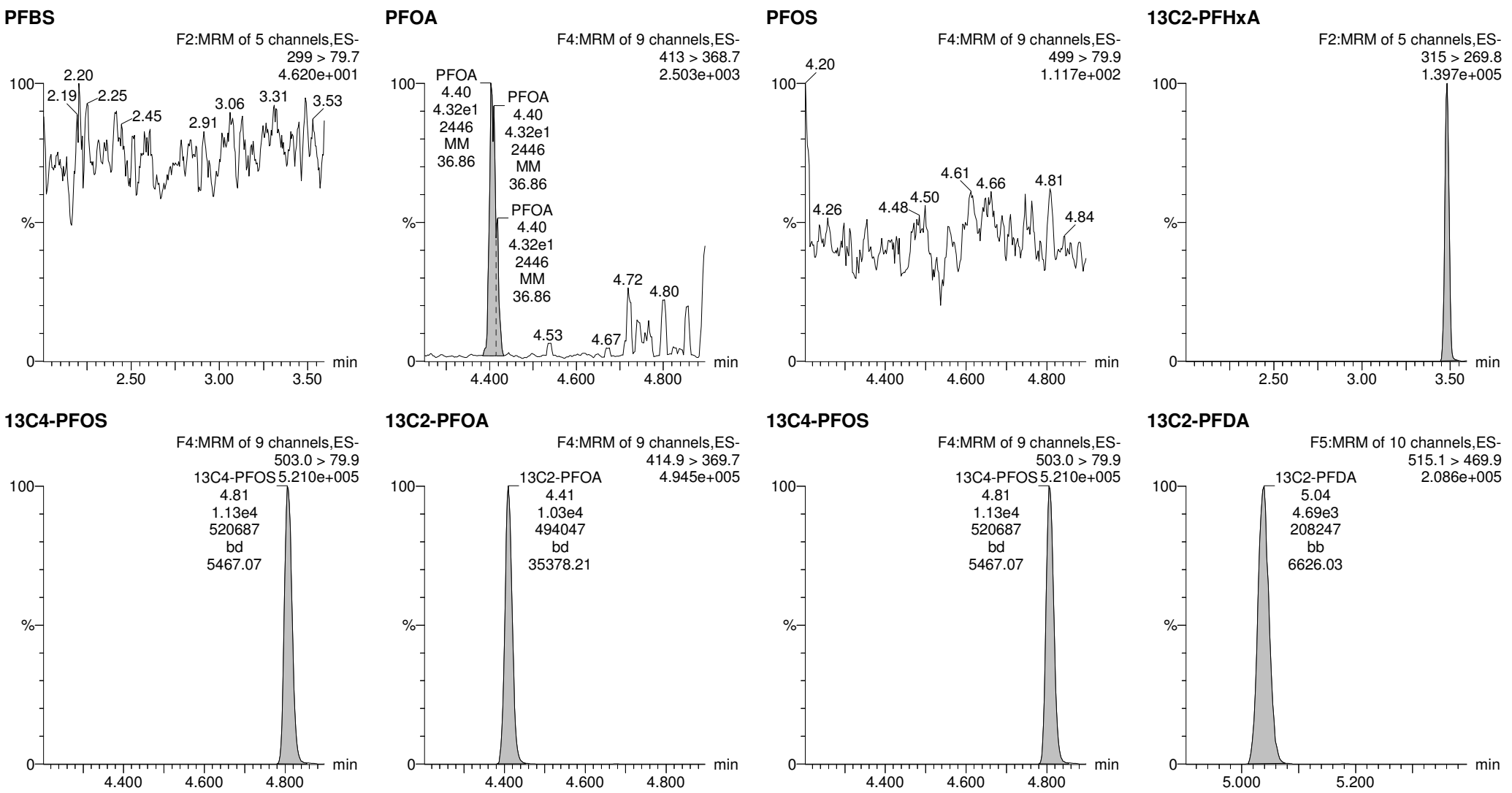
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Printed: Wednesday, November 29, 2017 11:29:12 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_36, Date: 28-Nov-2017, Time: 23:00:43, ID: 1701752-02 CH-AT-1FB65-1117 0.25, Description: CH-AT-1FB65-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-37.qld

Last Altered: Wednesday, November 29, 2017 11:30:00 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:30:48 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_37, Date: 28-Nov-2017, Time: 23:13:11, ID: 1701752-03 CH-AT-1RW66-1117 0.25, Description: CH-AT-1RW66-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.08e4		0.2608	3.11				
2	2 PFOA	413 > 368.7	8.46e1	9.66e3		0.2608	4.41	4.42	0.0876	0.400	
3	3 PFOS	499 >79.9		1.08e4		0.2608	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.74e3	9.66e3	0.451	0.2608	3.47	3.48	3.87	32.9	85.9
5	5 13C2-PFDA	515.1 > 469.9	4.21e3	9.66e3	0.590	0.2608	5.04	5.03	4.36	28.3	73.9
6	6 13C2-PFOA	414.9 > 369.7	9.66e3	9.66e3	1.000	0.2608	4.41	4.41	10.0	38.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.08e4	1.08e4	1.000	0.2608	4.81	4.81	28.7	110	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-37.qld

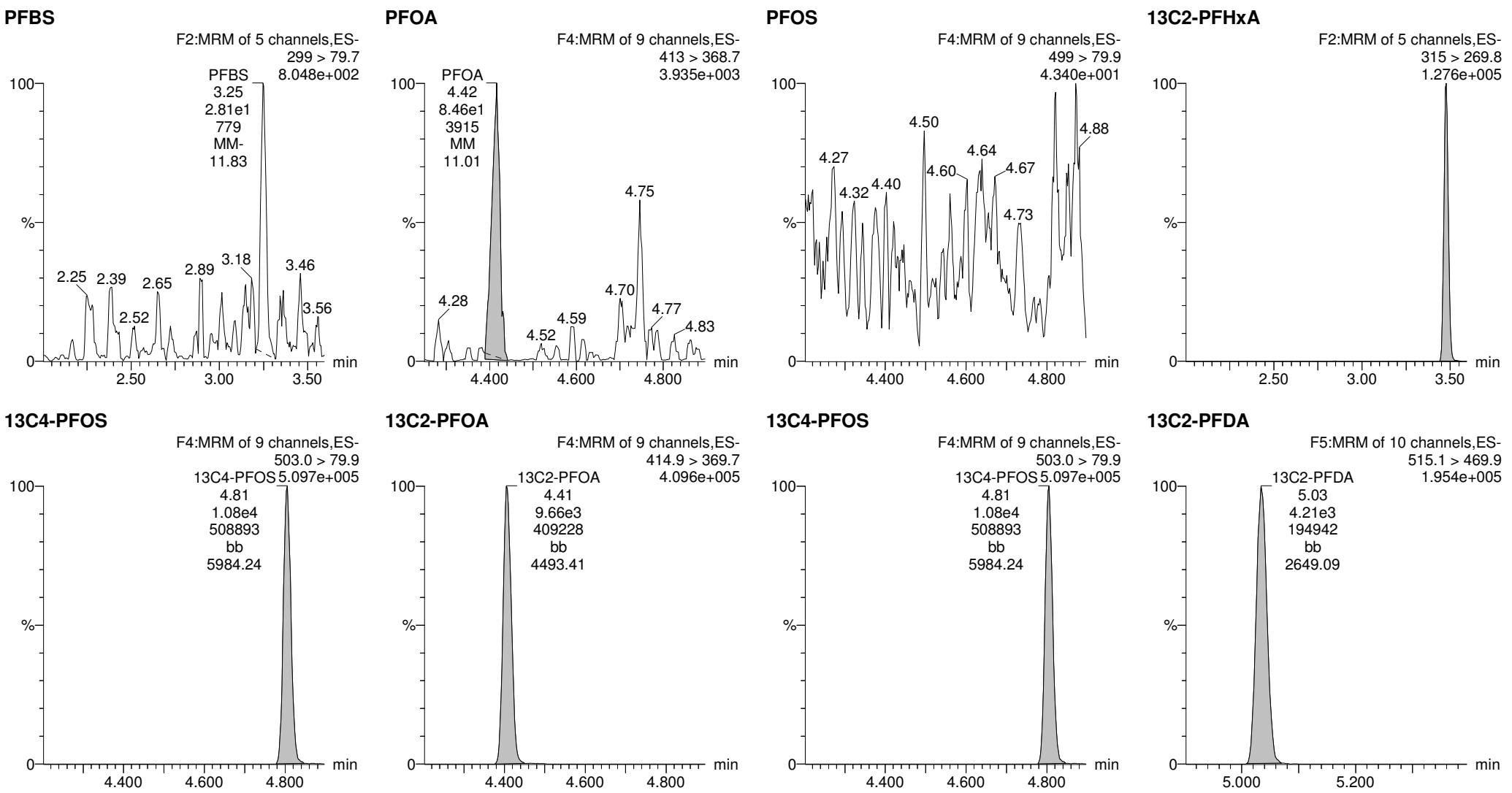
Last Altered: Wednesday, November 29, 2017 11:30:00 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:30:48 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_37, Date: 28-Nov-2017, Time: 23:13:11, ID: 1701752-03 CH-AT-1RW66-1117 0.25, Description: CH-AT-1RW66-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-38.qld

Last Altered: Wednesday, November 29, 2017 11:32:17 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:32:37 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_38, Date: 28-Nov-2017, Time: 23:25:38, ID: 1701752-04 CH-AT-1FB66-1117 0.25, Description: CH-AT-1FB66-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.17e0	9.52e3		0.2686	3.11	3.12	0.00352	0.0148	
2	2 PFOA	413 > 368.7	8.08e1	1.03e4		0.2686	4.41	4.42	0.0781	0.346	
3	3 PFOS	499 >79.9		9.52e3		0.2686	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.71e3	1.03e4	0.451	0.2686	3.47	3.48	3.59	29.6	79.6
5	5 13C2-PFDA	515.1 > 469.9	4.61e3	1.03e4	0.590	0.2686	5.04	5.03	4.46	28.1	75.6
6	6 13C2-PFOA	414.9 > 369.7	1.03e4	1.03e4	1.000	0.2686	4.41	4.41	10.0	37.2	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.52e3	9.52e3	1.000	0.2686	4.81	4.81	28.7	107	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-38.qld

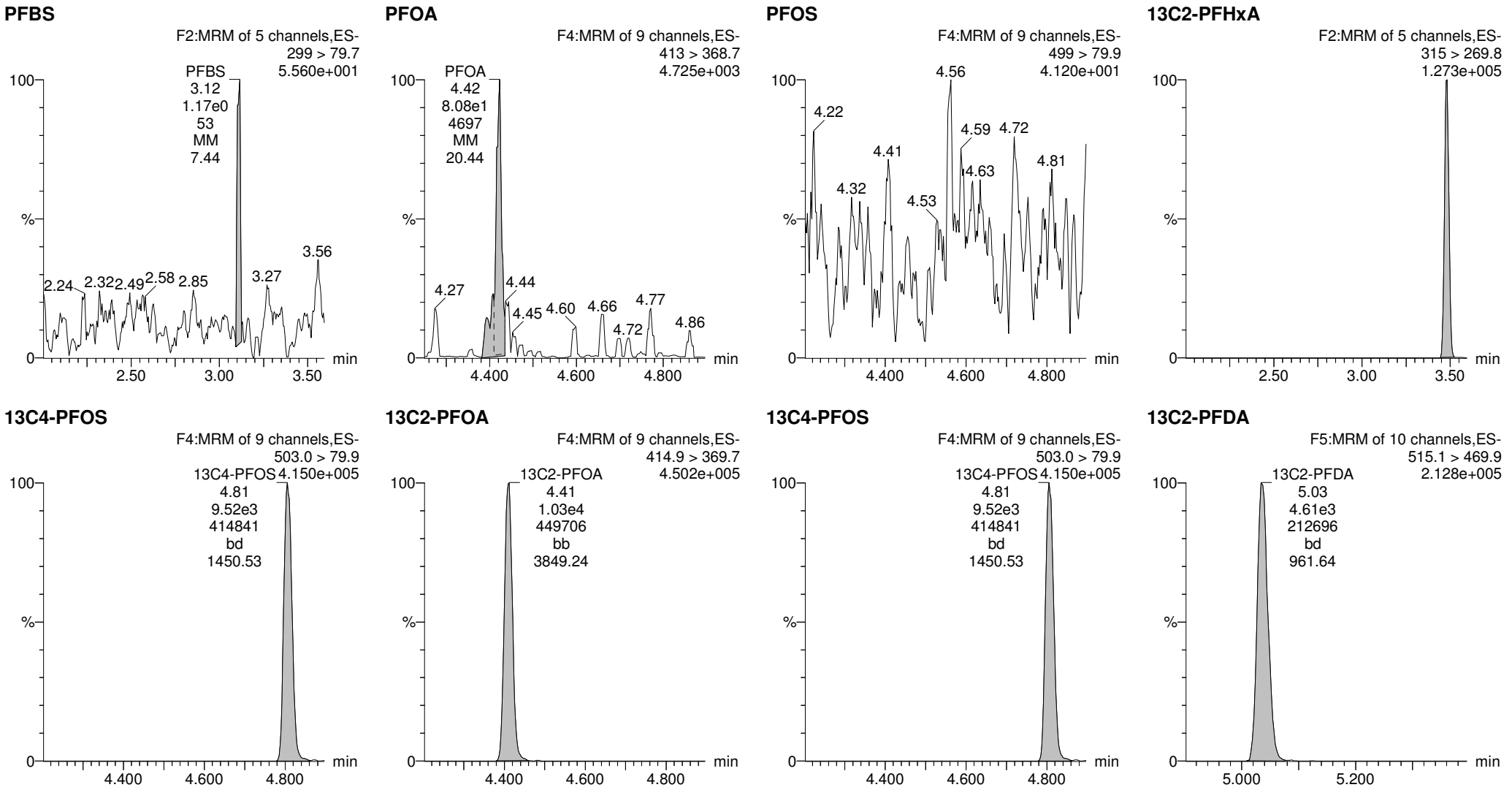
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_38, Date: 28-Nov-2017, Time: 23:25:38, ID: 1701752-04 CH-AT-1FB66-1117 0.25, Description: CH-AT-1FB66-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-39.qld

Last Altered: Wednesday, November 29, 2017 11:33:29 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:33:49 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_39, Date: 28-Nov-2017, Time: 23:38:04, ID: 1701752-05 CH-AT-1RW67-1117 0.25, Description: CH-AT-1RW67-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.62e3		0.2612	3.11				
2	2 PFOA	413 > 368.7	7.04e1	9.91e3		0.2612	4.41	4.40	0.0711	0.324	
3	3 PFOS	499 >79.9		9.62e3		0.2612	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.68e3	9.91e3	0.451	0.2612	3.47	3.48	3.72	31.5	82.4
5	5 13C2-PFDA	515.1 > 469.9	3.91e3	9.91e3	0.590	0.2612	5.04	5.03	3.95	25.6	66.9
6	6 13C2-PFOA	414.9 > 369.7	9.91e3	9.91e3	1.000	0.2612	4.41	4.41	10.0	38.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.62e3	9.62e3	1.000	0.2612	4.81	4.81	28.7	110	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-39.qld

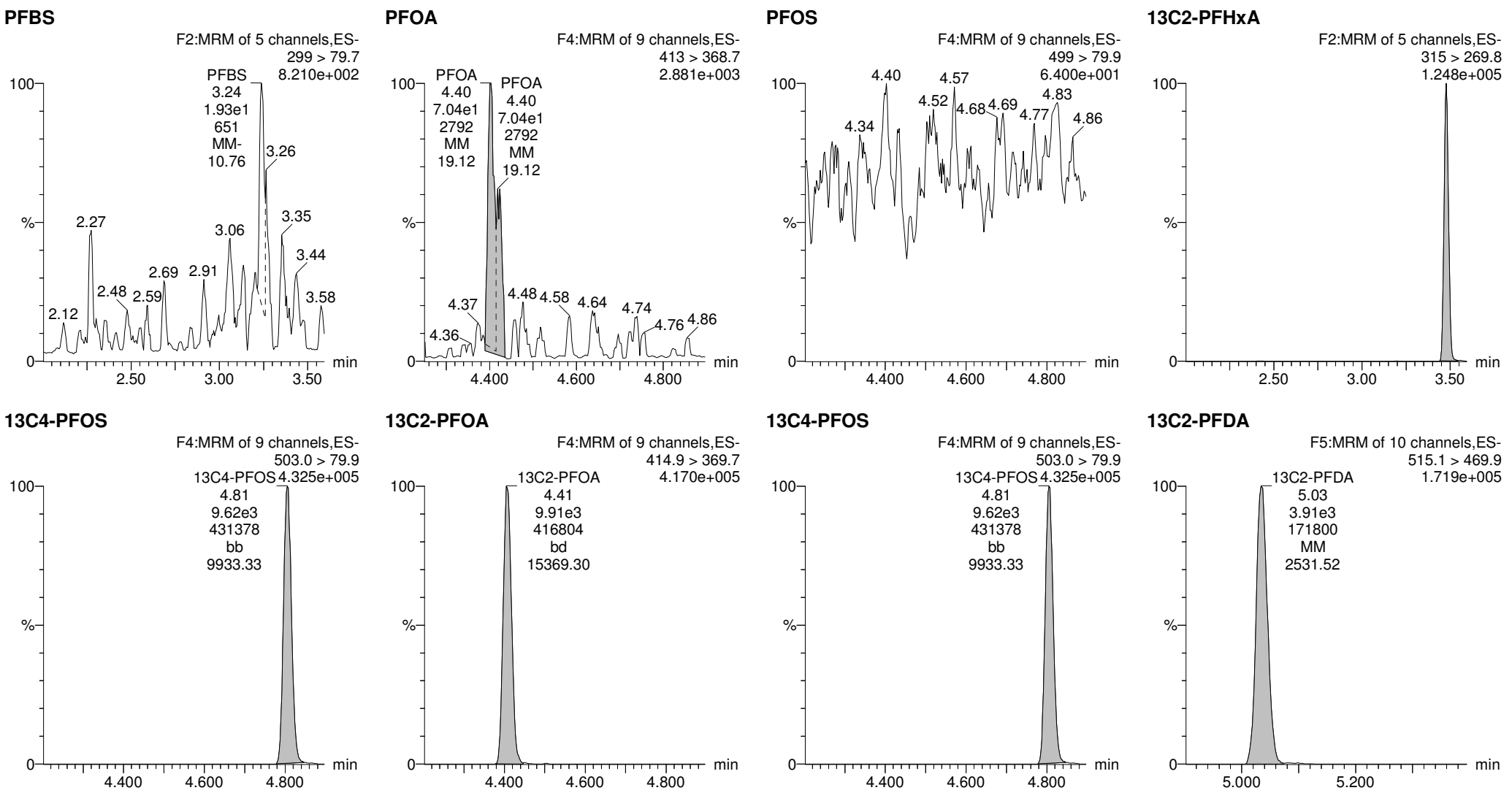
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_39, Date: 28-Nov-2017, Time: 23:38:04, ID: 1701752-05 CH-AT-1RW67-1117 0.25, Description: CH-AT-1RW67-1117



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Last Altered: Wednesday, November 29, 2017 11:34:28 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:34:50 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_40, Date: 28-Nov-2017, Time: 23:50:28, ID: 1701752-06 CH-AT-1FB67-1117 0.25, Description: CH-AT-1FB67-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.11e4		0.2633	3.11				
2	2 PFOA	413 > 368.7	5.70e1	9.41e3		0.2633	4.41	4.41	0.0606	0.274	
3	3 PFOS	499 >79.9		1.11e4		0.2633	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.86e3	9.41e3	0.451	0.2633	3.47	3.48	4.10	34.5	90.9
5	5 13C2-PFDA	515.1 > 469.9	4.65e3	9.41e3	0.590	0.2633	5.04	5.03	4.94	31.8	83.7
6	6 13C2-PFOA	414.9 > 369.7	9.41e3	9.41e3	1.000	0.2633	4.41	4.41	10.0	38.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.11e4	1.11e4	1.000	0.2633	4.81	4.81	28.7	109	100.0

Vista Analytical Laboratory

Rev'd: MM 11/30/17

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-40.qld

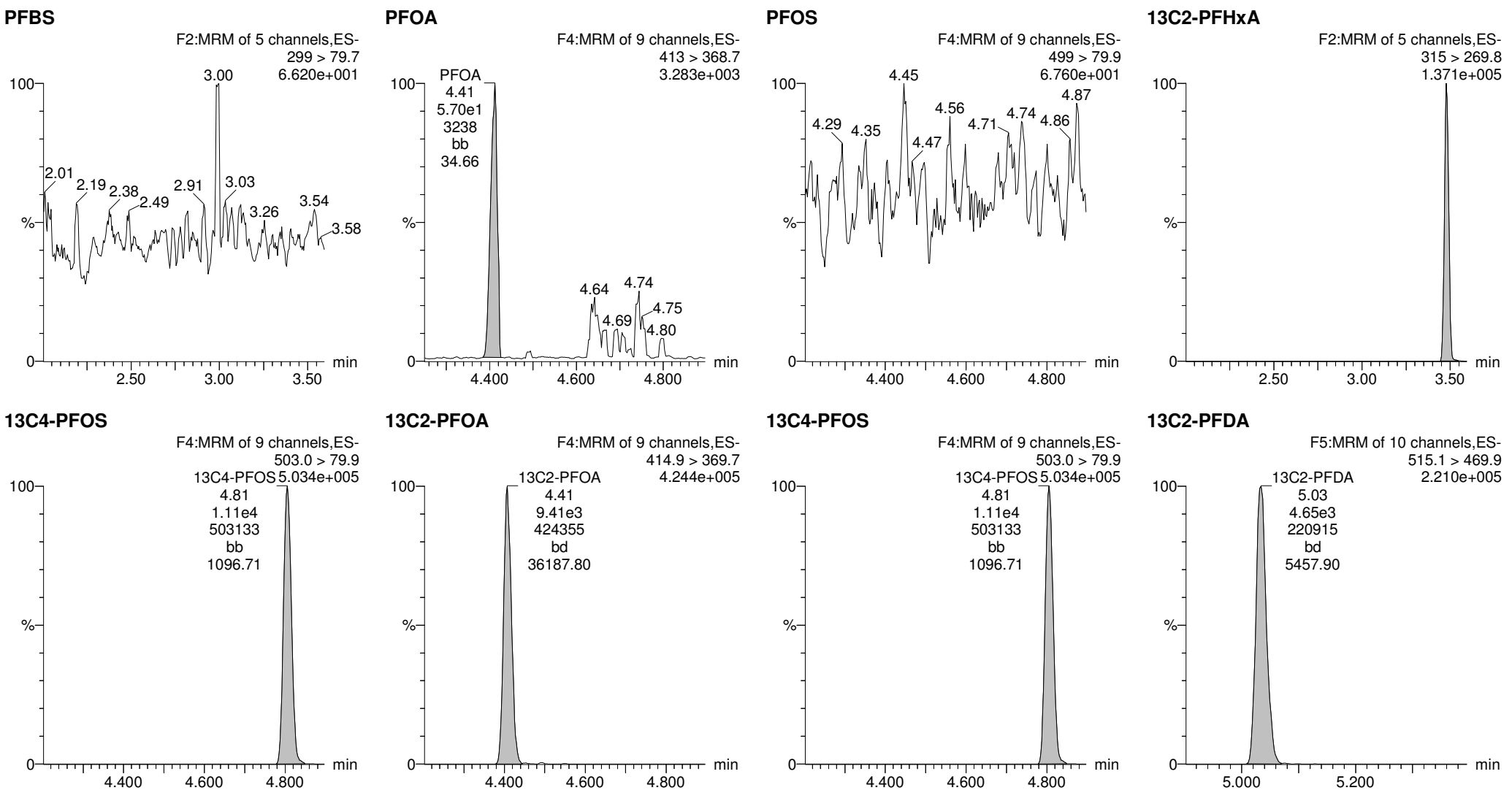
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_40, Date: 28-Nov-2017, Time: 23:50:28, ID: 1701752-06 CH-AT-1FB67-1117 0.25, Description: CH-AT-1FB67-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-41.qld

Last Altered: Wednesday, November 29, 2017 11:35:41 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:35:57 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_41, Date: 29-Nov-2017, Time: 00:02:53, ID: 1701752-07 CH-AT-1RW68-1117 0.25, Description: CH-AT-1RW68-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.27e4		0.2624	3.10				
2	2 PFOA	413 > 368.7	6.94e1	1.18e4		0.2624	4.41	4.41	0.0588	0.266	
3	3 PFOS	499 >79.9	2.42e0	1.27e4		0.2624	4.80	4.82	0.00547	0.0176	
4	4 13C2-PFHxA	315 > 269.8	4.75e3	1.18e4	0.451	0.2624	3.47	3.48	4.02	33.9	89.1
5	5 13C2-PFDA	515.1 > 469.9	5.33e3	1.18e4	0.590	0.2624	5.04	5.03	4.51	29.1	76.4
6	6 13C2-PFOA	414.9 > 369.7	1.18e4	1.18e4	1.000	0.2624	4.41	4.41	10.0	38.1	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.27e4	1.27e4	1.000	0.2624	4.81	4.80	28.7	109	100.0

Vista Analytical Laboratory

Rev'd: MM 11/30/17

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-41.qld

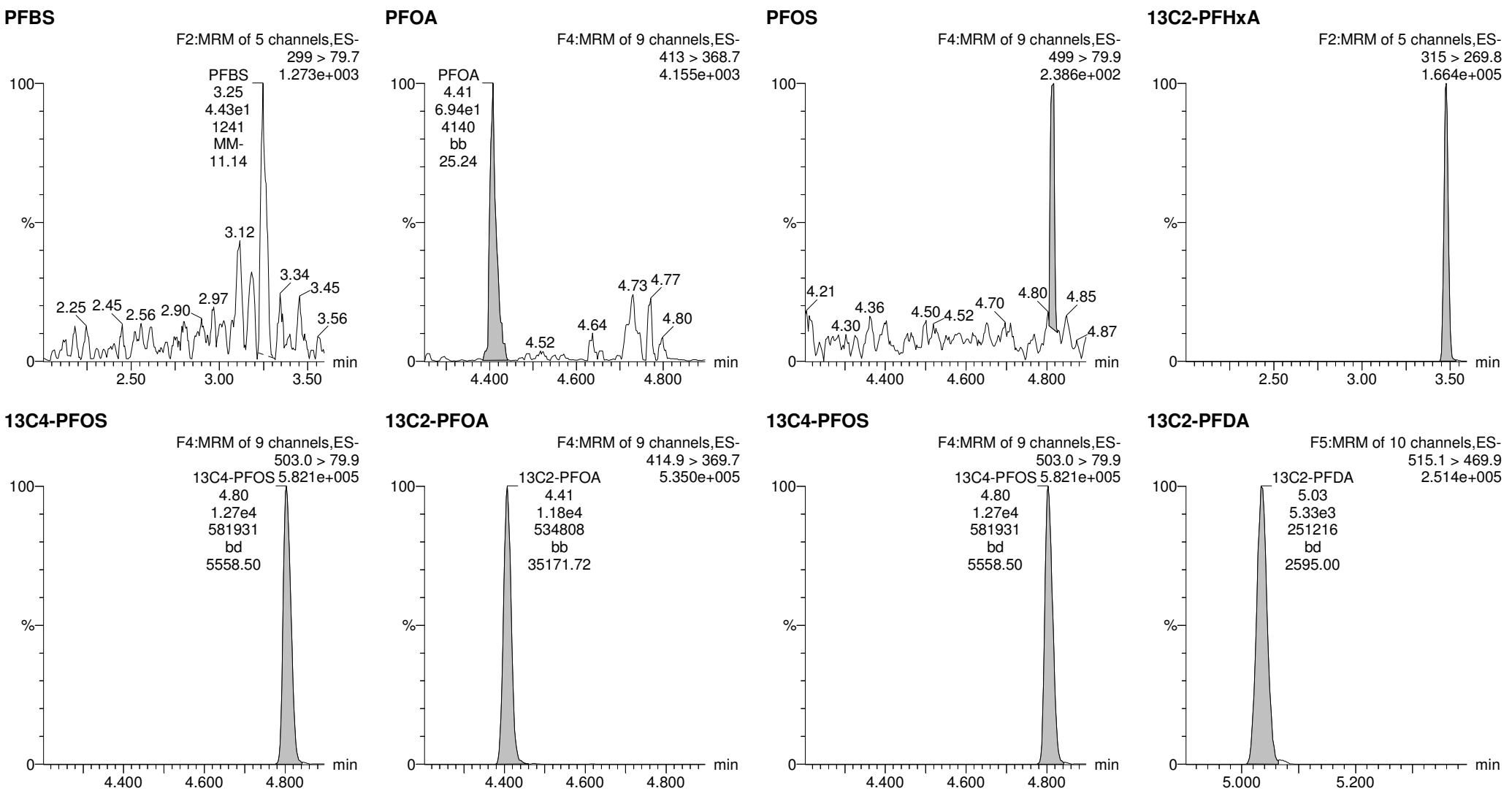
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Printed: Wednesday, November 29, 2017 11:35:57 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_41, Date: 29-Nov-2017, Time: 00:02:53, ID: 1701752-07 CH-AT-1RW68-1117 0.25, Description: CH-AT-1RW68-1117



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-42.qld

Last Altered: Wednesday, November 29, 2017 11:36:46 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:37:06 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_42, **Date:** 29-Nov-2017, **Time:** 00:15:21, **ID:** 1701752-08 CH-AT-1FB68-1117 0.25, **Description:** CH-AT-1FB68-1117

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.63e3		0.2673	3.11				
2	2 PFOA	413 > 368.7	3.34e1	9.75e3		0.2673	4.41	4.42	0.0342	0.152	
3	3 PFOS	499 >79.9		9.63e3		0.2673	4.81				
4	4 13C2-PFHxA	315 > 269.8	3.45e3	9.75e3	0.451	0.2673	3.47	3.48	3.53	29.3	78.4
5	5 13C2-PFDA	515.1 > 469.9	4.09e3	9.75e3	0.590	0.2673	5.04	5.04	4.20	26.6	71.1
6	6 13C2-PFOA	414.9 > 369.7	9.75e3	9.75e3	1.000	0.2673	4.41	4.41	10.0	37.4	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.63e3	9.63e3	1.000	0.2673	4.81	4.81	28.7	107	100.0

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-42.qld

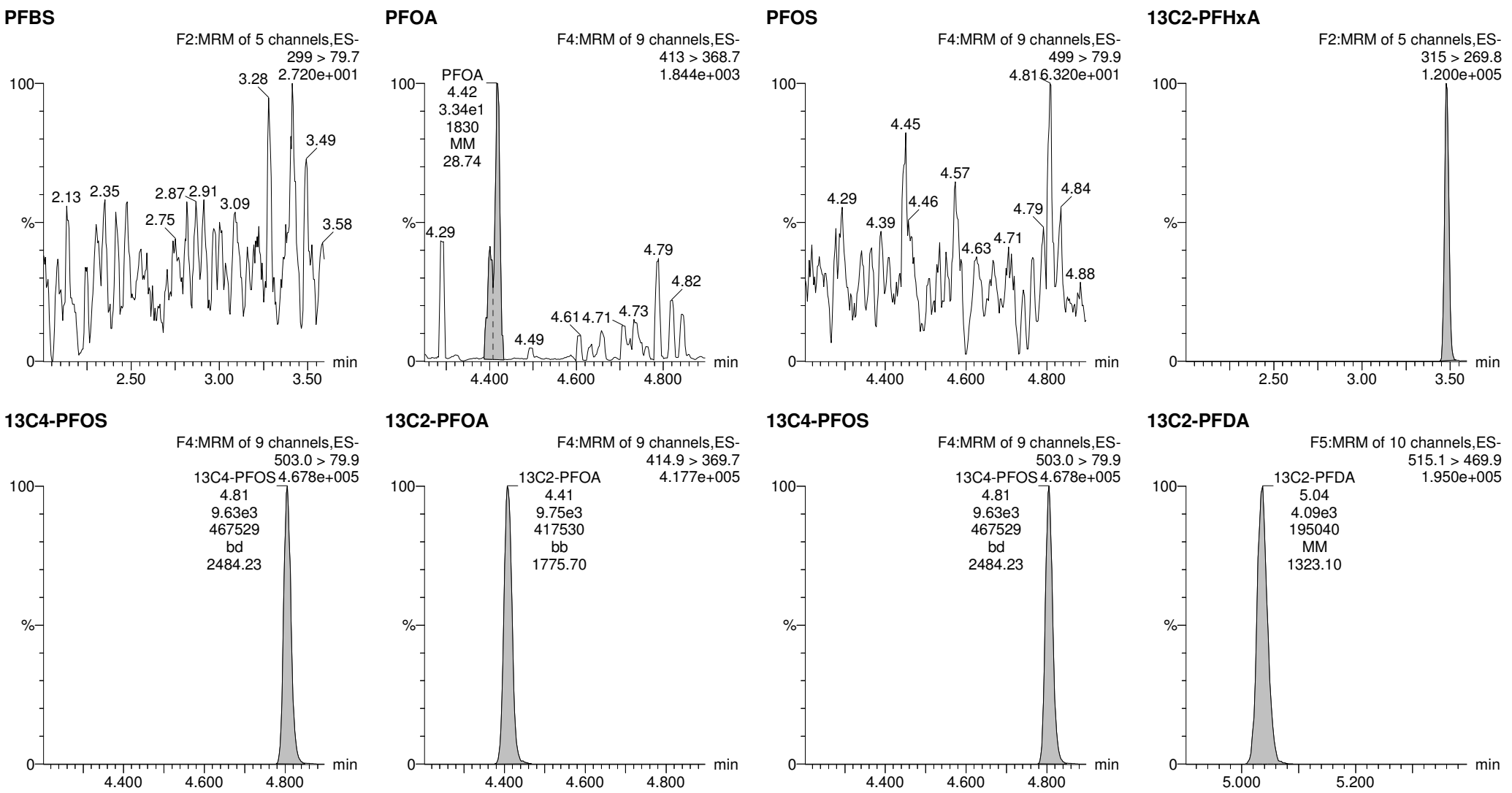
Last Altered: Wednesday, November 29, 2017 11:36:46 Pacific Standard Time

Printed: Wednesday, November 29, 2017 11:37:06 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_42, Date: 29-Nov-2017, Time: 00:15:21, ID: 1701752-08 CH-AT-1FB68-1117 0.25, Description: CH-AT-1FB68-1117



**INJECTION INTERNAL STANDARD (IIS) AREAS,
INSTRUMENT BLANKS (IB)
AND
CONTINUING CALIBRATION VERIFICATIONS CCV)**

IS Area

Ical

Compound 6: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	IS Area	Ical Area	Area %
1 ST171128G3-1 PFC CS-1 537 17K2005	171128G3_2	Analyte	10	4.42	9604.101	9604.101	9795.803	98.04
2 B7K0123-BS1 LFB 0.25	171128G3_3	Analyte	10	4.41	10265.88	10265.88	9795.803	104.80
3 IPA	171128G3_4	Analyte	10				9795.803	0.00
4 B7K0123-BLK1 LRB 0.25	171128G3_5	Analyte	10	4.41	9567.438	9567.438	9795.803	97.67
5 B7K0123-MS1 LFSM 0.25625	171128G3_6	Analyte	10	4.41	10792.07	10792.07	9795.803	110.17
6 B7K0123-MSD1 LFSMD 0.25333	171128G3_7	Analyte	10	4.41	9938.775	9938.775	9795.803	101.46
7 1701714-01 CH-AT-1RW25-1117 0.26261	171128G3_8	Analyte	10	4.41	10270.29	10270.29	9795.803	104.84
8 1701714-02 CH-AT-1FB25-1117 0.25841	171128G3_9	Analyte	10	4.41	10120.46	10120.46	9795.803	103.31
9 1701714-03 CH-AT-1RW26-1117 0.24046	171128G3_10	Analyte	10	4.41	9718.391	9718.391	9795.803	99.21
10 1701714-04 CH-AT-1FB26-1117 0.25601	171128G3_11	Analyte	10	4.41	10653.5	10653.5	9795.803	108.76
11 1701714-05 CH-AT-1RW27-1117 0.26114	171128G3_12	Analyte	10	4.41	9684.541	9684.541	9795.803	98.86
12 1701714-06 CH-AT-1FB27-1117 0.2576	171128G3_13	Analyte	10	4.41	10381.22	10381.22	9795.803	105.98
13 1701714-07 CH-AT-1RW28-1117 0.25229	171128G3_14	Analyte	10	4.41	9764.944	9764.944	9795.803	99.68
14 1701714-08 CH-AT-1FB28-1117 0.26488	171128G3_15	Analyte	10	4.41	10183.44	10183.44	9795.803	103.96
15 B7K0144-BS1 LFB 0.25	171128G3_16	Analyte	10	4.41	10186.85	10186.85	9795.803	103.99
16 B7K0144-BSD1 LFBD 0.25	171128G3_17	Analyte	10	4.41	9625.608	9625.608	9795.803	98.26
17 IPA	171128G3_18	Analyte	10	4.41	6.537	6.537	9795.803	0.07
18 B7K0144-BLK1 LRB 0.25	171128G3_19	Analyte	10	4.41	9539.27	9539.27	9795.803	97.38
19 1701714-09RE1 CH-AT-1RW29-1117 0.25	171128G3_20	Analyte	10	4.41	9189.222	9189.222	9795.803	93.81
20 1701714-10RE1 CH-AT-1FB29-1117 0.25	171128G3_21	Analyte	10	4.41	9652.158	9652.158	9795.803	98.53
21 1701714-11RE1 CH-AT-1RW30-1117 0.25	171128G3_22	Analyte	10	4.41	10267.76	10267.76	9795.803	104.82
22 1701714-12RE1 CH-AT-1FB30-1117 0.25	171128G3_23	Analyte	10	4.41	9578.851	9578.851	9795.803	97.79
23 1701714-13RE1 CH-AT-1RW31-1117 0.25	171128G3_24	Analyte	10	4.41	10236.33	10236.33	9795.803	104.50
24 1701714-14RE1 CH-AT-1FB31-1117 0.25	171128G3_25	Analyte	10	4.41	9433.091	9433.091	9795.803	96.30
25 1701714-15RE1 CH-AT-1RW32-1117 0.25	171128G3_26	Analyte	10	4.41	9640.075	9640.075	9795.803	98.41
26 1701714-16RE1 CH-AT-1FB32-1117 0.25	171128G3_27	Analyte	10	4.41	8980.733	8980.733	9795.803	91.68
27 1701714-17RE1 CH-AT-1RW33-1117 0.25	171128G3_28	Analyte	10	4.41	10512.6	10512.6	9795.803	107.32

28	1701714-18RE1 CH-AT-1FB33-1117 0.25	171128G3_2 Analyte	10	4.41	9626.328	9626.328	9795.803	98.27
29	1701714-19RE1 CH-AT-1RW34-1117 0.25	171128G3_3 Analyte	10	4.41	9775.572	9775.572	9795.803	99.79
30	1701714-20RE1 CH-AT-1FB34-1117 0.25	171128G3_3 Analyte	10	4.41	10691.67	10691.67	9795.803	109.15
31	IPA	171128G3_3 Analyte	10				9795.803	0.00
32	ST171128G3-2 PFC CS3 537 17K2009	171128G3_3 Analyte	10	4.41	10456.97	10456.97	9795.803	106.75
33	IPA	171128G3_3 Analyte	10				9795.803	0.00
34	1701752-01 CH-AT-1RW65-1117 0.25	171128G3_3 Analyte	10	4.41	10723.1	10723.1	9795.803	109.47
35	1701752-02 CH-AT-1FB65-1117 0.25	171128G3_3 Analyte	10	4.41	10327.52	10327.52	9795.803	105.43
36	1701752-03 CH-AT-1RW66-1117 0.25	171128G3_3 Analyte	10	4.41	9657.238	9657.238	9795.803	98.59
37	1701752-04 CH-AT-1FB66-1117 0.25	171128G3_3 Analyte	10	4.41	10334.6	10334.6	9795.803	105.50
38	1701752-05 CH-AT-1RW67-1117 0.25	171128G3_3 Analyte	10	4.41	9913.13	9913.13	9795.803	101.20
39	1701752-06 CH-AT-1FB67-1117 0.25	171128G3_4 Analyte	10	4.41	9408.409	9408.409	9795.803	96.05
40	1701752-07 CH-AT-1RW68-1117 0.25	171128G3_4 Analyte	10	4.41	11816.09	11816.09	9795.803	120.62
41	1701752-08 CH-AT-1FB68-1117 0.25	171128G3_4 Analyte	10	4.41	9752.517	9752.517	9795.803	99.56
42	IPA	171128G3_4 Analyte	10				9795.803	0.00
43	ST171128G3-9 PFC CS5 537 17K2011	171128G3_4 Analyte	10	4.41	10093.21	10093.21	9795.803	103.04

Compound 7: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	IS Area	Ical Area	Area %
1	ST171128G3-1 PFC CS-1 537 17K2005	171128G3_2 Analyte	28.7	4.81	10454.43	10454.43	10884.56	96.05
2	B7K0123-BS1 LFB 0.25	171128G3_3 Analyte	28.7	4.8	10468.69	10468.69	10884.56	96.18
3	IPA	171128G3_4 Analyte	28.7				10884.56	0.00
4	B7K0123-BLK1 LRB 0.25	171128G3_5 Analyte	28.7	4.8	9642.42	9642.42	10884.56	88.59
5	B7K0123-MS1 LFSM 0.25625	171128G3_6 Analyte	28.7	4.8	11659.34	11659.34	10884.56	107.12
6	B7K0123-MSD1 LFSMD 0.25333	171128G3_7 Analyte	28.7	4.8	10032.26	10032.26	10884.56	92.17
7	1701714-01 CH-AT-1RW25-1117 0.26261	171128G3_8 Analyte	28.7	4.8	11059.05	11059.05	10884.56	101.60
8	1701714-02 CH-AT-1FB25-1117 0.25841	171128G3_9 Analyte	28.7	4.81	10607.39	10607.39	10884.56	97.45
9	1701714-03 CH-AT-1RW26-1117 0.24046	171128G3_10 Analyte	28.7	4.81	9908.142	9908.142	10884.56	91.03
10	1701714-04 CH-AT-1FB26-1117 0.25601	171128G3_11 Analyte	28.7	4.8	9819.559	9819.559	10884.56	90.22
11	1701714-05 CH-AT-1RW27-1117 0.26114	171128G3_12 Analyte	28.7	4.81	10670.28	10670.28	10884.56	98.03
12	1701714-06 CH-AT-1FB27-1117 0.2576	171128G3_13 Analyte	28.7	4.8	10276.91	10276.91	10884.56	94.42
13	1701714-07 CH-AT-1RW28-1117 0.25229	171128G3_14 Analyte	28.7	4.8	10651.11	10651.11	10884.56	97.86
14	1701714-08 CH-AT-1FB28-1117 0.26488	171128G3_15 Analyte	28.7	4.81	12538.19	12538.19	10884.56	115.19

15 B7K0144-BS1 LFB 0.25	171128G3_1f Analyte	28.7	4.81	9928.969	9928.969	10884.56	91.22
16 B7K0144-BSD1 LFBD 0.25	171128G3_1f Analyte	28.7	4.81	11164.63	11164.63	10884.56	102.57
17 IPA	171128G3_1f Analyte	28.7				10884.56	0.00
18 B7K0144-BLK1 LRB 0.25	171128G3_1f Analyte	28.7	4.81	10256.31	10256.31	10884.56	94.23
19 1701714-09RE1 CH-AT-1RW29-1117 0.25	171128G3_2f Analyte	28.7	4.8	10695.23	10695.23	10884.56	98.26
20 1701714-10RE1 CH-AT-1FB29-1117 0.25	171128G3_2f Analyte	28.7	4.8	10167.2	10167.2	10884.56	93.41
21 1701714-11RE1 CH-AT-1RW30-1117 0.25	171128G3_2f Analyte	28.7	4.8	11241.74	11241.74	10884.56	103.28
22 1701714-12RE1 CH-AT-1FB30-1117 0.25	171128G3_2f Analyte	28.7	4.8	10887.41	10887.41	10884.56	100.03
23 1701714-13RE1 CH-AT-1RW31-1117 0.25	171128G3_2f Analyte	28.7	4.81	9050.192	9050.192	10884.56	83.15
24 1701714-14RE1 CH-AT-1FB31-1117 0.25	171128G3_2f Analyte	28.7	4.8	8890.611	8890.611	10884.56	81.68
25 1701714-15RE1 CH-AT-1RW32-1117 0.25	171128G3_2f Analyte	28.7	4.81	9994.581	9994.581	10884.56	91.82
26 1701714-16RE1 CH-AT-1FB32-1117 0.25	171128G3_2f Analyte	28.7	4.81	9900.911	9900.911	10884.56	90.96
27 1701714-17RE1 CH-AT-1RW33-1117 0.25	171128G3_2f Analyte	28.7	4.81	10710.79	10710.79	10884.56	98.40
28 1701714-18RE1 CH-AT-1FB33-1117 0.25	171128G3_2f Analyte	28.7	4.81	9526.641	9526.641	10884.56	87.52
29 1701714-19RE1 CH-AT-1RW34-1117 0.25	171128G3_3f Analyte	28.7	4.81	10398.68	10398.68	10884.56	95.54
30 1701714-20RE1 CH-AT-1FB34-1117 0.25	171128G3_3f Analyte	28.7	4.81	11182.19	11182.19	10884.56	102.73
31 IPA	171128G3_3f Analyte	28.7				10884.56	0.00
32 ST171128G3-2 PFC CS3 537 17K2009	171128G3_3f Analyte	28.7	4.81	10912.53	10912.53	10884.56	100.26
33 IPA	171128G3_3f Analyte	28.7				10884.56	0.00
34 1701752-01 CH-AT-1RW65-1117 0.25	171128G3_3f Analyte	28.7	4.81	10788.39	10788.39	10884.56	99.12
35 1701752-02 CH-AT-1FB65-1117 0.25	171128G3_3f Analyte	28.7	4.81	11277.31	11277.31	10884.56	103.61
36 1701752-03 CH-AT-1RW66-1117 0.25	171128G3_3f Analyte	28.7	4.81	10791.96	10791.96	10884.56	99.15
37 1701752-04 CH-AT-1FB66-1117 0.25	171128G3_3f Analyte	28.7	4.81	9517.648	9517.648	10884.56	87.44
38 1701752-05 CH-AT-1RW67-1117 0.25	171128G3_3f Analyte	28.7	4.81	9617.383	9617.383	10884.56	88.36
39 1701752-06 CH-AT-1FB67-1117 0.25	171128G3_4f Analyte	28.7	4.81	11131.41	11131.41	10884.56	102.27
40 1701752-07 CH-AT-1RW68-1117 0.25	171128G3_4f Analyte	28.7	4.8	12695.92	12695.92	10884.56	116.64
41 1701752-08 CH-AT-1FB68-1117 0.25	171128G3_4f Analyte	28.7	4.81	9634.921	9634.921	10884.56	88.52
42 IPA	171128G3_4f Analyte	28.7				10884.56	0.00
43 ST171128G3-9 PFC CS5 537 17K2011	171128G3_4f Analyte	28.7	4.81	10633.61	10633.61	10884.56	97.69

Ccal

Compound 6: 13C2-PFOA

ST171128G3-1 PFC CS-1 537 17K2005

ID	Name	Type	Std. Conc	RT	Area	IS Area	Ccal Area	Area %
1	ST171128G3-1 PFC CS-1 537 17K2005	171128G3_2 Analyte	10	4.42	9604.101	9604.101	9604.101	100.00
2	B7K0123-BS1 LFB 0.25	171128G3_3 Analyte	10	4.41	10265.88	10265.88	9604.101	106.89
3	IPA	171128G3_4 Analyte	10				9604.101	0.00
4	B7K0123-BLK1 LRB 0.25	171128G3_5 Analyte	10	4.41	9567.438	9567.438	9604.101	99.62
5	B7K0123-MS1 LFSM 0.25625	171128G3_6 Analyte	10	4.41	10792.07	10792.07	9604.101	112.37
6	B7K0123-MSD1 LFSMD 0.25333	171128G3_7 Analyte	10	4.41	9938.775	9938.775	9604.101	103.48
7	1701714-01 CH-AT-1RW25-1117 0.26261	171128G3_8 Analyte	10	4.41	10270.29	10270.29	9604.101	106.94
8	1701714-02 CH-AT-1FB25-1117 0.25841	171128G3_9 Analyte	10	4.41	10120.46	10120.46	9604.101	105.38
9	1701714-03 CH-AT-1RW26-1117 0.24046	171128G3_10 Analyte	10	4.41	9718.391	9718.391	9604.101	101.19
10	1701714-04 CH-AT-1FB26-1117 0.25601	171128G3_11 Analyte	10	4.41	10653.5	10653.5	9604.101	110.93
11	1701714-05 CH-AT-1RW27-1117 0.26114	171128G3_12 Analyte	10	4.41	9684.541	9684.541	9604.101	100.84
12	1701714-06 CH-AT-1FB27-1117 0.2576	171128G3_13 Analyte	10	4.41	10381.22	10381.22	9604.101	108.09
13	1701714-07 CH-AT-1RW28-1117 0.25229	171128G3_14 Analyte	10	4.41	9764.944	9764.944	9604.101	101.67
14	1701714-08 CH-AT-1FB28-1117 0.26488	171128G3_15 Analyte	10	4.41	10183.44	10183.44	9604.101	106.03
15	B7K0144-BS1 LFB 0.25	171128G3_16 Analyte	10	4.41	10186.85	10186.85	9604.101	106.07
16	B7K0144-BSD1 LFBD 0.25	171128G3_17 Analyte	10	4.41	9625.608	9625.608	9604.101	100.22
17	IPA	171128G3_18 Analyte	10	4.41	6.537	6.537	9604.101	0.07
18	B7K0144-BLK1 LRB 0.25	171128G3_19 Analyte	10	4.41	9539.27	9539.27	9604.101	99.32
19	1701714-09RE1 CH-AT-1RW29-1117 0.25	171128G3_20 Analyte	10	4.41	9189.222	9189.222	9604.101	95.68
20	1701714-10RE1 CH-AT-1FB29-1117 0.25	171128G3_21 Analyte	10	4.41	9652.158	9652.158	9604.101	100.50
21	1701714-11RE1 CH-AT-1RW30-1117 0.25	171128G3_22 Analyte	10	4.41	10267.76	10267.76	9604.101	106.91
22	1701714-12RE1 CH-AT-1FB30-1117 0.25	171128G3_23 Analyte	10	4.41	9578.851	9578.851	9604.101	99.74
23	1701714-13RE1 CH-AT-1RW31-1117 0.25	171128G3_24 Analyte	10	4.41	10236.33	10236.33	9604.101	106.58
24	1701714-14RE1 CH-AT-1FB31-1117 0.25	171128G3_25 Analyte	10	4.41	9433.091	9433.091	9604.101	98.22
25	1701714-15RE1 CH-AT-1RW32-1117 0.25	171128G3_26 Analyte	10	4.41	9640.075	9640.075	9604.101	100.37
26	1701714-16RE1 CH-AT-1FB32-1117 0.25	171128G3_27 Analyte	10	4.41	8980.733	8980.733	9604.101	93.51
27	1701714-17RE1 CH-AT-1RW33-1117 0.25	171128G3_28 Analyte	10	4.41	10512.6	10512.6	9604.101	109.46
28	1701714-18RE1 CH-AT-1FB33-1117 0.25	171128G3_29 Analyte	10	4.41	9626.328	9626.328	9604.101	100.23
29	1701714-19RE1 CH-AT-1RW34-1117 0.25	171128G3_30 Analyte	10	4.41	9775.572	9775.572	9604.101	101.79
30	1701714-20RE1 CH-AT-1FB34-1117 0.25	171128G3_31 Analyte	10	4.41	10691.67	10691.67	9604.101	111.32
31	IPA	171128G3_32 Analyte	10				9604.101	0.00
32	ST171128G3-2 PFC CS3 537 17K2009	171128G3_33 Analyte	10	4.41	10456.97	10456.97	9604.101	108.88

ST171128G3-2 PFC CS3 537 17K2009								
ID	Name	Type	Std. Conc	RT	Area	IS Area	Ccal Area	Area %
32	ST171128G3-2 PFC CS3 537 17K2009	171128G3_3: Analyte	10	4.41	10456.97	10456.97	10456.97	100.00
33	IPA	171128G3_3: Analyte	10				10456.97	0.00
34	1701752-01 CH-AT-1RW65-1117 0.25	171128G3_3: Analyte	10	4.41	10723.1	10723.1	10456.97	102.54
35	1701752-02 CH-AT-1FB65-1117 0.25	171128G3_3: Analyte	10	4.41	10327.52	10327.52	10456.97	98.76
36	1701752-03 CH-AT-1RW66-1117 0.25	171128G3_3: Analyte	10	4.41	9657.238	9657.238	10456.97	92.35
37	1701752-04 CH-AT-1FB66-1117 0.25	171128G3_3: Analyte	10	4.41	10334.6	10334.6	10456.97	98.83
38	1701752-05 CH-AT-1RW67-1117 0.25	171128G3_3: Analyte	10	4.41	9913.13	9913.13	10456.97	94.80
39	1701752-06 CH-AT-1FB67-1117 0.25	171128G3_4: Analyte	10	4.41	9408.409	9408.409	10456.97	89.97
40	1701752-07 CH-AT-1RW68-1117 0.25	171128G3_4: Analyte	10	4.41	11816.09	11816.09	10456.97	113.00
41	1701752-08 CH-AT-1FB68-1117 0.25	171128G3_4: Analyte	10	4.41	9752.517	9752.517	10456.97	93.26
42	IPA	171128G3_4: Analyte	10				10456.97	0.00
43	ST171128G3-9 PFC CS5 537 17K2011	171128G3_4: Analyte	10	4.41	10093.21	10093.21	10456.97	96.52

Compound 7: 13C4-PFOS

ST171128G3-1 PFC CS-1 537 17K2005

ID	Name	Type	Std. Conc	RT	Area	IS Area	Ccal Area	Area %
1	ST171128G3-1 PFC CS-1 537 17K2005	171128G3_2 Analyte	28.7	4.81	10454.43	10454.43	10454.43	100.00
2	B7K0123-BS1 LFB 0.25	171128G3_3 Analyte	28.7	4.8	10468.69	10468.69	10454.43	100.14
3	IPA	171128G3_4 Analyte	28.7				10454.43	0.00
4	B7K0123-BLK1 LRB 0.25	171128G3_5 Analyte	28.7	4.8	9642.42	9642.42	10454.43	92.23
5	B7K0123-MS1 LFSM 0.25625	171128G3_6 Analyte	28.7	4.8	11659.34	11659.34	10454.43	111.53
6	B7K0123-MSD1 LFSMD 0.25333	171128G3_7 Analyte	28.7	4.8	10032.26	10032.26	10454.43	95.96
7	1701714-01 CH-AT-1RW25-1117 0.26261	171128G3_8 Analyte	28.7	4.8	11059.05	11059.05	10454.43	105.78
8	1701714-02 CH-AT-1FB25-1117 0.25841	171128G3_9 Analyte	28.7	4.81	10607.39	10607.39	10454.43	101.46
9	1701714-03 CH-AT-1RW26-1117 0.24046	171128G3_1: Analyte	28.7	4.81	9908.142	9908.142	10454.43	94.77
10	1701714-04 CH-AT-1FB26-1117 0.25601	171128G3_1: Analyte	28.7	4.8	9819.559	9819.559	10454.43	93.93
11	1701714-05 CH-AT-1RW27-1117 0.26114	171128G3_1: Analyte	28.7	4.81	10670.28	10670.28	10454.43	102.06
12	1701714-06 CH-AT-1FB27-1117 0.2576	171128G3_1: Analyte	28.7	4.8	10276.91	10276.91	10454.43	98.30
13	1701714-07 CH-AT-1RW28-1117 0.25229	171128G3_1: Analyte	28.7	4.8	10651.11	10651.11	10454.43	101.88
14	1701714-08 CH-AT-1FB28-1117 0.26488	171128G3_1: Analyte	28.7	4.81	12538.19	12538.19	10454.43	119.93
15	B7K0144-BS1 LFB 0.25	171128G3_1: Analyte	28.7	4.81	9928.969	9928.969	10454.43	94.97
16	B7K0144-BSD1 LFB 0.25	171128G3_1: Analyte	28.7	4.81	11164.63	11164.63	10454.43	106.79

17 IPA	171128G3_1f Analyte	28.7				10454.43	0.00
18 B7K0144-BLK1 LRB 0.25	171128G3_1f Analyte	28.7	4.81	10256.31	10256.31	10454.43	98.10
19 1701714-09RE1 CH-AT-1RW29-1117 0.25	171128G3_2f Analyte	28.7	4.8	10695.23	10695.23	10454.43	102.30
20 1701714-10RE1 CH-AT-1FB29-1117 0.25	171128G3_2f Analyte	28.7	4.8	10167.2	10167.2	10454.43	97.25
21 1701714-11RE1 CH-AT-1RW30-1117 0.25	171128G3_2f Analyte	28.7	4.8	11241.74	11241.74	10454.43	107.53
22 1701714-12RE1 CH-AT-1FB30-1117 0.25	171128G3_2f Analyte	28.7	4.8	10887.41	10887.41	10454.43	104.14
23 1701714-13RE1 CH-AT-1RW31-1117 0.25	171128G3_2f Analyte	28.7	4.81	9050.192	9050.192	10454.43	86.57
24 1701714-14RE1 CH-AT-1FB31-1117 0.25	171128G3_2f Analyte	28.7	4.8	8890.611	8890.611	10454.43	85.04
25 1701714-15RE1 CH-AT-1RW32-1117 0.25	171128G3_2f Analyte	28.7	4.81	9994.581	9994.581	10454.43	95.60
26 1701714-16RE1 CH-AT-1FB32-1117 0.25	171128G3_2f Analyte	28.7	4.81	9900.911	9900.911	10454.43	94.71
27 1701714-17RE1 CH-AT-1RW33-1117 0.25	171128G3_2f Analyte	28.7	4.81	10710.79	10710.79	10454.43	102.45
28 1701714-18RE1 CH-AT-1FB33-1117 0.25	171128G3_2f Analyte	28.7	4.81	9526.641	9526.641	10454.43	91.13
29 1701714-19RE1 CH-AT-1RW34-1117 0.25	171128G3_3f Analyte	28.7	4.81	10398.68	10398.68	10454.43	99.47
30 1701714-20RE1 CH-AT-1FB34-1117 0.25	171128G3_3f Analyte	28.7	4.81	11182.19	11182.19	10454.43	106.96
31 IPA	171128G3_3f Analyte	28.7				10454.43	0.00
32 ST171128G3-2 PFC CS3 537 17K2009	171128G3_3f Analyte	28.7	4.81	10912.53	10912.53	10454.43	104.38

ST171128G3-2 PFC CS3 537 17K2009

ID	Name	Type	Std. Conc	RT	Area	IS Area	Ccal Area	Area %
32 ST171128G3-2 PFC CS3 537 17K2009	171128G3_3f Analyte		28.7	4.81	10912.53	10912.53	10912.53	100.00
33 IPA	171128G3_3f Analyte		28.7				10912.53	0.00
34 1701752-01 CH-AT-1RW65-1117 0.25	171128G3_3f Analyte		28.7	4.81	10788.39	10788.39	10912.53	98.86
35 1701752-02 CH-AT-1FB65-1117 0.25	171128G3_3f Analyte		28.7	4.81	11277.31	11277.31	10912.53	103.34
36 1701752-03 CH-AT-1RW66-1117 0.25	171128G3_3f Analyte		28.7	4.81	10791.96	10791.96	10912.53	98.90
37 1701752-04 CH-AT-1FB66-1117 0.25	171128G3_3f Analyte		28.7	4.81	9517.648	9517.648	10912.53	87.22
38 1701752-05 CH-AT-1RW67-1117 0.25	171128G3_3f Analyte		28.7	4.81	9617.383	9617.383	10912.53	88.13
39 1701752-06 CH-AT-1FB67-1117 0.25	171128G3_4f Analyte		28.7	4.81	11131.41	11131.41	10912.53	102.01
40 1701752-07 CH-AT-1RW68-1117 0.25	171128G3_4f Analyte		28.7	4.8	12695.92	12695.92	10912.53	116.34
41 1701752-08 CH-AT-1FB68-1117 0.25	171128G3_4f Analyte		28.7	4.81	9634.921	9634.921	10912.53	88.29
42 IPA	171128G3_4f Analyte		28.7				10912.53	0.00
43 ST171128G3-9 PFC CS5 537 17K2011	171128G3_4f Analyte		28.7	4.81	10633.61	10633.61	10912.53	97.44

Vista Analytical Laboratory

Dataset: Untitled

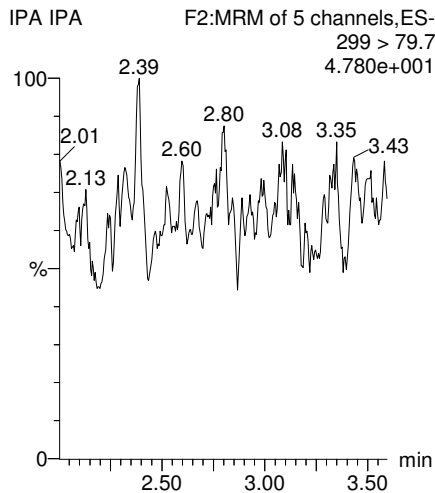
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Printed: Tuesday, November 28, 2017 14:34:24 Pacific Standard Time

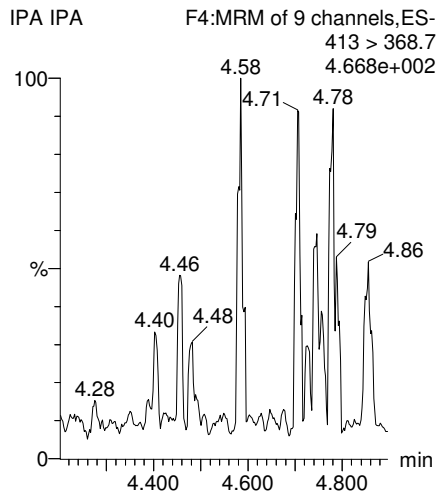
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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G1_4, Date: 28-Nov-2017, Time: 10:35:54, ID: IPA, Description: IPA

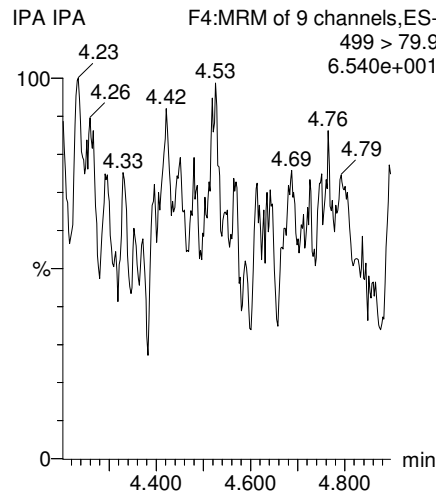
PFBS



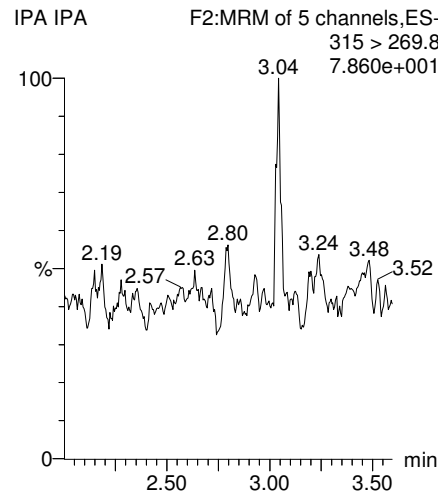
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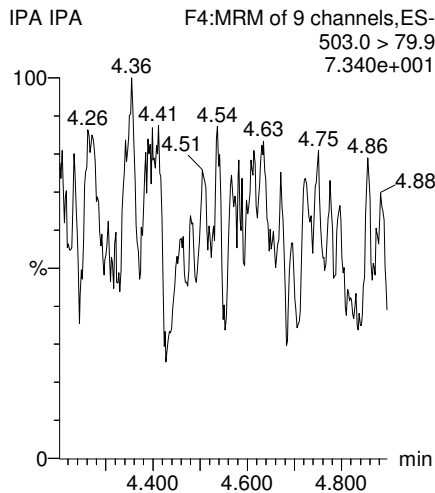
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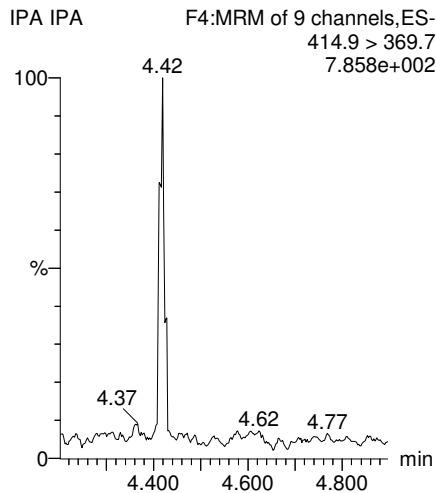
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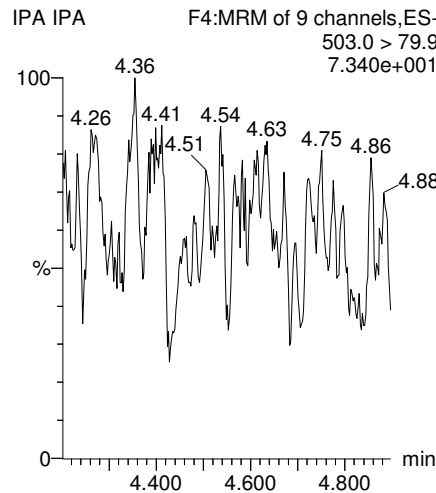
13C4-PFOS



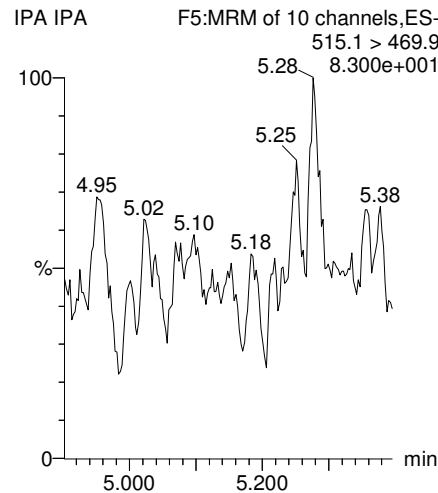
13C2-PFOA



13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-2.qld

Last Altered: Wednesday, November 29, 2017 08:31:25 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:22:57 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

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Name: 171128G3_2, Date: 28-Nov-2017, Time: 15:58:03, ID: ST171128G3-1 PFC CS-1 537 17K2005, Description: PFC CS-1 537 17K2005

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	5.75e2	1.05e4		1.0000	3.11	3.12	1.58	1.78	100.7
2	2 PFOA	413 > 368.7	1.55e3	9.60e3		1.0000	4.42	4.42	1.62	1.92	96.1
3	3 PFOS	499 > 79.9	7.51e2	1.05e4		1.0000	4.81	4.81	2.06	1.74	94.2
4	4 13C2-PFHxA	315 > 269.8	4.21e3	9.60e3	0.451	1.0000	3.48	3.48	4.38	9.72	97.2
5	5 13C2-PFDA	515.1 > 469.9	4.59e3	9.60e3	0.590	1.0000	5.05	5.04	4.78	8.09	80.9
6	6 13C2-PFOA	414.9 > 369.7	9.60e3	9.60e3	1.000	1.0000	4.41	4.42	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.05e4	1.05e4	1.000	1.0000	4.81	4.81	28.7	28.7	100.0

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Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	171128G3_1	IPA	28-Nov-17	15:45:35
2	171128G3_2	ST171128G3-1 PFC CS-1 537 17K2005	28-Nov-17	15:58:03
3	171128G3_3	B7K0123-BS1 LFB 0.25	28-Nov-17	16:10:27
4	171128G3_4	IPA	28-Nov-17	16:22:52
5	171128G3_5	B7K0123-BLK1 LRB 0.25	28-Nov-17	16:35:20
6	171128G3_6	B7K0123-MS1 LFSM 0.25625	28-Nov-17	16:47:47
7	171128G3_7	B7K0123-MSD1 LFSMD 0.25333	28-Nov-17	17:00:14
8	171128G3_8	1701714-01 CH-AT-1RW25-1117 0.26261	28-Nov-17	17:12:41
9	171128G3_9	1701714-02 CH-AT-1FB25-1117 0.25841	28-Nov-17	17:25:10
10	171128G3_10	1701714-03 CH-AT-1RW26-1117 0.24046	28-Nov-17	17:37:34
11	171128G3_11	1701714-04 CH-AT-1FB26-1117 0.25601	28-Nov-17	17:49:58
12	171128G3_12	1701714-05 CH-AT-1RW27-1117 0.26114	28-Nov-17	18:02:22
13	171128G3_13	1701714-06 CH-AT-1FB27-1117 0.2576	28-Nov-17	18:14:49
14	171128G3_14	1701714-07 CH-AT-1RW28-1117 0.25229	28-Nov-17	18:27:15
15	171128G3_15	1701714-08 CH-AT-1FB28-1117 0.26488	28-Nov-17	18:39:41
16	171128G3_16	B7K0144-BS1 LFB 0.25	28-Nov-17	18:52:09
17	171128G3_17	B7K0144-BSD1 LFB 0.25	28-Nov-17	19:04:36
18	171128G3_18	IPA	28-Nov-17	19:17:00
19	171128G3_19	B7K0144-BLK1 LRB 0.25	28-Nov-17	19:29:28
20	171128G3_20	1701714-09RE1 CH-AT-1RW29-1117 0.25	28-Nov-17	19:41:52
21	171128G3_21	1701714-10RE1 CH-AT-1FB29-1117 0.25	28-Nov-17	19:54:16
22	171128G3_22	1701714-11RE1 CH-AT-1RW30-1117 0.25	28-Nov-17	20:06:42
23	171128G3_23	1701714-12RE1 CH-AT-1FB30-1117 0.25	28-Nov-17	20:19:07
24	171128G3_24	1701714-13RE1 CH-AT-1RW31-1117 0.25	28-Nov-17	20:31:34
25	171128G3_25	1701714-14RE1 CH-AT-1FB31-1117 0.25	28-Nov-17	20:44:00
26	171128G3_26	1701714-15RE1 CH-AT-1RW32-1117 0.25	28-Nov-17	20:56:28
27	171128G3_27	1701714-16RE1 CH-AT-1FB32-1117 0.25	28-Nov-17	21:08:52
28	171128G3_28	1701714-17RE1 CH-AT-1RW33-1117 0.25	28-Nov-17	21:21:16
29	171128G3_29	1701714-18RE1 CH-AT-1FB33-1117 0.25	28-Nov-17	21:33:40
30	171128G3_30	1701714-19RE1 CH-AT-1RW34-1117 0.25	28-Nov-17	21:46:05
31	171128G3_31	1701714-20RE1 CH-AT-1FB34-1117 0.25	28-Nov-17	21:58:31
32	171128G3_32	IPA	28-Nov-17	22:10:57

Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

Compound name: PFBS

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33	171128G3_33	ST171128G3-2 PFC CS3 537 17K2009	28-Nov-17	22:23:25
34	171128G3_34	IPA	28-Nov-17	22:35:50
35	171128G3_35	1701752-01 CH-AT-1RW65-1117 0.25	28-Nov-17	22:48:17
36	171128G3_36	1701752-02 CH-AT-1FB65-1117 0.25	28-Nov-17	23:00:43
37	171128G3_37	1701752-03 CH-AT-1RW66-1117 0.25	28-Nov-17	23:13:11
38	171128G3_38	1701752-04 CH-AT-1FB66-1117 0.25	28-Nov-17	23:25:38
39	171128G3_39	1701752-05 CH-AT-1RW67-1117 0.25	28-Nov-17	23:38:04
40	171128G3_40	1701752-06 CH-AT-1FB67-1117 0.25	28-Nov-17	23:50:28
41	171128G3_41	1701752-07 CH-AT-1RW68-1117 0.25	29-Nov-17	00:02:53
42	171128G3_42	1701752-08 CH-AT-1FB68-1117 0.25	29-Nov-17	00:15:21
43	171128G3_43	IPA	29-Nov-17	00:27:50
44	171128G3_44	ST171128G3-3 PFC CS2 537 17K2008	29-Nov-17	00:40:17
45	171128G3_45	IPA <i>on 11/29/17</i>	29-Nov-17	00:52:42

LC Calibration Standards Review Checklist

Q1

Calibration ID:		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
ST17112863-1	L M H	☒	☒	☒	☒	☒	☒	☒
-2	L M H	☒	☒	☒	☒	☒	☒	☒
-3	L M H	☒	☒	☒	☒	☒	☒	☒
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐
	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 4/5/17

Run Log Present: ☒

of Samples per Sequence Checked: ☒

Reviewed By:

JA, 11/29/2017
Initials/Date

Comments:

DW-L3

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-2.qld

Last Altered: Wednesday, November 29, 2017 08:31:25 Pacific Standard Time

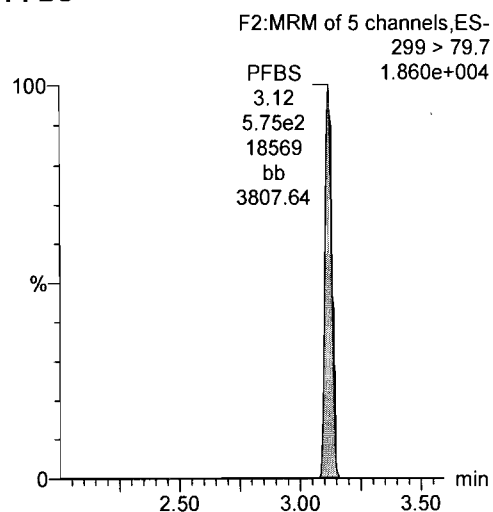
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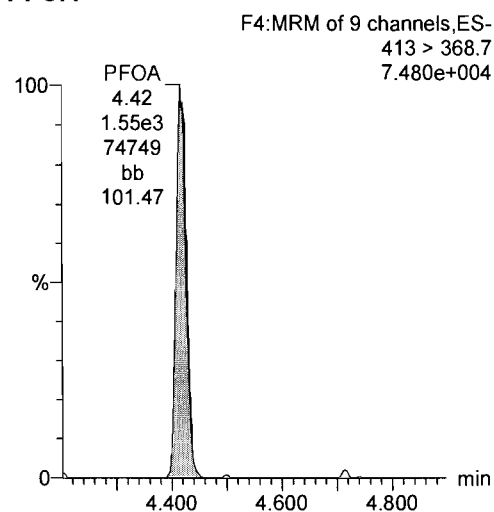
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Name: 171128G3_2, Date: 28-Nov-2017, Time: 15:58:03, ID: ST171128G3-1 PFC CS-1 537 17K2005, Description: PFC CS-1 537 17K2005

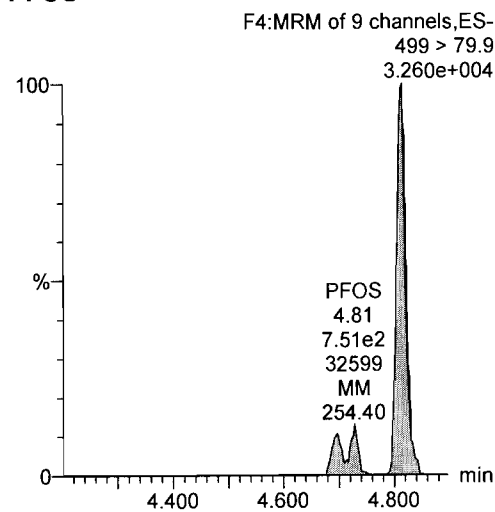
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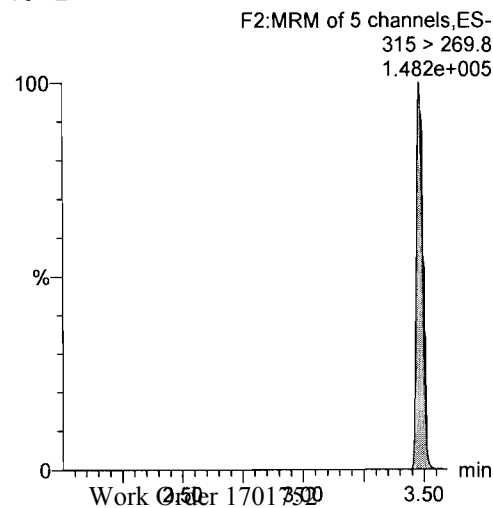
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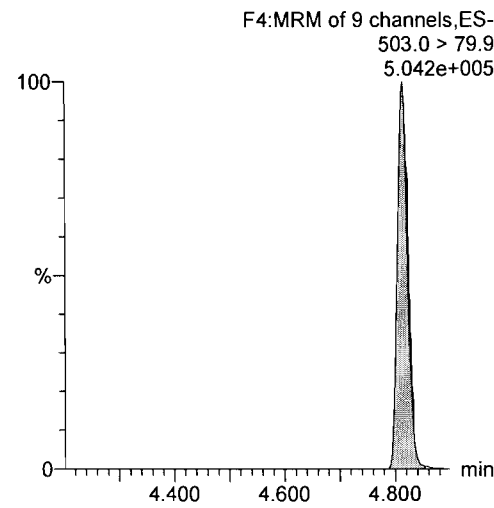
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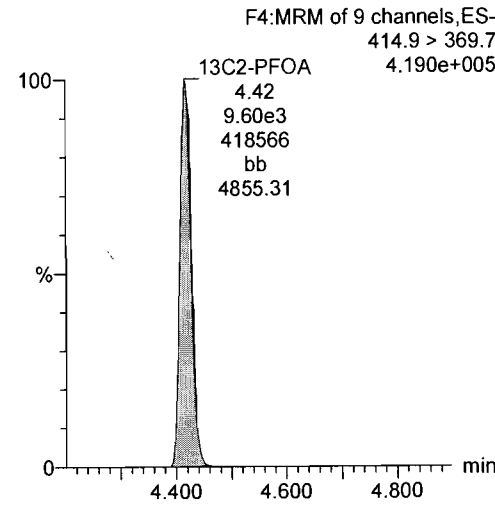
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13C4-PFOS



13C2-PFOA



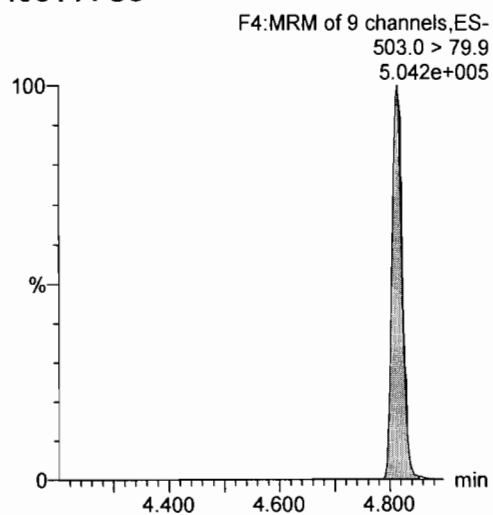
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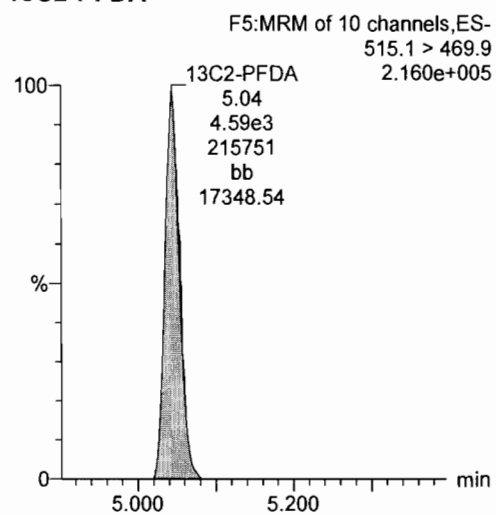
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13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-33.qld

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Printed: Wednesday, November 29, 2017 09:22:50 Pacific Standard Time

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Name: 171128G3_33, Date: 28-Nov-2017, Time: 22:23:25, ID: ST171128G3-2 PFC CS3 537 17K2009, Description: PFC CS3 537 17K2009

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1	1 PFBS	299 > 79.7	1.31e4	1.09e4		1.0000	3.11	3.12	34.3	38.8	87.7
2	2 PFOA	413 > 368.7	4.44e4	1.05e4		1.0000	4.41	4.41	42.5	50.5	101.0
3	3 PFOS	499 > 79.9	2.07e4	1.09e4		1.0000	4.81	4.81	54.6	46.1	99.8
4	4 13C2-PFHxA	315 > 269.8	4.38e3	1.05e4	0.451	1.0000	3.47	3.48	4.19	9.29	92.9
5	5 13C2-PFDA	515.1 > 469.9	5.88e3	1.05e4	0.590	1.0000	5.04	5.03	5.62	9.53	95.3
6	6 13C2-PFOA	414.9 > 369.7	1.05e4	1.05e4	1.000	1.0000	4.41	4.41	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.09e4	1.09e4	1.000	1.0000	4.81	4.81	28.7	28.7	100.0

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Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

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Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	171128G3_1	IPA	28-Nov-17	15:45:35
2	171128G3_2	ST171128G3-1 PFC CS-1 537 17K2005	28-Nov-17	15:58:03
3	171128G3_3	B7K0123-BS1 LFB 0.25	28-Nov-17	16:10:27
4	171128G3_4	IPA	28-Nov-17	16:22:52
5	171128G3_5	B7K0123-BLK1 LRB 0.25	28-Nov-17	16:35:20
6	171128G3_6	B7K0123-MS1 LFSM 0.25625	28-Nov-17	16:47:47
7	171128G3_7	B7K0123-MSD1 LFSMD 0.25333	28-Nov-17	17:00:14
8	171128G3_8	1701714-01 CH-AT-1RW25-1117 0.26261	28-Nov-17	17:12:41
9	171128G3_9	1701714-02 CH-AT-1FB25-1117 0.25841	28-Nov-17	17:25:10
10	171128G3_10	1701714-03 CH-AT-1RW26-1117 0.24046	28-Nov-17	17:37:34
11	171128G3_11	1701714-04 CH-AT-1FB26-1117 0.25601	28-Nov-17	17:49:58
12	171128G3_12	1701714-05 CH-AT-1RW27-1117 0.26114	28-Nov-17	18:02:22
13	171128G3_13	1701714-06 CH-AT-1FB27-1117 0.2576	28-Nov-17	18:14:49
14	171128G3_14	1701714-07 CH-AT-1RW28-1117 0.25229	28-Nov-17	18:27:15
15	171128G3_15	1701714-08 CH-AT-1FB28-1117 0.26488	28-Nov-17	18:39:41
16	171128G3_16	B7K0144-BS1 LFB 0.25	28-Nov-17	18:52:09
17	171128G3_17	B7K0144-BSD1 LFB 0.25	28-Nov-17	19:04:36
18	171128G3_18	IPA	28-Nov-17	19:17:00
19	171128G3_19	B7K0144-BLK1 LRB 0.25	28-Nov-17	19:29:28
20	171128G3_20	1701714-09RE1 CH-AT-1RW29-1117 0.25	28-Nov-17	19:41:52
21	171128G3_21	1701714-10RE1 CH-AT-1FB29-1117 0.25	28-Nov-17	19:54:16
22	171128G3_22	1701714-11RE1 CH-AT-1RW30-1117 0.25	28-Nov-17	20:06:42
23	171128G3_23	1701714-12RE1 CH-AT-1FB30-1117 0.25	28-Nov-17	20:19:07
24	171128G3_24	1701714-13RE1 CH-AT-1RW31-1117 0.25	28-Nov-17	20:31:34
25	171128G3_25	1701714-14RE1 CH-AT-1FB31-1117 0.25	28-Nov-17	20:44:00
26	171128G3_26	1701714-15RE1 CH-AT-1RW32-1117 0.25	28-Nov-17	20:56:28
27	171128G3_27	1701714-16RE1 CH-AT-1FB32-1117 0.25	28-Nov-17	21:08:52
28	171128G3_28	1701714-17RE1 CH-AT-1RW33-1117 0.25	28-Nov-17	21:21:16
29	171128G3_29	1701714-18RE1 CH-AT-1FB33-1117 0.25	28-Nov-17	21:33:40
30	171128G3_30	1701714-19RE1 CH-AT-1RW34-1117 0.25	28-Nov-17	21:46:05
31	171128G3_31	1701714-20RE1 CH-AT-1FB34-1117 0.25	28-Nov-17	21:58:31
32	171128G3_32	IPA	28-Nov-17	22:10:57

Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
33	171128G3_33	ST171128G3-2 PFC CS3 537 17K2009	28-Nov-17	22:23:25
34	171128G3_34	IPA	28-Nov-17	22:35:50
35	171128G3_35	1701752-01 CH-AT-1RW65-1117 0.25	28-Nov-17	22:48:17
36	171128G3_36	1701752-02 CH-AT-1FB65-1117 0.25	28-Nov-17	23:00:43
37	171128G3_37	1701752-03 CH-AT-1RW66-1117 0.25	28-Nov-17	23:13:11
38	171128G3_38	1701752-04 CH-AT-1FB66-1117 0.25	28-Nov-17	23:25:38
39	171128G3_39	1701752-05 CH-AT-1RW67-1117 0.25	28-Nov-17	23:38:04
40	171128G3_40	1701752-06 CH-AT-1FB67-1117 0.25	28-Nov-17	23:50:28
41	171128G3_41	1701752-07 CH-AT-1RW68-1117 0.25	29-Nov-17	00:02:53
42	171128G3_42	1701752-08 CH-AT-1FB68-1117 0.25	29-Nov-17	00:15:21
43	171128G3_43	IPA	29-Nov-17	00:27:50
44	171128G3_44	ST171128G3- ³ / ₂ PFC CS2 537 17K2008	29-Nov-17	00:40:17
45	171128G3_45	IPA <i>on 11/29/17</i>	29-Nov-17	00:52:42

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-33.qld

Last Altered: Wednesday, November 29, 2017 08:48:06 Pacific Standard Time

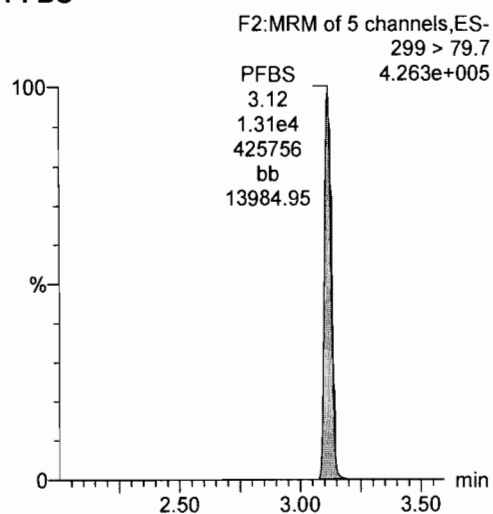
Printed: Wednesday, November 29, 2017 09:22:50 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

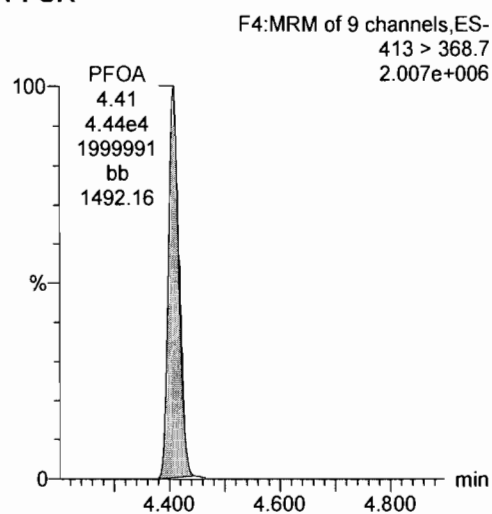
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_33, Date: 28-Nov-2017, Time: 22:23:25, ID: ST171128G3-2 PFC CS3 537 17K2009, Description: PFC CS3 537 17K2009

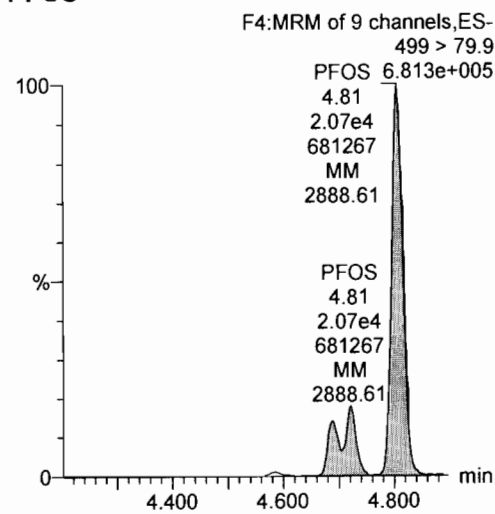
PFBS



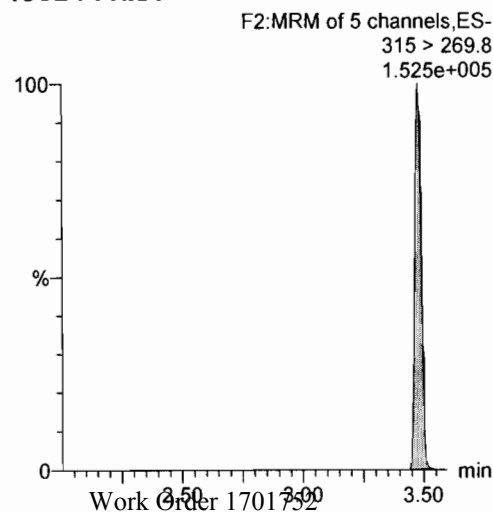
PFOA



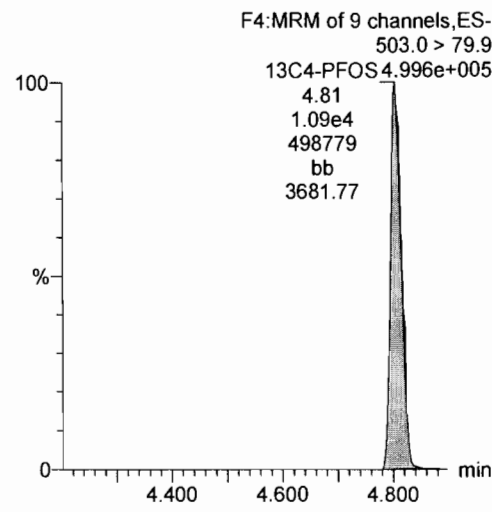
PFOS



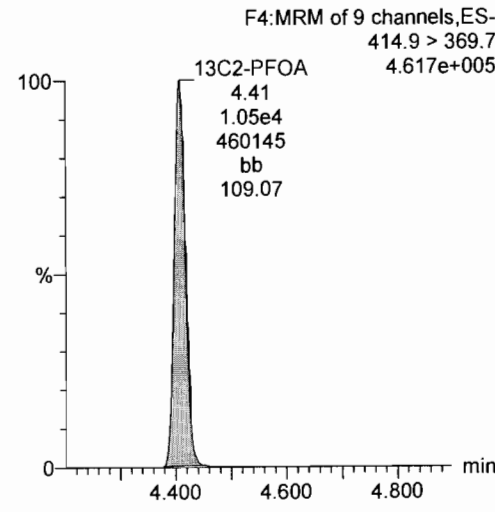
13C2-PFHxA



13C4-PFOS



13C2-PFOA



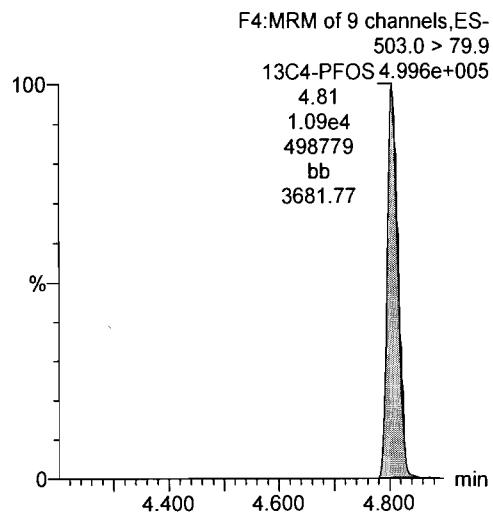
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Last Altered: Wednesday, November 29, 2017 08:48:06 Pacific Standard Time

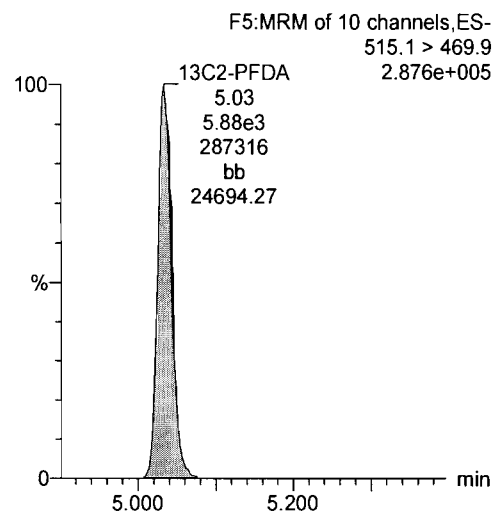
Printed: Wednesday, November 29, 2017 09:22:50 Pacific Standard Time

Name: 171128G3_33, Date: 28-Nov-2017, Time: 22:23:25, ID: ST171128G3-2 PFC CS3 537 17K2009, Description: PFC CS3 537 17K2009

13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-44.qld

Last Altered: Wednesday, November 29, 2017 09:22:20 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:22:44 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_44, Date: 29-Nov-2017, Time: 00:40:17, ID: ST171128G3-³~~9~~ PFC CS2 537 17K2008, Description: PFC CS2 537 17K2008

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.99e3	1.06e4		1.0000	3.11	3.12	8.07	9.11	102.9
2	2 PFOA	413 > 368.7	9.02e3	1.01e4		1.0000	4.41	4.41	8.93	10.6	106.2
3	3 PFOS	499 > 79.9	4.48e3	1.06e4		1.0000	4.81	4.81	12.1	10.2	110.6
4	4 13C2-PFHxA	315 > 269.8	4.40e3	1.01e4	0.451	1.0000	3.47	3.48	4.36	9.67	96.7
5	5 13C2-PFDA	515.1 > 469.9	4.68e3	1.01e4	0.590	1.0000	5.04	5.03	4.64	7.85	78.5
6	6 13C2-PFOA	414.9 > 369.7	1.01e4	1.01e4	1.000	1.0000	4.41	4.41	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.06e4	1.06e4	1.000	1.0000	4.81	4.81	28.7	28.7	100.0

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11/29/2017

Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time

Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	171128G3_1	IPA	28-Nov-17	15:45:35
2	171128G3_2	ST171128G3-1 PFC CS-1 537 17K2005	28-Nov-17	15:58:03
3	171128G3_3	B7K0123-BS1 LFB 0.25	28-Nov-17	16:10:27
4	171128G3_4	IPA	28-Nov-17	16:22:52
5	171128G3_5	B7K0123-BLK1 LRB 0.25	28-Nov-17	16:35:20
6	171128G3_6	B7K0123-MS1 LFSM 0.25625	28-Nov-17	16:47:47
7	171128G3_7	B7K0123-MSD1 LFSMD 0.25333	28-Nov-17	17:00:14
8	171128G3_8	1701714-01 CH-AT-1RW25-1117 0.26261	28-Nov-17	17:12:41
9	171128G3_9	1701714-02 CH-AT-1FB25-1117 0.25841	28-Nov-17	17:25:10
10	171128G3_10	1701714-03 CH-AT-1RW26-1117 0.24046	28-Nov-17	17:37:34
11	171128G3_11	1701714-04 CH-AT-1FB26-1117 0.25601	28-Nov-17	17:49:58
12	171128G3_12	1701714-05 CH-AT-1RW27-1117 0.26114	28-Nov-17	18:02:22
13	171128G3_13	1701714-06 CH-AT-1FB27-1117 0.2576	28-Nov-17	18:14:49
14	171128G3_14	1701714-07 CH-AT-1RW28-1117 0.25229	28-Nov-17	18:27:15
15	171128G3_15	1701714-08 CH-AT-1FB28-1117 0.26488	28-Nov-17	18:39:41
16	171128G3_16	B7K0144-BS1 LFB 0.25	28-Nov-17	18:52:09
17	171128G3_17	B7K0144-BSD1 LFB 0.25	28-Nov-17	19:04:36
18	171128G3_18	IPA	28-Nov-17	19:17:00
19	171128G3_19	B7K0144-BLK1 LRB 0.25	28-Nov-17	19:29:28
20	171128G3_20	1701714-09RE1 CH-AT-1RW29-1117 0.25	28-Nov-17	19:41:52
21	171128G3_21	1701714-10RE1 CH-AT-1FB29-1117 0.25	28-Nov-17	19:54:16
22	171128G3_22	1701714-11RE1 CH-AT-1RW30-1117 0.25	28-Nov-17	20:06:42
23	171128G3_23	1701714-12RE1 CH-AT-1FB30-1117 0.25	28-Nov-17	20:19:07
24	171128G3_24	1701714-13RE1 CH-AT-1RW31-1117 0.25	28-Nov-17	20:31:34
25	171128G3_25	1701714-14RE1 CH-AT-1FB31-1117 0.25	28-Nov-17	20:44:00
26	171128G3_26	1701714-15RE1 CH-AT-1RW32-1117 0.25	28-Nov-17	20:56:28
27	171128G3_27	1701714-16RE1 CH-AT-1FB32-1117 0.25	28-Nov-17	21:08:52
28	171128G3_28	1701714-17RE1 CH-AT-1RW33-1117 0.25	28-Nov-17	21:21:16
29	171128G3_29	1701714-18RE1 CH-AT-1FB33-1117 0.25	28-Nov-17	21:33:40
30	171128G3_30	1701714-19RE1 CH-AT-1RW34-1117 0.25	28-Nov-17	21:46:05
31	171128G3_31	1701714-20RE1 CH-AT-1FB34-1117 0.25	28-Nov-17	21:58:31
32	171128G3_32	IPA	28-Nov-17	22:10:57

Dataset: Untitled

Last Altered: Wednesday, November 29, 2017 09:35:39 Pacific Standard Time
Printed: Wednesday, November 29, 2017 09:36:11 Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
33	171128G3_33	ST171128G3-2 PFC CS3 537 17K2009	28-Nov-17	22:23:25
34	171128G3_34	IPA	28-Nov-17	22:35:50
35	171128G3_35	1701752-01 CH-AT-1RW65-1117 0.25	28-Nov-17	22:48:17
36	171128G3_36	1701752-02 CH-AT-1FB65-1117 0.25	28-Nov-17	23:00:43
37	171128G3_37	1701752-03 CH-AT-1RW66-1117 0.25	28-Nov-17	23:13:11
38	171128G3_38	1701752-04 CH-AT-1FB66-1117 0.25	28-Nov-17	23:25:38
39	171128G3_39	1701752-05 CH-AT-1RW67-1117 0.25	28-Nov-17	23:38:04
40	171128G3_40	1701752-06 CH-AT-1FB67-1117 0.25	28-Nov-17	23:50:28
41	171128G3_41	1701752-07 CH-AT-1RW68-1117 0.25	29-Nov-17	00:02:53
42	171128G3_42	1701752-08 CH-AT-1FB68-1117 0.25	29-Nov-17	00:15:21
43	171128G3_43	IPA	29-Nov-17	00:27:50
44	171128G3_44	ST171128G3- ³ / ₉ PFC CS2 537 17K2008	29-Nov-17	00:40:17
45	171128G3_45	IPA <i>or 11/29/17</i>	29-Nov-17	00:52:42

Dataset: U:\G1.PRO\Results\2017\171128G3\171128G3-44.qld

Last Altered: Wednesday, November 29, 2017 09:22:20 Pacific Standard Time

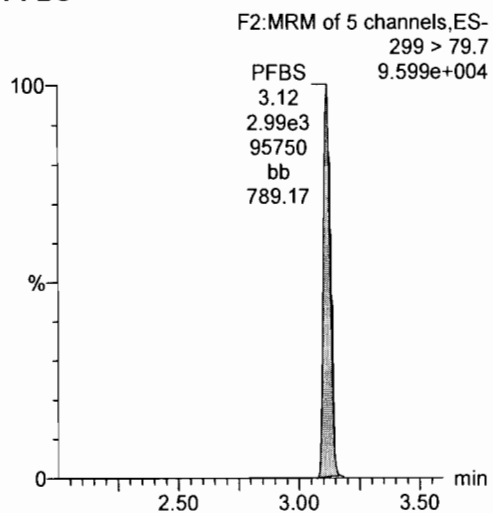
Printed: Wednesday, November 29, 2017 09:22:44 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

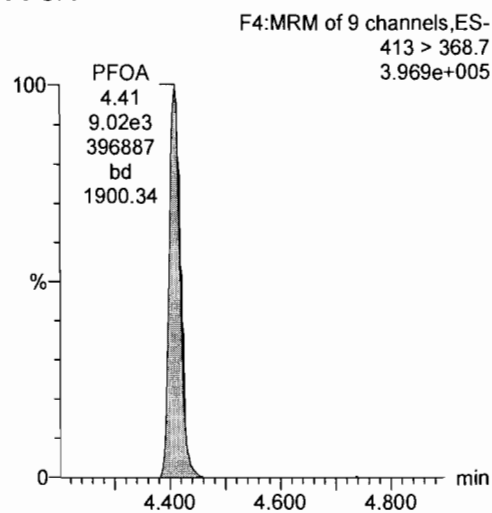
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171128G3_44, Date: 29-Nov-2017, Time: 00:40:17, ID: ST171128G3-9³ PFC CS2 537 17K2008, Description: PFC CS2 537 17K2008
am 29/17

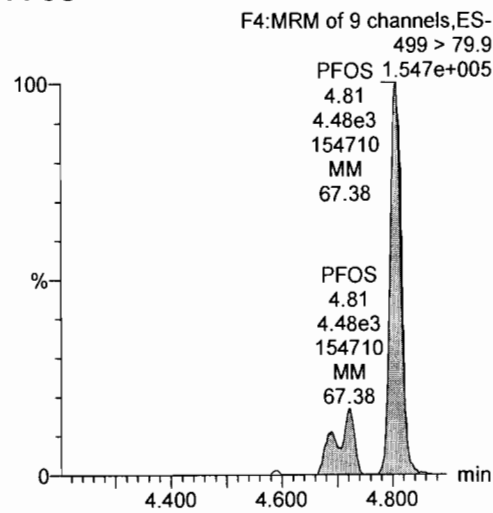
PFBS



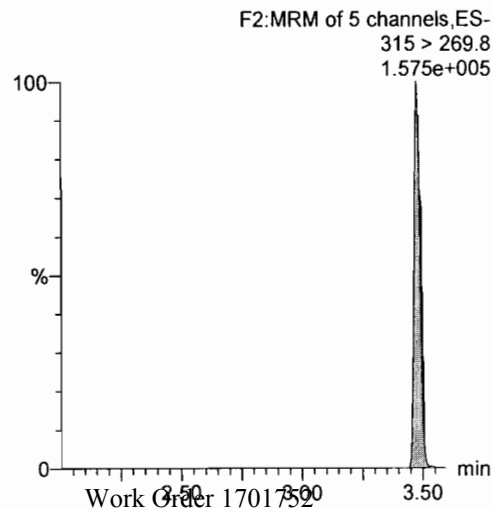
PFOA



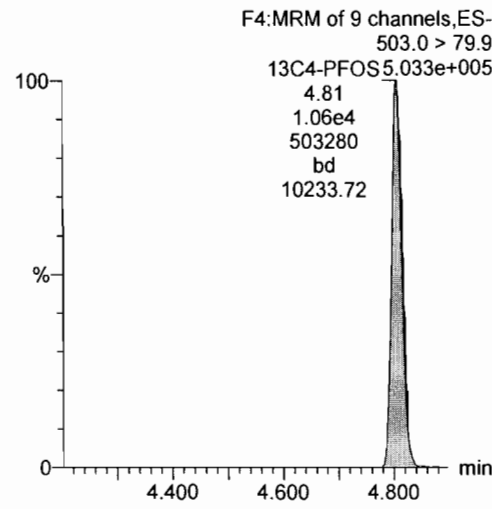
PFOS



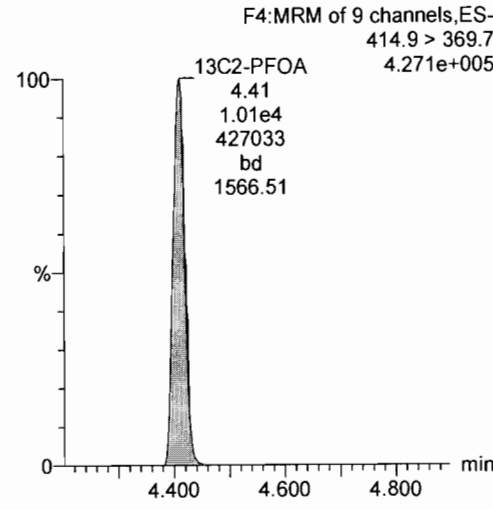
13C2-PFHxA



13C4-PFOS



13C2-PFOA



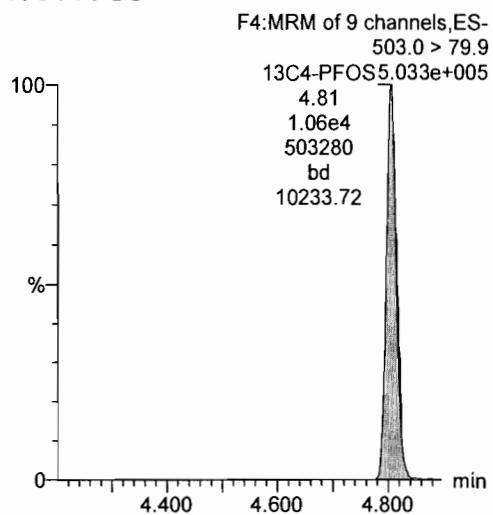
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Last Altered: Wednesday, November 29, 2017 09:22:20 Pacific Standard Time

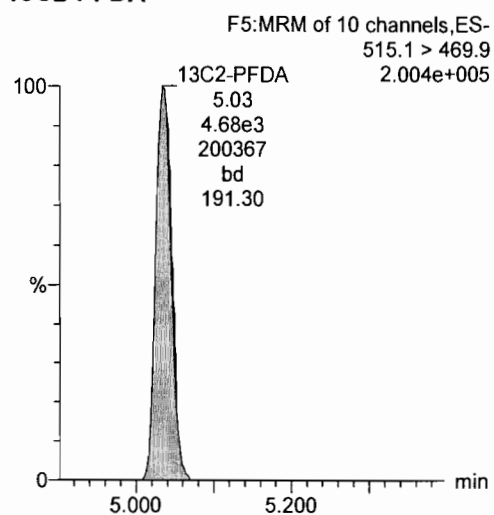
Printed: Wednesday, November 29, 2017 09:22:44 Pacific Standard Time

Name: 171128G3_44, Date: 29-Nov-2017, Time: 00:40:17, ID: ST171128G3-³~~9~~ PFC CS2 537 17K2008, Description: PFC CS2 537 17K2008
on 11/29/17

13C4-PFOS



13C2-PFDA



INITIAL CALIBRATION (ICAL)
INCLUDING ASSOCIATED
INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:18:54 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 26 Nov 2017 19:34:27

Calibration: 26 Nov 2017 19:51:30 C18_537-Q1_11-25-17-L3

Compound name: PFBS

Coefficient of Determination: $R^2 = 0.998067$

Calibration curve: $0.886278 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

DM 11/27/17
✓ J.A. 11/27/2017

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	0.443	3.11	148.778	11353.713	0.376	0.4	-4.1	NO	0.998	NO	bb
2	2 171125G1_3	Standard	0.885	3.12	249.125	11312.515	0.632	0.7	-19.4	NO	0.998	NO	bb
3	3 171125G1_4	Standard	1.770	3.11	599.879	10414.688	1.653	1.9	5.4	NO	0.998	NO	bb
4	4 171125G1_5	Standard	4.420	3.12	1304.232	11717.421	3.195	3.6	-18.5	NO	0.998	NO	bb
5	5 171125G1_6	Standard	8.850	3.12	3046.969	10923.131	8.006	9.0	2.1	NO	0.998	NO	bb
6	6 171125G1_7	Standard	22.100	3.12	7668.119	10961.457	20.077	22.7	2.5	NO	0.998	NO	bd
7	7 171125G1_8	Standard	44.200	3.12	14447.599	10288.462	40.302	45.5	2.9	NO	0.998	NO	bb
8	8 171125G1_9	Standard	66.300	3.12	20346.059	10105.089	57.786	65.2	-1.7	NO	0.998	NO	bb
9	9 171125G1_10	Standard	88.400	3.12	26241.977	9430.776	79.860	90.1	1.9	NO	0.998	NO	bbX

Compound name: PFOA

Coefficient of Determination: $R^2 = 0.999038$

Calibration curve: $0.841053 * x$

Response type: Internal Std (Ref 6), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	0.500	4.41	391.622	10353.699	0.378	0.4	-10.1	NO	0.999	NO	MM
2	2 171125G1_3	Standard	1.000	4.41	740.757	9329.975	0.794	0.9	-5.6	NO	0.999	NO	MM
3	3 171125G1_4	Standard	2.000	4.41	1754.398	10352.176	1.695	2.0	0.7	NO	0.999	NO	MM
4	4 171125G1_5	Standard	5.000	4.41	4610.348	10109.761	4.560	5.4	8.4	NO	0.999	NO	MM
5	5 171125G1_6	Standard	10.000	4.41	8710.974	10344.217	8.421	10.0	0.1	NO	0.999	NO	MM
6	6 171125G1_7	Standard	25.000	4.41	22122.717	9886.793	22.376	26.6	6.4	NO	0.999	NO	MM
7	7 171125G1_8	Standard	50.000	4.41	41221.871	9706.146	42.470	50.5	1.0	NO	0.999	NO	MM
8	8 171125G1_9	Standard	75.000	4.41	59173.539	9324.723	63.459	75.5	0.6	NO	0.999	NO	MM
9	9 171125G1_10	Standard	100.000	4.41	71499.648	8754.735	81.670	97.1	-2.9	NO	0.999	NO	MM

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:18:54 Pacific Standard Time

Compound name: PFOS

Coefficient of Determination: $R^2 = 0.998864$

Calibration curve: $1.18285 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	0.464	4.81	166.570	11353.713	0.421	0.4	-23.3	NO	0.999	NO	MM
2	2 171125G1_3	Standard	0.924	4.81	318.383	11312.515	0.808	0.7	-26.1	NO	0.999	NO	MM
3	3 171125G1_4	Standard	1.850	4.81	834.568	10414.688	2.300	1.9	5.1	NO	0.999	NO	MM
4	4 171125G1_5	Standard	4.620	4.81	2283.895	11717.421	5.594	4.7	2.4	NO	0.999	NO	MM
5	5 171125G1_6	Standard	9.240	4.81	4117.661	10923.131	10.819	9.1	-1.0	NO	0.999	NO	MM
6	6 171125G1_7	Standard	23.100	4.81	10156.604	10961.457	26.593	22.5	-2.7	NO	0.999	NO	MM
7	7 171125G1_8	Standard	46.200	4.81	19277.029	10288.462	53.774	45.5	-1.6	NO	0.999	NO	MM
8	8 171125G1_9	Standard	69.300	4.81	29526.109	10105.089	83.859	70.9	2.3	NO	0.999	NO	MM
9	9 171125G1_10	Standard	92.400	4.81	36144.129	9430.776	109.995	93.0	0.6	NO	0.999	NO	MMX

Compound name: 13C2-PFHxA

Response Factor: 0.450991

RRF SD: 0.0234656, Relative SD: 5.20312

Response type: Internal Std (Ref 6), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	10.000	3.47	4870.931	10353.699	4.705	10.4	4.3	NO		NO	bb
2	2 171125G1_3	Standard	10.000	3.47	4441.022	9329.975	4.760	10.6	5.5	NO		NO	bb
3	3 171125G1_4	Standard	10.000	3.47	4281.225	10352.176	4.136	9.2	-8.3	NO		NO	bd
4	4 171125G1_5	Standard	10.000	3.47	4499.601	10109.761	4.451	9.9	-1.3	NO		NO	bb
5	5 171125G1_6	Standard	10.000	3.47	4701.819	10344.217	4.545	10.1	0.8	NO		NO	bb
6	6 171125G1_7	Standard	10.000	3.47	4133.068	9886.793	4.180	9.3	-7.3	NO		NO	bb
7	7 171125G1_8	Standard	10.000	3.47	4328.377	9706.146	4.459	9.9	-1.1	NO		NO	bb
8	8 171125G1_9	Standard	10.000	3.47	4249.482	9324.723	4.557	10.1	1.0	NO		NO	bb
9	9 171125G1_10	Standard	10.000	3.47	4198.792	8754.735	4.796	10.6	6.3	NO		NO	bb

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:18:54 Pacific Standard Time

Compound name: 13C2-PFDA

Response Factor: 0.590185

RRF SD: 0.0468027, Relative SD: 7.93017

Response type: Internal Std (Ref 6), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	10.000	5.04	6324.458	10353.699	6.108	10.3	3.5	NO		NO	bb
2	2 171125G1_3	Standard	10.000	5.04	6302.661	9329.975	6.755	11.4	14.5	NO		NO	bd
3	3 171125G1_4	Standard	10.000	5.04	6422.071	10352.176	6.204	10.5	5.1	NO		NO	bb
4	4 171125G1_5	Standard	10.000	5.04	6106.069	10109.761	6.040	10.2	2.3	NO		NO	bb
5	5 171125G1_6	Standard	10.000	5.04	5345.813	10344.217	5.168	8.8	-12.4	NO		NO	bb
6	6 171125G1_7	Standard	10.000	5.04	5375.334	9886.793	5.437	9.2	-7.9	NO		NO	bb
7	7 171125G1_8	Standard	10.000	5.04	5589.127	9706.146	5.758	9.8	-2.4	NO		NO	bd
8	8 171125G1_9	Standard	10.000	5.04	5239.463	9324.723	5.619	9.5	-4.8	NO		NO	bd
9	9 171125G1_10	Standard	10.000	5.04	5277.000	8754.735	6.028	10.2	2.1	NO		NO	bd

Compound name: 13C2-PFOA

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 6), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	10.000	4.41	10353.699	10353.699	10.000	10.0	0.0	NO		NO	bd
2	2 171125G1_3	Standard	10.000	4.41	9329.975	9329.975	10.000	10.0	0.0	NO		NO	bb
3	3 171125G1_4	Standard	10.000	4.41	10352.176	10352.176	10.000	10.0	0.0	NO		NO	bd
4	4 171125G1_5	Standard	10.000	4.41	10109.761	10109.761	10.000	10.0	0.0	NO		NO	bb
5	5 171125G1_6	Standard	10.000	4.41	10344.217	10344.217	10.000	10.0	0.0	NO		NO	bb
6	6 171125G1_7	Standard	10.000	4.41	9886.793	9886.793	10.000	10.0	0.0	NO		NO	bd
7	7 171125G1_8	Standard	10.000	4.41	9706.146	9706.146	10.000	10.0	0.0	NO		NO	bb
8	8 171125G1_9	Standard	10.000	4.41	9324.723	9324.723	10.000	10.0	0.0	NO		NO	bb
9	9 171125G1_10	Standard	10.000	4.41	8754.735	8754.735	10.000	10.0	0.0	NO		NO	bd

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

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Compound name: 13C4-PFOS

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171125G1_2	Standard	28.700	4.81	11353.713	11353.713	28.700	28.7	0.0	NO		NO	bb
2	2 171125G1_3	Standard	28.700	4.81	11312.515	11312.515	28.700	28.7	0.0	NO		NO	bd
3	3 171125G1_4	Standard	28.700	4.81	10414.688	10414.688	28.700	28.7	0.0	NO		NO	bd
4	4 171125G1_5	Standard	28.700	4.81	11717.421	11717.421	28.700	28.7	0.0	NO		NO	MM
5	5 171125G1_6	Standard	28.700	4.81	10923.131	10923.131	28.700	28.7	0.0	NO		NO	bd
6	6 171125G1_7	Standard	28.700	4.81	10961.457	10961.457	28.700	28.7	0.0	NO		NO	bd
7	7 171125G1_8	Standard	28.700	4.81	10288.462	10288.462	28.700	28.7	0.0	NO		NO	bd
8	8 171125G1_9	Standard	28.700	4.81	10105.089	10105.089	28.700	28.7	0.0	NO		NO	bd
9	9 171125G1_10	Standard	28.700	4.81	9430.776	9430.776	28.700	28.7	0.0	NO		NO	MMX

Dataset: Untitled

Last Altered: Monday, November 27, 2017 09:22:48 Pacific Standard Time

Printed: Monday, November 27, 2017 09:24:50 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 26 Nov 2017 20:36:49

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	171125G1_1	IPA	25-Nov-17	15:18:23
2	171125G1_2	ST171125G1-1 PFC CS-3 537 17K2003	25-Nov-17	15:30:51
3	171125G1_3	ST171125G1-2 PFC CS-2 537 17K2004	25-Nov-17	15:43:15
4	171125G1_4	ST171125G1-3 PFC CS-1 537 17K2005	25-Nov-17	15:55:39
5	171125G1_5	ST171125G1-4 PFC CS0 537 17K2006	25-Nov-17	16:08:05
6	171125G1_6	ST171125G1-5 PFC CS1 537 17K2007	25-Nov-17	16:20:31
7	171125G1_7	ST171125G1-6 PFC CS2 537 17K2008	25-Nov-17	16:32:58
8	171125G1_8	ST171125G1-7 PFC CS3 537 17K2009	25-Nov-17	16:45:24
9	171125G1_9	ST171125G1-8 PFC CS4 537 17K2010	25-Nov-17	16:57:53
10	171125G1_10	ST171125G1-9 PFC CS5 537 17K2011	25-Nov-17	17:10:21
11	171125G1_11	IPA	25-Nov-17	17:22:45
12	171125G1_12	ICV171125G1-1 PFC ICV 537 17K2012	25-Nov-17	17:35:12
13	171125G1_13	IPA	25-Nov-17	17:47:37
14	171125G1_14	B7K0117-BS1	25-Nov-17	18:00:08
15	171125G1_15	B7K0117-BSD1	25-Nov-17	18:12:34
16	171125G1_16	IPA	25-Nov-17	18:24:59
17	171125G1_17	B7K0117-BLK1	25-Nov-17	18:37:25
18	171125G1_18	1701712-01 CH-AT-1RW13-1117	25-Nov-17	18:49:51
19	171125G1_19	1701712-02 CH-AT-1FB13-1117	25-Nov-17	19:02:18
20	171125G1_20	1701712-03 CH-AT-1RW14-1117	25-Nov-17	19:14:46
21	171125G1_21	1701712-04 CH-AT-1FB14-1117	25-Nov-17	19:27:13
22	171125G1_22	1701712-05 CH-AT-1RW15-1117	25-Nov-17	19:39:37
23	171125G1_23	1701712-06 CH-AT-1FB15-1117	25-Nov-17	19:52:02
24	171125G1_24	1701712-07 CH-AT-1RW16-1117	25-Nov-17	20:04:26
25	171125G1_25	1701712-08 CH-AT-1FB16-1117	25-Nov-17	20:16:52
26	171125G1_26	1701712-09 CH-AT-1RW17-1117	25-Nov-17	20:29:18
27	171125G1_27	1701712-10 CH-AT-1FB17-1117	25-Nov-17	20:41:44
28	171125G1_28	1701712-11 CH-AT-1RW18-1117	25-Nov-17	20:54:11
29	171125G1_29	1701712-12 CH-AT-1FB18-1117	25-Nov-17	21:06:38
30	171125G1_30	1701712-13 CH-AT-1RW19-1117	25-Nov-17	21:19:02
31	171125G1_31	1701712-14 CH-AT-1FB19-1117	25-Nov-17	21:31:26

Dataset: Untitled

Last Altered: Monday, November 27, 2017 09:22:48 Pacific Standard Time

Printed: Monday, November 27, 2017 09:24:50 Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	171125G1_32	1701712-15 CH-AT-1RW20-1117	25-Nov-17	21:43:51
33	171125G1_33	1701712-16 CH-AT-1FB20-1117	25-Nov-17	21:56:19
34	171125G1_34	1701712-17 CH-AT-1RW21-1117	25-Nov-17	22:08:47
35	171125G1_35	1701712-18 CH-AT-1FB21-1117	25-Nov-17	22:21:13
36	171125G1_36	1701712-19 CH-AT-1RW22-1117	25-Nov-17	22:33:40
37	171125G1_37	1701712-20 CH-AT-1FB22-1117	25-Nov-17	22:46:08
38	171125G1_38	IPA	25-Nov-17	22:58:31
39	171125G1_39	ST171125G1-10 PFC CS3 17K2009	25-Nov-17	23:10:59
40	171125G1_40	IPA	25-Nov-17	23:23:26

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:19:38 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 26 Nov 2017 19:34:27

Calibration: 26 Nov 2017 19:51:30 C18_537_Q1_11-25-17-L3

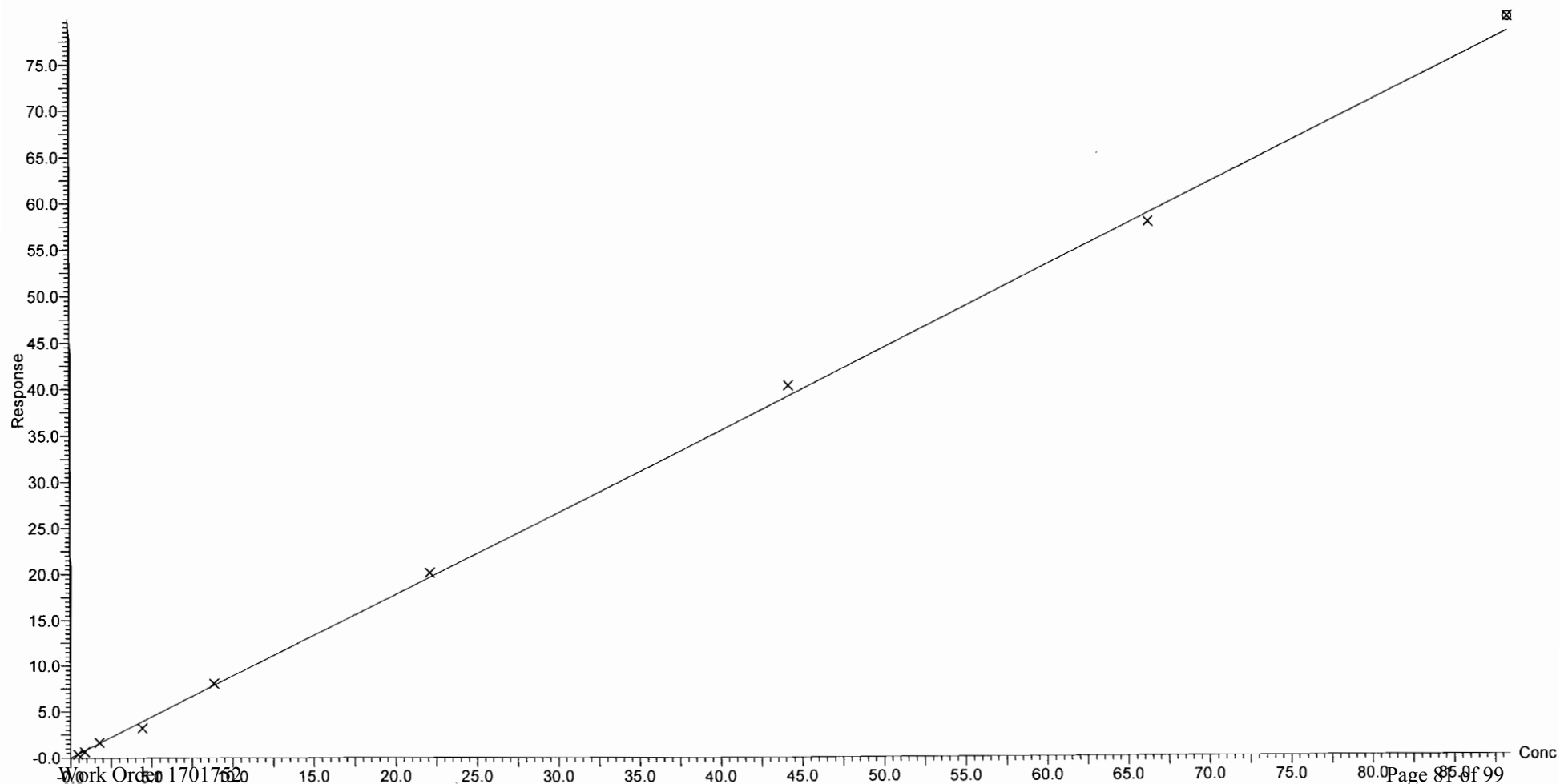
Compound name: PFBS

Coefficient of Determination: $R^2 = 0.998067$

Calibration curve: $0.886278 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:19:38 Pacific Standard Time

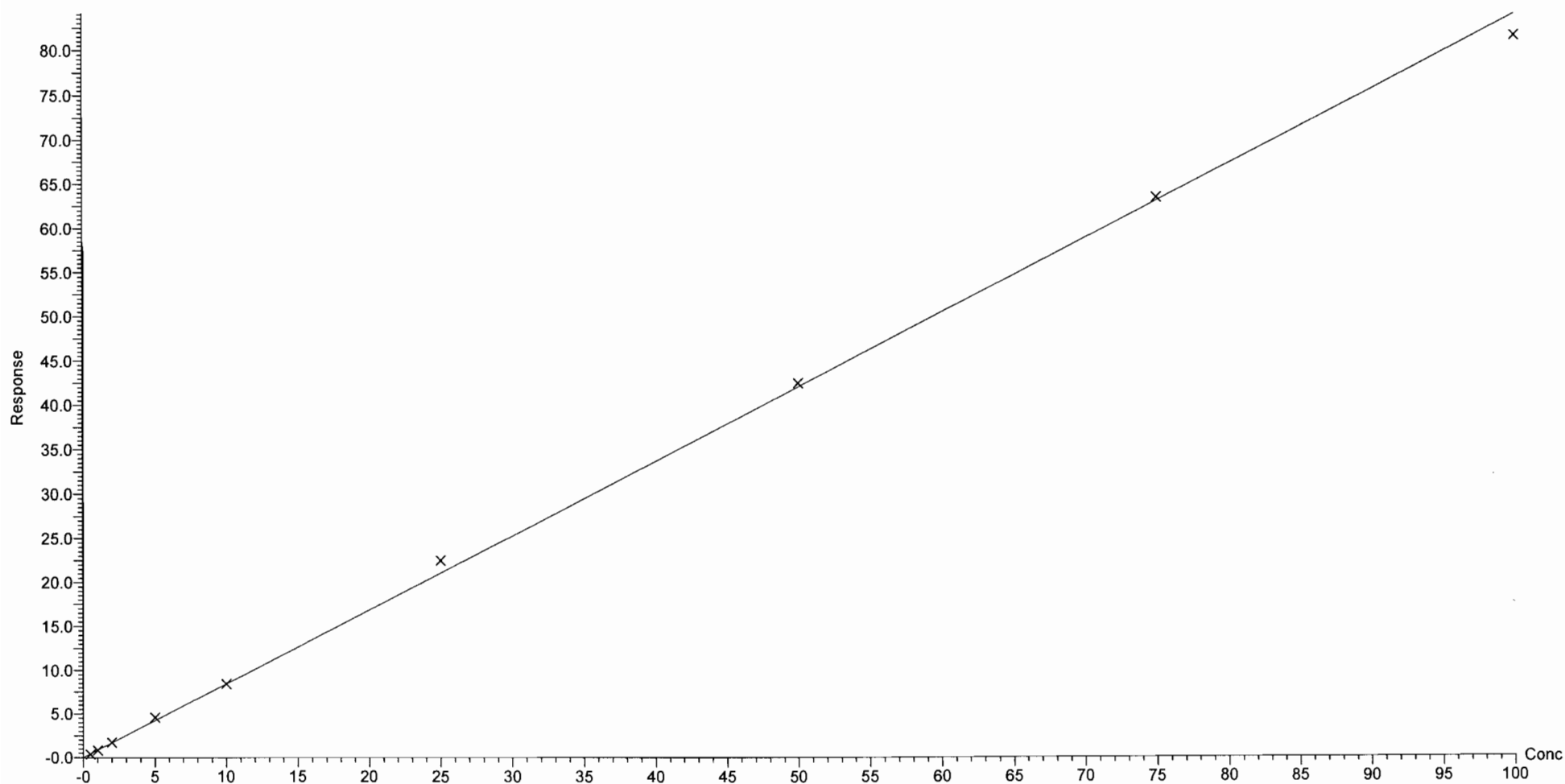
Compound name: PFOA

Coefficient of Determination: $R^2 = 0.999038$

Calibration curve: $0.841053 * x$

Response type: Internal Std (Ref 6), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

Printed: Monday, November 27, 2017 09:19:38 Pacific Standard Time

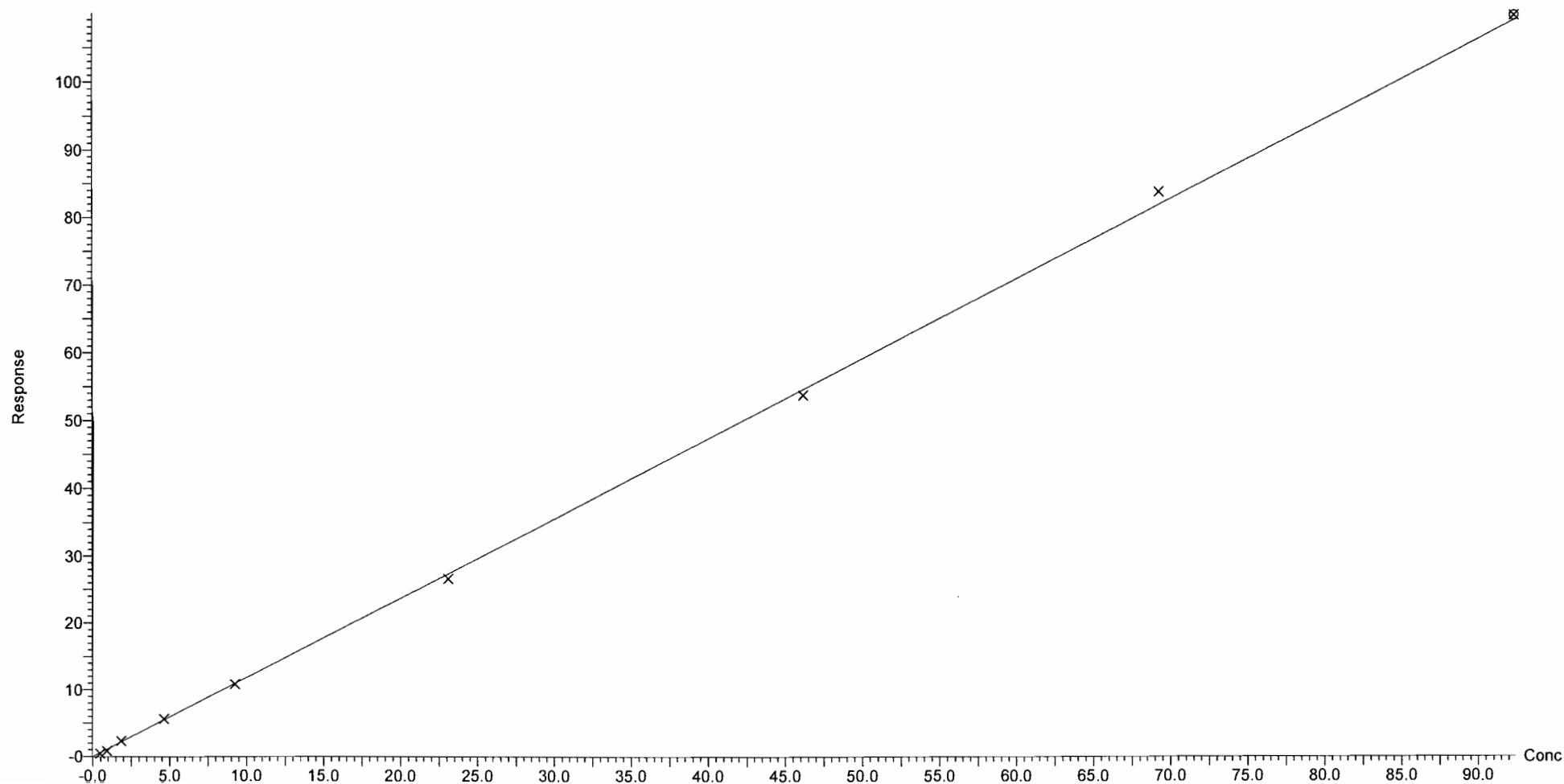
Compound name: PFOS

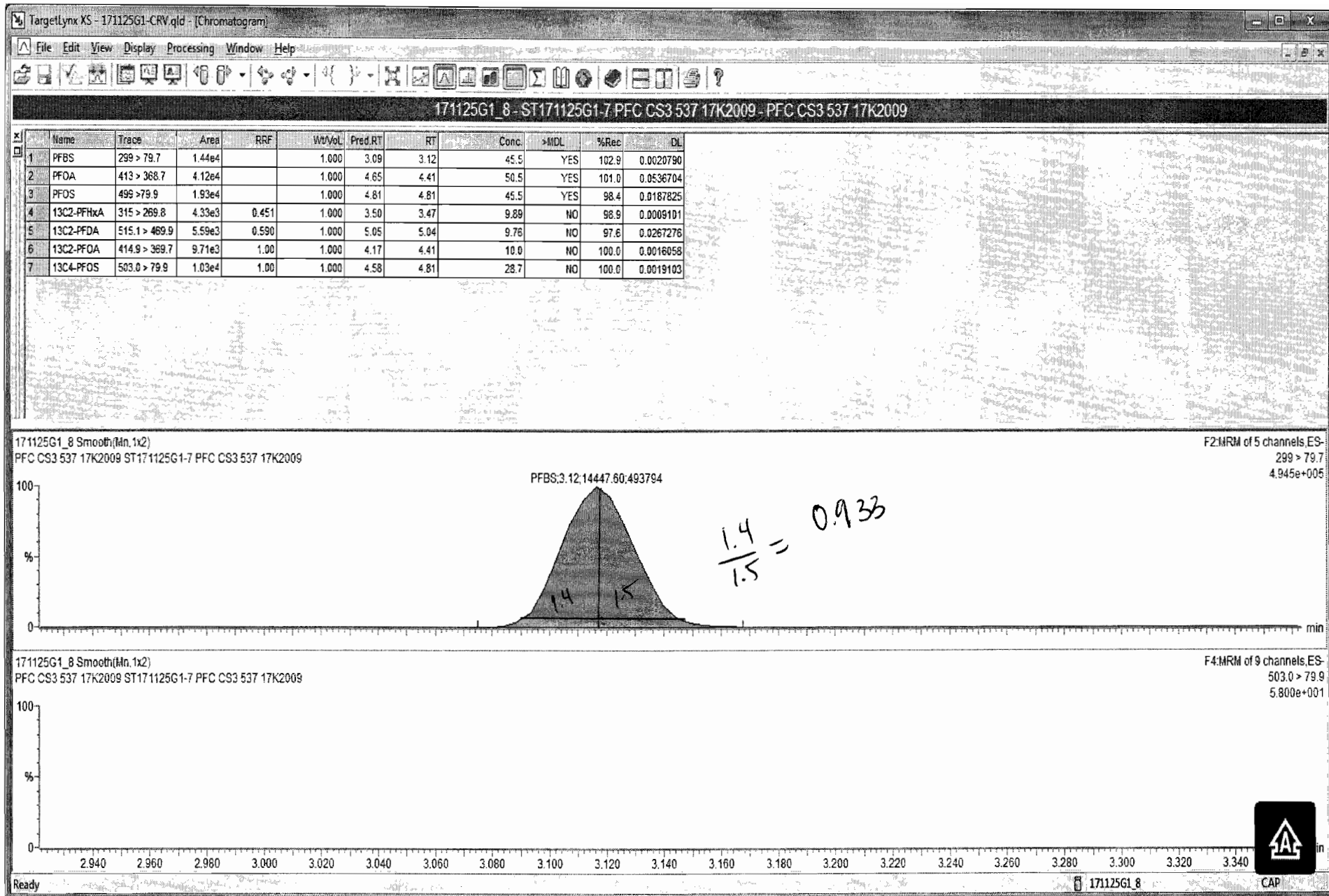
Coefficient of Determination: $R^2 = 0.998864$

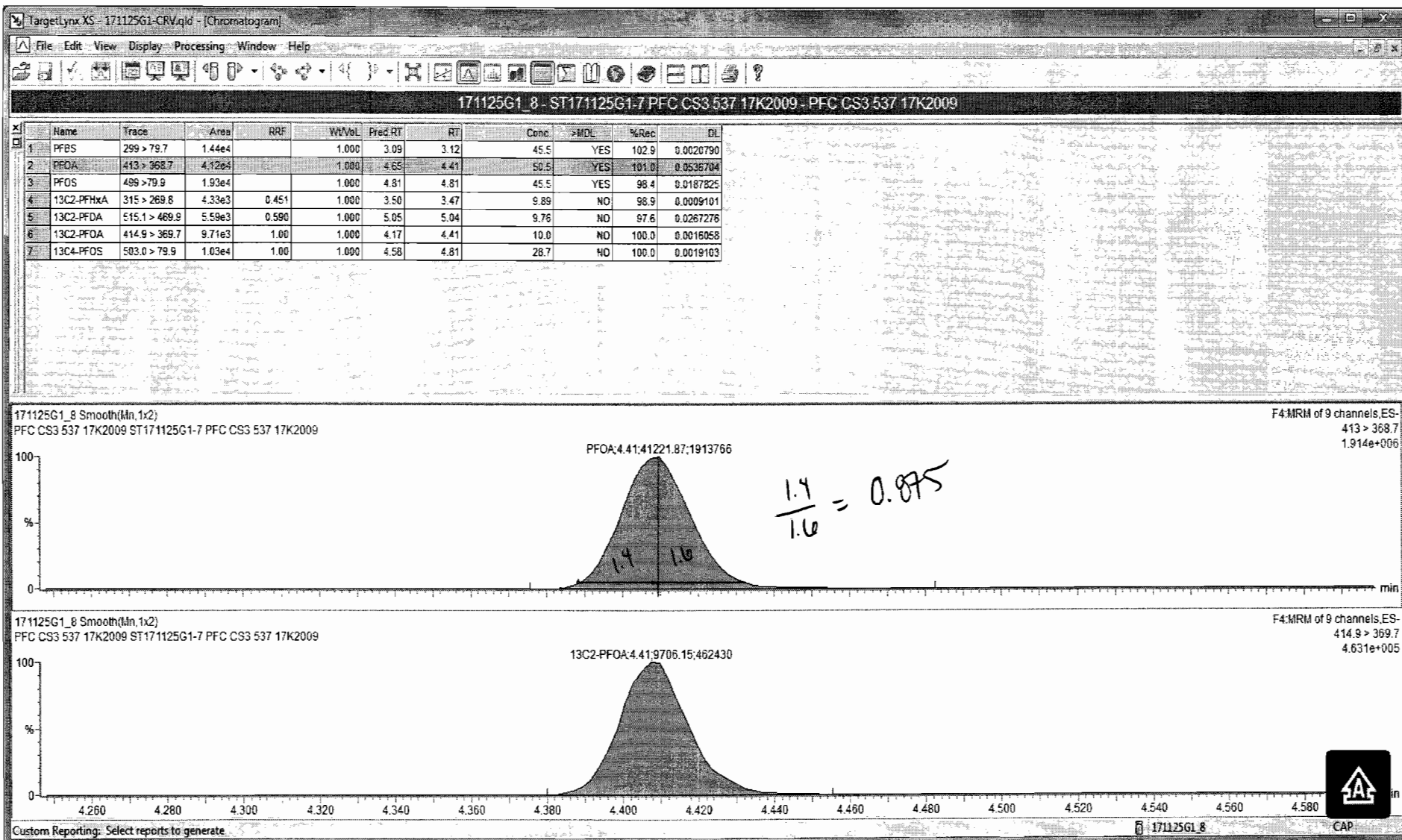
Calibration curve: $1.18285 * x$

Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)

Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None







Compound 6: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	IS Area	X=excluded	
							Primary	Flags
1	ST171125G1-1 PFC CS-3 537 17K2003	171125G1_Standard	10	4.41	10353.7	10353.7	bd	
2	ST171125G1-2 PFC CS-2 537 17K2004	171125G1_Standard	10	4.41	9329.975	9329.975	bb	
3	ST171125G1-3 PFC CS-1 537 17K2005	171125G1_Standard	10	4.41	10352.18	10352.18	bd	
4	ST171125G1-4 PFC CS0 537 17K2006	171125G1_Standard	10	4.41	10109.76	10109.76	bb	
5	ST171125G1-5 PFC CS1 537 17K2007	171125G1_Standard	10	4.41	10344.22	10344.22	bb	
6	ST171125G1-6 PFC CS2 537 17K2008	171125G1_Standard	10	4.41	9886.793	9886.793	bd	
7	ST171125G1-7 PFC CS3 537 17K2009	171125G1_Standard	10	4.41	9706.146	9706.146	bb	
8	ST171125G1-8 PFC CS4 537 17K2010	171125G1_Standard	10	4.41	9324.723	9324.723	bb	
9	ST171125G1-9 PFC CS5 537 17K2011	171125G1_Standard	10	4.41	8754.735	8754.735	bd	
Average Area:							RPD:	
9795.803								16.72108

Compound 7: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	IS Area	X=excluded	
							Primary	Flags
1	ST171125G1-1 PFC CS-3 537 17K2003	171125G1_Standard	28.7	4.81	11353.71	11353.71	bb	
2	ST171125G1-2 PFC CS-2 537 17K2004	171125G1_Standard	28.7	4.81	11312.52	11312.52	bd	
3	ST171125G1-3 PFC CS-1 537 17K2005	171125G1_Standard	28.7	4.81	10414.69	10414.69	bd	
4	ST171125G1-4 PFC CS0 537 17K2006	171125G1_Standard	28.7	4.81	11717.42	11717.42	MM	
5	ST171125G1-5 PFC CS1 537 17K2007	171125G1_Standard	28.7	4.81	10923.13	10923.13	bd	
6	ST171125G1-6 PFC CS2 537 17K2008	171125G1_Standard	28.7	4.81	10961.46	10961.46	bd	
7	ST171125G1-7 PFC CS3 537 17K2009	171125G1_Standard	28.7	4.81	10288.46	10288.46	bd	
8	ST171125G1-8 PFC CS4 537 17K2010	171125G1_Standard	28.7	4.81	10105.09	10105.09	bd	
9	ST171125G1-9 PFC CS5 537 17K2011	171125G1_Standard	28.7	4.81	9430.776	9430.776	MMX	
Average Area:							RPD:	
10884.56								14.77678

Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-CRV.qld

Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

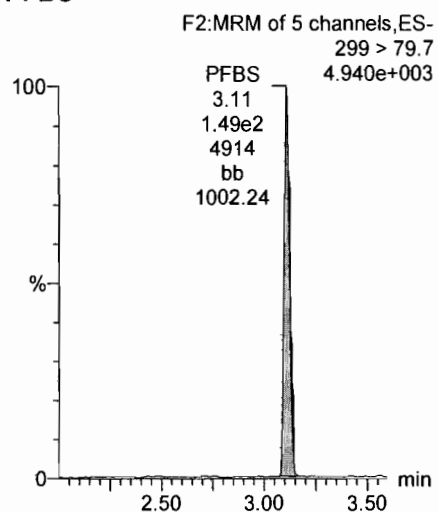
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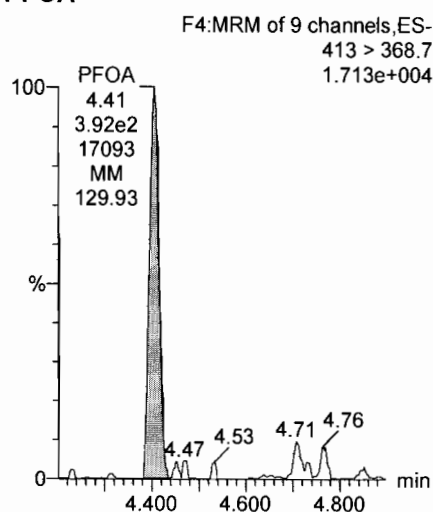
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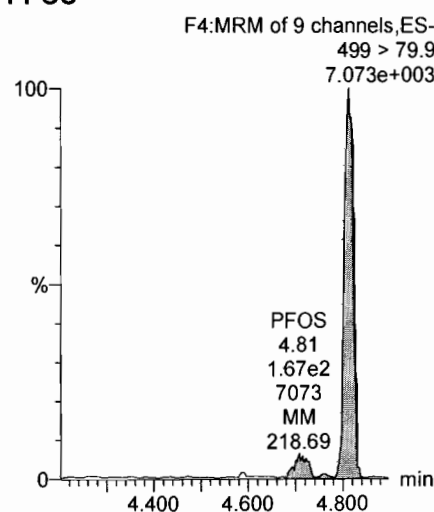
PFBS



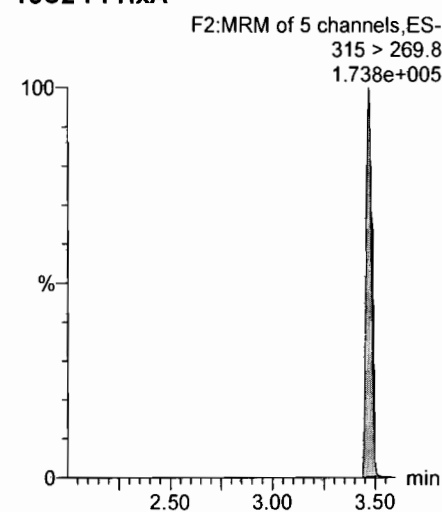
PFOA



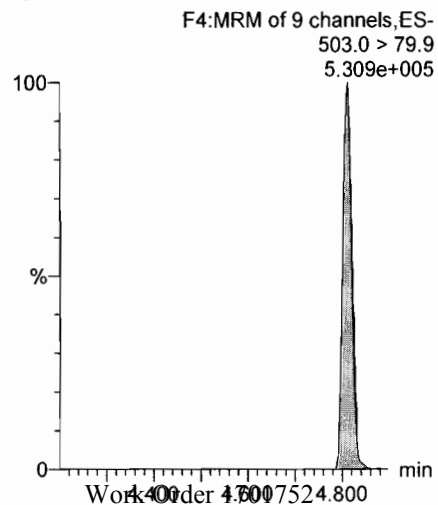
PFOS



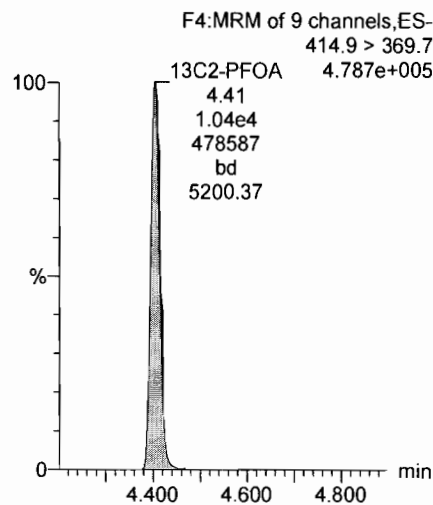
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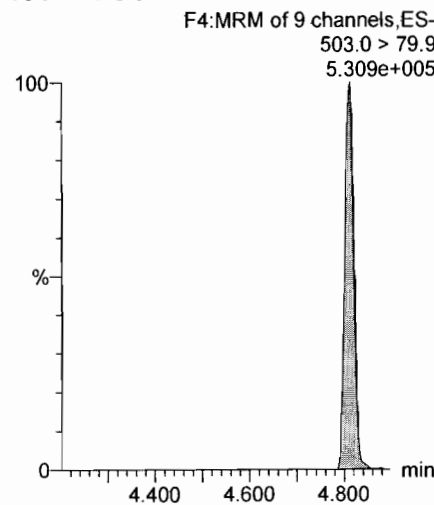
13C4-PFOS



13C2-PFOA



13C4-PFOS



13C2-PFDA

F5:MRM of 10 channels,ES-
515.1 > 469.9
3.044e+005

13C2-PFDA
5.04
6.32e3
304142
bb
21037.45

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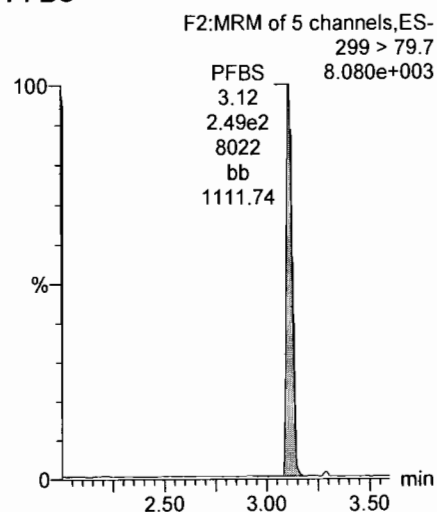
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Last Altered: Sunday, November 26, 2017 19:51:30 Pacific Standard Time

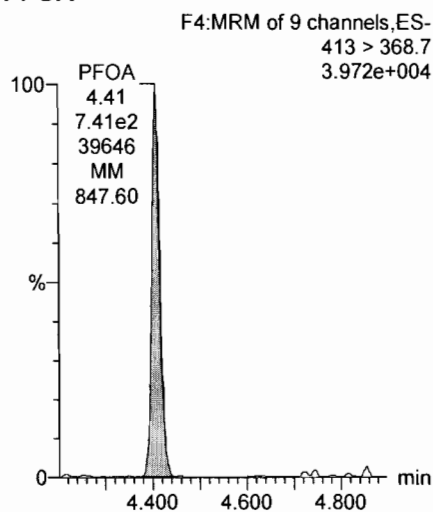
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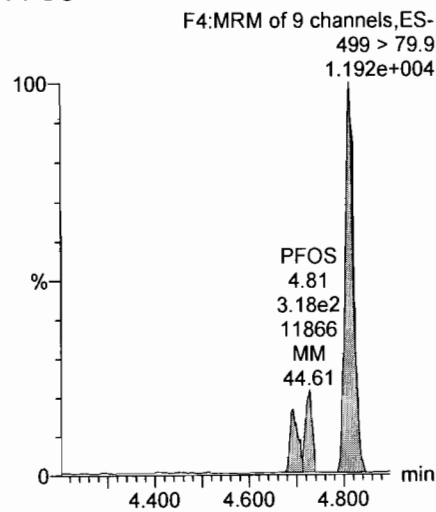
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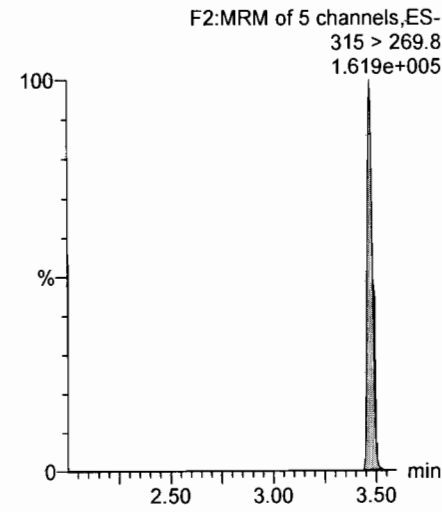
PFOA



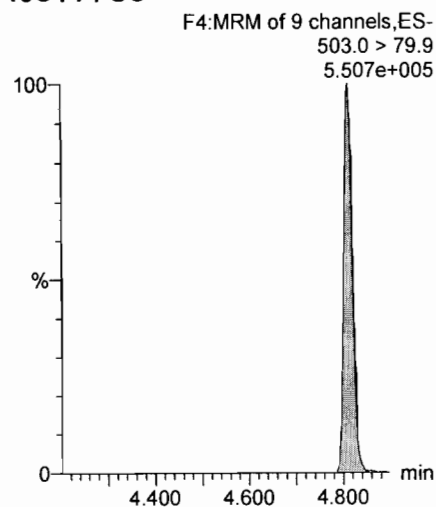
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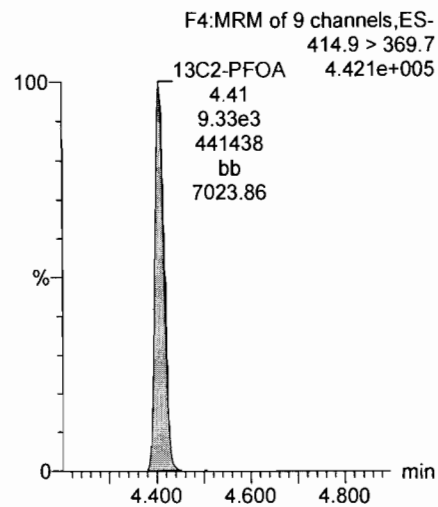
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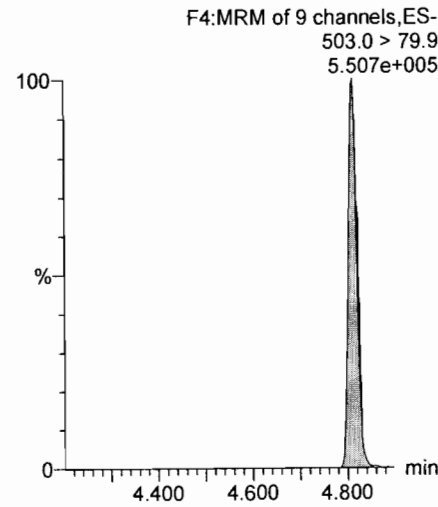
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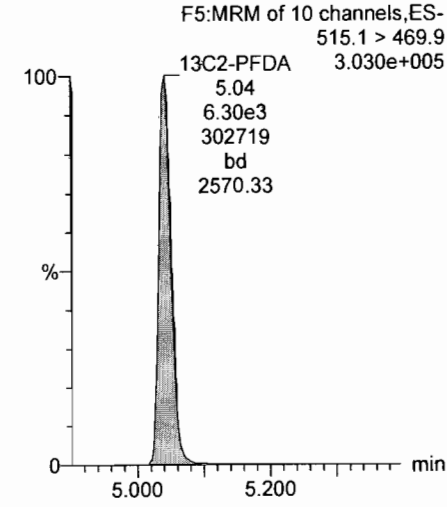
13C2-PFOA



13C4-PFOS



13C2-PFDA

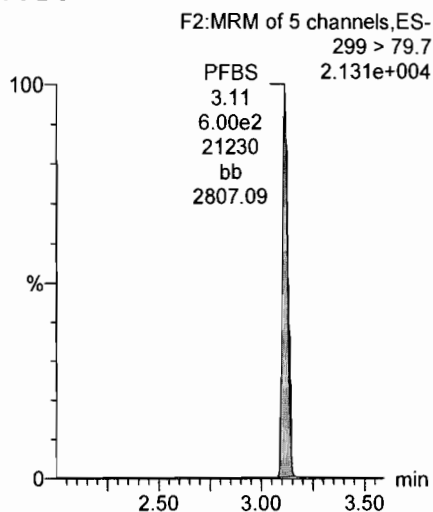


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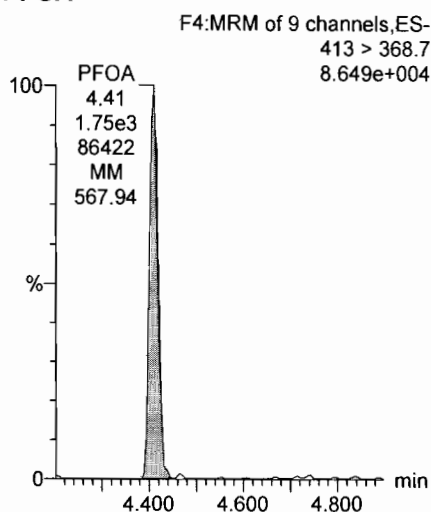
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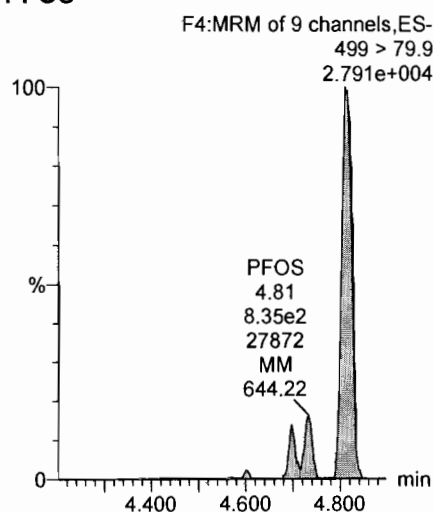
PFBS



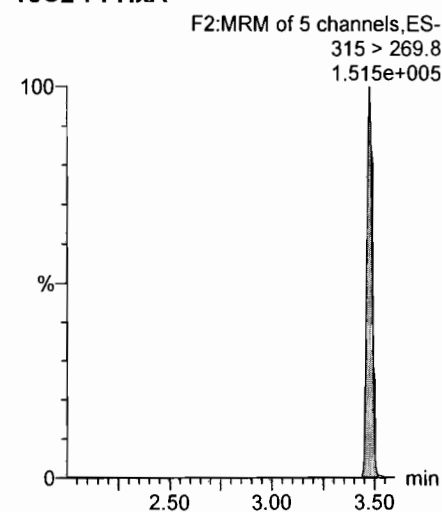
PFOA



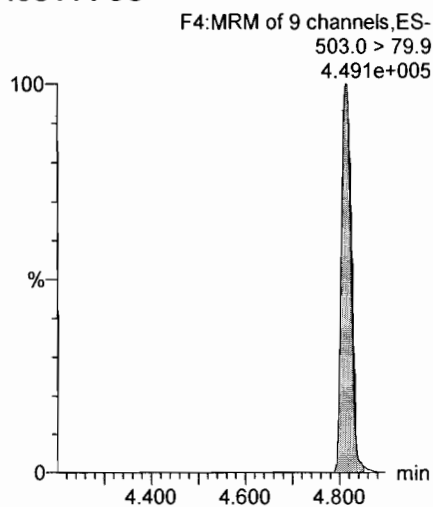
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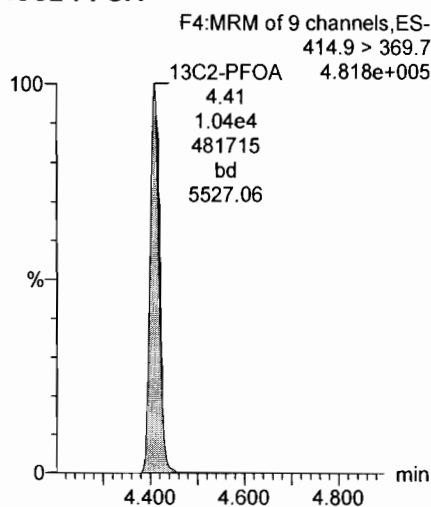
13C2-PFHxA



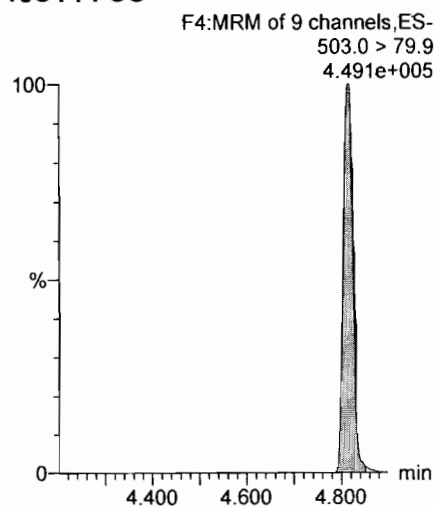
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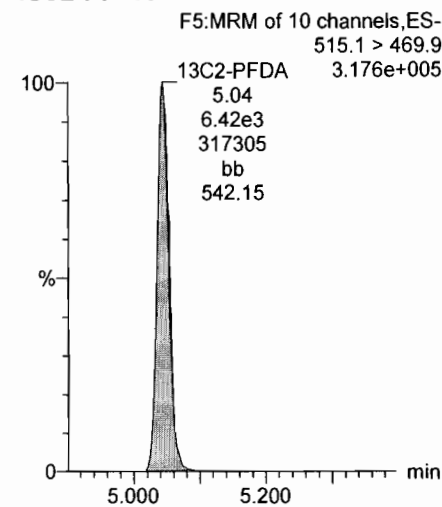
13C2-PFOA



13C4-PFOS



13C2-PFDA



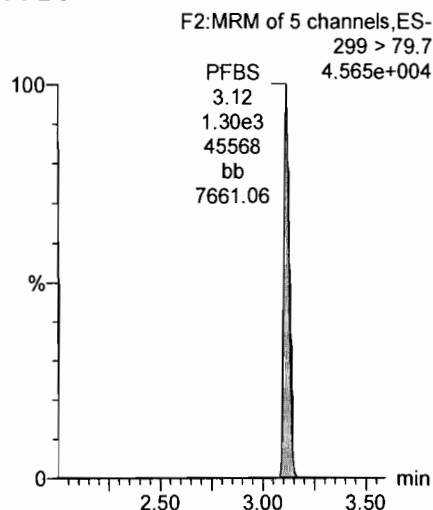
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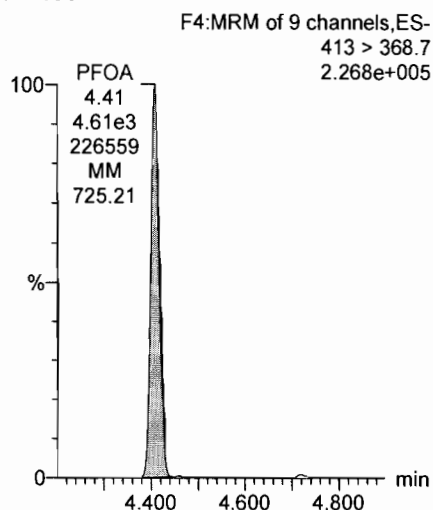
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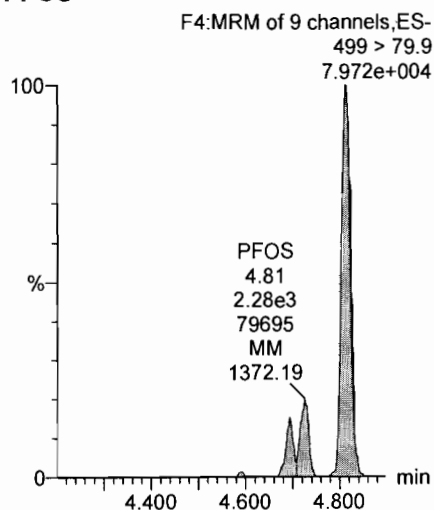
PFBS



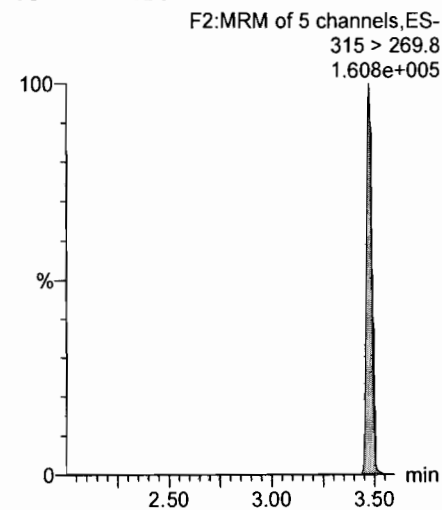
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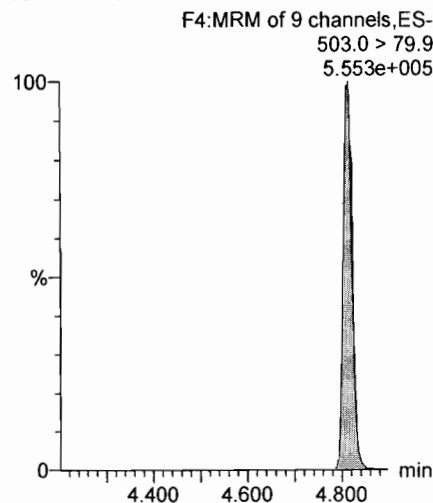
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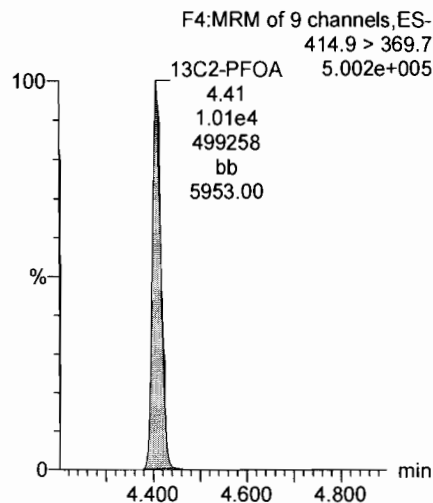
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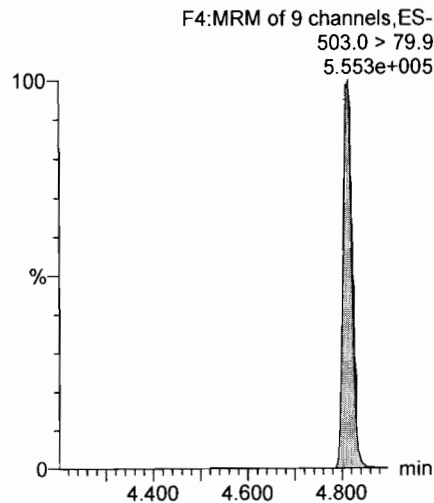
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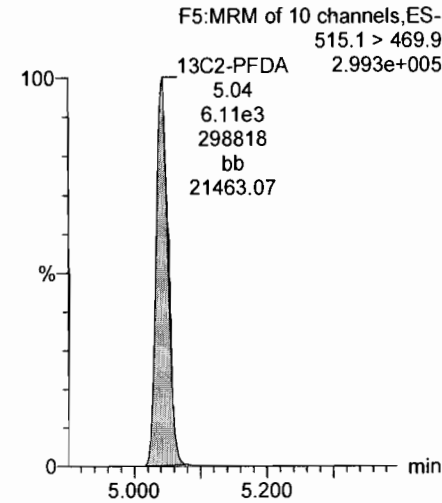
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13C4-PFOS



13C2-PFDA

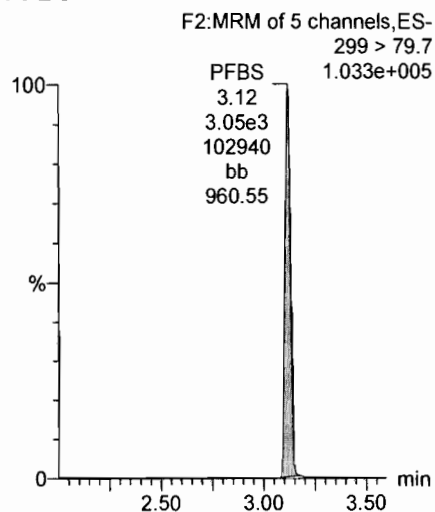


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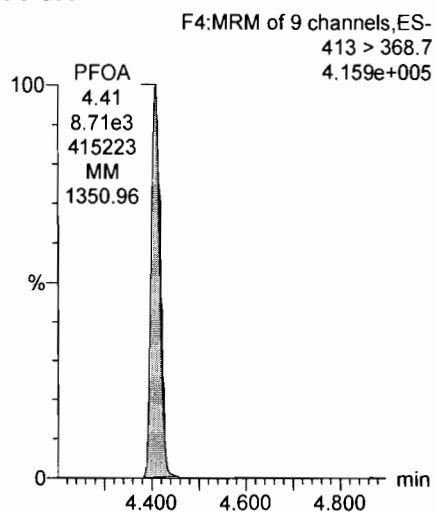
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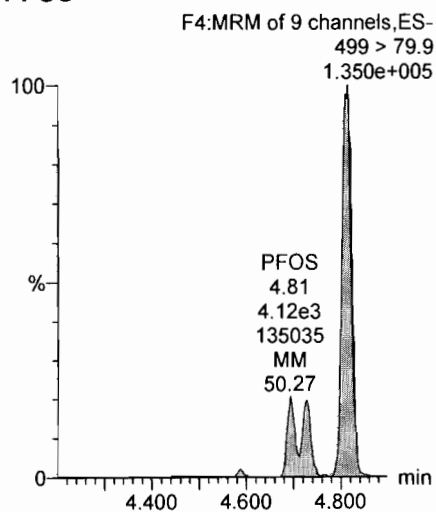
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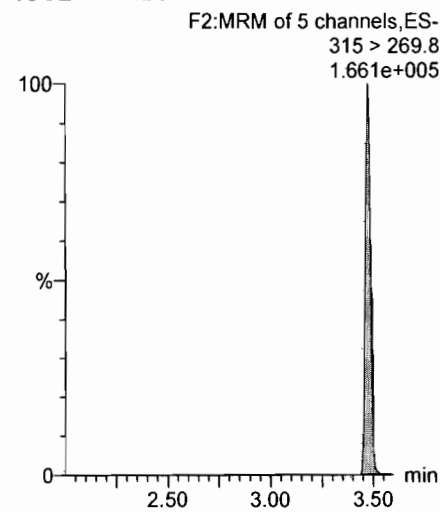
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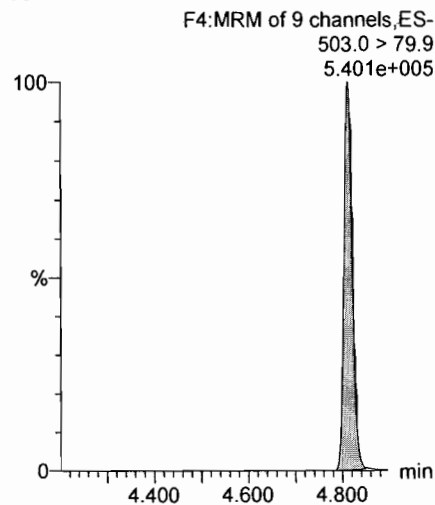
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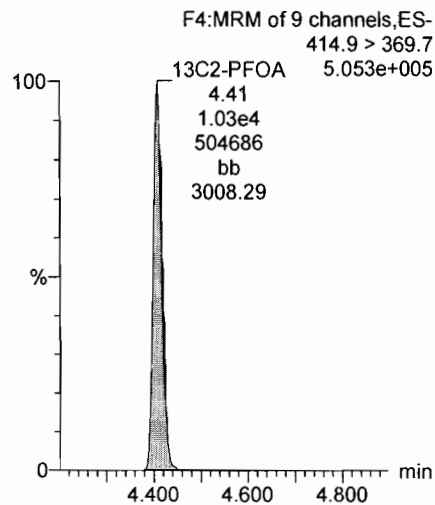
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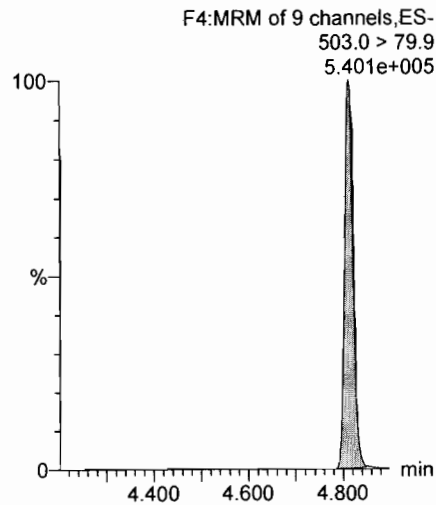
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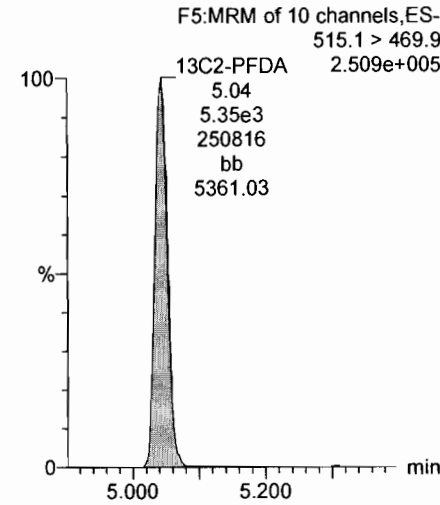
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13C4-PFOS



13C2-PFDA

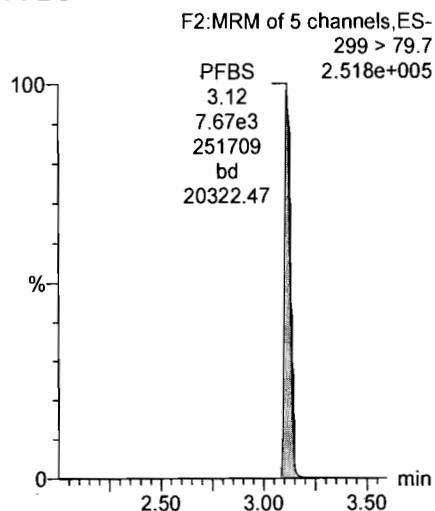


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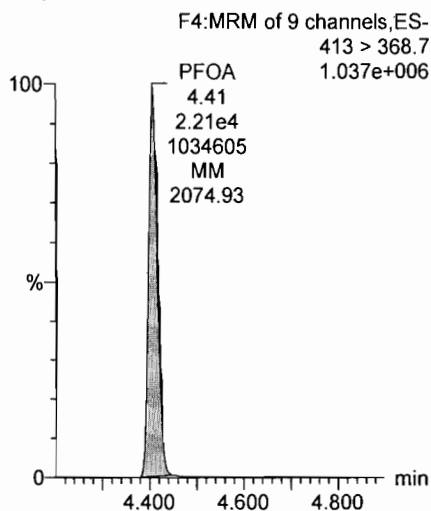
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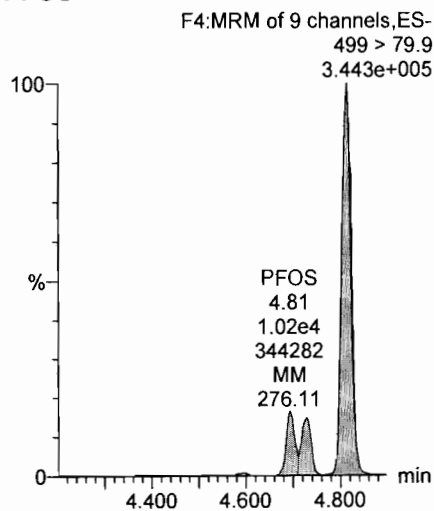
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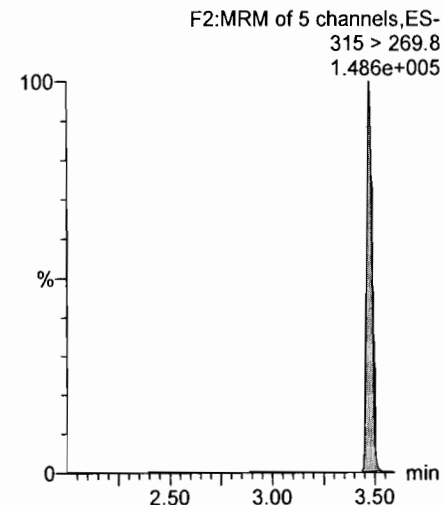
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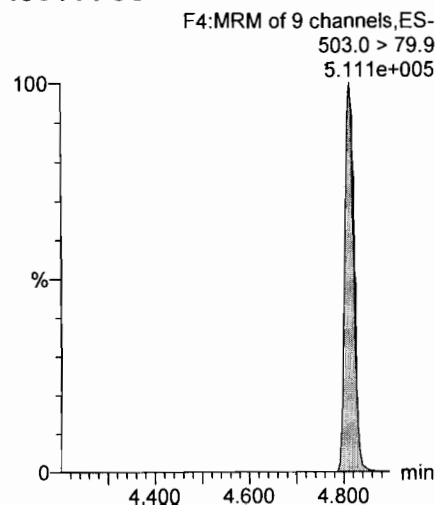
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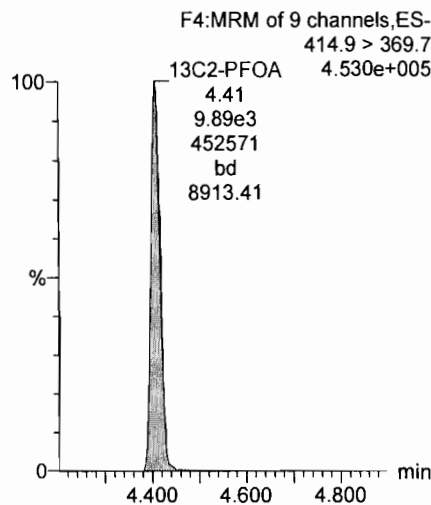
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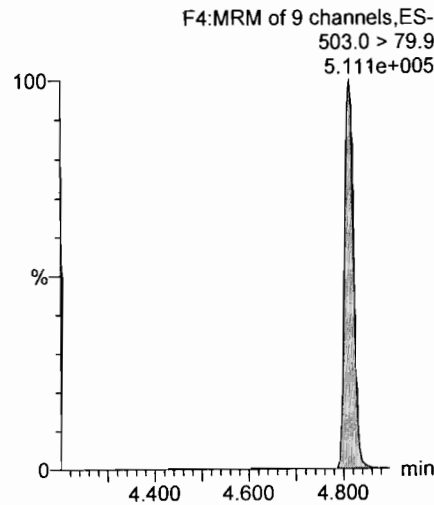
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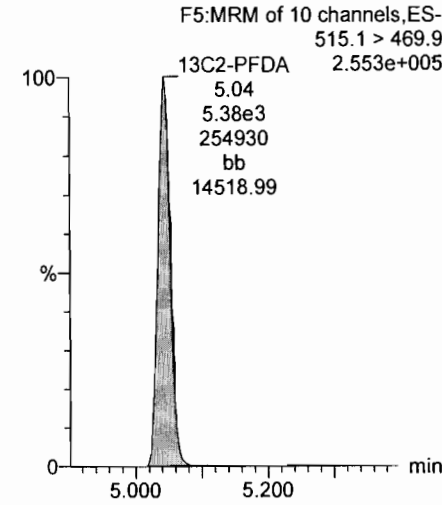
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13C4-PFOS



13C2-PFDA

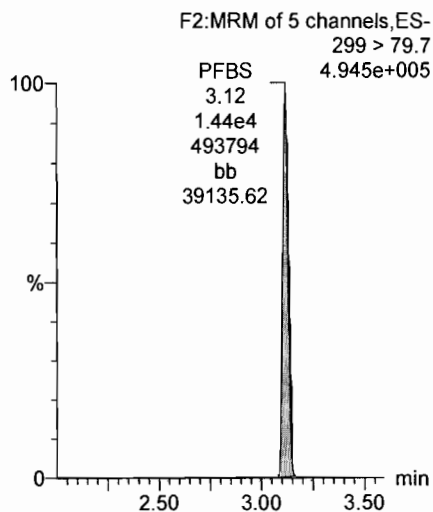


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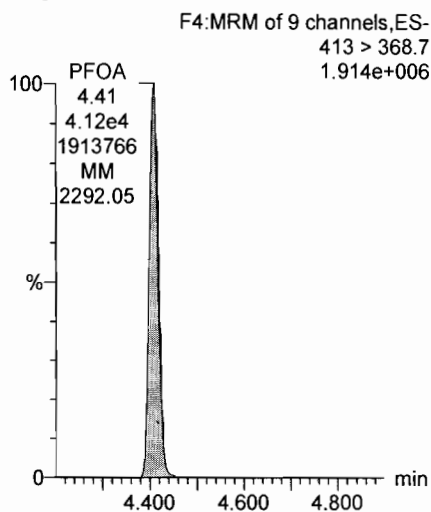
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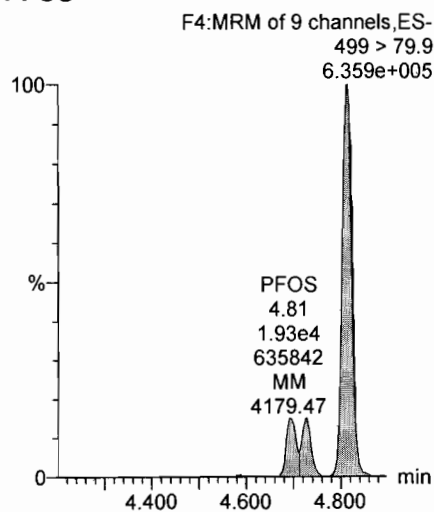
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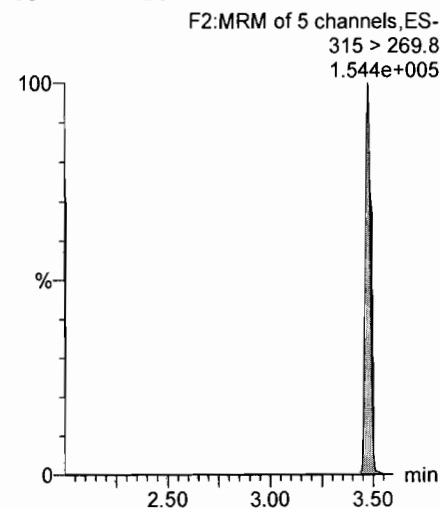
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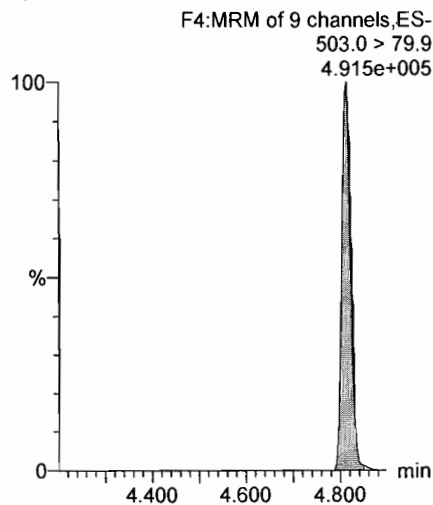
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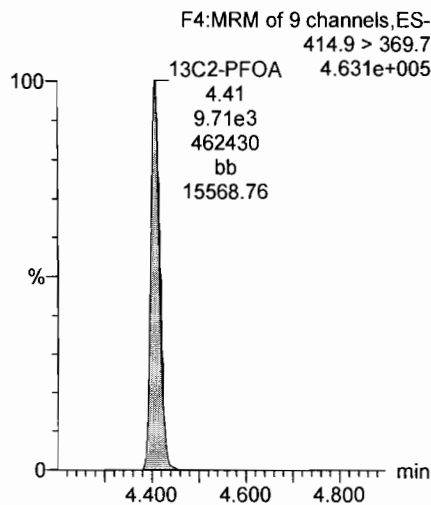
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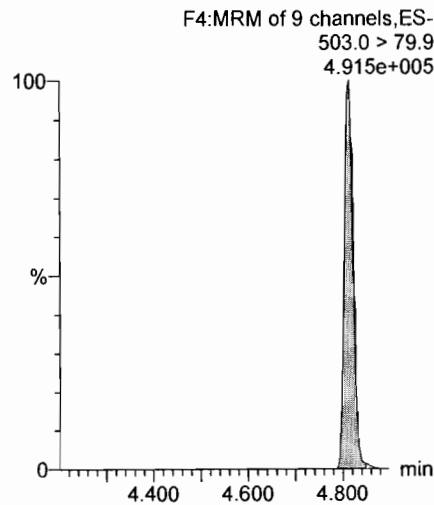
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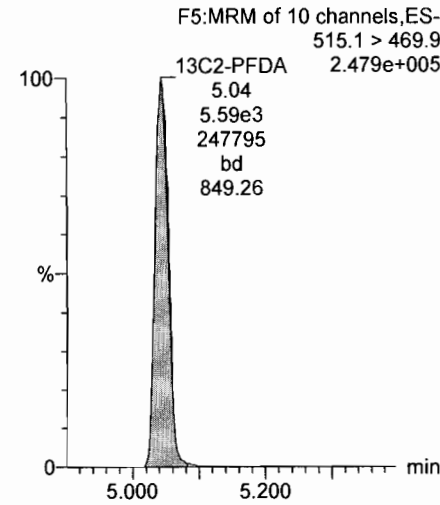
13C2-PFOA



13C4-PFOS



13C2-PFDA

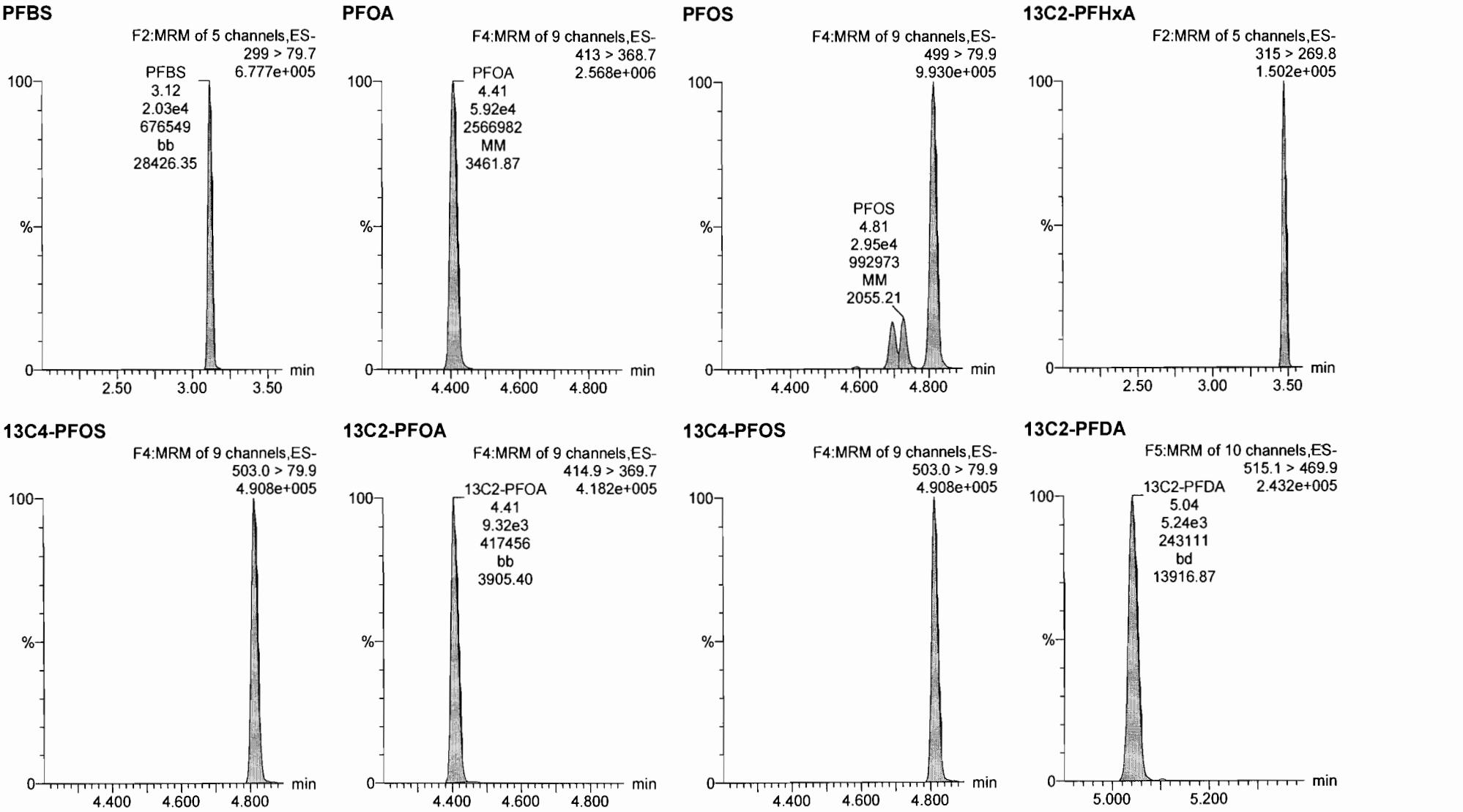


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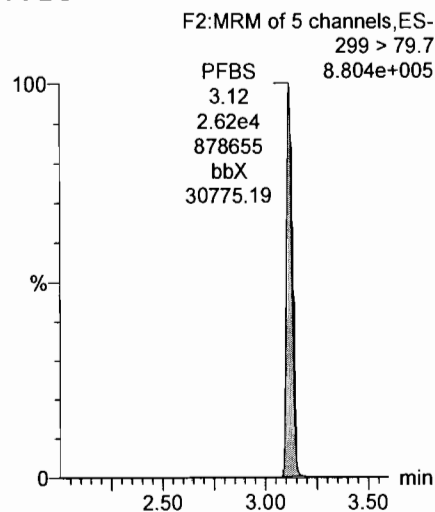
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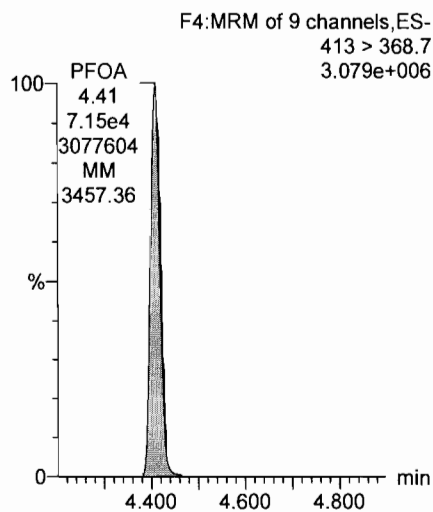
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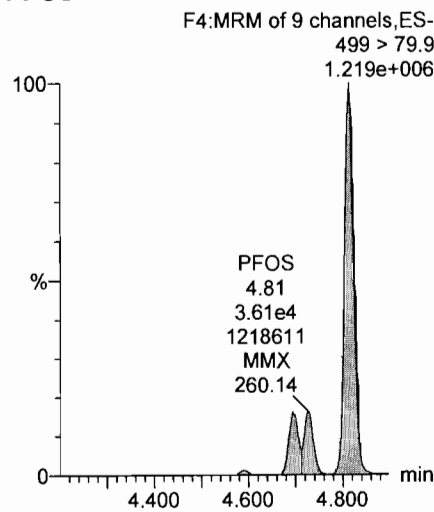
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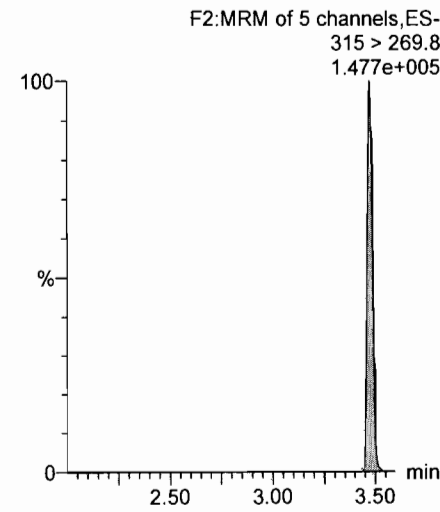
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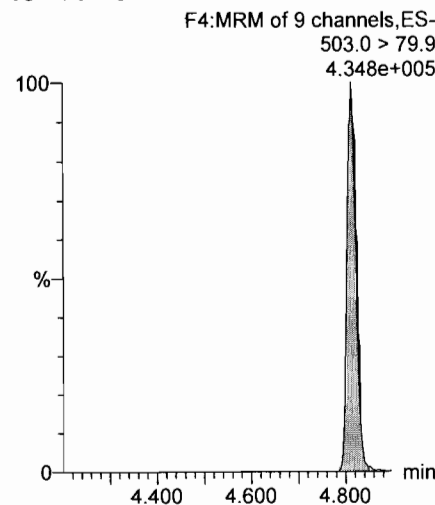
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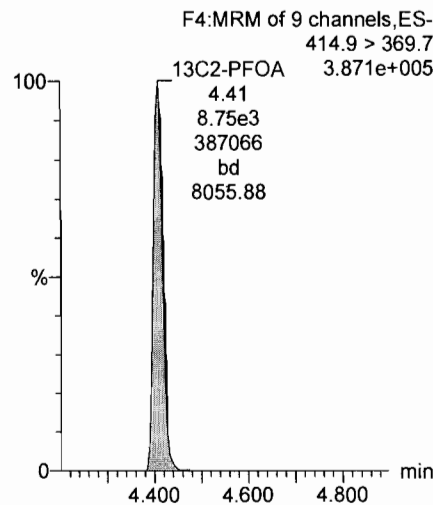
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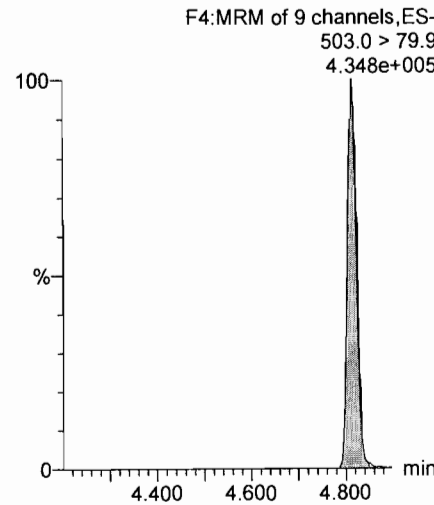
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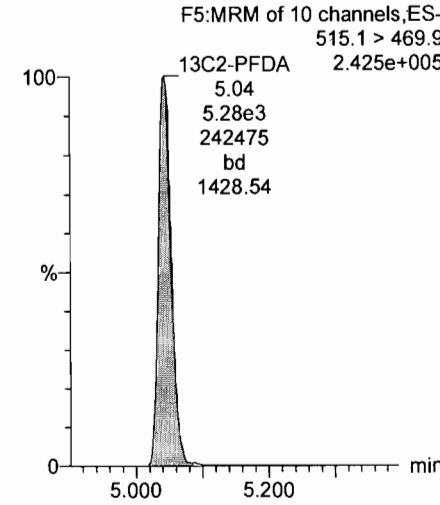
13C2-PFOA



13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-icv.qld

Last Altered: Sunday, November 26, 2017 20:30:59 Pacific Standard Time
Printed: Monday, November 27, 2017 09:36:34 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 26 Nov 2017 20:29:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_11-25-17_L3.cdb 26 Nov 2017 19:51:30

Name: 171125G1_12, Date: 25-Nov-2017, Time: 17:35:12, ID: ICV171125G1-1 PFC ICV 537 17K2012, Description: PFC ICV 537 17K2012

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	3.28e3	1.06e4		1.0000	3.09	3.12	8.89	10.0	100.3
2	2 PFOA	413 > 368.7	9.56e3	1.01e4		1.0000	4.65	4.41	9.49	11.3	112.8
3	3 PFOS	499 > 79.9	4.55e3	1.06e4		1.0000	4.81	4.81	12.3	10.4	104.3
4	4 13C2-PFHxA	315 > 269.8	4.60e3	1.01e4	0.451	1.0000	3.50	3.48	4.56	10.1	101.2
5	5 13C2-PFDA	515.1 > 469.9	5.30e3	1.01e4	0.590	1.0000	5.05	5.04	5.26	8.92	89.2
6	6 13C2-PFOA	414.9 > 369.7	1.01e4	1.01e4	1.000	1.0000	4.17	4.41	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.06e4	1.06e4	1.000	1.0000	4.58	4.81	28.7	28.7	100.0

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Dataset: U:\G1.PRO\Results\2017\171125G1\171125G1-icv.qld

Last Altered: Sunday, November 26, 2017 20:30:59 Pacific Standard Time

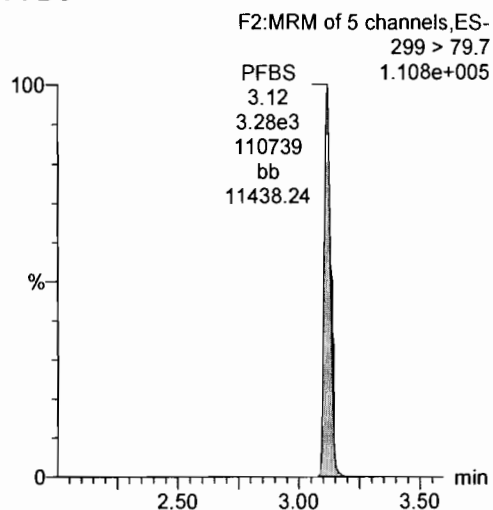
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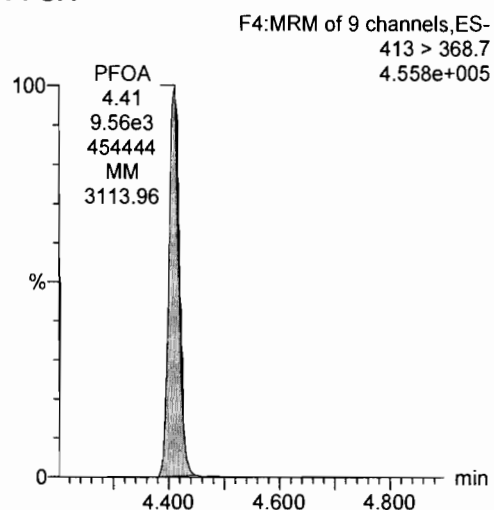
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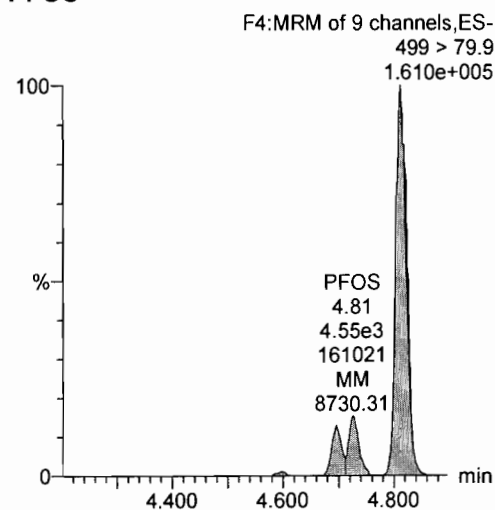
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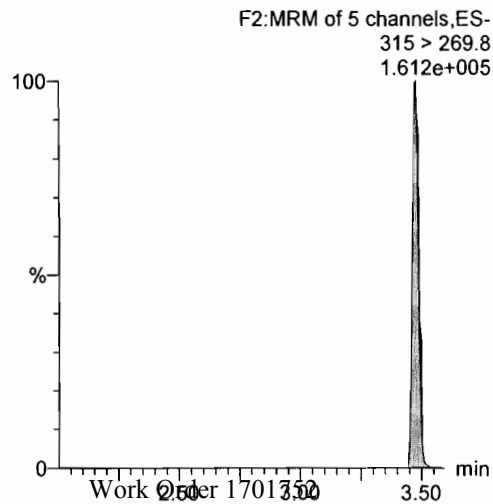
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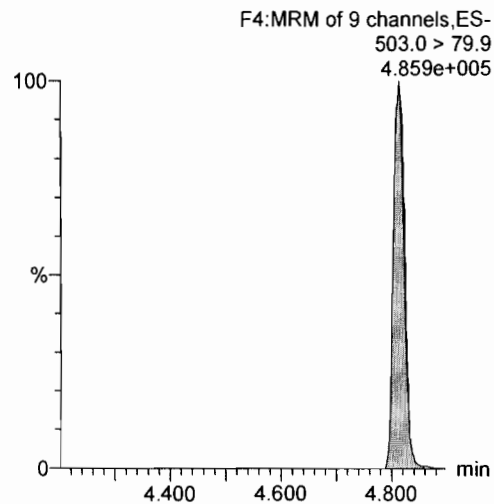
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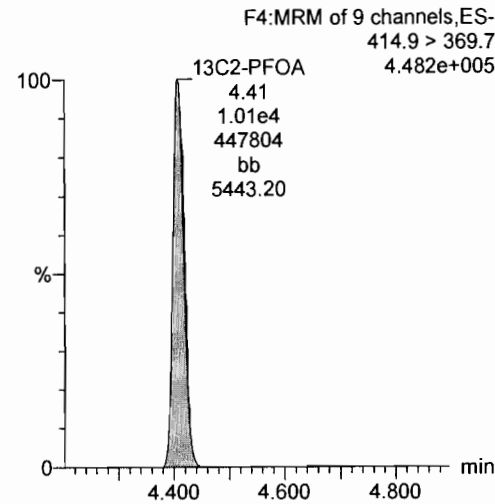
13C2-PFHxA



13C4-PFOS



13C2-PFOA



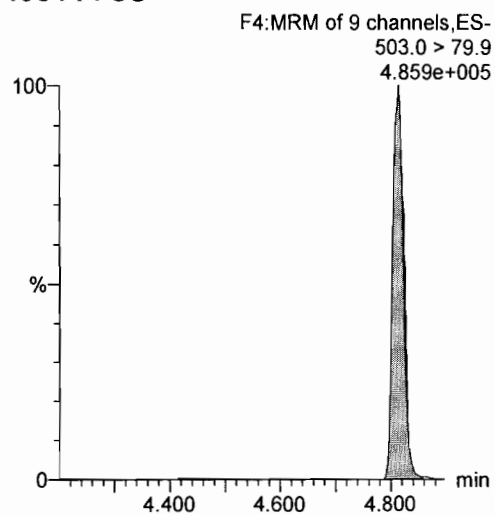
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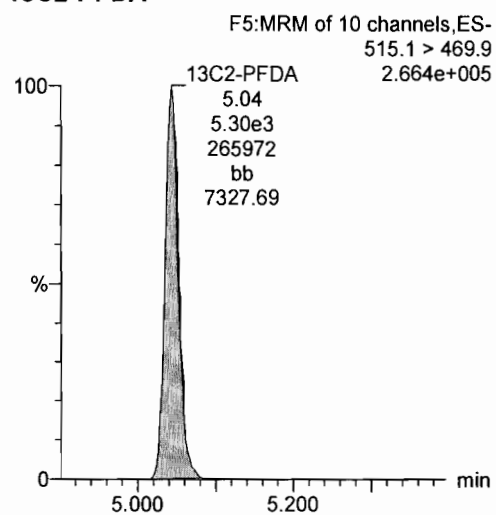
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13C4-PFOS



13C2-PFDA



Vista Analytical Laboratory

Dataset: Untitled

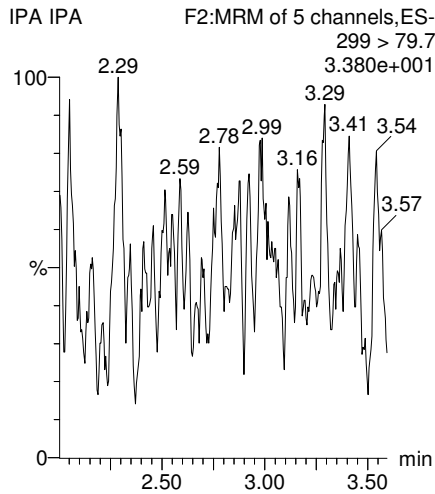
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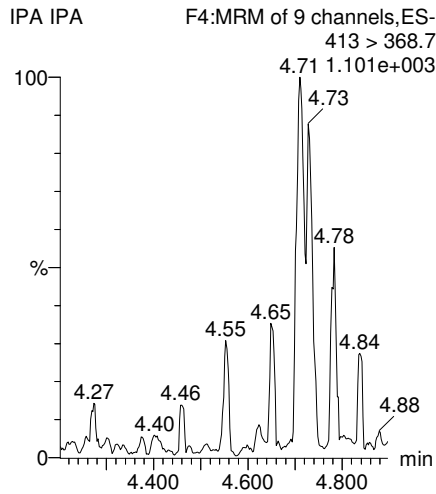
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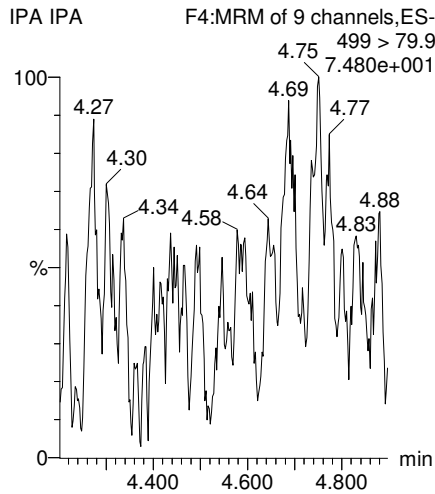
PFBS



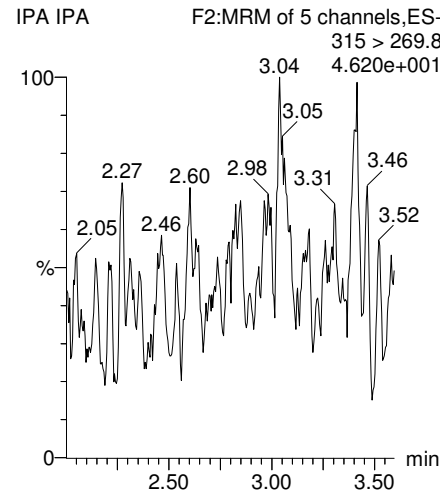
PFOA



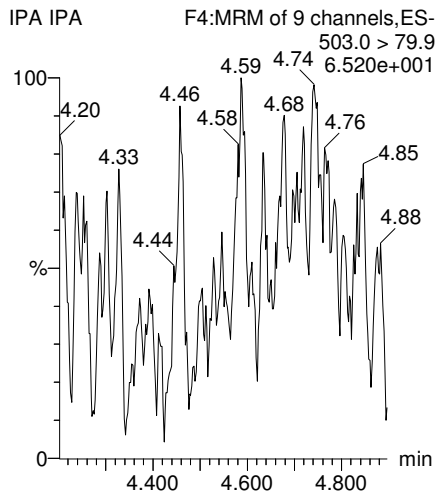
PFOS



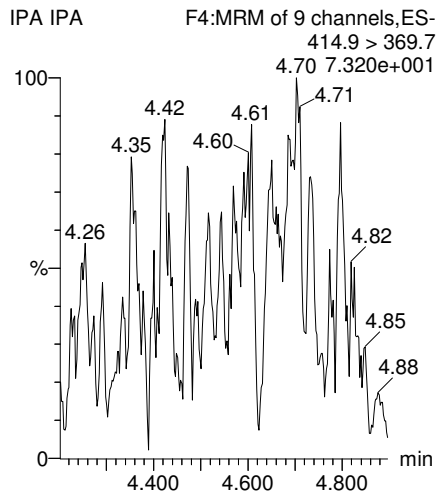
13C2-PFHxA



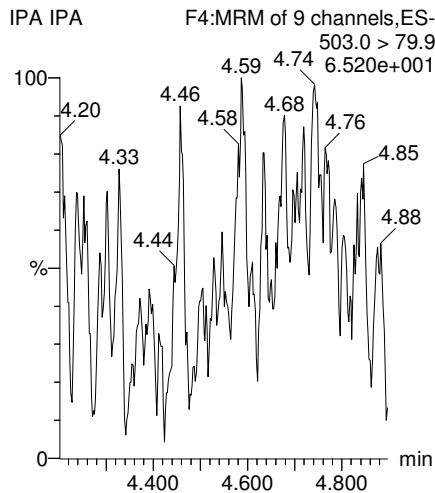
13C4-PFOS



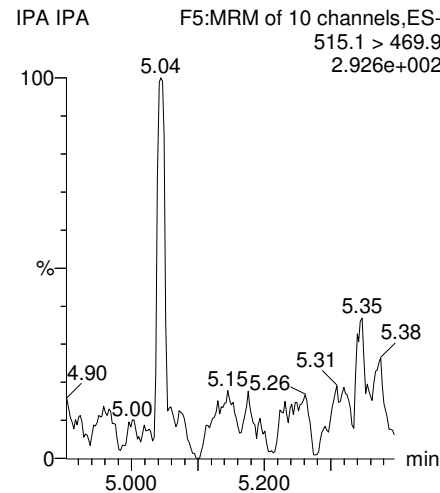
13C2-PFOA



13C4-PFOS



13C2-PFDA



Results

Contract_ID	DO_CTO _Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis_ Group	Analytical_ Method	PRC_ Code	Lab_ Code	Lab_Name	Leachate_ Method	Sample_ Basis	Extraction_ Method	Result_T ype	Lab_QC_ Type	Sample_ Medium	QC_ Level	Date_Time_ Collected	Date_ Received	Leachate_D ate	Leachate_ Time	Extraction _Date
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N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:14	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:14	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:14	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:15	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:15	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:15	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:15	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB65-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:15	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:55	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:55	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:55	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:55	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:56	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:56	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:56	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB66-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 09:56	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:08	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:08	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:08	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:08	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:09	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:09	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:09	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB67-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:09	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:21	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB68-1117	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	11/20/2017 10:22	11/21/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	11/22/2017 14:00	11/22/2017			20171122

Results

Contract_ID	DO_CTO Number	Phase	Installation_ID	Extraction_ Time	Analysis_ Date	Analysis Time	Lab_Sample_ID	Dilution	Run_Nu mber	Percent Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original Analyte_ Value	Result_Uni ts	Lab_Qual ifier	Validator_ Qualifier	GC_ Column_Ty pe	Analysis_ Result_ Type	Result_ Narrative	QC_ Control_ Limit_ Code	QC_ Accuracy_ Upper
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	22:48:00	1701752-01	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.78	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	22:48:00	1701752-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.78	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	22:48:00	1701752-01	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.78	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	22:48:00	1701752-01	1	-999			13C2-PFHxA	13C2-PFHxA		78.9	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:00:00	1701752-02	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:00:00	1701752-02	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:00:00	1701752-02	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:00:00	1701752-02	1	-999			13C2-PFHxA	13C2-PFHxA		83.5	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:13:00	1701752-03	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:13:00	1701752-03	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:13:00	1701752-03	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:13:00	1701752-03	1	-999			13C2-PFHxA	13C2-PFHxA		85.9	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:25:00	1701752-04	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.65	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:25:00	1701752-04	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.65	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:25:00	1701752-04	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.65	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:25:00	1701752-04	1	-999			13C2-PFHxA	13C2-PFHxA		79.6	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:38:00	1701752-05	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:38:00	1701752-05	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:38:00	1701752-05	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.79	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:38:00	1701752-05	1	-999			13C2-PFHxA	13C2-PFHxA		82.4	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:50:00	1701752-06	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.75	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:50:00	1701752-06	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.75	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:50:00	1701752-06	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.75	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	23:50:00	1701752-06	1	-999			13C2-PFHxA	13C2-PFHxA		90.9	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:02:00	1701752-07	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.76	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:02:00	1701752-07	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.76	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:02:00	1701752-07	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.76	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:02:00	1701752-07	1	-999			13C2-PFHxA	13C2-PFHxA		89.1	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:15:00	1701752-08	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.68	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:15:00	1701752-08	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.68	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:15:00	1701752-08	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.68	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171129	00:15:00	1701752-08	1	-999			13C2-PFHxA	13C2-PFHxA		78.4	PCT_REC			PR			SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:29:00	B7K0144-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.00	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:29:00	B7K0144-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		5.00	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:29:00	B7K0144-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.00	NG_L	U		PR	TRG			
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:29:00	B7K0144-BLK1	1	-999			13C2-PFHxA	13C2-PFHxA		97.5	PCT_REC			PR	SUR		SLSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	18:52:00	B7K0144-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		64.1	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	18:52:00	B7K0144-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		69.5	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	18:52:00	B7K0144-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		72.3	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	18:52:00	B7K0144-BS1	1	-999			13C2-PFHxA	13C2-PFHxA		84.2	PCT_REC			PR	SUR		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:04:00	B7K0144-BSD1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		64.4	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:04:00	B7K0144-BSD1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		79.7	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:04:00	B7K0144-BSD1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		64.3	NG_L			PR	TRG		LSA	130
N6247016D9000	0008		CHERRY_POINT_MCAS	14:00:00	20171128	19:04:00	B7K0144-BSD1	1	-999			13C2-PFHxA	13C2-PFHxA		89.8	PCT_REC			PR	SUR		LSA	130

Contract_ID	DO_CTO Number	Phase	Installation_ID	QC_ Accuracy_ Lower	Control_L imit_ Date	QC_ Narrative	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.424	4.78	9.56	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.03	4.78	9.56	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.995	4.78	9.56	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.425	4.79	9.58	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.04	4.79	9.58	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.997	4.79	9.58	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.425	4.79	9.59	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.04	4.79	9.59	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.997	4.79	9.59	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.412	4.65	9.31	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.01	4.65	9.31	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.968	4.65	9.31	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.424	4.79	9.57	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.03	4.79	9.57	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.996	4.79	9.57	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.421	4.75	9.49	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.03	4.75	9.49	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.987	4.75	9.49	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.422	4.76	9.53	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.03	4.76	9.53	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.991	4.76	9.53	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.414	4.68	9.35	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.01	4.68	9.35	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.973	4.68	9.35	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	0.443	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.08	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS						5.1	1.04	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	0.443	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	1.08	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	1.04	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	0.443	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	1.08	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1	1.04	5.00	10.0	1701752	S7K0075
N6247016D9000	0008		CHERRY_POINT_MCAS	70					5.1				1701752	S7K0075

**DATA VALIDATION SUMMARY REPORT
MCOF ATLANTIC, NORTH CAROLINA**

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1701752
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: MCOLF Atlantic, North Carolina
Date: January 3, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CH-AT-1RW65-1117	1701752-01	Water
2	CH-AT-1FB65-1117	1701752-02	Water
3	CH-AT-1RW66-1117	1701752-03	Water
4	CH-AT-1FB66-1117	1701752-04	Water
5	CH-AT-1RW67-1117	1701752-05	Water
6	CH-AT-1FB67-1117	1701752-06	Water
7	CH-AT-1RW68-1117	1701752-07	Water
8	CH-AT-1FB68-1117	1701752-08	Water

A full data validation was performed on the analytical data for four water samples and four aqueous field blank samples collected on November 20, 2017 by CH2M HILL at the MCOLF Atlantic site in Atlantic, North Carolina. 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

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 Organic Superfund Methods Data Review," January 2017;
- 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
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- 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.

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) 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

- Field QC samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CH-AT-1FB65-1117	None - ND	-	-	-
CH-AT-1FB66-1117	None - ND	-	-	-
CH-AT-1FB67-1117	None - ND	-	-	-
CH-AT-1FB68-1117	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- MS/MSD samples were not analyzed.

Laboratory Control Samples

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

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

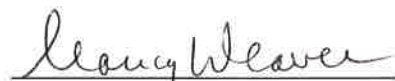
- All criteria were met.

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: 11/5/18

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: CH-AT-1RW65-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-01	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 09:14		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.424	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48
PFOA	ND	1.03	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48
PFOS	ND	0.995	4.78	9.56		B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Dilution
13C2-PFHxA	SURR	78.9	70 - 130			B7K0144	22-Nov-17	0.261 L	28-Nov-17 22:48
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL. When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes									

11/3/18

Sample ID: CH-AT-1FB65-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-02	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 09:15		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.425	4.79	9.58		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:00
PFOA	ND	1.04	4.79	9.58		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:00
PFOS	ND	0.997	4.79	9.58		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:00
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
I3C2-PFHxA	SURR	83.5	70 - 130		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:00	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL. When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes									

20113118

Sample ID: CH-AT-1RW66-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-03	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 09:55		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.425	4.79	9.59		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:13 1
PFOA	ND	1.04	4.79	9.59		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:13 1
PFOS	ND	0.997	4.79	9.59		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:13 1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	85.9	70 - 130		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:13	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers Only the linear isomer is reported for all other analytes									

rw 11/21/18

Sample ID: CH-AT-1FB66-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-04	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 09:56		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.412	4.65	9.31		B7K0144	22-Nov-17	0.269 L	28-Nov-17 23:25
PFOA	ND	1.01	4.65	9.31		B7K0144	22-Nov-17	0.269 L	28-Nov-17 23:25
PFOS	ND	0.968	4.65	9.31		B7K0144	22-Nov-17	0.269 L	28-Nov-17 23:25
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	79.6	70 - 130		B7K0144	22-Nov-17	0.269 L	28-Nov-17 23:25	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers Only the linear isomer is reported for all other analytes									

Nov 13/18

Sample ID: CH-AT-1RW67-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-05	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 10:08		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.424	4.79	9.57		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:38 1
PFOA	ND	1.03	4.79	9.57		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:38 1
PFOS	ND	0.996	4.79	9.57		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:38 1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	82.4	70 - 130		B7K0144	22-Nov-17	0.261 L	28-Nov-17 23:38 1	
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes									

new 1/31/8

Sample ID: CH-AT-1FB67-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-06	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 10:09		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.421	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50 1
PFOA	ND	1.03	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50 1
PFOS	ND	0.987	4.75	9.49		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50 1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	90.9	70 - 130		B7K0144	22-Nov-17	0.263 L	28-Nov-17 23:50 1	
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers Only the linear isomer is reported for all other analytes									

1131.8

Sample ID: CH-AT-1RW68-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-07	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 10:21		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.422	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02
PFOA	ND	1.03	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02
PFOS	ND	0.991	4.76	9.53		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	89.1	70 - 130		B7K0144	22-Nov-17	0.262 L	29-Nov-17 00:02	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes									

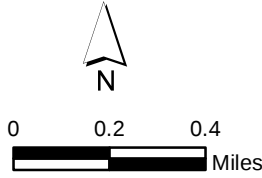
new 11/3/18

Sample ID: CH-AT-1FB68-1117									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701752-08	Column:	BEH C18	
Project:	CTO-08, MCOLF Atlantic / PFAS DW Investigation	Date Collected:	20-Nov-17 10:22		Date Received:	21-Nov-17 10:13			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.414	4.68	9.35		B7K0144	22-Nov-17	0.267 L	29-Nov-17 00:15
PFOA	ND	1.01	4.68	9.35		B7K0144	22-Nov-17	0.267 L	29-Nov-17 00:15
PFOS	ND	0.973	4.68	9.35		B7K0144	22-Nov-17	0.267 L	29-Nov-17 00:15
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	78.4	70 - 130		B7K0144	22-Nov-17	0.267 L	29-Nov-17 00:15	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL - Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers Only the linear isomer is reported for all other analytes									

11/31/18



- Legend**
- Proposed Sample Location
 - Public Water Supply Well
 - Direction of Groundwater Flow
 - MCOLF Atlantic - 1-mile zone
 - Base Boundary
 - Site Boundary (suspected source)
 - Parcels



1 inch = 0.4 mile
Imagery: Esri, 2016

Figure 3
Proposed Sampling Locations
Marine Corps Outlying Landing Field Atlantic
Atlantic Beach, North Carolina