



**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 1701876**

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

February 2019

Approved for public release: distribution unlimited



December 17, 2017

Vista Work Order No. 1701876

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 December 07, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08/MCOLF ATLANTIC PFAS INV.'.

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

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

Sincerely,

Karen J. 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. 1701876**Case Narrative****Sample Condition on Receipt:**

Fourteen 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.

A Laboratory Fortified Blank (LFB) and 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 outside the acceptance criteria are listed in the table below.

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

A Laboratory Fortified Sample Matrix (LFSM) and Laboratory Fortified Sample Matrix Duplicate (LFSMD) were performed on sample "CH-AT-2RW50-1217". The analyte recoveries and RPDs were within the method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1701876-01	CH-AT-2RW49-1217	05-Dec-17 11:14	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-02	CH-AT-2FB49-1217	05-Dec-17 11:14	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-03	CH-AT-2RW50-1217	MS/MSD05-Dec-17 11:30	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-04	CH-AT-2FB50-1217	05-Dec-17 11:30	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-05	CH-AT-2RW51-1217	05-Dec-17 13:46	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-06	CH-AT-2FB51-1217	05-Dec-17 13:46	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-07	CH-AT-2RW52-1217	05-Dec-17 15:23	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-08	CH-AT-2FB52-1217	05-Dec-17 15:23	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-09	CH-AT-2RW53-1217	05-Dec-17 09:10	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-10	CH-AT-2FB53-1217	05-Dec-17 09:10	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-11	CH-AT-2RW54-1217	05-Dec-17 09:50	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-12	CH-AT-2FB54-1217	05-Dec-17 09:50	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-13	CH-AT-2RW55-1217	05-Dec-17 10:04	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1701876-14	CH-AT-2FB55-1217	05-Dec-17 10:04	07-Dec-17 09:23	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LFB					EPA Method 537					
Client Data					Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	B7L0090-BS1	Column:	BEH C18		
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.									
Analyte	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	20.8	17.7	118	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
PFOA	25.3	20.0	126	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
PFOS	19.9	18.5	108	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
Labeled Standards	Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR		101	70- 130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1

Sample ID: CH-AT-2RW49-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 11:14					Laboratory Data Lab Sample: 1701876-01 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.476	0.419	4.73	9.46	J	B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
PFOA	ND	1.02	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
PFOS	ND	0.983	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.7	70 - 130			B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	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.			
		LOQ - Limit of quantitation		Results reported to the DL.			Only the linear isomer is reported for all other analytes.			

Sample ID: CH-AT-2FB49-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 11:14					Laboratory Data Lab Sample: 1701876-02 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.435	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
PFOA	ND	1.06	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
PFOS	ND	1.02	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	110	70 - 130		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	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.					

Sample ID: CH-AT-2RW50-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-03 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.420	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
PFOA	ND	1.03	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
PFOS	ND	0.987	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.7	70 - 130			B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	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.				

Sample ID: CH-AT-2RW50-1217														EPA Method 537			
Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water					Lab Sample: B7L0090-MS1/B7L0090-MSD1 QC Batch: B7L0090 Samp Size: 0.266/0.263 L					Source Lab Sample: 1701876-03 Date Extracted: 14-Dec-17 Column: BEH C18							
Analyte	Sample (ng/L)	MS (ng/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (ng/L)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil	
PFBS	ND	20.6	16.6	124		21.2	16.8	126	1.60		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
PFOA	ND	20.5	18.8	107		20.0	19.0	103	3.81		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
PFOS	ND	15.9	17.4	90.8		20.7	17.6	117	25.2		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
Labeled Standards		Type		MS % Rec	MS Quals			MSD % Rec		MSD Quals	Limits		MS Analyzed	MS Dil	MSD Analyzed	MSD Dil	
13C2-PFHxA		SURR		92.2				104			70-130		14-Dec-17 23:10	1	14-Dec-17 23:22	1	

Sample ID: CH-AT-2FB50-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 11:30					Laboratory Data Lab Sample: 1701876-04 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.431	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOA	ND	1.05	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOS	ND	1.01	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130			B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	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-2RW51-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 13:46					Laboratory Data Lab Sample: 1701876-05 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.416	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
PFOA	ND	1.01	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
PFOS	ND	0.977	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130			B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	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-2FB51-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 13:46					Laboratory Data Lab Sample: 1701876-06 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.431	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
PFOA	ND	1.05	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
PFOS	ND	1.01	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130			B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	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-2RW52-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 15:23					Laboratory Data Lab Sample: 1701876-07 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.413	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
PFOA	ND	1.01	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
PFOS	ND	0.970	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	107	70 - 130			B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	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-2FB52-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 15:23					Laboratory Data Lab Sample: 1701876-08 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.420	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
PFOA	ND	1.02	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
PFOS	ND	0.986	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	90.7	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	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.			

Sample ID: CH-AT-2RW53-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-09 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.426	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
PFOA	ND	1.04	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
PFOS	ND	0.999	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	96.5	70 - 130			B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	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.				

Sample ID: CH-AT-2FB53-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-10 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.419	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
PFOA	ND	1.02	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
PFOS	ND	0.985	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.9	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	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.				

Sample ID: CH-AT-2RW54-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-11 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.429	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
PFOA	ND	1.05	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
PFOS	ND	1.01	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130			B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	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.				

Sample ID: CH-AT-2FB54-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 09:50					Laboratory Data Lab Sample: 1701876-12 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.413	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
PFOA	ND	1.01	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
PFOS	ND	0.970	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	99.8	70 - 130		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	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-2RW55-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-13 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
PFOA	ND	1.06	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
PFOS	ND	1.02	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	99.0	70 - 130			B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	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.				

Sample ID: CH-AT-2FB55-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 10:04					Laboratory Data Lab Sample: 1701876-14 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
PFOA	ND	1.06	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
PFOS	ND	1.02	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	100	70 - 130			B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	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



Submit by Email*

CTO-08 679580. P5. P1. P3

FOR LABORATORY USE ONLY

Laboratory Project ID: 1701876 Temp 1.9 °C
Storage ID: WR-8 Storage Secured: Yes ☒ No ☐

CHAIN OF CUSTODY RECORD

Project I.D.: CTO-08/MCOLF ATLANTIC PFAS INV. P.O. #: 100006-7-106051 Sampler: M. Clay/J. Schrlau

Invoice to: Name TIFFANY HILL Company CH2M HILL Address 1100 NE CIRCLE BLVD City CORVALLIS State OR Zip 97330 Ph# 541-768-3109 Fax #
Relinquished by: (Printed Name and Signature) MORGAN BRUNO Date: 12/6/17 Time: 1544 Received by: (Signature and Printed Name) B. Benedict Date: 12/07/17 Time: 0926
Relinquished by: (Printed Name and Signature) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

TAT: (Check One)

Standard ☐ 21 days

Rush (surcharge may apply)

☐ 14 days ☒ 7 days Specify: _____

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

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

Method of Shipment:

FEDEX

Tracking No.: _____

ATTN: Martha Maier

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description	Quant	Type	Matrix	2378-TCDF	2378-TCDF	PCDD/F	2378-TCDF	2378-TCDF	PCDD/F	2378-TCDF	2378-TCDF	PCDD/F	TOT	COP	209 C	PBB	PAH	WHO	PFOS
CH-AT-2RW49-1217	12/05/17	1114		2	P	DW															X	
CH-AT-2FB49-1217	12/05/17	1114		2	P	DW															X	
CH-AT-2RW50-1217	12/05/17	1130		2	P	DW															X	
CH-AT-2RW50-1217-MS	12/05/17	1130		2	P	DW															X	
CH-AT-2RW50-1217-SD	12/05/17	1130		2	P	DW															X	
CH-AT-2FB50-1217	12/05/17	1130		2	P	DW															X	
CH-AT-2RW51-1217	12/05/17	1346		2	P	DW															X	
CH-AT-2FB51-1217	12/05/17	1346		2	P	DW															X	
CH-AT-2RW52-1217	12/05/17	1523		2	P	DW															X	
CH-AT-2FB52-1217	12/05/17	1523		2	P	DW															X	

Special Instructions/Comments: 7 DAY TATPFOA/PFOS/PFBS DRINKING WATER ANALYSISSEND
DOCUMENTATION
AND RESULTS TO:Name: TIFFANY HILLCompany: CH2MAddress: 1100 NE CIRCLE BLVD STE 300City: CORVALLIS State: OR Zip: 97330Phone: 541-768-3109 Fax: _____Email: TIFFANY.HILL@CH2M.COMContainer Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other _____*Bottle Preservative Type: ☐ T = Thiosulfate,
☒ O = Other TRIZMAMatrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
O = Other DW



Submit by Email*

CTO-08 679580.15.F1.F5

12/6/17 COOLER #4 Pg 2 of 2

FOR LABORATORY USE ONLY

Laboratory Project ID: 1701876

Temp 1.9 °C

Storage ID: WR-2

Storage Secured:
Yes ☒ No ☐

CHAIN OF CUSTODY RECORD

Project I.D.: CTO-08/MCOLF ATLANTIC PFAS INV. P.O. #: 100006-7-106051 Sampler: M. Clay/J. Schrlau

(Name)

TAT: (Check One)

Standard ☐ 21 days

Rush (surcharge may apply)

☐ 14 days ☒ 7 days Specify: _____Invoice to: Name
TIFFANY HILLCompany
CH2M HILLAddress
1100 NE CIRCLE BLVDCity
CORVALLISState
ORZip
97330Ph#
541-768-3109

Fax #

Relinquished by: (Printed Name and Signature)

MORGAN BRUNO

Date:

12/6/17

Time:

1544

Received by: (Signature and Printed Name)

B. Benedict

Date:

12/07/17

Time:

0926

Relinquished by: (Printed Name and Signature)

Date:

Time:

Received by: (Signature and Printed Name)

Date:

Time:

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

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

Method of Shipment:

FEDEX

Tracking No.:

ATTN: Martha Maier

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description
-----------	------	------	-----------------------------

CH-AT-2RW531217

12/06/17

0910

2

P

DW

CH-AT-2FB531217

12/06/17

0910

2

P

DW

CH-AT-2RW54-1217

12/06/17

0950

2

P

DW

CH-AT-2FB541217

12/06/17

0950

2

P

DW

CH-AT-2RW55-1217

12/06/17

1004

2

P

DW

CH-AT-2FB55-1217

12/06/17

1004

2

P

DW

Special Instructions/Comments: 7 DAY TAT

PFOA/PFOS/PFBS DRINKING WATER ANALYSIS

SEND

DOCUMENTATION
AND RESULTS TO:

Name: TIFFANY HILL

Company: CH2M

Address: 1100 NE CIRCLE BLVD STE 300

City: CORVALLIS

State: OR

Zip: 97330

Phone: 541-768-3109

Fax:

Email: TIFFANY.HILL@CH2M.COM

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other*Bottle Preservative Type: ☐ T = Thiosulfate,☒ O = Other TRIZMAMatrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B=Blood/Serum
O = Other DW

Sample Log-in Checklist

Vista Work Order #: 1701876 TAT 7

Samples Arrival:	Date/Time 12/07/17 0923	Initials: VZPB	Location: WR-2 Shelf/Rack: LIA
Logged In:	Date/Time 12/07/17 1210	Initials: VZPB	Location: WR-2 Shelf/Rack: A4
Delivered By:	☒ FedEx	☐ UPS	☐ On Trac
	☐ GSO	☐ DHL	☐ Hand Delivered
	☐ Other		
Preservation:	☒ Ice	☐ Blue Ice	☐ Dry Ice
	☐ None		
Temp °C: 1.8 (uncorrected)	Time: 0925	Thermometer ID: IR-1	
Temp °C: 1.9 (corrected)	Probe used: Yes ☒ No ☐		

		YES	NO	NA
Adequate Sample Volume Received?		☒		
Holding Time Acceptable?		☒		
Shipping Container(s) Intact?		☒		
Shipping Custody Seals Intact?		☒		
Shipping Documentation Present?		☒		
Airbill	Trk # 7087 86020037	☒		
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:



December 17, 2017

Vista Work Order No. 1701876

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 December 07, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08/MCOLF ATLANTIC PFAS INV.'.

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

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

Sincerely,

Karen J. 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. 1701876**Case Narrative****Sample Condition on Receipt:**

Fourteen 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.

A Laboratory Fortified Blank (LFB) and 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 outside the acceptance criteria are listed in the table below.

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

A Laboratory Fortified Sample Matrix (LFSM) and Laboratory Fortified Sample Matrix Duplicate (LFSMD) were performed on sample "CH-AT-2RW50-1217". The analyte recoveries and RPDs were within the method acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1701876-01	CH-AT-2RW49-1217		05-Dec-17 11:14	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-02	CH-AT-2FB49-1217		05-Dec-17 11:14	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-03	CH-AT-2RW50-1217	MS/MSD	05-Dec-17 11:30	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-04	CH-AT-2FB50-1217		05-Dec-17 11:30	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-05	CH-AT-2RW51-1217		05-Dec-17 13:46	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-06	CH-AT-2FB51-1217		05-Dec-17 13:46	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-07	CH-AT-2RW52-1217		05-Dec-17 15:23	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-08	CH-AT-2FB52-1217		05-Dec-17 15:23	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-09	CH-AT-2RW53-1217		05-Dec-17 09:10	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-10	CH-AT-2FB53-1217		05-Dec-17 09:10	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-11	CH-AT-2RW54-1217		05-Dec-17 09:50	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-12	CH-AT-2FB54-1217		05-Dec-17 09:50	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-13	CH-AT-2RW55-1217		05-Dec-17 10:04	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL
1701876-14	CH-AT-2FB55-1217		05-Dec-17 10:04	07-Dec-17 09:23	HDPE Bottle, 250 mL
					HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB										EPA Method 537
Client Data					Laboratory Data					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	B7L0090-BLK1	Column:	BEH C18			
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.443	5.00	10.0		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:58	1
PFOA	ND	1.08	5.00	10.0		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:58	1
PFOS	ND	1.04	5.00	10.0		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:58	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	95.7	70 - 130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:58	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.				
		LOQ - Limit of quantitation		Results reported to the DL.		Only the linear isomer is reported for all other analytes.				

Sample ID: LFB					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: B7L0090-BS1 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	20.8	17.7	118	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
PFOA	25.3	20.0	126	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
PFOS	19.9	18.5	108	70-130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1
Labeled Standards	Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR		101	70- 130		B7L0090	14-Dec-17	0.250 L	14-Dec-17 22:45	1

Sample ID: CH-AT-2RW49-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-01 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.476	0.419	4.73	9.46	J	B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
PFOA	ND	1.02	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
PFOS	ND	0.983	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.7	70 - 130			B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	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.				

Sample ID: CH-AT-2FB49-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 11:14					Laboratory Data					
					Lab Sample: 1701876-02		Column: BEH C18			
					Date Received: 07-Dec-17 09:23					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.435	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
PFOA	ND	1.06	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
PFOS	ND	1.02	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	110	70 - 130			B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47	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.				

Sample ID: CH-AT-2RW50-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-03 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.420	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
PFOA	ND	1.03	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
PFOS	ND	0.987	4.75	9.49		B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.7	70 - 130			B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	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.				

Sample ID: CH-AT-2RW50-1217														EPA Method 537			
Name: CH2M Hill					Lab Sample: B7L0090-MS1/B7L0090-MSD1					Source Lab Sample: 1701876-03							
Project: CTO-08/MCOLF ATLANTIC PFAS INV.					QC Batch: B7L0090					Date Extracted: 14-Dec-17							
Matrix: Drinking Water					Samp Size: 0.266/0.263 L					Column: BEH C18							
Analyte	Sample (ng/L)	MS (ng/L)	MS Spike Amt	MS % Rec	MS Quals	MSD (ng/L)	MSD Spike Amt	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil	
PFBS	ND	20.6	16.6	124		21.2	16.8	126	1.60		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
PFOA	ND	20.5	18.8	107		20.0	19.0	103	3.81		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
PFOS	ND	15.9	17.4	90.8		20.7	17.6	117	25.2		70-130	30	14-Dec-17 23:10	1	14-Dec-17 23:22	1	
Labeled Standards		Type		MS % Rec	MS Quals			MSD % Rec		MSD Quals	Limits		MS Analyzed	MS Dil	MSD Analyzed	MSD Dil	
13C2-PFHxA		SURR		92.2				104			70-130		14-Dec-17 23:10	1	14-Dec-17 23:22	1	

Sample ID: CH-AT-2FB50-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 11:30					Laboratory Data Lab Sample: 1701876-04 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.431	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOA	ND	1.05	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOS	ND	1.01	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	102	70 - 130		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	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.			

Sample ID: CH-AT-2RW51-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-05 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.416	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
PFOA	ND	1.01	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
PFOS	ND	0.977	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130			B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	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.				

Sample ID: CH-AT-2FB51-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 13:46					Laboratory Data Lab Sample: 1701876-06 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.431	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
PFOA	ND	1.05	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
PFOS	ND	1.01	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130			B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37	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-2RW52-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-07 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.413	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
PFOA	ND	1.01	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
PFOS	ND	0.970	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	107	70 - 130			B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	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.				

Sample ID: CH-AT-2FB52-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 15:23					Laboratory Data Lab Sample: 1701876-08 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.420	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
PFOA	ND	1.02	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
PFOS	ND	0.986	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	90.7	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02	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. Only the linear isomer is reported for all other analytes.			
		LOO - Limit of quantitation		Results reported to the DL.						

Sample ID: CH-AT-2RW53-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-09 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.426	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
PFOA	ND	1.04	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
PFOS	ND	0.999	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	96.5	70 - 130			B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	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.				

Sample ID: CH-AT-2FB53-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 09:10					Laboratory Data Lab Sample: 1701876-10 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.419	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
PFOA	ND	1.02	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
PFOS	ND	0.985	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.9	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27	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.			
		LOQ - Limit of quantitation		Results reported to the DL.			Only the linear isomer is reported for all other analytes.			

Sample ID: CH-AT-2RW54-1217					EPA Method 537					
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 09:50					Laboratory Data Lab Sample: 1701876-11 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.429	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
PFOA	ND	1.05	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
PFOS	ND	1.01	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130			B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	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-2FB54-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 09:50					Laboratory Data Lab Sample: 1701876-12 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.413	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
PFOA	ND	1.01	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
PFOS	ND	0.970	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	99.8	70 - 130			B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	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-2RW55-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV.					Laboratory Data Lab Sample: 1701876-13 Date Received: 07-Dec-17 09:23					Column: BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
PFOA	ND	1.06	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
PFOS	ND	1.02	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	99.0	70 - 130			B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	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.				

Sample ID: CH-AT-2FB55-1217										EPA Method 537
Client Data Name: CH2M Hill Project: CTO-08/MCOLF ATLANTIC PFAS INV. Matrix: Drinking Water Date Collected: 05-Dec-17 10:04					Laboratory Data Lab Sample: 1701876-14 Date Received: 07-Dec-17 09:23 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
PFOA	ND	1.06	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
PFOS	ND	1.02	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	100	70 - 130			B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	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



Submit by Email*

CTO-08 679586. P5. P1. P3

FOR LABORATORY USE ONLY

Laboratory Project ID: 1701876 Temp 1.9 °C
Storage ID: WR-8 Storage Secured: Yes ☒ No ☐

CHAIN OF CUSTODY RECORD

Project I.D.: CTO-08/MCOLF ATLANTIC PFAS INV. P.O. #: 100006-7-106051Sampler: M. Clay/J. Schrlau

(Name)

Invoice to: Name TIFFANY HILL Company CH2M HILL Address 1100 NE CIRCLE BLVD City CORVALLIS State OR Zip 97330 Ph# 541-768-3109 Fax #
Relinquished by: (Printed Name and Signature) MORGAN BRUNO Date: 12/6/17 Time: 15:44 Received by: (Signature and Printed Name) B. Benedict Date: 12/07/17 Time: 0926
Relinquished by: (Printed Name and Signature) _____ Date: _____ Time: _____ Received by: (Signature and Printed Name) _____ Date: _____ Time: _____

TAT: (Check One)

Standard ☐ 21 days

Rush (surcharge may apply)

☐ 14 days ☒ 7 days Specify: _____

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

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

Method of Shipment:

FEDEX

Tracking No.: _____

ATTN: Martha Maier

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description	Quant	Type	Matrix	2378-TCDF	2378-TCDF	PCDD/F	2378-TCDF	2378-TCDF	PCDD/F	2378-TCDF	2378-TCDF	PCDD/F	TOT	COP	209 C	PBB	PAH	WHO	PFOS
CH-AT-2RW49-1217	12/05/17	1114		2	P	DW															X	
CH-AT-2FB49-1217	12/05/17	1114		2	P	DW															X	
CH-AT-2RW50-1217	12/05/17	1130		2	P	DW															X	
CH-AT-2RW50-1217-MS	12/05/17	1130		2	P	DW															X	
CH-AT-2RW50-1217-SD	12/05/17	1130		2	P	DW															X	
CH-AT-2FB50-1217	12/05/17	1130		2	P	DW															X	
CH-AT-2RW51-1217	12/05/17	1346		2	P	DW															X	
CH-AT-2FB51-1217	12/05/17	1346		2	P	DW															X	
CH-AT-2RW52-1217	12/05/17	1523		2	P	DW															X	
CH-AT-2FB52-1217	12/05/17	1523		2	P	DW															X	

Special Instructions/Comments: 7 DAY TATPFOA/PFOS/PFBS DRINKING WATER ANALYSIS

SEND
DOCUMENTATION
AND RESULTS TO:

Name: TIFFANY HILLCompany: CH2MAddress: 1100 NE CIRCLE BLVD STE 300City: CORVALLIS State: OR Zip: 97330Phone: 541-768-3109 Fax: _____Email: TIFFANY.HILL@CH2M.COM

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

*Bottle Preservative Type: ☐ T = Thiosulfate,
☒ O = Other TRIZMA

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



Submit by Email*

CTO-08 679580.15.F1.F5

12/6/17 COOLER #4 Pg 2 of 2

FOR LABORATORY USE ONLY

Laboratory Project ID: 1701876

Temp 1.9 °C

Storage ID: WR-2

Storage Secured:
Yes ☒ No ☐

CHAIN OF CUSTODY RECORD

Project I.D.: CTO-08/MCOLF ATLANTIC PFAS INV. P.O. #: 100006-7-106051 Sampler: M. Clay/J. Schrlau

(Name)

TAT: (Check One)

Standard ☐ 21 days

Rush (surcharge may apply)

☐ 14 days ☒ 7 days Specify: _____

Invoice to: Name

TIFFANY HILL

Company

CH2M HILL

Address

1100 NE CIRCLE BLVD CORVALLIS

City

State

OR

Zip

97330

Ph#

541-768-3109

Fax #

Relinquished by: (Printed Name and Signature)

MORGAN BRUNO

Date:

12/6/17

Time:

1544

Received by: (Signature and Printed Name)

B. Benedict

Date:

12/07/17

Time:

0926

Relinquished by: (Printed Name and Signature)

Date:

Time:

Received by: (Signature and Printed Name)

Date:

Time:

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

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

Method of Shipment:

FEDEX

Tracking No.:

ATTN: Martha Maier

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description
-----------	------	------	-----------------------------

CH-AT-2RW531217

12/06/17

0910

2

P

DW

CH-AT-2FB531217

12/06/17

0910

2

P

DW

CH-AT-2RW54-1217

12/06/17

0950

2

P

DW

CH-AT-2FB541217

12/06/17

0950

2

P

DW

CH-AT-2RW55-1217

12/06/17

1004

2

P

DW

CH-AT-2FB55-1217

12/06/17

1004

2

P

DW

Special Instructions/Comments: 7 DAY TAT

PFOA/PFOS/PFBS DRINKING WATER ANALYSIS

SEND

DOCUMENTATION
AND RESULTS TO:

Name: TIFFANY HILL

Company: CH2M

Address: 1100 NE CIRCLE BLVD STE 300

City: CORVALLIS

State: OR

Zip: 97330

Phone: 541-768-3109

Fax:

Email: TIFFANY.HILL@CH2M.COM

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other*Bottle Preservative Type: ☐ T = Thiosulfate,☒ O = Other TRIZMAMatrix Types: DW = Drinking Water, EF = Effluent, PP = Pulp/Paper,
SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum
O = Other DW

Sample Log-in Checklist

Vista Work Order #: 1701876 TAT 7

Samples Arrival:	Date/Time 12/07/17 0923	Initials: VZPB	Location: WR-2 Shelf/Rack: LIA
Logged In:	Date/Time 12/07/17 1210	Initials: VZPB	Location: WR-2 Shelf/Rack: A4
Delivered By:	☒ FedEx	☐ UPS	☐ On Trac
	☐ GSO	☐ DHL	☐ Hand Delivered
Other			
Preservation:	☒ Ice	☐ Blue Ice	☐ Dry Ice
None			
Temp °C: 1.8 (uncorrected)	Time: 0925		Thermometer ID: IR-1
Temp °C: 1.9 (corrected)	Probe used: Yes ☒ No ☐		

		YES	NO	NA
Adequate Sample Volume Received?		☒		
Holding Time Acceptable?		☒		
Shipping Container(s) Intact?		☒		
Shipping Custody Seals Intact?		☒		
Shipping Documentation Present?		☒		
Airbill	Trk # 7087 86020037	☒		
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: 1701876



Prep Expiration: 2017-Dec-19
Client: CH2M Hill

Workorder Due: 14-Dec-17 00:00

TAT: 7

Method: 537 PFAS DW DoD Unmodified
Matrix: Drinking Water

Prep Batch:

B 70090

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

Prep Data Entered:

Date and Initials

Initial Sequence:

LabSampleID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1701876-01	"A"	☒	☒	CH-AT-2RW49-1217	MS/MSD	WR-2 A-4	HDPE Bottle, 250 mL
1701876-02	↓	☒	☒	CH-AT-2FB49-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-03	"ABC"	☒	☒	CH-AT-2RW50-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-04	"A"	☒	☒	CH-AT-2FB50-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-05	↓	☒	☒	CH-AT-2RW51-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-06	↓	☒	☒	CH-AT-2FB51-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-07	↓	☒	☒	CH-AT-2RW52-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-08	↓	☒	☒	CH-AT-2FB52-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-09	↓	☒	☒	CH-AT-2RW53-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-10	↓	☒	☒	CH-AT-2FB53-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-11	↓	☒	☒	CH-AT-2RW54-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-12	↓	☒	☒	CH-AT-2FB54-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-13	↓	☒	☒	CH-AT-2RW55-1217		WR-2 A-4	HDPE Bottle, 250 mL
1701876-14	↓	☒	☒	CH-AT-2FB55-1217		WR-2 A-4	HDPE Bottle, 250 mL

Pre-Prep Check Out: HB 12/13/17

Prep Check Out: HC 12/14/17

Prep Reconciled Initials/Date: HB 12/13/17

Pre-Prep Check In: HB 12/13/17

Prep Check In: NA

Spike Reconciled Initials/Date: HC 12/14/17

VialBoxID:

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7L0090

Chemist: HC

Prep Date/Time: 13-Dec-17 14:53

Prepared using: LCMS - SPE Extraction-LCMS

12-14-17 0800
HC

BalanceID: <u>HRMS-9</u>							
Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B7L0090-BLK1 (A)	NA	HC 12-14-17 0. + NA	(0.250) ✓	HC GRB 12-14-17	HC 12-14-17	HC 12-14-17
☐	B7L0090-BS1 (A)	↓	↓	(0.250) ✓			
☐	B7L0090-MS1 1701876-03	293.52	27.75	0.26577 ✓			
☐	B7L0090-MSD1 1701876-03	290.86	27.81	0.26305 ✓			
☐	1701876-01	292.20	27.83	0.26437 ✓			
☐	1701876-02	282.35	27.70	0.25465 ✓			
☐	1701876-03	290.46	27.67	0.26339 ✓			
☐	1701876-04	284.56	27.49	0.25707 ✓			
☐	1701876-05	293.94	27.83	0.26611 ✓			
☐	1701876-06	284.08	27.02	0.25706 ✓			
☐	1701876-07	296.15	28.24	0.26791 ✓			
☐	1701876-08	291.38	27.64	0.26374 ✓			
☐	1701876-09	288.10	27.87	0.26023 ✓			
☐	1701876-10	291.57	27.55	0.26402 ✓			
☐	1701876-11	285.53	27.59	0.25794 ✓			
☐	1701876-12	294.92	26.85	0.26407 ✓			

SS/IS: 17L0515, 20µL
NS: 17I2602, 20µL
IS/RS: 17L0516, 20µL

SPE Chem: Strata X-33um 500mg/bul
Lot#: 517-001946
Ele SOLV: MeOH
Lot#: JB054404
Final Volume(s) 1mL

Notes: (A) 1.25g Trizma added to QCS-HB 12/13/17

Comments: Assume 1 g = 1 mL

Cen = Centrifuged
Work Order 1701876

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodified

B7L0090

Chemist: htc

Prep Date/Time: 13-Dec-17 14:53

Prepared using: LCMS - SPE Extraction-LCMS

12-14-17 0900
htc

BalanceID: HRM-8

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	1701876-13	282.87	27.69	0.25518 ✓	htc GRB 12-14-17	htc	htc KBF 12-14-17
☐	1701876-14	281.97	27.07	0.25490 ✓	J	J	J

SS/IS: <u>17L0515, 20µl (V2)</u> NS: <u>17I2602, 20µl</u> IS/RS: <u>17L0516, 20µl (V2)</u>	SPE Chem: <u>Strata X 33µm</u> ^{500mg} Lot#: <u>517-001946</u> Ele SOLV: <u>MeOH</u> Lot#: <u>JB054409</u> Final Volume(s): <u>1mL</u>	Notes:
--	---	--------

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

Work Order 1701876

Batch: B7L0090

Matrix: Drinking Water

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1701876-01	0.26437			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-02	0.25465			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-03	0.26339			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-04	0.25707			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-05	0.26611			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-06	0.25706			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-07	0.26791			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-08	0.26374			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-09	0.26023			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-10	0.26402			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-11	0.25794			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-12	0.26807			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-13	0.25518			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
1701876-14	0.2549			1000	13-Dec-17 14:53	HAC			Drinking Water	537 PFAS DW DoD Unmodified
B7L0090-BLK1	0.25			1000	13-Dec-17 14:53	HAC				QC
B7L0090-BS1	0.25			1000	13-Dec-17 14:53	HAC	17I2602	20		QC
B7L0090-MS1	0.26577			1000	13-Dec-17 14:53	HAC	17I2602	20		QC
B7L0090-MSD1	0.26305			1000	13-Dec-17 14:53	HAC	17I2602	20		QC

SAMPLE DATA –EPA METHOD 537

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-61.qld

Last Altered: Friday, December 15, 2017 13:51:56 Pacific Standard Time

Printed: Friday, December 15, 2017 13:52:21 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_61, Date: 14-Dec-2017, Time: 22:58:04, ID: B7L0090-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		9.58e3		0.2500	3.01				
2	2 PFOA	413 > 368.7	6.82e1	9.97e3		0.2500	4.30	4.30	0.0684	0.337	
3	3 PFOS	499 >79.9	1.44e0	9.58e3		0.2500	4.71	4.73	0.00430	0.0143	
4	4 13C2-PFHxA	315 > 269.8	4.22e3	9.97e3	0.443	0.2500	3.36	3.37	4.24	38.3	95.7
5	5 13C2-PFDA	515.1 > 469.9	4.25e3	9.97e3	0.509	0.2500	4.93	4.95	4.27	33.5	83.8
6	6 13C2-PFOA	414.9 > 369.7	9.97e3	9.97e3	1.000	0.2500	4.41	4.30	10.0	40.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.58e3	9.58e3	1.000	0.2500	4.81	4.71	28.7	115	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-61.qld

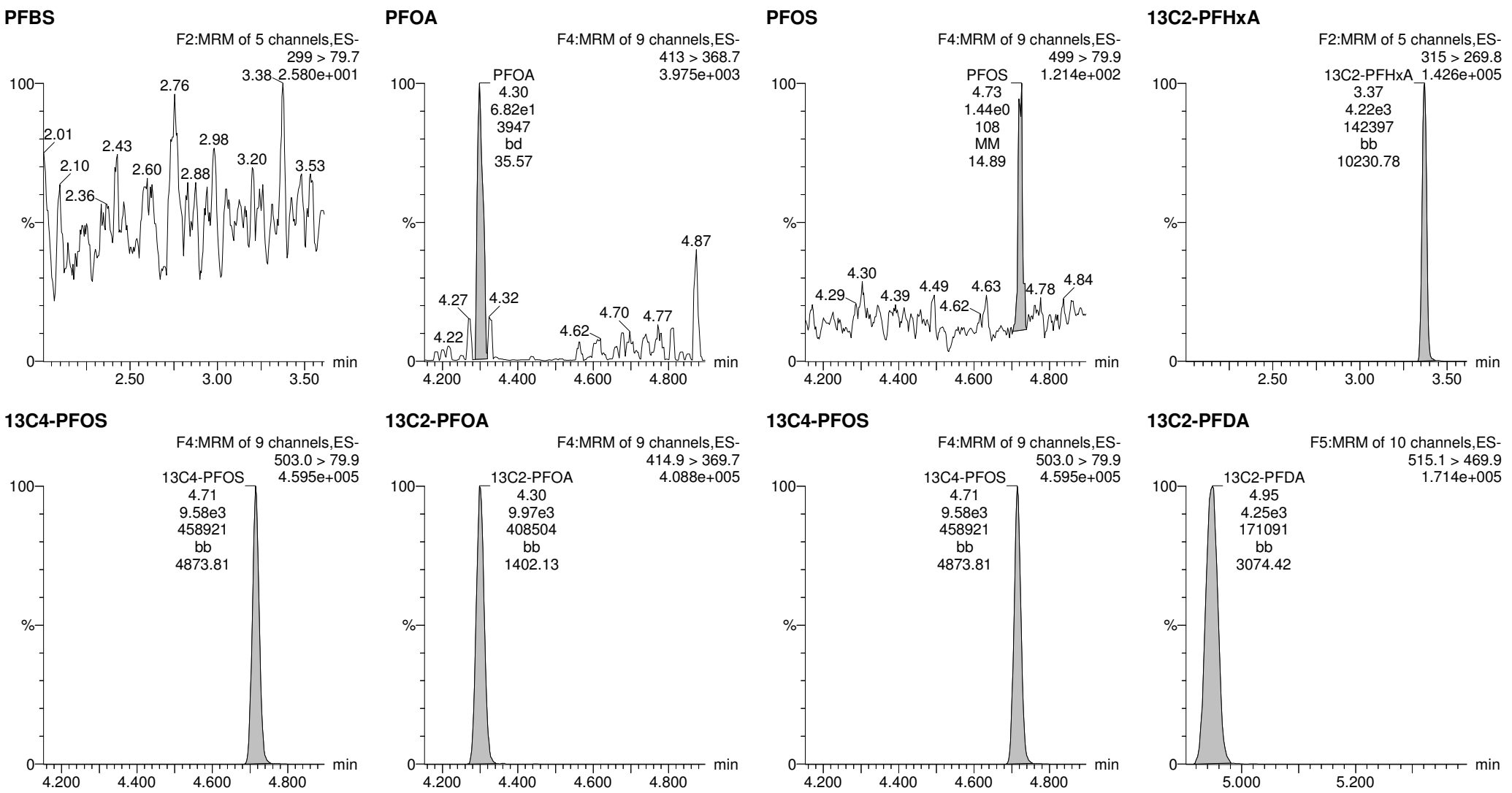
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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_61, Date: 14-Dec-2017, Time: 22:58:04, ID: B7L0090-BLK1 LRB 0.25, Description: LRB



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-60.qld

Last Altered: Saturday, December 16, 2017 11:58:47 Pacific Standard Time

Printed: Saturday, December 16, 2017 12:00:18 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_60, Date: 14-Dec-2017, Time: 22:45:35, ID: B7L0090-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	1.36e3	9.42e3		0.2500	3.01	3.01	4.16	20.8	117.5
2	2 PFOA	413 > 368.7	4.96e3	9.67e3		0.2500	4.30	4.30	5.13	25.3	126.4
3	3 PFOS	499 >79.9	1.97e3	9.42e3		0.2500	4.71	4.71	6.01	20.0	108.0
4	4 13C2-PFHxA	315 > 269.8	4.33e3	9.67e3	0.443	0.2500	3.36	3.37	4.48	40.4	101.1
5	5 13C2-PFDA	515.1 > 469.9	4.82e3	9.67e3	0.509	0.2500	4.93	4.95	4.98	39.1	97.9
6	6 13C2-PFOA	414.9 > 369.7	9.67e3	9.67e3	1.000	0.2500	4.41	4.30	10.0	40.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.42e3	9.42e3	1.000	0.2500	4.81	4.71	28.7	115	100.0

Vista Analytical Laboratory

Rev'd: MM 12/16/17

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-60.qld

Last Altered: Saturday, December 16, 2017 11:58:47 Pacific Standard Time

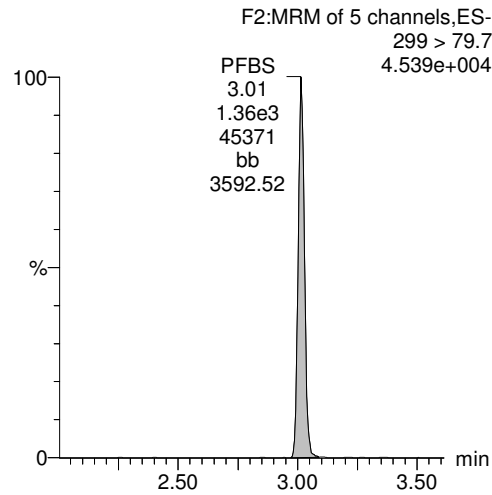
Printed: Saturday, December 16, 2017 12:00:18 Pacific Standard Time

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

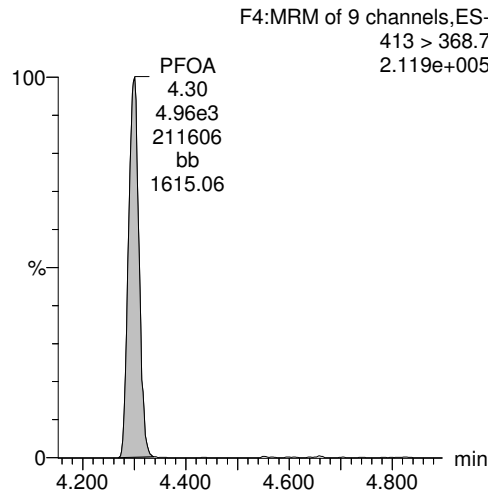
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Name: 171214G2_60, Date: 14-Dec-2017, Time: 22:45:35, ID: B7L0090-BS1 LFB 0.25, Description: LFB

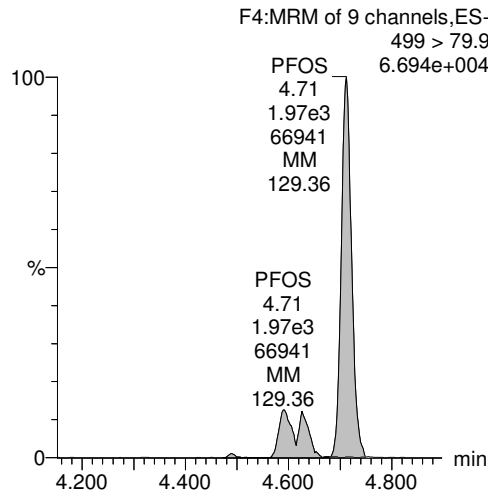
PFBS



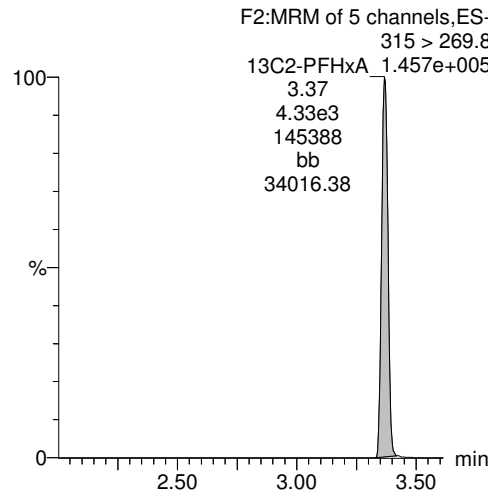
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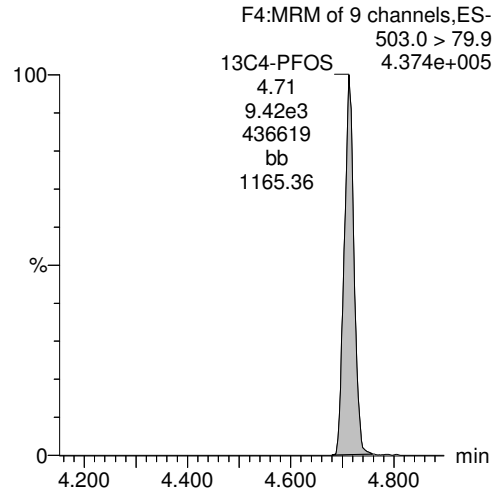
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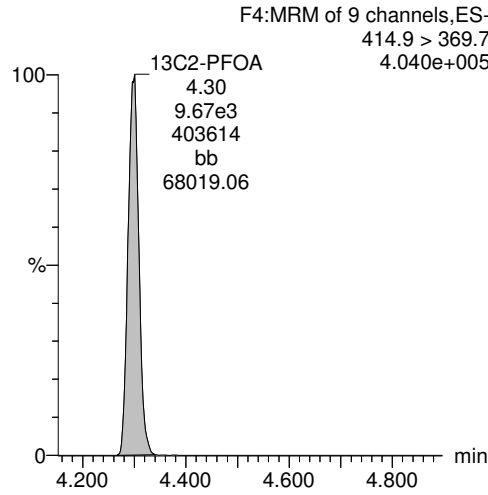
13C2-PFHxA



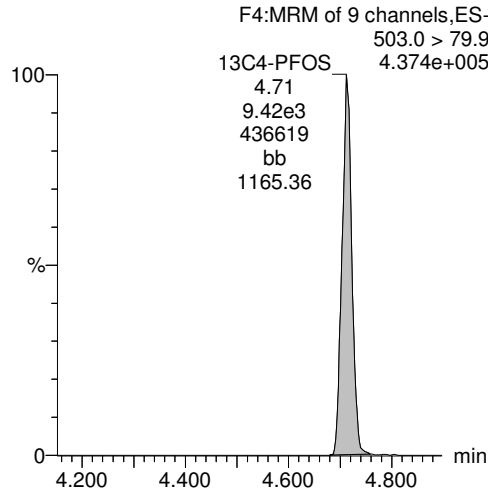
13C4-PFOS



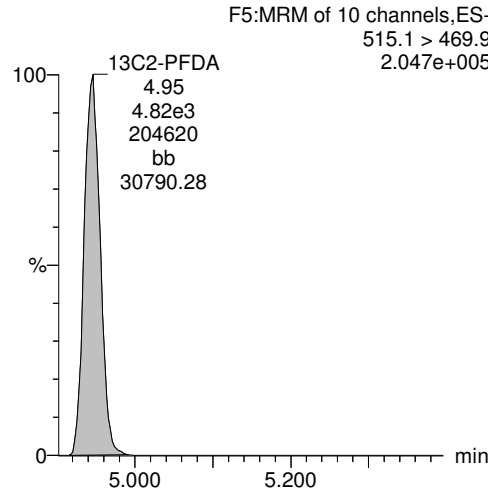
13C2-PFOA



13C4-PFOS



13C2-PFDA



MJT12/16/2017

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-64.qld

Last Altered: Friday, December 15, 2017 13:55:34 Pacific Standard Time

Printed: Friday, December 15, 2017 13:56:45 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_64, Date: 14-Dec-2017, Time: 23:35:16, ID: 1701876-01 CH-AT-2RW49-1217 0.25, Description: CH-AT-2RW49-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	3.27e1	9.33e3		0.2644	3.01	3.18	0.101	0.476	
2	2 PFOA	413 > 368.7	3.67e1	1.04e4		0.2644	4.30	4.29	0.0352	0.164	
3	3 PFOS	499 >79.9		9.33e3		0.2644	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.37e3	1.04e4	0.443	0.2644	3.36	3.37	4.19	35.8	94.7
5	5 13C2-PFDA	515.1 > 469.9	5.18e3	1.04e4	0.509	0.2644	4.93	4.95	4.97	36.9	97.5
6	6 13C2-PFOA	414.9 > 369.7	1.04e4	1.04e4	1.000	0.2644	4.41	4.30	10.0	37.8	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.33e3	9.33e3	1.000	0.2644	4.81	4.71	28.7	109	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-64.qld

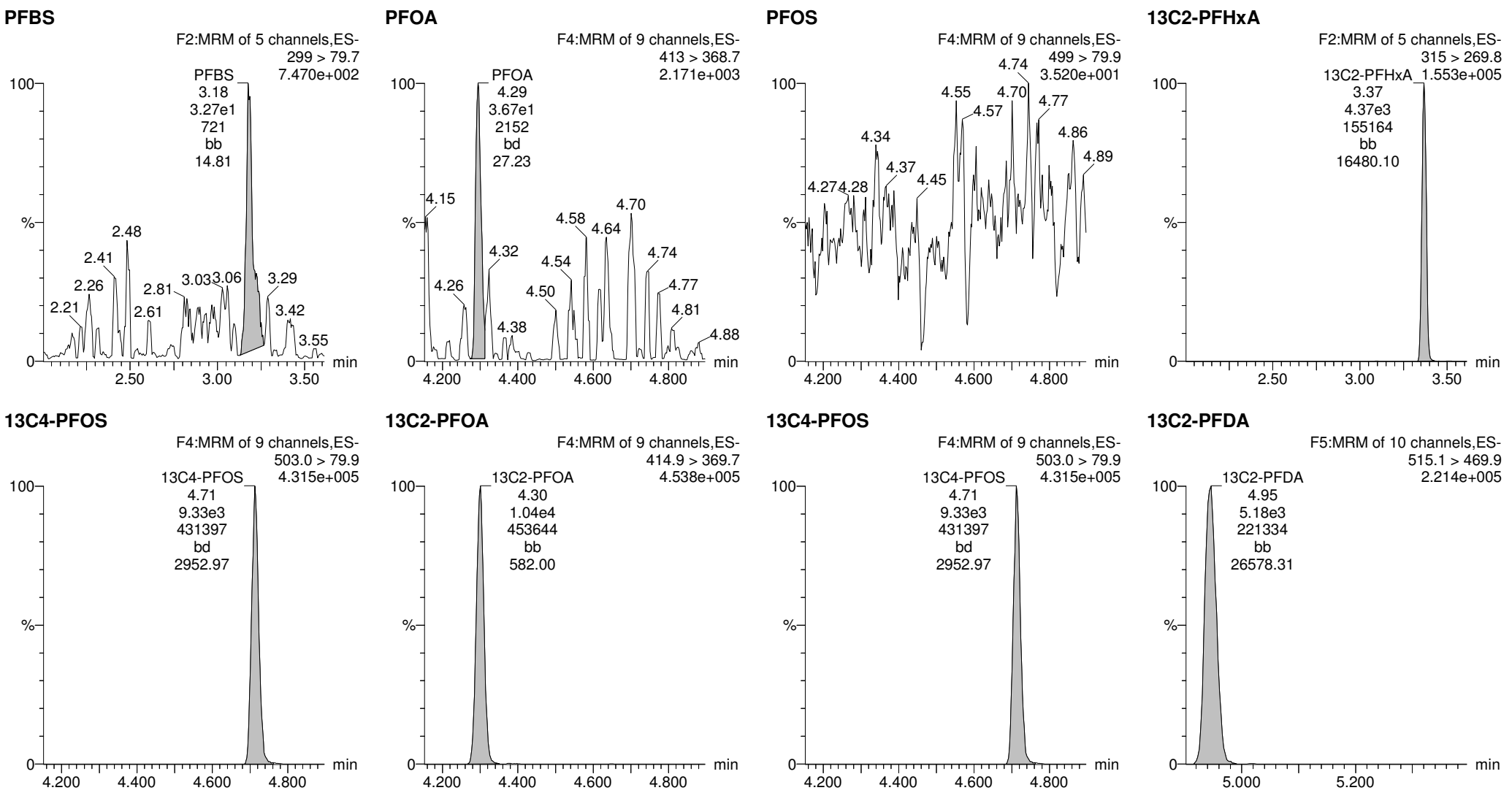
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Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_64, Date: 14-Dec-2017, Time: 23:35:16, ID: 1701876-01 CH-AT-2RW49-1217 0.25, Description: CH-AT-2RW49-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-65.qld

Last Altered: Friday, December 15, 2017 13:57:24 Pacific Standard Time

Printed: Friday, December 15, 2017 13:58:48 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_65, **Date:** 14-Dec-2017, **Time:** 23:47:43, **ID:** 1701876-02 CH-AT-2FB49-1217 0.25, **Description:** CH-AT-2FB49-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		1.01e4		0.2546	3.01				
2	2 PFOA	413 > 368.7	5.28e1	1.04e4		0.2546	4.30	4.29	0.0509	0.246	
3	3 PFOS	499 >79.9		1.01e4		0.2546	4.71				
4	4 13C2-PFHxA	315 > 269.8	5.06e3	1.04e4	0.443	0.2546	3.36	3.37	4.88	43.3	110.1
5	5 13C2-PFDA	515.1 > 469.9	4.98e3	1.04e4	0.509	0.2546	4.93	4.94	4.81	37.1	94.4
6	6 13C2-PFOA	414.9 > 369.7	1.04e4	1.04e4	1.000	0.2546	4.41	4.30	10.0	39.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.01e4	1.01e4	1.000	0.2546	4.81	4.71	28.7	113	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-65.qld

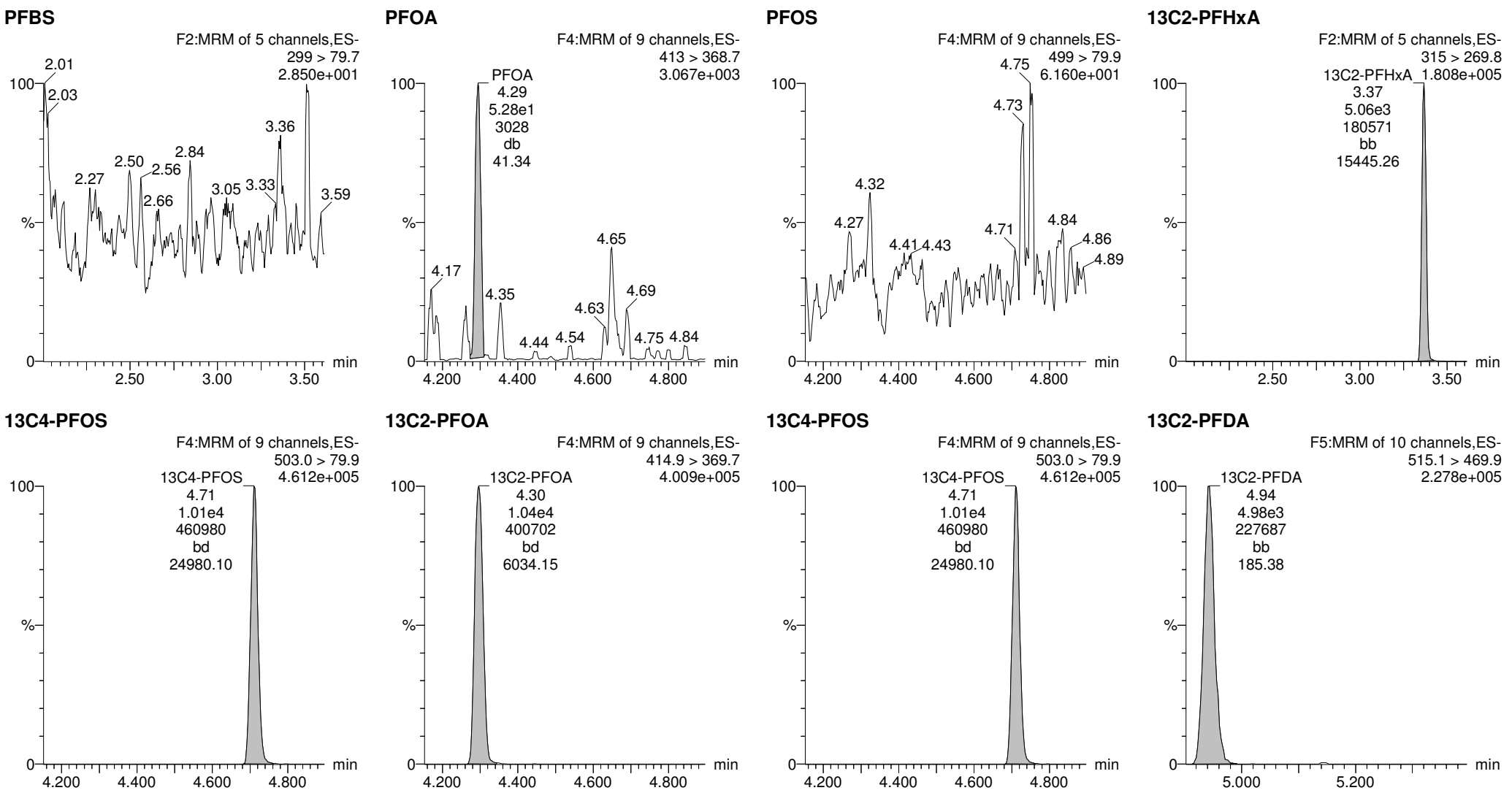
Last Altered: Friday, December 15, 2017 13:57:24 Pacific Standard Time

Printed: Friday, December 15, 2017 13:58:48 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_65, Date: 14-Dec-2017, Time: 23:47:43, ID: 1701876-02 CH-AT-2FB49-1217 0.25, Description: CH-AT-2FB49-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-66.qld

Last Altered: Friday, December 15, 2017 14:04:08 Pacific Standard Time

Printed: Friday, December 15, 2017 14:04:31 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_66, Date: 15-Dec-2017, Time: 00:00:09, ID: 1701876-03 CH-AT-2RW50-1217 0.25, Description: CH-AT-2RW50-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.86e0	9.36e3		0.2634	3.01	3.01	0.00877	0.0416	
2	2 PFOA	413 > 368.7	9.52e1	1.03e4		0.2634	4.30	4.31	0.0922	0.431	
3	3 PFOS	499 >79.9	8.80e0	9.36e3		0.2634	4.71	4.65	0.0270	0.0852	
4	4 13C2-PFHxA	315 > 269.8	4.51e3	1.03e4	0.443	0.2634	3.36	3.37	4.37	37.5	98.7
5	5 13C2-PFDA	515.1 > 469.9	4.71e3	1.03e4	0.509	0.2634	4.93	4.95	4.57	34.0	89.7
6	6 13C2-PFOA	414.9 > 369.7	1.03e4	1.03e4	1.000	0.2634	4.41	4.30	10.0	38.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.36e3	9.36e3	1.000	0.2634	4.81	4.71	28.7	109	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-66.qld

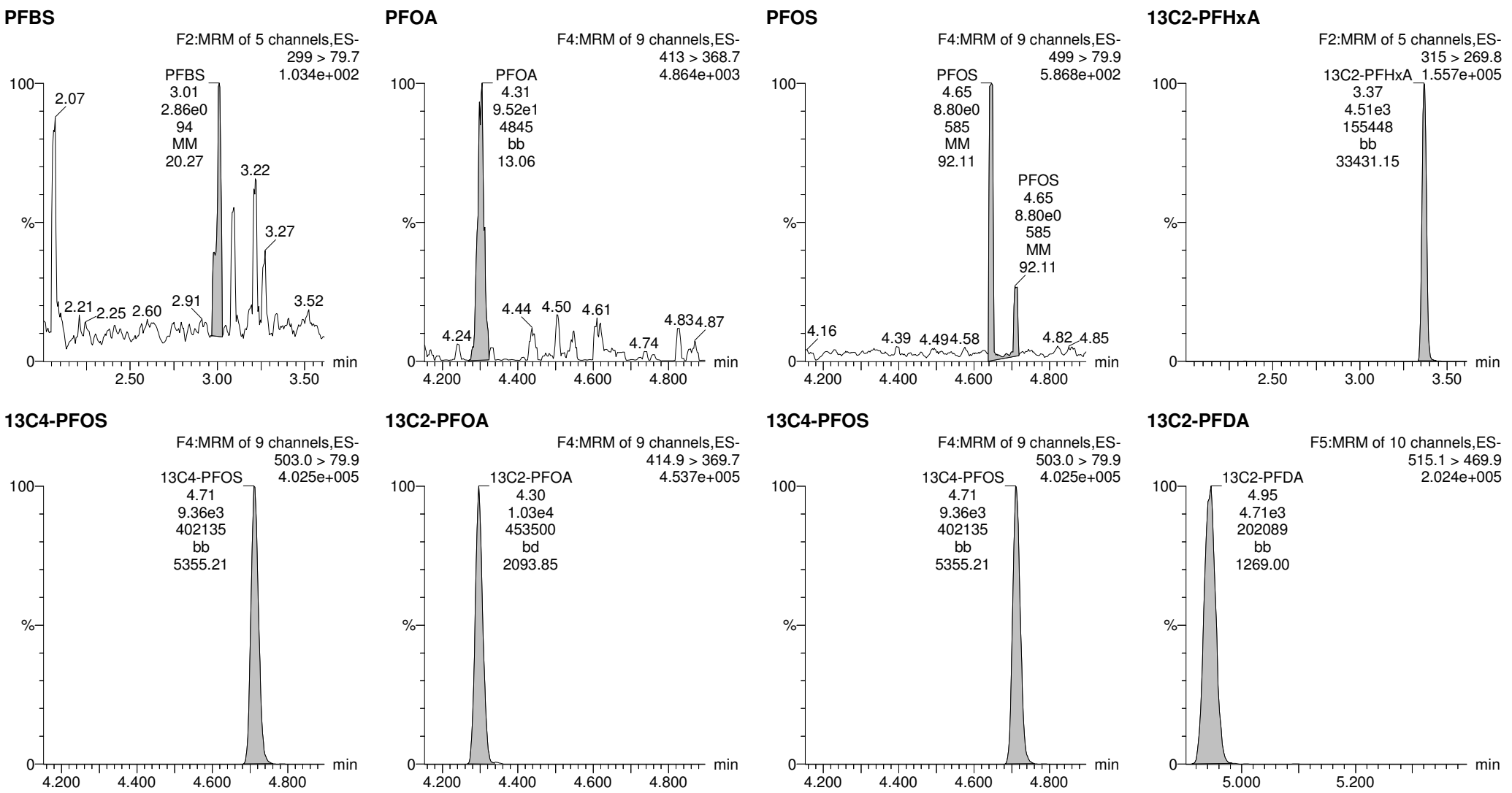
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Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_66, Date: 15-Dec-2017, Time: 00:00:09, ID: 1701876-03 CH-AT-2RW50-1217 0.25, Description: CH-AT-2RW50-1217



MJT12/15/2017

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-62.qld

Last Altered: Saturday, December 16, 2017 14:24:22 Pacific Standard Time

Printed: Saturday, December 16, 2017 14:25:32 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_62, Date: 14-Dec-2017, Time: 23:10:28, ID: B7L0090-MS1 LFSM 0.26577, Description: LFSM

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.49e3	9.73e3		0.2658	3.01	3.01	4.39	20.6	
2	2 PFOA	413 > 368.7	4.87e3	1.10e4		0.2658	4.30	4.30	4.42	20.5	
3	3 PFOS	499 >79.9	1.72e3	9.73e3		0.2658	4.71	4.71	5.08	15.9	
4	4 13C2-PFHxA	315 > 269.8	4.49e3	1.10e4	0.443	0.2658	3.36	3.37	4.08	34.7	92.2
5	5 13C2-PFDA	515.1 > 469.9	5.22e3	1.10e4	0.509	0.2658	4.93	4.94	4.74	35.0	93.1
6	6 13C2-PFOA	414.9 > 369.7	1.10e4	1.10e4	1.000	0.2658	4.41	4.30	10.0	37.6	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.73e3	9.73e3	1.000	0.2658	4.81	4.71	28.7	108	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-62.qld

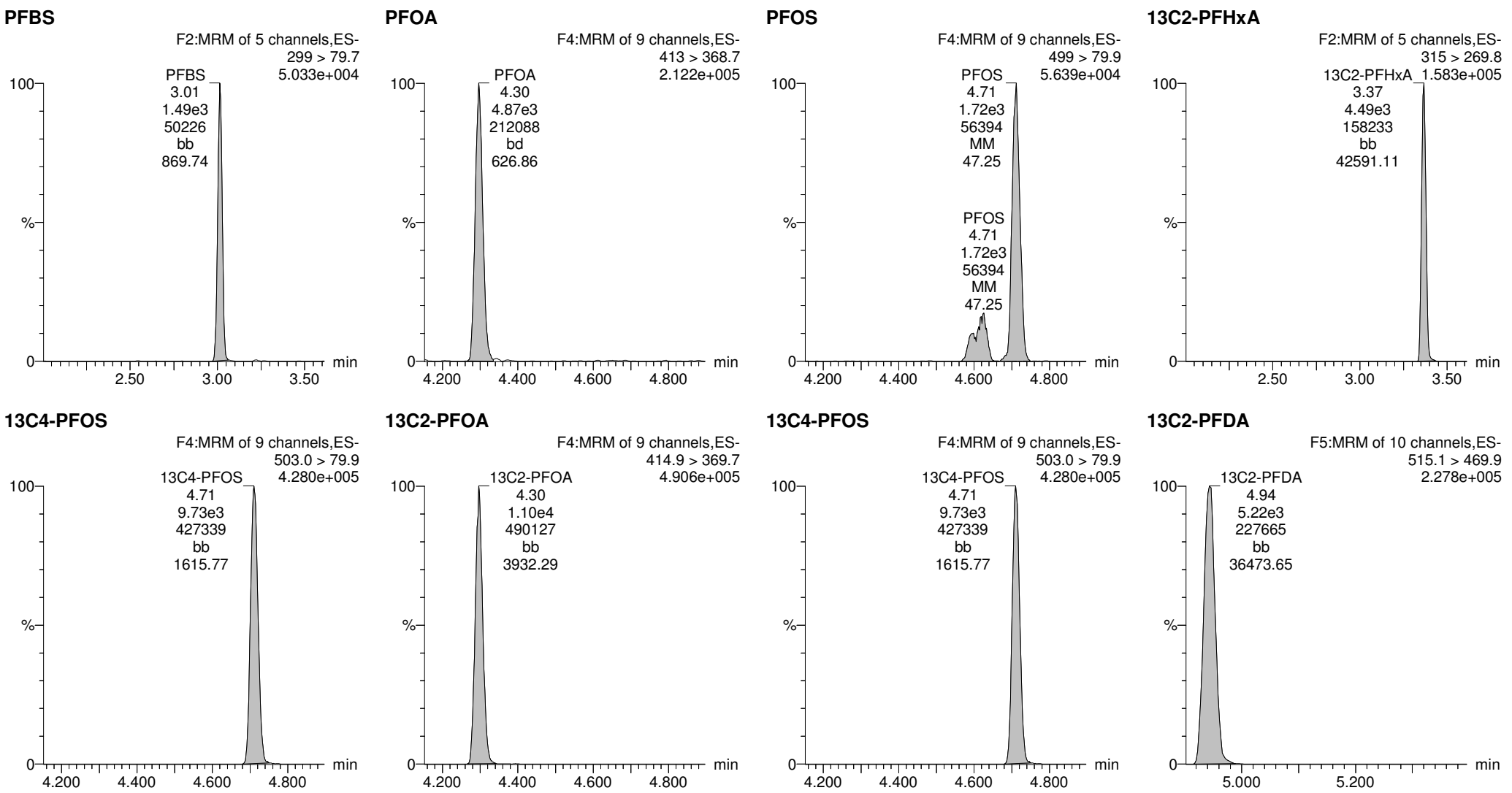
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Method: U:\G1.PRO\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_62, Date: 14-Dec-2017, Time: 23:10:28, ID: B7L0090-MS1 LFSM 0.26577, Description: LFSM



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-63.qld

Last Altered: Saturday, December 16, 2017 14:27:15 Pacific Standard Time

Printed: Saturday, December 16, 2017 14:28:04 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_63, Date: 14-Dec-2017, Time: 23:22:52, ID: B7L0090-MSD1 LFSMD 0.25, Description: LFSMD

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.39e3	8.91e3		0.2631	3.01	3.01	4.47	21.2	
2	2 PFOA	413 > 368.7	4.32e3	1.01e4		0.2631	4.30	4.29	4.27	20.0	
3	3 PFOS	499 >79.9	2.03e3	8.91e3		0.2631	4.71	4.71	6.55	20.7	
4	4 13C2-PFHxA	315 > 269.8	4.66e3	1.01e4	0.443	0.2631	3.36	3.37	4.61	39.6	104.1
5	5 13C2-PFDA	515.1 > 469.9	4.96e3	1.01e4	0.509	0.2631	4.93	4.94	4.91	36.6	96.3
6	6 13C2-PFOA	414.9 > 369.7	1.01e4	1.01e4	1.000	0.2631	4.41	4.30	10.0	38.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.91e3	8.91e3	1.000	0.2631	4.81	4.71	28.7	109	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-63.qld

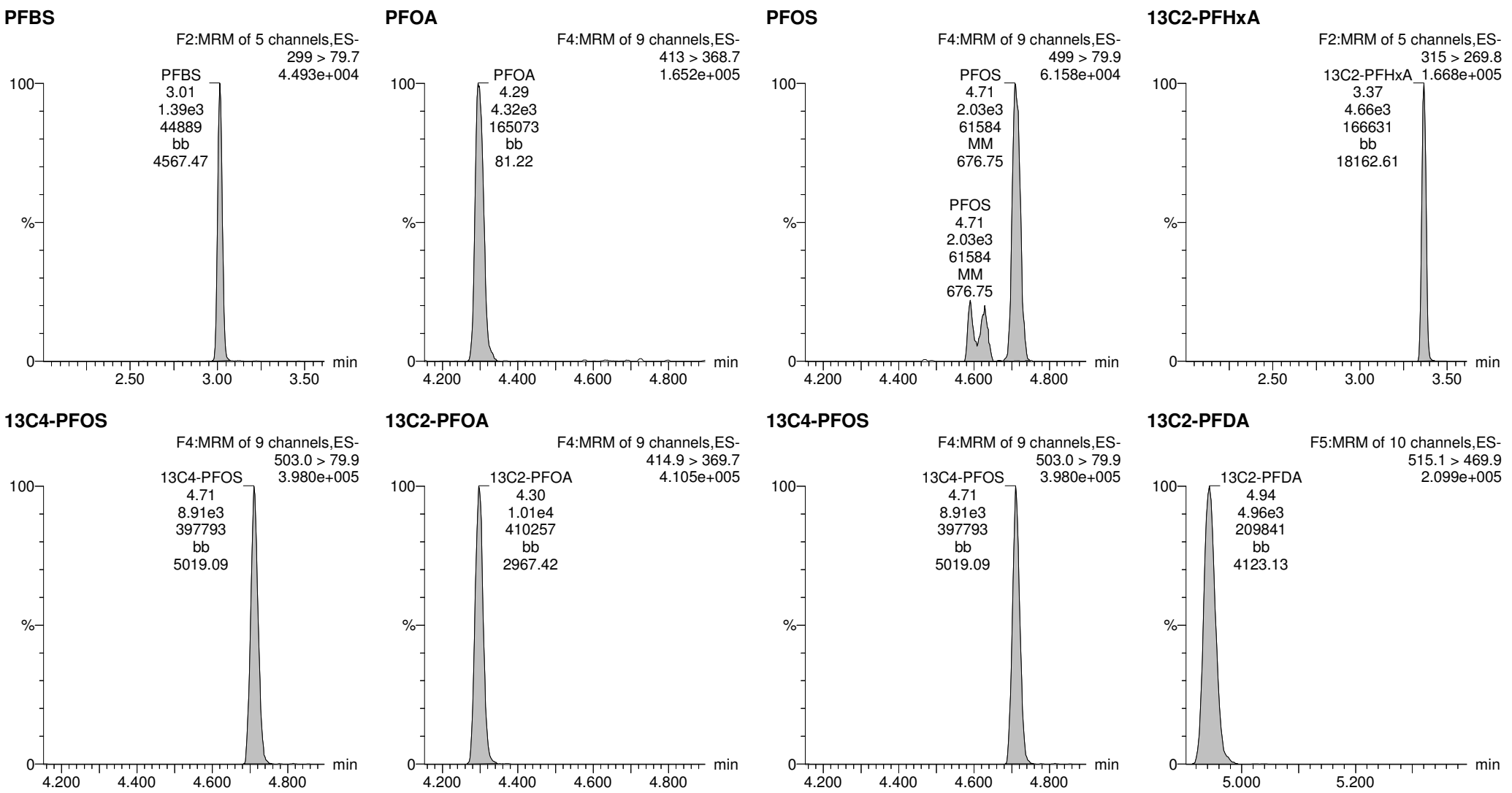
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Printed: Saturday, December 16, 2017 14:28:04 Pacific Standard Time

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

Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_63, Date: 14-Dec-2017, Time: 23:22:52, ID: B7L0090-MSD1 LFSMD 0.25, Description: LFSMD



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-67.qld

Last Altered: Friday, December 15, 2017 14:32:17 Pacific Standard Time

Printed: Friday, December 15, 2017 14:33:57 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_67, Date: 15-Dec-2017, Time: 00:12:35, ID: 1701876-04 CH-AT-2FB50-1217 0.25, Description: CH-AT-2FB50-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.43e3		0.2571	3.01				
2	2 PFOA	413 > 368.7	3.54e1	1.04e4		0.2571	4.30	4.30	0.0340	0.163	
3	3 PFOS	499 >79.9		9.43e3		0.2571	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.70e3	1.04e4	0.443	0.2571	3.36	3.37	4.51	39.6	101.7
5	5 13C2-PFDA	515.1 > 469.9	4.97e3	1.04e4	0.509	0.2571	4.93	4.94	4.77	36.4	93.6
6	6 13C2-PFOA	414.9 > 369.7	1.04e4	1.04e4	1.000	0.2571	4.41	4.30	10.0	38.9	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.43e3	9.43e3	1.000	0.2571	4.81	4.71	28.7	112	100.0

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Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-67.qld

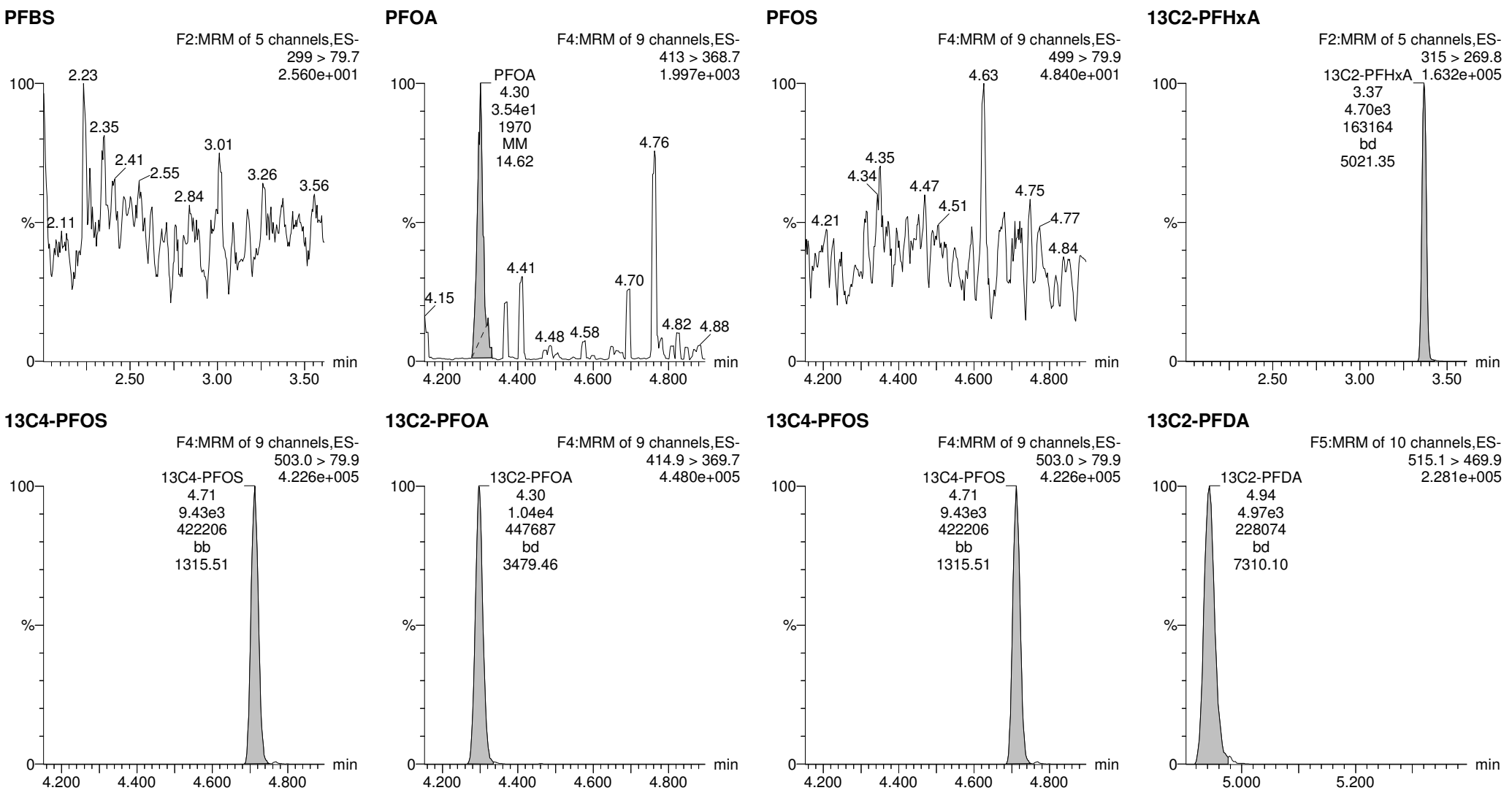
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Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_67, Date: 15-Dec-2017, Time: 00:12:35, ID: 1701876-04 CH-AT-2FB50-1217 0.25, Description: CH-AT-2FB50-1217



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Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-68.qld

Last Altered: Friday, December 15, 2017 14:35:12 Pacific Standard Time

Printed: Friday, December 15, 2017 14:35:43 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_68, Date: 15-Dec-2017, Time: 00:25:02, ID: 1701876-05 CH-AT-2RW51-1217 0.25, Description: CH-AT-2RW51-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.58e3		0.2661	3.01				
2	2 PFOA	413 > 368.7	6.22e1	1.04e4		0.2661	4.30	4.30	0.0596	0.276	
3	3 PFOS	499 >79.9		9.58e3		0.2661	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.69e3	1.04e4	0.443	0.2661	3.36	3.37	4.49	38.1	101.5
5	5 13C2-PFDA	515.1 > 469.9	4.83e3	1.04e4	0.509	0.2661	4.93	4.95	4.63	34.1	90.8
6	6 13C2-PFOA	414.9 > 369.7	1.04e4	1.04e4	1.000	0.2661	4.41	4.30	10.0	37.6	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.58e3	9.58e3	1.000	0.2661	4.81	4.71	28.7	108	100.0

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Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-68.qld

Last Altered: Friday, December 15, 2017 14:35:12 Pacific Standard Time

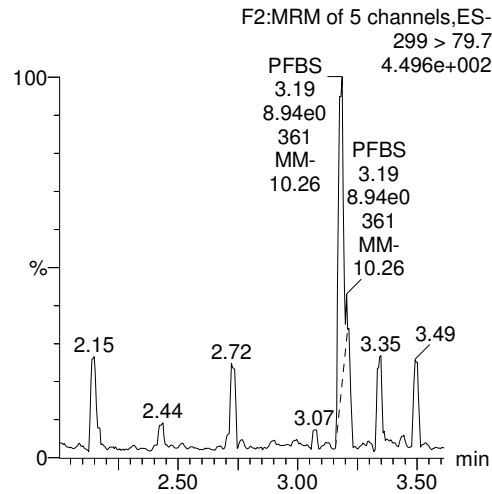
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Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

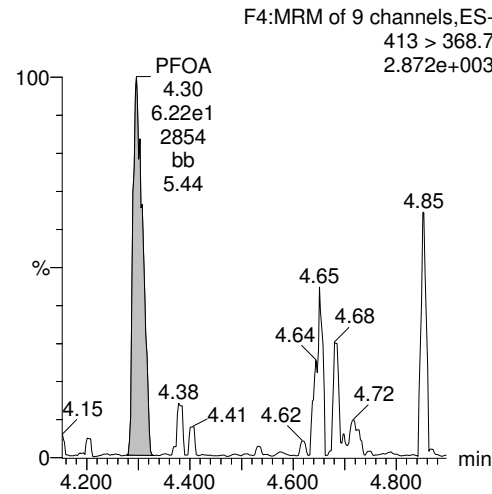
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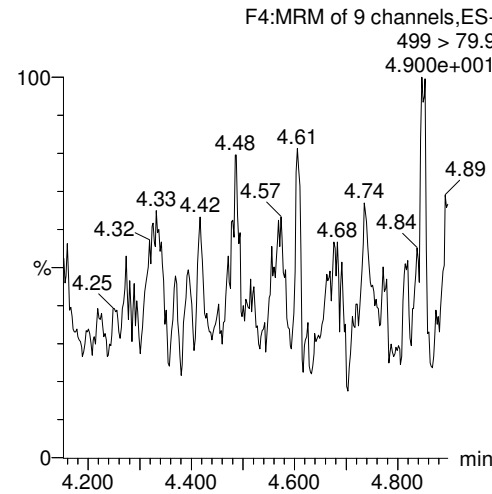
PFBS



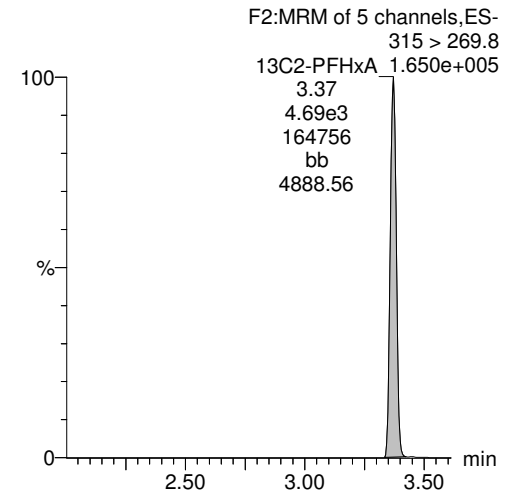
PFOA



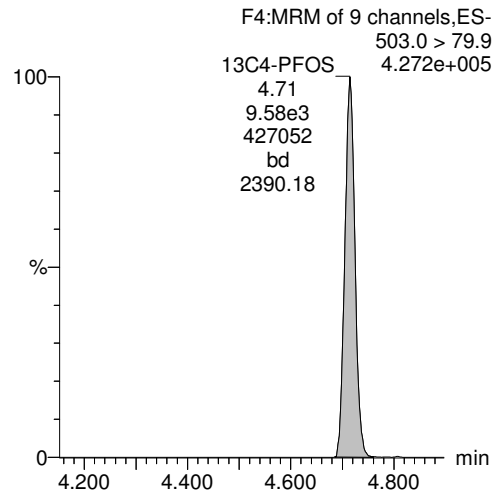
PFOS



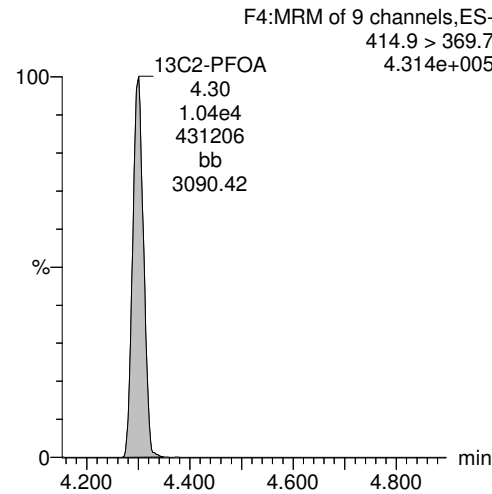
13C2-PFHxA



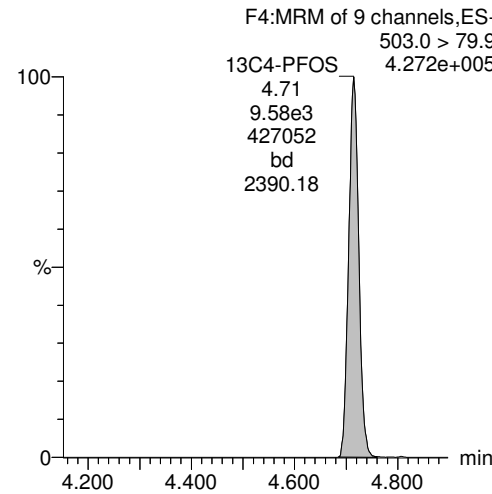
13C4-PFOS



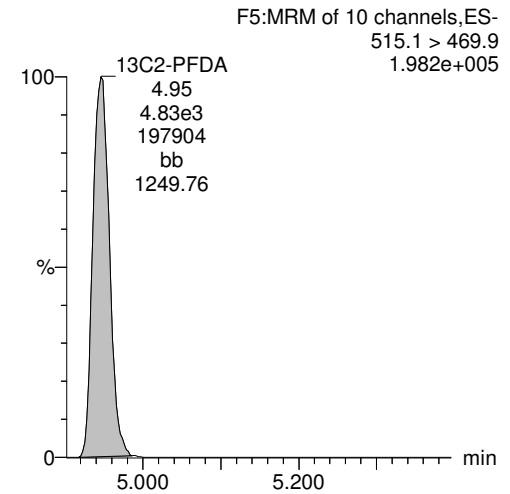
13C2-PFOA



13C4-PFOS



13C2-PFDA



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Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-69.qld

Last Altered: Friday, December 15, 2017 14:39:48 Pacific Standard Time

Printed: Friday, December 15, 2017 14:40:13 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_69, Date: 15-Dec-2017, Time: 00:37:30, ID: 1701876-06 CH-AT-2FB51-1217 0.25, Description: CH-AT-2FB51-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.19e3		0.2571	3.01				
2	2 PFOA	413 > 368.7	3.44e1	9.88e3		0.2571	4.30	4.30	0.0348	0.167	
3	3 PFOS	499 >79.9		9.19e3		0.2571	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.49e3	9.88e3	0.443	0.2571	3.36	3.37	4.54	39.9	102.6
5	5 13C2-PFDA	515.1 > 469.9	4.95e3	9.88e3	0.509	0.2571	4.93	4.94	5.01	38.3	98.4
6	6 13C2-PFOA	414.9 > 369.7	9.88e3	9.88e3	1.000	0.2571	4.41	4.30	10.0	38.9	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.19e3	9.19e3	1.000	0.2571	4.81	4.71	28.7	112	100.0

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Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-69.qld

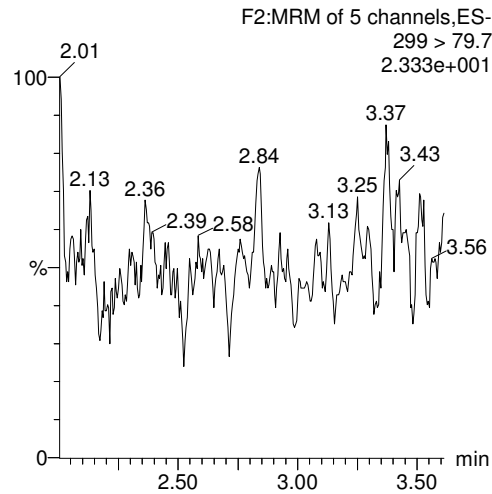
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Printed: Friday, December 15, 2017 14:40:13 Pacific Standard Time

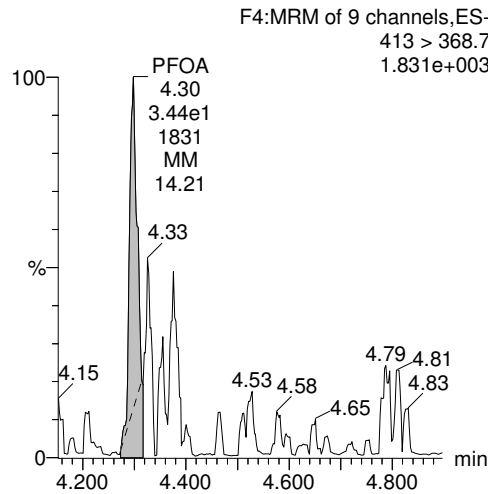
Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_69, Date: 15-Dec-2017, Time: 00:37:30, ID: 1701876-06 CH-AT-2FB51-1217 0.25, Description: CH-AT-2FB51-1217

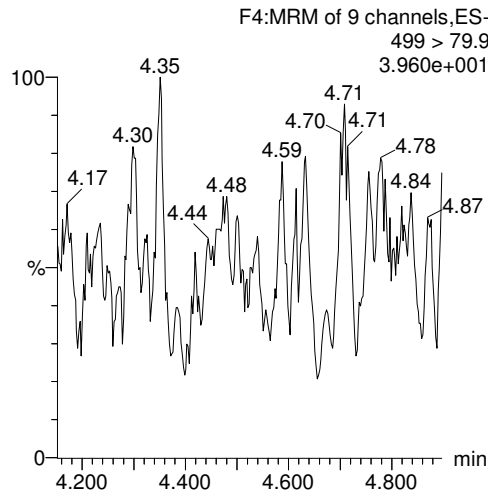
PFBS



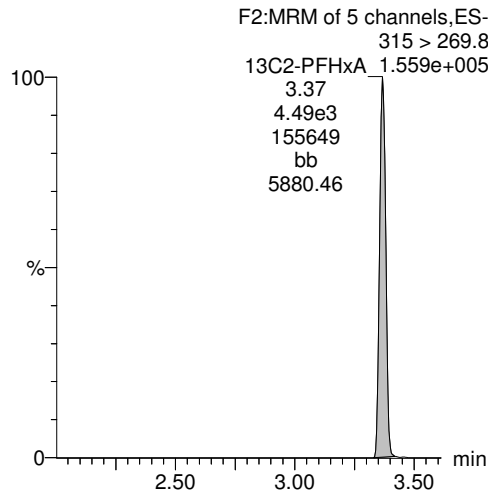
PFOA



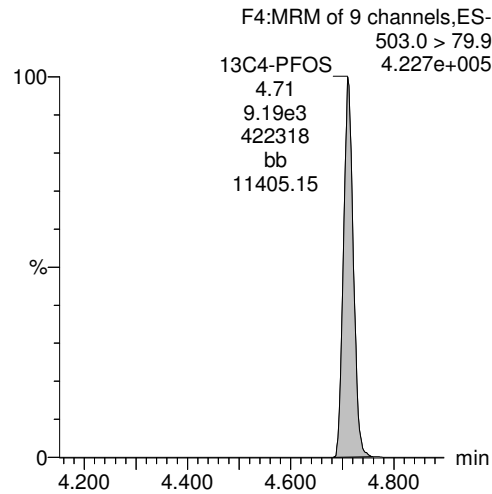
PFOS



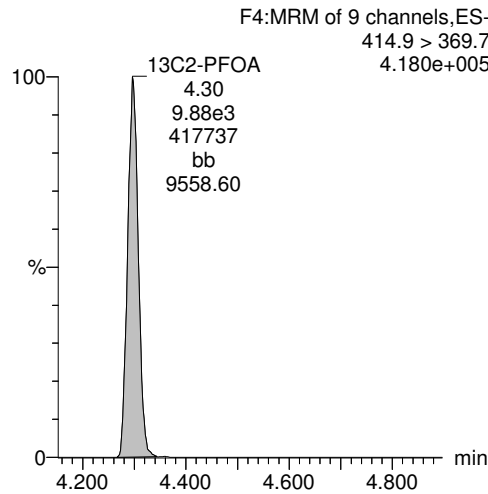
13C2-PFHxA



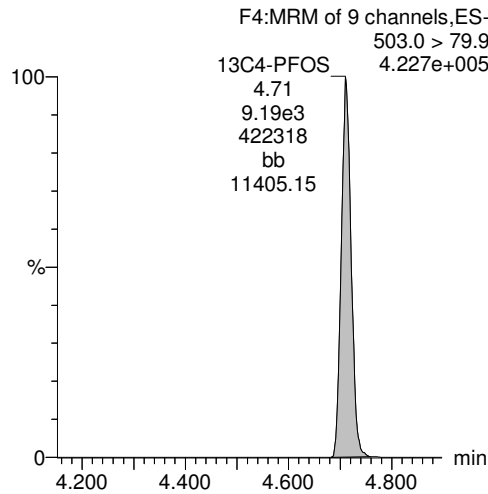
13C4-PFOS



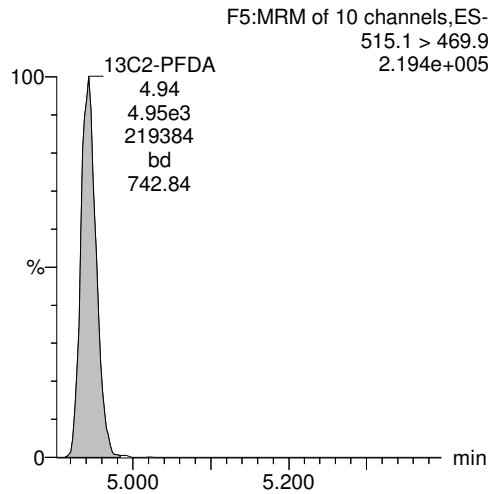
13C2-PFOA



13C4-PFOS



13C2-PFDA



MJT12/15/2017

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-70.qld

Last Altered: Friday, December 15, 2017 14:42:12 Pacific Standard Time

Printed: Friday, December 15, 2017 14:42:55 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_70, Date: 15-Dec-2017, Time: 00:49:54, ID: 1701876-07 CH-AT-2RW52-1217 0.25, Description: CH-AT-2RW52-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.92e3		0.2679	3.01				
2	2 PFOA	413 > 368.7	4.68e1	1.04e4		0.2679	4.30	4.30	0.0452	0.208	
3	3 PFOS	499 >79.9		9.92e3		0.2679	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.92e3	1.04e4	0.443	0.2679	3.36	3.37	4.75	40.0	107.2
5	5 13C2-PFDA	515.1 > 469.9	5.51e3	1.04e4	0.509	0.2679	4.93	4.95	5.32	39.0	104.4
6	6 13C2-PFOA	414.9 > 369.7	1.04e4	1.04e4	1.000	0.2679	4.41	4.30	10.0	37.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.92e3	9.92e3	1.000	0.2679	4.81	4.71	28.7	107	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-70.qld

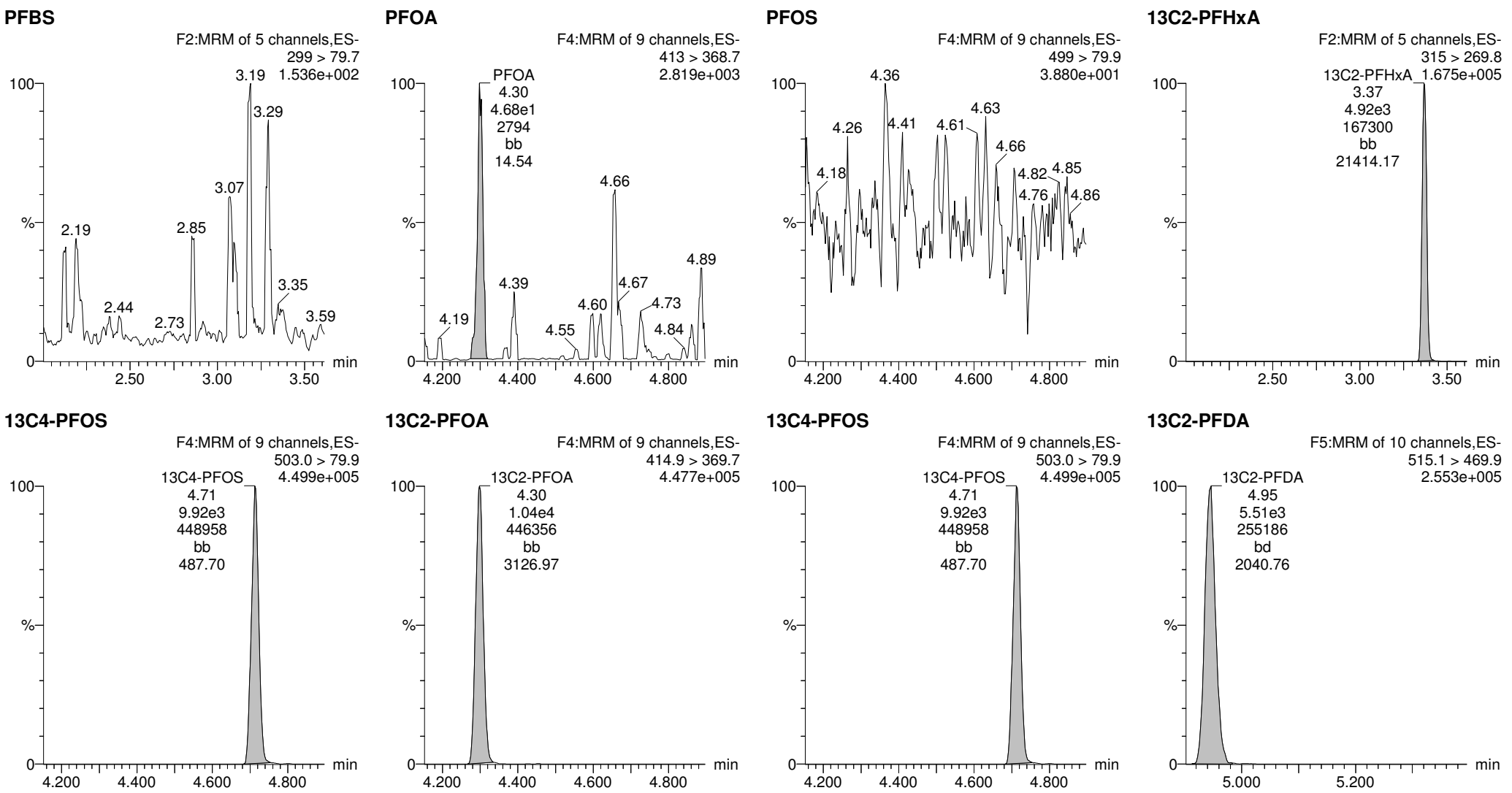
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Printed: Friday, December 15, 2017 14:42:55 Pacific Standard Time

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

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_70, Date: 15-Dec-2017, Time: 00:49:54, ID: 1701876-07 CH-AT-2RW52-1217 0.25, Description: CH-AT-2RW52-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-71.qld

Last Altered: Friday, December 15, 2017 14:44:30 Pacific Standard Time

Printed: Friday, December 15, 2017 14:44:43 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_71, Date: 15-Dec-2017, Time: 01:02:18, ID: 1701876-08 CH-AT-2FB52-1217 0.25, Description: CH-AT-2FB52-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.69e3		0.2637	3.01				
2	2 PFOA	413 > 368.7	4.54e1	1.06e4		0.2637	4.30	4.31	0.0429	0.201	
3	3 PFOS	499 >79.9	6.01e0	8.69e3		0.2637	4.71	4.72	0.0198	0.0625	
4	4 13C2-PFHxA	315 > 269.8	4.25e3	1.06e4	0.443	0.2637	3.36	3.37	4.02	34.4	90.7
5	5 13C2-PFDA	515.1 > 469.9	4.59e3	1.06e4	0.509	0.2637	4.93	4.95	4.35	32.4	85.3
6	6 13C2-PFOA	414.9 > 369.7	1.06e4	1.06e4	1.000	0.2637	4.41	4.30	10.0	37.9	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.69e3	8.69e3	1.000	0.2637	4.81	4.71	28.7	109	100.0

Vista Analytical Laboratory

Rev'd: MM 12/15/17

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-71.qld

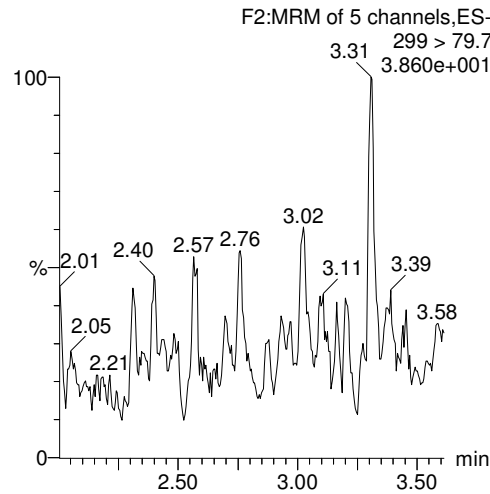
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Printed: Friday, December 15, 2017 14:44:43 Pacific Standard Time

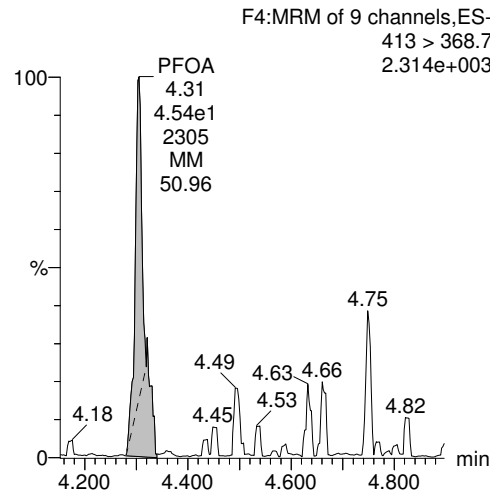
Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_71, Date: 15-Dec-2017, Time: 01:02:18, ID: 1701876-08 CH-AT-2FB52-1217 0.25, Description: CH-AT-2FB52-1217

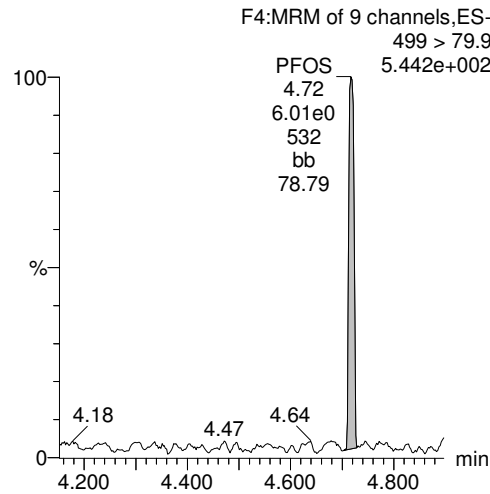
PFBS



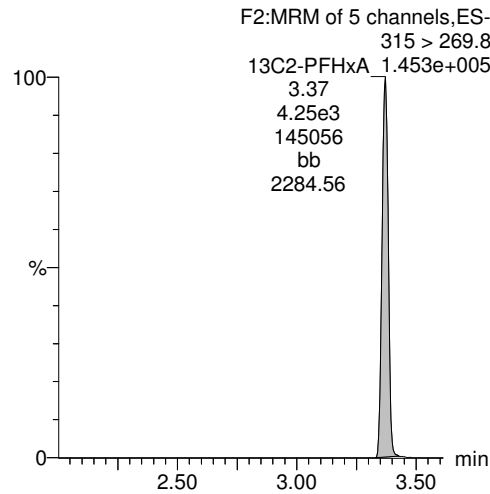
PFOA



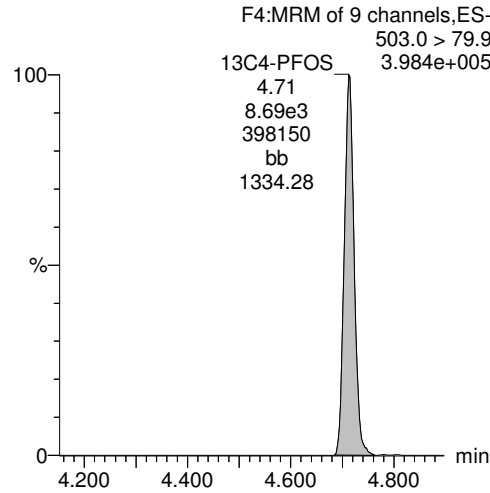
PFOS



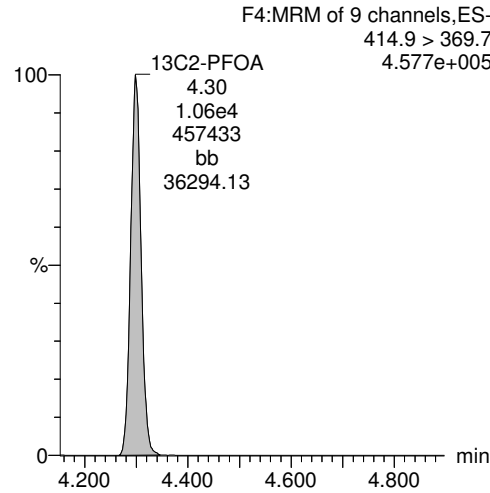
13C2-PFHxA



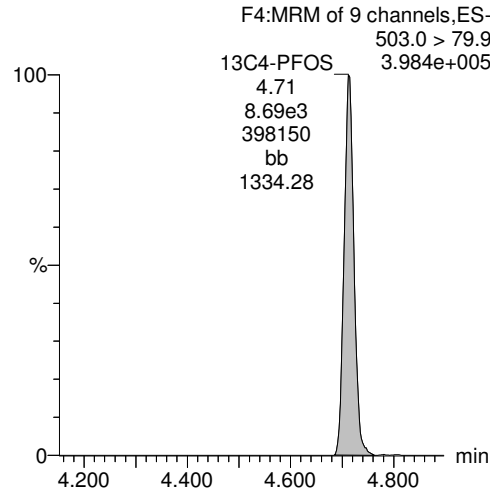
13C4-PFOS



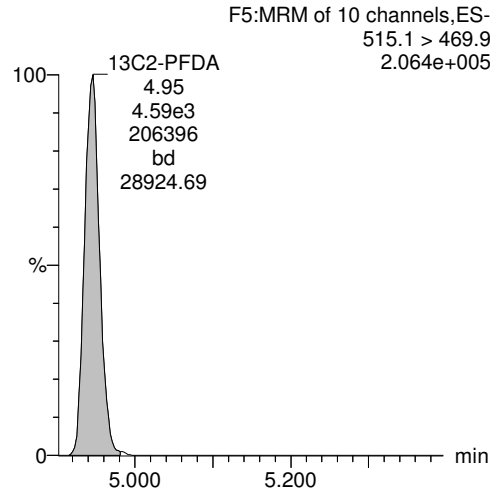
13C2-PFOA



13C4-PFOS



13C2-PFDA



MJT12/15/2017

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-72.qld

Last Altered: Friday, December 15, 2017 14:46:15 Pacific Standard Time

Printed: Friday, December 15, 2017 14:46:38 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_72, Date: 15-Dec-2017, Time: 01:14:43, ID: 1701876-09 CH-AT-2RW53-1217 0.25, Description: CH-AT-2RW53-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.16e3		0.2602	3.01				
2	2 PFOA	413 > 368.7	2.13e2	9.75e3		0.2602	4.30	4.30	0.219	1.03	
3	3 PFOS	499 >79.9	9.40e0	9.16e3		0.2602	4.71	4.72	0.0295	0.0941	
4	4 13C2-PFHxA	315 > 269.8	4.17e3	9.75e3	0.443	0.2602	3.36	3.37	4.28	37.1	96.5
5	5 13C2-PFDA	515.1 > 469.9	5.06e3	9.75e3	0.509	0.2602	4.93	4.94	5.18	39.1	101.8
6	6 13C2-PFOA	414.9 > 369.7	9.75e3	9.75e3	1.000	0.2602	4.41	4.30	10.0	38.4	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.16e3	9.16e3	1.000	0.2602	4.81	4.71	28.7	110	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-72.qld

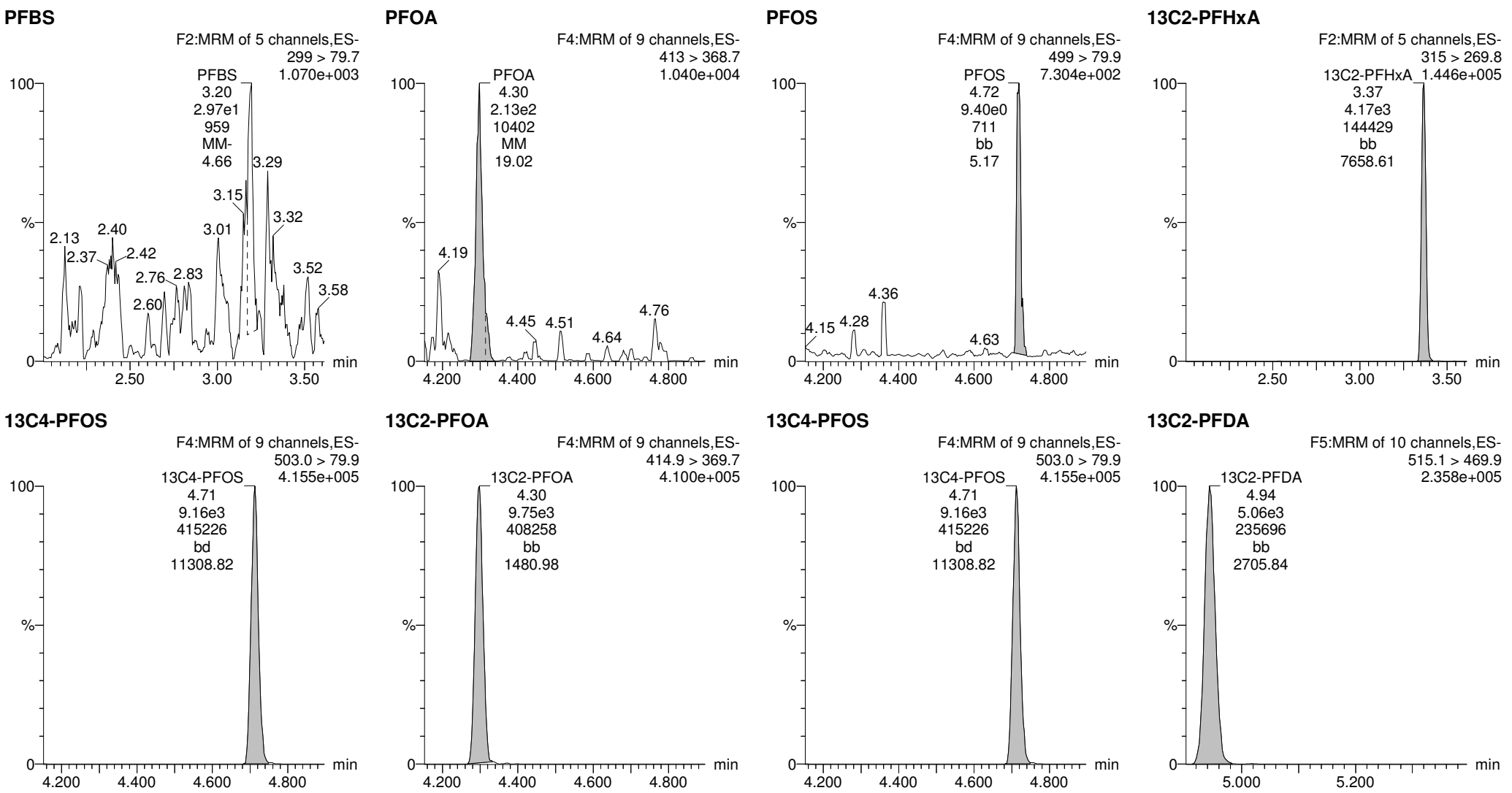
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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_72, Date: 15-Dec-2017, Time: 01:14:43, ID: 1701876-09 CH-AT-2RW53-1217 0.25, Description: CH-AT-2RW53-1217



MJT 12/15/17

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-73.qld

Last Altered: Friday, December 15, 2017 14:47:38 Pacific Standard Time

Printed: Friday, December 15, 2017 14:48:37 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_73, Date: 15-Dec-2017, Time: 01:27:09, ID: 1701876-10 CH-AT-2FB53-1217 0.25, Description: CH-AT-2FB53-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.36e3		0.2640	3.01				
2	2 PFOA	413 > 368.7	3.20e1	9.25e3		0.2640	4.30	4.30	0.0346	0.161	
3	3 PFOS	499 >79.9		8.36e3		0.2640	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.05e3	9.25e3	0.443	0.2640	3.36	3.37	4.38	37.4	98.9
5	5 13C2-PFDA	515.1 > 469.9	4.01e3	9.25e3	0.509	0.2640	4.93	4.94	4.34	32.3	85.2
6	6 13C2-PFOA	414.9 > 369.7	9.25e3	9.25e3	1.000	0.2640	4.41	4.30	10.0	37.9	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.36e3	8.36e3	1.000	0.2640	4.81	4.71	28.7	109	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-73.qld

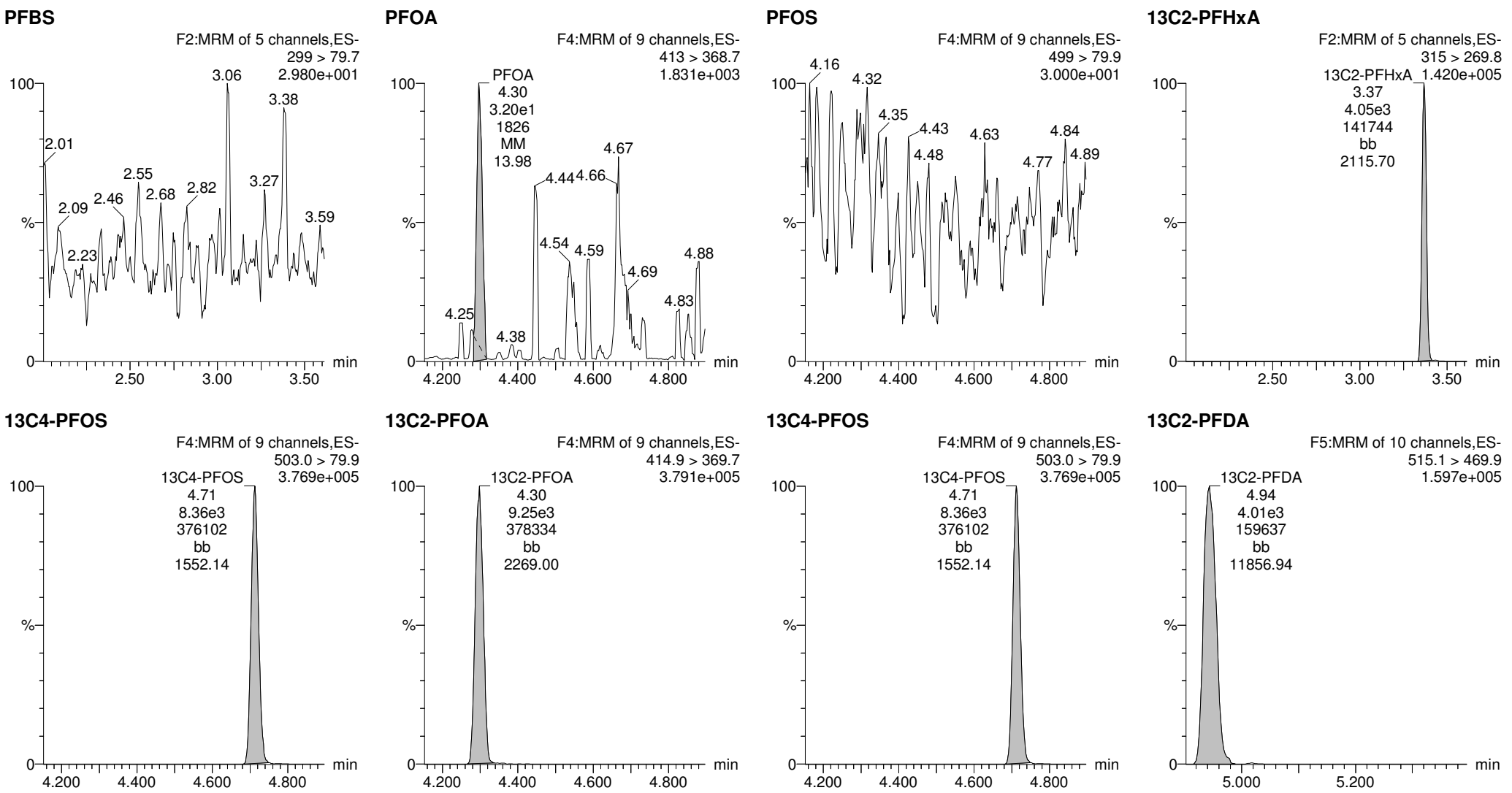
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Method: U:\G1.pro\MethDB\PFAS_DW_L3_1126.mdb 27 Nov 2017 14:32:15

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_73, Date: 15-Dec-2017, Time: 01:27:09, ID: 1701876-10 CH-AT-2FB53-1217 0.25, Description: CH-AT-2FB53-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-74.qld

Last Altered: Friday, December 15, 2017 14:51:08 Pacific Standard Time

Printed: Friday, December 15, 2017 14:52:31 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_74, Date: 15-Dec-2017, Time: 01:39:35, ID: 1701876-11 CH-AT-2RW54-1217 0.25, Description: CH-AT-2RW54-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.93e3		0.2579	3.01				
2	2 PFOA	413 > 368.7	4.00e1	9.66e3		0.2579	4.30	4.30	0.0415	0.198	
3	3 PFOS	499 >79.9		8.93e3		0.2579	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.32e3	9.66e3	0.443	0.2579	3.36	3.37	4.47	39.1	100.9
5	5 13C2-PFDA	515.1 > 469.9	4.86e3	9.66e3	0.509	0.2579	4.93	4.94	5.03	38.3	98.8
6	6 13C2-PFOA	414.9 > 369.7	9.66e3	9.66e3	1.000	0.2579	4.41	4.30	10.0	38.8	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.93e3	8.93e3	1.000	0.2579	4.81	4.71	28.7	111	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-74.qld

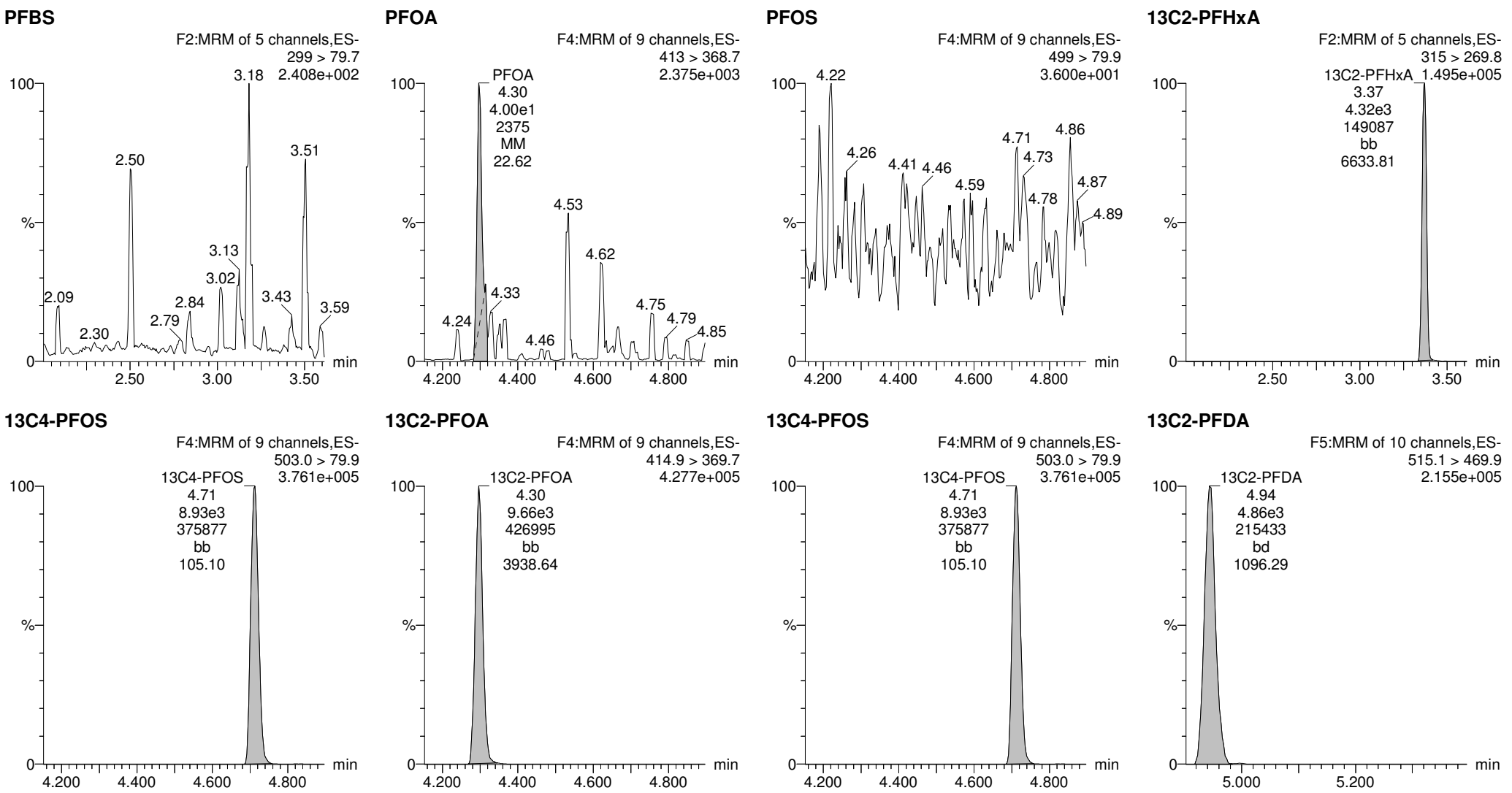
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Printed: Friday, December 15, 2017 14:52:31 Pacific Standard Time

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

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_74, Date: 15-Dec-2017, Time: 01:39:35, ID: 1701876-11 CH-AT-2RW54-1217 0.25, Description: CH-AT-2RW54-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-75.qld

Last Altered: Friday, December 15, 2017 14:53:52 Pacific Standard Time

Printed: Friday, December 15, 2017 14:55:15 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_75, Date: 15-Dec-2017, Time: 01:52:02, ID: 1701876-12 CH-AT-2FB54-1217 0.25, Description: CH-AT-2FB54-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.75e3		0.2681	3.01				
2	2 PFOA	413 > 368.7	3.67e1	1.05e4		0.2681	4.30	4.30	0.0352	0.162	
3	3 PFOS	499 >79.9		8.75e3		0.2681	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.62e3	1.05e4	0.443	0.2681	3.36	3.37	4.42	37.2	99.8
5	5 13C2-PFDA	515.1 > 469.9	5.13e3	1.05e4	0.509	0.2681	4.93	4.95	4.90	35.9	96.3
6	6 13C2-PFOA	414.9 > 369.7	1.05e4	1.05e4	1.000	0.2681	4.41	4.30	10.0	37.3	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.75e3	8.75e3	1.000	0.2681	4.81	4.71	28.7	107	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-75.qld

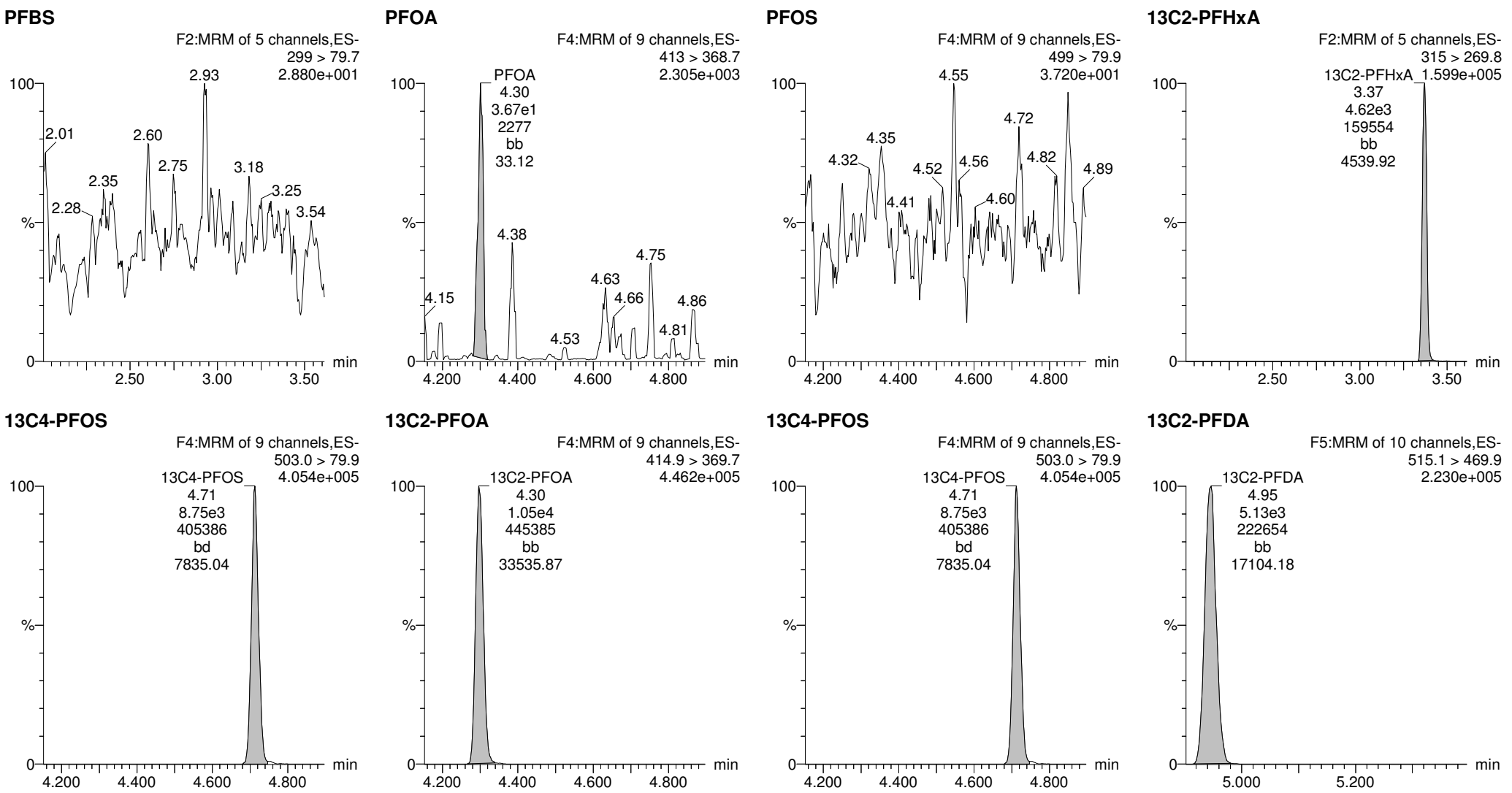
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Printed: Friday, December 15, 2017 14:55:15 Pacific Standard Time

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

Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_75, Date: 15-Dec-2017, Time: 01:52:02, ID: 1701876-12 CH-AT-2FB54-1217 0.25, Description: CH-AT-2FB54-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-76.qld

Last Altered: Friday, December 15, 2017 14:58:30 Pacific Standard Time

Printed: Friday, December 15, 2017 14:59:25 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_76, Date: 15-Dec-2017, Time: 02:04:28, ID: 1701876-13 CH-AT-2RW55-1217 0.25, Description: CH-AT-2RW55-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		8.43e3		0.2552	3.01				
2	2 PFOA	413 > 368.7	6.47e1	1.00e4		0.2552	4.30	4.30	0.0645	0.311	
3	3 PFOS	499 >79.9		8.43e3		0.2552	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.40e3	1.00e4	0.443	0.2552	3.36	3.37	4.39	38.8	99.0
5	5 13C2-PFDA	515.1 > 469.9	4.88e3	1.00e4	0.509	0.2552	4.93	4.95	4.86	37.4	95.4
6	6 13C2-PFOA	414.9 > 369.7	1.00e4	1.00e4	1.000	0.2552	4.41	4.30	10.0	39.2	100.0
7	7 13C4-PFOS	503.0 > 79.9	8.43e3	8.43e3	1.000	0.2552	4.81	4.71	28.7	112	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-76.qld

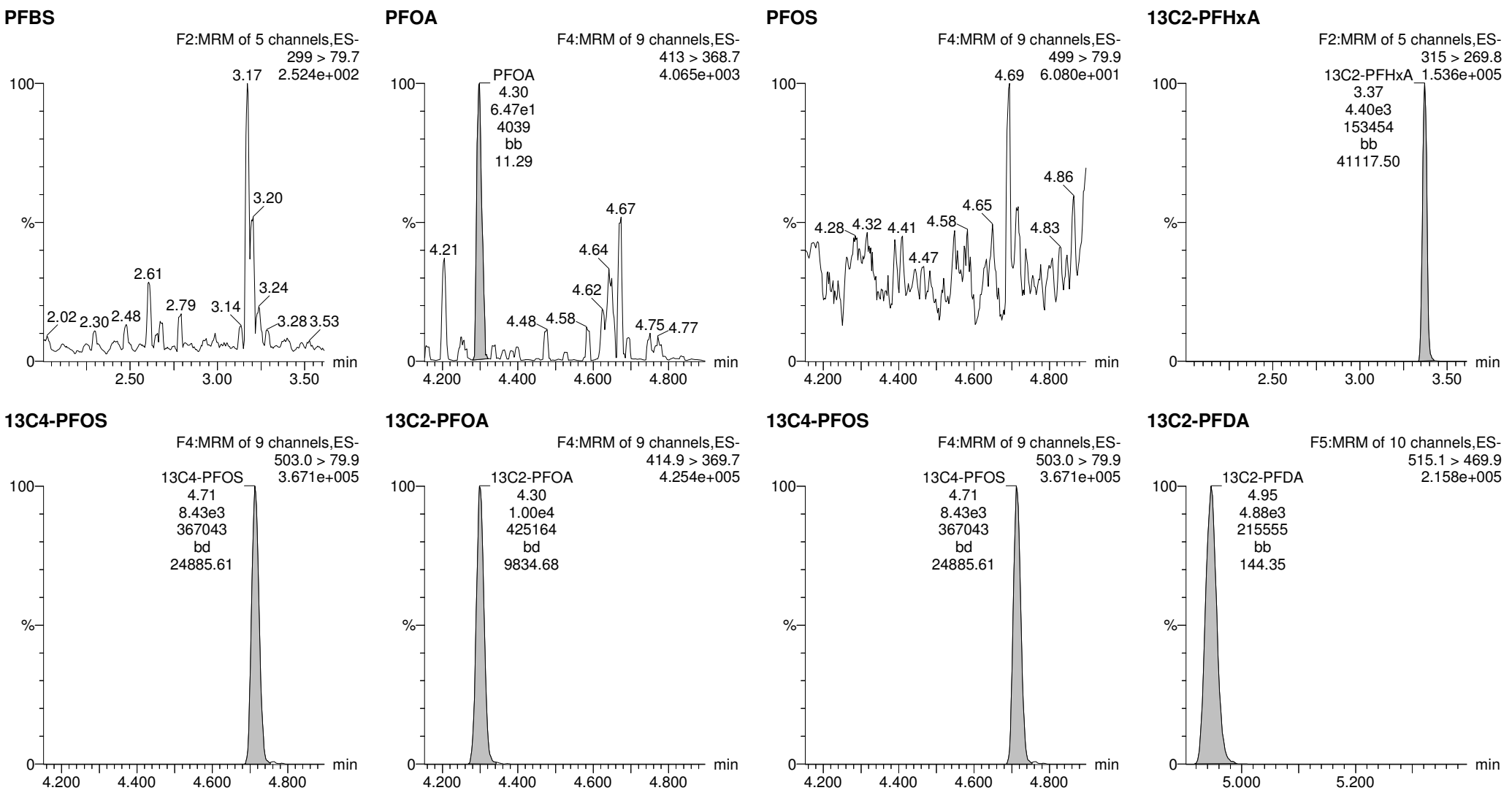
Rev'd: MM 12/15/17

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Printed: Friday, December 15, 2017 14:59:25 Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_76, Date: 15-Dec-2017, Time: 02:04:28, ID: 1701876-13 CH-AT-2RW55-1217 0.25, Description: CH-AT-2RW55-1217



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-77.qld

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Name: 171214G2_77, Date: 15-Dec-2017, Time: 02:16:56, ID: 1701876-14 CH-AT-2FB55-1217 0.25, Description: CH-AT-2FB55-1217

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7		9.28e3		0.2549	3.01				
2	2 PFOA	413 > 368.7	6.48e1	9.38e3		0.2549	4.30	4.30	0.0691	0.334	
3	3 PFOS	499 >79.9		9.28e3		0.2549	4.71				
4	4 13C2-PFHxA	315 > 269.8	4.15e3	9.38e3	0.443	0.2549	3.36	3.37	4.43	39.2	100.0
5	5 13C2-PFDA	515.1 > 469.9	4.77e3	9.38e3	0.509	0.2549	4.93	4.95	5.09	39.2	99.9
6	6 13C2-PFOA	414.9 > 369.7	9.38e3	9.38e3	1.000	0.2549	4.41	4.30	10.0	39.2	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.28e3	9.28e3	1.000	0.2549	4.81	4.71	28.7	113	100.0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-77.qld

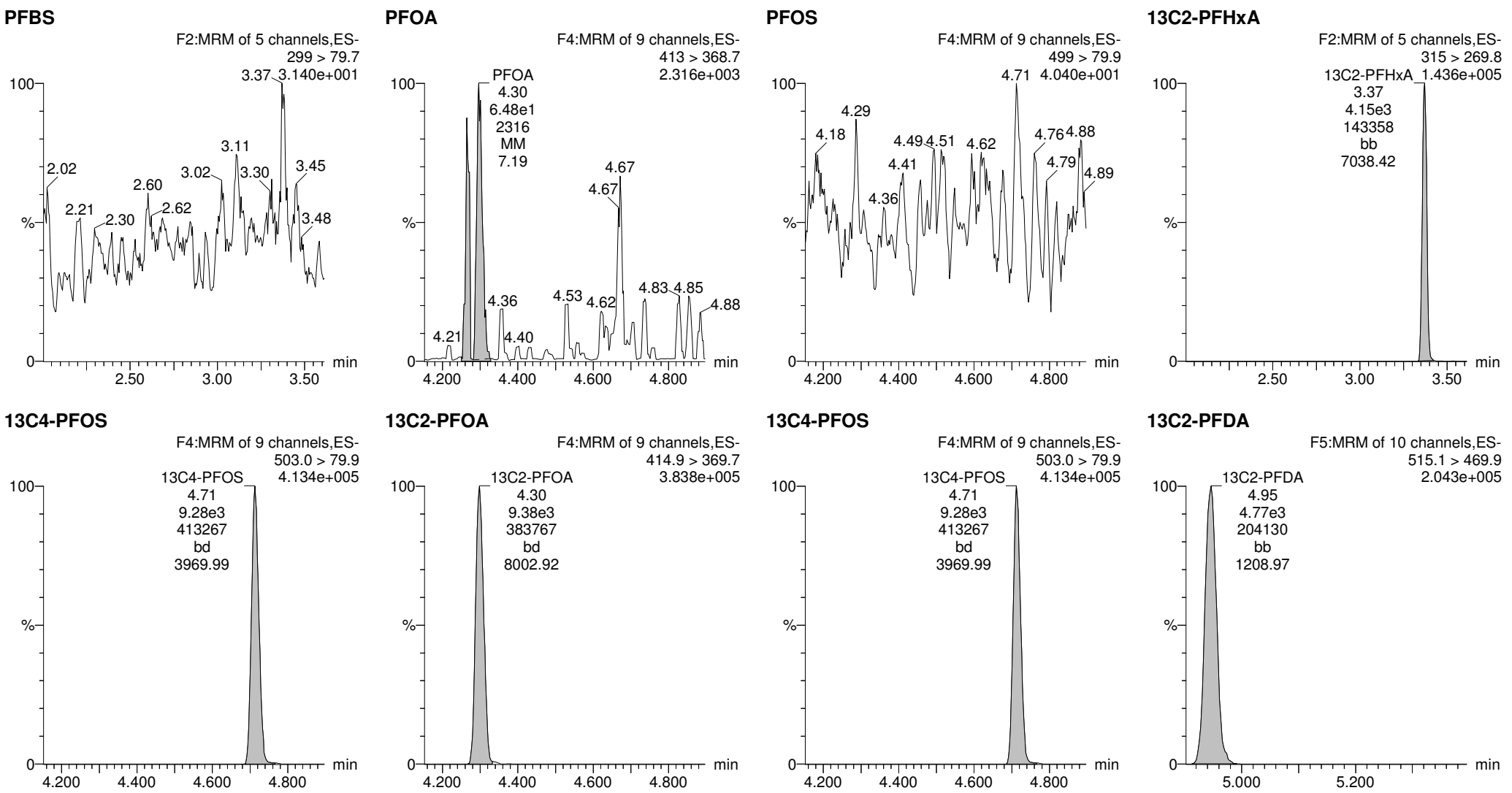
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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_77, Date: 15-Dec-2017, Time: 02:16:56, ID: 1701876-14 CH-AT-2FB55-1217 0.25, Description: CH-AT-2FB55-1217



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

171214G2

Compound 6: 13C2-PFOA

ICAL

ID	Name	#	Type	Std. Conc	RT	Area	IS Area	ICAL AREA	AREA%
1	ST171214G2-1 PFC CS-1 537 17L1106	171214G2_3	1 Analyte	10	4.3	12282.88	12282.88	12372.36	99.27679117
2	IPA	171214G2_4	2 Analyte	10				12372.36	0
3	B7L0066-BS1 LFB 0.25	171214G2_5	3 Analyte	10	4.3	10628.86	10628.86	12372.36	85.90812909
4	B7L0066-BSD1 LFB 0.25	171214G2_6	4 Analyte	10	4.3	9548.332	9548.332	12372.36	77.17470232
5	B7L0066-BLK1 LRB 0.25	171214G2_7	5 Analyte	10	4.3	9811.669	9811.669	12372.36	79.30313214
6	1701875-01 CH-AT-2RW42-1217 0.25	171214G2_8	6 Analyte	10	4.3	9082.317	9082.317	12372.36	73.40812101
7	1701875-02 CH-AT-2FB42-1217 0.25	171214G2_9	7 Analyte	10	4.3	9339.389	9339.389	12372.36	75.48591376
8	1701875-03 CH-AT-2RW43-1217 0.25	171214G2_10	8 Analyte	10	4.3	9212.422	9212.422	12372.36	74.45969888
9	1701875-04 CH-AT-2FB43-1217 0.25	171214G2_11	9 Analyte	10	4.3	9996.52	9996.52	12372.36	80.79719633
10	1701875-05 CH-AT-2RW44-1217 0.25	171214G2_12	10 Analyte	10	4.3	10648.03	10648.03	12372.36	86.06306315
11	1701875-06 CH-AT-2FB44-1217 0.25	171214G2_13	11 Analyte	10	4.3	10422.01	10422.01	12372.36	84.23624919
12	1701875-07 CH-AT-2RW45-1217 0.25	171214G2_14	12 Analyte	10	4.3	9924.576	9924.576	12372.36	80.21570662
13	1701875-08 CH-AT-2FB45-1217 0.25	171214G2_15	13 Analyte	10	4.3	9853.568	9853.568	12372.36	79.64178217
14	1701875-09 CH-AT-2RW46-1217 0.25	171214G2_16	14 Analyte	10	4.3	10241.4	10241.4	12372.36	82.7764711
15	1701875-10 CH-AT-2FB46-1217 0.25	171214G2_17	15 Analyte	10	4.3	9698.676	9698.676	12372.36	78.38986256
16	1701875-11 CH-AT-2RW47-1217 0.25	171214G2_18	16 Analyte	10	4.3	9521.928	9521.928	12372.36	76.96129114
17	1701875-12 CH-AT-2FB47-1217 0.25	171214G2_19	17 Analyte	10	4.3	9332.936	9332.936	12372.36	75.43375718
18	1701875-13 CH-AT-2RW48A-1217 0.25	171214G2_20	18 Analyte	10	4.3	9990.248	9990.248	12372.36	80.74650269
19	1701875-14 CH-AT-2FB48A-1217 0.25	171214G2_21	19 Analyte	10	4.3	9340.7	9340.7	12372.36	75.49650996
20	1701875-15 CH-AT-2RW48B-1217 0.25	171214G2_22	20 Analyte	10	4.3	8762.022	8762.022	12372.36	70.8193263
21	1701875-16 CH-AT-2FB48B-1217 0.25	171214G2_23	21 Analyte	10	4.3	9303.635	9303.635	12372.36	75.1969309
22	1701875-17 CH-AT-2EB01-1217 0.25	171214G2_24	22 Analyte	10	4.3	10044.3	10044.3	12372.36	81.1833474
23	IPA	171214G2_25	23 Analyte	10				12372.36	0
24	ST171214G2-2 PFC CS3 17K3027	171214G2_26	24 Analyte	10	4.3	11040.17	11040.17	12372.36	89.23251506
25	IPA	171214G2_27	25 Analyte	10				12372.36	0
26	B7L0070-BS1 LFB 0.25	171214G2_28	26 Analyte	10	4.3	11487.55	11487.55	12372.36	92.84846222
27	B7L0070-BLK1 LRB 0.25	171214G2_29	27 Analyte	10	4.3	9408.442	9408.442	12372.36	76.04403687
28	B7L0070-MS1 LFSM 0.25829	171214G2_30	28 Analyte	10	4.3	9714.328	9714.328	12372.36	78.51637036
29	B7L0070-MSD1 LFSMD 0.25642	171214G2_31	29 Analyte	10	4.3	11003.37	11003.37	12372.36	88.93506978
30	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_32	30 Analyte	10	4.3	9875.203	9875.203	12372.36	79.81664775

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31	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_33	31 Analyte	10	4.3	10179.08	10179.08	12372.36	82.27274344
32	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_34	32 Analyte	10	4.3	10907.25	10907.25	12372.36	88.15821719
33	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_35	33 Analyte	10	4.3	10363.86	10363.86	12372.36	83.76619335
34	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_36	34 Analyte	10	4.3	11169.8	11169.8	12372.36	90.28030222
35	B7L0070-BS1 LFB 0.25	171214G2_37	35 Analyte	10	4.3	10740.55	10740.55	12372.36	86.81087521
36	B7L0070-BLK1 LRB 0.25	171214G2_38	36 Analyte	10	4.3	8598.654	8598.654	12372.36	69.49889916
37	B7L0070-MS1 LFSM 0.25829	171214G2_39	37 Analyte	10	4.3	9904.783	9904.783	12372.36	80.05572906
38	B7L0070-MSD1 LFSMD 0.25642	171214G2_40	38 Analyte	10	4.3	10509.32	10509.32	12372.36	84.94189467
39	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_41	39 Analyte	10	4.3	10233.09	10233.09	12372.36	82.70927293
40	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_42	40 Analyte	10	4.3	10399.49	10399.49	12372.36	84.05422248
41	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_43	41 Analyte	10	4.3	10895.69	10895.69	12372.36	88.06475078
42	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_44	42 Analyte	10	4.3	10287.81	10287.81	12372.36	83.15155718
43	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_45	43 Analyte	10	4.3	10993.39	10993.39	12372.36	88.85439803
44	1701878-06 CH-AT-1FB134-1217 0.26393	171214G2_46	44 Analyte	10	4.3	10462.87	10462.87	12372.36	84.56647721
45	1701878-07 CH-AT-1RW135-1217 0.24531	171214G2_47	45 Analyte	10	4.3	11426.07	11426.07	12372.36	92.35156429
46	1701878-08 CH-AT-1FB135-1217 0.26926	171214G2_48	46 Analyte	10	4.3	10597.98	10597.98	12372.36	85.65854857
47	1701878-09 CH-AT-1RW136-1217 0.26442	171214G2_49	47 Analyte	10	4.3	10184.09	10184.09	12372.36	82.31321268
48	1701878-10 CH-AT-1FB136-1217 0.26043	171214G2_50	48 Analyte	10	4.3	11291.37	11291.37	12372.36	91.26283102
49	1701878-11 CH-AT-1RW137-1217 0.26292	171214G2_51	49 Analyte	10	4.3	9699.992	9699.992	12372.36	78.40049918
50	1701878-12 CH-AT-1FB137-1217 0.26004	171214G2_52	50 Analyte	10	4.3	10424.56	10424.56	12372.36	84.25687581
51	1701878-13 CH-AT-1RW138-1217 0.26448	171214G2_53	51 Analyte	10	4.3	10521.65	10521.65	12372.36	85.04159271
52	1701878-14 CH-AT-1FB138-1217 0.25841	171214G2_54	52 Analyte	10	4.3	10338.67	10338.67	12372.36	83.56261861
53	IPA	171214G2_55	53 Analyte	10				12372.36	0
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54 Analyte	10	4.3	11408.39	11408.39	12372.36	92.20865704
55	IPA	171214G2_57	55 Analyte	10				12372.36	0
56	1701878-15 CH-AT-1RW139-1217 0.26227	171214G2_58	56 Analyte	10	4.3	11314.78	11314.78	12372.36	91.45207543
57	1701878-16 CH-AT-1FB139-1217 0.26416	171214G2_59	57 Analyte	10	4.3	11451.12	11451.12	12372.36	92.55401556
58	B7L0090-BS1 LFB 0.25	171214G2_60	58 Analyte	10	4.3	9667.266	9667.266	12372.36	78.13599022
59	B7L0090-BLK1 LRB 0.25	171214G2_61	59 Analyte	10	4.3	9965.062	9965.062	12372.36	80.54293603
60	B7L0090-MS1 LFSM 0.25	171214G2_62	60 Analyte	10	4.3	11009.91	11009.91	12372.36	88.98796996
61	B7L0090-MSD1 LFSMD 0.25	171214G2_63	61 Analyte	10	4.3	10118.83	10118.83	12372.36	81.7857547
62	1701876-01 CH-AT-2RW49-1217 0.25	171214G2_64	62 Analyte	10	4.3	10422.01	10422.01	12372.36	84.23621686
63	1701876-02 CH-AT-2FB49-1217 0.25	171214G2_65	63 Analyte	10	4.3	10366.83	10366.83	12372.36	83.79025505
64	1701876-03 CH-AT-2RW50-1217 0.25	171214G2_66	64 Analyte	10	4.3	10321.99	10321.99	12372.36	83.42781814

65	1701876-04 CH-AT-2FB50-1217 0.25	171214G2_67	65 Analyte	10	4.3	10419.99	10419.99	12372.36	84.21989014
66	1701876-05 CH-AT-2RW51-1217 0.25	171214G2_68	66 Analyte	10	4.3	10430.12	10430.12	12372.36	84.30179044
67	1701876-06 CH-AT-2FB51-1217 0.25	171214G2_69	67 Analyte	10	4.3	9882.318	9882.318	12372.36	79.87415497
68	1701876-07 CH-AT-2RW52-1217 0.25	171214G2_70	68 Analyte	10	4.3	10359.15	10359.15	12372.36	83.72815696
69	1701876-08 CH-AT-2FB52-1217 0.25	171214G2_71	69 Analyte	10	4.3	10572.84	10572.84	12372.36	85.45533754
70	1701876-09 CH-AT-2RW53-1217 0.25	171214G2_72	70 Analyte	10	4.3	9751.245	9751.245	12372.36	78.81475321
71	1701876-10 CH-AT-2FB53-1217 0.25	171214G2_73	71 Analyte	10	4.3	9246.018	9246.018	12372.36	74.73123963
72	1701876-11 CH-AT-2RW54-1217 0.25	171214G2_74	72 Analyte	10	4.3	9661.013	9661.013	12372.36	78.08545015
73	1701876-12 CH-AT-2FB54-1217 0.25	171214G2_75	73 Analyte	10	4.3	10453.06	10453.06	12372.36	84.4872199
74	1701876-13 CH-AT-2RW55-1217 0.25	171214G2_76	74 Analyte	10	4.3	10044.22	10044.22	12372.36	81.18274121
75	1701876-14 CH-AT-2FB55-1217 0.25	171214G2_77	75 Analyte	10	4.3	9375.401	9375.401	12372.36	75.77698192
76	IPA	171214G2_78	76 Analyte	10				12372.36	0
77	ST171214G2-4 PFC CS3 17K3027	171214G2_79	77 Analyte	10	4.3	11594.75	11594.75	12372.36	93.71496626
78	IPA	171214G2_80	78 Analyte	10				12372.36	0

Compound 7: 13C4-PFOS

ICAL

ID	Name	#	Type	Std.	Conc	RT	Area	IS Area	ICAL AREA	AREA%
1	ST171214G2-1 PFC CS-1 537 17L1106	171214G2_3	1 Analyte	28.7	4.7		11766.9	11766.9	13322.56	88.32308505
2	IPA	171214G2_4	2 Analyte	28.7					13322.56	0
3	B7L0066-BS1 LFB 0.25	171214G2_5	3 Analyte	28.7	4.7		10250.96	10250.96	13322.56	76.94437856
4	B7L0066-BSD1 LFB 0.25	171214G2_6	4 Analyte	28.7	4.7		9666.711	9666.711	13322.56	72.55896014
5	B7L0066-BLK1 LRB 0.25	171214G2_7	5 Analyte	28.7	4.7		9607.271	9607.271	13322.56	72.11279964
6	1701875-01 CH-AT-2RW42-1217 0.25	171214G2_8	6 Analyte	28.7	4.7		9231.538	9231.538	13322.56	69.29252336
7	1701875-02 CH-AT-2FB42-1217 0.25	171214G2_9	7 Analyte	28.7	4.7		10355.51	10355.51	13322.56	77.72914515
8	1701875-03 CH-AT-2RW43-1217 0.25	171214G2_10	8 Analyte	28.7	4.7		9644.271	9644.271	13322.56	72.39052404
9	1701875-04 CH-AT-2FB43-1217 0.25	171214G2_11	9 Analyte	28.7	4.7		9810.286	9810.286	13322.56	73.63664341
10	1701875-05 CH-AT-2RW44-1217 0.25	171214G2_12	10 Analyte	28.7	4.7		10472.56	10472.56	13322.56	78.60770002
11	1701875-06 CH-AT-2FB44-1217 0.25	171214G2_13	11 Analyte	28.7	4.7		10869.42	10869.42	13322.56	81.58657195
12	1701875-07 CH-AT-2RW45-1217 0.25	171214G2_14	12 Analyte	28.7	4.7		10631.85	10631.85	13322.56	79.80334861
13	1701875-08 CH-AT-2FB45-1217 0.25	171214G2_15	13 Analyte	28.7	4.7		8993.525	8993.525	13322.56	67.50598233
14	1701875-09 CH-AT-2RW46-1217 0.25	171214G2_16	14 Analyte	28.7	4.7		9775.465	9775.465	13322.56	73.37527472
15	1701875-10 CH-AT-2FB46-1217 0.25	171214G2_17	15 Analyte	28.7	4.7		10418.96	10418.96	13322.56	78.20540497
16	1701875-11 CH-AT-2RW47-1217 0.25	171214G2_18	16 Analyte	28.7	4.7		9344.271	9344.271	13322.56	70.13870457

17	1701875-12 CH-AT-2FB47-1217 0.25	171214G2_19	17 Analyte	28.7	4.7	10147.44	10147.44	13322.56	76.16737324
18	1701875-13 CH-AT-2RW48A-1217 0.25	171214G2_20	18 Analyte	28.7	4.7	10296.52	10296.52	13322.56	77.28637739
19	1701875-14 CH-AT-2FB48A-1217 0.25	171214G2_21	19 Analyte	28.7	4.7	10169.32	10169.32	13322.56	76.33159843
20	1701875-15 CH-AT-2RW48B-1217 0.25	171214G2_22	20 Analyte	28.7	4.7	9038.867	9038.867	13322.56	67.84632233
21	1701875-16 CH-AT-2FB48B-1217 0.25	171214G2_23	21 Analyte	28.7	4.7	9030.877	9030.877	13322.56	67.78634887
22	1701875-17 CH-AT-2EB01-1217 0.25	171214G2_24	22 Analyte	28.7	4.7	10206.84	10206.84	13322.56	76.61319596
23	IPA	171214G2_25	23 Analyte	28.7				13322.56	0
24	ST171214G2-2 PFC CS3 17K3027	171214G2_26	24 Analyte	28.7	4.7	10500.76	10500.76	13322.56	78.81938606
25	IPA	171214G2_27	25 Analyte	28.7				13322.56	0
26	B7L0070-BS1 LFB 0.25	171214G2_28	26 Analyte	28.7	4.7	10215.69	10215.69	13322.56	76.67960962
27	B7L0070-BLK1 LRB 0.25	171214G2_29	27 Analyte	28.7	4.7	9281.496	9281.496	13322.56	69.66751135
28	B7L0070-MS1 LFSM 0.25829	171214G2_30	28 Analyte	28.7	4.7	9697.055	9697.055	13322.56	72.78672417
29	B7L0070-MSD1 LFSMD 0.25642	171214G2_31	29 Analyte	28.7	4.7	11204.45	11204.45	13322.56	84.10132137
30	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_32	30 Analyte	28.7	4.7	10456.2	10456.2	13322.56	78.4849008
31	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_33	31 Analyte	28.7	4.7	9784.658	9784.658	13322.56	73.44427798
32	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_34	32 Analyte	28.7	4.7	10790.63	10790.63	13322.56	80.9951691
33	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_35	33 Analyte	28.7	4.7	9970.318	9970.318	13322.56	74.83785399
34	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_36	34 Analyte	28.7	4.7	10271.07	10271.07	13322.56	77.095303
35	B7L0070-BS1 LFB 0.25	171214G2_37	35 Analyte	28.7	4.7	11529.71	11529.71	13322.56	86.54275154
36	B7L0070-BLK1 LRB 0.25	171214G2_38	36 Analyte	28.7	4.7	9114.62	9114.62	13322.56	68.41492926
37	B7L0070-MS1 LFSM 0.25829	171214G2_39	37 Analyte	28.7	4.7	10421.76	10421.76	13322.56	78.22637691
38	B7L0070-MSD1 LFSMD 0.25642	171214G2_40	38 Analyte	28.7	4.7	10218.44	10218.44	13322.56	76.70025881
39	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_41	39 Analyte	28.7	4.7	9836.812	9836.812	13322.56	73.83574929
40	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_42	40 Analyte	28.7	4.7	10733.2	10733.2	13322.56	80.5641033
41	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_43	41 Analyte	28.7	4.7	10618.62	10618.62	13322.56	79.70401334
42	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_44	42 Analyte	28.7	4.7	8557.11	8557.11	13322.56	64.23022302
43	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_45	43 Analyte	28.7	4.7	10874.71	10874.71	13322.56	81.62630906
44	1701878-06 CH-AT-1FB134-1217 0.26393	171214G2_46	44 Analyte	28.7	4.7	10167.88	10167.88	13322.56	76.3207897
45	1701878-07 CH-AT-1RW135-1217 0.24531	171214G2_47	45 Analyte	28.7	4.7	10623.68	10623.68	13322.56	79.74204657
46	1701878-08 CH-AT-1FB135-1217 0.26926	171214G2_48	46 Analyte	28.7	4.7	10849.8	10849.8	13322.56	81.43928044
47	1701878-09 CH-AT-1RW136-1217 0.26442	171214G2_49	47 Analyte	28.7	4.7	10716.8	10716.8	13322.56	80.44095879
48	1701878-10 CH-AT-1FB136-1217 0.26043	171214G2_50	48 Analyte	28.7	4.7	9512.606	9512.606	13322.56	71.40223801
49	1701878-11 CH-AT-1RW137-1217 0.26292	171214G2_51	49 Analyte	28.7	4.7	9421.135	9421.135	13322.56	70.71565075
50	1701878-12 CH-AT-1FB137-1217 0.26004	171214G2_52	50 Analyte	28.7	4.7	10249.23	10249.23	13322.56	76.93139307

51	1701878-13 CH-AT-1RW138-1217 0.26448	171214G2_53	51	Analyte	28.7	4.7	9369.236	9369.236	13322.56	70.32609348
52	1701878-14 CH-AT-1FB138-1217 0.25841	171214G2_54	52	Analyte	28.7	4.7	9659.907	9659.907	13322.56	72.50788887
53	IPA	171214G2_55	53	Analyte	28.7				13322.56	0
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54	Analyte	28.7	4.7	9785.357	9785.357	13322.56	73.44952472
55	IPA	171214G2_57	55	Analyte	28.7				13322.56	0
56	1701878-15 CH-AT-1RW139-1217 0.26227	171214G2_58	56	Analyte	28.7	4.7	10050.53	10050.53	13322.56	75.43992296
57	1701878-16 CH-AT-1FB139-1217 0.26416	171214G2_59	57	Analyte	28.7	4.7	10650.31	10650.31	13322.56	79.94191807
58	B7L0090-BS1 LFB 0.25	171214G2_60	58	Analyte	28.7	4.7	9416.486	9416.486	13322.56	70.68075505
59	B7L0090-BLK1 LRB 0.25	171214G2_61	59	Analyte	28.7	4.7	9576.796	9576.796	13322.56	71.88405231
60	B7L0090-MS1 LFSM 0.25	171214G2_62	60	Analyte	28.7	4.7	9725.06	9725.06	13322.56	72.99693152
61	B7L0090-MSD1 LFSMD 0.25	171214G2_63	61	Analyte	28.7	4.7	8905.141	8905.141	13322.56	66.84256629
62	1701876-01 CH-AT-2RW49-1217 0.25	171214G2_64	62	Analyte	28.7	4.7	9332.002	9332.002	13322.56	70.04661266
63	1701876-02 CH-AT-2FB49-1217 0.25	171214G2_65	63	Analyte	28.7	4.7	10132.19	10132.19	13322.56	76.05286822
64	1701876-03 CH-AT-2RW50-1217 0.25	171214G2_66	64	Analyte	28.7	4.7	9357.295	9357.295	13322.56	70.23646356
65	1701876-04 CH-AT-2FB50-1217 0.25	171214G2_67	65	Analyte	28.7	4.7	9431.113	9431.113	13322.56	70.79054626
66	1701876-05 CH-AT-2RW51-1217 0.25	171214G2_68	66	Analyte	28.7	4.7	9583.313	9583.313	13322.56	71.93296934
67	1701876-06 CH-AT-2FB51-1217 0.25	171214G2_69	67	Analyte	28.7	4.7	9191.989	9191.989	13322.56	68.995666
68	1701876-07 CH-AT-2RW52-1217 0.25	171214G2_70	68	Analyte	28.7	4.7	9919.561	9919.561	13322.56	74.45686865
69	1701876-08 CH-AT-2FB52-1217 0.25	171214G2_71	69	Analyte	28.7	4.7	8691.522	8691.522	13322.56	65.23912822
70	1701876-09 CH-AT-2RW53-1217 0.25	171214G2_72	70	Analyte	28.7	4.7	9161.353	9161.353	13322.56	68.76571019
71	1701876-10 CH-AT-2FB53-1217 0.25	171214G2_73	71	Analyte	28.7	4.7	8357.531	8357.531	13322.56	62.73217009
72	1701876-11 CH-AT-2RW54-1217 0.25	171214G2_74	72	Analyte	28.7	4.7	8926.59	8926.59	13322.56	67.00356388
73	1701876-12 CH-AT-2FB54-1217 0.25	171214G2_75	73	Analyte	28.7	4.7	8750.517	8750.517	13322.56	65.68194851
74	1701876-13 CH-AT-2RW55-1217 0.25	171214G2_76	74	Analyte	28.7	4.7	8431.297	8431.297	13322.56	63.28586248
75	1701876-14 CH-AT-2FB55-1217 0.25	171214G2_77	75	Analyte	28.7	4.7	9277.94	9277.94	13322.56	69.64081978
76	IPA	171214G2_78	76	Analyte	28.7				13322.56	0
77	ST171214G2-4 PFC CS3 17K3027	171214G2_79	77	Analyte	28.7	4.7	9496.576	9496.576	13322.56	71.28191579
78	IPA	171214G2_80	78	Analyte	28.7				13322.56	0

171214G3

Compound 6: 13C2-PFOA

CCAL

ID	Name	#	Type	Std. Conc	RT	Area	IS Area	CCAL AREA	AREA%
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MJT12/15/2017

1 ST171214G2-1 PFC CS-1 537 17L1106	171214G2_3	1 Analyte	10	4.3	12282.88	12282.88	12282.882	100
2 IPA	171214G2_4	2 Analyte	10				12282.882	0
3 B7L0066-BS1 LFB 0.25	171214G2_5	3 Analyte	10	4.3	10628.86	10628.86	12282.882	86.53395026
4 B7L0066-BSD1 LFB 0.25	171214G2_6	4 Analyte	10	4.3	9548.332	9548.332	12282.882	77.73690246
5 B7L0066-BLK1 LRB 0.25	171214G2_7	5 Analyte	10	4.3	9811.669	9811.669	12282.882	79.88083741
6 1701875-01 CH-AT-2RW42-1217 0.25	171214G2_8	6 Analyte	10	4.3	9082.317	9082.317	12282.882	73.94288246
7 1701875-02 CH-AT-2FB42-1217 0.25	171214G2_9	7 Analyte	10	4.3	9339.389	9339.389	12282.882	76.03581147
8 1701875-03 CH-AT-2RW43-1217 0.25	171214G2_10	8 Analyte	10	4.3	9212.422	9212.422	12282.882	75.00212084
9 1701875-04 CH-AT-2FB43-1217 0.25	171214G2_11	9 Analyte	10	4.3	9996.52	9996.52	12282.882	81.38578552
10 1701875-05 CH-AT-2RW44-1217 0.25	171214G2_12	10 Analyte	10	4.3	10648.03	10648.03	12282.882	86.69001298
11 1701875-06 CH-AT-2FB44-1217 0.25	171214G2_13	11 Analyte	10	4.3	10422.01	10422.01	12282.882	84.84989109
12 1701875-07 CH-AT-2RW45-1217 0.25	171214G2_14	12 Analyte	10	4.3	9924.576	9924.576	12282.882	80.80005979
13 1701875-08 CH-AT-2FB45-1217 0.25	171214G2_15	13 Analyte	10	4.3	9853.568	9853.568	12282.882	80.22195442
14 1701875-09 CH-AT-2RW46-1217 0.25	171214G2_16	14 Analyte	10	4.3	10241.4	10241.4	12282.882	83.37947886
15 1701875-10 CH-AT-2FB46-1217 0.25	171214G2_17	15 Analyte	10	4.3	9698.676	9698.676	12282.882	78.96091487
16 1701875-11 CH-AT-2RW47-1217 0.25	171214G2_18	16 Analyte	10	4.3	9521.928	9521.928	12282.882	77.52193663
17 1701875-12 CH-AT-2FB47-1217 0.25	171214G2_19	17 Analyte	10	4.3	9332.936	9332.936	12282.882	75.98327493
18 1701875-13 CH-AT-2RW48A-1217 0.25	171214G2_20	18 Analyte	10	4.3	9990.248	9990.248	12282.882	81.33472258
19 1701875-14 CH-AT-2FB48A-1217 0.25	171214G2_21	19 Analyte	10	4.3	9340.7	9340.7	12282.882	76.04648486
20 1701875-15 CH-AT-2RW48B-1217 0.25	171214G2_22	20 Analyte	10	4.3	8762.022	8762.022	12282.882	71.33522898
21 1701875-16 CH-AT-2FB48B-1217 0.25	171214G2_23	21 Analyte	10	4.3	9303.635	9303.635	12282.882	75.74472343
22 1701875-17 CH-AT-2EB01-1217 0.25	171214G2_24	22 Analyte	10	4.3	10044.3	10044.3	12282.882	81.77474961
23 IPA	171214G2_25	23 Analyte	10				12372.36	0
24 ST171214G2-2 PFC CS3 17K3027	171214G2_26	24 Analyte	10	4.3	11040.17	11040.17	12372.36	89.23251506

Compound 6: 13C2-PFOA

CCAL

ID	Name	#	Type	Std. Conc	RT	Area	IS Area	CCAL AREA	AREA%
24 ST171214G2-2 PFC CS3 17K3027	171214G2_26	24	Analyte	10	4.3	11040.17	11040.17	11040.168	100
25 IPA	171214G2_27	25	Analyte	10				11040.168	0
26 B7L0070-BS1 LFB 0.25	171214G2_28	26	Analyte	10	4.3	11487.55	11487.55	11040.168	104.0522753
27 B7L0070-BLK1 LRB 0.25	171214G2_29	27	Analyte	10	4.3	9408.442	9408.442	11040.168	85.2200981
28 B7L0070-MS1 LFSM 0.25829	171214G2_30	28	Analyte	10	4.3	9714.328	9714.328	11040.168	87.99076246
29 B7L0070-MSD1 LFSMD 0.25642	171214G2_31	29	Analyte	10	4.3	11003.37	11003.37	11040.168	99.66666268

30	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_32	30	Analyte	10	4.3	9875.203	9875.203	11040.168	89.44794137
31	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_33	31	Analyte	10	4.3	10179.08	10179.08	11040.168	92.20040854
32	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_34	32	Analyte	10	4.3	10907.25	10907.25	11040.168	98.79606905
33	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_35	33	Analyte	10	4.3	10363.86	10363.86	11040.168	93.87406967
34	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_36	34	Analyte	10	4.3	11169.8	11169.8	11040.168	101.1742213
35	B7L0070-BS1 LFB 0.25	171214G2_37	35	Analyte	10	4.3	10740.55	10740.55	11040.168	97.28614637
36	B7L0070-BLK1 LRB 0.25	171214G2_38	36	Analyte	10	4.3	8598.654	8598.654	11040.168	77.88517349
37	B7L0070-MS1 LFSM 0.25829	171214G2_39	37	Analyte	10	4.3	9904.783	9904.783	11040.168	89.71587208
38	B7L0070-MSD1 LFSMD 0.25642	171214G2_40	38	Analyte	10	4.3	10509.32	10509.32	11040.168	95.1916402
39	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_41	39	Analyte	10	4.3	10233.09	10233.09	11040.168	92.68961306
40	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_42	40	Analyte	10	4.3	10399.49	10399.49	11040.168	94.19685461
41	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_43	41	Analyte	10	4.3	10895.69	10895.69	11040.168	98.69132426
42	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_44	42	Analyte	10	4.3	10287.81	10287.81	11040.168	93.18526675
43	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_45	43	Analyte	10	4.3	10993.39	10993.39	11040.168	99.57625645
44	1701878-06 CH-AT-1FB134-1217 0.26393	171214G2_46	44	Analyte	10	4.3	10462.87	10462.87	11040.168	94.77092196
45	1701878-07 CH-AT-1RW135-1217 0.24531	171214G2_47	45	Analyte	10	4.3	11426.07	11426.07	11040.168	103.4954178
46	1701878-08 CH-AT-1FB135-1217 0.26926	171214G2_48	46	Analyte	10	4.3	10597.98	10597.98	11040.168	95.99477109
47	1701878-09 CH-AT-1RW136-1217 0.26442	171214G2_49	47	Analyte	10	4.3	10184.09	10184.09	11040.168	92.24576112
48	1701878-10 CH-AT-1FB136-1217 0.26043	171214G2_50	48	Analyte	10	4.3	11291.37	11291.37	11040.168	102.2753096
49	1701878-11 CH-AT-1RW137-1217 0.26292	171214G2_51	49	Analyte	10	4.3	9699.992	9699.992	11040.168	87.86090936
50	1701878-12 CH-AT-1FB137-1217 0.26004	171214G2_52	50	Analyte	10	4.3	10424.56	10424.56	11040.168	94.42396166
51	1701878-13 CH-AT-1RW138-1217 0.26448	171214G2_53	51	Analyte	10	4.3	10521.65	10521.65	11040.168	95.30336857
52	1701878-14 CH-AT-1FB138-1217 0.25841	171214G2_54	52	Analyte	10	4.3	10338.67	10338.67	11040.168	93.64593003
53	IPA	171214G2_55	53	Analyte	10				11040.168	0
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54	Analyte	10	4.3	11408.39	11408.39	11408.387	100

Compound 6: 13C2-PFOA

CCAL

ID	Name	#	Type	Std.	Conc	RT	Area	IS Area	CCAL AREA	AREA%
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54	Analyte	10	4.3	11408.39	11408.39	11408.387	100
55	IPA	171214G2_57	55	Analyte	10				11408.387	0
56	1701878-15 CH-AT-1RW139-1217 0.26227	171214G2_58	56	Analyte	10	4.3	11314.78	11314.78	11408.387	99.17948962
57	1701878-16 CH-AT-1FB139-1217 0.26416	171214G2_59	57	Analyte	10	4.3	11451.12	11451.12	11408.387	100.3745402
58	B7L0090-BS1 LFB 0.25	171214G2_60	58	Analyte	10	4.3	9667.266	9667.266	11408.387	84.73823688

59	B7L0090-BLK1 LRB 0.25	171214G2_61	59	Analyte	10	4.3	9965.062	9965.062	11408.387	87.34856207
60	B7L0090-MS1 LFSM 0.25	171214G2_62	60	Analyte	10	4.3	11009.91	11009.91	11408.387	96.50717494
61	B7L0090-MSD1 LFSMD 0.25	171214G2_63	61	Analyte	10	4.3	10118.83	10118.83	11408.387	88.69639503
62	1701876-01 CH-AT-2RW49-1217 0.25	171214G2_64	62	Analyte	10	4.3	10422.01	10422.01	11408.387	91.35391357
63	1701876-02 CH-AT-2FB49-1217 0.25	171214G2_65	63	Analyte	10	4.3	10366.83	10366.83	11408.387	90.87026939
64	1701876-03 CH-AT-2RW50-1217 0.25	171214G2_66	64	Analyte	10	4.3	10321.99	10321.99	11408.387	90.47720769
65	1701876-04 CH-AT-2FB50-1217 0.25	171214G2_67	65	Analyte	10	4.3	10419.99	10419.99	11408.387	91.3362073
66	1701876-05 CH-AT-2RW51-1217 0.25	171214G2_68	66	Analyte	10	4.3	10430.12	10430.12	11408.387	91.42502792
67	1701876-06 CH-AT-2FB51-1217 0.25	171214G2_69	67	Analyte	10	4.3	9882.318	9882.318	11408.387	86.62327111
68	1701876-07 CH-AT-2RW52-1217 0.25	171214G2_70	68	Analyte	10	4.3	10359.15	10359.15	11408.387	90.8029242
69	1701876-08 CH-AT-2FB52-1217 0.25	171214G2_71	69	Analyte	10	4.3	10572.84	10572.84	11408.387	92.67604614
70	1701876-09 CH-AT-2RW53-1217 0.25	171214G2_72	70	Analyte	10	4.3	9751.245	9751.245	11408.387	85.47435321
71	1701876-10 CH-AT-2FB53-1217 0.25	171214G2_73	71	Analyte	10	4.3	9246.018	9246.018	11408.387	81.04579552
72	1701876-11 CH-AT-2RW54-1217 0.25	171214G2_74	72	Analyte	10	4.3	9661.013	9661.013	11408.387	84.68342632
73	1701876-12 CH-AT-2FB54-1217 0.25	171214G2_75	73	Analyte	10	4.3	10453.06	10453.06	11408.387	91.62612559
74	1701876-13 CH-AT-2RW55-1217 0.25	171214G2_76	74	Analyte	10	4.3	10044.22	10044.22	11408.387	88.04242879
75	1701876-14 CH-AT-2FB55-1217 0.25	171214G2_77	75	Analyte	10	4.3	9375.401	9375.401	11408.387	82.17989975
76	IPA	171214G2_78	76	Analyte	10				11408.387	0
77	ST171214G2-4 PFC CS3 17K3027	171214G2_79	77	Analyte	10	4.3	11594.75	11594.75	11408.387	101.6335876
78	IPA	171214G2_80	78	Analyte	10				11408.387	0

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CCAL

ID	Name	#	Type	Std.	Conc	RT	Area	IS Area	CCAL AREA	AREA%
1	ST171214G2-1 PFC CS-1 537 17L1106	1	Analyte	28.7	4.7		11766.9	11766.9	11766.896	100
2	IPA	2	Analyte	28.7					11766.896	0
3	B7L0066-BS1 LFB 0.25	3	Analyte	28.7	4.7		10250.96	10250.96	11766.896	87.11695081
4	B7L0066-BSD1 LFBD 0.25	4	Analyte	28.7	4.7		9666.711	9666.711	11766.896	82.15175013
5	B7L0066-BLK1 LRB 0.25	5	Analyte	28.7	4.7		9607.271	9607.271	11766.896	81.64660417
6	1701875-01 CH-AT-2RW42-1217 0.25	6	Analyte	28.7	4.7		9231.538	9231.538	11766.896	78.4534681
7	1701875-02 CH-AT-2FB42-1217 0.25	7	Analyte	28.7	4.7		10355.51	10355.51	11766.896	88.0054689
8	1701875-03 CH-AT-2RW43-1217 0.25	8	Analyte	28.7	4.7		9644.271	9644.271	11766.896	81.96104563
9	1701875-04 CH-AT-2FB43-1217 0.25	9	Analyte	28.7	4.7		9810.286	9810.286	11766.896	83.37191049
10	1701875-05 CH-AT-2RW44-1217 0.25	10	Analyte	28.7	4.7		10472.56	10472.56	11766.896	89.00017473

11	1701875-06 CH-AT-2FB44-1217 0.25	171214G2_13	11 Analyte	28.7	4.7	10869.42	10869.42	11766.896	92.37287387
12	1701875-07 CH-AT-2RW45-1217 0.25	171214G2_14	12 Analyte	28.7	4.7	10631.85	10631.85	11766.896	90.35389622
13	1701875-08 CH-AT-2FB45-1217 0.25	171214G2_15	13 Analyte	28.7	4.7	8993.525	8993.525	11766.896	76.43073415
14	1701875-09 CH-AT-2RW46-1217 0.25	171214G2_16	14 Analyte	28.7	4.7	9775.465	9775.465	11766.896	83.07598707
15	1701875-10 CH-AT-2FB46-1217 0.25	171214G2_17	15 Analyte	28.7	4.7	10418.96	10418.96	11766.896	88.54469352
16	1701875-11 CH-AT-2RW47-1217 0.25	171214G2_18	16 Analyte	28.7	4.7	9344.271	9344.271	11766.896	79.41152025
17	1701875-12 CH-AT-2FB47-1217 0.25	171214G2_19	17 Analyte	28.7	4.7	10147.44	10147.44	11766.896	86.23722008
18	1701875-13 CH-AT-2RW48A-1217 0.25	171214G2_20	18 Analyte	28.7	4.7	10296.52	10296.52	11766.896	87.50416422
19	1701875-14 CH-AT-2FB48A-1217 0.25	171214G2_21	19 Analyte	28.7	4.7	10169.32	10169.32	11766.896	86.42315697
20	1701875-15 CH-AT-2RW48B-1217 0.25	171214G2_22	20 Analyte	28.7	4.7	9038.867	9038.867	11766.896	76.81606942
21	1701875-16 CH-AT-2FB48B-1217 0.25	171214G2_23	21 Analyte	28.7	4.7	9030.877	9030.877	11766.896	76.74816706
22	1701875-17 CH-AT-2EB01-1217 0.25	171214G2_24	22 Analyte	28.7	4.7	10206.84	10206.84	11766.896	86.74198361
23	IPA	171214G2_25	23 Analyte	28.7				11766.896	0
24	ST171214G2-2 PFC CS3 17K3027	171214G2_26	24 Analyte	28.7	4.7	10500.76	10500.76	11766.896	89.23984711

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CCAL

ID	Name	#	Type	Std.	Conc	RT	Area	IS Area	CCAL AREA	AREA%
24	ST171214G2-2 PFC CS3 17K3027	171214G2_26	24 Analyte	28.7	4.7	10500.76	10500.76	10206.839	102.8796477	
25	IPA	171214G2_27	25 Analyte	28.7				10206.839	0	
26	B7L0070-BS1 LFB 0.25	171214G2_28	26 Analyte	28.7	4.7	10215.69	10215.69	10206.839	100.086687	
27	B7L0070-BLK1 LRB 0.25	171214G2_29	27 Analyte	28.7	4.7	9281.496	9281.496	10206.839	90.93408841	
28	B7L0070-MS1 LFSM 0.25829	171214G2_30	28 Analyte	28.7	4.7	9697.055	9697.055	10206.839	95.00546643	
29	B7L0070-MSD1 LFSMD 0.25642	171214G2_31	29 Analyte	28.7	4.7	11204.45	11204.45	10206.839	109.7739369	
30	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_32	30 Analyte	28.7	4.7	10456.2	10456.2	10206.839	102.443058	
31	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_33	31 Analyte	28.7	4.7	9784.658	9784.658	10206.839	95.86374391	
32	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_34	32 Analyte	28.7	4.7	10790.63	10790.63	10206.839	105.7196062	
33	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_35	33 Analyte	28.7	4.7	9970.318	9970.318	10206.839	97.68272038	
34	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_36	34 Analyte	28.7	4.7	10271.07	10271.07	10206.839	100.6292742	
35	B7L0070-BS1 LFB 0.25	171214G2_37	35 Analyte	28.7	4.7	11529.71	11529.71	10206.839	112.9606336	
36	B7L0070-BLK1 LRB 0.25	171214G2_38	36 Analyte	28.7	4.7	9114.62	9114.62	10206.839	89.29914541	
37	B7L0070-MS1 LFSM 0.25829	171214G2_39	37 Analyte	28.7	4.7	10421.76	10421.76	10206.839	102.1056176	
38	B7L0070-MSD1 LFSMD 0.25642	171214G2_40	38 Analyte	28.7	4.7	10218.44	10218.44	10206.839	100.1136395	
39	1701878-01 CH-AT-1RW131-1217 0.26557	171214G2_41	39 Analyte	28.7	4.7	9836.812	9836.812	10206.839	96.37471503	
40	1701878-02 CH-AT-1FB131-1217 0.25351	171214G2_42	40 Analyte	28.7	4.7	10733.2	10733.2	10206.839	105.1569541	

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41	1701878-03 CH-AT-1RW133-1217 0.26251	171214G2_43	41	Analyte	28.7	4.7	10618.62	10618.62	10206.839	104.0343146
42	1701878-04 CH-AT-1FB133-1217 0.26015	171214G2_44	42	Analyte	28.7	4.7	8557.11	8557.11	10206.839	83.83702339
43	1701878-05 CH-AT-1RW134-1217 0.25965	171214G2_45	43	Analyte	28.7	4.7	10874.71	10874.71	10206.839	106.5434068
44	1701878-06 CH-AT-1FB134-1217 0.26393	171214G2_46	44	Analyte	28.7	4.7	10167.88	10167.88	10206.839	99.61833433
45	1701878-07 CH-AT-1RW135-1217 0.24531	171214G2_47	45	Analyte	28.7	4.7	10623.68	10623.68	10206.839	104.0839578
46	1701878-08 CH-AT-1FB135-1217 0.26926	171214G2_48	46	Analyte	28.7	4.7	10849.8	10849.8	10206.839	106.2992862
47	1701878-09 CH-AT-1RW136-1217 0.26442	171214G2_49	47	Analyte	28.7	4.7	10716.8	10716.8	10206.839	104.9962187
48	1701878-10 CH-AT-1FB136-1217 0.26043	171214G2_50	48	Analyte	28.7	4.7	9512.606	9512.606	10206.839	93.19835455
49	1701878-11 CH-AT-1RW137-1217 0.26292	171214G2_51	49	Analyte	28.7	4.7	9421.135	9421.135	10206.839	92.30218092
50	1701878-12 CH-AT-1FB137-1217 0.26004	171214G2_52	50	Analyte	28.7	4.7	10249.23	10249.23	10206.839	100.4153294
51	1701878-13 CH-AT-1RW138-1217 0.26448	171214G2_53	51	Analyte	28.7	4.7	9369.236	9369.236	10206.839	91.79370812
52	1701878-14 CH-AT-1FB138-1217 0.25841	171214G2_54	52	Analyte	28.7	4.7	9659.907	9659.907	10206.839	94.64151438
53	IPA	171214G2_55	53	Analyte	28.7				10206.839	0
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54	Analyte	28.7	4.7	9785.357	9785.357	10206.839	95.87059226

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CCAL

ID	Name	#	Type	Std.	Conc	RT	Area	IS Area	CCAL AREA	AREA%
54	ST171214G2-3 PFC CS-1 537 17L1106	171214G2_56	54	Analyte	28.7	4.7	9785.357	9785.357	9785.357	100
55	IPA	171214G2_57	55	Analyte	28.7				9785.357	0
56	1701878-15 CH-AT-1RW139-1217 0.26227	171214G2_58	56	Analyte	28.7	4.7	10050.53	10050.53	9785.357	102.7098858
57	1701878-16 CH-AT-1FB139-1217 0.26416	171214G2_59	57	Analyte	28.7	4.7	10650.31	10650.31	9785.357	108.8392585
58	B7L0090-BS1 LFB 0.25	171214G2_60	58	Analyte	28.7	4.7	9416.486	9416.486	9785.357	96.2303777
59	B7L0090-BLK1 LRB 0.25	171214G2_61	59	Analyte	28.7	4.7	9576.796	9576.796	9785.357	97.86864189
60	B7L0090-MS1 LFSM 0.25	171214G2_62	60	Analyte	28.7	4.7	9725.06	9725.06	9785.357	99.38380378
61	B7L0090-MSD1 LFSMD 0.25	171214G2_63	61	Analyte	28.7	4.7	8905.141	8905.141	9785.357	91.00476355
62	1701876-01 CH-AT-2RW49-1217 0.25	171214G2_64	62	Analyte	28.7	4.7	9332.002	9332.002	9785.357	95.36700603
63	1701876-02 CH-AT-2FB49-1217 0.25	171214G2_65	63	Analyte	28.7	4.7	10132.19	10132.19	9785.357	103.544398
64	1701876-03 CH-AT-2RW50-1217 0.25	171214G2_66	64	Analyte	28.7	4.7	9357.295	9357.295	9785.357	95.62548408
65	1701876-04 CH-AT-2FB50-1217 0.25	171214G2_67	65	Analyte	28.7	4.7	9431.113	9431.113	9785.357	96.37985615
66	1701876-05 CH-AT-2RW51-1217 0.25	171214G2_68	66	Analyte	28.7	4.7	9583.313	9583.313	9785.357	97.9352414
67	1701876-06 CH-AT-2FB51-1217 0.25	171214G2_69	67	Analyte	28.7	4.7	9191.989	9191.989	9785.357	93.93616401
68	1701876-07 CH-AT-2RW52-1217 0.25	171214G2_70	68	Analyte	28.7	4.7	9919.561	9919.561	9785.357	101.3714778
69	1701876-08 CH-AT-2FB52-1217 0.25	171214G2_71	69	Analyte	28.7	4.7	8691.522	8691.522	9785.357	88.82171596

70 1701876-09 CH-AT-2RW53-1217 0.25	171214G2_72	70 Analyte	28.7	4.7	9161.353	9161.353	9785.357	93.62308396
71 1701876-10 CH-AT-2FB53-1217 0.25	171214G2_73	71 Analyte	28.7	4.7	8357.531	8357.531	9785.357	85.40854462
72 1701876-11 CH-AT-2RW54-1217 0.25	171214G2_74	72 Analyte	28.7	4.7	8926.59	8926.59	9785.357	91.22395841
73 1701876-12 CH-AT-2FB54-1217 0.25	171214G2_75	73 Analyte	28.7	4.7	8750.517	8750.517	9785.357	89.42460658
74 1701876-13 CH-AT-2RW55-1217 0.25	171214G2_76	74 Analyte	28.7	4.7	8431.297	8431.297	9785.357	86.16238529
75 1701876-14 CH-AT-2FB55-1217 0.25	171214G2_77	75 Analyte	28.7	4.7	9277.94	9277.94	9785.357	94.81452746
76 IPA	171214G2_78	76 Analyte	28.7				9785.357	0
77 ST171214G2-4 PFC CS3 17K3027	171214G2_79	77 Analyte	28.7	4.7	9496.576	9496.576	9785.357	97.04884554
78 IPA	171214G2_80	78 Analyte	28.7				9785.357	0

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-56.qld

Last Altered: Friday, December 15, 2017 11:00:13 Pacific Standard Time

Printed: Friday, December 15, 2017 11:00:33 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_56, Date: 14-Dec-2017, Time: 21:55:49, ID: ST171214G2-3 PFC CS-1 537 17L1106, Description: PFC CS-1 537 17L1106

#	Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	5.30e2	9.79e3		1.0000	3.01	3.01	1.55	1.94	109.6
2	2 PFOA	413 > 368.7	1.86e3	1.14e4		1.0000	4.30	4.30	1.63	2.01	100.5
3	3 PFOS	499 > 79.9	7.67e2	9.79e3		1.0000	4.71	4.71	2.25	1.87	101.1
4	4 13C2-PFHxA	315 > 269.8	4.69e3	1.14e4	0.443	1.0000	3.36	3.37	4.11	9.29	92.9
5	5 13C2-PFDA	515.1 > 469.9	5.93e3	1.14e4	0.509	1.0000	4.93	4.94	5.20	10.2	102.0
6	6 13C2-PFOA	414.9 > 369.7	1.14e4	1.14e4	1.000	1.0000	4.41	4.30	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.79e3	9.79e3	1.000	1.0000	4.81	4.71	28.7	28.7	100.0

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12/15/17

70-130
↓
50-150
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Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOA

	Name	ID	Acq.Date	Acq.Time
1	171214G2_3	ST171214G2-1 PFC CS-1 537 17L1106	14-Dec-17	10:55:27
2	171214G2_4	IPA	14-Dec-17	11:07:51
3	171214G2_5	B7L0066-BS1 LFB 0.25	14-Dec-17	11:20:22
4	171214G2_6	B7L0066-BS1 LFB 0.25	14-Dec-17	11:32:47
5	171214G2_7	B7L0066-BLK1 LRB 0.25	14-Dec-17	11:45:13
6	171214G2_8	1701875-01 CH-AT-2RW42-1217 0.25	14-Dec-17	11:57:40
7	171214G2_9	1701875-02 CH-AT-2FB42-1217 0.25	14-Dec-17	12:10:07
8	171214G2_10	1701875-03 CH-AT-2RW43-1217 0.25	14-Dec-17	12:22:35
9	171214G2_11	1701875-04 CH-AT-2FB43-1217 0.25	14-Dec-17	12:35:04
10	171214G2_12	1701875-05 CH-AT-2RW44-1217 0.25	14-Dec-17	12:47:28
11	171214G2_13	1701875-06 CH-AT-2FB44-1217 0.25	14-Dec-17	12:59:53
12	171214G2_14	1701875-07 CH-AT-2RW45-1217 0.25	14-Dec-17	13:12:18
13	171214G2_15	1701875-08 CH-AT-2FB45-1217 0.25	14-Dec-17	13:24:44
14	171214G2_16	1701875-09 CH-AT-2RW46-1217 0.25	14-Dec-17	13:37:11
15	171214G2_17	1701875-10 CH-AT-2FB46-1217 0.25	14-Dec-17	13:49:38
16	171214G2_18	1701875-11 CH-AT-2RW47-1217 0.25	14-Dec-17	14:02:06
17	171214G2_19	1701875-12 CH-AT-2FB47-1217 0.25	14-Dec-17	14:14:37
18	171214G2_20	1701875-13 CH-AT-2RW48A-1217 0.25	14-Dec-17	14:27:02
19	171214G2_21	1701875-14 CH-AT-2FB48A-1217 0.25	14-Dec-17	14:39:28
20	171214G2_22	1701875-15 CH-AT-2RW48B-1217 0.25	14-Dec-17	14:51:53
21	171214G2_23	1701875-16 CH-AT-2FB48B-1217 0.25	14-Dec-17	15:04:18
22	171214G2_24	1701875-17 CH-AT-2EB01-1217 0.25	14-Dec-17	15:16:49
23	171214G2_25	IPA	14-Dec-17	15:29:20
24	171214G2_26	ST171214G2-2 PFC CS3 17K3027	14-Dec-17	15:41:47
25	171214G2_27	IPA	14-Dec-17	15:54:13
26	171214G2_28	B7L0070-BS1 LFB 0.25	14-Dec-17	16:06:43
27	171214G2_29	B7L0070-BLK1 LRB 0.25	14-Dec-17	16:19:10
28	171214G2_30	B7L0070-MS1 LFSM 0.25829	14-Dec-17	16:31:37
29	171214G2_31	B7L0070-MSD1 LFSMD 0.25642	14-Dec-17	16:44:04
30	171214G2_32	1701878-01 CH-AT-1RW131-1217 0.26557	14-Dec-17	16:56:32
31	171214G2_33	1701878-02 CH-AT-1FB131-1217 0.25351	14-Dec-17	17:09:00
32	171214G2_34	1701878-03 CH-AT-1RW133-1217 0.26251	14-Dec-17	17:21:24
33	171214G2_35	1701878-04 CH-AT-1FB133-1217 0.26015	14-Dec-17	17:33:49
34	171214G2_36	1701878-05 CH-AT-1RW134-1217 0.25965	14-Dec-17	17:46:14
35	171214G2_37	B7L0070-BS1 LFB 0.25	14-Dec-17	17:59:25
36	171214G2_38	B7L0070-BLK1 LRB 0.25	14-Dec-17	18:11:52

Dataset: Untitled

Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOA

	Name	ID	Acq.Date	Acq.Time
37	171214G2_39	B7L0070-MS1 LFSM 0.25829	14-Dec-17	18:24:18
38	171214G2_40	B7L0070-MSD1 LFSMD 0.25642	14-Dec-17	18:36:45
39	171214G2_41	1701878-01 CH-AT-1RW131-1217 0.26557	14-Dec-17	18:49:13
40	171214G2_42	1701878-02 CH-AT-1FB131-1217 0.25351	14-Dec-17	19:01:41
41	171214G2_43	1701878-03 CH-AT-1RW133-1217 0.26251	14-Dec-17	19:14:06
42	171214G2_44	1701878-04 CH-AT-1FB133-1217 0.26015	14-Dec-17	19:26:31
43	171214G2_45	1701878-05 CH-AT-1RW134-1217 0.25965	14-Dec-17	19:38:56
44	171214G2_46	1701878-06 CH-AT-1FB134-1217 0.26393	14-Dec-17	19:51:22
45	171214G2_47	1701878-07 CH-AT-1RW135-1217 0.24531	14-Dec-17	20:03:48
46	171214G2_48	1701878-08 CH-AT-1FB135-1217 0.26926	14-Dec-17	20:16:15
47	171214G2_49	1701878-09 CH-AT-1RW136-1217 0.26442	14-Dec-17	20:28:43
48	171214G2_50	1701878-10 CH-AT-1FB136-1217 0.26043	14-Dec-17	20:41:11
49	171214G2_51	1701878-11 CH-AT-1RW137-1217 0.26292	14-Dec-17	20:53:35
50	171214G2_52	1701878-12 CH-AT-1FB137-1217 0.26004	14-Dec-17	21:06:00
51	171214G2_53	1701878-13 CH-AT-1RW138-1217 0.26448	14-Dec-17	21:18:25
52	171214G2_54	1701878-14 CH-AT-1FB138-1217 0.25841	14-Dec-17	21:30:51
53	171214G2_55	IPA	14-Dec-17	21:43:21
54	171214G2_56	ST171214G2-3 PFC CS-1 537 17L1106	14-Dec-17	21:55:49
55	171214G2_57	IPA	14-Dec-17	22:08:13
56	171214G2_58	1701878-15 CH-AT-1RW139-1217 0.26227	14-Dec-17	22:20:41
57	171214G2_59	1701878-16 CH-AT-1FB139-1217 0.26416	14-Dec-17	22:33:07
58	171214G2_60	B7L0090-BS1 LFB 0.25	14-Dec-17	22:45:35
59	171214G2_61	B7L0090-BLK1 LRB 0.25	14-Dec-17	22:58:04
60	171214G2_62	B7L0090-MS1 LFSM 0.25	14-Dec-17	23:10:28
61	171214G2_63	B7L0090-MSD1 LFSMD 0.25	14-Dec-17	23:22:52
62	171214G2_64	1701876-01 CH-AT-2RW49-1217 0.25	14-Dec-17	23:35:16
63	171214G2_65	1701876-02 CH-AT-2FB49-1217 0.25	14-Dec-17	23:47:43
64	171214G2_66	1701876-03 CH-AT-2RW50-1217 0.25	15-Dec-17	00:00:09
65	171214G2_67	1701876-04 CH-AT-2FB50-1217 0.25	15-Dec-17	00:12:35
66	171214G2_68	1701876-05 CH-AT-2RW51-1217 0.25	15-Dec-17	00:25:02
67	171214G2_69	1701876-06 CH-AT-2FB51-1217 0.25	15-Dec-17	00:37:30
68	171214G2_70	1701876-07 CH-AT-2RW52-1217 0.25	15-Dec-17	00:49:54
69	171214G2_71	1701876-08 CH-AT-2FB52-1217 0.25	15-Dec-17	01:02:18
70	171214G2_72	1701876-09 CH-AT-2RW53-1217 0.25	15-Dec-17	01:14:43
71	171214G2_73	1701876-10 CH-AT-2FB53-1217 0.25	15-Dec-17	01:27:09
72	171214G2_74	1701876-11 CH-AT-2RW54-1217 0.25	15-Dec-17	01:39:35

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Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOA

	Name	ID	Acq.Date	Acq.Time
73	171214G2_75	1701876-12 CH-AT-2FB54-1217 0.25	15-Dec-17	01:52:02
74	171214G2_76	1701876-13 CH-AT-2RW55-1217 0.25	15-Dec-17	02:04:28
75	171214G2_77	1701876-14 CH-AT-2FB55-1217 0.25	15-Dec-17	02:16:56
76	171214G2_78	IPA	15-Dec-17	02:29:20
77	171214G2_79	ST171214G2-4 PFC CS3 17K3027	15-Dec-17	02:41:48
78	171214G2_80	IPA	15-Dec-17	02:54:13

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-56.qld

Last Altered: Friday, December 15, 2017 11:00:13 Pacific Standard Time

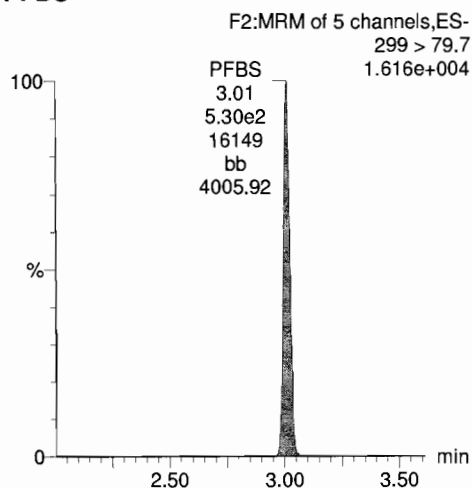
Printed: Friday, December 15, 2017 11:00:33 Pacific Standard Time

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

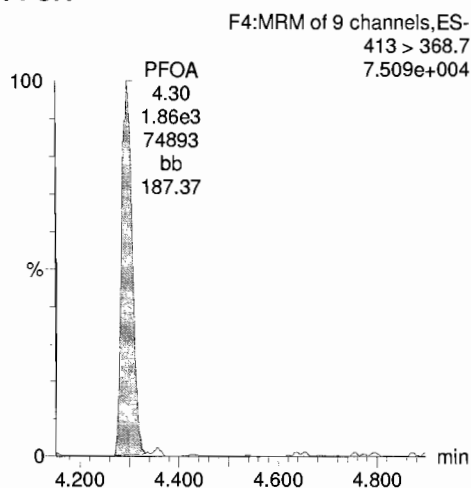
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_56, Date: 14-Dec-2017, Time: 21:55:49, ID: ST171214G2-3 PFC CS-1 537 17L1106, Description: PFC CS-1 537 17L1106

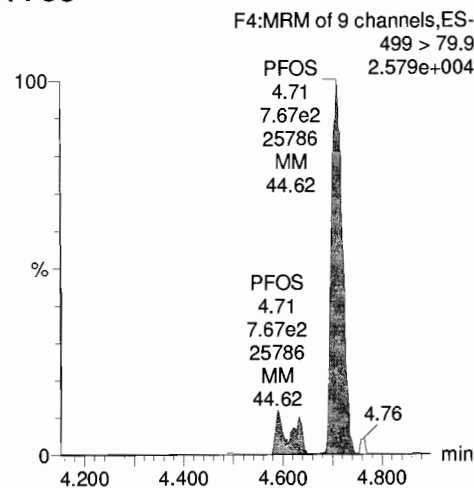
PFBS



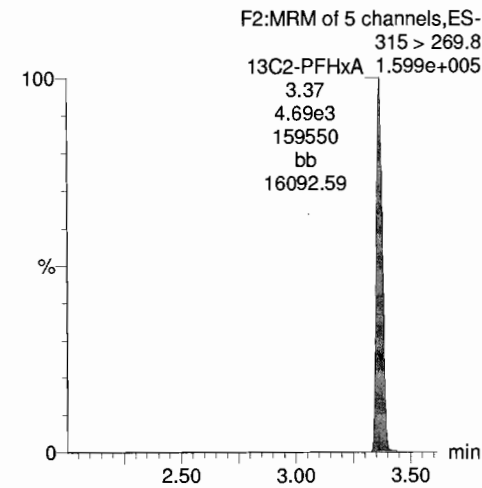
PFOA



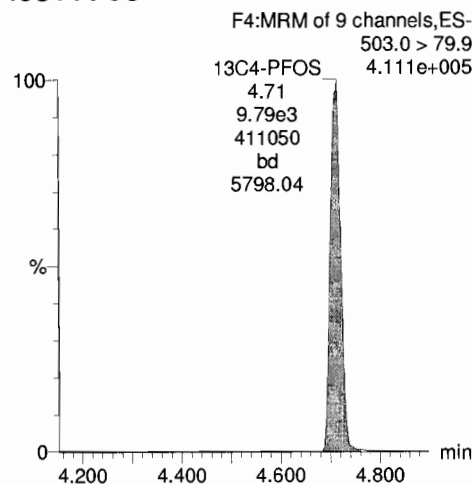
PFOS



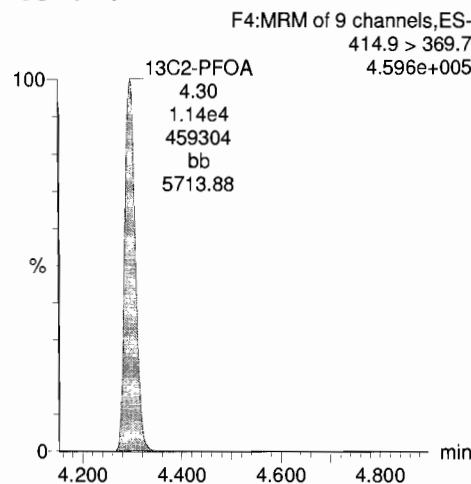
13C2-PFHxA



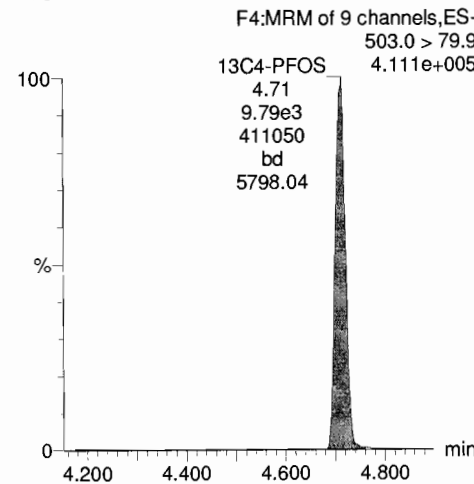
13C4-PFOS



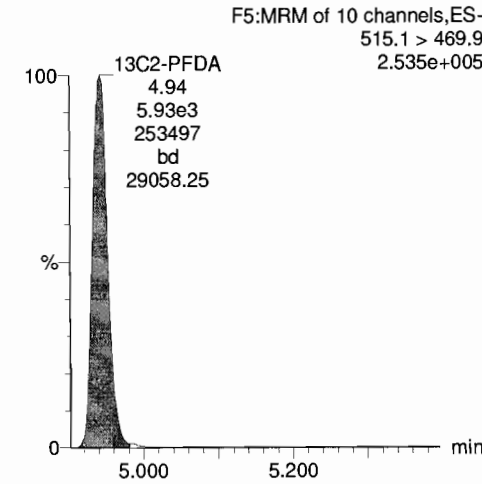
13C2-PFOA



13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-79.qld

Last Altered: Friday, December 15, 2017 11:01:40 Pacific Standard Time

Printed: Friday, December 15, 2017 11:02:07 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Name: 171214G2_79, Date: 15-Dec-2017, Time: 02:41:48, ID: ST171214G2-4 PFC CS3 17K3027, Description: PFC CS3 17K3027

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.24e4	9.50e3		1.0000	3.01	3.01	37.5	46.8	105.8
2	2 PFOA	413 > 368.7	4.29e4	1.16e4		1.0000	4.30	4.30	37.0	45.6	91.2
3	3 PFOS	499 > 79.9	1.74e4	9.50e3		1.0000	4.71	4.71	52.5	43.6	94.5
4	4 13C2-PFHxA	315 > 269.8	4.98e3	1.16e4	0.443	1.0000	3.36	3.37	4.30	9.70	97.0
5	5 13C2-PFDA	515.1 > 469.9	5.94e3	1.16e4	0.509	1.0000	4.93	4.94	5.13	10.1	100.7
6	6 13C2-PFOA	414.9 > 369.7	1.16e4	1.16e4	1.000	1.0000	4.41	4.30	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	9.50e3	9.50e3	1.000	1.0000	4.81	4.71	28.7	28.7	100.0

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Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOS

	Name	ID	Acq.Date	Acq.Time
1	171214G2_3	ST171214G2-1 PFC CS-1 537 17L1106	14-Dec-17	10:55:27
2	171214G2_4	IPA	14-Dec-17	11:07:51
3	171214G2_5	B7L0066-BS1 LFB 0.25	14-Dec-17	11:20:22
4	171214G2_6	B7L0066-BS1 LFB 0.25	14-Dec-17	11:32:47
5	171214G2_7	B7L0066-BLK1 LRB 0.25	14-Dec-17	11:45:13
6	171214G2_8	1701875-01 CH-AT-2RW42-1217 0.25	14-Dec-17	11:57:40
7	171214G2_9	1701875-02 CH-AT-2FB42-1217 0.25	14-Dec-17	12:10:07
8	171214G2_10	1701875-03 CH-AT-2RW43-1217 0.25	14-Dec-17	12:22:35
9	171214G2_11	1701875-04 CH-AT-2FB43-1217 0.25	14-Dec-17	12:35:04
10	171214G2_12	1701875-05 CH-AT-2RW44-1217 0.25	14-Dec-17	12:47:28
11	171214G2_13	1701875-06 CH-AT-2FB44-1217 0.25	14-Dec-17	12:59:53
12	171214G2_14	1701875-07 CH-AT-2RW45-1217 0.25	14-Dec-17	13:12:18
13	171214G2_15	1701875-08 CH-AT-2FB45-1217 0.25	14-Dec-17	13:24:44
14	171214G2_16	1701875-09 CH-AT-2RW46-1217 0.25	14-Dec-17	13:37:11
15	171214G2_17	1701875-10 CH-AT-2FB46-1217 0.25	14-Dec-17	13:49:38
16	171214G2_18	1701875-11 CH-AT-2RW47-1217 0.25	14-Dec-17	14:02:06
17	171214G2_19	1701875-12 CH-AT-2FB47-1217 0.25	14-Dec-17	14:14:37
18	171214G2_20	1701875-13 CH-AT-2RW48A-1217 0.25	14-Dec-17	14:27:02
19	171214G2_21	1701875-14 CH-AT-2FB48A-1217 0.25	14-Dec-17	14:39:28
20	171214G2_22	1701875-15 CH-AT-2RW48B-1217 0.25	14-Dec-17	14:51:53
21	171214G2_23	1701875-16 CH-AT-2FB48B-1217 0.25	14-Dec-17	15:04:18
22	171214G2_24	1701875-17 CH-AT-2EB01-1217 0.25	14-Dec-17	15:16:49
23	171214G2_25	IPA	14-Dec-17	15:29:20
24	171214G2_26	ST171214G2-2 PFC CS3 17K3027	14-Dec-17	15:41:47
25	171214G2_27	IPA	14-Dec-17	15:54:13
26	171214G2_28	B7L0070-BS1 LFB 0.25	14-Dec-17	16:06:43
27	171214G2_29	B7L0070-BLK1 LRB 0.25	14-Dec-17	16:19:10
28	171214G2_30	B7L0070-MS1 LFSM 0.25829	14-Dec-17	16:31:37
29	171214G2_31	B7L0070-MSD1 LFSMD 0.25642	14-Dec-17	16:44:04
30	171214G2_32	1701878-01 CH-AT-1RW131-1217 0.26557	14-Dec-17	16:56:32
31	171214G2_33	1701878-02 CH-AT-1FB131-1217 0.25351	14-Dec-17	17:09:00
32	171214G2_34	1701878-03 CH-AT-1RW133-1217 0.26251	14-Dec-17	17:21:24
33	171214G2_35	1701878-04 CH-AT-1FB133-1217 0.26015	14-Dec-17	17:33:49
34	171214G2_36	1701878-05 CH-AT-1RW134-1217 0.25965	14-Dec-17	17:46:14
35	171214G2_37	B7L0070-BS1 LFB 0.25	14-Dec-17	17:59:25
36	171214G2_38	B7L0070-BLK1 LRB 0.25	14-Dec-17	18:11:52

Dataset: Untitled

Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOS

	Name	ID	Acq.Date	Acq.Time
37	171214G2_39	B7L0070-MS1 LFSM 0.25829	14-Dec-17	18:24:18
38	171214G2_40	B7L0070-MSD1 LFSMD 0.25642	14-Dec-17	18:36:45
39	171214G2_41	1701878-01 CH-AT-1RW131-1217 0.26557	14-Dec-17	18:49:13
40	171214G2_42	1701878-02 CH-AT-1FB131-1217 0.25351	14-Dec-17	19:01:41
41	171214G2_43	1701878-03 CH-AT-1RW133-1217 0.26251	14-Dec-17	19:14:06
42	171214G2_44	1701878-04 CH-AT-1FB133-1217 0.26015	14-Dec-17	19:26:31
43	171214G2_45	1701878-05 CH-AT-1RW134-1217 0.25965	14-Dec-17	19:38:56
44	171214G2_46	1701878-06 CH-AT-1FB134-1217 0.26393	14-Dec-17	19:51:22
45	171214G2_47	1701878-07 CH-AT-1RW135-1217 0.24531	14-Dec-17	20:03:48
46	171214G2_48	1701878-08 CH-AT-1FB135-1217 0.26926	14-Dec-17	20:16:15
47	171214G2_49	1701878-09 CH-AT-1RW136-1217 0.26442	14-Dec-17	20:28:43
48	171214G2_50	1701878-10 CH-AT-1FB136-1217 0.26043	14-Dec-17	20:41:11
49	171214G2_51	1701878-11 CH-AT-1RW137-1217 0.26292	14-Dec-17	20:53:35
50	171214G2_52	1701878-12 CH-AT-1FB137-1217 0.26004	14-Dec-17	21:06:00
51	171214G2_53	1701878-13 CH-AT-1RW138-1217 0.26448	14-Dec-17	21:18:25
52	171214G2_54	1701878-14 CH-AT-1FB138-1217 0.25841	14-Dec-17	21:30:51
53	171214G2_55	IPA	14-Dec-17	21:43:21
54	171214G2_56	ST171214G2-3 PFC CS-1 537 17L1106	14-Dec-17	21:55:49
55	171214G2_57	IPA	14-Dec-17	22:08:13
56	171214G2_58	1701878-15 CH-AT-1RW139-1217 0.26227	14-Dec-17	22:20:41
57	171214G2_59	1701878-16 CH-AT-1FB139-1217 0.26416	14-Dec-17	22:33:07
58	171214G2_60	B7L0090-BS1 LFB 0.25	14-Dec-17	22:45:35
59	171214G2_61	B7L0090-BLK1 LRB 0.25	14-Dec-17	22:58:04
60	171214G2_62	B7L0090-MS1 LFSM 0.25	14-Dec-17	23:10:28
61	171214G2_63	B7L0090-MSD1 LFSMD 0.25	14-Dec-17	23:22:52
62	171214G2_64	1701876-01 CH-AT-2RW49-1217 0.25	14-Dec-17	23:35:16
63	171214G2_65	1701876-02 CH-AT-2FB49-1217 0.25	14-Dec-17	23:47:43
64	171214G2_66	1701876-03 CH-AT-2RW50-1217 0.25	15-Dec-17	00:00:09
65	171214G2_67	1701876-04 CH-AT-2FB50-1217 0.25	15-Dec-17	00:12:35
66	171214G2_68	1701876-05 CH-AT-2RW51-1217 0.25	15-Dec-17	00:25:02
67	171214G2_69	1701876-06 CH-AT-2FB51-1217 0.25	15-Dec-17	00:37:30
68	171214G2_70	1701876-07 CH-AT-2RW52-1217 0.25	15-Dec-17	00:49:54
69	171214G2_71	1701876-08 CH-AT-2FB52-1217 0.25	15-Dec-17	01:02:18
70	171214G2_72	1701876-09 CH-AT-2RW53-1217 0.25	15-Dec-17	01:14:43
71	171214G2_73	1701876-10 CH-AT-2FB53-1217 0.25	15-Dec-17	01:27:09
72	171214G2_74	1701876-11 CH-AT-2RW54-1217 0.25	15-Dec-17	01:39:35

Dataset: Untitled

Last Altered: Friday, December 15, 2017 08:43:41 Pacific Standard Time

Printed: Friday, December 15, 2017 09:24:15 Pacific Standard Time

Compound name: PFOS

	Name	ID	Acq.Date	Acq.Time
73	171214G2_75	1701876-12 CH-AT-2FB54-1217 0.25	15-Dec-17	01:52:02
74	171214G2_76	1701876-13 CH-AT-2RW55-1217 0.25	15-Dec-17	02:04:28
75	171214G2_77	1701876-14 CH-AT-2FB55-1217 0.25	15-Dec-17	02:16:56
76	171214G2_78	IPA	15-Dec-17	02:29:20
77	171214G2_79	ST171214G2-4 PFC CS3 17K3027	15-Dec-17	02:41:48
78	171214G2_80	IPA	15-Dec-17	02:54:13

Dataset: U:\G1.PRO\Results\2017\171214G2\171214G2-79.qld

Last Altered: Friday, December 15, 2017 11:01:40 Pacific Standard Time

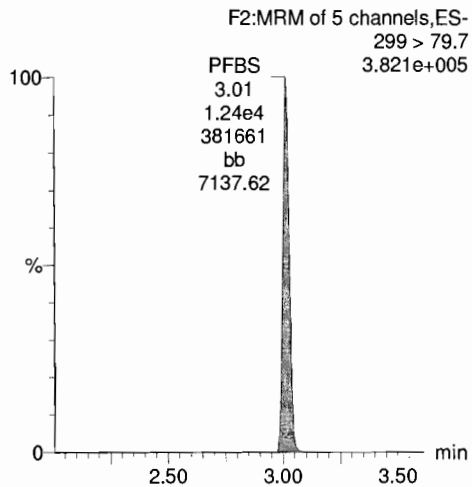
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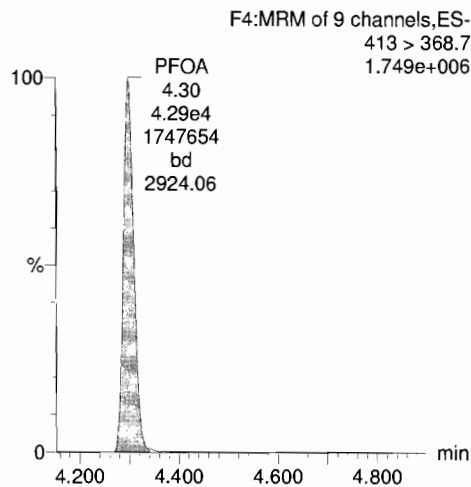
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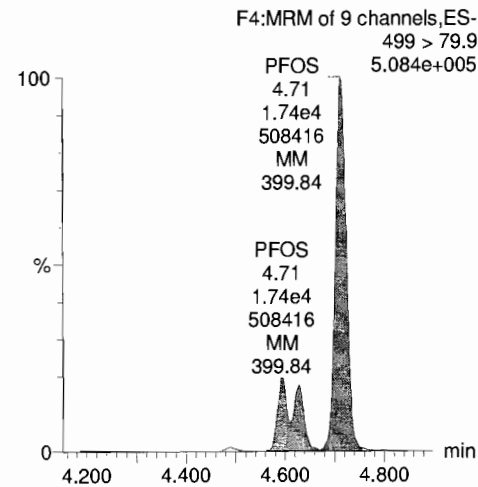
PFBS



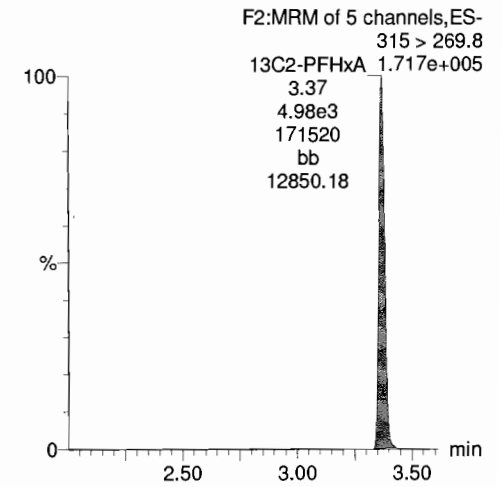
PFOA



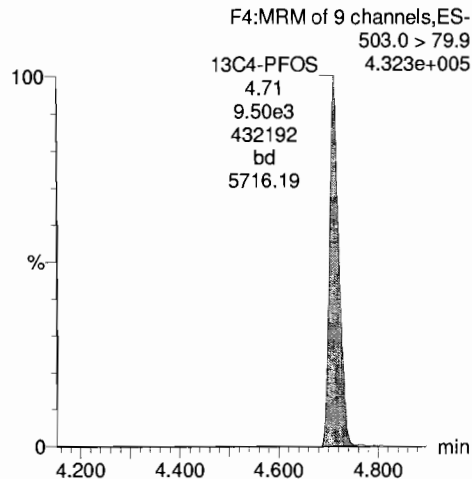
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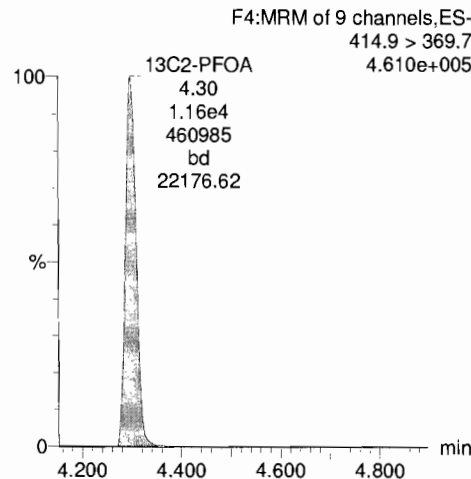
13C2-PFHxA



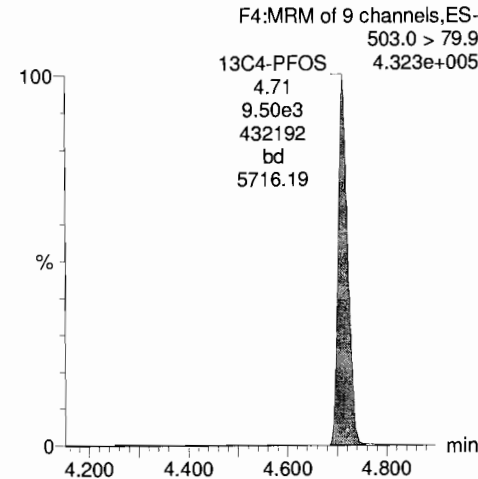
13C4-PFOS



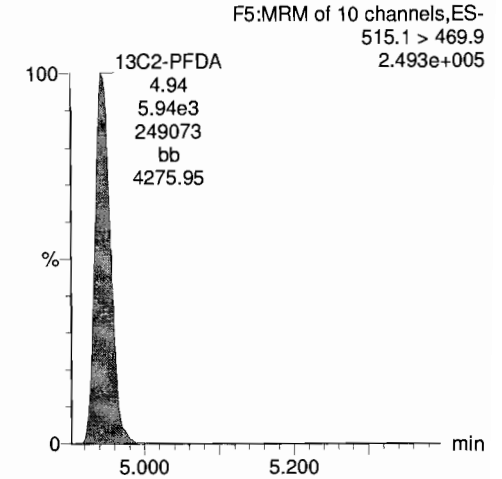
13C2-PFOA



13C4-PFOS



13C2-PFDA



INITIAL CALIBRATION (ICAL)
INCLUDING ASSOCIATED
INITIAL CALIBRATION VERIFICATION (ICV)

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time

Printed: Monday, December 11, 2017 10:37:29 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Compound name: PFBS

Coefficient of Determination: $R^2 = 0.994837$

Calibration curve: $0.800672 * x$

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

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

AM 12/11/17

JMA. 12/11/2017

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 171208G2_2	Standard	0.443	3.02	134.074	11857.967	0.325	0.4	-8.4	NO	0.995	NO	MMX
2	2 171208G2_3	Standard	0.885	3.01	428.832	15349.467	0.802	1.0	13.2	NO	0.995	NO	bbX
3	3 171208G2_4	Standard	1.770	3.01	759.007	14402.649	1.512	1.9	6.7	NO	0.995	NO	bb
4	4 171208G2_5	Standard	4.420	3.01	1983.680	14516.459	3.922	4.9	10.8	NO	0.995	NO	MM
5	5 171208G2_6	Standard	8.850	3.01	2903.323	11953.820	6.971	8.7	-1.6	NO	0.995	NO	bb
6	6 171208G2_7	Standard	22.100	3.01	8898.488	13445.892	18.994	23.7	7.3	NO	0.995	NO	bb
7	7 171208G2_8	Standard	44.200	3.01	14447.786	12293.957	33.728	42.1	-4.7	NO	0.995	NO	bb
8	8 171208G2_9	Standard	66.300	3.01	21148.451	10786.034	56.273	70.3	6.0	NO	0.995	NO	bbX
9	9 171208G2_10	Standard	88.400	3.01	29888.051	12003.273	71.463	89.3	1.0	NO	0.995	NO	bbX

Compound name: PFOA

Coefficient of Determination: $R^2 = 0.997893$

Calibration curve: $0.811837 * x$

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 171208G2_2	Standard	0.500	4.33	504.601	11571.904	0.436	0.5	7.4	NO	0.998	NO	bbX
2	2 171208G2_3	Standard	1.000	4.31	1289.415	14038.166	0.919	1.1	13.1	NO	0.998	NO	bbX
3	3 171208G2_4	Standard	2.000	4.31	2044.709	12600.569	1.623	2.0	-0.1	NO	0.998	NO	bb
4	4 171208G2_5	Standard	5.000	4.31	5935.702	13262.253	4.476	5.5	10.3	NO	0.998	NO	bd
5	5 171208G2_6	Standard	10.000	4.31	8915.754	12044.611	7.402	9.1	-8.8	NO	0.998	NO	bd
6	6 171208G2_7	Standard	25.000	4.31	25977.795	12740.901	20.389	25.1	0.5	NO	0.998	NO	bd
7	7 171208G2_8	Standard	50.000	4.31	45749.875	11213.454	40.799	50.3	0.5	NO	0.998	NO	bd
8	8 171208G2_9	Standard	75.000	4.31	60947.063	9546.963	63.839	78.6	4.8	NO	0.998	NO	bdX
9	9 171208G2_10	Standard	100.000	4.31	85445.031	11090.062	77.046	94.9	-5.1	NO	0.998	NO	bbX

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time
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Compound name: PFOS

Coefficient of Determination: $R^2 = 0.998516$

Calibration curve: $1.20278 * x$

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 171208G2_2	Standard	0.464	4.73	185.089	11857.967	0.448	0.4	-19.7	NO	0.999	NO	MMX
2	2 171208G2_3	Standard	0.925	4.73	617.089	15349.467	1.154	1.0	3.7	NO	0.999	NO	MMX
3	3 171208G2_4	Standard	1.850	4.72	889.150	14402.649	1.772	1.5	-20.4	NO	0.999	NO	MM
4	4 171208G2_5	Standard	4.625	4.73	2773.974	14516.459	5.484	4.6	-1.4	NO	0.999	NO	MM
5	5 171208G2_6	Standard	9.250	4.73	4524.466	11953.820	10.863	9.0	-2.4	NO	0.999	NO	MM
6	6 171208G2_7	Standard	23.100	4.73	13079.806	13445.892	27.919	23.2	0.5	NO	0.999	NO	MM
7	7 171208G2_8	Standard	46.200	4.72	24086.246	12293.957	56.229	46.7	1.2	NO	0.999	NO	MM
8	8 171208G2_9	Standard	69.300	4.72	33750.160	10786.034	89.804	74.7	7.7	NO	0.999	NO	MMX
9	9 171208G2_10	Standard	92.400	4.72	47716.457	12003.273	114.091	94.9	2.7	NO	0.999	NO	MMX

Compound name: 13C2-PFHxA

Response Factor: 0.44294

RRF SD: 0.0227764, Relative SD: 5.14209

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 171208G2_2	Standard	10.000	3.38	4801.410	11571.904	4.149	9.4	-6.3	NO		NO	bbX
2	2 171208G2_3	Standard	10.000	3.37	6735.231	14038.166	4.798	10.8	8.3	NO		NO	bbX
3	3 171208G2_4	Standard	10.000	3.36	5697.994	12600.569	4.522	10.2	2.1	NO		NO	bb
4	4 171208G2_5	Standard	10.000	3.37	6341.437	13262.253	4.782	10.8	8.0	NO		NO	bb
5	5 171208G2_6	Standard	10.000	3.36	5086.919	12044.611	4.223	9.5	-4.7	NO		NO	bd
6	6 171208G2_7	Standard	10.000	3.36	5434.637	12740.901	4.266	9.6	-3.7	NO		NO	bb
7	7 171208G2_8	Standard	10.000	3.36	4882.918	11213.454	4.355	9.8	-1.7	NO		NO	bb
8	8 171208G2_9	Standard	10.000	3.36	4706.410	9546.963	4.930	11.1	11.3	NO		NO	bdX
9	9 171208G2_10	Standard	10.000	3.36	4749.668	11090.062	4.283	9.7	-3.3	NO		NO	bdX

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

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Compound name: 13C2-PFDA

Response Factor: 0.509254

RRF SD: 0.0328522, Relative SD: 6.45105

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 171208G2_2	Standard	10.000	4.97	5579.112	11571.904	4.821	9.5	-5.3	NO		NO	bdX
2	2 171208G2_3	Standard	10.000	4.96	8625.498	14038.166	6.144	12.1	20.7	NO		NO	bbX
3	3 171208G2_4	Standard	10.000	4.96	6581.716	12600.569	5.223	10.3	2.6	NO		NO	bb
4	4 171208G2_5	Standard	10.000	4.96	7244.836	13262.253	5.463	10.7	7.3	NO		NO	bb
5	5 171208G2_6	Standard	10.000	4.96	5507.656	12044.611	4.573	9.0	-10.2	NO		NO	bb
6	6 171208G2_7	Standard	10.000	4.96	6576.478	12740.901	5.162	10.1	1.4	NO		NO	bb
7	7 171208G2_8	Standard	10.000	4.96	5654.003	11213.454	5.042	9.9	-1.0	NO		NO	bb
8	8 171208G2_9	Standard	10.000	4.96	5376.028	9546.963	5.631	11.1	10.6	NO		NO	bbX
9	9 171208G2_10	Standard	10.000	4.96	5314.285	11090.062	4.792	9.4	-5.9	NO		NO	bbX

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 171208G2_2	Standard	10.000	4.33	11571.904	11571.904	10.000	10.0	0.0	NO		NO	bbX
2	2 171208G2_3	Standard	10.000	4.31	14038.166	14038.166	10.000	10.0	0.0	NO		NO	bbX
3	3 171208G2_4	Standard	10.000	4.31	12600.569	12600.569	10.000	10.0	0.0	NO		NO	bb
4	4 171208G2_5	Standard	10.000	4.31	13262.253	13262.253	10.000	10.0	0.0	NO		NO	bb
5	5 171208G2_6	Standard	10.000	4.31	12044.611	12044.611	10.000	10.0	0.0	NO		NO	bd
6	6 171208G2_7	Standard	10.000	4.31	12740.901	12740.901	10.000	10.0	0.0	NO		NO	bd
7	7 171208G2_8	Standard	10.000	4.31	11213.454	11213.454	10.000	10.0	0.0	NO		NO	bb
8	8 171208G2_9	Standard	10.000	4.31	9546.963	9546.963	10.000	10.0	0.0	NO		NO	bbX
9	9 171208G2_10	Standard	10.000	4.31	11090.062	11090.062	10.000	10.0	0.0	NO		NO	bdX

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time

Printed: Monday, December 11, 2017 10:37:29 Pacific Standard Time

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 171208G2_2	Standard	28.700	4.74	11857.967	11857.967	28.700	28.7	0.0	NO		NO	bdX
2	2 171208G2_3	Standard	28.700	4.73	15349.467	15349.467	28.700	28.7	0.0	NO		NO	bbX
3	3 171208G2_4	Standard	28.700	4.72	14402.649	14402.649	28.700	28.7	0.0	NO		NO	bd
4	4 171208G2_5	Standard	28.700	4.73	14516.459	14516.459	28.700	28.7	0.0	NO		NO	bd
5	5 171208G2_6	Standard	28.700	4.72	11953.820	11953.820	28.700	28.7	0.0	NO		NO	MM
6	6 171208G2_7	Standard	28.700	4.72	13445.892	13445.892	28.700	28.7	0.0	NO		NO	bb
7	7 171208G2_8	Standard	28.700	4.72	12293.957	12293.957	28.700	28.7	0.0	NO		NO	bd
8	8 171208G2_9	Standard	28.700	4.72	10786.034	10786.034	28.700	28.7	0.0	NO		NO	bbX
9	9 171208G2_10	Standard	28.700	4.72	12003.273	12003.273	28.700	28.7	0.0	NO		NO	bbX

Dataset: Untitled

Last Altered: Monday, December 11, 2017 10:39:34 Pacific Standard Time

Printed: Monday, December 11, 2017 10:40:25 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

Compound name: PFBS

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2	171208G2_2	ST171208G2-1 PFC CS-3 537 17K3022	08-Dec-17	16:09:15
3	171208G2_3	ST171208G2-2 PFC CS-2 537 17K3023	08-Dec-17	16:21:40
4	171208G2_4	ST171208G2-3 PFC CS-1 537 17K3024	08-Dec-17	16:34:04
5	171208G2_5	ST171208G2-4 PFC CS0 537 17K3025	08-Dec-17	16:46:29
6	171208G2_6	ST171208G2-5 PFC CS1 537 17K3026	08-Dec-17	16:58:55
7	171208G2_7	ST171208G2-6 PFC CS2 537 17K3033	08-Dec-17	17:11:21
8	171208G2_8	ST171208G2-7 PFC CS3 537 17K3027	08-Dec-17	17:23:47
9	171208G2_9	ST171208G2-8 PFC CS4 537 17K3028	08-Dec-17	17:36:15
10	171208G2_10	ST171208G2-9 PFC CS5 537 17K3029	08-Dec-17	17:48:42
11	171208G2_11	IPA	08-Dec-17	18:01:06
12	171208G2_12	ICV171208G2-1 PFC ICV 537 17K3030	08-Dec-17	18:13:34
13	171208G2_13	IPA	08-Dec-17	18:25:58

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time

Printed: Monday, December 11, 2017 10:36:23 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_12-08-17_L3.cdb 10 Dec 2017 22:49:55

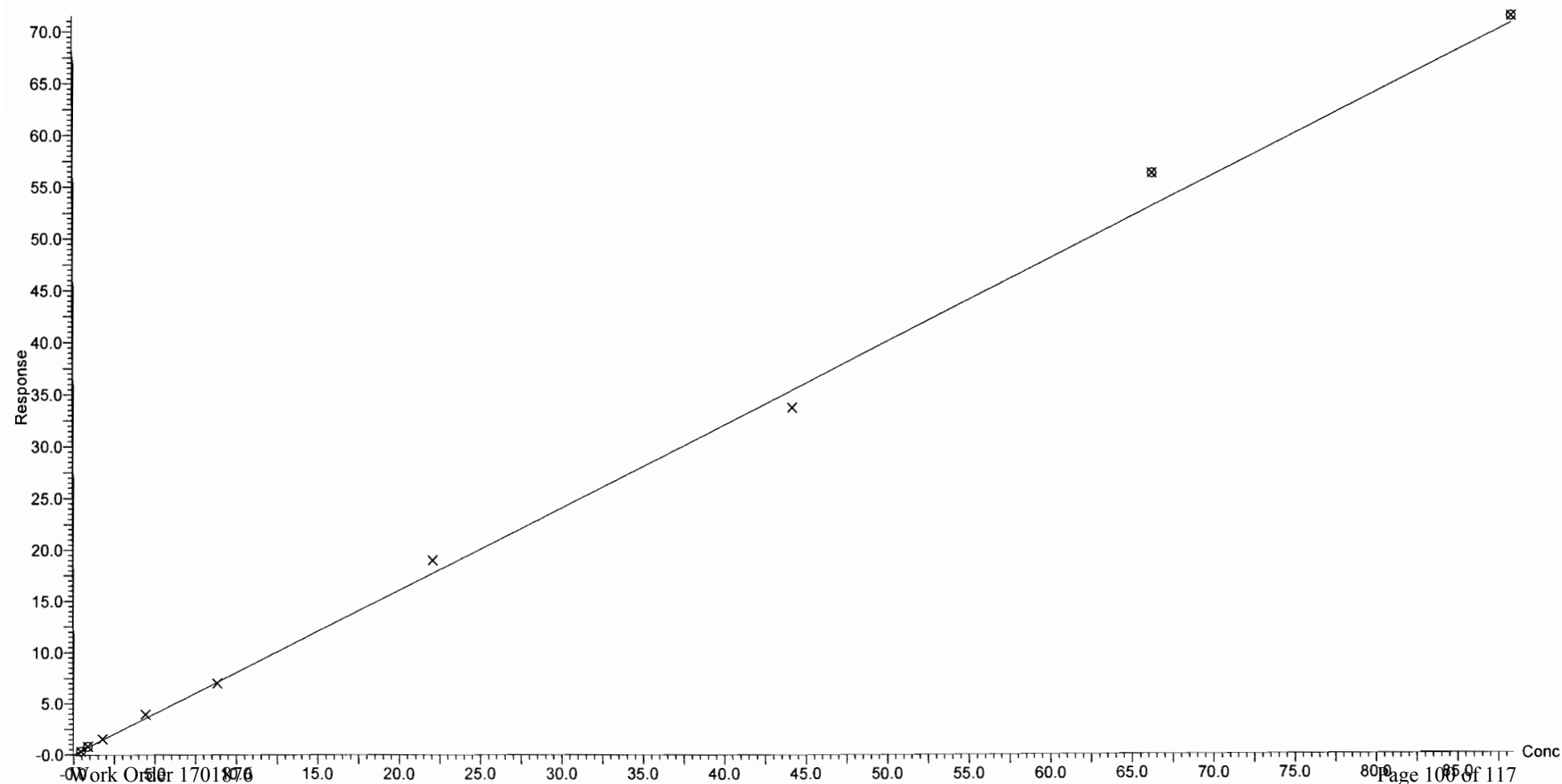
Compound name: PFBS

Coefficient of Determination: $R^2 = 0.994837$

Calibration curve: $0.800672 * x$

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\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time

Printed: Monday, December 11, 2017 10:36:23 Pacific Standard Time

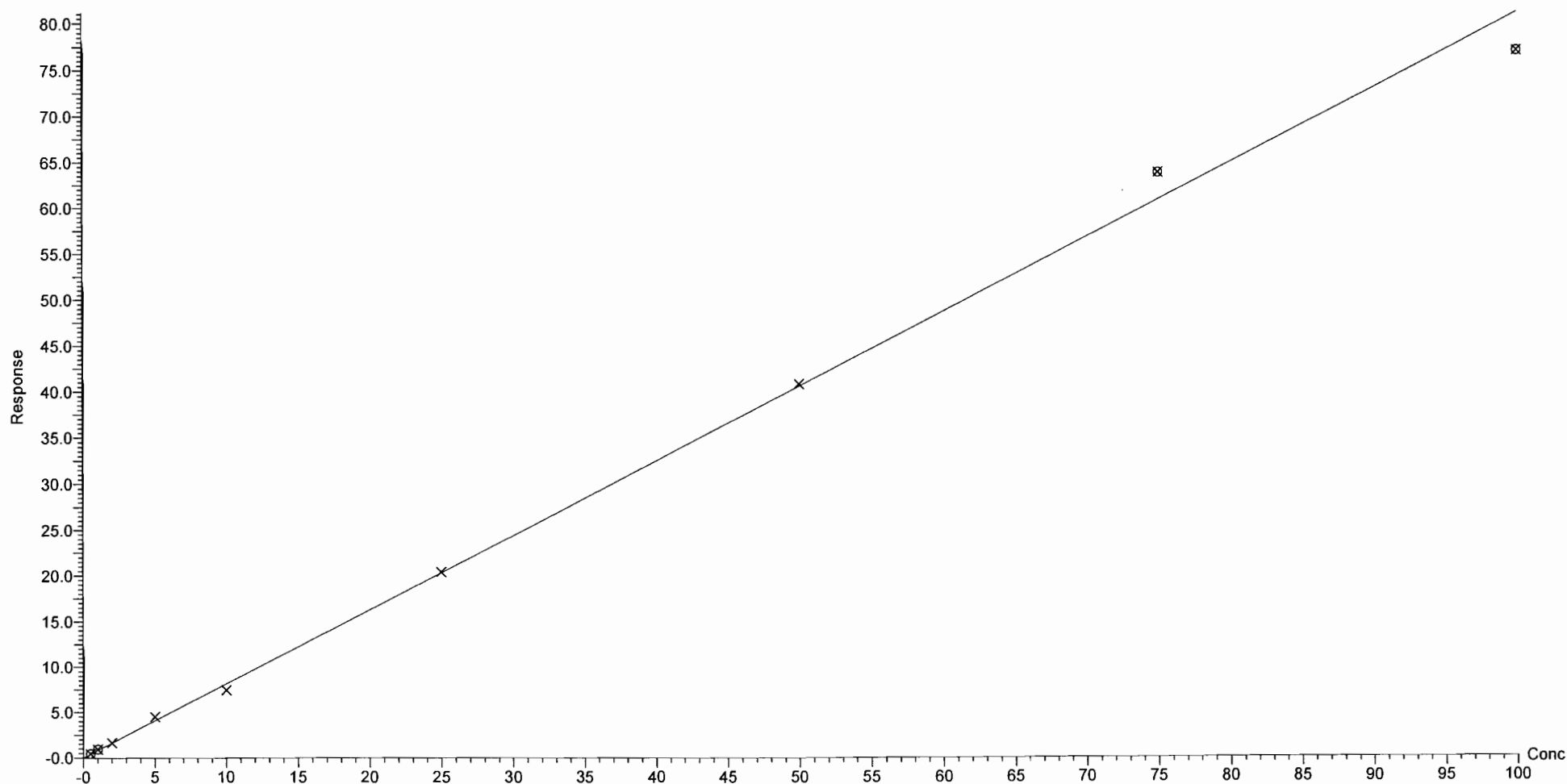
Compound name: PFOA

Coefficient of Determination: $R^2 = 0.997893$

Calibration curve: $0.811837 * x$

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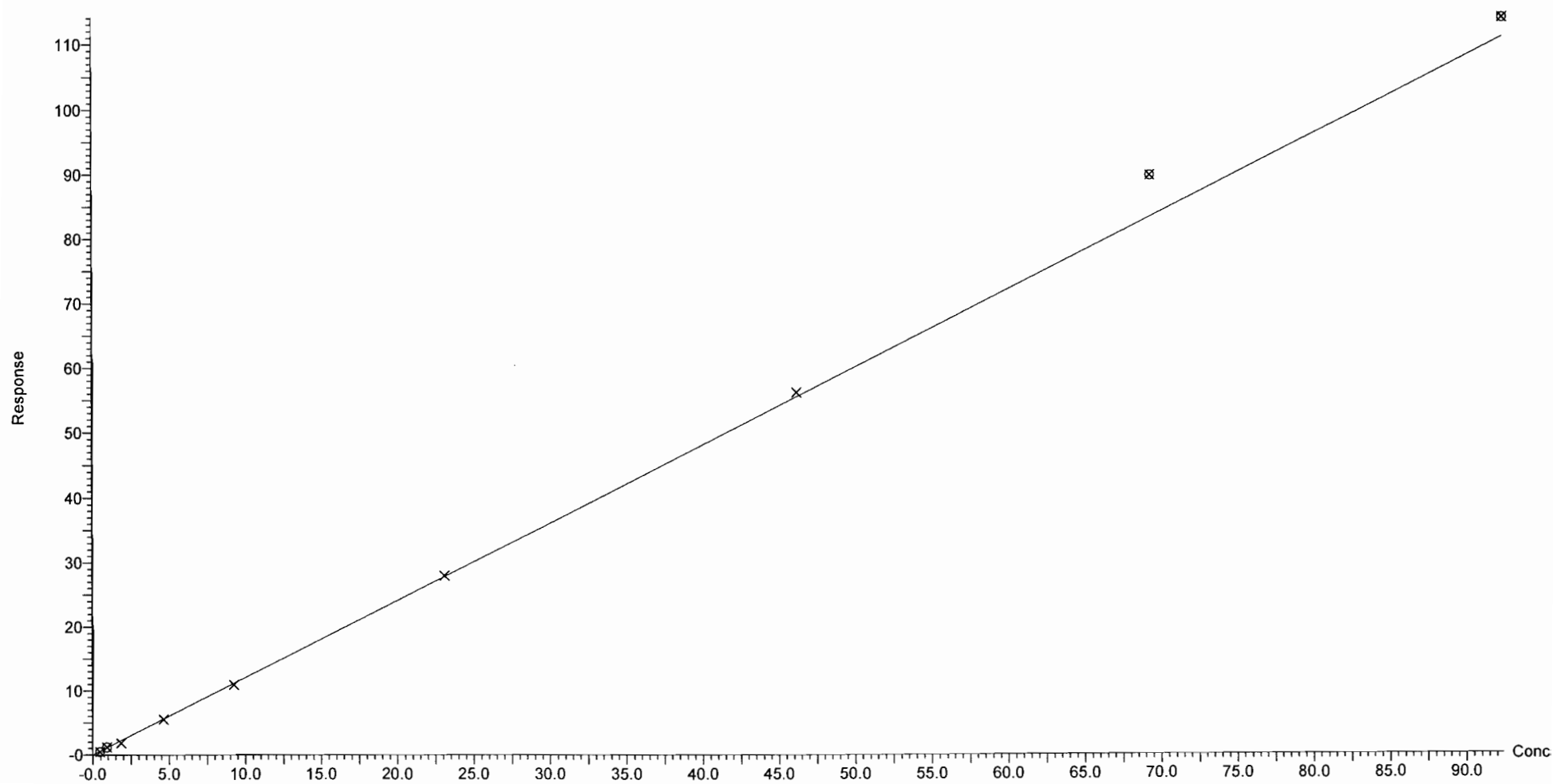
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-CRV.qld

Last Altered: Sunday, December 10, 2017 22:49:55 Pacific Standard Time
Printed: Monday, December 11, 2017 10:36:23 Pacific Standard Time

Compound name: PFOS
Coefficient of Determination: $R^2 = 0.998516$
Calibration curve: $1.20278 * x$
Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

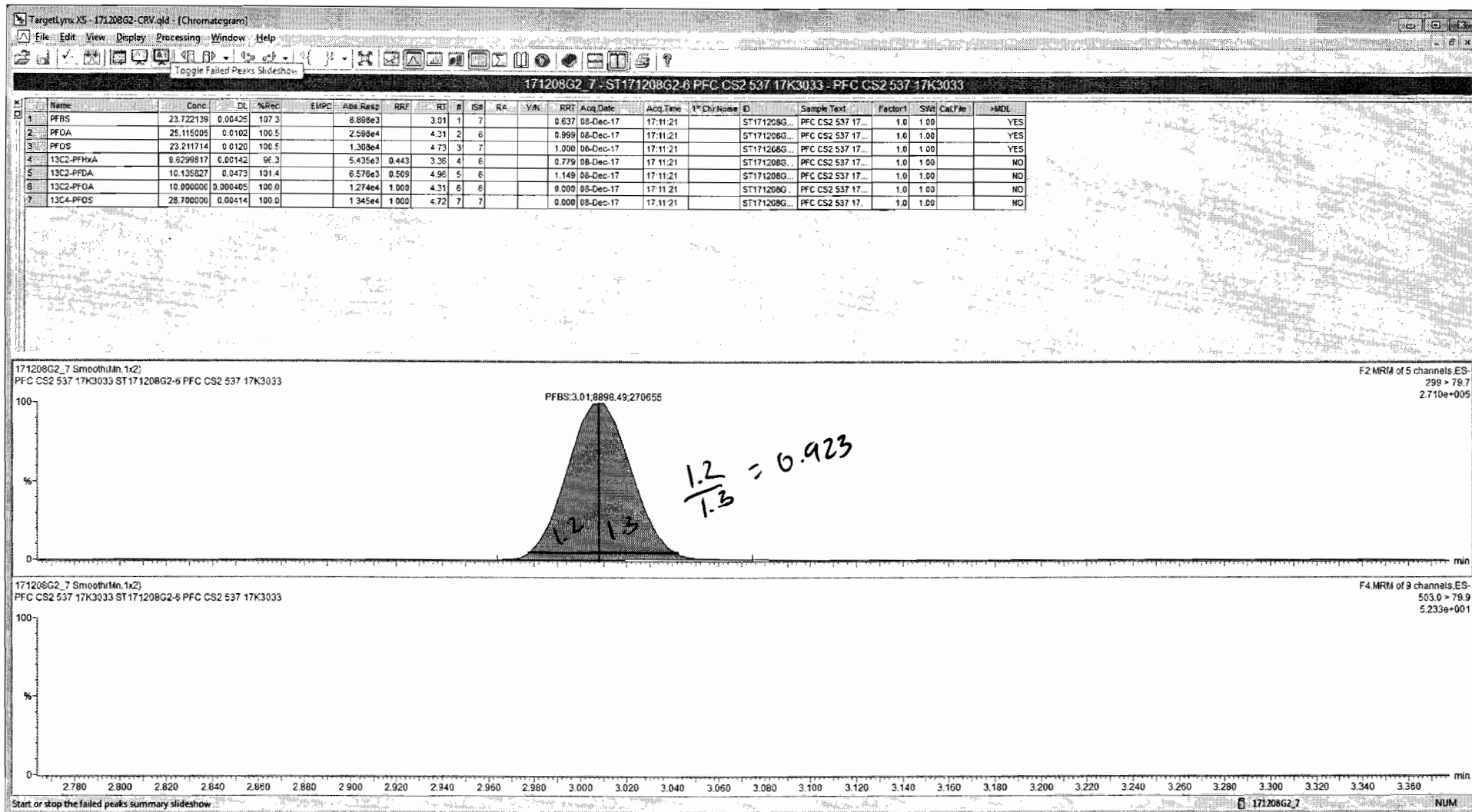


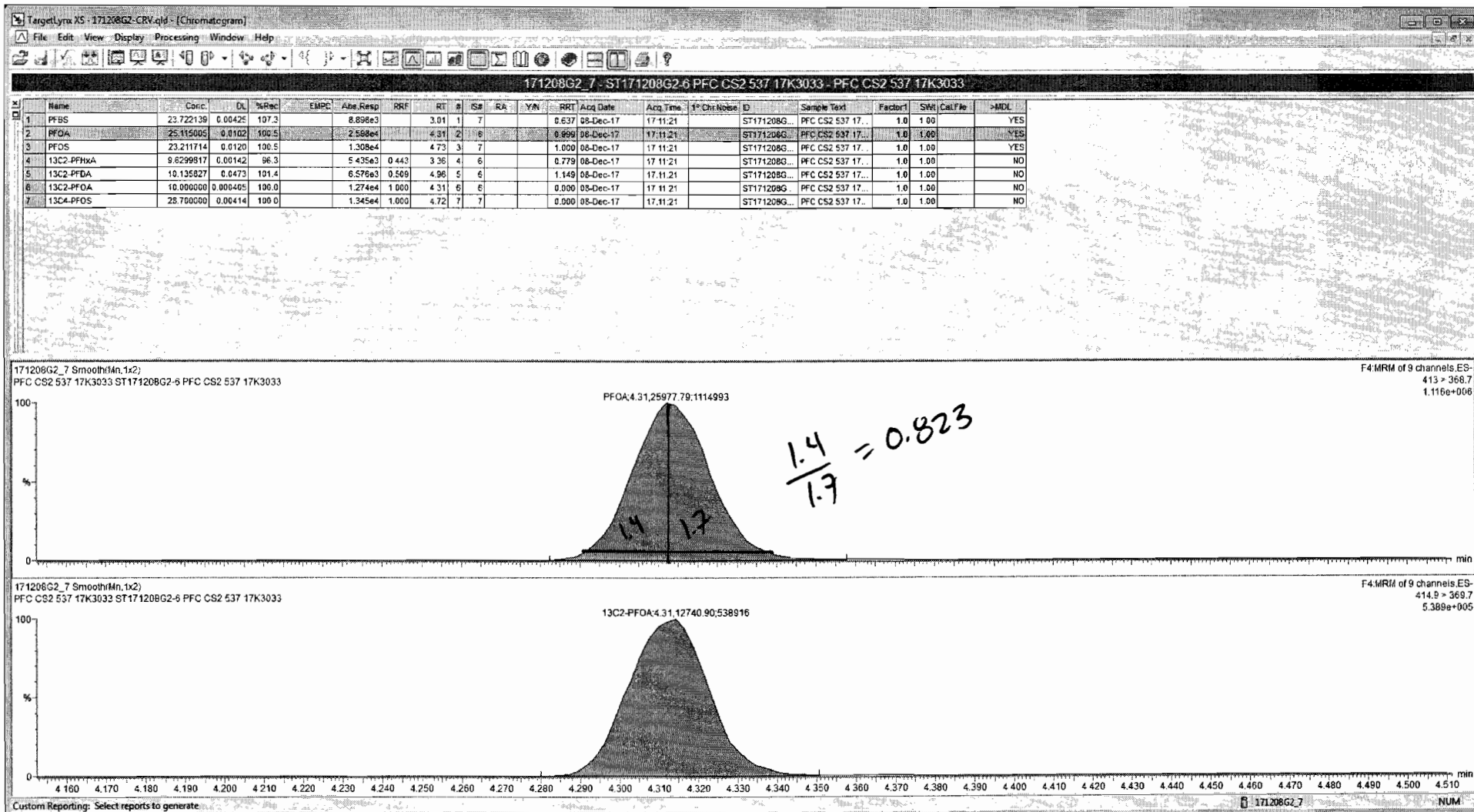
Compound 6: 13C2-PFOA

ID	Name	Type	Std. Conc	RT	Area	IS Area	Primary Flags
1 ST171208G2-1 PFC CS-3 537 17K3022	171208G2_Standard		10	4.33	11571.9	11571.9	bbX
2 ST171208G2-2 PFC CS-2 537 17K3023	171208G2_Standard		10	4.31	14038.17	14038.17	bbX
3 ST171208G2-3 PFC CS-1 537 17K3024	171208G2_Standard		10	4.31	12600.57	12600.57	bb
4 ST171208G2-4 PFC CS0 537 17K3025	171208G2_Standard		10	4.31	13262.25	13262.25	bb
5 ST171208G2-5 PFC CS1 537 17K3026	171208G2_Standard		10	4.31	12044.61	12044.61	bd
6 ST171208G2-6 PFC CS2 537 17K3033	171208G2_Standard		10	4.31	12740.9	12740.9	bd
7 ST171208G2-7 PFC CS3 537 17K3027	171208G2_Standard		10	4.31	11213.45	11213.45	bb
8 ST171208G2-8 PFC CS4 537 17K3028	171208G2_Standard		10	4.31	9546.963	9546.963	bbX
9 ST171208G2-9 PFC CS5 537 17K3029	171208G2_Standard		10	4.31	11090.06	11090.06	bdX
					average		RPD
					12372.36		16.74148984

Compound 7: 13C4-PFOS

ID	Name	Type	Std. Conc	RT	Area	IS Area	Primary Flags
1 ST171208G2-1 PFC CS-3 537 17K3022	171208G2_Standard		28.7	4.74	11857.97	11857.97	bdX
2 ST171208G2-2 PFC CS-2 537 17K3023	171208G2_Standard		28.7	4.73	15349.47	15349.47	bbX
3 ST171208G2-3 PFC CS-1 537 17K3024	171208G2_Standard		28.7	4.72	14402.65	14402.65	bd
4 ST171208G2-4 PFC CS0 537 17K3025	171208G2_Standard		28.7	4.73	14516.46	14516.46	bd
5 ST171208G2-5 PFC CS1 537 17K3026	171208G2_Standard		28.7	4.72	11953.82	11953.82	MM
6 ST171208G2-6 PFC CS2 537 17K3033	171208G2_Standard		28.7	4.72	13445.89	13445.89	bb
7 ST171208G2-7 PFC CS3 537 17K3027	171208G2_Standard		28.7	4.72	12293.96	12293.96	bd
8 ST171208G2-8 PFC CS4 537 17K3028	171208G2_Standard		28.7	4.72	10786.03	10786.03	bbX
9 ST171208G2-9 PFC CS5 537 17K3029	171208G2_Standard		28.7	4.72	12003.27	12003.27	bbX
					average		RPD
					13322.56		19.36238753





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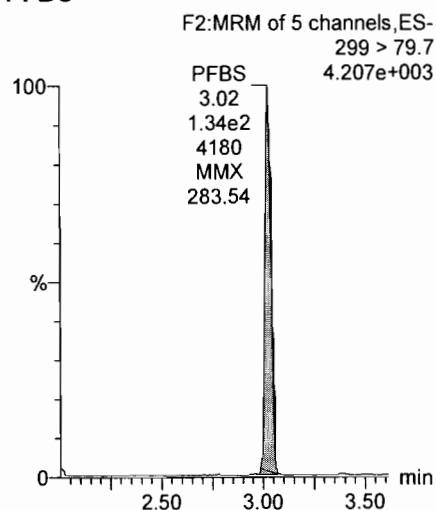
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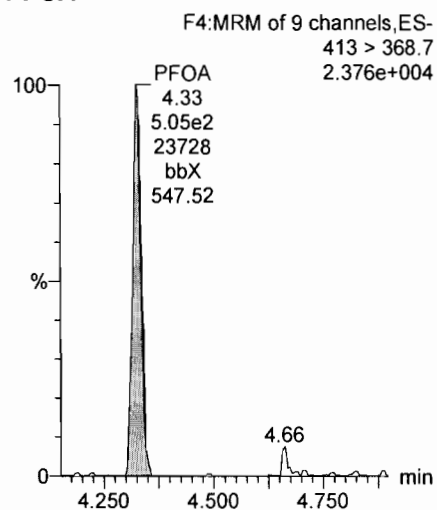
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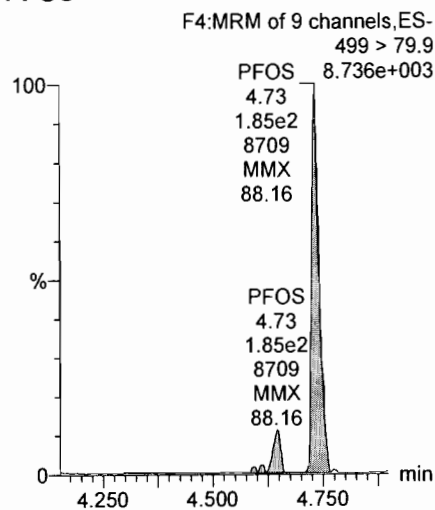
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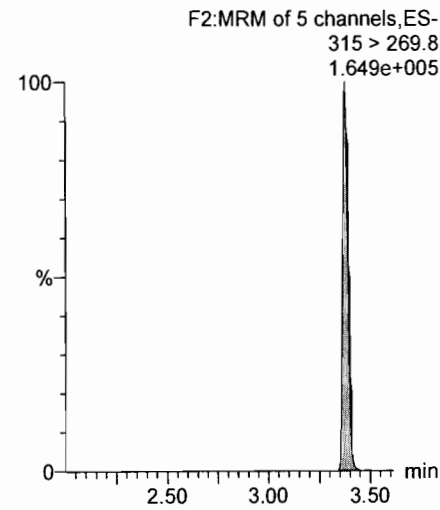
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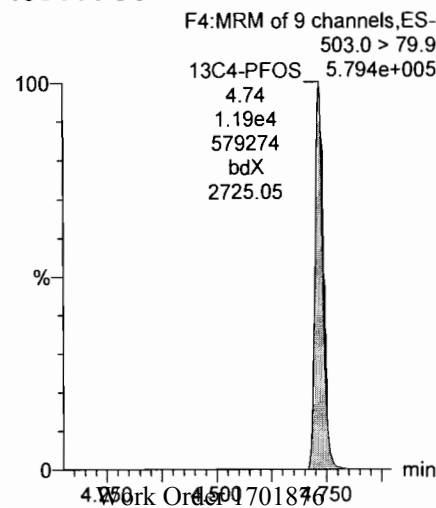
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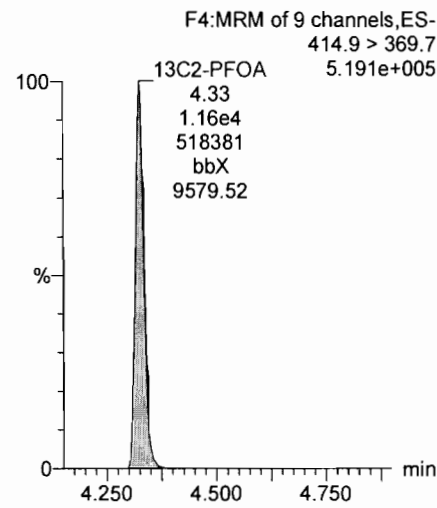
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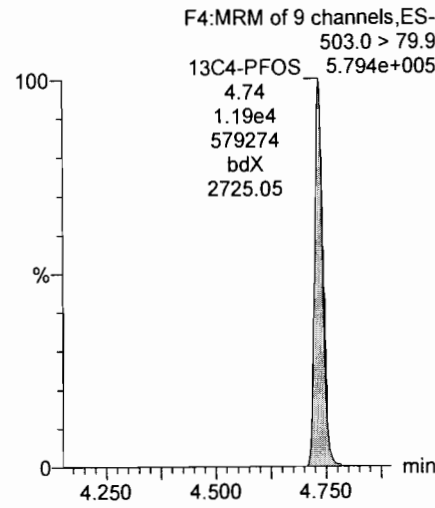
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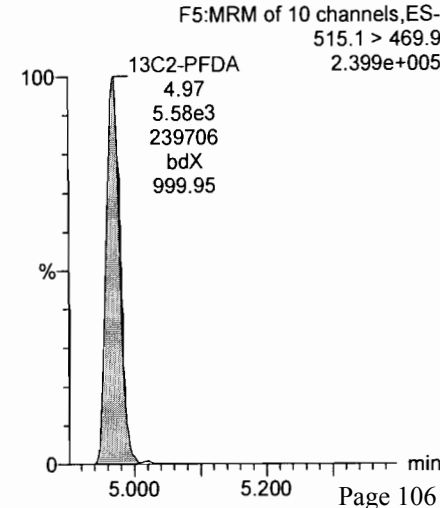
13C2-PFOA



13C4-PFOS



13C2-PFDA



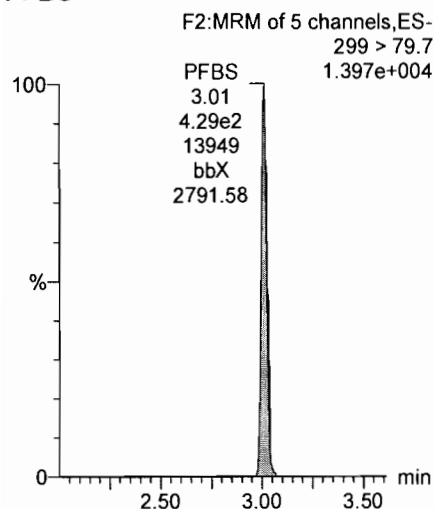
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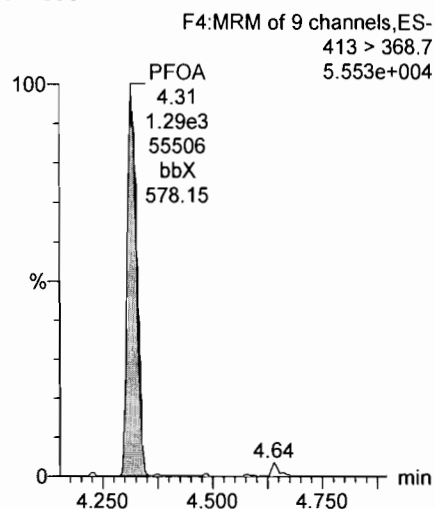
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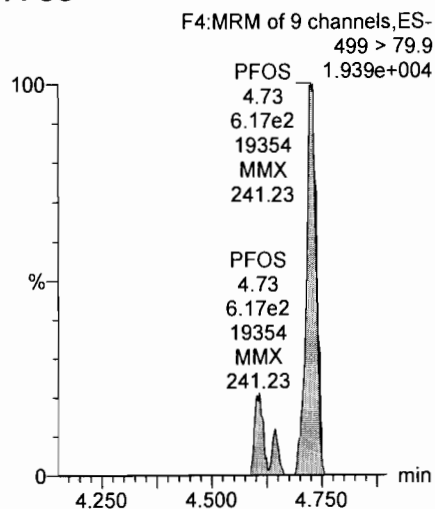
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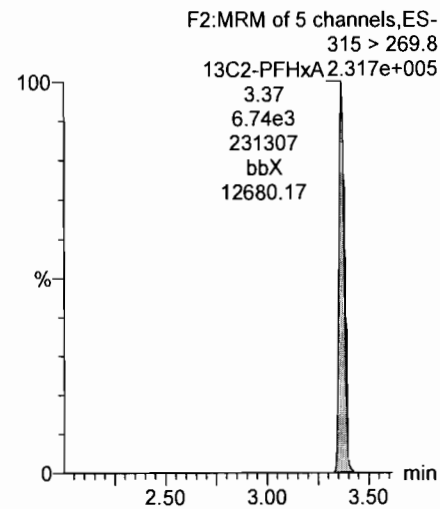
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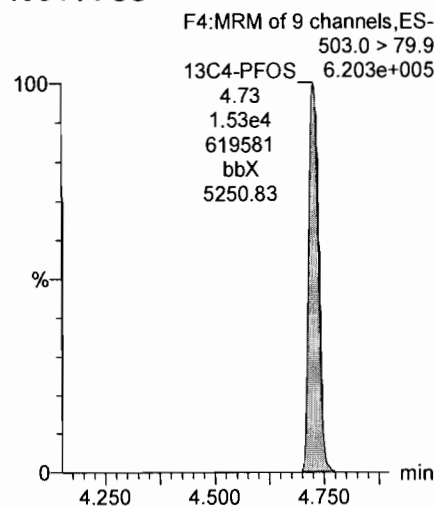
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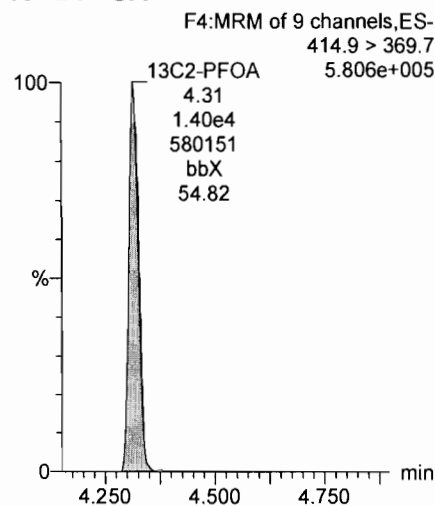
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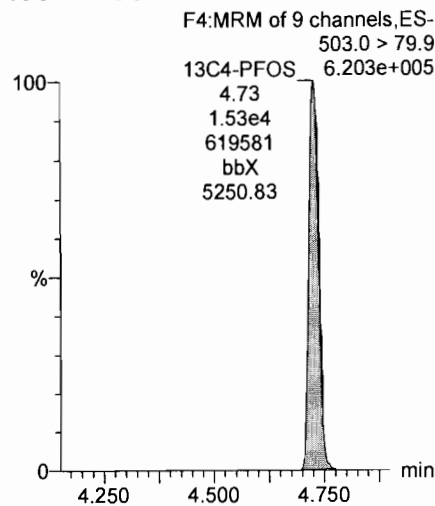
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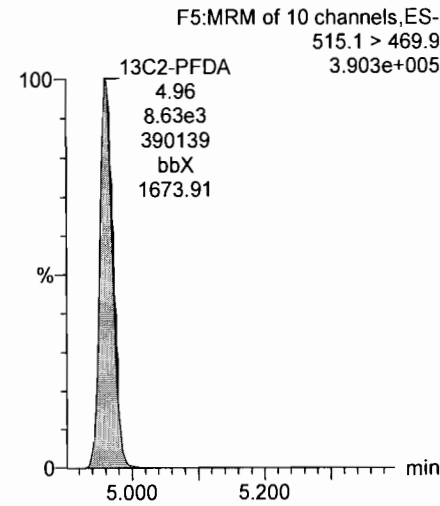
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13C4-PFOS



13C2-PFDA



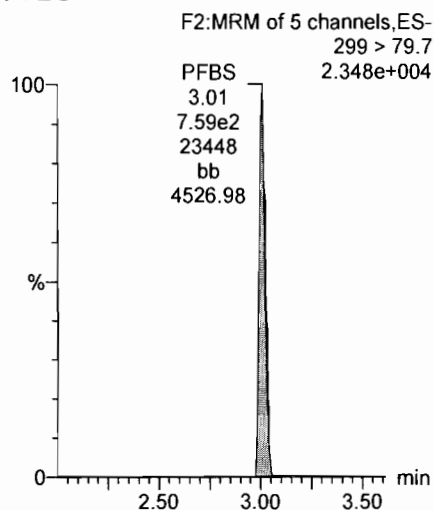
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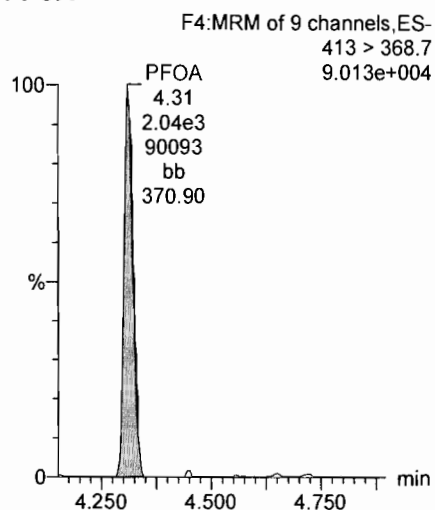
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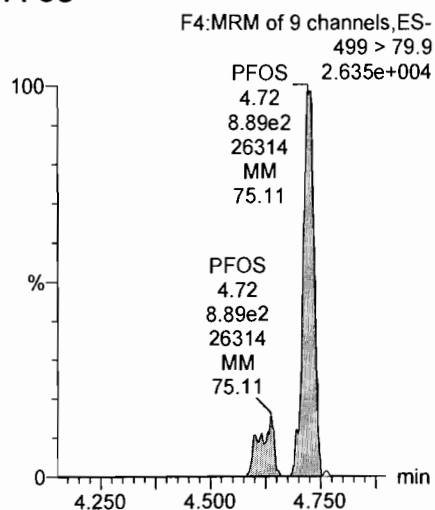
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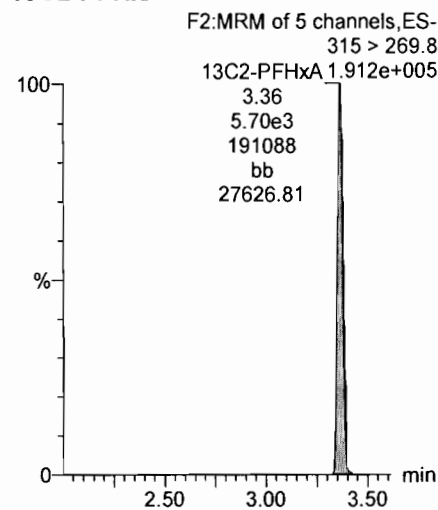
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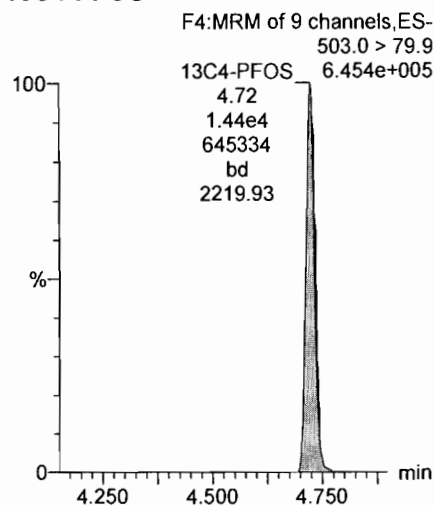
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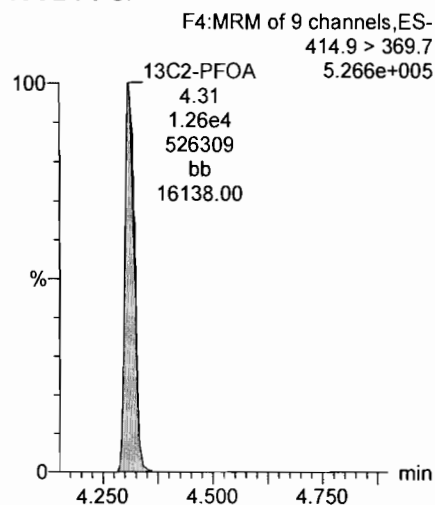
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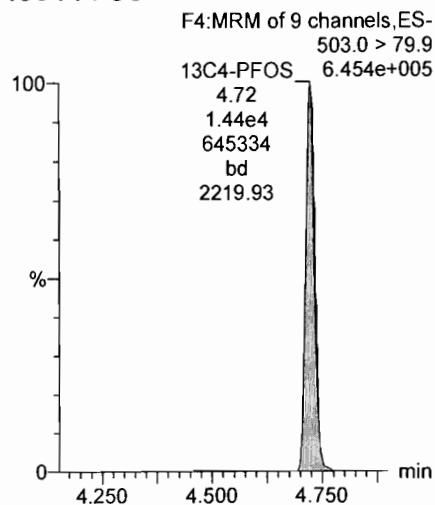
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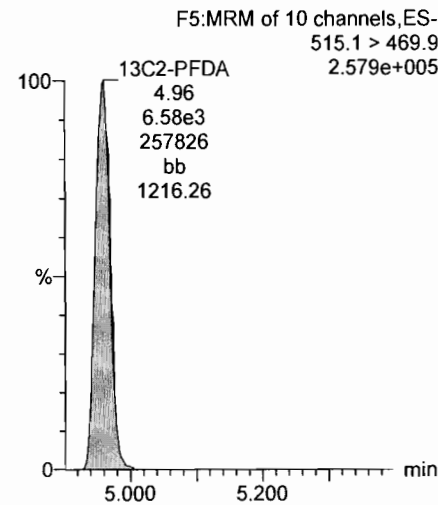
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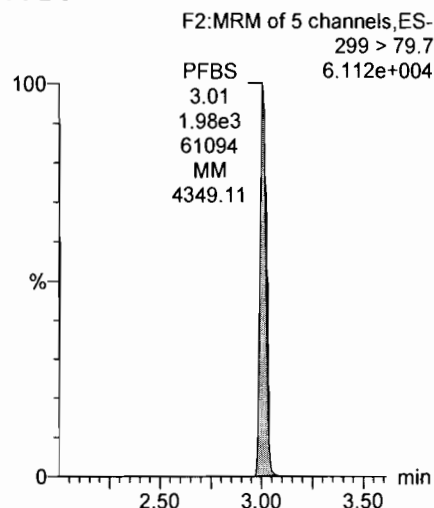
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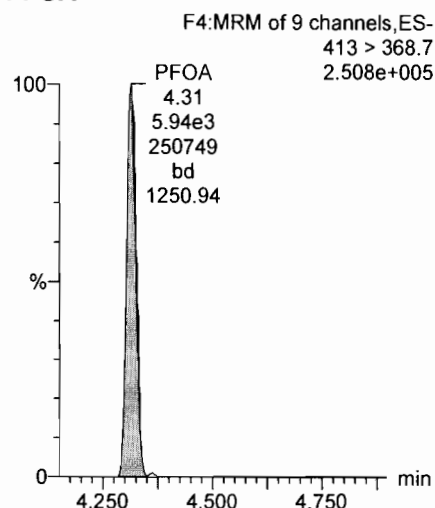
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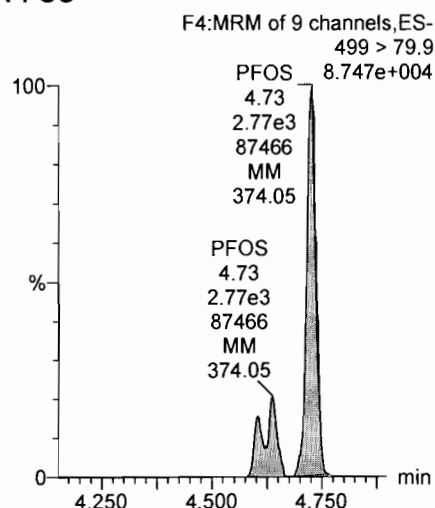
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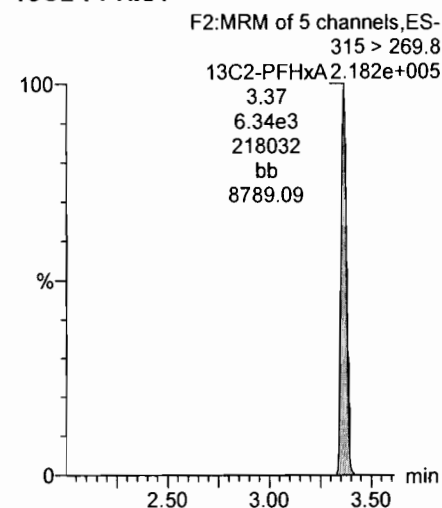
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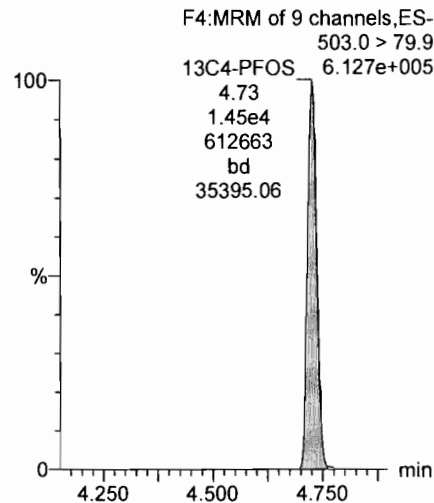
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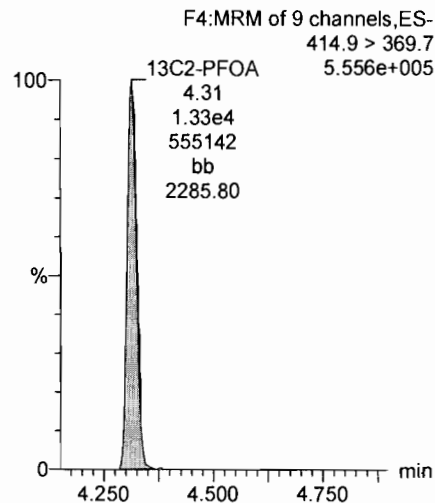
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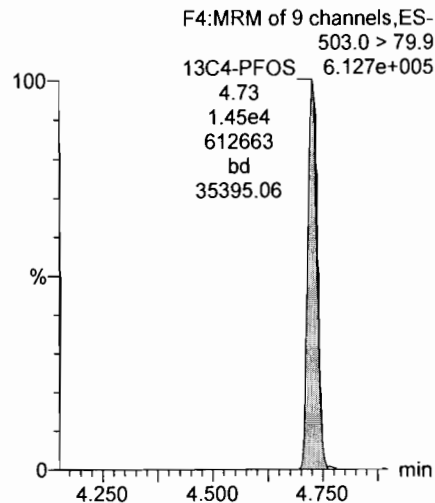
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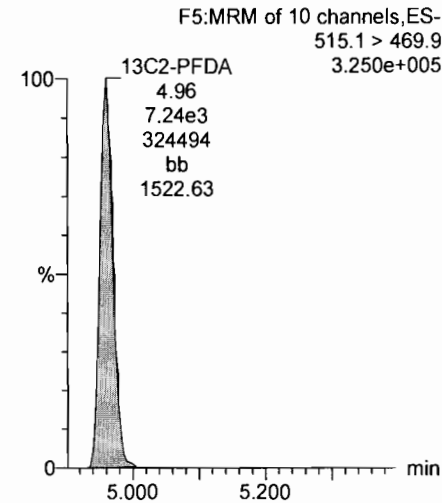
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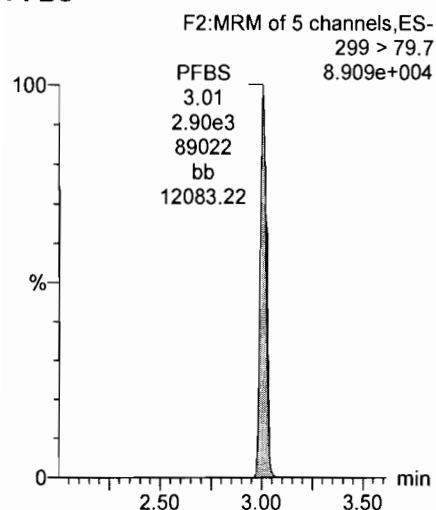
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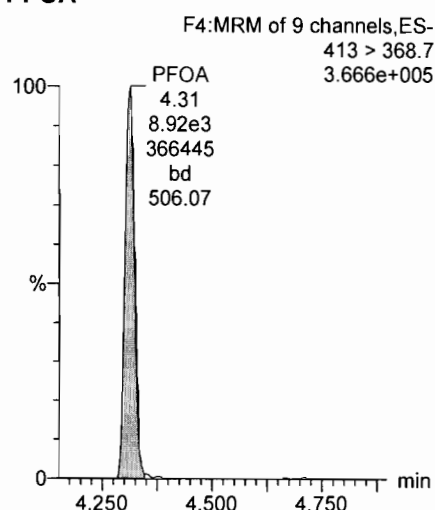
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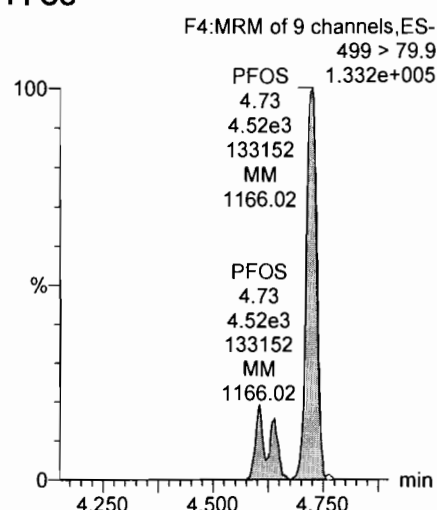
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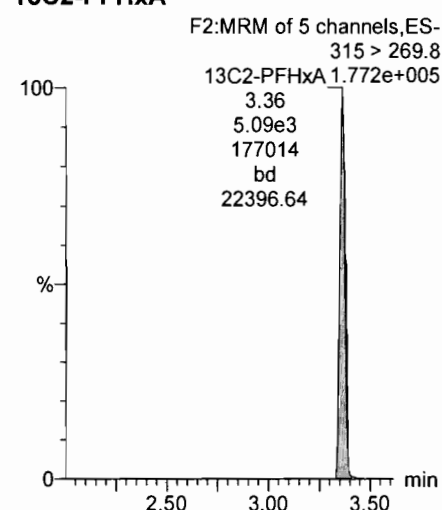
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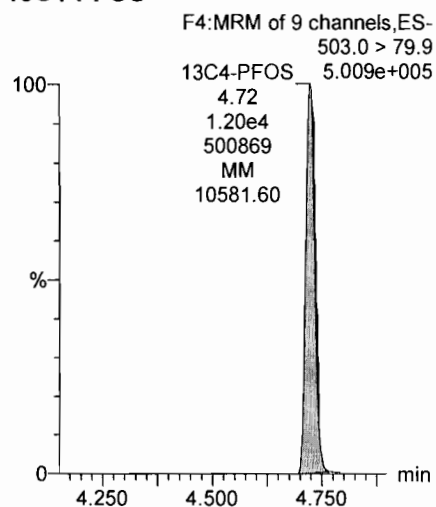
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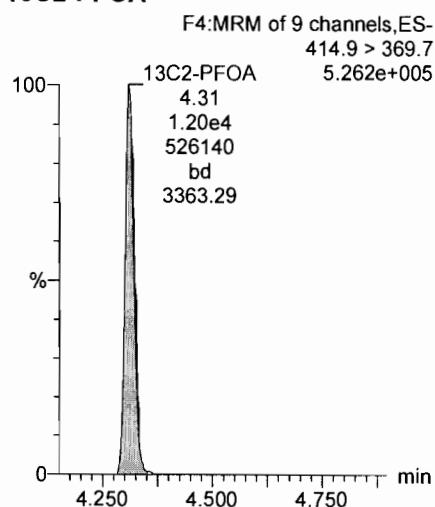
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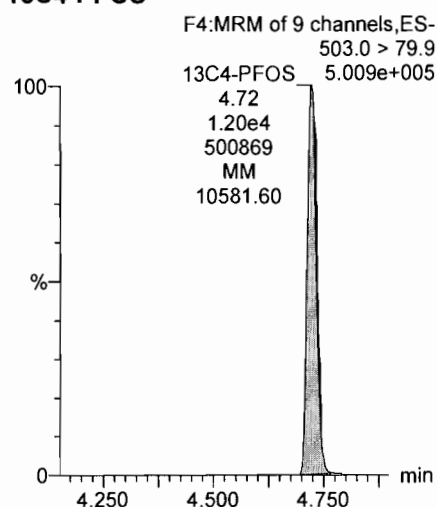
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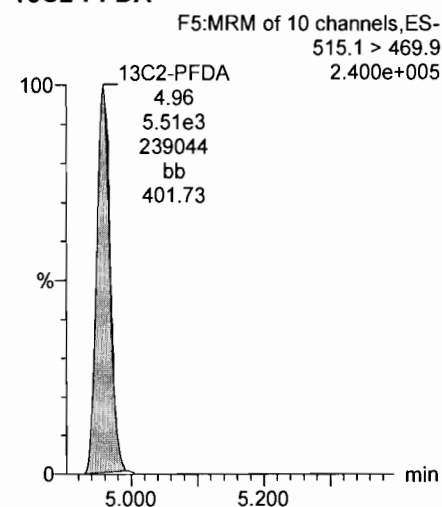
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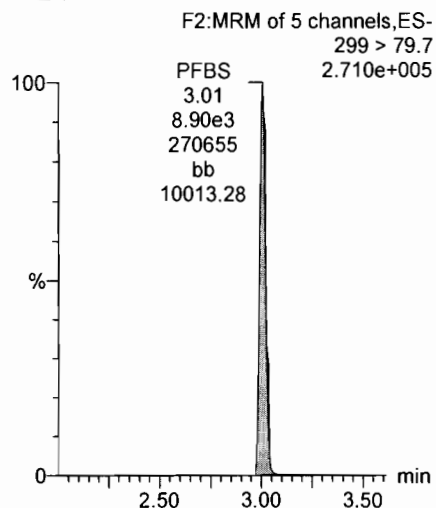
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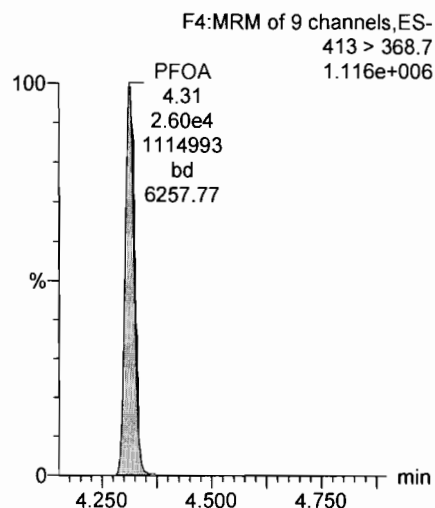
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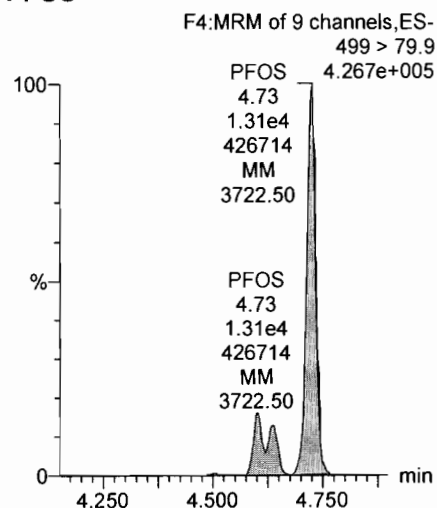
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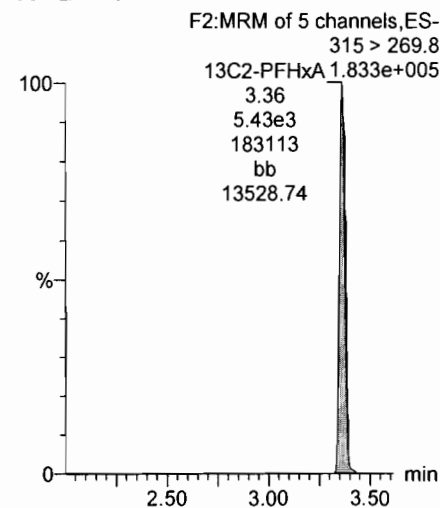
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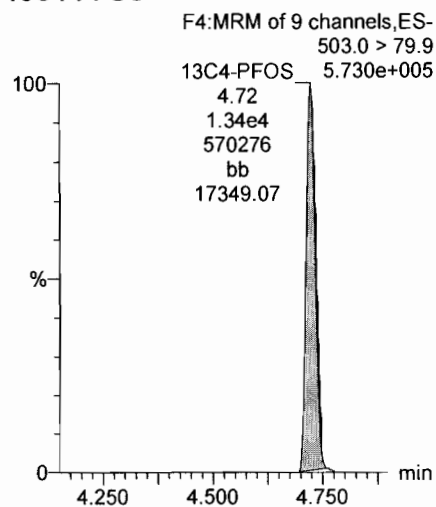
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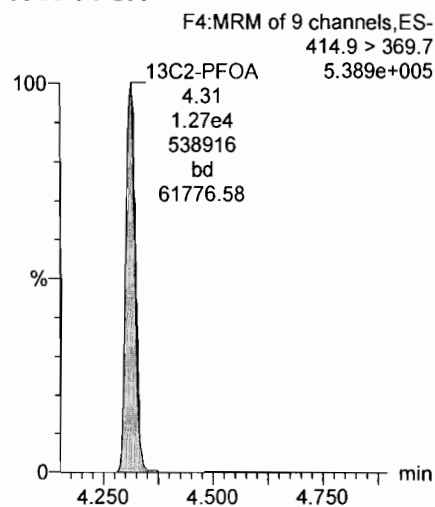
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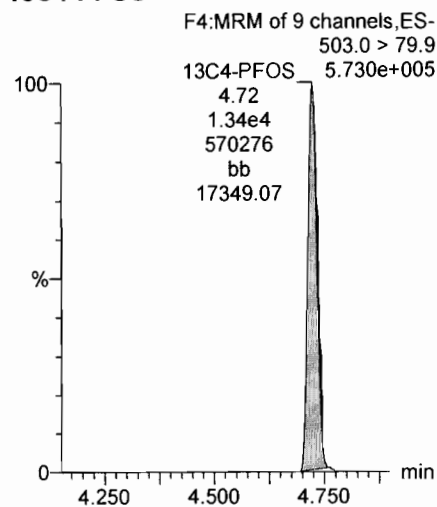
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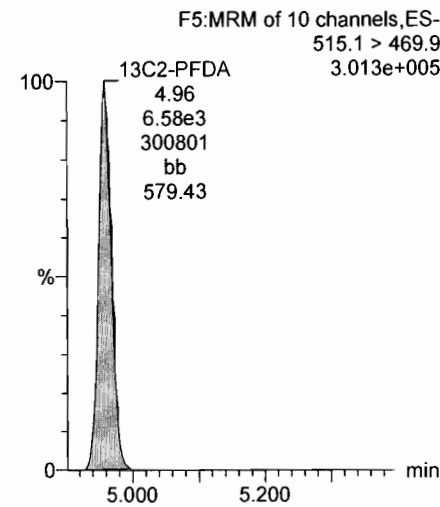
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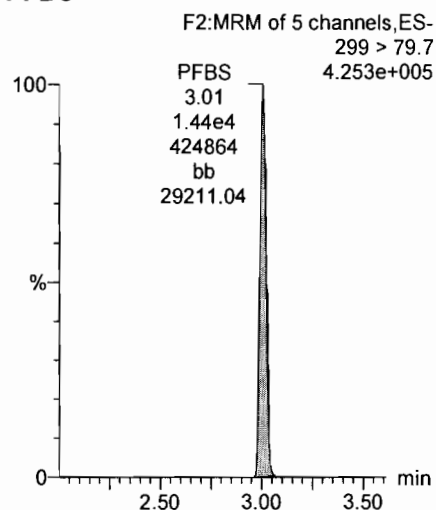
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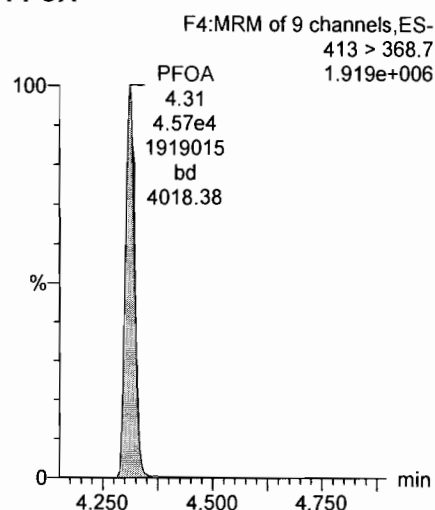
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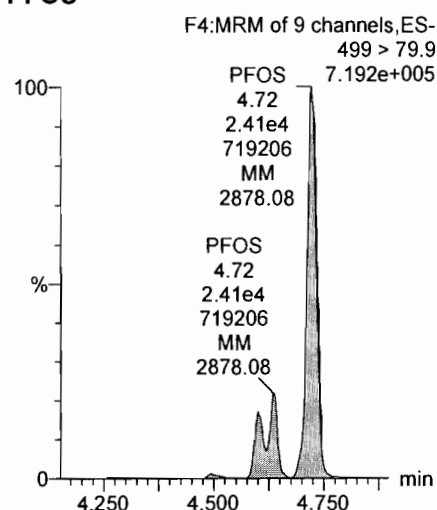
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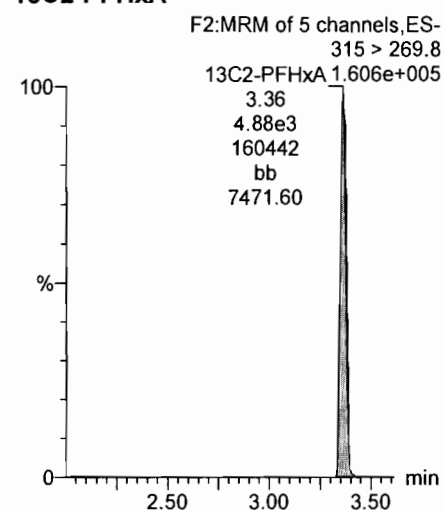
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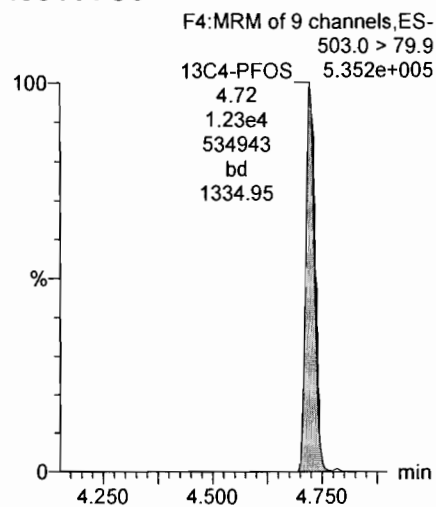
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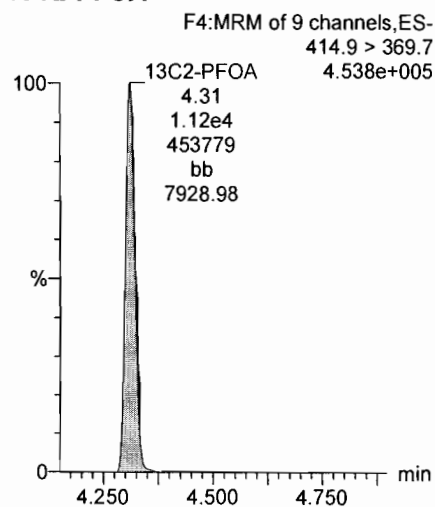
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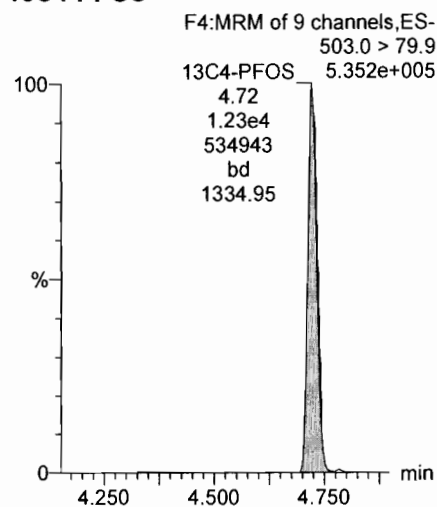
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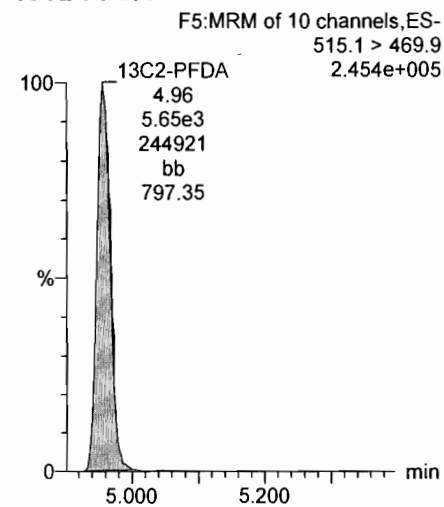
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13C4-PFOS



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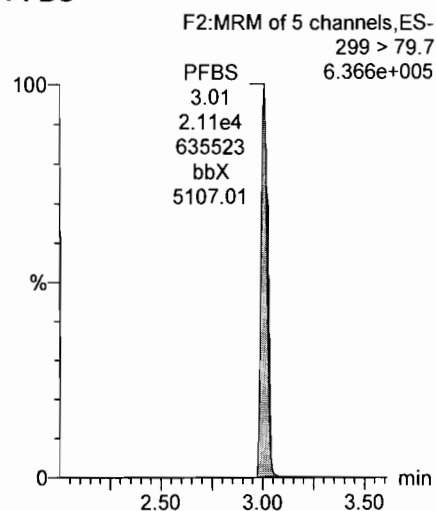
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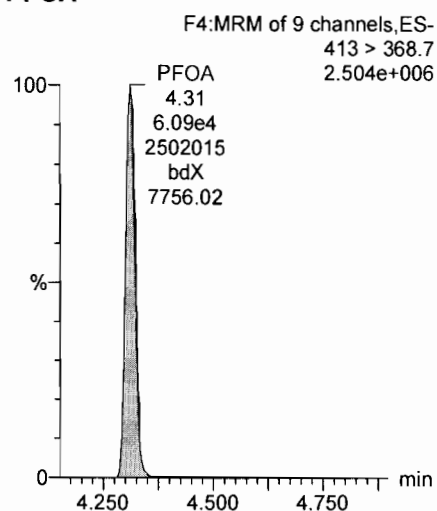
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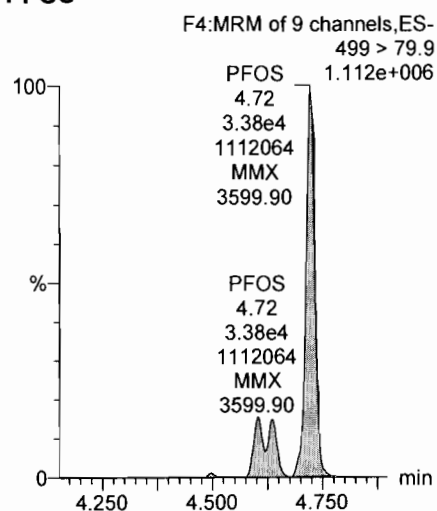
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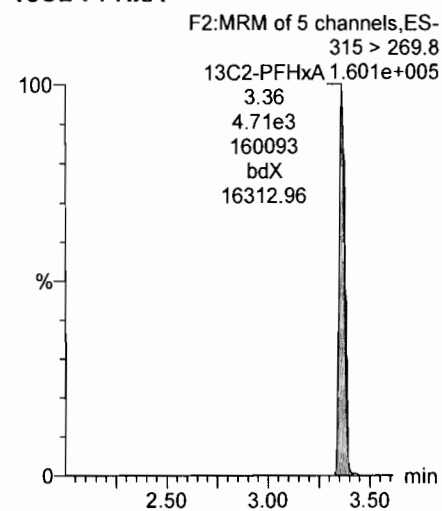
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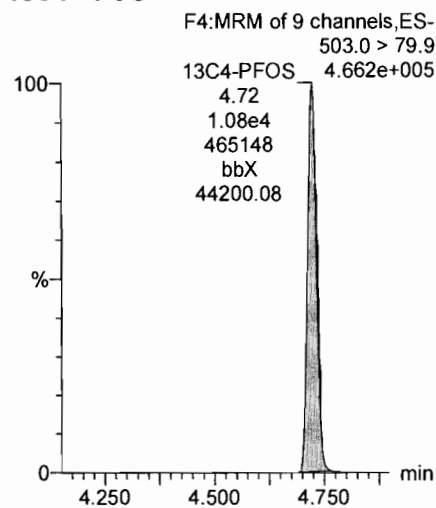
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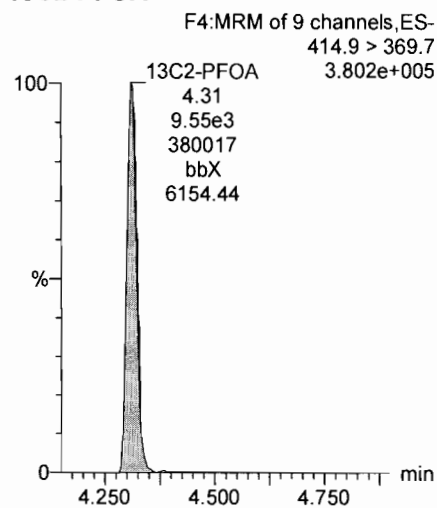
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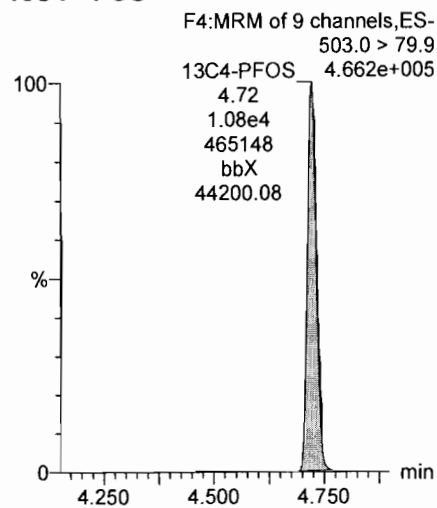
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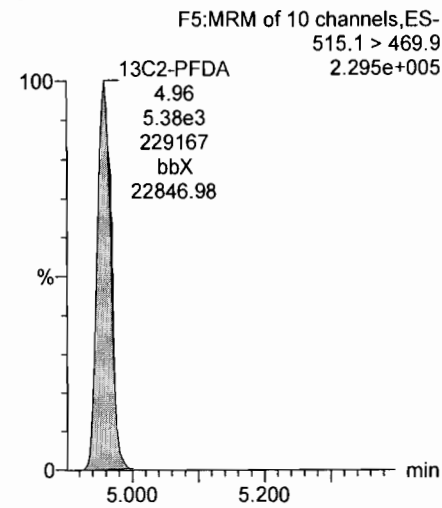
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13C4-PFOS



13C2-PFDA



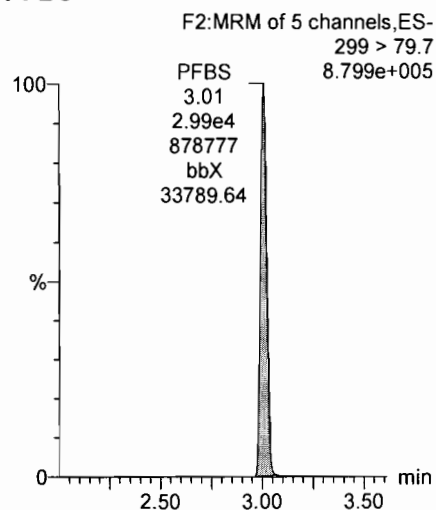
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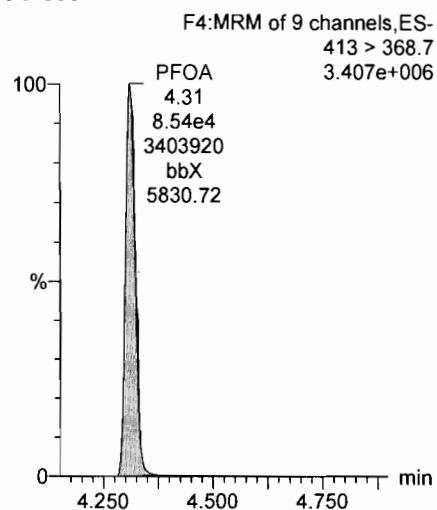
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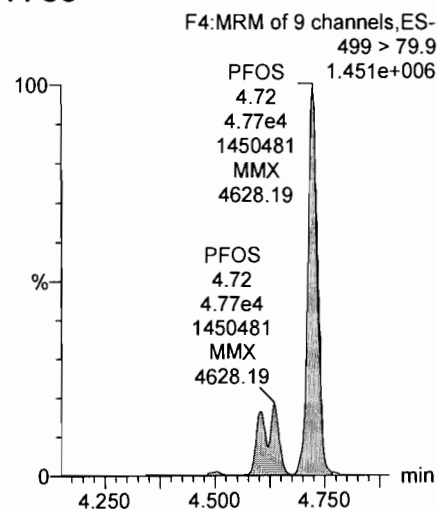
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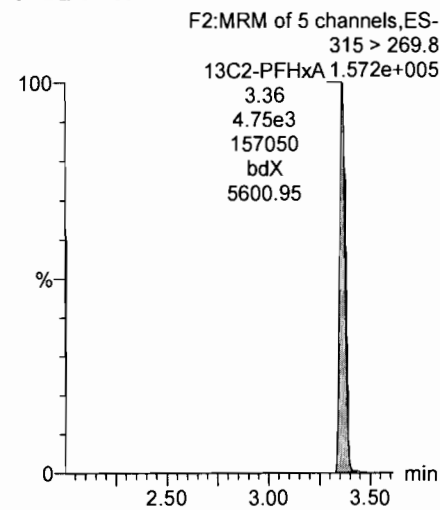
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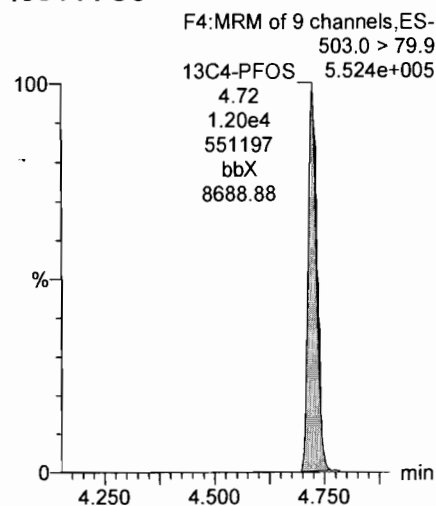
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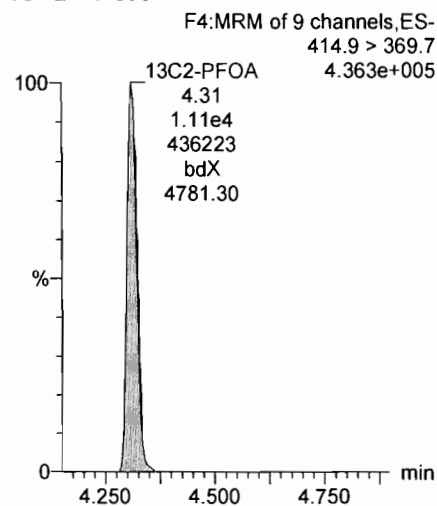
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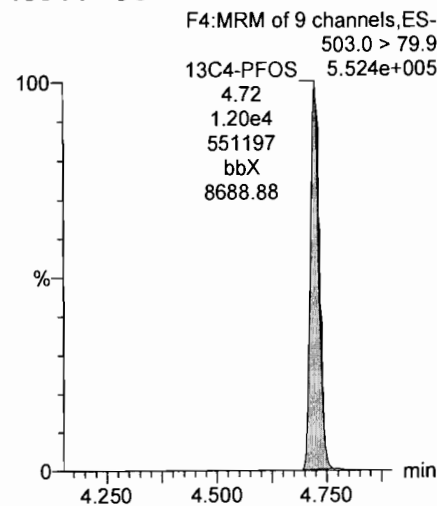
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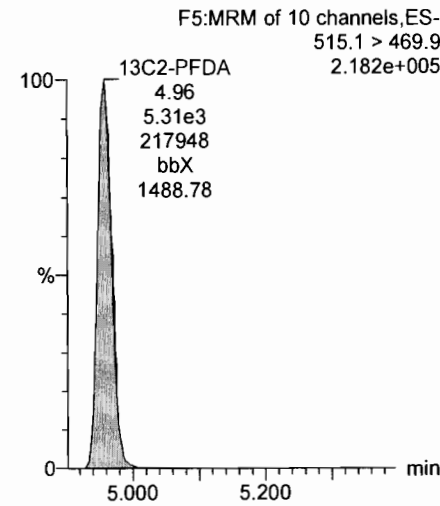
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13C4-PFOS



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-12.qld

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Printed: Monday, December 11, 2017 10:41:34 Pacific Standard Time

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

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Name: 171208G2_12, Date: 08-Dec-2017, Time: 18:13:34, ID: ICV171208G2-1 PFC ICV 537 17K3030, Description: PFC ICV 537 17K3030

	# Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	299 > 79.7	3.46e3	1.15e4		1.0000	3.03	3.01	8.65	10.8	108.1
2	2 PFOA	413 > 368.7	8.56e3	1.03e4		1.0000	4.31	4.31	8.35	10.3	102.8
3	3 PFOS	499 > 79.9	5.12e3	1.15e4		1.0000	4.73	4.72	12.8	10.7	106.5
4	4 13C2-PFHxA	315 > 269.8	4.62e3	1.03e4	0.443	1.0000	3.37	3.36	4.50	10.2	101.6
5	5 13C2-PFDA	515.1 > 469.9	5.52e3	1.03e4	0.509	1.0000	4.94	4.96	5.38	10.6	105.6
6	6 13C2-PFOA	414.9 > 369.7	1.03e4	1.03e4	1.000	1.0000	4.41	4.31	10.0	10.0	100.0
7	7 13C4-PFOS	503.0 > 79.9	1.15e4	1.15e4	1.000	1.0000	4.81	4.73	28.7	28.7	100.0

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YKA. 12/11/2017

Dataset: U:\G1.PRO\Results\2017\171208G2\171208G2-12.qld

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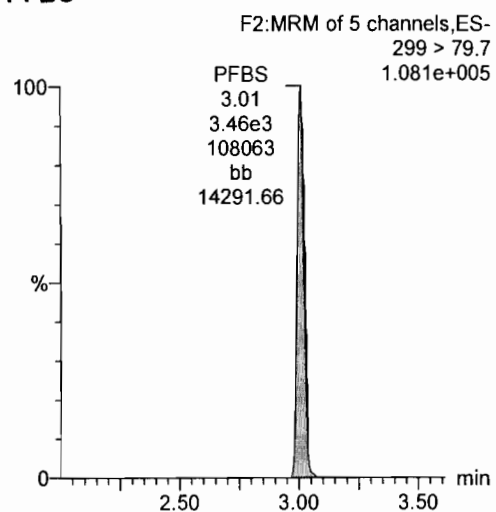
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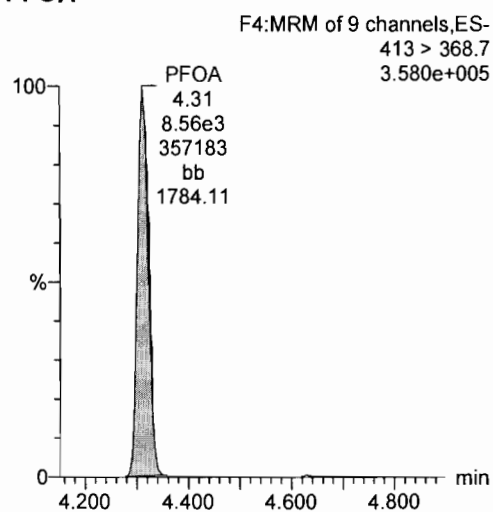
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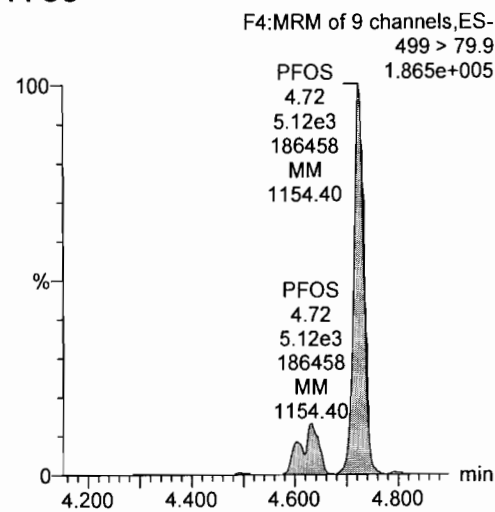
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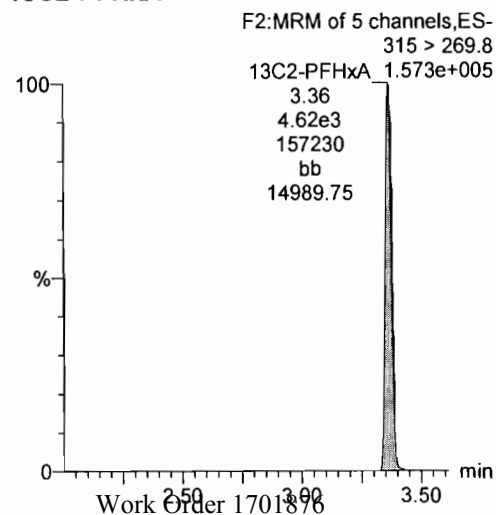
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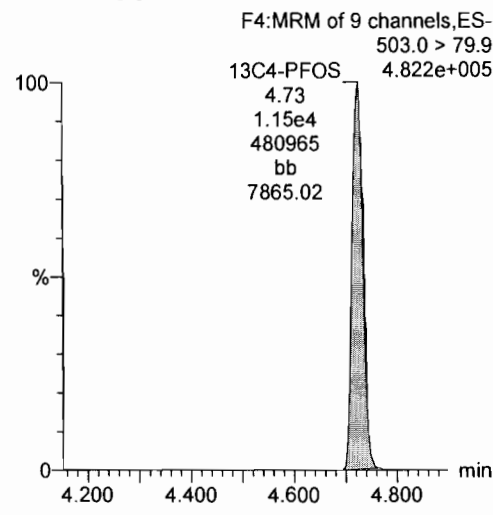
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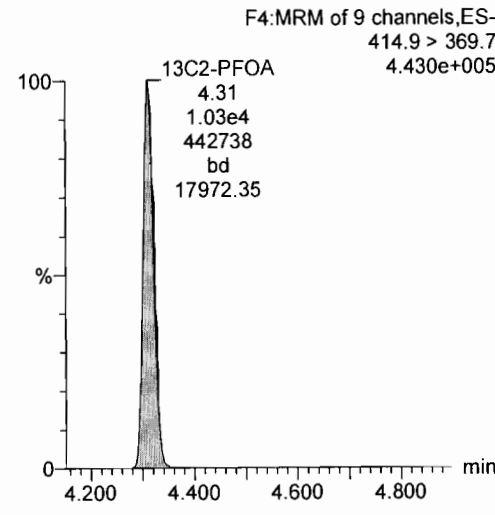
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13C4-PFOS



13C2-PFOA



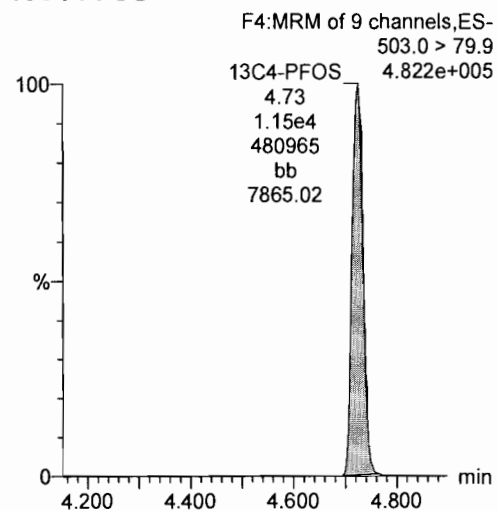
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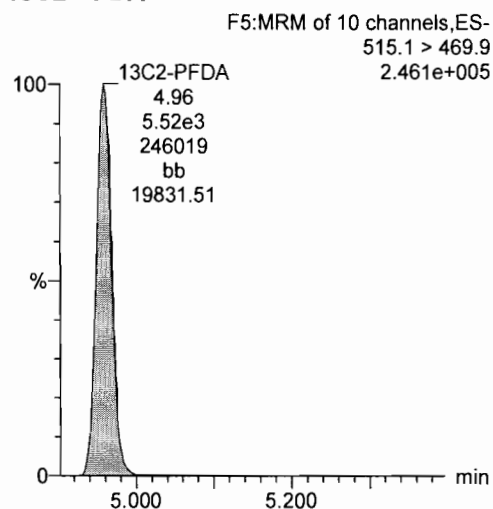
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Name: 171208G2_12, Date: 08-Dec-2017, Time: 18:13:34, ID: ICV171208G2-1 PFC ICV 537 17K3030, Description: PFC ICV 537 17K3030

13C4-PFOS



13C2-PFDA



Contract_ID	DO_CTO Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis Group	Analytical_ Method	PRC_ Code	Lab_ Vista	Lab_Name	Leachate Method	Sample_ Basis	Extraction Method	Result_T ype	Lab_QC_ Type	Sample_ Medium	QC_Level	DateTime_Collect ed	Date_Recei ved	Leachate Date	Leachate Time	Extraction_ Date	Extraction_ Time	Analysis_ Date	Analysis_ Time	Lab_Sample_ID	Dilution
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N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2RW54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:39:00	1701876-11	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2RW54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:39:00	1701876-11	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2RW54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:39:00	1701876-11	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2FB54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:52:00	1701876-12	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2FB54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:52:00	1701876-12	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2FB54-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 09:50	12/07/2017			20171214	09:00:00	20171215	01:52:00	1701876-12	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2RW55-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 10:04	12/07/2017			20171214	09:00:00	20171215	02:04:00	1701876-13	1
N6247016D9000	0008		CHERRY POINT MCAS	CH-AT-2RW55-1217	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	12/05/2017 10:04	12/07/2017			20171214	09:00:00	201			

Contract_ID	DO_CTO Number	Phase	Installation_ID	Run Number	Percent Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original_ Analyte_ Value	Result_ Units	Lab_ Qualifier	Validator_ Qualifier	GC_ Column_ Type	Analysis_ Result_ Type	Result_ Narrative	QC_ Control_ Limit_ Code	QC_ Accuracy_ Upper	QC_ Accuracy_ Lower	Control_L imit_ Date	QC_ Narrative	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.476	NG L	J		PR	TRG									5.1	0.419	4.73	9.46	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.73	NG L	U		PR	TRG									5.1	1.02	4.73	9.46	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.73	NG L	U		PR	TRG									5.1	0.983	4.73	9.46	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		94.7	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.91	NG L	U		PR	TRG									5.1	0.435	4.91	9.82	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.91	NG L	U		PR	TRG									5.1	1.06	4.91	9.82	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.91	NG L	U		PR	TRG									5.1	1.02	4.91	9.82	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		110	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.75	NG L	U		PR	TRG									5.1	0.420	4.75	9.49	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.75	NG L	U		PR	TRG									5.1	1.03	4.75	9.49	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.75	NG L	U		PR	TRG									5.1	0.987	4.75	9.49	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		98.7	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.86	NG L	U		PR	TRG									5.1	0.431	4.86	9.72	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.86	NG L	U		PR	TRG									5.1	1.05	4.86	9.72	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.86	NG L	U		PR	TRG									5.1	1.01	4.86	9.72	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		102	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.70	NG L	U		PR	TRG									5.1	0.416	4.70	9.39	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.70	NG L	U		PR	TRG									5.1	1.01	4.70	9.39	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.70	NG L	U		PR	TRG									5.1	0.977	4.70	9.39	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		102	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.86	NG L	U		PR	TRG									5.1	0.431	4.86	9.73	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.86	NG L	U		PR	TRG									5.1	1.05	4.86	9.73	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.86	NG L	U		PR	TRG									5.1	1.01	4.86	9.73	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		103	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.67	NG L	U		PR	TRG									5.1	0.413	4.67	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.67	NG L	U		PR	TRG									5.1	1.01	4.67	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.67	NG L	U		PR	TRG									5.1	0.970	4.67	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		107	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.74	NG L	U		PR	TRG									5.1	0.420	4.74	9.48	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.74	NG L	U		PR	TRG									5.1	1.02	4.74	9.48	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.74	NG L	U		PR	TRG									5.1	0.986	4.74	9.48	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		90.7	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.80	NG L	U		PR	TRG									5.1	0.426	4.80	9.61	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.80	NG L	U		PR	TRG									5.1	1.04	4.80	9.61	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.80	NG L	U		PR	TRG									5.1	0.999	4.80	9.61	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		96.5	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.73	NG L	U		PR	TRG									5.1	0.419	4.73	9.47	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.73	NG L	U		PR	TRG									5.1	1.02	4.73	9.47	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.73	NG L	U		PR	TRG									5.1	0.985	4.73	9.47	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		98.9	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.85	NG L	U		PR	TRG									5.1	0.429	4.85	9.69	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.85	NG L	U		PR	TRG									5.1	1.05	4.85	9.69	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.85	NG L	U		PR	TRG									5.1	1.01	4.85	9.69	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		101	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.66	NG L	U		PR	TRG									5.1	0.413	4.66	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.66	NG L	U		PR	TRG									5.1	1.01	4.66	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.66	NG L	U		PR	TRG									5.1	0.970	4.66	9.33	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		99.8	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.90	NG L	U		PR	TRG									5.1	0.434	4.90	9.80	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.90	NG L	U		PR	TRG									5.1	1.06	4.90	9.80	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.90	NG L	U		PR	TRG									5.1	1.02	4.90	9.80	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			13C2-PFHxA	13C2-PFHxA		99.0	PCT REC			PR			SLSA	130	70					5.1				1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.90	NG L	U		PR	TRG									5.1	0.434	4.90	9.81	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.90	NG L	U		PR	TRG									5.1	1.06	4.90	9.81	1701876	S7L0054
N6247016D9000	0008		CHERRY POINT MCAS	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.90	NG L	U		PR	TRG	</													

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

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1701876
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: MCOLF Atlantic, North Carolina
Date: January 13, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CH-AT-2RW49-1217	1701876-01	Water
2	CH-AT-2FB49-1217	1701876-02	Water
3	CH-AT-2RW50-1217	1701876-03	Water
3MS	CH-AT-2RW50-1217MS	1701876-03MS	Water
3MSD	CH-AT-2RW50-1217MSD	1701876-03MSD	Water
4	CH-AT-2FB50-1217	1701876-04	Water
5	CH-AT-2RW51-1217	1701876-05	Water
6	CH-AT-2FB51-1217	1701876-06	Water
7	CH-AT-2RW52-1217	1701876-07	Water
8	CH-AT-2FB52-1217	1701876-08	Water
9	CH-AT-2RW53-1217	1701876-09	Water
10	CH-AT-2FB53-1217	1701876-10	Water
11	CH-AT-2RW54-1217	1701876-11	Water
12	CH-AT-2FB54-1217	1701876-12	Water
13	CH-AT-2RW55-1217	1701876-13	Water
14	CH-AT-2FB55-1217	1701876-14	Water

A full data validation was performed on the analytical data for seven water samples and seven aqueous field blank samples collected on December 5, 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-2FB49-1217	None - ND	-	-	-
CH-AT-2FB50-1217	None - ND	-	-	-
CH-AT-2FB51-1217	None - ND	-	-	-
CH-AT-2FB52-1217	None - ND	-	-	-
CH-AT-2FB53-1217	None - ND	-	-	-
CH-AT-2FB54-1217	None - ND	-	-	-
CH-AT-2FB55-1217	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

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

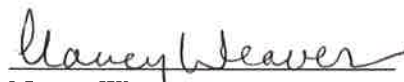
- All criteria were met.

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: 11/15/18

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-2RW49-1217										EPA Method 537	
Client Data				Laboratory Data							
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1701876-01		Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.		Date Collected:	05-Dec-17 11:14		Date Received:	07-Dec-17 09:23				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	0.476	0.419	4.73	9.46	J	B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1	
PFOA	ND	1.02	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1	
PFOS	ND	0.983	4.73	9.46		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	94.7	70 - 130		B7L0090	14-Dec-17	0.264 L	14-Dec-17 23:35	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											
LOQ - Limit of quantitation Results reported to the DL Only the linear isomer is reported for all other analytes											

11/3/18

Sample ID: CH-AT-2FB49-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-02	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 11:14		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.435	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47
PFOA	ND	1.06	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47
PFOS	ND	1.02	4.91	9.82		B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Dilution
13C2-PFHxA	SURR	110	70 - 130			B7L0090	14-Dec-17	0.255 L	14-Dec-17 23:47
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									

Low 11.3/1.8

Sample ID: CH-AT-2RW50-1217										EPA Method 537			
Client Data				Laboratory Data									
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701876-03	Batch	Extracted	Samp Size	Analyzed	Dilution	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 11:30	Date Received:	07-Dec-17 09:23	Qualifiers	LOQ	LOD	DL	Conc. (ng/L)	% Recovery	Limits	
Analyte													
PFBS						B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1			
PFOA						B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1			
PFOS						B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1			
Labeled Standards	Type					Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR						B7L0090	14-Dec-17	0.263 L	15-Dec-17 00:00	1		
DL - Detection Limit	LOD - Limit of Detection	When reported, PFHxS, PFOA and PFOS include both linear and branched isomers											
	LOQ - Limit of quantitation	Only the linear isomer is reported for all other analytes											
		LCL-UCL - Lower control limit - upper control limit											
		Results reported to the DL											

rw11.31.8

Sample ID: CH-AT-2FB50-1217						EPA Method 537				
Client Data			Laboratory Data							
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1701876-04		Column:	BEH C18
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.		Date Collected:	05-Dec-17 11:30		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.431	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOA	ND	1.05	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
PFOS	ND	1.01	4.86	9.72		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	102	70 - 130		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:12	1	
DL - Detection Limit			When reported, PFHxS, PFOA and PFOS include both linear and branched isomers							
LOD - Limit of Detection			Only the linear isomer is reported for all other analytes							
LOQ - Limit of quantitation										

1701876

Sample ID: CH-AT-2RW51-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-05	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 13:46		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.416	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25
PFOA	ND	1.01	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25
PFOS	ND	0.977	4.70	9.39		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	102	70 - 130		B7L0090	14-Dec-17	0.266 L	15-Dec-17 00:25	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									

2011.31.8

Sample ID: CH-AT-2FB51-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-06	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 13:46		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.431	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37
PFOA	ND	1.05	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37
PFOS	ND	1.01	4.86	9.73		B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Dilution
13C2-PFHxA	SURR	103	70 - 130			B7L0090	14-Dec-17	0.257 L	15-Dec-17 00:37
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									

1701876

Sample ID: CH-AT-2RW52-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-07	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PEAS INV.	Date Collected:	05-Dec-17 15:23		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.413	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49
PFOA	ND	1.01	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49
PFOS	ND	0.970	4.67	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	107	70 - 130		B7L0090	14-Dec-17	0.268 L	15-Dec-17 00:49	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									

11/13/18

Sample ID: CH-AT-2FB52-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-08	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PEAS INV.	Date Collected:	05-Dec-17 15:23		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.420	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02
PFOA	ND	1.02	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02
PFOS	ND	0.986	4.74	9.48		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Dilution
13C2-PFHxA	SURR	90.7	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:02
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, PFHxA, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes									

2011.3/1.8

Sample ID: CH-AT-2RW53-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-09	Column:	BEH C18	
Project:	CTO-08/MCOLE ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 09:10		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.426	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14
PFOA	ND	1.04	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14
PFOS	ND	0.999	4.80	9.61		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	96.5	70 - 130		B7L0090	14-Dec-17	0.260 L	15-Dec-17 01:14	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, 31, 8

Sample ID: CH-AT-2FB53-1217									
Client Data					EPA Method 537				
Name:	CH2M Hill	Matrix:	Drinking Water		Laboratory Data				
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 09:10		Lab Sample:	1701876-10	Column:	BEH C18	
					Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.419	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27
PFOA	ND	1.02	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27
PFOS	ND	0.985	4.73	9.47		B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Dilution
13C2-PFHxA	SURR	98.9	70 - 130			B7L0090	14-Dec-17	0.264 L	15-Dec-17 01:27
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 1.3.18

Sample ID: CH-AT-2RW54-1217										EPA Method 537				
Client Data					Laboratory Data									
Name: CH2M Hill		Matrix: Drinking Water		Lab Sample: 1701876-11		Column: BEH C18		Date Collected: 05-Dec-17 09:50		Date Received: 07-Dec-17 09:23				
Project: CTO-08/MCOLF ATLANTIC PFAS INV.														
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution				
PFBS	ND	0.429	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1				
PFOA	ND	1.05	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1				
PFOS	ND	1.01	4.85	9.69		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	1				
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution					
13C2-PFHxA	SURR	101	70 - 130		B7L0090	14-Dec-17	0.258 L	15-Dec-17 01:39	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
 LOQ - Limit of quantitation Results reported to the DL Only the linear isomer is reported for all other analytes

1701876

Sample ID: CH-AT-2FB54-1217										EPA Method 537			
Client Data				Laboratory Data									
Name:	CH2M Hill			Matrix:	Drinking Water		Lab Sample:	1701876-12		Column:	BEH C18		
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.			Date Collected:	05-Dec-17 09:50		Date Received:	07-Dec-17 09:23					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
PFBS	ND	0.413	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1			
PFOA	ND	1.01	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1			
PFOS	ND	0.970	4.66	9.33		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	1			
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution				
13C2-PFHxA	SURR	99.8	70 - 130		B7L0090	14-Dec-17	0.268 L	15-Dec-17 01:52	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										
	LOQ - Limit of quantitation	Results reported to the DL	Only the linear isomer is reported for all other analytes										

mu, 1, 3, 1, 8

Sample ID: CH-AT-2RW55-1217										EPA Method 537			
Client Data				Laboratory Data									
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701876-13	Column:	BEH C18						
Project:	CTO-08/MCOLF ATLANTIC PFAS INV.	Date Collected:	05-Dec-17 10:04	Date Received:	07-Dec-17 09:23								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
PFBS	ND	0.434	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1			
PFOA	ND	1.06	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1			
PFOS	ND	1.02	4.90	9.80		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1			
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution				
13C2-PFHxA	SURR	99.0	70 - 130		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:04	1				
DL - Detection Limit				When reported, PFHxS, PFOA and PFOS include both linear and branched isomers									
LOD - Limit of Detection				Only the linear isomer is reported for all other analytes									
LOQ - Limit of quantitation													

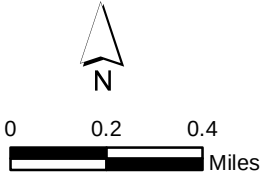
1701876

Sample ID: CH-AT-2FB55-1217									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701876-14	Column:	BEH C18	
Project:	CTO-08/MCOLF ATLANTIC PEAS INV.	Date Collected:	05-Dec-17 10:04		Date Received:	07-Dec-17 09:23			
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	ND	0.434	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16
PFOA	ND	1.06	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16
PFOS	ND	1.02	4.90	9.81		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution	
13C2-PFHxA	SURR	100	70 - 130		B7L0090	14-Dec-17	0.255 L	15-Dec-17 02:16	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 1,3/1.8



- 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