NAVFAC
Naval Facilities Engineering Command

Groundwater Investigation Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG 1700293

Outlying Landing Field Coupeville
Naval Air Station Whidbey Island
Coupeville, Washington

February 2019

March 09, 2017

Vista Work Order No. 1700293

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 March 04, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Navy Clean CTO-08'.

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

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

Sincerely,

Karen Lopez for

Martha Maier
Laboratory Director

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

Vista Work Order No. 1700293
Case Narrative

Sample Condition on Receipt:

Eleven groundwater 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

All of the samples were centrifuged prior to extraction.

The samples were extracted and analyzed for PFBS, PFOA, and PFOS using Modified EPA Method 537.

Holding Times

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

Quality Control

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

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

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

An MD/MSD were performed on sample "WI-CV-GW12D-0317".

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Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700293-01	WI-CV-GW02S-0317		01-Mar-17 11:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-02	WI-CV-GW02SP-0317		01-Mar-17 11:05	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-03	WI-CV-GW04S-0317		01-Mar-17 13:25	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-04	WI-CV-GW04SP-0317		01-Mar-17 13:35	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-05	WI-CV-GW02M-0317		01-Mar-17 13:55	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-06	WI-CV-GW12D-0317	MS/MSD	01-Mar-17 16:50	04-Mar-17 09:49	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1700293-07	WI-CV-EB09-030117		01-Mar-17 14:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-08	WI-CV-GW08S-0317		02-Mar-17 10:50	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-09	WI-CV-FB01-030217		02-Mar-17 13:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-10	WI-CV-EB10-030217		02-Mar-17 13:15	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-11	WI-CV-EB11-030217		02-Mar-17 13:30	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0017	Lab Sample:	B7C0017-BLK1
Sample Size:	0.125 L	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 17:17 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	ND	0.807	0.900	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	117	60 - 150	
IS	13C2-PFOA	82.1	60 - 150	
IS	13C8-PFOS	104	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0017	Lab Sample:	B7C0017-BS1
Sample Size:	0.125 L	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 16:27 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	84.2	80.0	105	60 - 130
PFOA	83.5	80.0	104	70 - 130
PFOS	70.4	80.0	88.0	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	106	60 - 150
IS	13C2-PFOA	88.8	60 - 150
IS	13C8-PFOS	91.8	60 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: WI-CV-GW02S-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Navy Clean CTO-08
Date Collected:	01-Mar-2017 11:00
Location:	MW-02S

Sample Data

Matrix:	Groundwater
Sample Size:	0.131 L

Laboratory Data

Lab Sample:	1700293-01	Date Received:	04-Mar-2017 9:49
QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Analyzed:	06-Mar-17 18:45 Column: BEH C18		
	07-Mar-17 09:51 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	332	17.1	38.2	76.3	D
PFOA	571	0.621	1.91	7.63	
PFOS	54.7	0.770	0.859	7.63	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	112	60 - 150	D
IS	13C2-PFOA	78.6	60 - 150	
IS	13C8-PFOS	94.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

Sample ID: WI-CV-GW02SP-0317

Modified EPA Method 537

Client Data

Name:	Cu 2M u ill
Pr4ject:	NaRy Clean CTO-08
Date C4llected:	01-Mar-2017 11:05
L4cati4n:	MW-02S

Sample Data

Matrix:	9 r4ondGater
Sample Size:	0.12v L

Laboratory Data

Lab Sample:	17002v3-02	Date weceiRed:	0H-Mar-2017 v:Hv
QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Analyzed:	06-Mar-17 18:58 C4lomn: BEu C18		
	07-Mar-17 10:0H C4lomn: BEu C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	357	17.3	38.8	77.H	D
PFOA	56H	0.630	1.vH	7.7H	
PFOS	53.0	0.781	0.872	7.7H	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	112	60 - 150	D
IS	13C2-PFOA	86.H	60 - 150	
IS	13C8-PFOS	v0.H	60 - 150	

DL - Detecti4n limit

wL - wep4rting limit

LCL-UCL - L4Ger c4ntr4l limit - opper c4ntr4l limit

wesolts rep4rted t4 DL.

When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.

Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: WI-CV-GW04S-0317

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: NaRy Clean CO. -08
Date Collected: 01-Mar-2017 1T:25
Location: MW-0vS

Sample Data

Matrix: 9 roundGater
Sample Size: 03128 L

Laboratory Data

Lab Sample: 170024T-0T
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 14:10 Column: BEH C18
Date weceiRed: 0v-Mar-2017 4:v4
Date Extracted: 06-Mar-2017 8:15

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1375	T341	738T	
PF. A	ND	036T7	1345	738T	
PF. S	ND	03740	03874	738T	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PFBS	4837	60 - 150	
IS	1TC2-PF. A	8T32	60 - 150	
IS	1TC8-PF. S	4v38	60 - 150	

DL - Detection limit

wL - weporting limit

LCL-UCL - LoGer control limit - upper control limit

wesults reported to DL3

When reported, PFBS, PFHxS, PF. A and PF. S include both linear and branched isomers3

. nly the linear isomer is reported for all other analytes3

Sample ID: WI-CV-GW04SP-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
P ame:	C9 2M 9 ill	Matrix:	GruHndwater	Lab Sample:	170024o-0N	Date Received:	0N-Mar-2017 4:N4
j ruTect:	P avy Clean CO. -08	Sample Size:	03lo1 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Cullected:	01-Mar-2017 1o:o5			Date Analyzed:	06-Mar-17 14:2o CulHmn: BE9 C18		
Lucatiun:	MW-0NS						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j FBS	P D	137l	o382	736N	
j F. A	P D	0362l	134l	736N	
j F. S	P D	0377o	0385 4	736N	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1oCo-j FBS	4o3l	60 - 150	
IS	1oC2-j F. A	8236	60 - 150	
IS	1oC8-j F. S	8438	60 - 150	

DL - Detectiun limit

RL - Repurting limit

LCL-UCL - Luwer cuntrul limit - Hpper cuntrul limit

ResHts repurted tu DL3

When repurted, j FBS, j F9 xS, j F. A and j F. S inclHde buth linear and branched isumers3

. nly the linear isumer is repurted fur all uther analytes3

Sample ID: WI-CV-GW02M-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
P ame:	CH2M Hill	Matrix:	9 roundGater	Lab Sample:	17002N4-05	Date weceiRed:	0v-Mar-2017 NvN
j roTect:	P aRy Clean CO. -08	Sample Size:	0312NL	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 14:55			Date Analyzed:	06-Mar-17 20:14	Column: BEH C18	
Location:	MW-02M						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j FBS	P D	137v	4388	7376	
j F. A	P D	0364 1	13Nv	7376	
j F. S	P D	0378 4	0387 2	7376	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j FBS	N63v	60 - 150	
IS	14C2-j F. A	8630	60 - 150	
IS	14C8-j F. S	N630	60 - 150	

DL - Detection limit

wL - weporting limit

LCL-UCL - LoGer control limit - upper control limit

wesults reported to DL3

When reported, j FBS, j FHxS, j F. A and j F. S include both linear and branched isomers3

. nly the linear isomer is reported for all other analytes3

Sample ID: WI-CV-GW02D-1307

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Naw Clean CTO-08
Date C4llected: 01-Mar-2017 16:50
L4cati4n: MW-12D

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 0.126 L

Laboratory Data

Lab Sample: 17002v3-06 Date Geceiwed: 0R-Mar-2017 v:Rv
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 20:26 C4lomn: BEu C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.78	3.v7	7.v6	
PFOA	ND	0.6R8	1.v8	7.v6	
PFOS	ND	0.803	0.8v3	7.v6	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	88.v	60 - 150	
IS	13C2-PFOA	82.0	60 - 150	
IS	13C8-PFOS	8R.0	60 - 150	

DL - Detecti4n limit
GL - Gep4rting limit

LCL-UCL - L49 er c4ntr4l limit - opper c4ntr4l limit
Gesolts rep4rted t4 DL.
When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.
Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: Matrix Spike

Modified EPA Method 537

Source Client ID:	WI-CV-GW12D-0317				
Source LabNumber:	1700293-06	QC Batch:	B7C0017	Lab Sample:	B7C0017-MS1/B7C0017-MSD1
Matrix:	Aqueous	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 21:41 Column: BEH C18
Sample Size:	0.124/0.125 L				06-Mar-17 21:53 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qualifers	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qualifers
PFBS	80.6	111		79.7	107	3.67	
PFOA	80.6	114		79.7	112	1.77	
PFOS	80.6	111		79.7	90.8	20.0	

	Labeled Standard	MS %R	MS Qualifers	MSD %R	MSD Qualifers
IS	13C3-PFBS	89.4		88.0	
IS	13C2-PFOA	83.9		83.0	
IS	13C8-PFOS	74.7		89.8	

Sample ID: WI-CV-EB09-030117

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
P ame:	CH2M Hill	Matrix:	9 roundGater	Lab Sample:	17002N4-07	Date weceiRed:	0v-Mar-2017 NvN
j roTect:	P aRy Clean CO. -08	Sample Size:	0315 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 1v:00			Date Analyzed:	06-Mar-17 20:48	Column: BEH C18	
Location:	EB-0N						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j WBS	P D	13Nv	v345	836N	
j W A	P D	03707	2317	836N	
j W S	P D	03877	03N78	836N	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j WBS	N038	60 - 150	
IS	14C2-j W A	8631	60 - 150	
IS	14C8-j W S	N535	60 - 150	

DL - Detection limit

wL - weportinF limit

LCL-g CL - LoGer control limit - upper control limit

weUultUreported to DL3

s hen reported, j WBS, j WHxS, j W A and j W S include both linear and branched iUomerU3

. nly the linear iUomer iUreported for all other analyteU3

Sample ID: WI-CV-GW08S-0317

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Nawy Clean CTO-08
Date C4llected: 02-Mar-2017 10:50
L4cati4n: MW-08S

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 0.130 L

Laboratory Data

Lab Sample: 17002v3-08
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 20:51 C4lomn: BEu C18
Date Geceiwed: 0R-Mar-2017 v:Rv
Date Extracted: 06-Mar-2017 8:15

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.72	3.85	7.71	
PFOA	ND	0.627	1.v2	7.71	
PFOS	ND	0.777	0.865	7.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C2-PFOA	v2.3	60 - 150	
IS	13C8-PFOS	76.v	60 - 150	

DL - Detecti4n limit

GL - Gep4rting limit

LCL-UCL - L49 er c4ntr4l limit - opper c4ntr4l limit

Gesolts rep4rted t4 DL.

When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.

Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: WI-CV-FB01-030217

Modified EPA Method 537

Client Data

P ame: CH2M Hill
j roTect: P aRy Clean CO. -08
Date Collected: 02-Mar-2017 14:00
Location: WB01

Sample Data

Matrix: 9 roundGater
Sample Size: 0311NL

Laboratory Data

Lab Sample: 17002N4-0N
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 21:04 Column: BEH C18
Date weceiRed: 0v-Mar-2017 NvN
Date Extracted: 06-Mar-2017 8:15

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j WBS	P D	1387	v320	8347	
j W A	P D	0368 1	2310	8347	
j W S	P D	038v5	03Nv5	8347	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j WBS	104	60 - 150	
IS	14C2-j W A	853N	60 - 150	
IS	14C8-j W S	8v30	60 - 150	

DL - Detection limit

wL - weportinF limit

LCL-g CL - LoGer control limit - upper control limit

weUiltUreported to DL3

s hen reported, j WBS, j WHxS, j W A and j W S include both linear and branched iUomerU3

. nly the linear iUomer iUreported for all other analyteU3

Sample ID: WI-CV-EB10-030217

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	Cu 2M u ill	Matrix:	Hr4ond9 ater	Lab Sample:	17002vT-10	Date Geceiwed:	0R-Mar-2017 v:Rv
Pr4ject:	Nawy Clean CO. -08	Sample Size:	03OvT0 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date C4llected:	02-Mar-2017 1T:15			Date Analyzed:	06-Mar-17 21:16	C4lomn:	BEu C18
L4cati4n:	EB10						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PWBS	ND	23R1	53I8	1038	
PW A	ND	0387 5	236v	1038	
PW S	ND	1308	1321	1038	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PWBS	105	60 - 150	
IS	1TC2-PW A	v23R	60 - 150	
IS	1TC8-PW S	v730	60 - 150	

DL - Detecti4n limit

GL - Gep4rtinF limit

LCL-g CL - L49 er c4ntr4l limit - opper c4ntr4l limit

GeUoltUrep4rted t4 DL3

s hen rep4rted, PWBS, PWu xS, PW A and PW S inclode b4th linear and branched iU4merU3

. nly the linear iU4mer iUrep4rted f4r all 4ther analyteU3

Sample ID: WI-CV-EB11-030217

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Nawy Clean CO. -08
Date C4llected: 02-Mar-2017 1T:T0
L4cati4n: EB11

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 03118 L

Laboratory Data

Lab Sample: 17002vT-11 Date Geceiwed: 0R-Mar-2017 v:Rv
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 21:28 C4lomn: BEu C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PWBS	ND	138v	R32R	83R6	
PW A	ND	0368v	2312	83R6	
PW S	ND	0385R	03v5T	83R6	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PWBS	10T	60 - 150	
IS	1TC2-PW A	8530	60 - 150	
IS	1TC8-PW S	v735	60 - 150	

DL - Detecti4n limit
GL - Gep4rtinF limit

LCL-g CL - L49 er c4ntr4l limit - opper c4ntr4l limit
GeLolltUrep4rted t4 DL3
s hen rep4rted, PWBS, PWu xS, PW A and PW S inclode b4th linear and branched iU4merU3
. nly the linear iU4mer iUrep4rted f4r all 4ther analyteU3

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The associated compound concentration exceeded the calibration range of the instrument.**
H	**Recovery and/or RPD was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Reporting Limit/LOQ.**
M	**Estimated Maximum Possible Concentration. (CA Region 2 projects only)**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

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

CERTIFICATIONS

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

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

NELAP Accredited Test Methods

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

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

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

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

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

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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Laboratory Project ID: 1700293 Temp: -0.7 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: Navy CLEAN CTO-08 P.O.#: 10006-7-106051 / 679580.09.FI.WS Sampler: B. Prentice, E. Bilyeu, K. Witmer (name)

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

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

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Brittany Prentice BP	3/3/2017	15:11	Brittany Benedict B. Benedict	03/04/17	1001
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Sample Receiving

Method of Shipment: FedEx

Tracking No.:

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	EPA 1613: 2378-TCDD	EPA 1613: 2378 TCDD/TCDF	EPA 1613: PCDD/PCDF	EPA 8290: 2378-TCDD	EPA 8290: 2378-TCDD/TCDF	EPA 8290: PCDD/PCDF	EPA 8280: 2378-TCDD	EPA 8280: 2378 TCDD/TCDF	EPA 8280: PCDD/PCDF	EPA 1668: TOTALS	EPA 1668: COPLANAR PCB's	EPA 1668: 209 CONGENERS	EPA 1668: PBDE	EPA 1668: PAH	EPA 1614: WHO-29	CARB429: Mod. EPA 537	Comments
WI-CV-GW025-0317	3/1/2017	11:00	MW-025	2	O	GW															X		
WI-CV-GW025SP-0317	3/1/2017	11:05	MW-025	2	O	GW															X		
WI-CV-GW045-0317	3/1/2017	13:25	MW-045	2	O	GW															X		
WI-CV-GW045SP-0317	3/1/2017	1335	MW-045	2	O	GW															X		
WI-CV-GW02M-0317	3/1/2017	13:55	MW-02M	2	O	GW															X		
WI-CV-GW12D-0317	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-GW12D-0317-MS	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-GW12D-0317-SD	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-EB09-030117	3/1/2017	14:00	EB-09	2	O	GW															X		
WI-CV-GW085-0317	3/2/2017	10:50	MW-085	2	O	GW															X		

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M
Address: 1100 NE Circle Blvd
City: Corvallis State: OR Zip: 97330
Phone: Fax:
Email: Tiffany.Hill@ch2m.com

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

Bottle Preservation Type: T = Thiosulfate, O = Other: <6°C

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

Vista Analytical Laboratory

CHAIN OF COSTODY

For Laboratory Use Only
Laboratory Project ID: 1700293 Temp: -0.7 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: Navy CLEAN CTO-08 P.O.#: 10006-7-106051 Sampler: B Prentice, C. Bilyeu, M. Withers (name)

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

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

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Brittany Prentice BP	3/3/2017	1511	Betty Benedict B.Benedict	03/04/17	1001

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

ATTN: Sample Receiving

Method of Shipment: FedEx

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Container(s) Type	Container(s) Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 8280 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1614 PBDE	CARB429 PAH	WHO-29	Mod. EPA 537	Comments
WI-CV-FB01-030217	3/2/2017	1300	FB01	2	O	O																X	
WI-CV-EB10-030217	3/2/2017	1315	EB10	2	O	O																X	
WI-CV-EB11-030217	3/2/2017	1330	EB11	2	O	O																	

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:
Name: Tiffany Hill
Company: CH2M
Address: 1100 NE Circle Blvd
City: Corvallis State: OR Zip: 97330
Phone: Fax:
Email: Tiffany.Hill@ch2m.com

Container Types: A = 1 Liter Amber, G = Glass Jar, P = HDPE, O = Other 125 ml HDPE

Bottle Preservation Type: T = Thiosulfate, TZ = Trizma: <6°C

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

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1700293 **TAT** 7

Samples Arrival:	**Date/Time** 03/04/17 0949	**Initials:** YBB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 03/04/17 1011	**Initials:** YBB	**Location:** WR-2 **Shelf/Rack:** E5

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	(Ice)	Blue Ice	Dry Ice	None		
Temp °C: 0.0 (uncorrected)	**Time:**		**Thermometer ID:** ~~IR-1~~ YBB DT-3			
Temp °C: −0.7 (corrected)	**Probe used:** Yes☑ No☐					

	YES	NO	NA
Adequate Sample Volume Received? A/B MS/MSD	✓		
Holding Time Acceptable?		✓	
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill Trk # 7785 7280 8447	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	

If Chlorinated or Drinking Water Samples, Acceptable Preservation?						✓
Preservation Documented:	$Na_2S_2O_3$	Trizma			Yes	No (NA)
Shipping Container	(Vista)	Client	Retain	Return	Dispose	

Comments:

March 09, 2017

Vista Work Order No. 1700293

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 March 04, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Navy Clean CTO-08'.

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

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

Sincerely,

Karen Lopez for

Martha Maier
Laboratory Director

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

Vista Work Order No. 1700293
Case Narrative

Sample Condition on Receipt:

Eleven groundwater 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

All of the samples were centrifuged prior to extraction.

The samples were extracted and analyzed for PFBS, PFOA, and PFOS using Modified EPA Method 537.

Holding Times

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

Quality Control

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

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

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

An MD/MSD were performed on sample "WI-CV-GW12D-0317".

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700293-01	WI-CV-GW02S-0317		01-Mar-17 11:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-02	WI-CV-GW02SP-0317		01-Mar-17 11:05	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-03	WI-CV-GW04S-0317		01-Mar-17 13:25	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-04	WI-CV-GW04SP-0317		01-Mar-17 13:35	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-05	WI-CV-GW02M-0317		01-Mar-17 13:55	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-06	WI-CV-GW12D-0317	MS/MSD	01-Mar-17 16:50	04-Mar-17 09:49	HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
		MS/MSD			HDPE Bottle, 125 mL
1700293-07	WI-CV-EB09-030117		01-Mar-17 14:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-08	WI-CV-GW08S-0317		02-Mar-17 10:50	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-09	WI-CV-FB01-030217		02-Mar-17 13:00	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-10	WI-CV-EB10-030217		02-Mar-17 13:15	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL
1700293-11	WI-CV-EB11-030217		02-Mar-17 13:30	04-Mar-17 09:49	HDPE Bottle, 125 mL
					HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0017	Lab Sample:	B7C0017-BLK1
Sample Size:	0.125 L	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 17:17 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.79	4.00	8.00	
PFOA	ND	0.651	2.00	8.00	
PFOS	ND	0.807	0.900	8.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	117	60 - 150	
IS	13C2-PFOA	82.1	60 - 150	
IS	13C8-PFOS	104	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

Sample ID: OPR

Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0017	Lab Sample:	B7C0017-BS1
Sample Size:	0.125 L	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 16:27 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	84.2	80.0	105	60 - 130
PFOA	83.5	80.0	104	70 - 130
PFOS	70.4	80.0	88.0	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	106	60 - 150
IS	13C2-PFOA	88.8	60 - 150
IS	13C8-PFOS	91.8	60 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: WI-CV-GW02S-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	Navy Clean CTO-08
Date Collected:	01-Mar-2017 11:00
Location:	MW-02S

Sample Data

Matrix:	Groundwater
Sample Size:	0.131 L

Laboratory Data

Lab Sample:	1700293-01	Date Received:	04-Mar-2017 9:49
QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Analyzed:	06-Mar-17 18:45 Column: BEH C18		
	07-Mar-17 09:51 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	332	17.1	38.2	76.3	D
PFOA	571	0.621	1.91	7.63	
PFOS	54.7	0.770	0.859	7.63	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	112	60 - 150	D
IS	13C2-PFOA	78.6	60 - 150	
IS	13C8-PFOS	94.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

Sample ID: WI-CV-GW02SP-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	Cu 2M u ill	Matrix:	9 r4ondGater	Lab Sample:	17002v3-02	Date weceiRed:	0H-Mar-2017 v:Hv
Pr4ject:	NaRy Clean CTO-08	Sample Size:	0.12v L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date C4llected:	01-Mar-2017 11:05			Date Analyzed:	06-Mar-17 18:58 C4lomn: BEu C18		
L4cati4n:	MW-02S				07-Mar-17 10:0H C4lomn: BEu C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	357	17.3	38.8	77.H	D
PFOA	56H	0.630	1.vH	7.7H	
PFOS	53.0	0.781	0.872	7.7H	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	112	60 - 150	D
IS	13C2-PFOA	86.H	60 - 150	
IS	13C8-PFOS	v0.H	60 - 150	

DL - Detecti4n limit

wL - wep4rting limit

LCL-UCL - L4Ger c4ntr4l limit - opper c4ntr4l limit

wesolts rep4rted t4 DL.

When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.

Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: WI-CV-GW04S-0317

Modified EPA Method 537

Client Data

Name: CH2M Hill
Project: NaRy Clean CO. -08
Date Collected: 01-Mar-2017 1T:25
Location: MW-0vS

Sample Data

Matrix: 9 roundGater
Sample Size: 03128 L

Laboratory Data

Lab Sample: 170024T-0T
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 14:10 Column: BEH C18
Date weceiRed: 0v-Mar-2017 4:v4
Date Extracted: 06-Mar-2017 8:15

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1375	T341	738T	
PF. A	ND	036T7	1345	738T	
PF. S	ND	03740	03874	738T	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PFBS	4837	60 - 150	
IS	1TC2-PF. A	8T32	60 - 150	
IS	1TC8-PF. S	4v38	60 - 150	

DL - Detection limit

wL - weporting limit

LCL-UCL - LoGer control limit - upper control limit

wesults reported to DL3

When reported, PFBS, PFHxS, PF. A and PF. S include both linear and branched isomers3

. nly the linear isomer is reported for all other analytes3

Sample ID: WI-CV-GW04SP-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
P ame:	C9 2M 9 ill	Matrix:	GruHndwater	Lab Sample:	170024o-0N	Date Received:	0N-Mar-2017 4:N4
j ruTect:	P avy Clean CO. -08	Sample Size:	03Io1 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Cullected:	01-Mar-2017 1o:o5			Date Analyzed:	06-Mar-17 14:2o CulHmn: BE9 C18		
Lucatiun:	MW-0NS						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j FBS	P D	137I	o382	736N	
j F. A	P D	0362I	1341	736N	
j F. S	P D	0377O	0385I	736N	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1oCo-j FBS	4o3I	60 - 150	
IS	1oC2-j F. A	8236	60 - 150	
IS	1oC8-j F. S	8438	60 - 150	

DL - Detectiun limit

RL - Repurting limit

LCL-UCL - Luwer cuntrul limit - Hpper cuntrul limit

ResHts repurted tu DL3

When repurted, j FBS, j F9 xS, j F. A and j F. S inclHde buth linear and branched isumers3

. nly the linear isumer is repurted fur all uther analytes3

Sample ID: WI-CV-GW02M-0317

Modified EPA Method 537

Client Data

P ame: CH2M Hill
j roTect: P aRy Clean CO. -08
Date Collected: 01-Mar-2017 14:55
Location: MW-02M

Sample Data

Matrix: 9 roundGater
Sample Size: 0312NL

Laboratory Data

Lab Sample: 17002N4-05 Date weceiRed: 0v-Mar-2017 NvN
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 20:14 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j FBS	P D	137v	4388	7376	
j F. A	P D	0364 1	13Nv	7376	
j F. S	P D	0378 4	0387 2	7376	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j FBS	N63v	60 - 150	
IS	14C2-j F. A	8630	60 - 150	
IS	14C8-j F. S	N630	60 - 150	

DL - Detection limit

wL - weporting limit

LCL-UCL - LoGer control limit - upper control limit

wesults reported to DL3

When reported, j FBS, j FHxS, j F. A and j F. S include both linear and branched isomers3

. nly the linear isomer is reported for all other analytes3

Sample ID: WI-CV-GW02D-1307

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Naw Clean CTO-08
Date C4llected: 01-Mar-2017 16:50
L4cati4n: MW-12D

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 0.126 L

Laboratory Data

Lab Sample: 17002v3-06 Date Geceiwed: 0R-Mar-2017 v:Rv
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 20:26 C4lomn: BEu C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.78	3.v7	7.v6	
PFOA	ND	0.6R8	1.v8	7.v6	
PFOS	ND	0.803	0.8v3	7.v6	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	88.v	60 - 150	
IS	13C2-PFOA	82.0	60 - 150	
IS	13C8-PFOS	8R.0	60 - 150	

DL - Detecti4n limit
GL - Gep4rting limit

LCL-UCL - L49 er c4ntr4l limit - opper c4ntr4l limit
Gesolts rep4rted t4 DL.
When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.
Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: Matrix Spike

Modified EPA Method 537

Source Client ID:	WI-CV-GW12D-0317				
Source LabNumber:	1700293-06	QC Batch:	B7C0017	Lab Sample:	B7C0017-MS1/B7C0017-MSD1
Matrix:	Aqueous	Date Extracted:	06-Mar-2017 8:15	Date Analyzed:	06-Mar-17 21:41 Column: BEH C18
Sample Size:	0.124/0.125 L				06-Mar-17 21:53 Column: BEH C18

Analyte	Spike-MS (ng/L)	MS %R	MS Qualifers	Spike-MSD (ng/L)	MSD %R	RPD	MSD Qualifers
PFBS	80.6	111		79.7	107	3.67	
PFOA	80.6	114		79.7	112	1.77	
PFOS	80.6	111		79.7	90.8	20.0	

	Labeled Standard	MS %R	MS Qualifers	MSD %R	MSD Qualifers
IS	13C3-PFBS	89.4		88.0	
IS	13C2-PFOA	83.9		83.0	
IS	13C8-PFOS	74.7		89.8	

Sample ID: WI-CV-EB09-030117

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
P ame:	CH2M Hill	Matrix:	9 roundGater	Lab Sample:	17002N4-07	Date weceiRed:	0v-Mar-2017 NvN
j roTect:	P aRy Clean CO. -08	Sample Size:	0315 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 1v:00			Date Analyzed:	06-Mar-17 20:48	Column:	BEH C18
Location:	EB-0N						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j WBS	P D	13Nv	v345	836N	
j W A	P D	03707	2317	836N	
j W S	P D	03877	03N78	836N	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j WBS	N038	60 - 150	
IS	14C2-j W A	8631	60 - 150	
IS	14C8-j W S	N535	60 - 150	

DL - Detection limit

wL - weportinF limit

LCL-g CL - LoGer control limit - upper control limit

weUultUreported to DL3

s hen reported, j WBS, j WHxS, j W A and j W S include both linear and branched iUomerU3

. nly the linear iUomer iUreported for all other analyteU3

Sample ID: WI-CV-GW08S-0317

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Nawy Clean CTO-08
Date C4llected: 02-Mar-2017 10:50
L4cati4n: MW-08S

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 0.130 L

Laboratory Data

Lab Sample: 17002v3-08
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 20:51 C4lomn: BEu C18
Date Geceiwed: 0R-Mar-2017 v:Rv
Date Extracted: 06-Mar-2017 8:15

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.72	3.85	7.71	
PFOA	ND	0.627	1.v2	7.71	
PFOS	ND	0.777	0.865	7.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C2-PFOA	v2.3	60 - 150	
IS	13C8-PFOS	76.v	60 - 150	

DL - Detecti4n limit

GL - Gep4rting limit

LCL-UCL - L49 er c4ntr4l limit - opper c4ntr4l limit

Gesolts rep4rted t4 DL.

When rep4rted, PFBS, PFu xS, PFOA and PFOS inclode b4th linear and branched is4mers.

Only the linear is4mer is rep4rted f4r all 4ther analytes.

Sample ID: WI-CV-FB01-030217

Modified EPA Method 537

Client Data

P ame:	CH2M Hill
j roTect:	P aRy Clean CO. -08
Date Collected:	02-Mar-2017 14:00
Location:	WB01

Sample Data

Matrix:	9 roundGater
Sample Size:	0311NL

Laboratory Data

Lab Sample:	17002N4-0N	Date weceiRed:	0v-Mar-2017 NvN
QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Analyzed:	06-Mar-17 21:04	Column: BEH C18	

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
j WBS	P D	1387	v320	8347	
j W A	P D	0368 1	2310	8347	
j W S	P D	038v5	03Nv5	8347	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	14C4-j WBS	104	60 - 150	
IS	14C2-j W A	853N	60 - 150	
IS	14C8-j W S	8v30	60 - 150	

DL - Detection limit

wL - weportinF limit

LCL-g CL - LoGer control limit - upper control limit

weUiltUreported to DL3

s hen reported, j WBS, j WHxS, j W A and j W S include both linear and branched iUomerU3

. nly the linear iUomer iUreported for all other analyteU3

Sample ID: WI-CV-EB10-030217

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Nawy Clean CO. -08
Date C4llected: 02-Mar-2017 1T:15
L4cati4n: EB10

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 03OvT0 L

Laboratory Data

Lab Sample: 17002vT-10 Date Geceiwed: 0R-Mar-2017 v:Rv
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 21:16 C4lomn: BEu C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PWBS	ND	23R1	53I8	1038	
PW A	ND	0387 5	236v	1038	
PW S	ND	1308	1321	1038	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PWBS	105	60 - 150	
IS	1TC2-PW A	v23R	60 - 150	
IS	1TC8-PW S	v730	60 - 150	

DL - Detecti4n limit
GL - Gep4rtinF limit

LCL-g CL - L49 er c4ntr4l limit - opper c4ntr4l limit
GeLolltUrep4rted t4 DL3
s hen rep4rted, PWBS, PWu xS, PW A and PW S inclode b4th linear and branched iU4merU3
. nly the linear iU4mer iUrep4rted f4r all 4ther analyteU3

Sample ID: WI-CV-EB11-030217

Modified EPA Method 537

Client Data

Name: Cu 2M u ill
Pr4ject: Nawy Clean CO. -08
Date C4llected: 02-Mar-2017 1T:T0
L4cati4n: EB11

Sample Data

Matrix: Hr4ond9 ater
Sample Size: 03l18 L

Laboratory Data

Lab Sample: 17002vT-11
QC Batch: B7C0017
Date Analyzed: 06-Mar-17 21:28
Date Geceiwed: 0R-Mar-2017 v:Rv
Date Extracted: 06-Mar-2017 8:15
C4lomn: BEu C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PWBS	ND	138v	R32R	83R6	
PW A	ND	0368v	23l2	83R6	
PW S	ND	0385R	03v5T	83R6	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	1TCT-PWBS	10T	60 - 150	
IS	1TC2-PW A	8530	60 - 150	
IS	1TC8-PW S	v735	60 - 150	

DL - Detecti4n limit
GL - Gep4rtinF limit
LCL-g CL - L49 er c4ntr4l limit - opper c4ntr4l limit
GeLolltUrep4rted t4 DL3
s hen rep4rted, PWBS, PWu xS, PW A and PW S inclode b4th linear and branched iU4merU3
. nly the linear iU4mer iUrep4rted f4r all 4ther analyteU3

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The associated compound concentration exceeded the calibration range of the instrument.**
H	**Recovery and/or RPD was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Reporting Limit/LOQ.**
M	**Estimated Maximum Possible Concentration. (CA Region 2 projects only)**
*****	**See Cover Letter**
Conc.	**Concentration**
NA	**Not applicable**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

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

CERTIFICATIONS

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

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

NELAP Accredited Test Methods

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

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

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

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

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

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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Laboratory Project ID: 1700293 Temp: -0.7 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: Navy CLEAN CTO-08 P.O.#: 10006-7-106051 / 679580.09.FI.WS Sampler: B. Prentice, E. Bilyeu, K. Witmer (name)

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

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

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Brittany Prentice BP	3/3/2017	15:11	Brittany Benedict B. Benedict	03/04/17	1001
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Sample Receiving

Method of Shipment: FedEx

Tracking No.:

Add Analysis(es) Requested

Container(s)

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	EPA 1613: 2378-TCDD	EPA 1613: 2378 TCDD/TCDF	EPA 1613: PCDD/PCDF	EPA 8290: 2378-TCDD	EPA 8290: 2378-TCDD/TCDF	EPA 8290: PCDD/PCDF	EPA 8280: 2378-TCDD	EPA 8280: 2378 TCDD/TCDF	EPA 8280: PCDD/PCDF	EPA 1668: TOTALS	EPA 1668: COPLANAR PCB's	EPA 1668: 209 CONGENERS	EPA 1668: PBDE	EPA 1668: PAH	EPA 1614: WHO-29	CARB429: Mod. EPA 537	Comments
WI-CV-GW025-0317	3/1/2017	11:00	MW-025	2	O	GW															X		
WI-CV-GW025SP-0317	3/1/2017	11:05	MW-025	2	O	GW															X		
WI-CV-GW045-0317	3/1/2017	13:25	MW-045	2	O	GW															X		
WI-CV-GW045SP-0317	3/1/2017	1335	MW-045	2	O	GW															X		
WI-CV-GW02M-0317	3/1/2017	13:55	MW-02M	2	O	GW															X		
WI-CV-GW12D-0317	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-GW12D-0317-MS	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-GW12D-0317-SD	3/1/2017	16:50	MW-12D	2	O	GW															X		
WI-CV-EB09-030117	3/1/2017	14:00	EB-09	2	O	GW															X		
WI-CV-GW085-0317	3/2/2017	10:50	MW-085	2	O	GW															X		

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M
Address: 1100 NE Circle Blvd
City: Corvallis State: OR Zip: 97330
Phone: Fax:
Email: Tiffany.Hill@ch2m.com

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

Bottle Preservation Type: T = Thiosulfate, O = Other: <6°C

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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Laboratory Project ID: 1700293 Temp: -0.7 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: Navy CLEAN CTO-08 P.O.#: 10006-7-106051 Sampler: B Prentice E. Bilyeu M. Withers (name)

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

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

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Brittany Prentice BP	3/3/2017	1511	B. Benedict B. Benedict	03/04/17	1001
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Sample Receiving

Method of Shipment: Fed Ex

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 1668 PCDD/PCDF	EPA 1668 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1668 PBDE	EPA 1668 PAH	EPA 1614 WHO-29	CARB429 Mod. EPA 537	Comments
WI-CV-FB01-030217	3/2/2017	1300	FB01	2	O	O															X		
WI-CV-EB10-030217	3/2/2017	1315	EB10	2	O	O															X		
WI-CV-EB11-030217	3/2/2017	1330	EB11	2	O	O																	

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2M
Address: 1100 NE Circle Blvd
City: Corvallis State: OR Zip: 97330
Phone: Fax:
Email: Tiffany.Hill@ch2m.com

Container Types: A = 1 Liter Amber, G = Glass Jar, P = HDPE, 125 ml HDPE

Bottle Preservation Type: T = Thiosulfate, TZ = Trizma: <6°C

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

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1700293 **TAT** 7

Samples Arrival:	**Date/Time** 03/04/17 0949	**Initials:** YBB	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 03/04/17 1011	**Initials:** YBB	**Location:** WR-2 **Shelf/Rack:** E5

Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C: 0.0 (uncorrected)	**Time:**					
Temp °C: −0.7 (corrected)	**Probe used:** Yes☑ No☐				**Thermometer ID:** ~~IR-1~~ YBB DT-3	

	YES	NO	NA
Adequate Sample Volume Received? A/B MS/MSD	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill Trk # 7785 7280 8447	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	

If Chlorinated or Drinking Water Samples, Acceptable Preservation?						✓
Preservation Documented:	$Na_2S_2O_3$	Trizma			Yes	No NA
Shipping Container	Vista	Client	Retain	Return	Dispose	

Comments:

EXTRACTION INFORMATION

RUSH

Process Sheet

Workorder: 1700293

Prep Expiration: 2017-Mar-15
Client: CH2M Hill

Workorder Due: 11-Mar-17 00:00

TAT: 7

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

Prep Batch: B7C0017

Prep Data Entered: BP 3.7.17
Date and Initials

Version: PFOA, PFOS, PFBS

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700293-01	☑	WI-CV-GW02S-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-02	☑	WI-CV-GW02S/SP-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-03	☑	WI-CV-GW04S-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-04	☑	WI-CV-GW04S/SP-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-05	☑	WI-CV-GW02M-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-06	☑	WI-CV-GW12D-0317	04-Mar-17 09:49	WR-2 E-5	**MS/MSD**
1700293-07	☑	WI-CV-EB09-030117	04-Mar-17 09:49	WR-2 E-5	
1700293-08	☑	WI-CV-GW08S-0317	04-Mar-17 09:49	WR-2 E-5	
1700293-09	☑	WI-CV-FB01-030217	04-Mar-17 09:49	WR-2 E-5	
1700293-10	☑	WI-CV-EB10-030217	04-Mar-17 09:49	WR-2 E-5	
1700293-11	☑	WI-CV-EB11-030217	04-Mar-17 09:49	WR-2 E-5	

Vista PM:Martha Maier

Vial Box ID: The Duke

Sample Reconciled By: B. Parker 3/6/17

Percent Solids

Vista Analytical Laboratory

Project: B7C0017 *Balance ID:* NA

Sample ID	Chemist: NA Date: Time: Boat Wt.	Sample + Boat Wt.	Chemist: NA Date: Time: Residue + Boat Wt.	Chemist/Date BP 3.6.17 pH before	pH* after	Cl
1700293-01 (A)				7	2	0
-02 (A)				7	2	0
-03 (A)				7	2	0
-04 (A)				7	2	0
-05 (A)				7	2	0
-06 A (B)				7	2	0
-06 B (A)				7	2	0
-06-C (B)				7	2	0
-07 (A) (C)				5	2	0
-08 (A)				7	2	0
-09 (B) (C) BP 3-6-17				5	2	0
-10 (C)				5	2	0
-11 (C)			BP 3.6.17	5	2	0

Procedure:

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

Notes:

(A) Added 3 drops HCl to adjust pH to 2
(B) Added 4 drops HCl to adjust pH to 2 BP 3.6.17
(C) Added 2 drops HCl to adjust pH to 2

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

%Solids rmh 5/2011

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DOD (LOO as mRL)

B7C0017

Chemist: E. Schnarde

Prep Date/Time: 06-Mar-17 08:15

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE E7C0030	RS CHEM/WIT DATE
☐	B7C0017-BLK1	NA	NA	(0.125)	ES BP 3/6/17	BP 3.6.17	ES BP 3/6/17
☐	B7C0017-BS1	↓	↓	↓			
☐	B7C0017-MS1 1700293-06 Ⓐ	150.92	26.84	0.12408			
☐	B7C0017-MSD1 1700293-06	153.07	27.67	0.12540			
☐	1700293-01	158.17	27.11	0.13106			
☐	1700293-02	156.20	27.08	0.12912			
☐	1700293-03	154.78	27.02	0.12776			
☐	1700293-04	157.96	26.99	0.13097			
☐	1700293-05	155.92	27.02	0.12890			
☐	1700293-06	152.36	26.71	0.12565			
☐	1700293-07	141.81	26.74	0.11507			
☐	1700293-08	156.74	26.96	0.12978			
☐	1700293-09	146.36	26.94	0.11942			
☐	1700293-10	119.71	26.72	0.09299			
☐	1700293-11	144.91	26.73	0.11818			

Ⓐ centrifuged to remove gelatinous substance BP 3.6.17

IS Name	NS Name	RS Name		
(V3) 16L1920, 10uL	(V1) 16I2905, 10uL	(V4) 17A1201, 10uL	SPE Chem: Strata X-AW 33um 200mg/6mL Ele SOLV: 0.5% NH4OH in 5:95 H2O / MeOH Final Volume(s): 1mL	Check Out: Chemist/Date: BP 3.6.17 Check In: Chemist/Date: NA Balance ID: HRMS-8

Comments: Assume 1 g = 1 mL

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-10.qld

Last Altered: Tuesday, March 07, 2017 10:59:37 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:59:48 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: B7C0017-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170306G1_10, Date: 06-Mar-2017, Time: 17:17:56

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.309e0	6.086e3		0.125	2.97		
2	4	PFOA	413 > 368.7	2.102e2	2.394e4		0.125	4.27		
3	6	PFOS	499 >79.9		6.807e3		0.125			
4	7	13C3-PFBS	302.0 > 98.8	6.086e3	1.271e4	0.410	0.125	2.98	117	117
5	8	13C4-PFHpA	367.2 > 321.8	1.417e4	1.271e4	1.098	0.125	3.87	102	102
6	9	18O2-PFHxS	403 > 102.6	5.539e3	1.271e4	0.434	0.125	3.99	100	100
7	10	13C2-PFOA	414.9 > 369.7	2.394e4	6.330e3	4.608	0.125	4.27	82.1	82.1
8	11	13C5-PFNA	468.2 > 422.9	6.128e3	8.425e3	0.867	0.125	4.60	83.9	83.9
9	12	13C8-PFOS	507.0 > 79.9	6.807e3	6.861e3	0.958	0.125	4.67	104	104
10	13	13C5-PFHxA	318>272.9	2.929e4	2.929e4	1.000	0.125	3.35	100	100
11	14	13C3-PFHxS	401.9 > 79.9	1.271e4	1.271e4	1.000	0.125	3.99	100	100
12	15	13C8-PFOA	421.3 > 376	6.330e3	6.330e3	1.000	0.125	4.27	100	100
13	16	13C9-PFNA	472.2 > 426.9	8.425e3	8.425e3	1.000	0.125	4.60	100	100
14	17	13C4-PFOS	503.0 > 79.9	6.861e3	6.861e3	1.000	0.125	4.67	100	100
15	18	Total PFBS	299 > 79.7		5.539e3		0.125			
16	20	Total PFOA	413 > 368.7		2.394e4		0.125			
17	21	Total PFOS	499 > 79.9		6.807e3		0.125			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

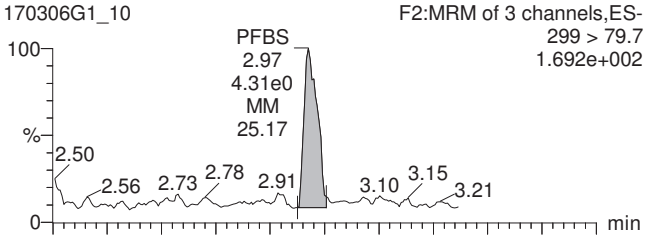
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-10.qld

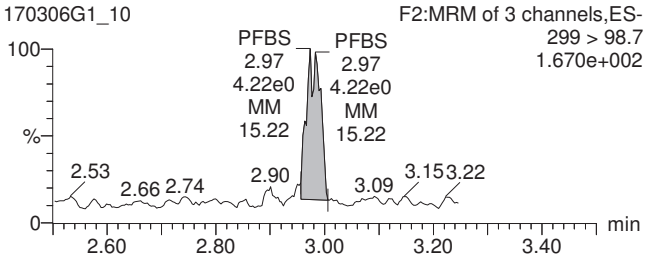
Last Altered: Tuesday, March 07, 2017 10:59:37 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:59:48 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

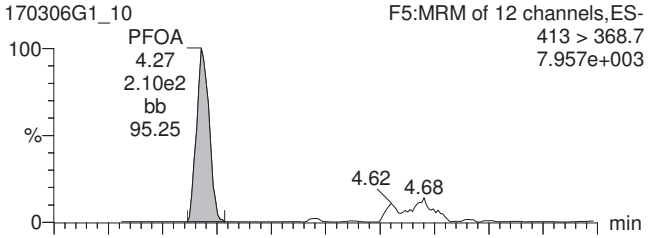
ID: B7C0017-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170306G1_10, Date: 06-Mar-2017, Time: 17:17:56, Instrument: , Lab: , User:

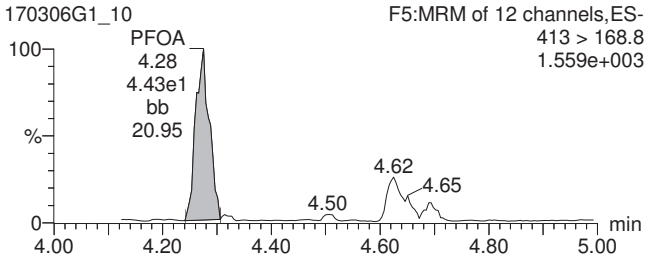
Total PFBS



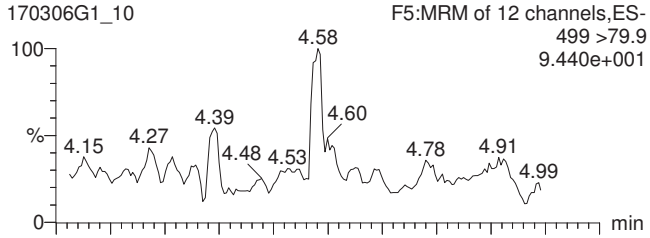


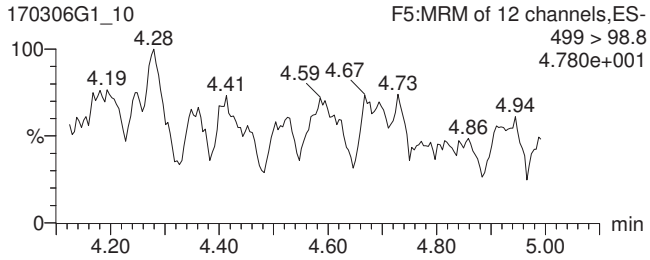
Total PFOA



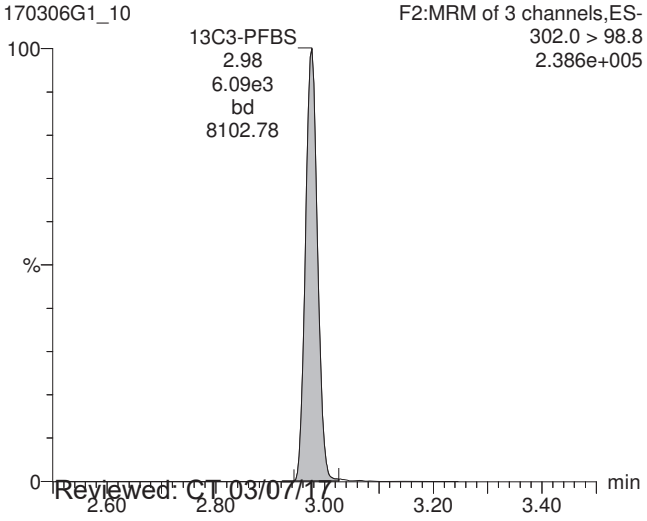


Total PFOS

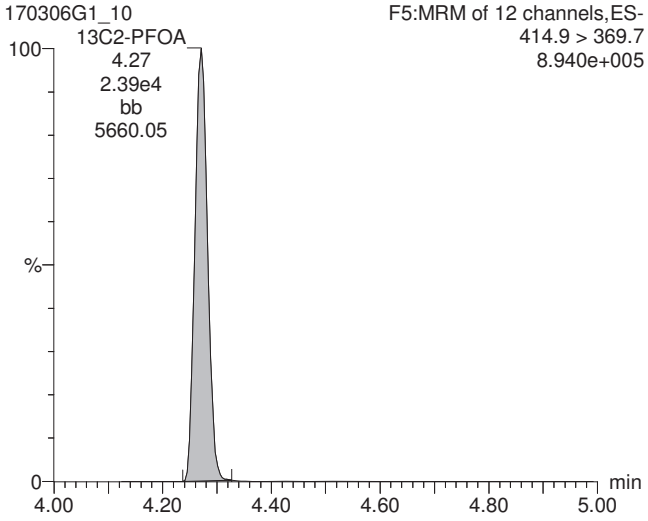




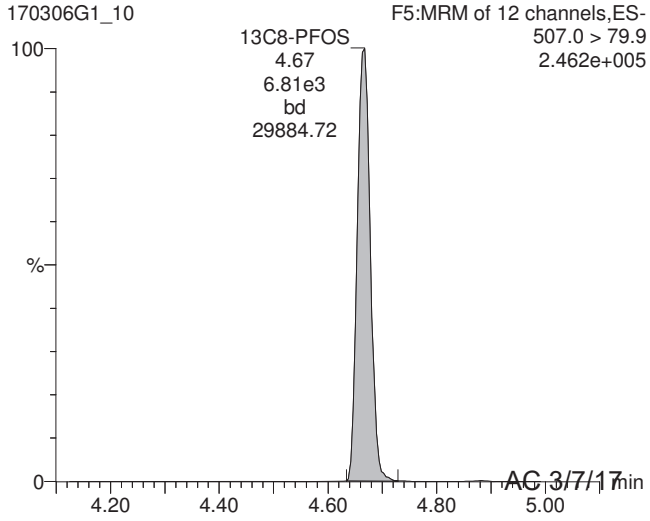
13C3-PFBS



13C2-PFOA



13C8-PFOS



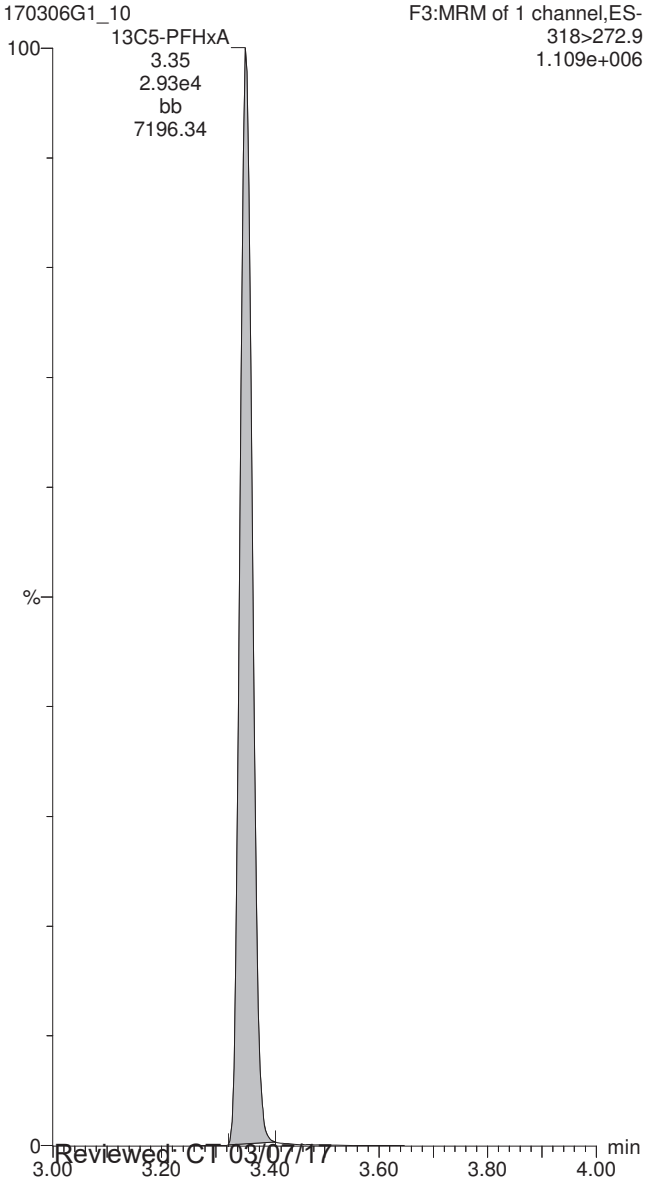
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-10.qld

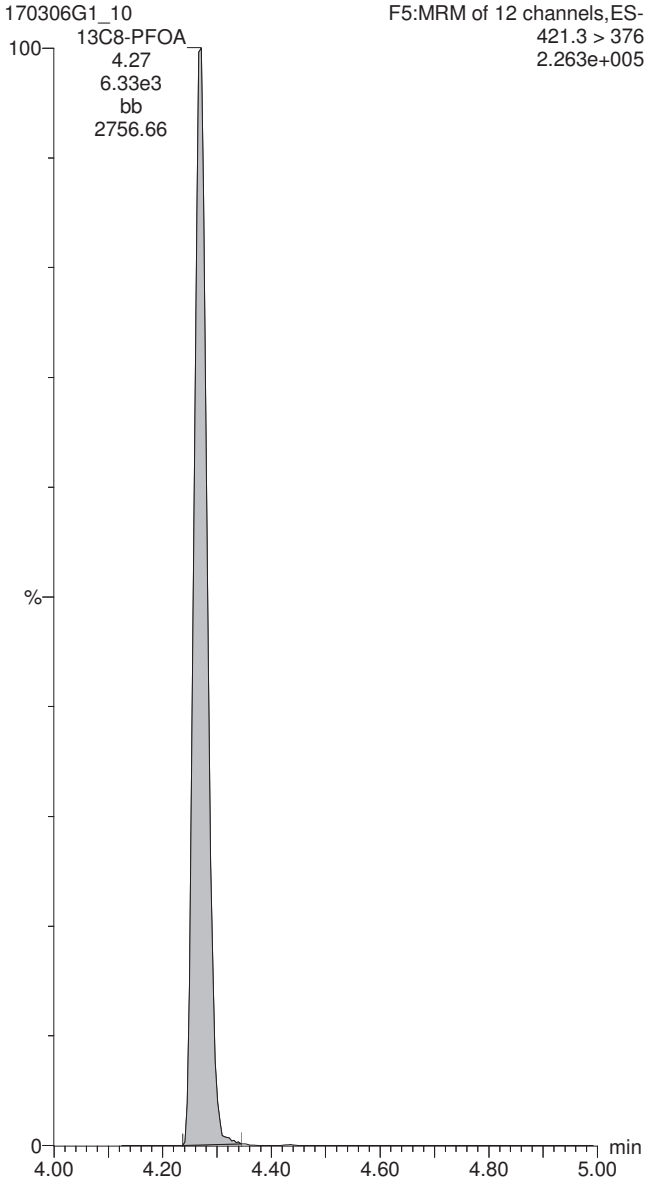
Last Altered: Tuesday, March 07, 2017 10:59:37 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:59:48 AM Pacific Standard Time

ID: B7C0017-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170306G1_10, Date: 06-Mar-2017, Time: 17:17:56, Instrument: , Lab: , User:

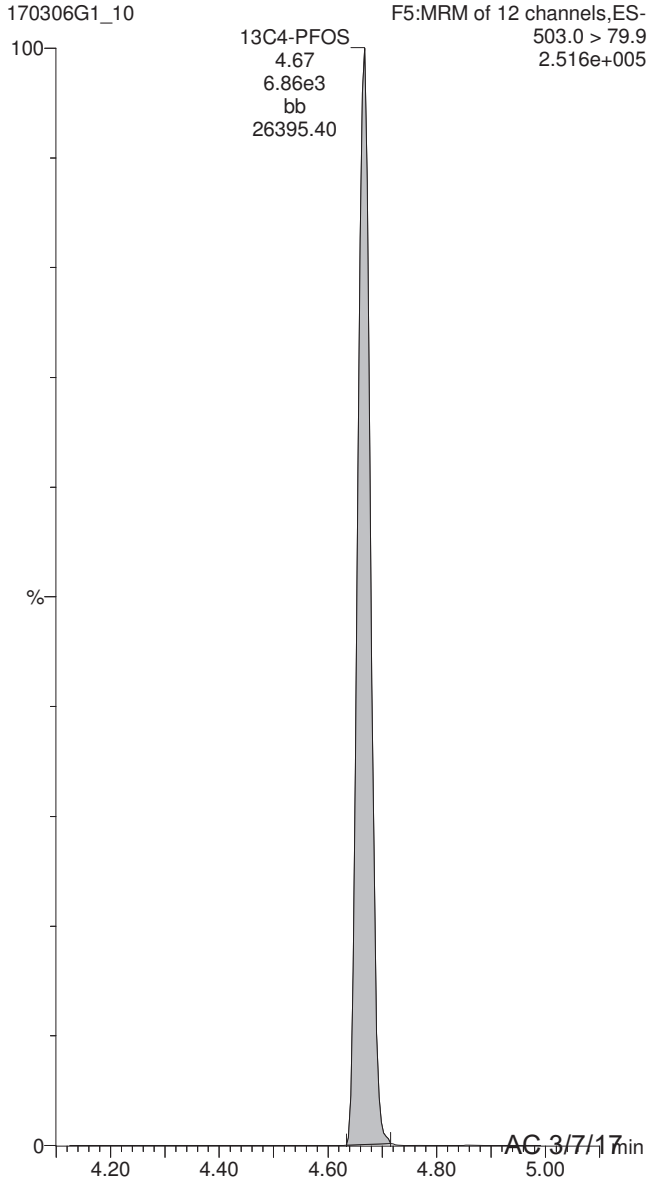
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-6.qld

Last Altered: Tuesday, March 07, 2017 10:54:44 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:56:07 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: B7C0017-BS1 OPR 0.125, Description: OPR, Name: 170306G1_6, Date: 06-Mar-2017, Time: 16:27:44

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.084e4	5.394e3		0.125	3.05	84.2	105
2	4	PFOA	413 > 368.7	1.772e4	2.616e4		0.125	4.32	83.5	104
3	6	PFOS	499 >79.9	2.263e3	6.031e3		0.125	4.70	70.4	88.0
4	7	13C3-PFBS	302.0 > 98.8	5.394e3	1.242e4	0.410	0.125	3.05	106	106
5	8	13C4-PFHpA	367.2 > 321.8	1.426e4	1.242e4	1.098	0.125	3.93	105	105
6	9	18O2-PFHxS	403 > 102.6	5.249e3	1.242e4	0.434	0.125	4.04	97.3	97.3
7	10	13C2-PFOA	414.9 > 369.7	2.616e4	6.394e3	4.608	0.125	4.32	88.8	88.8
8	11	13C5-PFNA	468.2 > 422.9	5.699e3	8.095e3	0.867	0.125	4.64	81.2	81.2
9	12	13C8-PFOS	507.0 > 79.9	6.031e3	6.852e3	0.958	0.125	4.70	91.8	91.8
10	13	13C5-PFHxA	318>272.9	2.591e4	2.591e4	1.000	0.125	3.43	100	100
11	14	13C3-PFHxS	401.9 > 79.9	1.242e4	1.242e4	1.000	0.125	4.04	100	100
12	15	13C8-PFOA	421.3 > 376	6.394e3	6.394e3	1.000	0.125	4.32	100	100
13	16	13C9-PFNA	472.2 > 426.9	8.095e3	8.095e3	1.000	0.125	4.64	100	100
14	17	13C4-PFOS	503.0 > 79.9	6.852e3	6.852e3	1.000	0.125	4.70	100	100
15	18	Total PFBS	299 > 79.7		5.249e3		0.125		84.2	
16	20	Total PFOA	413 > 368.7		2.616e4		0.125		83.5	
17	21	Total PFOS	499 > 79.9		6.031e3		0.125		70.4	

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

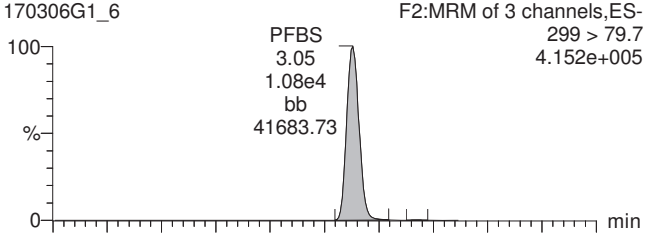
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-6.qld

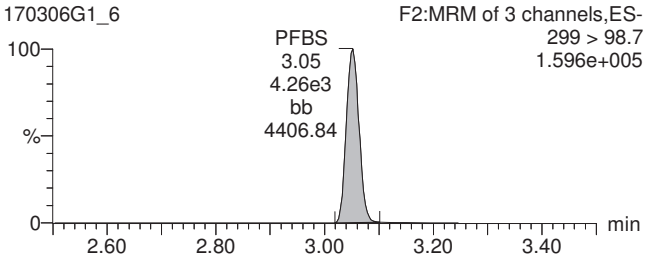
Last Altered: Tuesday, March 07, 2017 10:54:44 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:56:07 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

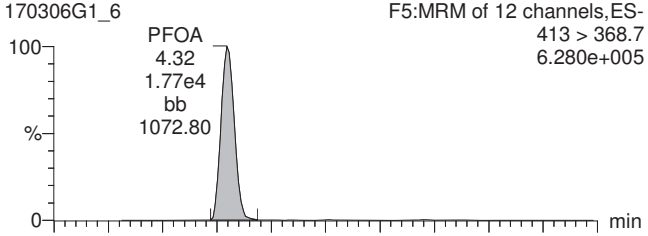
ID: B7C0017-BS1 OPR 0.125, Description: OPR, Name: 170306G1_6, Date: 06-Mar-2017, Time: 16:27:44, Instrument: , Lab: , User:

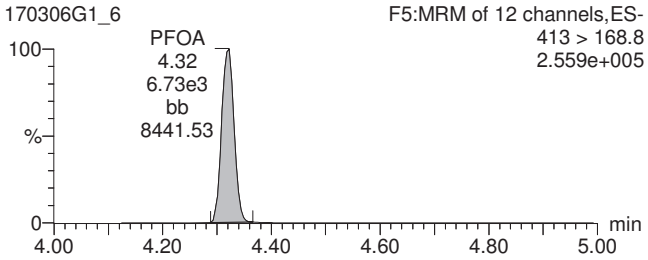
Total PFBS



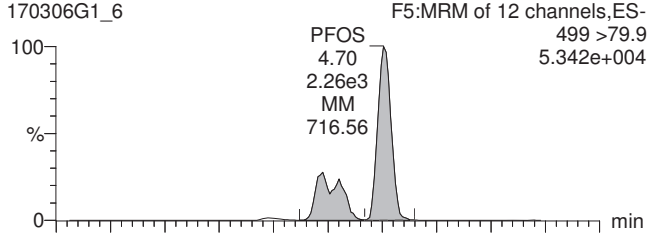


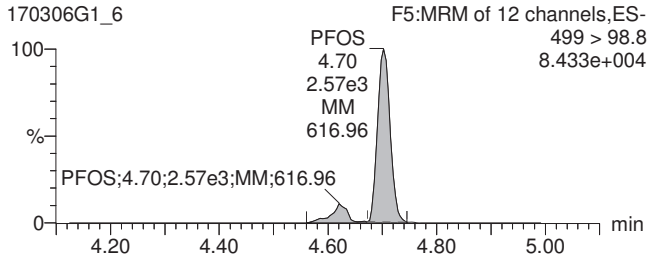
Total PFOA



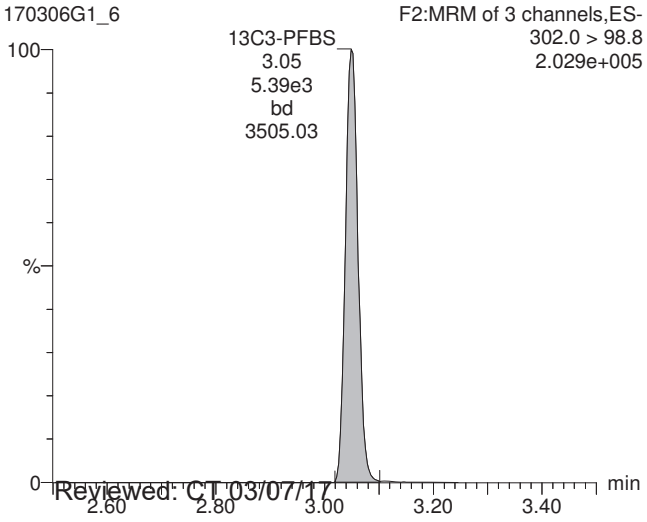


Total PFOS

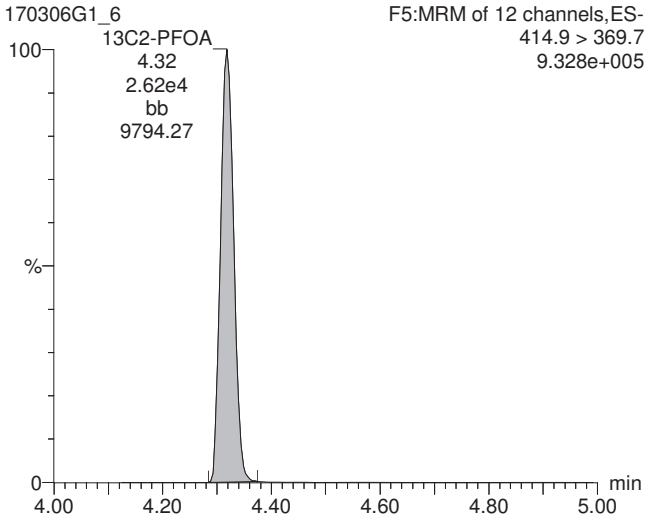




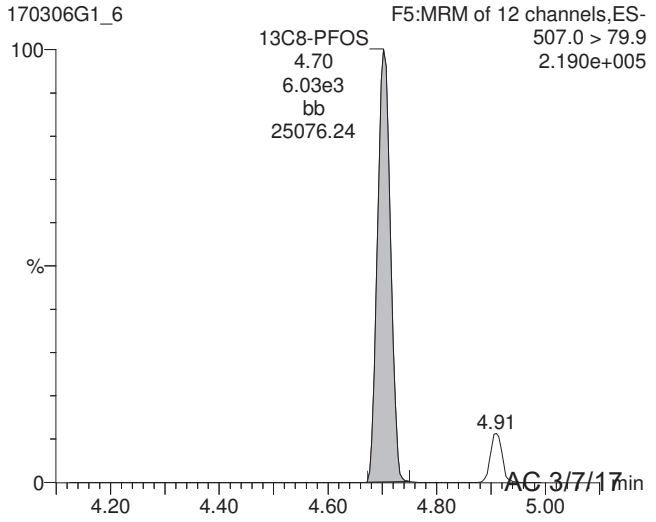
13C3-PFBS



13C2-PFOA



13C8-PFOS



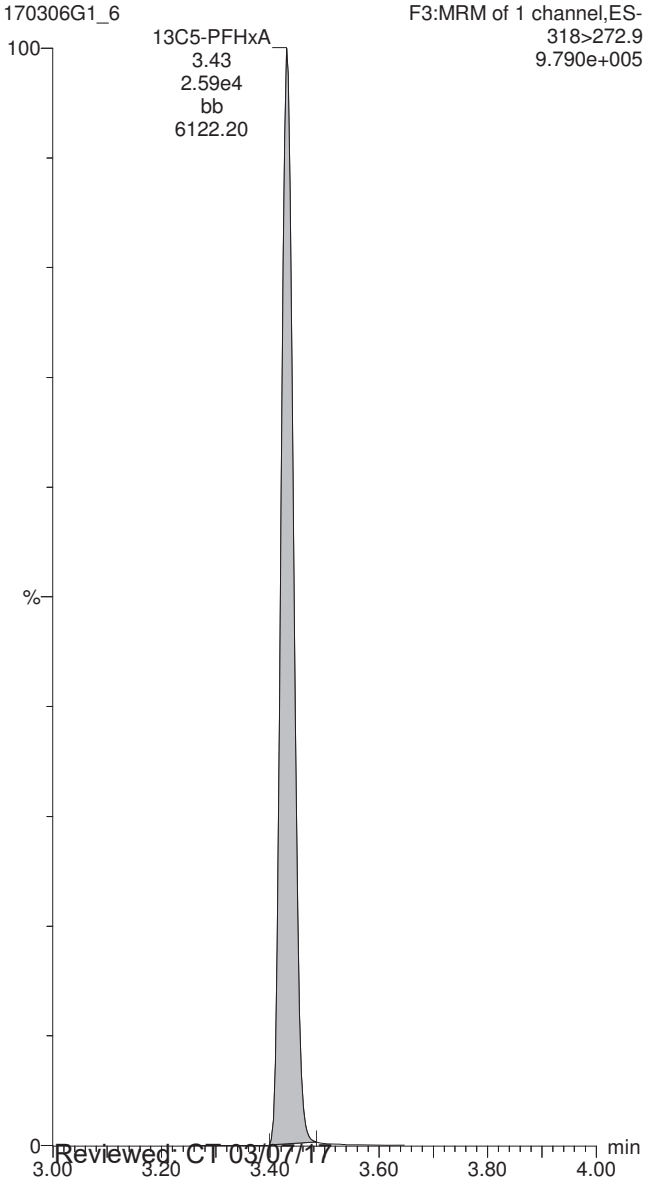
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-6.qld

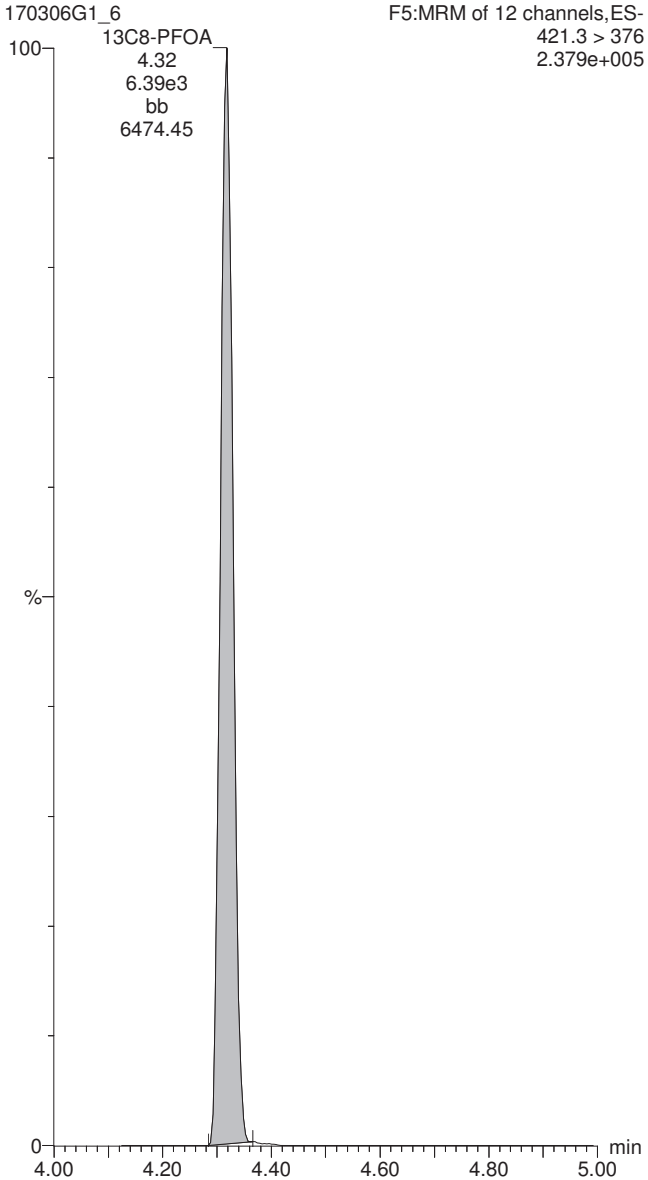
Last Altered: Tuesday, March 07, 2017 10:54:44 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:56:07 AM Pacific Standard Time

ID: B7C0017-BS1 OPR 0.125, Description: OPR, Name: 170306G1_6, Date: 06-Mar-2017, Time: 16:27:44, Instrument: , Lab: , User:

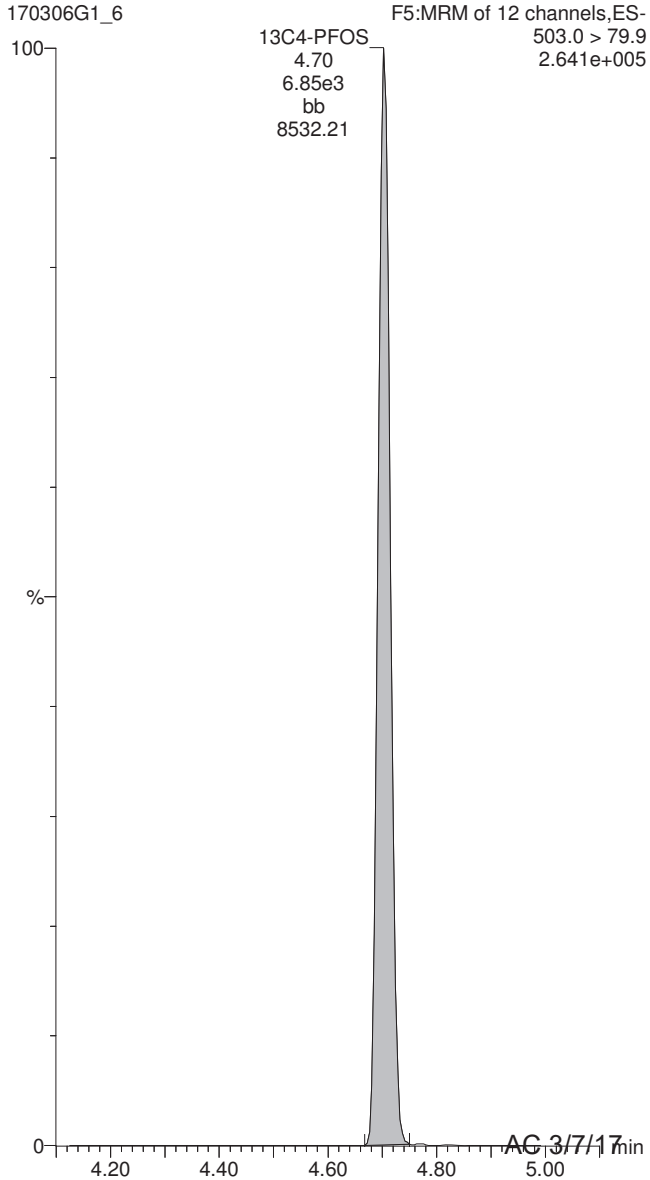
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-17.qld

Last Altered: Tuesday, March 07, 2017 11:10:30 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:10:48 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-01 WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170306G1_17, Date: 06-Mar-2017, Time: 18:45:44

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	1	PFBS	299 > 79.7	4.430e4	4.898e3		0.131	2.98	362		*
2	4	PFOA	413 > 368.7	9.116e4	2.464e4		0.131	4.27	443		
3	6	PFOS	499 >79.9	2.638e3	8.655e3		0.131	4.45	54.7		
4	7	13C3-PFBS	302.0 > 98.8	4.898e3	7.756e3	0.410	0.131	2.97	147	154	*
5	8	13C4-PFHpA	367.2 > 321.8	1.241e4	7.756e3	1.098	0.131	3.87	139	146	
6	9	18O2-PFHxS	403 > 102.6	3.204e3	7.756e3	0.434	0.131	3.98	90.7	95.1	
7	10	13C2-PFOA	414.9 > 369.7	2.464e4	6.799e3	4.608	0.131	4.27	75.0	78.6	
8	11	13C5-PFNA	468.2 > 422.9	7.150e3	9.347e3	0.867	0.131	4.61	84.1	88.2	
9	12	13C8-PFOS	507.0 > 79.9	8.655e3	9.612e3	0.958	0.131	4.67	89.6	94.0	
10	13	13C5-PFHxA	318>272.9	2.090e4	2.090e4	1.000	0.131	3.35	95.4	100	
11	14	13C3-PFHxS	401.9 > 79.9	7.756e3	7.756e3	1.000	0.131	3.98	95.4	100	
12	15	13C8-PFOA	421.3 > 376	6.799e3	6.799e3	1.000	0.131	4.27	95.4	100	
13	16	13C9-PFNA	472.2 > 426.9	9.347e3	9.347e3	1.000	0.131	4.60	95.4	100	
14	17	13C4-PFOS	503.0 > 79.9	9.612e3	9.612e3	1.000	0.131	4.67	95.4	100	
15	18	Total PFBS	299 > 79.7		3.204e3		0.131		375		
16	20	Total PFOA	413 > 368.7		2.464e4		0.131		571		
17	21	Total PFOS	499 > 79.9		8.655e3		0.131		54.7		

*See dilution

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-17.qld

Last Altered: Tuesday, March 07, 2017 11:10:30 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:10:48 AM Pacific Standard Time

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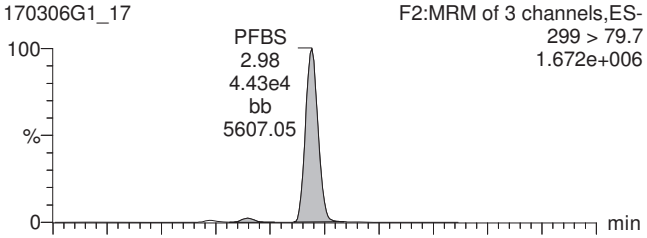
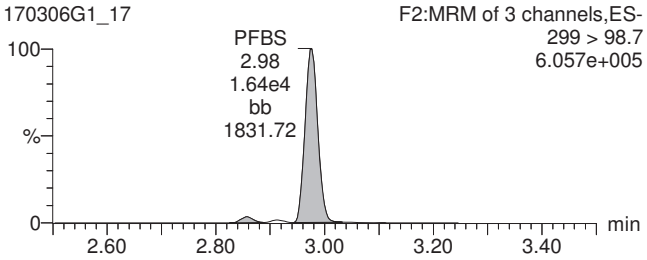
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

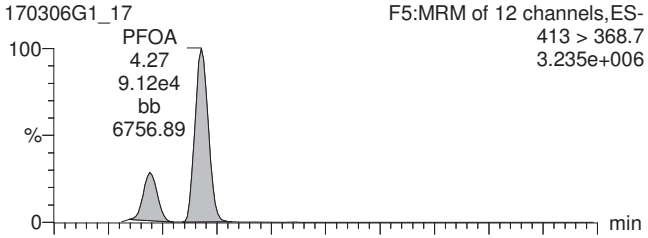
ID: 1700293-01 WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170306G1_17, Date: 06-Mar-2017, Time: 18:45:44, Instrument: , Lab: , User:

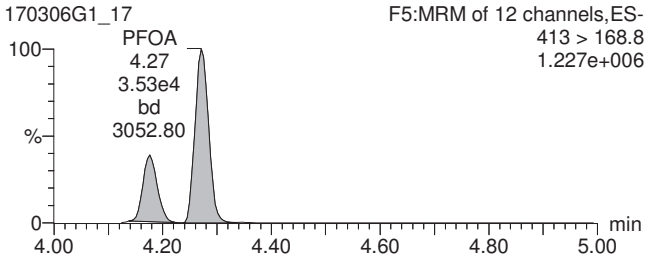
Total PFBS



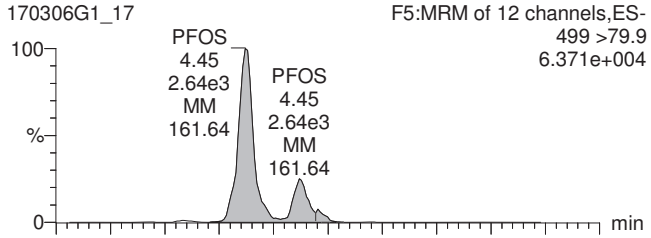


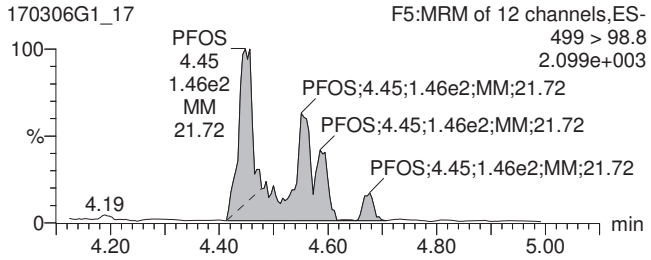
Total PFOA



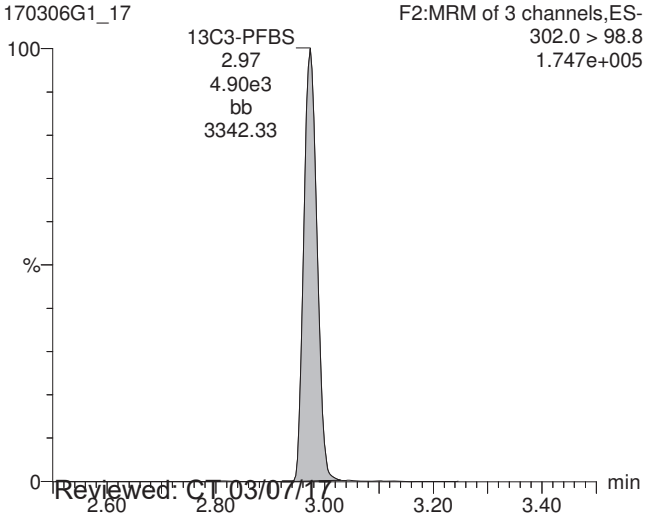


Total PFOS

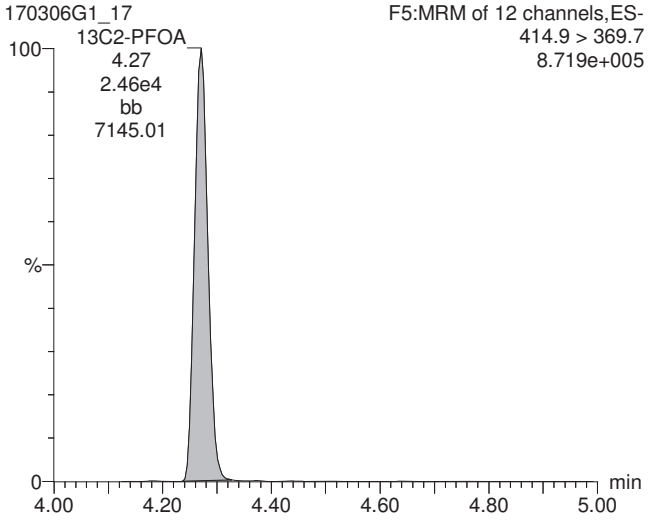




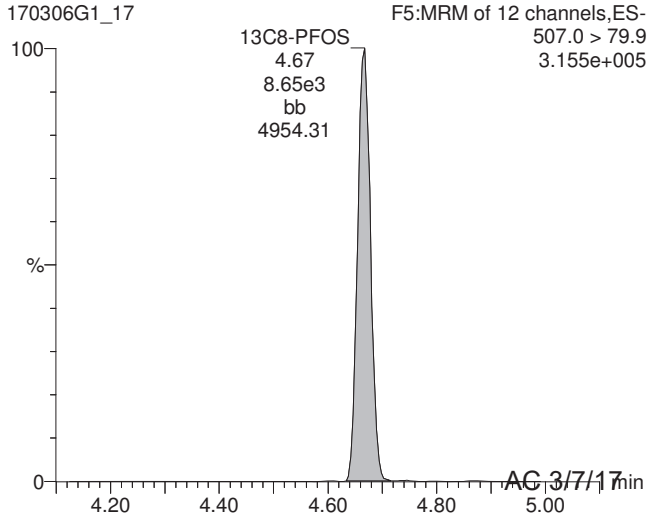
13C3-PFBS



13C2-PFOA



13C8-PFOS



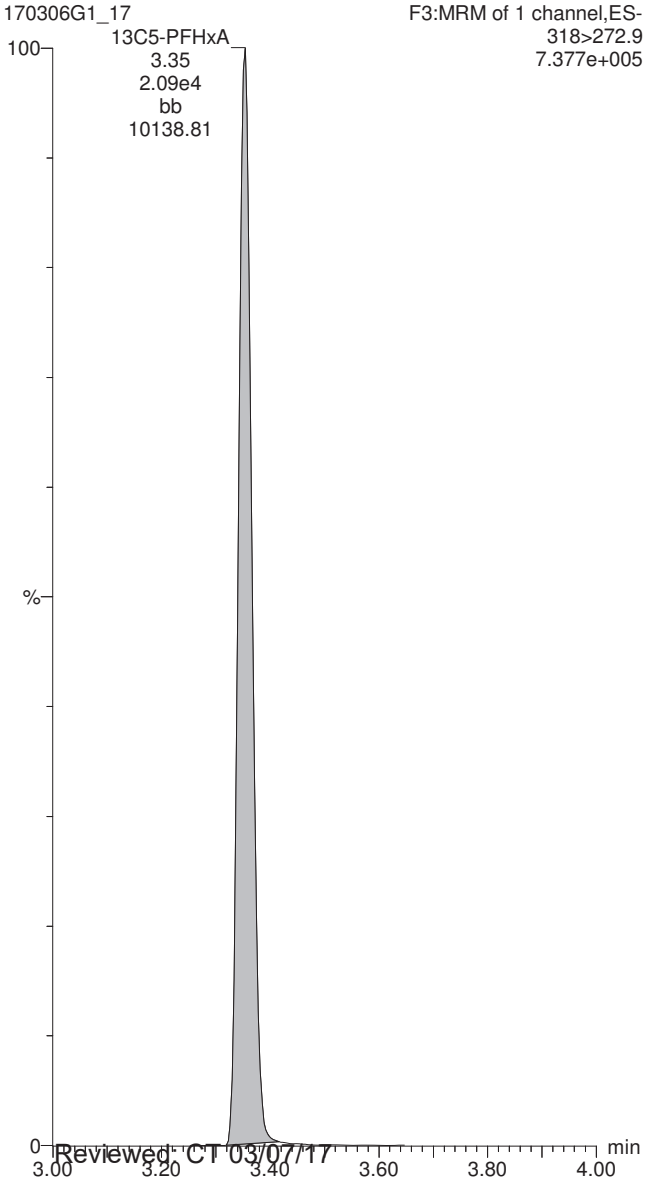
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-17.qld

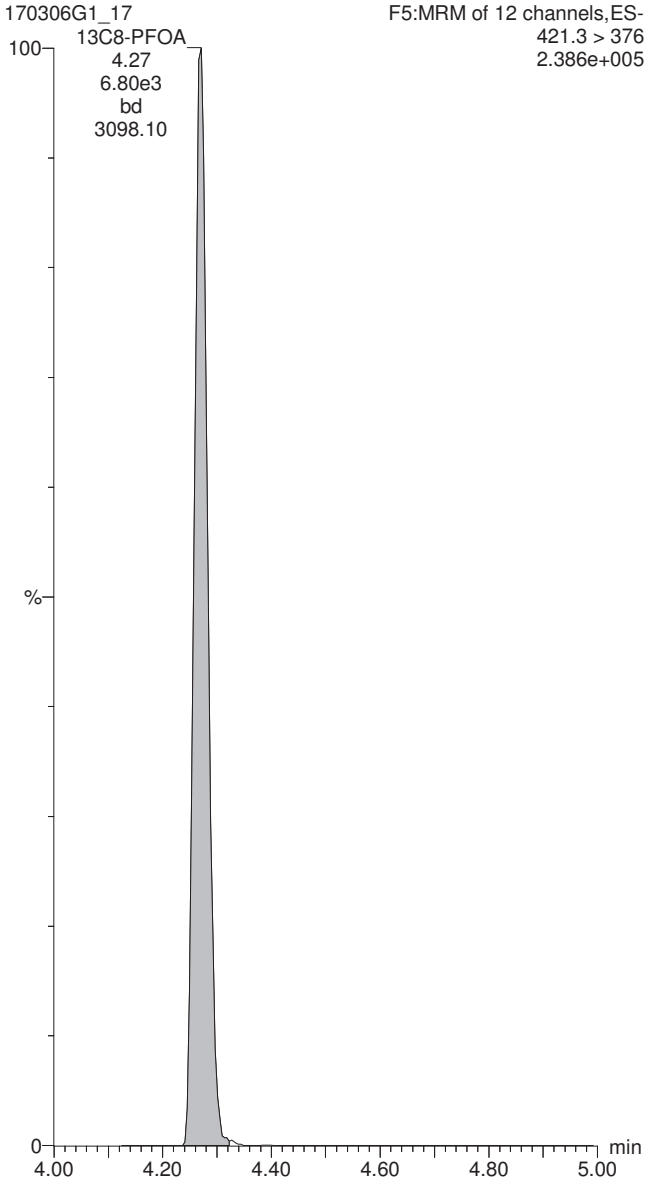
Last Altered: Tuesday, March 07, 2017 11:10:30 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:10:48 AM Pacific Standard Time

ID: 1700293-01 WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170306G1_17, Date: 06-Mar-2017, Time: 18:45:44, Instrument: , Lab: , User:

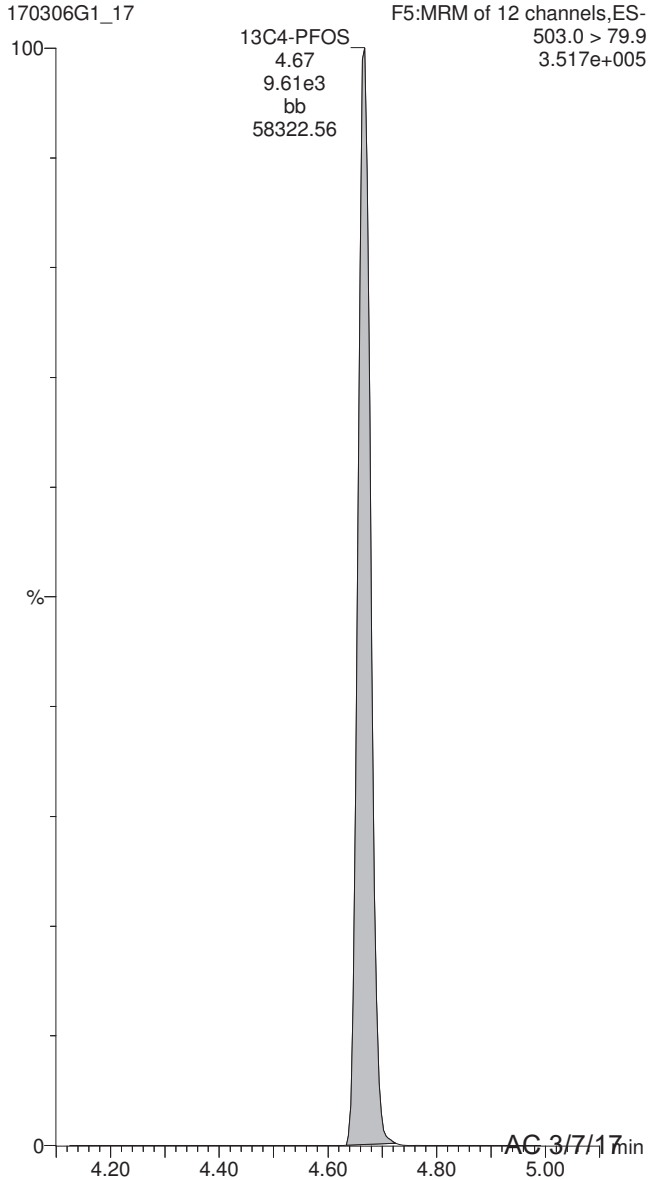
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-5.qld

Last Altered: Tuesday, March 07, 2017 1:38:05 PM Pacific Standard Time
Printed: Tuesday, March 07, 2017 1:42:23 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-01@10X WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170307G1_5, Date: 07-Mar-2017, Time: 09:51:58

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.243e3	6.462e2		0.131	2.99	325	
2	7	13C3-PFBS	302.0 > 98.8	6.462e2	1.402e3	0.410	0.131	2.99	107	112
3	14	13C3-PFHxS	401.9 > 79.9	1.402e3	1.402e3	1.000	0.131	3.99	95.4	100
4	18	Total PFBS	299 > 79.7		5.616e2		0.131		332	

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

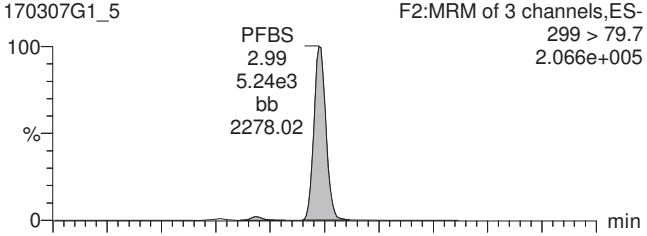
Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-5.qld

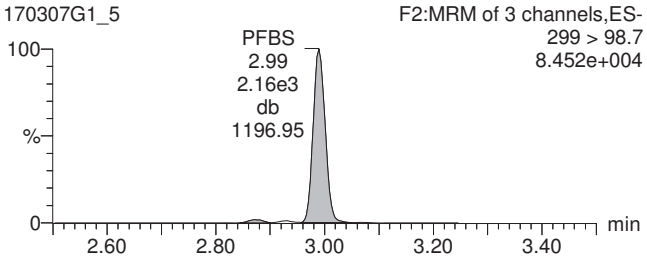
Last Altered: Tuesday, March 07, 2017 1:38:05 PM Pacific Standard Time
Printed: Tuesday, March 07, 2017 1:42:23 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

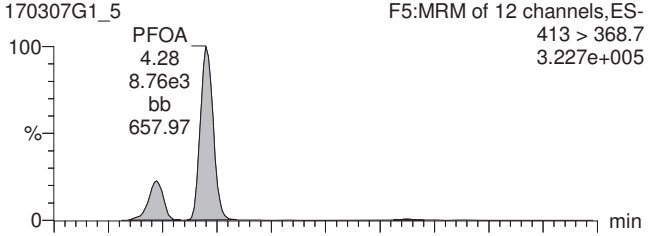
ID: 1700293-01@10X WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170307G1_5, Date: 07-Mar-2017, Time: 09:51:58, Instrument: , Lab: , User:

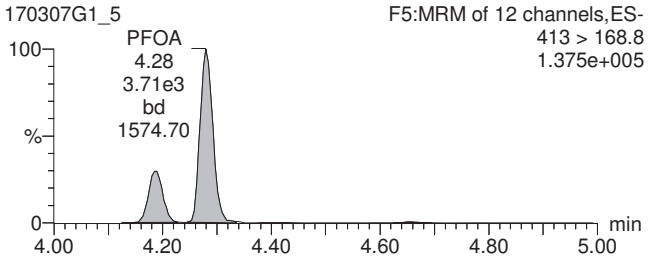
Total PFBS



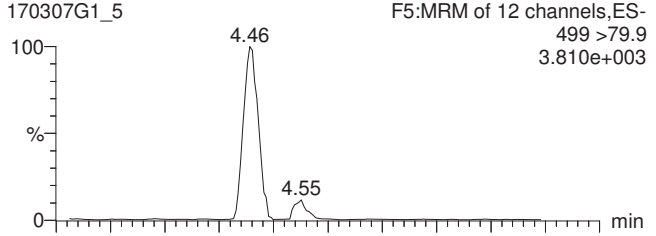


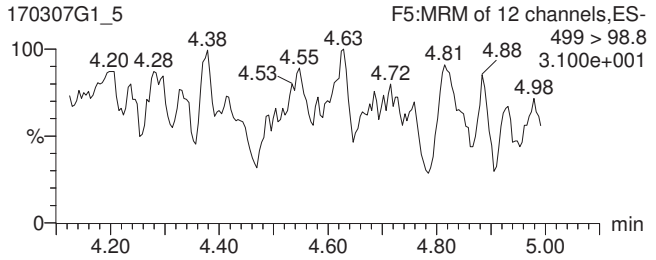
Total PFOA



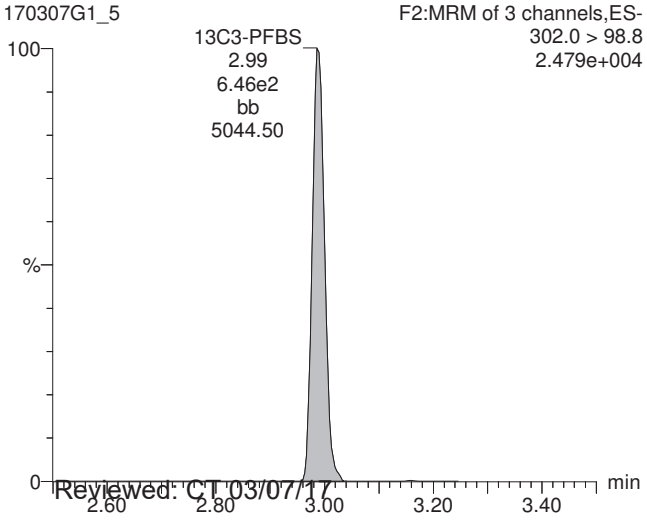


Total PFOS

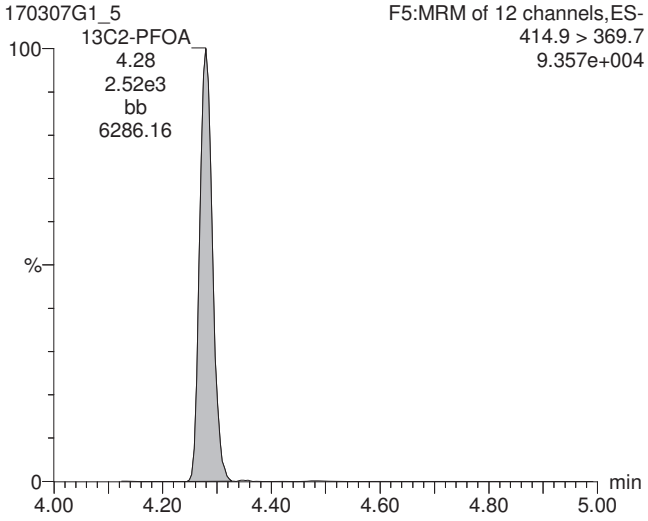




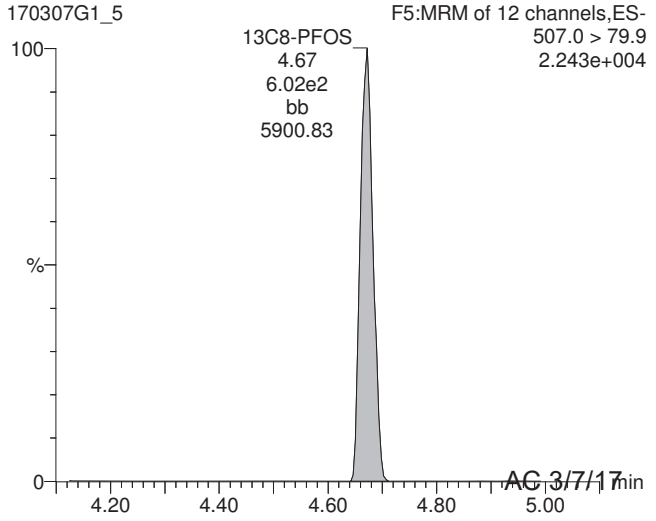
13C3-PFBS



13C2-PFOA



13C8-PFOS



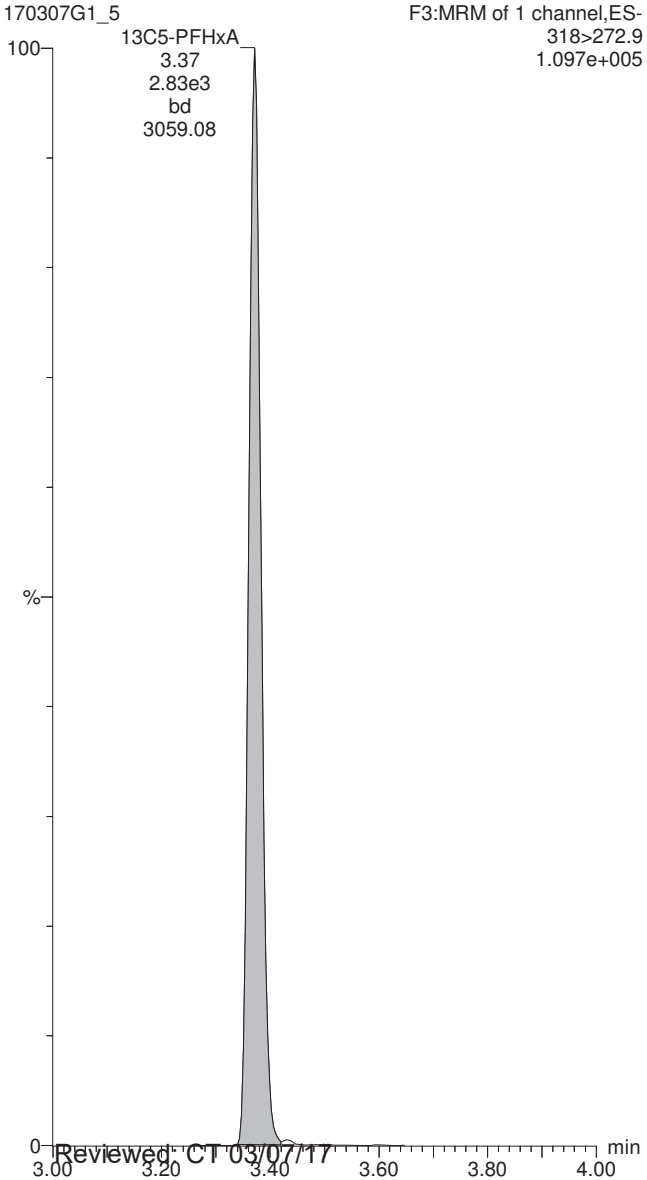
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-5.qld

Last Altered: Tuesday, March 07, 2017 1:38:05 PM Pacific Standard Time
Printed: Tuesday, March 07, 2017 1:42:23 PM Pacific Standard Time

ID: 1700293-01@10X WI-CV-GW02S-0317 0.125, Description: WI-CV-GW02S-0317, Name: 170307G1_5, Date: 07-Mar-2017, Time: 09:51:58, Instrument: , Lab: , User:

13C5-PFHxA



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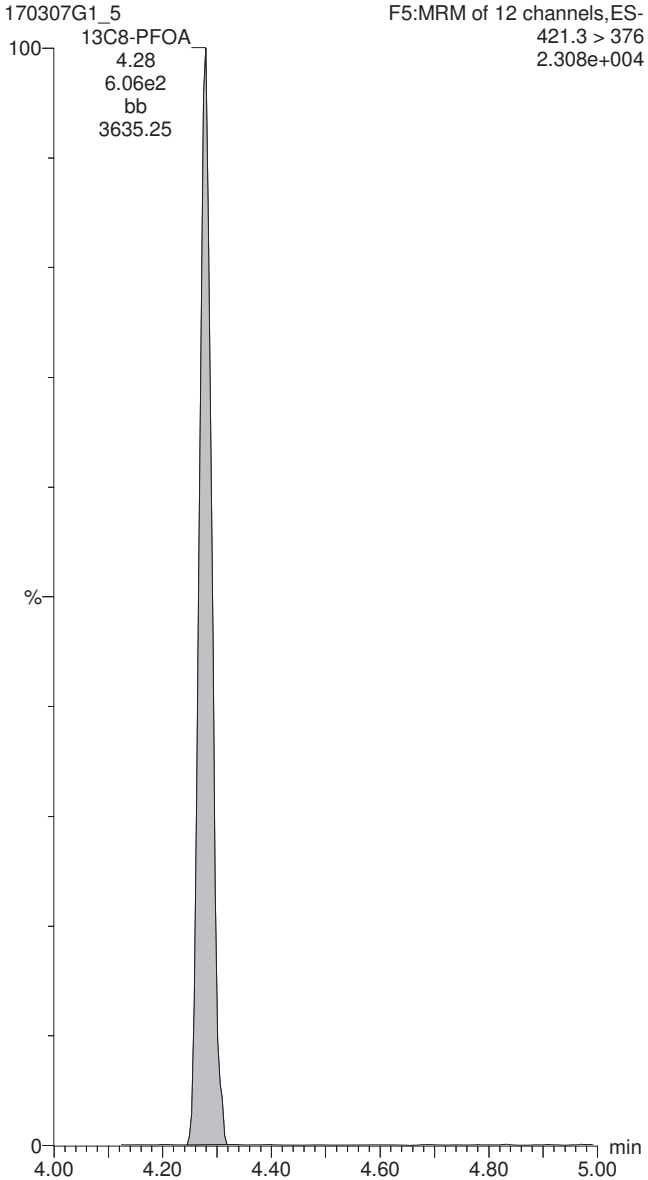
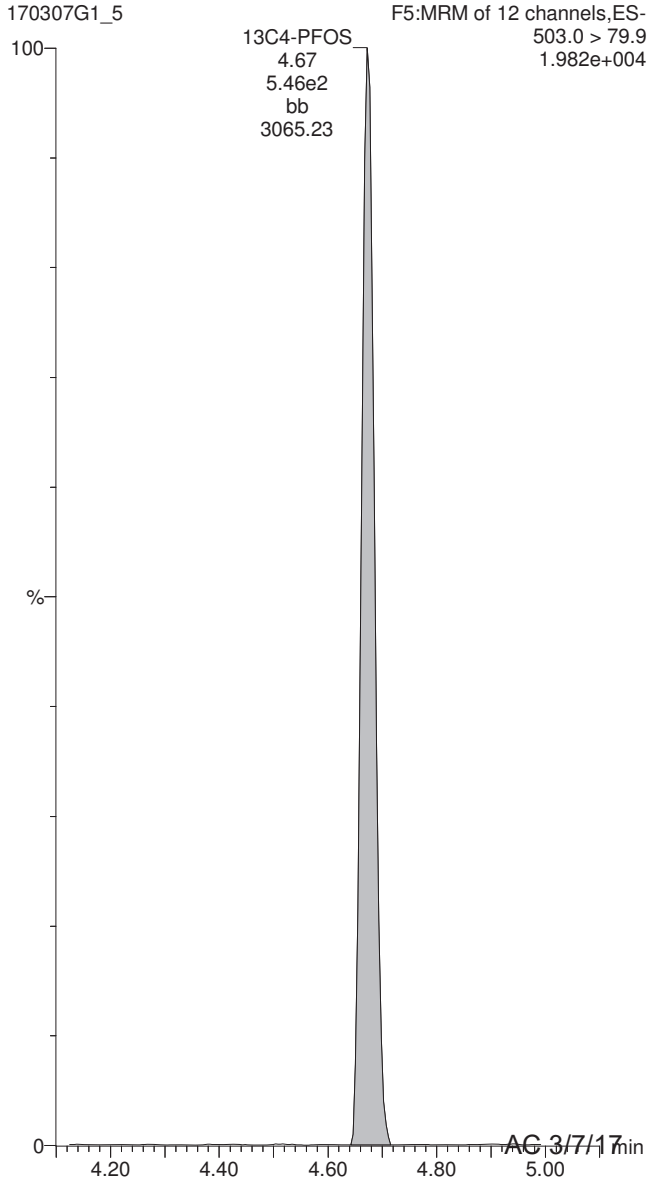


13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-18.qld

Last Altered: Tuesday, March 07, 2017 11:16:29 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:16:44 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-02 WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170306G1_18, Date: 06-Mar-2017, Time: 18:58:16

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec	
1	1	PFBS	299 > 79.7	4.122e4	4.712e3		0.129	2.98	355		*
2	4	PFOA	413 > 368.7	8.348e4	2.313e4		0.129	4.27	438		
3	6	PFOS	499 >79.9	2.265e3	7.785e3		0.129	4.45	53.0		
4	7	13C3-PFBS	302.0 > 98.8	4.712e3	7.471e3	0.410	0.129	2.97	149	154	*
5	8	13C4-PFHpA	367.2 > 321.8	1.189e4	7.471e3	1.098	0.129	3.87	140	145	
6	9	18O2-PFHxS	403 > 102.6	3.061e3	7.471e3	0.434	0.129	3.99	91.3	94.3	
7	10	13C2-PFOA	414.9 > 369.7	2.313e4	5.811e3	4.608	0.129	4.27	83.6	86.4	
8	11	13C5-PFNA	468.2 > 422.9	6.931e3	9.651e3	0.867	0.129	4.61	80.2	82.8	
9	12	13C8-PFOS	507.0 > 79.9	7.785e3	8.986e3	0.958	0.129	4.67	87.5	90.4	
10	13	13C5-PFHxA	318>272.9	2.046e4	2.046e4	1.000	0.129	3.35	96.8	100	
11	14	13C3-PFHxS	401.9 > 79.9	7.471e3	7.471e3	1.000	0.129	3.99	96.8	100	
12	15	13C8-PFOA	421.3 > 376	5.811e3	5.811e3	1.000	0.129	4.27	96.8	100	
13	16	13C9-PFNA	472.2 > 426.9	9.651e3	9.651e3	1.000	0.129	4.61	96.8	100	
14	17	13C4-PFOS	503.0 > 79.9	8.986e3	8.986e3	1.000	0.129	4.67	96.8	100	
15	18	Total PFBS	299 > 79.7		3.061e3		0.129		376		
16	20	Total PFOA	413 > 368.7		2.313e4		0.129		564		
17	21	Total PFOS	499 > 79.9		7.785e3		0.129		53.0		

See dilution.

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-18.qld

Last Altered: Tuesday, March 07, 2017 11:16:29 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:16:44 AM Pacific Standard Time

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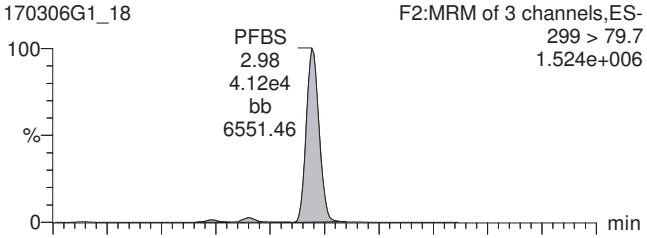
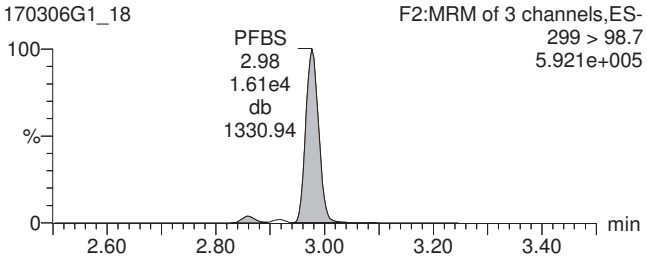
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

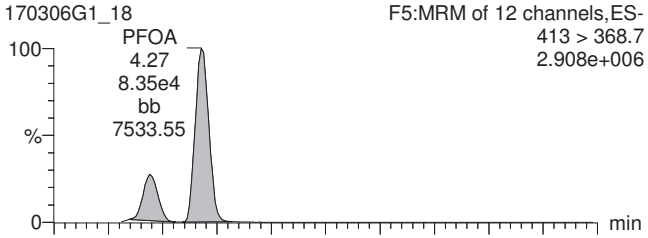
ID: 1700293-02 WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170306G1_18, Date: 06-Mar-2017, Time: 18:58:16, Instrument: , Lab: , User:

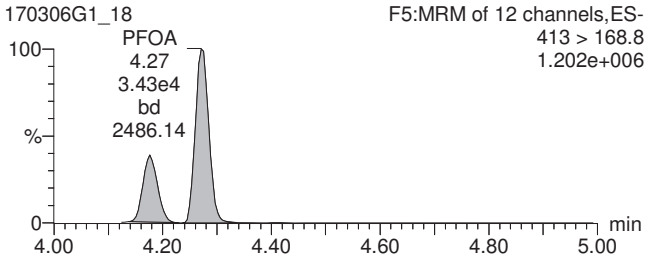
Total PFBS



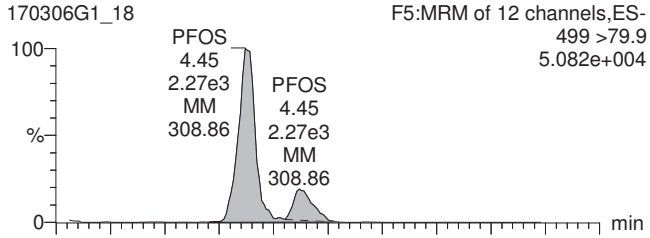


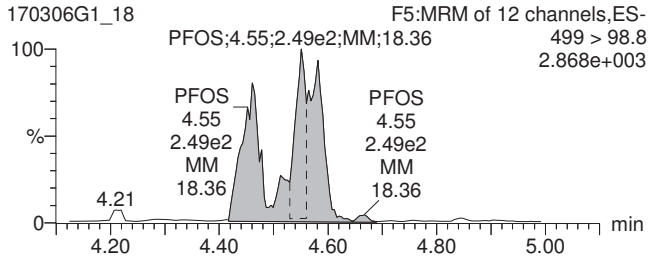
Total PFOA



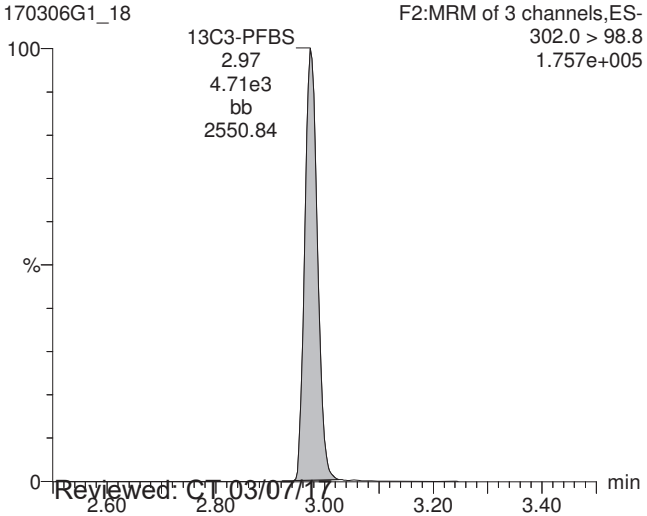


Total PFOS

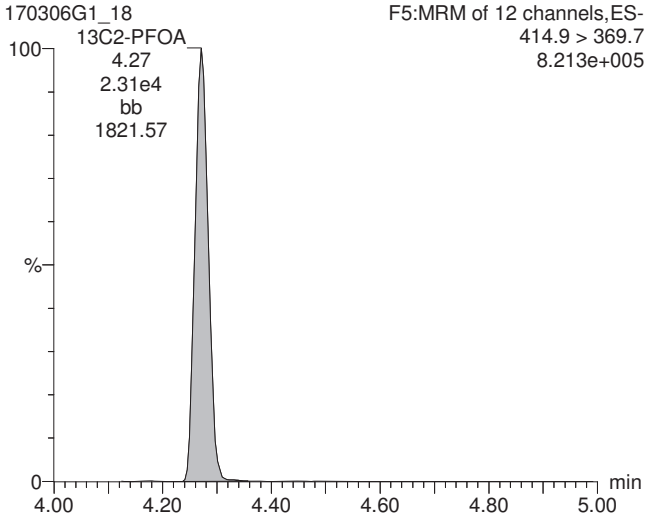




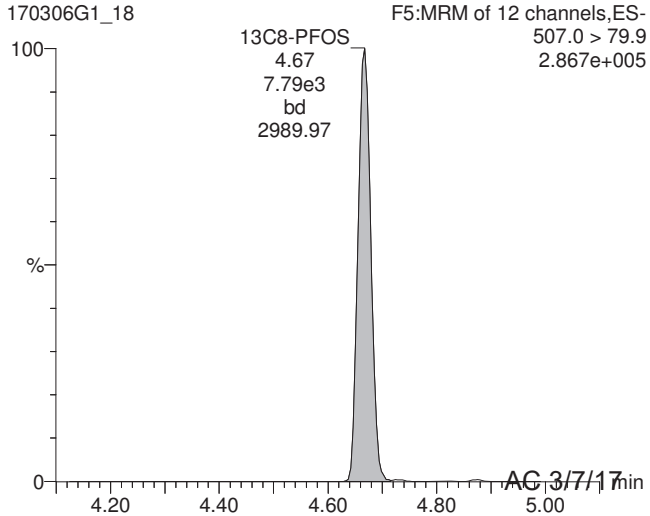
13C3-PFBS



13C2-PFOA



13C8-PFOS



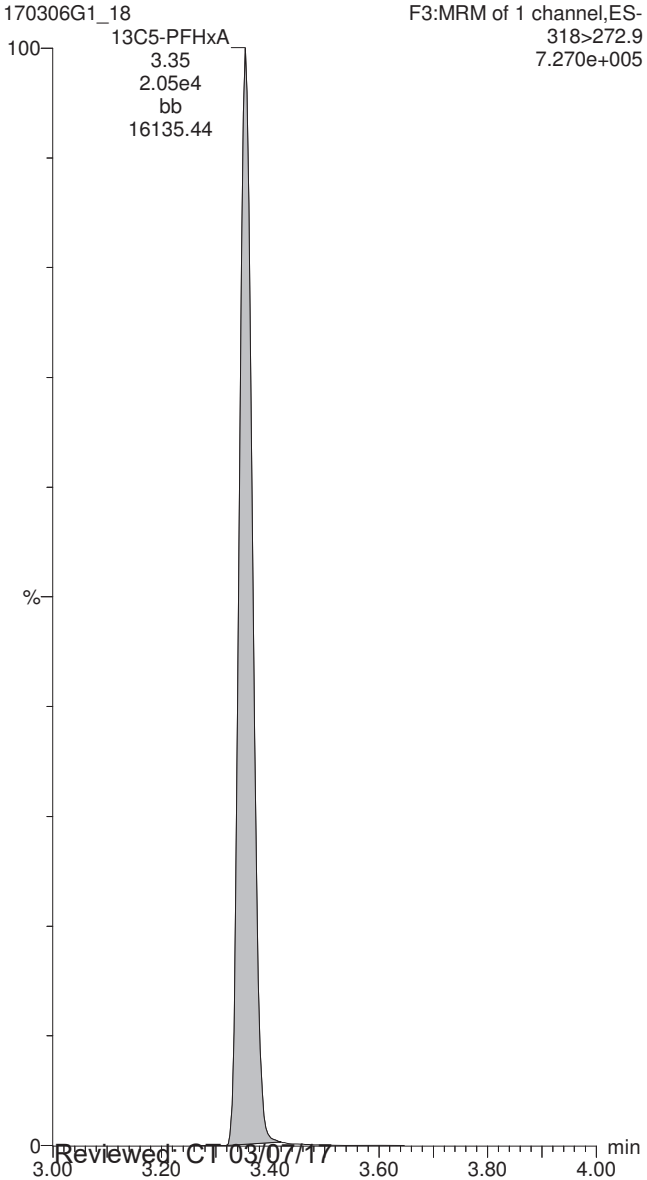
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-18.qld

Last Altered: Tuesday, March 07, 2017 11:16:29 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:16:44 AM Pacific Standard Time

ID: 1700293-02 WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170306G1_18, Date: 06-Mar-2017, Time: 18:58:16, Instrument: , Lab: , User:

13C5-PFHxA



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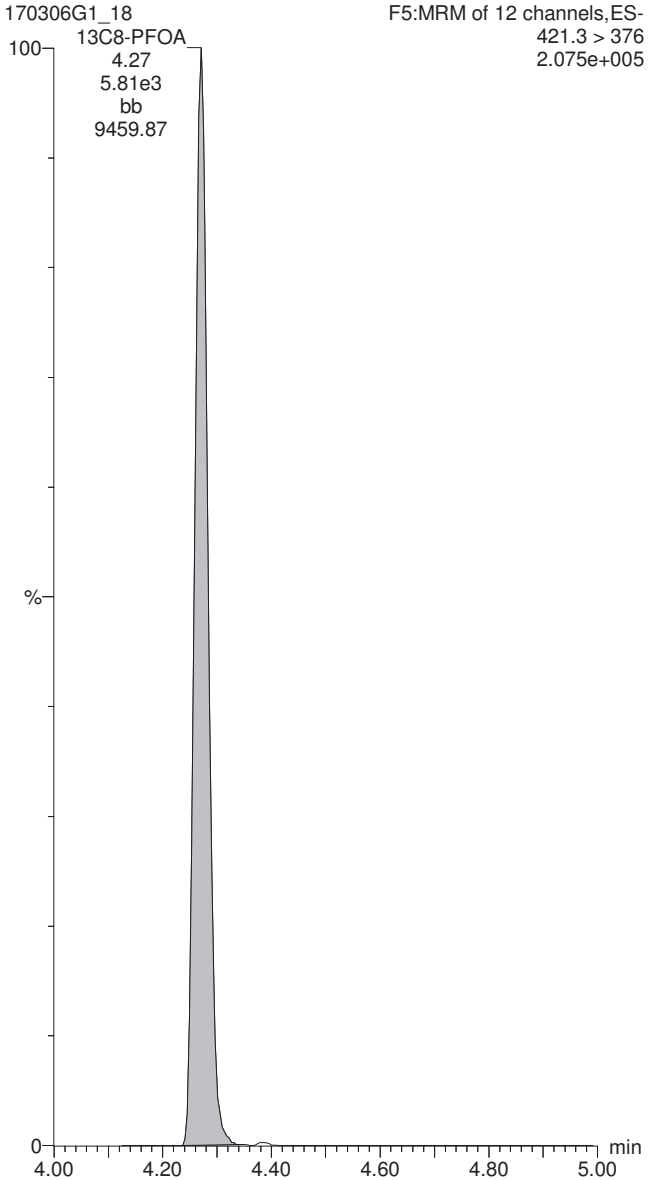

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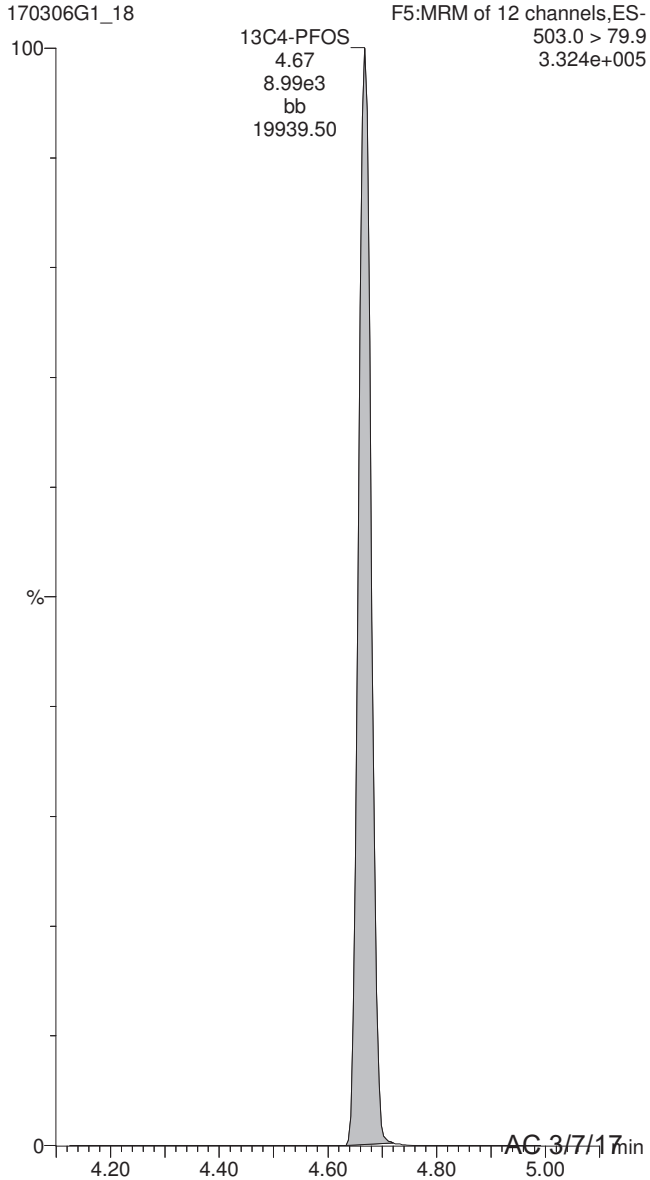

Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-6.qld

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Printed: Tuesday, March 07, 2017 2:00:17 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-02@10X WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170307G1_6, Date: 07-Mar-2017, Time: 10:04:33

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.510e3	6.462e2		0.129	2.99	346	
2	7	13C3-PFBS	302.0 > 98.8	6.462e2	1.407e3	0.410	0.129	2.99	108	112
3	14	13C3-PFHxS	401.9 > 79.9	1.407e3	1.407e3	1.000	0.129	4.00	96.8	100
4	18	Total PFBS	299 > 79.7		5.759e2		0.129		357	

Reviewed: CT 03/07/17

AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-6.qld

Last Altered: Tuesday, March 07, 2017 1:57:13 PM Pacific Standard Time
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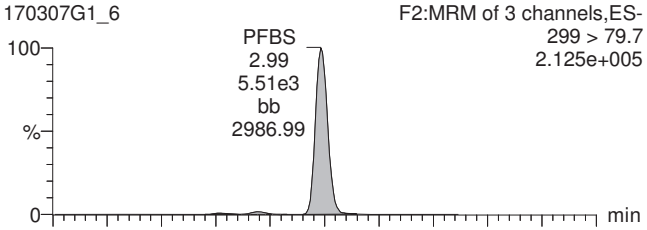
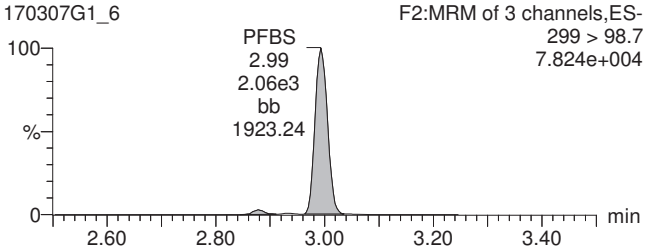
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

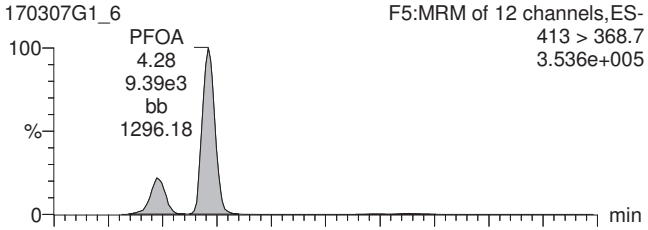
ID: 1700293-02@10X WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170307G1_6, Date: 07-Mar-2017, Time: 10:04:33, Instrument: , Lab: , User:

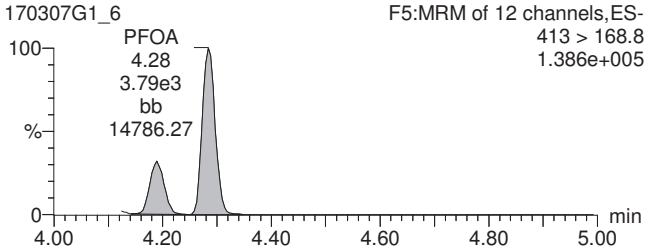
Total PFBS





Total PFOA





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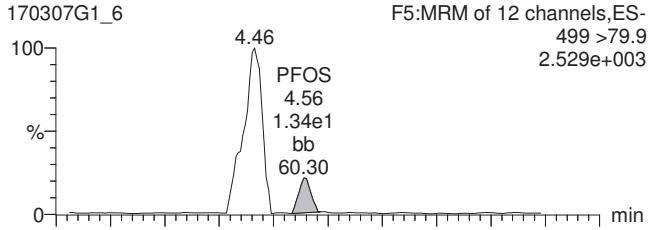
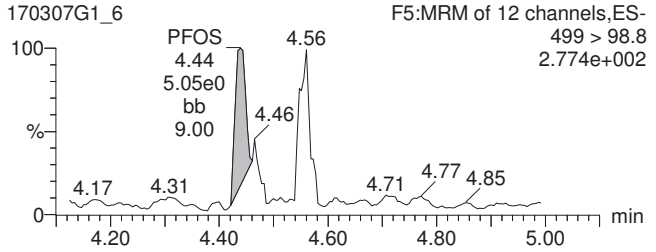
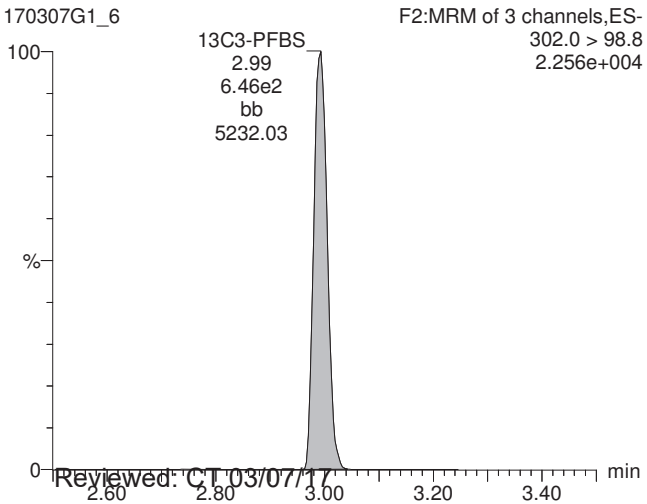
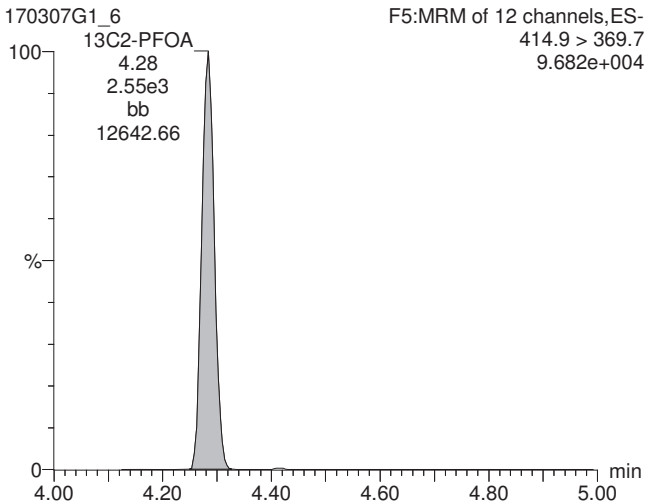




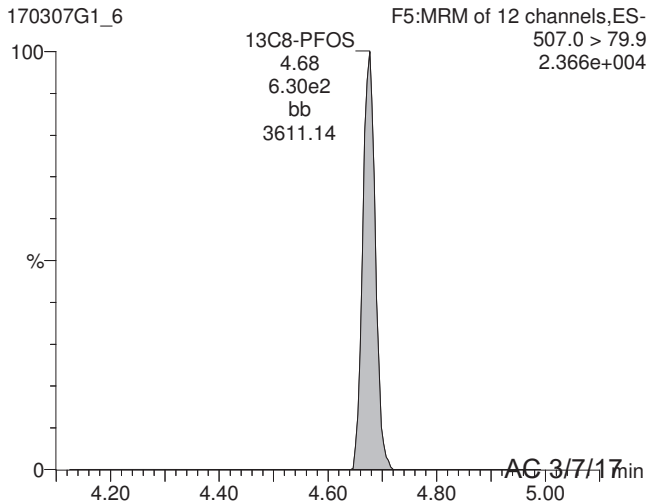
13C3-PFBS



13C2-PFOA



13C8-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

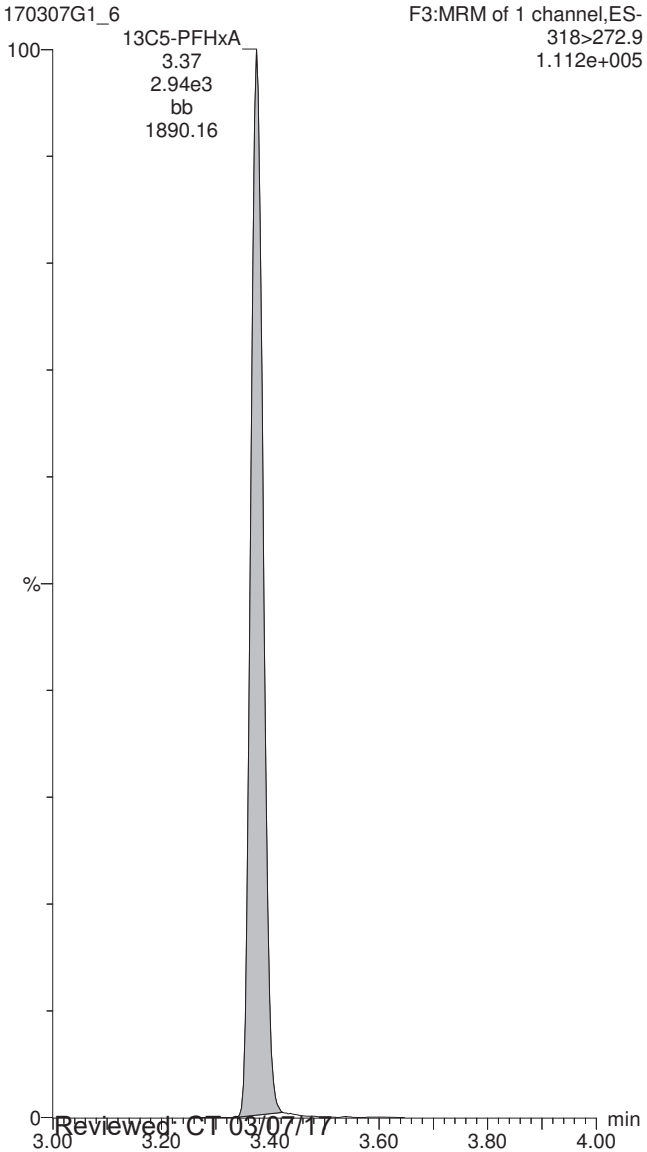
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-6.qld

Last Altered: Tuesday, March 07, 2017 1:57:13 PM Pacific Standard Time
Printed: Tuesday, March 07, 2017 2:00:17 PM Pacific Standard Time

ID: 1700293-02@10X WI-CV-GW02S/SP-0317 0.125, Description: WI-CV-GW02S/SP-0317, Name: 170307G1_6, Date: 07-Mar-2017, Time: 10:04:33, Instrument: , Lab: , User:

13C5-PFHxA



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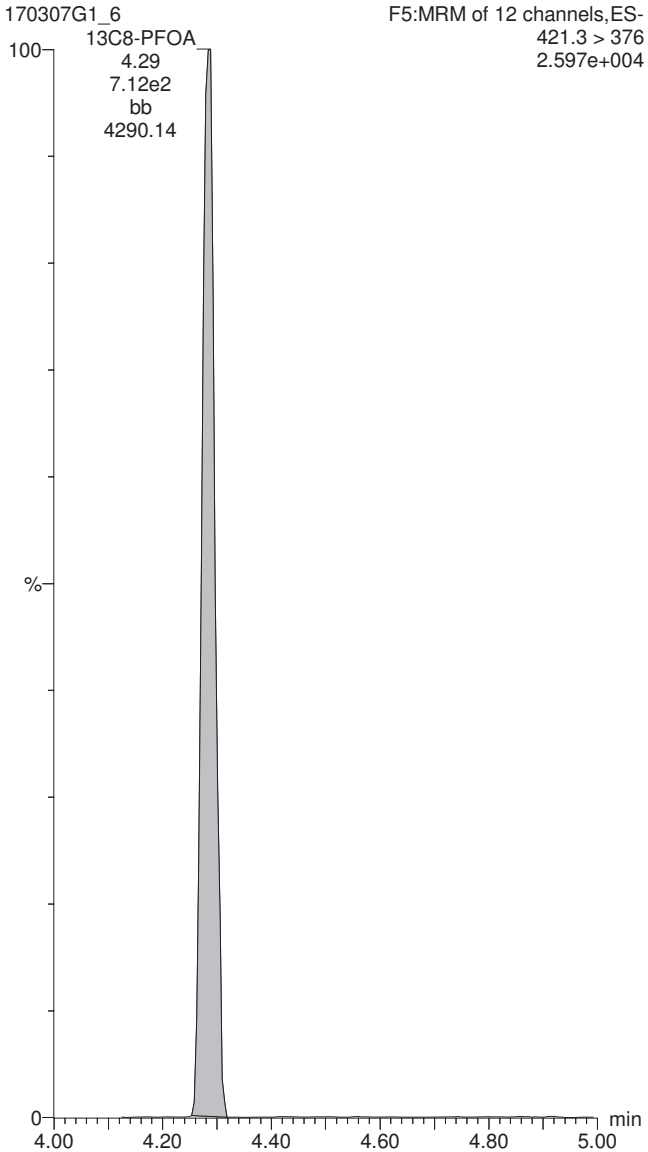
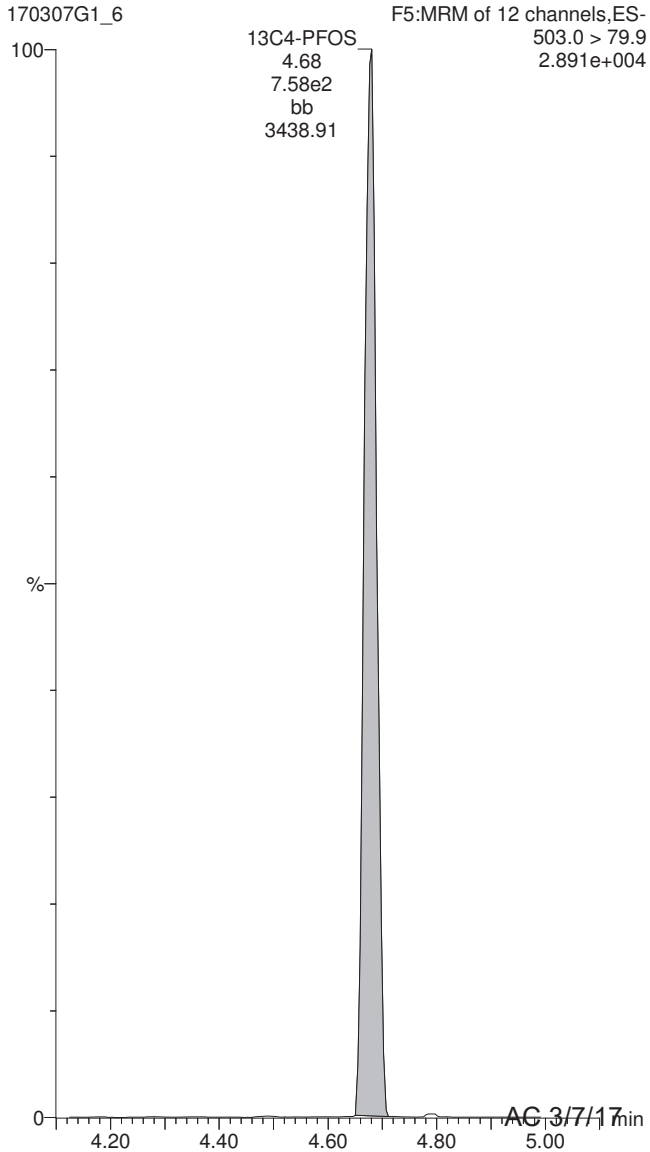


13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-19.qld

Last Altered: Tuesday, March 07, 2017 11:18:57 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:19:19 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-03 WI-CV-GW04S-0317 0.125, Description: WI-CV-GW04S-0317, Name: 170306G1_19, Date: 06-Mar-2017, Time: 19:10:50

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.305e3		0.128			
2	4	PFOA	413 > 368.7	2.781e2	2.808e4		0.128	4.28		
3	6	PFOS	499 >79.9		7.346e3		0.128			
4	7	13C3-PFBS	302.0 > 98.8	6.305e3	1.558e4	0.410	0.128	2.98	96.6	98.7
5	8	13C4-PFHpA	367.2 > 321.8	1.428e4	1.558e4	1.098	0.128	3.87	81.7	83.5
6	9	18O2-PFHxS	403 > 102.6	6.704e3	1.558e4	0.434	0.128	3.99	97.0	99.1
7	10	13C2-PFOA	414.9 > 369.7	2.808e4	7.327e3	4.608	0.128	4.27	81.4	83.2
8	11	13C5-PFNA	468.2 > 422.9	7.326e3	8.542e3	0.867	0.128	4.61	96.8	98.9
9	12	13C8-PFOS	507.0 > 79.9	7.346e3	8.088e3	0.958	0.128	4.67	92.7	94.8
10	13	13C5-PFHxA	318>272.9	2.723e4	2.723e4	1.000	0.128	3.35	97.8	100
11	14	13C3-PFHxS	401.9 > 79.9	1.558e4	1.558e4	1.000	0.128	3.99	97.8	100
12	15	13C8-PFOA	421.3 > 376	7.327e3	7.327e3	1.000	0.128	4.28	97.8	100
13	16	13C9-PFNA	472.2 > 426.9	8.542e3	8.542e3	1.000	0.128	4.61	97.8	100
14	17	13C4-PFOS	503.0 > 79.9	8.088e3	8.088e3	1.000	0.128	4.67	97.8	100
15	18	Total PFBS	299 > 79.7		6.704e3		0.128			
16	20	Total PFOA	413 > 368.7		2.808e4		0.128			
17	21	Total PFOS	499 > 79.9		7.346e3		0.128			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

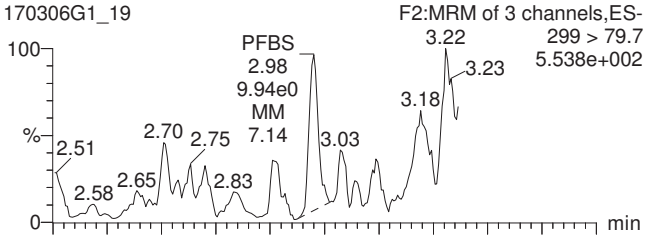
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-19.qld

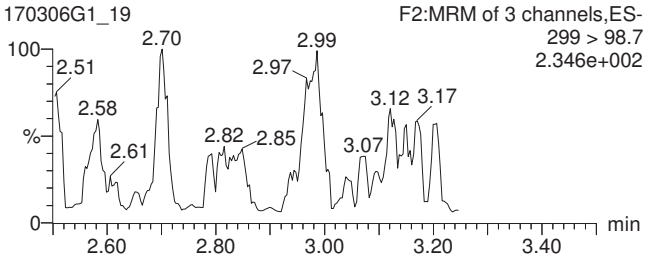
Last Altered: Tuesday, March 07, 2017 11:18:57 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:19:19 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

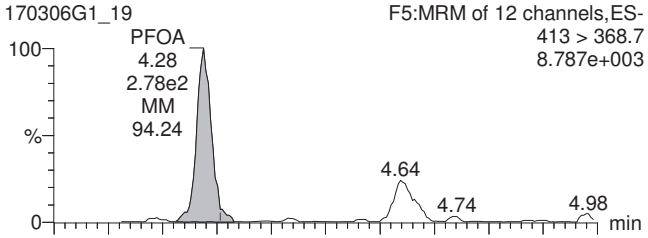
ID: 1700293-03 WI-CV-GW04S-0317 0.125, Description: WI-CV-GW04S-0317, Name: 170306G1_19, Date: 06-Mar-2017, Time: 19:10:50, Instrument: , Lab: , User:

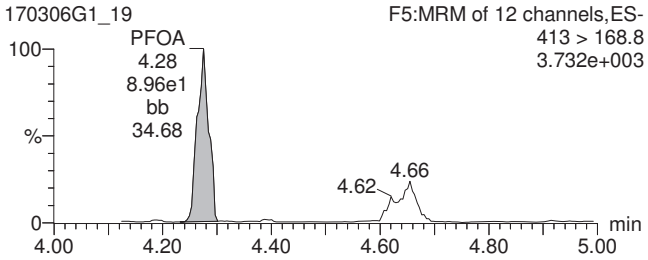
Total PFBS



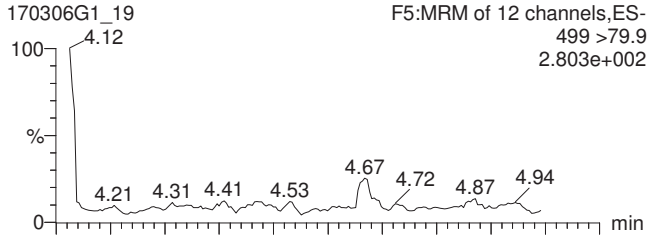


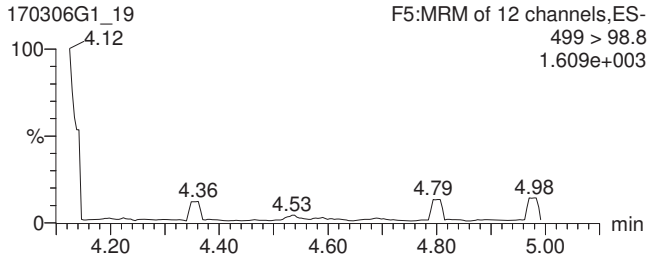
Total PFOA



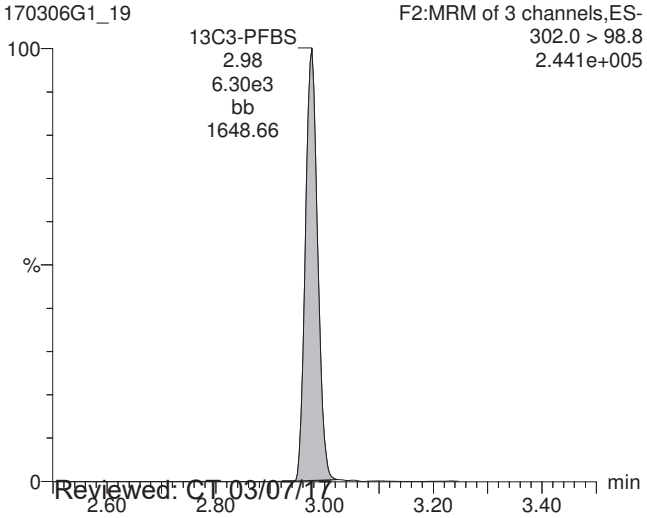


Total PFOS

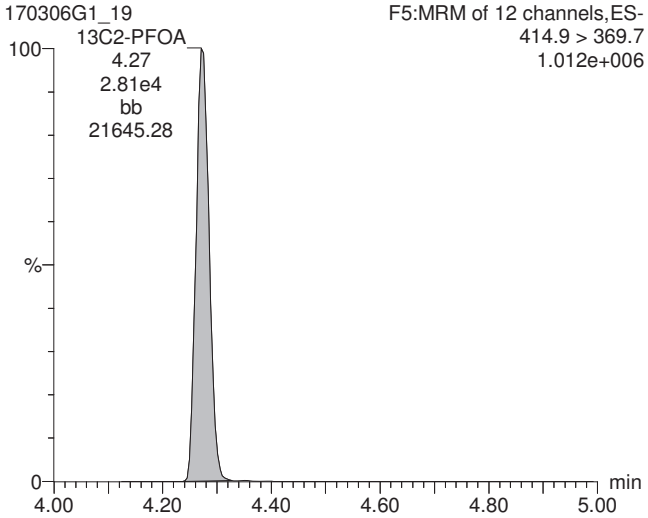




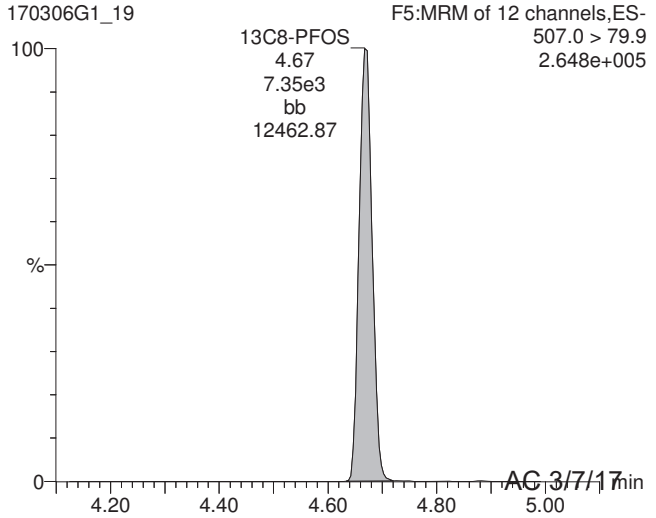
13C3-PFBS



13C2-PFOA



13C8-PFOS



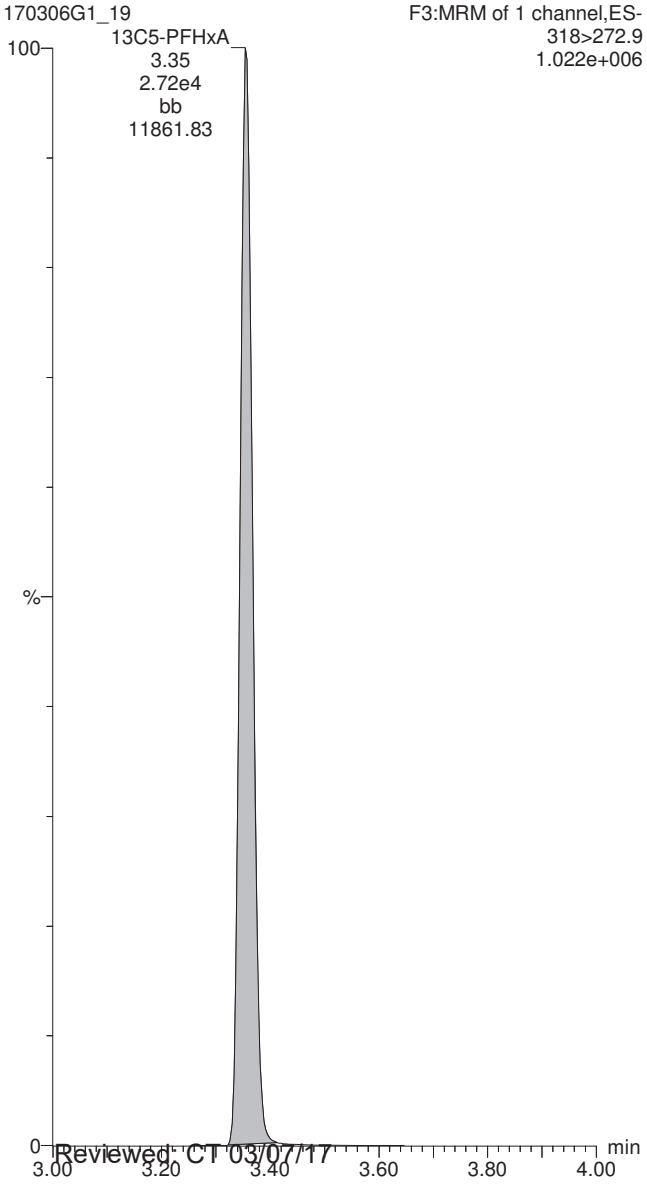
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-19.qld

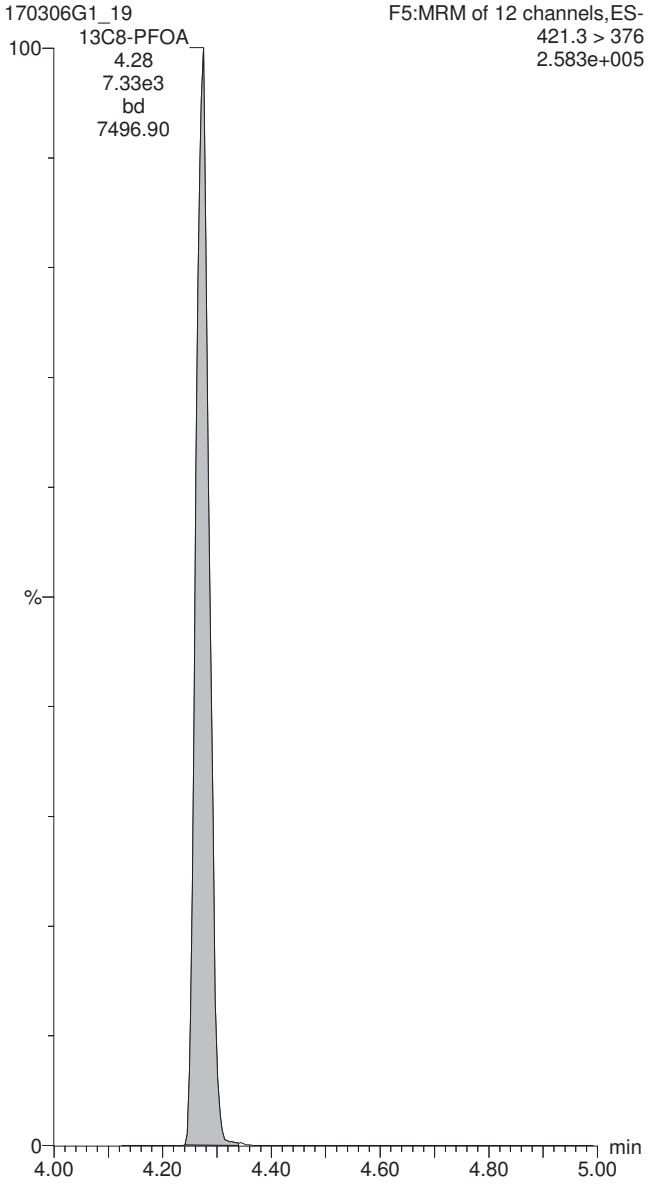
Last Altered: Tuesday, March 07, 2017 11:18:57 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:19:19 AM Pacific Standard Time

ID: 1700293-03 WI-CV-GW04S-0317 0.125, Description: WI-CV-GW04S-0317, Name: 170306G1_19, Date: 06-Mar-2017, Time: 19:10:50, Instrument: , Lab: , User:

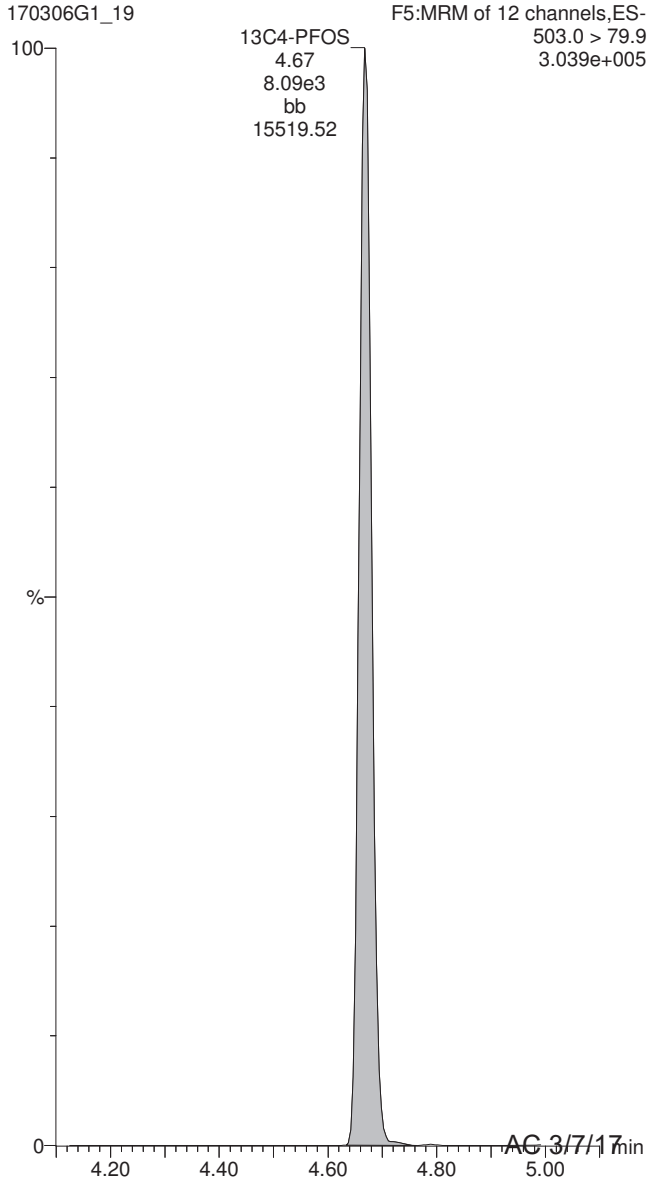
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-20.qld

Last Altered: Tuesday, March 07, 2017 11:20:25 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:20:52 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-04 WI-CV-GW04S/SP-0317 0.125, Description: WI-CV-GW04S/SP-0317, Name: 170306G1_20, Date: 06-Mar-2017, Time: 19:23:25

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.031e3		0.131			
2	4	PFOA	413 > 368.7	2.368e2	2.827e4		0.131	4.28		
3	6	PFOS	499 >79.9		7.808e3		0.131			
4	7	13C3-PFBS	302.0 > 98.8	6.031e3	1.580e4	0.410	0.131	2.97	88.8	93.1
5	8	13C4-PFHpA	367.2 > 321.8	1.478e4	1.580e4	1.098	0.131	3.87	81.3	85.2
6	9	18O2-PFHxS	403 > 102.6	6.506e3	1.580e4	0.434	0.131	3.99	90.5	94.8
7	10	13C2-PFOA	414.9 > 369.7	2.827e4	7.431e3	4.608	0.131	4.27	78.8	82.6
8	11	13C5-PFNA	468.2 > 422.9	7.212e3	8.965e3	0.867	0.131	4.60	88.5	92.8
9	12	13C8-PFOS	507.0 > 79.9	7.808e3	9.074e3	0.958	0.131	4.66	85.7	89.8
10	13	13C5-PFHxA	318>272.9	2.811e4	2.811e4	1.000	0.131	3.35	95.4	100
11	14	13C3-PFHxS	401.9 > 79.9	1.580e4	1.580e4	1.000	0.131	3.99	95.4	100
12	15	13C8-PFOA	421.3 > 376	7.431e3	7.431e3	1.000	0.131	4.27	95.4	100
13	16	13C9-PFNA	472.2 > 426.9	8.965e3	8.965e3	1.000	0.131	4.60	95.4	100
14	17	13C4-PFOS	503.0 > 79.9	9.074e3	9.074e3	1.000	0.131	4.66	95.4	100
15	18	Total PFBS	299 > 79.7		6.506e3		0.131			
16	20	Total PFOA	413 > 368.7		2.827e4		0.131			
17	21	Total PFOS	499 > 79.9		7.808e3		0.131			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

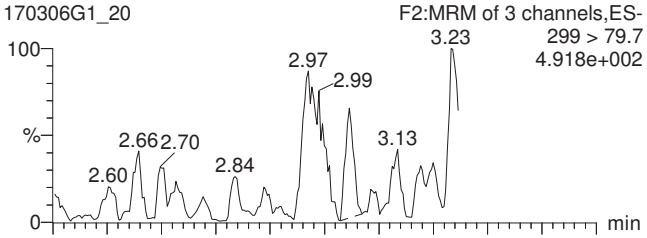
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-20.qld

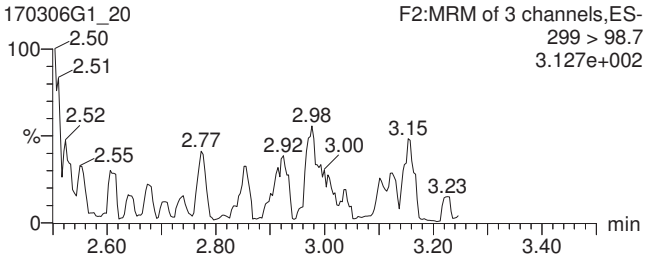
Last Altered: Tuesday, March 07, 2017 11:20:25 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:20:52 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

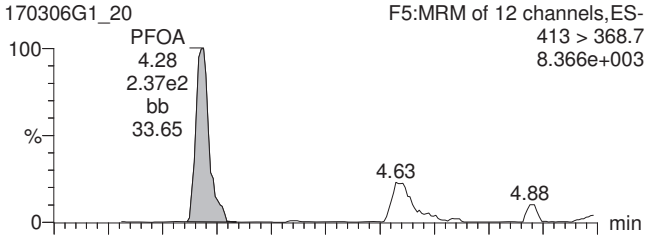
ID: 1700293-04 WI-CV-GW04S/SP-0317 0.125, Description: WI-CV-GW04S/SP-0317, Name: 170306G1_20, Date: 06-Mar-2017, Time: 19:23:25, Instrument: , Lab: , User:

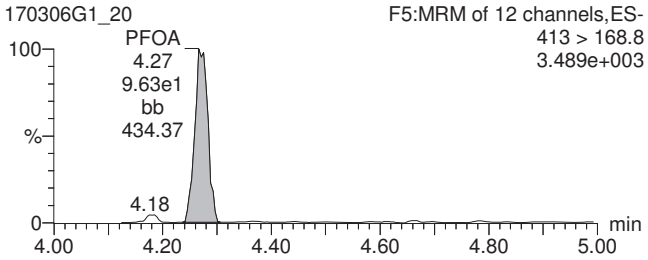
Total PFBS



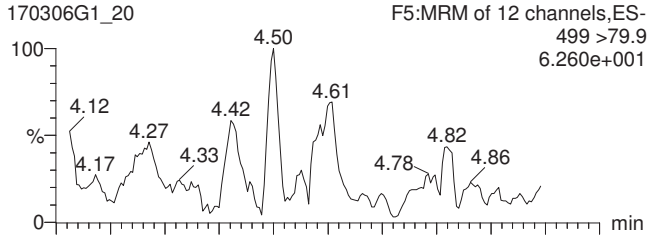


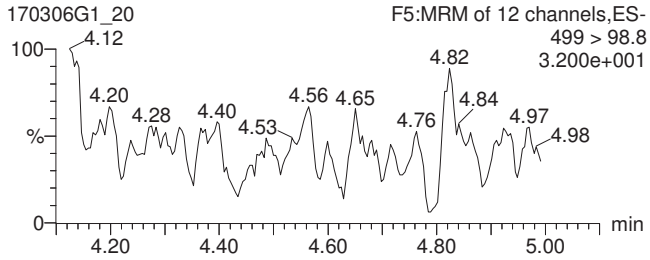
Total PFOA



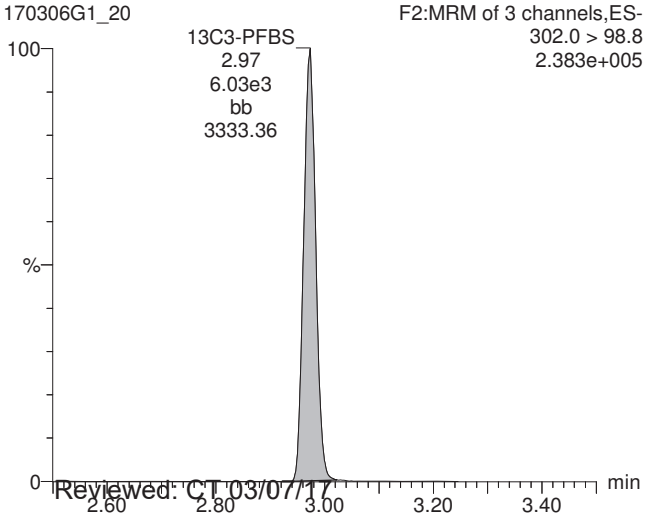


Total PFOS

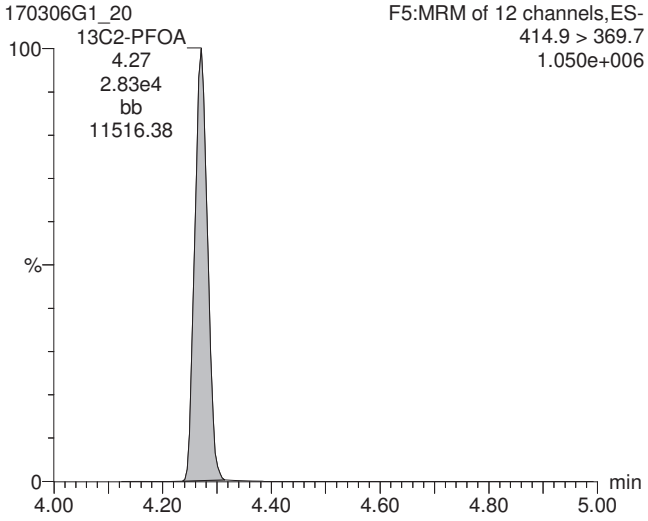




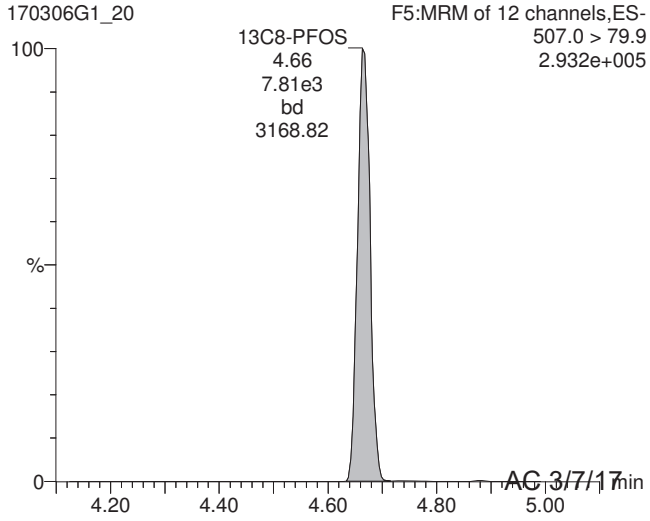
13C3-PFBS



13C2-PFOA



13C8-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

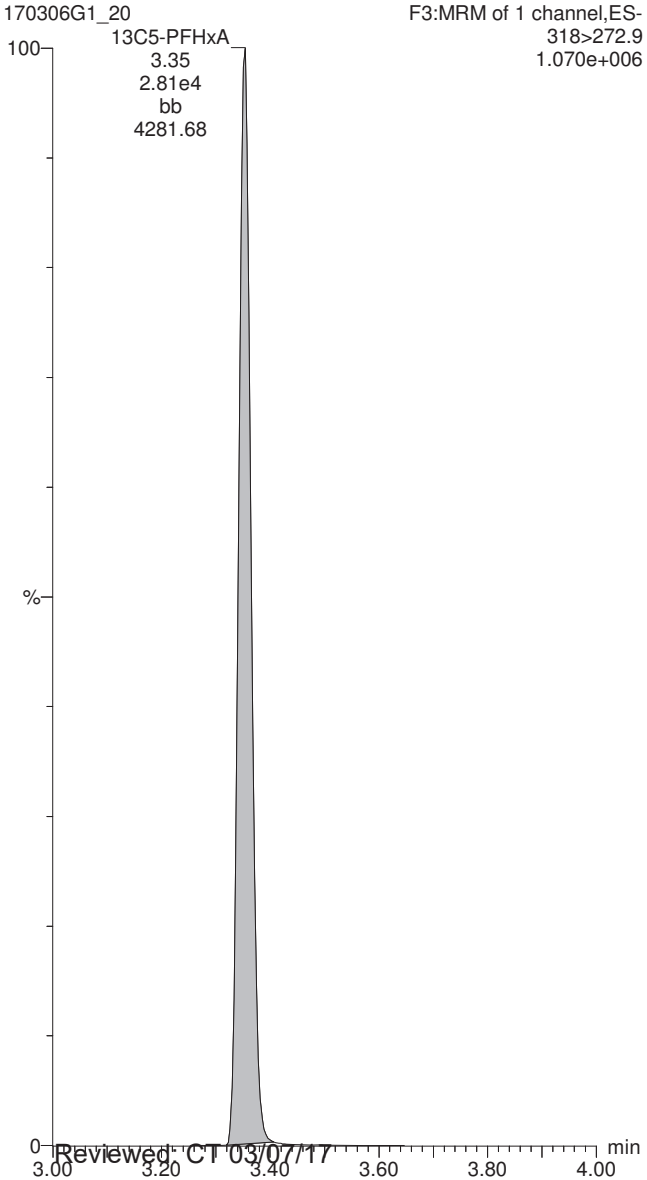
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-20.qld

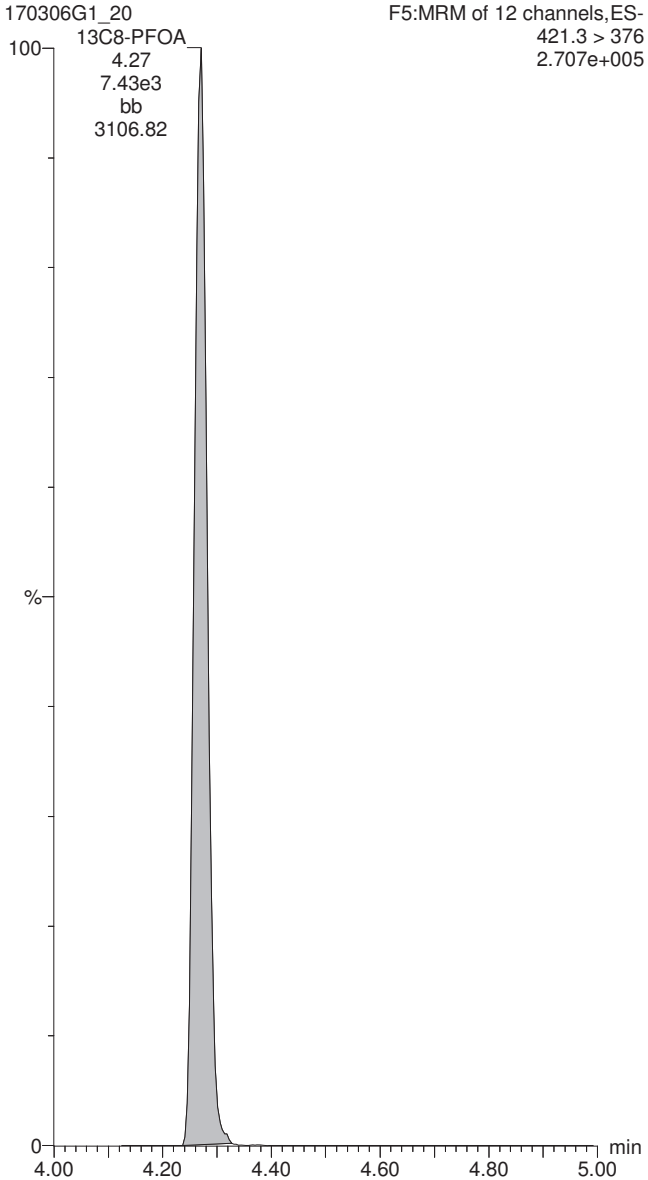
Last Altered: Tuesday, March 07, 2017 11:20:25 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:20:52 AM Pacific Standard Time

ID: 1700293-04 WI-CV-GW04S/SP-0317 0.125, Description: WI-CV-GW04S/SP-0317, Name: 170306G1_20, Date: 06-Mar-2017, Time: 19:23:25, Instrument: , Lab: , User:

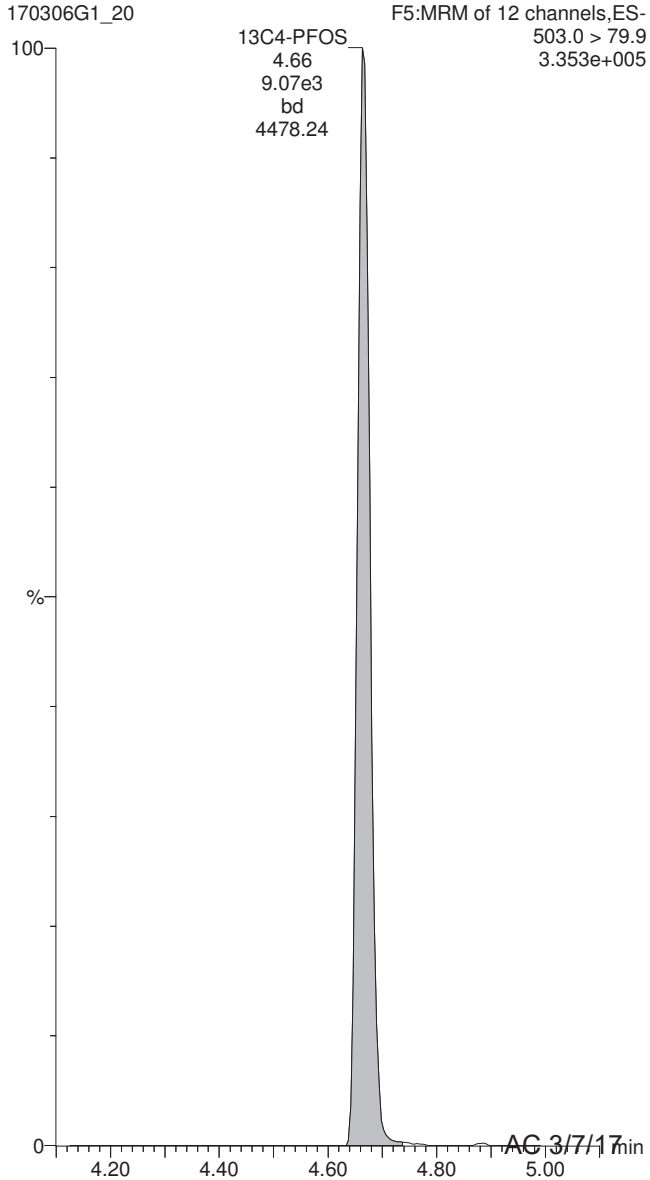
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-24.qld

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Printed: Tuesday, March 07, 2017 11:22:19 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-05 WI-CV-GW02M-0317 0.125, Description: WI-CV-GW02M-0317, Name: 170306G1_24, Date: 06-Mar-2017, Time: 20:13:35

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.568e1	6.489e3		0.129	2.98	0.00152	
2	4	PFOA	413 > 368.7	1.729e2	2.933e4		0.129	4.28		
3	6	PFOS	499 >79.9		8.502e3		0.129			
4	7	13C3-PFBS	302.0 > 98.8	6.489e3	1.642e4	0.410	0.129	2.97	93.5	96.4
5	8	13C4-PFHpA	367.2 > 321.8	1.627e4	1.642e4	1.098	0.129	3.87	87.5	90.2
6	9	18O2-PFHxS	403 > 102.6	7.001e3	1.642e4	0.434	0.129	3.99	95.2	98.2
7	10	13C2-PFOA	414.9 > 369.7	2.933e4	7.396e3	4.608	0.129	4.28	83.4	86.0
8	11	13C5-PFNA	468.2 > 422.9	6.821e3	9.530e3	0.867	0.129	4.61	80.0	82.5
9	12	13C8-PFOS	507.0 > 79.9	8.502e3	9.246e3	0.958	0.129	4.67	93.1	96.0
10	13	13C5-PFHxA	318>272.9	2.908e4	2.908e4	1.000	0.129	3.35	97.0	100
11	14	13C3-PFHxS	401.9 > 79.9	1.642e4	1.642e4	1.000	0.129	3.99	97.0	100
12	15	13C8-PFOA	421.3 > 376	7.396e3	7.396e3	1.000	0.129	4.27	97.0	100
13	16	13C9-PFNA	472.2 > 426.9	9.530e3	9.530e3	1.000	0.129	4.61	97.0	100
14	17	13C4-PFOS	503.0 > 79.9	9.246e3	9.246e3	1.000	0.129	4.67	97.0	100
15	18	Total PFBS	299 > 79.7		7.001e3		0.129		0.00152	
16	20	Total PFOA	413 > 368.7		2.933e4		0.129			
17	21	Total PFOS	499 > 79.9		8.502e3		0.129			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

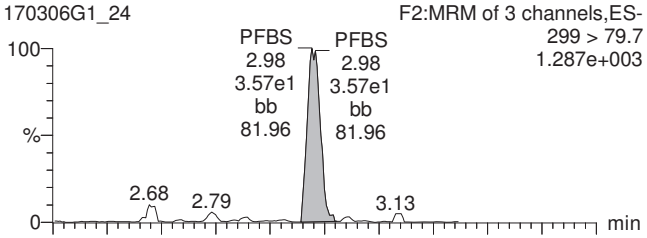
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-24.qld

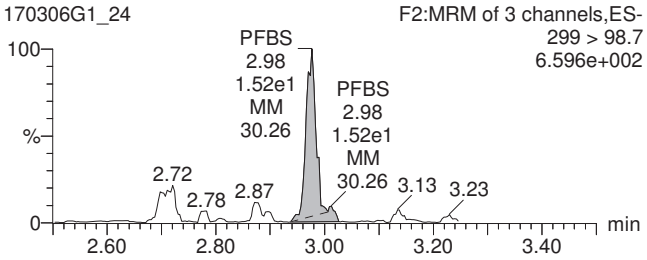
Last Altered: Tuesday, March 07, 2017 11:21:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:22:19 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

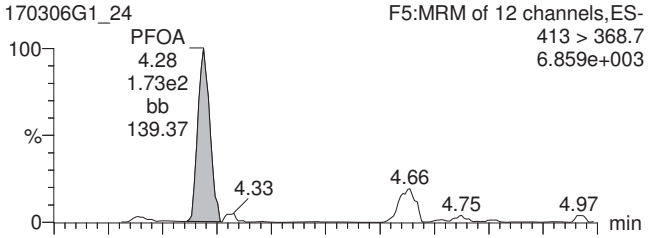
ID: 1700293-05 WI-CV-GW02M-0317 0.125, Description: WI-CV-GW02M-0317, Name: 170306G1_24, Date: 06-Mar-2017, Time: 20:13:35, Instrument: , Lab: , User:

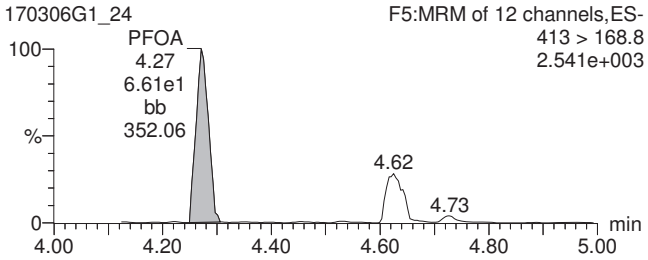
Total PFBS



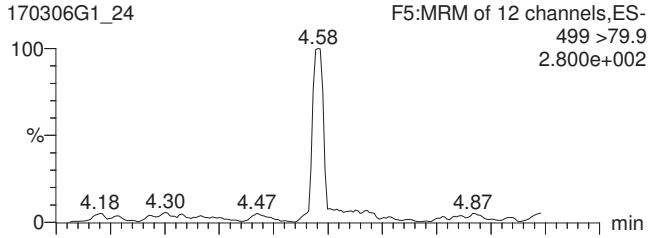


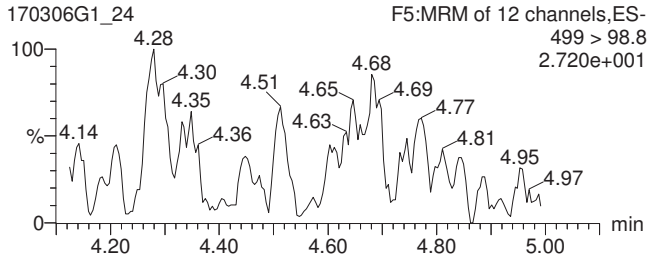
Total PFOA



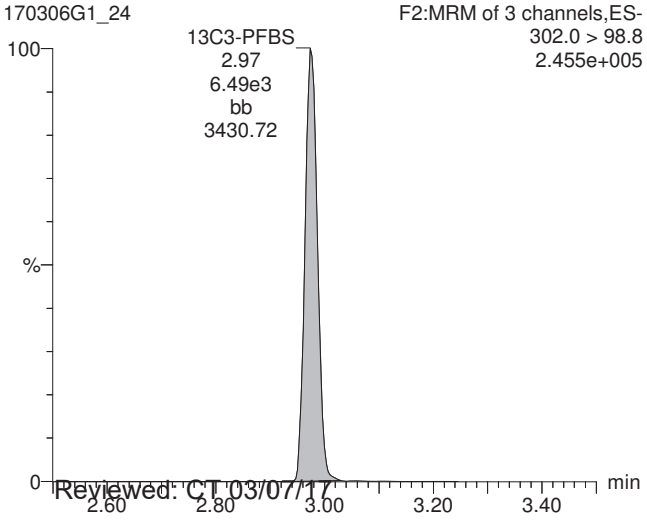


Total PFOS

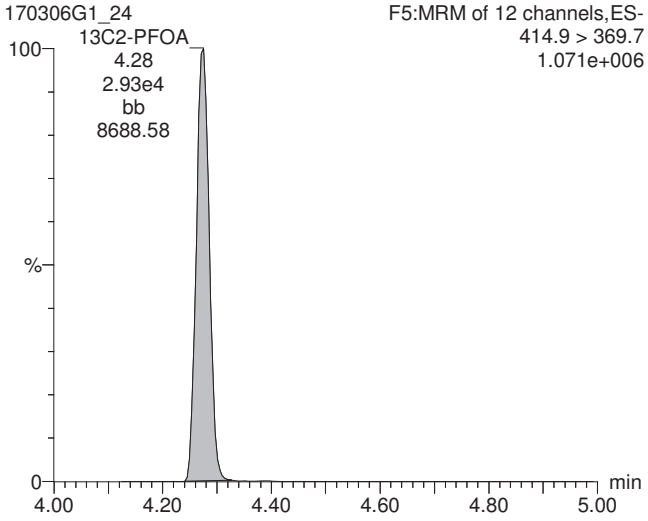




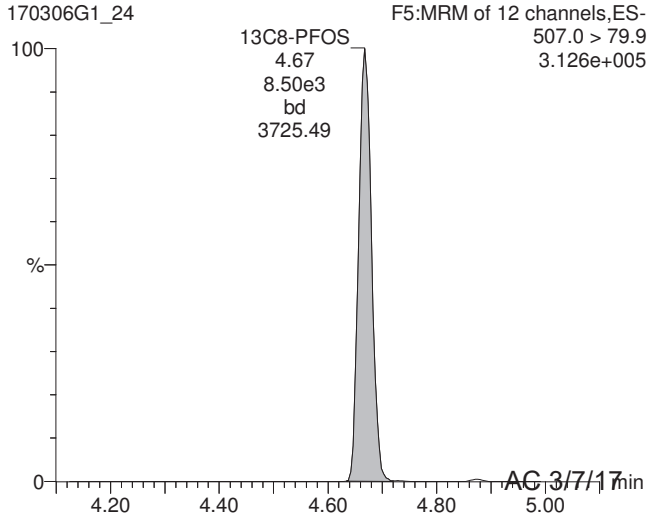
13C3-PFBS



13C2-PFOA



13C8-PFOS



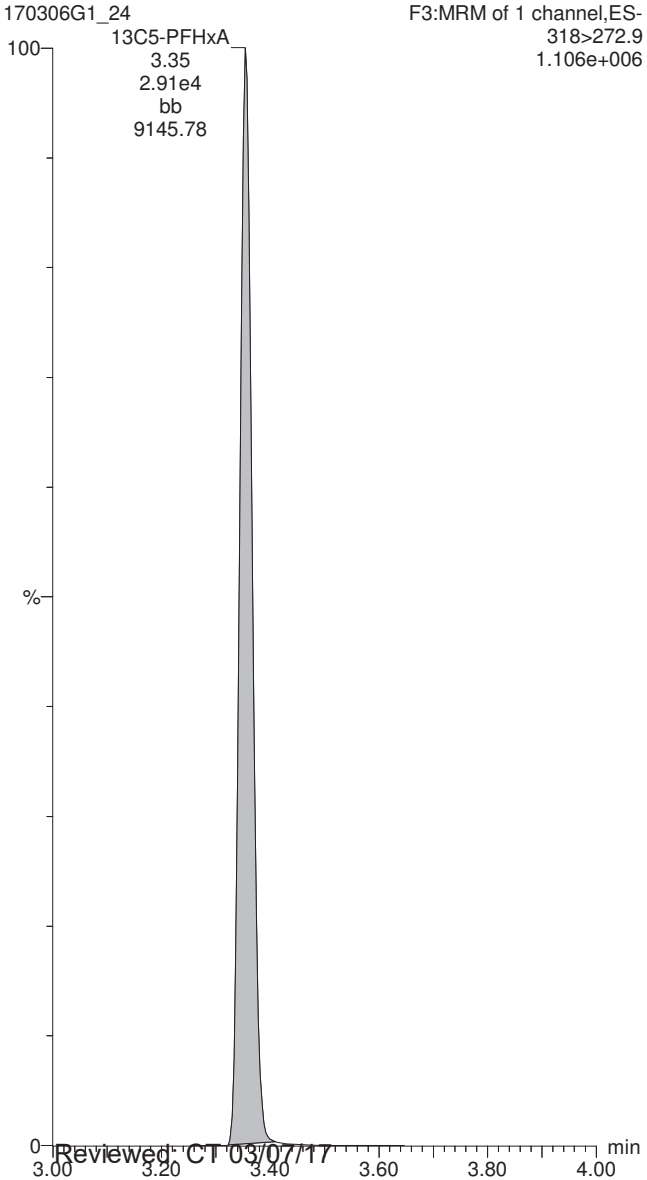
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-24.qld

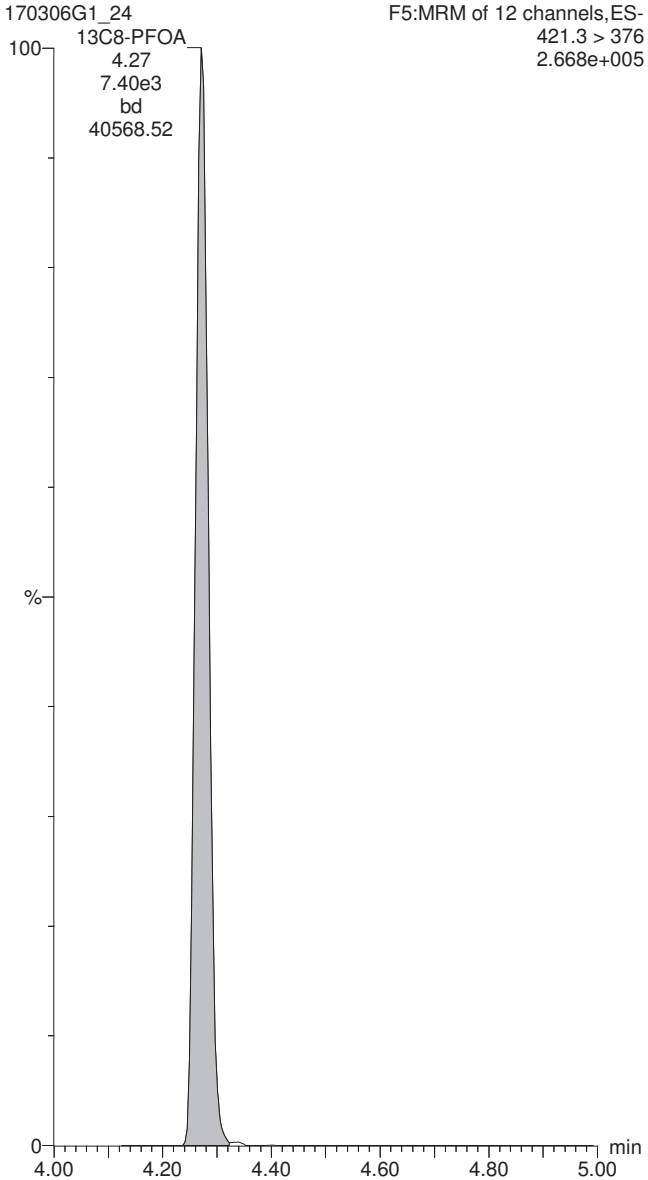
Last Altered: Tuesday, March 07, 2017 11:21:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:22:19 AM Pacific Standard Time

ID: 1700293-05 WI-CV-GW02M-0317 0.125, Description: WI-CV-GW02M-0317, Name: 170306G1_24, Date: 06-Mar-2017, Time: 20:13:35, Instrument: , Lab: , User:

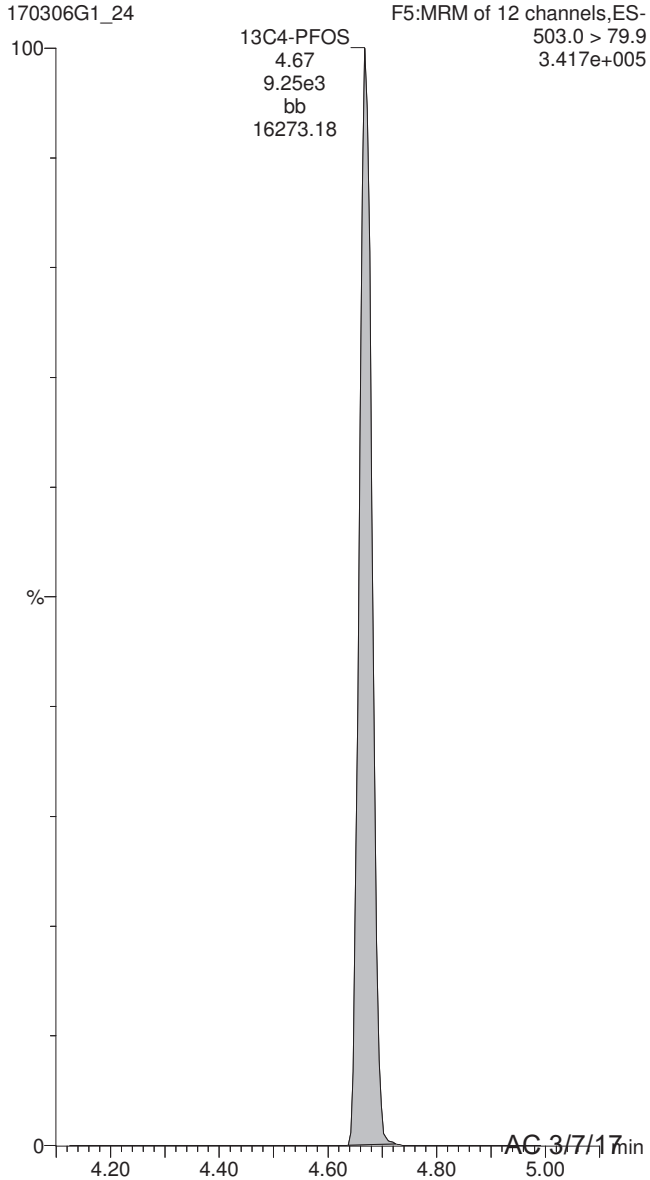
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-25.qld

Last Altered: Tuesday, March 07, 2017 11:24:23 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:24:39 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-06 WI-CV-GW12D-0317 0.125, Description: WI-CV-GW12D-0317, Name: 170306G1_25, Date: 06-Mar-2017, Time: 20:26:04

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.073e3		0.126			
2	4	PFOA	413 > 368.7	1.353e2	2.981e4		0.126	4.28		
3	6	PFOS	499 >79.9		7.978e3		0.126			
4	7	13C3-PFBS	302.0 > 98.8	6.073e3	1.667e4	0.410	0.126	2.98	88.4	88.9
5	8	13C4-PFHpA	367.2 > 321.8	1.608e4	1.667e4	1.098	0.126	3.87	87.4	87.9
6	9	18O2-PFHxS	403 > 102.6	6.881e3	1.667e4	0.434	0.126	3.99	94.6	95.1
7	10	13C2-PFOA	414.9 > 369.7	2.981e4	7.890e3	4.608	0.126	4.28	81.6	82.0
8	11	13C5-PFNA	468.2 > 422.9	7.030e3	9.841e3	0.867	0.126	4.61	82.0	82.4
9	12	13C8-PFOS	507.0 > 79.9	7.978e3	9.906e3	0.958	0.126	4.67	83.6	84.0
10	13	13C5-PFHxA	318>272.9	2.891e4	2.891e4	1.000	0.126	3.35	99.5	100
11	14	13C3-PFHxS	401.9 > 79.9	1.667e4	1.667e4	1.000	0.126	3.99	99.5	100
12	15	13C8-PFOA	421.3 > 376	7.890e3	7.890e3	1.000	0.126	4.27	99.5	100
13	16	13C9-PFNA	472.2 > 426.9	9.841e3	9.841e3	1.000	0.126	4.61	99.5	100
14	17	13C4-PFOS	503.0 > 79.9	9.906e3	9.906e3	1.000	0.126	4.67	99.5	100
15	18	Total PFBS	299 > 79.7		6.881e3		0.126			
16	20	Total PFOA	413 > 368.7		2.981e4		0.126			
17	21	Total PFOS	499 > 79.9		7.978e3		0.126			

Reviewed: CT 03/07/17

AC 3/7/17

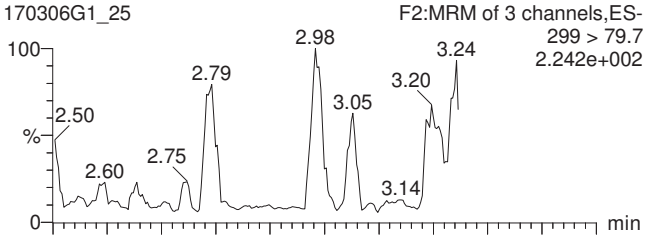
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-25.qld

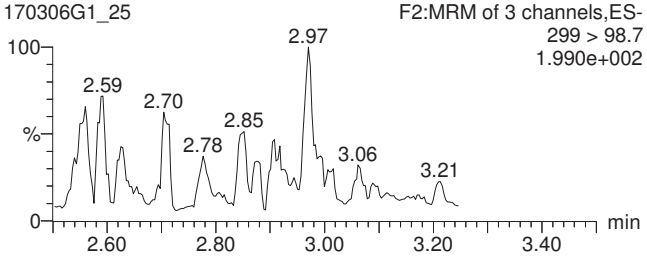
Last Altered: Tuesday, March 07, 2017 11:24:23 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:24:39 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

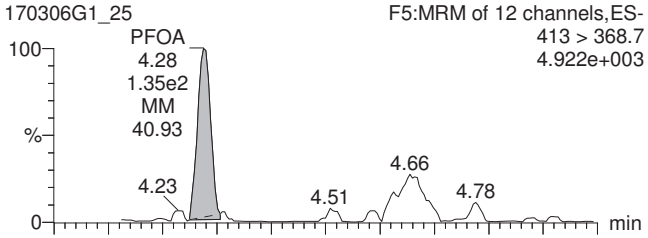
ID: 1700293-06 WI-CV-GW12D-0317 0.125, Description: WI-CV-GW12D-0317, Name: 170306G1_25, Date: 06-Mar-2017, Time: 20:26:04, Instrument: , Lab: , User:

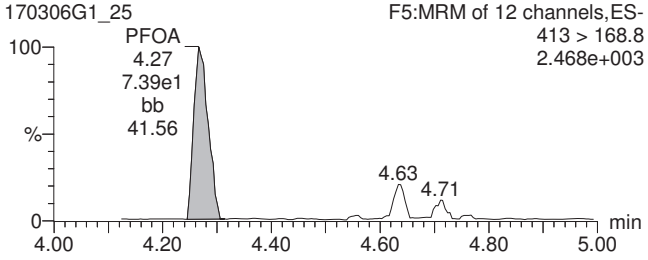
Total PFBS



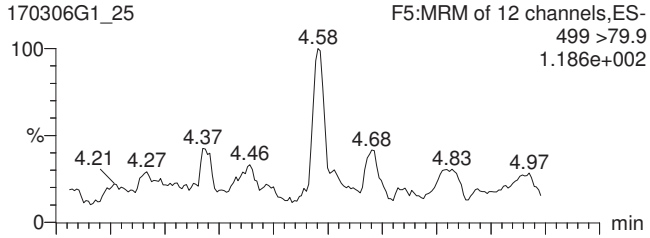


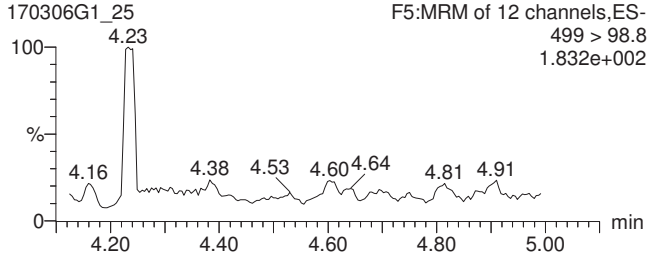
Total PFOA



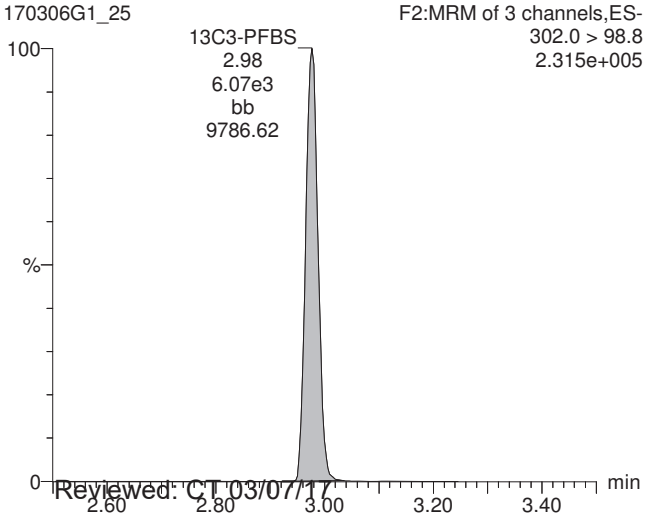


Total PFOS

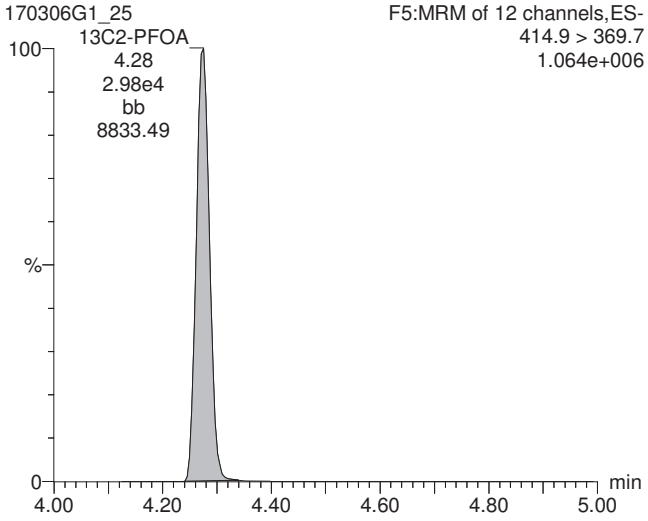




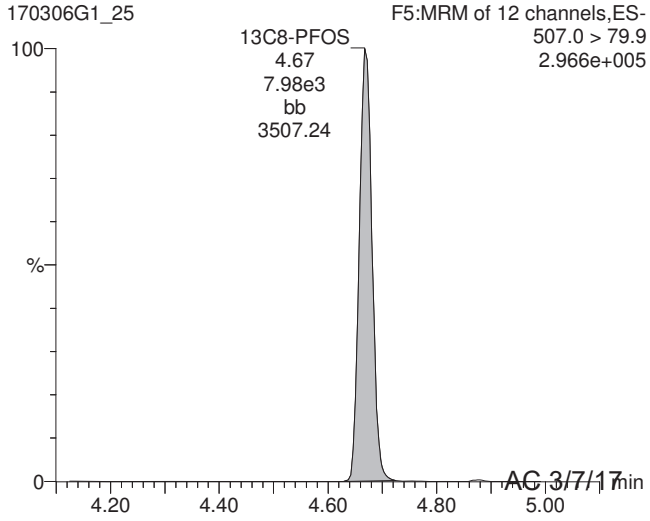
13C3-PFBS



13C2-PFOA



13C8-PFOS



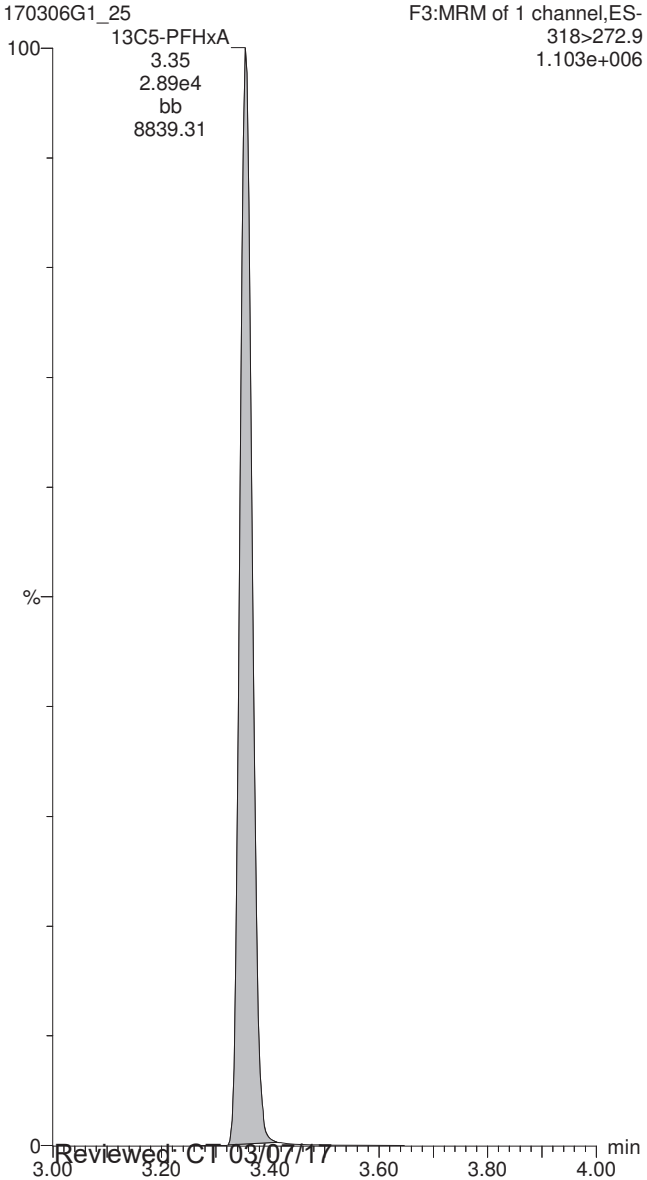
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-25.qld

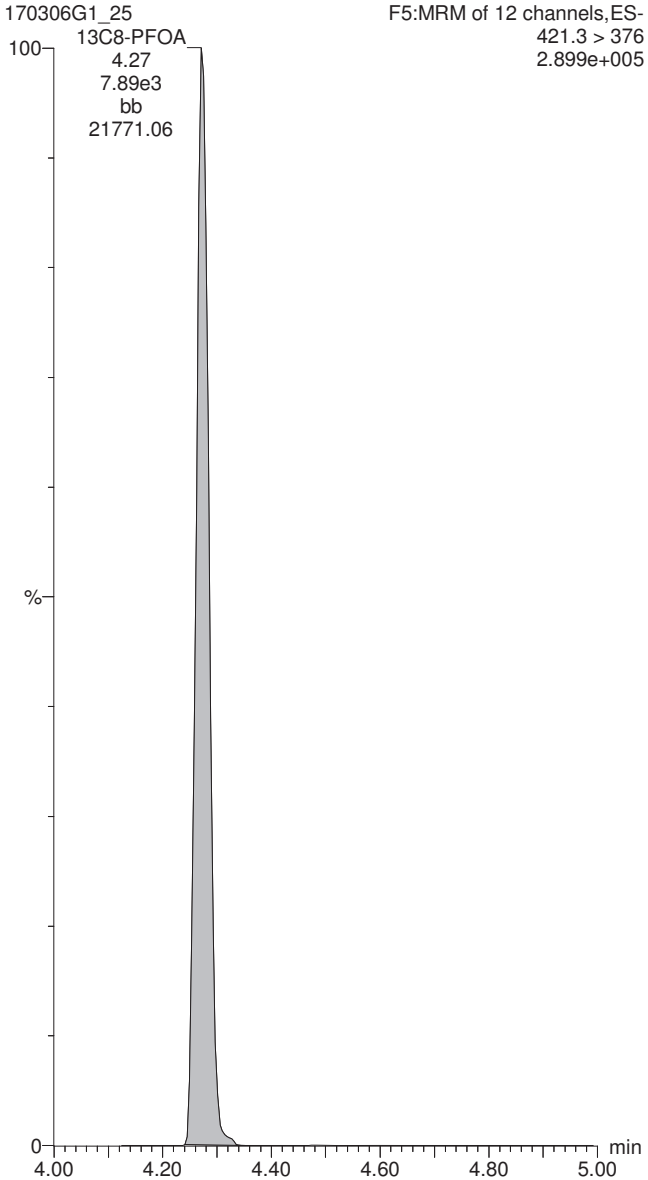
Last Altered: Tuesday, March 07, 2017 11:24:23 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:24:39 AM Pacific Standard Time

ID: 1700293-06 WI-CV-GW12D-0317 0.125, Description: WI-CV-GW12D-0317, Name: 170306G1_25, Date: 06-Mar-2017, Time: 20:26:04, Instrument: , Lab: , User:

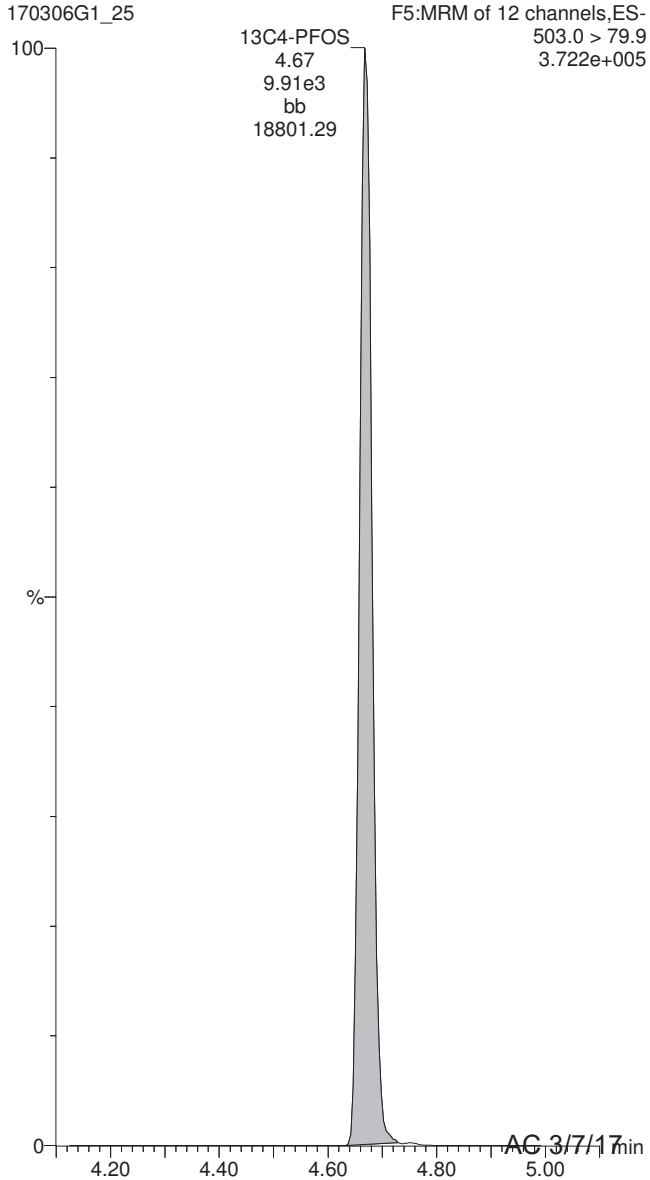
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-31.qld

Last Altered: Tuesday, March 07, 2017 11:39:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:40:11 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: B7C0017-MS1 Matrix Spike 0.125, Description: Matrix Spike, Name: 170306G1_31, Date: 06-Mar-2017, Time: 21:41:24

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.189e4	5.624e3		0.124	2.98	89.2	
2	4	PFOA	413 > 368.7	2.091e4	2.837e4		0.124	4.28	91.6	
3	6	PFOS	499 >79.9	3.292e3	6.921e3		0.124	4.67	89.8	
4	7	13C3-PFBS	302.0 > 98.8	5.624e3	1.535e4	0.410	0.124	2.98	90.0	89.4
5	8	13C4-PFHpA	367.2 > 321.8	1.446e4	1.535e4	1.098	0.124	3.87	86.4	85.8
6	9	18O2-PFHxS	403 > 102.6	6.238e3	1.535e4	0.434	0.124	3.99	94.3	93.6
7	10	13C2-PFOA	414.9 > 369.7	2.837e4	7.341e3	4.608	0.124	4.27	84.5	83.9
8	11	13C5-PFNA	468.2 > 422.9	6.697e3	9.350e3	0.867	0.124	4.61	83.2	82.6
9	12	13C8-PFOS	507.0 > 79.9	6.921e3	9.672e3	0.958	0.124	4.67	75.2	74.7
10	13	13C5-PFHxA	318>272.9	2.786e4	2.786e4	1.000	0.124	3.35	101	100
11	14	13C3-PFHxS	401.9 > 79.9	1.535e4	1.535e4	1.000	0.124	3.99	101	100
12	15	13C8-PFOA	421.3 > 376	7.341e3	7.341e3	1.000	0.124	4.27	101	100
13	16	13C9-PFNA	472.2 > 426.9	9.350e3	9.350e3	1.000	0.124	4.61	101	100
14	17	13C4-PFOS	503.0 > 79.9	9.672e3	9.672e3	1.000	0.124	4.67	101	100
15	18	Total PFBS	299 > 79.7		6.238e3		0.124		89.2	
16	20	Total PFOA	413 > 368.7		2.837e4		0.124		91.6	
17	21	Total PFOS	499 > 79.9		6.921e3		0.124		89.8	

Reviewed: CT 03/07/17

AC 3/7/17

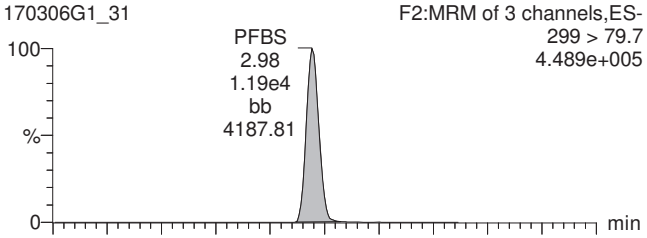
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-31.qld

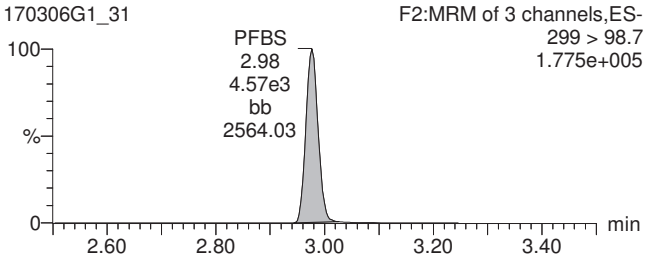
Last Altered: Tuesday, March 07, 2017 11:39:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:40:11 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

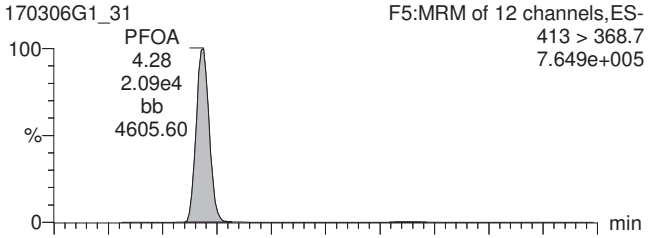
ID: B7C0017-MS1 Matrix Spike 0.125, Description: Matrix Spike, Name: 170306G1_31, Date: 06-Mar-2017, Time: 21:41:24, Instrument: , Lab: , User:

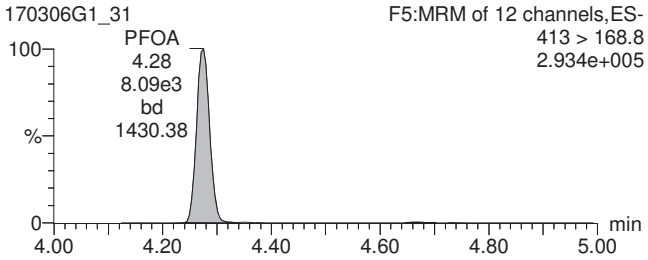
Total PFBS



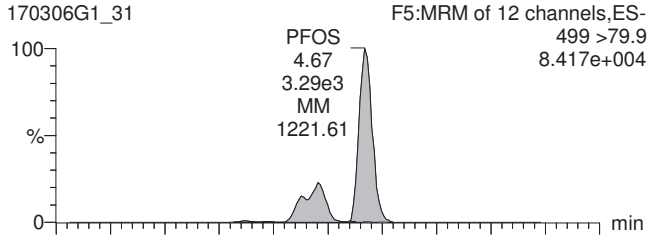


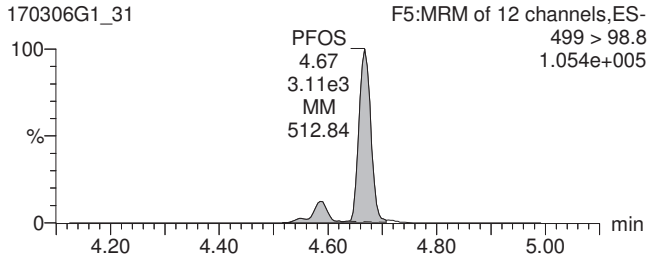
Total PFOA



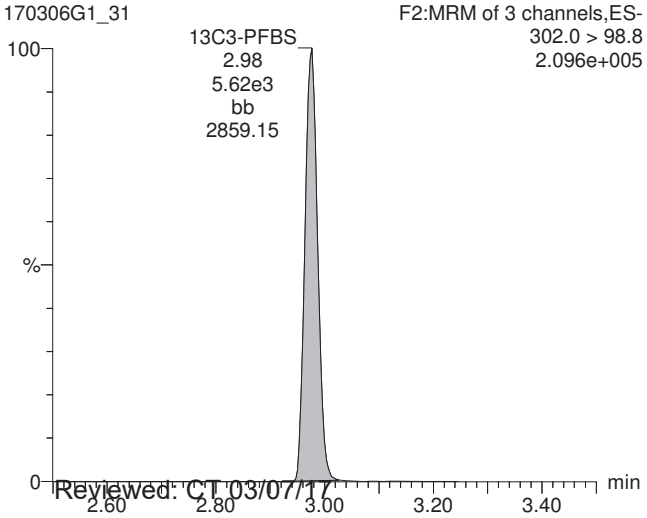


Total PFOS

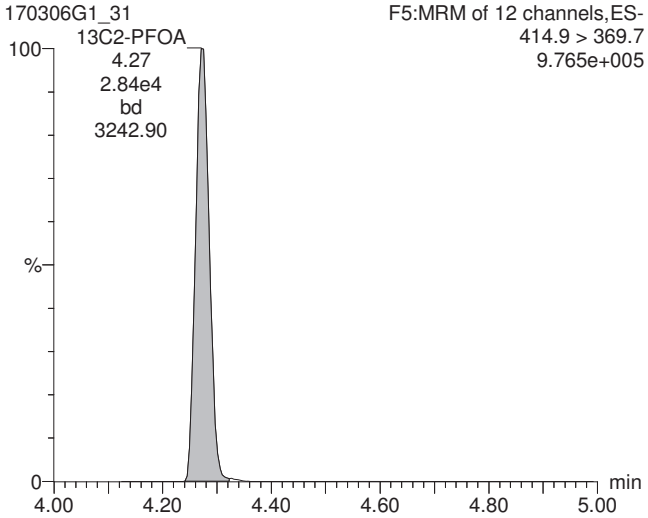




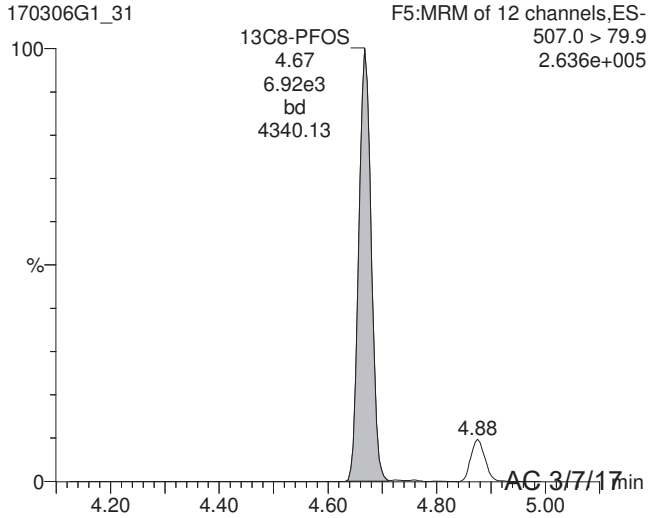
13C3-PFBS



13C2-PFOA



13C8-PFOS



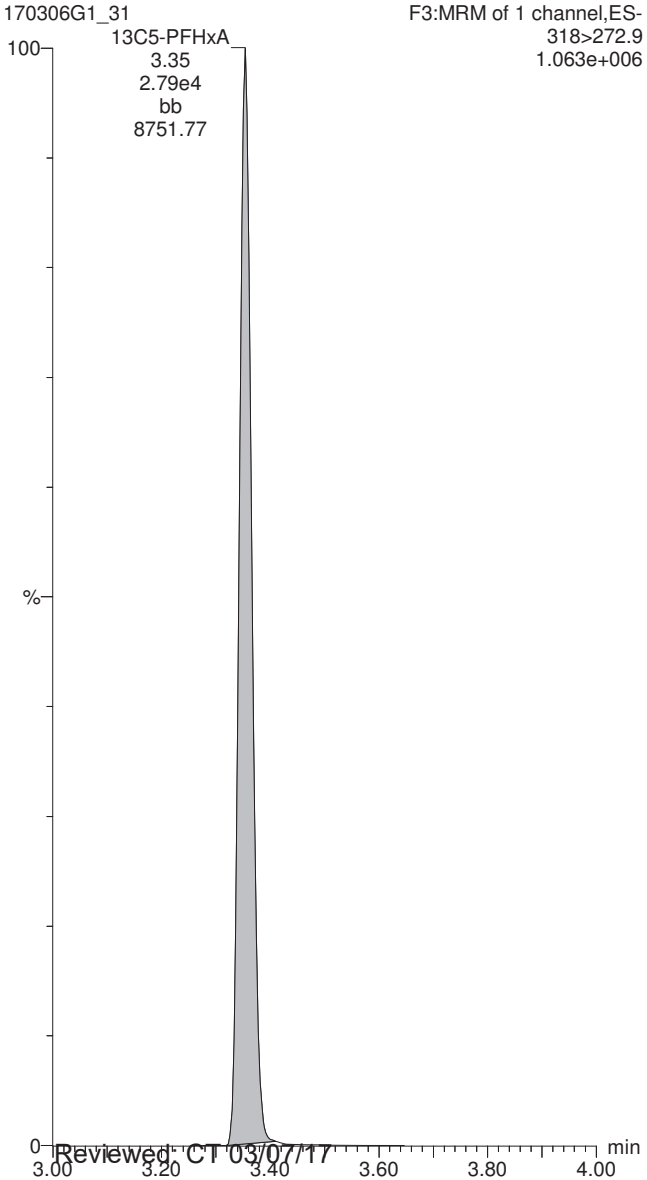
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-31.qld

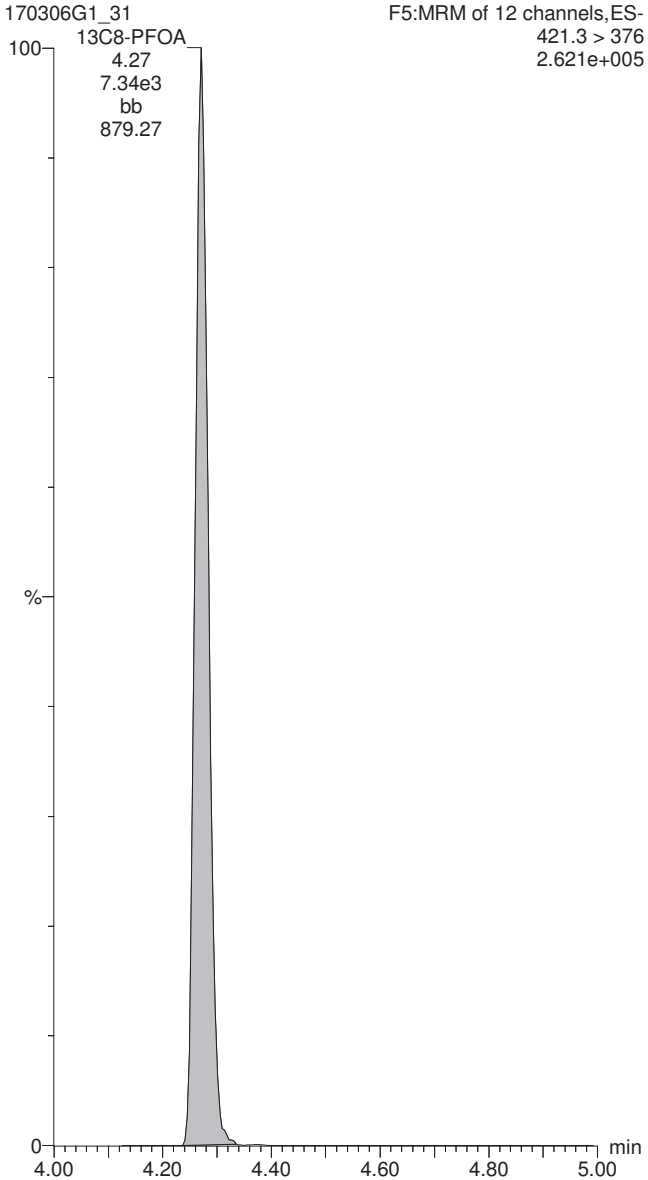
Last Altered: Tuesday, March 07, 2017 11:39:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:40:11 AM Pacific Standard Time

ID: B7C0017-MS1 Matrix Spike 0.125, Description: Matrix Spike, Name: 170306G1_31, Date: 06-Mar-2017, Time: 21:41:24, Instrument: , Lab: , User:

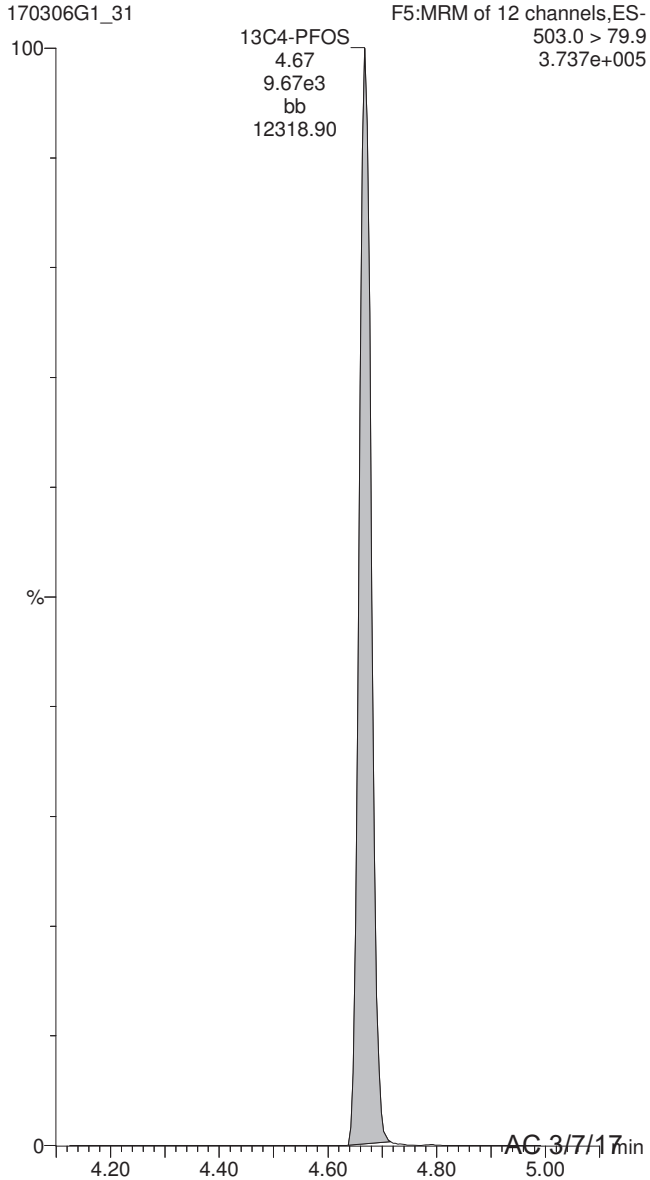
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-32.qld

Last Altered: Tuesday, March 07, 2017 11:41:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:42:03 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: B7C0017-MSD1 Matrix Spike Dup 0.125, Description: Matrix Spike Dup, Name: 170306G1_32, Date: 06-Mar-2017, Time: 21:53:53

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.144e4	5.611e3		0.125	2.98	85.1	
2	4	PFOA	413 > 368.7	2.058e4	2.832e4		0.125	4.28	89.4	
3	6	PFOS	499 >79.9	3.006e3	7.769e3		0.125	4.67	72.4	
4	7	13C3-PFBS	302.0 > 98.8	5.611e3	1.555e4	0.410	0.125	2.98	87.7	88.0
5	8	13C4-PFHpA	367.2 > 321.8	1.450e4	1.555e4	1.098	0.125	3.87	84.6	84.9
6	9	18O2-PFHxS	403 > 102.6	6.443e3	1.555e4	0.434	0.125	3.99	95.1	95.4
7	10	13C2-PFOA	414.9 > 369.7	2.832e4	7.399e3	4.608	0.125	4.28	82.8	83.0
8	11	13C5-PFNA	468.2 > 422.9	7.024e3	9.084e3	0.867	0.125	4.61	88.9	89.2
9	12	13C8-PFOS	507.0 > 79.9	7.769e3	9.030e3	0.958	0.125	4.67	89.5	89.8
10	13	13C5-PFHxA	318>272.9	2.692e4	2.692e4	1.000	0.125	3.35	99.7	100
11	14	13C3-PFHxS	401.9 > 79.9	1.555e4	1.555e4	1.000	0.125	3.99	99.7	100
12	15	13C8-PFOA	421.3 > 376	7.399e3	7.399e3	1.000	0.125	4.27	99.7	100
13	16	13C9-PFNA	472.2 > 426.9	9.084e3	9.084e3	1.000	0.125	4.61	99.7	100
14	17	13C4-PFOS	503.0 > 79.9	9.030e3	9.030e3	1.000	0.125	4.67	99.7	100
15	18	Total PFBS	299 > 79.7		6.443e3		0.125		85.1	
16	20	Total PFOA	413 > 368.7		2.832e4		0.125		89.4	
17	21	Total PFOS	499 > 79.9		7.769e3		0.125		72.4	

Reviewed: CT 03/07/17

AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-32.qld

Last Altered: Tuesday, March 07, 2017 11:41:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:42:03 AM Pacific Standard Time

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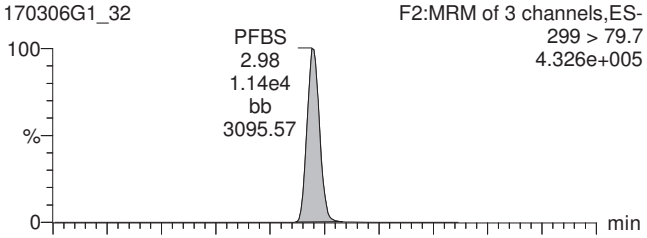
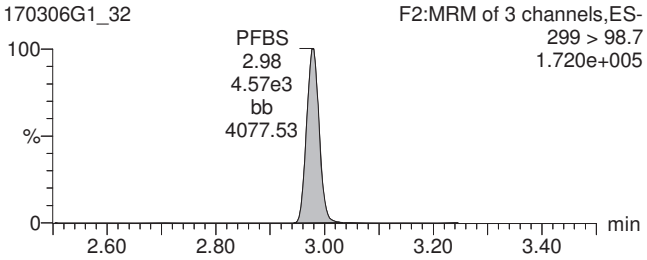
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: B7C0017-MSD1 Matrix Spike Dup 0.125, Description: Matrix Spike Dup, Name: 170306G1_32, Date: 06-Mar-2017, Time: 21:53:53, Instrument: , Lab: , User:

Total PFBS





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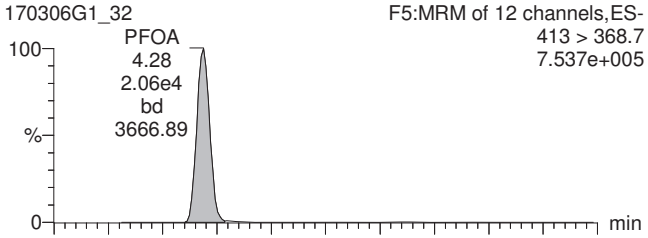
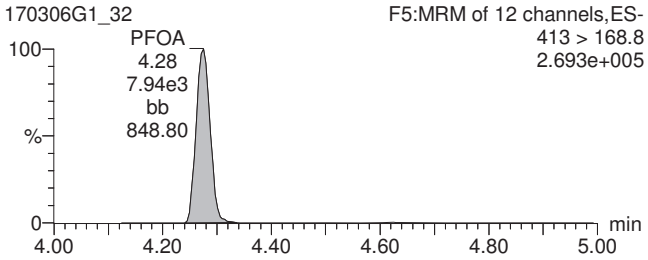
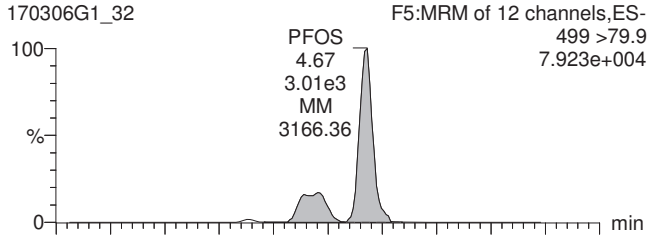
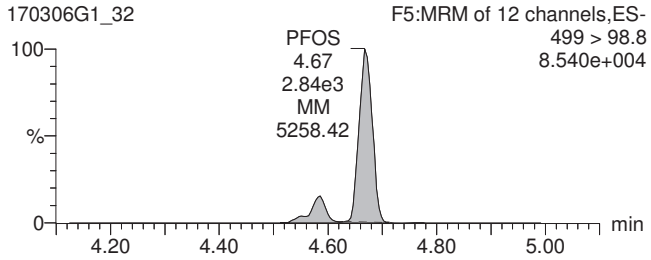


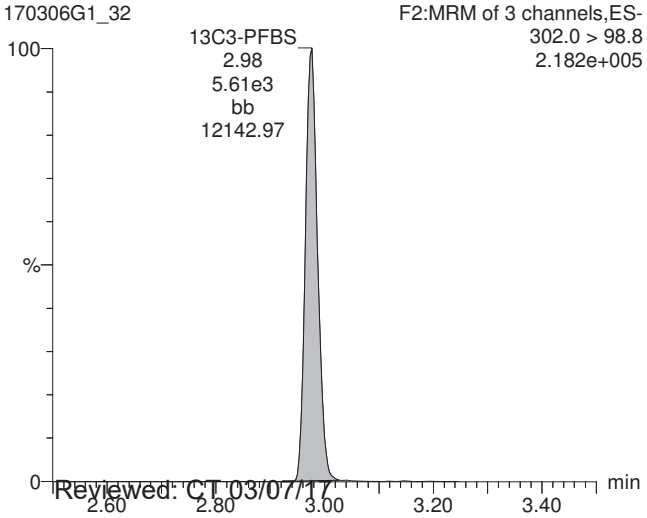


Total PFOS

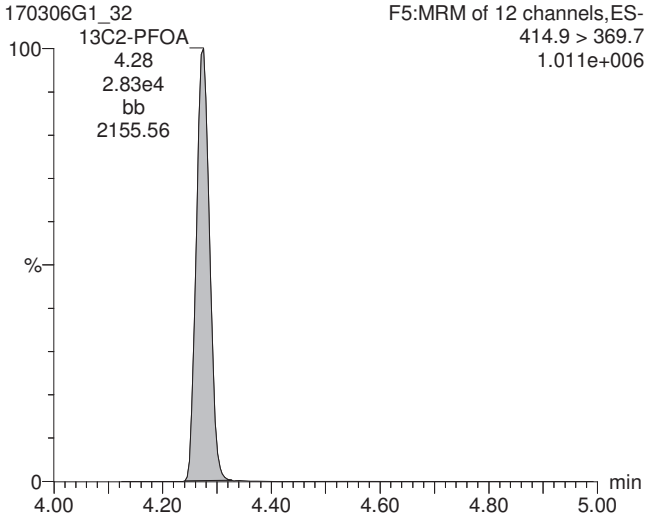




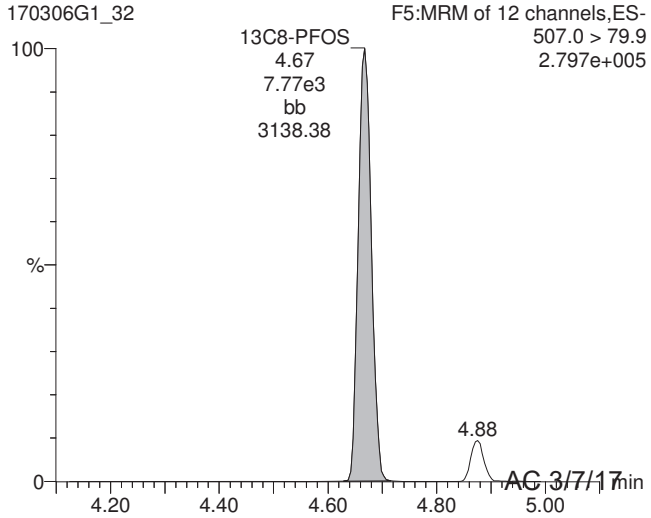
13C3-PFBS



13C2-PFOA



13C8-PFOS



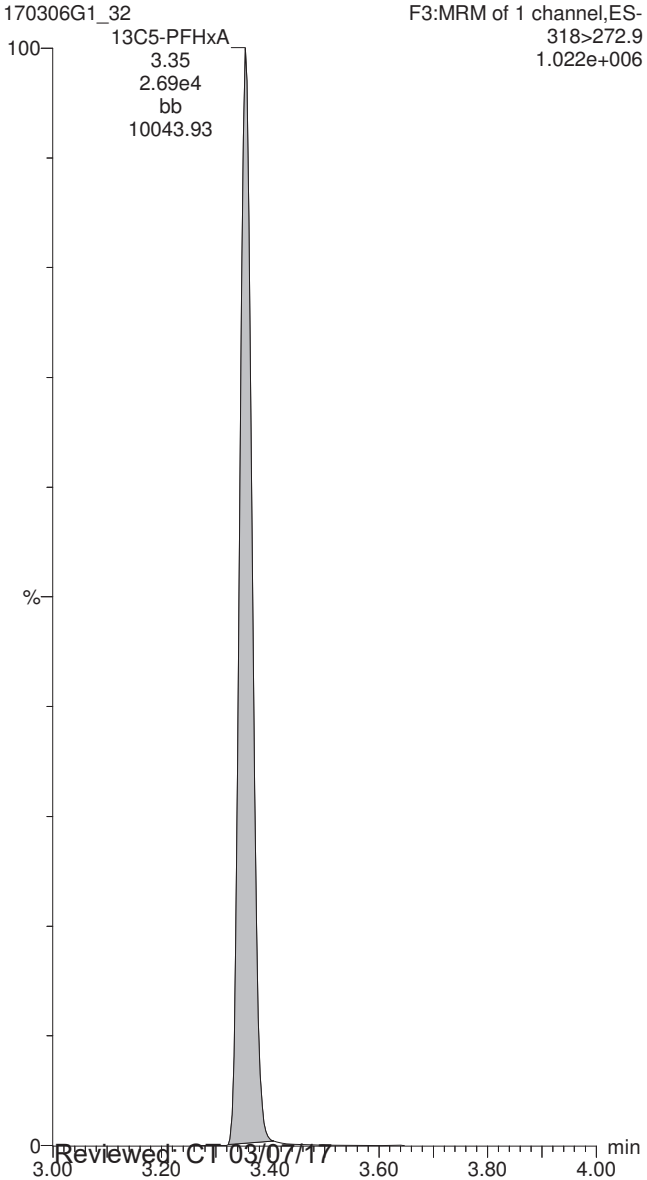
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-32.qld

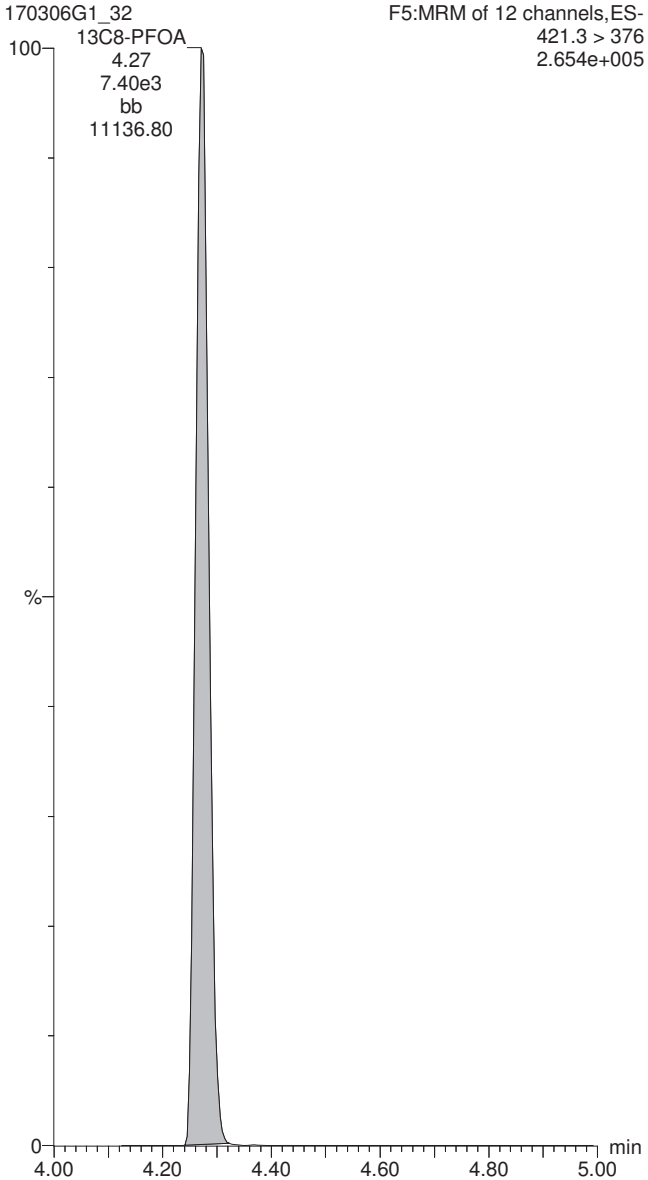
Last Altered: Tuesday, March 07, 2017 11:41:43 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:42:03 AM Pacific Standard Time

ID: B7C0017-MSD1 Matrix Spike Dup 0.125, Description: Matrix Spike Dup, Name: 170306G1_32, Date: 06-Mar-2017, Time: 21:53:53, Instrument: , Lab: , User:

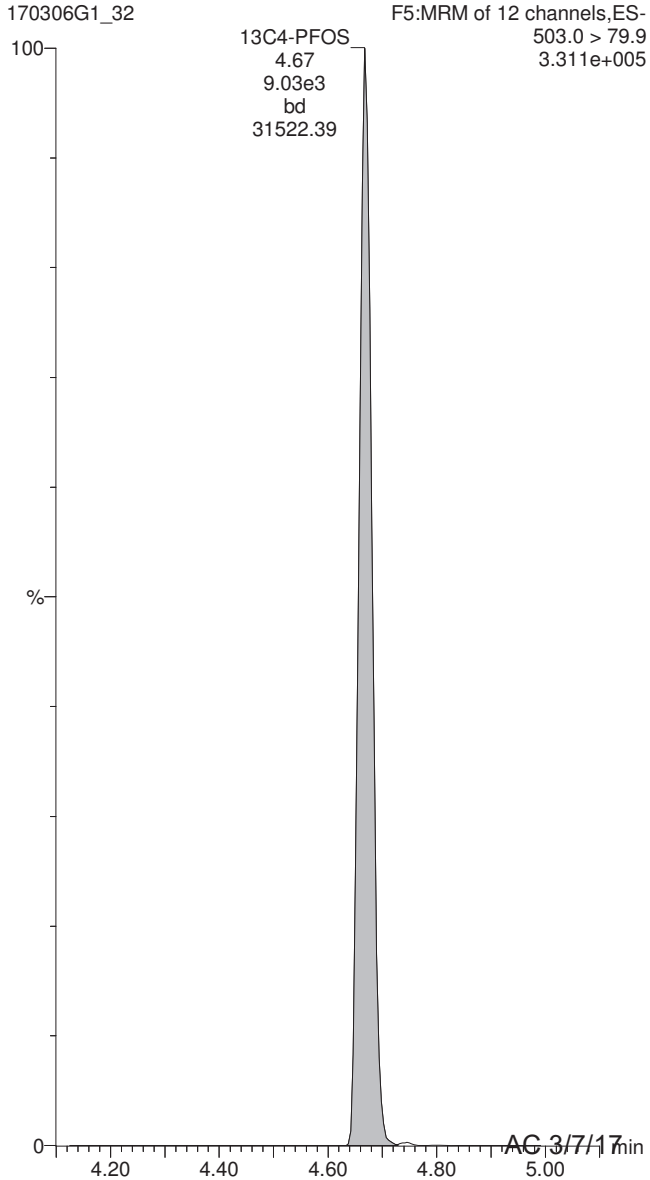
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-26.qld

Last Altered: Tuesday, March 07, 2017 11:26:07 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:26:24 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-07 WI-CV-EB09-030117 0.125, Description: WI-CV-EB09-030117, Name: 170306G1_26, Date: 06-Mar-2017, Time: 20:38:37

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.887e0	6.215e3		0.115	2.98		
2	4	PFOA	413 > 368.7	1.967e2	3.456e4		0.115	4.28		
3	6	PFOS	499 >79.9		9.932e3		0.115			
4	7	13C3-PFBS	302.0 > 98.8	6.215e3	1.670e4	0.410	0.115	2.98	98.6	90.8
5	8	13C4-PFHpA	367.2 > 321.8	1.622e4	1.670e4	1.098	0.115	3.87	96.1	88.5
6	9	18O2-PFHxS	403 > 102.6	7.279e3	1.670e4	0.434	0.115	3.99	109	100
7	10	13C2-PFOA	414.9 > 369.7	3.456e4	8.713e3	4.608	0.115	4.27	93.5	86.1
8	11	13C5-PFNA	468.2 > 422.9	9.383e3	1.055e4	0.867	0.115	4.61	111	103
9	12	13C8-PFOS	507.0 > 79.9	9.932e3	1.085e4	0.958	0.115	4.67	104	95.5
10	13	13C5-PFHxA	318>272.9	3.001e4	3.001e4	1.000	0.115	3.35	109	100
11	14	13C3-PFHxS	401.9 > 79.9	1.670e4	1.670e4	1.000	0.115	3.99	109	100
12	15	13C8-PFOA	421.3 > 376	8.713e3	8.713e3	1.000	0.115	4.27	109	100
13	16	13C9-PFNA	472.2 > 426.9	1.055e4	1.055e4	1.000	0.115	4.61	109	100
14	17	13C4-PFOS	503.0 > 79.9	1.085e4	1.085e4	1.000	0.115	4.67	109	100
15	18	Total PFBS	299 > 79.7		7.279e3		0.115			
16	20	Total PFOA	413 > 368.7		3.456e4		0.115			
17	21	Total PFOS	499 > 79.9		9.932e3		0.115			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

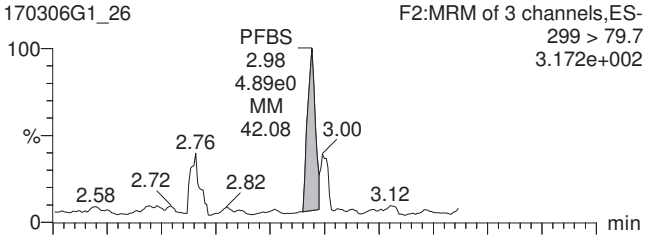
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-26.qld

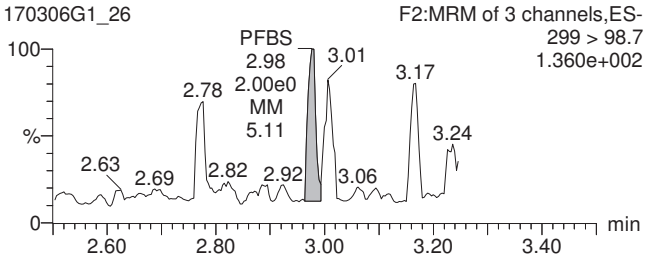
Last Altered: Tuesday, March 07, 2017 11:26:07 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:26:24 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

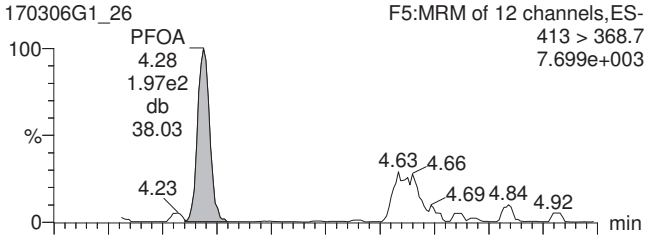
ID: 1700293-07 WI-CV-EB09-030117 0.125, Description: WI-CV-EB09-030117, Name: 170306G1_26, Date: 06-Mar-2017, Time: 20:38:37, Instrument: , Lab: , User:

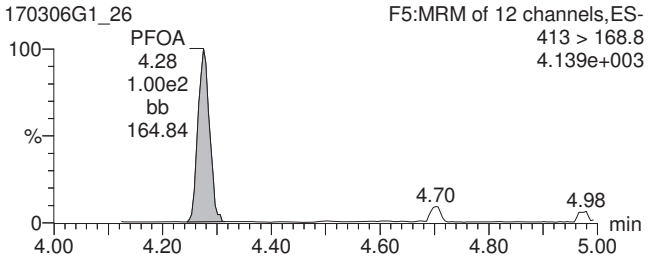
Total PFBS



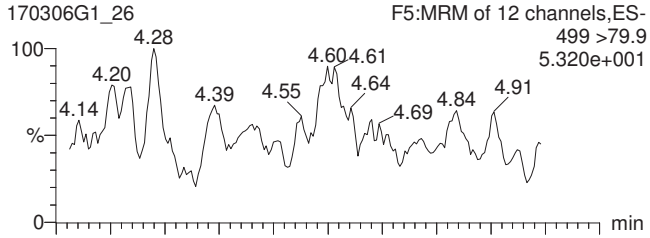


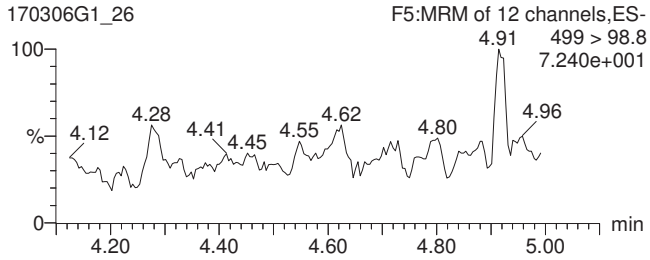
Total PFOA



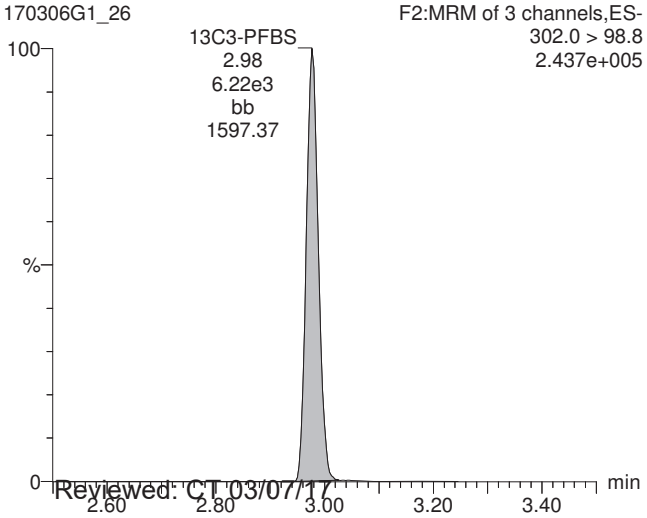


Total PFOS

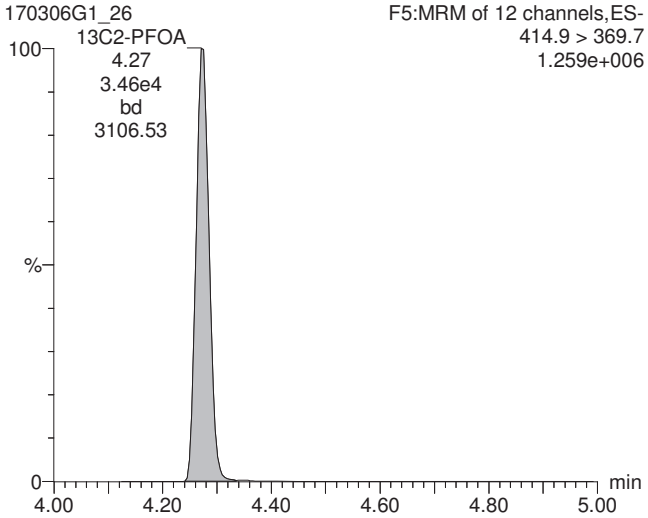




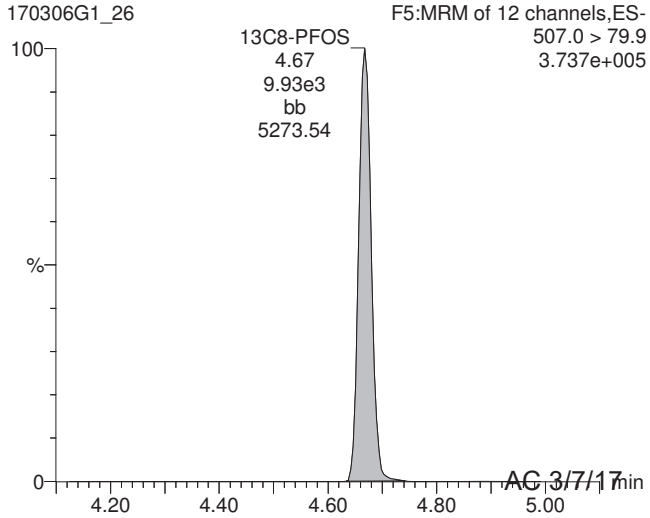
13C3-PFBS



13C2-PFOA



13C8-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

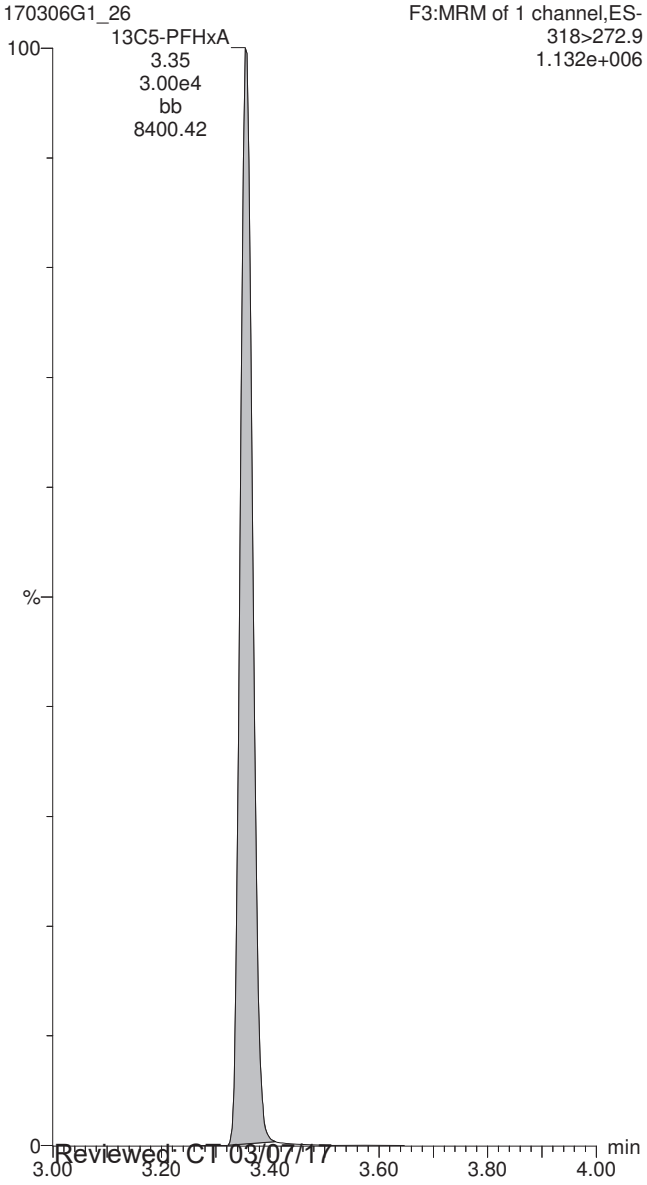
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-26.qld

Last Altered: Tuesday, March 07, 2017 11:26:07 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:26:24 AM Pacific Standard Time

ID: 1700293-07 WI-CV-EB09-030117 0.125, Description: WI-CV-EB09-030117, Name: 170306G1_26, Date: 06-Mar-2017, Time: 20:38:37, Instrument: , Lab: , User:

13C5-PFHxA



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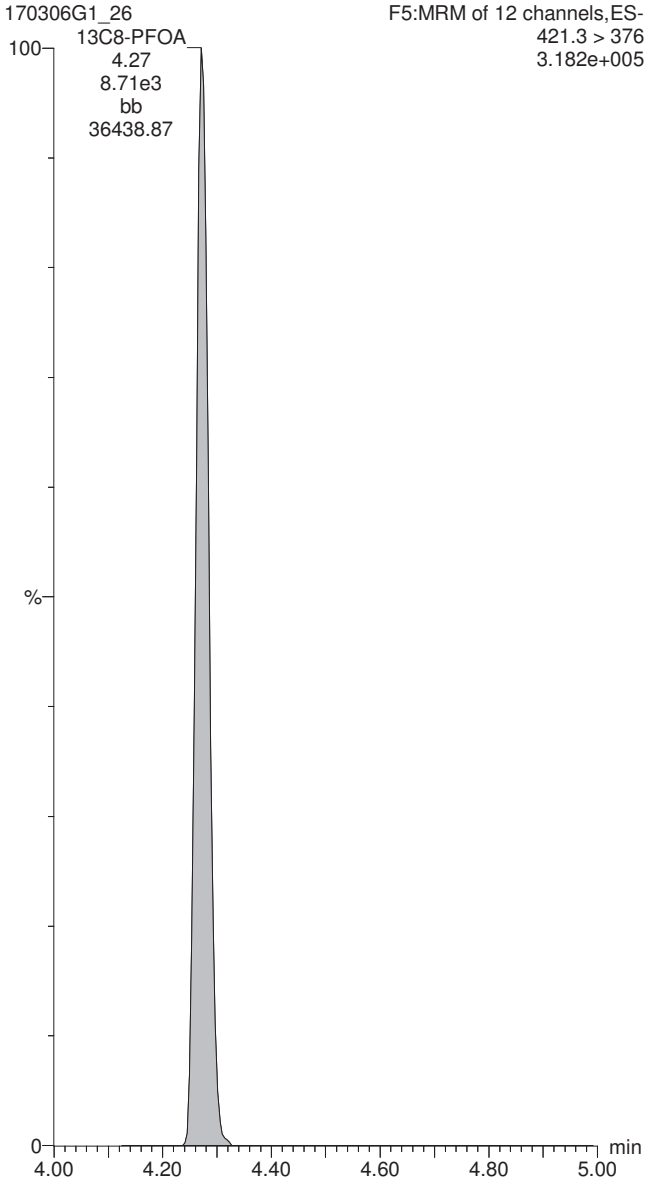
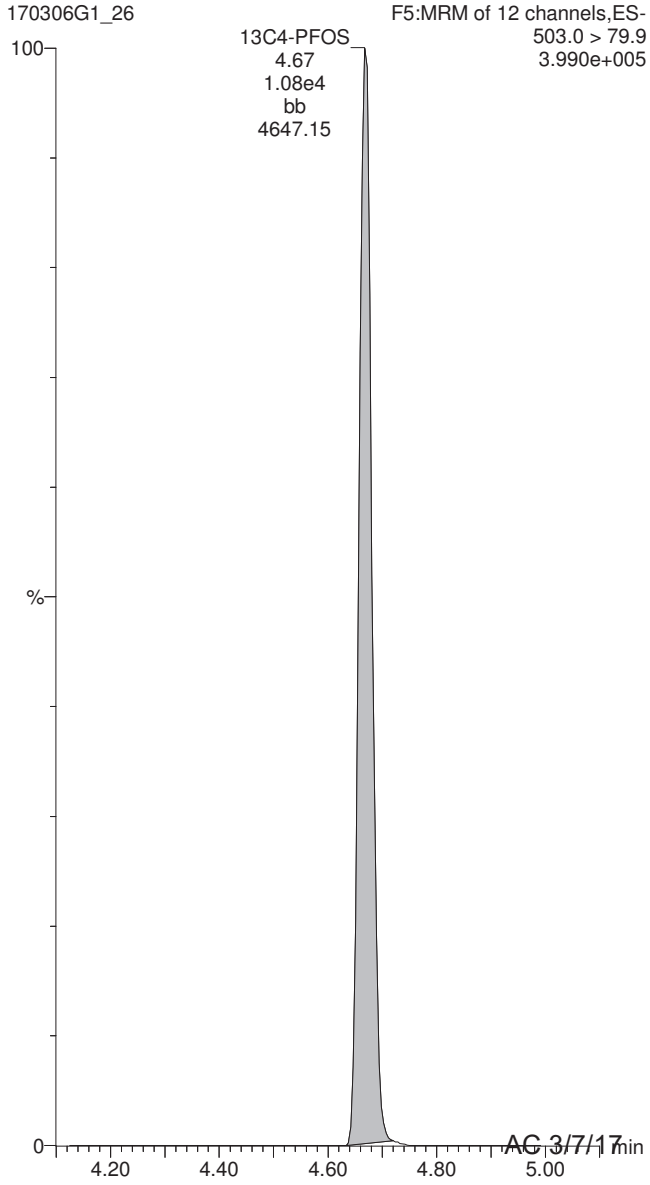


13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-27.qld

Last Altered: Tuesday, March 07, 2017 11:29:20 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:29:46 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-08 WI-CV-GW08S-0317 0.125, Description: WI-CV-GW08S-0317, Name: 170306G1_27, Date: 06-Mar-2017, Time: 20:51:11

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.737e2	5.960e3		0.130	2.98	0.958	
2	4	PFOA	413 > 368.7	2.664e2	2.675e4		0.130	4.28		
3	6	PFOS	499 >79.9		6.175e3		0.130			
4	7	13C3-PFBS	302.0 > 98.8	5.960e3	1.444e4	0.410	0.130	2.98	97.0	101
5	8	13C4-PFHpA	367.2 > 321.8	1.435e4	1.444e4	1.098	0.130	3.87	87.2	90.5
6	9	18O2-PFHxS	403 > 102.6	6.124e3	1.444e4	0.434	0.130	3.99	94.1	97.6
7	10	13C2-PFOA	414.9 > 369.7	2.675e4	6.287e3	4.608	0.130	4.28	88.9	92.3
8	11	13C5-PFNA	468.2 > 422.9	5.395e3	7.912e3	0.867	0.130	4.61	75.7	78.6
9	12	13C8-PFOS	507.0 > 79.9	6.175e3	8.376e3	0.958	0.130	4.67	74.1	76.9
10	13	13C5-PFHxA	318>272.9	2.781e4	2.781e4	1.000	0.130	3.35	96.3	100
11	14	13C3-PFHxS	401.9 > 79.9	1.444e4	1.444e4	1.000	0.130	3.99	96.3	100
12	15	13C8-PFOA	421.3 > 376	6.287e3	6.287e3	1.000	0.130	4.27	96.3	100
13	16	13C9-PFNA	472.2 > 426.9	7.912e3	7.912e3	1.000	0.130	4.61	96.3	100
14	17	13C4-PFOS	503.0 > 79.9	8.376e3	8.376e3	1.000	0.130	4.67	96.3	100
15	18	Total PFBS	299 > 79.7		6.124e3		0.130		0.958	
16	20	Total PFOA	413 > 368.7		2.675e4		0.130			
17	21	Total PFOS	499 > 79.9		6.175e3		0.130			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

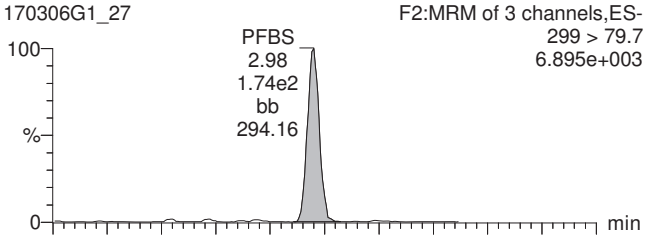
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-27.qld

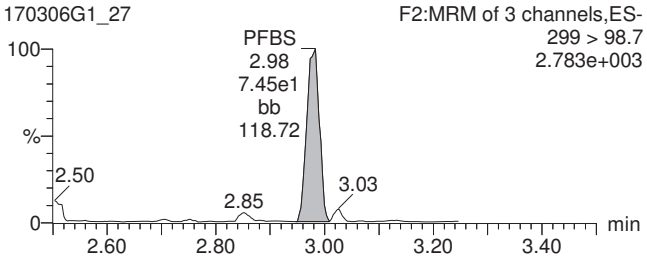
Last Altered: Tuesday, March 07, 2017 11:29:20 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:29:46 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-08 WI-CV-GW08S-0317 0.125, Description: WI-CV-GW08S-0317, Name: 170306G1_27, Date: 06-Mar-2017, Time: 20:51:11, Instrument: , Lab: , User:

Total PFBS





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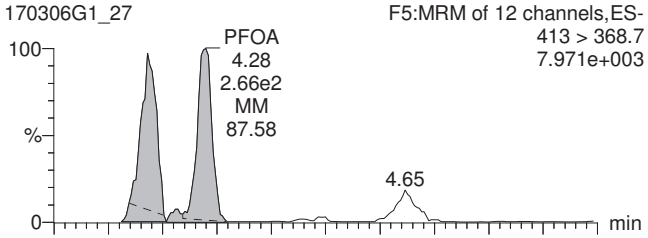
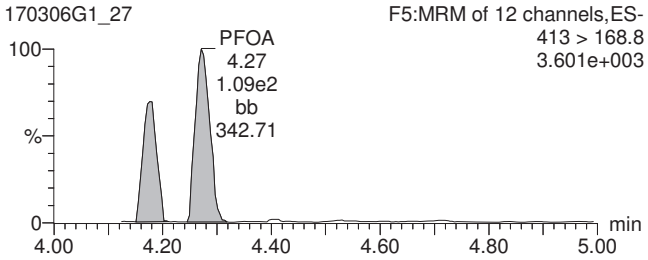
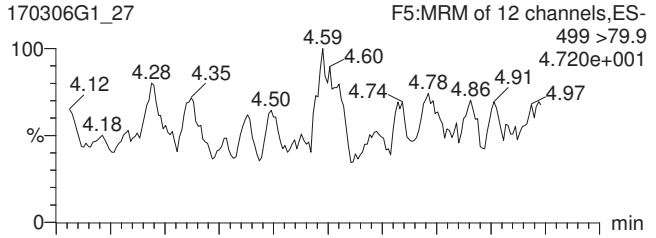
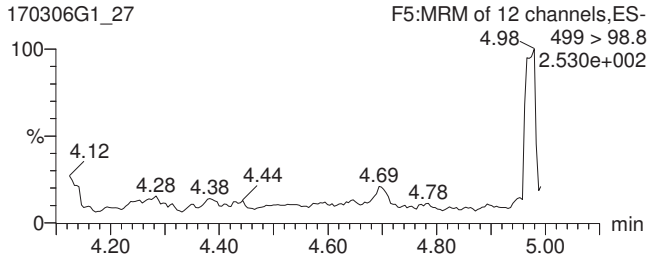


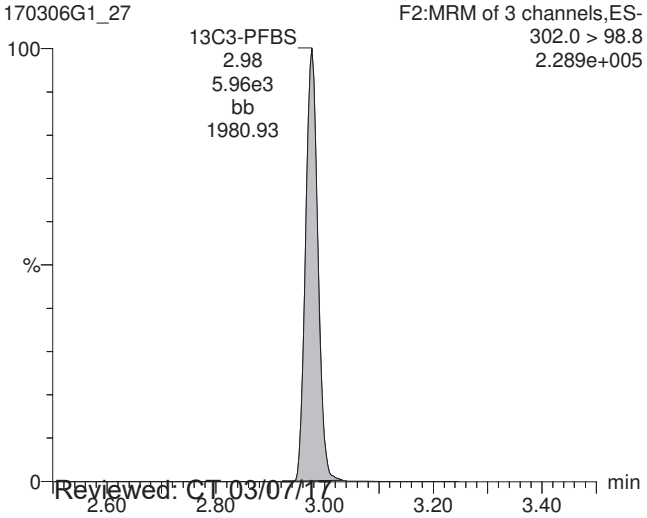


Total PFOS

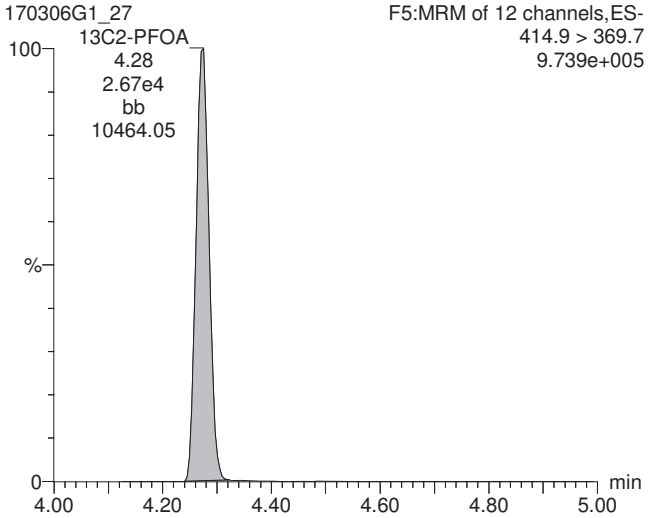




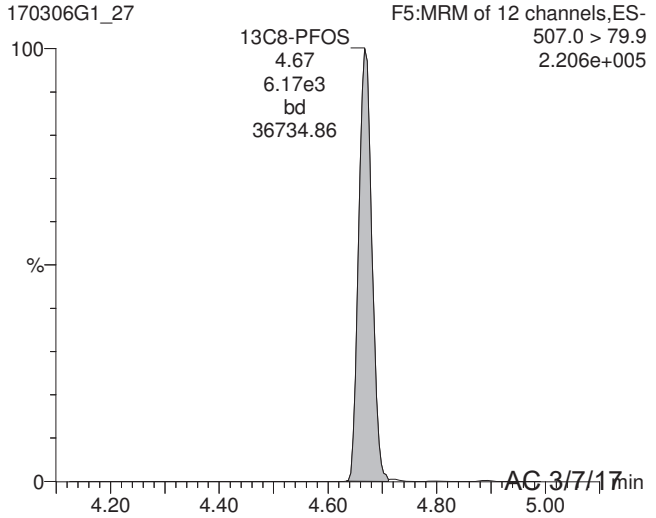
13C3-PFBS



13C2-PFOA



13C8-PFOS



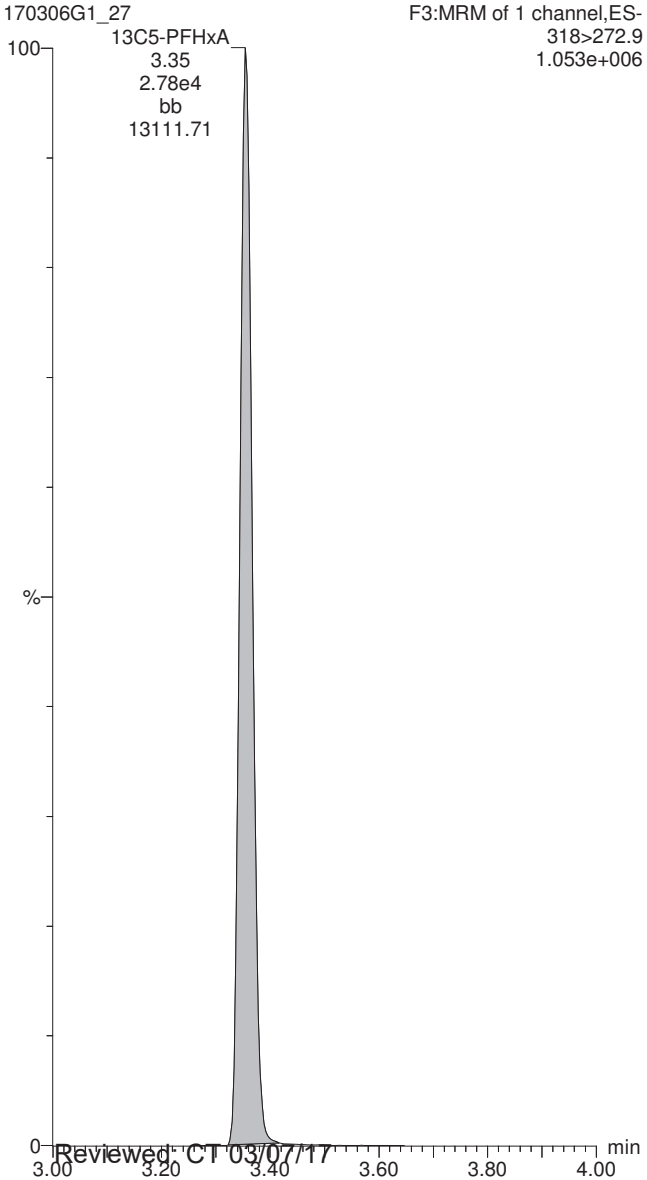
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-27.qld

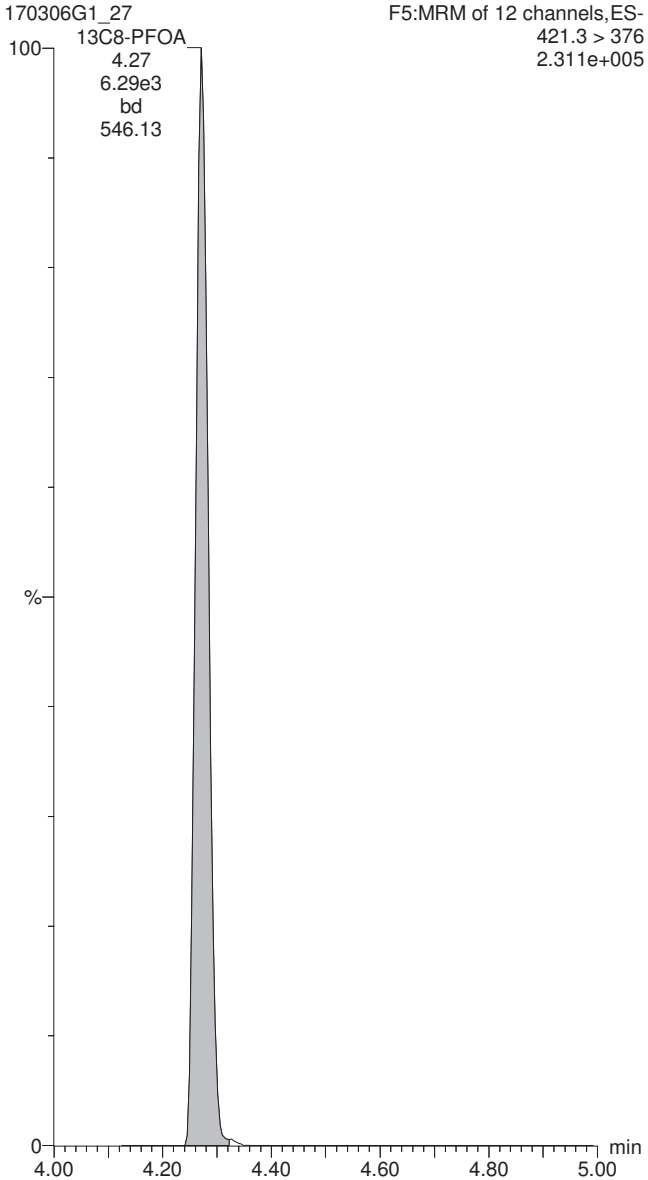
Last Altered: Tuesday, March 07, 2017 11:29:20 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:29:46 AM Pacific Standard Time

ID: 1700293-08 WI-CV-GW08S-0317 0.125, Description: WI-CV-GW08S-0317, Name: 170306G1_27, Date: 06-Mar-2017, Time: 20:51:11, Instrument: , Lab: , User:

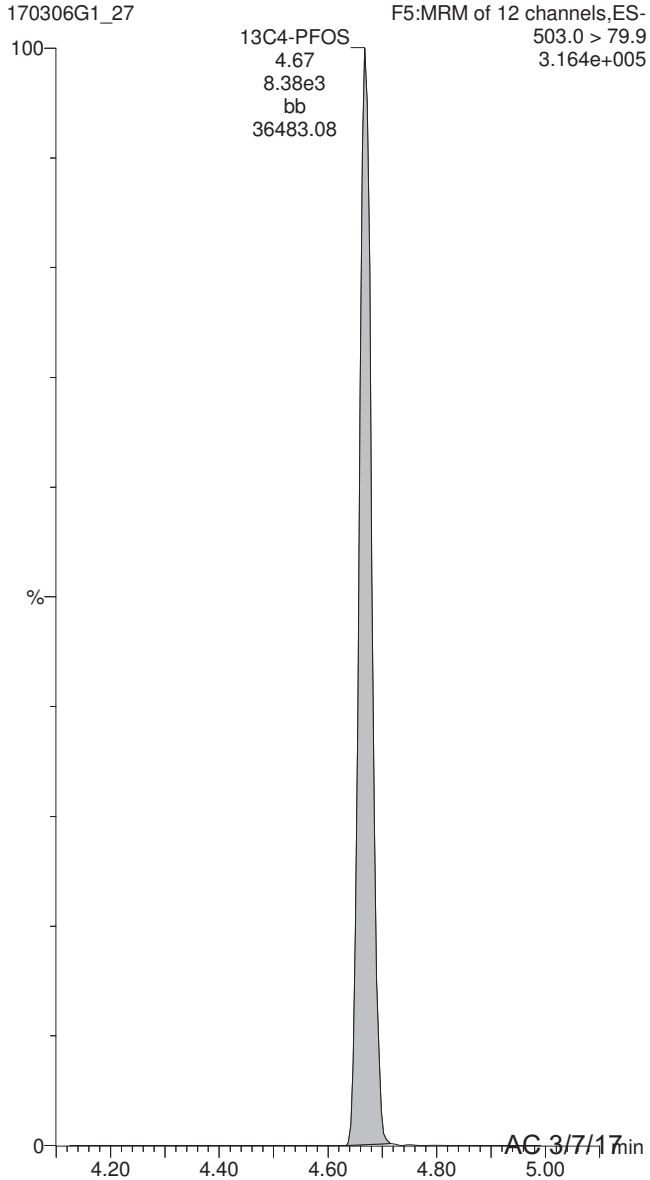
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-28.qld

Last Altered: Tuesday, March 07, 2017 11:30:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:31:17 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-09 WI-CV-FB01-030217 0.125, Description: WI-CV-FB01-030217, Name: 170306G1_28, Date: 06-Mar-2017, Time: 21:03:44

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		5.893e3		0.119			
2	4	PFOA	413 > 368.7	1.427e2	2.484e4		0.119	4.28		
3	6	PFOS	499 >79.9		6.750e3		0.119			
4	7	13C3-PFBS	302.0 > 98.8	5.893e3	1.400e4	0.410	0.119	2.98	107	103
5	8	13C4-PFHpA	367.2 > 321.8	1.442e4	1.400e4	1.098	0.119	3.87	98.2	93.8
6	9	18O2-PFHxS	403 > 102.6	5.434e3	1.400e4	0.434	0.119	3.99	93.5	89.4
7	10	13C2-PFOA	414.9 > 369.7	2.484e4	6.276e3	4.608	0.119	4.28	89.9	85.9
8	11	13C5-PFNA	468.2 > 422.9	6.595e3	8.451e3	0.867	0.119	4.61	94.2	90.0
9	12	13C8-PFOS	507.0 > 79.9	6.750e3	8.381e3	0.958	0.119	4.67	88.0	84.0
10	13	13C5-PFHxA	318>272.9	2.735e4	2.735e4	1.000	0.119	3.35	105	100
11	14	13C3-PFHxS	401.9 > 79.9	1.400e4	1.400e4	1.000	0.119	3.99	105	100
12	15	13C8-PFOA	421.3 > 376	6.276e3	6.276e3	1.000	0.119	4.28	105	100
13	16	13C9-PFNA	472.2 > 426.9	8.451e3	8.451e3	1.000	0.119	4.61	105	100
14	17	13C4-PFOS	503.0 > 79.9	8.381e3	8.381e3	1.000	0.119	4.67	105	100
15	18	Total PFBS	299 > 79.7		5.434e3		0.119			
16	20	Total PFOA	413 > 368.7		2.484e4		0.119			
17	21	Total PFOS	499 > 79.9		6.750e3		0.119			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-28.qld

Last Altered: Tuesday, March 07, 2017 11:30:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:31:17 AM Pacific Standard Time

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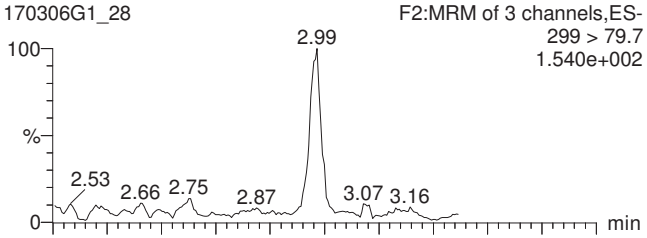
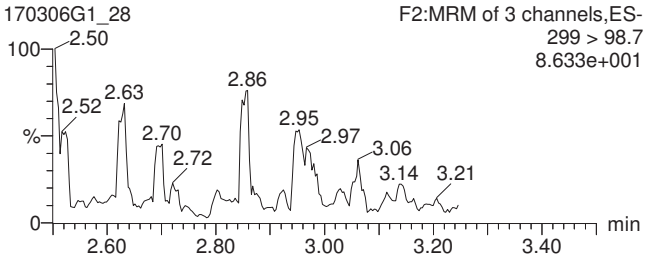
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-09 WI-CV-FB01-030217 0.125, Description: WI-CV-FB01-030217, Name: 170306G1_28, Date: 06-Mar-2017, Time: 21:03:44, Instrument: , Lab: , User:

Total PFBS





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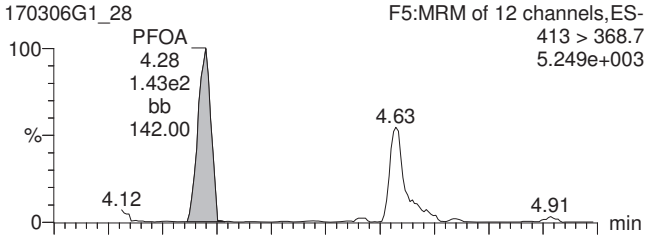
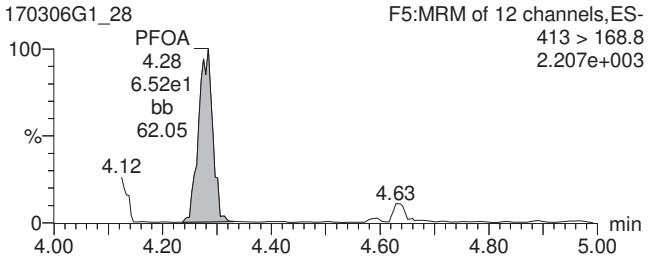
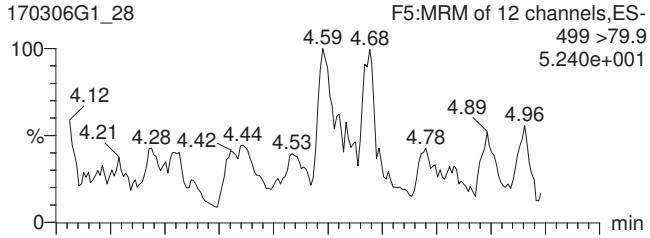
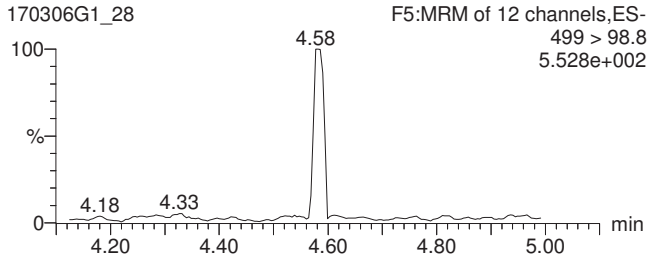


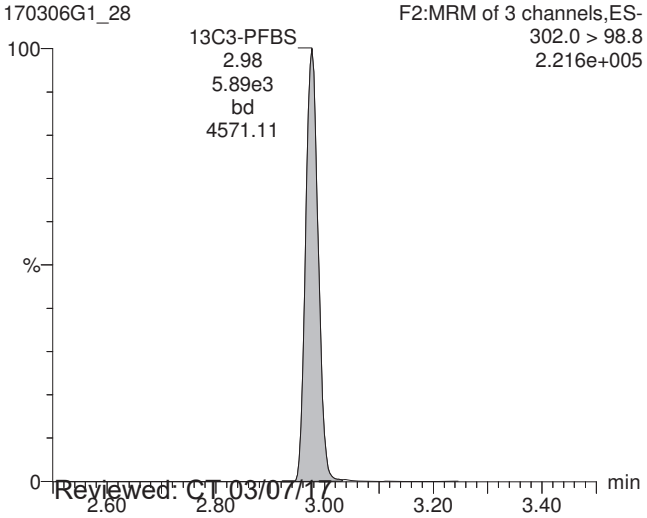


Total PFOS

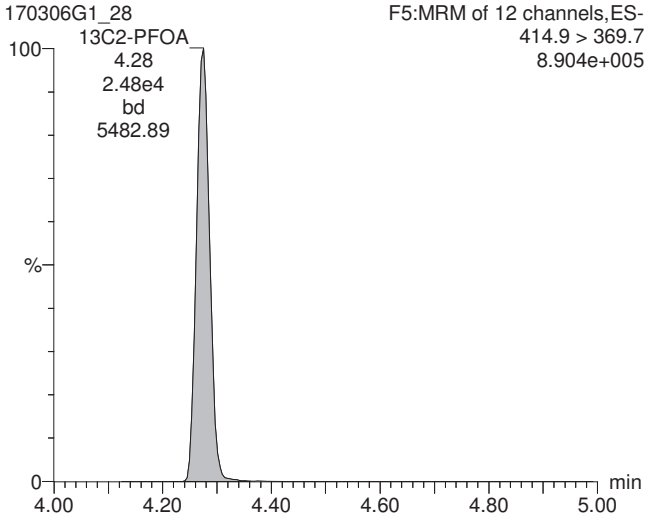




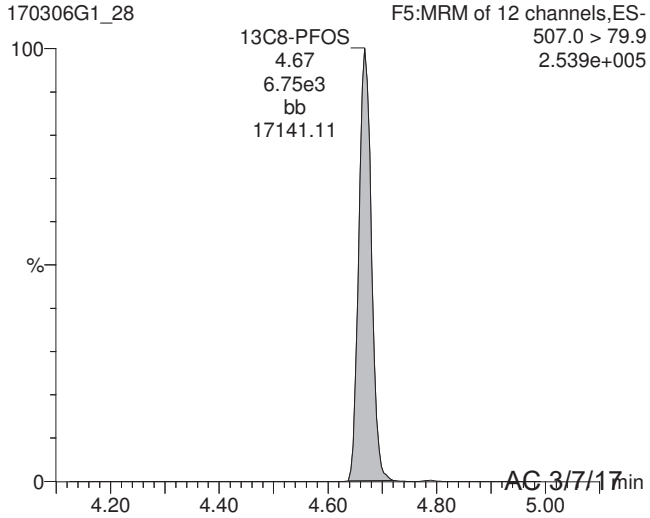
13C3-PFBS



13C2-PFOA



13C8-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

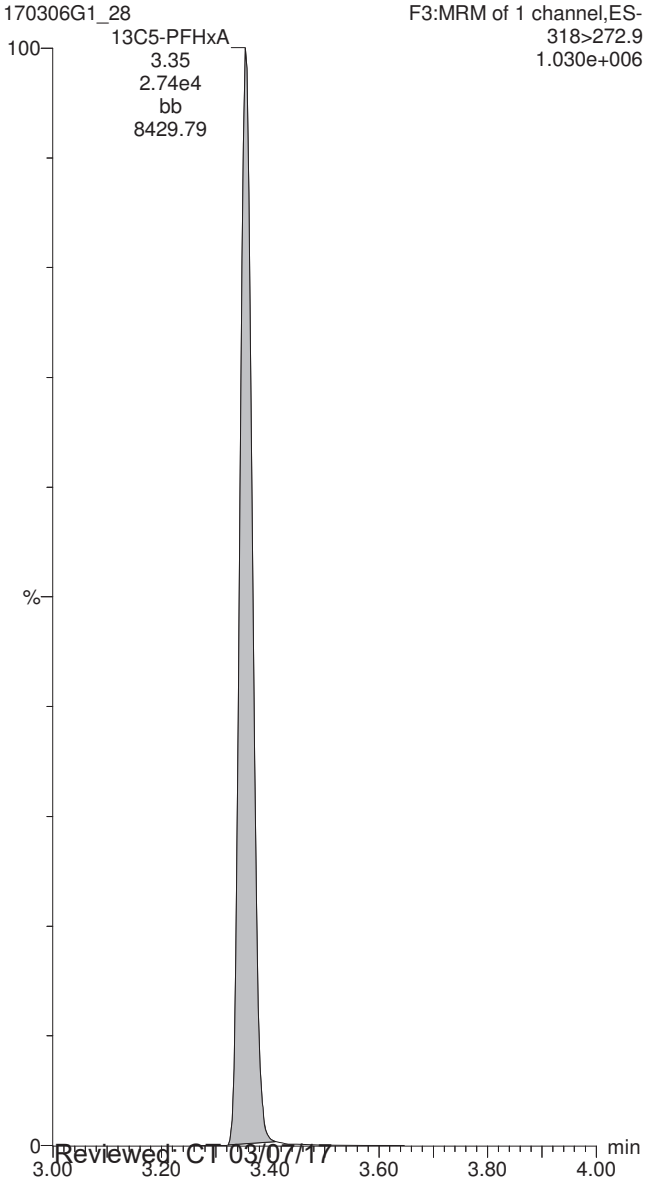
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-28.qld

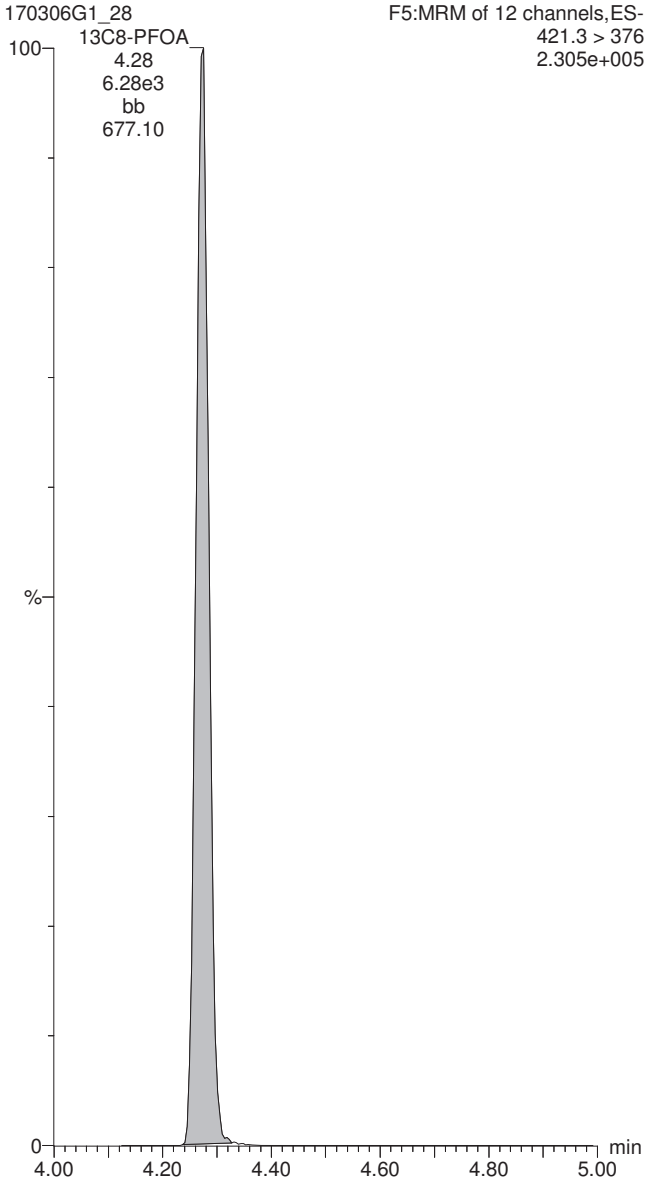
Last Altered: Tuesday, March 07, 2017 11:30:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:31:17 AM Pacific Standard Time

ID: 1700293-09 WI-CV-FB01-030217 0.125, Description: WI-CV-FB01-030217, Name: 170306G1_28, Date: 06-Mar-2017, Time: 21:03:44, Instrument: , Lab: , User:

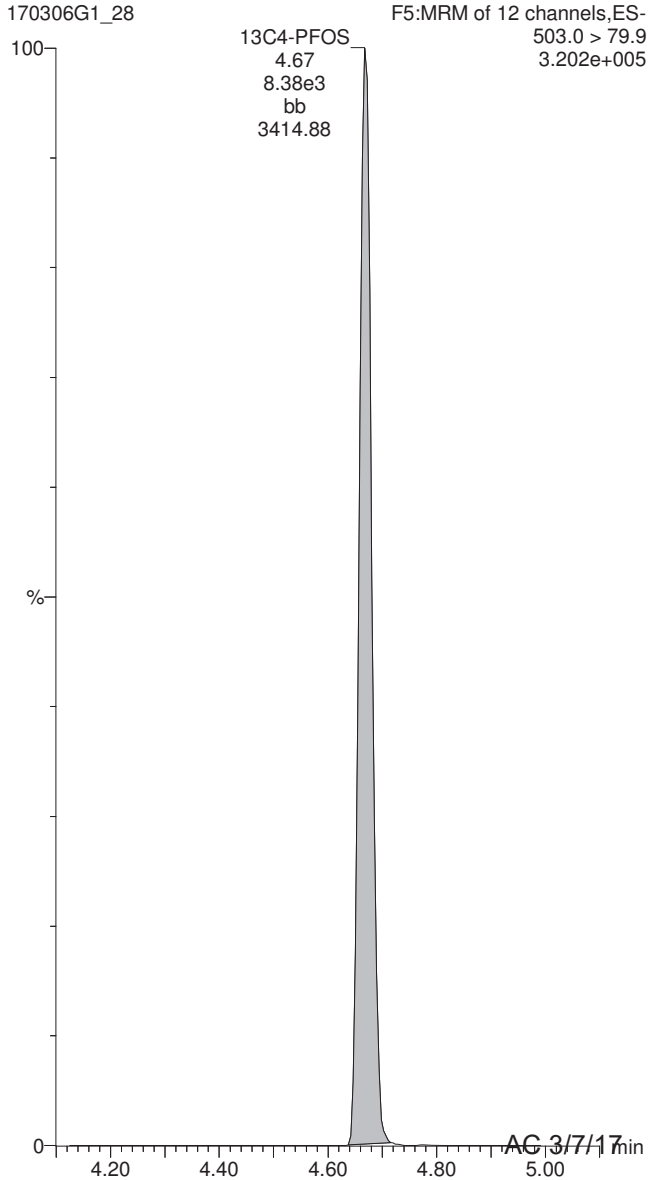
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-29.qld

Last Altered: Tuesday, March 07, 2017 11:32:41 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:34:42 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-10 WI-CV-EB10-030217 0.125, Description: WI-CV-EB10-030217, Name: 170306G1_29, Date: 06-Mar-2017, Time: 21:16:17

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		5.813e3		0.0930			
2	4	PFOA	413 > 368.7	1.689e2	2.768e4		0.0930	4.28		
3	6	PFOS	499 >79.9		7.807e3		0.0930			
4	7	13C3-PFBS	302.0 > 98.8	5.813e3	1.349e4	0.410	0.0930	2.98	141	105
5	8	13C4-PFHpA	367.2 > 321.8	1.483e4	1.349e4	1.098	0.0930	3.87	135	100
6	9	18O2-PFHxS	403 > 102.6	5.845e3	1.349e4	0.434	0.0930	3.99	134	99.8
7	10	13C2-PFOA	414.9 > 369.7	2.768e4	6.501e3	4.608	0.0930	4.28	124	92.4
8	11	13C5-PFNA	468.2 > 422.9	6.298e3	8.369e3	0.867	0.0930	4.61	117	86.8
9	12	13C8-PFOS	507.0 > 79.9	7.807e3	8.402e3	0.958	0.0930	4.67	130	97.0
10	13	13C5-PFHxA	318>272.9	2.716e4	2.716e4	1.000	0.0930	3.36	134	100
11	14	13C3-PFHxS	401.9 > 79.9	1.349e4	1.349e4	1.000	0.0930	3.99	134	100
12	15	13C8-PFOA	421.3 > 376	6.501e3	6.501e3	1.000	0.0930	4.27	134	100
13	16	13C9-PFNA	472.2 > 426.9	8.369e3	8.369e3	1.000	0.0930	4.61	134	100
14	17	13C4-PFOS	503.0 > 79.9	8.402e3	8.402e3	1.000	0.0930	4.67	134	100
15	18	Total PFBS	299 > 79.7		5.845e3		0.0930			
16	20	Total PFOA	413 > 368.7		2.768e4		0.0930			
17	21	Total PFOS	499 > 79.9		7.807e3		0.0930			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

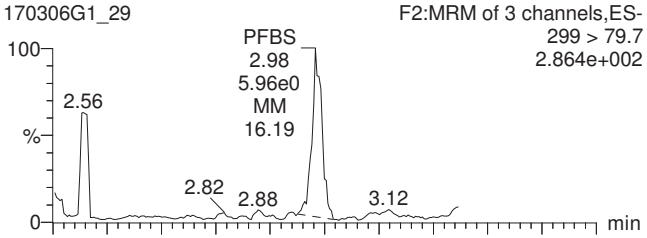
Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-29.qld

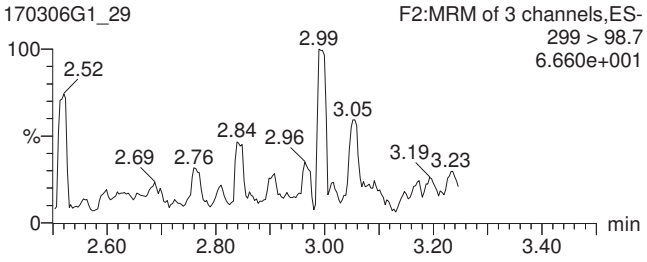
Last Altered: Tuesday, March 07, 2017 11:32:41 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:34:42 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2_NEW.mdb 07 Mar 2017 09:58:54
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

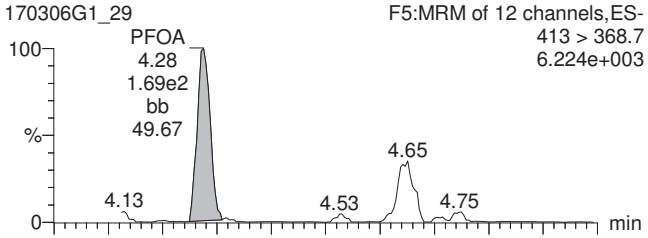
ID: 1700293-10 WI-CV-EB10-030217 0.125, Description: WI-CV-EB10-030217, Name: 170306G1_29, Date: 06-Mar-2017, Time: 21:16:17, Instrument: , Lab: , User:

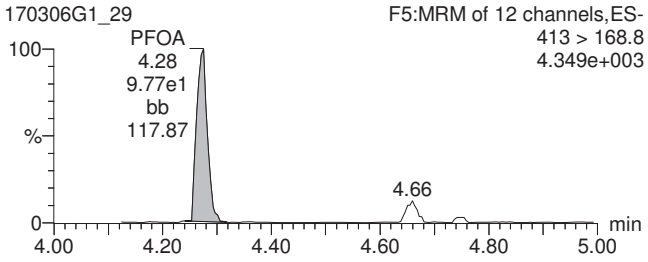
Total PFBS





Total PFOA





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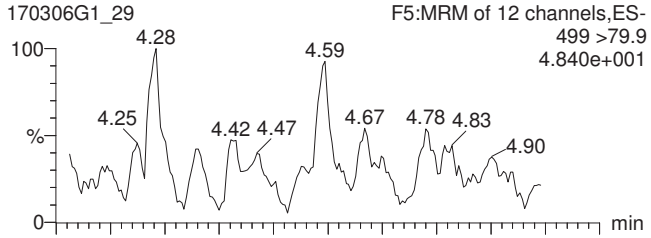
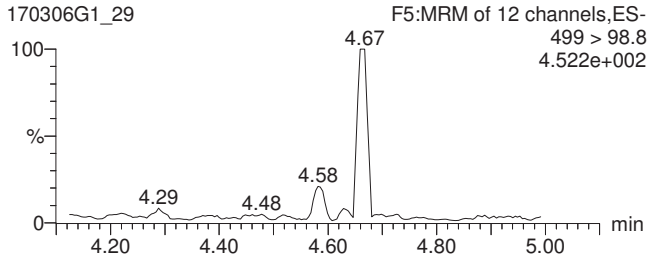
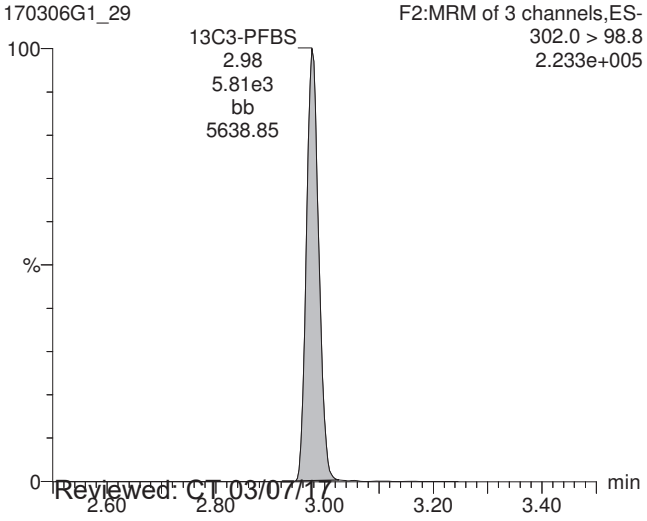
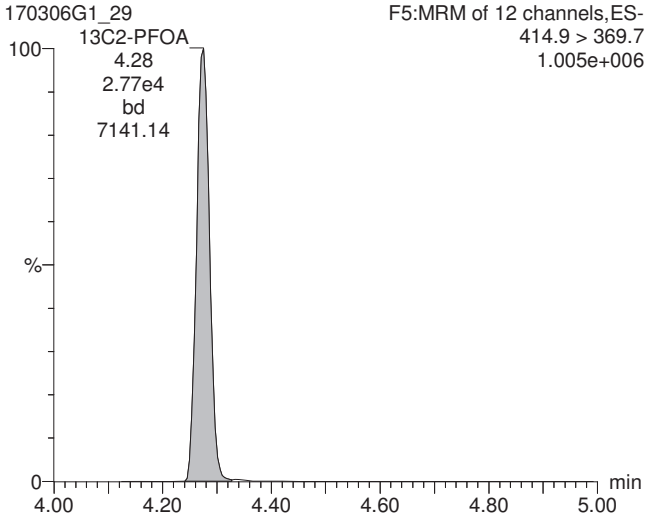




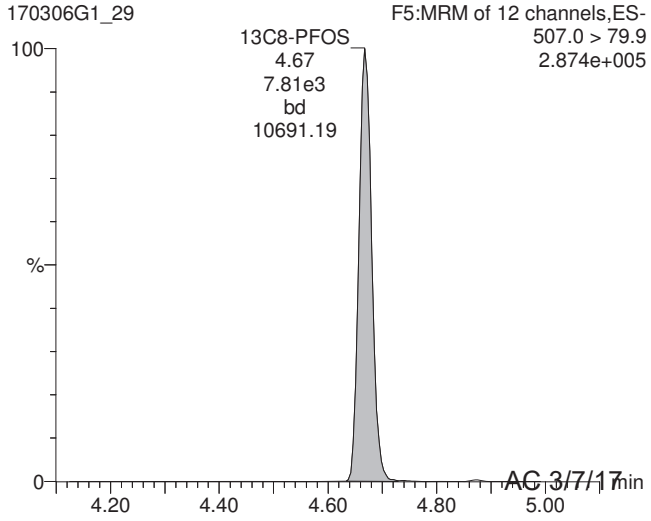
13C3-PFBS



13C2-PFOA



13C8-PFOS



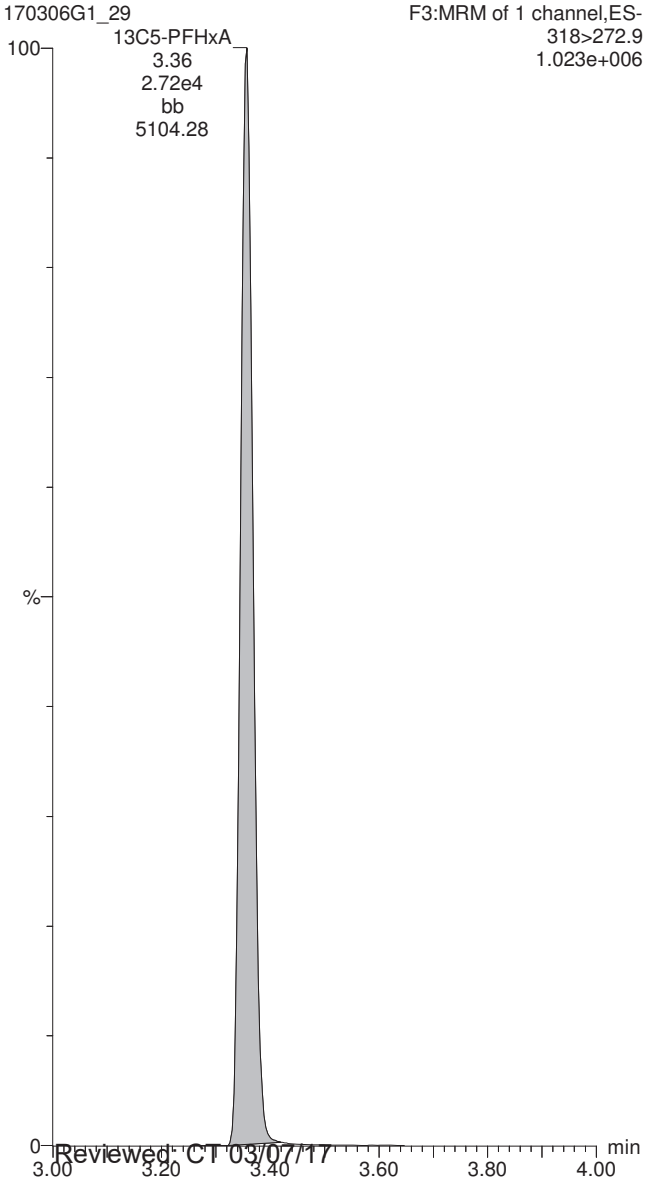
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-29.qld

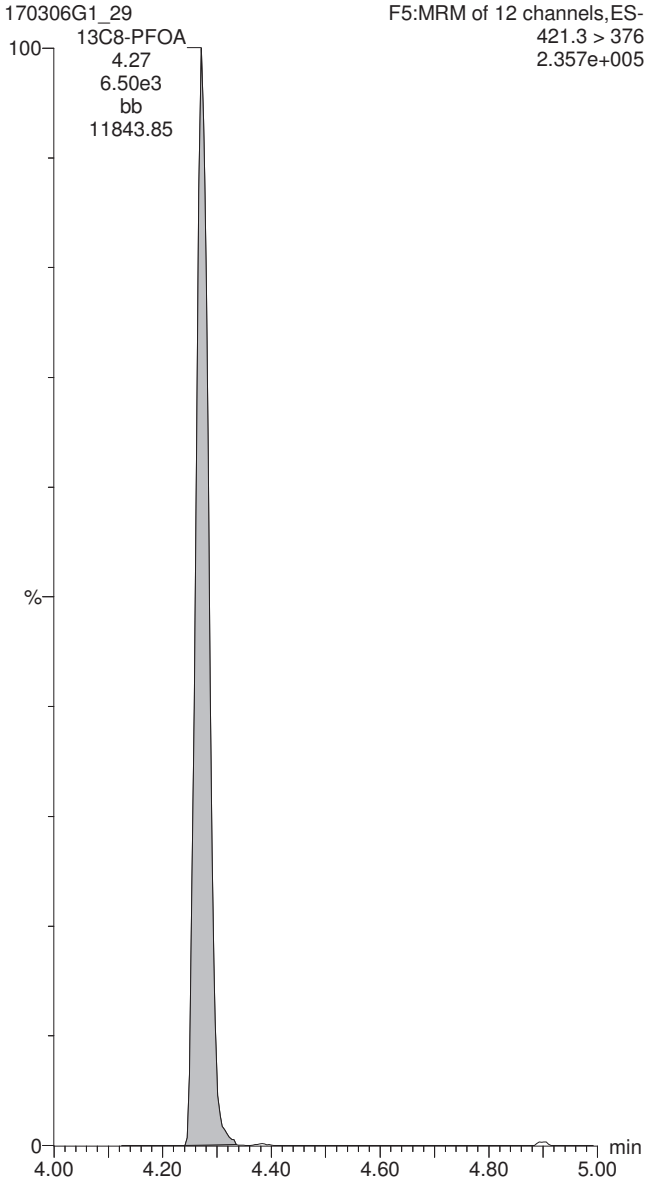
Last Altered: Tuesday, March 07, 2017 11:32:41 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:34:42 AM Pacific Standard Time

ID: 1700293-10 WI-CV-EB10-030217 0.125, Description: WI-CV-EB10-030217, Name: 170306G1_29, Date: 06-Mar-2017, Time: 21:16:17, Instrument: , Lab: , User:

13C5-PFHxA



13C8-PFOA



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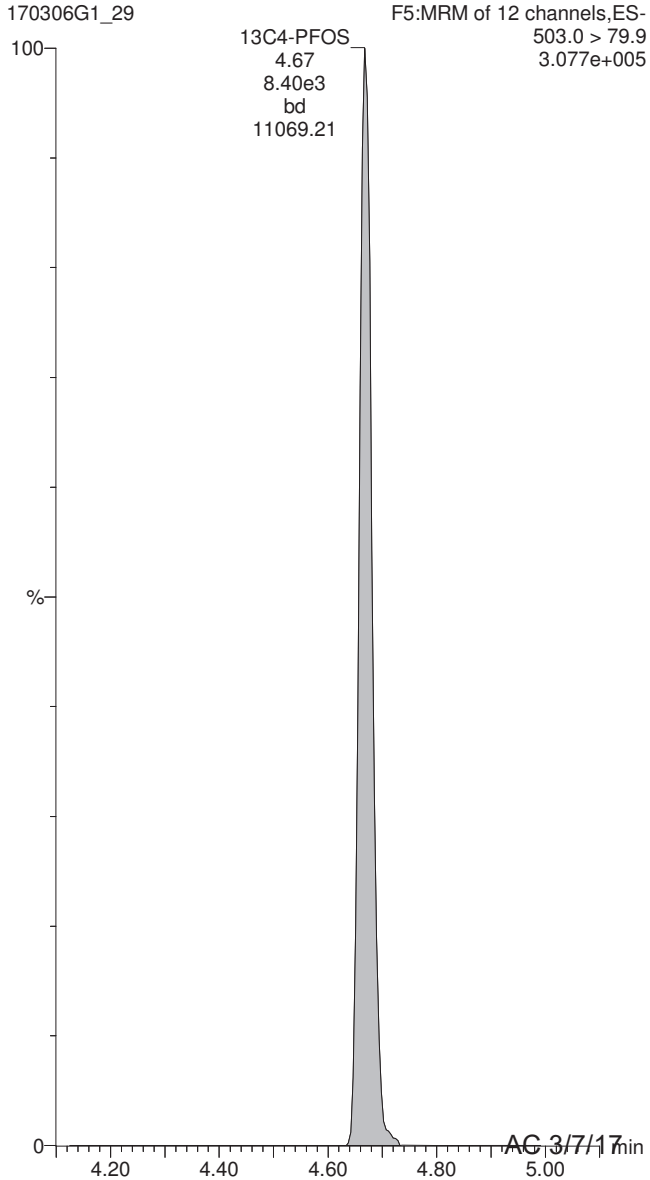

Reviewed: CT 03/07/17 AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-30.qld

Last Altered: Tuesday, March 07, 2017 11:36:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:37:12 AM Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700293-11 WI-CV-EB11-030217 0.125, Description: WI-CV-EB11-030217, Name: 170306G1_30, Date: 06-Mar-2017, Time: 21:28:51

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		5.779e3		0.118			
2	4	PFOA	413 > 368.7	1.611e2	2.543e4		0.118	4.28		
3	6	PFOS	499 >79.9		6.601e3		0.118			
4	7	13C3-PFBS	302.0 > 98.8	5.779e3	1.365e4	0.410	0.118	2.98	109	103
5	8	13C4-PFHpA	367.2 > 321.8	1.416e4	1.365e4	1.098	0.118	3.87	99.9	94.5
6	9	18O2-PFHxS	403 > 102.6	5.721e3	1.365e4	0.434	0.118	3.99	102	96.5
7	10	13C2-PFOA	414.9 > 369.7	2.543e4	6.493e3	4.608	0.118	4.28	89.9	85.0
8	11	13C5-PFNA	468.2 > 422.9	4.853e3	7.841e3	0.867	0.118	4.61	75.5	71.4
9	12	13C8-PFOS	507.0 > 79.9	6.601e3	7.062e3	0.958	0.118	4.67	103	97.5
10	13	13C5-PFHxA	318>272.9	2.797e4	2.797e4	1.000	0.118	3.35	106	100
11	14	13C3-PFHxS	401.9 > 79.9	1.365e4	1.365e4	1.000	0.118	3.99	106	100
12	15	13C8-PFOA	421.3 > 376	6.493e3	6.493e3	1.000	0.118	4.27	106	100
13	16	13C9-PFNA	472.2 > 426.9	7.841e3	7.841e3	1.000	0.118	4.61	106	100
14	17	13C4-PFOS	503.0 > 79.9	7.062e3	7.062e3	1.000	0.118	4.67	106	100
15	18	Total PFBS	299 > 79.7		5.721e3		0.118			
16	20	Total PFOA	413 > 368.7		2.543e4		0.118			
17	21	Total PFOS	499 > 79.9		6.601e3		0.118			

Reviewed: CT 03/07/17

AC 3/7/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-30.qld

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Printed: Tuesday, March 07, 2017 11:37:12 AM Pacific Standard Time

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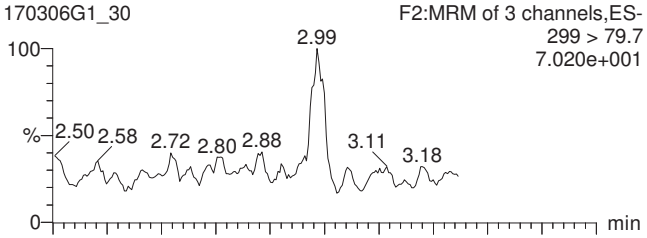
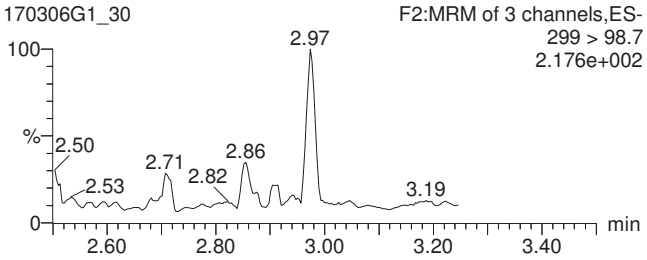
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

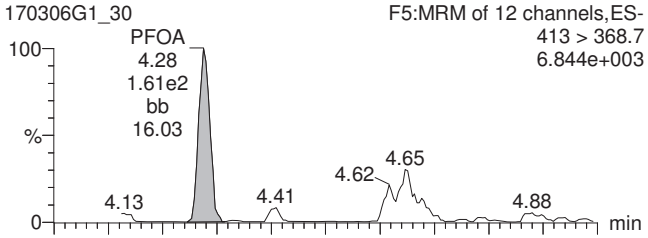
ID: 1700293-11 WI-CV-EB11-030217 0.125, Description: WI-CV-EB11-030217, Name: 170306G1_30, Date: 06-Mar-2017, Time: 21:28:51, Instrument: , Lab: , User:

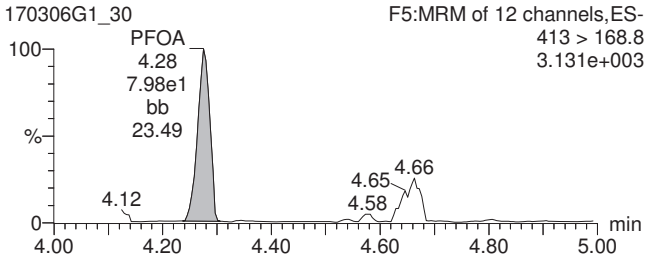
Total PFBS



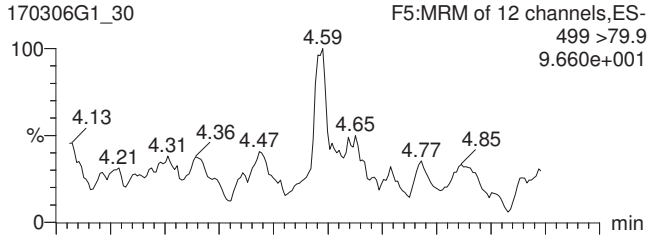


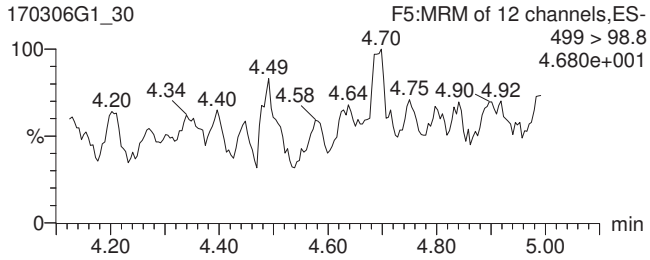
Total PFOA



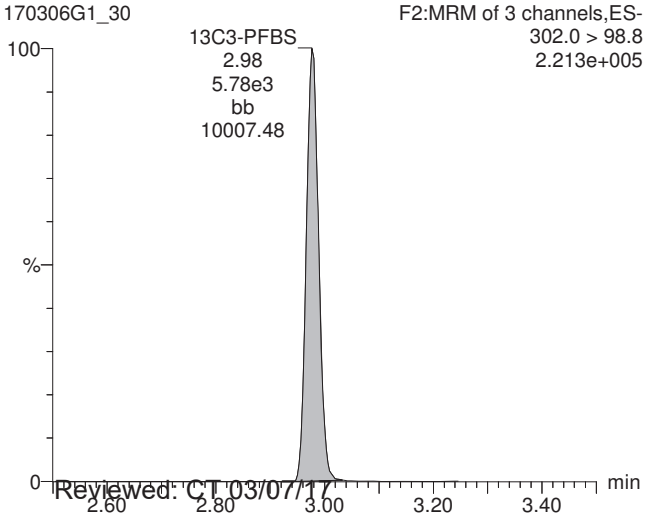


Total PFOS

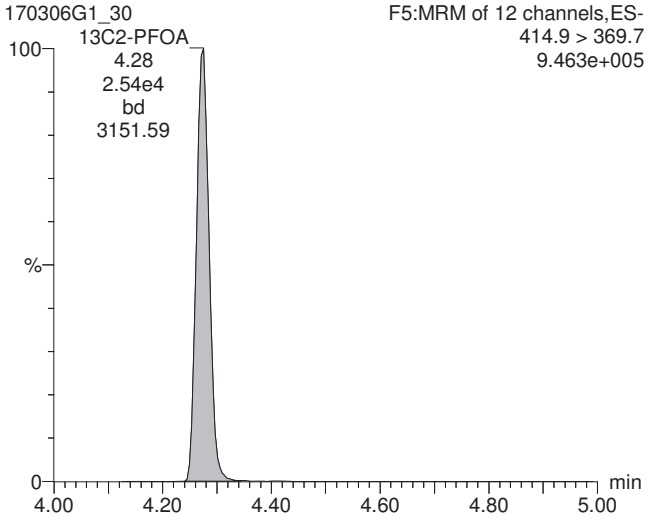




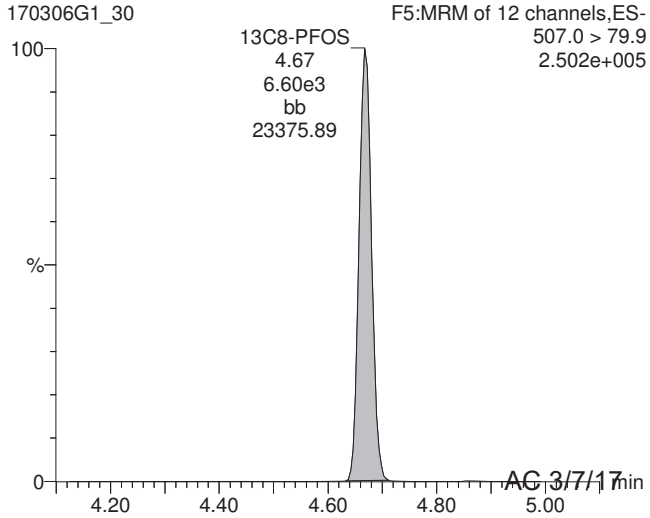
13C3-PFBS



13C2-PFOA



13C8-PFOS



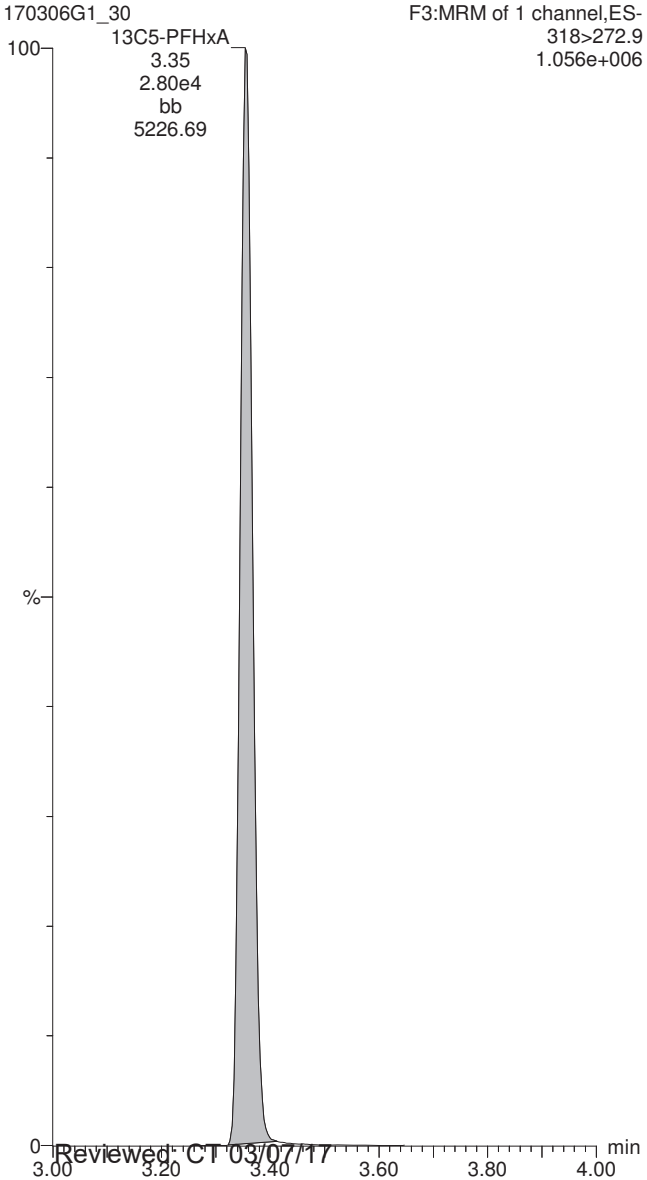
Reviewed: CT 03/07/17 AC 3/7/17

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-30.qld

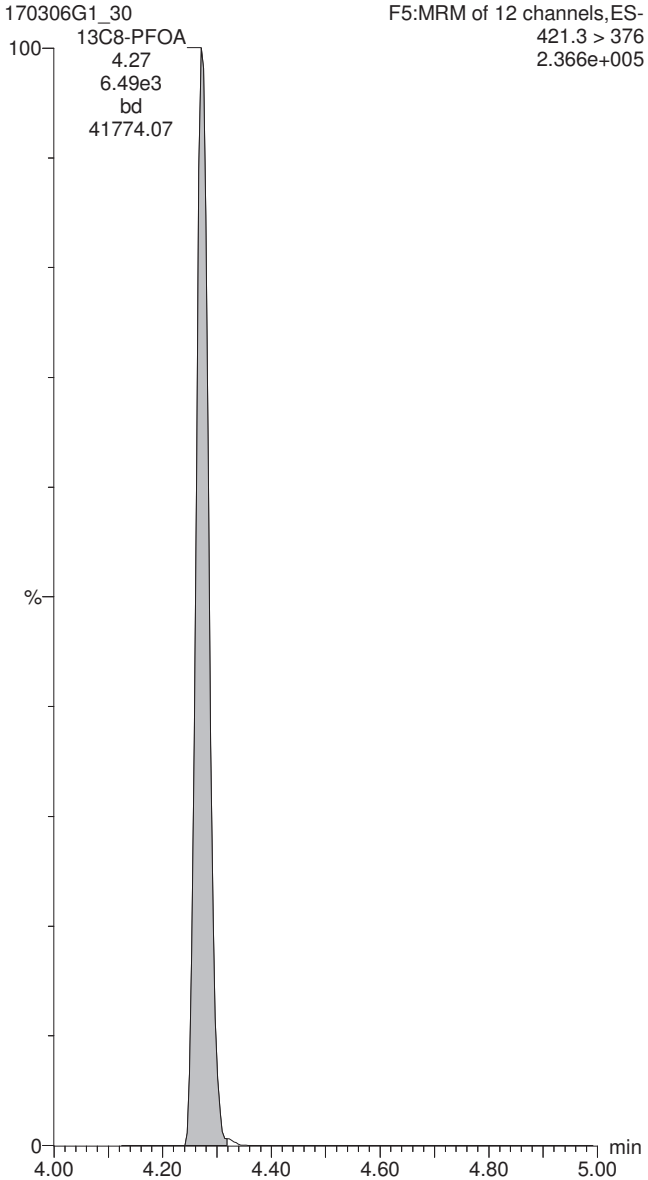
Last Altered: Tuesday, March 07, 2017 11:36:54 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 11:37:12 AM Pacific Standard Time

ID: 1700293-11 WI-CV-EB11-030217 0.125, Description: WI-CV-EB11-030217, Name: 170306G1_30, Date: 06-Mar-2017, Time: 21:28:51, Instrument: , Lab: , User:

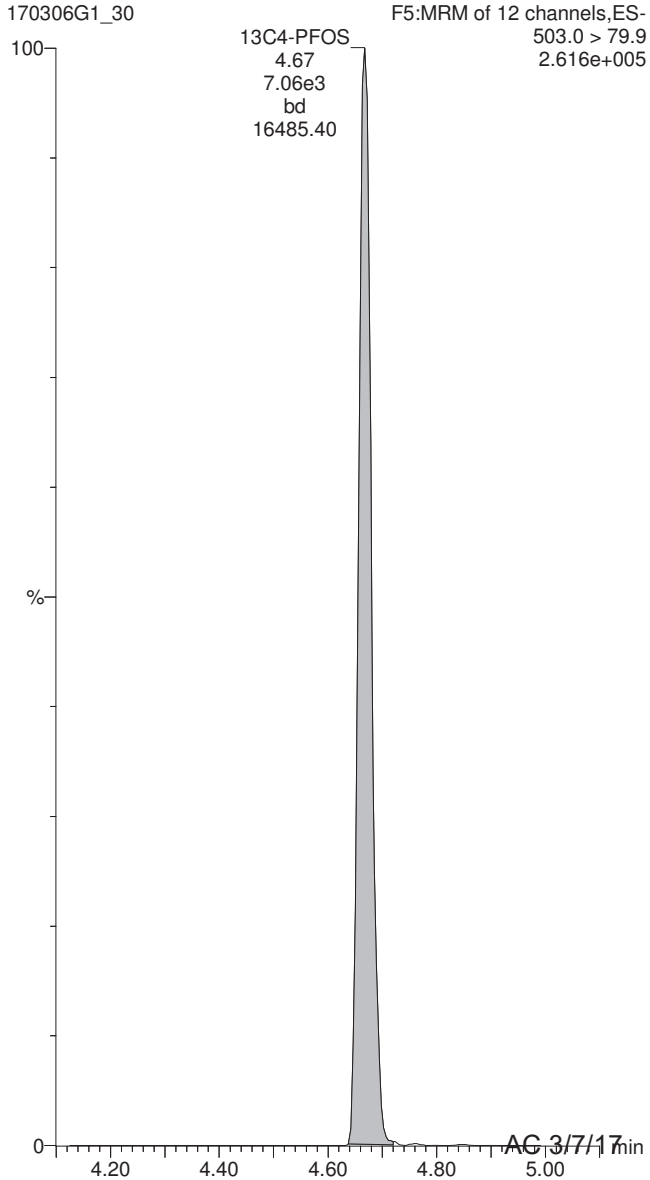
13C5-PFHxA



13C8-PFOA



13C4-PFOS



Reviewed: CT 03/07/17 AC 3/7/17

CONTINUING CALIBRATION

Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-2.qld

Last Altered: Tuesday, March 07, 2017 09:06:49 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:09:59 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.26e4	6.88e3		1.000	3.05	9.60	96.0
2	2	PFHpA	363 > 318.9	2.81e4	1.84e4		1.000	3.94	10.6	105.7
3	3	PFHxS	398.9 > 79.6	1.15e4	7.26e3		1.000	4.05	10.9	109.0
4	4	PFOA	413 > 368.7	2.77e4	3.55e4		1.000	4.33	12.1	120.5
5	5	PFNA	463 > 418.8	2.11e4	9.36e3		1.000	4.66	10.3	102.8
6	6	PFOS	499 >79.9	3.60e3	8.36e3		1.000	4.72	10.1	101.0
7	7	13C3-PFBS	302.0 > 98.8	6.88e3	1.78e4	0.410	1.000	3.05	11.8	94.3
8	8	13C4-PFHpA	367.2 > 321.8	1.84e4	1.78e4	1.098	1.000	3.94	11.8	94.0
9	9	18O2-PFHxS	403 > 102.6	7.26e3	1.78e4	0.434	1.000	4.05	11.7	93.9
10	10	13C2-PFOA	414.9 > 369.7	3.55e4	9.87e3	4.608	1.000	4.33	9.77	78.1
11	11	13C5-PFNA	468.2 > 422.9	9.36e3	1.07e4	0.867	1.000	4.66	12.6	101.0
12	12	13C8-PFOS	507.0 > 79.9	8.36e3	9.12e3	0.958	1.000	4.72	12.0	95.7
13	13	13C5-PFHxA	318>272.9	3.02e4	3.02e4	1.000	1.000	3.44	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.78e4	1.78e4	1.000	1.000	4.05	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	9.87e3	9.87e3	1.000	1.000	4.33	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	1.07e4	1.07e4	1.000	1.000	4.66	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	9.12e3	9.12e3	1.000	1.000	4.72	12.5	100.0

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

AC 3/7/17

✓88 3/7/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170306G1_1	IPA	06-Mar-17	14:49:33
2	170306G1_2	ST170306G1-1 PFC CS3 17C0612	06-Mar-17	15:37:57
3	170306G1_3	IPA	06-Mar-17	15:50:07
4	170306G1_4	B7C0003-BS1 OPR 0.125	06-Mar-17	16:02:38
5	170306G1_5	B7C0015-BS1 OPR 0.125	06-Mar-17	16:15:10
6	170306G1_6	B7C0017-BS1 OPR 0.125	06-Mar-17	16:27:44
7	170306G1_7	IPA	06-Mar-17	16:40:16
8	170306G1_8	B7C0003-BLK1 Method Blank 0.125	06-Mar-17	16:52:50
9	170306G1_9	B7C0015-BLK1 Method Blank 0.125	06-Mar-17	17:05:23
10	170306G1_10	B7C0017-BLK1 Method Blank 0.125	06-Mar-17	17:17:56
11	170306G1_11	1700268-01 WI-CV-GW09M-0217 0.12317	06-Mar-17	17:30:29
12	170306G1_12	1700268-03 WI-CV-GW05S-0217 0.12246	06-Mar-17	17:43:02
13	170306G1_13	1700268-05 WI-CV-GW11S-0217 0.12773	06-Mar-17	17:55:31
14	170306G1_14	1700268-07 WI-CV-EB06-022617 0.10638	06-Mar-17	18:08:03
15	170306G1_15	1700268-08 WI-CV-EB05-022417 0.12657	06-Mar-17	18:20:37
16	170306G1_16	1700263-04RE1 OW2C-MW25-0217 0.12534	06-Mar-17	18:33:10
17	170306G1_17	1700293-01 WI-CV-GW02S-0317 0.125	06-Mar-17	18:45:44
18	170306G1_18	1700293-02 WI-CV-GW02S/SP-0317 0.125	06-Mar-17	18:58:16
19	170306G1_19	1700293-03 WI-CV-GW04S-0317 0.125	06-Mar-17	19:10:50
20	170306G1_20	1700293-04 WI-CV-GW04S/SP-0317 0.125	06-Mar-17	19:23:25
21	170306G1_21	IPA	06-Mar-17	19:35:53
22	170306G1_22	ST170306G1-2 PFC CS3 17C0612	06-Mar-17	19:48:29
23	170306G1_23	IPA	06-Mar-17	20:00:59
24	170306G1_24	1700293-05 WI-CV-GW02M-0317 0.125	06-Mar-17	20:13:35
25	170306G1_25	1700293-06 WI-CV-GW12D-0317 0.125	06-Mar-17	20:26:04
26	170306G1_26	1700293-07 WI-CV-EB09-030117 0.125	06-Mar-17	20:38:37
27	170306G1_27	1700293-08 WI-CV-GW08S-0317 0.125	06-Mar-17	20:51:11
28	170306G1_28	1700293-09 WI-CV-FB01-030217 0.125	06-Mar-17	21:03:44
29	170306G1_29	1700293-10 WI-CV-EB10-030217 0.125	06-Mar-17	21:16:17
30	170306G1_30	1700293-11 WI-CV-EB11-030217 0.125	06-Mar-17	21:28:51
31	170306G1_31	B7C0017-MS1 Matrix Spike 0.125	06-Mar-17	21:41:24

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170306G1_32	B7C0017-MSD1 Matrix Spike Dup 0.125	06-Mar-17	21:53:53
33	170306G1_33	IPA	06-Mar-17	22:06:26
34	170306G1_34	ST170306G1-3 PFC CS3 17C0612	06-Mar-17	22:19:02
35	170306G1_35	IPA	06-Mar-17	22:31:42

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID: ST170306G1-1	L (M) H	N/A	☑	☑	☑	☑	☑	☐
Calibration ID: -2	L (M) H	☐	☑	☑	☑	☑	☑	☐
Calibration ID: -3	L (M) H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 12/7/16

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Comments: List of 6

Reviewed By: 98 3/7/17
Initials/Date

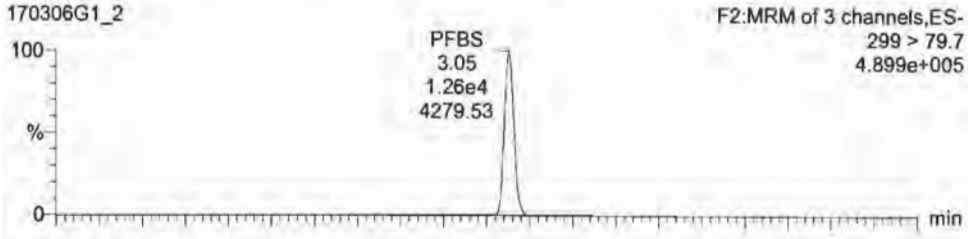
Dataset: Untitled

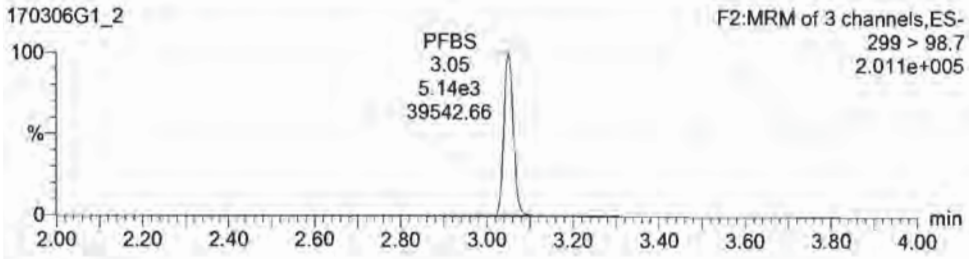
Last Altered: Tuesday, March 07, 2017 09:00:41 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:00:55 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

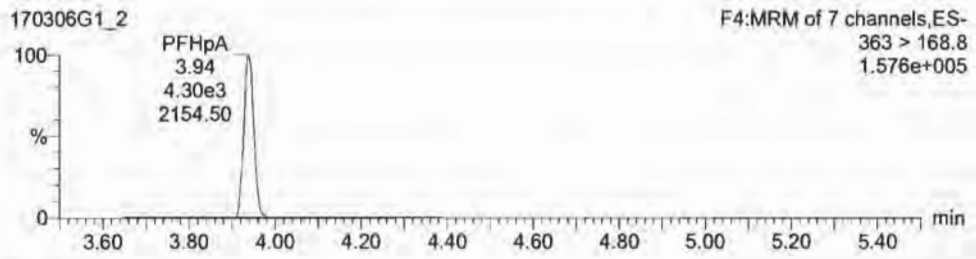
Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFBS

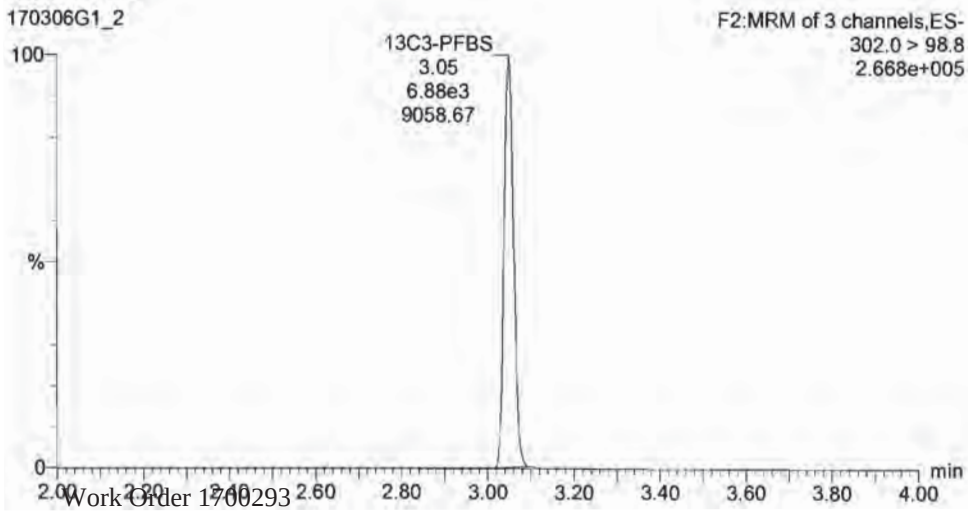




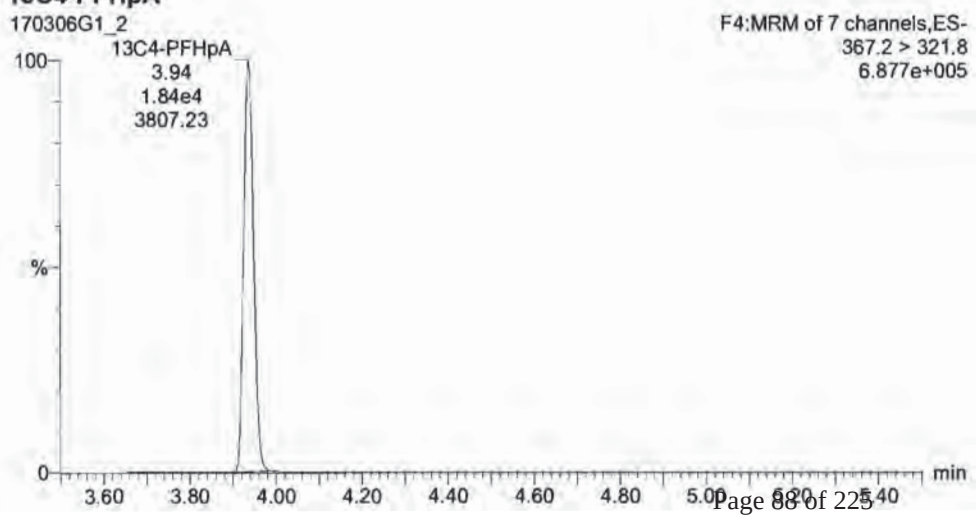
PFHpA



13C3-PFBS



13C4-PFHpA



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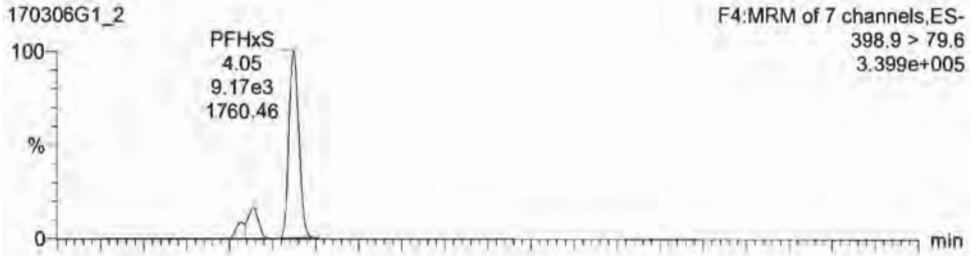
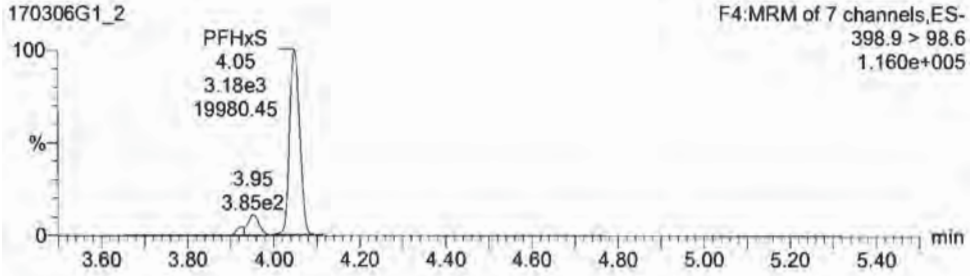
Last Altered: Tuesday, March 07, 2017 09:00:41 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:00:55 Pacific Standard Time

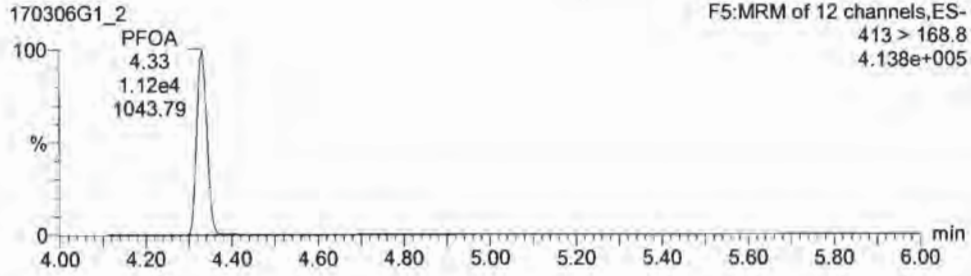
Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFHxS

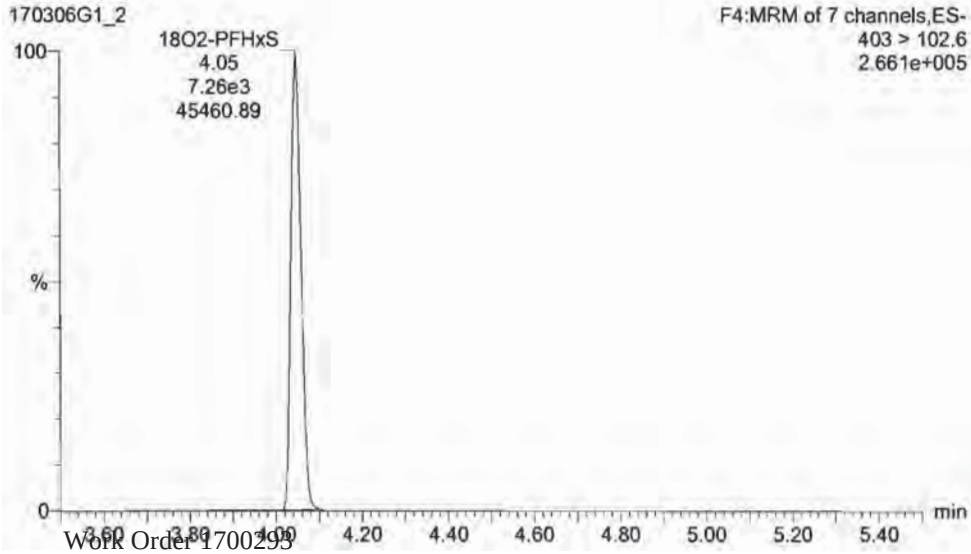




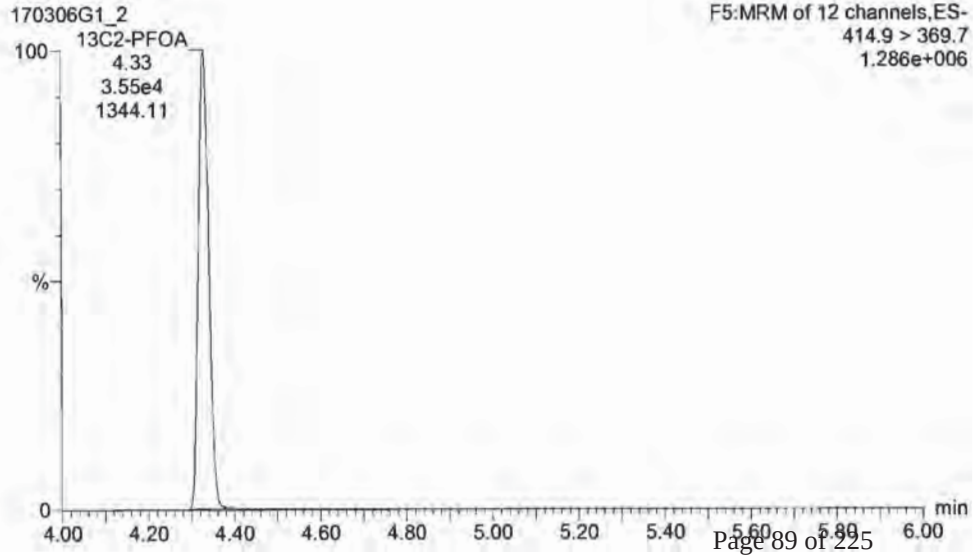
PFOA

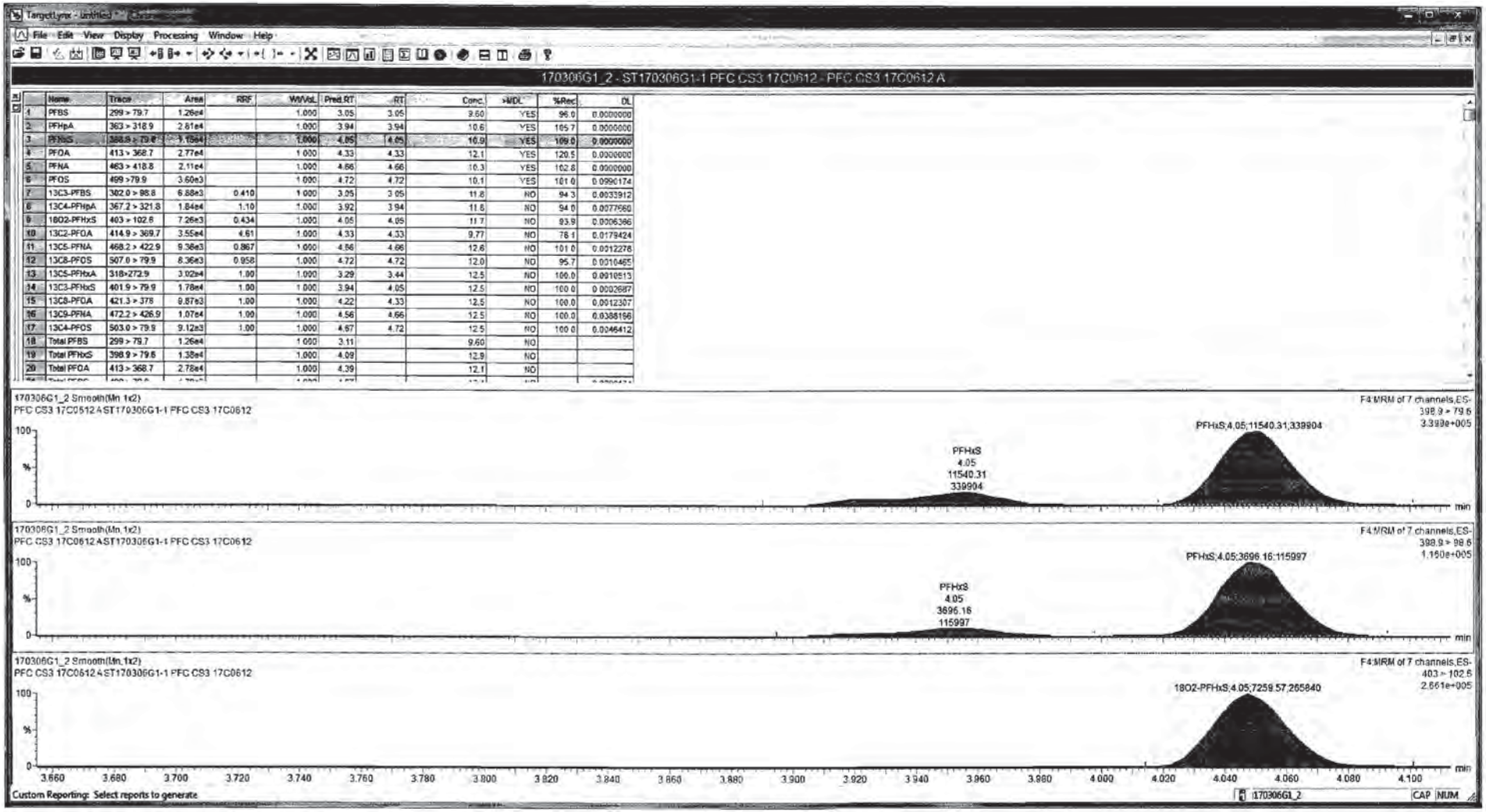


18O2-PFHxS



13C2-PFOA





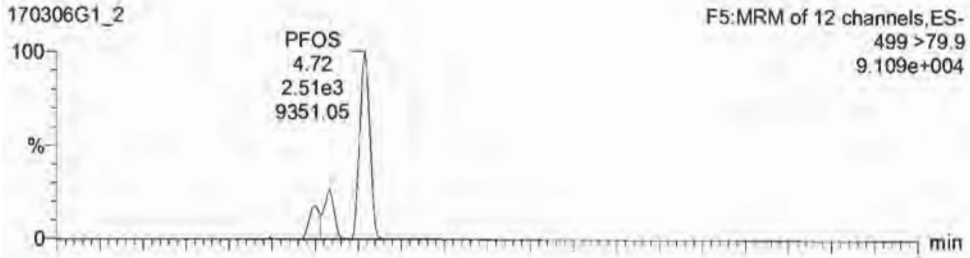
	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.26e4		1.000	3.05	3.05	9.60	YES	96.0	0.0000000
2	PFHpA	363 > 318.9	2.61e4		1.000	3.94	3.94	10.6	YES	105.7	0.0000000
3	PFHxS	398.9 > 79.6	3.39e4		1.000	4.05	4.05	10.9	YES	109.0	0.0000000
4	PFOA	413 > 368.7	2.77e4		1.000	4.33	4.33	12.1	YES	120.5	0.0000000
5	PFNA	463 > 418.8	2.11e4		1.000	4.66	4.66	10.3	YES	102.8	0.0000000
6	PFOS	499 >79.9	3.60e3		1.000	4.72	4.72	10.1	YES	101.0	0.0990174
7	13C3-PFBS	302.0 > 98.8	6.88e3	0.410	1.000	3.05	3.05	11.6	NO	94.3	0.0033912
8	13C4-PFHpA	367.2 > 321.8	1.84e4	1.10	1.000	3.92	3.94	11.8	NO	94.0	0.0077660
9	18O2-PFHxS	403 > 102.6	7.26e3	0.434	1.000	4.05	4.05	11.7	NO	93.9	0.0006386
10	13C2-PFOA	414.9 > 369.7	3.55e4	4.61	1.000	4.33	4.33	9.77	NO	78.1	0.0179424
11	13C5-PFNA	468.2 > 422.9	9.38e3	0.867	1.000	4.66	4.66	12.6	NO	101.0	0.0012276
12	13C8-PFOS	507.0 > 79.9	8.36e3	0.958	1.000	4.72	4.72	12.0	NO	95.7	0.0010465
13	13C5-PFHxA	318>272.9	3.02e4	1.00	1.000	3.29	3.44	12.5	NO	100.0	0.0010515
14	13C3-PFHxS	401.9 > 79.9	1.78e4	1.00	1.000	3.94	4.05	12.5	NO	100.0	0.0002687
15	13C8-PFOA	421.3 > 376	9.87e3	1.00	1.000	4.22	4.33	12.5	NO	100.0	0.0012307
16	13C9-PFNA	472.2 > 426.9	1.07e4	1.00	1.000	4.56	4.66	12.5	NO	100.0	0.0388156
17	13C4-PFOS	503.0 > 79.9	9.12e3	1.00	1.000	4.67	4.72	12.5	NO	100.0	0.0046412
18	Total PFBS	299 > 79.7	1.26e4		1.000	3.11		9.60	NO		
19	Total PFHxS	398.9 > 79.6	1.38e4		1.000	4.09		12.9	NO		
20	Total PFOA	413 > 368.7	2.78e4		1.000	4.39		12.1	NO		

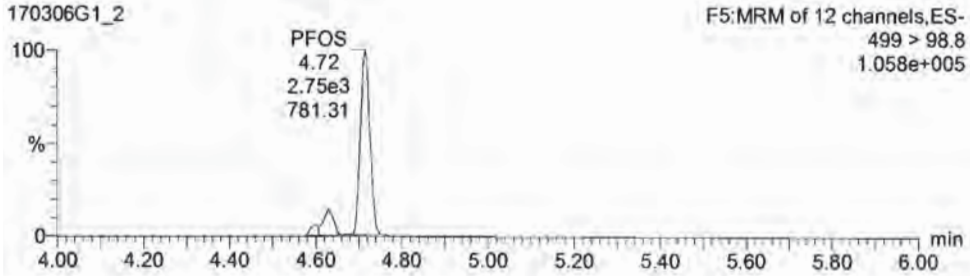
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:00:41 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:00:55 Pacific Standard Time

Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFOS





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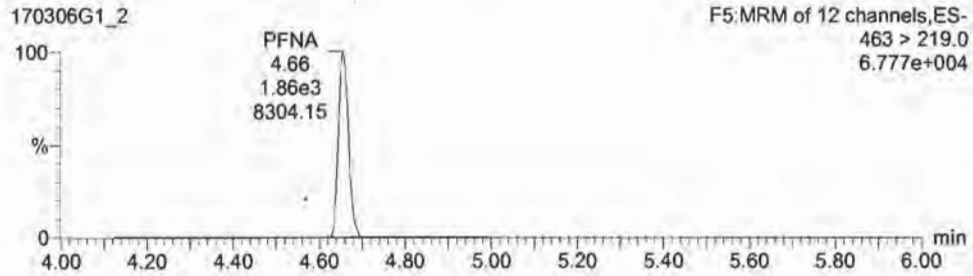
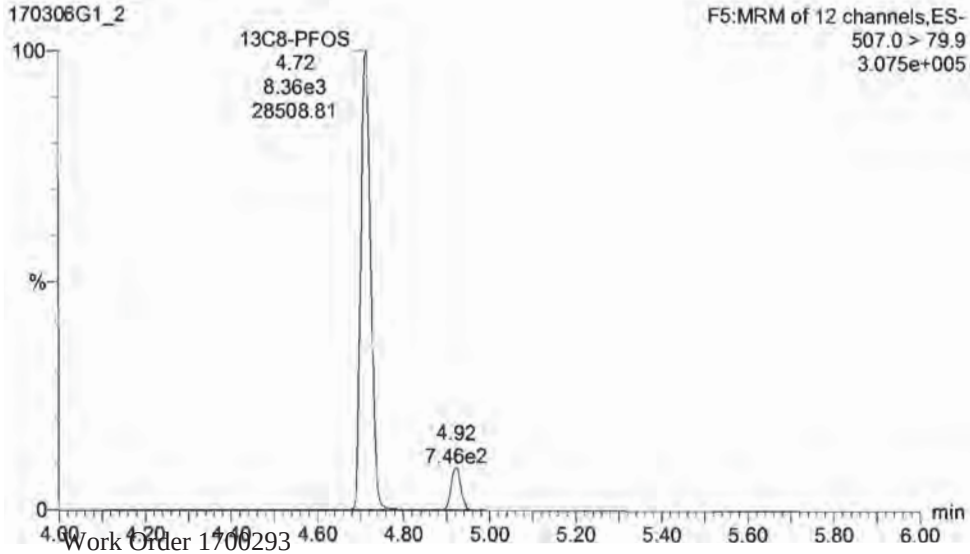
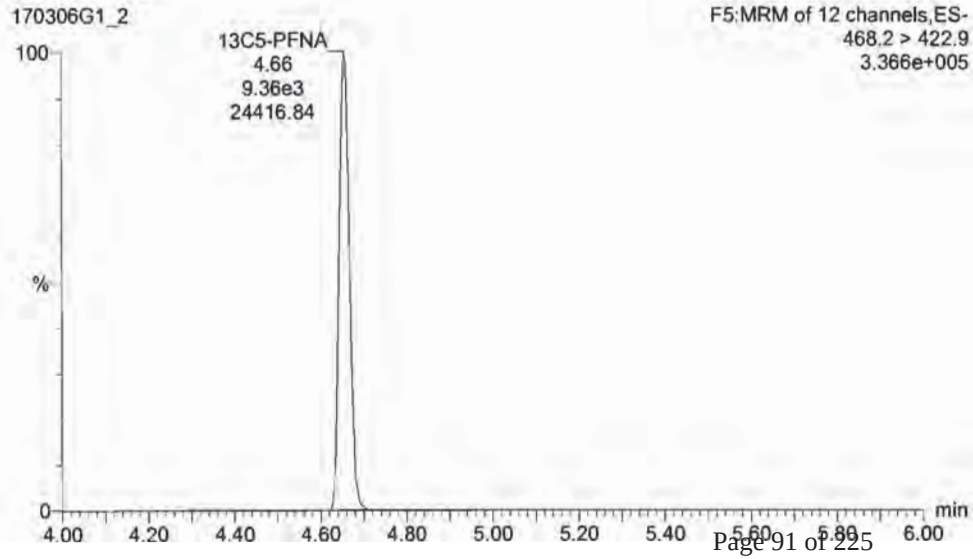
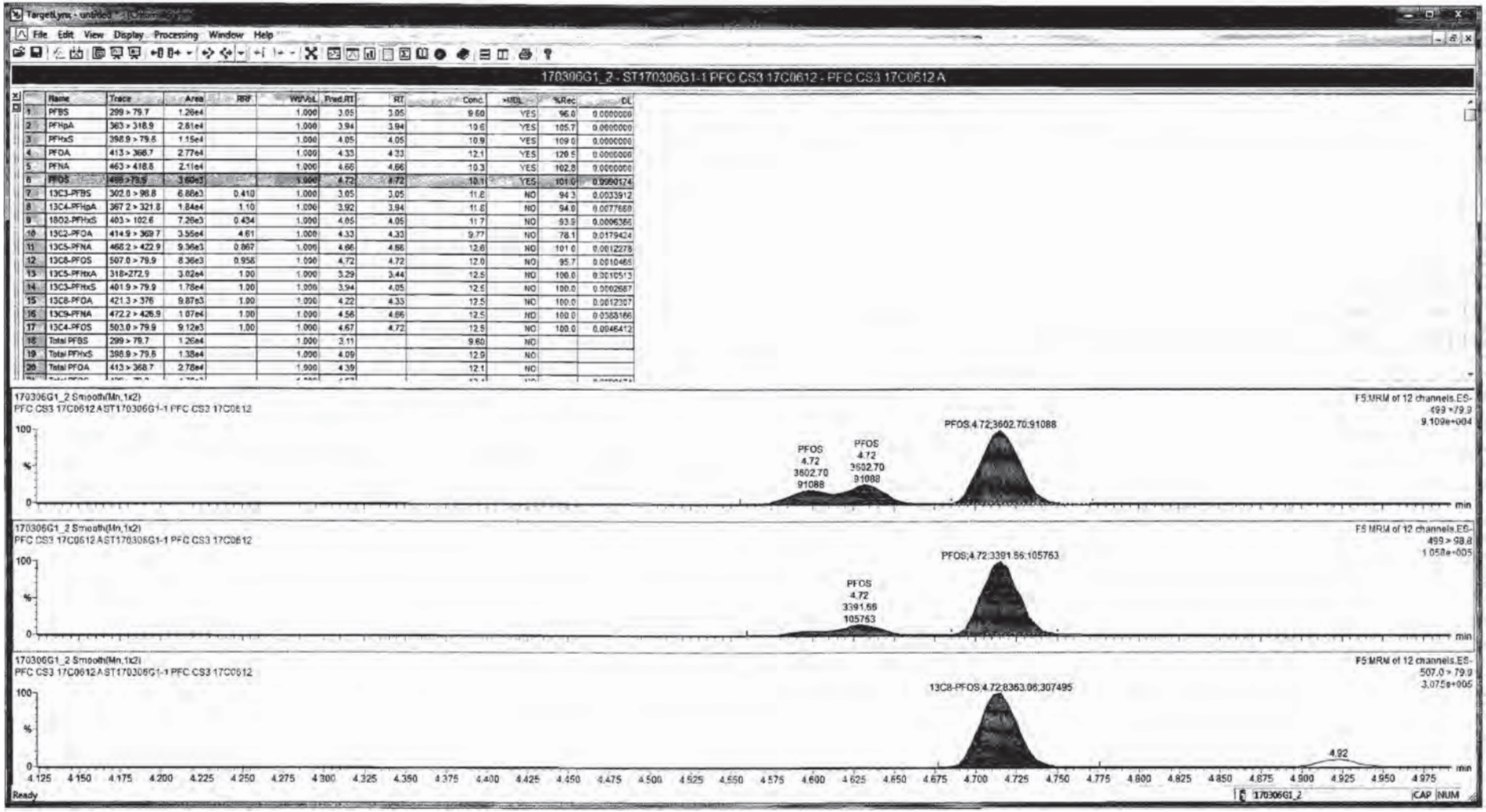


13C8-PFOS



13C5-PFNA





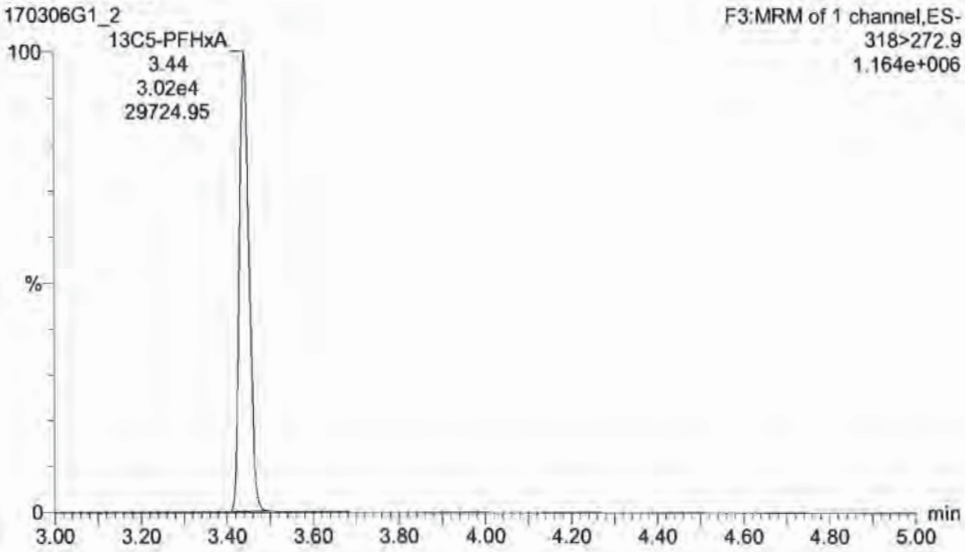
	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.26e4		1.000	3.05	3.05	9.60	YES	96.0	0.0000000
2	PFHpA	363 > 318.9	2.81e4		1.000	3.94	3.94	10.6	YES	105.7	0.0000000
3	PFHxS	398.9 > 79.8	1.15e4		1.000	4.05	4.05	10.9	YES	109.0	0.0000000
4	PFOA	413 > 368.7	2.77e4		1.000	4.33	4.33	12.1	YES	120.5	0.0000000
5	PFNA	463 > 418.8	2.11e4		1.000	4.66	4.66	10.3	YES	102.8	0.0000000
6	PFOS	499 > 79.9	3.60e3		1.000	4.72	4.72	10.1	YES	101.0	0.9960174
7	13C3-PFBS	302.0 > 98.8	6.88e3	0.410	1.000	3.05	3.05	11.8	NO	94.3	0.0033912
8	13C4-PFHpA	367.2 > 321.8	1.84e4	1.10	1.000	3.92	3.94	11.8	NO	94.8	0.0077668
9	1802-PFHxS	403 > 102.6	7.26e3	0.434	1.000	4.05	4.05	11.7	NO	93.5	0.0006366
10	13C2-PFOA	414.9 > 369.7	3.55e4	4.61	1.000	4.33	4.33	9.77	NO	78.1	0.0179424
11	13C5-PFNA	468.2 > 422.9	9.36e3	0.867	1.000	4.66	4.66	12.6	NO	101.0	0.0012278
12	13C8-PFOS	507.0 > 79.9	8.36e3	0.958	1.000	4.72	4.72	12.0	NO	95.7	0.0010465
13	13C5-PFHxA	318>272.9	3.02e4	1.00	1.000	3.29	3.44	12.5	NO	100.0	0.0010513
14	13C3-PFHxS	401.9 > 79.9	1.78e4	1.00	1.000	3.94	4.05	12.5	NO	100.0	0.0002687
15	13C8-PFOA	421.3 > 376	9.87e3	1.00	1.000	4.22	4.33	12.5	NO	100.0	0.0012307
16	13C9-PFNA	472.2 > 426.9	1.07e4	1.00	1.000	4.56	4.66	12.5	NO	100.0	0.0053166
17	13C4-PFOS	503.0 > 79.9	9.12e3	1.00	1.000	4.67	4.72	12.5	NO	100.0	0.0046412
18	Total PFBS	299 > 79.7	1.26e4		1.000	3.11		9.60	NO		
19	Total PFHxS	398.9 > 79.8	1.38e4		1.000	4.09		12.9	NO		
20	Total PFOA	413 > 368.7	2.78e4		1.000	4.39		12.1	NO		

Dataset: Untitled

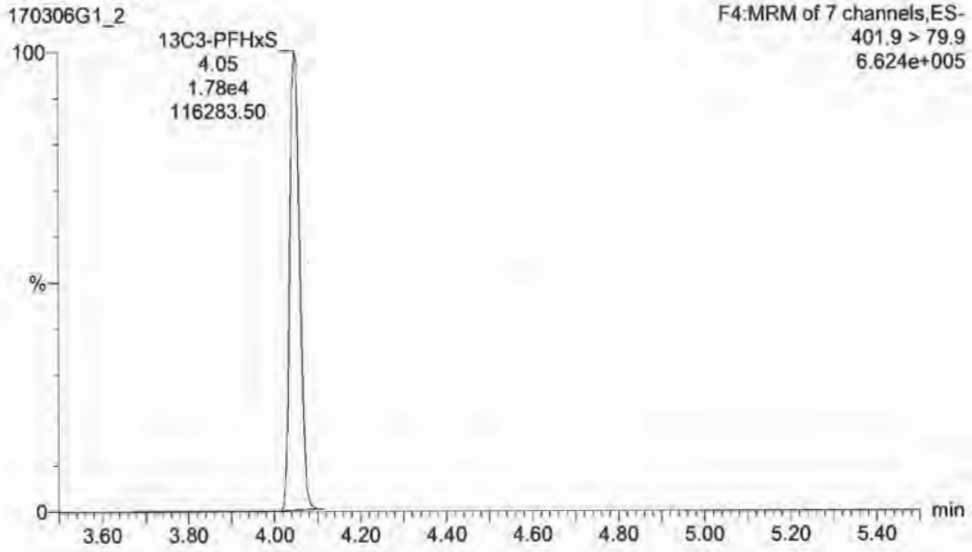
Last Altered: Tuesday, March 07, 2017 09:00:41 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:00:55 Pacific Standard Time

Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

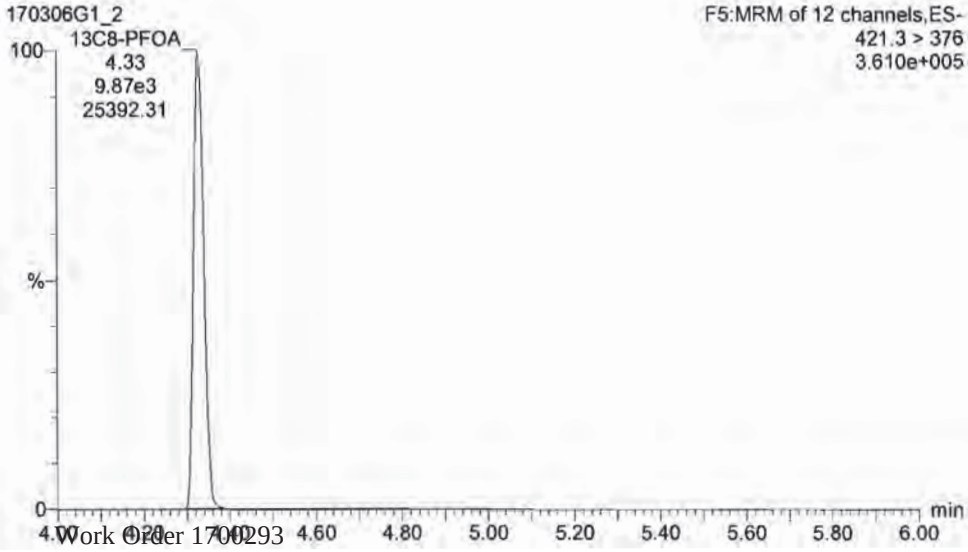
13C5-PFHxA



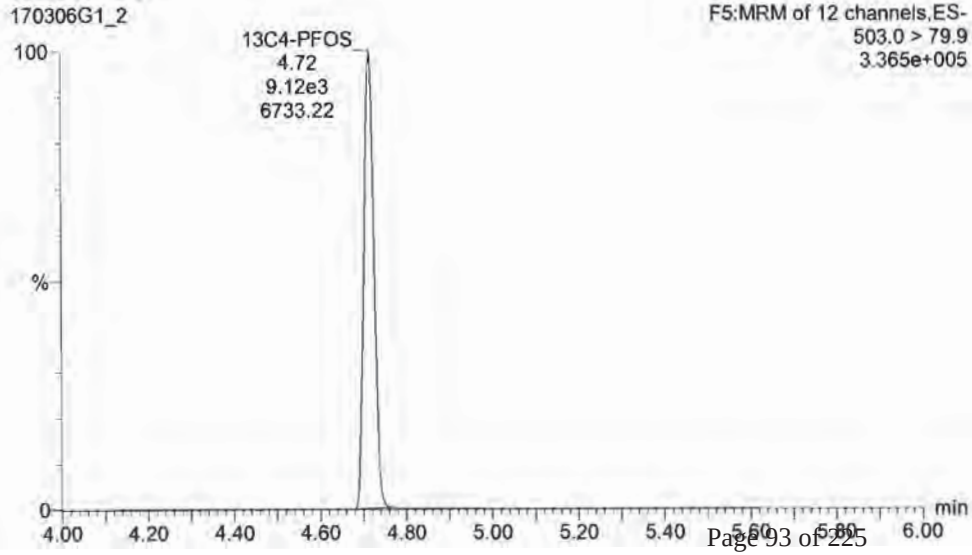
13C3-PFHxS



13C8-PFOA



13C4-PFOS



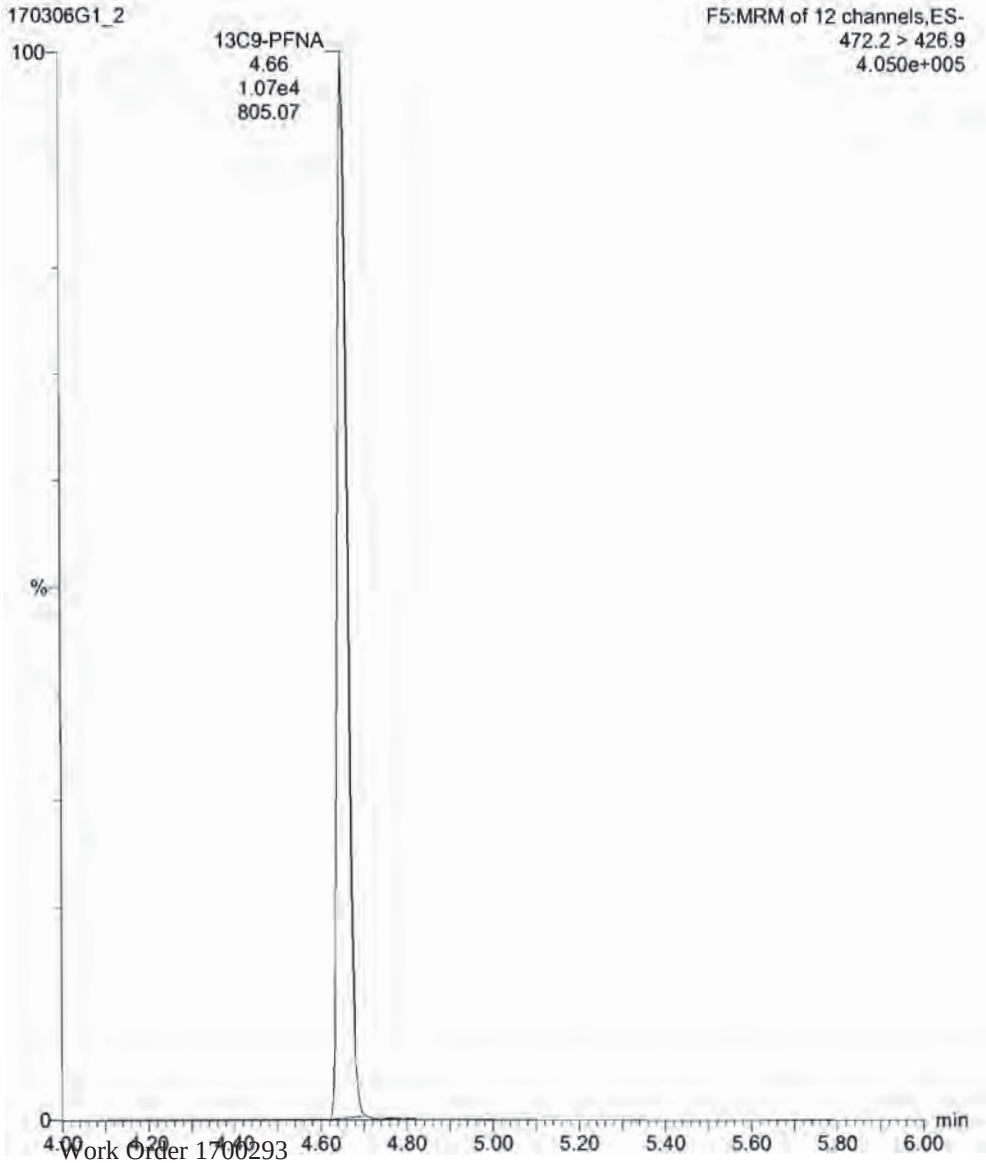
Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:00:41 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:00:55 Pacific Standard Time

Name: 170306G1_2, Date: 06-Mar-2017, Time: 15:37:57, ID: ST170306G1-1 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

13C9-PFNA



Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-22.qld

Last Altered: Tuesday, March 07, 2017 09:10:55 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:12:46 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec	
1	1	PFBS	299 > 79.7	1.51e4	7.64e3		1.000	2.98	10.3	103.5	75-125
2	2	PFHpA	363 > 318.9	3.10e4	2.11e4		1.000	3.87	10.1	101.3	
3	3	PFHxS	398.9 > 79.6	1.18e4	7.69e3		1.000	3.99	10.5	105.4	
4	4	PFOA	413 > 368.7	2.89e4	4.14e4		1.000	4.27	10.8	107.5	
5	5	PFNA	463 > 418.8	2.14e4	9.26e3		1.000	4.61	10.5	105.4	
6	6	PFOS	499 >79.9	3.84e3	9.66e3		1.000	4.67	9.32	93.2	
7	7	13C3-PFBS	302.0 > 98.8	7.64e3	1.82e4	0.410	1.000	2.97	12.8	102.4	60-150
8	8	13C4-PFHpA	367.2 > 321.8	2.11e4	1.82e4	1.098	1.000	3.87	13.2	105.7	
9	9	18O2-PFHxS	403 > 102.6	7.69e3	1.82e4	0.434	1.000	3.99	12.2	97.3	
10	10	13C2-PFOA	414.9 > 369.7	4.14e4	1.01e4	4.608	1.000	4.27	11.1	89.2	
11	11	13C5-PFNA	468.2 > 422.9	9.26e3	1.13e4	0.867	1.000	4.61	11.8	94.3	50-150
12	12	13C8-PFOS	507.0 > 79.9	9.66e3	1.05e4	0.958	1.000	4.67	12.0	95.8	60-150
13	13	13C5-PFHxA	318>272.9	3.58e4	3.58e4	1.000	1.000	3.35	12.5	100.0	
14	14	13C3-PFHxS	401.9 > 79.9	1.82e4	1.82e4	1.000	1.000	3.99	12.5	100.0	
15	15	13C8-PFOA	421.3 > 376	1.01e4	1.01e4	1.000	1.000	4.27	12.5	100.0	
16	16	13C9-PFNA	472.2 > 426.9	1.13e4	1.13e4	1.000	1.000	4.61	12.5	100.0	
17	17	13C4-PFOS	503.0 > 79.9	1.05e4	1.05e4	1.000	1.000	4.67	12.5	100.0	

AC 3/7/17

JES 3/7/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170306G1_1	IPA	06-Mar-17	14:49:33
2	170306G1_2	ST170306G1-1 PFC CS3 17C0612	06-Mar-17	15:37:57
3	170306G1_3	IPA	06-Mar-17	15:50:07
4	170306G1_4	B7C0003-BS1 OPR 0.125	06-Mar-17	16:02:38
5	170306G1_5	B7C0015-BS1 OPR 0.125	06-Mar-17	16:15:10
6	170306G1_6	B7C0017-BS1 OPR 0.125	06-Mar-17	16:27:44
7	170306G1_7	IPA	06-Mar-17	16:40:16
8	170306G1_8	B7C0003-BLK1 Method Blank 0.125	06-Mar-17	16:52:50
9	170306G1_9	B7C0015-BLK1 Method Blank 0.125	06-Mar-17	17:05:23
10	170306G1_10	B7C0017-BLK1 Method Blank 0.125	06-Mar-17	17:17:56
11	170306G1_11	1700268-01 WI-CV-GW09M-0217 0.12317	06-Mar-17	17:30:29
12	170306G1_12	1700268-03 WI-CV-GW05S-0217 0.12246	06-Mar-17	17:43:02
13	170306G1_13	1700268-05 WI-CV-GW11S-0217 0.12773	06-Mar-17	17:55:31
14	170306G1_14	1700268-07 WI-CV-EB06-022617 0.10638	06-Mar-17	18:08:03
15	170306G1_15	1700268-08 WI-CV-EB05-022417 0.12657	06-Mar-17	18:20:37
16	170306G1_16	1700263-04RE1 OW2C-MW25-0217 0.12534	06-Mar-17	18:33:10
17	170306G1_17	1700293-01 WI-CV-GW02S-0317 0.125	06-Mar-17	18:45:44
18	170306G1_18	1700293-02 WI-CV-GW02S/SP-0317 0.125	06-Mar-17	18:58:16
19	170306G1_19	1700293-03 WI-CV-GW04S-0317 0.125	06-Mar-17	19:10:50
20	170306G1_20	1700293-04 WI-CV-GW04S/SP-0317 0.125	06-Mar-17	19:23:25
21	170306G1_21	IPA	06-Mar-17	19:35:53
22	170306G1_22	ST170306G1-2 PFC CS3 17C0612	06-Mar-17	19:48:29
23	170306G1_23	IPA	06-Mar-17	20:00:59
24	170306G1_24	1700293-05 WI-CV-GW02M-0317 0.125	06-Mar-17	20:13:35
25	170306G1_25	1700293-06 WI-CV-GW12D-0317 0.125	06-Mar-17	20:26:04
26	170306G1_26	1700293-07 WI-CV-EB09-030117 0.125	06-Mar-17	20:38:37
27	170306G1_27	1700293-08 WI-CV-GW08S-0317 0.125	06-Mar-17	20:51:11
28	170306G1_28	1700293-09 WI-CV-FB01-030217 0.125	06-Mar-17	21:03:44
29	170306G1_29	1700293-10 WI-CV-EB10-030217 0.125	06-Mar-17	21:16:17
30	170306G1_30	1700293-11 WI-CV-EB11-030217 0.125	06-Mar-17	21:28:51
31	170306G1_31	B7C0017-MS1 Matrix Spike 0.125	06-Mar-17	21:41:24

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

Compound name: PFBS

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32	170306G1_32	B7C0017-MSD1 Matrix Spike Dup 0.125	06-Mar-17	21:53:53
33	170306G1_33	IPA	06-Mar-17	22:06:26
34	170306G1_34	ST170306G1-3 PFC CS3 17C0612	06-Mar-17	22:19:02
35	170306G1_35	IPA	06-Mar-17	22:31:42

Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:01:05 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:09 Pacific Standard Time

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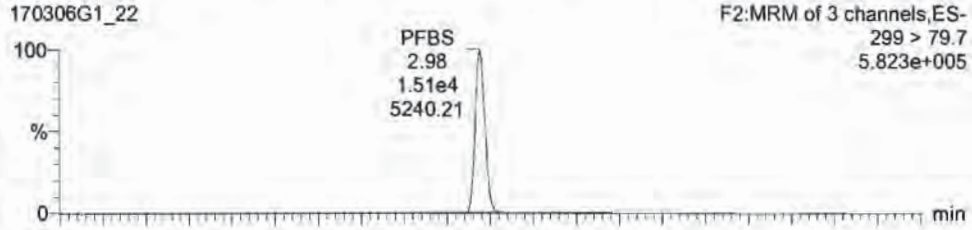
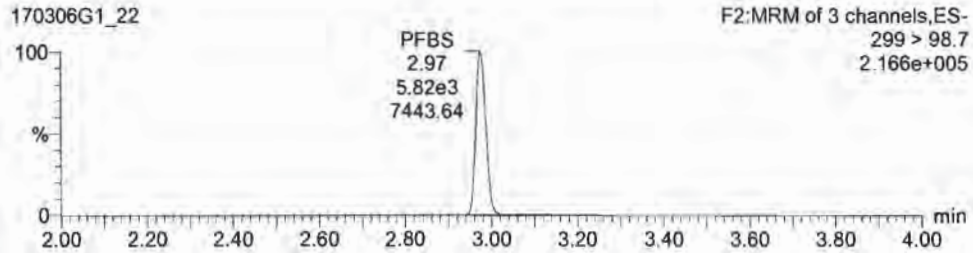
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

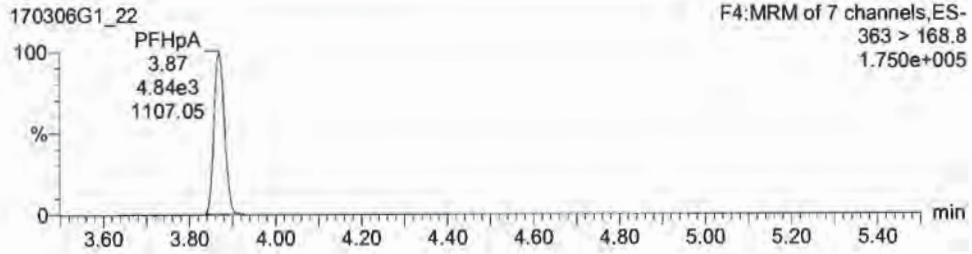
Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFBS

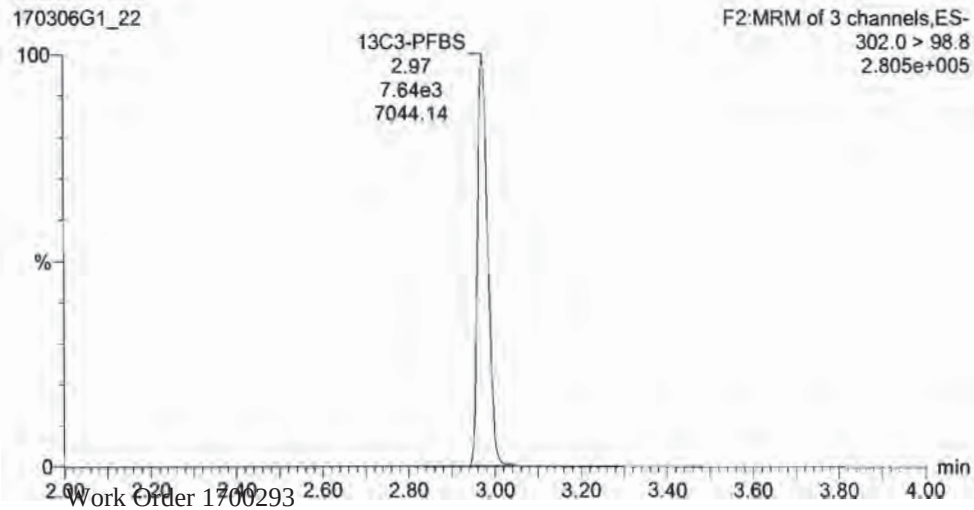




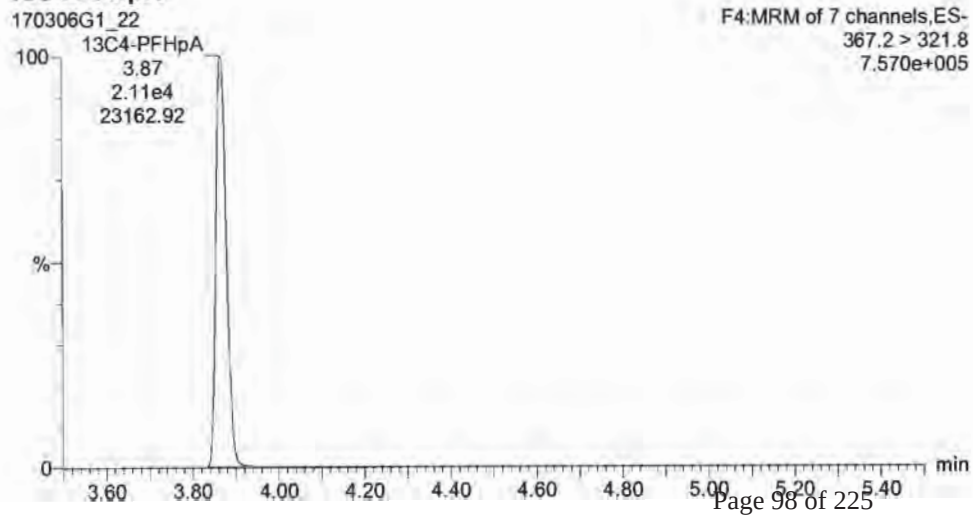
PFHpA



13C3-PFBS



13C4-PFHpA



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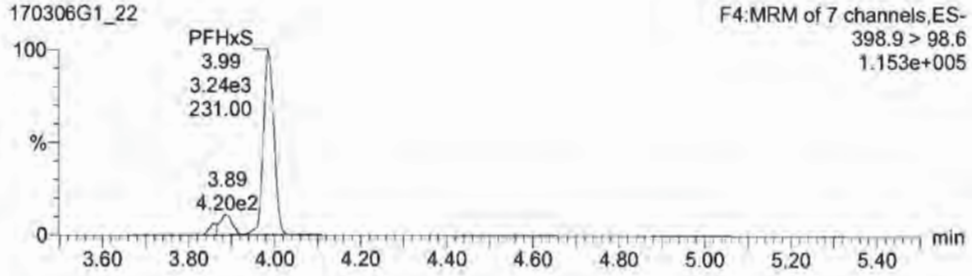
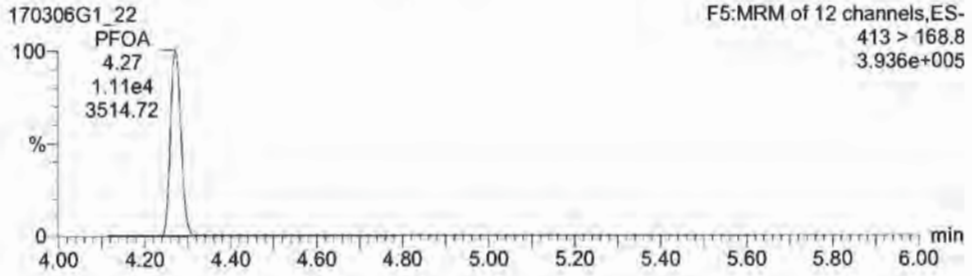
Last Altered: Tuesday, March 07, 2017 09:01:05 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:09 Pacific Standard Time

Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

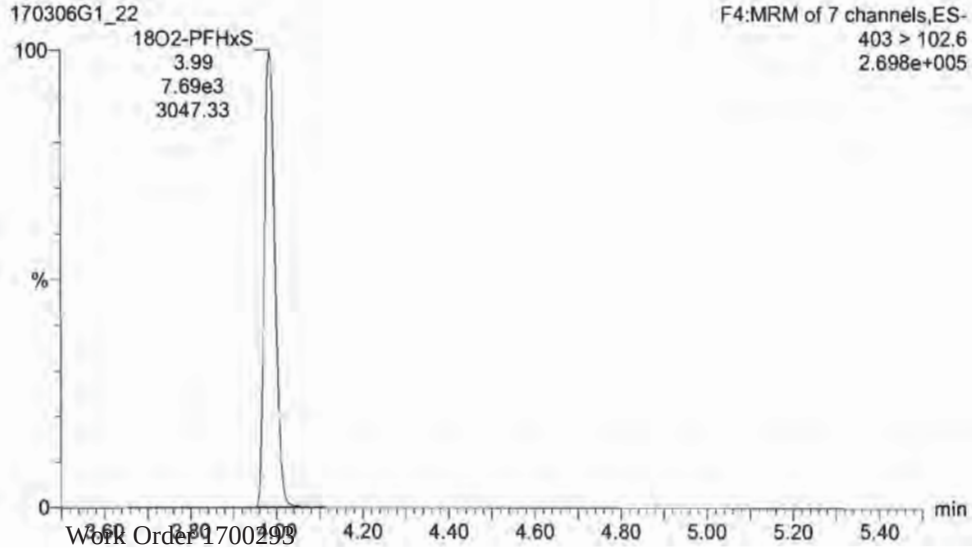
PFHxS



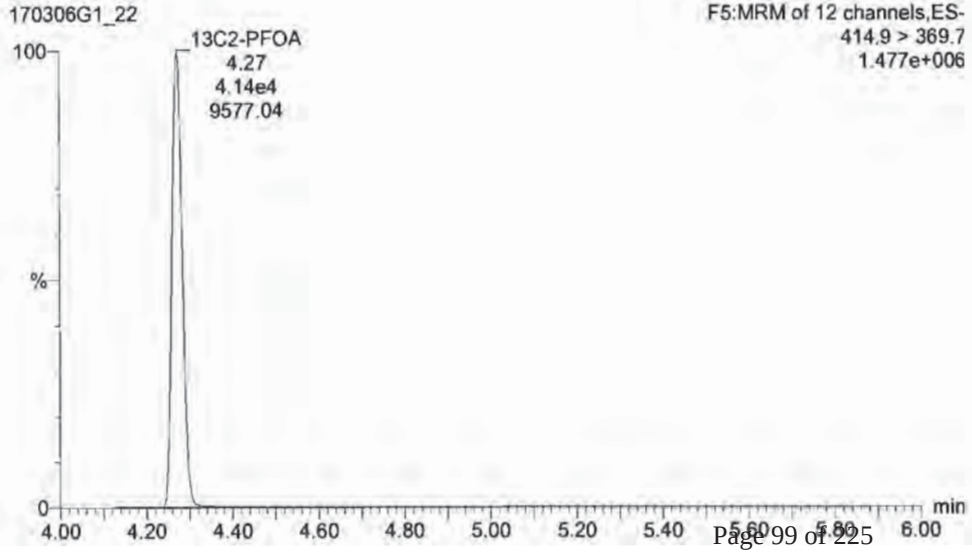
PFOA

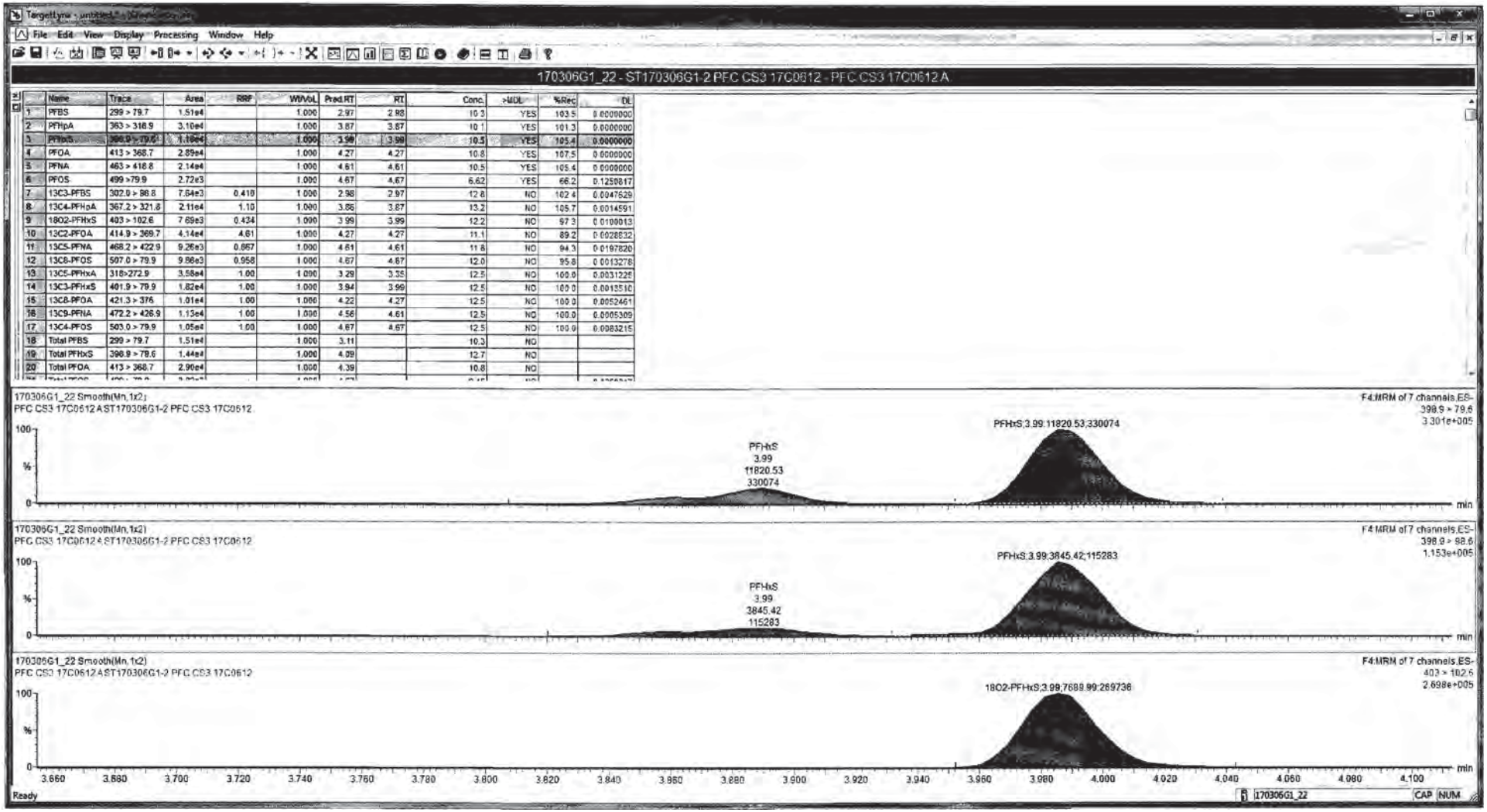


18O2-PFHxS



13C2-PFOA





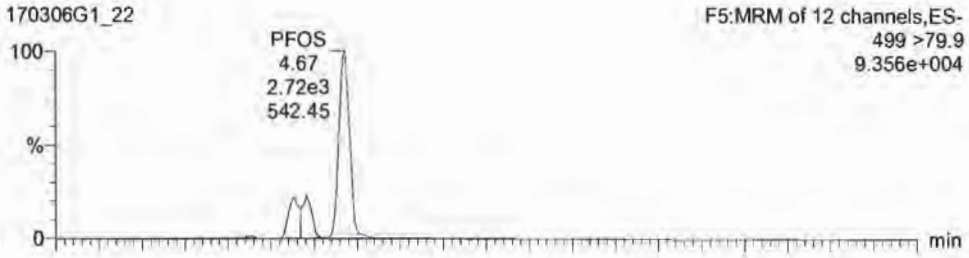
	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.51e4		1.000	2.97	2.98	10.3	YES	103.5	0.0000000
2	PFHpA	363 > 318.9	3.10e4		1.000	3.87	3.87	10.1	YES	101.3	0.0000000
3	PFHxS	398.9 > 79.6	1.18e4		1.000	3.98	3.99	10.5	YES	105.4	0.0000000
4	PFOA	413 > 368.7	2.89e4		1.000	4.27	4.27	10.8	YES	107.5	0.0000000
5	PFNA	463 > 418.8	2.14e4		1.000	4.61	4.61	10.5	YES	105.4	0.0000000
6	PFOS	499 >79.9	2.72e3		1.000	4.67	4.67	6.62	YES	66.2	0.1250817
7	13C3-PFBS	302.0 > 98.8	7.84e3	0.419	1.000	2.98	2.97	12.8	NO	102.4	0.0047629
8	13C4-PFHpA	367.2 > 321.8	2.11e4	1.10	1.000	3.86	3.87	13.2	NO	105.7	0.0014591
9	18O2-PFHxS	403 > 102.6	7.69e3	0.434	1.000	3.99	3.99	12.2	NO	97.3	0.0100013
10	13C2-PFOA	414.9 > 369.7	4.14e4	4.61	1.000	4.27	4.27	11.1	NO	89.2	0.0028832
11	13C5-PFNA	468.2 > 422.9	9.26e3	0.867	1.000	4.61	4.61	11.8	NO	94.3	0.0197820
12	13C8-PFOS	507.0 > 79.9	9.86e3	0.958	1.000	4.67	4.67	12.0	NO	95.8	0.0013278
13	13C5-PFHxA	318>272.9	3.58e4	1.00	1.000	3.29	3.35	12.5	NO	100.0	0.0031225
14	13C3-PFHxS	401.9 > 79.9	1.82e4	1.00	1.000	3.94	3.99	12.5	NO	100.0	0.0013510
15	13C8-PFOA	421.3 > 376	1.01e4	1.00	1.000	4.22	4.27	12.5	NO	100.0	0.0052461
16	13C9-PFNA	472.2 > 426.9	1.13e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0005309
17	13C4-PFOS	503.0 > 79.9	1.05e4	1.00	1.000	4.67	4.67	12.5	NO	100.0	0.0083215
18	Total PFBS	299 > 79.7	1.51e4		1.000	3.11		10.3	NO		
19	Total PFHxS	398.9 > 79.6	1.44e4		1.000	4.09		12.7	NO		
20	Total PFOA	413 > 368.7	2.90e4		1.000	4.39		10.8	NO		

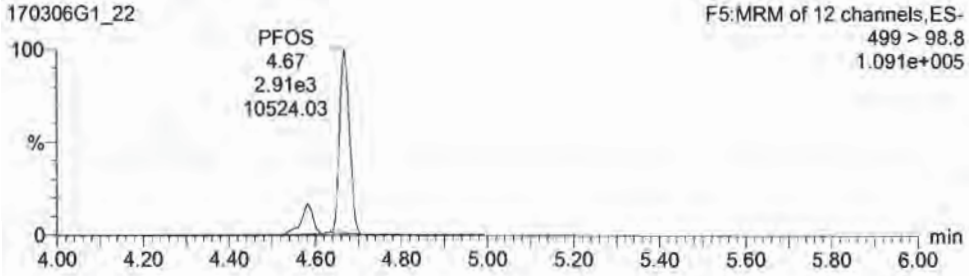
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:01:05 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:09 Pacific Standard Time

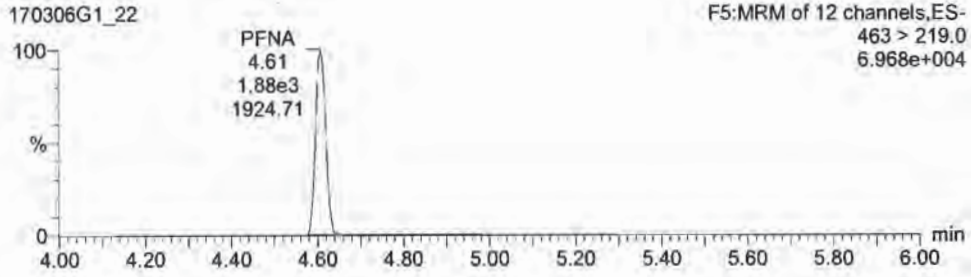
Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFOS

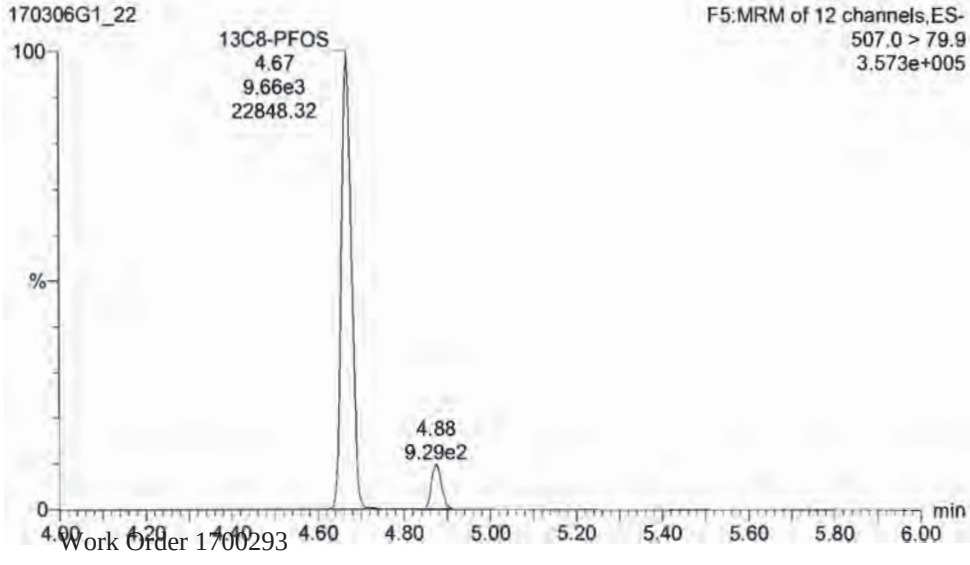




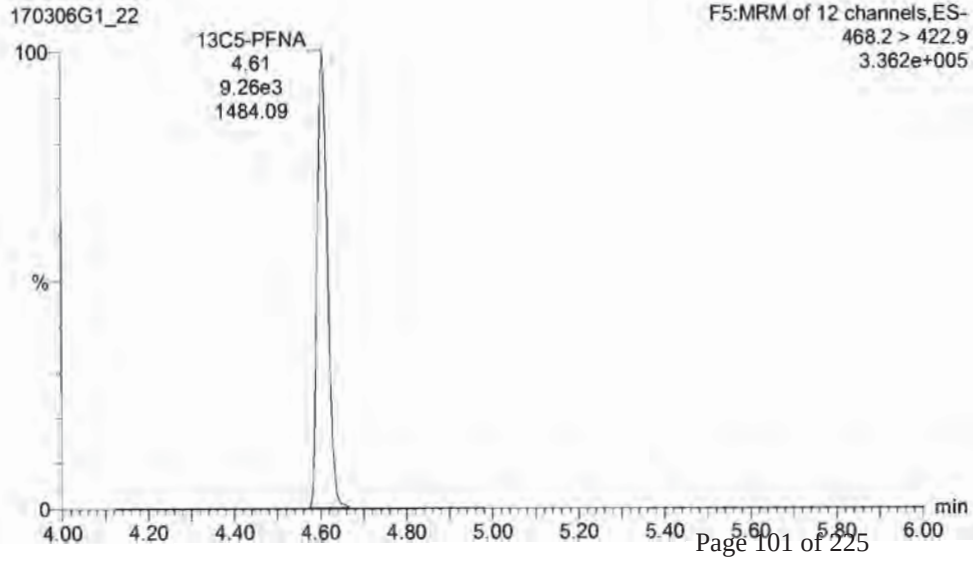
PFNA

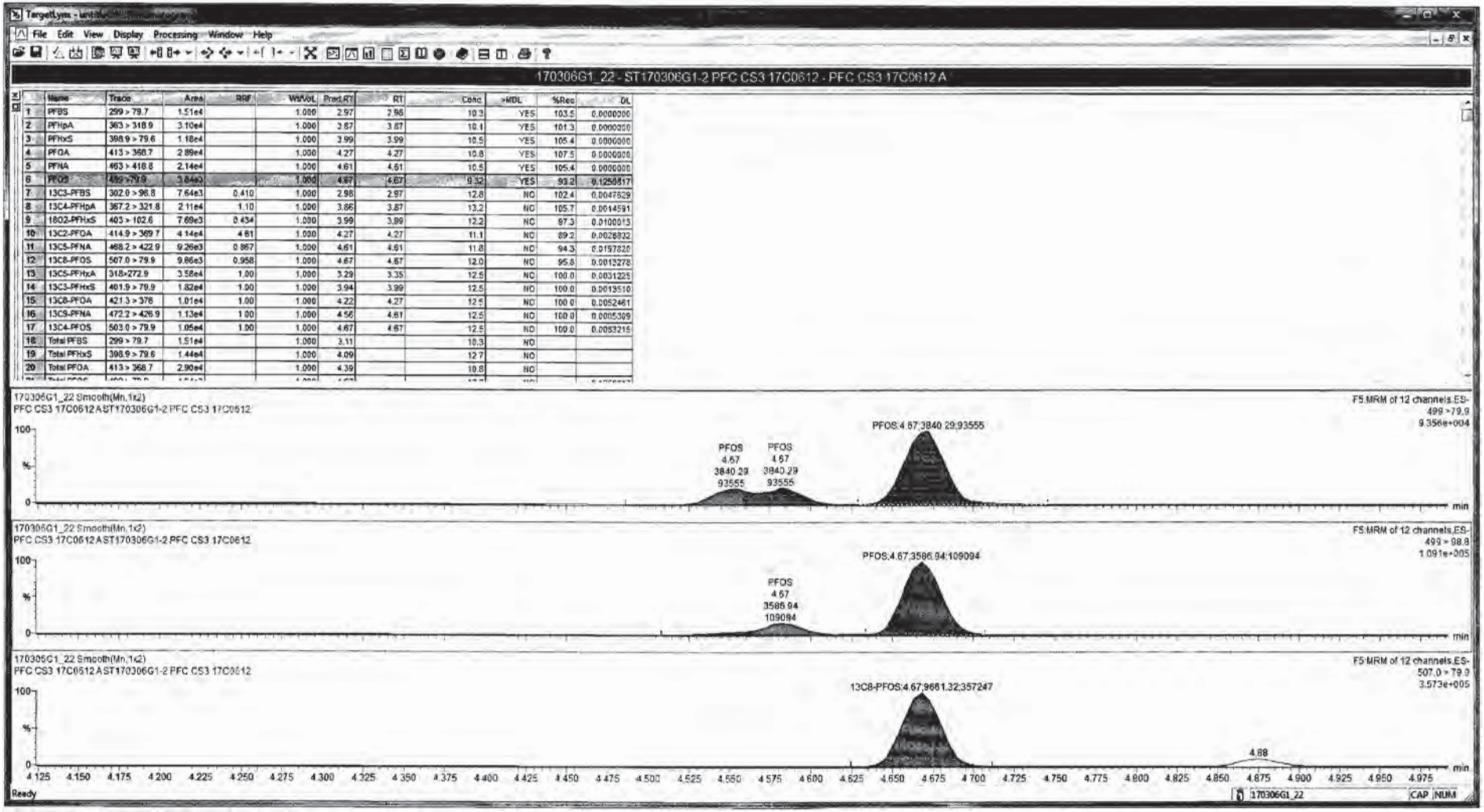


13C8-PFOS



13C5-PFNA





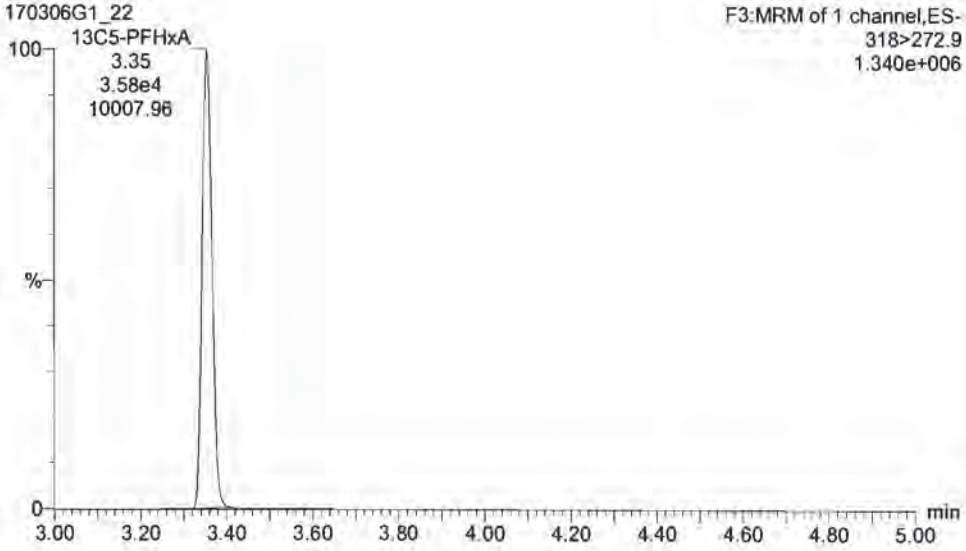
	Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.51e4		1.000	2.97	2.96	10.3	YES	103.5	0.0000000
2	PFHpA	363 > 318.9	3.10e4		1.000	3.87	3.87	10.1	YES	101.3	0.0000000
3	PFHxS	398.9 > 79.6	1.18e4		1.000	3.99	3.99	10.5	YES	105.4	0.0000000
4	PFOA	413 > 368.7	2.89e4		1.000	4.27	4.27	10.8	YES	107.5	0.0000000
5	PFNA	463 > 418.8	2.14e4		1.000	4.61	4.61	10.5	YES	105.4	0.0000000
6	PFOS	499 > 79.9	3.84e3		1.000	4.67	4.67	9.32	YES	93.2	0.1258517
7	13C3-PFBS	302.0 > 98.8	7.64e3	0.410	1.000	2.98	2.97	12.8	NO	102.4	0.0047629
8	13C4-PFHpA	367.2 > 321.8	2.11e4	1.10	1.000	3.86	3.87	13.2	NO	105.7	0.0014591
9	1802-PFHxS	403 > 102.6	7.69e3	0.434	1.000	3.99	3.99	12.2	NO	97.3	0.0100013
10	13C2-PFOA	414.9 > 369.7	4.14e4	4.61	1.000	4.27	4.27	11.1	NO	89.2	0.0028832
11	13C5-PFNA	468.2 > 422.9	9.26e3	0.867	1.000	4.61	4.61	11.8	NO	94.3	0.0197820
12	13C8-PFOS	507.0 > 79.9	9.86e3	0.958	1.000	4.67	4.67	12.0	NO	95.8	0.0013278
13	13C5-PFHxA	318>272.9	3.58e4	1.00	1.000	3.29	3.35	12.5	NO	100.0	0.0031225
14	13C3-PFHxS	401.9 > 79.9	1.82e4	1.00	1.000	3.94	3.99	12.5	NO	100.0	0.0013510
15	13C8-PFOA	421.3 > 376	1.01e4	1.00	1.000	4.22	4.27	12.5	NO	100.0	0.0052461
16	13C9-PFNA	472.2 > 426.9	1.13e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0065309
17	13C4-PFOS	503.0 > 79.9	1.05e4	1.00	1.000	4.67	4.67	12.5	NO	100.0	0.0053215
18	Total PFBS	299 > 79.7	1.51e4		1.000	3.11		10.3	NO		
19	Total PFHxS	398.9 > 79.6	1.44e4		1.000	4.09		12.7	NO		
20	Total PFOA	413 > 368.7	2.90e4		1.000	4.39		10.8	NO		

Dataset: Untitled

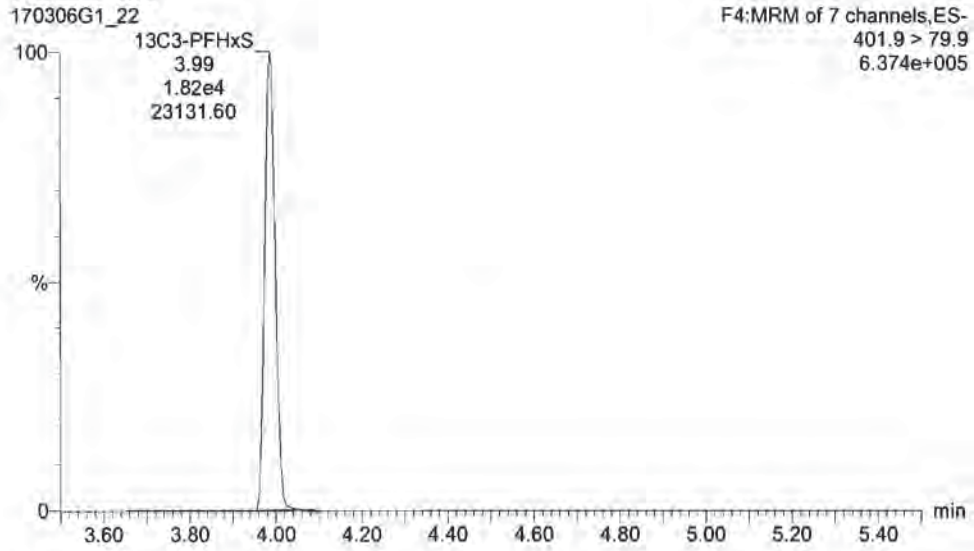
Last Altered: Tuesday, March 07, 2017 09:01:05 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:09 Pacific Standard Time

Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

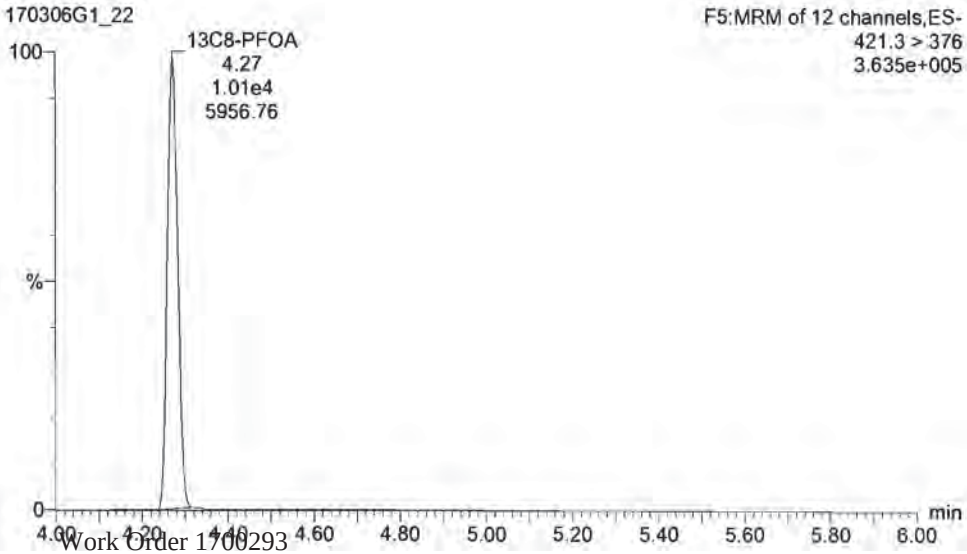
13C5-PFHxA



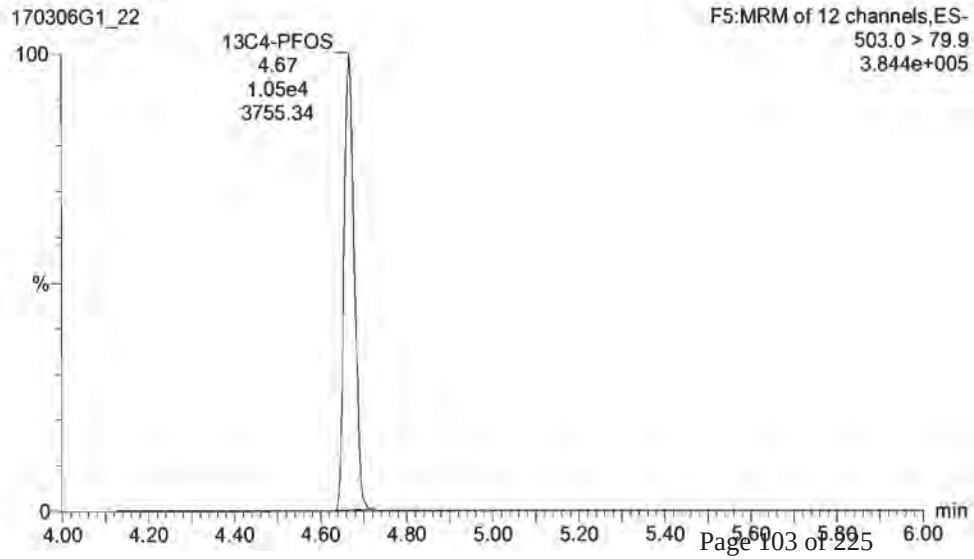
13C3-PFHxS



13C8-PFOA



13C4-PFOS



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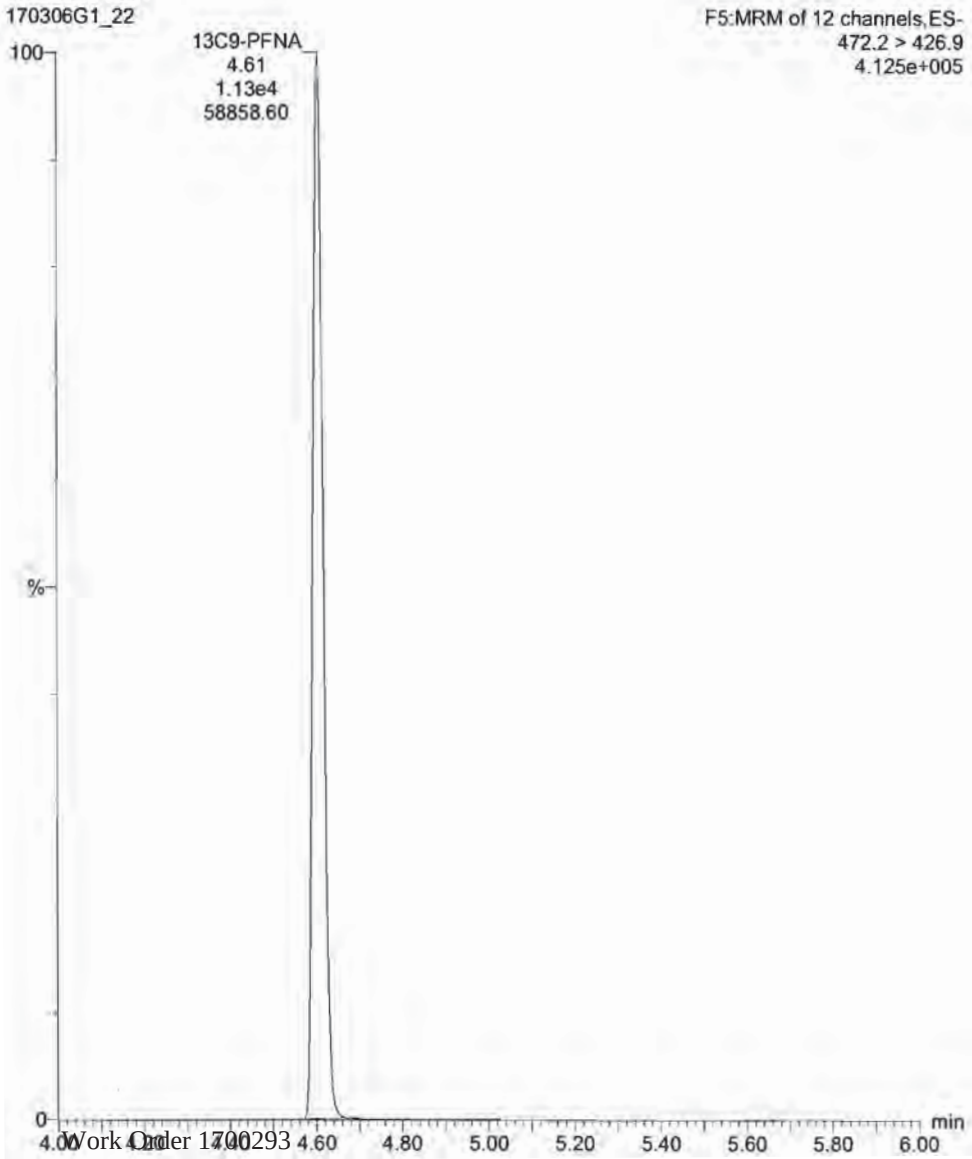
Last Altered: Tuesday, March 07, 2017 09:01:05 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:09 Pacific Standard Time

Name: 170306G1_22, Date: 06-Mar-2017, Time: 19:48:29, ID: ST170306G1-2 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

13C9-PFNA



Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170306G1\170306G1-34.qld

Last Altered: Tuesday, March 07, 2017 9:20:14 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:20:55 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.57e4	7.69e3		1.000	2.98	10.7	106.8
2	2	PFHpA	363 > 318.9	3.16e4	2.08e4		1.000	3.87	10.5	104.9
3	3	PFHxS	398.9 > 79.6	1.30e4	8.69e3		1.000	3.99	10.2	102.3
4	4	PFOA	413 > 368.7	2.84e4	3.90e4		1.000	4.28	11.2	112.1
5	5	PFNA	463 > 418.8	2.15e4	9.42e3		1.000	4.61	10.4	104.1
6	6	PFOS	499 >79.9	3.98e3	9.87e3		1.000	4.67	9.45	94.5
7	7	13C3-PFBS	302.0 > 98.8	7.69e3	1.89e4	0.410	1.000	2.98	12.4	99.1
8	8	13C4-PFHpA	367.2 > 321.8	2.08e4	1.89e4	1.098	1.000	3.87	12.5	100.1
9	9	18O2-PFHxS	403 > 102.6	8.69e3	1.89e4	0.434	1.000	3.99	13.2	105.7
10	10	13C2-PFOA	414.9 > 369.7	3.90e4	9.54e3	4.608	1.000	4.28	11.1	88.7
11	11	13C5-PFNA	468.2 > 422.9	9.42e3	1.08e4	0.867	1.000	4.61	12.5	100.2
12	12	13C8-PFOS	507.0 > 79.9	9.87e3	1.07e4	0.958	1.000	4.67	12.0	95.9
13	13	13C5-PFHxA	318>272.9	3.58e4	3.58e4	1.000	1.000	3.36	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.89e4	1.89e4	1.000	1.000	3.99	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	9.54e3	9.54e3	1.000	1.000	4.28	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	1.08e4	1.08e4	1.000	1.000	4.61	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	1.07e4	1.07e4	1.000	1.000	4.67	12.5	100.0

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

AC 3/7/17

JEG 3/7/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170306G1_1	IPA	06-Mar-17	14:49:33
2	170306G1_2	ST170306G1-1 PFC CS3 17C0612	06-Mar-17	15:37:57
3	170306G1_3	IPA	06-Mar-17	15:50:07
4	170306G1_4	B7C0003-BS1 OPR 0.125	06-Mar-17	16:02:38
5	170306G1_5	B7C0015-BS1 OPR 0.125	06-Mar-17	16:15:10
6	170306G1_6	B7C0017-BS1 OPR 0.125	06-Mar-17	16:27:44
7	170306G1_7	IPA	06-Mar-17	16:40:16
8	170306G1_8	B7C0003-BLK1 Method Blank 0.125	06-Mar-17	16:52:50
9	170306G1_9	B7C0015-BLK1 Method Blank 0.125	06-Mar-17	17:05:23
10	170306G1_10	B7C0017-BLK1 Method Blank 0.125	06-Mar-17	17:17:56
11	170306G1_11	1700268-01 WI-CV-GW09M-0217 0.12317	06-Mar-17	17:30:29
12	170306G1_12	1700268-03 WI-CV-GW05S-0217 0.12246	06-Mar-17	17:43:02
13	170306G1_13	1700268-05 WI-CV-GW11S-0217 0.12773	06-Mar-17	17:55:31
14	170306G1_14	1700268-07 WI-CV-EB06-022617 0.10638	06-Mar-17	18:08:03
15	170306G1_15	1700268-08 WI-CV-EB05-022417 0.12657	06-Mar-17	18:20:37
16	170306G1_16	1700263-04RE1 OW2C-MW25-0217 0.12534	06-Mar-17	18:33:10
17	170306G1_17	1700293-01 WI-CV-GW02S-0317 0.125	06-Mar-17	18:45:44
18	170306G1_18	1700293-02 WI-CV-GW02S/SP-0317 0.125	06-Mar-17	18:58:16
19	170306G1_19	1700293-03 WI-CV-GW04S-0317 0.125	06-Mar-17	19:10:50
20	170306G1_20	1700293-04 WI-CV-GW04S/SP-0317 0.125	06-Mar-17	19:23:25
21	170306G1_21	IPA	06-Mar-17	19:35:53
22	170306G1_22	ST170306G1-2 PFC CS3 17C0612	06-Mar-17	19:48:29
23	170306G1_23	IPA	06-Mar-17	20:00:59
24	170306G1_24	1700293-05 WI-CV-GW02M-0317 0.125	06-Mar-17	20:13:35
25	170306G1_25	1700293-06 WI-CV-GW12D-0317 0.125	06-Mar-17	20:26:04
26	170306G1_26	1700293-07 WI-CV-EB09-030117 0.125	06-Mar-17	20:38:37
27	170306G1_27	1700293-08 WI-CV-GW08S-0317 0.125	06-Mar-17	20:51:11
28	170306G1_28	1700293-09 WI-CV-FB01-030217 0.125	06-Mar-17	21:03:44
29	170306G1_29	1700293-10 WI-CV-EB10-030217 0.125	06-Mar-17	21:16:17
30	170306G1_30	1700293-11 WI-CV-EB11-030217 0.125	06-Mar-17	21:28:51
31	170306G1_31	B7C0017-MS1 Matrix Spike 0.125	06-Mar-17	21:41:24

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 9:31:27 AM Pacific Standard Time
Printed: Tuesday, March 07, 2017 9:32:15 AM Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170306G1_32	B7C0017-MSD1 Matrix Spike Dup 0.125	06-Mar-17	21:53:53
33	170306G1_33	IPA	06-Mar-17	22:06:26
34	170306G1_34	ST170306G1-3 PFC CS3 17C0612	06-Mar-17	22:19:02
35	170306G1_35	IPA	06-Mar-17	22:31:42

Vista Analytical Laboratory Q1

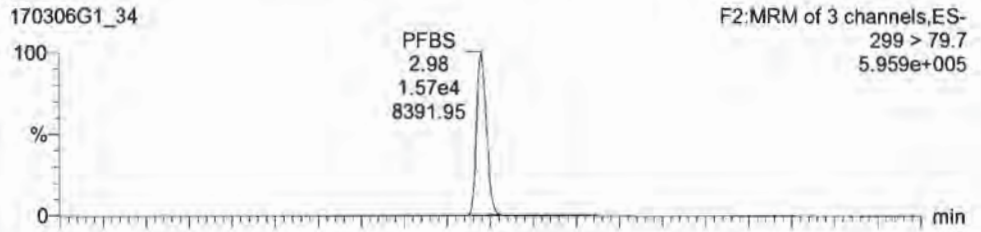
Dataset: Untitled

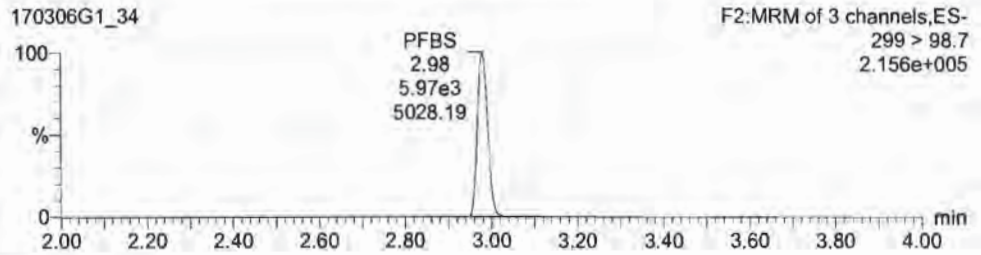
Last Altered: Tuesday, March 07, 2017 09:01:17 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:22 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

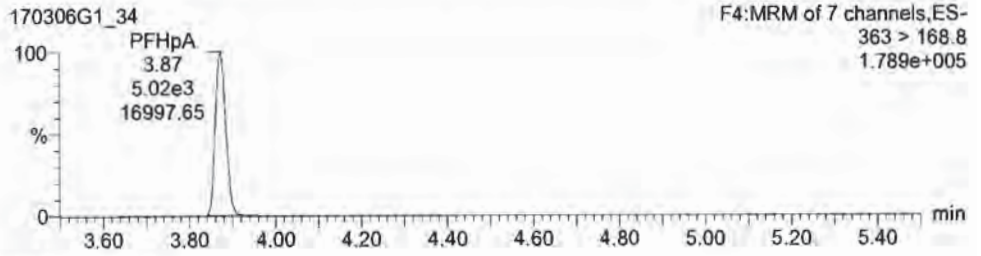
Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFBS

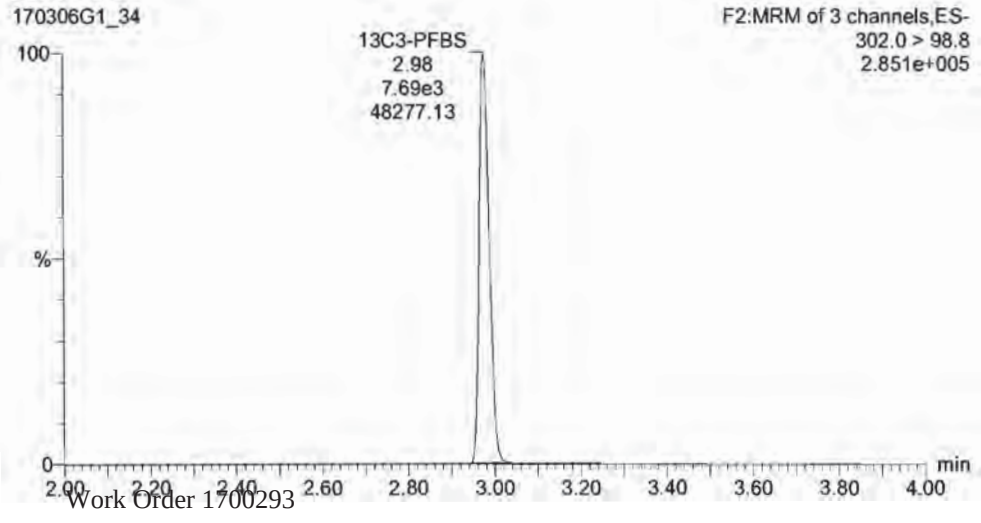




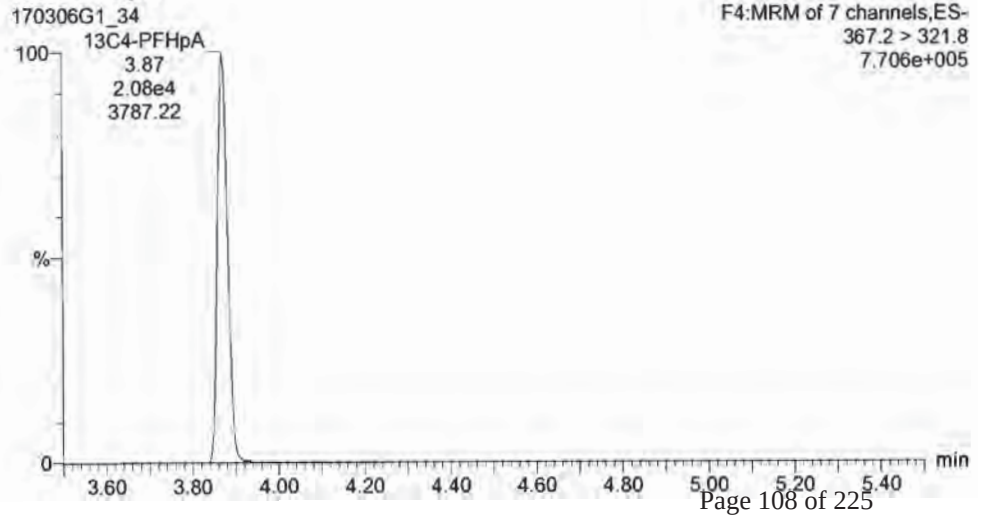
PFHpA



13C3-PFBS



13C4-PFHpA

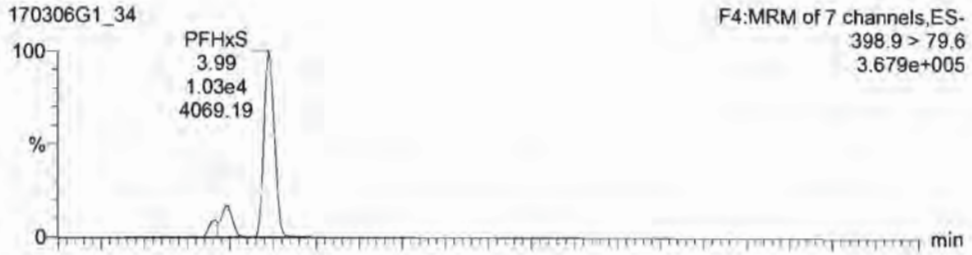


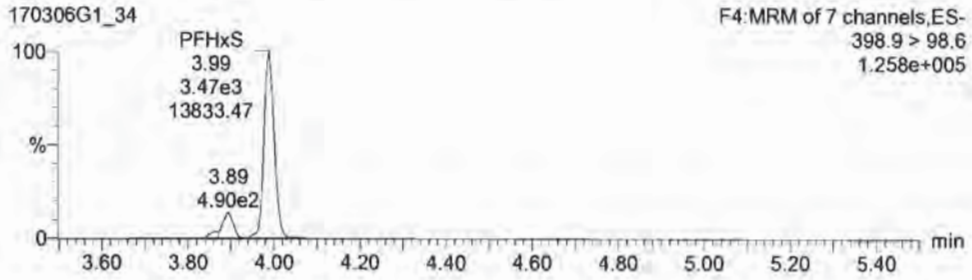
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:01:17 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:22 Pacific Standard Time

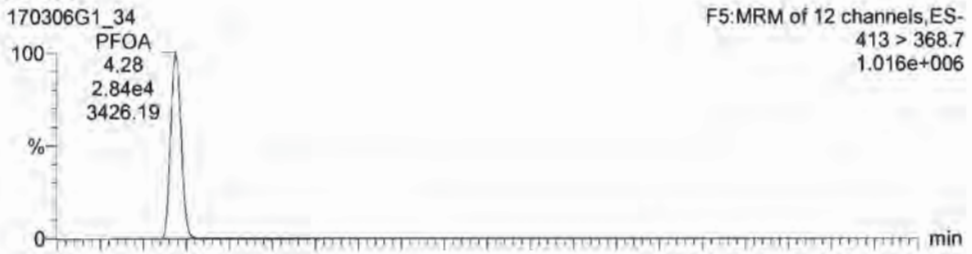
Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

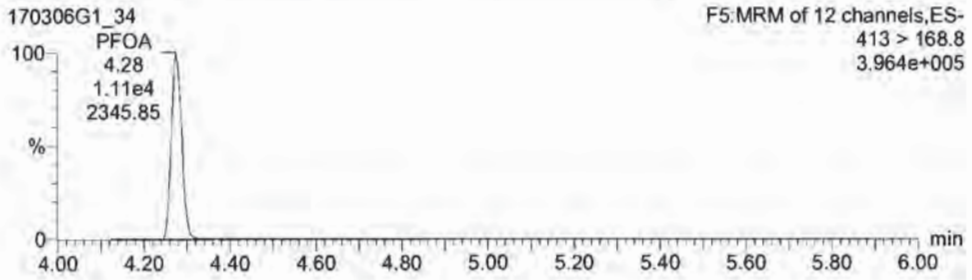
PFHxS



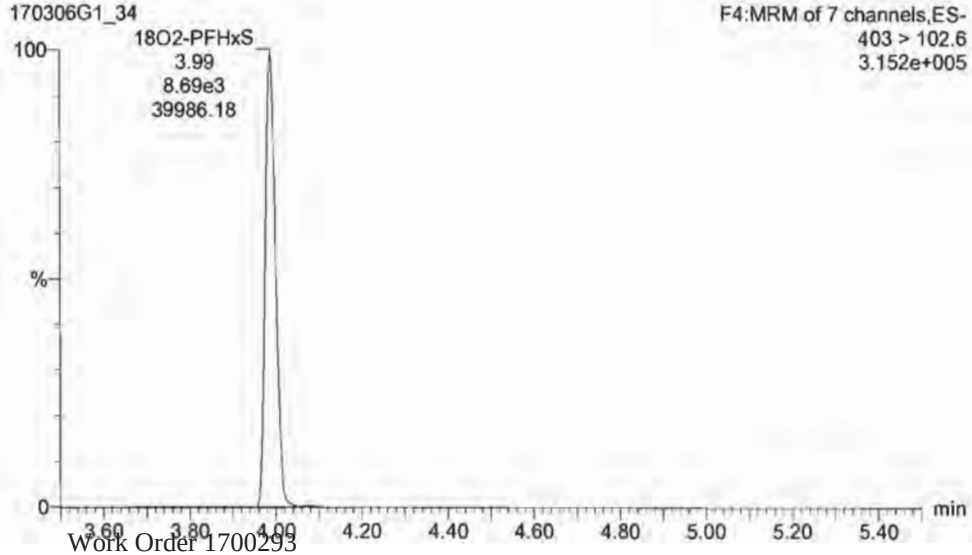


PFOA

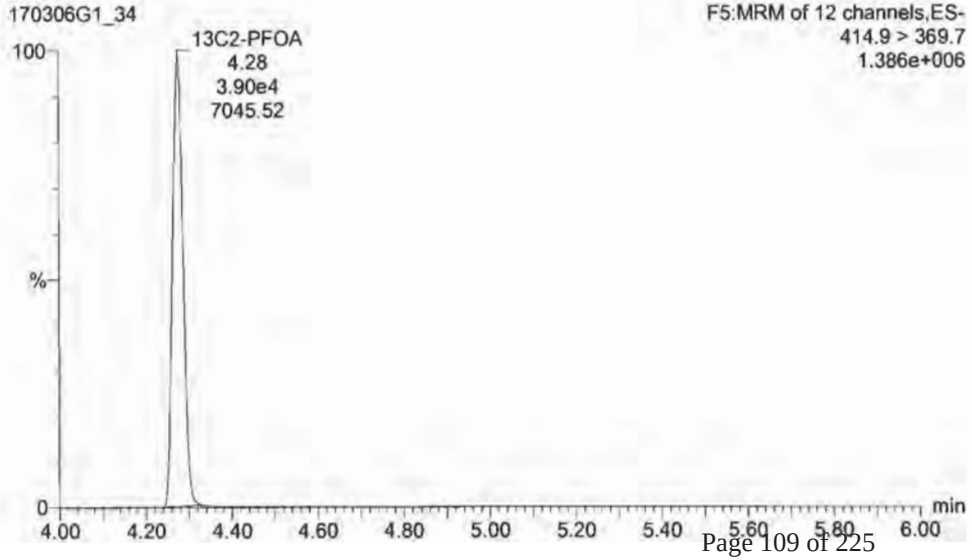


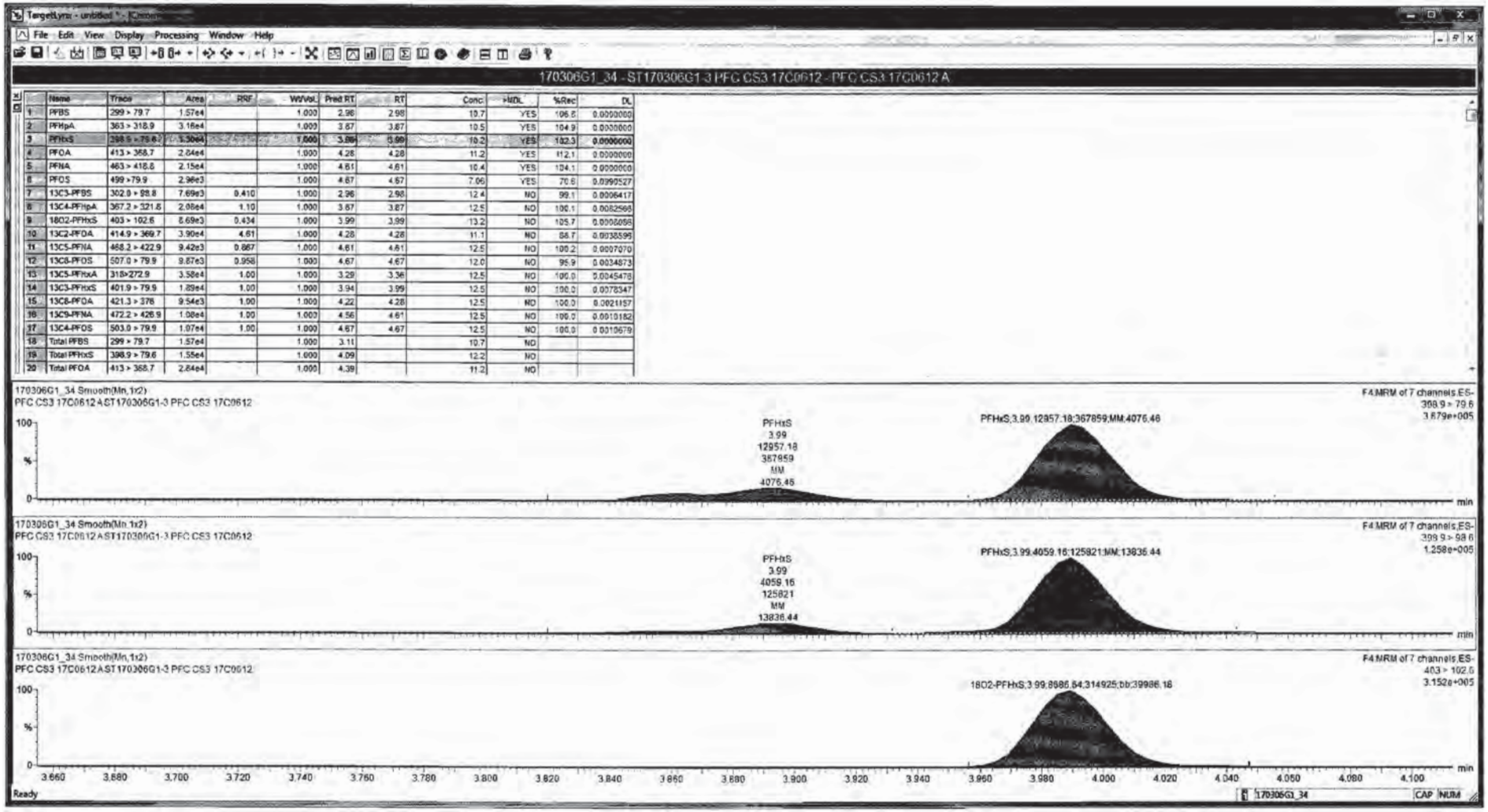


18O2-PFHxS



13C2-PFOA





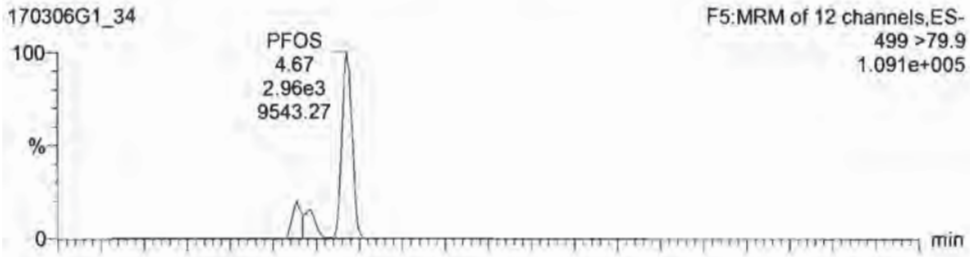
	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	HiDL	%Rec	DL
1	PFBS	299 > 79.7	1.57e4		1.000	2.96	2.98	10.7	YES	106.8	0.0000000
2	PFHpA	363 > 318.9	3.18e4		1.000	3.87	3.87	10.5	YES	104.9	0.0000000
3	PFHxS	398.9 > 79.6	3.30e4		1.000	3.99	3.99	10.2	YES	102.3	0.0000000
4	PFOA	413 > 368.7	2.84e4		1.000	4.28	4.28	11.2	YES	112.1	0.0000000
5	PFNA	463 > 418.8	2.15e4		1.000	4.61	4.61	10.4	YES	104.1	0.0000000
6	PFOS	499 >79.9	2.98e3		1.000	4.67	4.67	7.06	YES	70.6	0.0990527
7	13C3-PFBS	302.9 > 98.8	7.69e3	0.410	1.000	2.96	2.98	12.4	NO	99.1	0.0006417
8	13C4-PFHpA	367.2 > 321.8	2.08e4	1.10	1.000	3.87	3.87	12.5	NO	100.1	0.0082568
9	1802-PFHxS	403 > 102.6	8.69e3	0.434	1.000	3.99	3.99	13.2	NO	105.7	0.0008056
10	13C2-PFOA	414.9 > 369.7	3.90e4	4.61	1.000	4.28	4.28	11.1	NO	88.7	0.0038596
11	13C5-PFNA	468.2 > 422.9	9.42e3	0.867	1.000	4.61	4.61	12.5	NO	100.2	0.0007070
12	13C8-PFOS	507.0 > 79.9	9.87e3	0.958	1.000	4.67	4.67	12.0	NO	95.9	0.0034873
13	13C5-PFHxA	318>272.9	3.58e4	1.00	1.000	3.29	3.36	12.5	NO	100.0	0.0045478
14	13C3-PFHxS	401.9 > 79.9	1.89e4	1.00	1.000	3.94	3.99	12.5	NO	100.0	0.0078347
15	13C8-PFOA	421.3 > 376	9.54e3	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0021157
16	13C9-PFNA	472.2 > 426.9	1.08e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0010182
17	13C4-PFOS	503.0 > 79.9	1.07e4	1.00	1.000	4.67	4.67	12.5	NO	100.0	0.0010679
18	Total PFBS	299 > 79.7	1.57e4		1.000	3.11		10.7	NO		
19	Total PFHxS	398.9 > 79.6	1.55e4		1.000	4.09		12.2	NO		
20	Total PFOA	413 > 368.7	2.84e4		1.000	4.39		11.2	NO		

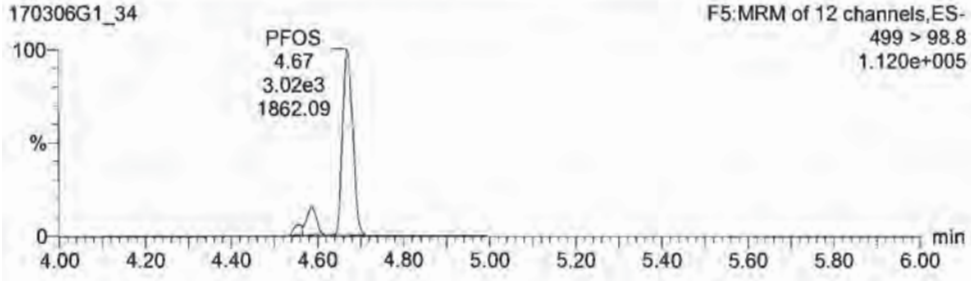
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:01:17 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:22 Pacific Standard Time

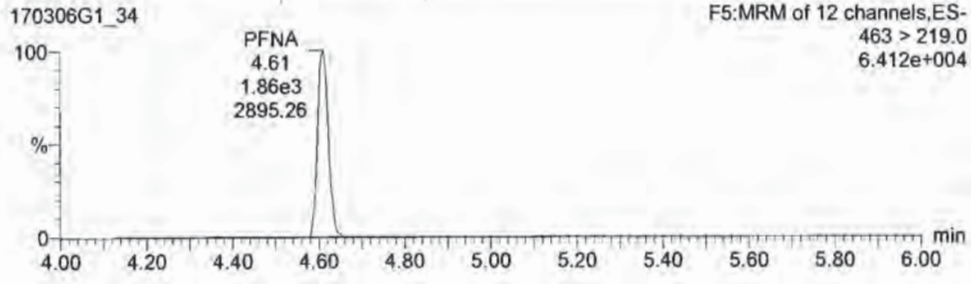
Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

PFOS

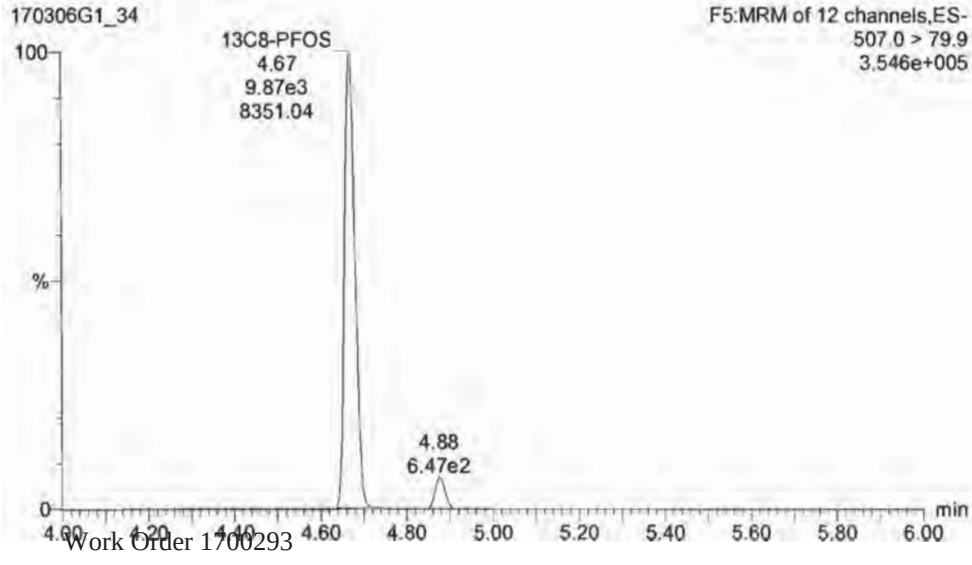




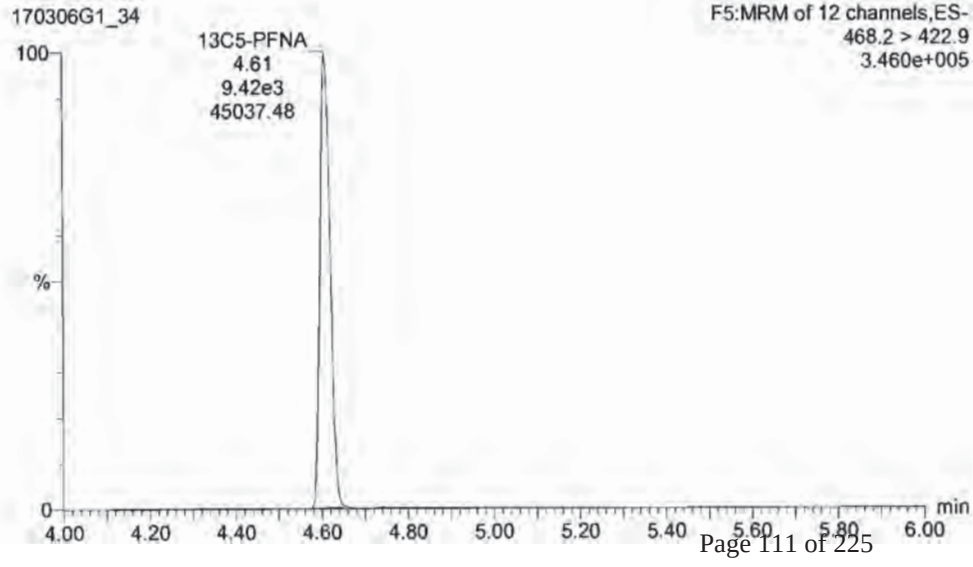
PFNA

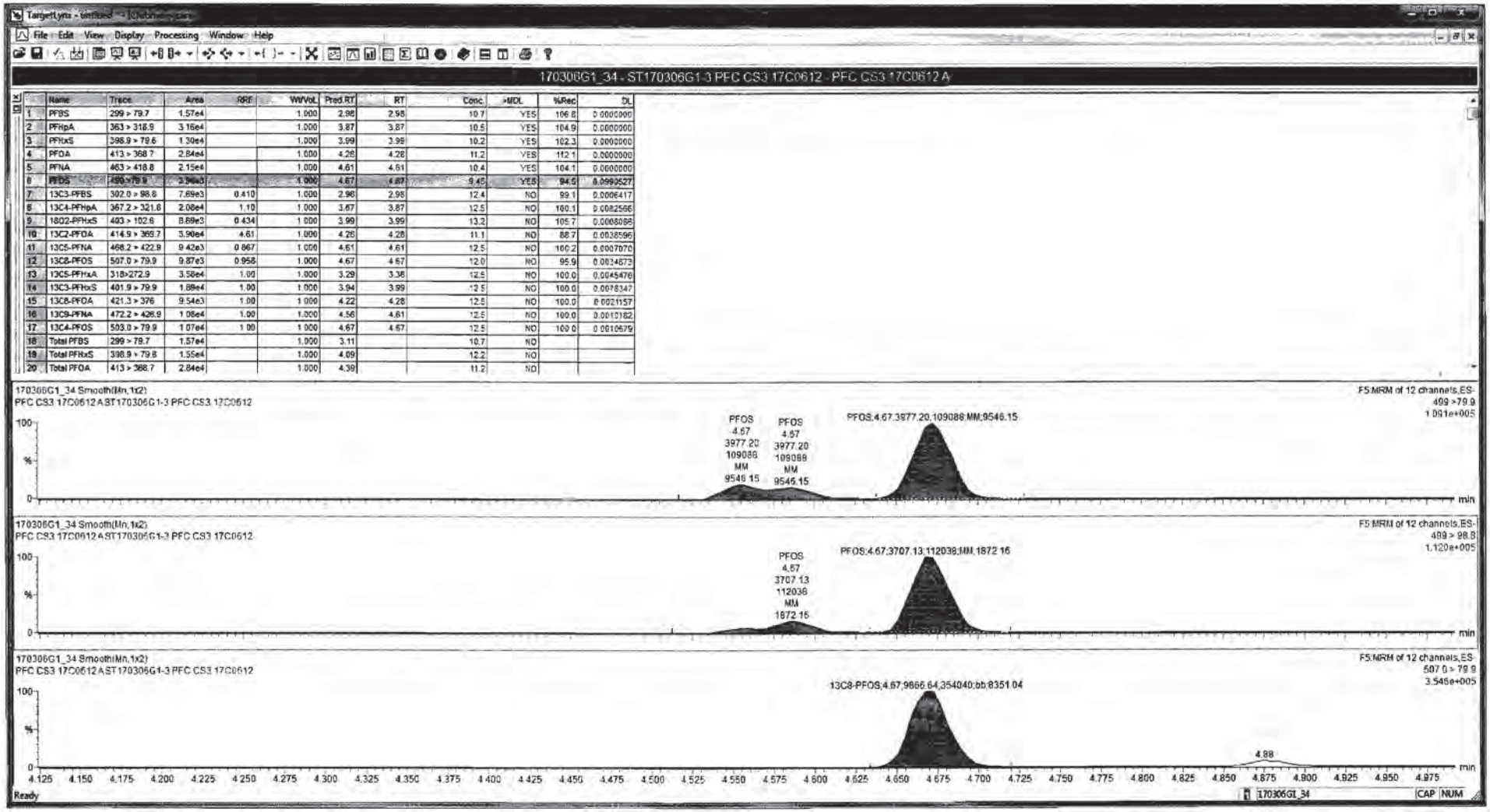


13C8-PFOS



13C5-PFNA





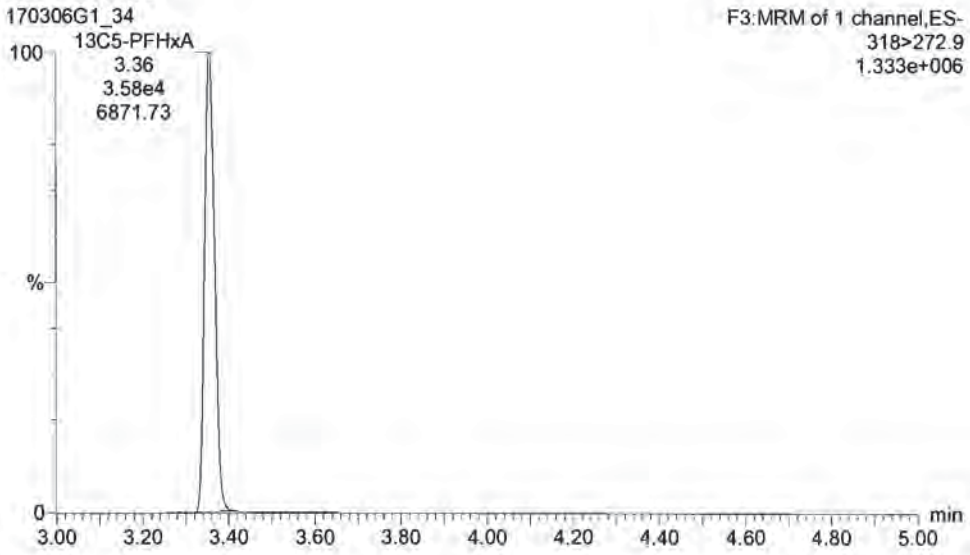
	Name	Trace	Area	ISRF	WtVol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.57e4		1.000	2.98	2.98	10.7	YES	106.8	0.0000000
2	PFHpA	363 > 318.9	3.16e4		1.000	3.87	3.87	10.5	YES	104.9	0.0000000
3	PFHxS	398.9 > 79.8	1.30e4		1.000	3.99	3.99	10.2	YES	102.3	0.0000000
4	PFOA	413 > 368.7	2.84e4		1.000	4.28	4.28	11.2	YES	112.1	0.0000000
5	PFNA	463 > 418.8	2.15e4		1.000	4.61	4.61	10.4	YES	104.1	0.0000000
6	PFOS	499 > 79.9	3.98e3		1.000	4.67	4.67	9.45	YES	94.5	0.0990527
7	13C3-PFBS	302.0 > 98.8	7.69e3	0.410	1.000	2.98	2.98	12.4	NO	99.1	0.0006417
8	13C4-PFHpA	367.2 > 321.8	2.08e4	1.10	1.000	3.87	3.87	12.5	NO	100.1	0.0082566
9	18O2-PFHxS	403 > 102.6	8.69e3	0.434	1.000	3.99	3.99	13.2	NO	105.7	0.0068086
10	13C2-PFOA	414.9 > 369.7	3.90e4	4.61	1.000	4.28	4.28	11.1	NO	88.7	0.0038596
11	13C5-PFNA	468.2 > 422.9	9.42e3	0.667	1.000	4.61	4.61	12.5	NO	100.2	0.0007870
12	13C8-PFOS	507.0 > 79.9	9.87e3	0.958	1.000	4.67	4.67	12.0	NO	95.9	0.0034873
13	13C3-PFHxA	318>272.9	3.58e4	1.00	1.000	3.29	3.38	12.5	NO	100.0	0.0045476
14	13C3-PFHxS	401.9 > 79.9	1.89e4	1.00	1.000	3.94	3.99	12.5	NO	100.0	0.0078347
15	13C8-PFOA	421.3 > 376	9.54e3	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0021157
16	13C9-PFNA	472.2 > 426.9	1.06e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0010182
17	13C4-PFOS	503.0 > 79.9	1.07e4	1.00	1.000	4.67	4.67	12.5	NO	100.0	0.0010679
18	Total PFBS	299 > 79.7	1.57e4		1.000	3.11		10.7	NO		
19	Total PFHxS	398.9 > 79.8	1.55e4		1.000	4.09		12.2	NO		
20	Total PFOA	413 > 368.7	2.84e4		1.000	4.39		11.2	NO		

Dataset: Untitled

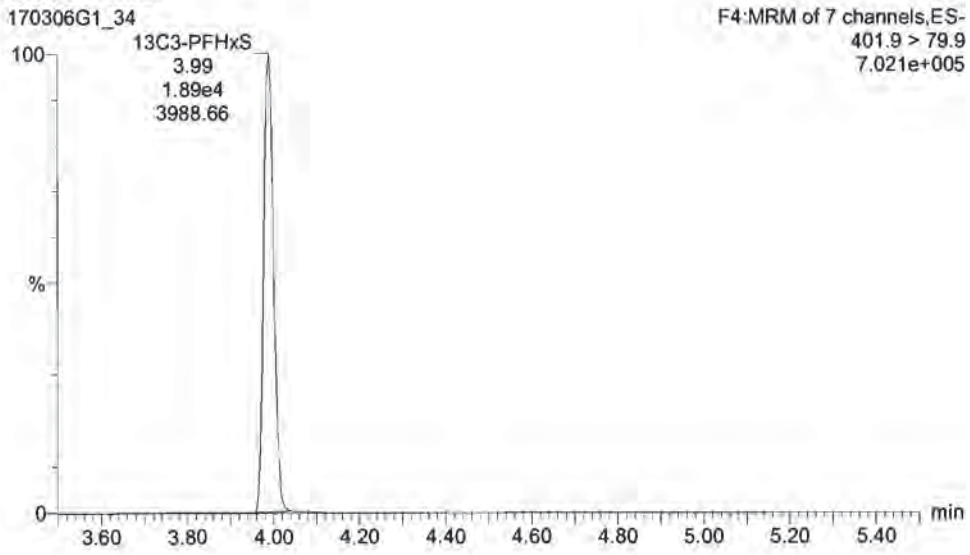
Last Altered: Tuesday, March 07, 2017 09:01:17 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:22 Pacific Standard Time

Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

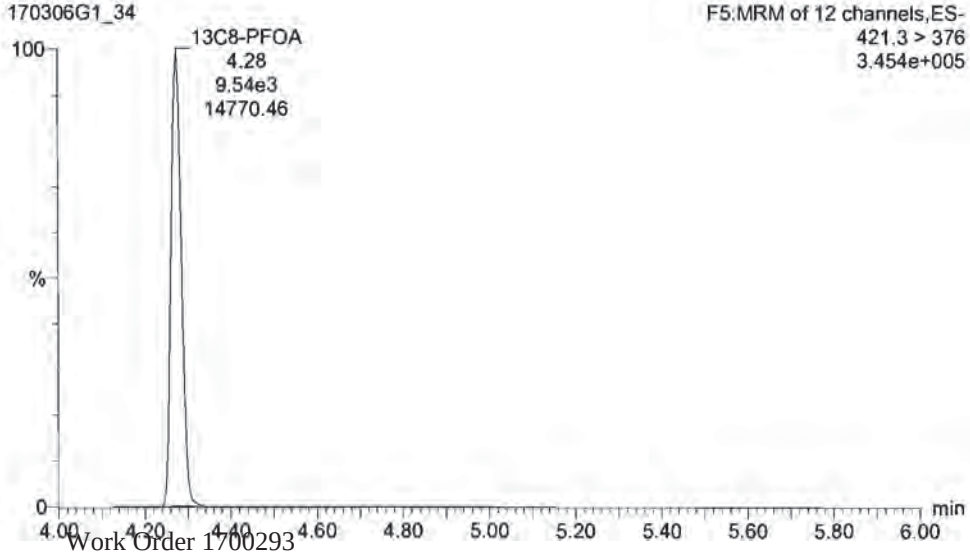
13C5-PFHxA



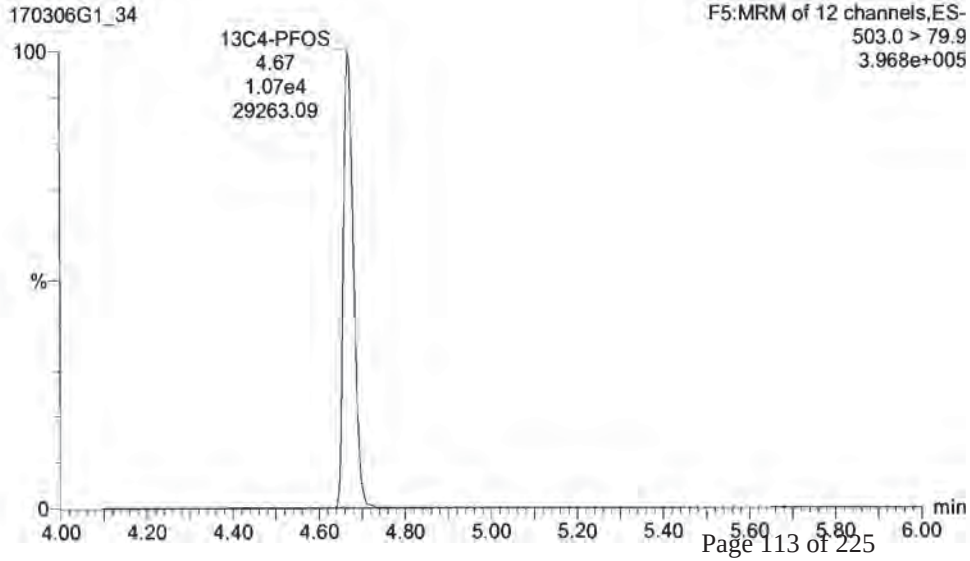
13C3-PFHxS



13C8-PFOA



13C4-PFOS



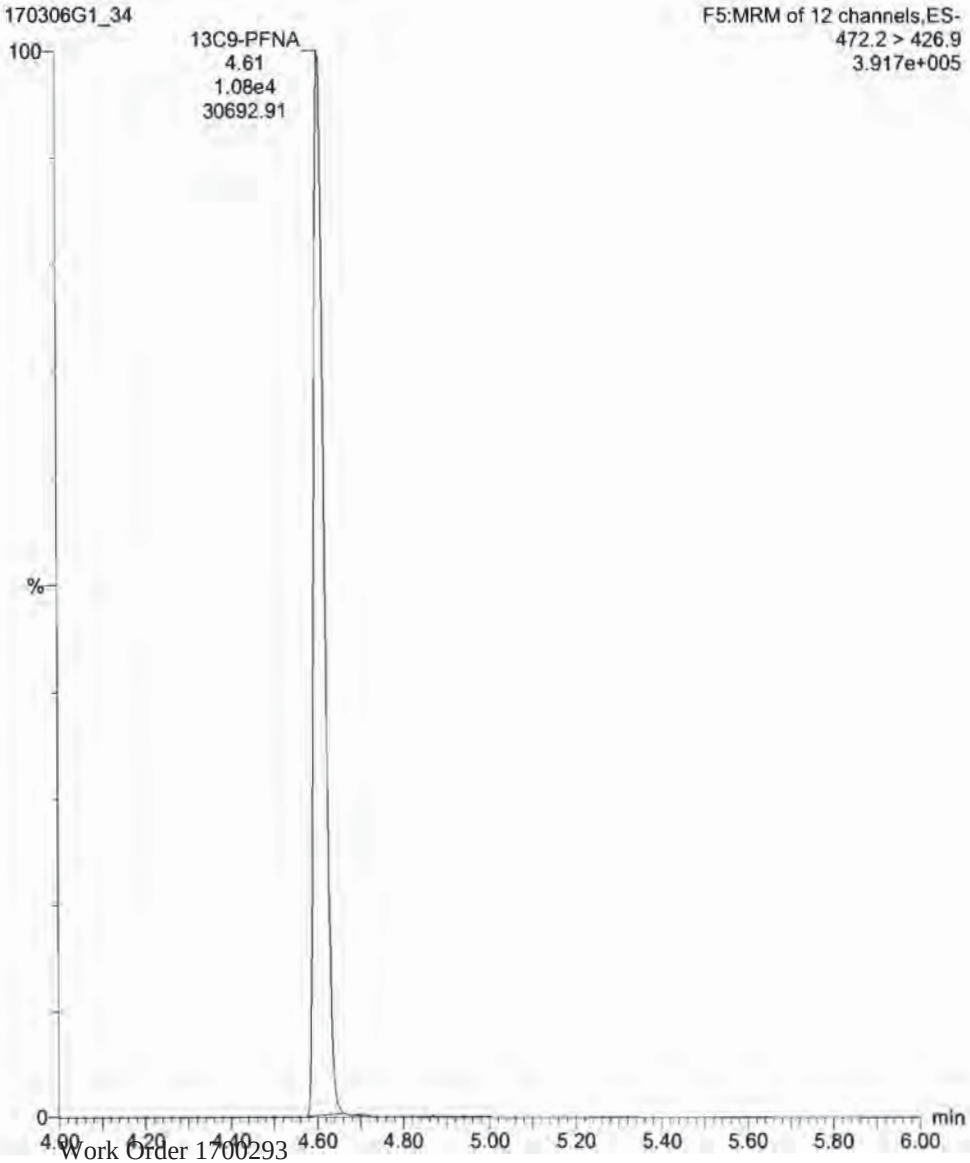
Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:01:17 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:01:22 Pacific Standard Time

Name: 170306G1_34, Date: 06-Mar-2017, Time: 22:19:02, ID: ST170306G1-3 PFC CS3 17C0612, Description: PFC CS3 17C0612 A

13C9-PFNA



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-2.qld

Last Altered: Tuesday, March 07, 2017 09:51:38 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:54:56 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.31e4	7.20e3		1.000	2.99	9.55	95.5
2	2	PFHpA	363 > 318.9	2.77e4	1.83e4		1.000	3.88	10.4	104.3
3	3	PFHxS	398.9 > 79.6	1.20e4	7.52e3		1.000	4.00	10.9	109.4
4	4	PFOA	413 > 368.7	2.44e4	3.81e4		1.000	4.28	9.86	98.6
5	5	PFNA	463 > 418.8	1.87e4	8.55e3		1.000	4.61	9.94	99.4
6	6	PFOS	499 >79.9	3.38e3	8.10e3		1.000	4.67	9.77	97.7
7	7	13C3-PFBS	302.0 > 98.8	7.20e3	1.80e4	0.410	1.000	2.99	12.2	97.9
8	8	13C4-PFHpA	367.2 > 321.8	1.83e4	1.80e4	1.098	1.000	3.88	11.6	93.0
9	9	18O2-PFHxS	403 > 102.6	7.52e3	1.80e4	0.434	1.000	4.00	12.1	96.4
10	10	13C2-PFOA	414.9 > 369.7	3.81e4	8.44e3	4.608	1.000	4.28	12.2	98.0
11	11	13C5-PFNA	468.2 > 422.9	8.55e3	1.03e4	0.867	1.000	4.61	12.0	95.6
12	12	13C8-PFOS	507.0 > 79.9	8.10e3	8.25e3	0.958	1.000	4.67	12.8	102.5
13	13	13C5-PFHxA	318>272.9	3.17e4	3.17e4	1.000	1.000	3.37	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.80e4	1.80e4	1.000	1.000	4.00	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	8.44e3	8.44e3	1.000	1.000	4.28	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	1.03e4	1.03e4	1.000	1.000	4.61	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	8.25e3	8.25e3	1.000	1.000	4.67	12.5	100.0

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

ES 3/7/17

✓AC 3/7/17

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 10:58:31 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:58:48 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170307G1_1	IPA	07-Mar-17	09:01:51
2	170307G1_2	ST170307G1-1 PFC CS3 17C0701	07-Mar-17	09:14:04
3	170307G1_3	IPA	07-Mar-17	09:26:31
4	170307G1_4	1700263-04RE1@10X OW2C-MW25-0217 0....	07-Mar-17	09:39:38
5	170307G1_5	1700293-01@10X WI-CV-GW02S-0317 0.125	07-Mar-17	09:51:58
6	170307G1_6	1700293-02@10X WI-CV-GW02S/SP-0317 0....	07-Mar-17	10:04:33
7	170307G1_7	IPA	07-Mar-17	10:17:07
8	170307G1_8	ST170307G1-2 PFC CS3 17C0701	07-Mar-17	10:29:40
9	170307G1_9	IPA	07-Mar-17	10:42:20

LC Calibration Standards Review Checklist Q1

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NB
Calibration ID:	ST17030761-1	L M H	☐ NA	☑	☑	☑	☑	☑	☐
Calibration ID:	↓ -2	L M H	☑	☑	☑	☑	☑	☑	☐ NA
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 12/7/16

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: AC 3/7/17
Initials/Date

Comments:
List 6

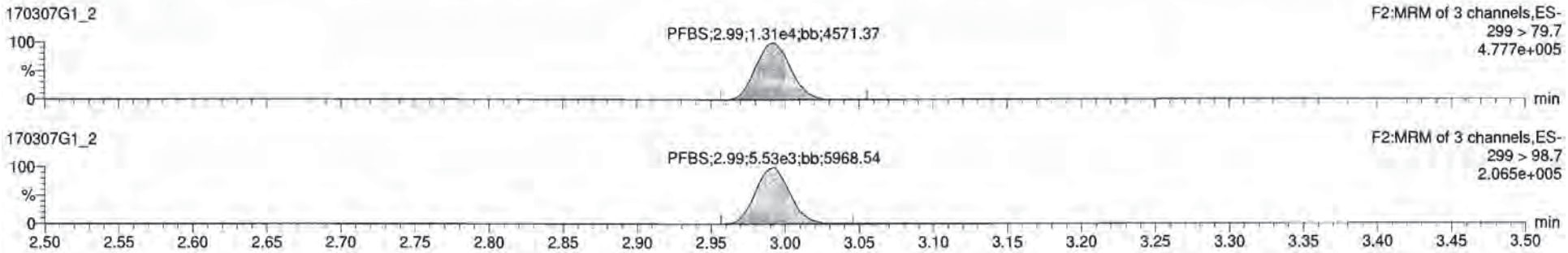
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

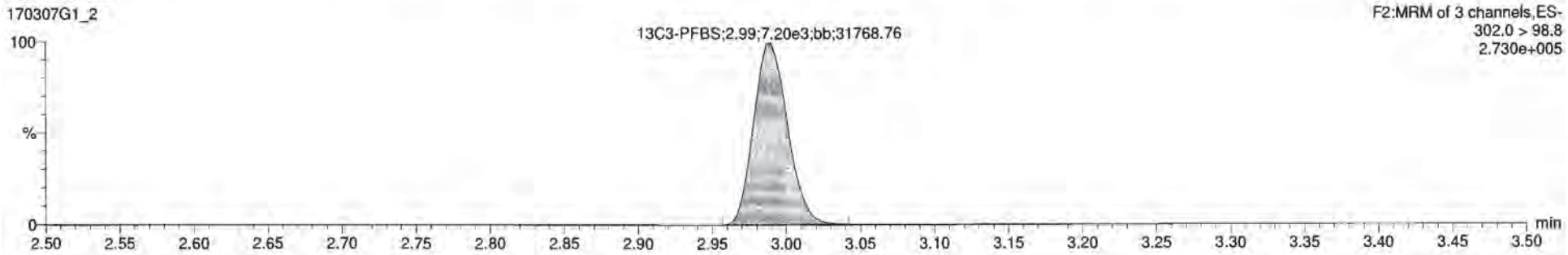
Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

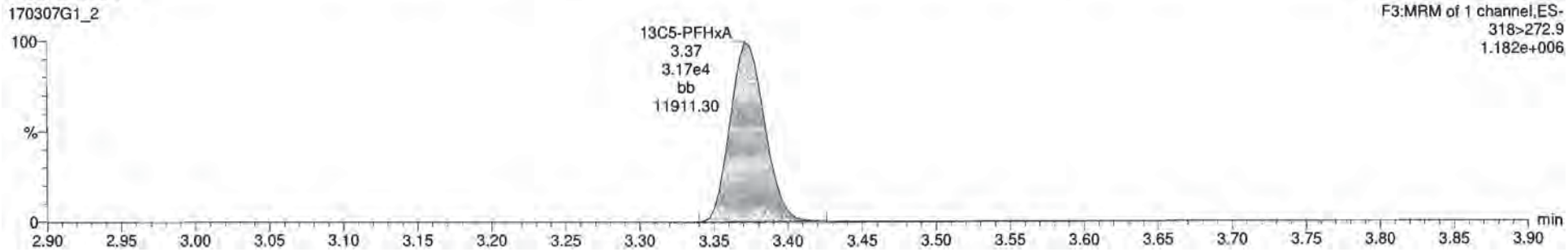
PFBS



13C3-PFBS



13C5-PFHxA

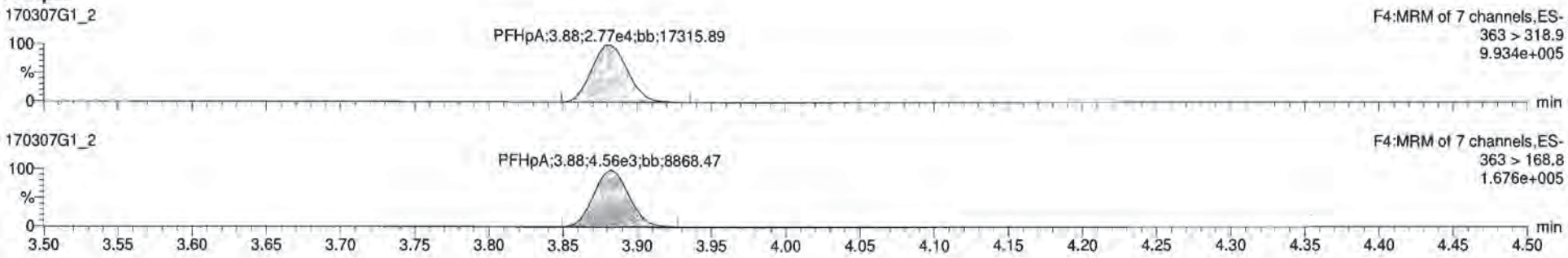


Dataset: Untitled

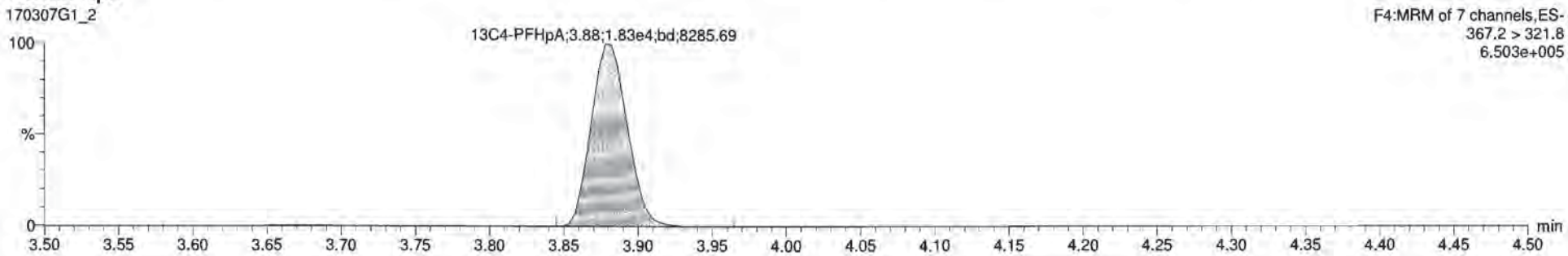
Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

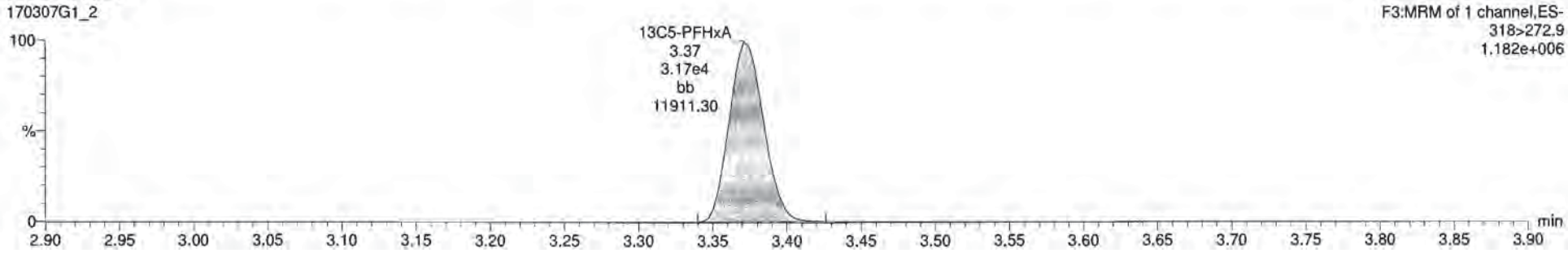
PFHpA



13C4-PFHpA



13C5-PFHxA

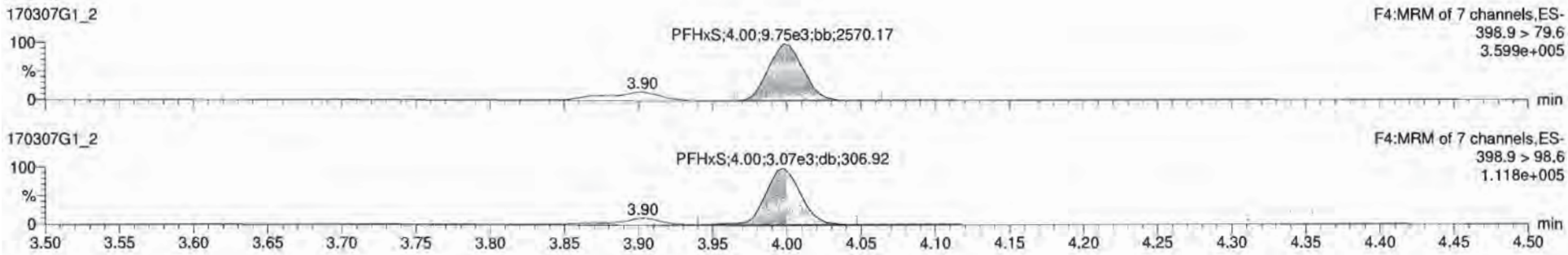


Dataset: Untitled

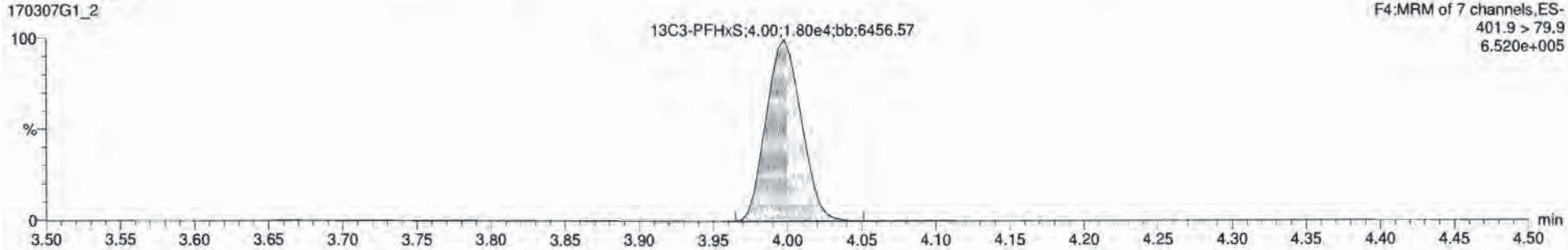
Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

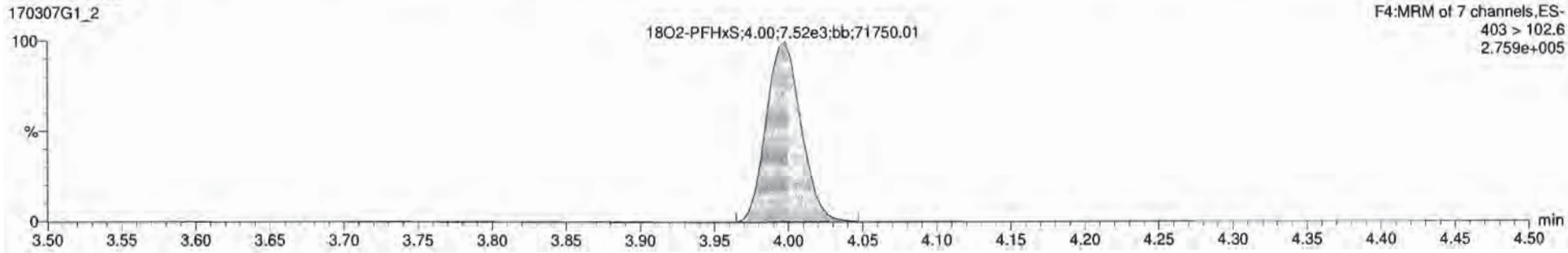
PFHxS

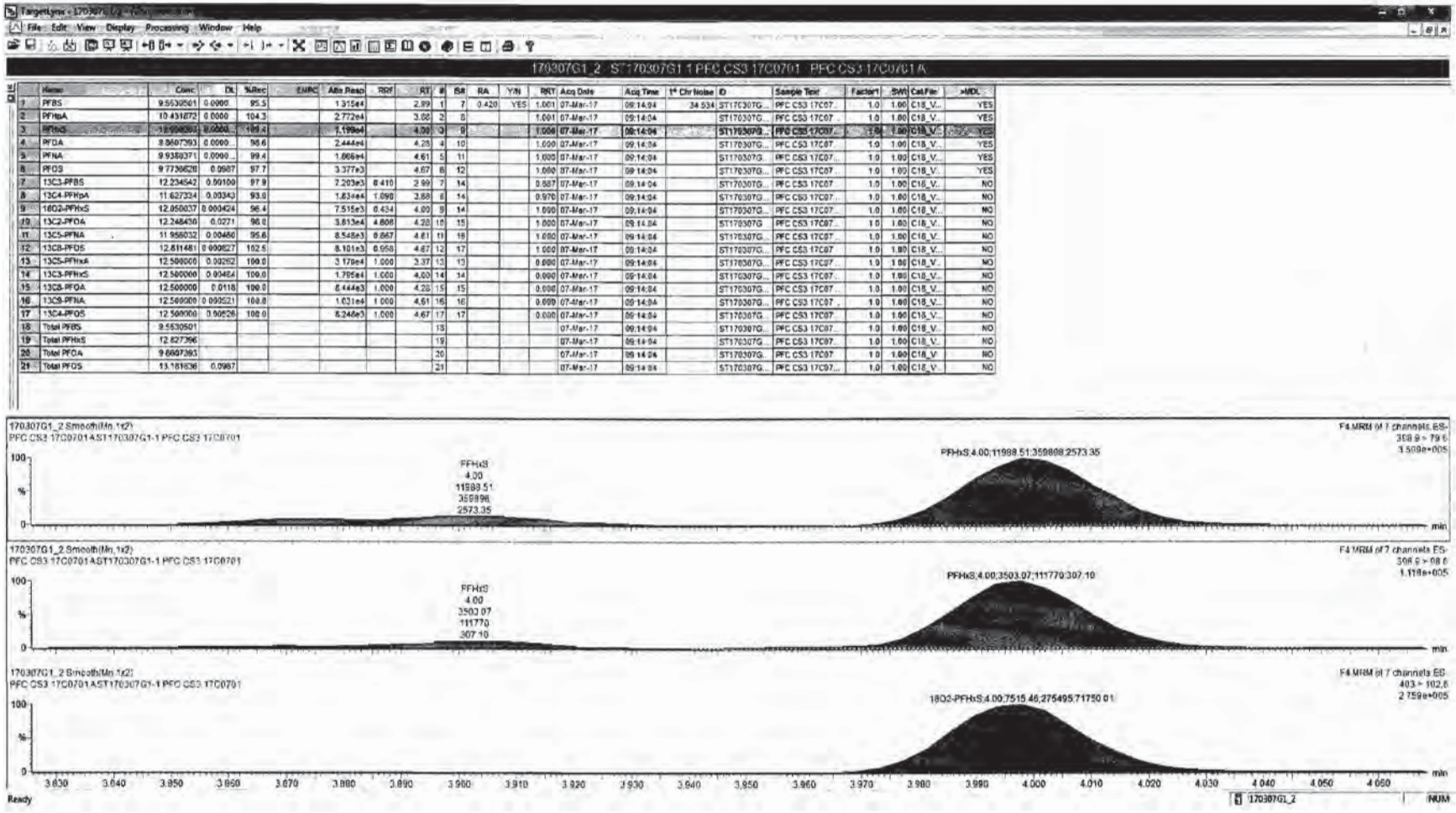


13C3-PFHxS



18O2-PFHxS





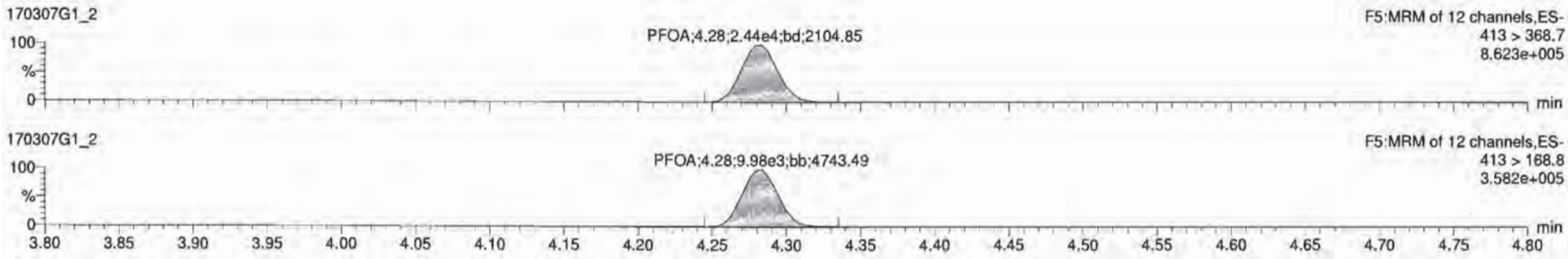
	Name	Conc.	DL	%Rec	EMRC	Abs Resp	RRF	RT	#	ISR	RA	Y/N	RRT	Acq Date	Acq Time	1st Chr Noise	ID	Sample Text	Factor1	SW	Cal File	>MDL
1	PFBS	9.5530501	0.0000	95.5		1.315e4		2.99	1	7	0.420	YES	1.001	07-Mar-17	09:14:04	34.534	ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
2	PFHpA	10.431872	0.0000	104.3		2.772e4		3.66	2	8			1.001	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
3	PFHxS	11.988351	0.0000	119.9		1.199e4		4.00	3	9			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
4	PFOA	9.8607393	0.0000	98.6		2.444e4		4.28	4	10			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
5	PFNA	9.9389371	0.0000	99.4		1.866e4		4.61	5	11			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
6	PFOS	9.7736628	0.0987	97.7		3.377e3		4.67	6	12			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	12.234542	0.00100	97.9		7.203e3	0.410	2.99	7	14			0.887	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	11.627334	0.00343	93.0		1.83e+4	1.098	3.66	8	14			0.970	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
9	18O2-PFHxS	12.050037	0.00424	96.4		7.515e3	0.434	4.00	9	14			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
10	13C2-PFOA	12.248436	0.0271	98.0		3.813e4	4.806	4.28	10	15			1.000	07-Mar-17	09:14:04		ST170307G	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	11.956032	0.00486	95.6		8.548e3	0.867	4.61	11	16			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	12.811481	0.000827	102.5		8.101e3	0.958	4.67	12	17			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00262	100.0		3.170e4	1.000	3.37	13	13			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.00464	100.0		1.795e4	1.000	4.00	14	14			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
15	13C8-PFOA	12.500000	0.0118	100.0		8.444e3	1.000	4.28	15	15			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.000521	100.0		1.631e4	1.000	4.61	16	16			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.00526	100.0		8.246e3	1.000	4.67	17	17			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
18	Total PFBS	9.5530501							18					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
19	Total PFHxS	12.827396							19					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
20	Total PFOA	9.8607393							20					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
21	Total PFOS	13.181636	0.0987						21					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO

Dataset: Untitled

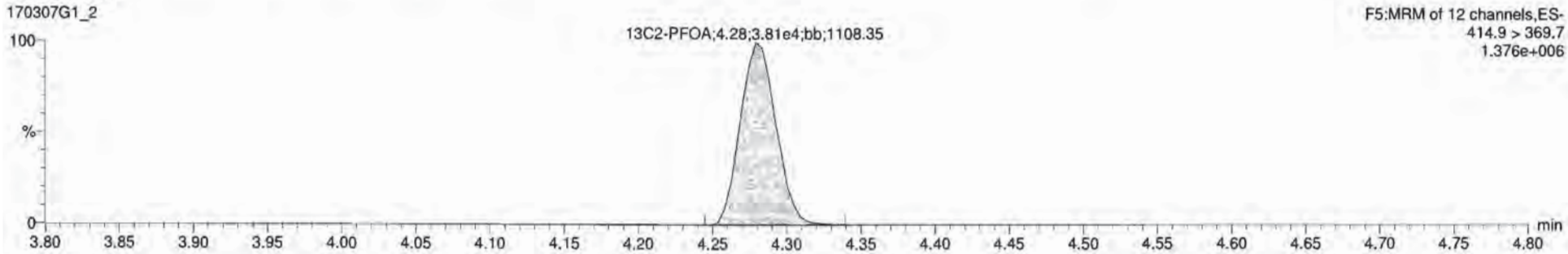
Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

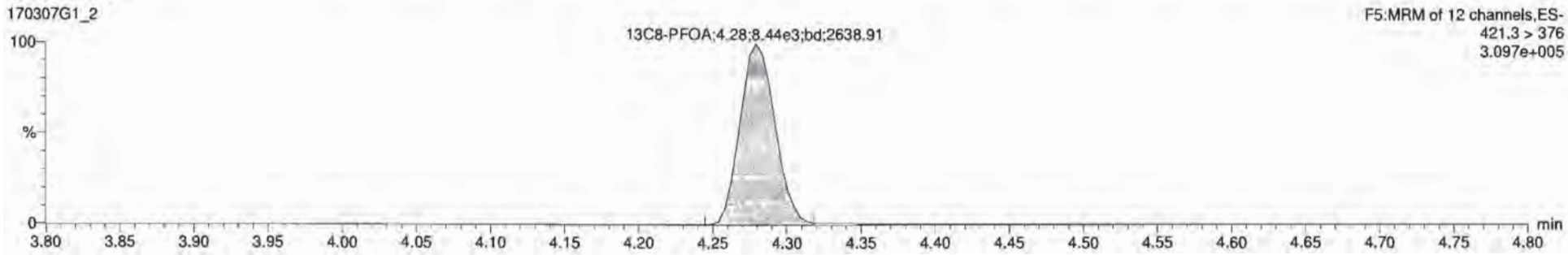
PFOA



13C2-PFOA



13C8-PFOA



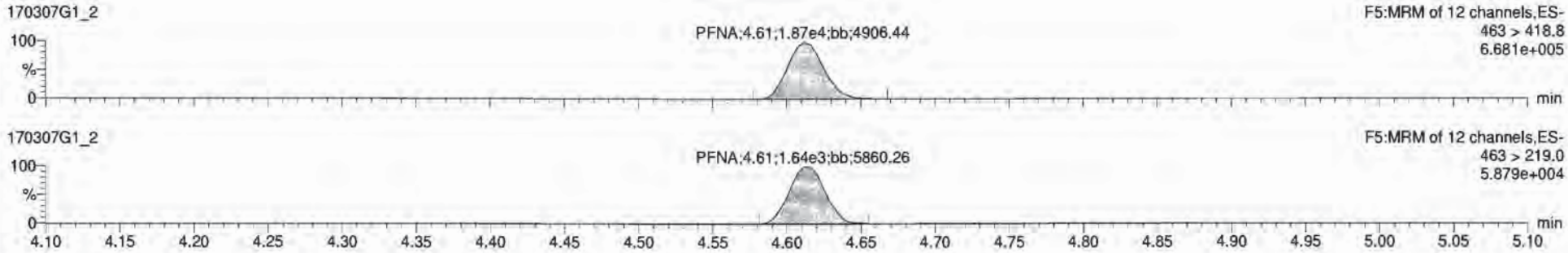
Vista Analytical Laboratory Q1

Dataset: Untitled

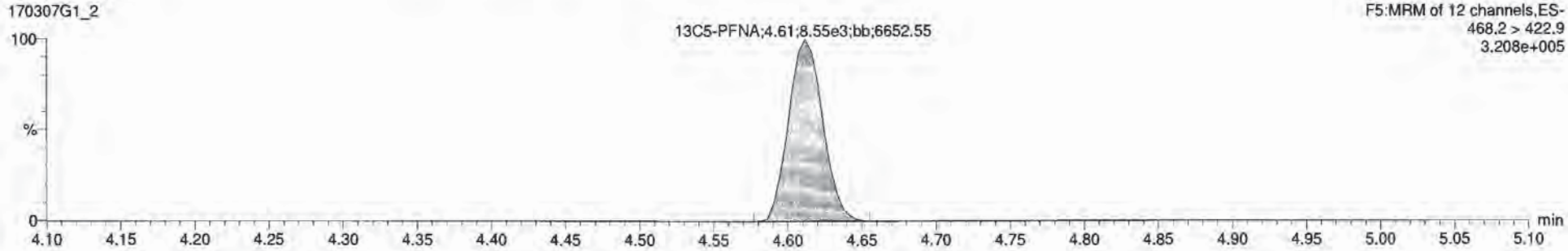
Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

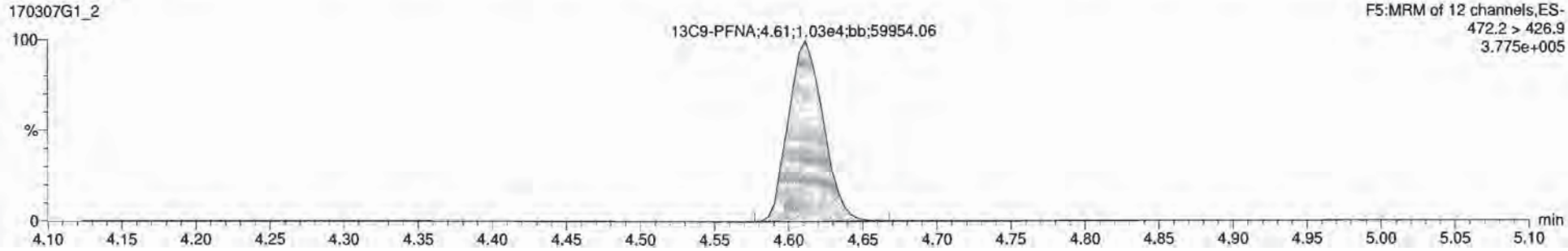
PFNA



13C5-PFNA



13C9-PFNA



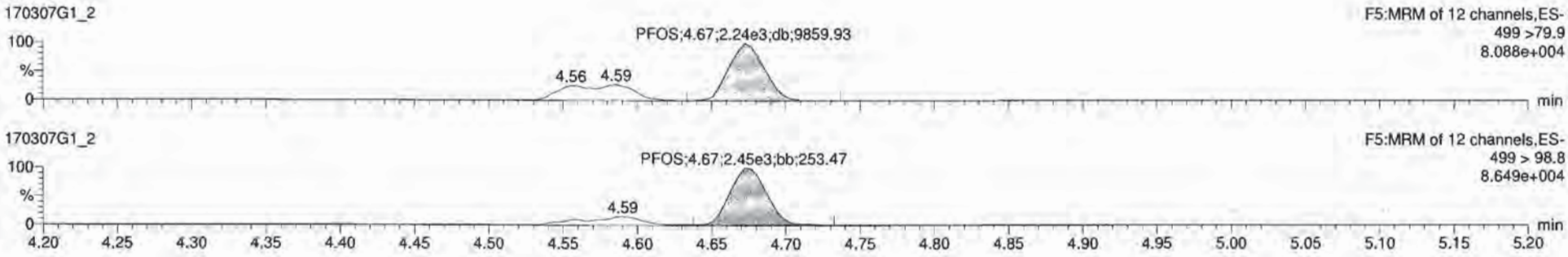
Vista Analytical Laboratory Q1

Dataset: Untitled

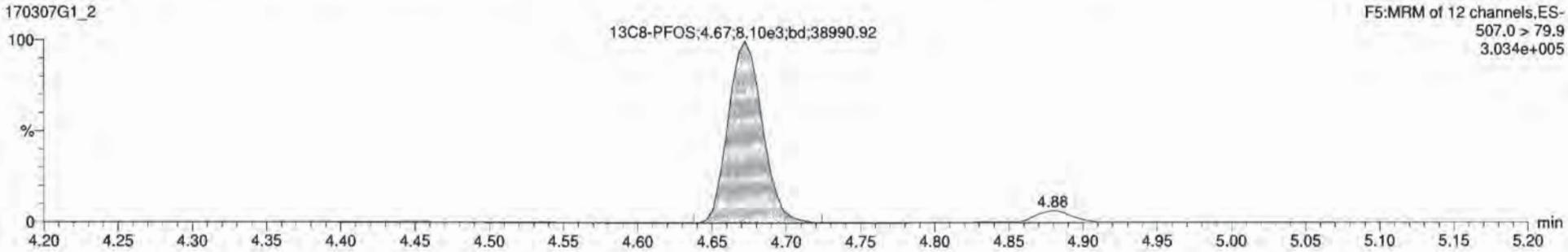
Last Altered: Tuesday, March 07, 2017 09:55:08 Pacific Standard Time
Printed: Tuesday, March 07, 2017 09:55:29 Pacific Standard Time

ID: ST170307G1-1 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_2, Date: 07-Mar-2017, Time: 09:14:04, Instrument: , Lab: , User:

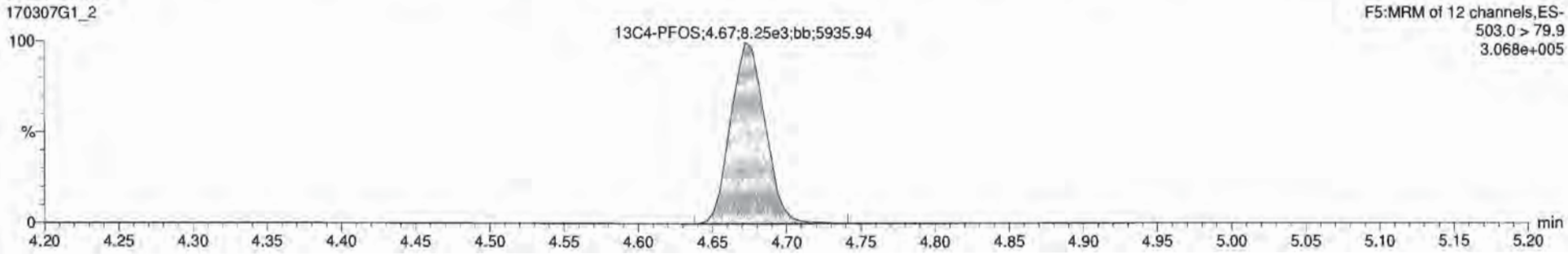
PFOS

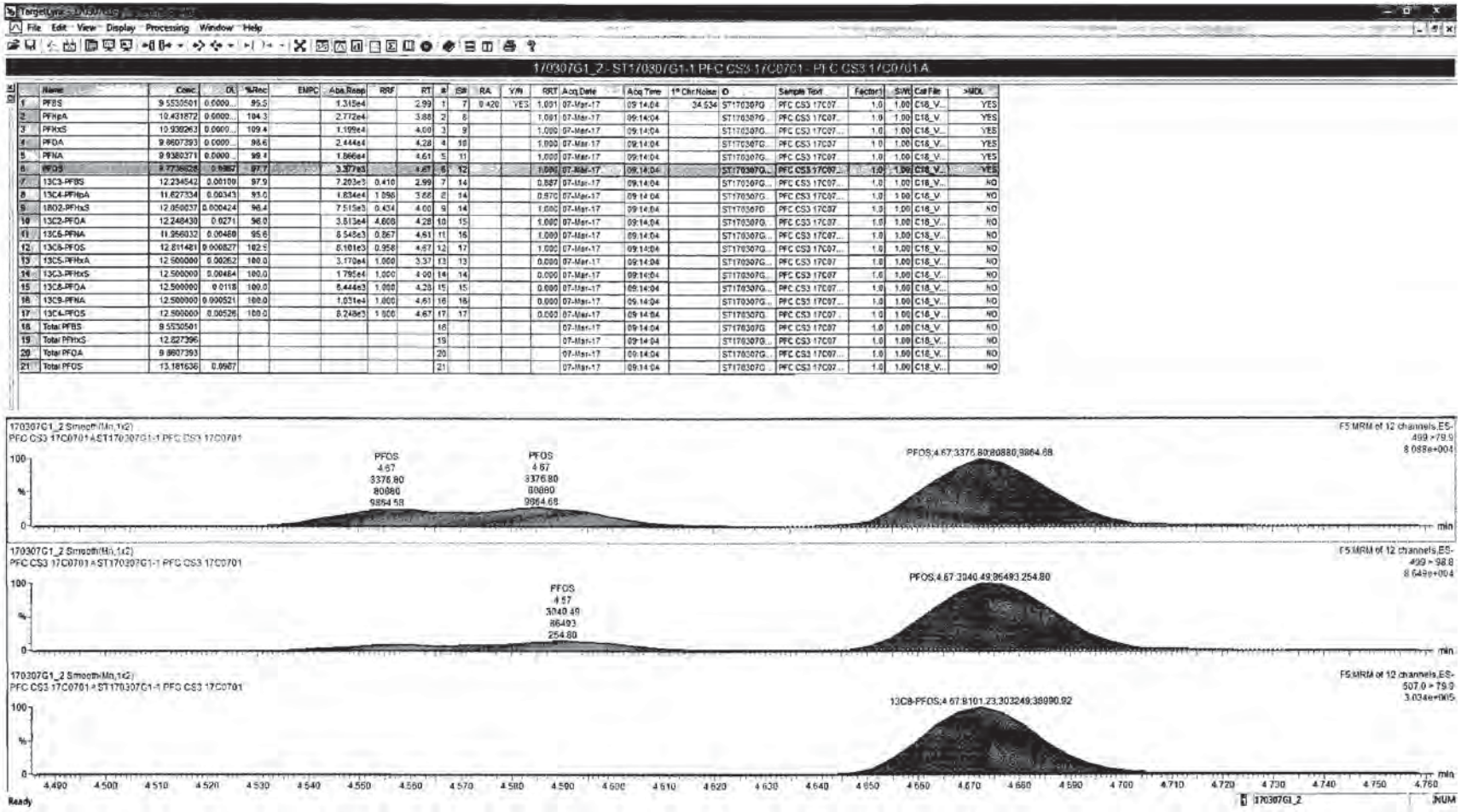


13C8-PFOS



13C4-PFOS





	Name	Conc.	CL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1st Chn Noise	ID	Sample Text	Factor1	S/W	Cal File	>MDL
1	PFBS	9.5530501	0.6000...	95.5		1.315e4		2.99	1	7	0.420	YES	1.001	07-Mar-17	09:14:04	34.534	ST170307G	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
2	PFHpA	10.431872	0.6000...	104.3		2.772e4		3.88	2	8			1.001	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
3	PFHxS	10.938263	0.6000...	109.4		1.109e4		4.00	3	9			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
4	PFOA	9.8607393	0.6000...	98.6		2.444e4		4.28	4	10			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
5	PFNA	9.9380371	0.6000...	99.4		1.866e4		4.61	5	11			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
6	PFOS	9.7736628	0.9867	97.7		3.307e3		4.67	6	12			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	12.234542	0.00109	97.9		7.203e3	0.410	2.99	7	14			0.997	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	11.827334	0.00343	93.0		1.634e4	1.596	3.88	8	14			0.970	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
9	1802-PFHxS	12.050637	0.000424	96.4		7.515e3	0.434	4.00	9	14			1.000	07-Mar-17	09:14:04		ST170307G	PFC CS3 17C07	1.0	1.00	C18_V	NO
10	13C2-PFOA	12.248430	0.0271	98.0		3.813e4	4.608	4.28	10	15			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	11.956032	0.00469	95.6		8.548e3	0.867	4.61	11	16			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	12.811481	0.000827	102.5		8.101e3	0.958	4.67	12	17			1.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00262	100.0		3.170e4	1.000	3.37	13	13			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.00484	100.0		1.795e4	1.000	4.00	14	14			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07	1.0	1.00	C18_V...	NO
15	13C8-PFOA	12.500000	0.0118	100.0		8.444e3	1.000	4.28	15	15			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.000521	100.0		1.031e4	1.000	4.61	16	16			0.000	07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.00526	100.0		8.248e3	1.000	4.67	17	17			0.000	07-Mar-17	09:14:04		ST170307G	PFC CS3 17C07	1.0	1.00	C18_V...	NO
18	Total PFBS	9.5530501							18					07-Mar-17	09:14:04		ST170307G	PFC CS3 17C07	1.0	1.00	C18_V...	NO
19	Total PFHxS	12.827396							19					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07	1.0	1.00	C18_V...	NO
20	Total PFOA	9.8607393							20					07-Mar-17	09:14:04		ST170307G...	PFC CS3 17C07...	1.0	1.00	C18_V...	NO
21	Total PFOS	13.181636	0.0987						21					07-Mar-17	09:14:04		ST170307G	PFC CS3 17C07...	1.0	1.00	C18_V...	NO

Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170307G1-8.qld

Last Altered: Tuesday, March 07, 2017 10:55:27 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:55:59 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.56e4	7.84e3		1.000	2.99	10.4	104.0
2	2	PFHpA	363 > 318.9	3.08e4	1.95e4		1.000	3.88	10.9	109.1
3	3	PFHxS	398.9 > 79.6	1.22e4	8.14e3		1.000	4.00	10.3	102.6
4	4	PFOA	413 > 368.7	2.90e4	4.09e4		1.000	4.28	10.9	109.3
5	5	PFNA	463 > 418.8	2.28e4	9.69e3		1.000	4.62	10.7	107.2
6	6	PFOS	499 >79.9	4.26e3	9.91e3		1.000	4.68	10.1	100.9
7	7	13C3-PFBS	302.0 > 98.8	7.84e3	1.97e4	0.410	1.000	2.99	12.1	97.1
8	8	13C4-PFHpA	367.2 > 321.8	1.95e4	1.97e4	1.098	1.000	3.88	11.3	90.2
9	9	18O2-PFHxS	403 > 102.6	8.14e3	1.97e4	0.434	1.000	4.00	11.9	95.1
10	10	13C2-PFOA	414.9 > 369.7	4.09e4	1.00e4	4.608	1.000	4.28	11.1	88.7
11	11	13C5-PFNA	468.2 > 422.9	9.69e3	1.22e4	0.867	1.000	4.61	11.4	91.5
12	12	13C8-PFOS	507.0 > 79.9	9.91e3	1.02e4	0.958	1.000	4.67	12.7	101.8
13	13	13C5-PFHxA	318>272.9	3.64e4	3.64e4	1.000	1.000	3.37	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.97e4	1.97e4	1.000	1.000	4.00	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	1.00e4	1.00e4	1.000	1.000	4.28	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	1.22e4	1.22e4	1.000	1.000	4.61	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	1.02e4	1.02e4	1.000	1.000	4.68	12.5	100.0

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

cd 3/7/17

✓ AC 3/7/17

Quantify Compound Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 10:58:31 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:58:48 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170307G1_1	IPA	07-Mar-17	09:01:51
2	170307G1_2	ST170307G1-1 PFC CS3 17C0701	07-Mar-17	09:14:04
3	170307G1_3	IPA	07-Mar-17	09:26:31
4	170307G1_4	1700263-04RE1@10X OW2C-MW25-0217 0....	07-Mar-17	09:39:38
5	170307G1_5	1700293-01@10X WI-CV-GW02S-0317 0.125	07-Mar-17	09:51:58
6	170307G1_6	1700293-02@10X WI-CV-GW02S/SP-0317 0....	07-Mar-17	10:04:33
7	170307G1_7	IPA	07-Mar-17	10:17:07
8	170307G1_8	ST170307G1-2 PFC CS3 17C0701	07-Mar-17	10:29:40
9	170307G1_9	IPA	07-Mar-17	10:42:20

Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

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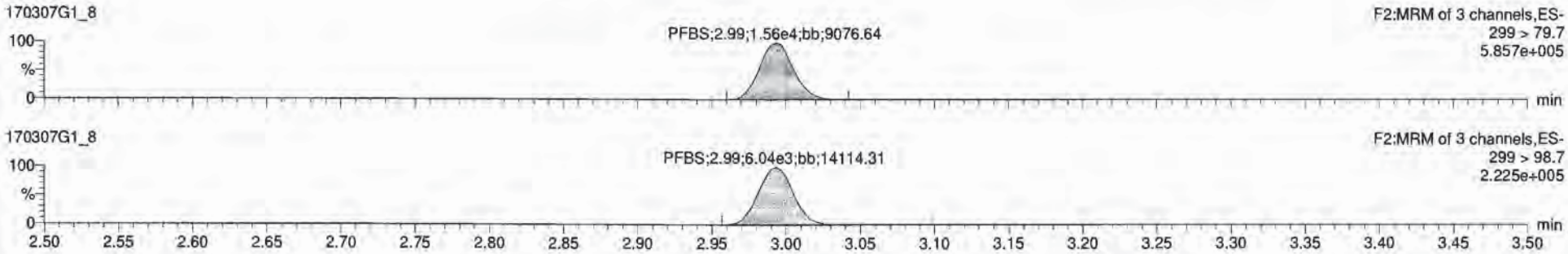
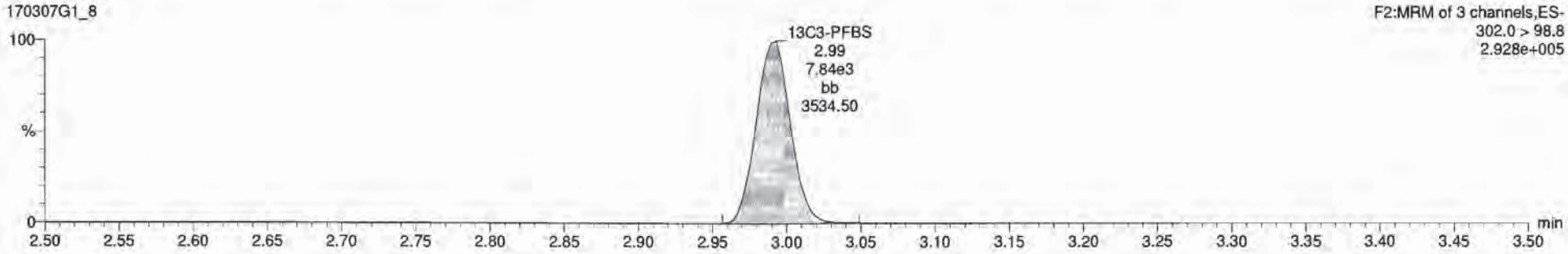
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

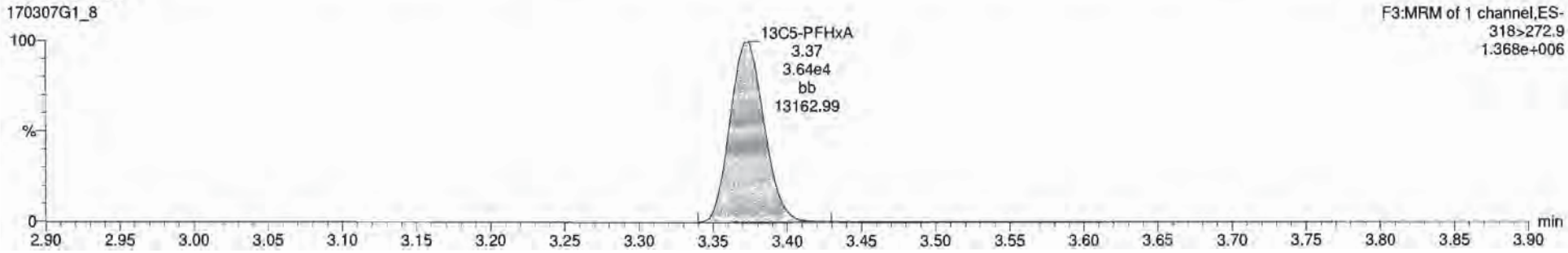
PFBS



13C3-PFBS



13C5-PFHxA



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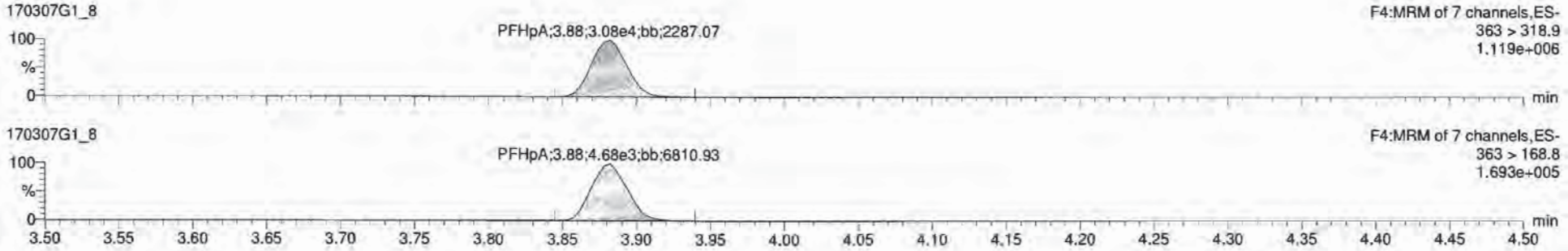
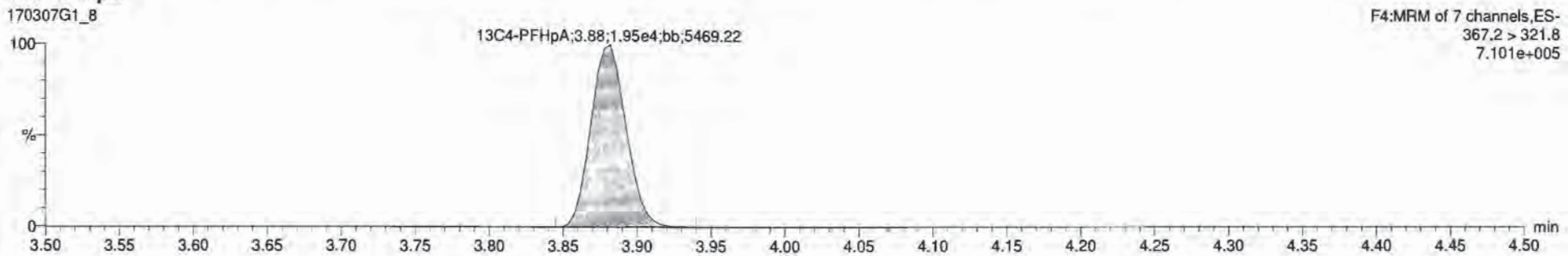
Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

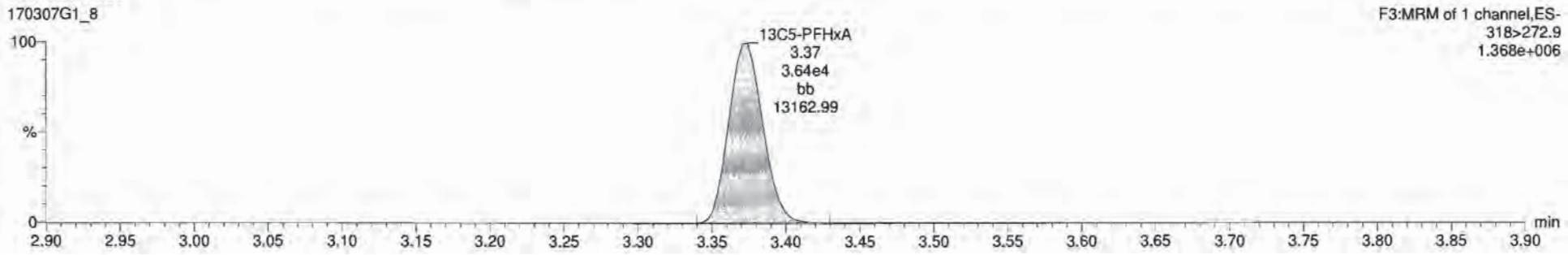
PFHpA



13C4-PFHpA



13C5-PFHxA

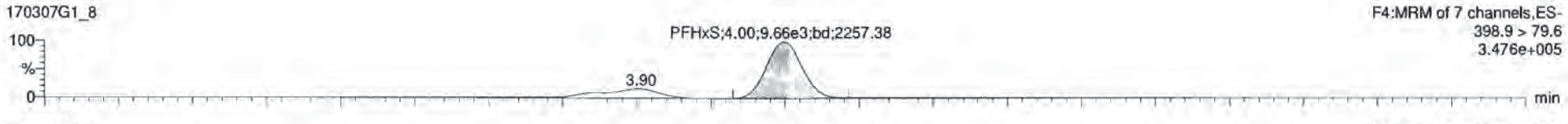


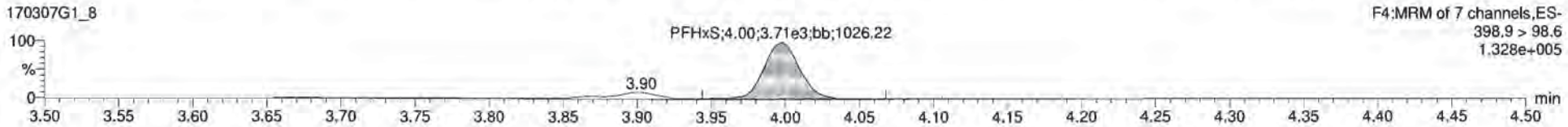
Dataset: Untitled

Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

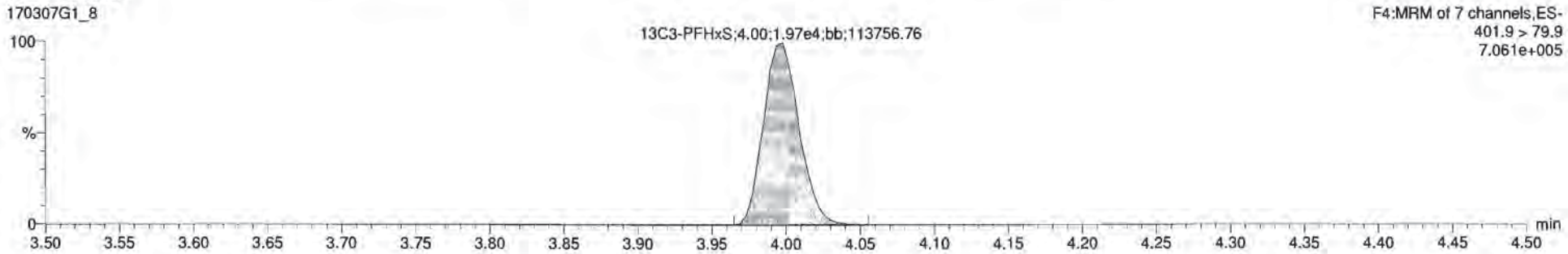
ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

PFHxS

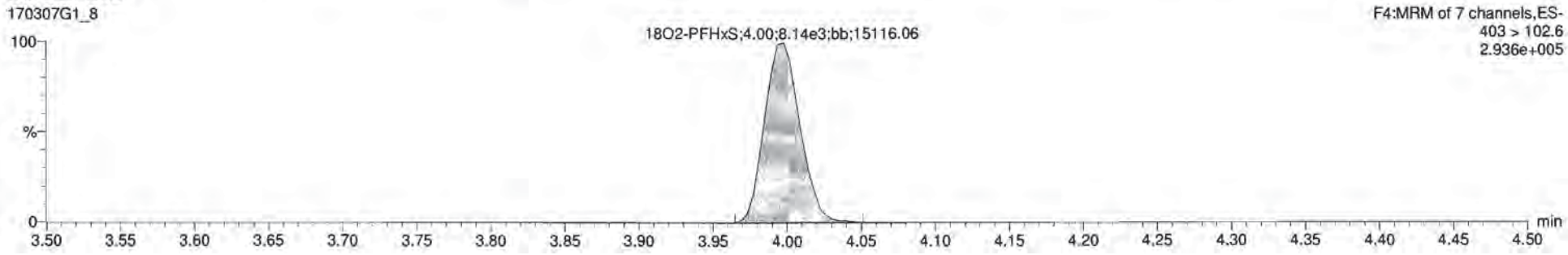


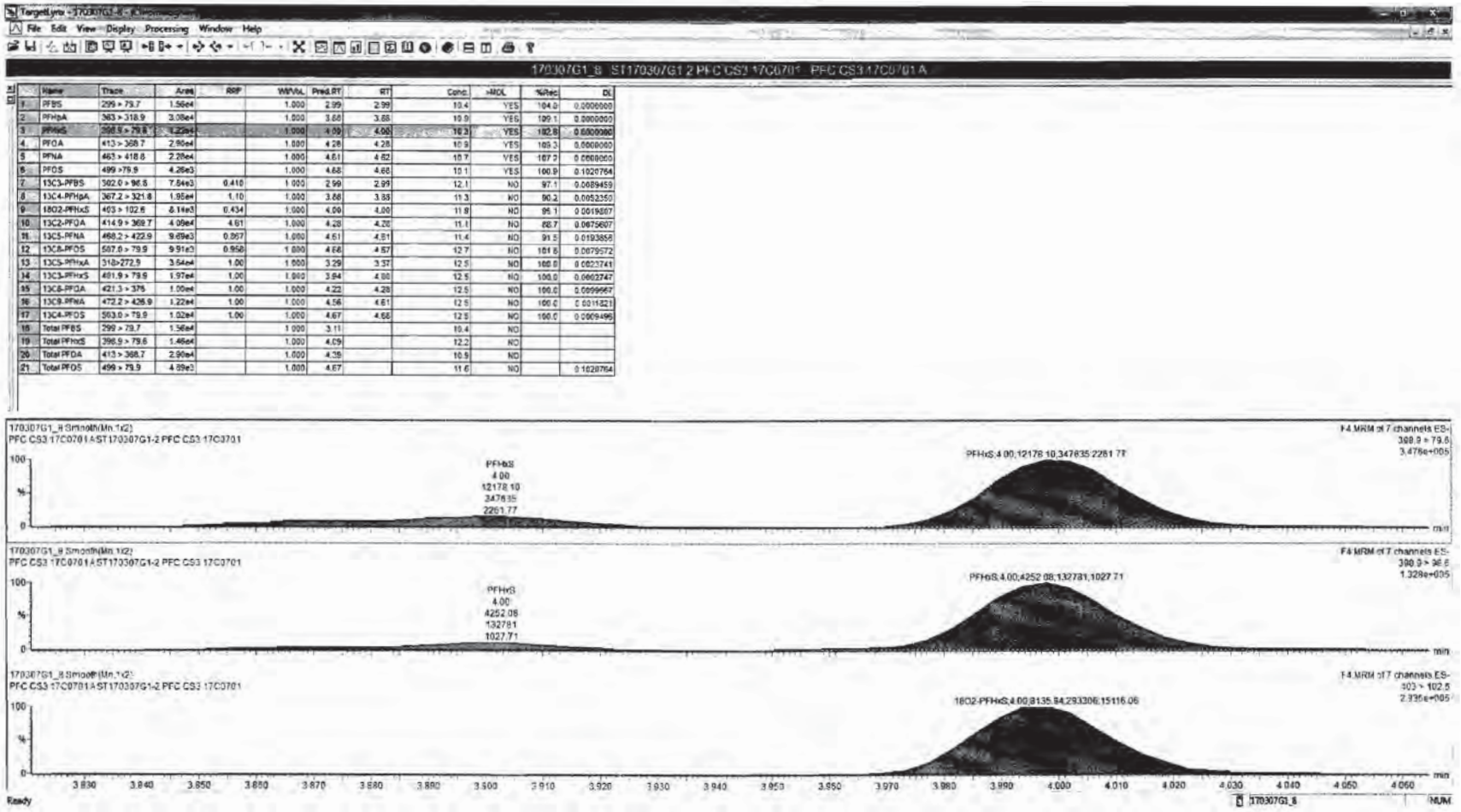


13C3-PFHxS



18O2-PFHxS



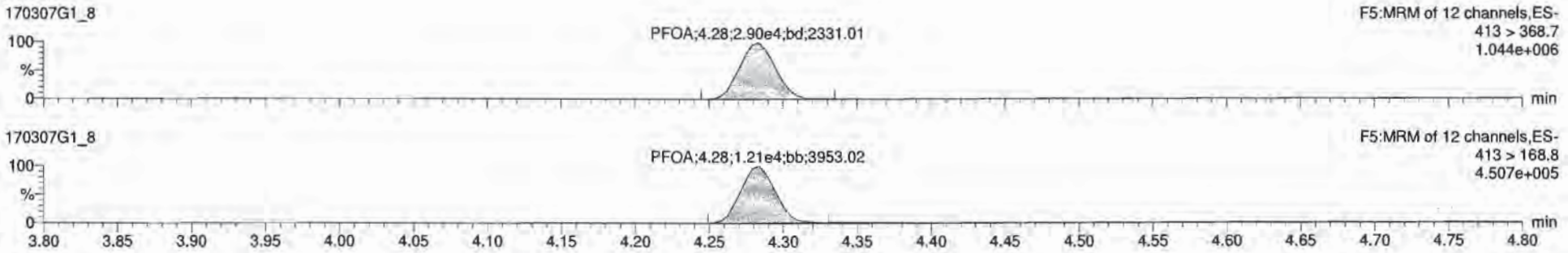

TargetLynx
File Edit View Display Processing Window Help
170307G1_8 ST170307G1 2 PFC CS3 17C0701 PFC CS3 17C0701 A
Name Trace Area RRF Wt/Vol Pred.RT RT Conc >MDL %Rec DL
1 PFBS 299 > 79.7 1.56e4 1.000 2.99 2.99 10.4 YES 104.0 0.0000000
2 PFHpA 363 > 318.9 3.08e4 1.000 3.68 3.68 10.9 YES 109.1 0.0000000
3 PFHxS 398.9 > 79.8 1.22e4 1.000 4.00 4.00 10.3 YES 102.8 0.0000000
4 PFOA 413 > 368.7 2.90e4 1.000 4.28 4.28 10.9 YES 109.3 0.0000000
5 PFNA 463 > 418.8 2.26e4 1.000 4.61 4.62 10.7 YES 107.2 0.0000000
6 PFOS 499 >79.9 4.26e3 1.000 4.68 4.66 10.1 YES 100.9 0.1020764
7 13C3-PFBS 302.0 > 98.8 7.54e3 0.410 1.000 2.99 2.99 12.1 NO 97.1 0.0089459
8 13C4-PFHpA 367.2 > 321.8 1.95e4 1.10 1.000 3.68 3.68 11.3 NO 90.2 0.0052350
9 18O2-PFHxS 403 > 102.8 8.14e3 0.434 1.000 4.00 4.00 11.9 NO 95.1 0.0019887
10 13C2-PFOA 414.9 > 369.7 4.09e4 4.61 1.000 4.28 4.28 11.1 NO 88.7 0.0075807
11 13C5-PFNA 468.2 > 422.9 9.69e3 0.867 1.000 4.61 4.61 11.4 NO 91.5 0.0193858
12 13C8-PFOS 507.0 > 79.9 9.91e3 0.958 1.000 4.66 4.67 12.7 NO 101.6 0.0079572
13 13C5-PFHxA 318>272.9 3.54e4 1.00 1.000 3.29 3.37 12.5 NO 100.0 0.0023741
14 13C3-PFHxS 401.9 > 79.9 1.97e4 1.00 1.000 3.94 4.00 12.5 NO 100.0 0.0062747
15 13C8-PFOA 421.3 > 376 1.00e4 1.00 1.000 4.22 4.28 12.5 NO 100.0 0.0099667
16 13C9-PFNA 472.2 > 426.9 1.22e4 1.00 1.000 4.56 4.61 12.5 NO 100.0 0.0011821
17 13C4-PFOS 503.0 > 79.9 1.02e4 1.00 1.000 4.67 4.66 12.5 NO 100.0 0.0909496
18 Total PFBS 299 > 79.7 1.56e4 1.000 3.11 10.4 NO
19 Total PFHxS 398.9 > 79.8 1.46e4 1.000 4.09 12.2 NO
20 Total PFOA 413 > 368.7 2.90e4 1.000 4.35 10.9 NO
21 Total PFOS 499 > 79.9 4.89e3 1.000 4.67 11.6 NO 0.1020764
170307G1_8 Smooth(Mn,1x2)
PFC CS3 17C0701A ST170307G1-2 PFC CS3 17C0701
PFHxS 4.00 12178.10 347835 2261.77
F4 MRM of 7 channels ES- 398.9 > 79.8 3.476e+005
PFHxS,4.00,12178.10,347835,2261.77
PFHxS 4.00 4252.08 132781 1027.71
F4 MRM of 7 channels ES- 398.9 > 98.8 1.328e+005
PFHxS,4.00,4252.08,132781,1027.71
18O2-PFHxS,4.00,8135.84,293306,15116.06
F4 MRM of 7 channels ES- 403 > 102.8 2.936e+005
Ready
170307G1_8
NUM

Dataset: Untitled

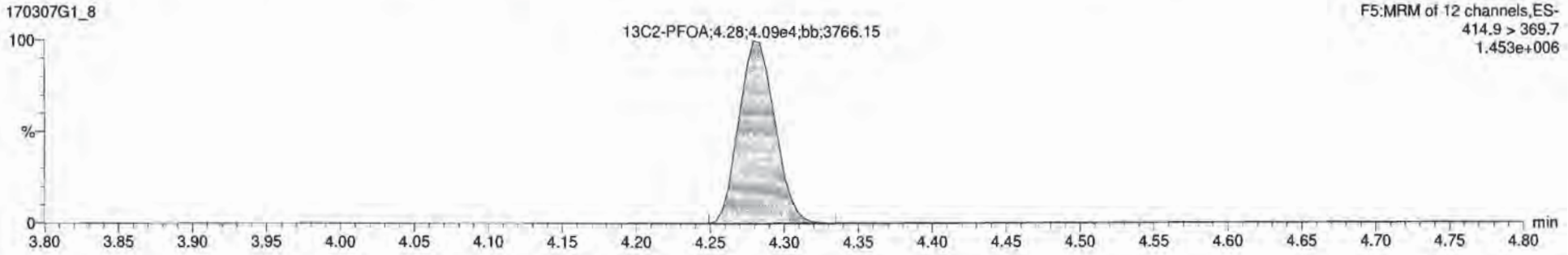
Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

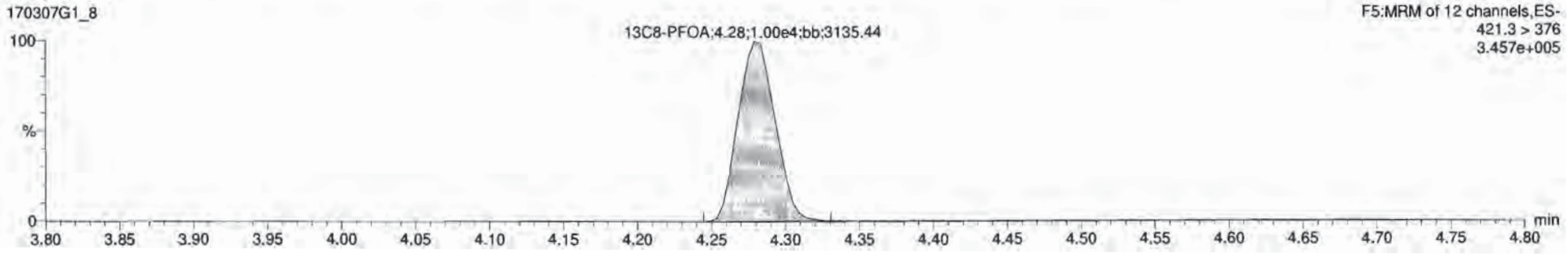
PFOA



13C2-PFOA



13C8-PFOA



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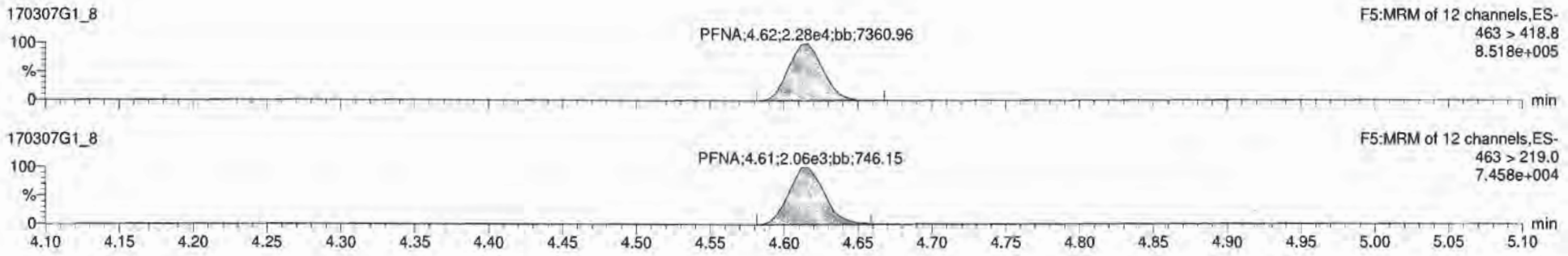
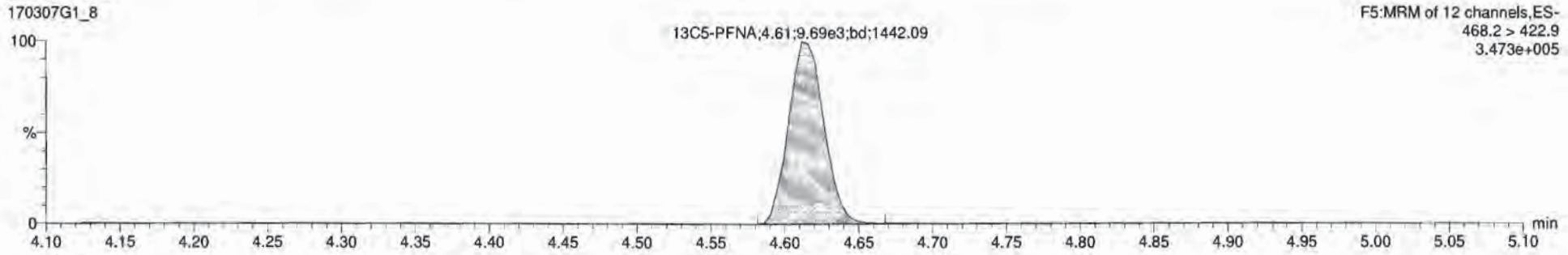
Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

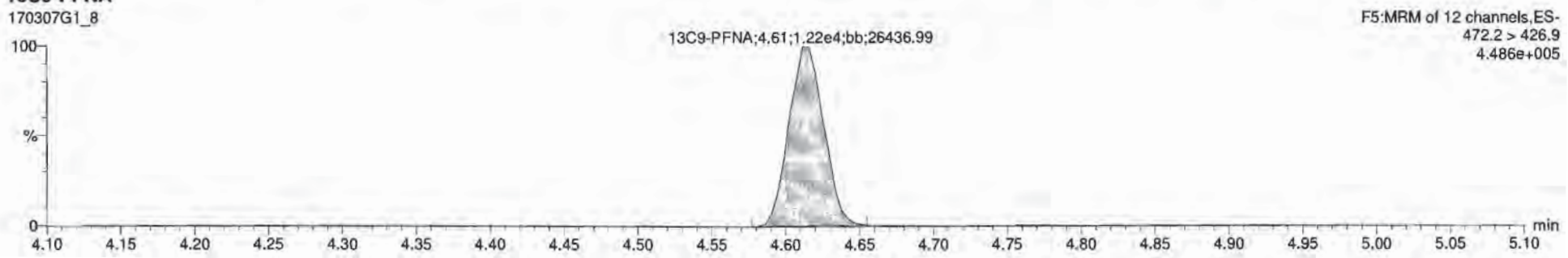
PFNA



13C5-PFNA



13C9-PFNA

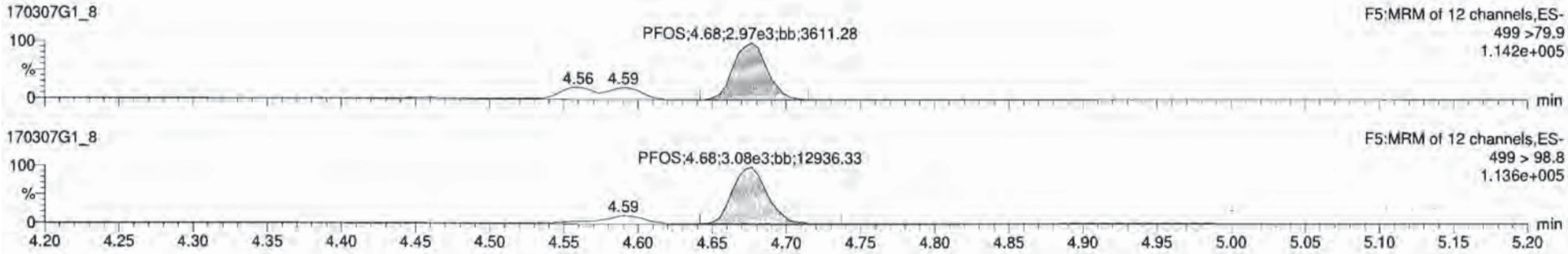


Dataset: Untitled

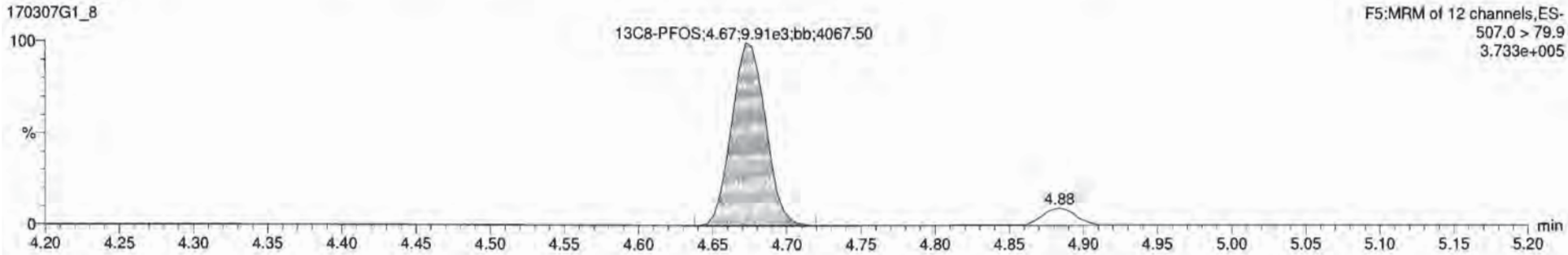
Last Altered: Tuesday, March 07, 2017 10:56:53 Pacific Standard Time
Printed: Tuesday, March 07, 2017 10:57:19 Pacific Standard Time

ID: ST170307G1-2 PFC CS3 17C0701, Description: PFC CS3 17C0701 A, Name: 170307G1_8, Date: 07-Mar-2017, Time: 10:29:40, Instrument: , Lab: , User:

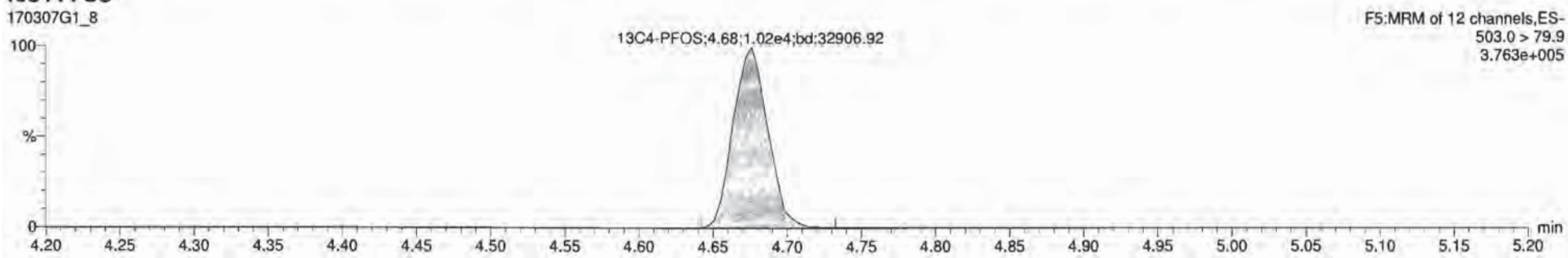
PFOS

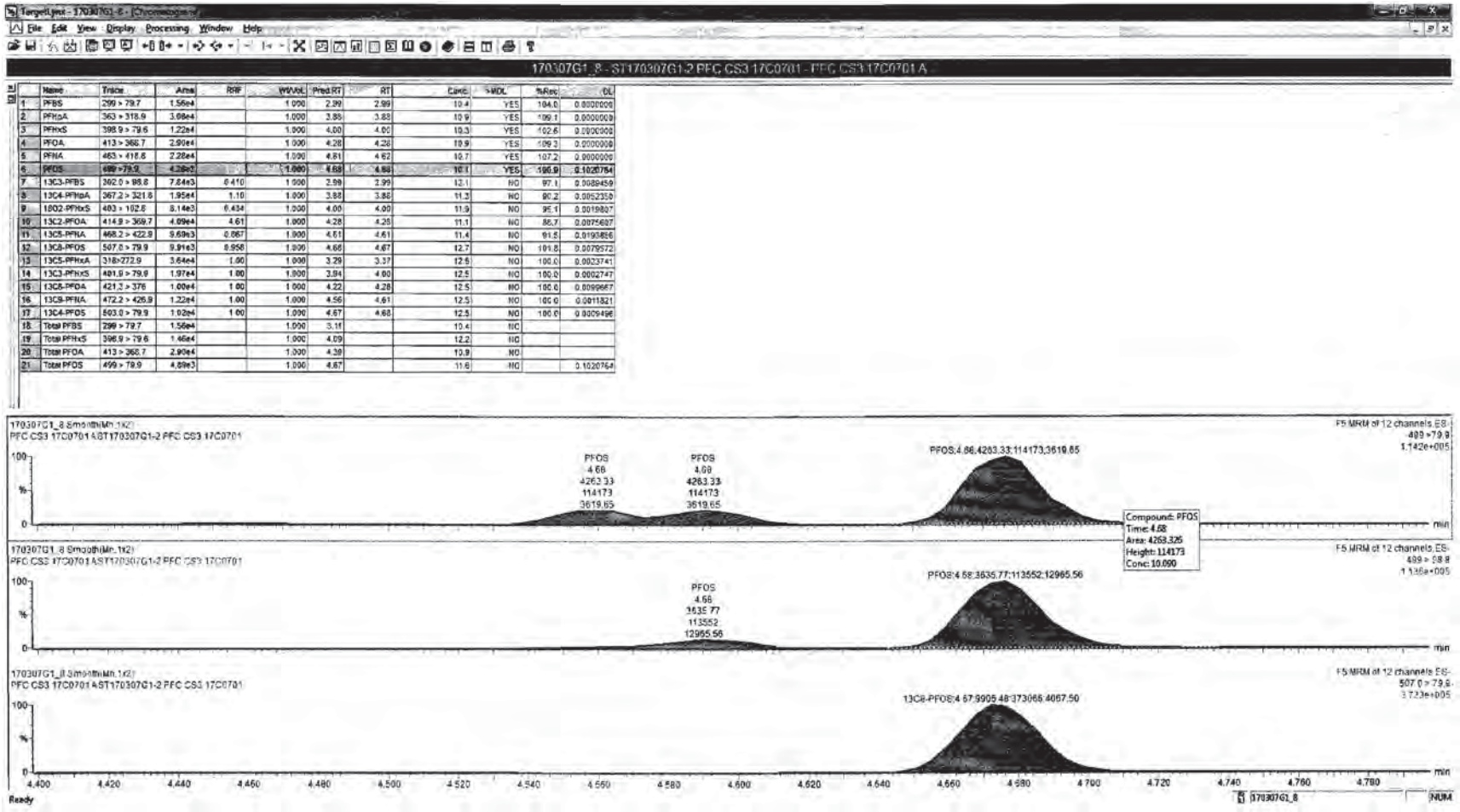


13C8-PFOS



13C4-PFOS





	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.56e4		1.000	2.99	2.99	10.4	YES	104.0	0.0000009
2	PFHpA	363 > 318.9	3.66e4		1.000	3.85	3.83	10.9	YES	109.1	0.0000003
3	PFHxS	398.9 > 79.6	1.22e4		1.000	4.00	4.00	10.3	YES	102.6	0.0000002
4	PFOA	413 > 368.7	2.90e4		1.000	4.28	4.28	10.9	YES	109.3	0.0000008
5	PFNA	463 > 418.8	2.28e4		1.000	4.61	4.62	10.7	YES	107.2	0.0000009
6	PFOS	499 > 79.9	4.26e3		1.000	4.68	4.68	10.1	YES	100.9	0.1020764
7	13C3-PFBS	302.0 > 98.8	7.84e3	0.410	1.000	2.99	2.99	12.1	NO	97.1	0.0089459
8	13C4-PFHpA	367.2 > 321.8	1.95e4	1.10	1.000	3.88	3.88	11.3	NO	90.2	0.0052359
9	18O2-PFHxS	403 > 102.8	8.14e3	0.434	1.000	4.00	4.00	11.9	NO	95.1	0.0019807
10	13C2-PFOA	414.9 > 369.7	4.09e4	4.61	1.000	4.28	4.28	11.1	NO	88.7	0.0075697
11	13C5-PFNA	468.2 > 422.8	9.69e3	0.867	1.000	4.61	4.61	11.4	NO	91.5	0.0193856
12	13C8-PFOS	507.0 > 79.9	9.91e3	0.958	1.000	4.66	4.67	12.7	NO	101.8	0.0079572
13	13C5-PFHxA	318>272.9	3.64e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0023741
14	13C3-PFHxS	401.9 > 79.9	1.97e4	1.00	1.000	3.84	4.00	12.5	NO	100.0	0.0002747
15	13C8-PFOA	421.2 > 376	1.00e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0099667
16	13C9-PFNA	472.2 > 426.9	1.22e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0011821
17	13C4-PFOS	503.0 > 79.9	1.02e4	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0009496
18	Total PFBS	299 > 79.7	1.56e4		1.000	3.11		10.4	NC		
19	Total PFHxS	398.9 > 79.6	1.46e4		1.000	4.09		12.2	NC		
20	Total PFOA	413 > 368.7	2.90e4		1.000	4.39		10.9	NC		
21	Total PFOS	499 > 79.9	4.89e3		1.000	4.67		11.6	NC		0.1020764

INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:19:21

Compound name: PFBS
Correlation coefficient: r = 0.999596, r^2 = 0.999192
Calibration curve: 2.38097 * x + 0.0682571
Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	3.05	3.44e2	6.21e3	0.263	5.1	2.77
2	2	170305G1_3	0.500	3.05	6.19e2	6.45e3	0.475	-5.0	2.40
3	3	170305G1_4	1.00	3.04	1.07e3	5.41e3	1.01	1.1	2.47
4	4	170305G1_5	2.00	3.03	2.78e3	7.24e3	1.99	-0.7	2.40
5	5	170305G1_6	5.00	3.03	5.91e3	6.73e3	4.58	-8.4	2.20
6	6	170305G1_7	10.0	3.03	1.12e4	5.49e3	10.7	7.2	2.56
7	7	170305G1_8	50.0	3.03	5.43e4	5.58e3	51.1	2.1	2.43
8	8	170305G1_9	100	3.03	9.61e4	5.11e3	98.6	-1.4	2.35

GS 3/6/17

Compound name: PFHpA
Correlation coefficient: r = 0.999429, r^2 = 0.998857
Calibration curve: 1.79957 * x + 0.123896
Response type: Internal Std (Ref 8), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

✓ AC 3/6/17

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	3.93	7.46e2	1.70e4	0.235	-5.8	2.19
2	2	170305G1_3	0.500	3.92	1.43e3	1.69e4	0.518	3.7	2.11
3	3	170305G1_4	1.00	3.91	2.27e3	1.52e4	0.964	-3.6	1.86
4	4	170305G1_5	2.00	3.91	5.65e3	1.86e4	2.05	2.3	1.90
5	5	170305G1_6	5.00	3.91	1.36e4	1.95e4	4.78	-4.4	1.74
6	6	170305G1_7	10.0	3.91	1.98e4	1.29e4	10.6	6.4	1.93
7	7	170305G1_8	50.0	3.91	1.16e5	1.55e4	51.9	3.8	1.87
8	8	170305G1_9	100	3.91	1.99e5	1.42e4	97.6	-2.4	1.76

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
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Compound name: PFHxS
Correlation coefficient: r = 0.999200, r^2 = 0.998401
Calibration curve: 1.81334 * x + 0.103191
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	4.04	3.26e2	7.11e3	0.259	3.8	2.29
2	2	170305G1_3	0.500	4.03	5.47e2	6.83e3	0.496	-0.9	2.00
3	3	170305G1_4	1.00	4.03	8.97e2	5.85e3	1.00	0.1	1.92
4	4	170305G1_5	2.00	4.03	2.23e3	7.43e3	2.01	0.5	1.87
5	5	170305G1_6	5.00	4.03	5.17e3	7.64e3	4.60	-8.0	1.69
6	6	170305G1_7	10.0	4.03	6.69e3	4.52e3	10.1	1.5	1.85
7	7	170305G1_8	50.0	4.03	4.78e4	6.24e3	52.8	5.6	1.92
8	8	170305G1_9	100	4.03	8.33e4	5.89e3	97.4	-2.6	1.77

Compound name: PFOA
Correlation coefficient: r = 0.998804, r^2 = 0.997609
Calibration curve: 0.794457 * x + 0.179058
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	4.32	1.04e3	3.51e4	0.241	-3.7	1.48
2	2	170305G1_3	0.500	4.31	1.52e3	3.53e4	0.452	-9.6	1.08
3	3	170305G1_4	1.00	4.30	2.09e3	2.91e4	0.908	-9.2	0.901
4	4	170305G1_5	2.00	4.30	5.39e3	3.70e4	2.06	3.1	0.909
5	5	170305G1_6	5.00	4.30	1.24e4	3.46e4	5.43	8.5	0.898
6	6	170305G1_7	10.0	4.30	1.56e4	2.18e4	11.0	9.8	0.890
7	7	170305G1_8	50.0	4.30	1.10e5	3.30e4	52.3	4.6	0.835
8	8	170305G1_9	100	4.30	1.98e5	3.22e4	96.4	-3.6	0.767

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

Compound name: PFNA
Correlation coefficient: r = 0.999011, r^2 = 0.998022
Calibration curve: 2.73664 * x + 0.0966541
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	4.65	5.06e2	8.36e3	0.241	-3.5	3.03
2	2	170305G1_3	0.500	4.64	8.81e2	7.67e3	0.489	-2.1	2.87
3	3	170305G1_4	1.00	4.63	1.26e3	5.74e3	0.968	-3.2	2.75
4	4	170305G1_5	2.00	4.63	3.17e3	6.97e3	2.04	2.0	2.84
5	5	170305G1_6	5.00	4.63	7.77e3	7.48e3	4.71	-5.8	2.60
6	6	170305G1_7	10.0	4.63	7.05e3	2.88e3	11.1	11.4	3.06
7	7	170305G1_8	50.0	4.63	7.41e4	6.50e3	52.1	4.1	2.85
8	8	170305G1_9	100	4.63	1.56e5	7.35e3	97.1	-2.9	2.66

Compound name: PFOS
Coefficient of Determination: R^2 = 0.997963
Calibration curve: -0.000185224 * x^2 + 0.54028 * x + -0.0525057
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	0.250	4.62	3.72e1	6.28e3	0.234	-6.3	0.296 (A)
2	2	170305G1_3	0.500	4.71	7.39e1	6.57e3	0.358	-28.5	0.281
3	3	170305G1_4	1.00	4.69	1.82e2	4.73e3	0.989	-1.1	0.482
4	4	170305G1_5	2.00	4.69	5.28e2	5.18e3	2.46	23.0	0.638
5	5	170305G1_6	5.00	4.69	1.23e3	5.64e3	5.14	2.8	0.544
6	6	170305G1_7	10.0	4.69	8.60e2	1.88e3	10.7	7.1	0.571
7	7	170305G1_8	50.0	4.69	1.04e4	5.14e3	47.8	-4.4	0.507
8	8	170305G1_9	100	4.69	2.64e4	6.26e3	101	1.1	0.527

(A) Point excluded.
ES 3/6/17

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

Compound name: 13C3-PFBS
Response Factor: 0.40994
RRF SD: 0.0411734, Relative SD: 10.0438
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	3.05	6.21e3	1.48e4	12.8	2.4	0.420
2	2	170305G1_3	12.5	3.05	6.45e3	1.61e4	12.2	-2.5	0.400
3	3	170305G1_4	12.5	3.03	5.41e3	1.44e4	11.5	-8.1	0.377
4	4	170305G1_5	12.5	3.03	7.24e3	1.74e4	12.7	1.2	0.415
5	5	170305G1_6	12.5	3.03	6.73e3	1.72e4	11.9	-4.7	0.391
6	6	170305G1_7	12.5	3.03	5.49e3	1.09e4	15.4	23.0	0.504
7	7	170305G1_8	12.5	3.03	5.58e3	1.48e4	11.5	-7.9	0.378
8	8	170305G1_9	12.5	3.03	5.11e3	1.29e4	12.1	-3.5	0.396

Compound name: 13C4-PFHpA
Response Factor: 1.09794
RRF SD: 0.0510391, Relative SD: 4.64862
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	3.92	1.70e4	1.48e4	13.1	5.0	1.15
2	2	170305G1_3	12.5	3.92	1.69e4	1.61e4	11.9	-4.5	1.05
3	3	170305G1_4	12.5	3.91	1.52e4	1.44e4	12.1	-3.4	1.06
4	4	170305G1_5	12.5	3.91	1.86e4	1.74e4	12.1	-3.1	1.06
5	5	170305G1_6	12.5	3.91	1.95e4	1.72e4	12.9	3.0	1.13
6	6	170305G1_7	12.5	3.91	1.29e4	1.09e4	13.4	7.6	1.18
7	7	170305G1_8	12.5	3.91	1.55e4	1.48e4	11.9	-4.4	1.05
8	8	170305G1_9	12.5	3.91	1.42e4	1.29e4	12.5	-0.2	1.10

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

Compound name: 18O2-PFHxS
Response Factor: 0.434252
RRF SD: 0.0243573, Relative SD: 5.60903
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170305G1_2	12.5	4.04	7.11e3	1.48e4	13.8	10.7	0.481
2	2 170305G1_3	12.5	4.03	6.83e3	1.61e4	12.2	-2.6	0.423
3	3 170305G1_4	12.5	4.03	5.85e3	1.44e4	11.7	-6.2	0.407
4	4 170305G1_5	12.5	4.02	7.43e3	1.74e4	12.3	-1.8	0.426
5	5 170305G1_6	12.5	4.02	7.64e3	1.72e4	12.8	2.2	0.444
6	6 170305G1_7	12.5	4.02	4.52e3	1.09e4	12.0	-4.4	0.415
7	7 170305G1_8	12.5	4.02	6.24e3	1.48e4	12.1	-2.8	0.422
8	8 170305G1_9	12.5	4.02	5.89e3	1.29e4	13.1	5.0	0.456

Compound name: 13C2-PFOA
Response Factor: 4.60838
RRF SD: 0.269705, Relative SD: 5.85249
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170305G1_2	12.5	4.32	3.51e4	7.77e3	12.2	-2.0	4.51
2	2 170305G1_3	12.5	4.31	3.53e4	8.14e3	11.8	-5.8	4.34
3	3 170305G1_4	12.5	4.31	2.91e4	6.38e3	12.4	-1.0	4.56
4	4 170305G1_5	12.5	4.30	3.70e4	8.23e3	12.2	-2.4	4.50
5	5 170305G1_6	12.5	4.30	3.46e4	7.88e3	11.9	-4.6	4.40
6	6 170305G1_7	12.5	4.30	2.18e4	4.25e3	13.9	11.6	5.14
7	7 170305G1_8	12.5	4.30	3.30e4	7.29e3	12.3	-1.8	4.53
8	8 170305G1_9	12.5	4.30	3.22e4	6.59e3	13.3	6.0	4.89

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

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Compound name: 13C5-PFNA
Response Factor: 0.867114
RRF SD: 0.0501317, Relative SD: 5.78144
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170305G1_2	12.5	4.64	8.36e3	8.87e3	13.6	8.7	0.943
2	2 170305G1_3	12.5	4.64	7.67e3	8.20e3	13.5	7.9	0.936
3	3 170305G1_4	12.5	4.63	5.74e3	7.15e3	11.6	-7.4	0.803
4	4 170305G1_5	12.5	4.63	6.97e3	8.16e3	12.3	-1.4	0.855
5	5 170305G1_6	12.5	4.63	7.48e3	8.62e3	12.5	0.0	0.867
6	6 170305G1_7	12.5	4.63	2.88e3	3.54e3	11.7	-6.0	0.815
7	7 170305G1_8	12.5	4.63	6.50e3	7.60e3	12.3	-1.3	0.856
8	8 170305G1_9	12.5	4.63	7.35e3	8.52e3	12.4	-0.5	0.863

Compound name: 13C8-PFOS
Response Factor: 0.95832
RRF SD: 0.0597595, Relative SD: 6.23587
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170305G1_2	12.5	4.70	6.28e3	6.73e3	12.2	-2.5	0.934
2	2 170305G1_3	12.5	4.70	6.57e3	7.11e3	12.1	-3.6	0.924
3	3 170305G1_4	12.5	4.69	4.73e3	5.19e3	11.9	-4.7	0.913
4	4 170305G1_5	12.5	4.69	5.18e3	5.45e3	12.4	-0.9	0.950
5	5 170305G1_6	12.5	4.69	5.64e3	6.31e3	11.7	-6.8	0.894
6	6 170305G1_7	12.5	4.69	1.88e3	1.74e3	14.1	12.8	1.08
7	7 170305G1_8	12.5	4.69	5.14e3	5.13e3	13.1	4.4	1.00
8	8 170305G1_9	12.5	4.69	6.26e3	6.45e3	12.7	1.3	0.971

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	3.43	2.72e4	2.72e4	12.5	0.0	1.00
2	2	170305G1_3	12.5	3.43	2.95e4	2.95e4	12.5	0.0	1.00
3	3	170305G1_4	12.5	3.41	2.60e4	2.60e4	12.5	0.0	1.00
4	4	170305G1_5	12.5	3.41	3.17e4	3.17e4	12.5	0.0	1.00
5	5	170305G1_6	12.5	3.41	3.10e4	3.10e4	12.5	0.0	1.00
6	6	170305G1_7	12.5	3.41	2.37e4	2.37e4	12.5	0.0	1.00
7	7	170305G1_8	12.5	3.41	2.69e4	2.69e4	12.5	0.0	1.00
8	8	170305G1_9	12.5	3.41	2.39e4	2.39e4	12.5	0.0	1.00

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	4.04	1.48e4	1.48e4	12.5	0.0	1.00
2	2	170305G1_3	12.5	4.03	1.61e4	1.61e4	12.5	0.0	1.00
3	3	170305G1_4	12.5	4.03	1.44e4	1.44e4	12.5	0.0	1.00
4	4	170305G1_5	12.5	4.02	1.74e4	1.74e4	12.5	0.0	1.00
5	5	170305G1_6	12.5	4.02	1.72e4	1.72e4	12.5	0.0	1.00
6	6	170305G1_7	12.5	4.03	1.09e4	1.09e4	12.5	0.0	1.00
7	7	170305G1_8	12.5	4.02	1.48e4	1.48e4	12.5	0.0	1.00
8	8	170305G1_9	12.5	4.02	1.29e4	1.29e4	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 15), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	4.32	7.77e3	7.77e3	12.5	0.0	1.00
2	2	170305G1_3	12.5	4.31	8.14e3	8.14e3	12.5	0.0	1.00
3	3	170305G1_4	12.5	4.30	6.38e3	6.38e3	12.5	0.0	1.00
4	4	170305G1_5	12.5	4.30	8.23e3	8.23e3	12.5	0.0	1.00
5	5	170305G1_6	12.5	4.30	7.88e3	7.88e3	12.5	0.0	1.00
6	6	170305G1_7	12.5	4.30	4.25e3	4.25e3	12.5	0.0	1.00
7	7	170305G1_8	12.5	4.30	7.29e3	7.29e3	12.5	0.0	1.00
8	8	170305G1_9	12.5	4.30	6.59e3	6.59e3	12.5	0.0	1.00

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 16), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170305G1_2	12.5	4.64	8.87e3	8.87e3	12.5	0.0	1.00
2	2	170305G1_3	12.5	4.64	8.20e3	8.20e3	12.5	0.0	1.00
3	3	170305G1_4	12.5	4.63	7.15e3	7.15e3	12.5	0.0	1.00
4	4	170305G1_5	12.5	4.63	8.16e3	8.16e3	12.5	0.0	1.00
5	5	170305G1_6	12.5	4.63	8.62e3	8.62e3	12.5	0.0	1.00
6	6	170305G1_7	12.5	4.63	3.54e3	3.54e3	12.5	0.0	1.00
7	7	170305G1_8	12.5	4.63	7.60e3	7.60e3	12.5	0.0	1.00
8	8	170305G1_9	12.5	4.63	8.52e3	8.52e3	12.5	0.0	1.00

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 17), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170305G1_2	12.5	4.70	6.73e3	6.73e3	12.5	0.0	1.00
2	2 170305G1_3	12.5	4.70	7.11e3	7.11e3	12.5	0.0	1.00
3	3 170305G1_4	12.5	4.69	5.19e3	5.19e3	12.5	0.0	1.00
4	4 170305G1_5	12.5	4.69	5.45e3	5.45e3	12.5	0.0	1.00
5	5 170305G1_6	12.5	4.69	6.31e3	6.31e3	12.5	0.0	1.00
6	6 170305G1_7	12.5	4.69	1.74e3	1.74e3	12.5	0.0	1.00
7	7 170305G1_8	12.5	4.69	5.13e3	5.13e3	12.5	0.0	1.00
8	8 170305G1_9	12.5	4.69	6.45e3	6.45e3	12.5	0.0	1.00

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Monday, March 06, 2017 09:13:54 Pacific Standard Time
Printed: Monday, March 06, 2017 09:14:12 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

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1	170305G1_1	IPA	05-Mar-17	12:34:35
2	170305G1_2	ST170305G1-1 PFC CS-2 17C0501	05-Mar-17	12:46:48
3	170305G1_3	ST170305G1-2 PFC CS-1 17C0502	05-Mar-17	12:59:15
4	170305G1_4	ST170305G1-3 PFC CS0 17C0503	05-Mar-17	13:11:49
5	170305G1_5	ST170305G1-4 PFC CS1 17C0504	05-Mar-17	13:24:21
6	170305G1_6	ST170305G1-5 PFC CS2 17C0505	05-Mar-17	13:36:55
7	170305G1_7	ST170305G1-6 PFC CS3 17C0506	05-Mar-17	13:49:29
8	170305G1_8	ST170305G1-7 PFC CS4 17C0507	05-Mar-17	14:02:00
9	170305G1_9	ST170305G1-8 PFC CS5 17C0508	05-Mar-17	14:14:34
10	170305G1_10	IPA	05-Mar-17	14:27:08
11	170305G1_11	SS170305G1-1 PFC SSS 17C0509	05-Mar-17	14:39:40
12	170305G1_12	IPA	05-Mar-17	14:52:09
13	170305G1_13	B7C0012-BS1 OPR 0.125	05-Mar-17	15:04:45
14	170305G1_14	B7C0010-BS1 OPR 0.125	05-Mar-17	15:17:15
15	170305G1_15	IPA	05-Mar-17	15:29:48
16	170305G1_16	B7C0012-BLK1 Method Blank 0.125	05-Mar-17	15:42:23
17	170305G1_17	B7C0010-BLK1 Method Blank 0.125	05-Mar-17	15:54:54
18	170305G1_18	1700268-02RE1 WI-CV-GW05M-0217 0.125	05-Mar-17	16:07:28
19	170305G1_19	1700268-04RE1 WI-CV-GW11M-0217 0.125	05-Mar-17	16:20:00
20	170305G1_20	1700280-01 WI-CV-GW03M-0217 0.125	05-Mar-17	16:32:34
21	170305G1_21	1700280-02 WI-CV-GW03D-0217 0.125	05-Mar-17	16:45:07
22	170305G1_22	1700280-03 WI-CV-EB07-022717 0.125	05-Mar-17	16:57:36
23	170305G1_23	1700280-04 WI-CV-GW04M-0217 0.125	05-Mar-17	17:10:09
24	170305G1_24	1700280-05 WI-CV-GW01M-0217 0.125	05-Mar-17	17:22:42
25	170305G1_25	1700280-06 WI-CV-EB08-022817 0.125	05-Mar-17	17:35:16
26	170305G1_26	1700280-07 WI-CV-GW01D-0217 0.125	05-Mar-17	17:47:49
27	170305G1_27	1700277-01 MILK-022717 0.005	05-Mar-17	18:00:22
28	170305G1_28	IPA	05-Mar-17	18:12:56
29	170305G1_29	ST170305G1-9 PFC CS3 17C0506	05-Mar-17	18:25:28
30	170305G1_30	IPA	05-Mar-17	18:38:01

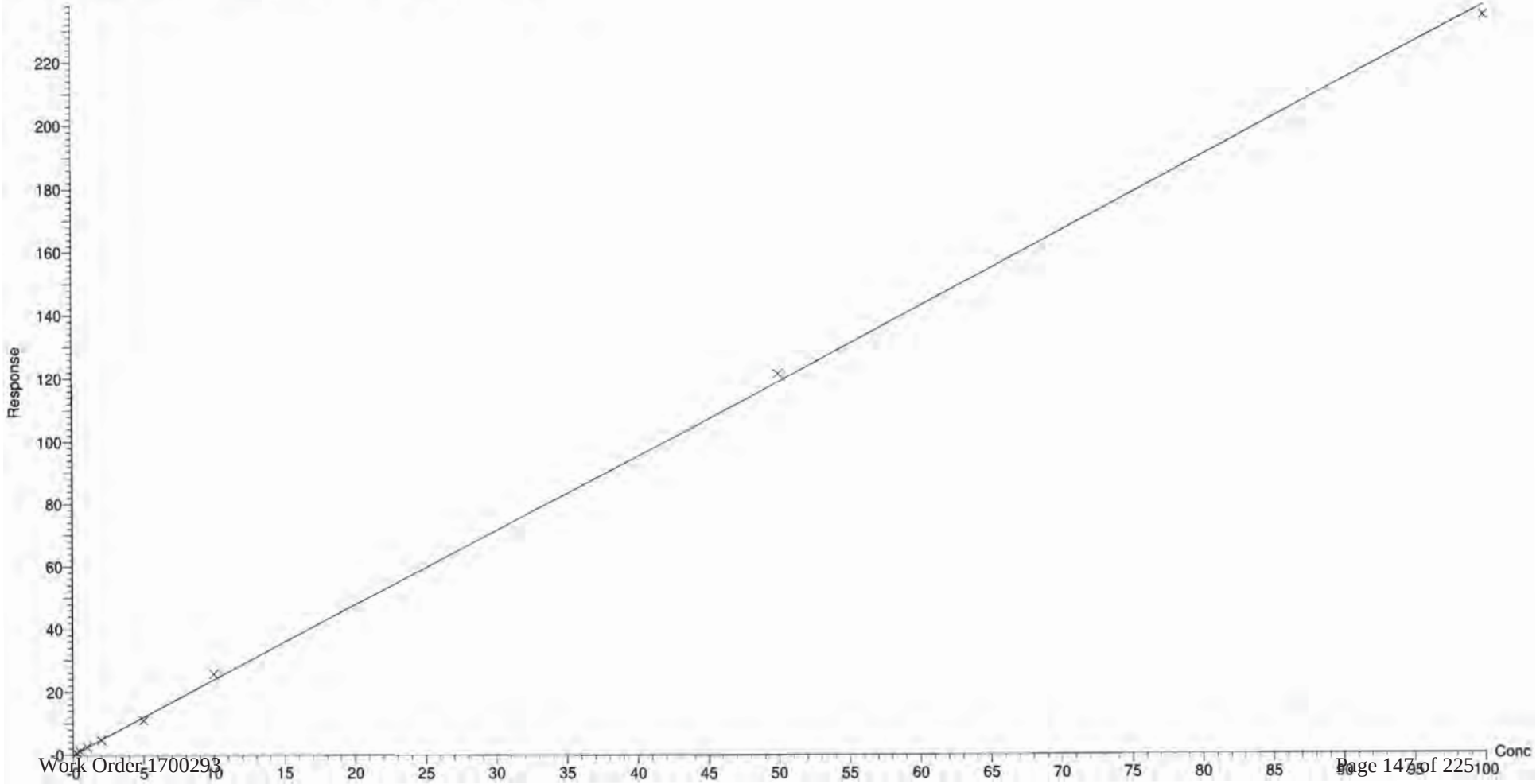
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:19:21

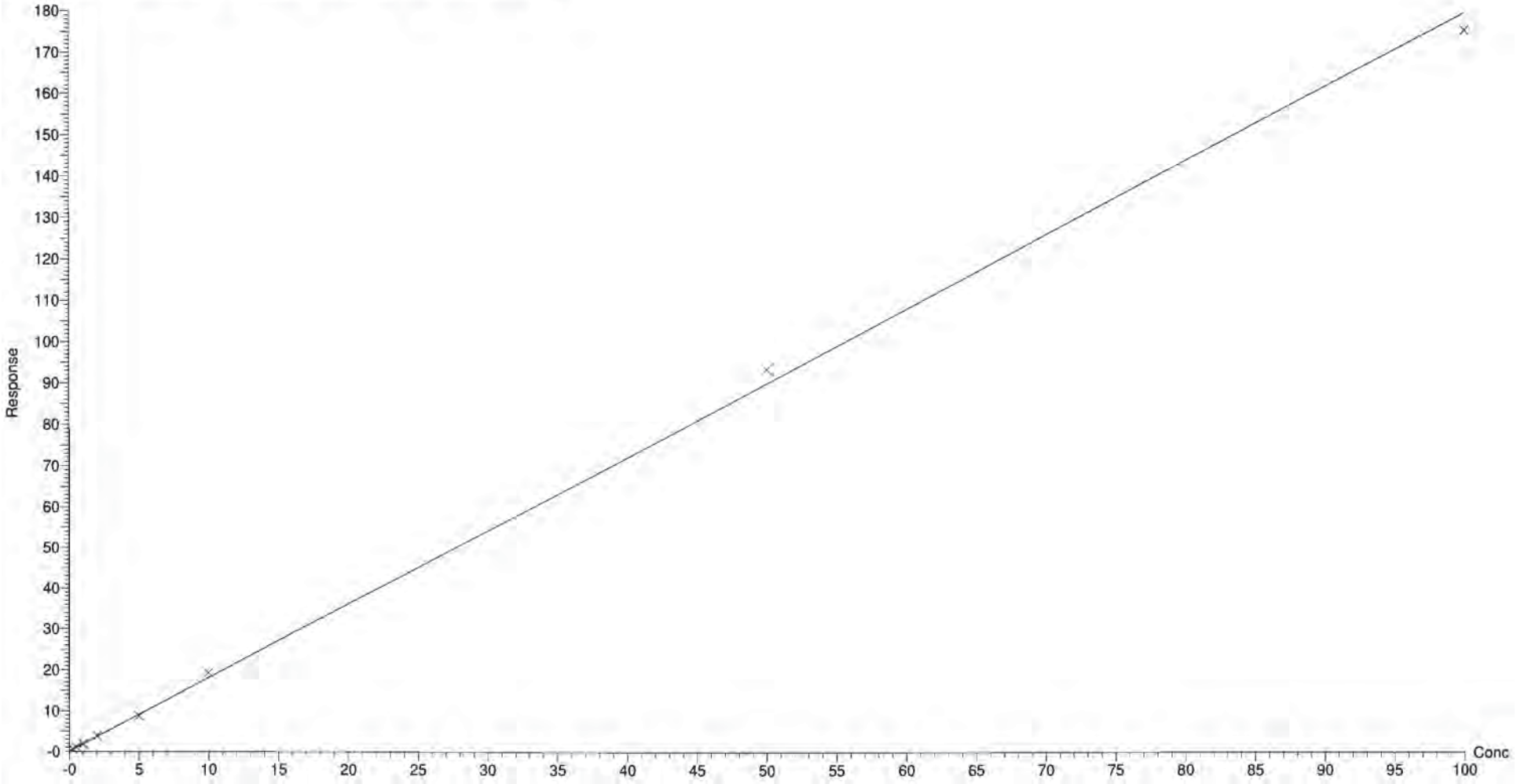
Compound name: PFBS
Correlation coefficient: r = 0.999596, r^2 = 0.999192
Calibration curve: 2.38097 * x + 0.0682571
Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

Compound name: PFHpA
Correlation coefficient: r = 0.999429, r^2 = 0.998857
Calibration curve: 1.79957 * x + 0.123896
Response type: Internal Std (Ref 8), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

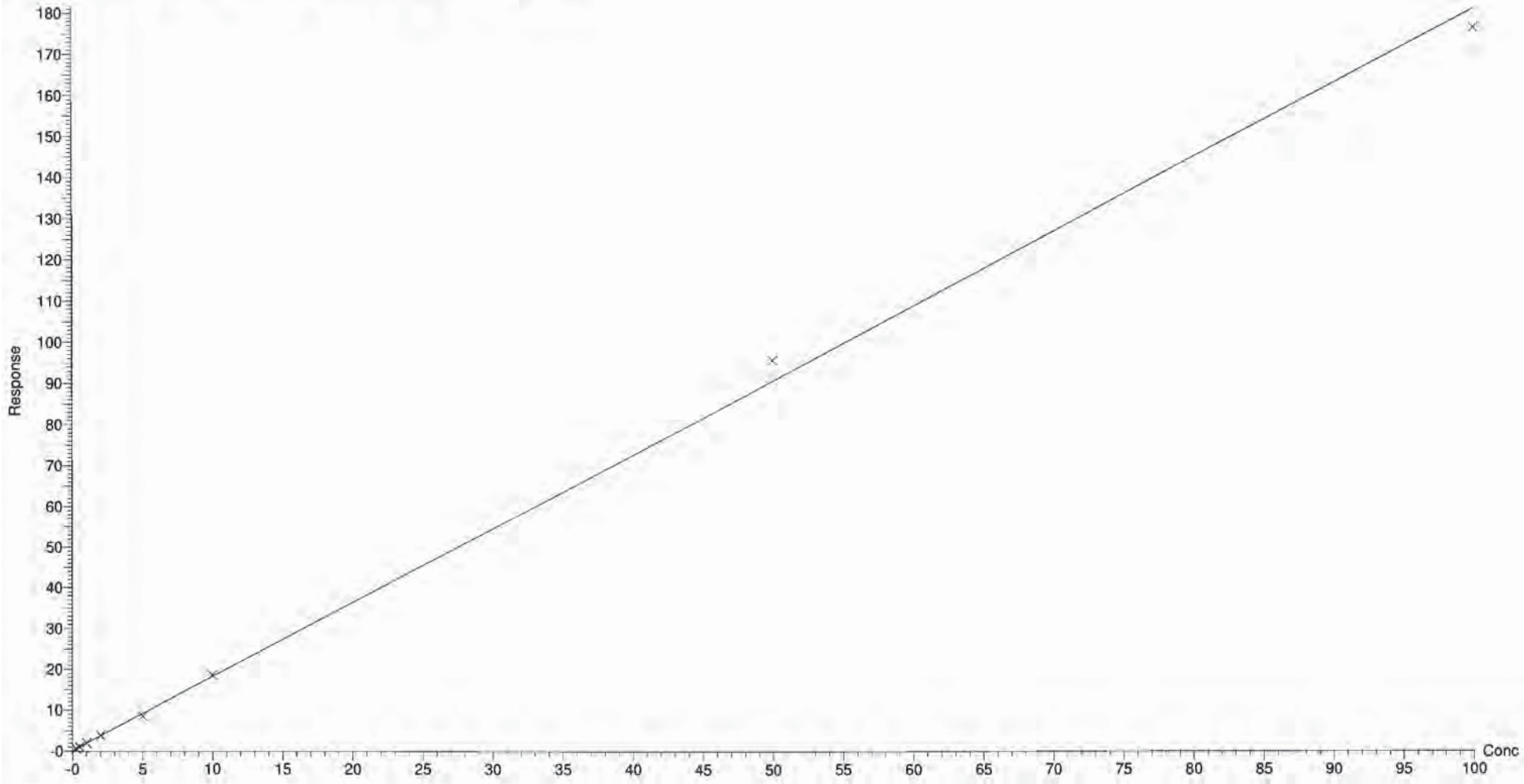


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

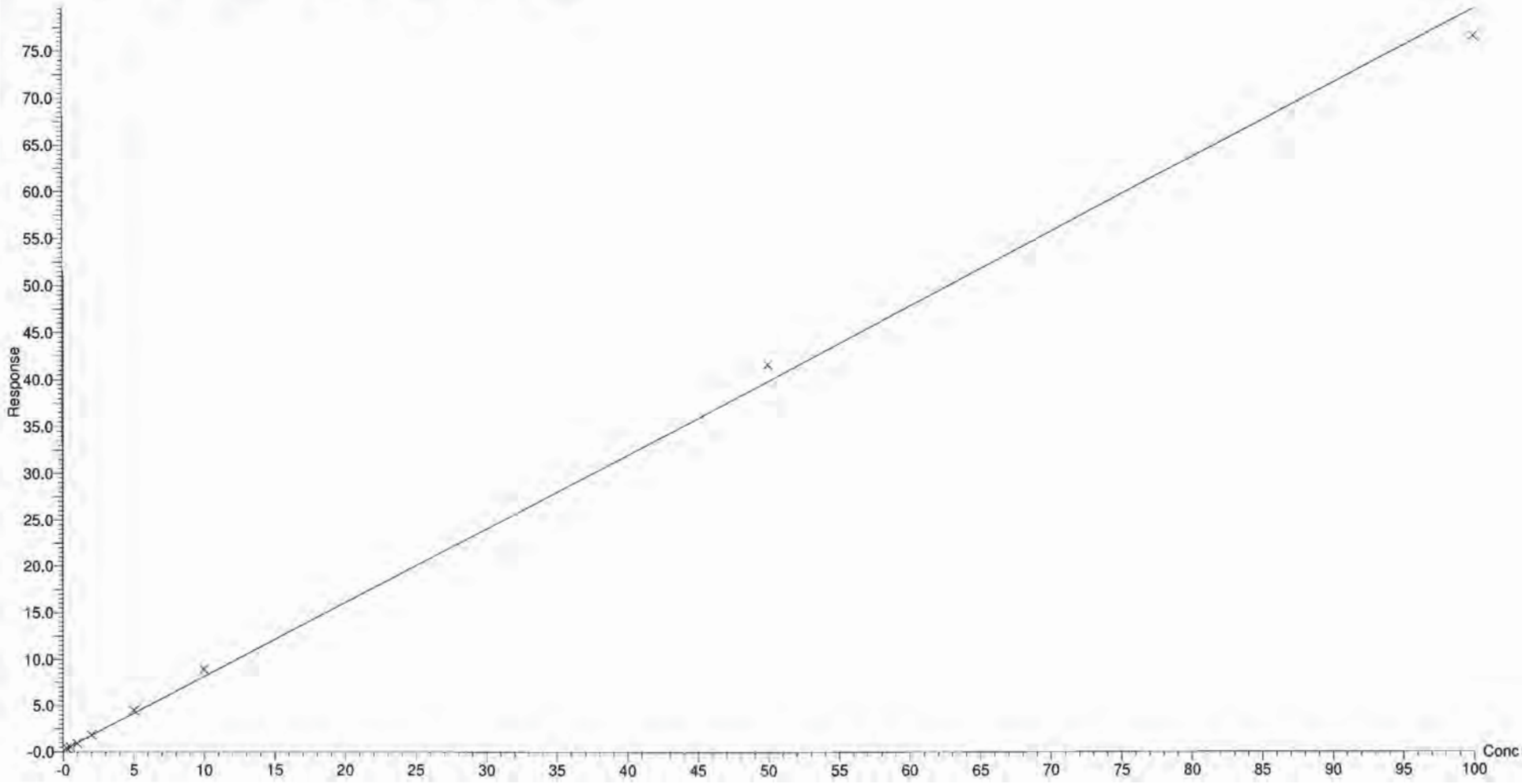
Compound name: PFHxS
Correlation coefficient: r = 0.999200, r^2 = 0.998401
Calibration curve: 1.81334 * x + 0.103191
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

Compound name: PFOA
Correlation coefficient: r = 0.998804, r^2 = 0.997609
Calibration curve: 0.794457 * x + 0.179058
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

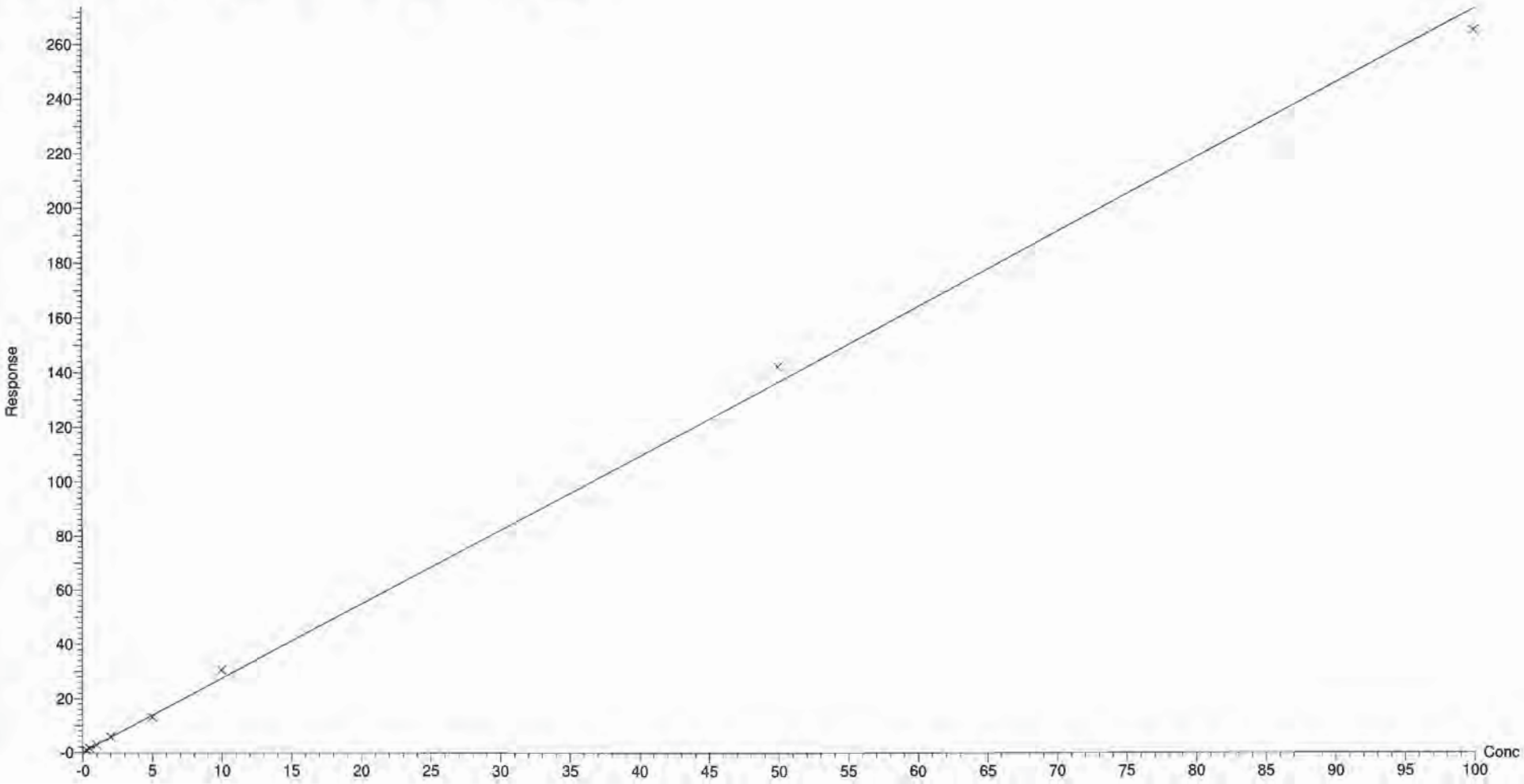


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

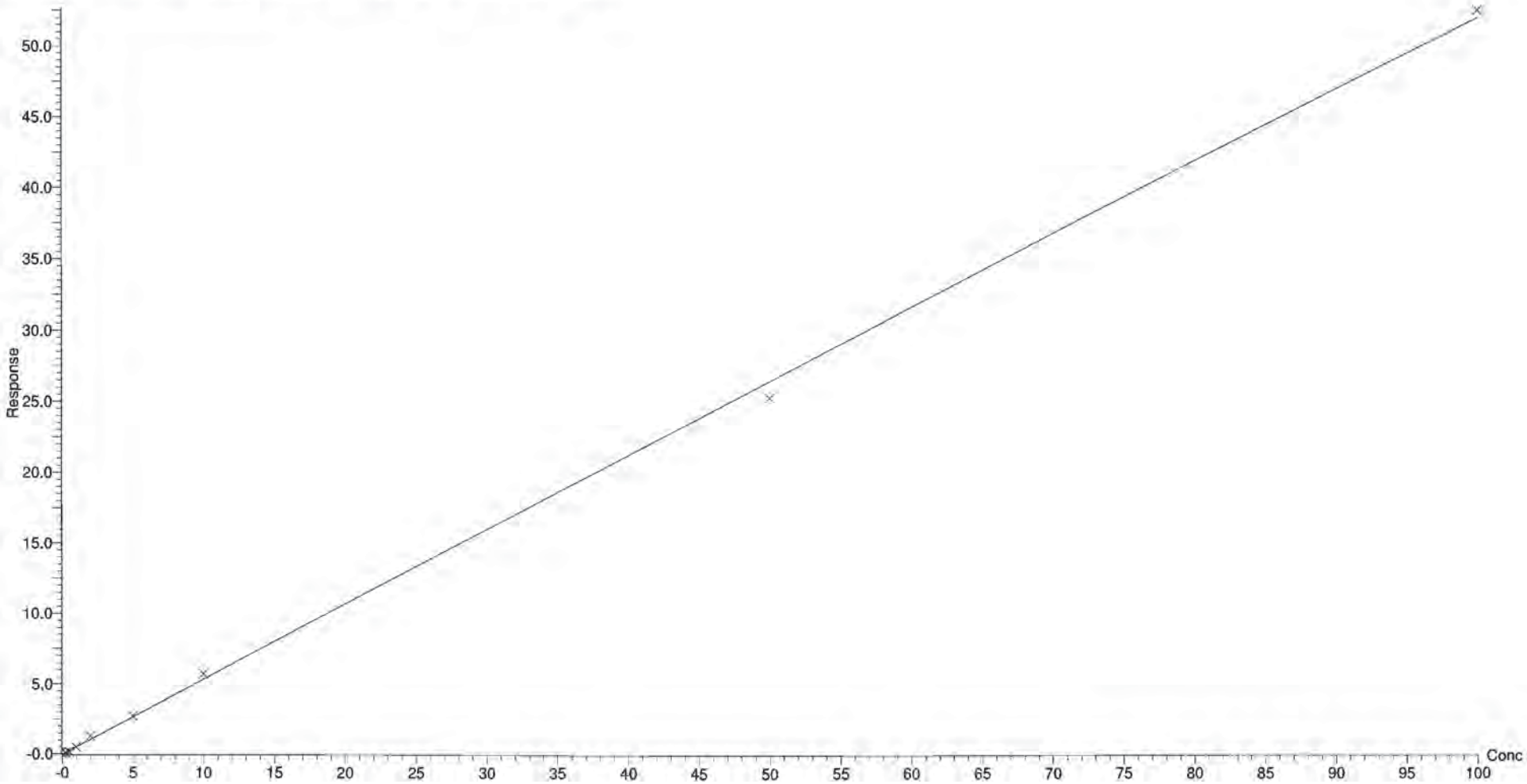
Compound name: PFNA
Correlation coefficient: r = 0.999011, r^2 = 0.998022
Calibration curve: 2.73664 * x + 0.0966541
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

Last Altered: Monday, March 06, 2017 08:19:21 Pacific Standard Time
Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.997963
Calibration curve: -0.000185224 * x^2 + 0.54028 * x + -0.0525057
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: 06 Mar 2017 08:36:20

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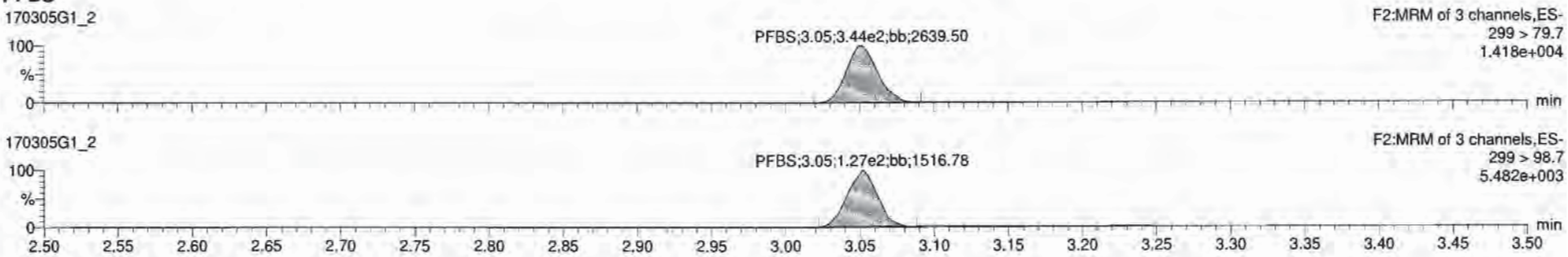
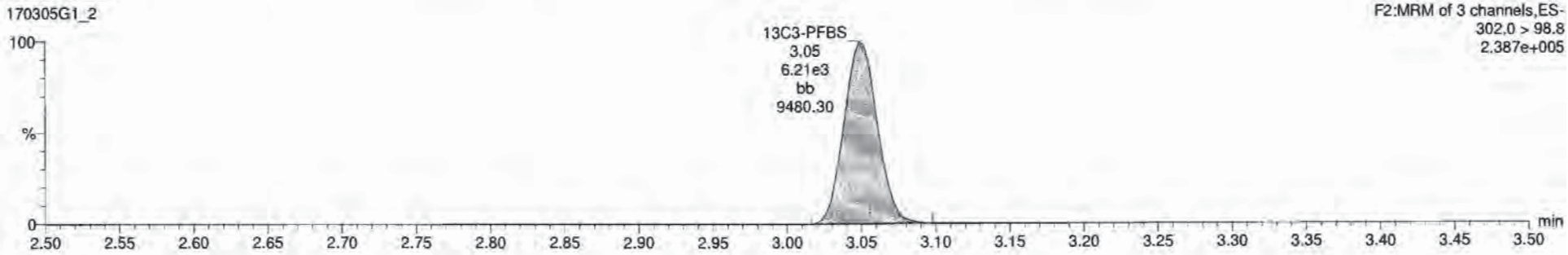
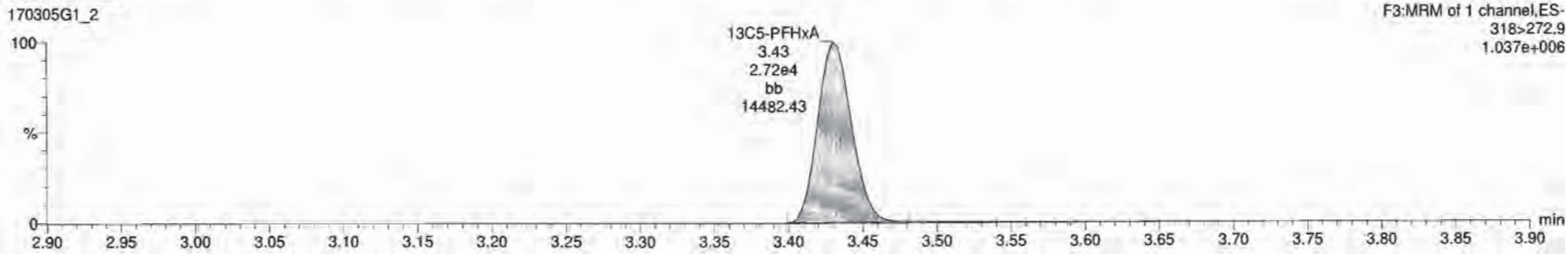
PFBS



13C3-PFBS



13C5-PFHxA



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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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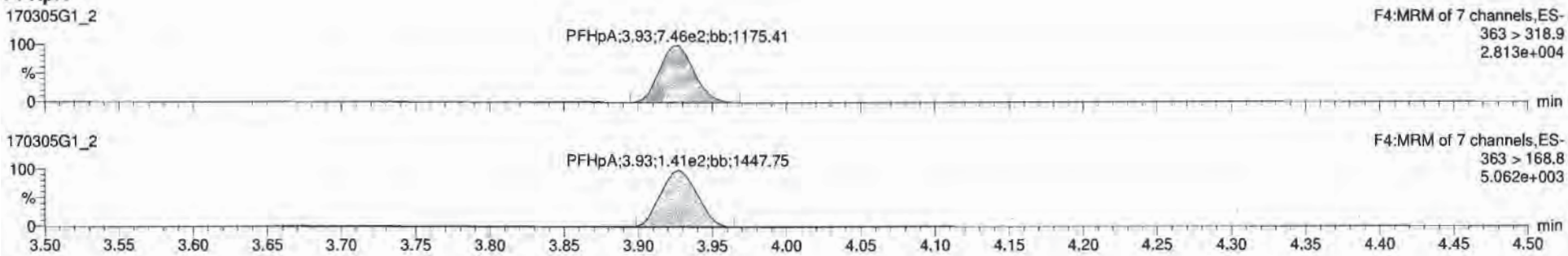
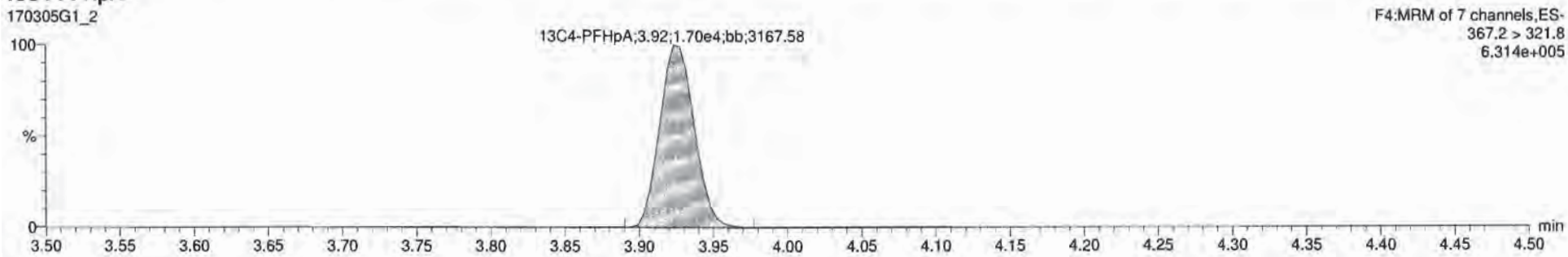
PFHpA



13C4-PFHpA



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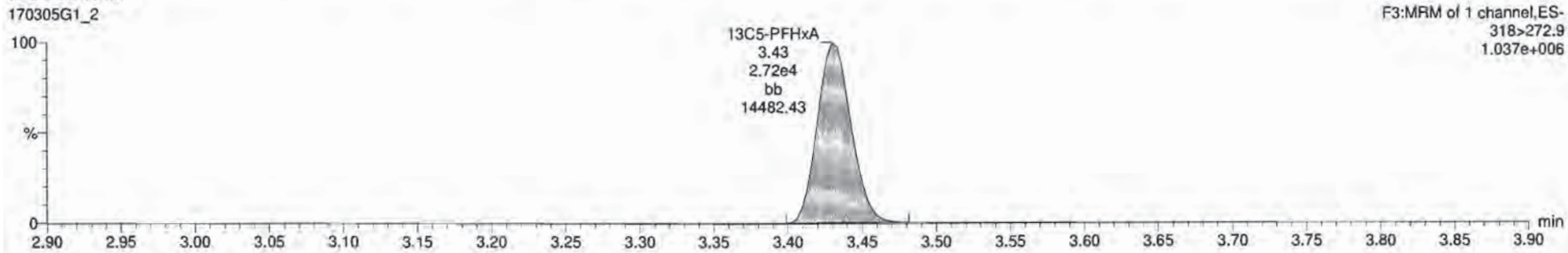

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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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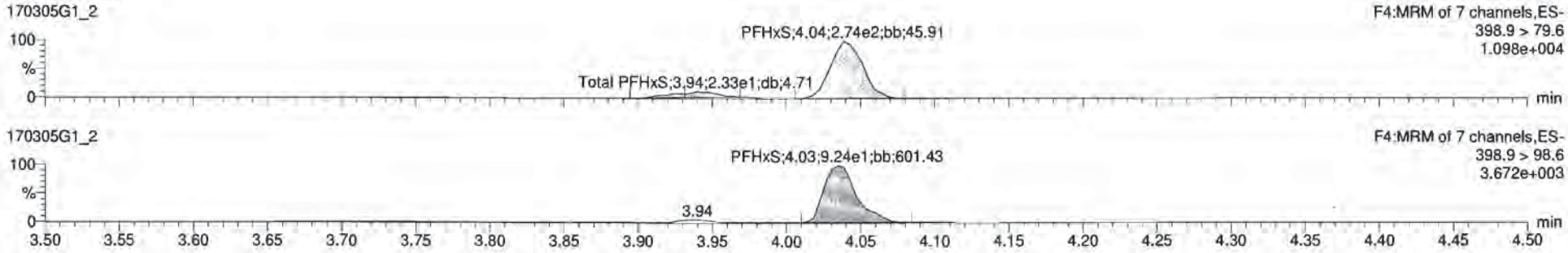

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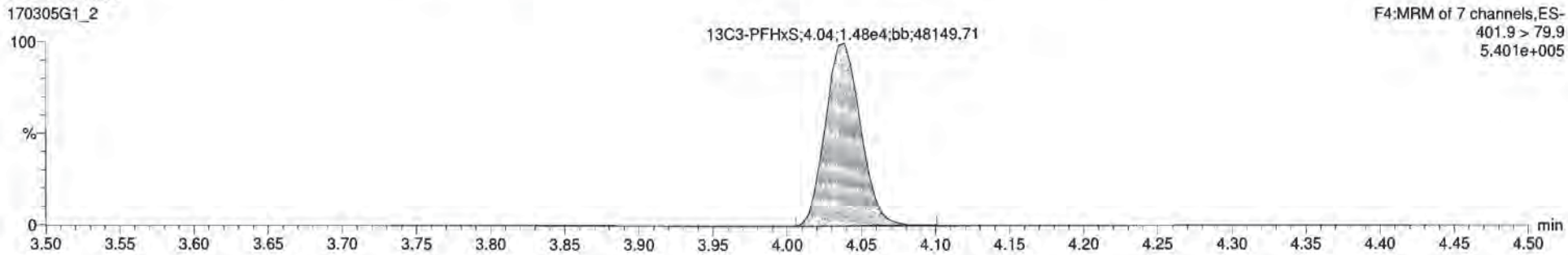

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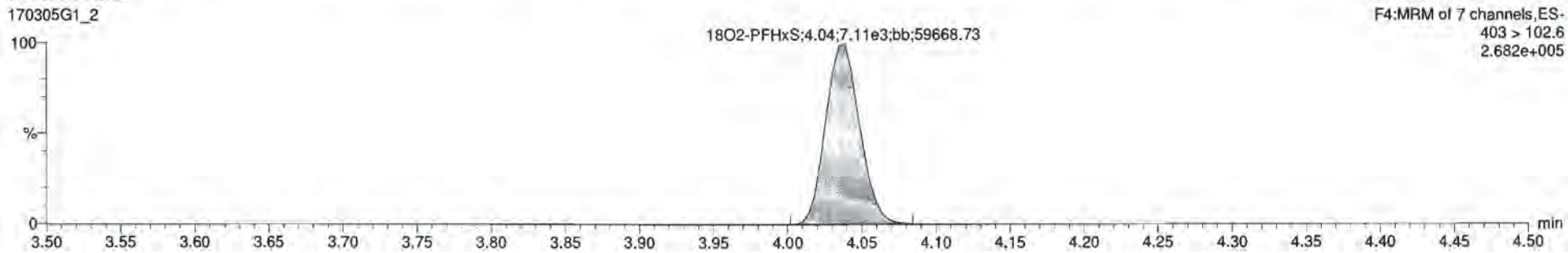

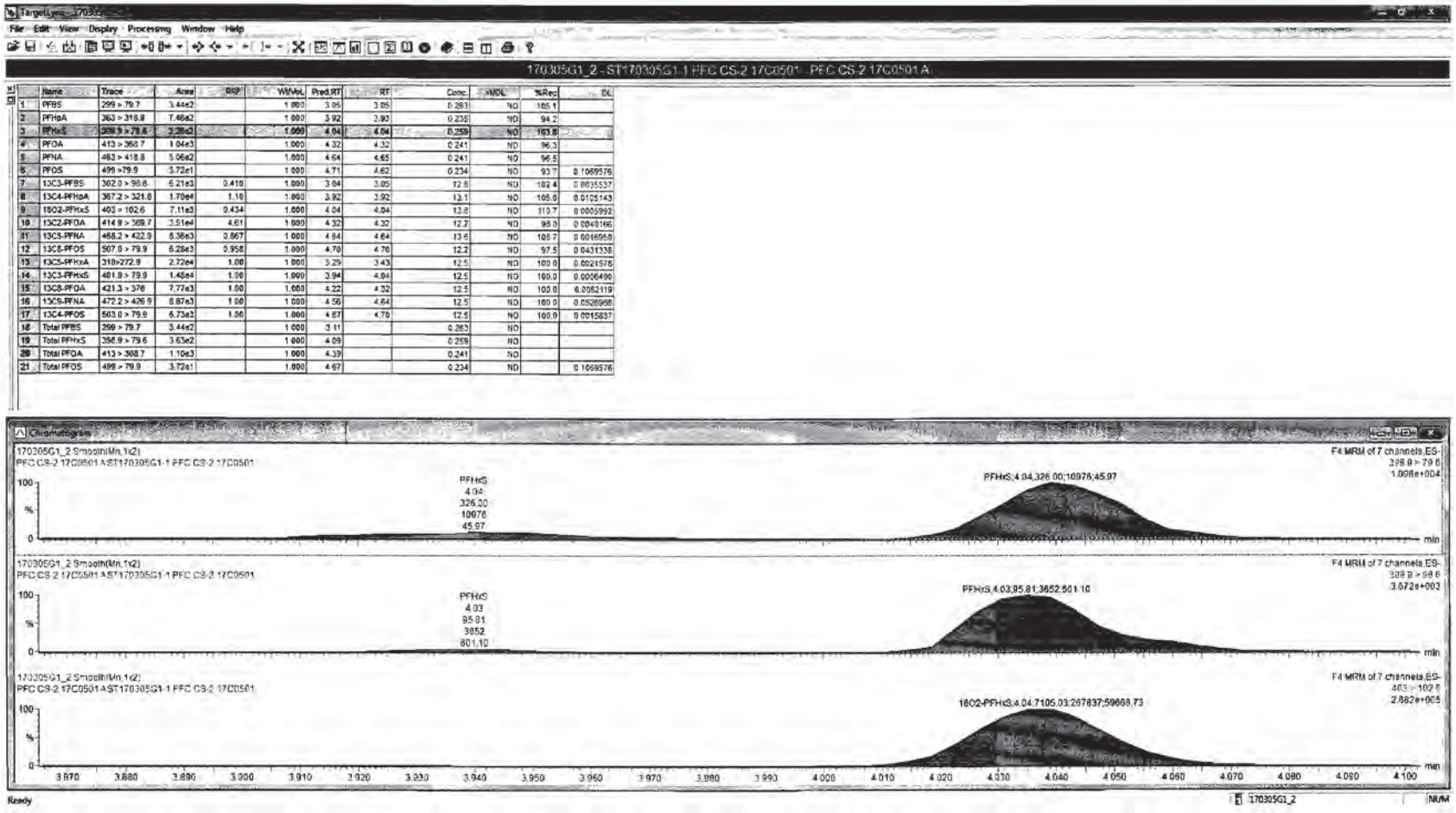

	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	MDL	%Rec	DL
1	PFBS	299 > 79.7	3.44e2		1.000	3.85	3.85	0.283	ND	185.1	
2	PFHpA	363 > 318.8	7.46e2		1.000	3.92	3.93	0.239	ND	94.2	
3	PFHxS	398.9 > 79.8	3.28e2		1.000	4.04	4.04	0.259	ND	163.8	
4	PFOA	413 > 368.7	1.04e3		1.000	4.32	4.32	0.241	ND	96.3	
5	PFNA	463 > 418.8	5.06e2		1.000	4.64	4.65	0.241	ND	96.5	
6	PFOS	499 >79.9	3.72e1		1.000	4.71	4.62	0.234	ND	93.7	0.1069576
7	13C3-PFBS	302.0 > 98.6	6.21e3	0.419	1.000	3.84	3.85	12.8	ND	102.4	0.0035537
8	13C4-PFHpA	367.2 > 321.8	1.78e4	1.16	1.000	3.92	3.92	13.1	ND	105.0	0.0125143
9	1802-PFHxS	403 > 102.6	7.11e3	0.434	1.000	4.04	4.04	13.6	ND	110.7	0.0005992
10	13C2-PFOA	414.9 > 369.7	3.51e4	4.61	1.000	4.32	4.32	12.7	ND	98.0	0.0040166
11	13C5-PFNA	468.2 > 422.9	8.38e3	0.867	1.000	4.64	4.64	13.6	ND	108.7	0.0016958
12	13C8-PFOS	507.0 > 79.9	6.28e3	0.958	1.000	4.70	4.76	12.2	ND	97.5	0.0431338
13	13C5-PFHxA	318>272.9	2.72e4	1.00	1.000	3.29	3.43	12.5	ND	100.0	0.0021576
14	13C3-PFHxS	401.9 > 79.9	1.45e4	1.00	1.000	3.94	4.04	12.5	ND	100.0	0.0006490
15	13C8-PFOA	421.3 > 376	7.77e3	1.00	1.000	4.22	4.32	12.5	ND	100.0	0.0052119
16	13C9-PFNA	472.2 > 426.9	8.87e3	1.00	1.000	4.56	4.64	12.5	ND	100.0	0.0526998
17	13C4-PFOS	503.0 > 79.9	6.73e3	1.00	1.000	4.67	4.76	12.5	ND	100.0	0.0015837
18	Total PFBS	299 > 79.7	3.44e2		1.000	3.11		0.283	ND		
19	Total PFHxS	398.9 > 79.8	3.63e2		1.000	4.09		0.259	ND		
20	Total PFOA	413 > 368.7	1.10e3		1.000	4.39		0.241	ND		
21	Total PFOS	499 > 79.9	3.72e1		1.000	4.67		0.234	ND		0.1069576

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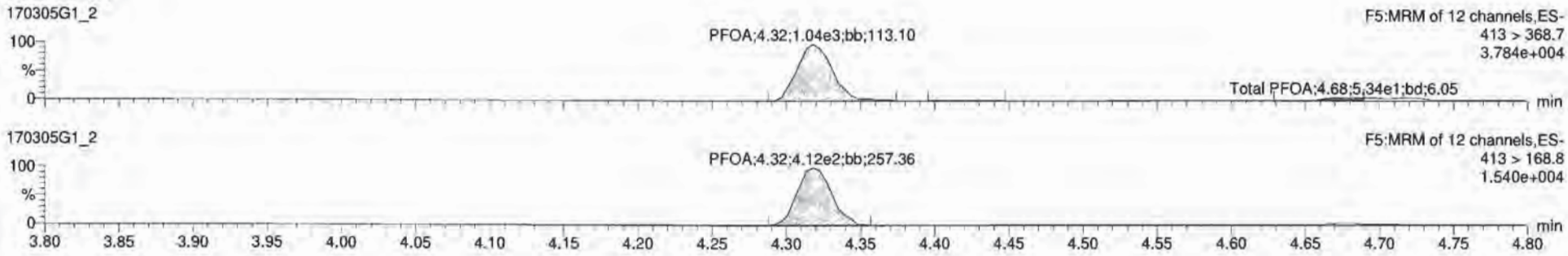
ID: ST170305G1-1 PFC CS-2 17C0501, Description: PFC CS-2 17C0501 A, Name: 170305G1_2, Date: 05-Mar-2017, Time: 12:46:48, Instrument: , Lab: , User:

Total PFOA



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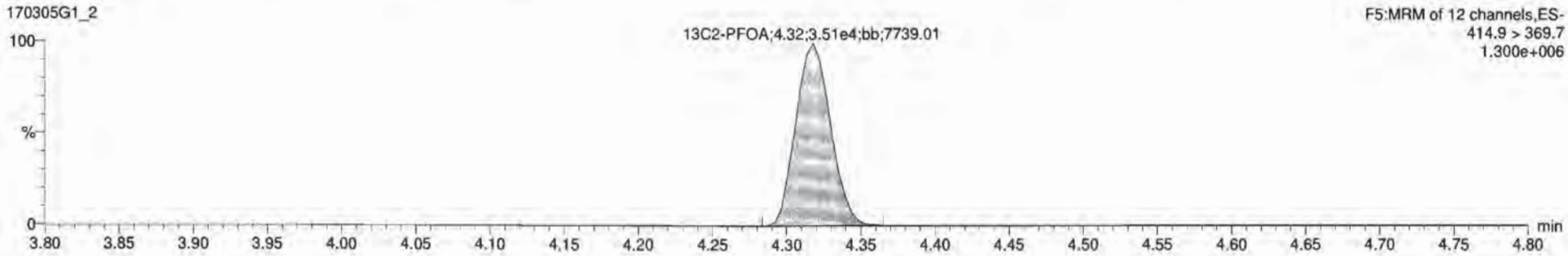

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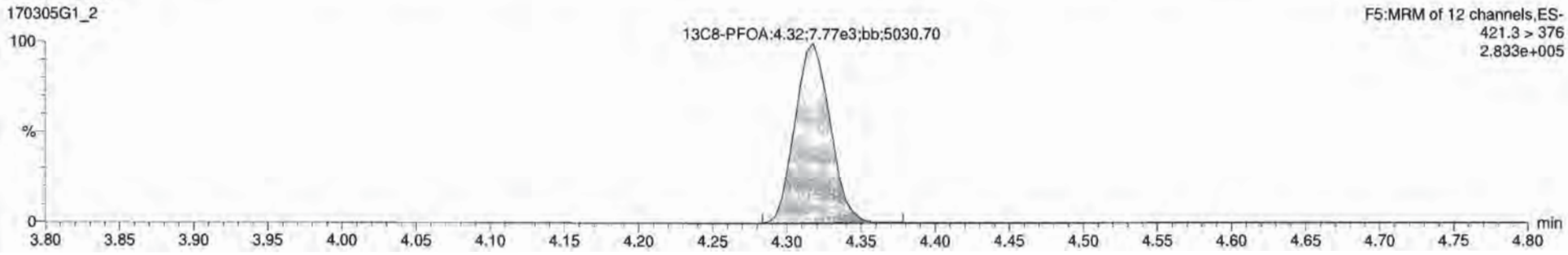

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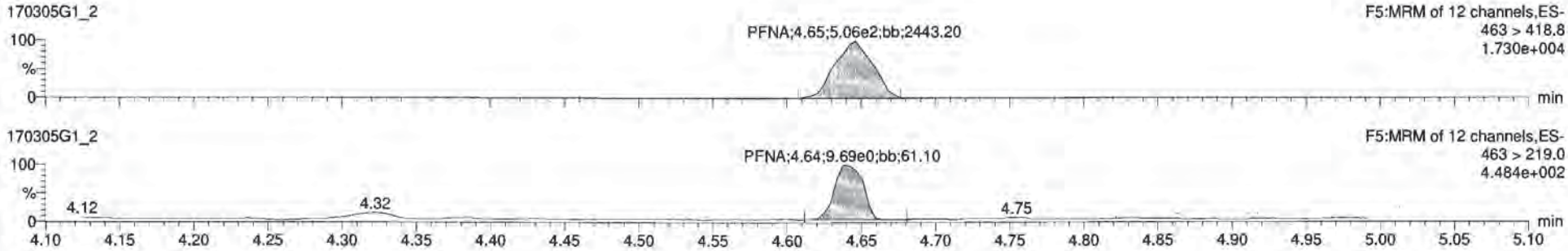

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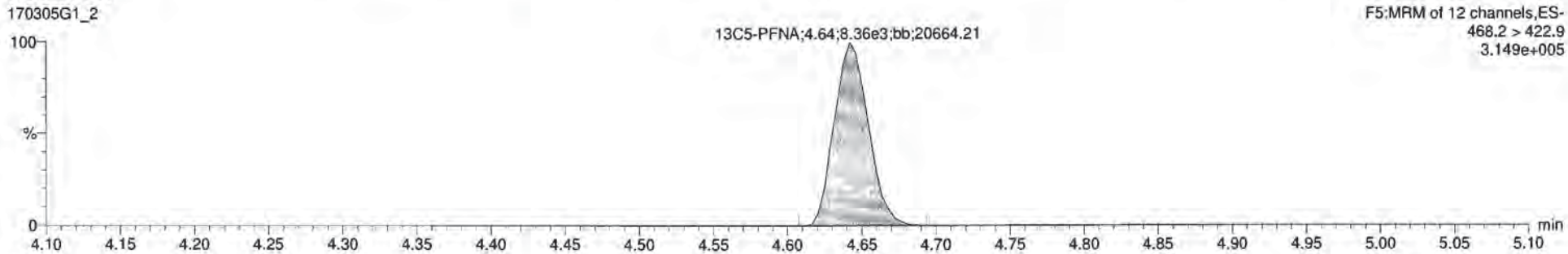

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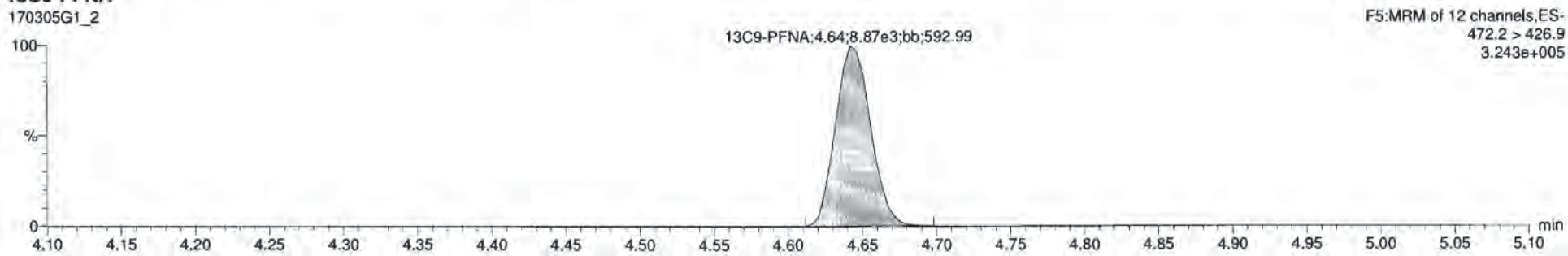

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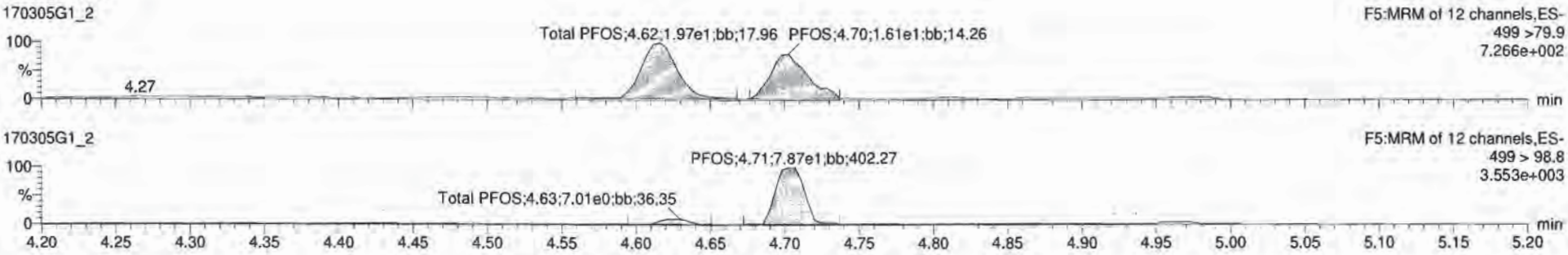
Total PFOS



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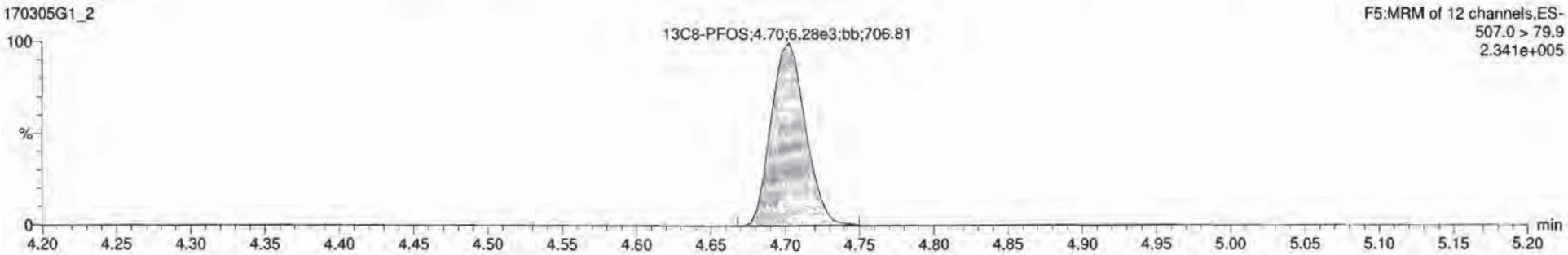

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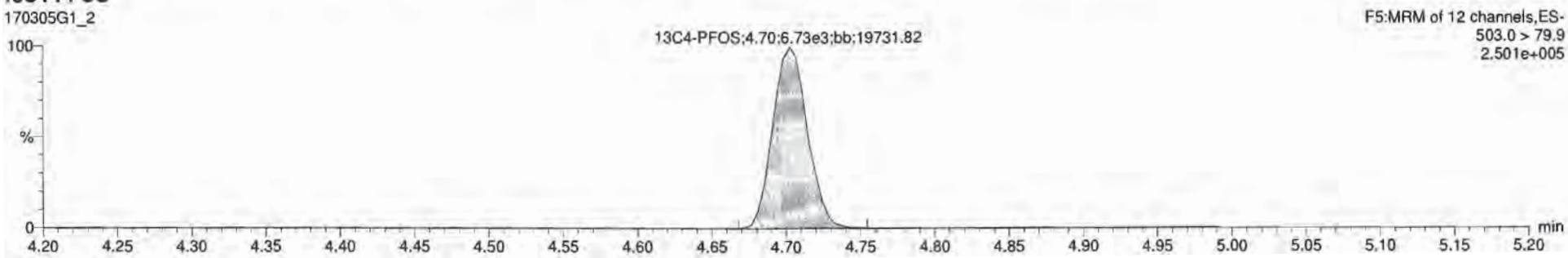

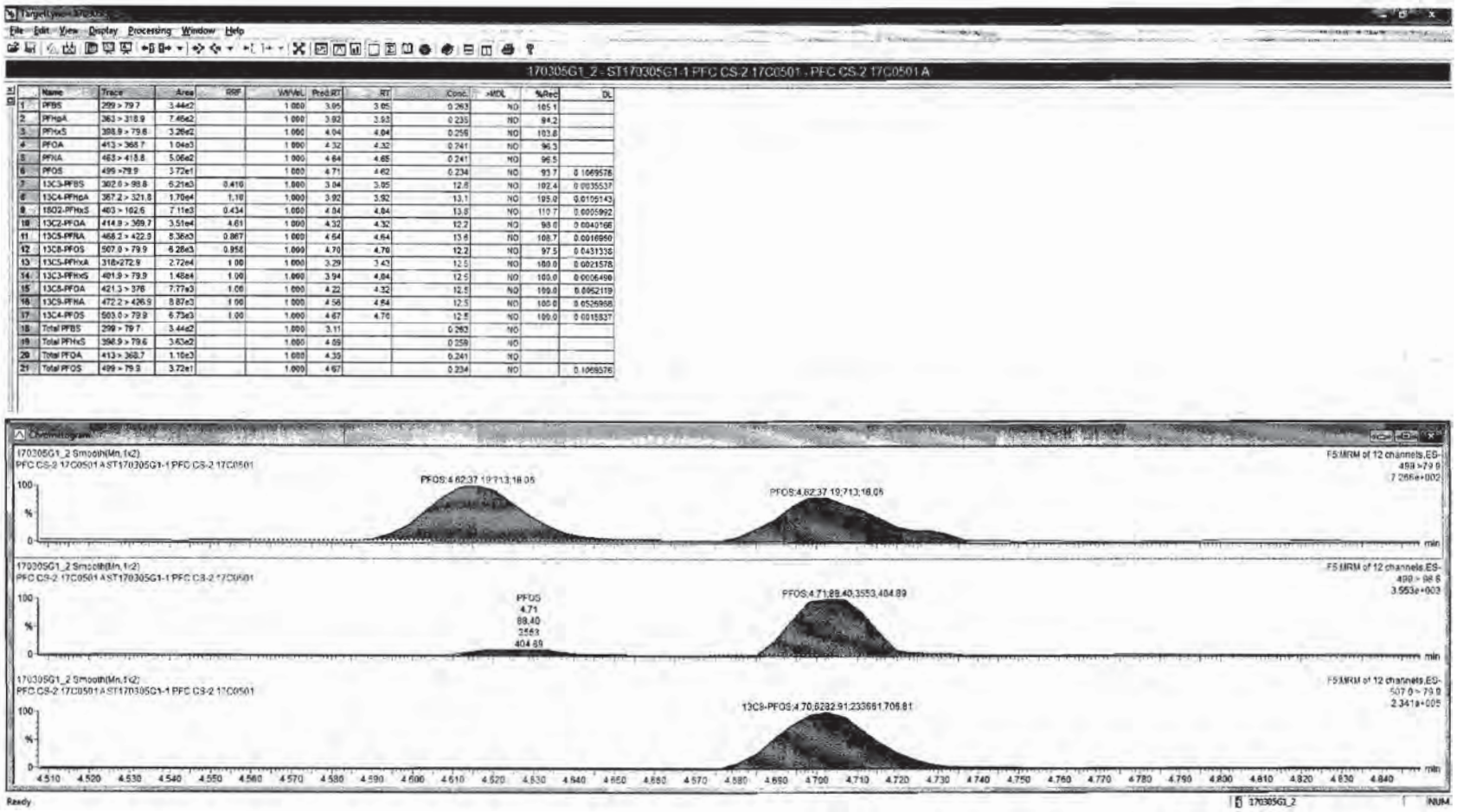

	Name	Trace	Area	RRF	WtVal	PredRT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	3.44e2		1.000	3.95	3.95	0.263	NO	105.1	
2	PFHpA	363 > 318.9	7.46e2		1.000	3.92	3.93	0.235	NO	94.2	
3	PFHxS	398.9 > 79.6	3.26e2		1.000	4.04	4.04	0.258	NO	103.8	
4	PFOA	413 > 368.7	1.04e3		1.000	4.32	4.32	0.241	NO	96.3	
5	PFNA	463 > 418.8	5.06e2		1.000	4.64	4.65	0.241	NO	96.5	
6	PFOS	499 > 79.9	3.72e1		1.000	4.71	4.62	0.234	NO	93.7	0.1069578
7	13C3-PFBS	302.0 > 98.8	6.21e3	0.410	1.000	3.94	3.95	12.6	NO	102.4	0.0035537
8	13C4-PFHpA	367.2 > 321.8	1.70e4	1.10	1.000	3.92	3.92	13.1	NO	105.0	0.0105143
9	1802-PFHxS	403 > 102.6	7.11e3	0.434	1.000	4.04	4.04	13.8	NO	110.7	0.0005992
10	13C2-PFOA	414.9 > 369.7	3.51e4	4.61	1.000	4.32	4.32	12.2	NO	98.0	0.0040166
11	13C5-PFNA	468.2 > 422.8	8.36e3	0.867	1.000	4.64	4.64	13.6	NO	108.7	0.0016960
12	13C8-PFOS	507.0 > 79.9	6.28e3	0.958	1.000	4.70	4.70	12.2	NO	97.5	0.0431336
13	13C5-PFHxA	318>272.9	2.72e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0021578
14	13C3-PFHxS	401.9 > 79.9	1.48e4	1.00	1.000	3.94	4.04	12.5	NO	100.0	0.0006490
15	13C8-PFOA	421.3 > 376	7.77e3	1.00	1.000	4.22	4.32	12.5	NO	100.0	0.0052119
16	13C9-PFNA	472.2 > 426.9	8.87e3	1.00	1.000	4.56	4.64	12.5	NO	100.0	0.0526968
17	13C4-PFOS	503.0 > 79.9	6.73e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0015837
18	Total PFBS	299 > 79.7	3.44e2		1.000	3.11		0.263	NO		
19	Total PFHxS	398.9 > 79.6	3.63e2		1.000	4.09		0.258	NO		
20	Total PFOA	413 > 368.7	1.10e3		1.000	4.33		0.241	NO		
21	Total PFOS	499 > 79.9	3.72e1		1.000	4.67		0.234	NO		0.1069576

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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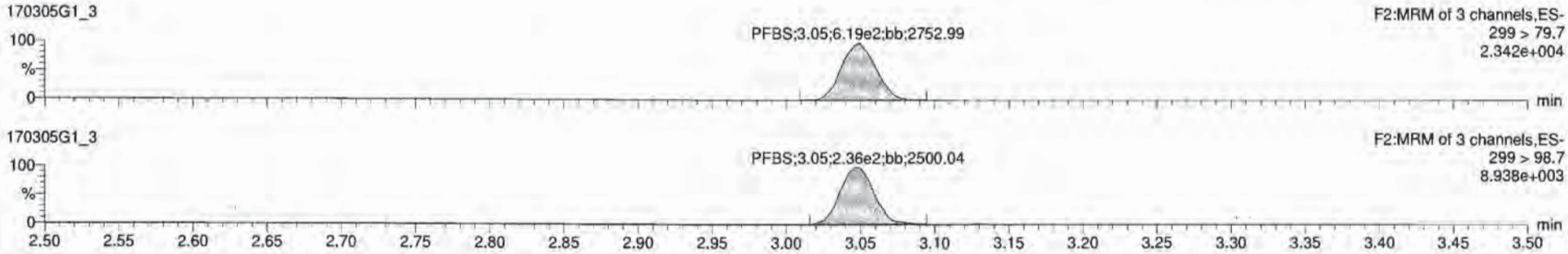
ID: ST170305G1-2 PFC CS-1 17C0502, Description: PFC CS-1 17C0502 A, Name: 170305G1_3, Date: 05-Mar-2017, Time: 12:59:15, Instrument: , Lab: , User:

PFBS



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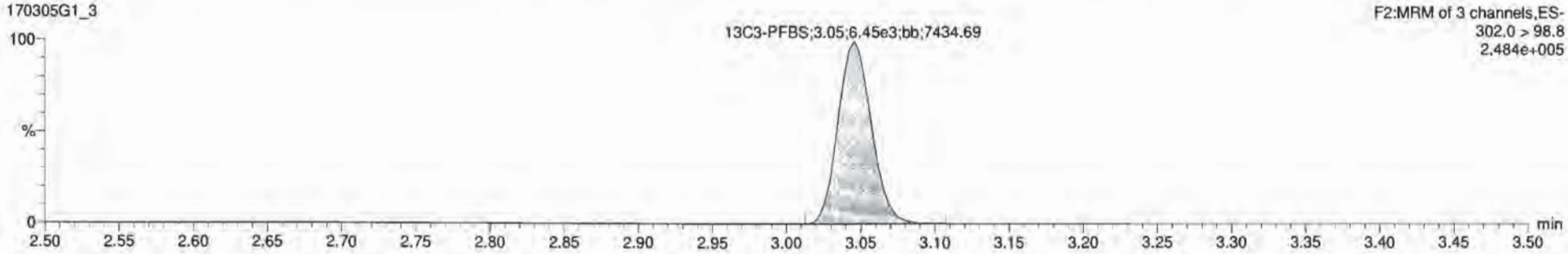
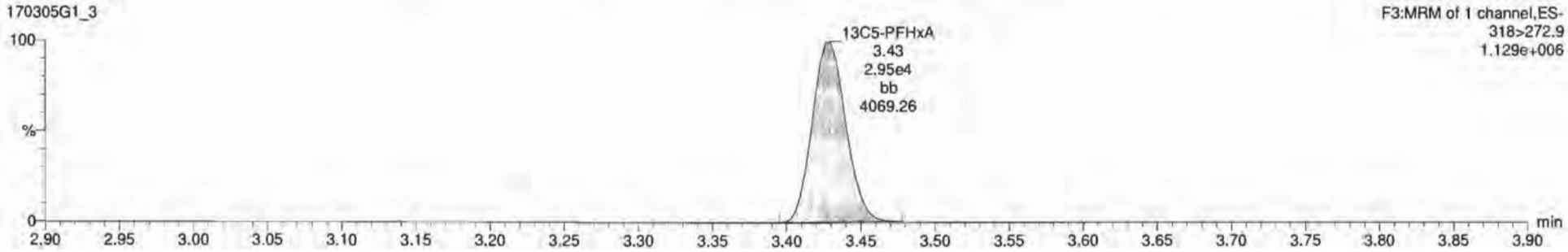


13C5-PFHxA



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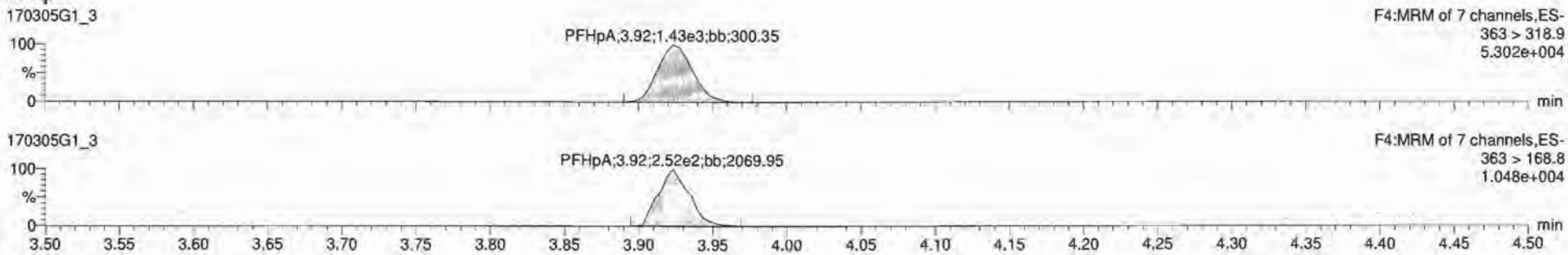
PFHpA



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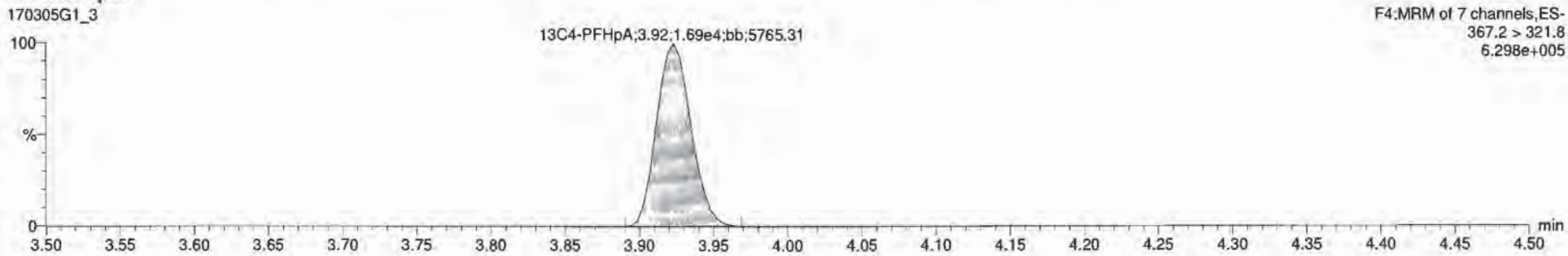

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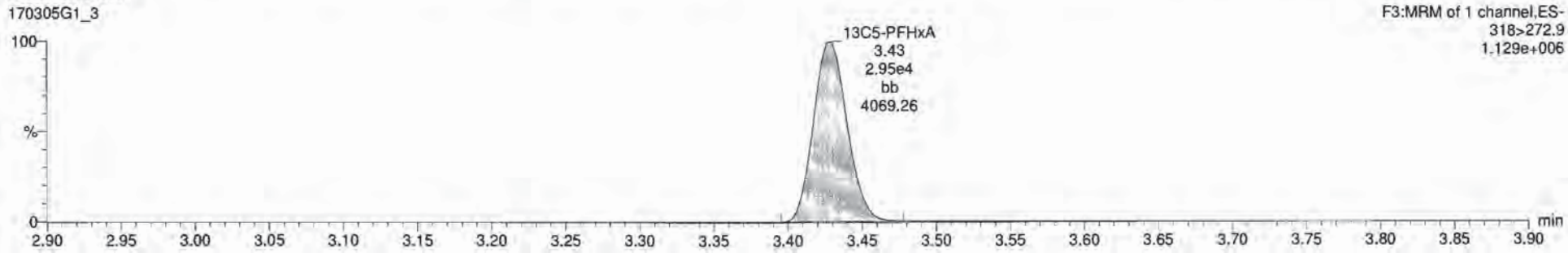

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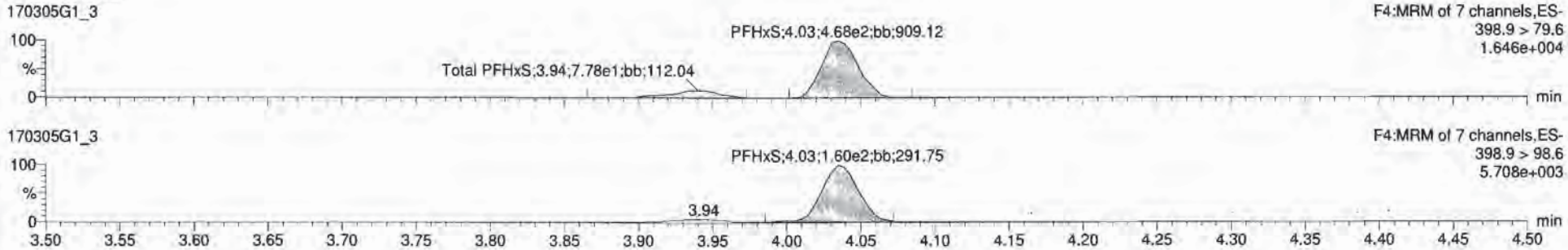
Total PFHxS



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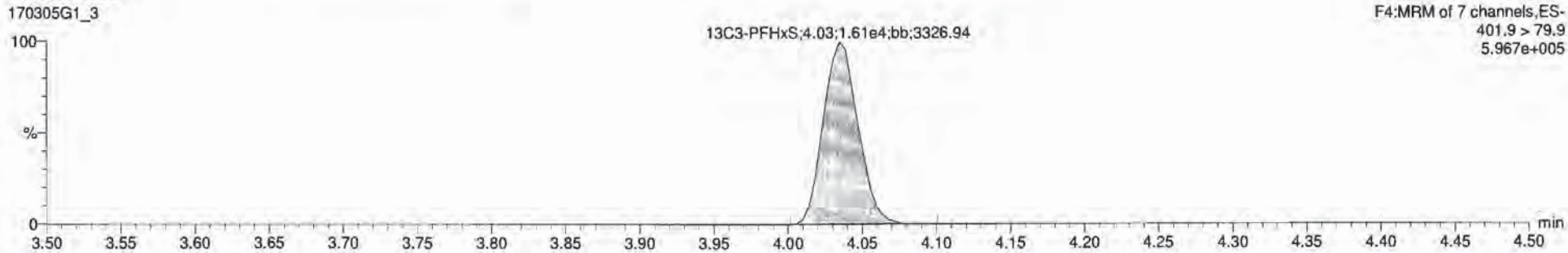
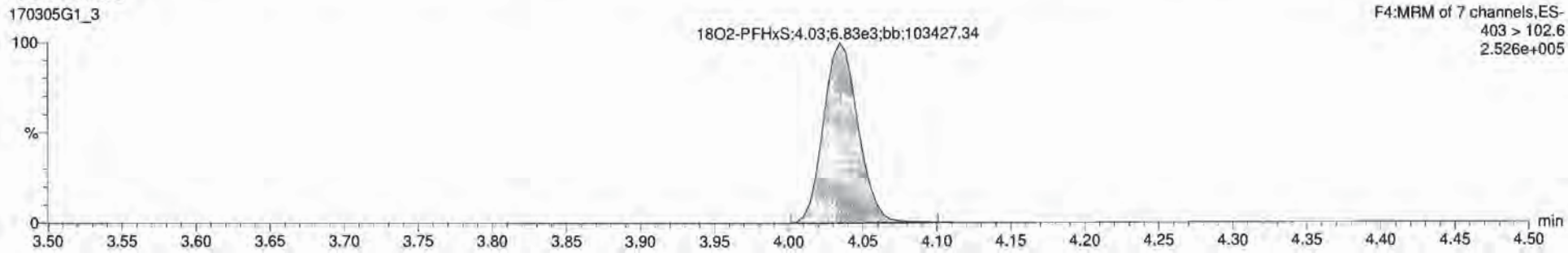
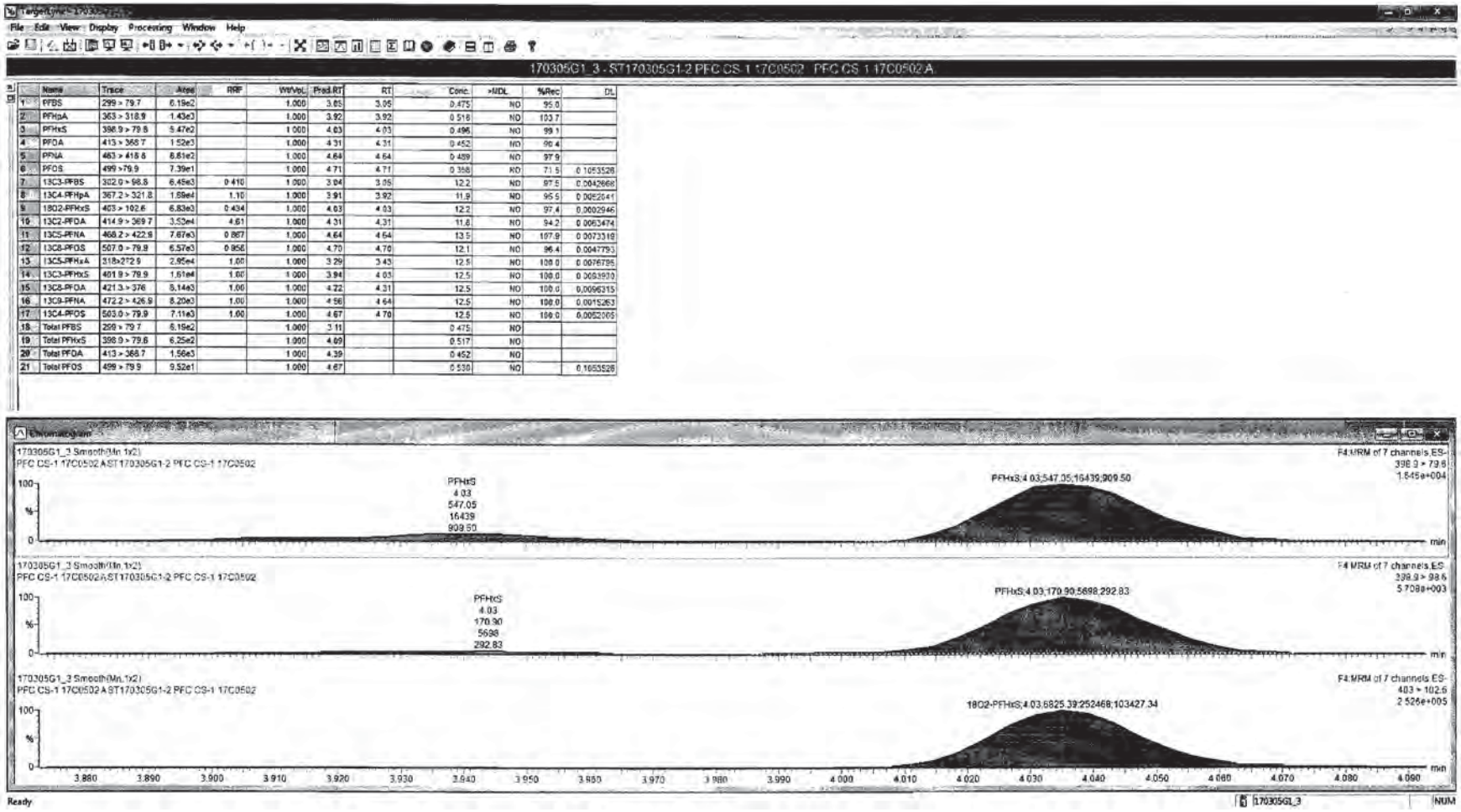


18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	6.19e2		1.000	3.05	3.05	0.475	NO	95.0	
2	PFHpA	363 > 318.9	1.43e3		1.000	3.92	3.92	0.518	NO	103.7	
3	PFHxS	398.9 > 79.8	5.47e2		1.000	4.03	4.03	0.496	NO	99.1	
4	PFOA	413 > 368.7	1.52e3		1.000	4.31	4.31	0.452	NO	90.4	
5	PFNA	463 > 418.8	8.81e2		1.000	4.64	4.64	0.459	NO	97.9	
6	PFOS	499 >79.9	7.39e1		1.000	4.71	4.71	0.358	ND	71.5	0.1053528
7	13C3-PFBS	302.9 > 98.8	6.45e3	0.410	1.000	3.04	3.05	12.2	ND	97.5	0.0042668
8	13C4-PFHpA	367.2 > 321.8	1.69e4	1.10	1.000	3.91	3.92	11.9	ND	95.5	0.0052041
9	1802-PFHxS	403 > 102.6	6.83e3	0.434	1.000	4.03	4.03	12.2	NO	97.4	0.0002946
10	13C2-PFDA	414.9 > 369.7	3.53e4	4.61	1.000	4.31	4.31	11.8	NO	94.2	0.0063474
11	13C5-PFNA	468.2 > 422.9	7.67e3	0.867	1.000	4.64	4.64	13.5	NO	107.9	0.0073319
12	13C8-PFOS	507.0 > 79.9	6.57e3	0.956	1.000	4.70	4.70	12.1	NO	96.4	0.0047793
13	13C5-PFHxA	318>272.9	2.85e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0076785
14	13C3-PFHxS	401.9 > 79.9	1.61e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0053930
15	13C8-PFOA	421.3 > 376	8.14e3	1.00	1.000	4.22	4.31	12.5	NO	100.0	0.0096315
16	13C9-PFNA	472.2 > 426.9	8.20e3	1.00	1.000	4.56	4.64	12.5	NO	100.0	0.0015263
17	13C4-PFOS	503.0 > 79.9	7.11e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0052005
18	Total PFBS	299 > 79.7	6.19e2		1.000	3.11		0.475	NO		
19	Total PFHxS	398.9 > 79.8	6.25e2		1.000	4.09		0.517	NO		
20	Total PFOA	413 > 368.7	1.56e3		1.000	4.39		0.452	NO		
21	Total PFOS	499 > 79.9	9.52e1		1.000	4.67		0.530	NO		0.1053528

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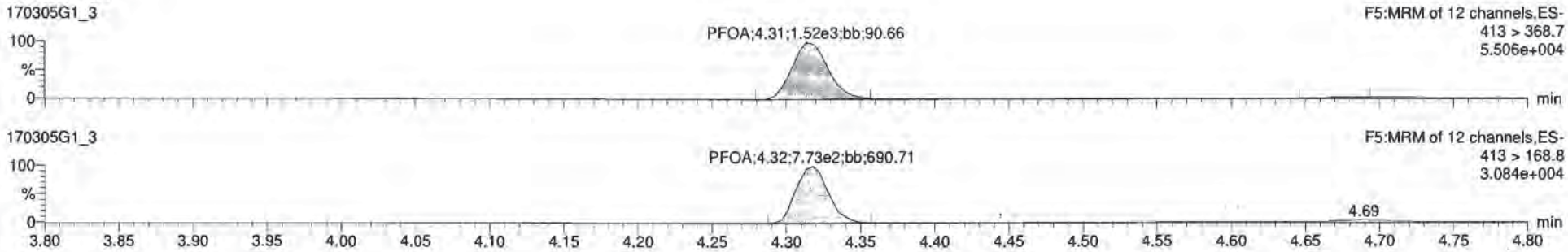
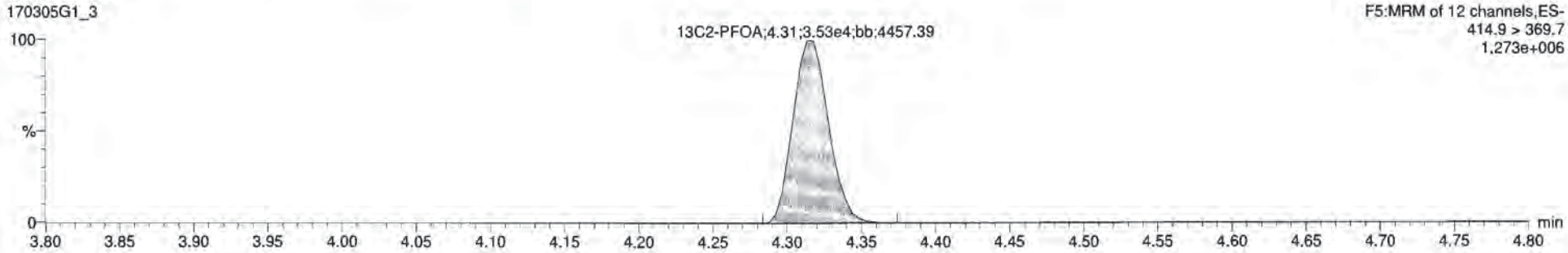
ID: ST170305G1-2 PFC CS-1 17C0502, Description: PFC CS-1 17C0502 A, Name: 170305G1_3, Date: 05-Mar-2017, Time: 12:59:15, Instrument: , Lab: , User:

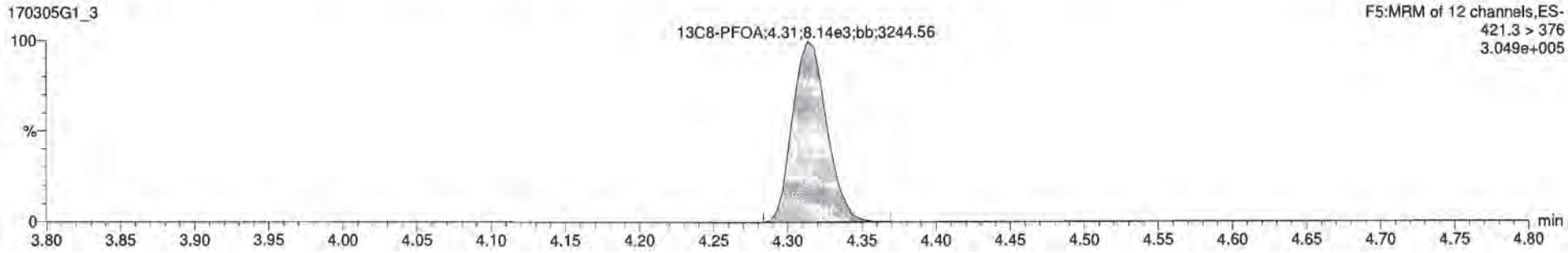
Total PFOA



13C2-PFOA



13C8-PFOA



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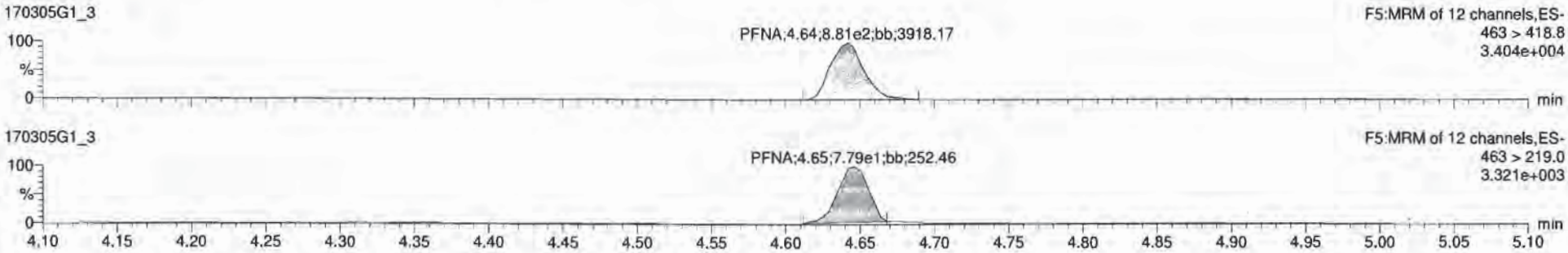
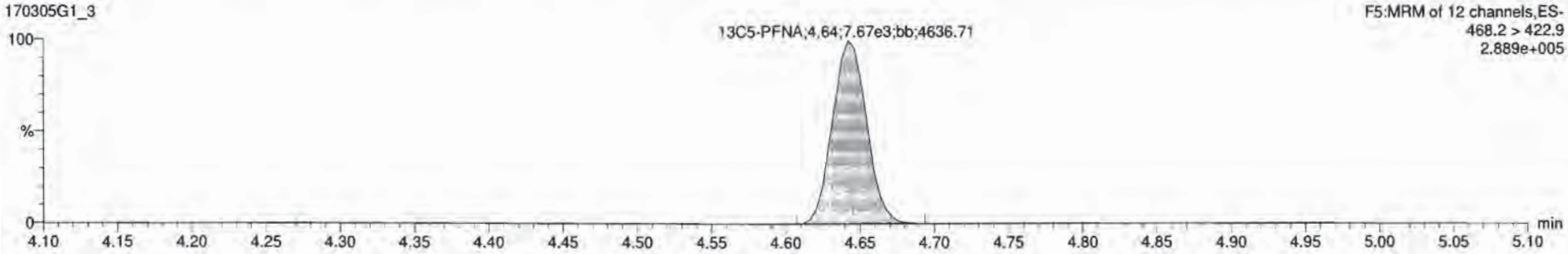
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-2 PFC CS-1 17C0502, Description: PFC CS-1 17C0502 A, Name: 170305G1_3, Date: 05-Mar-2017, Time: 12:59:15, Instrument: , Lab: , User:

PFNA



13C5-PFNA



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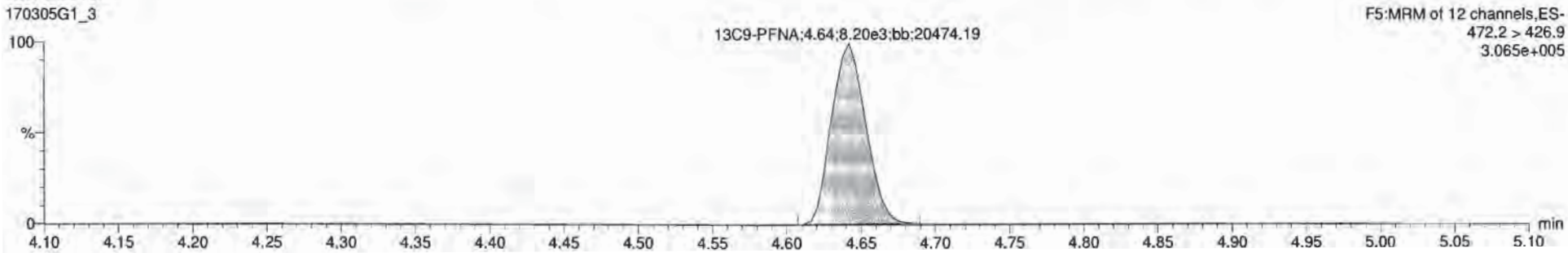

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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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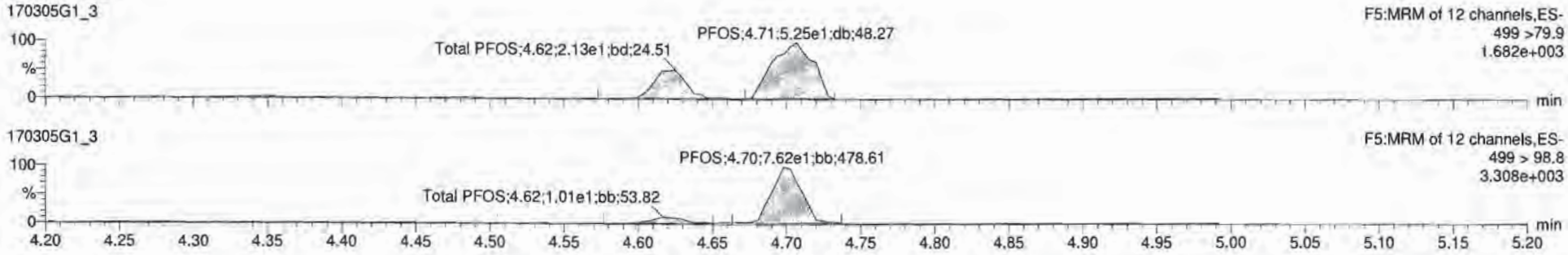
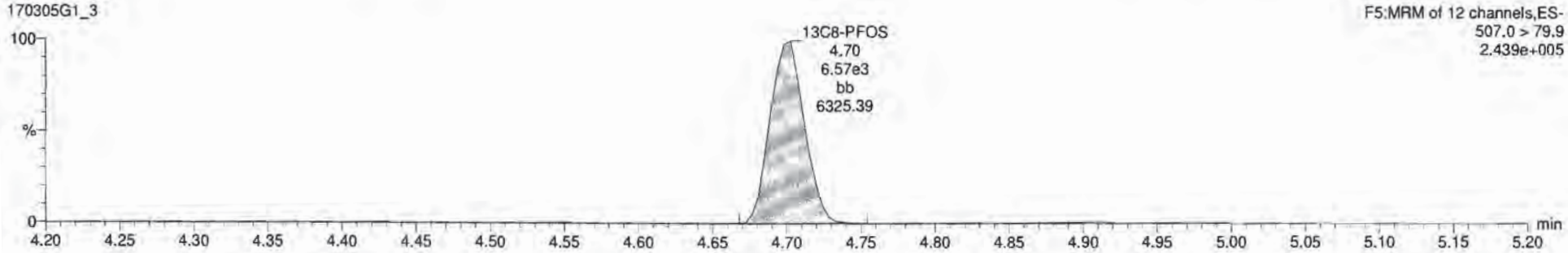
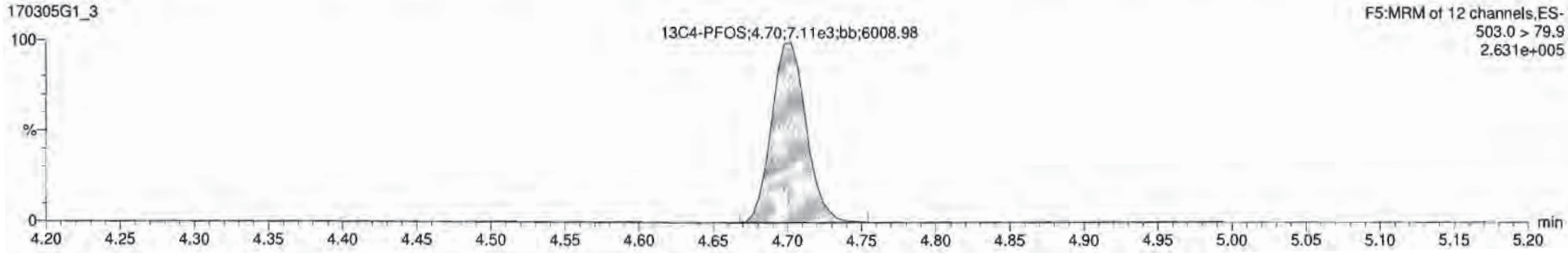
Total PFOS

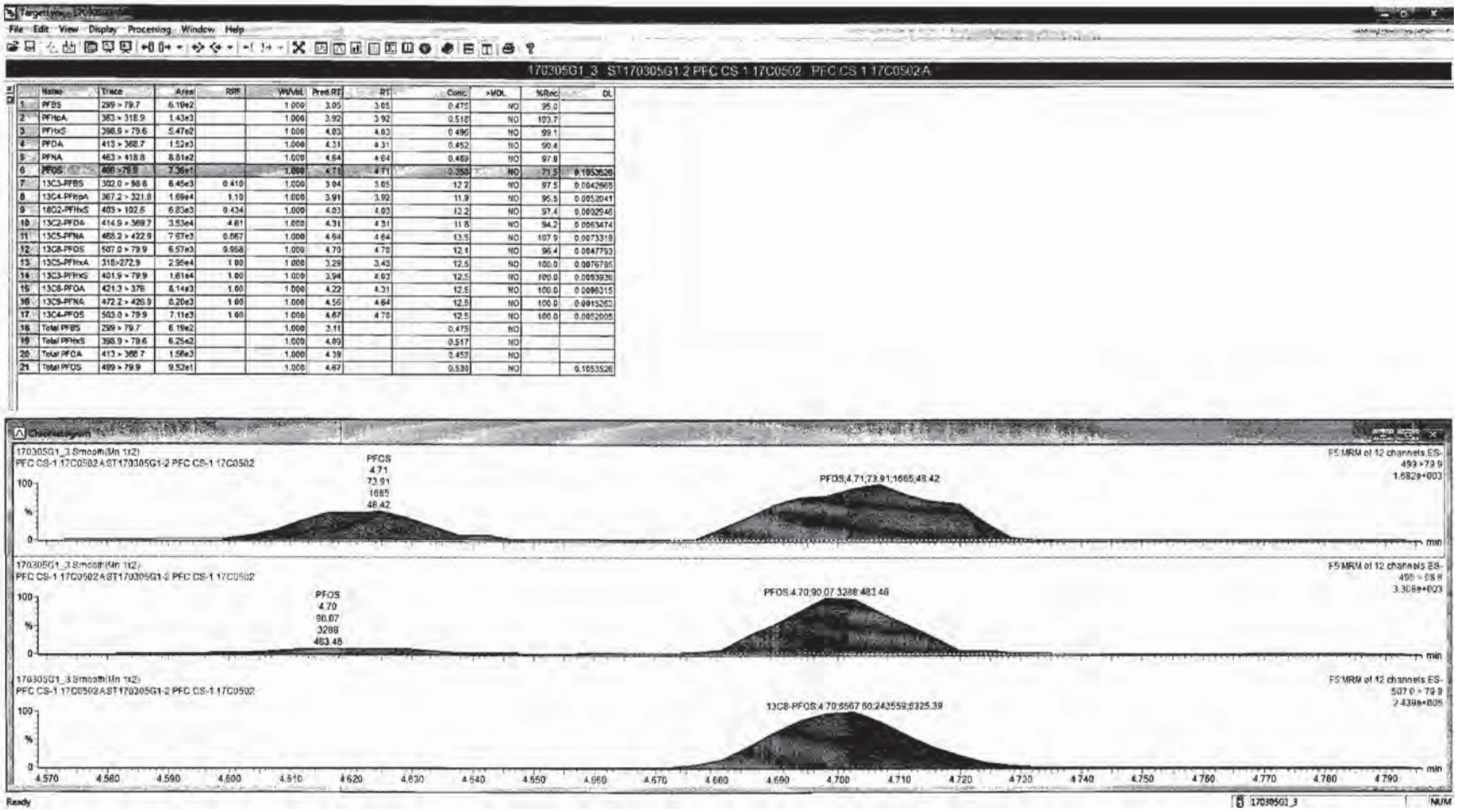


13C8-PFOS



13C4-PFOS





	Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc	>VOL	%Rec	DL
1	PFBS	299 > 79.7	6.19e2		1.000	3.05	3.05	0.475	NO	95.0	
2	PFHpA	363 > 318.9	1.43e3		1.000	3.92	3.92	0.518	NO	103.7	
3	PFHxS	398.9 > 79.6	5.47e2		1.000	4.03	4.03	0.496	NO	99.1	
4	PFOA	413 > 368.7	1.52e3		1.000	4.31	4.31	0.452	NO	90.4	
5	PFNA	463 > 418.8	8.81e2		1.000	4.64	4.64	0.489	NO	97.8	
6	PFOS	499 > 79.9	7.36e1		1.000	4.71	4.71	0.358	NO	71.5	0.1053526
7	13C3-PFBS	302.0 > 98.6	6.45e3	0.410	1.000	3.04	3.05	12.2	NO	97.5	0.0042985
8	13C4-PFHpA	367.2 > 321.8	1.69e4	1.10	1.000	3.91	3.92	11.9	NO	95.5	0.0052041
9	18O2-PFHxS	403 > 102.6	6.83e3	0.434	1.000	4.03	4.03	12.2	NO	97.4	0.0032946
10	13C2-PFOA	414.9 > 369.7	3.53e4	4.61	1.000	4.31	4.31	11.8	NO	94.2	0.0063474
11	13C5-PFNA	468.2 > 422.9	7.57e3	0.857	1.000	4.64	4.64	13.5	NO	107.9	0.0073318
12	13C8-PFOS	507.0 > 79.9	6.57e3	0.958	1.000	4.70	4.70	12.1	NO	96.4	0.0047793
13	13C5-PFHxA	318>272.9	2.95e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0076795
14	13C3-PFHxS	401.9 > 79.9	1.61e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0093939
15	13C8-PFOA	421.3 > 376	8.14e3	1.00	1.000	4.22	4.31	12.5	NO	100.0	0.0090315
16	13C9-PFNA	472.2 > 426.9	8.20e3	1.00	1.000	4.56	4.64	12.5	NO	100.0	0.0091263
17	13C4-PFOS	503.0 > 79.9	7.11e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0052005
18	Total PFBS	299 > 79.7	6.19e2		1.000	3.11		0.475	NO		
19	Total PFHxS	398.9 > 79.6	6.25e2		1.000	4.09		0.517	NO		
20	Total PFOA	413 > 368.7	1.56e3		1.000	4.39		0.453	NO		
21	Total PFOS	499 > 79.9	9.52e1		1.000	4.67		0.539	NO		0.1053526

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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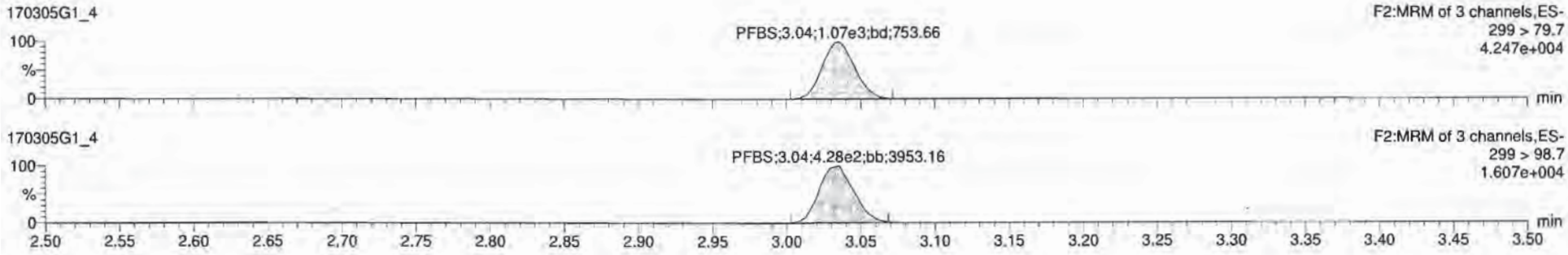
ID: ST170305G1-3 PFC CS0 17C0503, Description: PFC CS0 17C0503 A, Name: 170305G1_4, Date: 05-Mar-2017, Time: 13:11:49, Instrument: , Lab: , User:

PFBS



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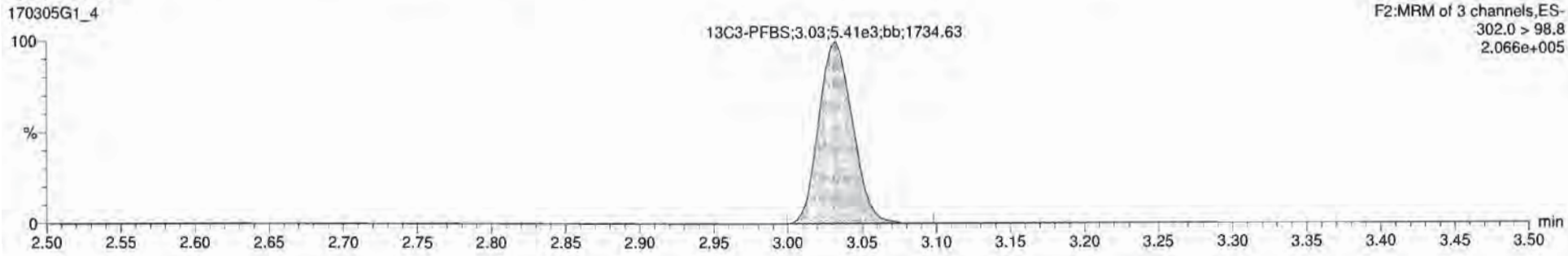

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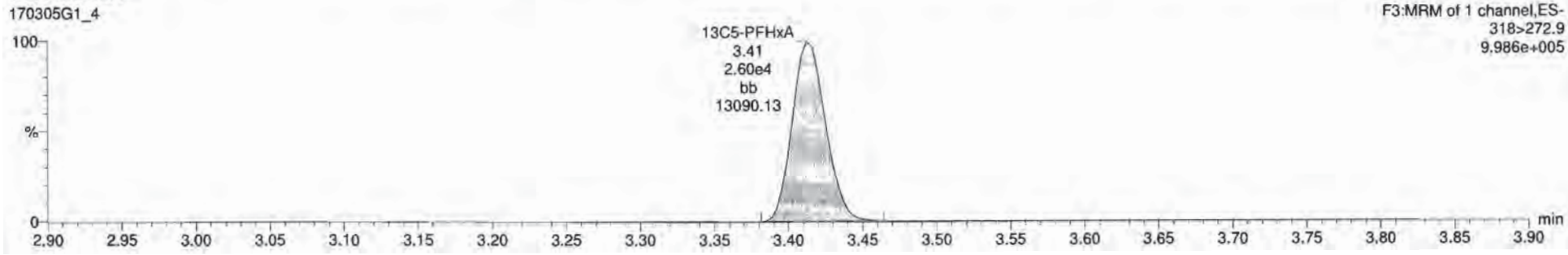

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-3 PFC CS0 17C0503, Description: PFC CS0 17C0503 A, Name: 170305G1_4, Date: 05-Mar-2017, Time: 13:11:49, Instrument: , Lab: , User:

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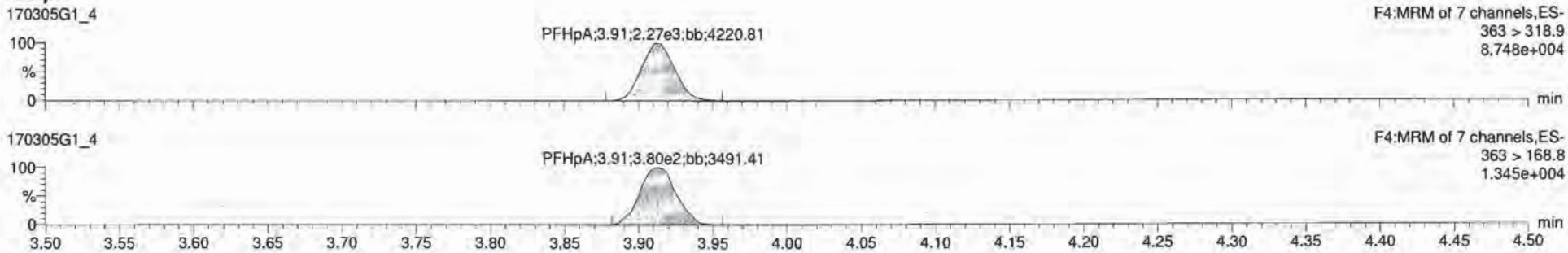

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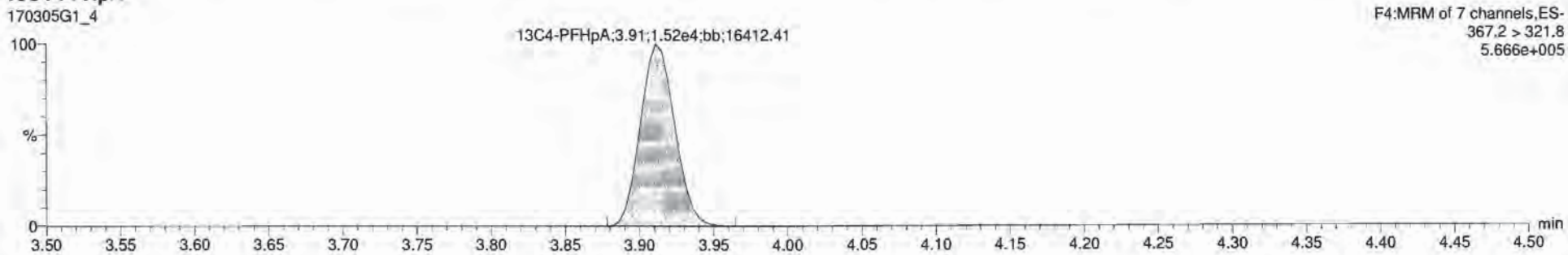

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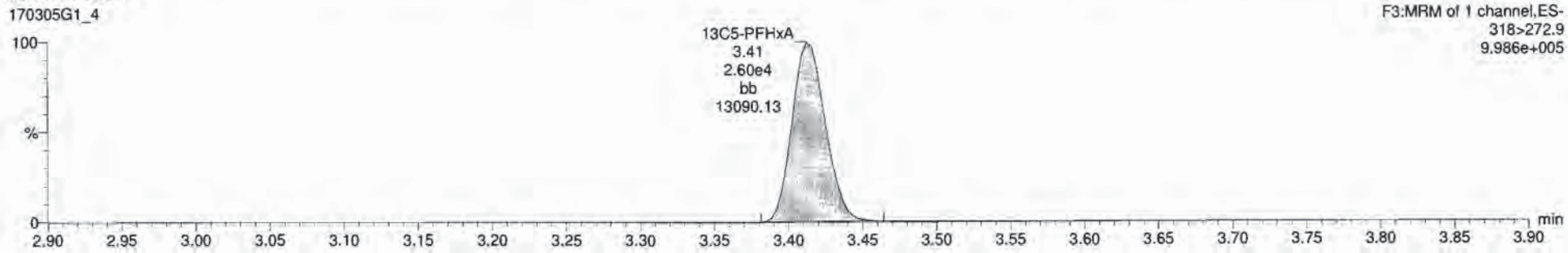

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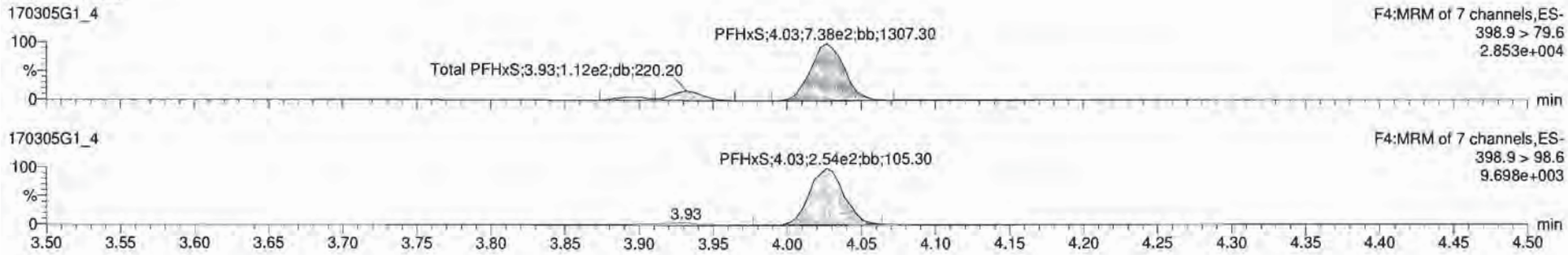
Total PFHxS



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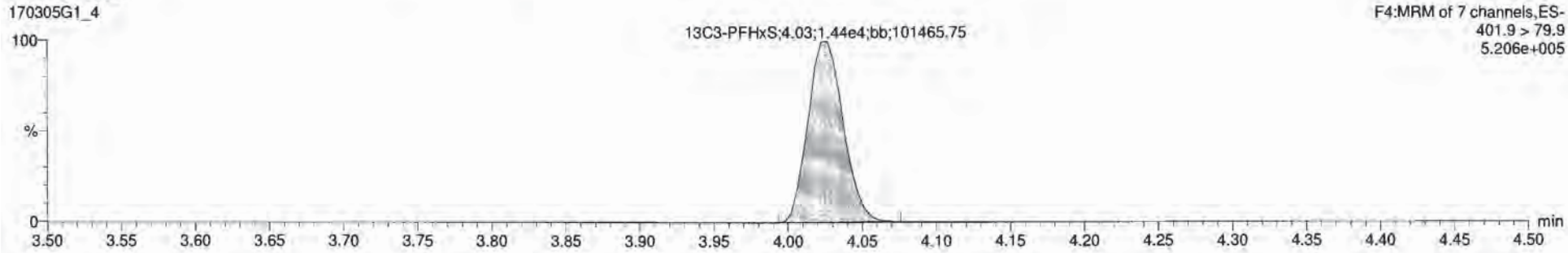
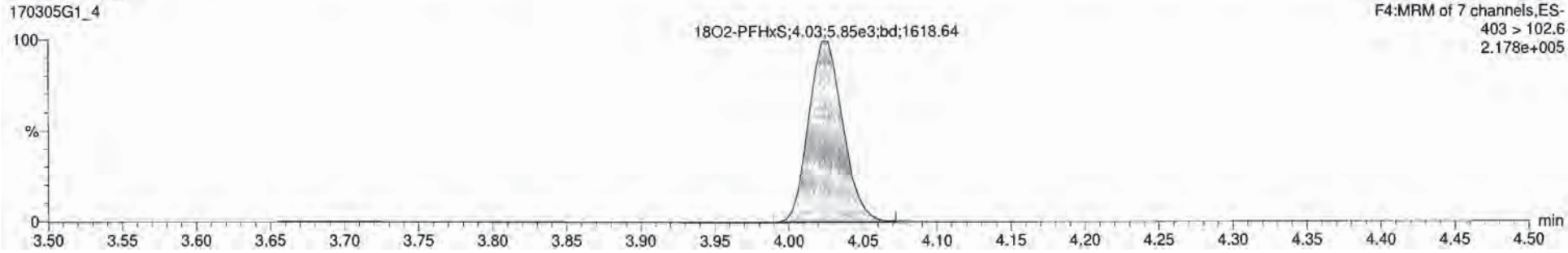
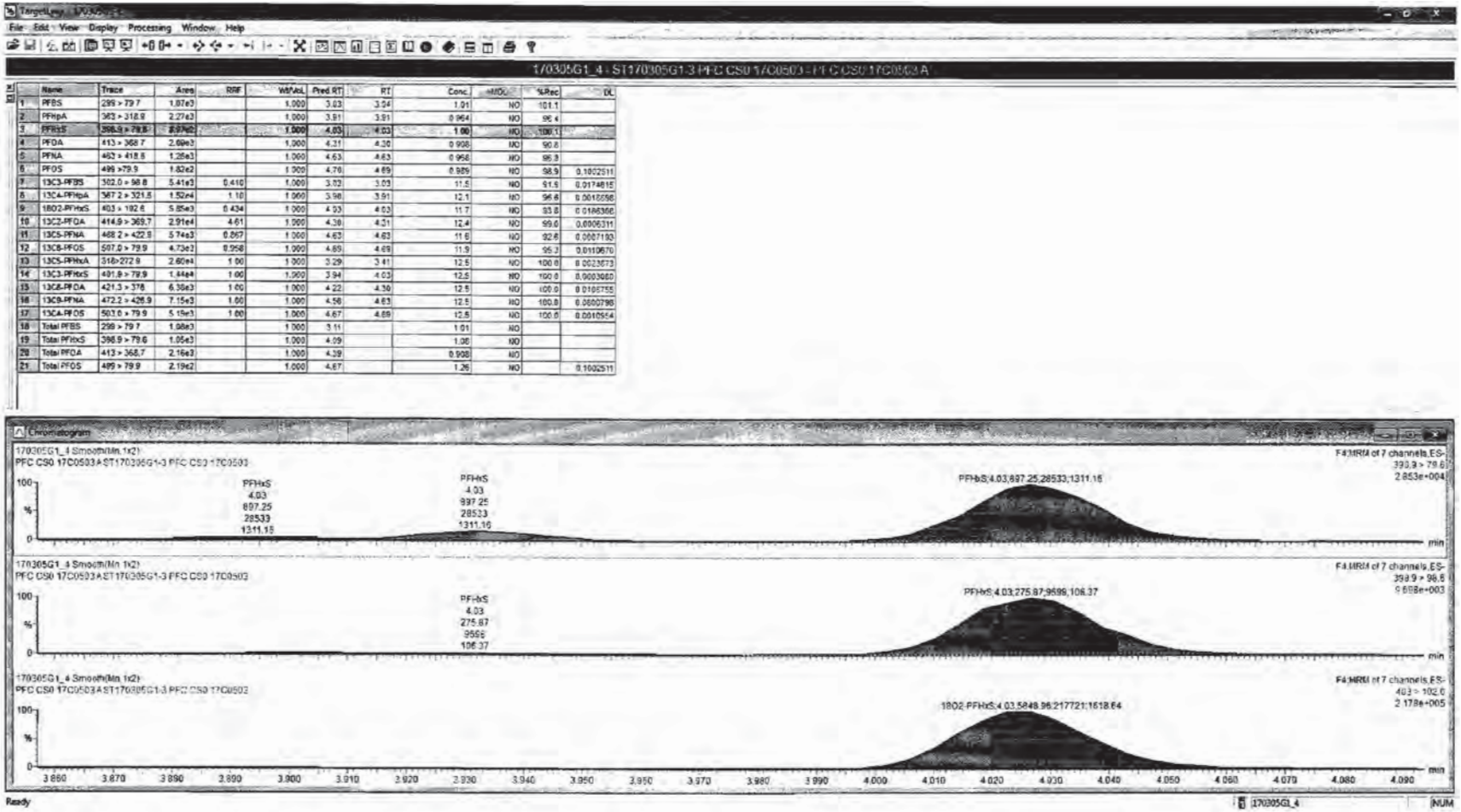


18O2-PFHxS

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170305G1_4 - ST170305G1-3 PFC CS0 17C0503 - PFC CS0 17C0503 A
Chromatogram
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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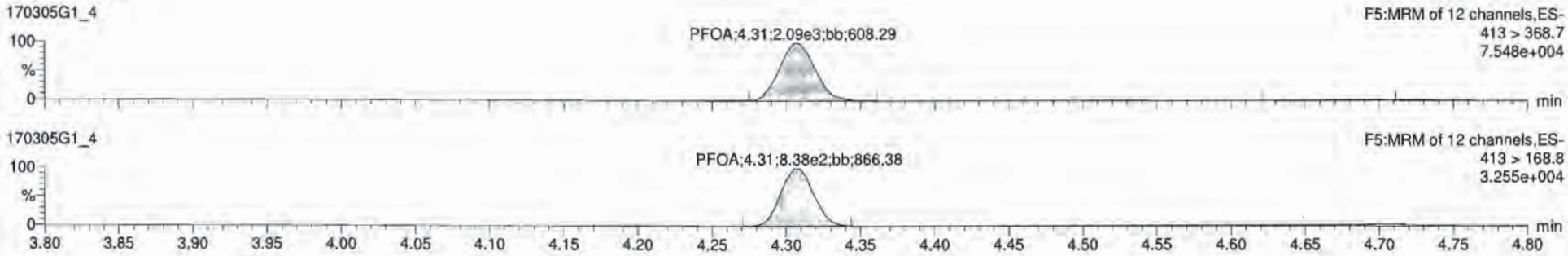
Total PFOA



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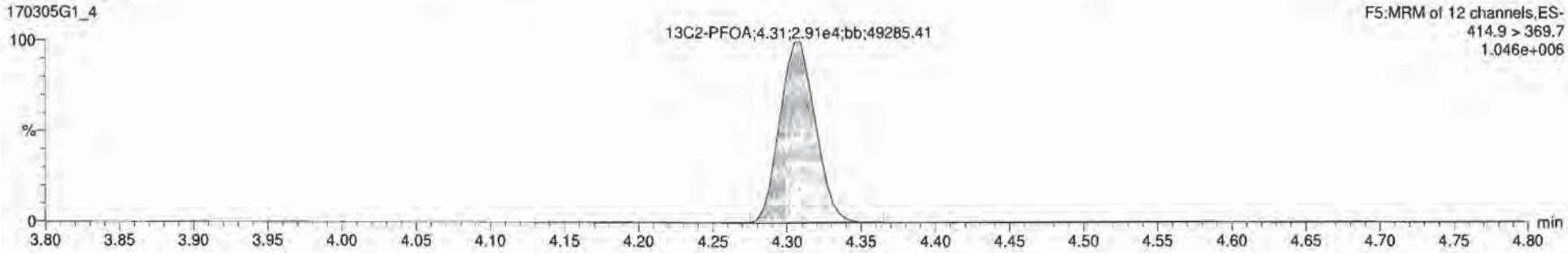

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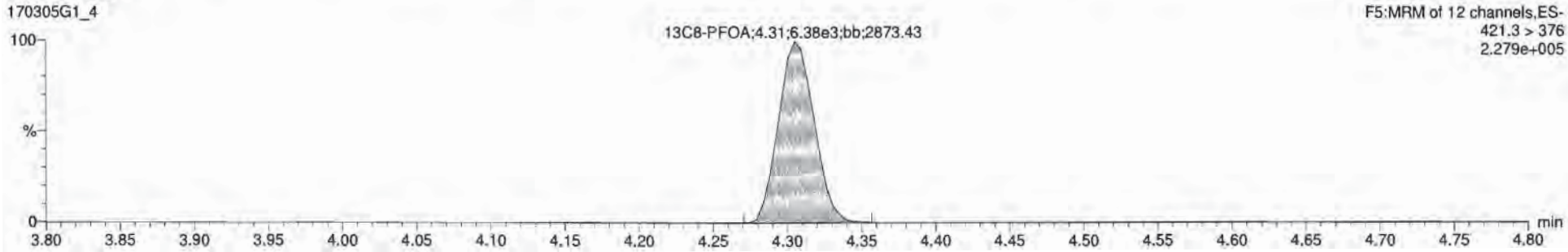

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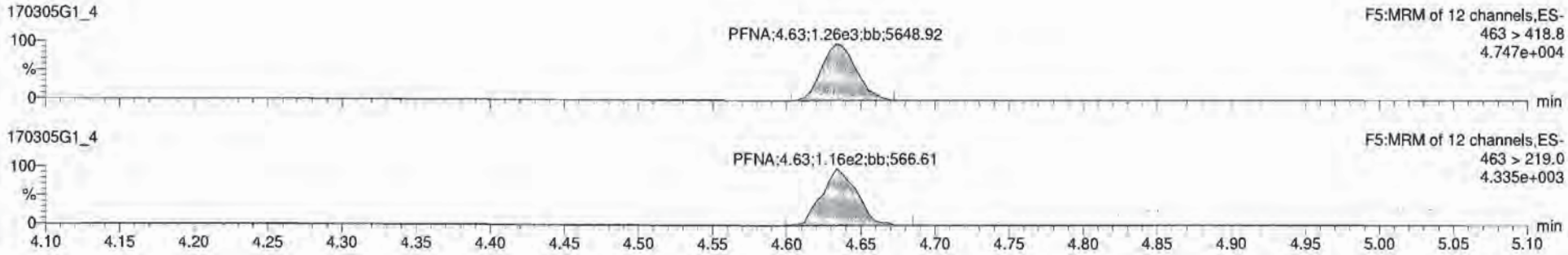

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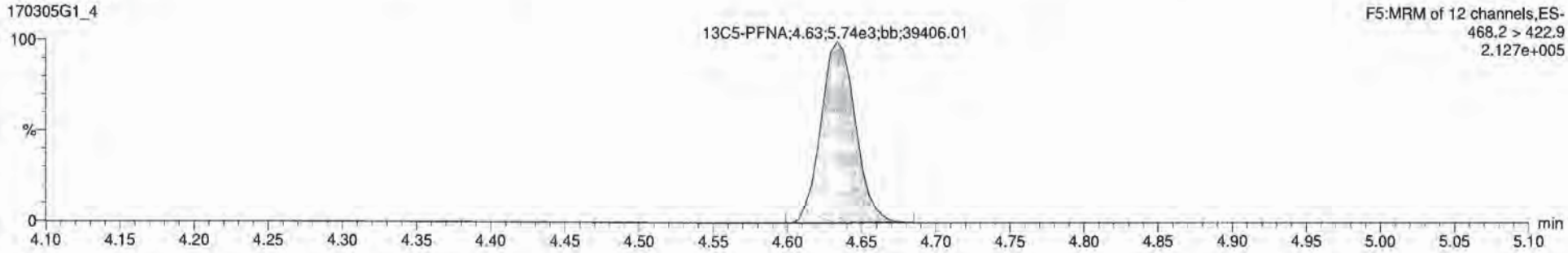

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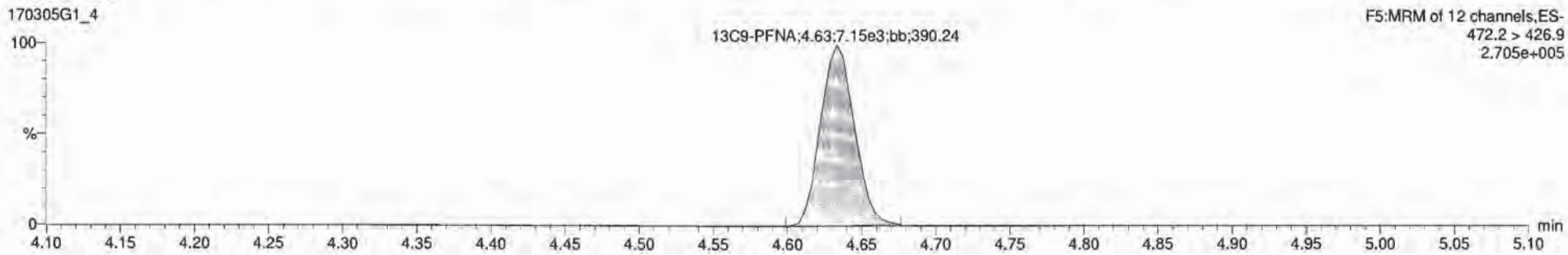

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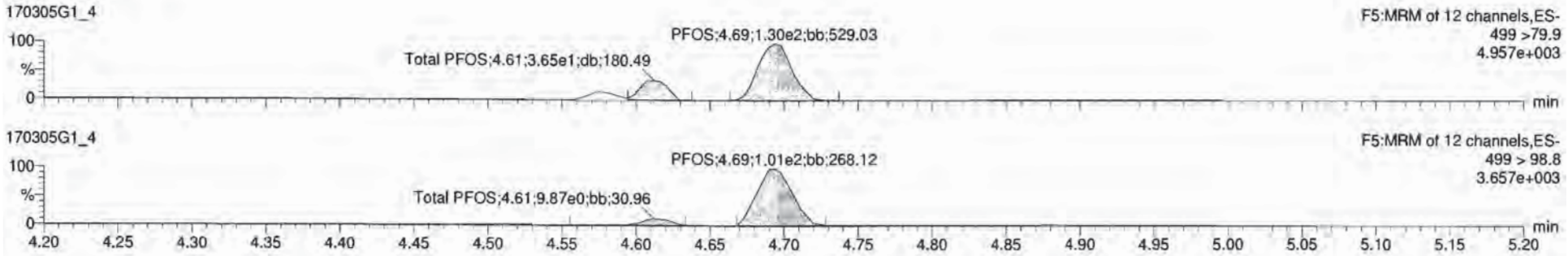

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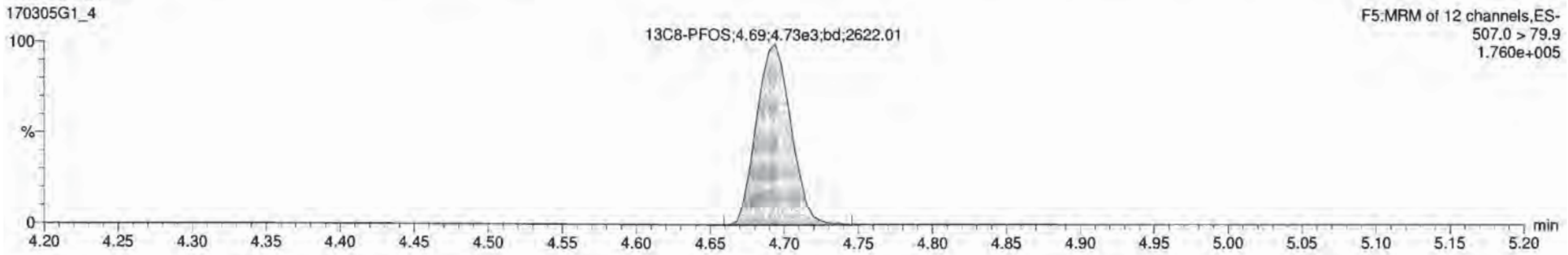
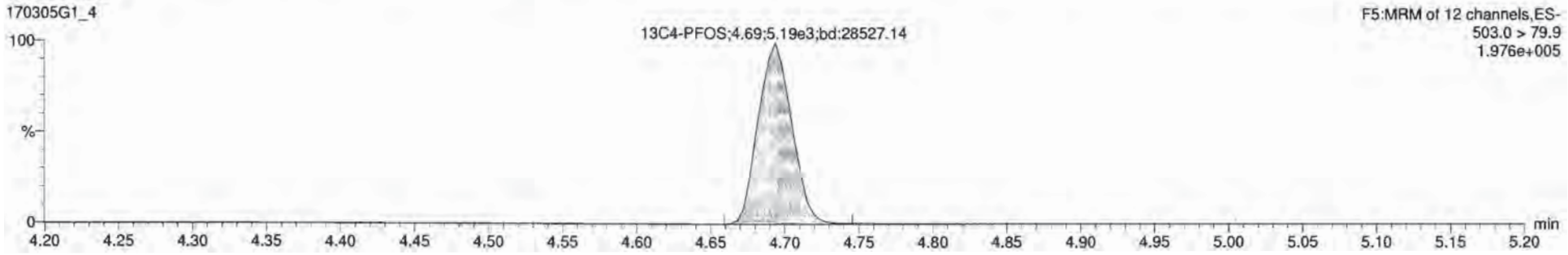
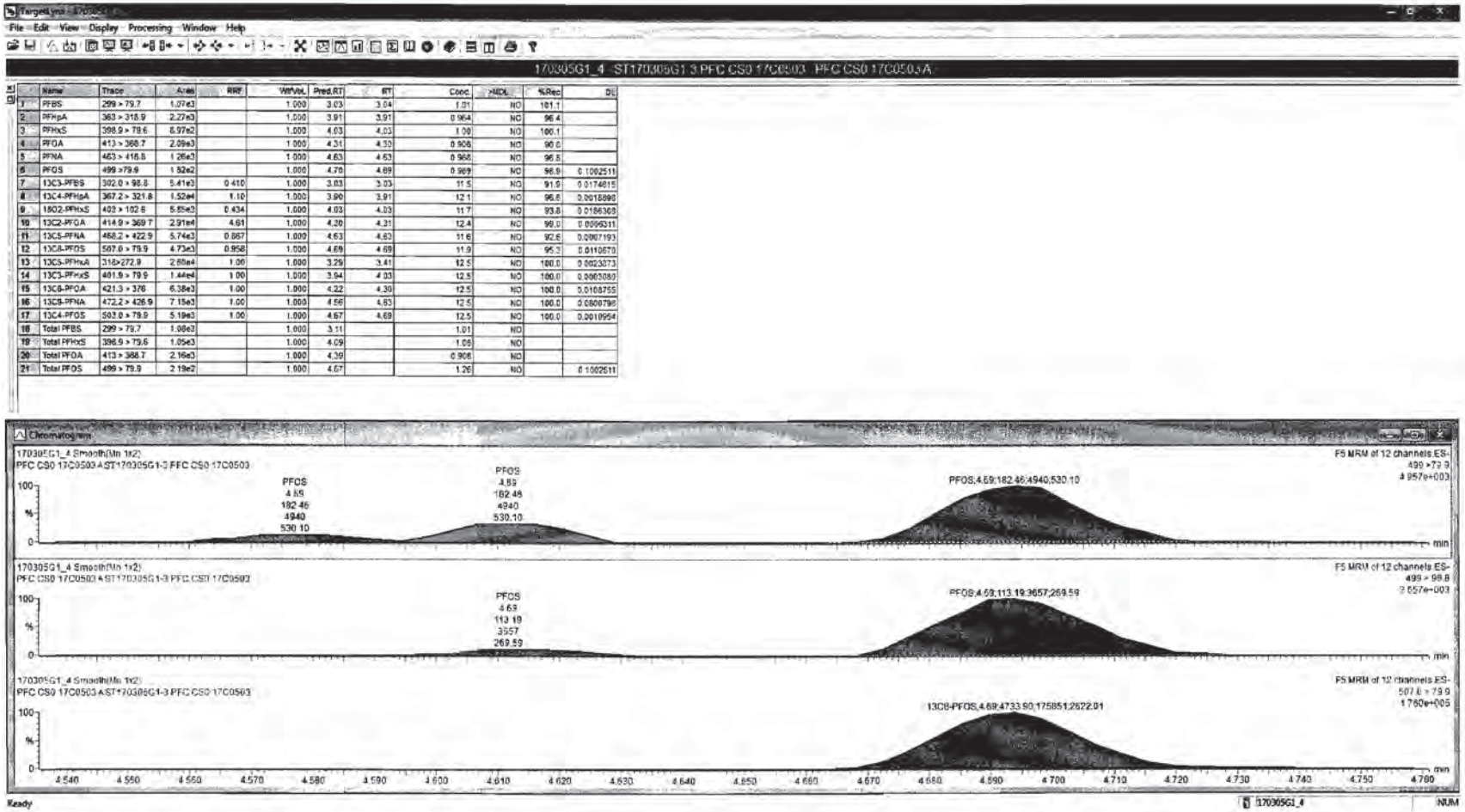


13C4-PFOS





	Name	Trace	Area	RRF	WtVal	Pred.RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.07e3		1.000	3.03	3.04	1.01	NO	101.1	
2	PFHpA	363 > 318.9	2.27e3		1.000	3.91	3.91	0.964	NO	96.4	
3	PFHxS	398.9 > 79.6	8.97e2		1.000	4.03	4.03	1.00	NO	100.1	
4	PFOA	413 > 368.7	2.09e3		1.000	4.31	4.30	0.906	NO	90.6	
5	PFNA	463 > 418.8	1.26e3		1.000	4.63	4.63	0.968	NO	96.8	
6	PFOS	499 >79.9	1.82e2		1.000	4.70	4.69	0.969	NO	96.9	0.1002511
7	13C3-PFBS	302.0 > 98.8	5.41e3	0.410	1.000	3.03	3.03	11.5	NO	91.9	0.0174615
8	13C4-PFHpA	367.2 > 321.8	1.52e4	1.10	1.000	3.90	3.91	12.1	NO	96.8	0.0018898
9	1802-PFHxS	403 > 102.8	5.85e3	0.434	1.000	4.03	4.03	11.7	NO	93.8	0.0186369
10	13C2-PFOA	414.9 > 369.7	2.91e4	4.61	1.000	4.30	4.31	12.4	NO	99.0	0.0096311
11	13C5-PFNA	468.2 > 422.9	5.74e3	0.867	1.000	4.63	4.63	11.6	NO	92.6	0.0907193
12	13C8-PFOS	507.0 > 79.9	4.73e3	0.958	1.000	4.69	4.69	11.9	NO	95.3	0.0410670
13	13C5-PFHxA	318>272.9	2.68e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0023373
14	13C3-PFHxS	401.9 > 79.9	1.44e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0063080
15	13C8-PFOA	421.3 > 376	6.38e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0108755
16	13C9-PFNA	472.2 > 426.9	7.15e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0809798
17	13C4-PFOS	503.0 > 79.9	5.19e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0010954
18	Total PFBS	299 > 79.7	1.08e3		1.000	3.11		1.01	NO		
19	Total PFHxS	398.9 > 79.6	1.05e3		1.000	4.09		1.00	NO		
20	Total PFOA	413 > 368.7	2.16e3		1.000	4.39		0.906	NO		
21	Total PFOS	499 > 79.9	2.19e2		1.000	4.67		1.26	NO		0.1002511

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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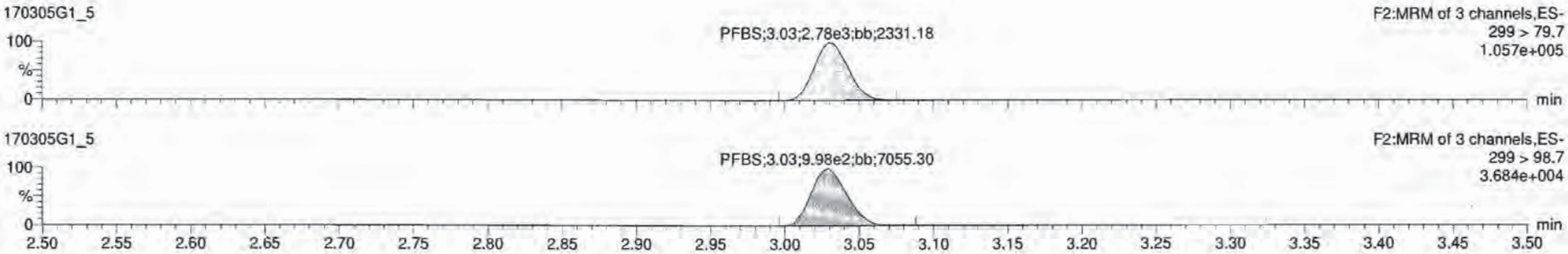
ID: ST170305G1-4 PFC CS1 17C0504, Description: PFC CS1 17C0504 A, Name: 170305G1_5, Date: 05-Mar-2017, Time: 13:24:21, Instrument: , Lab: , User:

PFBS



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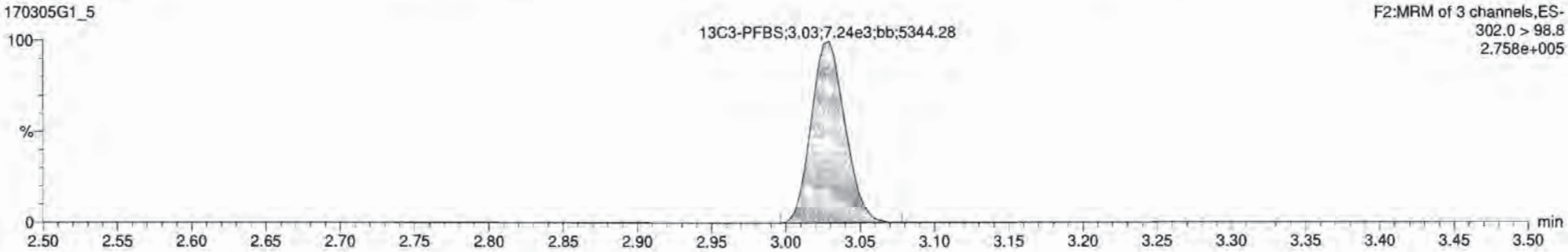

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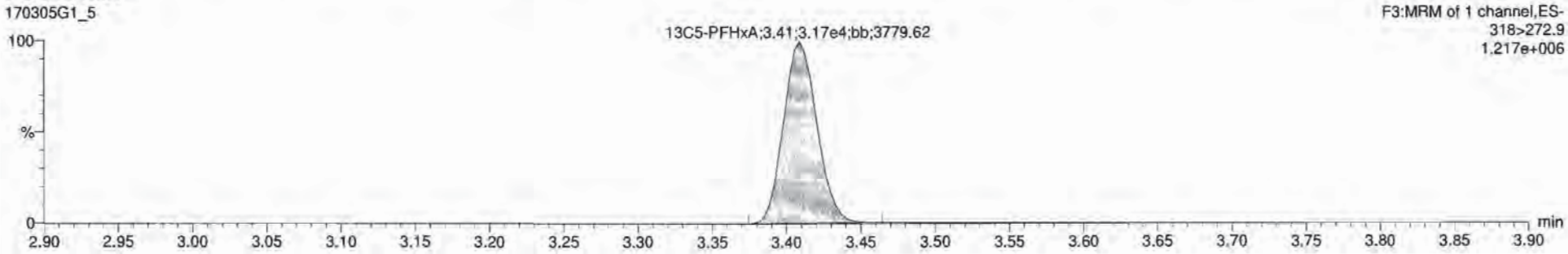

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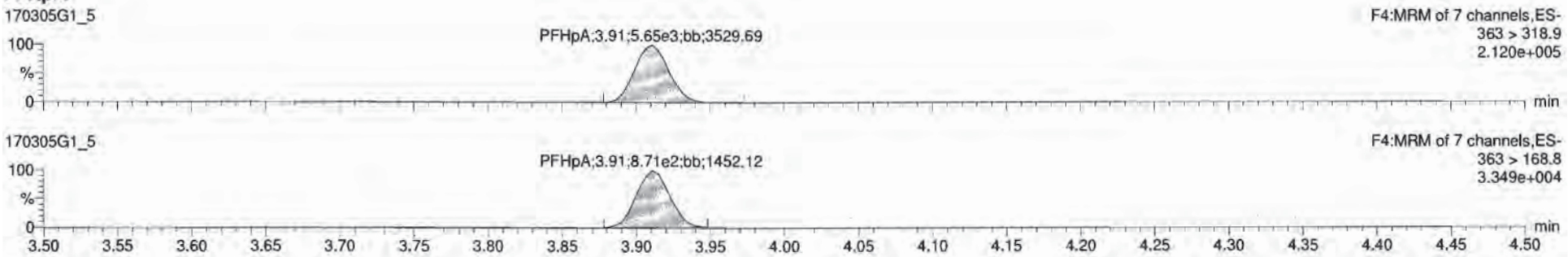

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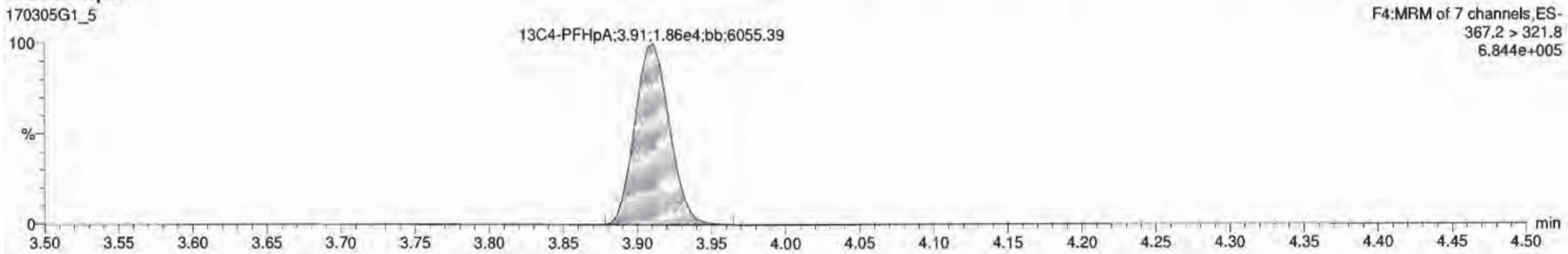
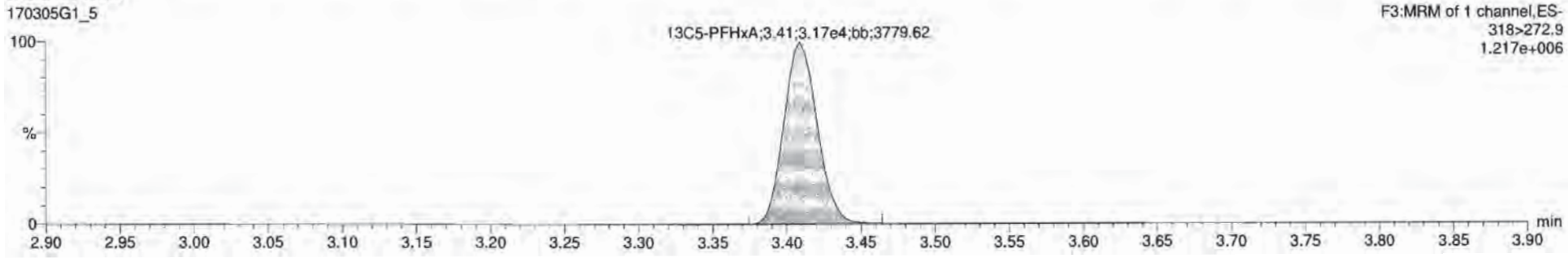


13C5-PFHxA



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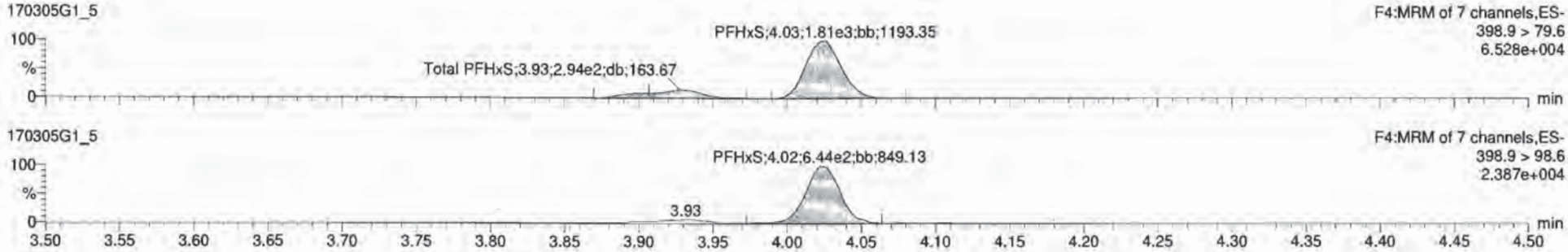
Total PFHxS



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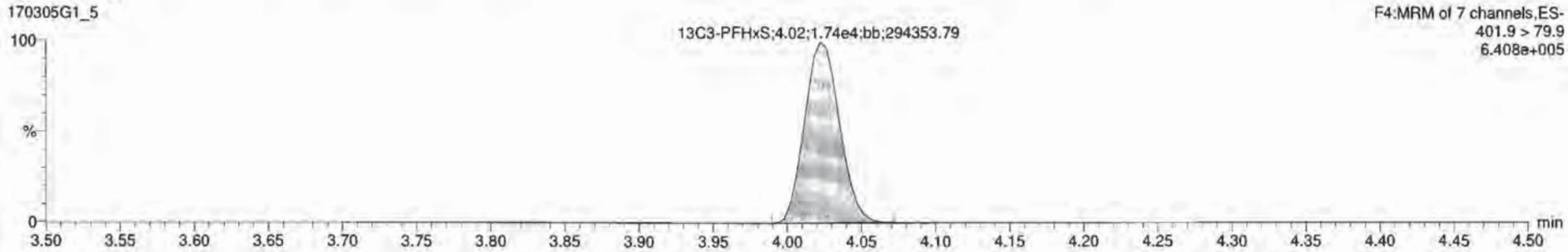

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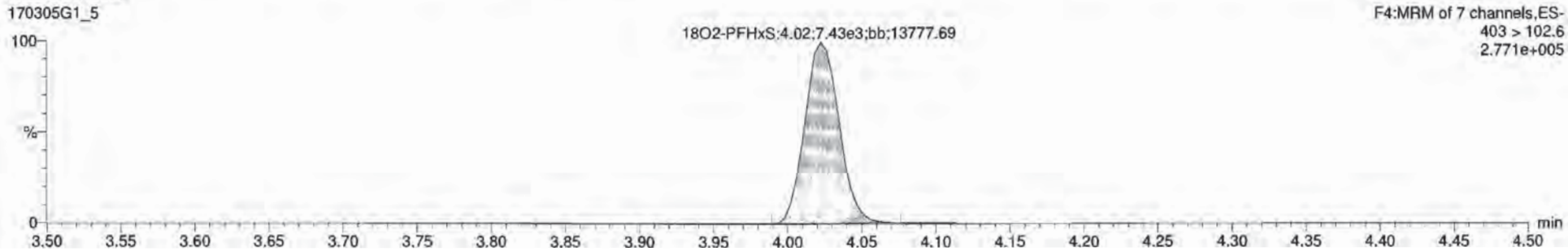

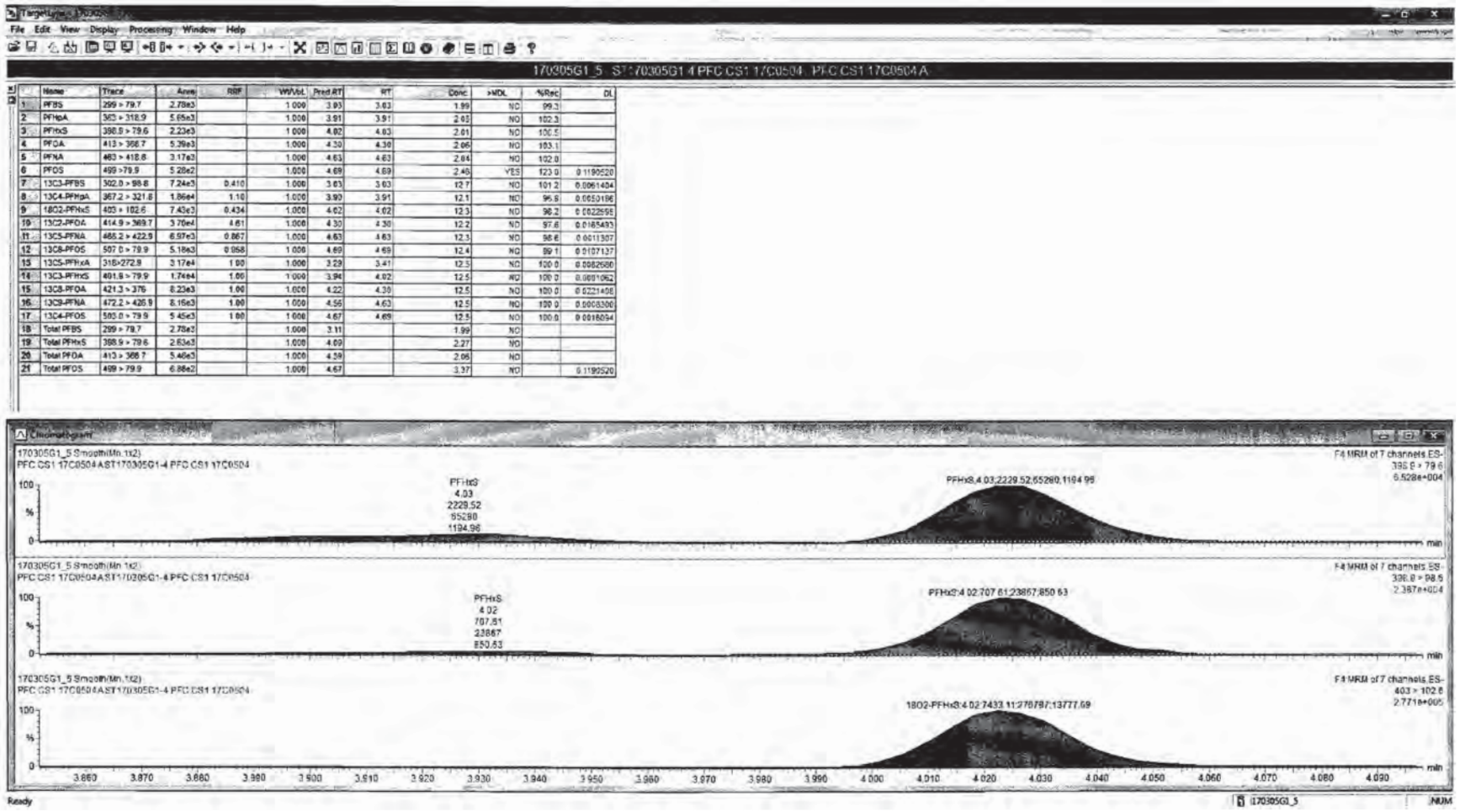

	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	2.78e3		1.000	3.93	3.63	1.99	NO	99.3	
2	PFHpA	363 > 318.9	5.65e3		1.000	3.91	3.91	2.03	NO	102.3	
3	PFHxS	398.9 > 79.6	2.23e3		1.000	4.02	4.03	2.01	NO	100.5	
4	PFOA	413 > 368.7	5.39e3		1.000	4.30	4.30	2.06	NO	103.1	
5	PFNA	463 > 418.8	3.17e3		1.000	4.63	4.63	2.04	NO	102.0	
6	PFOS	499 >79.9	5.28e2		1.000	4.69	4.69	2.46	YES	123.0	0.1190520
7	13C3-PFBS	302.0 > 98.8	7.24e3	0.410	1.000	3.63	3.63	12.7	NO	101.2	0.0061404
8	13C4-PFHpA	367.2 > 321.8	1.86e4	1.10	1.000	3.90	3.91	12.1	NO	96.8	0.0050196
9	18O2-PFHxS	403 > 102.8	7.43e3	0.434	1.000	4.02	4.02	12.3	NO	98.2	0.0022595
10	13C2-PFOA	414.9 > 369.7	3.70e4	4.61	1.000	4.30	4.30	12.2	NO	97.6	0.0185493
11	13C5-PFNA	468.2 > 422.9	6.97e3	0.867	1.000	4.63	4.63	12.3	NO	98.6	0.0011307
12	13C8-PFOS	507.0 > 79.9	5.18e3	0.958	1.000	4.69	4.69	12.4	NO	99.1	0.0107137
13	13C5-PFHxA	318>272.9	3.17e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0082680
14	13C3-PFHxS	401.9 > 79.9	1.74e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0031062
15	13C8-PFOA	421.3 > 376	8.23e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0221408
16	13C9-PFNA	472.2 > 426.9	8.16e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0008300
17	13C4-PFOS	503.0 > 79.9	5.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0018094
18	Total PFBS	299 > 79.7	2.78e2		1.000	3.11		1.99	NO		
19	Total PFHxS	398.9 > 79.6	2.63e3		1.000	4.09		2.27	NO		
20	Total PFOA	413 > 368.7	5.46e3		1.000	4.39		2.06	NO		
21	Total PFOS	499 > 79.9	6.86e2		1.000	4.67		3.37	NO		0.1190520

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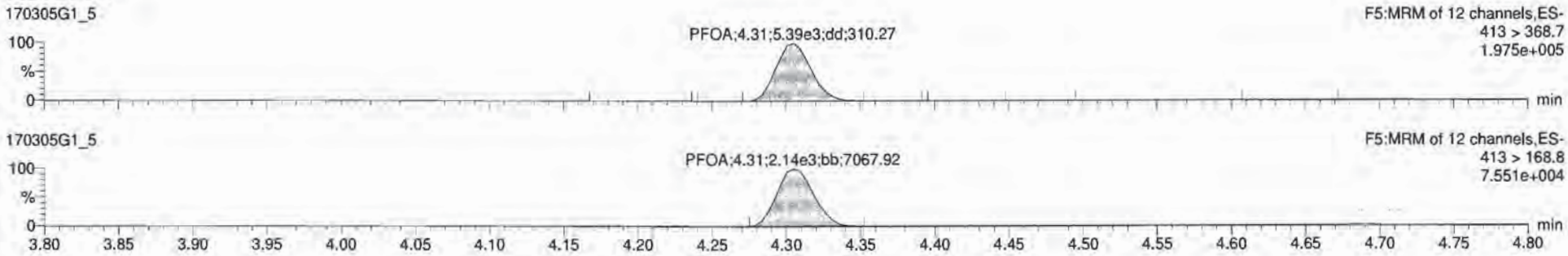

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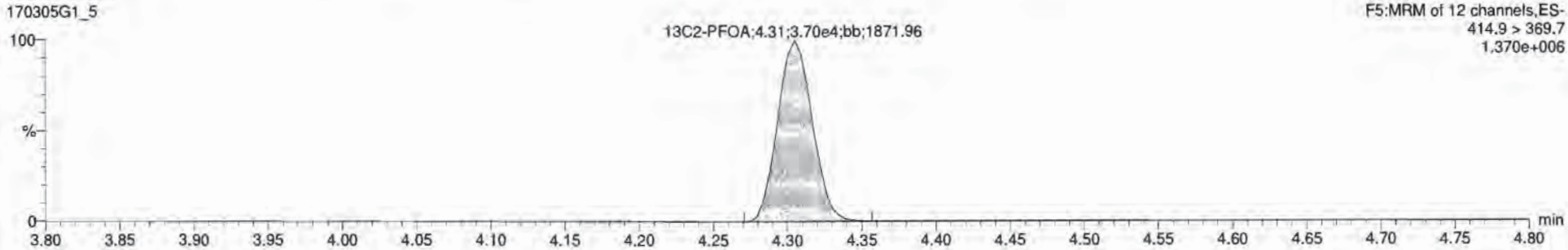

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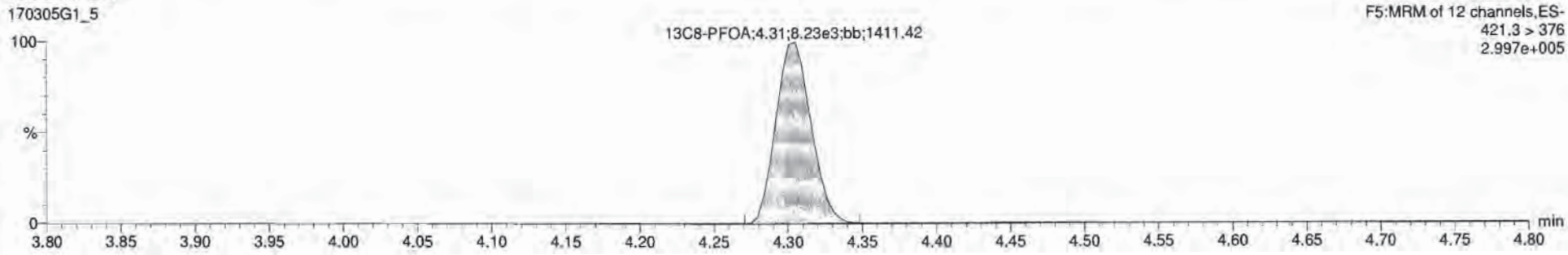

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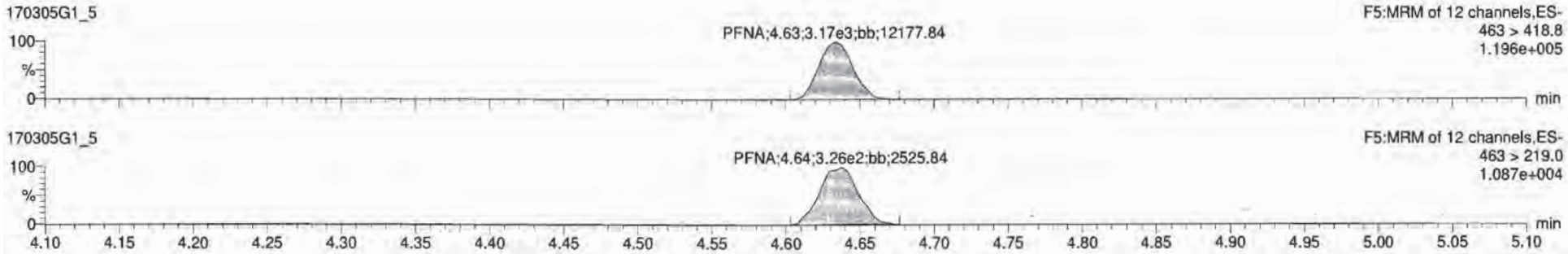

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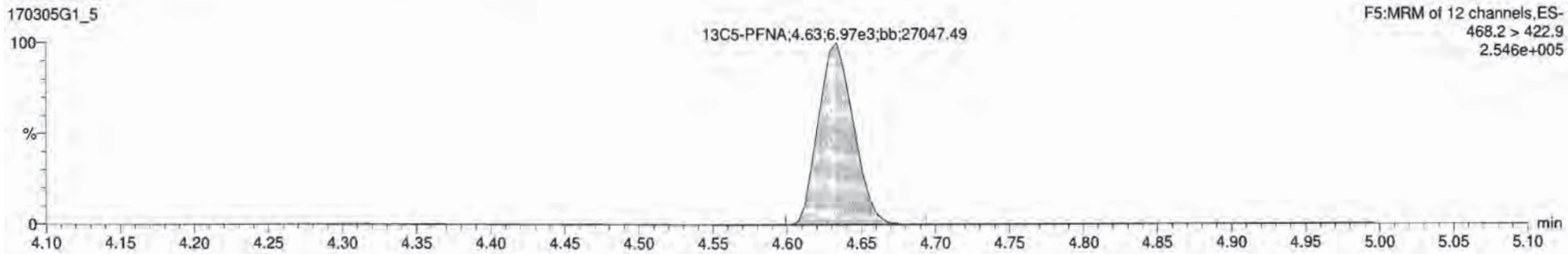

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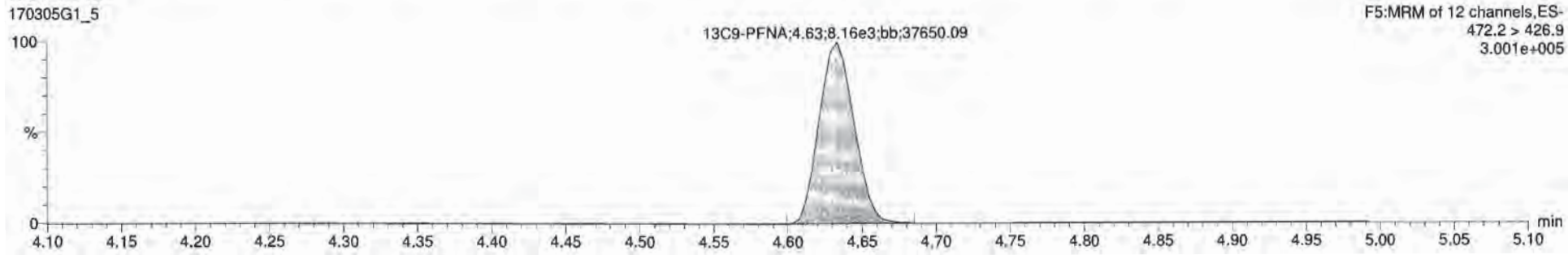

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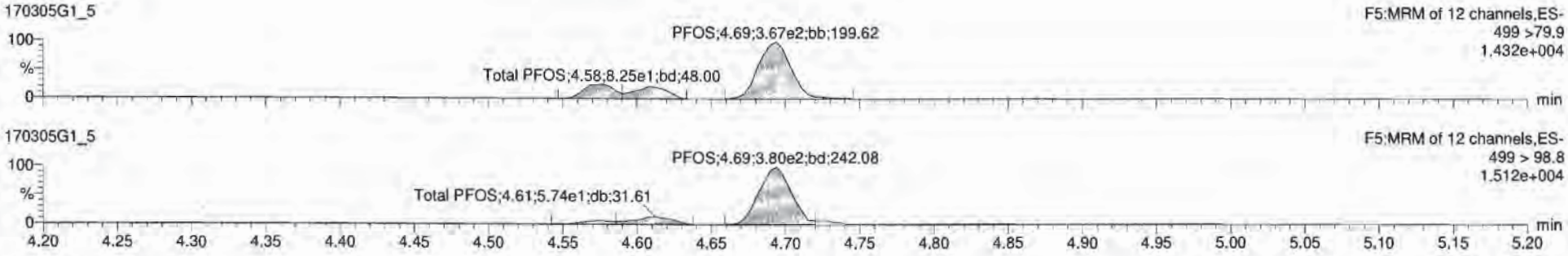
Total PFOS



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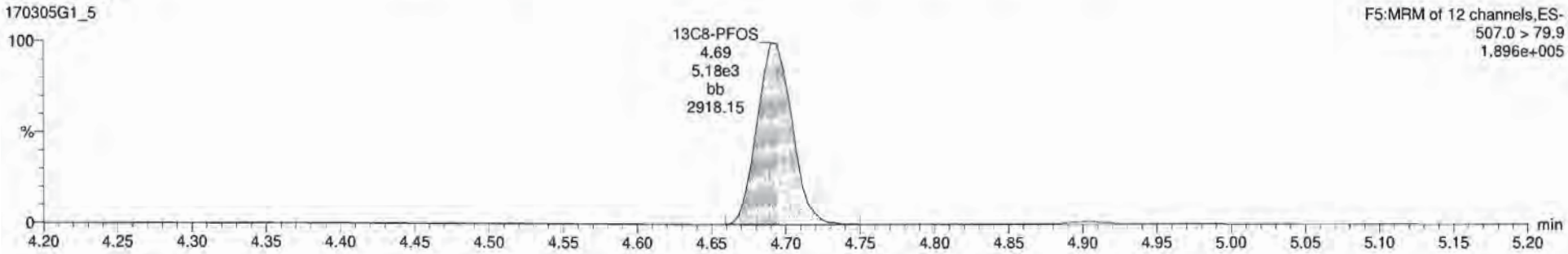

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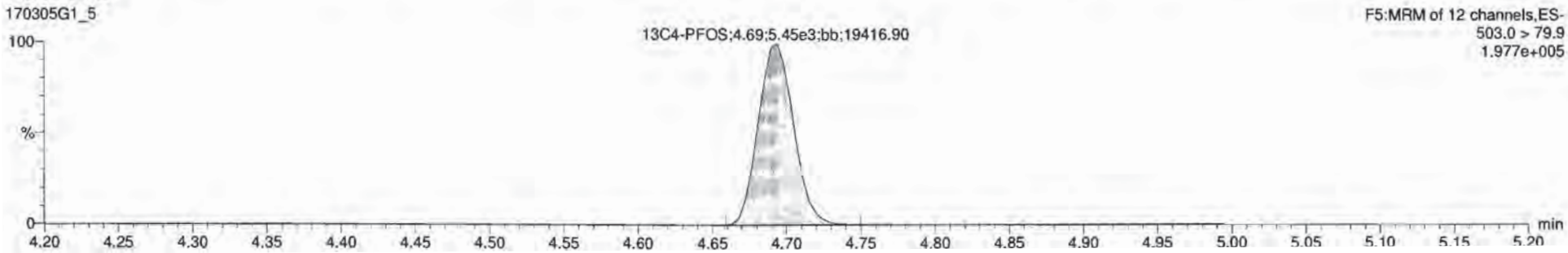

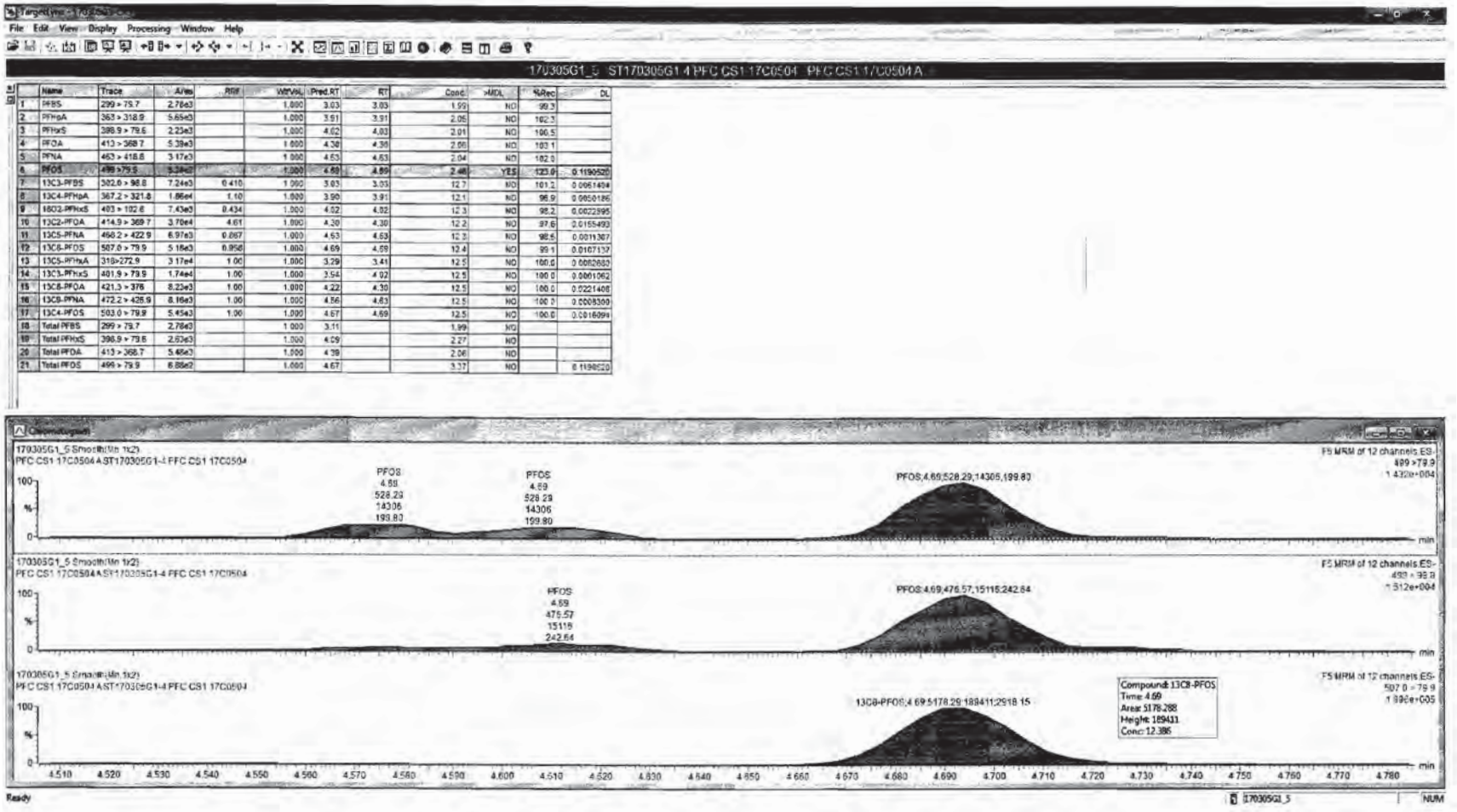

	Name	Trace	Area	RRF	WtVal	Pred.RT	RT	Conc	>MDL	%Rec	DL
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2	PFHpA	363 > 318.9	5.65e3		1.000	3.91	3.91	2.05	NO	102.3	
3	PFHxS	398.9 > 79.6	2.23e3		1.000	4.02	4.03	2.01	NO	100.5	
4	PFOA	413 > 368.7	5.38e3		1.000	4.36	4.36	2.06	NO	103.1	
5	PFNA	463 > 418.8	3.17e3		1.000	4.63	4.63	2.04	NO	102.0	
6	PFOS	499 > 79.9	9.34e3		1.000	4.69	4.69	2.48	YES	123.9	0.1190520
7	13C3-PFBS	302.0 > 98.8	7.24e3	0.410	1.000	3.03	3.03	12.7	NO	101.2	0.0061404
8	13C4-PFHpA	367.2 > 321.8	1.86e4	1.10	1.000	3.90	3.91	12.1	NO	96.9	0.0650186
9	18O2-PFHxS	403 > 102.8	7.43e3	0.434	1.000	4.02	4.02	12.3	NO	98.2	0.0022895
10	13C2-PFOA	414.9 > 369.7	3.70e4	4.61	1.000	4.30	4.30	12.2	NO	97.6	0.0155493
11	13C5-PFNA	468.2 > 422.9	6.97e3	0.867	1.000	4.63	4.63	12.3	NO	98.5	0.0011367
12	13C8-PFOS	507.0 > 79.9	5.18e3	0.856	1.000	4.69	4.69	12.4	NO	99.1	0.0107137
13	13C5-PFHxA	318>272.9	3.17e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0002683
14	13C3-PFHxS	401.9 > 79.9	1.74e4	1.00	1.000	3.54	4.02	12.5	NO	100.0	0.0001062
15	13C8-PFOA	421.3 > 376	8.23e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0221408
16	13C8-PFNA	472.2 > 426.9	8.16e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0008300
17	13C4-PFOS	503.0 > 79.9	5.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0016099
18	Total PFBS	299 > 79.7	2.78e3		1.000	3.11		1.99	NO		
19	Total PFHxS	398.9 > 79.6	2.63e3		1.000	4.09		2.27	NO		
20	Total PFOA	413 > 368.7	5.48e3		1.000	4.39		2.06	NO		
21	Total PFOS	499 > 79.9	6.88e2		1.000	4.67		3.37	NO		0.1190520

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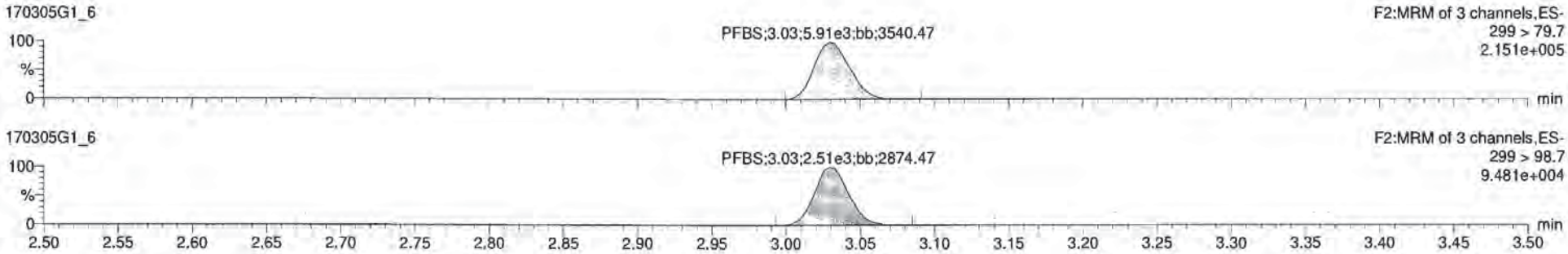

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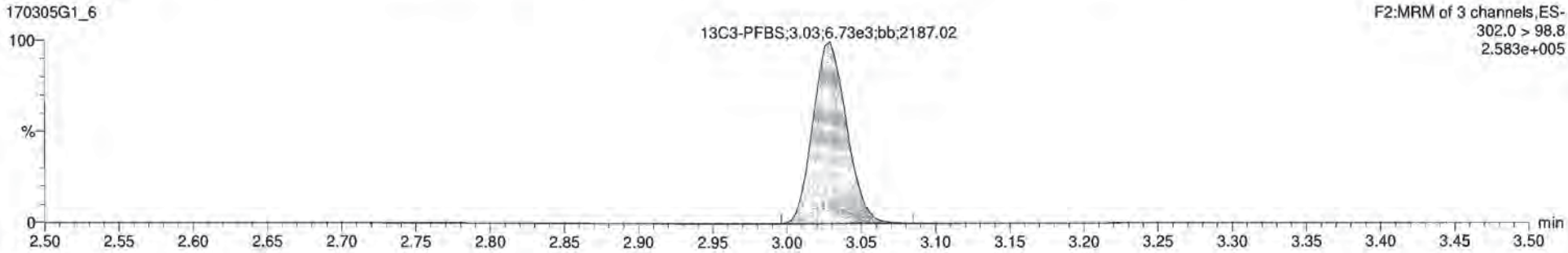
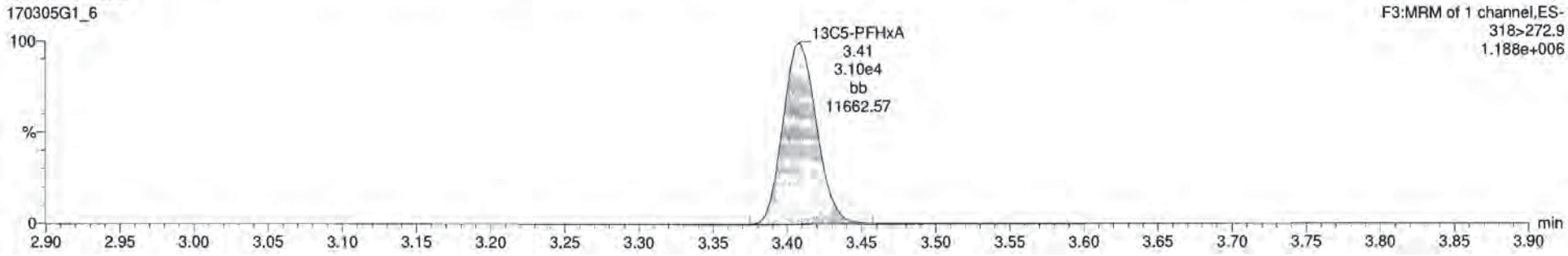


13C5-PFHxA



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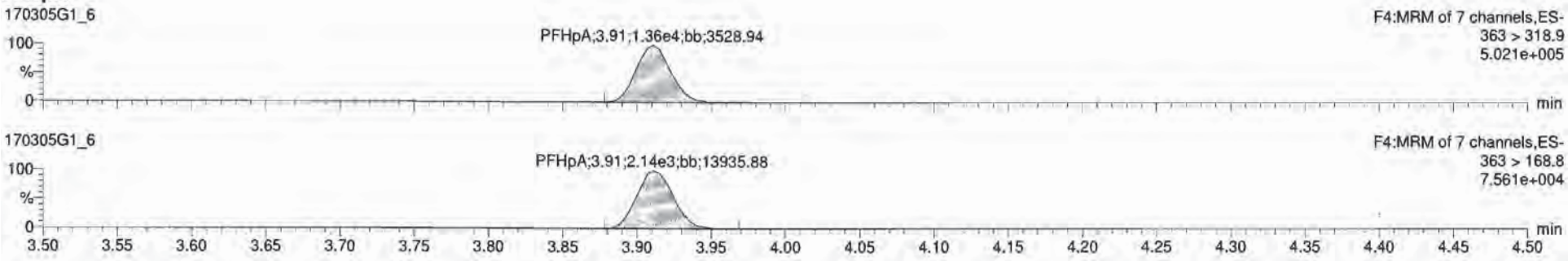

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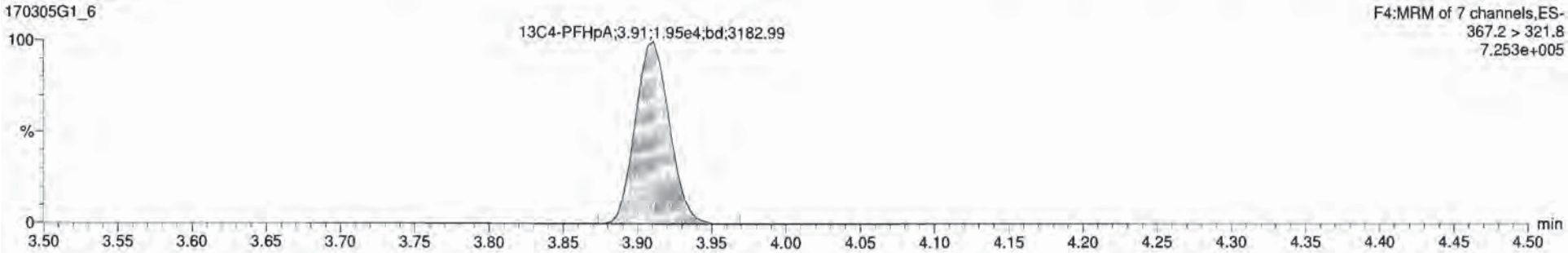

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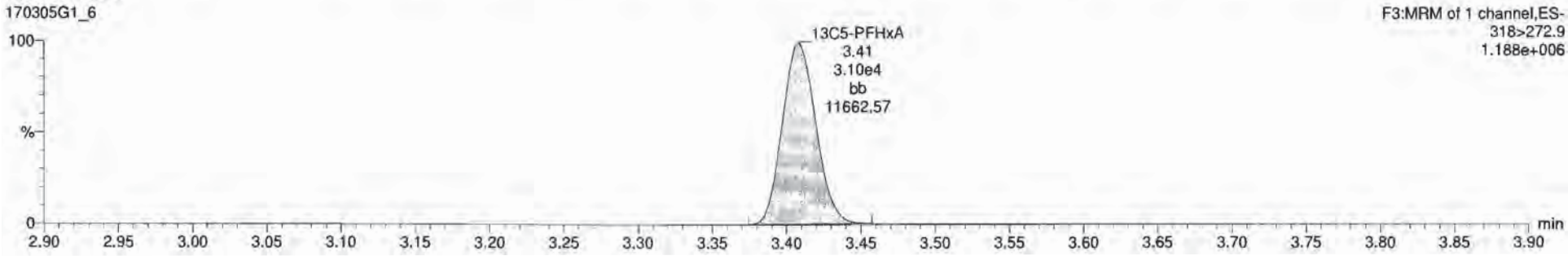

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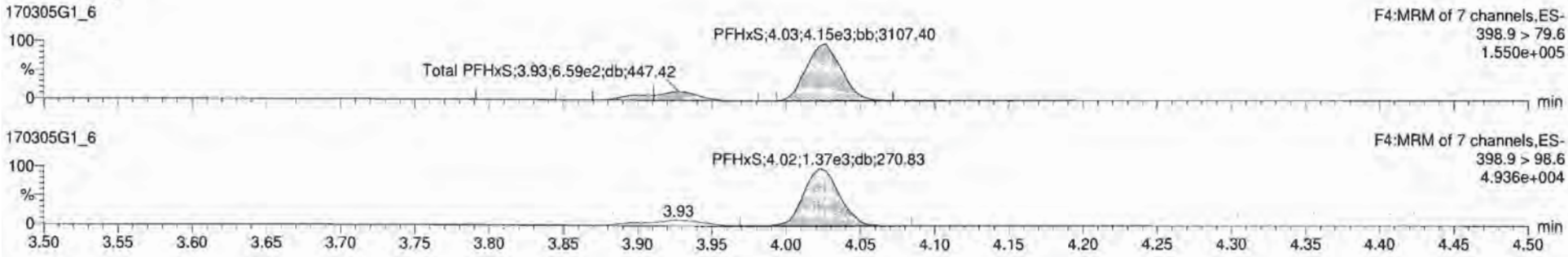
Total PFHxS



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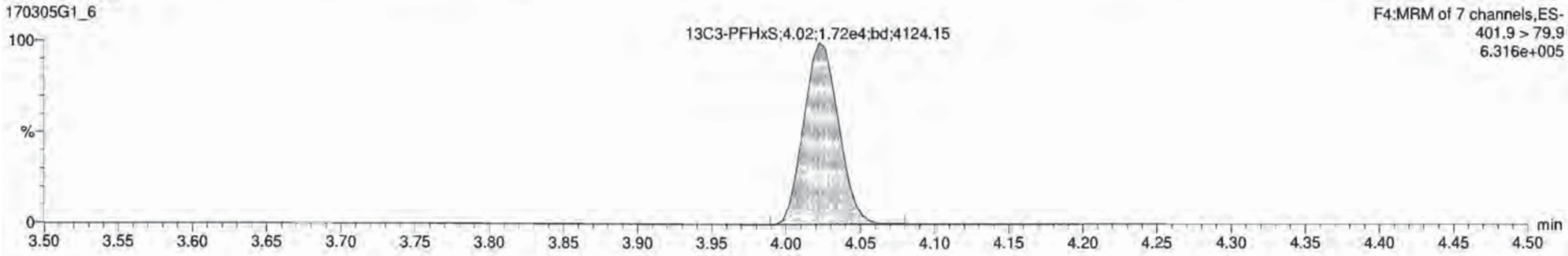
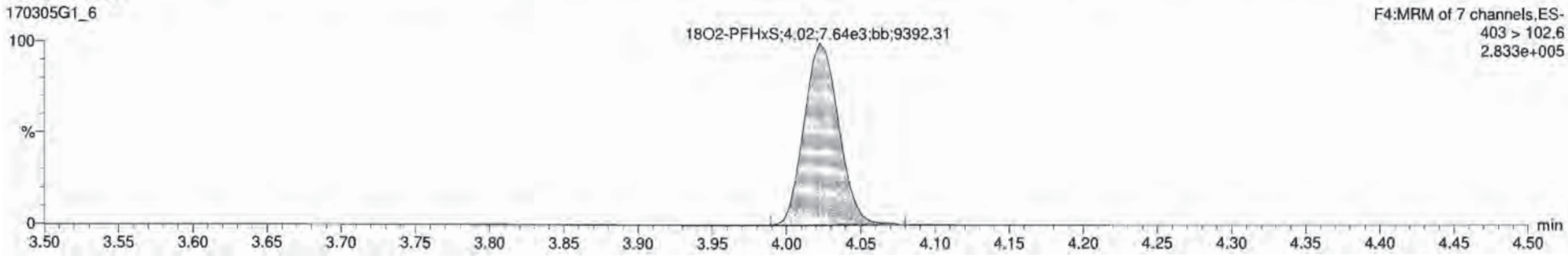
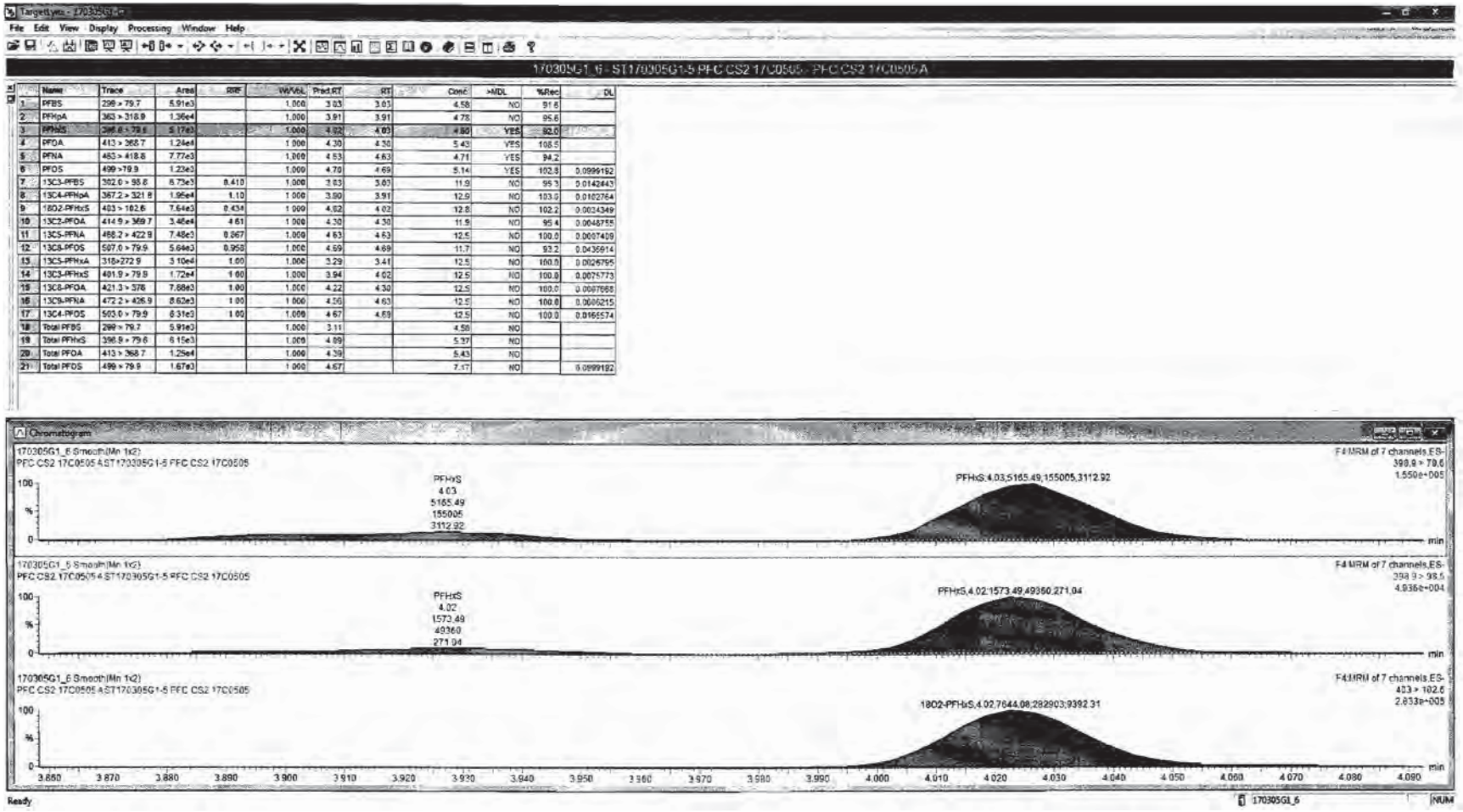


18O2-PFHxS





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2	PFHpA	363 > 318.9	1.36e4		1.000	3.91	3.91	4.78	NO	95.6	
3	PFHxS	398.8 > 79.6	5.17e3		1.000	4.02	4.03	4.60	YES	92.0	
4	PFOA	413 > 368.7	1.24e4		1.000	4.30	4.30	5.43	YES	108.5	
5	PFNA	463 > 418.8	7.77e3		1.000	4.63	4.63	4.71	YES	94.2	
6	PFOS	499 >79.9	1.23e3		1.000	4.70	4.69	5.14	YES	102.8	0.0999192
7	13C3-PFBS	302.0 > 98.8	8.73e3	0.410	1.000	3.03	3.03	11.9	NO	95.3	0.0142443
8	13C4-PFHpA	367.2 > 321.8	1.95e4	1.10	1.000	3.90	3.91	12.9	NO	103.0	0.0102764
9	1802-PFHxS	403 > 102.6	7.64e3	0.434	1.000	4.02	4.02	12.8	NO	102.2	0.0024349
10	13C2-PFOA	414.9 > 369.7	3.46e4	4.61	1.000	4.30	4.30	11.9	NO	95.4	0.0048755
11	13C5-PFNA	468.2 > 422.9	7.48e3	0.867	1.000	4.63	4.63	12.5	NO	100.0	0.0007409
12	13C8-PFOS	507.0 > 79.9	5.64e3	0.958	1.000	4.69	4.69	11.7	NO	93.2	0.0436914
13	13C5-PFHxA	318>272.9	3.10e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0026755
14	13C3-PFHxS	401.9 > 79.9	1.72e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0075773
15	13C8-PFOA	421.3 > 376	7.88e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0007668
16	13C9-PFNA	472.2 > 426.9	8.62e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0006215
17	13C4-PFOS	503.0 > 79.9	8.31e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0166574
18	Total PFBS	299 > 79.7	5.91e3		1.000	3.11		4.58	NO		
19	Total PFHxS	398.8 > 79.6	6.15e3		1.000	4.09		5.37	NO		
20	Total PFOA	413 > 368.7	1.25e4		1.000	4.39		5.43	NO		
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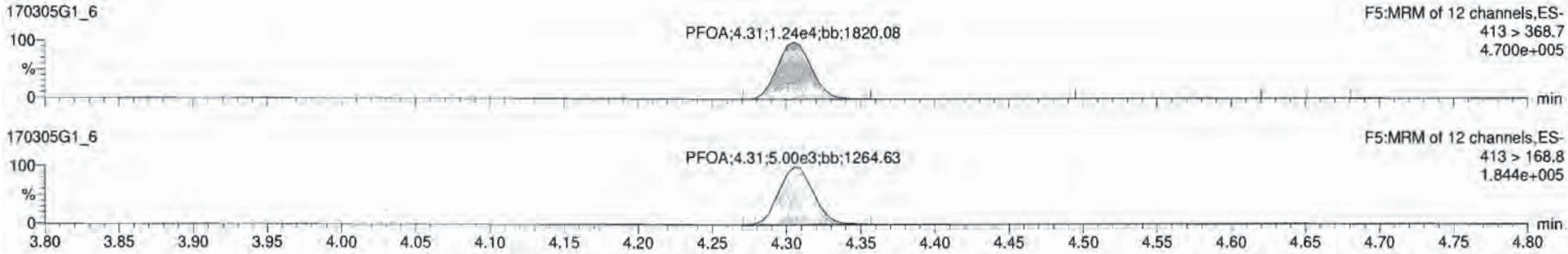
Total PFOA



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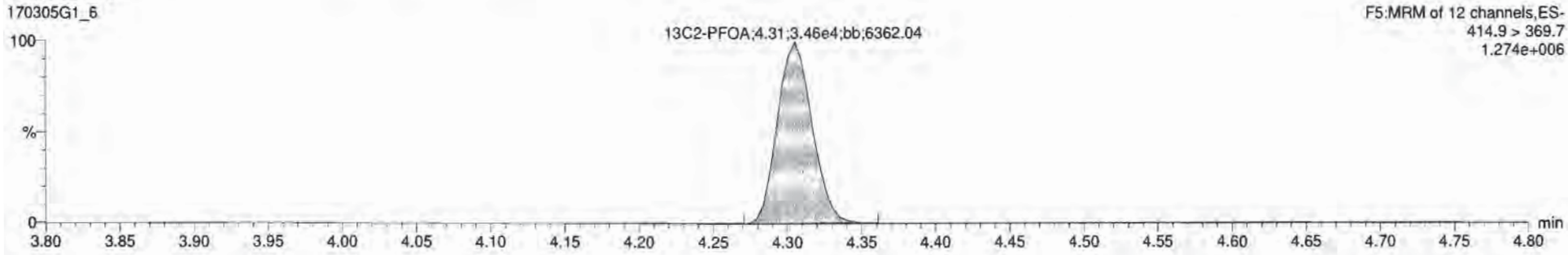
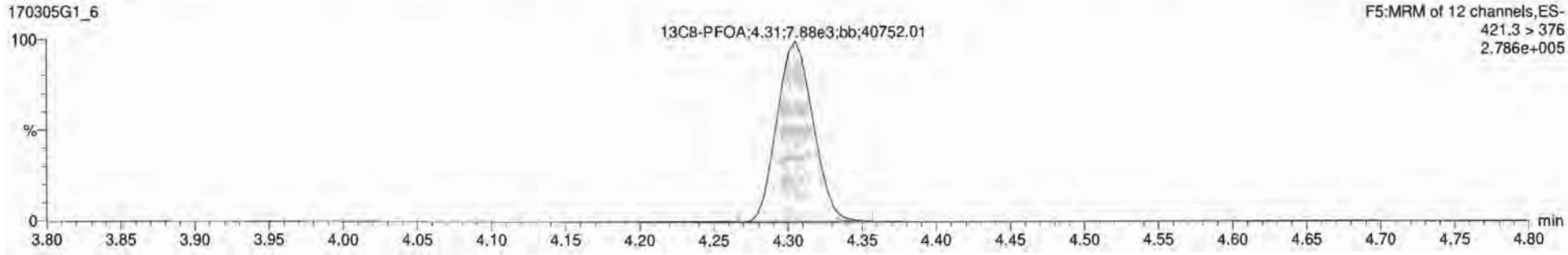


13C8-PFOA



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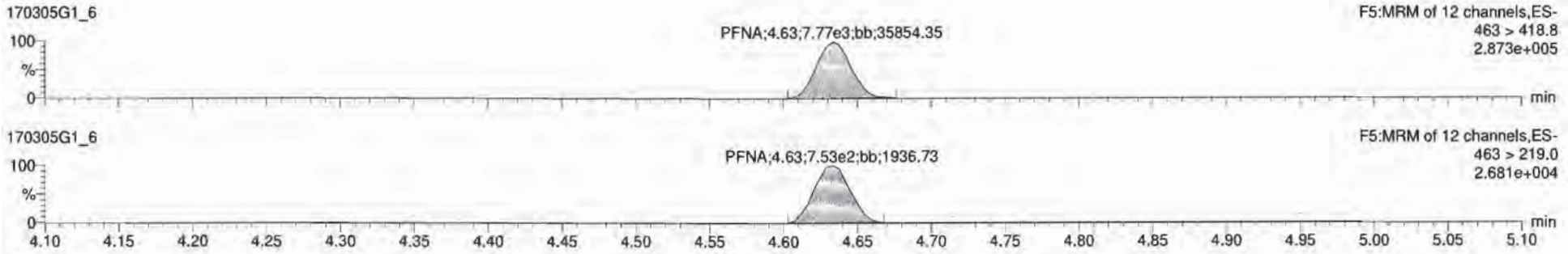
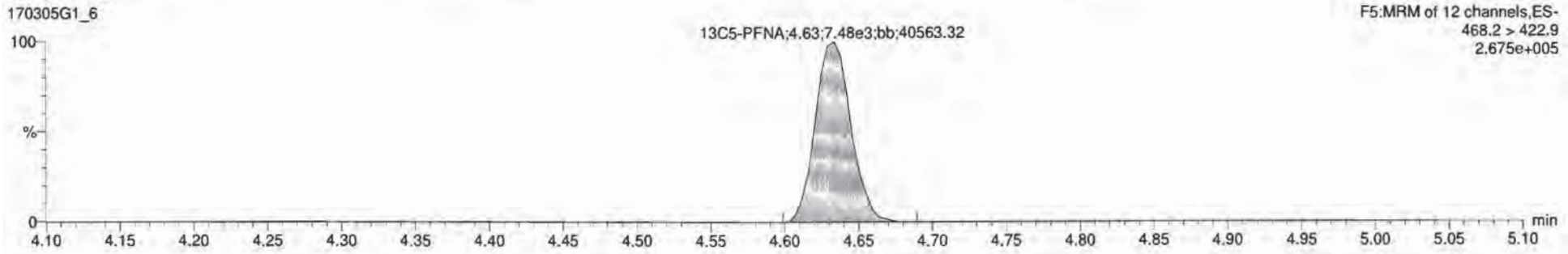
PFNA



13C5-PFNA



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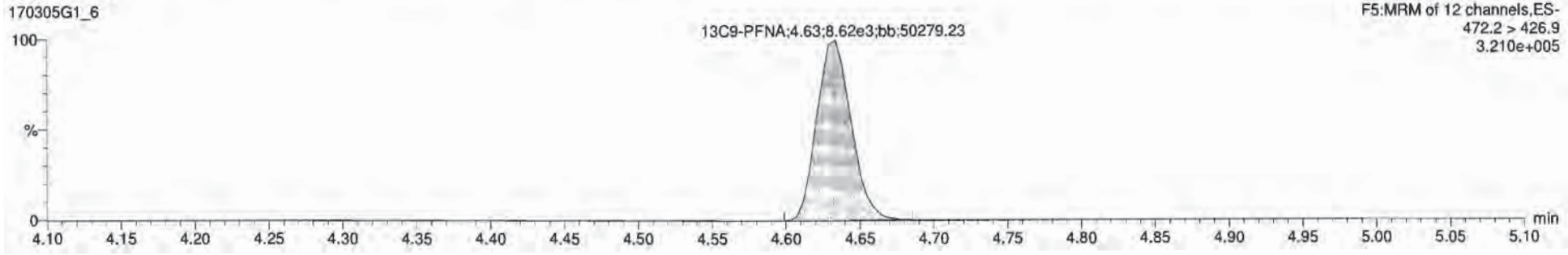

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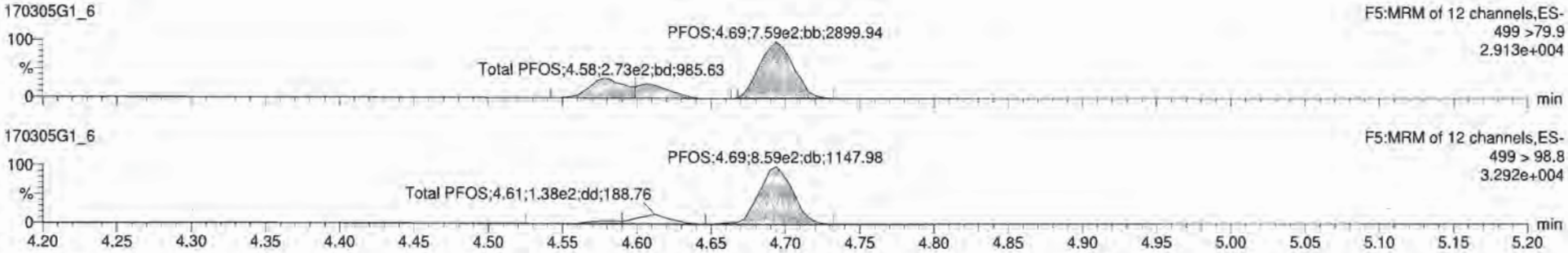
Total PFOS



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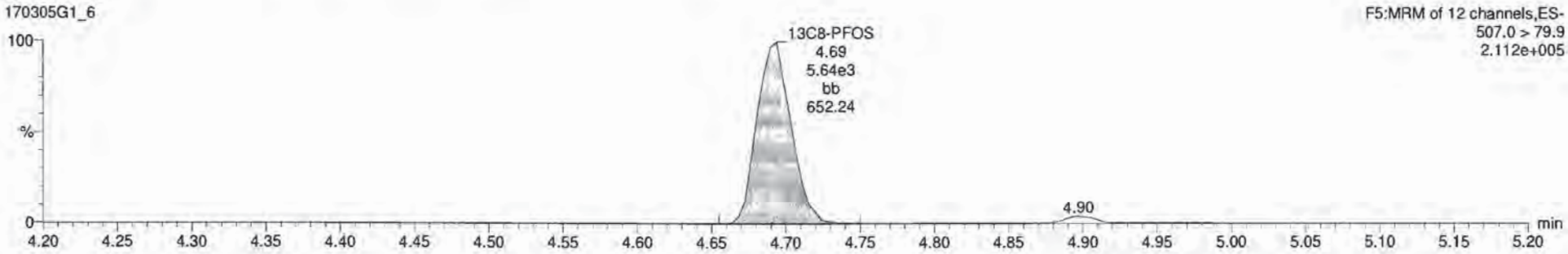

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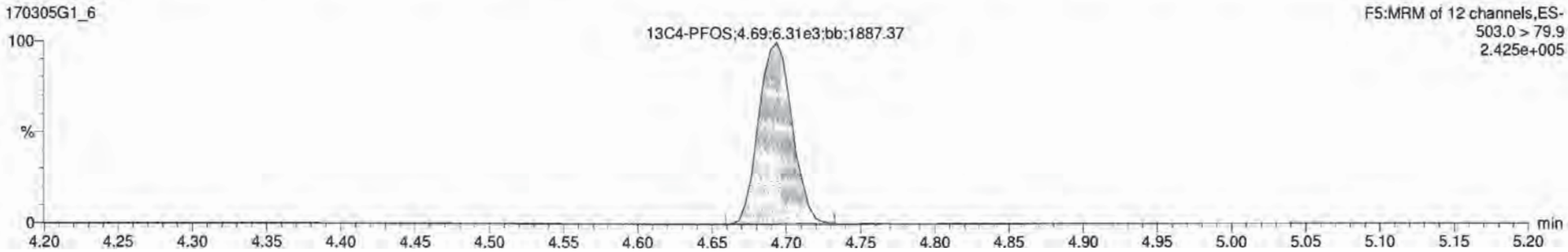

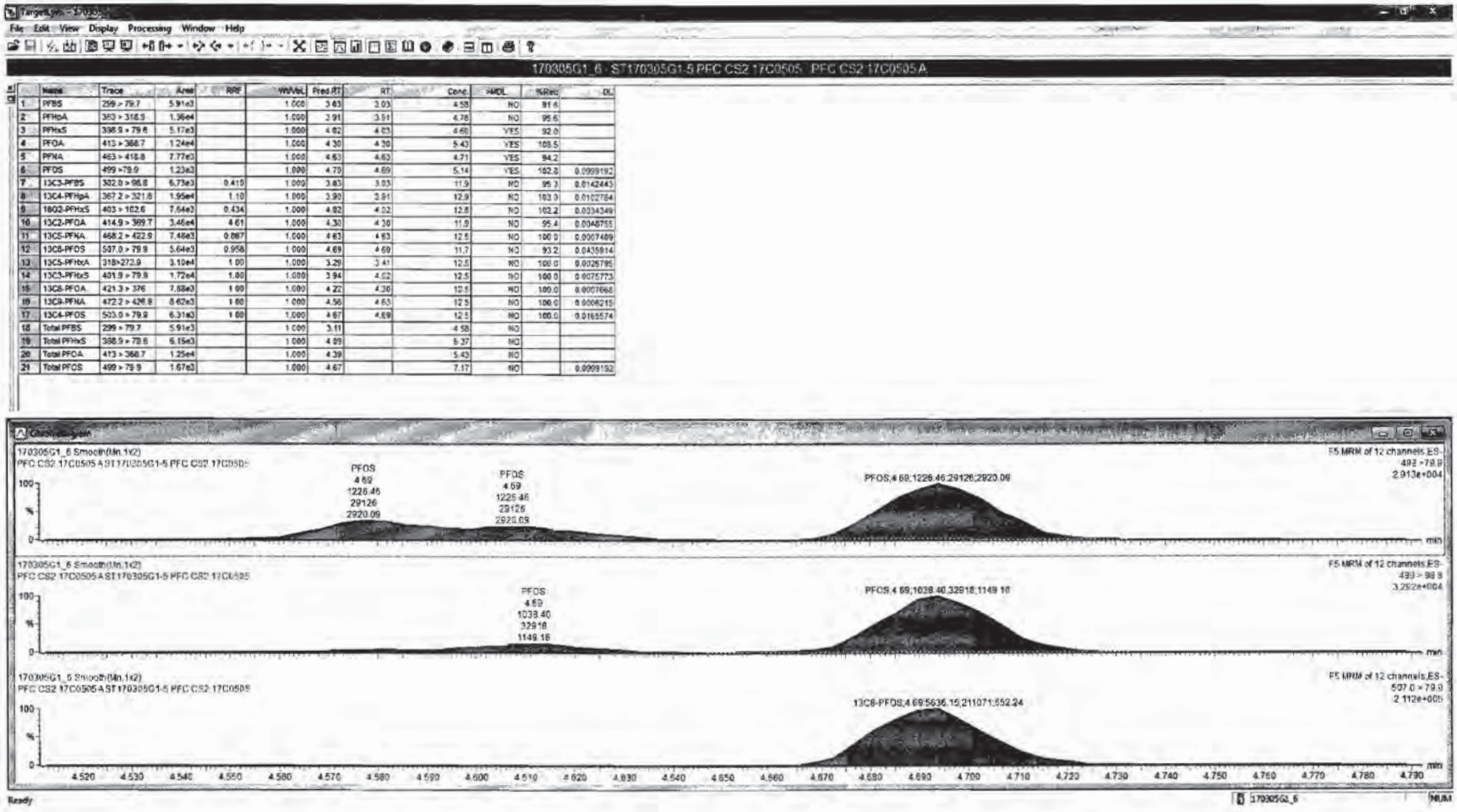

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1	PFBS	299 > 79.7	5.91e3		1.000	3.03	3.03	4.58	NO	91.6	
2	PFHpA	363 > 318.8	1.36e4		1.000	3.91	3.91	4.78	NO	95.6	
3	PFHxS	398.9 > 79.8	5.17e3		1.000	4.62	4.63	4.60	YES	92.0	
4	PFOA	413 > 368.7	1.24e4		1.000	4.30	4.30	5.43	YES	108.5	
5	PFNA	463 > 418.8	7.77e3		1.000	4.63	4.63	4.71	YES	94.2	
6	PFOS	499 > 79.9	1.23e3		1.000	4.70	4.69	5.14	YES	102.8	0.0009192
7	13C3-PFBS	302.0 > 98.8	6.73e3	0.410	1.000	3.03	3.03	11.9	NO	95.3	0.0142443
8	13C4-PFHpA	367.2 > 321.8	1.95e4	1.10	1.000	3.90	3.91	12.9	NO	103.0	0.0102764
9	1802-PFHxS	403 > 102.6	7.64e2	0.434	1.000	4.62	4.62	12.8	NO	102.2	0.0034349
10	13C2-PFOA	414.9 > 369.7	3.46e4	4.61	1.000	4.30	4.30	11.9	NO	95.4	0.0048755
11	13C5-PFNA	468.2 > 422.9	7.48e3	0.887	1.000	4.63	4.63	12.5	NO	100.0	0.0007489
12	13C8-PFOS	507.0 > 79.9	5.64e3	0.958	1.000	4.69	4.69	11.7	NO	93.2	0.0035814
13	13C5-PFHxA	318>272.9	3.10e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0026795
14	13C3-PFHxS	401.9 > 79.9	1.72e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0075773
15	13C8-PFOA	421.3 > 376	7.68e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0007668
16	13C9-PFNA	472.2 > 426.8	8.62e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0006215
17	13C4-PFOS	503.0 > 79.9	6.31e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0165574
18	Total PFBS	299 > 79.7	5.91e3		1.000	3.11		4.58	NO		
19	Total PFHxS	398.9 > 79.8	6.15e3		1.000	4.69		5.37	NO		
20	Total PFOA	413 > 368.7	1.25e4		1.000	4.39		5.43	NO		
21	Total PFOS	499 > 79.9	1.67e3		1.000	4.67		7.17	NO		0.0009192

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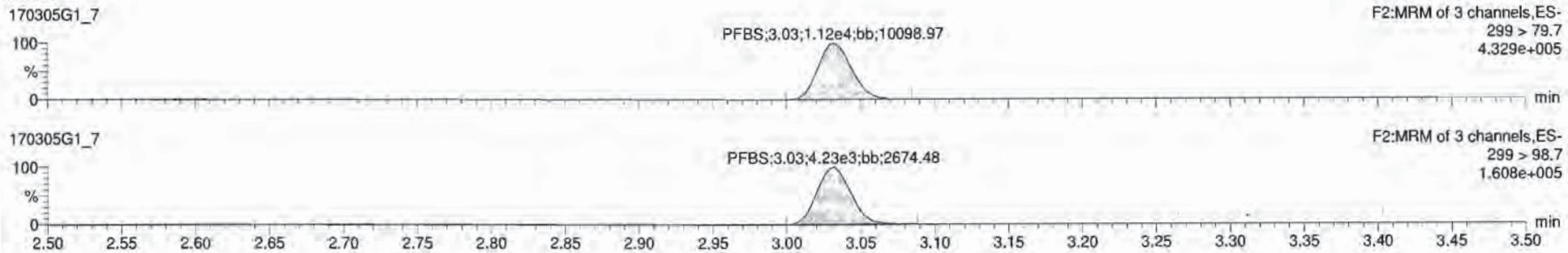

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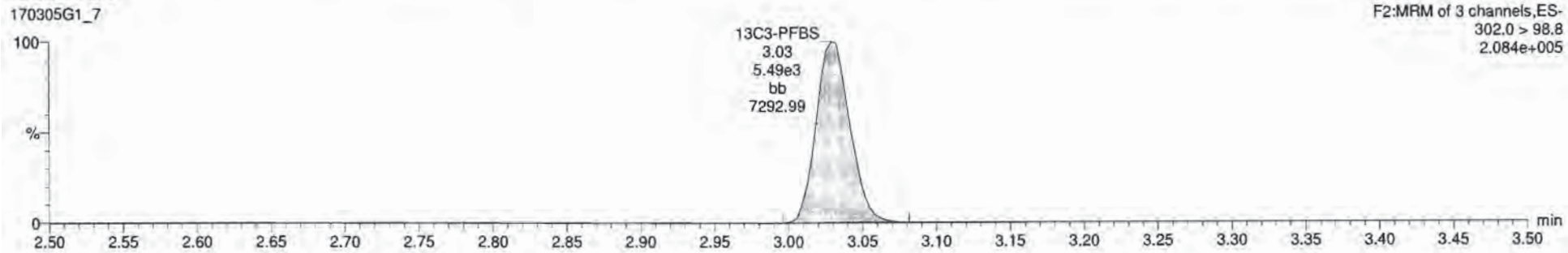

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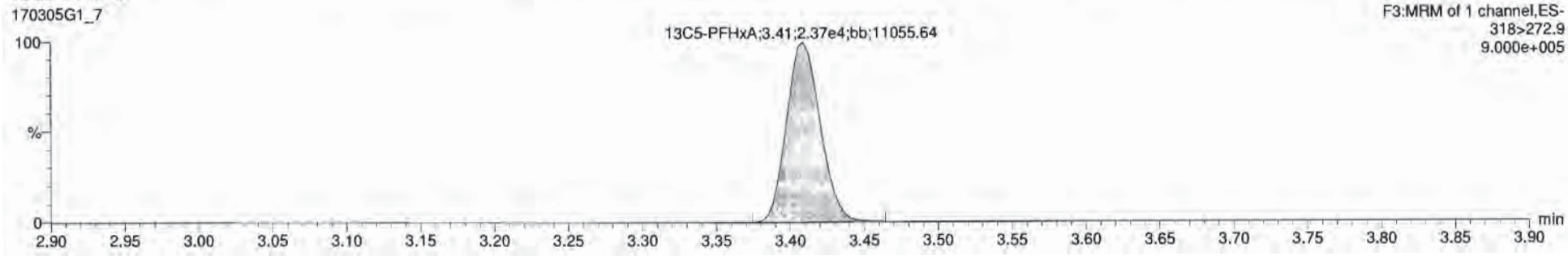

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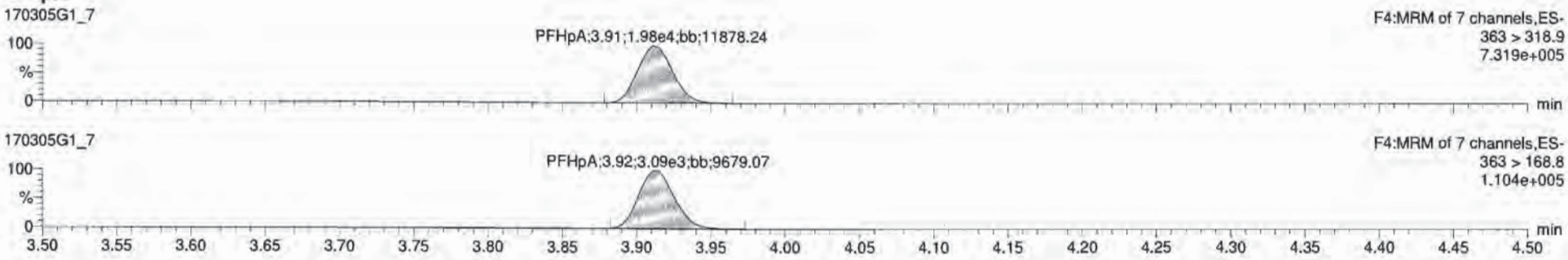

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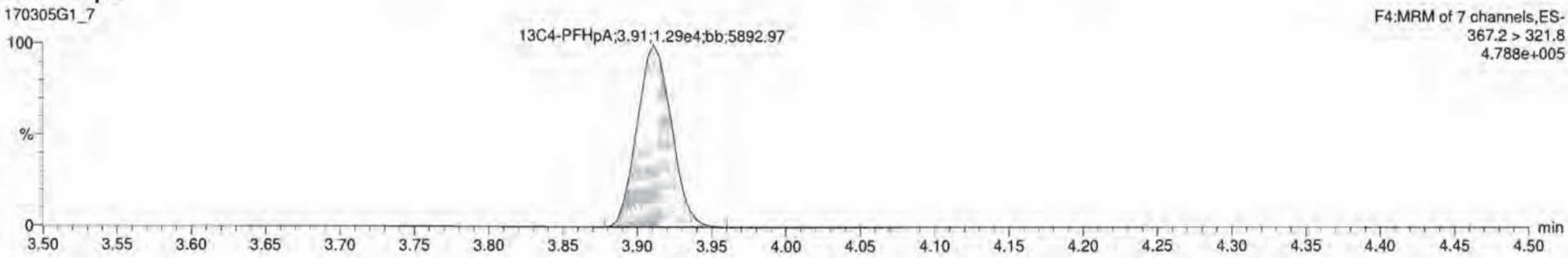

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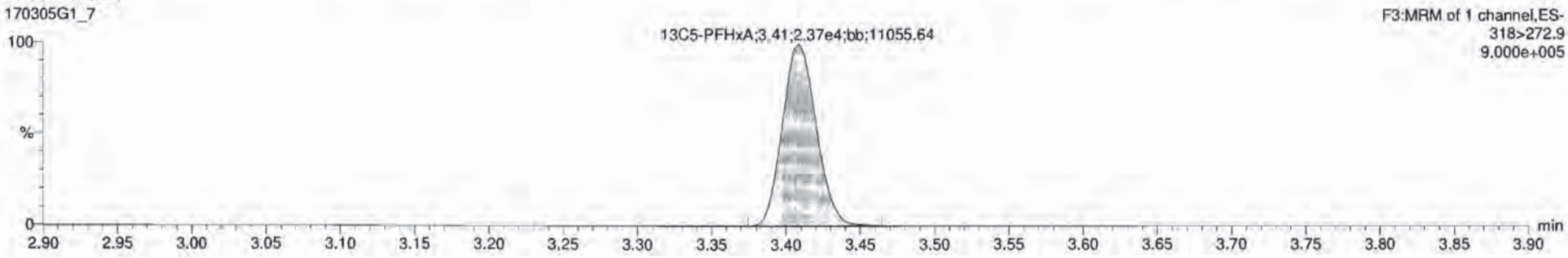

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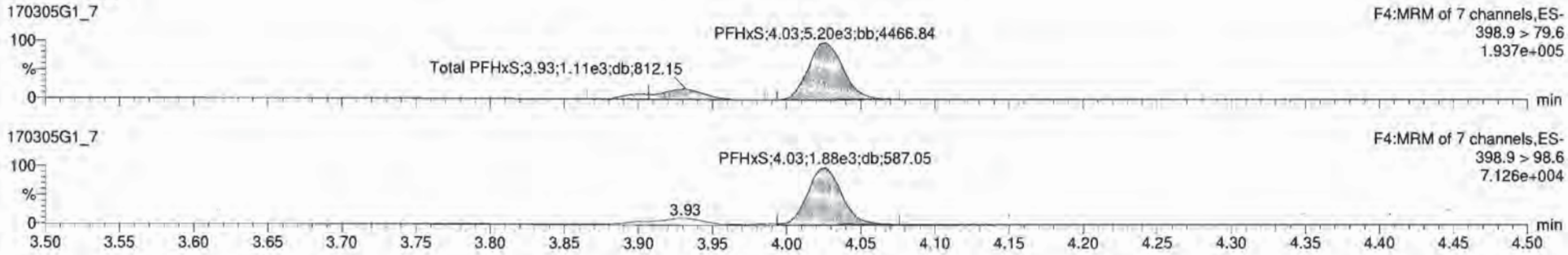
Total PFHxS



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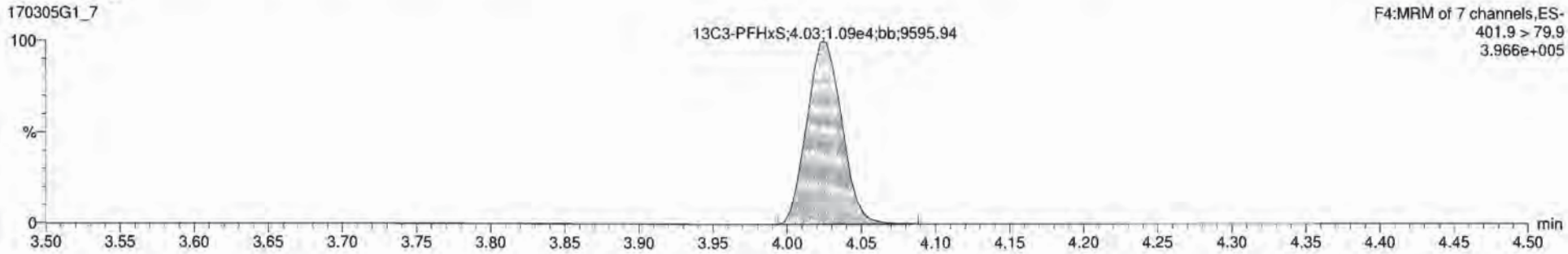

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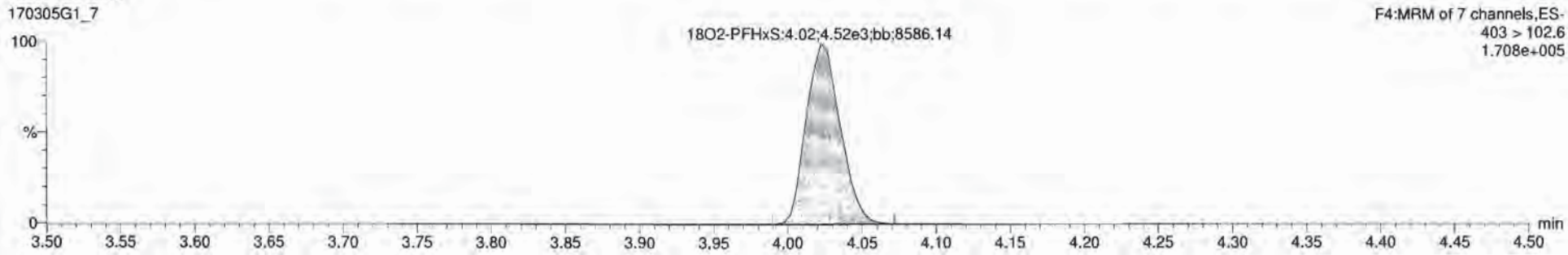

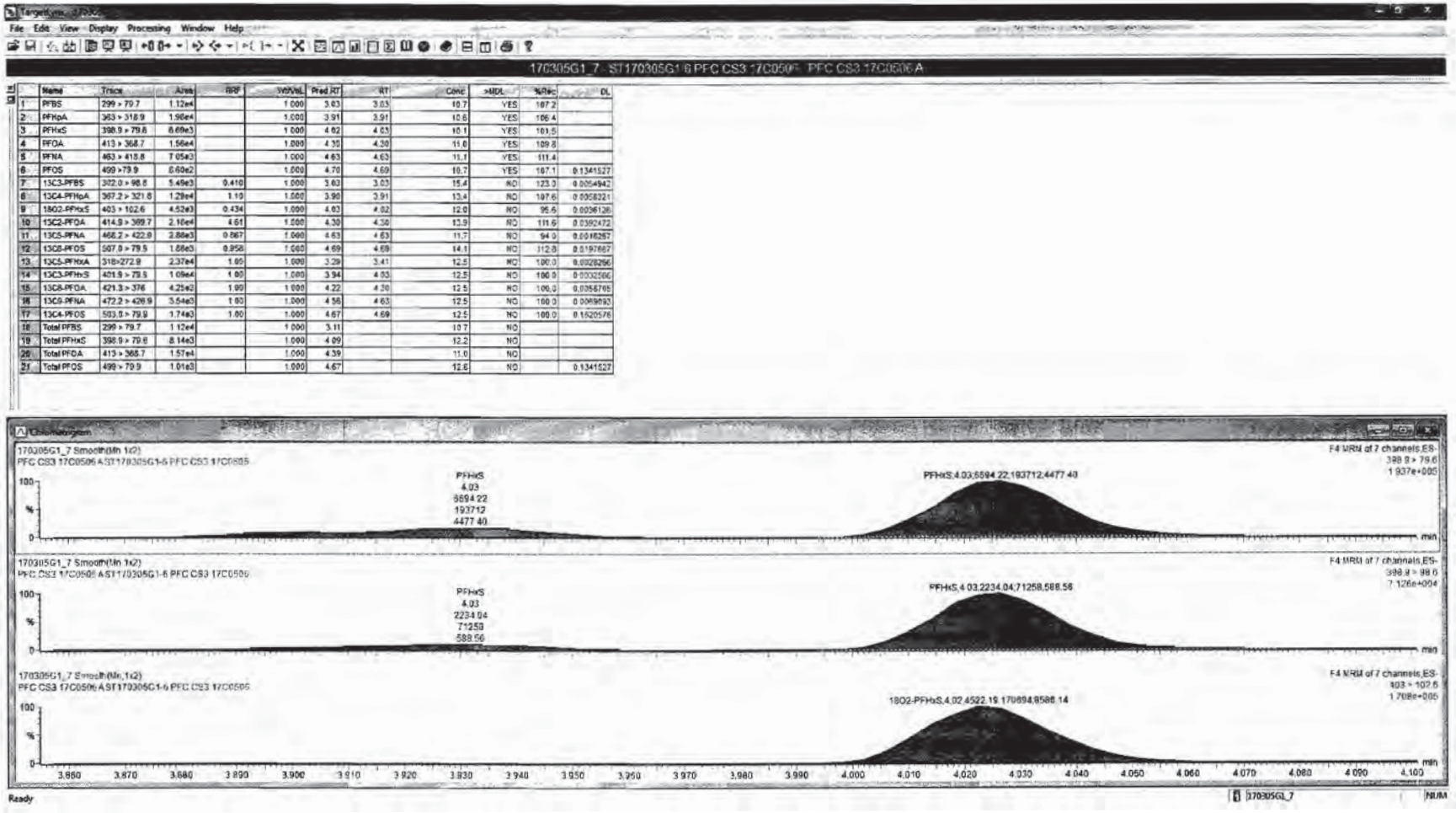

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2	PFHpA	363 > 318.9	1.98e4		1.000	3.91	3.91	10.6	YES	106.4	
3	PFHxS	398.9 > 79.6	6.69e3		1.000	4.02	4.03	10.1	YES	101.5	
4	PFOA	413 > 368.7	1.56e4		1.000	4.30	4.30	11.0	YES	109.8	
5	PFNA	463 > 418.8	7.05e3		1.000	4.63	4.63	11.1	YES	111.4	
6	PFOS	499 > 79.9	8.60e2		1.000	4.70	4.69	10.7	YES	107.1	0.1341527
7	13C3-PFBS	302.0 > 98.8	5.49e3	0.410	1.000	3.83	3.83	15.4	NO	123.3	0.0054942
8	13C4-PFHpA	367.2 > 321.8	1.29e4	1.10	1.000	3.90	3.91	13.4	NO	107.6	0.0058321
9	18O2-PFHxS	403 > 102.6	4.52e3	0.434	1.000	4.03	4.02	12.0	NO	95.6	0.0036126
10	13C2-PFOA	414.9 > 369.7	2.16e4	4.61	1.000	4.30	4.30	13.9	NO	111.6	0.0392472
11	13C5-PFNA	468.2 > 422.9	2.88e3	0.867	1.000	4.63	4.63	11.7	NO	94.0	0.0018257
12	13C8-PFOS	507.9 > 79.5	1.68e3	0.958	1.000	4.69	4.69	14.1	NO	112.8	0.0197667
13	13C5-PFHxA	318>272.9	2.37e4	1.05	1.000	3.29	3.41	12.5	NO	100.0	0.0028256
14	13C3-PFHxS	401.9 > 79.5	1.09e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0032566
15	13C8-PFOA	421.3 > 376	4.25e3	1.99	1.000	4.22	4.30	12.5	NO	100.0	0.0058705
16	13C9-PFNA	472.2 > 426.9	3.54e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0069093
17	13C4-PFOS	503.0 > 79.9	1.74e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.1620576
18	Total PFBS	299 > 79.7	1.12e4		1.000	3.11		10.7	NO		
19	Total PFHxS	398.9 > 79.6	8.14e3		1.000	4.09		12.2	NO		
20	Total PFOA	413 > 368.7	1.57e4		1.000	4.39		11.0	NO		
21	Total PFOS	499 > 79.9	1.01e3		1.000	4.67		12.6	NO		0.1341527

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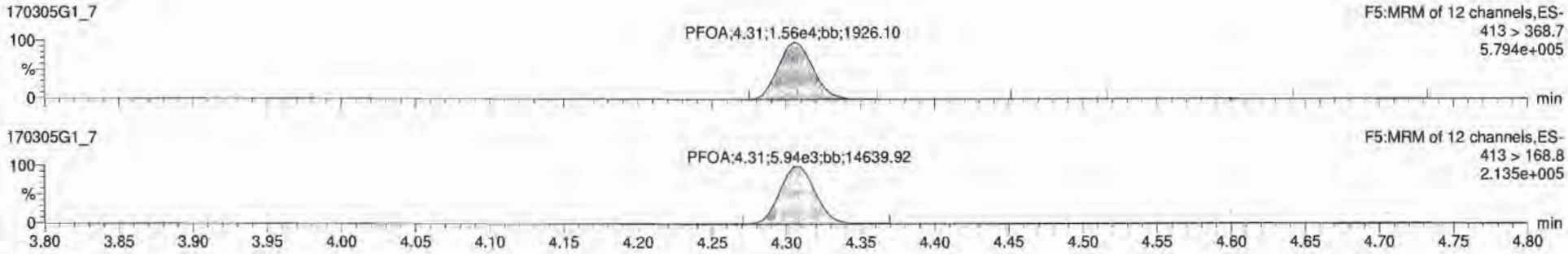

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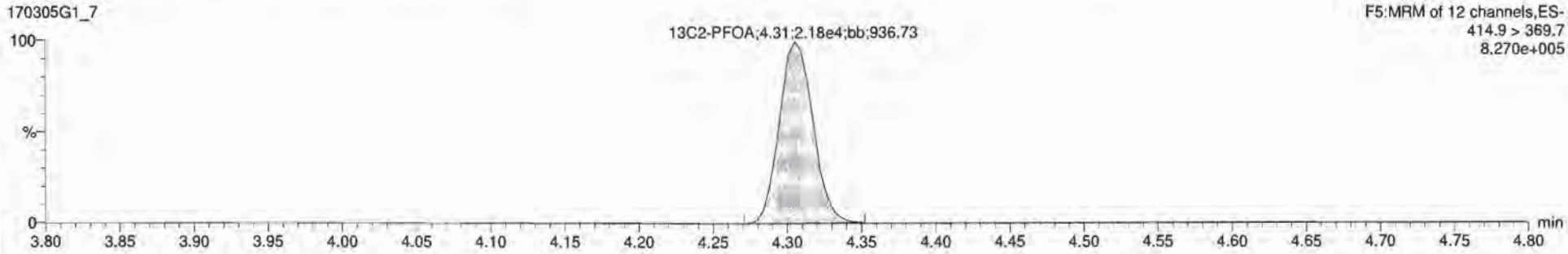

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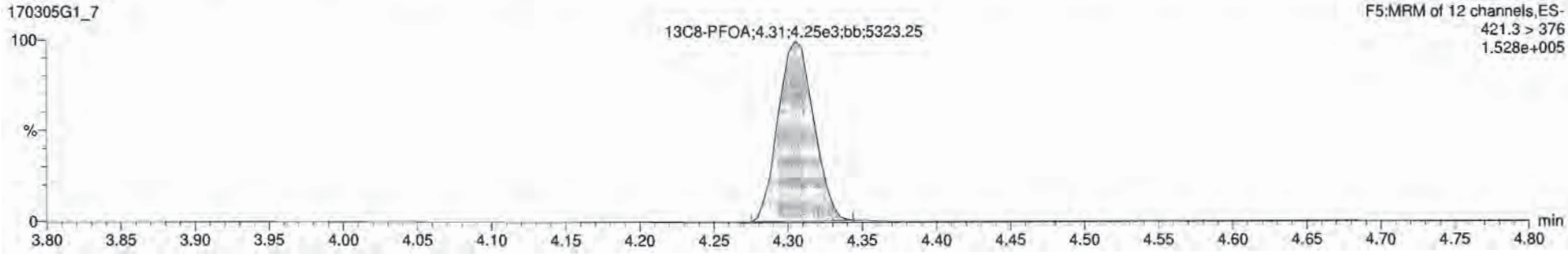

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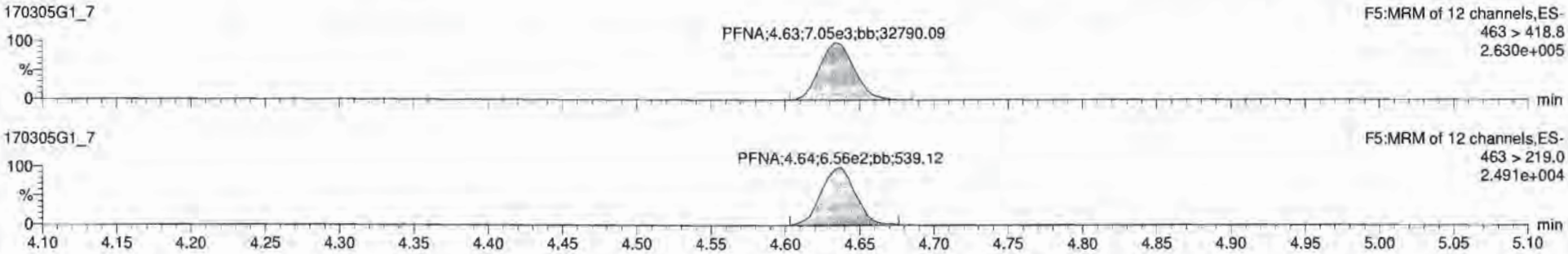

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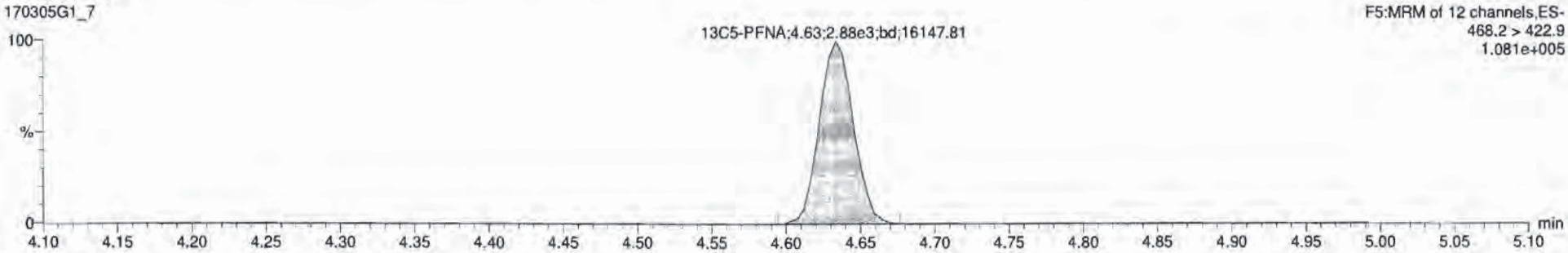

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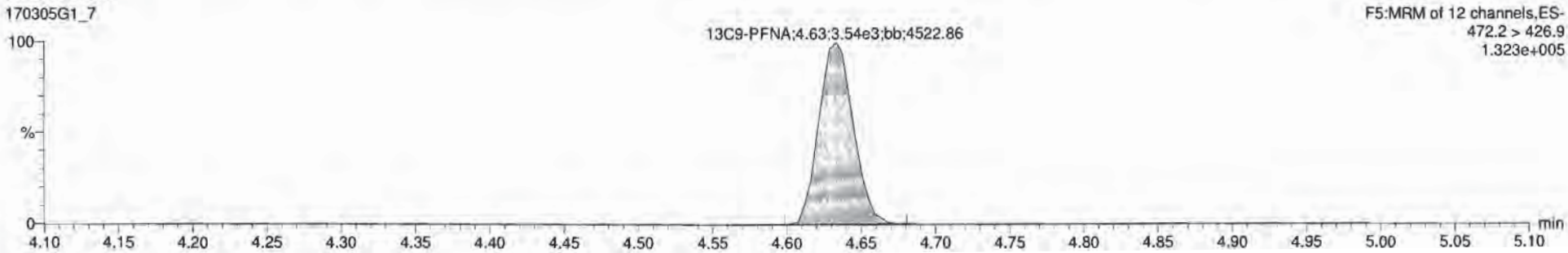

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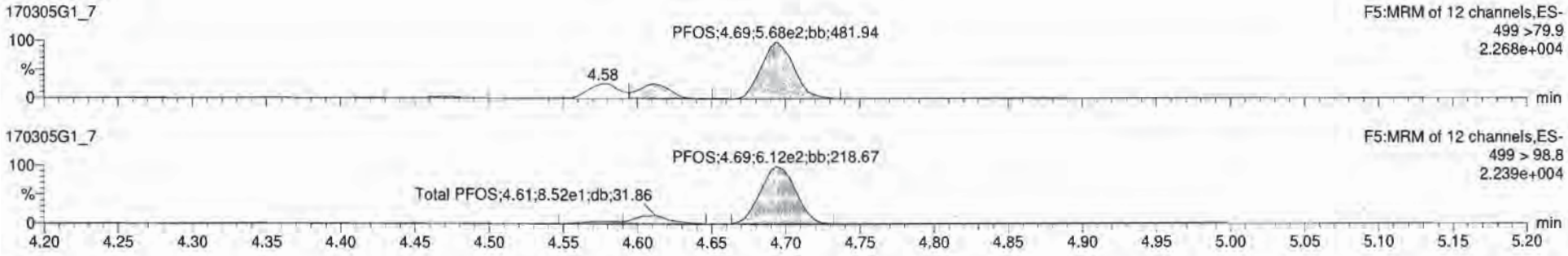
Total PFOS



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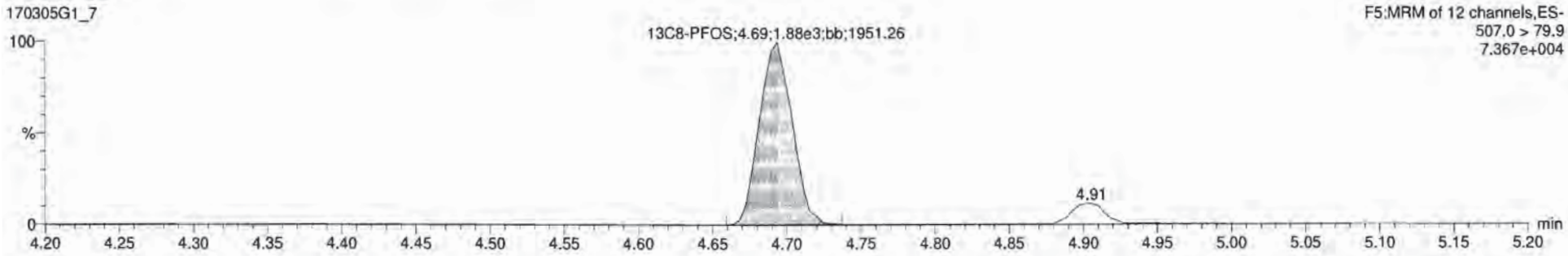

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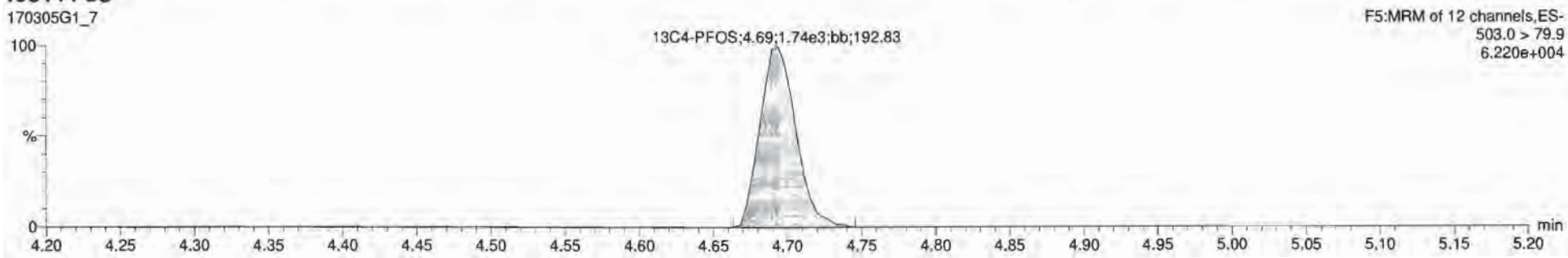

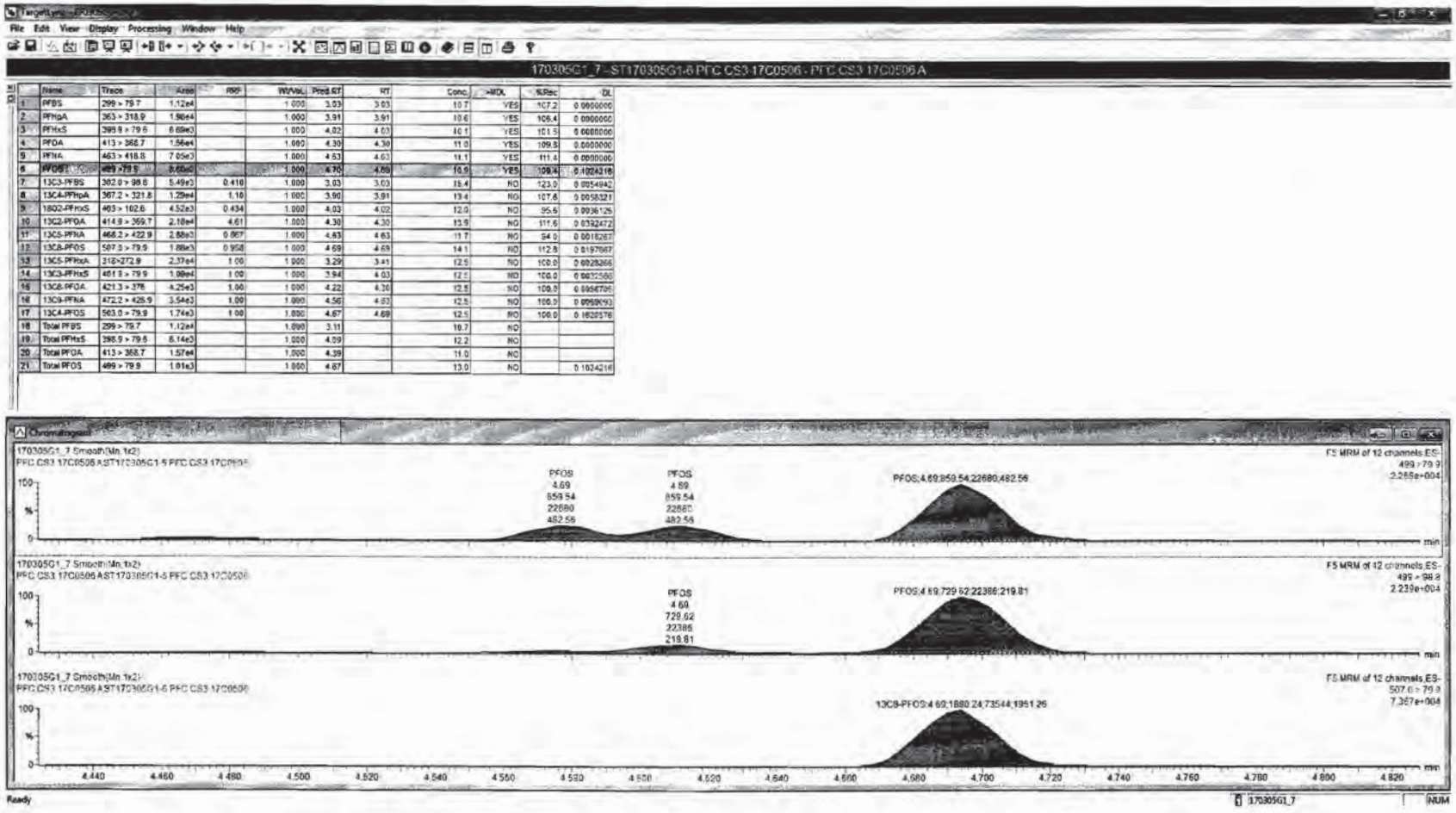
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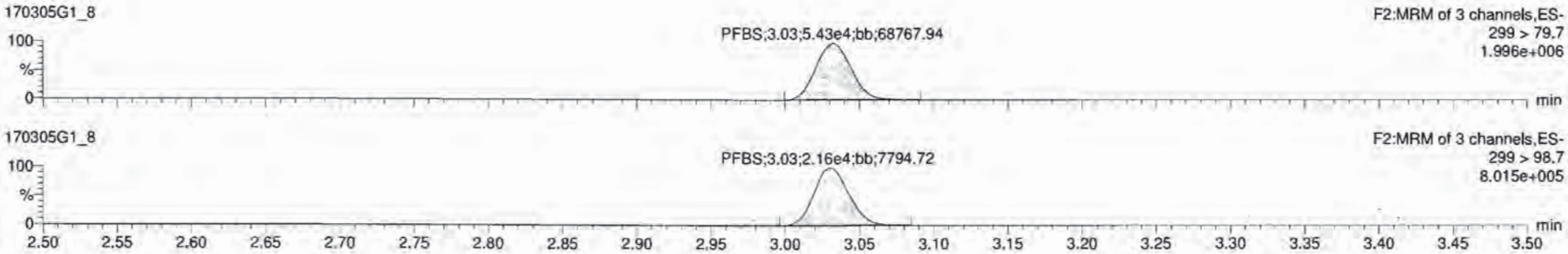

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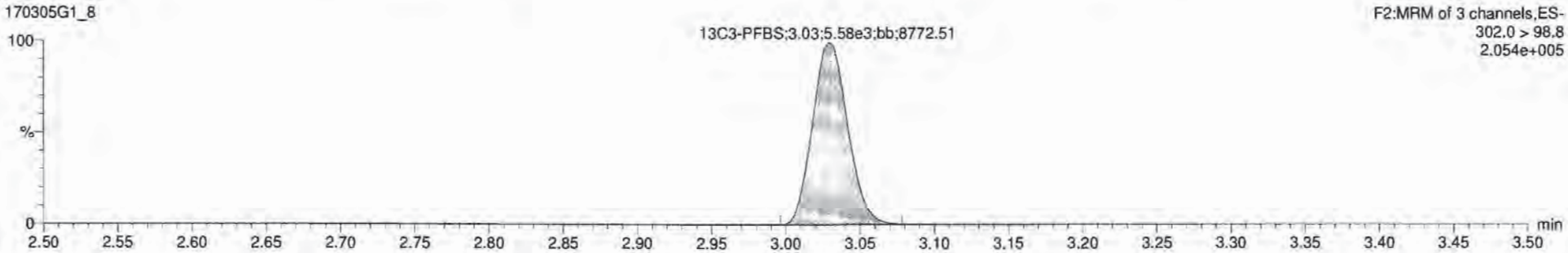

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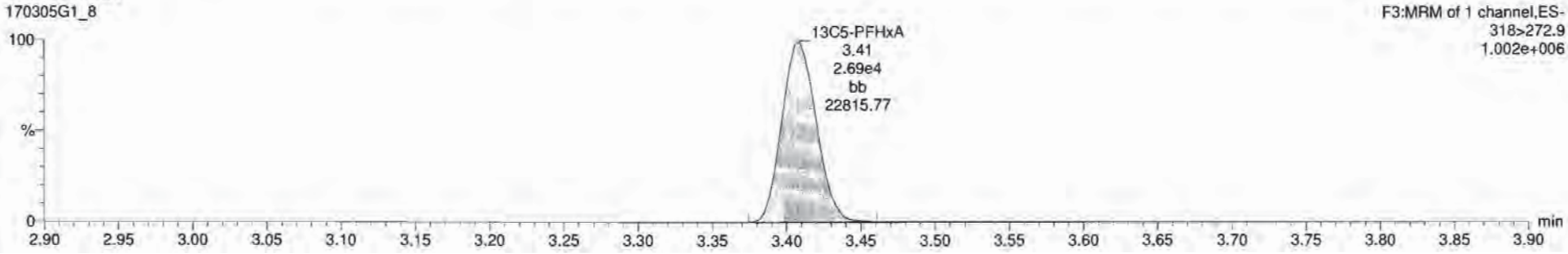

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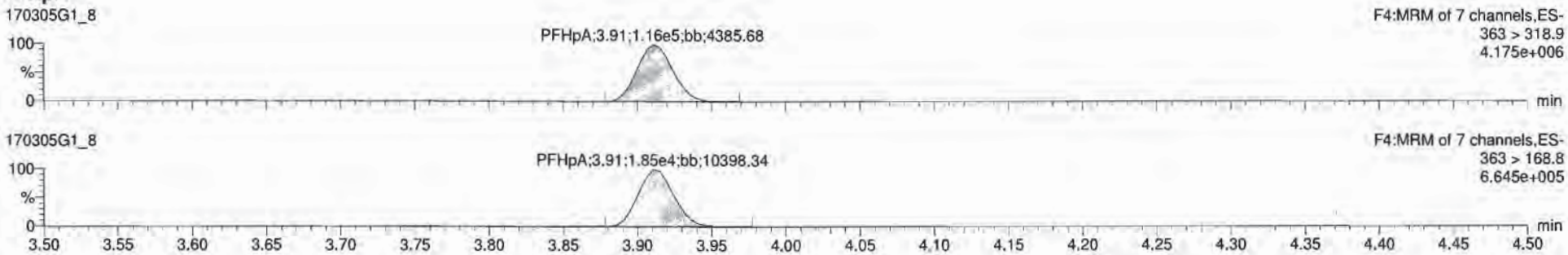

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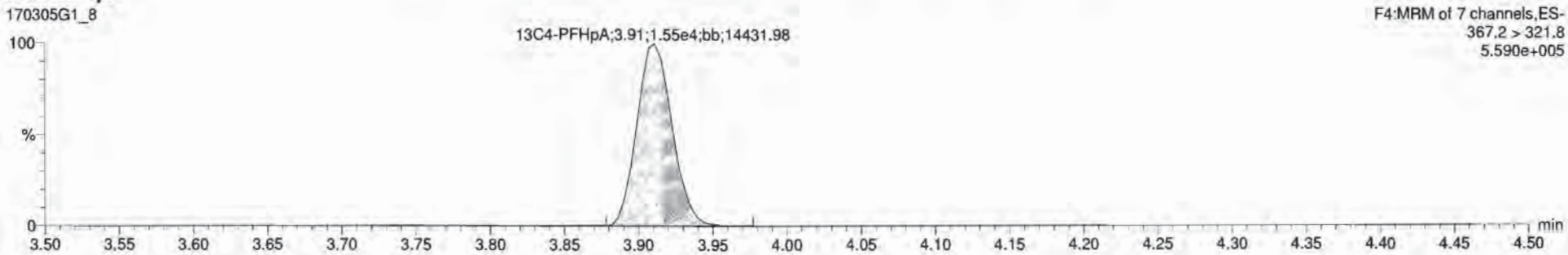

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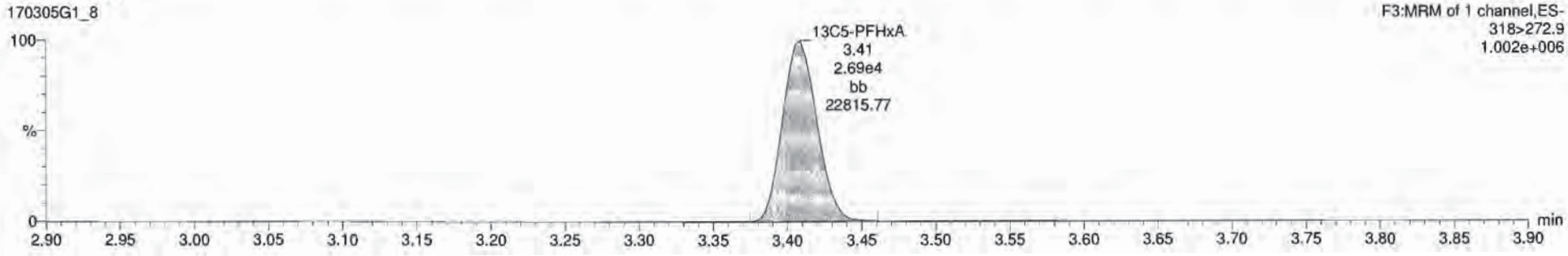

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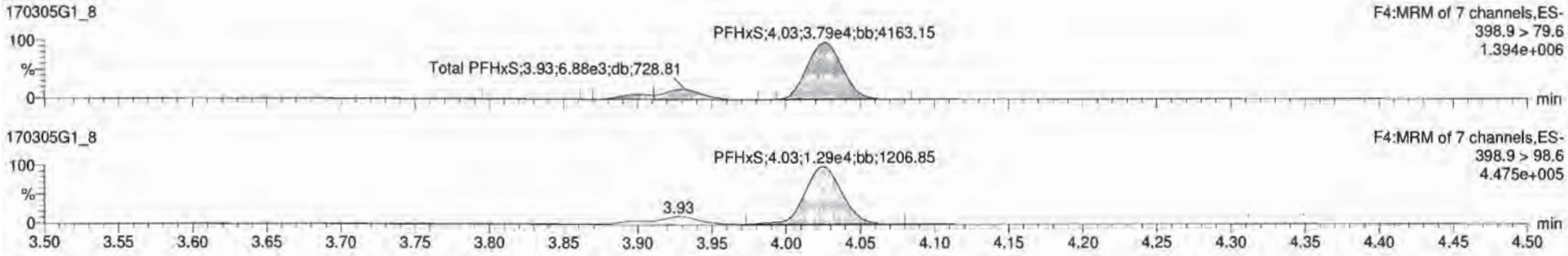
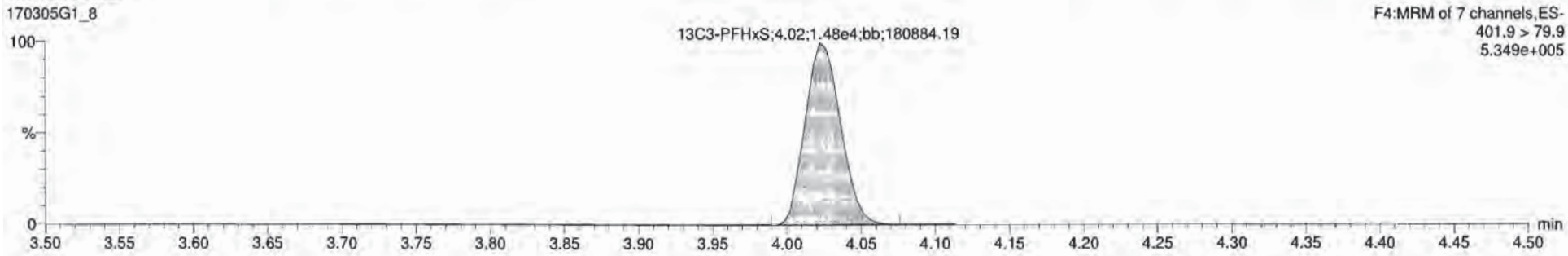
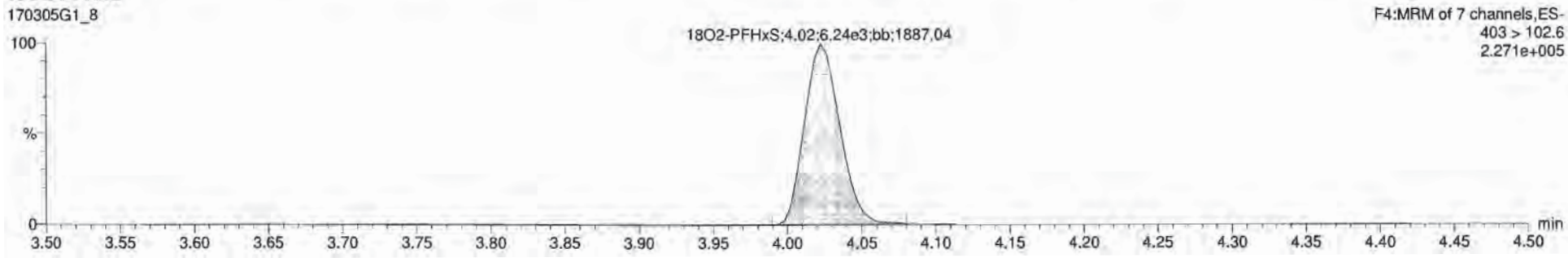
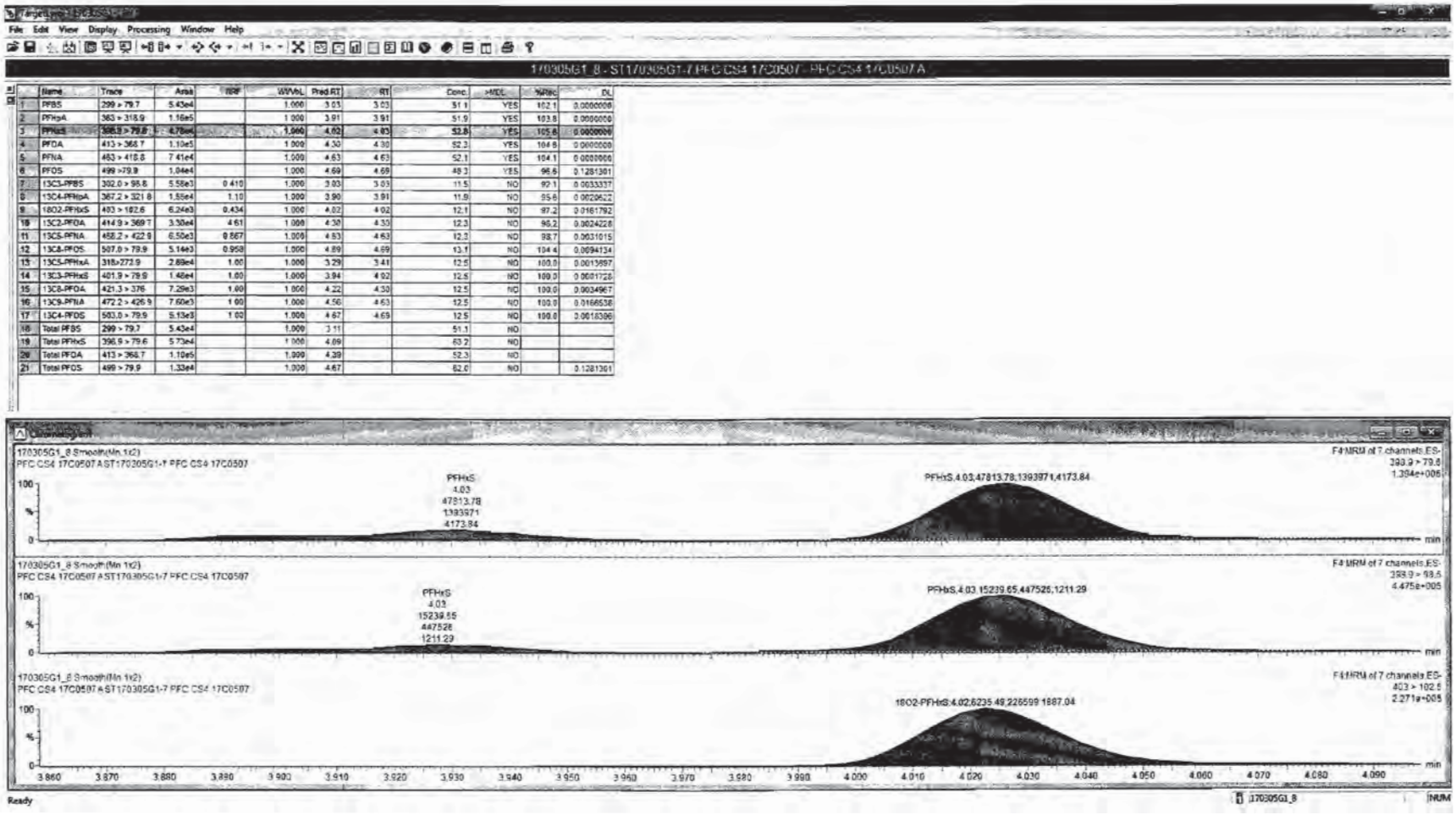


13C3-PFHxS



18O2-PFHxS





	Name	Trace	Area	ISTD	WWbL	Pred RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	5.43e4		1.000	3.03	3.03	51.1	YES	102.1	0.0000000
2	PFHpA	363 > 318.9	1.18e5		1.000	3.91	3.91	51.9	YES	103.8	0.0000000
3	PFHxS	398.9 > 79.8	4.78e4		1.000	4.02	4.03	52.8	YES	105.6	0.0000000
4	PFDA	413 > 368.7	1.10e5		1.000	4.30	4.30	52.3	YES	104.6	0.0000000
5	PFNA	463 > 418.8	7.41e4		1.000	4.63	4.63	52.1	YES	104.1	0.0000000
6	PFOS	499 >79.9	1.04e4		1.000	4.69	4.69	48.3	YES	96.6	0.1281301
7	13C3-PFBS	302.0 > 98.8	5.58e3	0.410	1.000	3.03	3.03	11.5	NO	92.1	0.0033337
8	13C4-PFHpA	367.2 > 321.8	1.55e4	1.10	1.000	3.90	3.91	11.9	NO	95.6	0.0029622
9	1802-PFHxS	403 > 102.6	6.24e3	0.434	1.000	4.02	4.02	12.1	NO	97.2	0.0161792
10	13C2-PFDA	414.9 > 369.7	3.50e4	4.61	1.000	4.30	4.30	12.3	NO	98.2	0.0024228
11	13C5-PFNA	468.2 > 422.9	6.50e3	0.867	1.000	4.63	4.63	12.3	NO	98.7	0.0031015
12	13C8-PFOS	507.0 > 79.9	5.14e3	0.958	1.000	4.69	4.69	13.1	NO	104.4	0.0094134
13	13C5-PFHxA	318>272.9	2.89e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0013897
14	13C3-PFHxS	401.9 > 79.9	1.46e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0001728
15	13C8-PFOA	421.3 > 376	7.29e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0034967
16	13C9-PFNA	472.2 > 426.9	7.60e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0166538
17	13C4-PFOS	503.0 > 79.9	5.13e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0018096
18	Total PFBS	299 > 79.7	5.43e4		1.000	3.11		51.1	NO		
19	Total PFHxS	398.9 > 79.8	5.73e4		1.000	4.09		53.2	NO		
20	Total PFDA	413 > 368.7	1.10e5		1.000	4.39		52.3	NO		
21	Total PFOS	499 > 79.9	1.33e4		1.000	4.67		52.0	NO		0.1281301

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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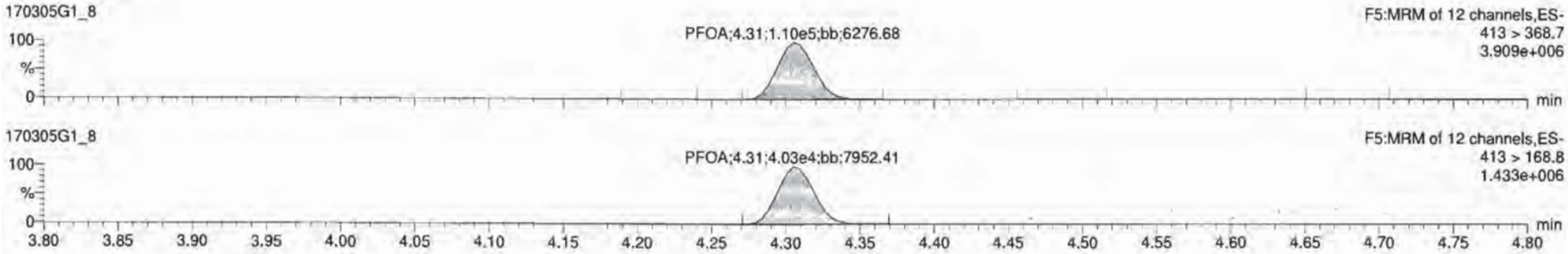
ID: ST170305G1-7 PFC CS4 17C0507, Description: PFC CS4 17C0507 A, Name: 170305G1_8, Date: 05-Mar-2017, Time: 14:02:00, Instrument: , Lab: , User:

Total PFOA



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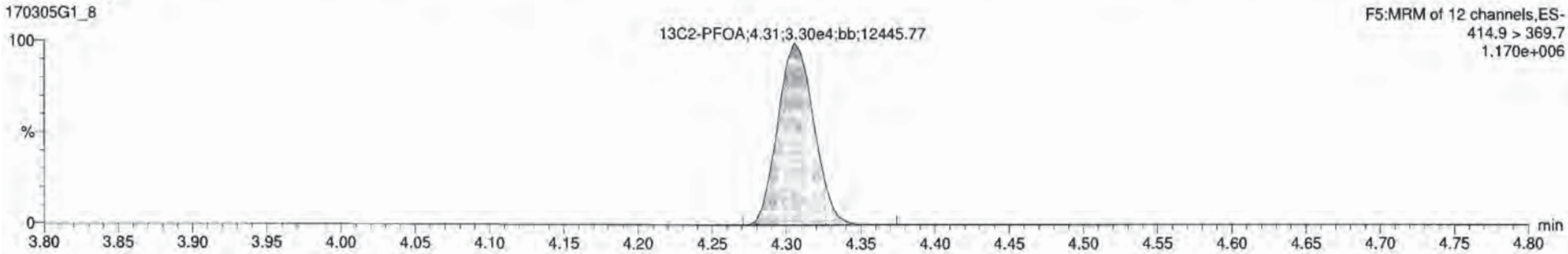

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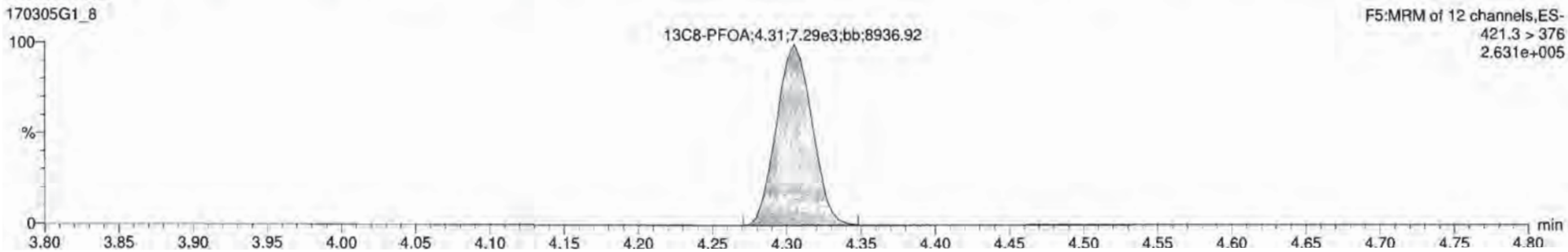

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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-7 PFC CS4 17C0507, Description: PFC CS4 17C0507 A, Name: 170305G1_8, Date: 05-Mar-2017, Time: 14:02:00, Instrument: , Lab: , User:

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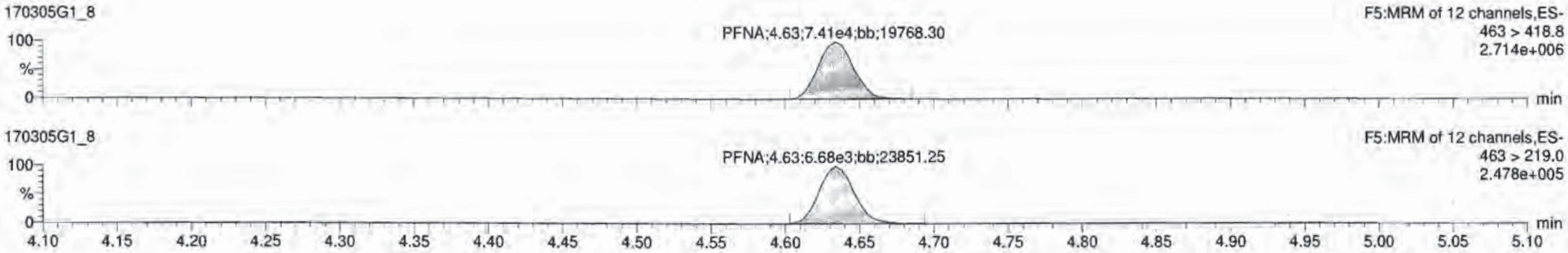
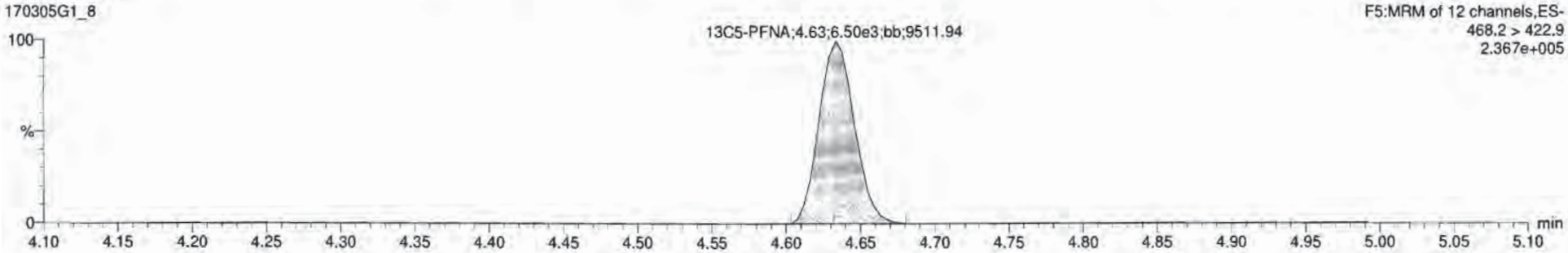
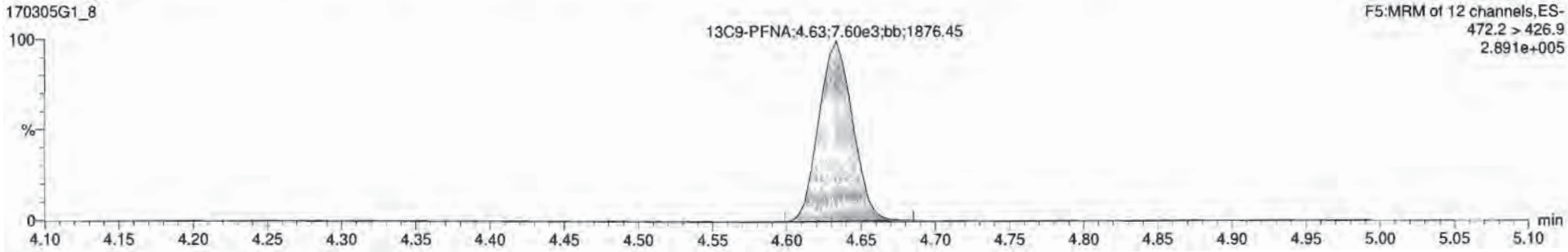


13C5-PFNA



13C9-PFNA



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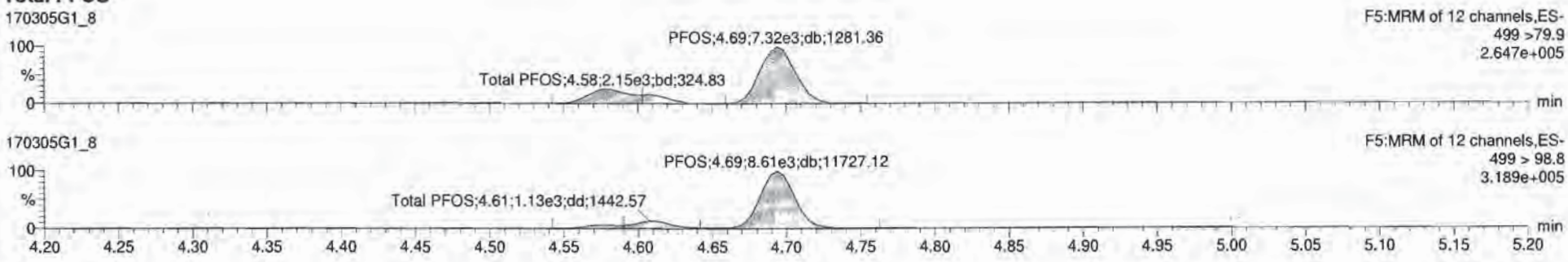
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-7 PFC CS4 17C0507, Description: PFC CS4 17C0507 A, Name: 170305G1_8, Date: 05-Mar-2017, Time: 14:02:00, Instrument: , Lab: , User:

Total PFOS



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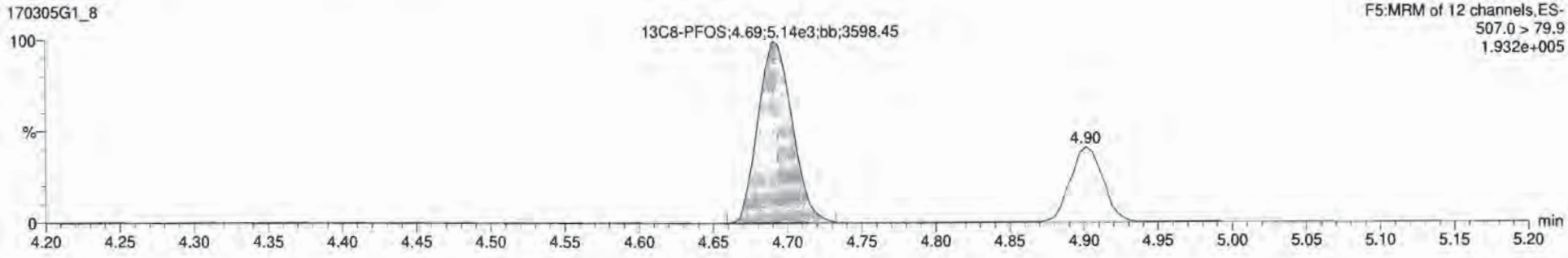

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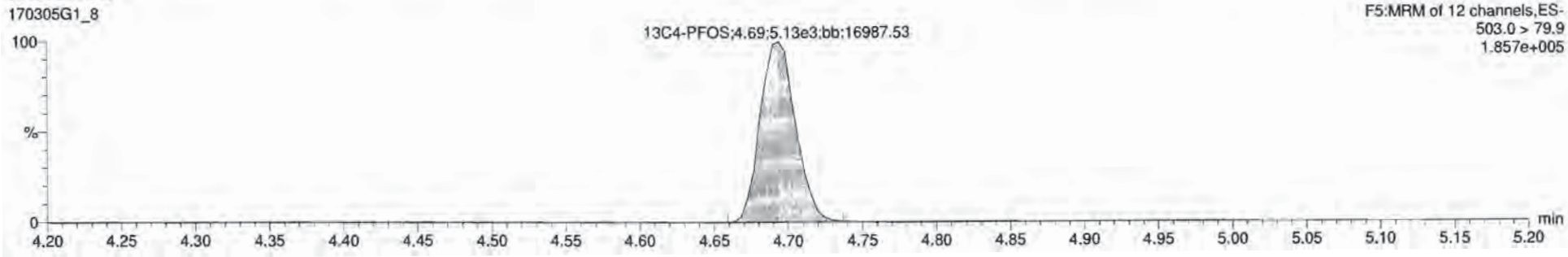

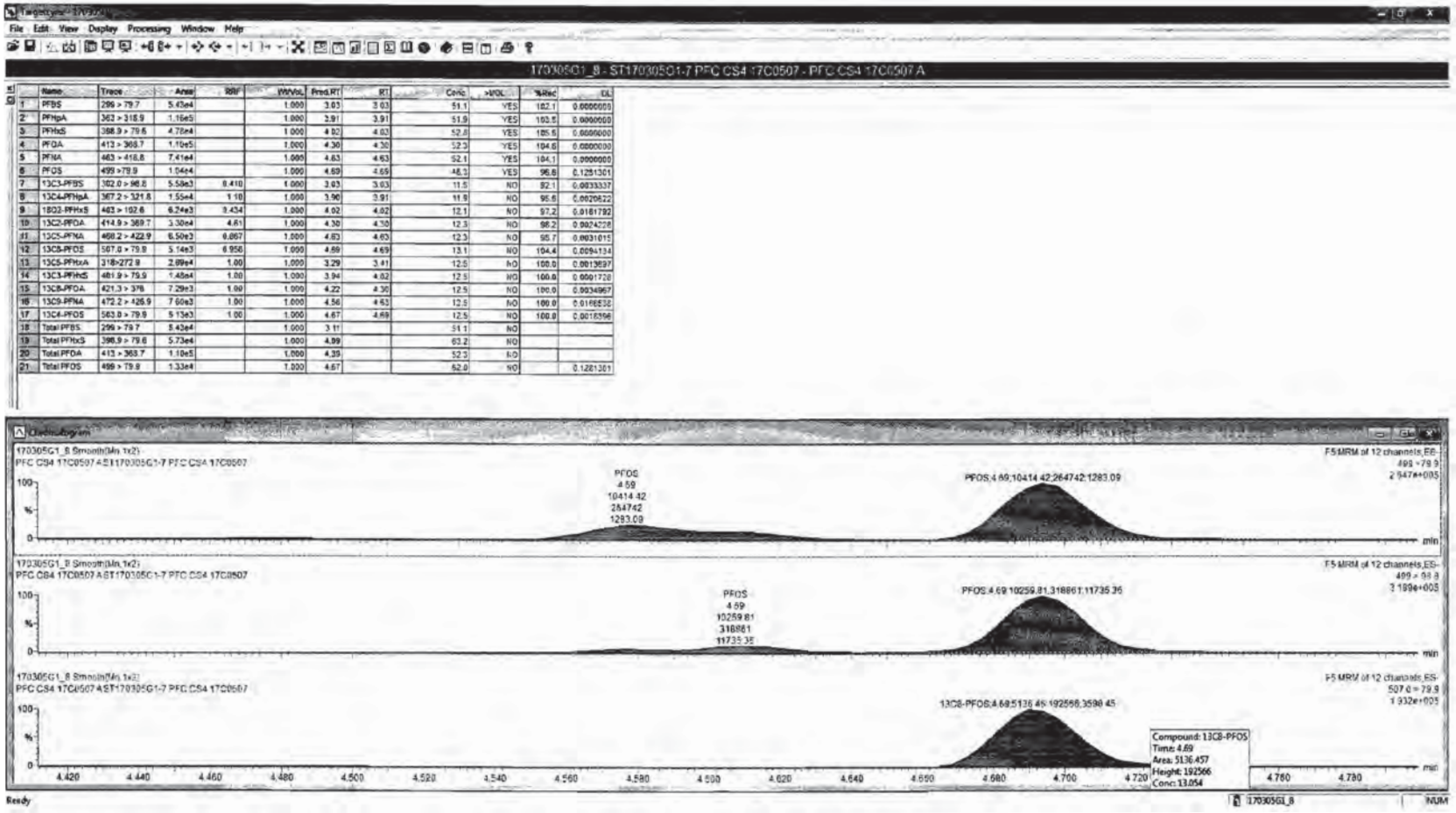

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2	PFHpA	363 > 318.9	1.16e5		1.000	3.91	3.91	51.9	YES	103.8	0.0000000
3	PFHxS	398.9 > 79.8	4.78e4		1.000	4.02	4.03	52.8	YES	105.5	0.0000000
4	PFOA	413 > 368.7	1.10e5		1.000	4.30	4.30	52.3	YES	104.6	0.0000000
5	PFNA	463 > 418.8	7.41e4		1.000	4.63	4.63	52.1	YES	104.1	0.0000000
6	PFOS	499 > 79.9	1.04e4		1.000	4.69	4.69	48.3	YES	96.6	0.1251301
7	13C3-PFBS	302.0 > 98.8	5.58e3	0.410	1.000	3.03	3.03	11.5	NO	92.1	0.0033337
8	13C4-PFHpA	367.2 > 321.8	1.55e4	1.10	1.000	3.90	3.91	11.9	NO	95.6	0.0020622
9	1802-PFHxS	403 > 102.6	6.24e3	0.434	1.000	4.02	4.02	12.1	NO	97.2	0.0181792
10	13C2-PFOA	414.9 > 369.7	3.30e4	4.61	1.000	4.30	4.30	12.3	NO	98.2	0.0024228
11	13C5-PFNA	468.2 > 422.9	6.50e3	0.867	1.000	4.63	4.63	12.3	NO	98.7	0.0031015
12	13C8-PFOS	507.0 > 79.9	5.14e3	6.956	1.000	4.69	4.69	13.1	NO	104.4	0.0094134
13	13C5-PFHxA	318>272.9	2.89e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0013697
14	13C3-PFHxS	401.9 > 79.9	1.48e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0001720
15	13C8-PFOA	421.3 > 376	7.29e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0034967
16	13C9-PFNA	472.2 > 426.9	7.60e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0186538
17	13C4-PFOS	503.0 > 79.9	5.13e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0018596
18	Total PFBS	299 > 79.7	5.43e4		1.000	3.11		51.1	NO		
19	Total PFHxS	398.9 > 79.8	5.73e4		1.000	4.09		63.2	NO		
20	Total PFOA	413 > 368.7	1.10e5		1.000	4.35		52.3	NO		
21	Total PFOS	499 > 79.9	1.33e4		1.000	4.67		62.0	NO		0.1281301

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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ID: ST170305G1-8 PFC CS5 17C0508, Description: PFC CS5 17C0508 A, Name: 170305G1_9, Date: 05-Mar-2017, Time: 14:14:34, Instrument: , Lab: , User:

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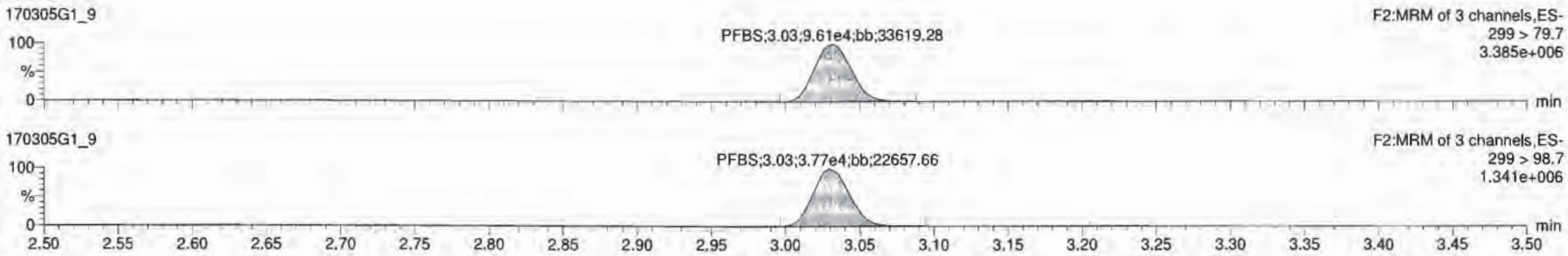
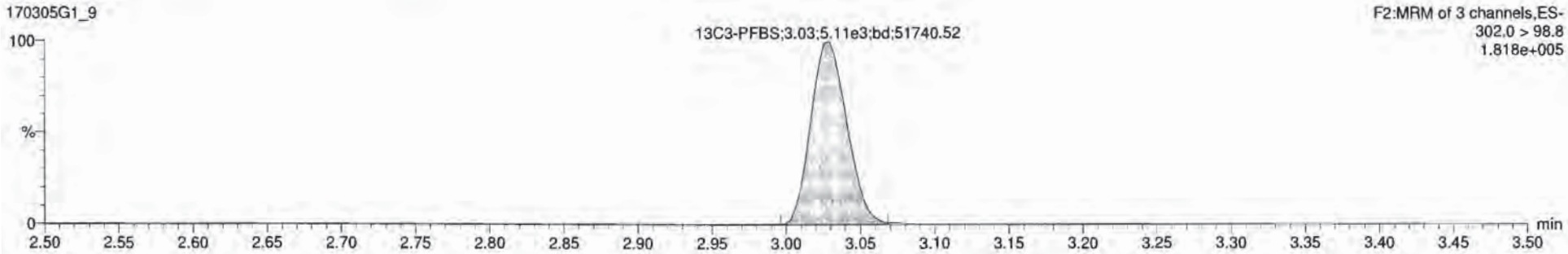


13C3-PFBS



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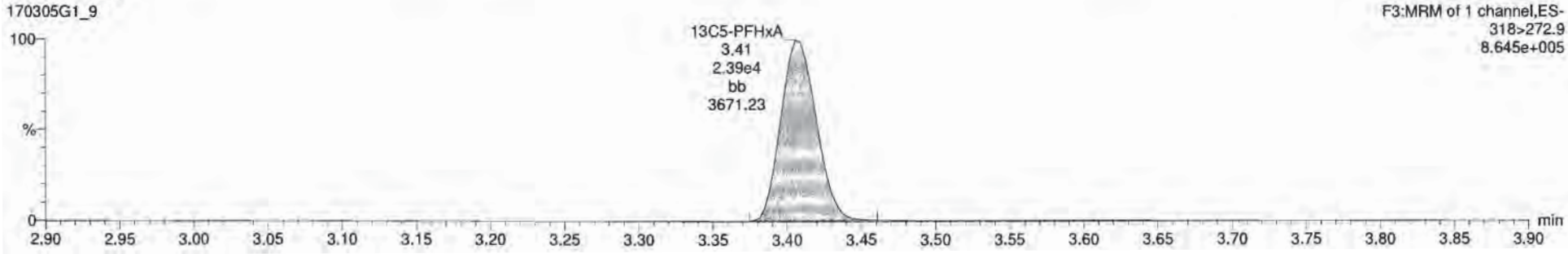

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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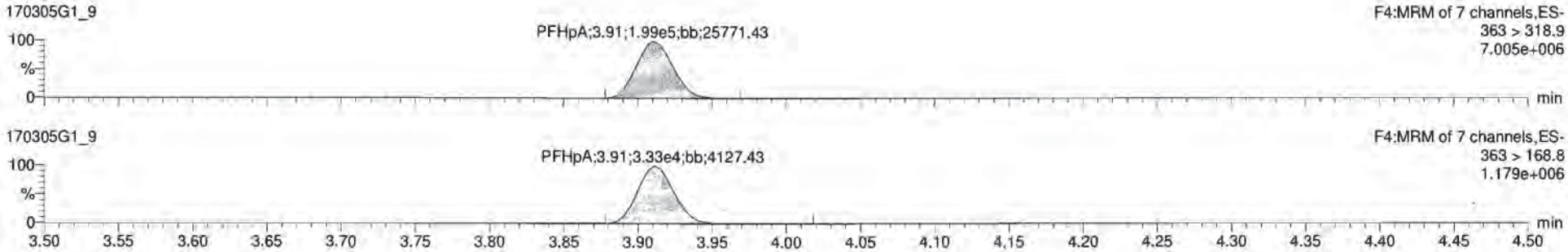
PFHpA



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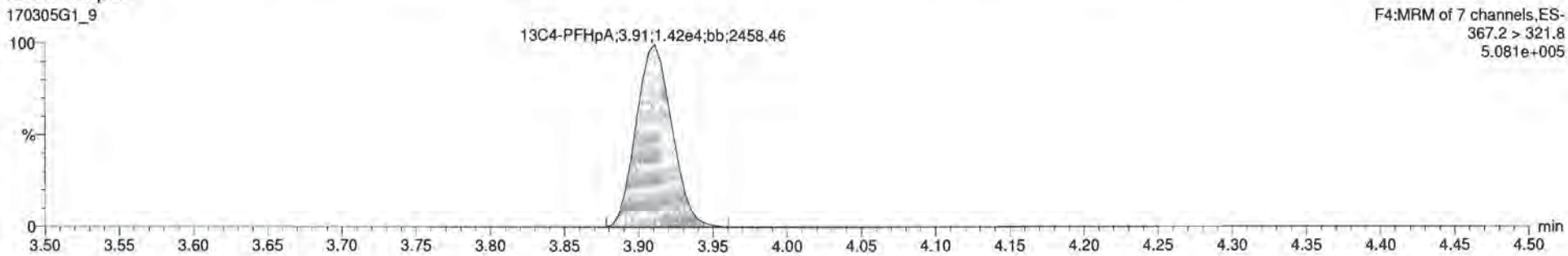

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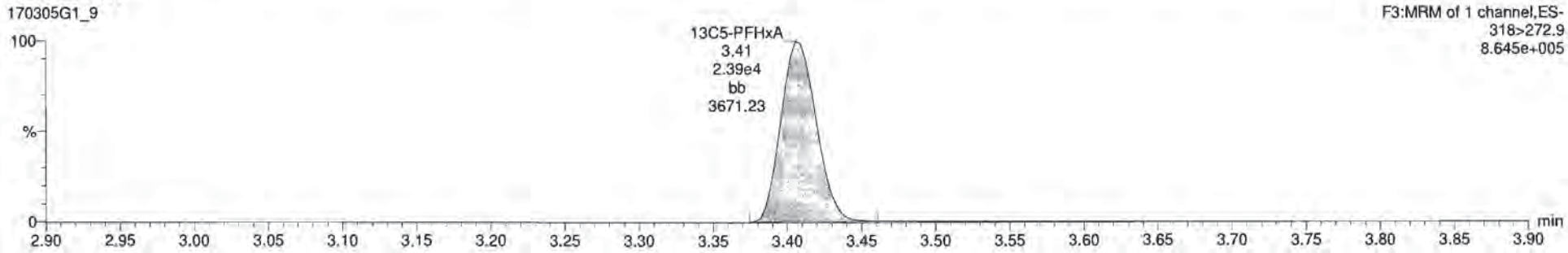

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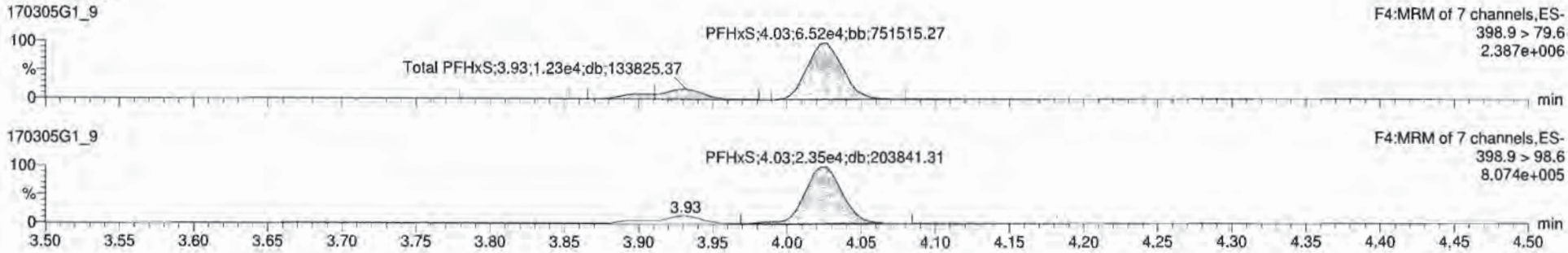
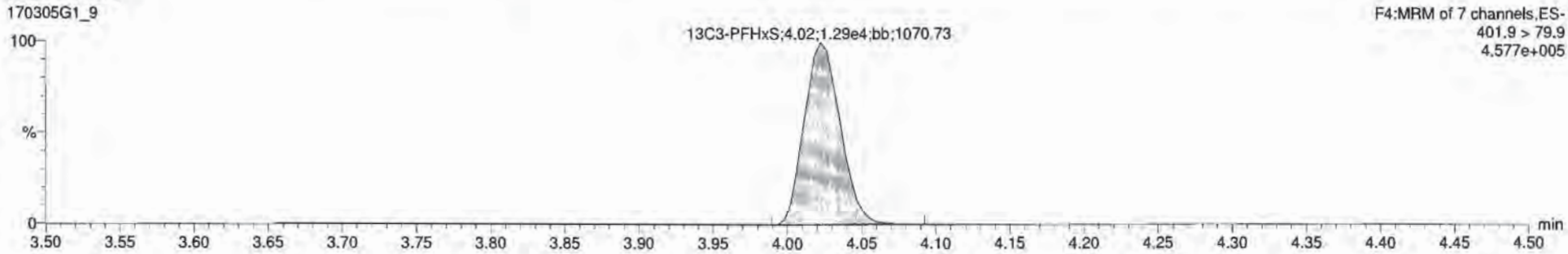
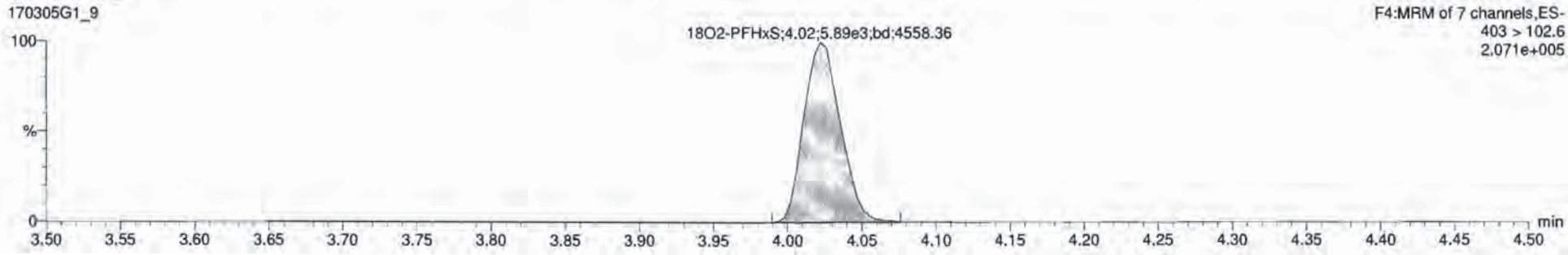
Total PFHxS

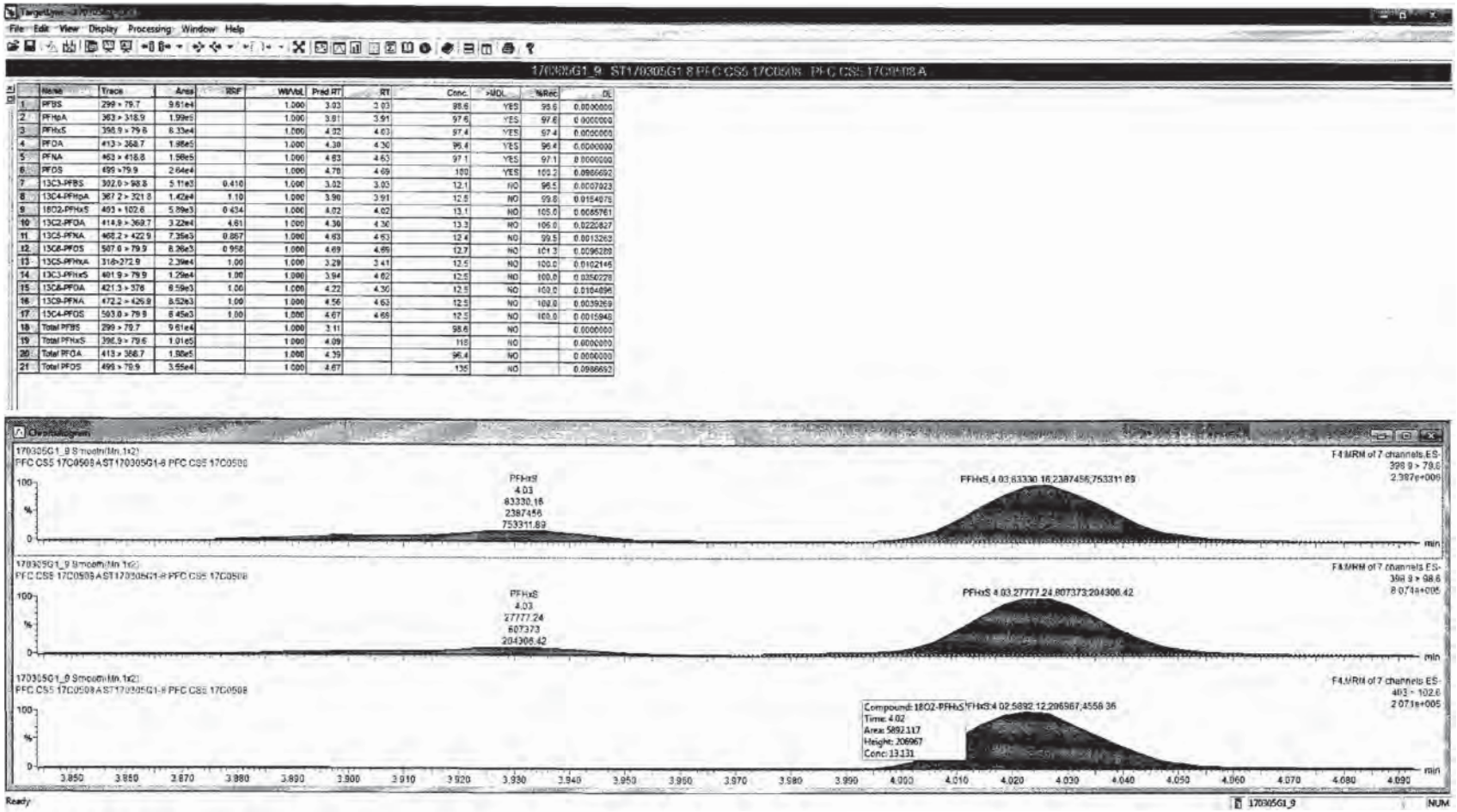


13C3-PFHxS



18O2-PFHxS





	Name	Trace	Area	RRF	WtVal	Pred RT	RT	Conc.	>IDL	%Rec	DL
1	PFBS	299 > 79.7	9.61e4		1.000	3.03	3.03	98.6	YES	98.6	0.0000000
2	PFHpA	363 > 318.9	1.99e5		1.000	3.91	3.91	97.6	YES	97.6	0.0000000
3	PFHxS	398.9 > 79.8	8.33e4		1.000	4.02	4.03	97.4	YES	97.4	0.0000000
4	PFOA	413 > 368.7	1.98e5		1.000	4.39	4.39	96.4	YES	96.4	0.0000000
5	PFNA	463 > 418.8	1.98e5		1.000	4.83	4.83	97.1	YES	97.1	0.0000000
6	PFOS	499 > 79.9	2.64e4		1.000	4.70	4.69	100	YES	100.2	0.0986692
7	13C3-PFBS	302.0 > 98.8	5.11e3	0.410	1.000	3.02	3.03	12.1	NO	96.5	0.0007923
8	13C4-PFHpA	367.2 > 321.8	1.42e4	1.10	1.000	3.90	3.91	12.5	NO	99.8	0.0154076
9	18O2-PFHxS	403 > 102.6	5.89e3	0.434	1.000	4.02	4.02	13.1	NO	105.0	0.0065761
10	13C2-PFOA	414.9 > 369.7	3.22e4	4.61	1.000	4.38	4.38	13.3	NO	106.0	0.0220827
11	13C5-PFNA	468.2 > 422.9	7.35e3	0.867	1.000	4.83	4.83	12.4	NO	99.5	0.0013263
12	13C8-PFOS	507.0 > 79.9	8.26e3	0.958	1.000	4.69	4.69	12.7	NO	101.3	0.0096289
13	13C5-PFHxA	318>272.9	2.39e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0102146
14	13C3-PFHxS	401.9 > 79.9	1.29e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0350228
15	13C8-PFOA	421.3 > 376	8.59e3	1.00	1.000	4.22	4.38	12.5	NO	100.0	0.0104896
16	13C9-PFNA	472.2 > 426.9	8.52e3	1.00	1.000	4.56	4.83	12.5	NO	100.0	0.0039269
17	13C4-PFOS	503.0 > 79.9	8.45e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0015948
18	Total PFBS	299 > 79.7	9.61e4		1.000	3.11		98.6	NO		0.0000000
19	Total PFHxS	398.9 > 79.8	1.01e5		1.000	4.09		118	NO		0.0000000
20	Total PFOA	413 > 368.7	1.98e5		1.000	4.39		96.4	NO		0.0000000
21	Total PFOS	499 > 79.9	3.55e4		1.000	4.67		135	NO		0.0986692

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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time
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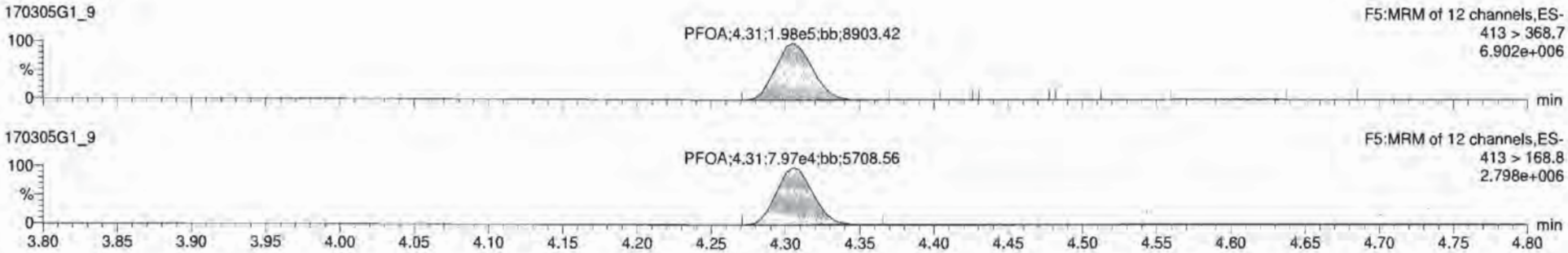
ID: ST170305G1-8 PFC CS5 17C0508, Description: PFC CS5 17C0508 A, Name: 170305G1_9, Date: 05-Mar-2017, Time: 14:14:34, Instrument: , Lab: , User:

Total PFOA



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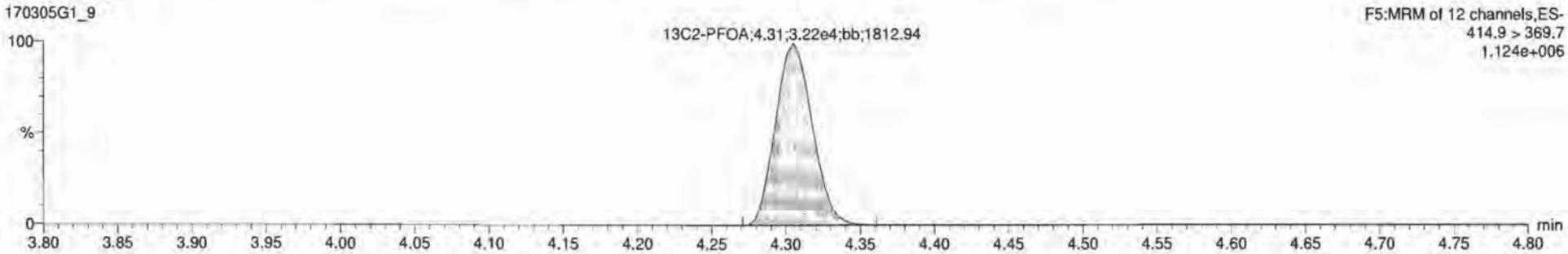

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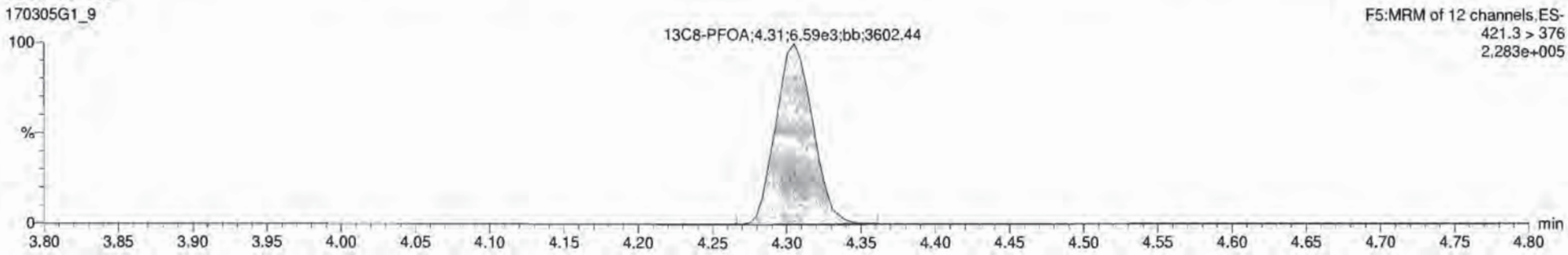

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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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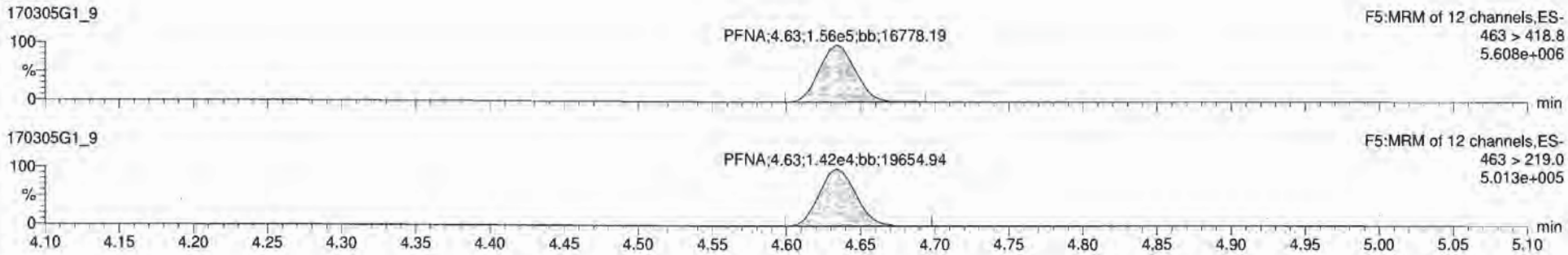

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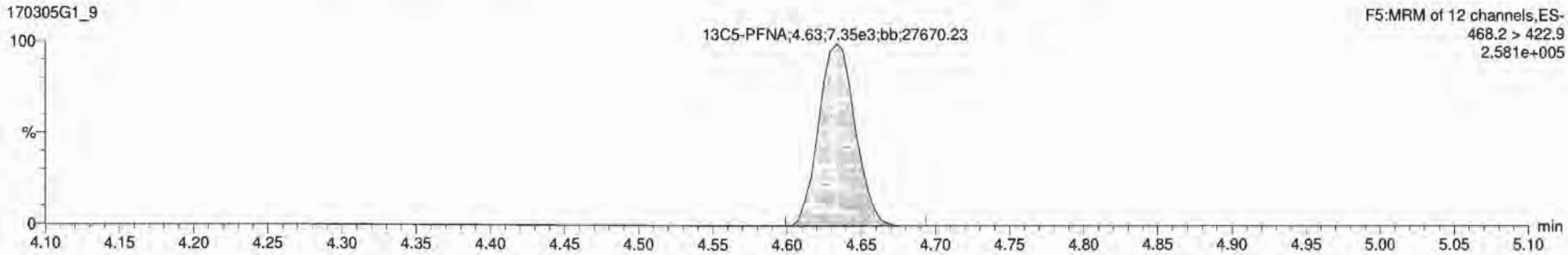
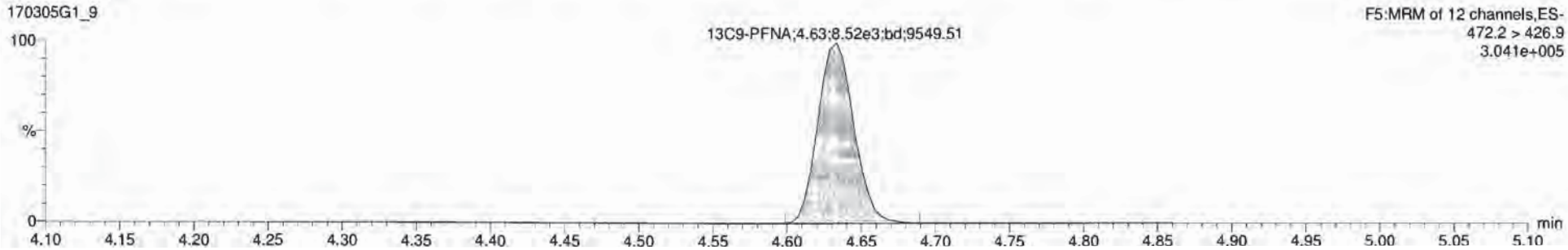


13C9-PFNA



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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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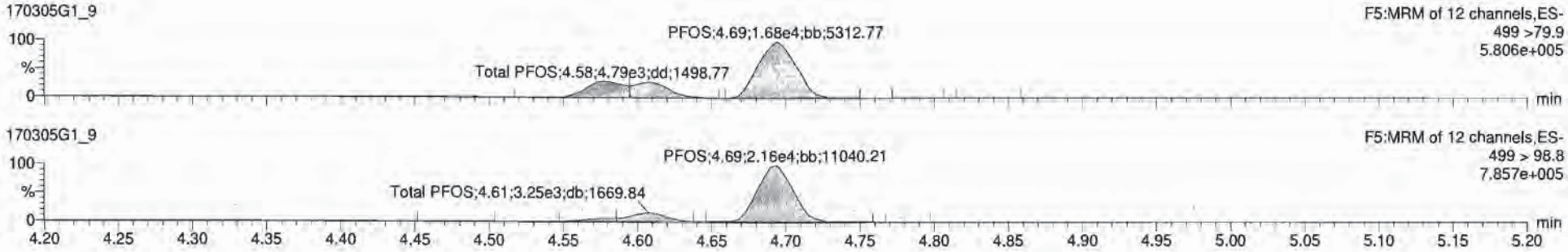
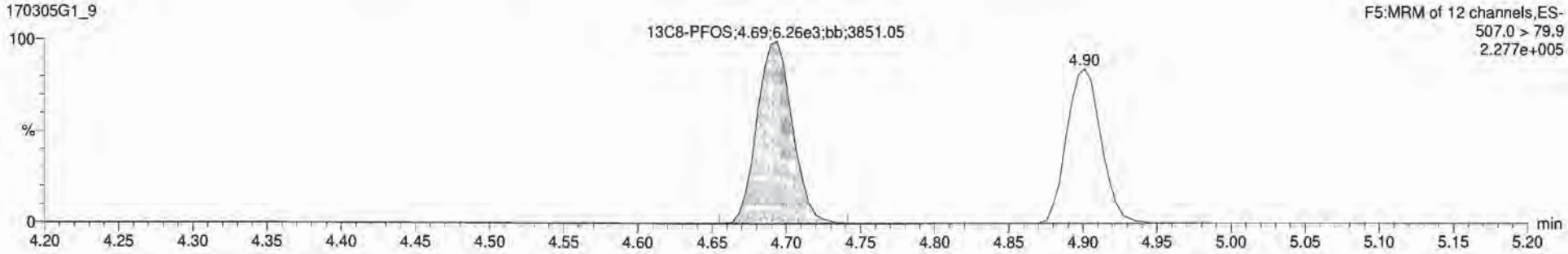
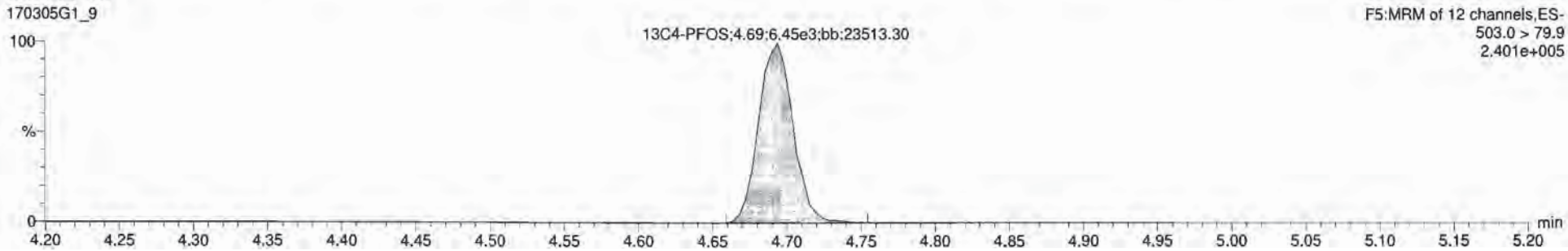
Total PFOS

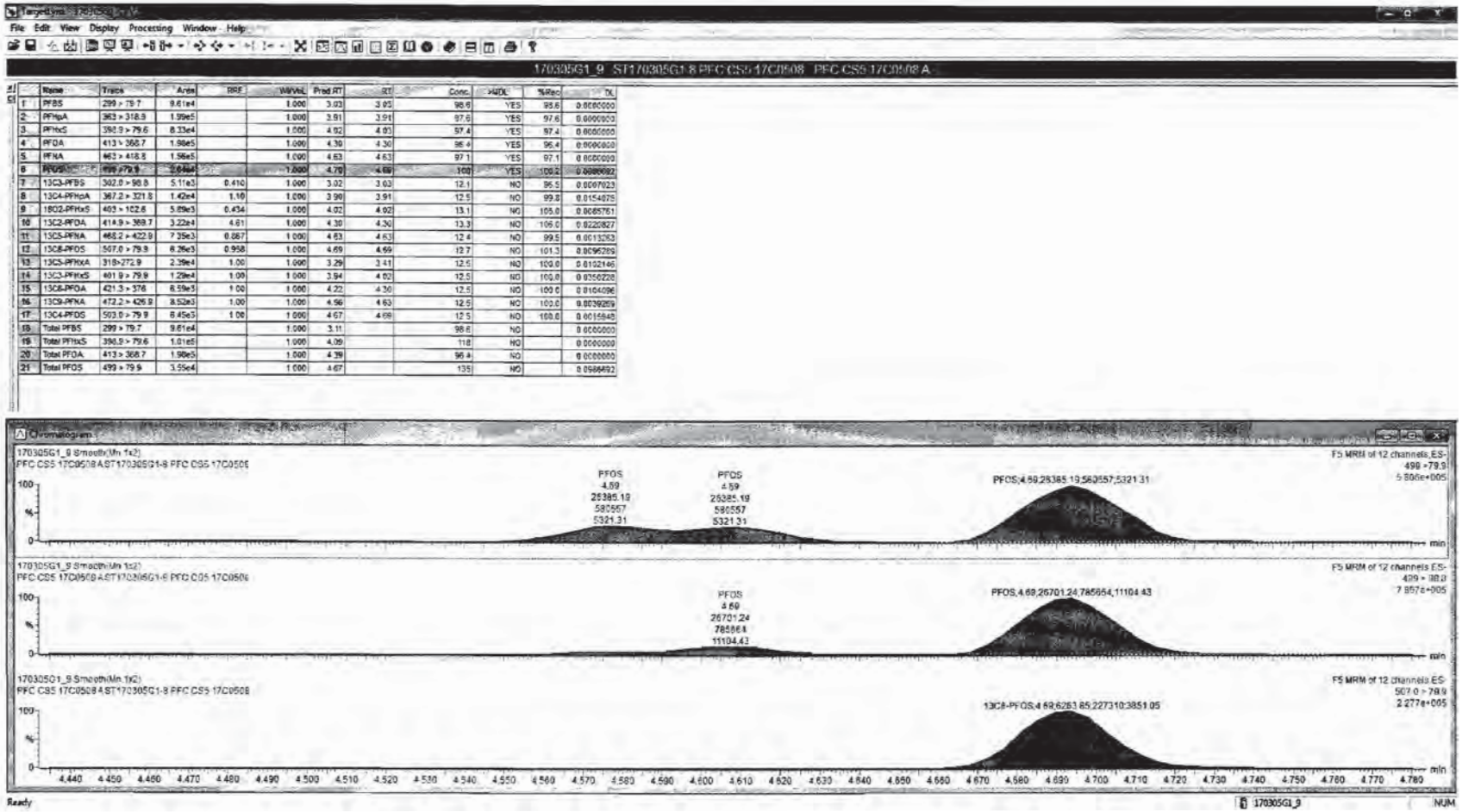


13C8-PFOS



13C4-PFOS





	Name	Trace	Area	RRF	WtVal	Pred RT	RT	Conc.	HIDL	%Rec	DL
1	PFBS	299 > 79.7	9.61e4		1.000	3.03	3.03	98.6	YES	98.6	0.0000000
2	PFHpA	363 > 318.9	1.99e5		1.000	3.91	3.91	97.6	YES	97.6	0.0000000
3	PFHxS	398.9 > 79.6	8.33e4		1.000	4.02	4.03	97.4	YES	97.4	0.0000000
4	PFOA	413 > 368.7	1.98e5		1.000	4.30	4.30	96.4	YES	96.4	0.0000000
5	PFNA	463 > 418.8	1.98e5		1.000	4.63	4.63	97.1	YES	97.1	0.0000000
6	PFOS	499 > 79.9	2.04e5		1.000	4.70	4.69	100	YES	100.2	0.0000000
7	13C3-PFBS	302.0 > 98.8	5.11e3	0.410	1.000	3.02	3.03	12.1	NO	96.5	0.0097023
8	13C4-PFHpA	367.2 > 321.8	1.42e4	1.10	1.000	3.90	3.91	12.5	NO	99.8	0.0154875
9	1802-PFHxS	403 > 102.8	5.89e3	0.434	1.000	4.02	4.02	13.1	NO	105.0	0.0085761
10	13C2-PFOA	414.9 > 369.7	3.22e4	4.61	1.000	4.30	4.30	13.3	NO	106.0	0.0220827
11	13C5-PFNA	468.2 > 422.9	7.35e3	0.867	1.000	4.63	4.63	12.4	NO	99.5	0.0113263
12	13C8-PFOS	507.0 > 79.9	8.26e3	0.958	1.000	4.69	4.69	12.7	NO	101.3	0.0096289
13	13C5-PFHxA	318>272.9	2.39e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0102146
14	13C3-PFHxS	401.9 > 79.9	1.29e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0350228
15	13C8-PFOA	421.3 > 376	8.59e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0104096
16	13C9-PFNA	472.2 > 426.9	8.52e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0039259
17	13C4-PFOS	503.0 > 79.9	8.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0015845
18	Total PFBS	299 > 79.7	9.61e4		1.000	3.11		98.6	NO		0.0000000
19	Total PFHxS	398.9 > 79.6	1.01e5		1.000	4.09		118	NO		0.0000000
20	Total PFOA	413 > 368.7	1.98e5		1.000	4.39		96.4	NO		0.0000000
21	Total PFOS	499 > 79.9	3.55e4		1.000	4.67		135	NO		0.0986492

Quantify Sample Summary Report **MassLynx 4.1 SCN815**
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-11.qld

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Printed: Monday, March 06, 2017 09:13:06 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 11:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170305G1_11, Date: 05-Mar-2017, Time: 14:39:40, ID: SS170305G1-1 PFC SSS 17C0509, Description: PFC SSS 17C0509 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.09e4	6.54e3		1.000	3.03	8.70	87.0
2	2	PFHpA	363 > 318.9	2.52e4	1.73e4		1.000	3.91	10.0	100.4
3	3	PFHxS	398.9 > 79.6	8.94e3	6.56e3		1.000	4.03	9.33	93.3
4	4	PFOA	413 > 368.7	2.26e4	3.20e4		1.000	4.31	10.9	108.7
5	5	PFNA	463 > 418.8	1.28e4	5.80e3		1.000	4.63	10.0	100.4
6	6	PFOS	499 >79.9	2.01e3	4.01e3		1.000	4.69	11.7	117.2
7	7	13C3-PFBS	302.0 > 98.8	6.54e3	1.49e4	0.410	1.000	3.03	13.4	106.8
8	8	13C4-PFHpA	367.2 > 321.8	1.73e4	1.49e4	1.098	1.000	3.91	13.2	105.7
9	9	18O2-PFHxS	403 > 102.6	6.56e3	1.49e4	0.434	1.000	4.02	12.6	101.2
10	10	13C2-PFOA	414.9 > 369.7	3.20e4	7.38e3	4.608	1.000	4.31	11.8	94.1
11	11	13C5-PFNA	468.2 > 422.9	5.80e3	6.69e3	0.867	1.000	4.63	12.5	99.9
12	12	13C8-PFOS	507.0 > 79.9	4.01e3	4.48e3	0.958	1.000	4.69	11.7	93.4
13	13	13C5-PFHxA	318>272.9	2.89e4	2.89e4	1.000	1.000	3.41	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.49e4	1.49e4	1.000	1.000	4.03	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	7.38e3	7.38e3	1.000	1.000	4.31	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	6.69e3	6.69e3	1.000	1.000	4.63	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	4.48e3	4.48e3	1.000	1.000	4.69	12.5	100.0

75-125

ES 3/6/17

✓AC 3/6/17

Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Monday, March 06, 2017 09:10:12 Pacific Standard Time
Printed: Monday, March 06, 2017 09:10:17 Pacific Standard Time

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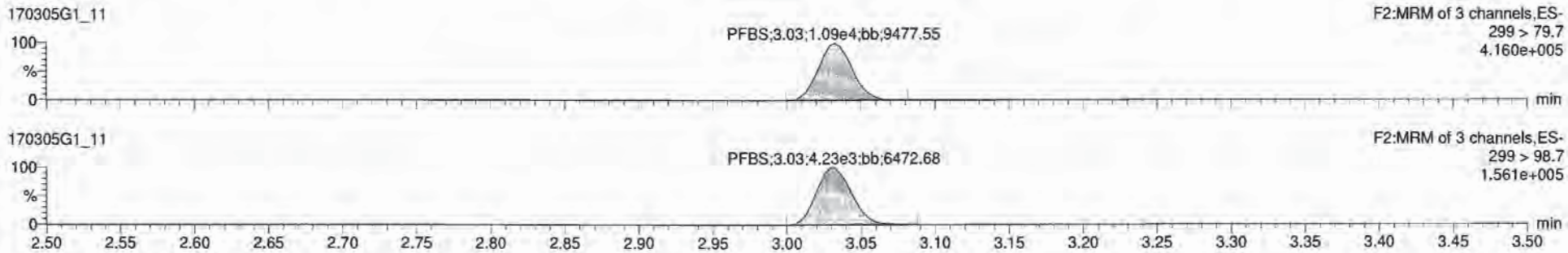
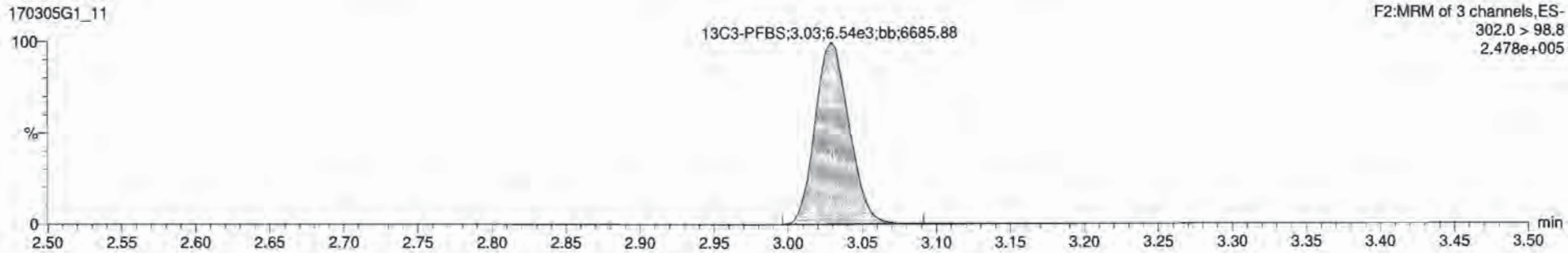
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-05-17_L6_2Trans.cdb 06 Mar 2017 08:35:26

ID: SS170305G1-1 PFC SSS 17C0509, Description: PFC SSS 17C0509 A, Name: 170305G1_11, Date: 05-Mar-2017, Time: 14:39:40, Instrument: , Lab: , User:

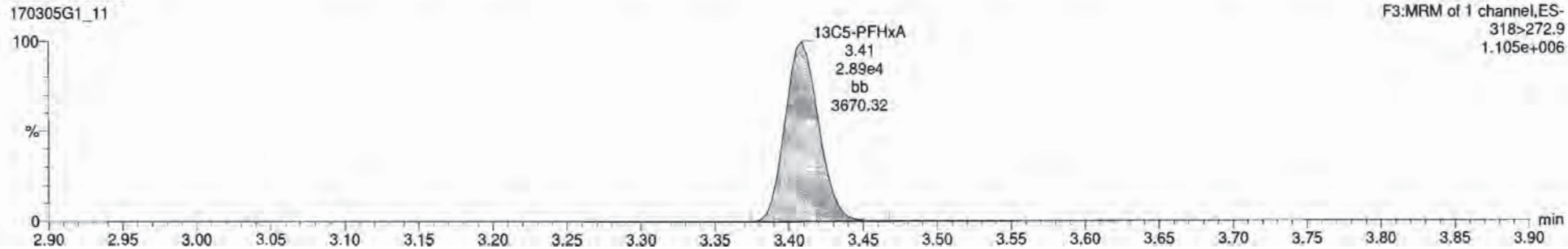
PFBS



13C3-PFBS



13C5-PFHxA



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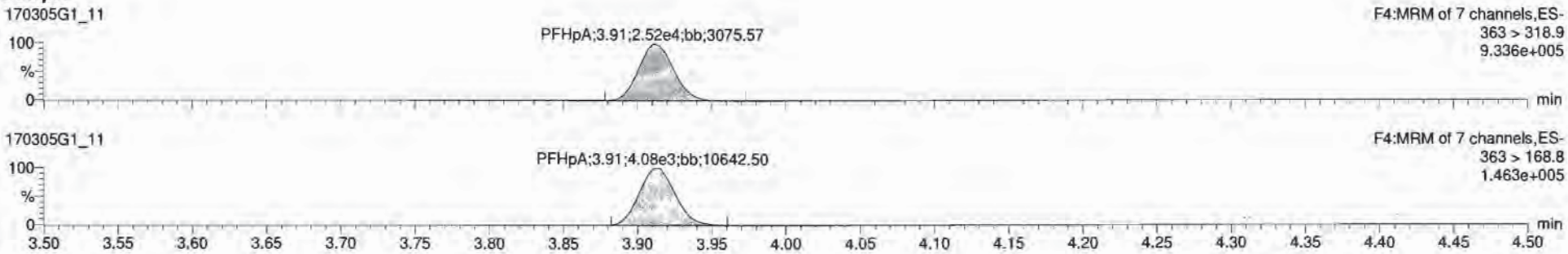
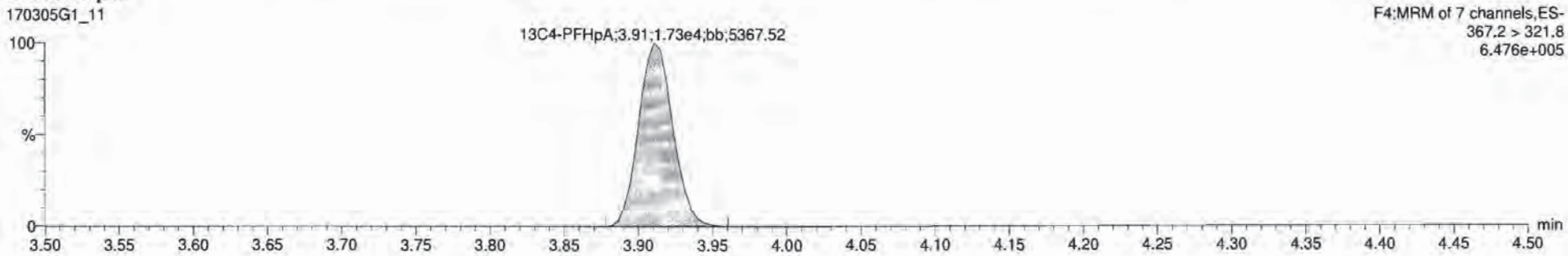
Printed: Monday, March 06, 2017 09:10:17 Pacific Standard Time

ID: SS170305G1-1 PFC SSS 17C0509, Description: PFC SSS 17C0509 A, Name: 170305G1_11, Date: 05-Mar-2017, Time: 14:39:40, Instrument: , Lab: , User:

PFHpA



13C4-PFHpA



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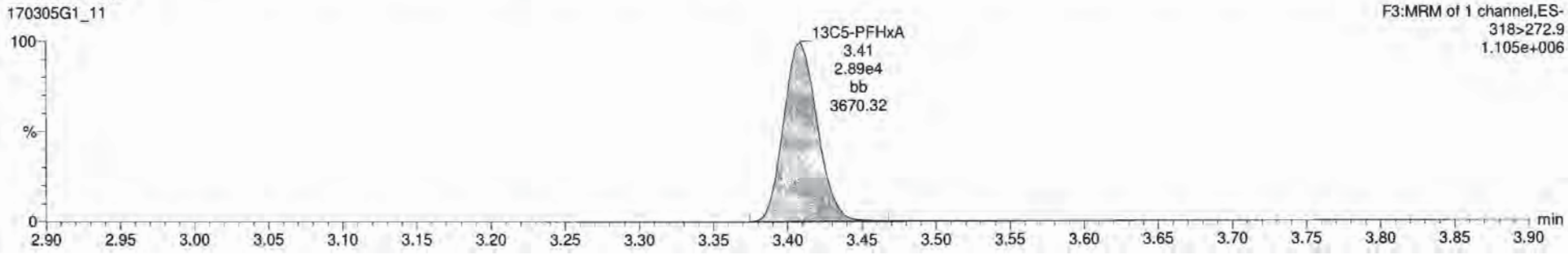

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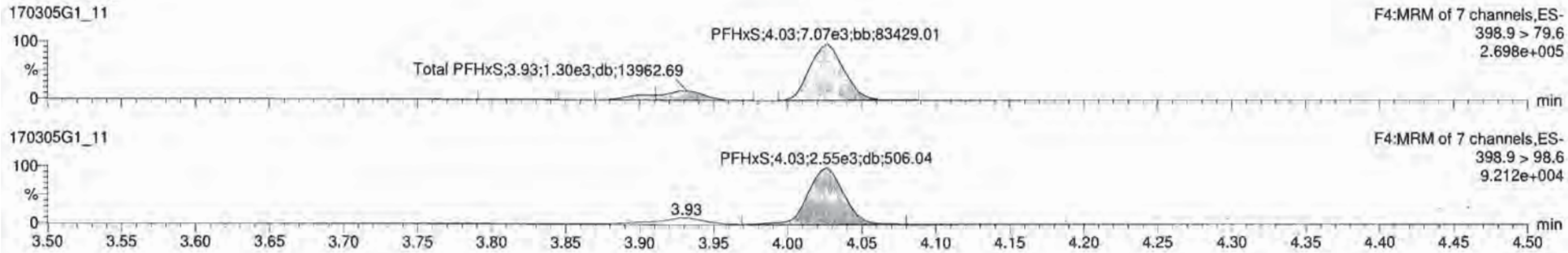
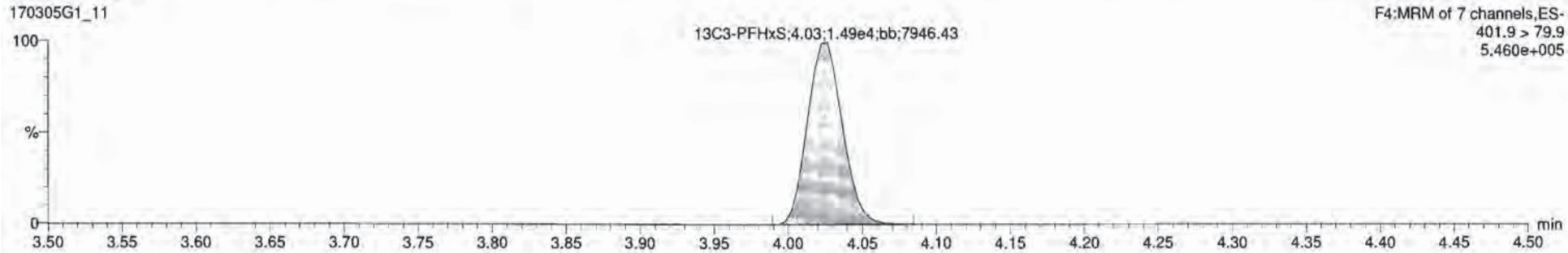
Printed: Monday, March 06, 2017 09:10:17 Pacific Standard Time

ID: SS170305G1-1 PFC SSS 17C0509, Description: PFC SSS 17C0509 A, Name: 170305G1_11, Date: 05-Mar-2017, Time: 14:39:40, Instrument: , Lab: , User:

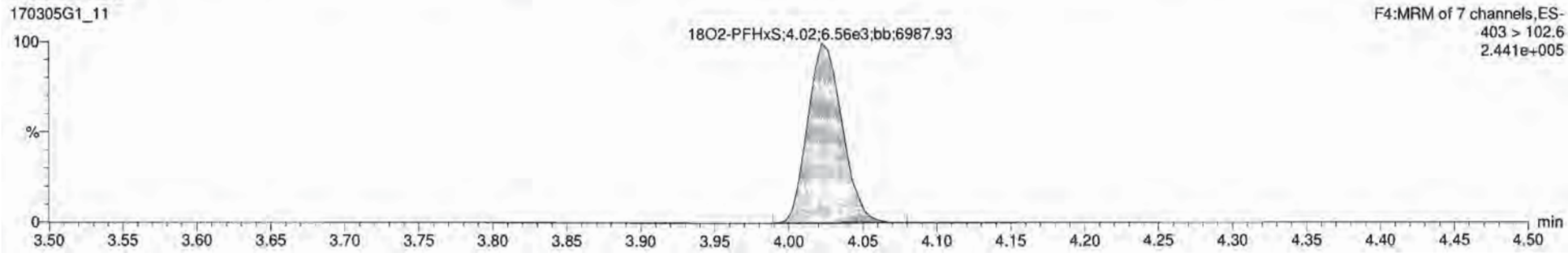
Total PFHxS



13C3-PFHxS



18O2-PFHxS

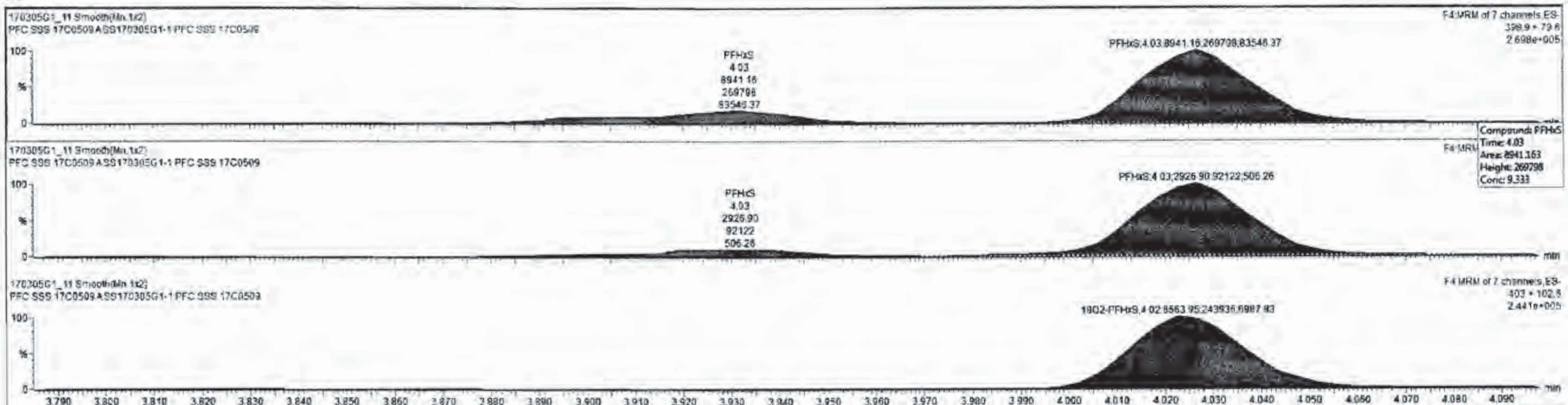


TargetLynx

File Edit View Display Processing Window Help

170305G1_11 - SS170305G1-1 PFC SSS 17C0509 - PFC SSS 17C0509A

	Name	Conc	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq Date	Acq Time	1° Chr Noise	ID	Sample Text	Factor1	SWt	Cal File	>MDL
1	PFBS	8.6969458	0.0000...	87.0		1.087e4		3.03	1	7	0.389	YES	1.001	05-Mar-17	14:39:40	24.076	SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
2	PFHpA	10.037596	0.0000...	100.4		2.523e4		3.91	2	8			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
3	PFHxS	9.3329736	0.0000	93.3		8.941e3		4.03	3	9			1.001	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
4	PFOA	10.865712	0.0000...	108.7		2.255e4		4.31	4	10			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
5	PFNA	10.042823	0.0000...	100.4		1.279e4		4.63	5	11			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
6	PFOS	7.5852330	0.122	75.9		1.298e3		4.69	6	12			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	13.351268	0.00517	106.8		8.541e3	0.410	3.03	7	14			0.889	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	13.214482	0.00629	105.7		1.734e4	1.098	3.91	8	14			0.971	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
9	18O2-PFHxS	12.848532	0.00461	101.2		6.564e3	0.434	4.02	9	14			0.999	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
10	13C2-PFDA	11.761296	0.00247	94.1		3.201e4	4.608	4.31	10	15			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	12.488185	0.00143	99.9		5.797e3	0.867	4.63	11	16			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	11.880781	0.00302	93.4		4.614e3	0.958	4.69	12	17			1.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00851	100.0		2.890e4	1.000	3.41	13	13			0.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.00393	100.0		1.494e4	1.000	4.03	14	14			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V	NO
15	13C8-PFOA	12.500000	0.000378	100.0		7.382e3	1.000	4.31	15	15			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.00140	100.0		6.692e3	1.000	4.63	16	16			0.000	05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.00137	100.0		4.482e3	1.000	4.69	17	17			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C06...	1.0	1.00	C18_V	NO
18	Total PFBS	8.6969458							18					05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
19	Total PFHxS	11.119453							19					05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
20	Total PFOA	10.865712							20					05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V	NO
21	Total PFOS	11.670726	0.122						21					05-Mar-17	14:39:40		SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO



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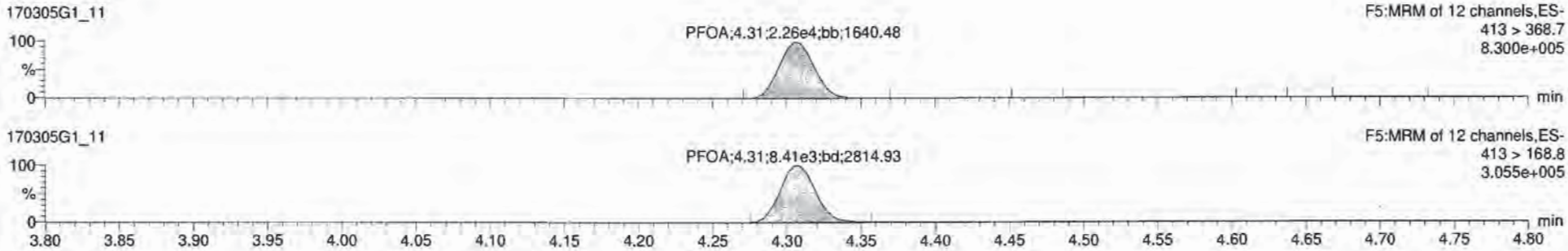
Total PFOA



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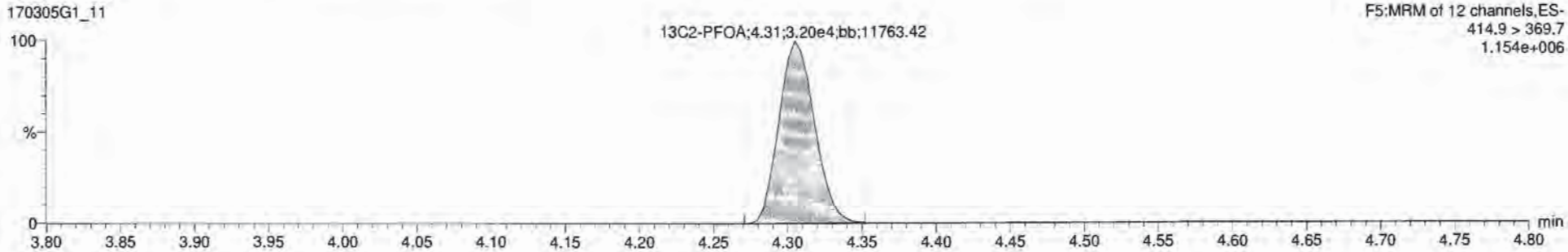

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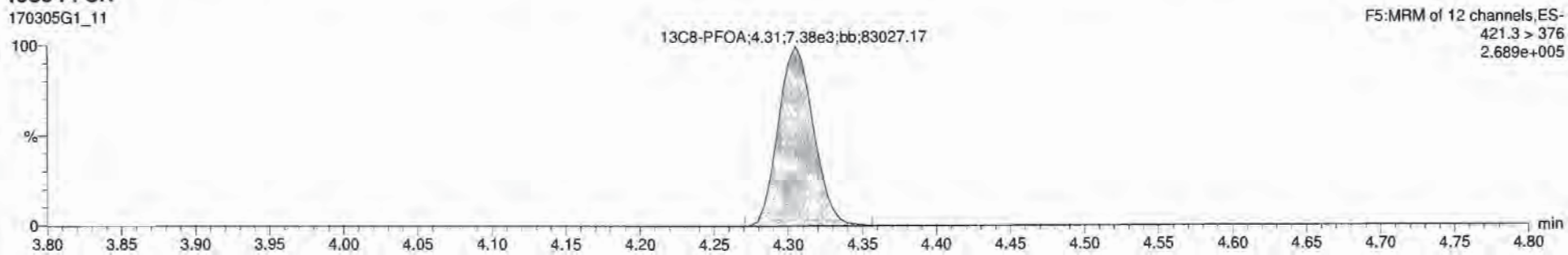

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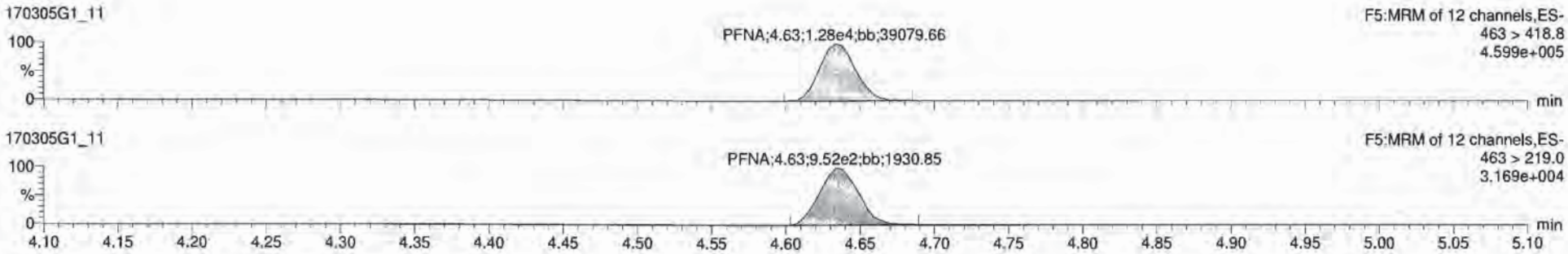
PFNA



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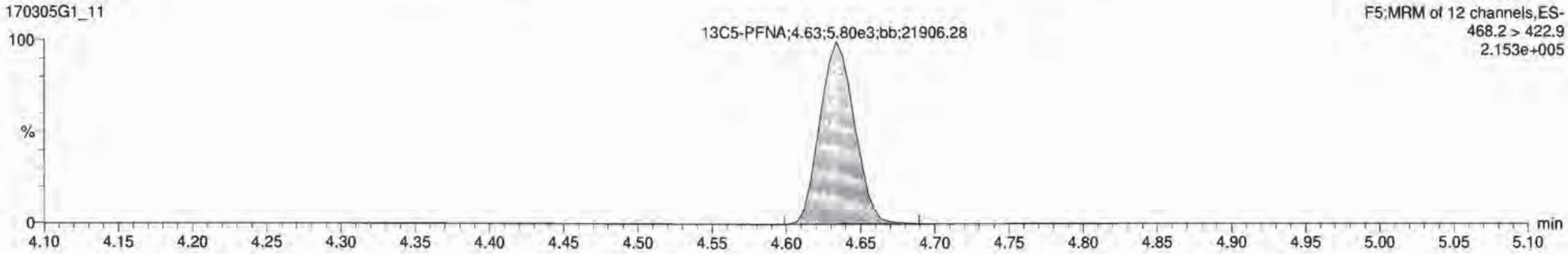

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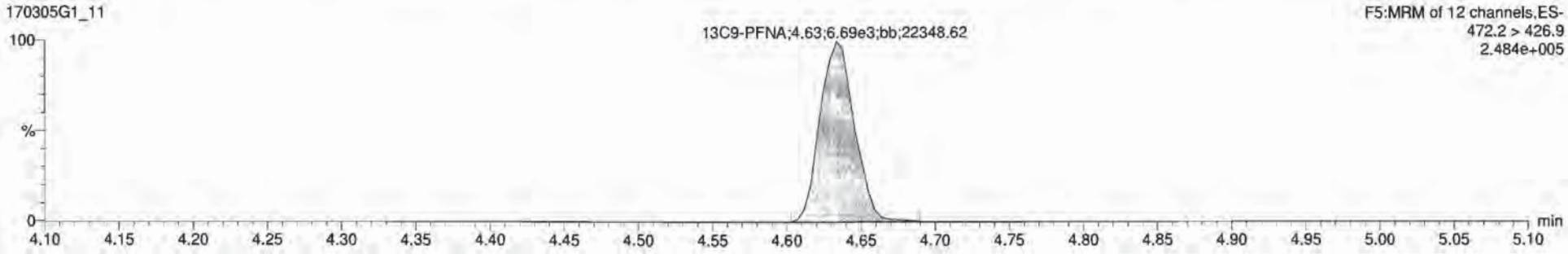

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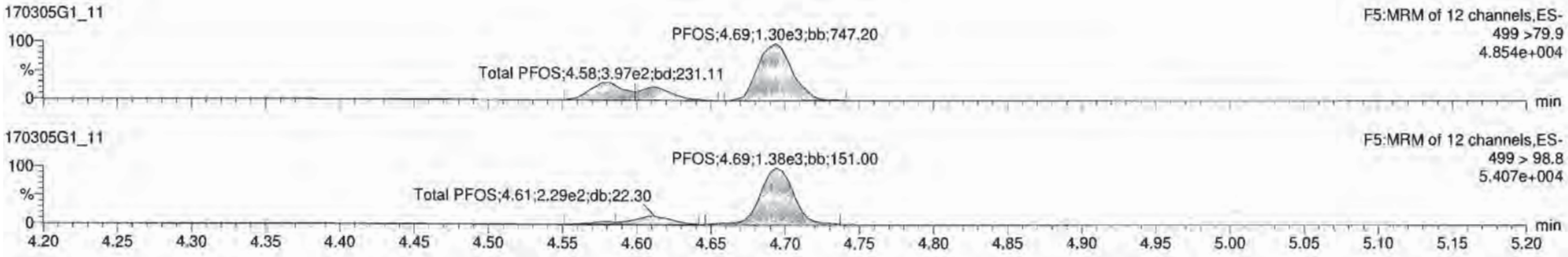
Total PFOS



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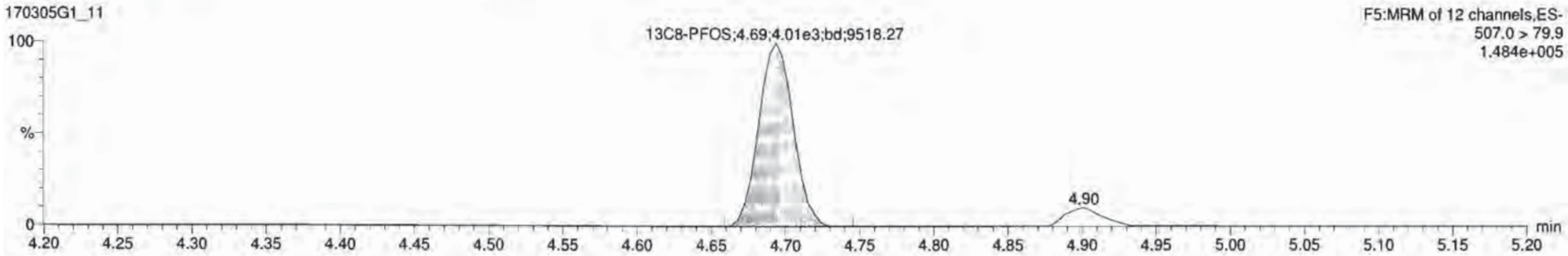

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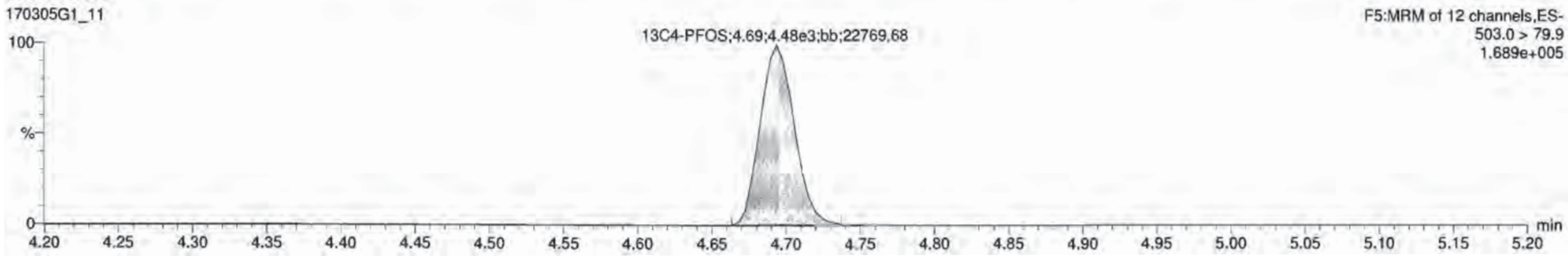

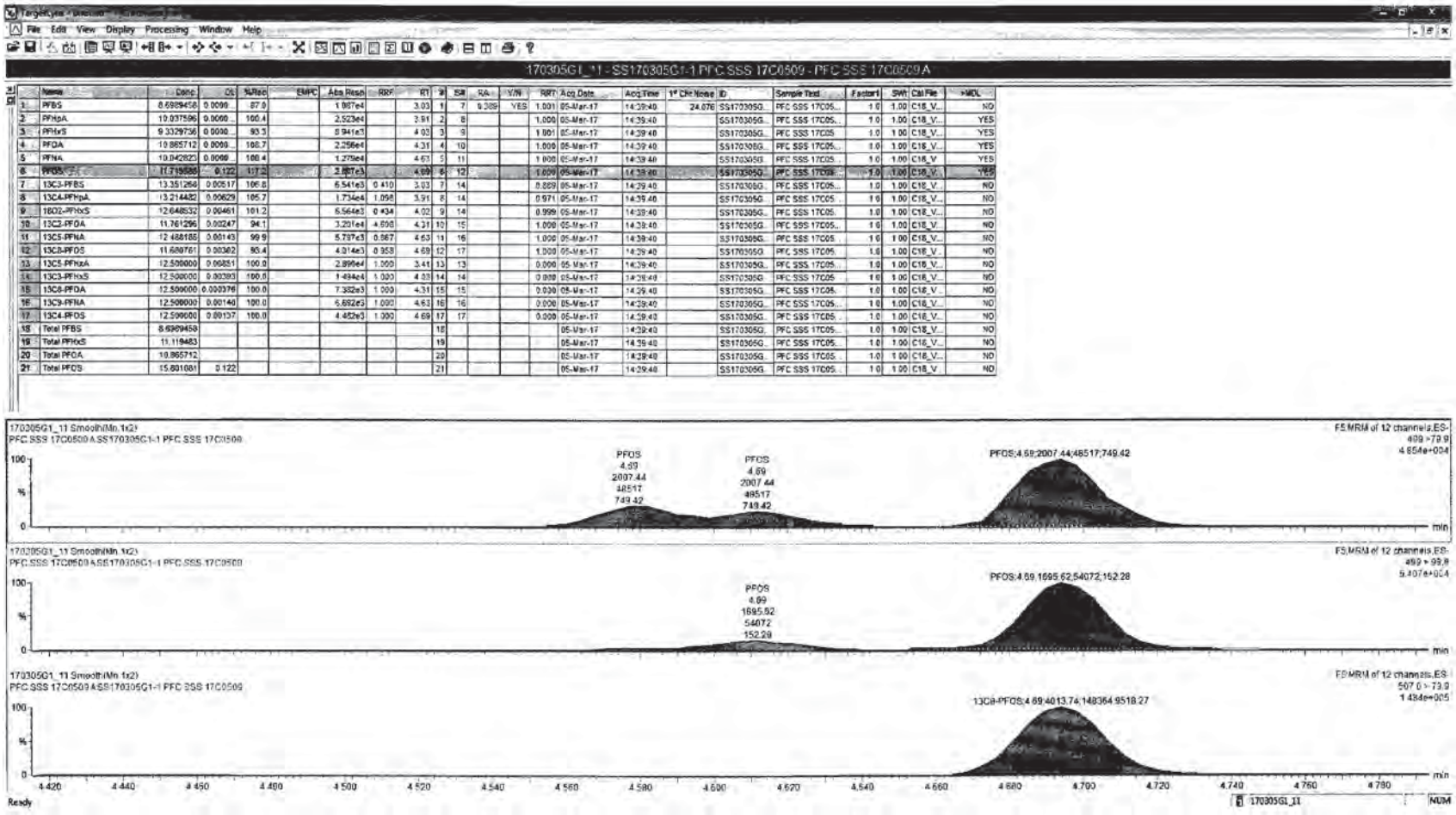
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Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis_ Group	Analytical_ Method	PRC_Code	Lab_Code	Lab_Name	Leachate_ Method	Sample_ Basis	Extraction_ Method	Result_ Type	Lab_QC_ Type	Sample_ Medium	QC_Level	DateTime_Collected	Date_Received	Leachate_ Date
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N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/01/2017 11:00	03/04/2017	
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N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/01/2017 11:05	03/04/2017	
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Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis_ Group	Analytical_ Method	PRC_Code	Lab_Code	Lab_Name	Leachate_ Method	Sample_ Basis	Extraction_ Method	Result_ Type	Lab_QC_ Type	Sample_ Medium	QC_Level	DateTime_Collected	Date_Received	Leachate_ Date
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N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MS	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	MSD	W	4	03/06/2017 08:15	03/06/2017	

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	Leachate_ Time	Extraction_ Date	Extraction_ Time	Analysis_ Date	Analysis_ Time	Lab_ Sample_ID	Dilution	Run_ Number	Percent_ Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original_ Analyte_ Value	Result_ Units	Lab_ Qualifier
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170307	09:51:00	1700293-01	10	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		332	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170306	18:45:00	1700293-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		571	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170306	18:45:00	1700293-01	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		54.7	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170307	09:51:00	1700293-01	10	-999			13C3-PFBS	13C3-PFBS		112	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170306	18:45:00	1700293-01	1	-999			13C2-PFOA	13C2-PFOA		78.6	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		20170306	08:15:00	20170306	18:45:00	1700293-01	1	-999			13C8-PFOS	13C8-PFOS		94.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170307	10:04:00	1700293-02	10	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		357	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170306	18:58:00	1700293-02	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		564	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170306	18:58:00	1700293-02	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		53.0	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170307	10:04:00	1700293-02	10	-999			13C3-PFBS	13C3-PFBS		112	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170306	18:58:00	1700293-02	1	-999			13C2-PFOA	13C2-PFOA		86.4	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		20170306	08:15:00	20170306	18:58:00	1700293-02	1	-999			13C8-PFOS	13C8-PFOS		90.4	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.91	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.95	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.879	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			13C3-PFBS	13C3-PFBS		98.7	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			13C2-PFOA	13C2-PFOA		83.2	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		20170306	08:15:00	20170306	19:10:00	1700293-03	1	-999			13C8-PFOS	13C8-PFOS		94.8	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.82	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.91	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.859	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			13C3-PFBS	13C3-PFBS		93.1	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			13C2-PFOA	13C2-PFOA		82.6	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		20170306	08:15:00	20170306	19:23:00	1700293-04	1	-999			13C8-PFOS	13C8-PFOS		89.8	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.88	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.94	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.872	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			13C3-PFBS	13C3-PFBS		96.4	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			13C2-PFOA	13C2-PFOA		86.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		20170306	08:15:00	20170306	20:13:00	1700293-05	1	-999			13C8-PFOS	13C8-PFOS		96.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.97	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.98	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.893	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			13C3-PFBS	13C3-PFBS		88.9	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			13C2-PFOA	13C2-PFOA		82.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		20170306	08:15:00	20170306	20:26:00	1700293-06	1	-999			13C8-PFOS	13C8-PFOS		84.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.35	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.17	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.978	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			13C3-PFBS	13C3-PFBS		90.8	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			13C2-PFOA	13C2-PFOA		86.1	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		20170306	08:15:00	20170306	20:38:00	1700293-07	1	-999			13C8-PFOS	13C8-PFOS		95.5	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		3.85	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		1.92	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.865	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			13C3-PFBS	13C3-PFBS		101	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			13C2-PFOA	13C2-PFOA		92.3	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		20170306	08:15:00	20170306	20:51:00	1700293-08	1	-999			13C8-PFOS	13C8-PFOS		76.9	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.20	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.10	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.945	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			13C3-PFBS	13C3-PFBS		103	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			13C2-PFOA	13C2-PFOA		85.9	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		20170306	08:15:00	20170306	21:03:00	1700293-09	1	-999			13C8-PFOS	13C8-PFOS		84.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.38	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.69	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.21	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			13C3-PFBS	13C3-PFBS		105	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			13C2-PFOA	13C2-PFOA		92.4	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		20170306	08:15:00	20170306	21:16:00	1700293-10	1	-999			13C8-PFOS	13C8-PFOS		97.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.24	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.12	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.953	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			13C3-PFBS	13C3-PFBS		103	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			13C2-PFOA	13C2-PFOA		85.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		20170306	08:15:00	20170306	21:28:00	1700293-11	1	-999			13C8-PFOS	13C8-PFOS		97.5	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.00	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.00	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.900	NG_L	U
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			13C3-PFBS	13C3-PFBS		117	PCT_REC	

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	Leachate_ Time	Extraction_ Date	Extraction_ Time	Analysis_ Date	Analysis_ Time	Lab_ Sample_ID	Dilution	Run_ Number	Percent_ Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original_ Analyte_ Value	Result_ Units	Lab_ Qualifier
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			13C2-PFOA	13C2-PFOA		82.1	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		20170306	08:15:00	20170306	17:17:00	B7C0017-BLK1	1	-999			13C8-PFOS	13C8-PFOS		104	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		84.2	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		83.5	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		70.4	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			13C3-PFBS	13C3-PFBS		106	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			13C2-PFOA	13C2-PFOA		88.8	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		20170306	08:15:00	20170306	16:27:00	B7C0017-BS1	1	-999			13C8-PFOS	13C8-PFOS		91.8	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		89.2	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		91.6	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		89.8	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			13C3-PFBS	13C3-PFBS		89.4	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			13C2-PFOA	13C2-PFOA		83.9	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		20170306	08:15:00	20170306	21:41:00	B7C0017-MS1	1	-999			13C8-PFOS	13C8-PFOS		74.7	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		85.1	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		89.4	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		72.4	NG_L	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			13C3-PFBS	13C3-PFBS		88.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			13C2-PFOA	13C2-PFOA		83.0	PCT_REC	
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		20170306	08:15:00	20170306	21:53:00	B7C0017-MSD1	1	-999			13C8-PFOS	13C8-PFOS		89.8	PCT_REC	

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	Validator_Qualifier	GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validator_Name	Val_Date
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	TRG									5.0	17.1	38.2	76.3	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	TRG									5.0	0.621	1.91	7.63	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	TRG									5.0	0.770	0.859	7.63	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	TRG									5.0	17.3	38.8	77.4	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	TRG									5.0	0.630	1.94	7.74	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	TRG									5.0	0.781	0.872	7.74	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	TRG									5.0	1.75	3.91	7.83	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	TRG									5.0	0.637	1.95	7.83	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	TRG									5.0	0.790	0.879	7.83	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	TRG									5.0	1.71	3.82	7.64	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	TRG									5.0	0.621	1.91	7.64	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	TRG									5.0	0.770	0.859	7.64	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW04SP-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	TRG									5.0	1.74	3.88	7.76	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	TRG									5.0	0.631	1.94	7.76	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	TRG									5.0	0.783	0.872	7.76	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW02M-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	TRG									5.0	1.78	3.97	7.96	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	TRG									5.0	0.648	1.98	7.96	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	TRG									5.0	0.803	0.893	7.96	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW12D-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	TRG									5.0	1.94	4.35	8.69	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	TRG									5.0	0.707	2.17	8.69	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	TRG									5.0	0.877	0.978	8.69	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB09-030117		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	TRG									5.0	1.72	3.85	7.71	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	TRG									5.0	0.627	1.92	7.71	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	TRG									5.0	0.777	0.865	7.71	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-GW08S-0317		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	TRG									5.0	1.87	4.20	8.37	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	TRG									5.0	0.681	2.10	8.37	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	TRG									5.0	0.845	0.945	8.37	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB01-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	TRG									5.0	2.41	5.38	10.8	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	TRG									5.0	0.875	2.69	10.8	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	TRG									5.0	1.08	1.21	10.8	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB10-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	TRG									5.0	1.89	4.24	8.46	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	TRG									5.0	0.689	2.12	8.46	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	TRG									5.0	0.854	0.953	8.46	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-EB11-030217		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	TRG									5.0	1.79	4.00	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	TRG									5.0	0.651	2.00	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	TRG									5.0	0.807	0.900	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	Validator_ Qualifier	GC_ Column_ Type	Analysis_ Result_ Type	Result_ Narrative	QC_Control_ Limit_Code	QC_ Accuracy_ Upper	QC_ Accuracy_ Lower	Control_ Limit_ Date	QC_Narrative	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch	Validator_ Name	Val_Date
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Blank		PR	IS		SLSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	TRG		LSA	130	60					5.0	1.79	4.00	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	TRG		LSA	130	70					5.0	0.651	2.00	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	TRG		LSA	130	70					5.0	0.807	0.900	8.00	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	IS		LSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	IS		LSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS		PR	IS		LSA	150	60					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	TRG		LSA	130	60					5.0	1.80	4.03	8.06	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	TRG		LSA	130	70					5.0	0.656	2.02	8.06	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	TRG		LSA	130	70					5.0	0.813	0.907	8.06	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	IS		LSA	150	150					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	IS		LSA	150	150					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike		PR	IS		LSA	150	150					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	TRG		LSA	130	60					5.0	1.78	4.00	7.97	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	TRG		LSA	130	70					5.0	0.649	2.00	7.97	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	TRG		LSA	130	70					5.0	0.804	0.900	7.97	1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	IS		LSA	150	150					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	IS		LSA	150	150					5.0				1700293	S7C0013		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	Matrix Spike Dup		PR	IS		LSA	150	150					5.0				1700293	S7C0013		

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
COUPEVILLE, WASHINGTON

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1700293
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: Coupeville, CTO-0008, Washington
Date: March 24, 2017

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	WI-CV-GW02S-0317	1700293-01	Water
2	WI-CV-GW02SP-0317	1700293-02	Water
3	WI-CV-GW04S-0317	1700293-03	Water
4	WI-CV-GW04SP-0317	1700293-04	Water
5	WI-CV-GW02M-0317	1700293-05	Water
6	WI-CV-GW12D-0317	1700293-06	Water
6MS	WI-CV-GW12D-0317MS	1700293-06MS	Water
6MSD	WI-CV-GW12D-0317MSD	1700293-06MSD	Water
7	WI-CV-EB09-030117	1700293-07	Water
8	WI-CV-GW08S-0317	1700293-08	Water
9	WI-CV-FB01-030217	1700293-09	Water
10	WI-CV-EB10-030217	1700293-10	Water
11	WI-CV-EB11-030217	1700293-11	Water

A full data validation was performed on the analytical data for seven water samples, three aqueous equipment blank samples, and one field blank sample collected on March 1-2, 2017 by CH2M HILL at the Coupeville site in Washington. 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	*Method References*
PFCs	USEPA Method 537 Modified

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

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

The following data quality indicators were reviewed for this report:

Organics

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

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

Data Usability Assessment

There were no rejections of data.

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

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

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

Holding Times

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

Initial Calibration

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

Continuing Calibration

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

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- The field blank samples were free of contamination except for the following.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
WI-CV-EB09-030117	None - ND	-	-	-
WI-CV-FB01-030217	None - ND	-	-	-
WI-CV-EB10-030217	None - ND	-	-	-
WI-CV-EB11-030217	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- The MS/MSD sample exhibited acceptable %R and RPD values.

Ongoing Precision and Recovery (OPR)

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

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- Several samples were analyzed at various dilutions due to high concentrations of the target compounds. Reporting limits were adjusted accordingly. No action was required.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	WI-CV-GW02S-0317 ng/L	WI-CV-GW02SP-0317 ng/L	RPD	Qualifier
PFBS	332	357	7%	None
PFOA	571	564	1%	
PFOS	54.7	53.0	3%	

Compound	WI-CV-GW04S-0317 ng/L	WI-CV-GW04SP-0317 ug/L	RPD	Qualifier
None - ND	-	-	-	-

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

Signed: Nancy Weaver Dated: 3/24/17

Nancy Weaver
Senior Chemist

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: WI-CV-GW02S-0317						Modified EPA Method 537				
Client Data		**Sample Data**		**Laboratory Data**						
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-01		Date Received:	04-Mar-2017 9:49		
Project:	Navy Clean CTO-08	Sample Size:	0.131 L	QC Batch:	B7C0017		Date Extracted:	06-Mar-2017 8:15		
Date Collected:	01-Mar-2017 11:00			Date Analyzed:	06-Mar-17 18:45	Column: BEH C18				
Location:	MW-02S				07-Mar-17 09:51	Column: BEH C18				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	332	17.1	38.2	76.3	D	IS	13C3-PFBS	112	60 - 150	D
PFOA	571	0.621	1.91	7.63		IS	13C2-PFOA	78.6	60 - 150	
PFOS	54.7	0.770	0.859	7.63		IS	13C8-PFOS	94.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

NW 3/24/17

2

Sample ID: WI-CV-GW02SP-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-02	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.129 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 11:05			Date Analyzed:	06-Mar-17 18:58 Column: BEH C18		
Location:	MW-02S				07-Mar-17 10:04 Column: BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	357	17.3	38.8	77.4	D
PFOA	564	0.630	1.94	7.74	
PFOS	53.0	0.781	0.872	7.74	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	112	60 - 150	D
IS	13C2-PFOA	86.4	60 - 150	
IS	13C8-PFOS	90.4	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

mw 3/24/17

3

Sample ID: WI-CV-GW04S-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-03	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.128 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 13:25			Date Analyzed:	06-Mar-17 19:10	Column:	BEH C18
Location:	MW-04S						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.75	3.91	7.83	
PFOA	ND	0.637	1.95	7.83	
PFOS	ND	0.790	0.879	7.83	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	98.7	60 - 150	
IS	13C2-PFOA	83.2	60 - 150	
IS	13C8-PFOS	94.8	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

MW 3/24/17

4

Sample ID: WI-CV-GW04SP-0317

Modified EPA Method 537

Client Data
Name: CH2M Hill
Project: Navy Clean CTO-08
Date Collected: 01-Mar-2017 13:35
Location: MW-04S

Sample Data
Matrix: Groundwater
Sample Size: 0.131 L

Laboratory Data
Lab Sample: 1700293-04 Date Received: 04-Mar-2017 9:49
QC Batch: B7C0017 Date Extracted: 06-Mar-2017 8:15
Date Analyzed: 06-Mar-17 19:23 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.71	3.82	7.64	
PFOA	ND	0.621	1.91	7.64	
PFOS	ND	0.770	0.859	7.64	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	93.1	60 - 150	
IS	13C2-PFOA	82.6	60 - 150	
IS	13C8-PFOS	89.8	60 - 150	

DL - Detection limit
RL - Reporting limit

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

NW 3/24/17

5

Sample ID: WI-CV-GW02M-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-05	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.129 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 13:55			Date Analyzed:	06-Mar-17 20:13	Column:	BEH C18
Location:	MW-02M						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.74	3.88	7.76	
PFOA	ND	0.631	1.94	7.76	
PFOS	ND	0.783	0.872	7.76	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	96.4	60 - 150	
IS	13C2-PFOA	86.0	60 - 150	
IS	13C8-PFOS	96.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

NW 3/24/17

6

Sample ID: WI-CV-GW12D-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-06	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.126 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 16:50			Date Analyzed:	06-Mar-17 20:26	Column:	BEH C18
Location:	MW-12D						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.78	3.97	7.96	
PFOA	ND	0.648	1.98	7.96	
PFOS	ND	0.803	0.893	7.96	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	88.9	60 - 150	
IS	13C2-PFOA	82.0	60 - 150	
IS	13C8-PFOS	84.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

MW 3/24/17

7

Sample ID: WI-CV-EB09-030117

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-07	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.115 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	01-Mar-2017 14:00			Date Analyzed:	06-Mar-17 20:38	Column:	BEH C18
Location:	EB-09						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.94	4.35	8.69	
PFOA	ND	0.707	2.17	8.69	
PFOS	ND	0.877	0.978	8.69	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	90.8	60 - 150	
IS	13C2-PFOA	86.1	60 - 150	
IS	13C8-PFOS	95.5	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

NW 3/24/17

8

Sample ID: WI-CV-GW08S-0317 — **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-08	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.130 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	02-Mar-2017 10:50			Date Analyzed:	06-Mar-17 20:51	Column:	BEH C18
Location:	MW-08S						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.72	3.85	7.71	
PFOA	ND	0.627	1.92	7.71	
PFOS	ND	0.777	0.865	7.71	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	101	60 - 150	
IS	13C2-PFOA	92.3	60 - 150	
IS	13C8-PFOS	76.9	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

NW 3/24/17

9

Sample ID: WI-CV-FB01-030217 — **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-09	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.119 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	02-Mar-2017 13:00			Date Analyzed:	06-Mar-17 21:03	Column:	BEH C18
Location:	FB01						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.87	4.20	8.37	
PFOA	ND	0.681	2.10	8.37	
PFOS	ND	0.845	0.945	8.37	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	103	60 - 150	
IS	13C2-PFOA	85.9	60 - 150	
IS	13C8-PFOS	84.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

NW 3/24/17

10

Sample ID: WI-CV-EB10-030217 — **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-10	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.0930 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	02-Mar-2017 13:15			Date Analyzed:	06-Mar-17 21:16	Column:	BEH C18
Location:	EB10						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.41	5.38	10.8	
PFOA	ND	0.875	2.69	10.8	
PFOS	ND	1.08	1.21	10.8	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	105	60 - 150	
IS	13C2-PFOA	92.4	60 - 150	
IS	13C8-PFOS	97.0	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

MW 3/24/17

11

Sample ID: WI-CV-EB11-030217 — **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700293-11	Date Received:	04-Mar-2017 9:49
Project:	Navy Clean CTO-08	Sample Size:	0.118 L	QC Batch:	B7C0017	Date Extracted:	06-Mar-2017 8:15
Date Collected:	02-Mar-2017 13:30			Date Analyzed:	06-Mar-17 21:28	Column:	BEH C18
Location:	EB11						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.89	4.24	8.46	
PFOA	ND	0.689	2.12	8.46	
PFOS	ND	0.854	0.953	8.46	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	103	60 - 150	
IS	13C2-PFOA	85.0	60 - 150	
IS	13C8-PFOS	97.5	60 - 150	

DL - Detection limit

RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

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

Only the linear isomer is reported for all other analytes.

MW 3/24/17

R:\N\Navy\CLEAN\MULTI_REGION\PFC_679580\MapFiles\NW\Whidbey_NAS\Coupeville_Reporting\Figure_10_Detections_PFAS_GW.mxd5/25/2017bmailhes

CV-MW11-M	2/26/17
Depth (ft bgs)	170.43
PFBS	7.66 U
PFOS	1.72 U
PFOA	3.83 U

CV-MW11-S	2/26/17
Depth (ft bgs)	140.43
PFBS	3.91 U
PFOS	**1.0 J**
PFOA	1.95 U

CV-MW08-S	3/2/17
Depth (ft bgs)	131.26
PFBS	3.85 U
PFOS	0.865 U
PFOA	1.92 U

CV-MW08-M	3/4/17
Depth (ft bgs)	165.21
PFBS	3.91 U
PFOS	0.879 U
PFOA	1.95 U

CV-MW07-S	3/4/17
Depth (ft bgs)	145.02
PFBS	4.39 U
PFOS	0.987 U
PFOA	2.19 U

Building 11	9/19/16
Depth (ft bgs)	162
PFBS	10 U
PFOS	10 U
PFOA	3 U

CV-MW01-M	2/28/17
Depth (ft bgs)	163.36
PFBS	3.94 U
PFOS	0.886 U
PFOA	1.97 U

CV-MW07-M	3/4/17
Depth (ft bgs)	193.75
PFBS	3.91 U
PFOS	**0.844 J**
PFOA	1.95 U

CV-MW01-D	2/28/17
Depth (ft bgs)	217.42
PFBS	4 U
PFOS	0.9 U
PFOA	2 U

CV-MW04-M	2/28/17
Depth (ft bgs)	159.05
PFBS	4.03 U
PFOS	0.907 U
PFOA	2.02 U

CV-MW02-S	3/1/17
Depth (ft bgs)	106.86
PFBS	**332** D
PFOS	**54.7**
PFOA	**571**

CV-MW04-S	3/1/17
Depth (ft bgs)	126.93
PFBS	3.91 U
PFOS	0.879 U
PFOA	1.95 U

CV-MW02-M	3/1/17
Depth (ft bgs)	167.96
PFBS	3.88 U
PFOS	0.872 U
PFOA	1.94 U

CV-MW14-M	3/4/17
Depth (ft bgs)	176.34
PFBS	**111**
PFOS	**0.898 J**
PFOA	**166**

CV-MW05-S	2/24/17
Depth (ft bgs)	124.56
PFBS	**12.9**
PFOS	0.922 U
PFOA	**9.87**

CV-MW03-D	2/27/17
Depth (ft bgs)	237.43
PFBS	3.91 U
PFOS	**0.914 J**
PFOA	1.95 U

CV-MW05-M	2/23/17
Depth (ft bgs)	175.35
PFBS	**473**
PFOS	**3.26 J**
PFOA	**1190**

Building 11

WI-CV-WL01

CV-MW03-M	2/27/17
Depth (ft bgs)	160.35
PFBS	3.88 U
PFOS	0.872 U
PFOA	1.94 U

CV-MW06-S	2/22/17
Depth (ft bgs)	140.43
PFBS	3.97 U
PFOS	0.893 U
PFOA	1.98 U

CV-MW13-S	3/3/17
Depth (ft bgs)	114.98
PFBS	4.07 U
PFOS	0.915 U
PFOA	2.03 U

Building 2807

WI-CV-WL02

CV-MW13-M	2/22/17
Depth (ft bgs)	187.76
PFBS	**139**
PFOS	0.872 U
PFOA	**20.4**

CV-MW06-M	2/21/17
Depth (ft bgs)	189.51
PFBS	3.91 U
PFOS	0.879 U
PFOA	1.95 U

CV-MW09-M	2/23/17
Depth (ft bgs)	197.33
PFBS	**11.2**
PFOS	0.915 U
PFOA	2.03 U

CV-MW10-D	2/20/17
Depth (ft bgs)	206.67
PFBS	3.85 U
PFOS	0.865 U
PFOA	1.92 U

CV-MW09-S	NA
Depth (ft bgs)	110.92
PFBS	NS
PFOS	NS
PFOA	NS

Building 2807	9/19/16
Depth (ft bgs)	178
PFBS	**110**
PFOS	10 U
PFOA	**17.5 J**

CV-MW10-S	2/22/17
Depth (ft bgs)	159.45
PFBS	**3.07 J**
PFOS	0.938 U
PFOA	2.08 U

CV-MW12-S	NA
Depth (ft bgs)	106.92
PFBS	NS
PFOS	NS
PFOA	NS

CV-MW12-D	3/1/17
Depth (ft bgs)	198.03
PFBS	3.97 U
PFOS	0.893 U
PFOA	1.98 U

Notes
PFBS - Perfluorobutanesulfonic acid
PFOS - Perfluorooctane Sulfonate
PFOA - Perfluorooctanoic acid
LHA - lifetime health advisory
units - nanograms per liter (ng/L)
ft bgs - feet below ground surface
NS - not sampled
J - analyte detected, concentration is estimated
U - not detected
D - diluted sample
Bold indicates detection
Shaded text indicates exceedance of USEPA LHA
Samples were not collected from CV-GW09S and CV-GW12S because the wells were dry at the time of sampling.
Samples collected from the wells within Buildings 2807 and 11 were analyzed by ALS-Kelso using Method 537 for drinking water.

	LHA
PFBS	--
PFOS	70
PFOA	70

Legend
- Base Supply Well
- Monitoring well with no exceedance of LHA
- Monitoring well with LHA exceedance
- No detections of PFAS
- Not Sampled
- Direction of Middle Zone Groundwater Flow
- Direction of Deep Zone Groundwater Flow
- Base Boundary

N

0 0.1 0.2 Miles

1 inch = 0.2 mile

Imagery Source: Esri

Figure 10
Detections of PFAS in Groundwater
Outlying Landing Field Coupeville
Coupeville, Washington

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