Groundwater Investigation Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG 1700367

Naval Research Laboratory – Chesapeake Bay Detachment
Chesapeake Beach, Maryland

February 2019

April 04, 2017

Vista Work Order No. 1700367

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 24, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'NRL-CBD PFAS'.

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 Work Order No. 1700367
Case Narrative

Sample Condition on Receipt:

Four 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:

Modified EPA Method 537

The samples were centrifuged prior to extraction.

The pH for sample "CBD-AOA-MW11-0317" was adjusted upon receipt.

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

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

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700367-01	CBD-AOA-MW14-0317	22-Mar-17 11:45	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-02	CBD-EB01-032217	22-Mar-17 14:30	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-03	CBD-AOA-MW11-0317	23-Mar-17 12:30	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-04	CBD-EB01-032317	23-Mar-17 15:45	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0135	Lab Sample:	B7C0135-BLK1
Sample Size:	0.125 L	Date Extracted:	27-Mar-2017 9:18	Date Analyzed:	28-Mar-17 16:31 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	126	60 - 150	
IS	13C2-PFOA	97.9	60 - 150	
IS	13C8-PFOS	119	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:	B7C0135	Lab Sample:	B7C0135-BS1
Sample Size:	0.125 L	Date Extracted:	27-Mar-2017 9:18	Date Analyzed:	28-Mar-17 14:16 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	65.1	80.0	81.4	60 - 130
PFOA	64.9	80.0	81.1	70 - 130
PFOS	57.0	80.0	71.2	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	126	60 - 150
IS	13C2-PFOA	96.4	60 - 150
IS	13C8-PFOS	107	60 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: CBD-AOA-MW14-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	22-Mar-2017 11:45
Location:	AOA-MW14

Sample Data

Matrix:	Groundwater
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1700367-01	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:09	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFOA	ND	0.656	2.02	8.06	
PFOS	1.53	0.813	0.907	8.06	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	114	60 - 150	
IS	13C2-PFOA	97.0	60 - 150	
IS	13C8-PFOS	92.8	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.

Sample ID: CBD-EB01-032217

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	22-Mar-2017 14:30
Location:	Equip Blank

Sample Data

Matrix:	Groundwater
Sample Size:	0.117 L

Laboratory Data

Lab Sample:	1700367-02	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:22	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	4.27	8.53	
PFOA	ND	0.694	2.14	8.53	
PFOS	17.7	0.860	0.962	8.53	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	95.6	60 - 150	
IS	13C2-PFOA	91.3	60 - 150	
IS	13C8-PFOS	103	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: CBD-AOA-MW11-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	23-Mar-2017 12:30
Location:	AOA-MW14

Sample Data

Matrix:	Groundwater
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1700367-03	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:34	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.04	
PFOA	ND	0.654	2.02	8.04	
PFOS	ND	0.811	0.907	8.04	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	105	60 - 150	
IS	13C2-PFOA	119	60 - 150	
IS	13C8-PFOS	105	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: CBD-EB01-032317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	23-Mar-2017 15:45
Location:	Equip Blank

Sample Data

Matrix:	Groundwater
Sample Size:	0.0972 L

Laboratory Data

Lab Sample:	1700367-04	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:47	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.30	5.14	10.3	
PFOA	ND	0.837	2.57	10.3	
PFOS	1.99	1.04	1.16	10.3	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	91.6	60 - 150	
IS	13C2-PFOA	109	60 - 150	
IS	13C8-PFOS	110	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.

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: 1700367 Temp: 0.4 °C
Storage ID: WR-2 F7 Storage Secured: Yes ☒ No ☐

Project ID: NRL-CBD PFAS P.O.#: 10006-7-106051 Sampler: Lisa Carte (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2m				541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Lisa Carte	3-23-17	1700	Sydney Roughton	3/24/17	0916
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Martha Maier

Method of Shipment: Fed-ex

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
CBD-AOA-MW14-0317	3-22-17	1145	AOA-MW14	2	Poly	GW																X	
CBD-EB01-032217	3-22-17	1430	Equip Blank	2	Poly	GW																	
CBD-AOA-MW11-0317	3-23-17	1230	AOA-MW11	2	Poly	GW																	
CBD-EB01-032317	3-23-17	1545	Equip Blank	2	Poly	GW																	

Special Instructions/Comments: CBD-AOA-MW11-0317 pH = 12.12

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2m
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax:
Email:

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

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

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

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1700367 **TAT** 7

Samples Arrival:	**Date/Time** 3/24/17 0909	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 3/24/17 0941	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** F7

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

Temp °C: 0.1	(uncorrected)	**Time:** 0914	**Thermometer ID:** IR-1
Temp °C: 0.4	(corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		✓ SR 3/24/17
Shipping Documentation Present?	✓		
Airbill — Trk # 7860 0853 4111	✓		
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:

April 04, 2017

Vista Work Order No. 1700367

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

Dear Ms. Hill,

Enclosed are the amended results for the sample set received at Vista Analytical Laboratory on March 24, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'NRL-CBD PFAS'.

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 Work Order No. 1700367
Case Narrative

Sample Condition on Receipt:

Four 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. This report was amended because the recovery chromatogram was incorrect in the raw data.

Analytical Notes:

Modified EPA Method 537

The samples were centrifuged prior to extraction.

The pH for sample "CBD-AOA-MW11-0317" was adjusted upon receipt.

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

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700367-01	CBD-AOA-MW14-0317	22-Mar-17 11:45	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-02	CBD-EB01-032217	22-Mar-17 14:30	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-03	CBD-AOA-MW11-0317	23-Mar-17 12:30	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700367-04	CBD-EB01-032317	23-Mar-17 15:45	24-Mar-17 09:09	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank — Modified EPA Method 537

Matrix:	Aqueous	QC Batch:	B7C0135
Sample Size:	0.125 L	Date Extracted:	27-Mar-2017 9:18
Lab Sample:	B7C0135-BLK1		
Date Analyzed:	28-Mar-17 16:31 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	126	60 - 150	
IS	13C2-PFOA	97.9	60 - 150	
IS	13C8-PFOS	119	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:	B7C0135	Lab Sample:	B7C0135-BS1
Sample Size:	0.125 L	Date Extracted:	27-Mar-2017 9:18	Date Analyzed:	28-Mar-17 14:16 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	65.1	80.0	81.4	60 - 130
PFOA	64.9	80.0	81.1	70 - 130
PFOS	57.0	80.0	71.2	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	126	60 - 150
IS	13C2-PFOA	96.4	60 - 150
IS	13C8-PFOS	107	60 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: CBD-AOA-MW14-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	22-Mar-2017 11:45
Location:	AOA-MW14

Sample Data

Matrix:	Groundwater
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1700367-01	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:09	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.06	
PFOA	ND	0.656	2.02	8.06	
PFOS	1.53	0.813	0.907	8.06	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	114	60 - 150	
IS	13C2-PFOA	97.0	60 - 150	
IS	13C8-PFOS	92.8	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.

Sample ID: CBD-EB01-032217

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	22-Mar-2017 14:30
Location:	Equip Blank

Sample Data

Matrix:	Groundwater
Sample Size:	0.117 L

Laboratory Data

Lab Sample:	1700367-02	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:22	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.91	4.27	8.53	
PFOA	ND	0.694	2.14	8.53	
PFOS	17.7	0.860	0.962	8.53	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	95.6	60 - 150	
IS	13C2-PFOA	91.3	60 - 150	
IS	13C8-PFOS	103	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: CBD-AOA-MW11-0317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	23-Mar-2017 12:30
Location:	AOA-MW14

Sample Data

Matrix:	Groundwater
Sample Size:	0.124 L

Laboratory Data

Lab Sample:	1700367-03	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:34	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.80	4.03	8.04	
PFOA	ND	0.654	2.02	8.04	
PFOS	ND	0.811	0.907	8.04	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	105	60 - 150	
IS	13C2-PFOA	119	60 - 150	
IS	13C8-PFOS	105	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: CBD-EB01-032317

Modified EPA Method 537

Client Data

Name:	CH2M Hill
Project:	NRL-CBD PFAS
Date Collected:	23-Mar-2017 15:45
Location:	Equip Blank

Sample Data

Matrix:	Groundwater
Sample Size:	0.0972 L

Laboratory Data

Lab Sample:	1700367-04	Date Received:	24-Mar-2017 9:09
QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Analyzed:	28-Mar-17 17:47	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	2.30	5.14	10.3	
PFOA	ND	0.837	2.57	10.3	
PFOS	1.99	1.04	1.16	10.3	J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	91.6	60 - 150	
IS	13C2-PFOA	109	60 - 150	
IS	13C8-PFOS	110	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.

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: 1700367 Temp: 0.4 °C
Storage ID: WR-2 F7 Storage Secured: Yes ☒ No ☐

Project ID: NRL-CBD PFAS P.O.#: 10006-7-106051 Sampler: Lisa Carte (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2m				541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Lisa Carte	3-23-17	1700	Sydney Roughton	3/24/17	0916
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Martha Maier

Method of Shipment: Fed-ex

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
CBD-AOA-MW14-0317	3-22-17	1145	AOA-MW14	2	Poly	GW																X	
CBD-EB01-032217	3-22-17	1430	Equip Blank	2	Poly	GW																	
CBD-AOA-MW11-0317	3-23-17	1230	AOA-MW11	2	Poly	GW																	
CBD-EB01-032317	3-23-17	1545	Equip Blank	2	Poly	GW																	

Special Instructions/Comments: CBD-AOA-MW11-0317 pH = 12.12

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CH2m
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax:
Email:

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

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

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

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1700367 **TAT** 7

Samples Arrival:	**Date/Time** 3/24/17 0909	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 3/24/17 0941	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** F7

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

Temp °C: 0.1	(uncorrected)	**Time:** 0914	**Thermometer ID:** IR-1
Temp °C: 0.4	(corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		✓ SR 3/24/17
Shipping Documentation Present?	✓		
Airbill — Trk # 7860 0853 4111	✓		
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

Process Sheet

Workorder: 1700367

RUSH

April 4

Prep Expiration: 2017-Apr-05

Client: CH2M Hill

Workorder Due: ~~31-Mar-17~~ 00:00

TAT: 7

Method: **537M PFAS DOD (LOQ as mRL)**

Matrix: **Aqueous**

Client Matrix: Groundwater

Version: PFOA, PFOS, PFBS

Prep Batch: BZC0135

Prep Data Entered: 3/28/17 ZL

Date and Initials

Initial Sequence: SZC0062

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700367-01	☒	CBD-AOA-MW14-0317	24-Mar-17 09:09	WR-2 F-7	
1700367-02	☒	CBD-EB01-032217	24-Mar-17 09:09	WR-2 F-7	
1700367-03	☒	CBD-AOA-MW11-0317	24-Mar-17 09:09	WR-2 F-7	pH 12.12
1700367-04	☒	CBD-EB01-032317	24-Mar-17 09:09	WR-2 F-7	

Vista PM:Martha Maier

Vial Box ID: Have-y Potter

Sample Reconciled By: [signature] 3/29/17

Page 1 of 1

Percent Solids

Vista Analytical Laboratory

Project: B7C0135 **Balance ID:** N/A

Sample ID	Chemist: N/A Date: / Time: V Boat Wt.	Sample + Boat Wt.	Chemist: N/A Date: / Time: V Residue + Boat Wt.	Chemist/Date JC 3/27/17 pH before	pH* after	Cl
1700367-01 (C)				7	2	0
-02 (A)				JC 3/27/17 4.5	2	0
-03 (B)(D)	JC 3/24/17	JC 3/27/17		14	2	0
-04 (B)(B)	JC 3/24/17			JC 3/27/17 5.6	2	0

Procedure:

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

Notes:

(A) 2 drops HCl added to adjust pH to 2
(B) 3 drops HCl added to adjust pH to 2
(C) 4 drops HCl added to adjust pH to 2
(D) 5 drops HCl added to adjust pH to 2

- *Methods 8280, 613, 1613, 8290, 1614 – pH <9* JC 3/27/17
- *Methods 1668/PCN – pH 2-3*
- *NCASI 551 – pH 1*

%Solids rmh 5/2011

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mR

B7C0135

Chemist: G. Mendiola

Prep Date/Time: 27-Mar-17 09:18

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 B7C0127	RS CHEM/WIT DATE
☐	B7C0135-BLK1	N/A	N/A	(0.125) ✓	GM JTC 3/27/17	JTC 3/27/17	GM JTC 3/27/17
☐	B7C0135-BS1	↓	↓	↓ ✓	↓	↓	↓
☐	1700367-01 (B)	151.05	27.02	0.12403 ✓	↓	↓	↓
☐	1700367-02 (B)	144.13	26.88	0.11725 ✓	↓	↓	↓
☐	1700367-03 (B)	151.45	27.09	0.12436 ✓	↓	↓	↓
☐	1700367-04 (A)(B)	124.28	27.06	~~0.09772~~ 0.09772 ✓ GM 4/3/17	↓	GM	↓

(A) Sample appeared foamy JTC 3/27/17

(B) Samples centrifuged to remove particulate matter JTC 3/27/17

IS Name	NS Name	RS Name		
16L1920, 10µL (V2)	17C1521, 10µL (V3)	17A1201, 10µL (V2)	SPE Chem: Strata X-AW 33µm 200mg/6mL Ele SOLV: 0.5-1. NH4OH/MeOH / MeOH Final Volume(s): 1mL	Check Out: Chemist/Date: BP 3.27.17 Check In: Chemist/Date: N/A 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\170328G1\170328G1-14.qld

Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.371e0	6.713e3		0.0972	2.95		
2	4	PFOA	413 > 368.7	2.424e2	3.404e4		0.0972	4.23		
3	6	PFOS	499 >79.9	3.809e1	1.538e4		0.0972	4.53	1.99	
4	7	13C3-PFBS	302.0 > 98.8	6.713e3	1.462e4	0.501	0.0972	2.95	118	91.6
5	10	13C2-PFOA	414.9 > 369.7	3.404e4	9.704e3	3.221	0.0972	4.23	140	109
6	12	13C8-PFOS	507.0 > 79.9	1.538e4	1.298e4	1.080	0.0972	4.62	141	110
7	14	13C3-PFHxS	401.9 > 79.9	1.462e4	1.462e4	1.000	0.0972	3.94	129	100
8	15	13C8-PFOA	421.3 > 376	9.704e3	9.704e3	1.000	0.0972	4.23	129	100
9	17	13C4-PFOS	503.0 > 79.9	1.298e4	1.298e4	1.000	0.0972	4.63	129	100

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		7.833e3		0.0972			
2	20	Total PFOA	413 > 368.7		3.404e4		0.0972			
3	21	Total PFOS	499 > 79.9		1.538e4		0.0972		1.99	

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

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Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

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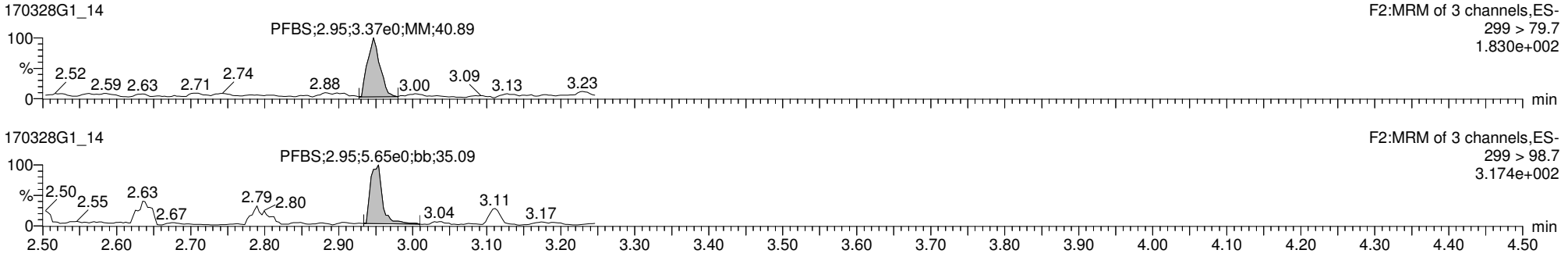
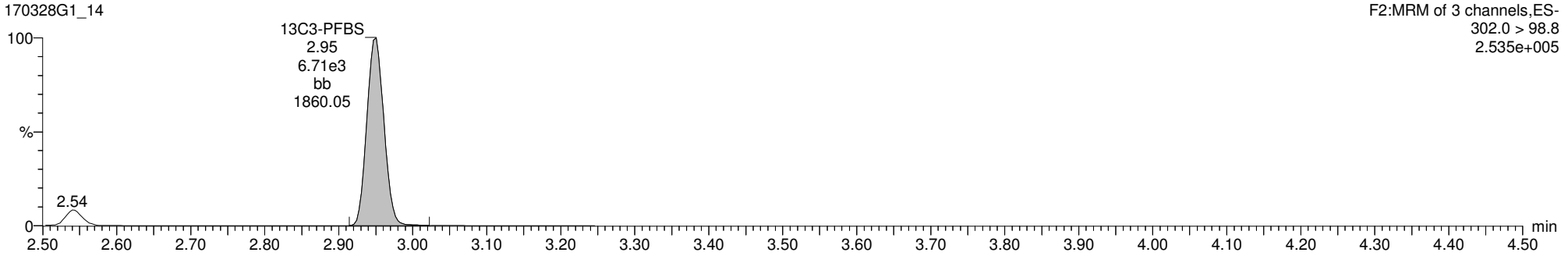
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02, Instrument: , Lab: , User:

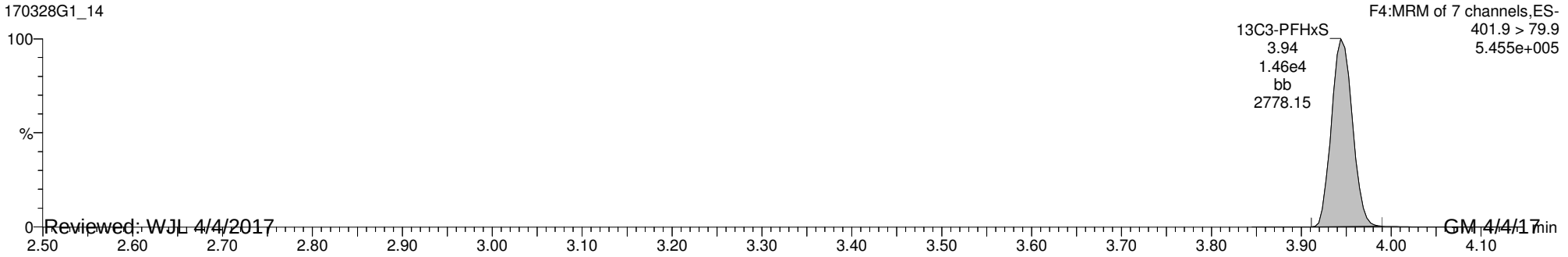
Total PFBS



13C3-PFBS



13C3-PFHxS



Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

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Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

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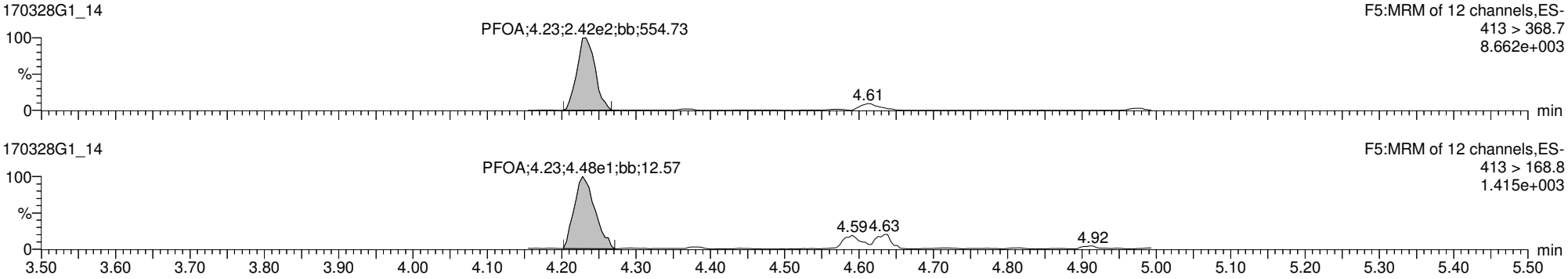
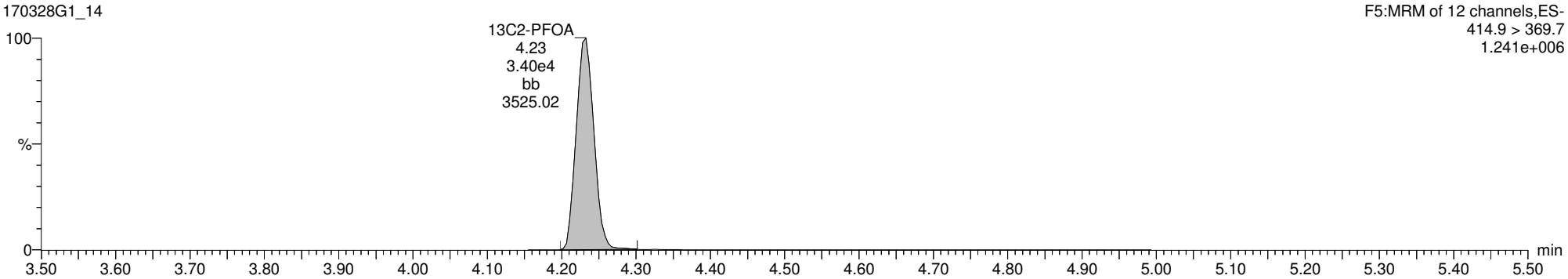
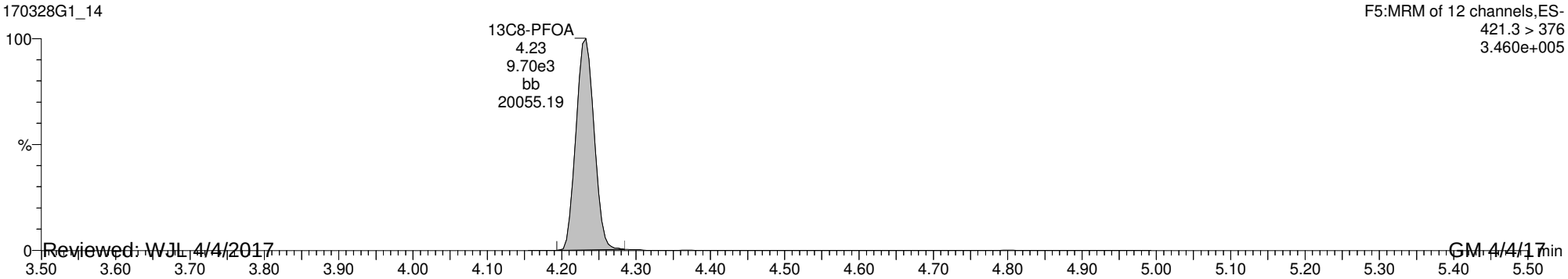
Total PFOA



13C2-PFOA



13C8-PFOA



Reviewed: WJL 4/4/2017 GM 4/4/17

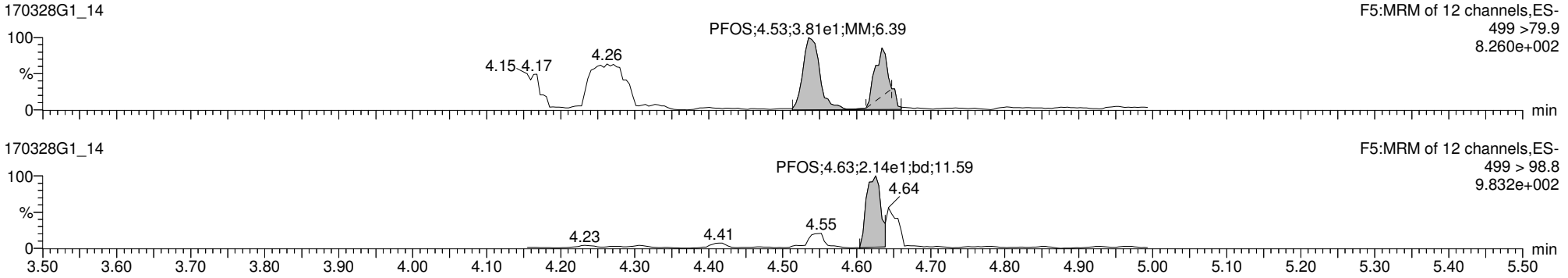
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

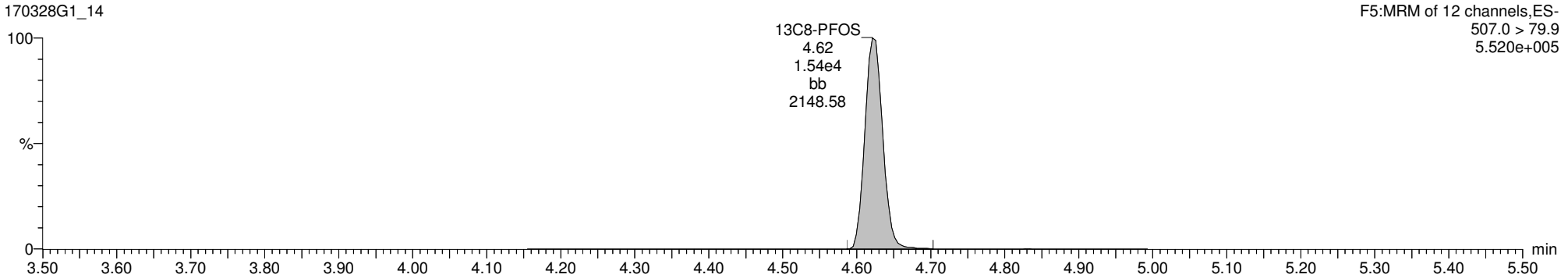
Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02, Instrument: , Lab: , User:

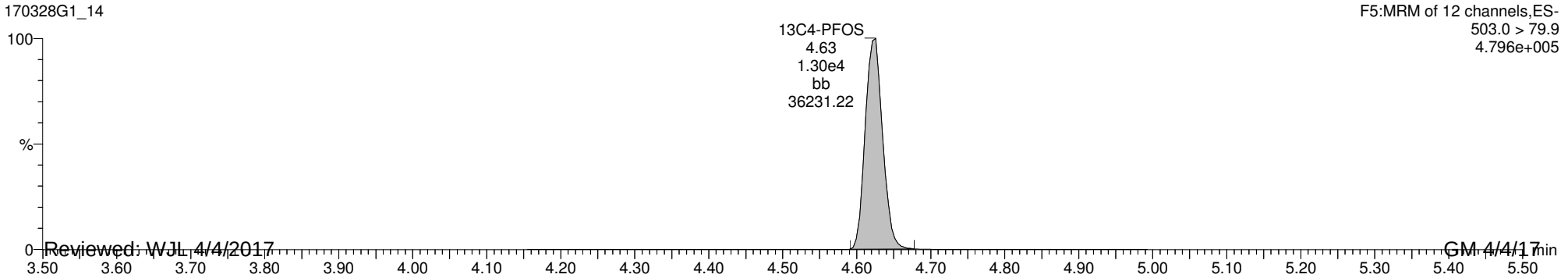
Total PFOS



13C8-PFOS



13C4-PFOS



Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-4.qld

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Printed: Tuesday, April 04, 2017 12:50:24 Pacific Daylight Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: B7C0135-BS1 OPR 0.125, Description: OPR, Name: 170328G1_4, Date: 28-Mar-2017, Time: 14:16:07

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	8.152e3	5.495e3		0.125	3.08	65.1	81.4
2	4	PFOA	413 > 368.7	1.064e4	1.845e4		0.125	4.32	64.9	81.1
3	6	PFOS	499 >79.9	1.260e3	4.077e3		0.125	4.70	57.0	71.2
4	7	13C3-PFBS	302.0 > 98.8	5.495e3	8.714e3	0.501	0.125	3.08	126	126
5	10	13C2-PFOA	414.9 > 369.7	1.845e4	5.940e3	3.221	0.125	4.31	96.4	96.4
6	12	13C8-PFOS	507.0 > 79.9	4.077e3	3.542e3	1.080	0.125	4.70	107	107
7	14	13C3-PFHxS	401.9 > 79.9	8.714e3	8.714e3	1.000	0.125	4.04	100	100
8	15	13C8-PFOA	421.3 > 376	5.940e3	5.940e3	1.000	0.125	4.31	100	100
9	17	13C4-PFOS	503.0 > 79.9	3.542e3	3.542e3	1.000	0.125	4.70	100	100

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-4.qld

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Printed: Tuesday, April 04, 2017 12:50:32 Pacific Daylight Time

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Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: B7C0135-BS1 OPR 0.125, Description: OPR, Name: 170328G1_4, Date: 28-Mar-2017, Time: 14:16:07

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		4.403e3		0.125		65.1	
2	20	Total PFOA	413 > 368.7		1.845e4		0.125		64.9	
3	21	Total PFOS	499 > 79.9		4.077e3		0.125		57.0	

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

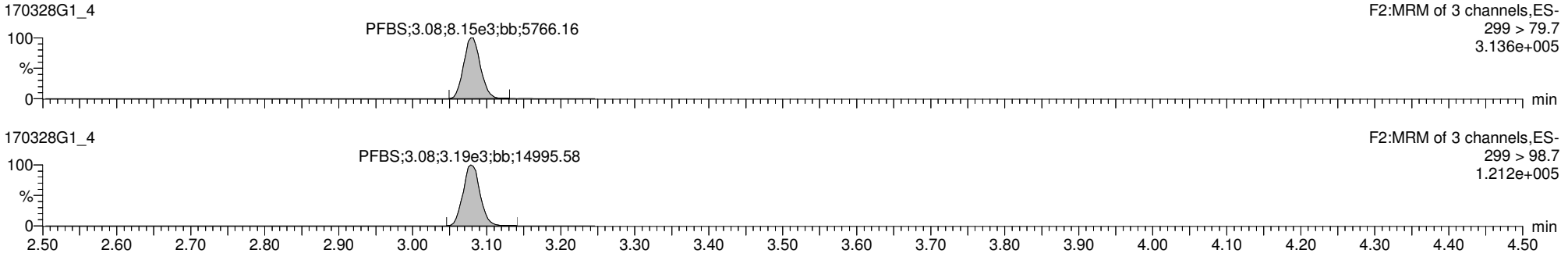
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-4.qld

Last Altered: Monday, April 03, 2017 10:57:01 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:50:24 Pacific Daylight Time

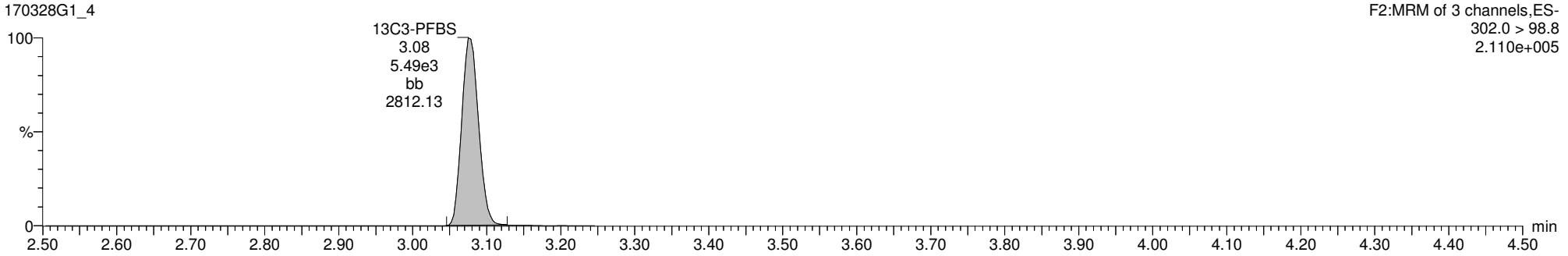
Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 29 Mar 2017 15:40:51
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: B7C0135-BS1 OPR 0.125, Description: OPR, Name: 170328G1_4, Date: 28-Mar-2017, Time: 14:16:07, Instrument: , Lab: , User:

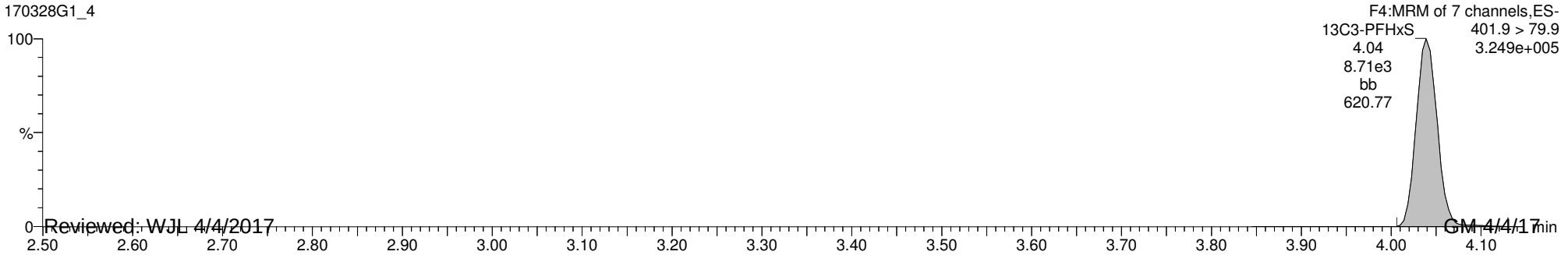
Total PFBS



13C3-PFBS



13C3-PFHxS



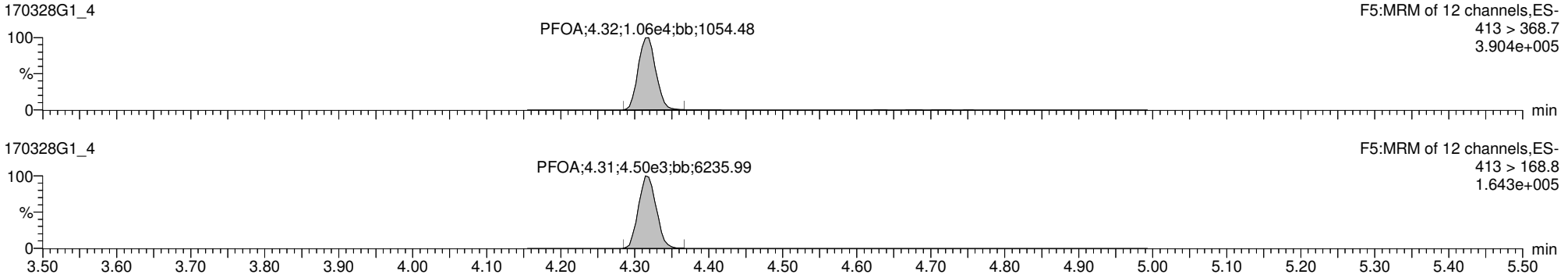
Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-4.qld

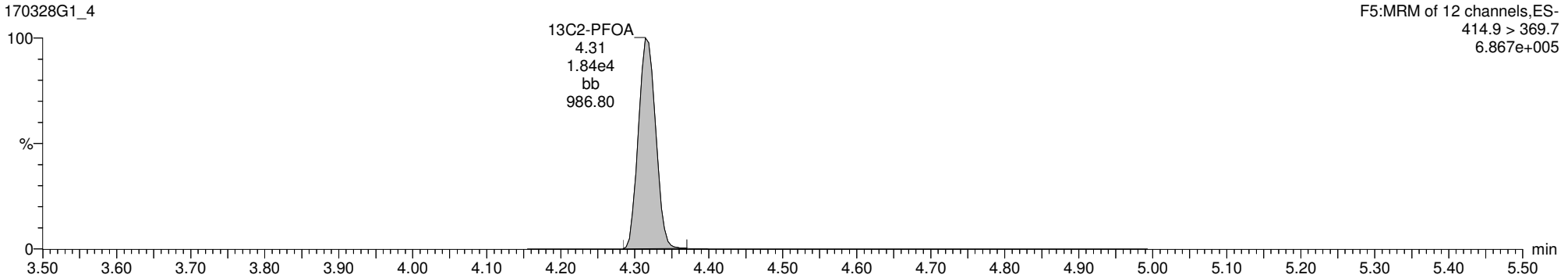
Last Altered: Monday, April 03, 2017 10:57:01 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:50:24 Pacific Daylight Time

ID: B7C0135-BS1 OPR 0.125, Description: OPR, Name: 170328G1_4, Date: 28-Mar-2017, Time: 14:16:07, Instrument: , Lab: , User:

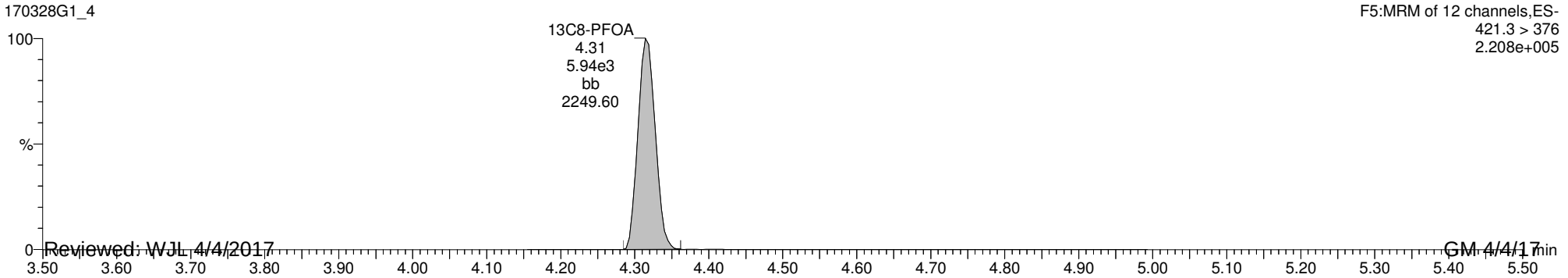
Total PFOA



13C2-PFOA



13C8-PFOA



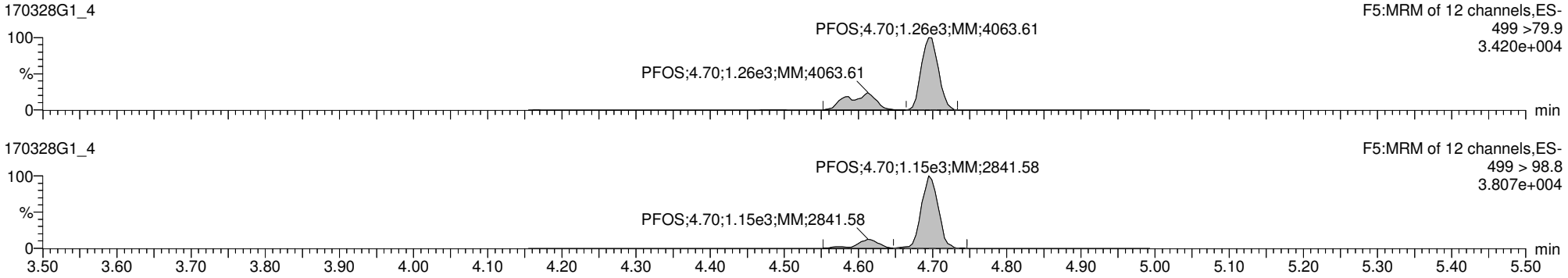
Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-4.qld

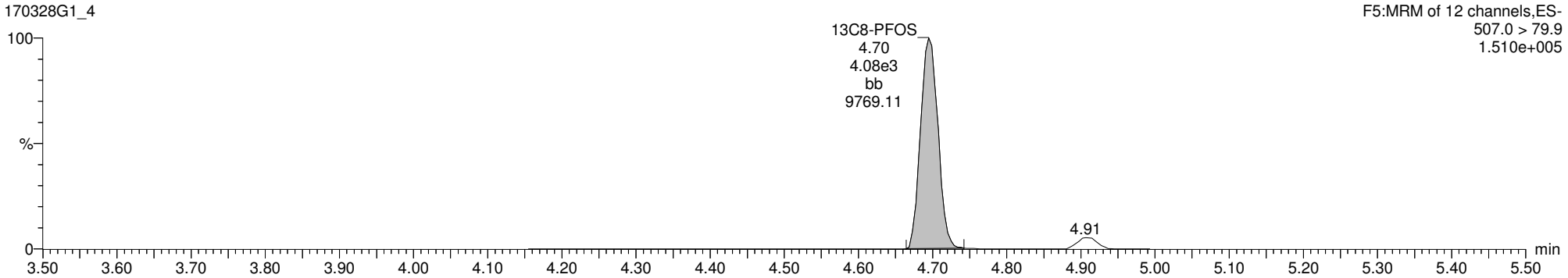
Last Altered: Monday, April 03, 2017 10:57:01 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:50:24 Pacific Daylight Time

ID: B7C0135-BS1 OPR 0.125, Description: OPR, Name: 170328G1_4, Date: 28-Mar-2017, Time: 14:16:07, Instrument: , Lab: , User:

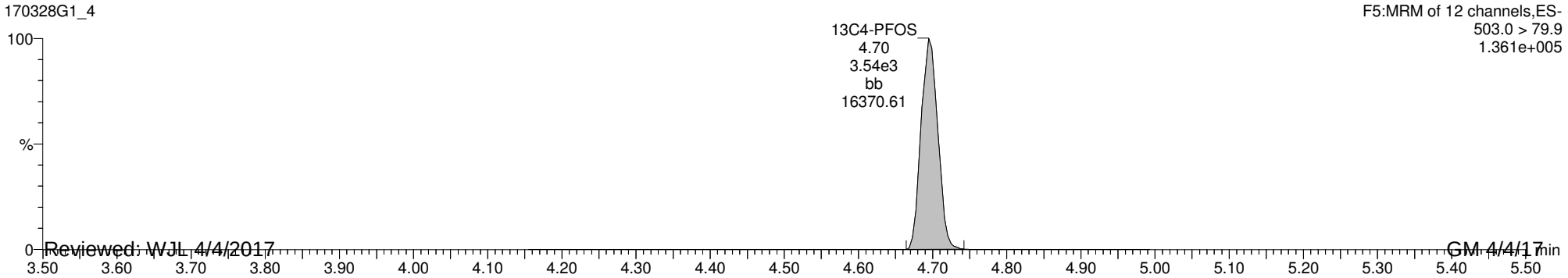
Total PFOS



13C8-PFOS



13C4-PFOS



Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-11.qld

Last Altered: Tuesday, April 04, 2017 12:55:27 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:55:35 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-01 CBD-AOA-MW14-0317 0.125, Description: CBD-AOA-MW14-0317, Name: 170328G1_11, Date: 28-Mar-2017, Time: 17:09:27

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		7.056e3		0.124			
2	4	PFOA	413 > 368.7	1.945e2	2.666e4		0.124	4.23		
3	6	PFOS	499 >79.9	1.713e1	7.507e3		0.124	4.63	1.53	
4	7	13C3-PFBS	302.0 > 98.8	7.056e3	1.230e4	0.501	0.124	2.95	115	114
5	10	13C2-PFOA	414.9 > 369.7	2.666e4	8.536e3	3.221	0.124	4.23	97.7	97.0
6	12	13C8-PFOS	507.0 > 79.9	7.507e3	7.491e3	1.080	0.124	4.63	93.5	92.8
7	14	13C3-PFHxS	401.9 > 79.9	1.230e4	1.230e4	1.000	0.124	3.94	101	100
8	15	13C8-PFOA	421.3 > 376	8.536e3	8.536e3	1.000	0.124	4.23	101	100
9	17	13C4-PFOS	503.0 > 79.9	7.491e3	7.491e3	1.000	0.124	4.63	101	100

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-11.qld

Last Altered: Tuesday, April 04, 2017 12:55:27 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:55:44 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-01 CBD-AOA-MW14-0317 0.125, Description: CBD-AOA-MW14-0317, Name: 170328G1_11, Date: 28-Mar-2017, Time: 17:09:27

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		6.244e3		0.124			
2	20	Total PFOA	413 > 368.7		2.666e4		0.124			
3	21	Total PFOS	499 > 79.9		7.507e3		0.124		1.53	

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

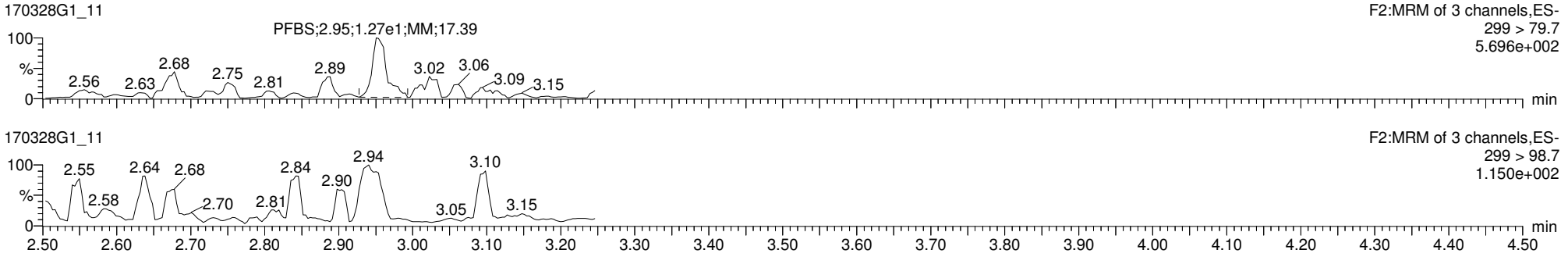
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-11.qld

Last Altered: Tuesday, April 04, 2017 12:55:27 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:55:35 Pacific Daylight Time

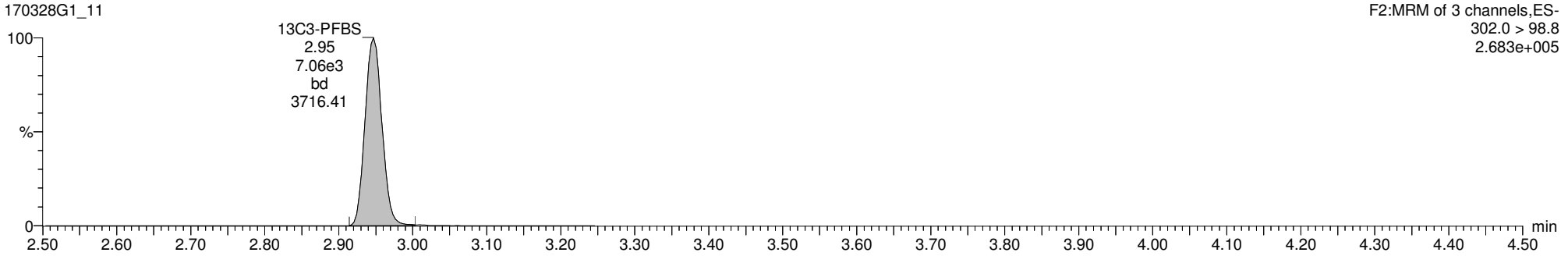
Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-01 CBD-AOA-MW14-0317 0.125, Description: CBD-AOA-MW14-0317, Name: 170328G1_11, Date: 28-Mar-2017, Time: 17:09:27, Instrument: , Lab: , User:

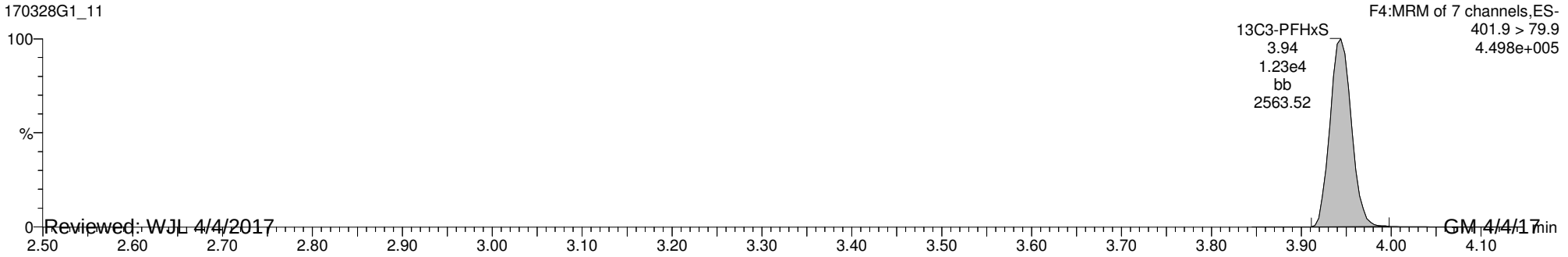
Total PFBS



13C3-PFBS



13C3-PFHxS



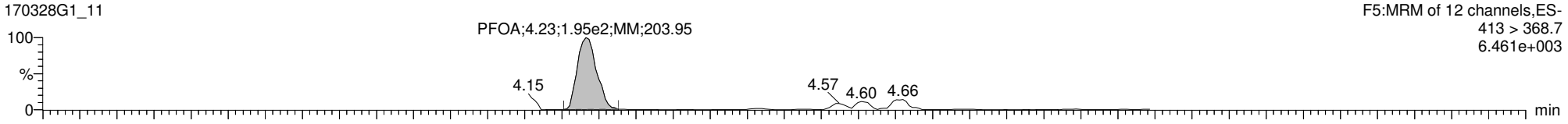
Reviewed: WJL 4/4/2017 GM 4/4/17

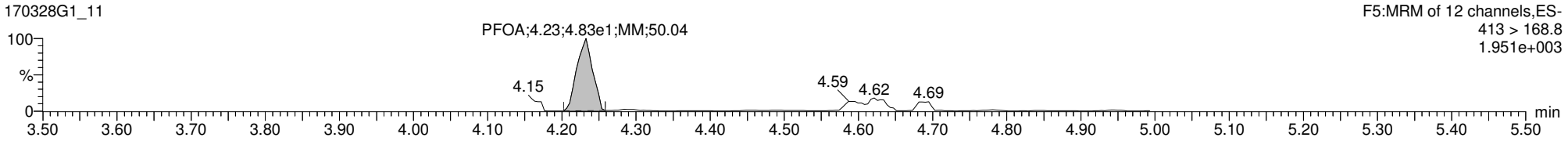
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-11.qld

Last Altered: Tuesday, April 04, 2017 12:55:27 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:55:35 Pacific Daylight Time

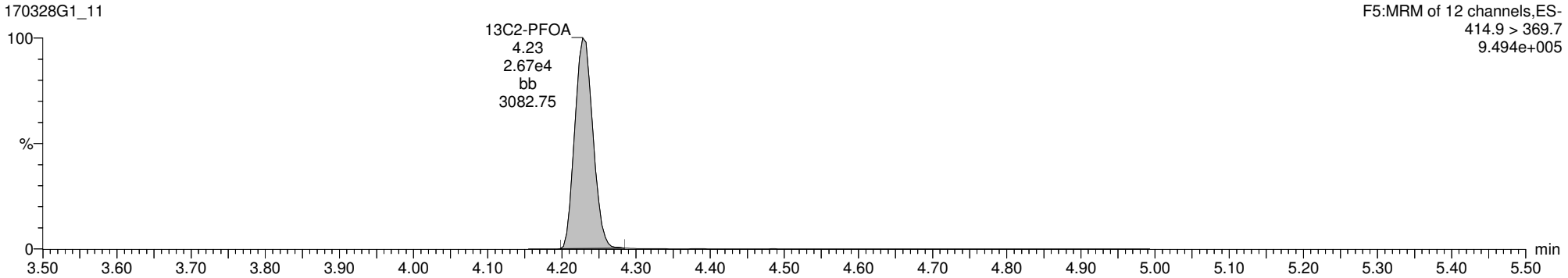
ID: 1700367-01 CBD-AOA-MW14-0317 0.125, Description: CBD-AOA-MW14-0317, Name: 170328G1_11, Date: 28-Mar-2017, Time: 17:09:27, Instrument: , Lab: , User:

Total PFOA

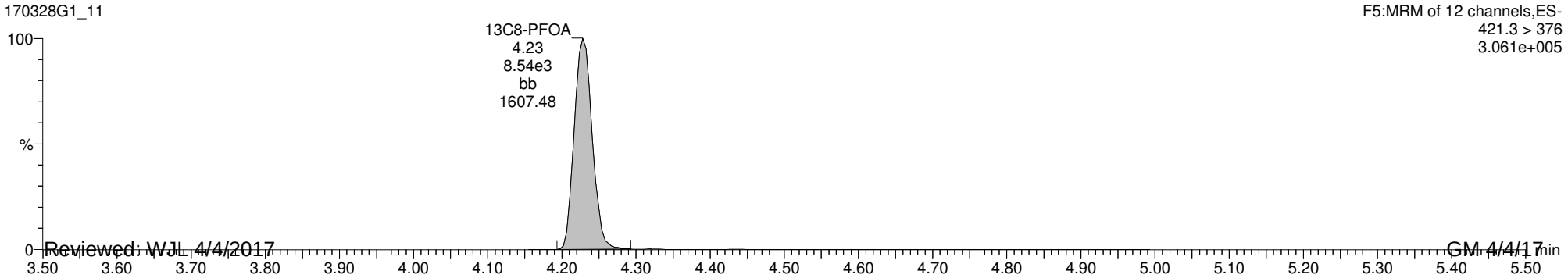




13C2-PFOA



13C8-PFOA



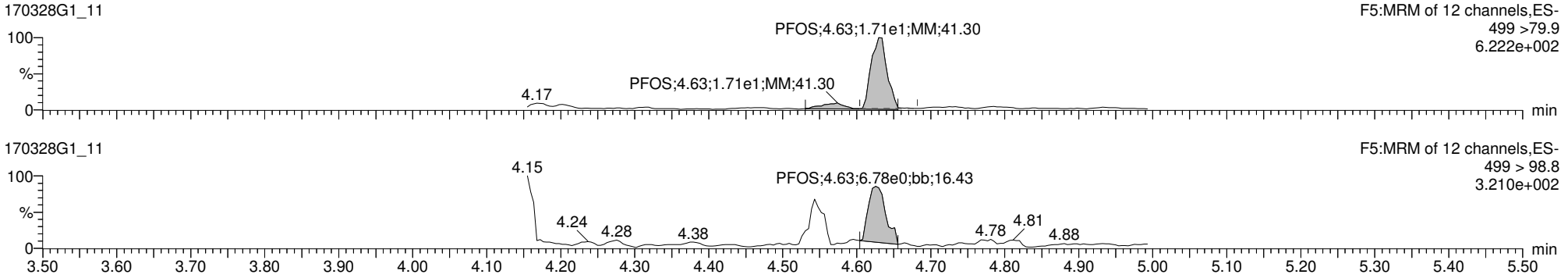
Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-11.qld

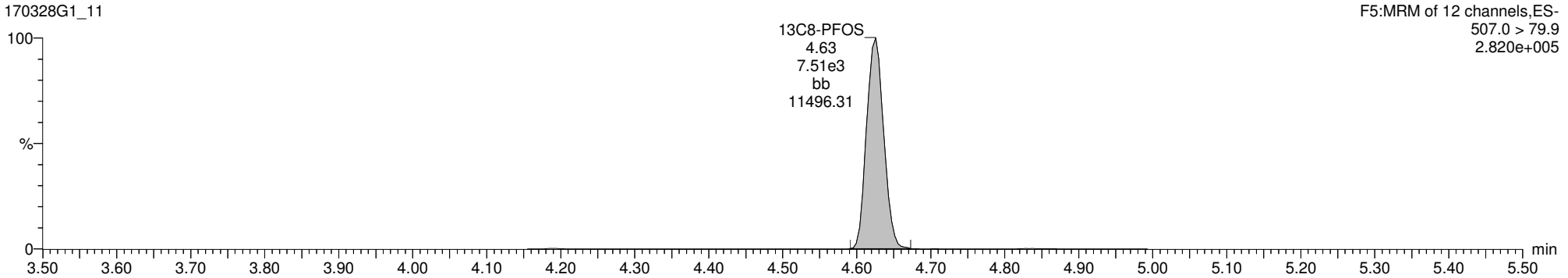
Last Altered: Tuesday, April 04, 2017 12:55:27 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:55:35 Pacific Daylight Time

ID: 1700367-01 CBD-AOA-MW14-0317 0.125, Description: CBD-AOA-MW14-0317, Name: 170328G1_11, Date: 28-Mar-2017, Time: 17:09:27, Instrument: , Lab: , User:

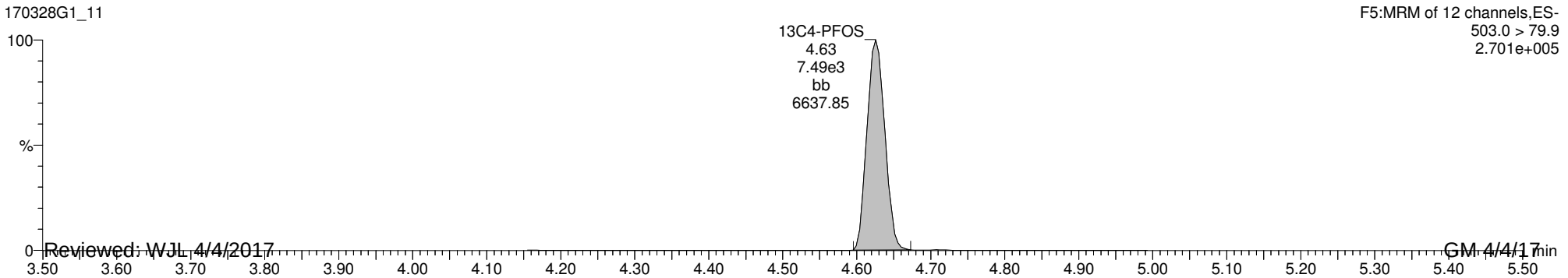
Total PFOS



13C8-PFOS



13C4-PFOS



Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-12.qld

Last Altered: Tuesday, April 04, 2017 12:57:13 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:57:19 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-02 CBD-EB01-032217 0.125, Description: CBD-EB01-032217, Name: 170328G1_12, Date: 28-Mar-2017, Time: 17:22:01

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	5.414e0	6.975e3		0.117	2.94		
2	4	PFOA	413 > 368.7	3.097e2	3.204e4		0.117	4.23		
3	6	PFOS	499 >79.9	1.104e3	1.287e4		0.117	4.63	17.7	
4	7	13C3-PFBS	302.0 > 98.8	6.975e3	1.456e4	0.501	0.117	2.95	102	95.6
5	10	13C2-PFOA	414.9 > 369.7	3.204e4	1.089e4	3.221	0.117	4.23	97.4	91.3
6	12	13C8-PFOS	507.0 > 79.9	1.287e4	1.158e4	1.080	0.117	4.63	110	103
7	14	13C3-PFHxS	401.9 > 79.9	1.456e4	1.456e4	1.000	0.117	3.94	107	100
8	15	13C8-PFOA	421.3 > 376	1.089e4	1.089e4	1.000	0.117	4.23	107	100
9	17	13C4-PFOS	503.0 > 79.9	1.158e4	1.158e4	1.000	0.117	4.63	107	100

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-12.qld

Last Altered: Tuesday, April 04, 2017 12:57:13 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:57:25 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-02 CBD-EB01-032217 0.125, Description: CBD-EB01-032217, Name: 170328G1_12, Date: 28-Mar-2017, Time: 17:22:01

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		7.716e3		0.117			
2	20	Total PFOA	413 > 368.7		3.204e4		0.117			
3	21	Total PFOS	499 > 79.9		1.287e4		0.117		17.7	

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

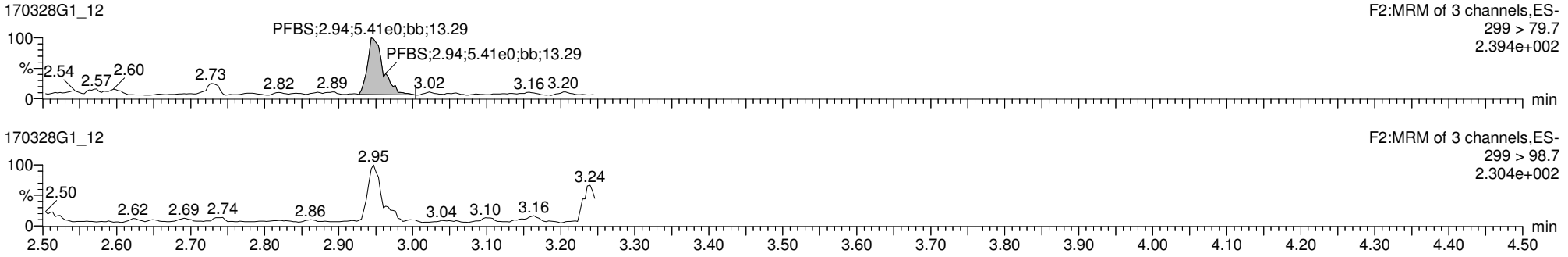
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-12.qld

Last Altered: Tuesday, April 04, 2017 12:57:13 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:57:19 Pacific Daylight Time

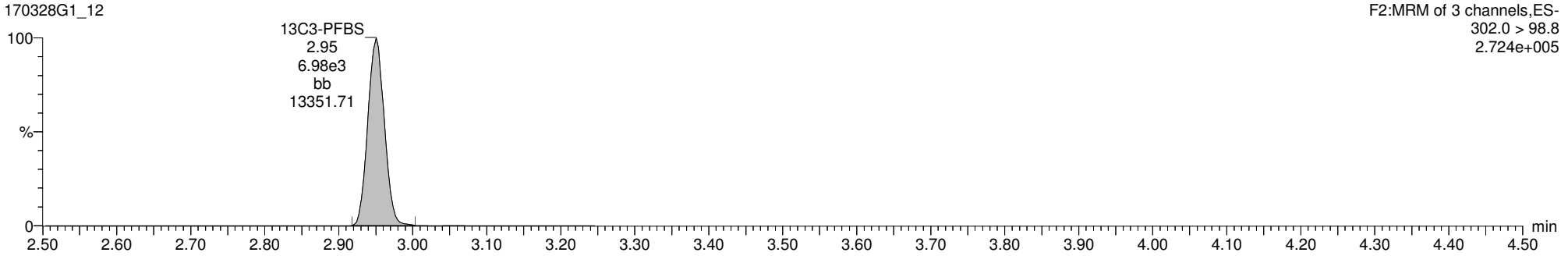
Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-02 CBD-EB01-032217 0.125, Description: CBD-EB01-032217, Name: 170328G1_12, Date: 28-Mar-2017, Time: 17:22:01, Instrument: , Lab: , User:

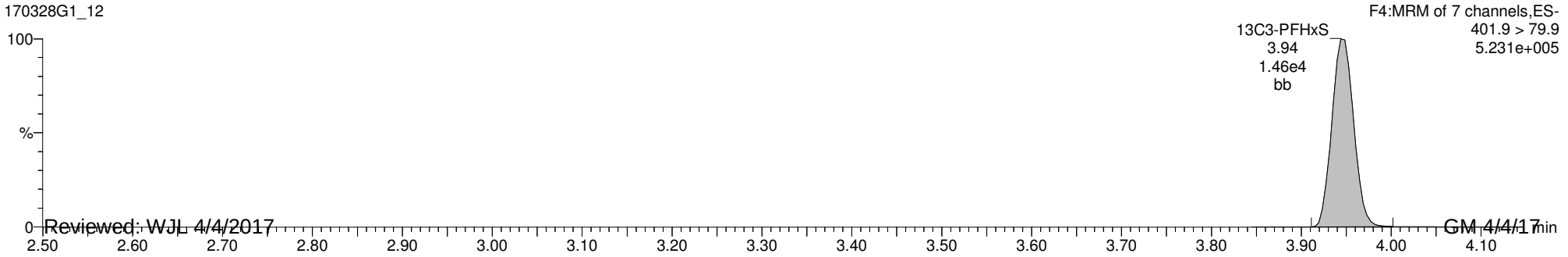
Total PFBS



13C3-PFBS



13C3-PFHxS



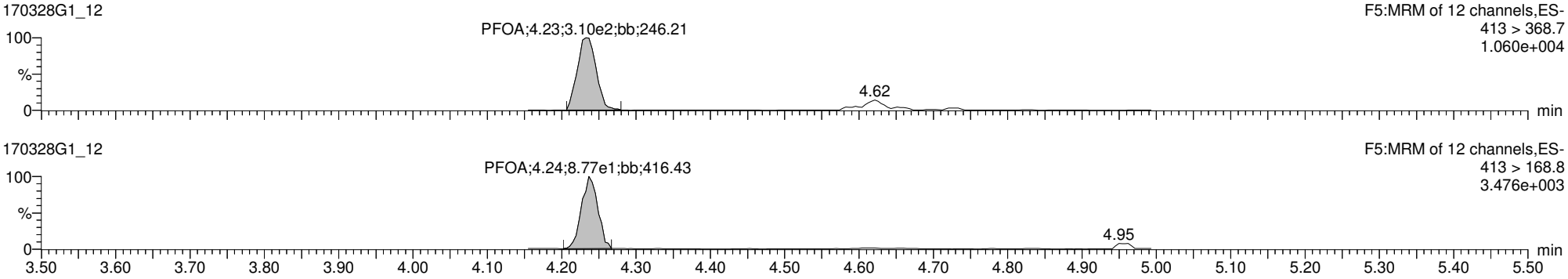
Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-12.qld

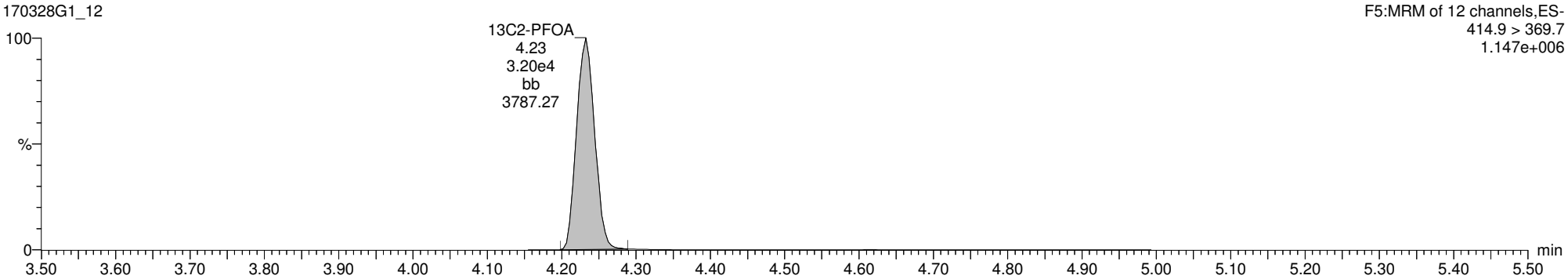
Last Altered: Tuesday, April 04, 2017 12:57:13 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:57:19 Pacific Daylight Time

ID: 1700367-02 CBD-EB01-032217 0.125, Description: CBD-EB01-032217, Name: 170328G1_12, Date: 28-Mar-2017, Time: 17:22:01, Instrument: , Lab: , User:

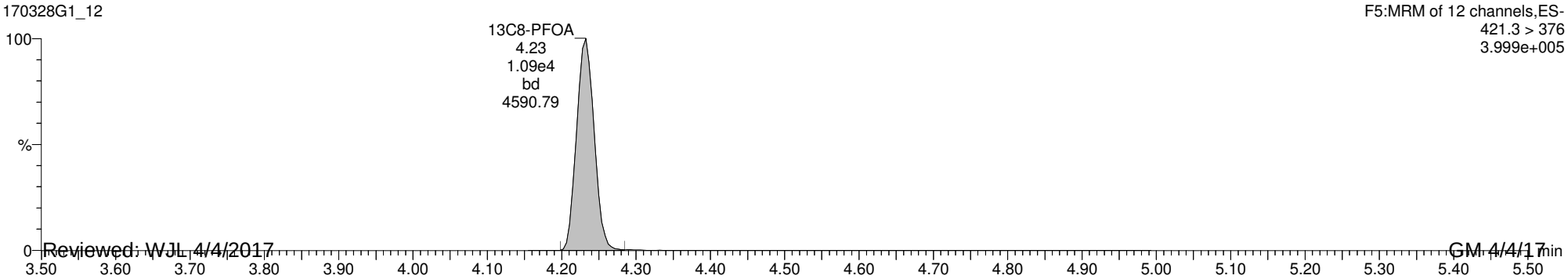
Total PFOA



13C2-PFOA



13C8-PFOA



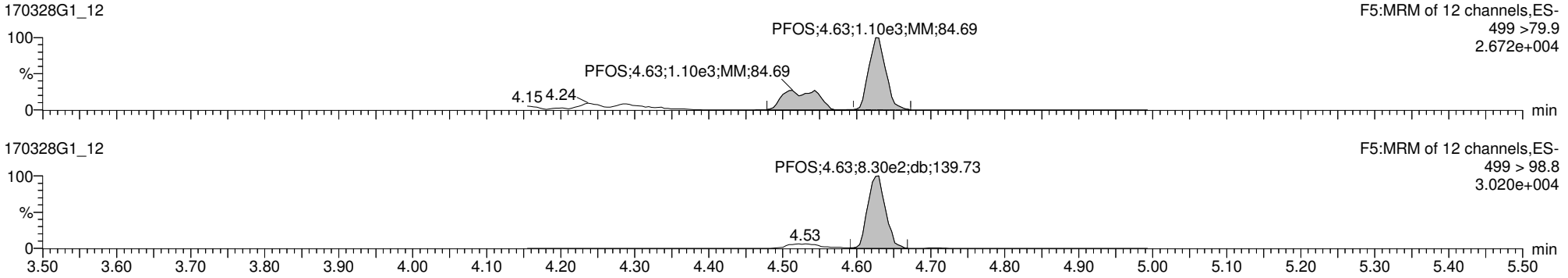
Reviewed: WJL 4/4/2017 GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-12.qld

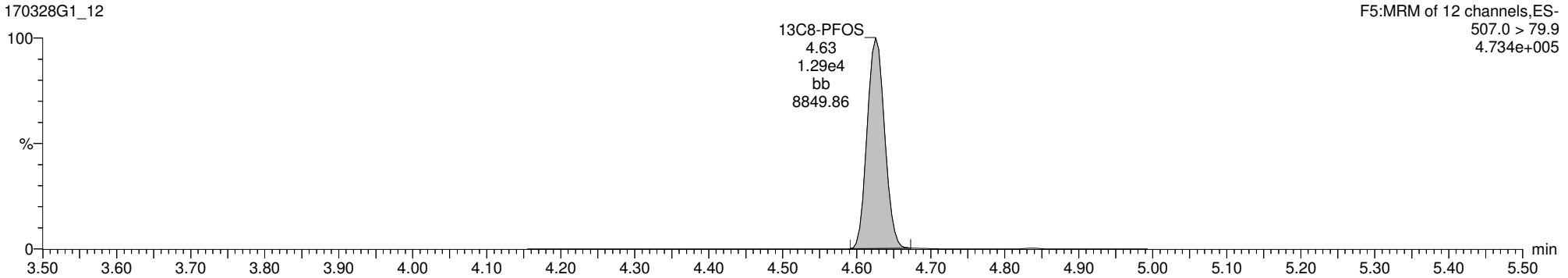
Last Altered: Tuesday, April 04, 2017 12:57:13 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:57:19 Pacific Daylight Time

ID: 1700367-02 CBD-EB01-032217 0.125, Description: CBD-EB01-032217, Name: 170328G1_12, Date: 28-Mar-2017, Time: 17:22:01, Instrument: , Lab: , User:

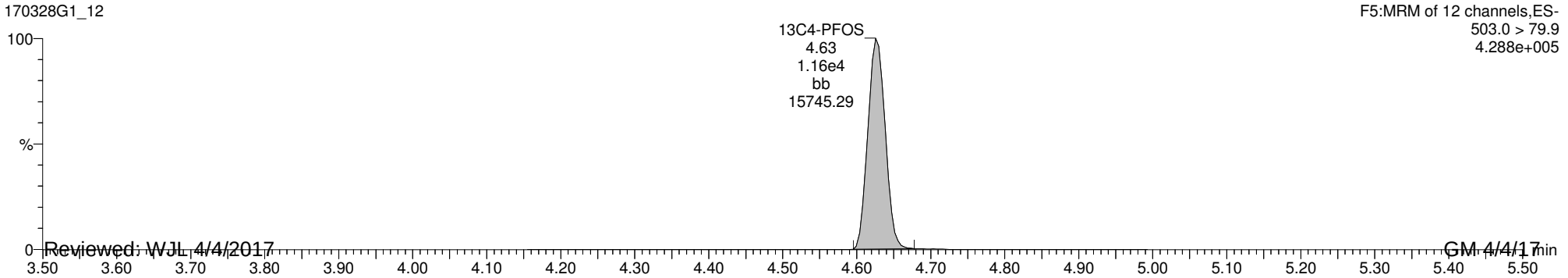
Total PFOS



13C8-PFOS



13C4-PFOS



Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-13.qld

Last Altered: Tuesday, April 04, 2017 12:58:37 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:58:42 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-03 CBD-AOA-MW11-0317 0.125, Description: CBD-AOA-MW11-0317, Name: 170328G1_13, Date: 28-Mar-2017, Time: 17:34:30

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		8.303e3		0.124			
2	4	PFOA	413 > 368.7	3.023e2	3.907e4		0.124	4.23		
3	6	PFOS	499 >79.9		1.420e4		0.124			
4	7	13C3-PFBS	302.0 > 98.8	8.303e3	1.579e4	0.501	0.124	2.93	105	105
5	10	13C2-PFOA	414.9 > 369.7	3.907e4	1.020e4	3.221	0.124	4.23	120	119
6	12	13C8-PFOS	507.0 > 79.9	1.420e4	1.254e4	1.080	0.124	4.62	105	105
7	14	13C3-PFHxS	401.9 > 79.9	1.579e4	1.579e4	1.000	0.124	3.94	101	100
8	15	13C8-PFOA	421.3 > 376	1.020e4	1.020e4	1.000	0.124	4.23	101	100
9	17	13C4-PFOS	503.0 > 79.9	1.254e4	1.254e4	1.000	0.124	4.63	101	100

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-13.qld

Last Altered: Tuesday, April 04, 2017 12:58:37 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:58:49 Pacific Daylight Time

Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-03 CBD-AOA-MW11-0317 0.125, Description: CBD-AOA-MW11-0317, Name: 170328G1_13, Date: 28-Mar-2017, Time: 17:34:30

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		8.114e3		0.124			
2	20	Total PFOA	413 > 368.7		3.907e4		0.124			
3	21	Total PFOS	499 > 79.9		1.420e4		0.124			

Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

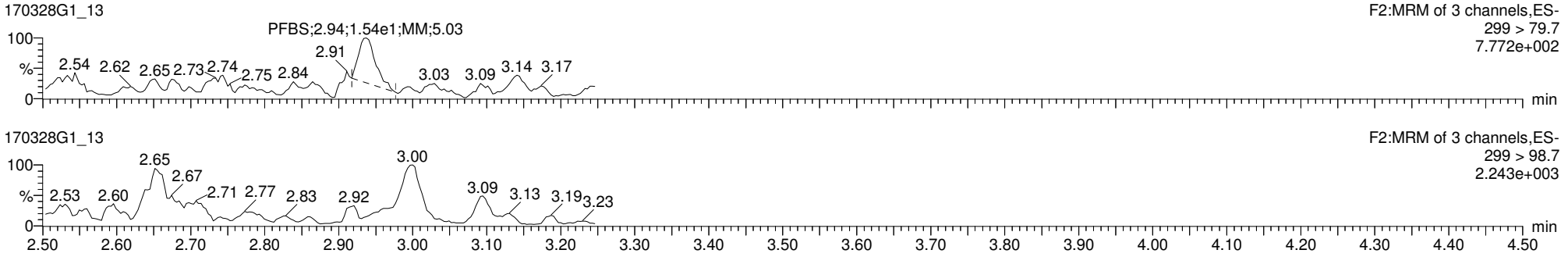
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-13.qld

Last Altered: Tuesday, April 04, 2017 12:58:37 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:58:42 Pacific Daylight Time

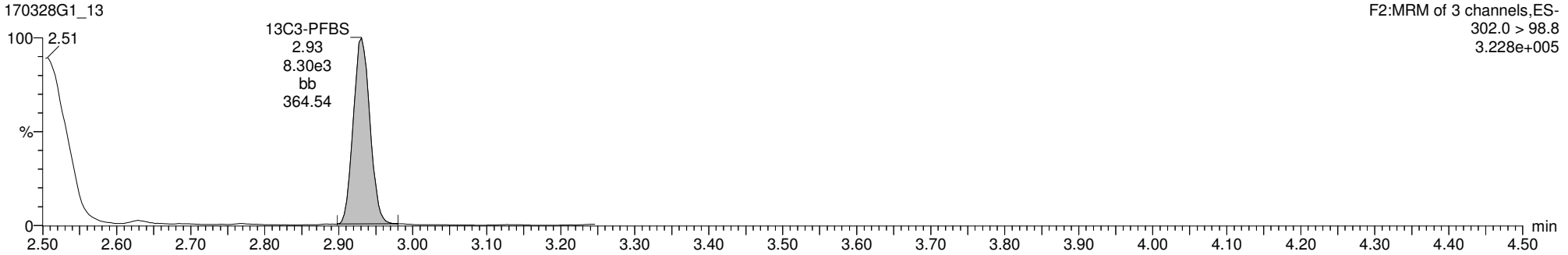
Method: Untitled 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-03 CBD-AOA-MW11-0317 0.125, Description: CBD-AOA-MW11-0317, Name: 170328G1_13, Date: 28-Mar-2017, Time: 17:34:30, Instrument: , Lab: , User:

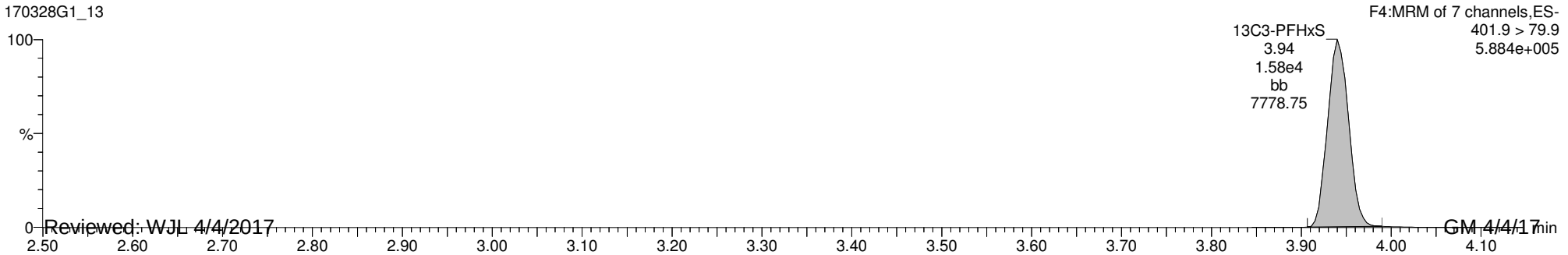
Total PFBS



13C3-PFBS



13C3-PFHxS



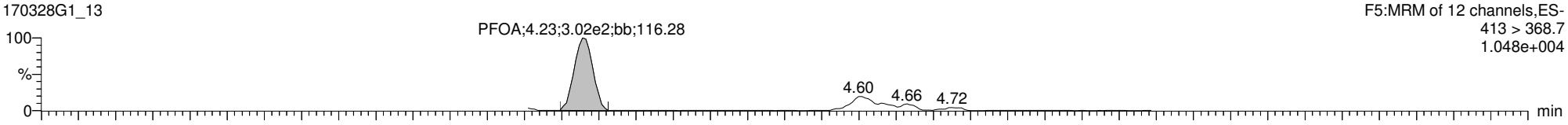
Reviewed: WJL 4/4/2017 GM 4/4/17

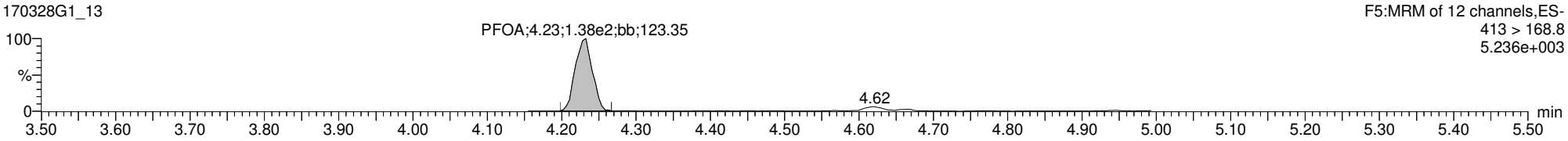
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-13.qld

Last Altered: Tuesday, April 04, 2017 12:58:37 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:58:42 Pacific Daylight Time

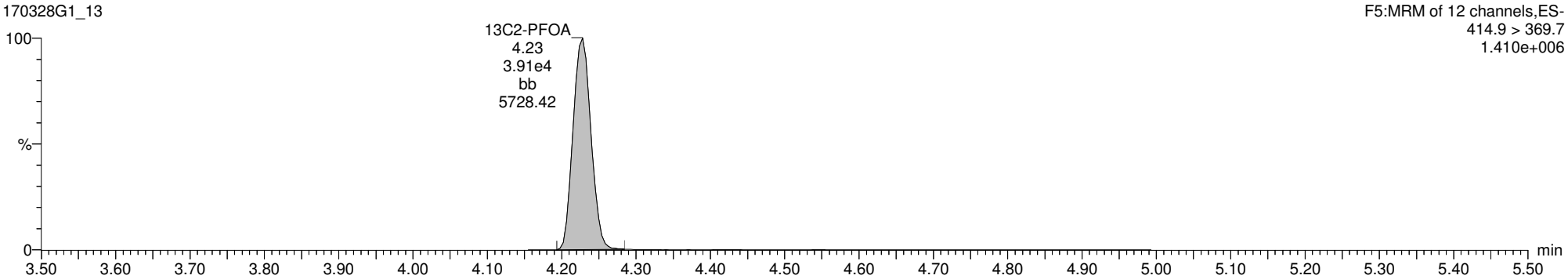
ID: 1700367-03 CBD-AOA-MW11-0317 0.125, Description: CBD-AOA-MW11-0317, Name: 170328G1_13, Date: 28-Mar-2017, Time: 17:34:30, Instrument: , Lab: , User:

Total PFOA

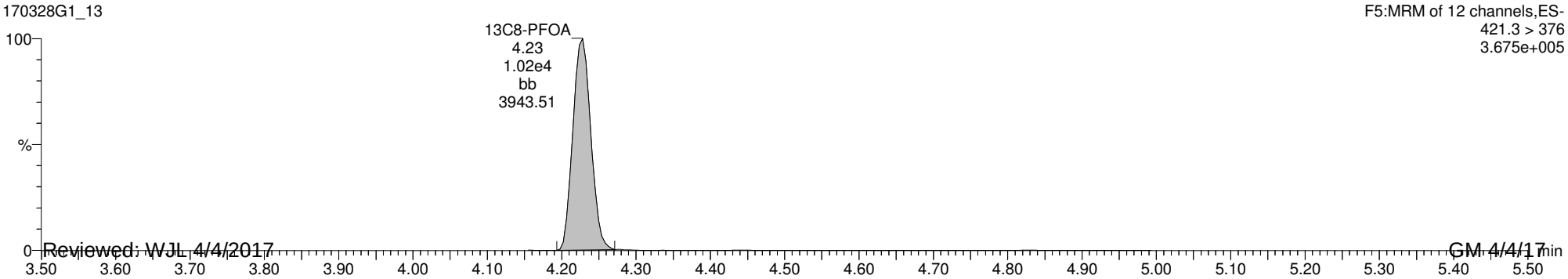




13C2-PFOA



13C8-PFOA



Reviewed: WJL 4/4/2017 GM 4/4/17

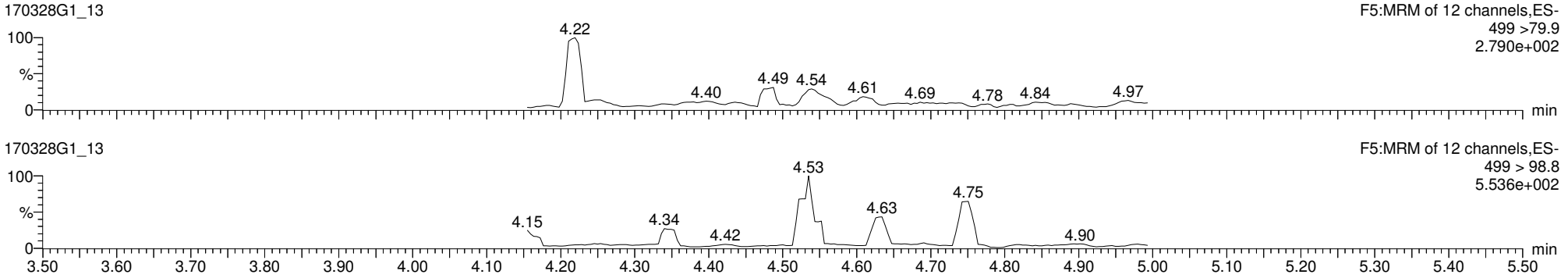
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-13.qld

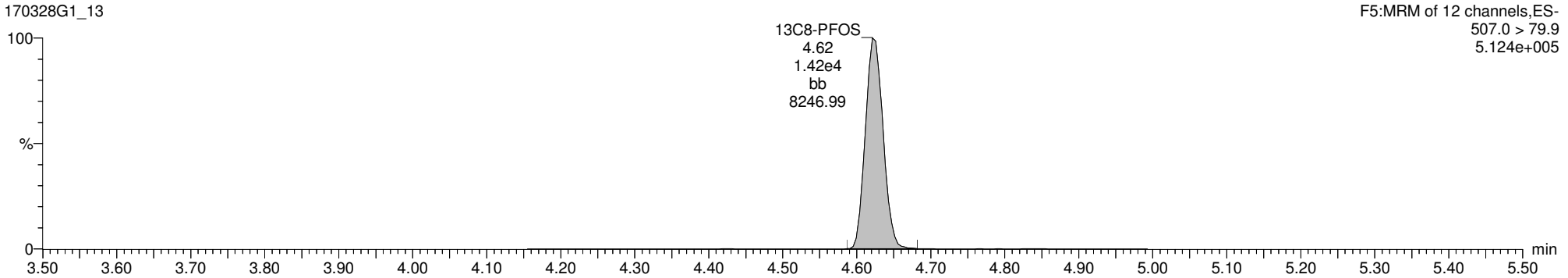
Last Altered: Tuesday, April 04, 2017 12:58:37 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:58:42 Pacific Daylight Time

ID: 1700367-03 CBD-AOA-MW11-0317 0.125, Description: CBD-AOA-MW11-0317, Name: 170328G1_13, Date: 28-Mar-2017, Time: 17:34:30, Instrument: , Lab: , User:

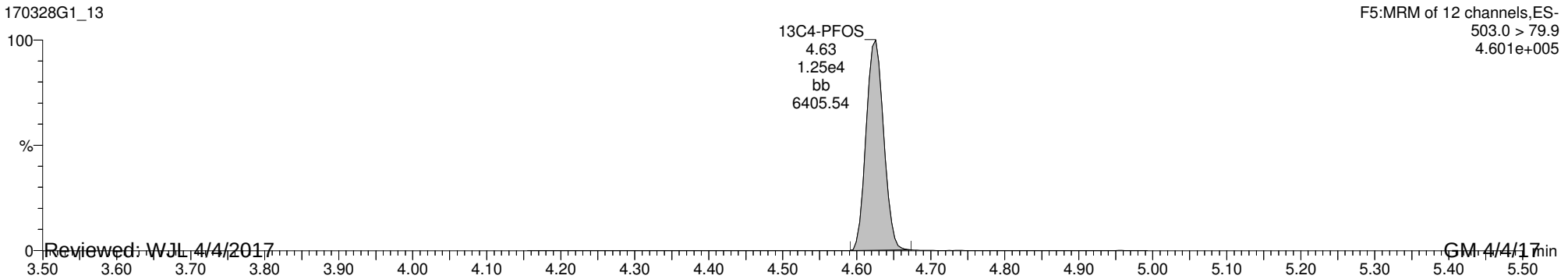
Total PFOS



13C8-PFOS



13C4-PFOS



Reviewed: WJL 4/4/2017 GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.371e0	6.713e3		0.0972	2.95		
2	4	PFOA	413 > 368.7	2.424e2	3.404e4		0.0972	4.23		
3	6	PFOS	499 >79.9	3.809e1	1.538e4		0.0972	4.53	1.99	
4	7	13C3-PFBS	302.0 > 98.8	6.713e3	1.462e4	0.501	0.0972	2.95	118	91.6
5	10	13C2-PFOA	414.9 > 369.7	3.404e4	9.704e3	3.221	0.0972	4.23	140	109
6	12	13C8-PFOS	507.0 > 79.9	1.538e4	1.298e4	1.080	0.0972	4.62	141	110
7	14	13C3-PFHxS	401.9 > 79.9	1.462e4	1.462e4	1.000	0.0972	3.94	129	100
8	15	13C8-PFOA	421.3 > 376	9.704e3	9.704e3	1.000	0.0972	4.23	129	100
9	17	13C4-PFOS	503.0 > 79.9	1.298e4	1.298e4	1.000	0.0972	4.63	129	100

GM 4/4/17

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:43 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18	Total PFBS	299 > 79.7		7.833e3		0.0972			
2	20	Total PFOA	413 > 368.7		3.404e4		0.0972			
3	21	Total PFOS	499 > 79.9		1.538e4		0.0972		1.99	

GM 4/4/17

Vista Analytical Laboratory Q1

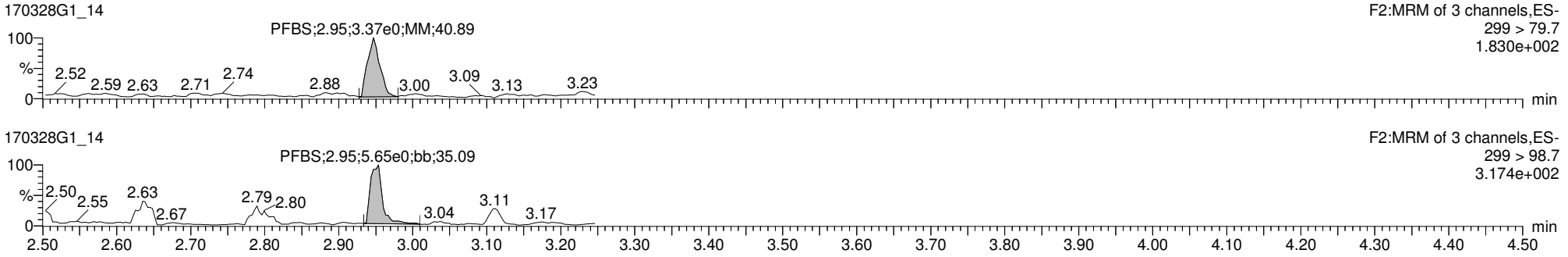
Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

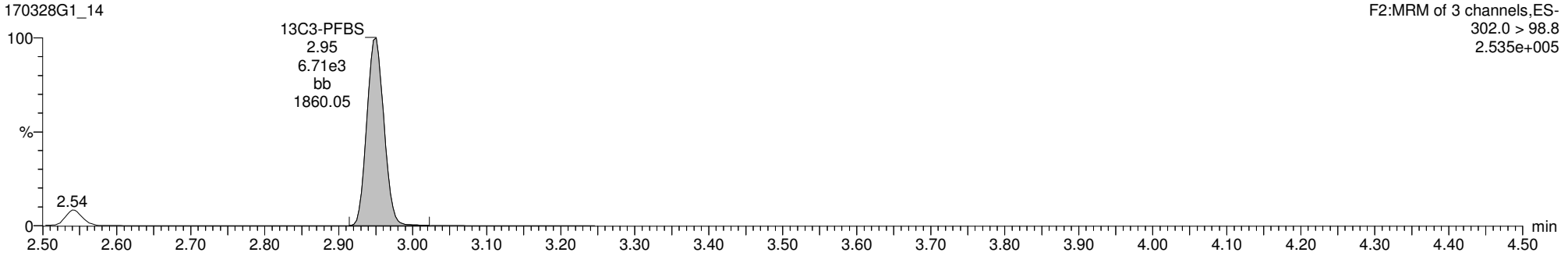
Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 29 Mar 2017 15:40:51
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02, Instrument: , Lab: , User:

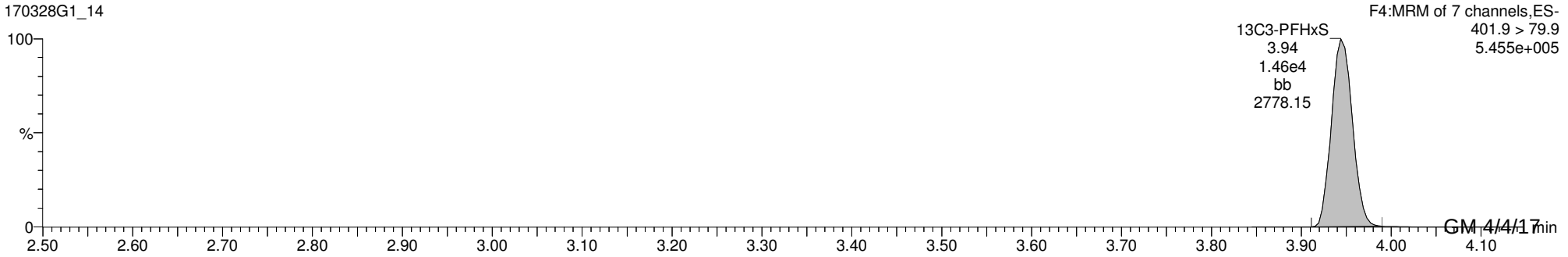
Total PFBS



13C3-PFBS



13C3-PFHxS



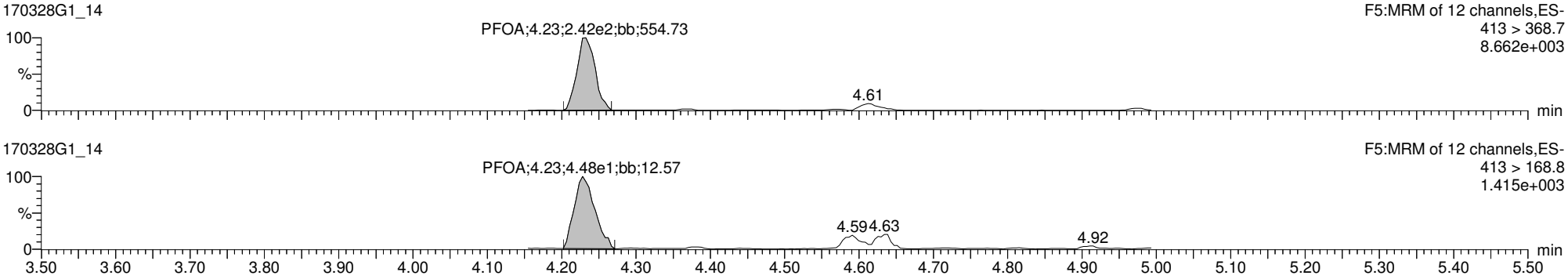
GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

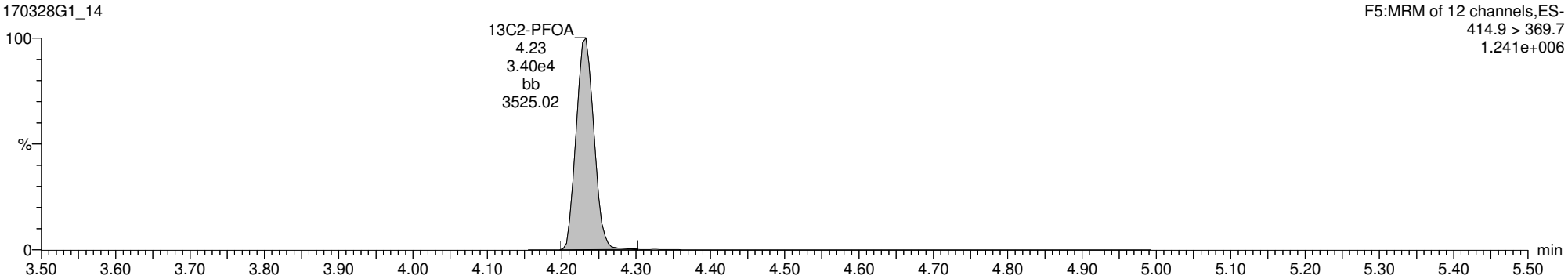
Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02, Instrument: , Lab: , User:

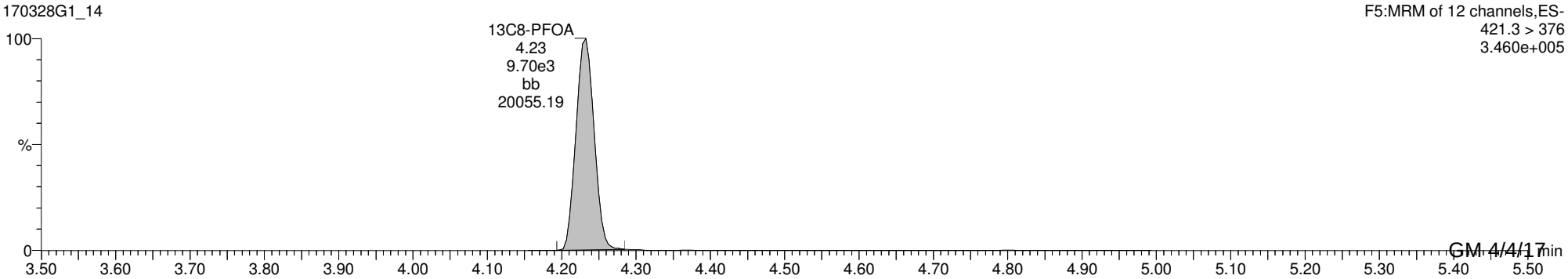
Total PFOA



13C2-PFOA



13C8-PFOA



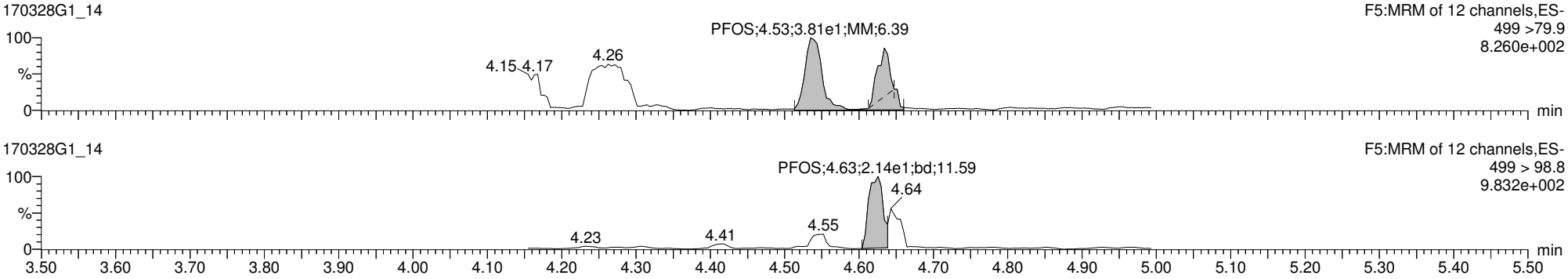
GM 4/4/17

Dataset: U:\G1.PRO\Results\2017\170328G1\170328G1-14.qld

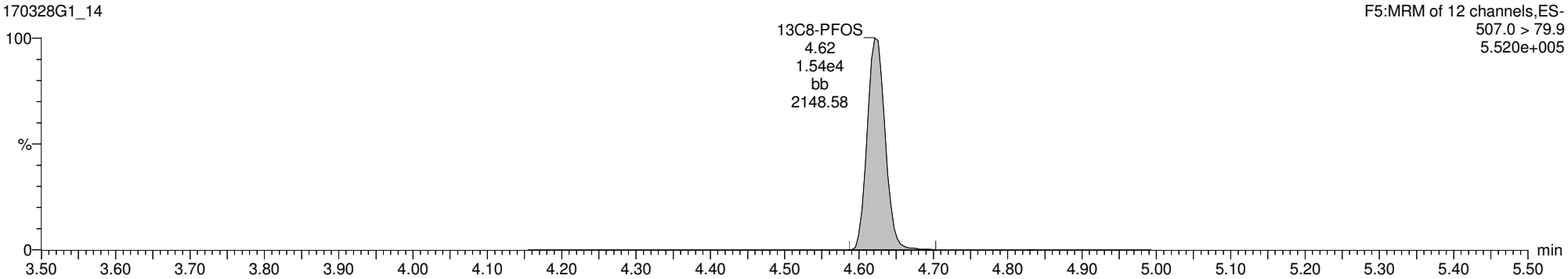
Last Altered: Monday, April 03, 2017 11:19:16 Pacific Daylight Time
Printed: Tuesday, April 04, 2017 12:59:36 Pacific Daylight Time

ID: 1700367-04 CBD-EB01-032317 0.125, Description: CBD-EB01-032317, Name: 170328G1_14, Date: 28-Mar-2017, Time: 17:47:02, Instrument: , Lab: , User:

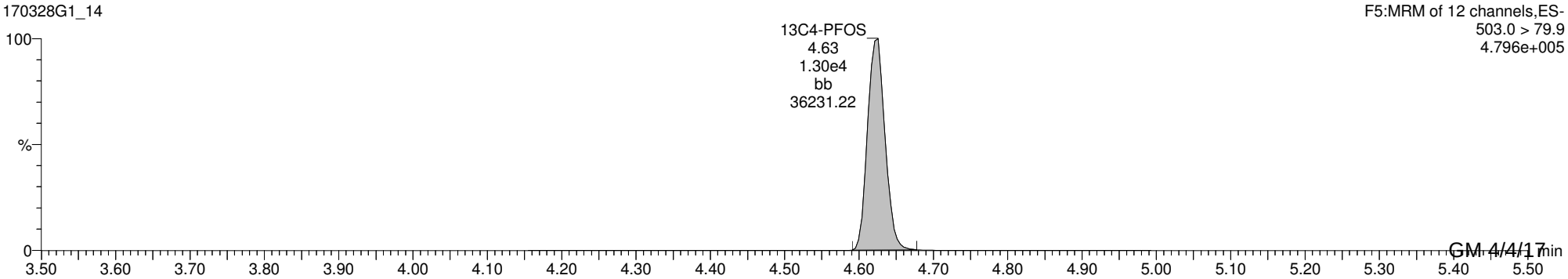
Total PFOS



13C8-PFOS



13C4-PFOS



GM 4/4/17

CONTINUING CALIBRATION

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170328G1-2.qld

Last Altered: Wednesday, March 29, 2017 08:25:24 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:29:24 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Name: 170328G1_2, Date: 28-Mar-2017, Time: 13:51:02, ID: ST170328G1-1 PFC CS3 17C2810, Description: PFC CS3 17C2810 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.11e4	7.73e3		1.000	3.08	7.89	78.9
2	4	PFOA	413 > 368.7	2.10e4	3.45e4		1.000	4.31	8.56	85.6
3	6	PFOS	499 >79.9	3.31e3	9.33e3		1.000	4.69	8.15	81.5
4	7	13C3-PFBS	302.0 > 98.8	7.73e3	1.46e4	0.501	1.000	3.07	13.2	105.8
5	10	13C2-PFOA	414.9 > 369.7	3.45e4	1.13e4	3.221	1.000	4.31	11.8	94.5
6	12	13C8-PFOS	507.0 > 79.9	9.33e3	8.64e3	1.080	1.000	4.69	12.5	100.1
7	13	13C5-PFHxA	318>272.9	2.14e4	2.14e4	1.000	1.000	3.45	12.5	100.0
8	14	13C3-PFHxS	401.9 > 79.9	1.46e4	1.46e4	1.000	1.000	4.04	12.5	100.0
9	15	13C8-PFOA	421.3 > 376	1.13e4	1.13e4	1.000	1.000	4.31	12.5	100.0
10	17	13C4-PFOS	503.0 > 79.9	8.64e3	8.64e3	1.000	1.000	4.69	12.5	100.0

75-125
60-150

AC 3/29/17

ES 3/29/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Wednesday, March 29, 2017 09:03:38 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 09:03:52 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170328G1_1	IPA	28-Mar-17	13:38:50
2	170328G1_2	ST170328G1-1 PFC CS3 17C2810	28-Mar-17	13:51:02
3	170328G1_3	IPA	28-Mar-17	14:03:31
4	170328G1_4	B7C0135-BS1 OPR 0.125	28-Mar-17	14:16:07
5	170328G1_5	B7C0138-BS1 OPR 0.125	28-Mar-17	14:28:38
6	170328G1_6	B7C0136-BS1 OPR 1	28-Mar-17	16:07:03
7	170328G1_7	IPA	28-Mar-17	16:19:21
8	170328G1_8	B7C0135-BLK1 Method Blank 0.125	28-Mar-17	16:31:50
9	170328G1_9	B7C0138-BLK1 Method Blank 0.125	28-Mar-17	16:44:22
10	170328G1_10	B7C0136-BLK1 Method Blank 1	28-Mar-17	16:56:54
11	170328G1_11	1700367-01 CBD-AOA-MW14-0317 0.125	28-Mar-17	17:09:27
12	170328G1_12	1700367-02 CBD-EB01-032217 0.125	28-Mar-17	17:22:01
13	170328G1_13	1700367-03 CBD-AOA-MW11-0317 0.125	28-Mar-17	17:34:30
14	170328G1_14	1700367-04 CBD-EB01-032317 0.125	28-Mar-17	17:47:02
15	170328G1_15	1700355-10RE1@20X CBD-AOA-MW01-0317...	28-Mar-17	17:59:36
16	170328G1_16	1700355-11RE1@20X CBD-AOA-MW02-0317...	28-Mar-17	18:12:10
17	170328G1_17	1700355-12RE1@20X CBD-AOA-MW04-0317...	28-Mar-17	18:24:44
18	170328G1_18	1700355-13RE1@20X CBD-AOA-MW03-0317...	28-Mar-17	18:37:17
19	170328G1_19	1700355-10RE1 CBD-AOA-MW01-0317 0.1192	28-Mar-17	18:49:51
20	170328G1_20	1700355-11RE1 CBD-AOA-MW02-0317 0.1256	28-Mar-17	19:02:24
21	170328G1_21	1700355-12RE1 CBD-AOA-MW04-0317 0.128...	28-Mar-17	19:14:52
22	170328G1_22	1700355-13RE1 CBD-AOA-MW03-0317 0.128...	28-Mar-17	19:27:25
23	170328G1_23	IPA	28-Mar-17	19:39:59
24	170328G1_24	ST170328G1-2 PFC CS3 17C2810	28-Mar-17	19:52:34
25	170328G1_25	IPA	28-Mar-17	20:05:04
26	170328G1_26	1700349-01RE1 Sludge 2.39	28-Mar-17	20:17:40
27	170328G1_27	1700349-02RE1 White Stock 5	28-Mar-17	20:30:10
28	170328G1_28	1700349-03RE1 Kraft Stock 5	28-Mar-17	20:42:43
29	170328G1_29	1700352-01RE1 GP Primary 2.39	28-Mar-17	20:55:17
30	170328G1_30	1700352-02RE1 NP Primary 2.29	28-Mar-17	21:07:50
31	170328G1_31	1700352-03RE1 NP Secondary 4.22	28-Mar-17	21:20:24

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Wednesday, March 29, 2017 09:03:38 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 09:03:52 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170328G1_32	IPA	28-Mar-17	21:32:52
33	170328G1_33	ST170328G1-3 PFC CS3 17C2810	28-Mar-17	21:45:28
34	170328G1_34	IPA	28-Mar-17	21:57:58

LC Calibration Standards Review Checklist Q1

Calibration ID:		L M H	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID:	ST170328G1-1	(M)	N/A ☐	☑	☑	☑	☑	☑	☐
Calibration ID:	-2	(M)	☐	☑	☑	☑	☑	☑	☐
Calibration ID:	-3	(M)	☐	☑	☑	☑	☑	☑	☑
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: 12/16/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: gf 3/29/17
Initials/Date

Comments:

Vista Analytical Laboratory Q1

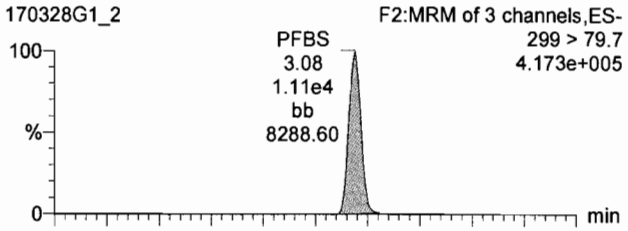
Dataset: Untitled

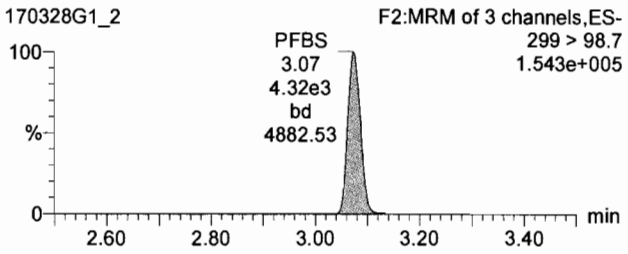
Last Altered: Wednesday, March 29, 2017 08:02:03 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:24:27 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

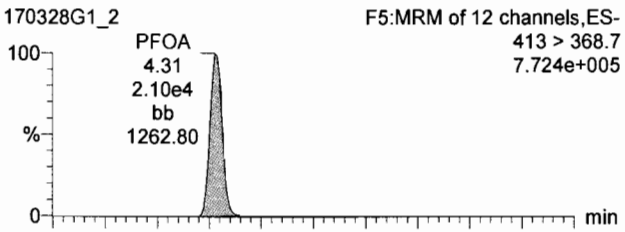
ID: ST170328G1-1 PFC CS3 17C2810, Description: PFC CS3 17C2810 A, Name: 170328G1_2, Date: 28-Mar-2017, Time: 13:51:02, Instrument: , Lab: , User:

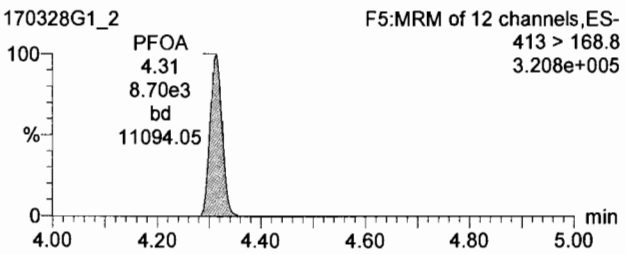
Total PFBS



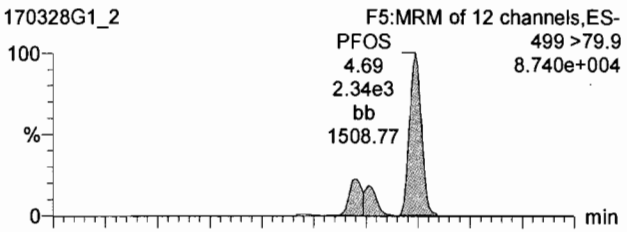


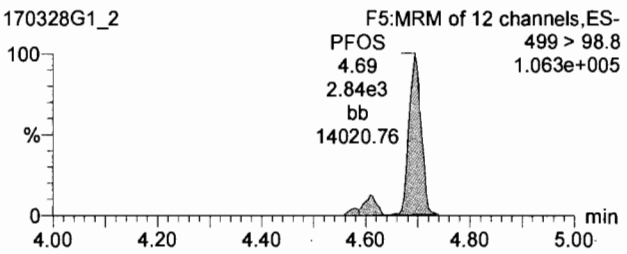
Total PFOA



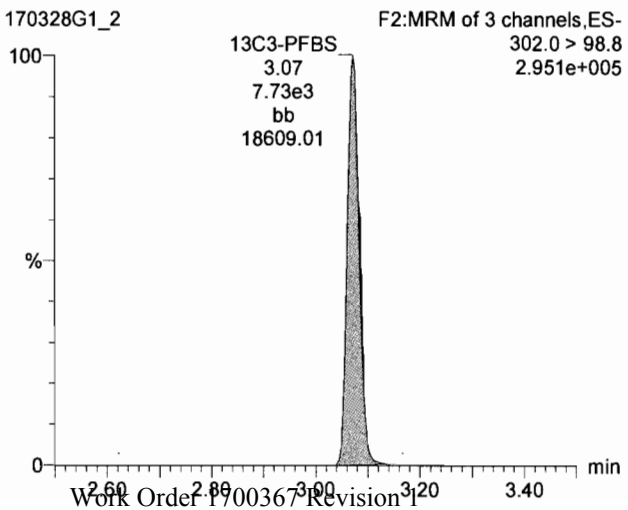


Total PFOS

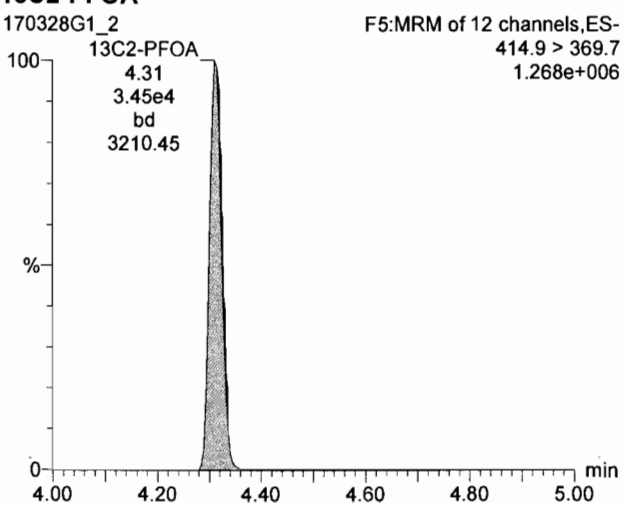




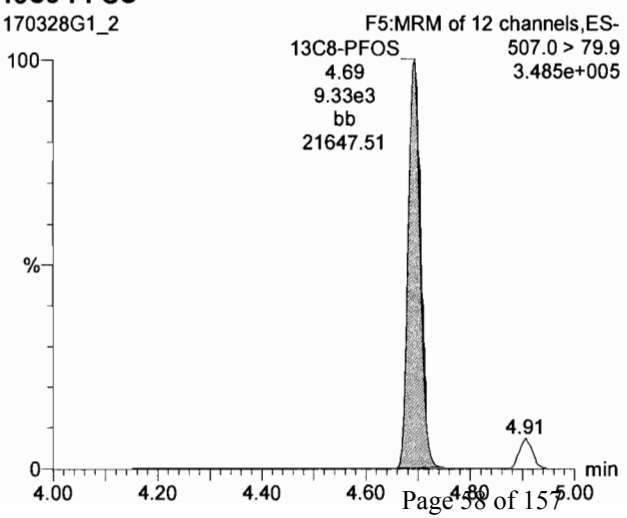
13C3-PFBS



13C2-PFOA



13C8-PFOS

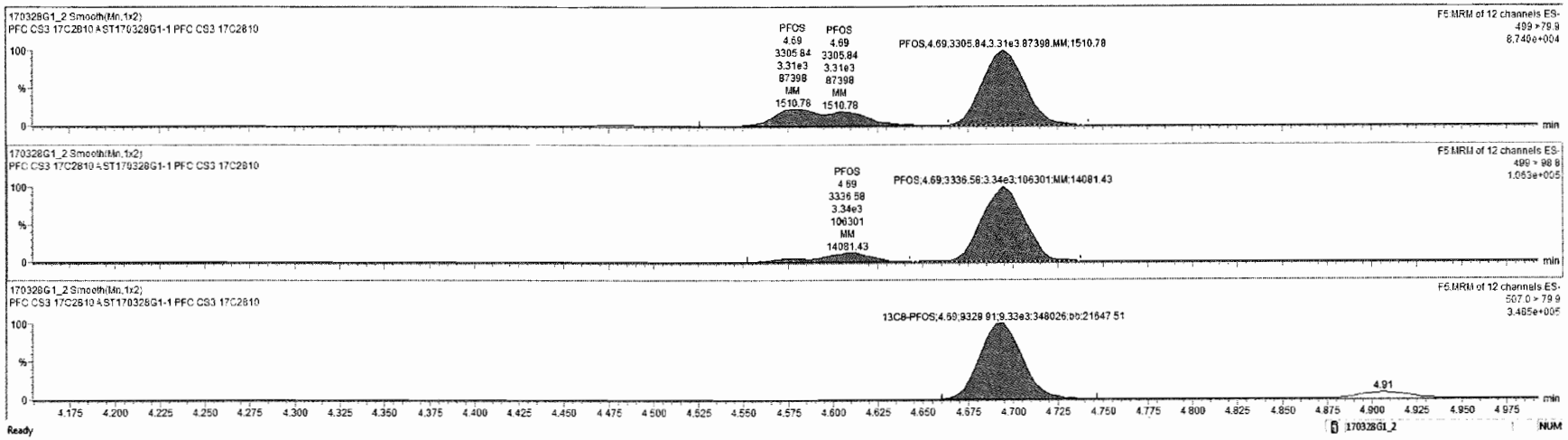


TargetLynx - untitled - [Chromatogram]

File Edit View Display Processing Window Help

170328G1_2 - ST170328G1-1 PFC CS3 17C2810 - PFC CS3 17C2810 A

	Name	Conc.	Dt.	%Rec	EMPC	Abs Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1st Chr.Noise	ID	Sample Text	Factor1	Wt	Cal File	>MDL
1	PFBS	7.8889620	0.0000..	78.9		1.111e4		3.08	1	7	0.389	YES	1.001	28-Mar-17	13:51:02	31.596	ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
2	PFHpA	8.2922204	0.0000..	82.9		2.141e4		3.93	2	8			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	YES
3	PFHxS	7.4608243	0.0125	74.6		7.221e3		4.04	3	9			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	YES
4	PFOA	8.5598869	0.0000..	85.6		2.096e4		4.31	4	10			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	YES
5	PFNA	9.2508786	0.0000..	92.5		1.899e4		4.63	5	11			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	YES
6	PFOS	8.1451967	0.147	81.5		3.305e3		4.69	6	12			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	13.229441	0.00185	105.8		7.727e3	0.501	3.07	7	14			0.891	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	12.855399	0.0106	102.8		1.853e4	1.237	3.93	8	14			0.973	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
9	18O2-PFHxS	11.706332	0.0709	93.7		6.746e3	0.495	4.04	9	14			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
10	13C2-PFOA	11.809677	0.00922	94.5		3.446e4	3.221	4.31	10	15			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	12.678431	0.0346	101.4		1.173e4	0.979	4.63	11	16			1.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	12.506826	0.00147	100.1		9.330e3	1.080	4.69	12	17			1.001	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00228	100.0		2.137e4	1.000	3.45	13	13			0.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.000998	100.0		1.457e4	1.000	4.04	14	14			0.000	28-Mar-17	13:51:02		ST170328G	PFC CS3 17C26...	1.0	1.00	C18_V	NO
15	13C8-PFOA	12.500000	0.000836	100.0		1.132e4	1.000	4.31	15	15			0.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.00934	100.0		1.181e4	1.000	4.63	16	16			0.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.00102	100.0		8.635e3	1.000	4.69	17	17			0.000	28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
18	Total PFBS	7.8889620							18					28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V	NO
19	Total PFHxS	9.1978428							19					28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO
20	Total PFOA	8.5598869							20					28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V	NO
21	Total PFOS	10.715883	0.147						21					28-Mar-17	13:51:02		ST170328G...	PFC CS3 17C26...	1.0	1.00	C18_V...	NO

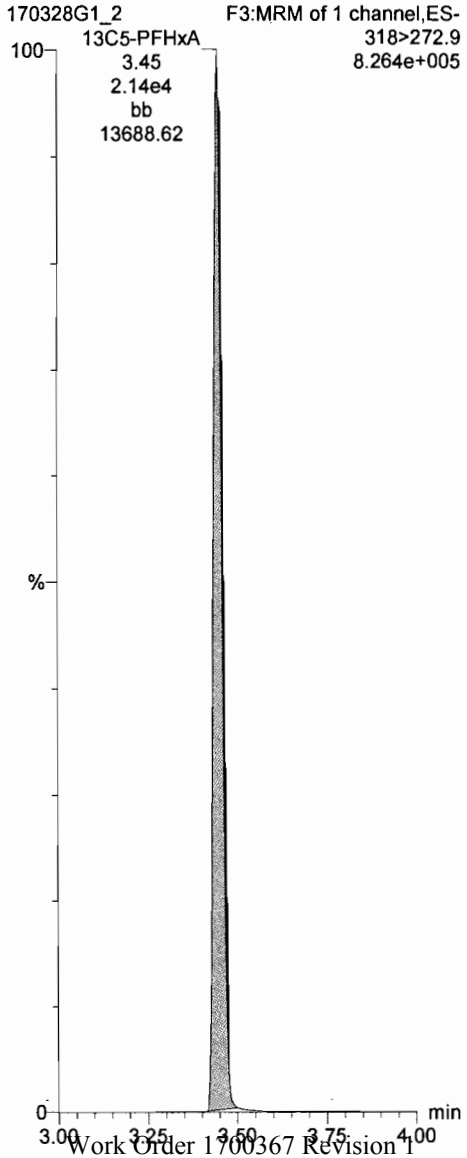


Dataset: Untitled

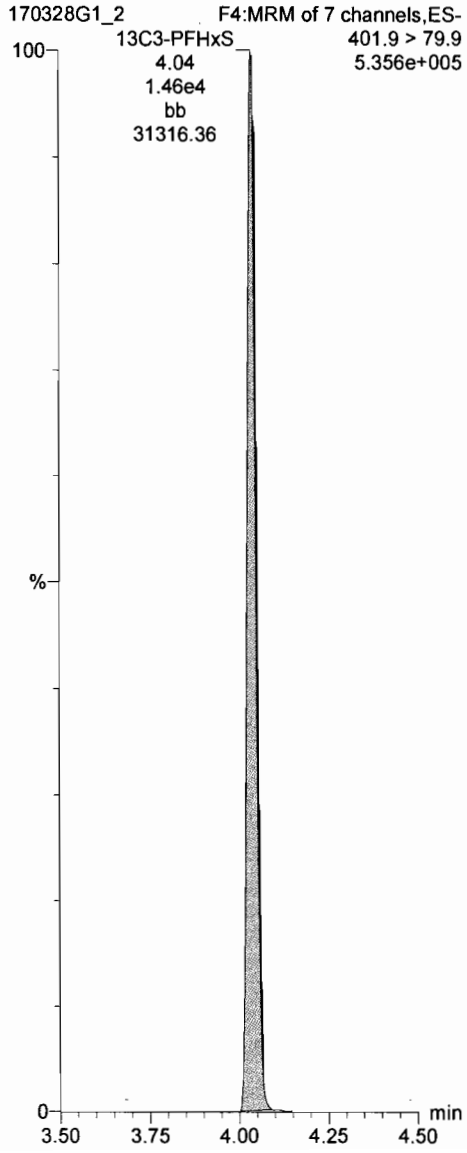
Last Altered: Wednesday, March 29, 2017 08:02:03 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:24:27 Pacific Daylight Time

ID: ST170328G1-1 PFC CS3 17C2810, Description: PFC CS3 17C2810 A, Name: 170328G1_2, Date: 28-Mar-2017, Time: 13:51:02, Instrument: , Lab: , User:

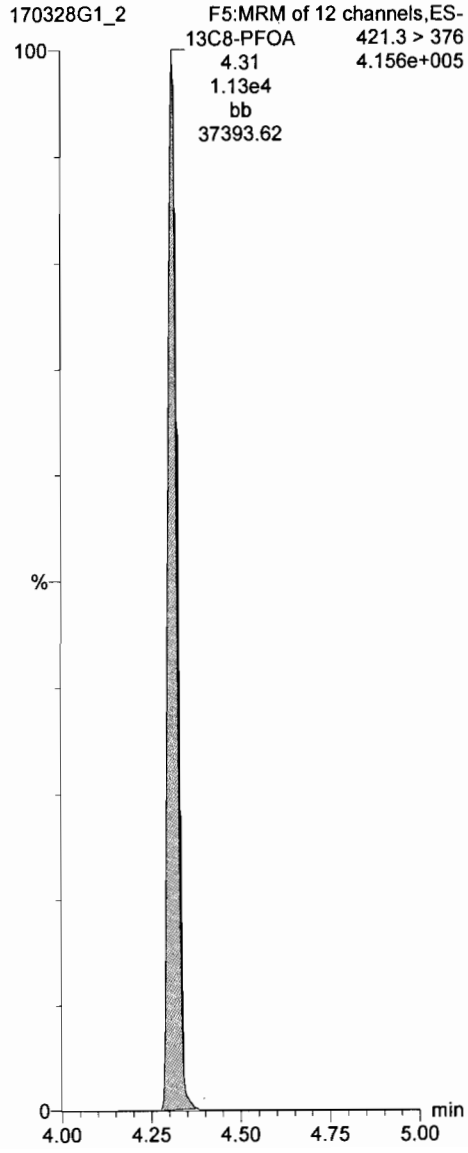
13C5-PFHxA



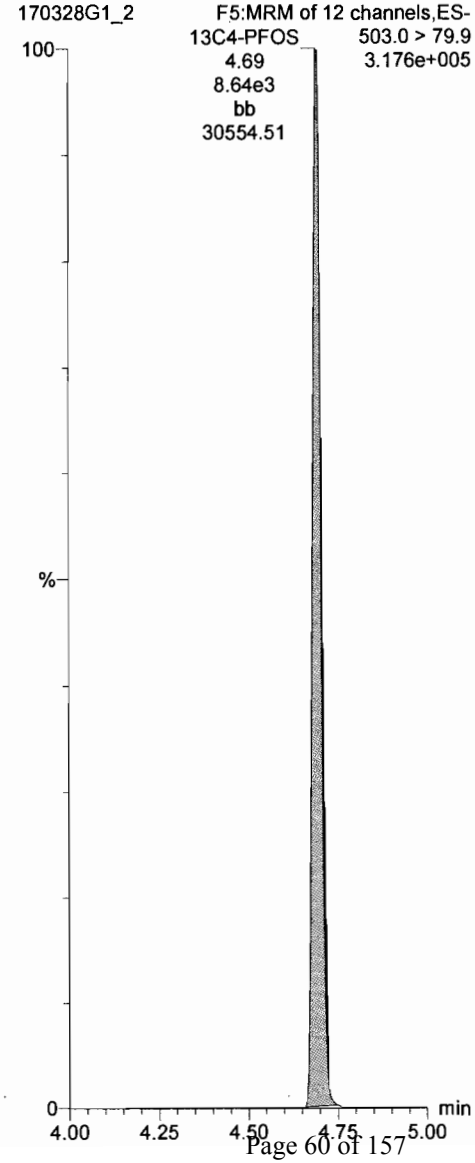
13C3-PFHxS



13C8-PFOA



13C4-PFOS



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\New folder\170328G1-24.qld

Last Altered: Wednesday, March 29, 2017 08:40:22 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:59:08 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Name: 170328G1_24, Date: 28-Mar-2017, Time: 19:52:34, ID: ST170328G1-2 PFC CS3 17C2810, Description: PFC CS3 17C2726 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.31e4	8.51e3		1.000	2.95	8.42	84.2
2	4	PFOA	413 > 368.7	2.38e4	4.23e4		1.000	4.23	7.91	79.1
3	6	PFOS	499 >79.9	4.04e3	1.19e4		1.000	4.63	7.80	78.0
4	7	13C3-PFBS	302.0 > 98.8	8.51e3	1.65e4	0.501	1.000	2.95	12.8	102.6
5	10	13C2-PFOA	414.9 > 369.7	4.23e4	9.68e3	3.221	1.000	4.23	16.9	135.5
6	12	13C8-PFOS	507.0 > 79.9	1.19e4	9.95e3	1.080	1.000	4.63	13.9	110.9
7	13	13C5-PFHxA	318>272.9	2.81e4	2.81e4	1.000	1.000	3.33	12.5	100.0
8	14	13C3-PFHxS	401.9 > 79.9	1.65e4	1.65e4	1.000	1.000	3.95	12.5	100.0
9	15	13C8-PFOA	421.3 > 376	9.68e3	9.68e3	1.000	1.000	4.23	12.5	100.0
10	17	13C4-PFOS	503.0 > 79.9	9.95e3	9.95e3	1.000	1.000	4.63	12.5	100.0

75-125
↓
60-150
↓

AC
3/29/17

JEP 3/29/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Wednesday, March 29, 2017 09:03:38 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 09:03:52 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170328G1_1	IPA	28-Mar-17	13:38:50
2	170328G1_2	ST170328G1-1 PFC CS3 17C2810	28-Mar-17	13:51:02
3	170328G1_3	IPA	28-Mar-17	14:03:31
4	170328G1_4	B7C0135-BS1 OPR 0.125	28-Mar-17	14:16:07
5	170328G1_5	B7C0138-BS1 OPR 0.125	28-Mar-17	14:28:38
6	170328G1_6	B7C0136-BS1 OPR 1	28-Mar-17	16:07:03
7	170328G1_7	IPA	28-Mar-17	16:19:21
8	170328G1_8	B7C0135-BLK1 Method Blank 0.125	28-Mar-17	16:31:50
9	170328G1_9	B7C0138-BLK1 Method Blank 0.125	28-Mar-17	16:44:22
10	170328G1_10	B7C0136-BLK1 Method Blank 1	28-Mar-17	16:56:54
11	170328G1_11	1700367-01 CBD-AOA-MW14-0317 0.125	28-Mar-17	17:09:27
12	170328G1_12	1700367-02 CBD-EB01-032217 0.125	28-Mar-17	17:22:01
13	170328G1_13	1700367-03 CBD-AOA-MW11-0317 0.125	28-Mar-17	17:34:30
14	170328G1_14	1700367-04 CBD-EB01-032317 0.125	28-Mar-17	17:47:02
15	170328G1_15	1700355-10RE1@20X CBD-AOA-MW01-0317...	28-Mar-17	17:59:36
16	170328G1_16	1700355-11RE1@20X CBD-AOA-MW02-0317...	28-Mar-17	18:12:10
17	170328G1_17	1700355-12RE1@20X CBD-AOA-MW04-0317...	28-Mar-17	18:24:44
18	170328G1_18	1700355-13RE1@20X CBD-AOA-MW03-0317...	28-Mar-17	18:37:17
19	170328G1_19	1700355-10RE1 CBD-AOA-MW01-0317 0.1192	28-Mar-17	18:49:51
20	170328G1_20	1700355-11RE1 CBD-AOA-MW02-0317 0.1256	28-Mar-17	19:02:24
21	170328G1_21	1700355-12RE1 CBD-AOA-MW04-0317 0.128...	28-Mar-17	19:14:52
22	170328G1_22	1700355-13RE1 CBD-AOA-MW03-0317 0.128...	28-Mar-17	19:27:25
23	170328G1_23	IPA	28-Mar-17	19:39:59
24	170328G1_24	ST170328G1-2 PFC CS3 17C2810	28-Mar-17	19:52:34
25	170328G1_25	IPA	28-Mar-17	20:05:04
26	170328G1_26	1700349-01RE1 Sludge 2.39	28-Mar-17	20:17:40
27	170328G1_27	1700349-02RE1 White Stock 5	28-Mar-17	20:30:10
28	170328G1_28	1700349-03RE1 Kraft Stock 5	28-Mar-17	20:42:43
29	170328G1_29	1700352-01RE1 GP Primary 2.39	28-Mar-17	20:55:17
30	170328G1_30	1700352-02RE1 NP Primary 2.29	28-Mar-17	21:07:50
31	170328G1_31	1700352-03RE1 NP Secondary 4.22	28-Mar-17	21:20:24

Dataset: Untitled

Last Altered: Wednesday, March 29, 2017 09:03:38 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 09:03:52 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170328G1_32	IPA	28-Mar-17	21:32:52
33	170328G1_33	ST170328G1-3 PFC CS3 17C2810	28-Mar-17	21:45:28
34	170328G1_34	IPA	28-Mar-17	21:57:58

Vista Analytical Laboratory Q1

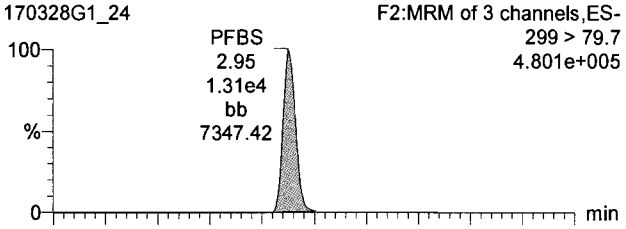
Dataset: Untitled

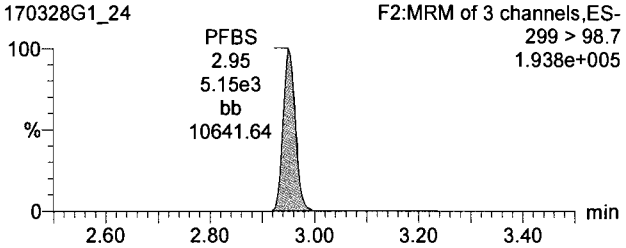
Last Altered: Wednesday, March 29, 2017 08:36:20 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:37:13 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 20 Mar 2017 10:42:57
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

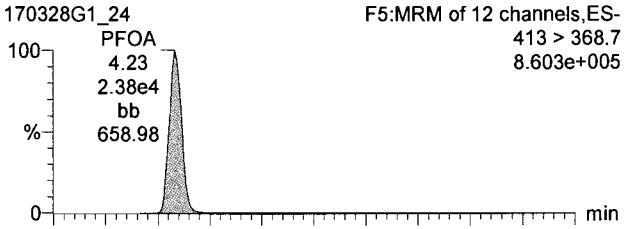
ID: ST170328G1-2 PFC CS3 17C2810, Description: PFC CS3 17C2726 A, Name: 170328G1_24, Date: 28-Mar-2017, Time: 19:52:34, Instrument: , Lab: , User:

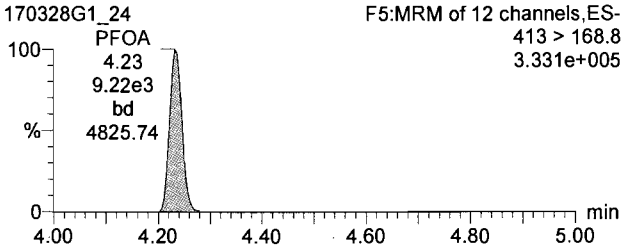
Total PFBS



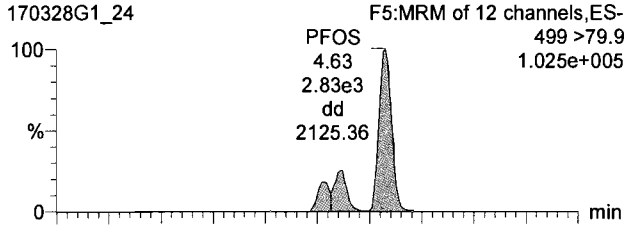


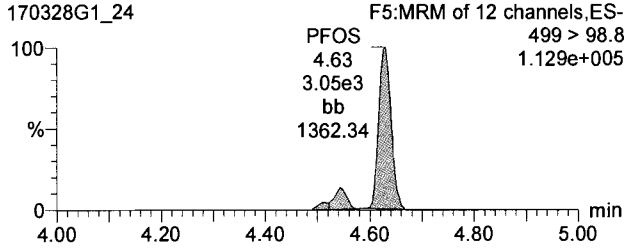
Total PFOA



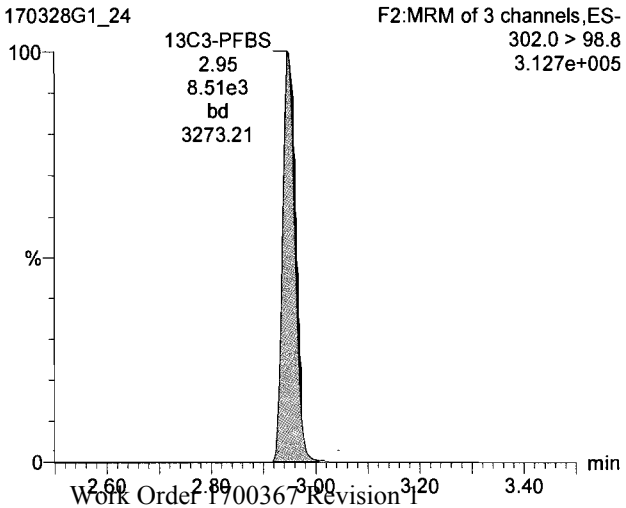


Total PFOS

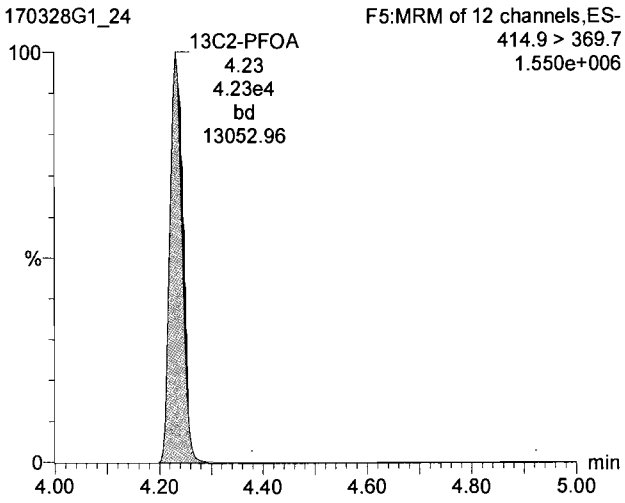




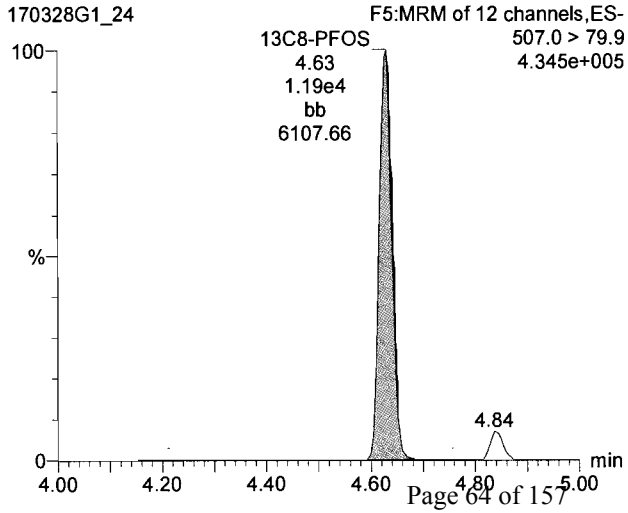
13C3-PFBS



13C2-PFOA



13C8-PFOS

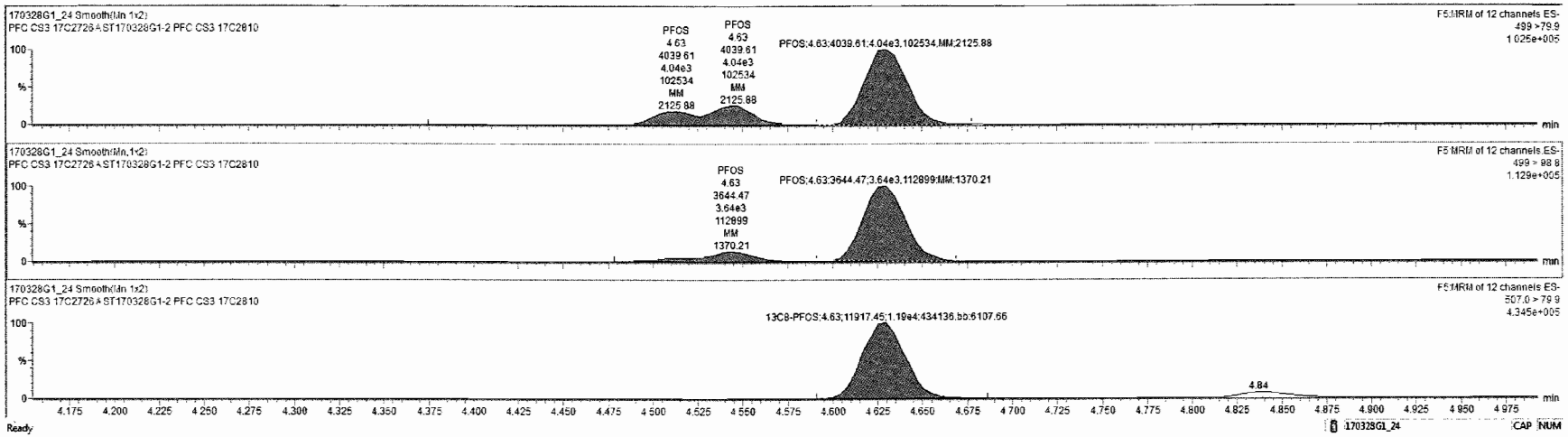


TargetLynx - 170328G1_24.qld - [Chromatogram]

File Edit View Display Processing Window Help

170328G1_24 - ST170328G1-2 PFC CS3 17C2810 - PFC CS3 17C2810 A

	Name	Conc.	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq Date	Acq Time	1st Chn Noise	ID	Sample Text	Factor	SWL	Cal File	>MDL
1	PFBS	8.4229854	0.0000...	84.2		1.306e4		2.95	1	7	0.394	YES	1.001	28-Mar-17	19:52:34	18.179	ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
2	PFHpA								2	8				28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
3	PFHxS	7.2538562	0.0000...	72.5		8.877e3		3.96	3	9			1.001	28-Mar-17	19:52:34		ST170328G	PFC CS3 17C27...	1.0	1.00	C18_V...	YES
4	PFOA	7.9144026	0.0000...	79.1		2.379e4		4.23	4	10			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	YES
5	PFNA	9.2782916	0.0000...	92.8		1.992e4		4.56	5	11			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	YES
6	PFOS	7.7980545	0.144	78.0		4.040e3		4.63	6	12			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	12.823541	0.0100	102.6		8.507e3	0.501	2.95	7	14			0.886	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA		0.0231				1.237		8	14				28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
9	1802-PFHxS	13.029759	0.0203	104.2		8.528e3	0.495	3.96	9	14			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
10	13C2-PFOA	16.942067	0.00323	135.5		4.225e4	3.221	4.23	10	15			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	13.084975	0.00624	104.7		1.227e4	0.979	4.56	11	16			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	13.861729	0.00580	110.9		1.192e4	1.080	4.63	12	17			1.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00263	100.0		2.805e4	1.000	3.33	13	13			0.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.0139	100.0		1.654e4	1.000	3.95	14	14			0.000	28-Mar-17	19:52:34		ST170328G	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
15	13C8-PFOA	12.500000	0.0112	100.0		9.678e3	1.000	4.23	15	15			0.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.00590	100.0		1.197e4	1.000	4.56	16	16			0.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.00745	100.0		9.952e3	1.000	4.63	17	17			0.000	28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
18	Total PFBS	8.4229854							18					28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
19	Total PFHxS	7.2538562							19					28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO
20	Total PFOA	7.9144026							20					28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V	NO
21	Total PFOS	10.319242	0.144						21					28-Mar-17	19:52:34		ST170328G...	PFC CS3 17C27...	1.0	1.00	C18_V...	NO

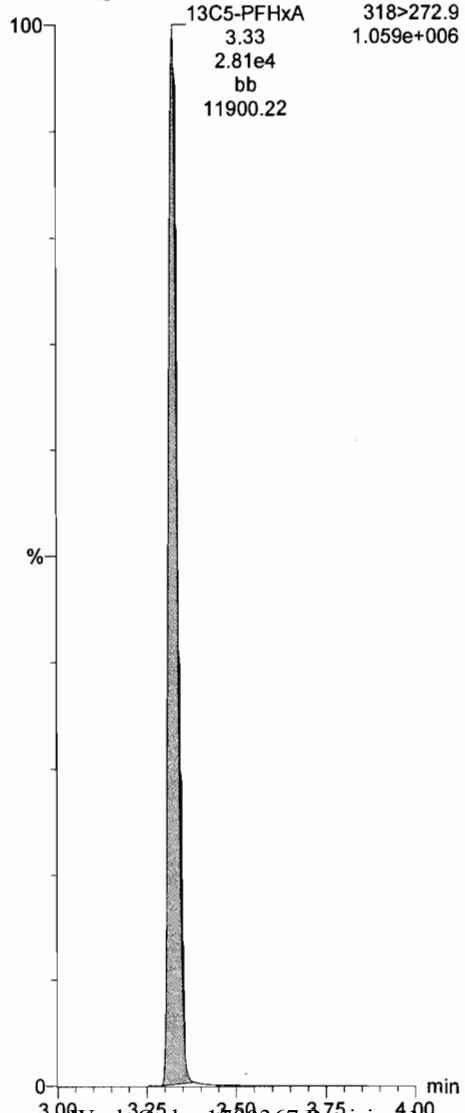


Dataset: Untitled

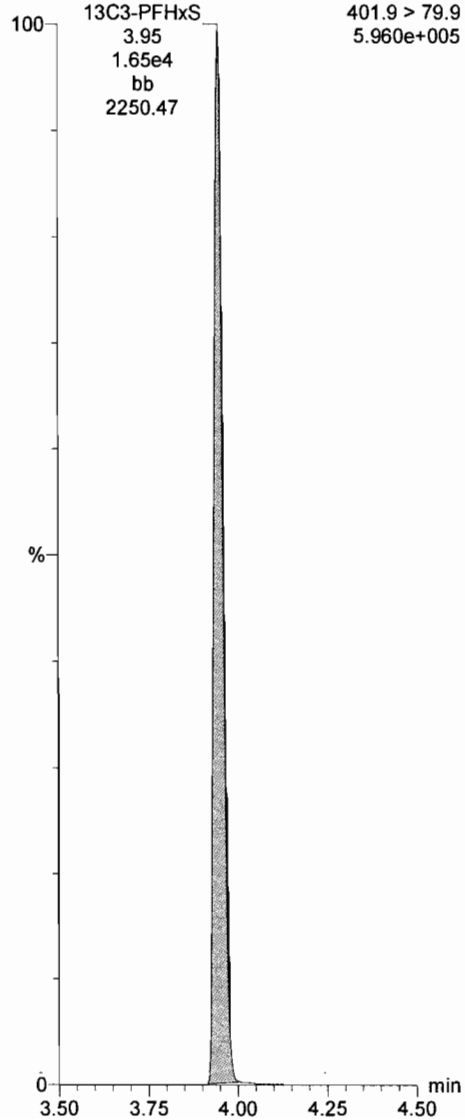
Last Altered: Wednesday, March 29, 2017 08:36:20 Pacific Daylight Time
Printed: Wednesday, March 29, 2017 08:37:13 Pacific Daylight Time

ID: ST170328G1-2 PFC CS3 17C2810, Description: PFC CS3 17C2726 A, Name: 170328G1_24, Date: 28-Mar-2017, Time: 19:52:34, Instrument: , Lab: , User:

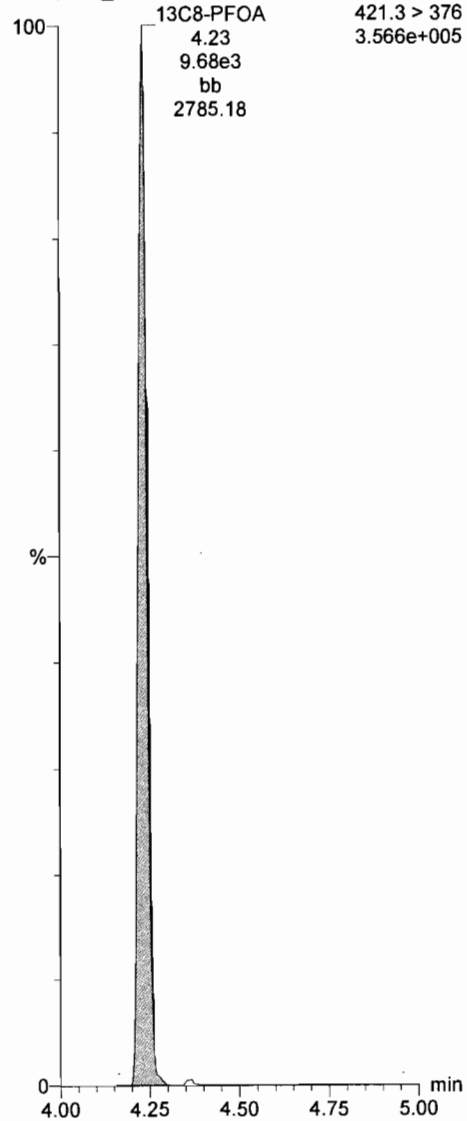
13C5-PFHxA



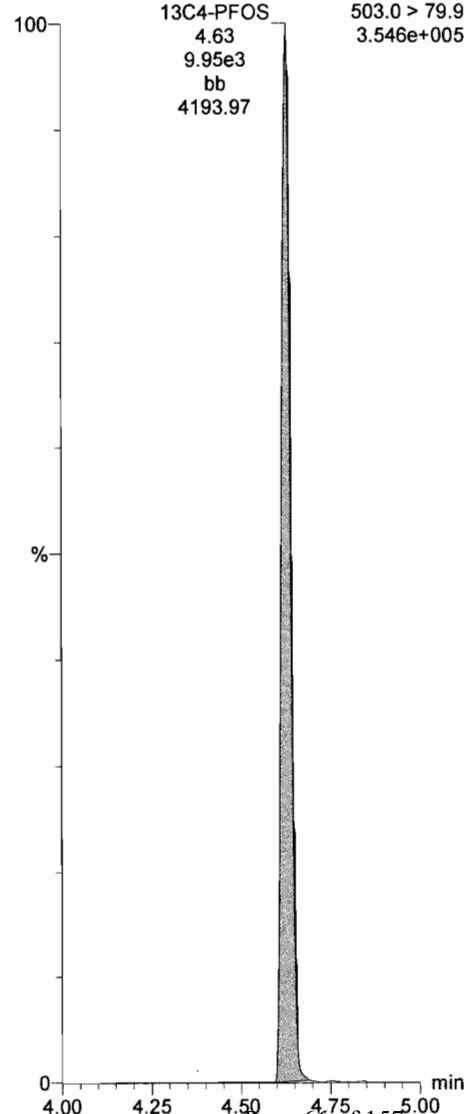
13C3-PFHxS



13C8-PFOA



13C4-PFOS



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:25:27 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Compound name: PFBS
Correlation coefficient: r = 0.997984, r^2 = 0.995973
Calibration curve: 2.26993 * x + 0.0687359
Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

ES 3/16/17

✓AC 3/17/17

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170316G1_2	0.250	3.02	6.04e2	1.14e4	0.262	4.9	2.66
2	2	170316G1_3	0.500	3.02	9.80e2	1.15e4	0.439	-12.2	2.13
3	3	170316G1_4	1.00	3.02	1.88e3	1.07e4	0.934	-6.6	2.19
4	4	170316G1_5	2.00	3.02	3.81e3	1.17e4	1.76	-11.9	2.03
5	5	170316G1_6	5.00	3.02	6.42e3	6.47e3	5.43	8.6	2.48
6	6	170316G1_7	10.0	3.02	1.49e4	6.71e3	12.2	21.7	2.77
7	7	170316G1_8	50.0	3.02	8.35e4	9.63e3	47.7	-4.5	2.17
8	8	170316G1_9	100	3.02	1.48e5	8.14e3	100	0.0	2.27

Compound name: PFHpA
Correlation coefficient: r = 0.997479, r^2 = 0.994964
Calibration curve: 1.72647 * x + 0.128291
Response type: Internal Std (Ref 8), 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	170316G1_2	0.250	3.89	1.15e3	2.52e4	0.256	2.4	2.28
2	2	170316G1_3	0.500	3.89	2.02e3	2.80e4	0.449	-10.2	1.81
3	3	170316G1_4	1.00	3.89	3.91e3	2.82e4	0.929	-7.1	1.73
4	4	170316G1_5	2.00	3.89	7.07e3	2.95e4	1.66	-16.9	1.50
5	5	170316G1_6	5.00	3.89	1.18e4	1.54e4	5.48	9.6	1.92
6	6	170316G1_7	10.0	3.89	2.74e4	1.60e4	12.3	23.4	2.14
7	7	170316G1_8	50.0	3.89	1.72e5	2.43e4	51.2	2.3	1.77
8	8	170316G1_9	100	3.89	2.88e5	2.16e4	96.5	-3.5	1.67

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
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Compound name: PFHxS
Correlation coefficient: r = 0.999182, r^2 = 0.998364
Calibration curve: 1.78157 * x + 0.0886791
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 170316G1_2	0.250	4.01	5.14e2	1.00e4	0.309	23.7	2.56
2	2 170316G1_3	0.500	4.00	7.92e2	1.13e4	0.443	-11.4	1.76
3	3 170316G1_4	1.00	4.00	1.38e3	1.07e4	0.857	-14.3	1.62
4	4 170316G1_5	2.00	4.01	2.78e3	1.08e4	1.76	-12.1	1.61
5	5 170316G1_6	5.00	4.00	4.90e3	6.49e3	5.25	5.0	1.89
6	6 170316G1_7	10.0	4.00	1.12e4	6.99e3	11.2	11.6	2.00
7	7 170316G1_8	50.0	4.01	6.89e4	9.95e3	48.5	-3.0	1.73
8	8 170316G1_9	100	4.01	1.26e5	8.79e3	100	0.5	1.79

Compound name: PFOA
Correlation coefficient: r = 0.997916, r^2 = 0.995836
Calibration curve: 0.871455 * x + 0.142235
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 170316G1_2	0.250	4.29	1.33e3	4.34e4	0.276	10.4	1.53
2	2 170316G1_3	0.500	4.28	1.87e3	4.50e4	0.431	-13.8	1.04
3	3 170316G1_4	1.00	4.28	3.27e3	4.37e4	0.912	-8.8	0.937
4	4 170316G1_5	2.00	4.29	5.68e3	4.40e4	1.69	-15.6	0.806
5	5 170316G1_6	5.00	4.28	1.01e4	2.57e4	5.47	9.5	0.983
6	6 170316G1_7	10.0	4.28	2.29e4	2.65e4	12.2	22.3	1.08
7	7 170316G1_8	50.0	4.29	1.38e5	4.09e4	48.3	-3.4	0.844
8	8 170316G1_9	100	4.29	2.58e5	3.71e4	99.5	-0.5	0.868

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:25:27 Pacific Daylight Time

Compound name: PFNA
Correlation coefficient: r = 0.998066, r^2 = 0.996135
Calibration curve: 2.1673 * x + 0.184413
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	170316G1_2	0.250	4.62	6.11e2	1.21e4	0.207	-17.0	2.54
2	2	170316G1_3	0.500	4.62	1.30e3	1.34e4	0.475	-5.0	2.43
3	3	170316G1_4	1.00	4.62	2.08e3	1.14e4	0.964	-3.6	2.27
4	4	170316G1_5	2.00	4.62	4.12e3	1.26e4	1.80	-10.2	2.04
5	5	170316G1_6	5.00	4.62	8.37e3	7.73e3	6.16	23.1	2.71
6	6	170316G1_7	10.0	4.62	1.70e4	8.57e3	11.4	13.8	2.48
7	7	170316G1_8	50.0	4.62	1.20e5	1.35e4	51.1	2.2	2.22
8	8	170316G1_9	100	4.62	2.27e5	1.35e4	96.7	-3.3	2.10

Compound name: PFOS
Correlation coefficient: r = 0.996947, r^2 = 0.993903
Calibration curve: 0.553136 * x + -0.0763074
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170316G1_2	0.250	4.68	6.60e1	9.00e3	0.304	21.5	0.367
2	2	170316G1_3	0.500	4.68	1.15e2	9.58e3	0.409	-18.1	0.300
3	3	170316G1_4	1.00	4.68	2.68e2	6.85e3	1.02	2.3	0.489
4	4	170316G1_5	2.00	4.68	5.07e2	7.38e3	1.69	-15.6	0.429
5	5	170316G1_6	5.00	4.68	1.38e3	6.63e3	4.84	-3.1	0.520
6	6	170316G1_7	10.0	4.68	3.13e3	6.01e3	11.9	19.2	0.652
7	7	170316G1_8	50.0	4.68	2.11e4	1.06e4	45.4	-9.3	0.500
8	8	170316G1_9	100	4.68	4.74e4	1.04e4	103	3.2	0.570

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
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Compound name: 13C3-PFBS
Response Factor: 0.501217
RRF SD: 0.0718441, Relative SD: 14.3339
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	170316G1_2	12.5	3.02	1.14e4	2.01e4	14.1	13.1	0.567
2	2	170316G1_3	12.5	3.01	1.15e4	2.08e4	13.8	10.1	0.552
3	3	170316G1_4	12.5	3.02	1.07e4	2.10e4	12.7	1.7	0.510
4	4	170316G1_5	12.5	3.02	1.17e4	1.95e4	14.9	19.6	0.599
5	5	170316G1_6	12.5	3.02	6.47e3	1.62e4	9.98	-20.1	0.400
6	6	170316G1_7	12.5	3.02	6.71e3	1.65e4	10.1	-18.9	0.406
7	7	170316G1_8	12.5	3.02	9.63e3	1.97e4	12.2	-2.8	0.487
8	8	170316G1_9	12.5	3.02	8.14e3	1.67e4	12.2	-2.7	0.488

Compound name: 13C4-PFHpA
Response Factor: 1.23676
RRF SD: 0.19033, Relative SD: 15.3894
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	170316G1_2	12.5	3.89	2.52e4	2.01e4	12.7	1.7	1.26
2	2	170316G1_3	12.5	3.89	2.80e4	2.08e4	13.6	8.7	1.34
3	3	170316G1_4	12.5	3.88	2.82e4	2.10e4	13.6	8.5	1.34
4	4	170316G1_5	12.5	3.89	2.95e4	1.95e4	15.3	22.1	1.51
5	5	170316G1_6	12.5	3.89	1.54e4	1.62e4	9.65	-22.8	0.954
6	6	170316G1_7	12.5	3.89	1.60e4	1.65e4	9.77	-21.9	0.966
7	7	170316G1_8	12.5	3.89	2.43e4	1.97e4	12.4	-0.7	1.23
8	8	170316G1_9	12.5	3.89	2.16e4	1.67e4	13.1	4.4	1.29

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
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Compound name: 18O2-PFHxS
Response Factor: 0.494506
RRF SD: 0.0543219, Relative SD: 10.9851
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	170316G1_2	12.5	4.00	1.00e4	2.01e4	12.7	1.3	0.501
2	2	170316G1_3	12.5	4.00	1.13e4	2.08e4	13.7	9.4	0.541
3	3	170316G1_4	12.5	4.00	1.07e4	2.10e4	12.8	2.4	0.506
4	4	170316G1_5	12.5	4.00	1.08e4	1.95e4	14.0	11.8	0.553
5	5	170316G1_6	12.5	4.00	6.49e3	1.62e4	10.1	-18.9	0.401
6	6	170316G1_7	12.5	4.00	6.99e3	1.65e4	10.7	-14.4	0.423
7	7	170316G1_8	12.5	4.00	9.95e3	1.97e4	12.7	1.9	0.504
8	8	170316G1_9	12.5	4.00	8.79e3	1.67e4	13.3	6.5	0.527

Compound name: 13C2-PFOA
Response Factor: 3.22114
RRF SD: 0.38407, Relative SD: 11.9234
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	170316G1_2	12.5	4.28	4.34e4	1.22e4	13.8	10.6	3.56
2	2	170316G1_3	12.5	4.28	4.50e4	1.28e4	13.6	9.0	3.51
3	3	170316G1_4	12.5	4.28	4.37e4	1.34e4	12.6	1.0	3.25
4	4	170316G1_5	12.5	4.29	4.40e4	1.25e4	13.6	9.1	3.51
5	5	170316G1_6	12.5	4.28	2.57e4	9.83e3	10.2	-18.7	2.62
6	6	170316G1_7	12.5	4.28	2.65e4	1.01e4	10.2	-18.4	2.63
7	7	170316G1_8	12.5	4.29	4.09e4	1.21e4	13.1	4.5	3.36
8	8	170316G1_9	12.5	4.28	3.71e4	1.12e4	12.9	3.0	3.32

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
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Compound name: 13C5-PFNA
Response Factor: 0.979217
RRF SD: 0.10379, Relative SD: 10.5993
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	170316G1_2	12.5	4.62	1.21e4	1.24e4	12.4	-1.0	0.970
2	2	170316G1_3	12.5	4.62	1.34e4	1.25e4	13.7	9.3	1.07
3	3	170316G1_4	12.5	4.62	1.14e4	1.25e4	11.6	-7.0	0.911
4	4	170316G1_5	12.5	4.62	1.26e4	1.15e4	14.0	12.4	1.10
5	5	170316G1_6	12.5	4.62	7.73e3	9.48e3	10.4	-16.7	0.815
6	6	170316G1_7	12.5	4.62	8.57e3	9.78e3	11.2	-10.5	0.876
7	7	170316G1_8	12.5	4.62	1.35e4	1.33e4	13.0	3.8	1.02
8	8	170316G1_9	12.5	4.62	1.35e4	1.26e4	13.7	9.6	1.07

Compound name: 13C8-PFOS
Response Factor: 1.07987
RRF SD: 0.129751, Relative SD: 12.0155
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	170316G1_2	12.5	4.68	9.00e3	6.79e3	15.3	22.6	1.32
2	2	170316G1_3	12.5	4.68	9.58e3	8.34e3	13.3	6.5	1.15
3	3	170316G1_4	12.5	4.68	6.85e3	6.53e3	12.1	-2.9	1.05
4	4	170316G1_5	12.5	4.68	7.38e3	6.74e3	12.7	1.5	1.10
5	5	170316G1_6	12.5	4.68	6.63e3	7.58e3	10.1	-19.1	0.874
6	6	170316G1_7	12.5	4.68	6.01e3	6.06e3	11.5	-8.1	0.992
7	7	170316G1_8	12.5	4.68	1.06e4	9.54e3	12.8	2.5	1.11
8	8	170316G1_9	12.5	4.68	1.04e4	9.93e3	12.1	-3.0	1.05

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:25:27 Pacific Daylight Time

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	170316G1_2	12.5	3.37	3.44e4	3.44e4	12.5	0.0	1.00
2	2	170316G1_3	12.5	3.37	3.66e4	3.66e4	12.5	0.0	1.00
3	3	170316G1_4	12.5	3.37	3.56e4	3.56e4	12.5	0.0	1.00
4	4	170316G1_5	12.5	3.38	3.60e4	3.60e4	12.5	0.0	1.00
5	5	170316G1_6	12.5	3.37	2.57e4	2.57e4	12.5	0.0	1.00
6	6	170316G1_7	12.5	3.37	2.54e4	2.54e4	12.5	0.0	1.00
7	7	170316G1_8	12.5	3.38	3.19e4	3.19e4	12.5	0.0	1.00
8	8	170316G1_9	12.5	3.37	2.77e4	2.77e4	12.5	0.0	1.00

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 4.19625e-017, Relative SD: 4.19625e-015
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	170316G1_2	12.5	4.01	2.01e4	2.01e4	12.5	0.0	1.00
2	2	170316G1_3	12.5	4.00	2.08e4	2.08e4	12.5	0.0	1.00
3	3	170316G1_4	12.5	4.00	2.10e4	2.10e4	12.5	0.0	1.00
4	4	170316G1_5	12.5	4.01	1.95e4	1.95e4	12.5	0.0	1.00
5	5	170316G1_6	12.5	4.00	1.62e4	1.62e4	12.5	0.0	1.00
6	6	170316G1_7	12.5	4.00	1.65e4	1.65e4	12.5	0.0	1.00
7	7	170316G1_8	12.5	4.01	1.97e4	1.97e4	12.5	0.0	1.00
8	8	170316G1_9	12.5	4.00	1.67e4	1.67e4	12.5	-0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:25:27 Pacific Daylight Time

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	170316G1_2	12.5	4.28	1.22e4	1.22e4	12.5	0.0	1.00
2	2	170316G1_3	12.5	4.28	1.28e4	1.28e4	12.5	0.0	1.00
3	3	170316G1_4	12.5	4.28	1.34e4	1.34e4	12.5	0.0	1.00
4	4	170316G1_5	12.5	4.28	1.25e4	1.25e4	12.5	0.0	1.00
5	5	170316G1_6	12.5	4.28	9.83e3	9.83e3	12.5	0.0	1.00
6	6	170316G1_7	12.5	4.28	1.01e4	1.01e4	12.5	0.0	1.00
7	7	170316G1_8	12.5	4.29	1.21e4	1.21e4	12.5	0.0	1.00
8	8	170316G1_9	12.5	4.28	1.12e4	1.12e4	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	170316G1_2	12.5	4.62	1.24e4	1.24e4	12.5	0.0	1.00
2	2	170316G1_3	12.5	4.62	1.25e4	1.25e4	12.5	0.0	1.00
3	3	170316G1_4	12.5	4.62	1.25e4	1.25e4	12.5	0.0	1.00
4	4	170316G1_5	12.5	4.62	1.15e4	1.15e4	12.5	0.0	1.00
5	5	170316G1_6	12.5	4.62	9.48e3	9.48e3	12.5	0.0	1.00
6	6	170316G1_7	12.5	4.62	9.78e3	9.78e3	12.5	0.0	1.00
7	7	170316G1_8	12.5	4.62	1.33e4	1.33e4	12.5	0.0	1.00
8	8	170316G1_9	12.5	4.62	1.26e4	1.26e4	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:25:27 Pacific Daylight Time

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	170316G1_2	12.5	4.68	6.79e3	6.79e3	12.5	0.0	1.00
2	2	170316G1_3	12.5	4.68	8.34e3	8.34e3	12.5	0.0	1.00
3	3	170316G1_4	12.5	4.68	6.53e3	6.53e3	12.5	0.0	1.00
4	4	170316G1_5	12.5	4.68	6.74e3	6.74e3	12.5	0.0	1.00
5	5	170316G1_6	12.5	4.68	7.58e3	7.58e3	12.5	0.0	1.00
6	6	170316G1_7	12.5	4.68	6.06e3	6.06e3	12.5	0.0	1.00
7	7	170316G1_8	12.5	4.68	9.54e3	9.54e3	12.5	0.0	1.00
8	8	170316G1_9	12.5	4.68	9.93e3	9.93e3	12.5	0.0	1.00

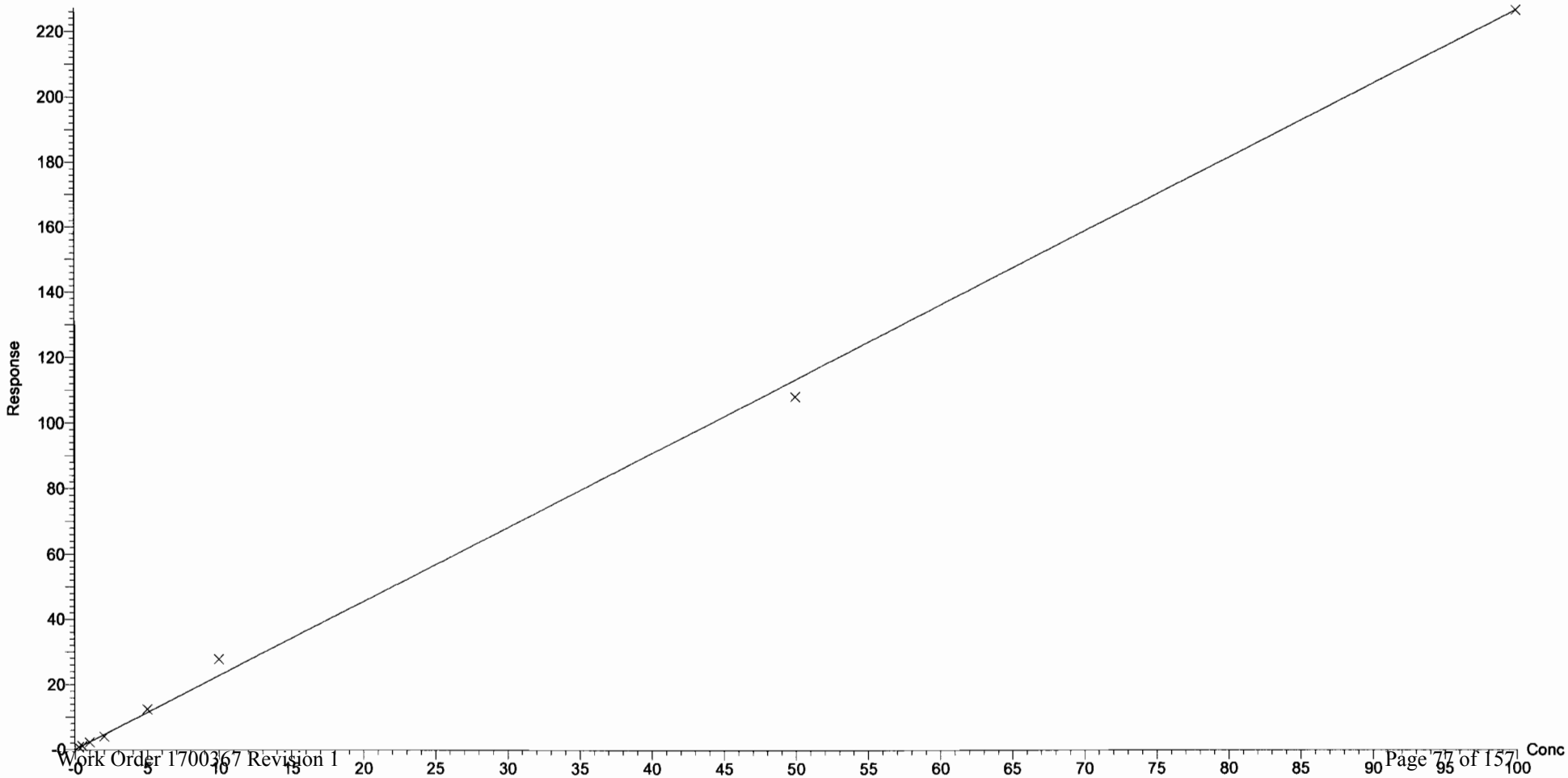
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

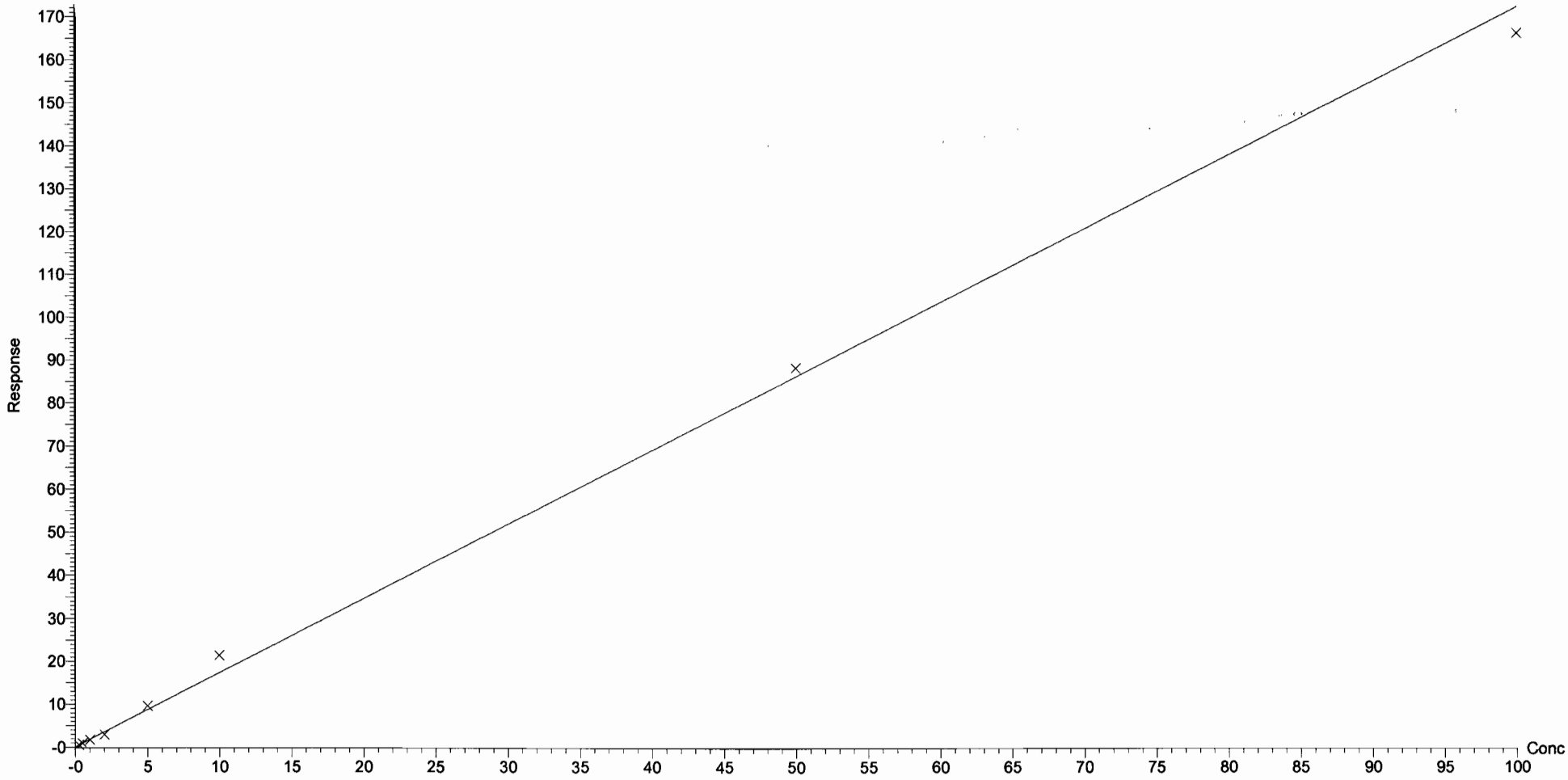
Compound name: PFBS
Correlation coefficient: r = 0.997984, r^2 = 0.995973
Calibration curve: 2.26993 * x + 0.0687359
Response type: Internal Std (Ref 7), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

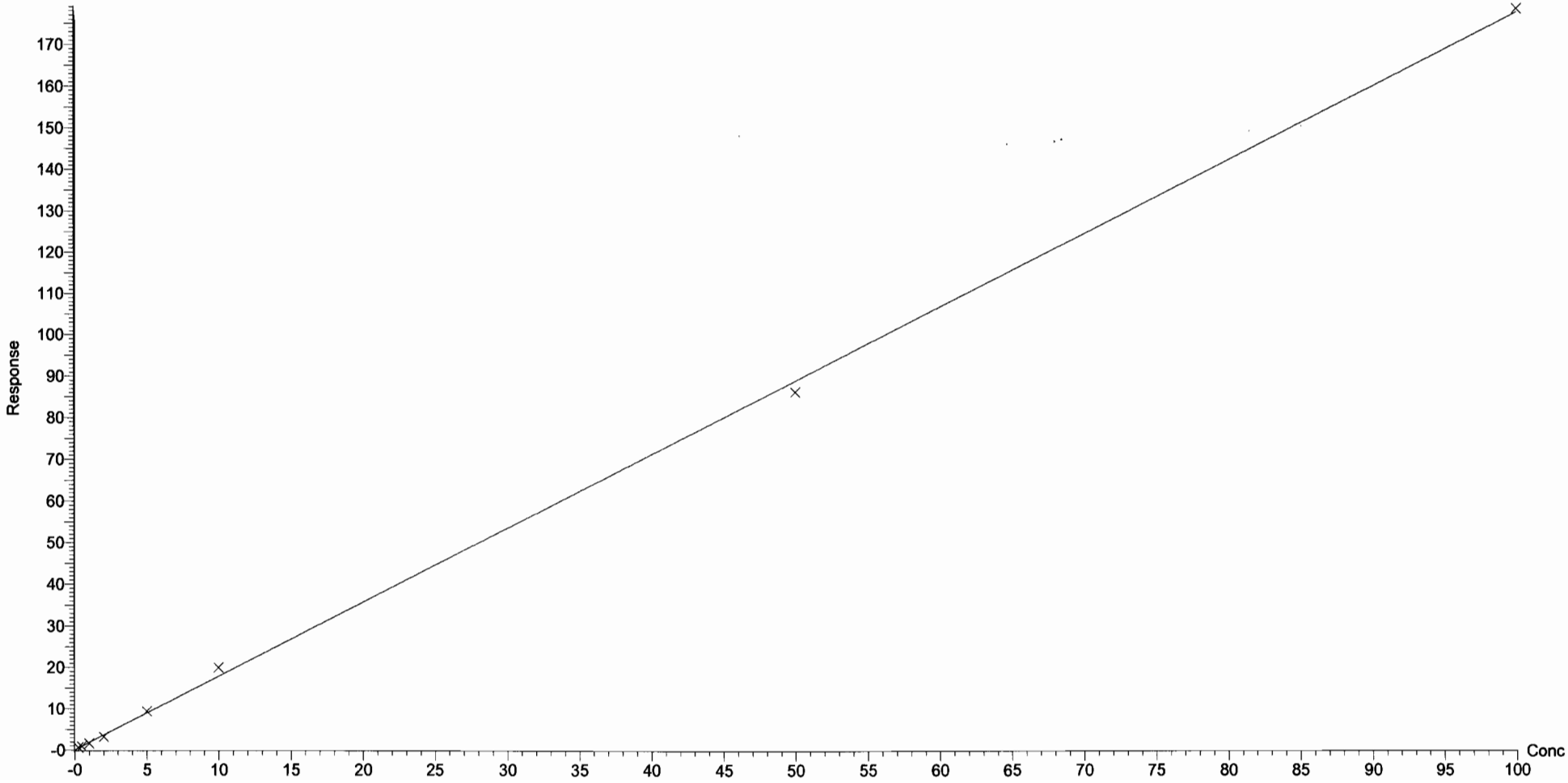
Compound name: PFHpA
Correlation coefficient: r = 0.997479, r^2 = 0.994964
Calibration curve: 1.72647 * x + 0.128291
Response type: Internal Std (Ref 8), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

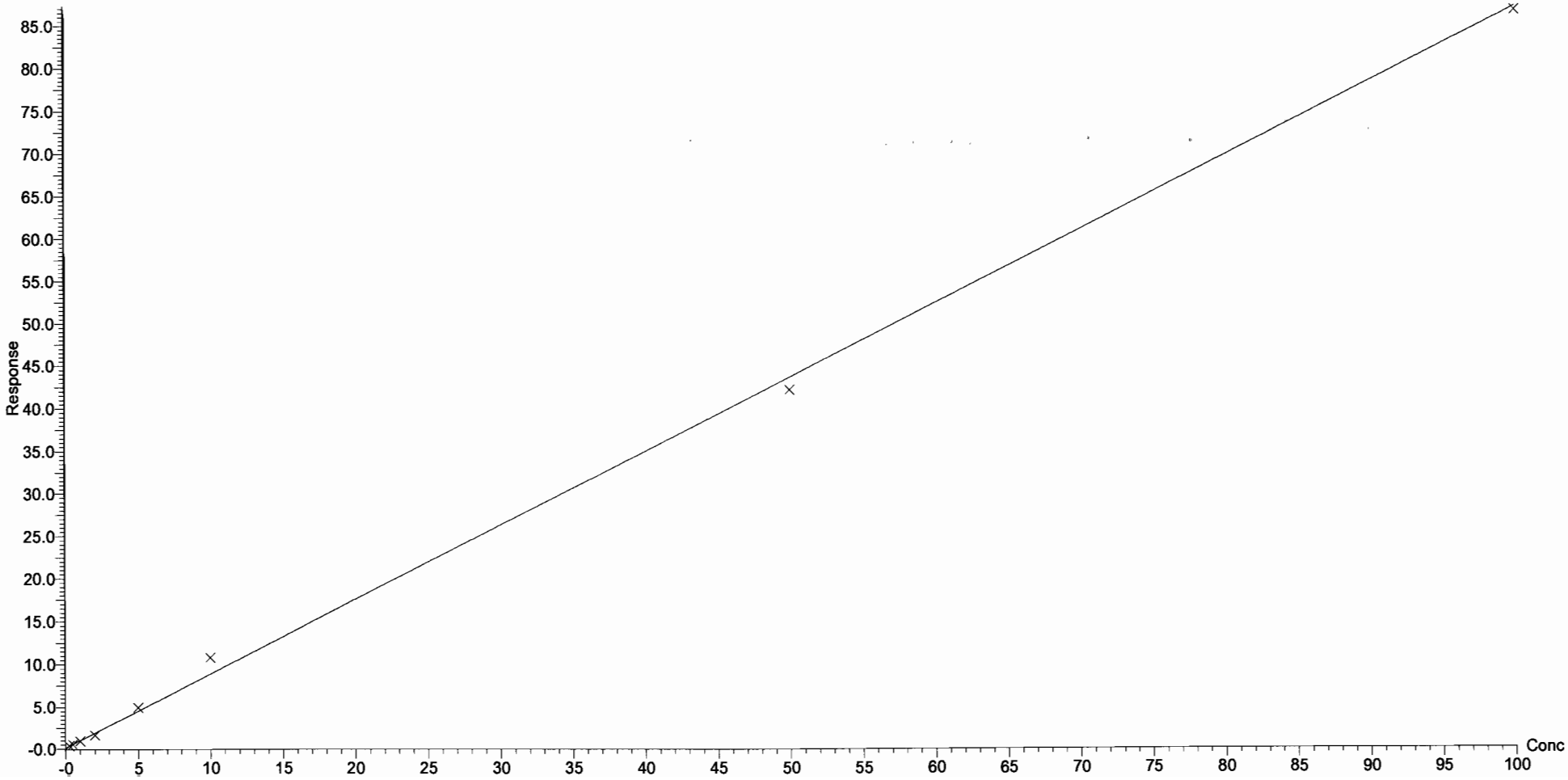
Compound name: PFHxS
Correlation coefficient: r = 0.999182, r^2 = 0.998364
Calibration curve: 1.78157 * x + 0.0886791
Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

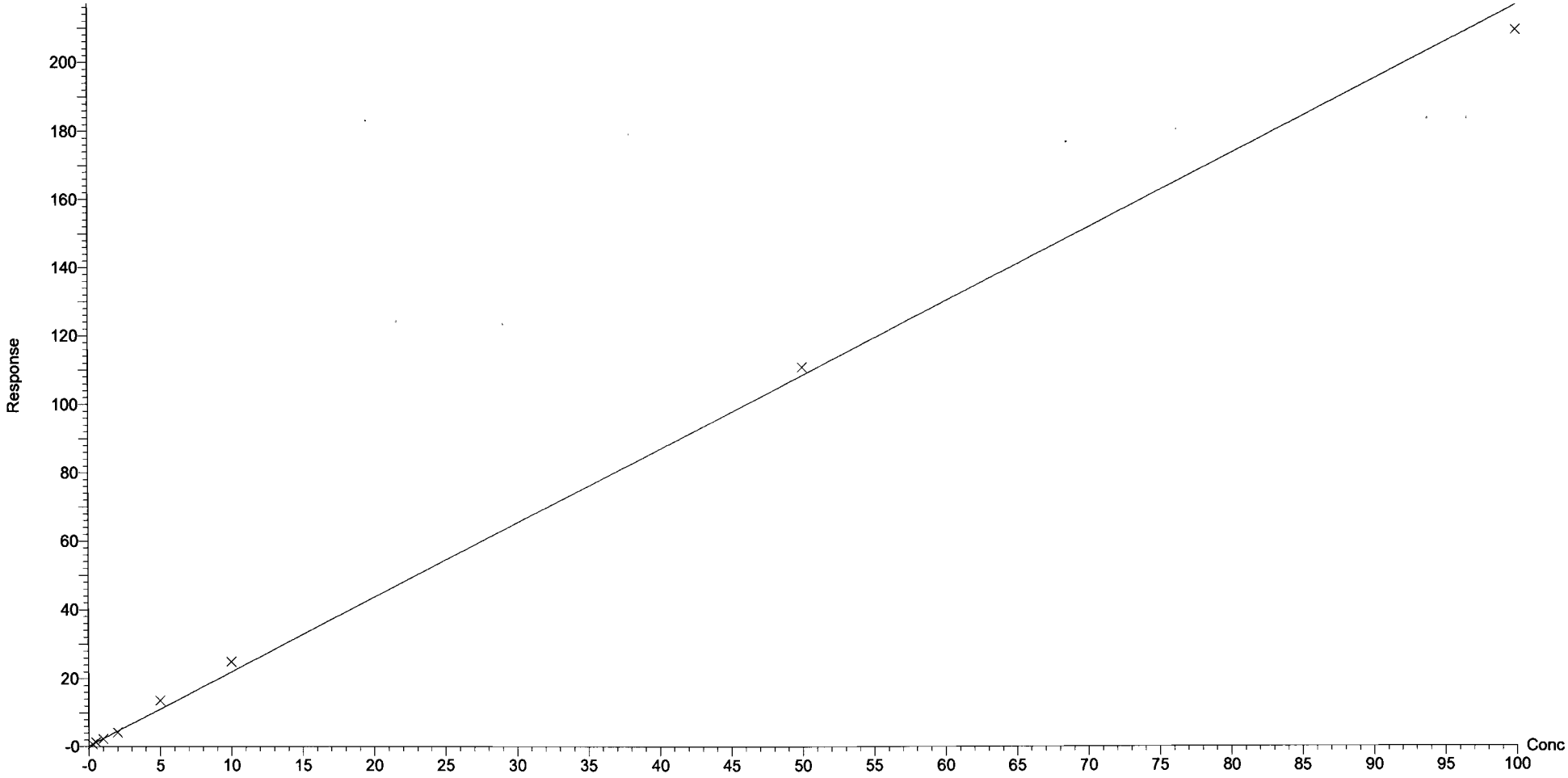
Compound name: PFOA
Correlation coefficient: r = 0.997916, r^2 = 0.995836
Calibration curve: 0.871455 * x + 0.142235
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

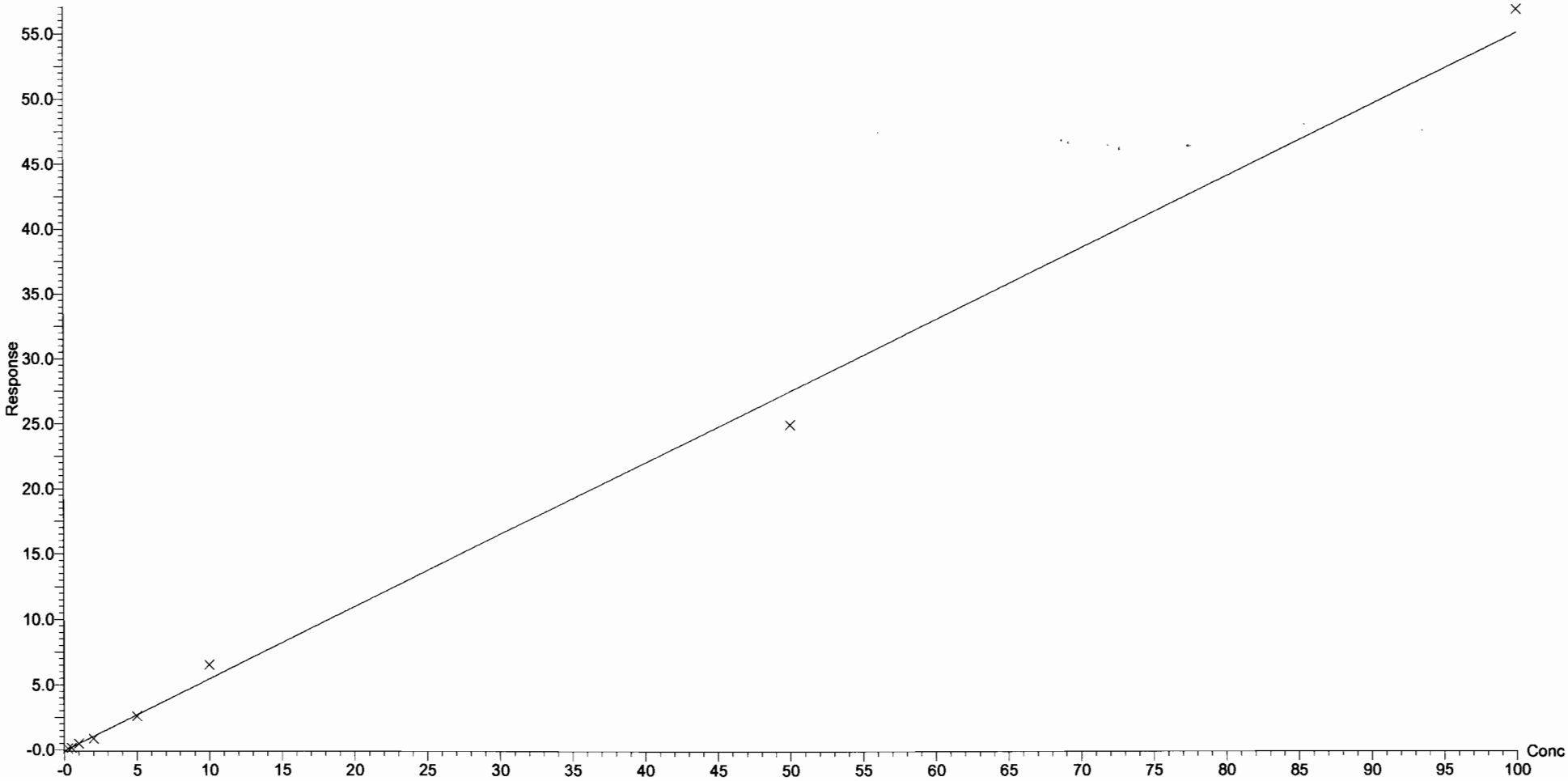
Compound name: PFNA
Correlation coefficient: r = 0.998066, r^2 = 0.996135
Calibration curve: 2.1673 * x + 0.184413
Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-CRV.qld

Last Altered: Thursday, March 16, 2017 13:24:03 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:26:14 Pacific Daylight Time

Compound name: PFOS
Correlation coefficient: r = 0.996947, r^2 = 0.993903
Calibration curve: 0.553136 * x + -0.0763074
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Friday, March 17, 2017 08:50:58 Pacific Daylight Time
Printed: Friday, March 17, 2017 08:51:49 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170316G1_1	IPA	16-Mar-17	10:18:02
2	170316G1_2	ST170316G1-1 PFC CS-2 17C1502	16-Mar-17	10:30:20
3	170316G1_3	ST170316G1-2 PFC CS-1 17C1503	16-Mar-17	10:42:47
4	170316G1_4	ST170316G1-3 PFC CS0 17C1504	16-Mar-17	10:55:20
5	170316G1_5	ST170316G1-4 PFC CS1 17C1505	16-Mar-17	11:07:54
6	170316G1_6	ST170316G1-5 PFC CS2 17C1603	16-Mar-17	11:20:35
7	170316G1_7	ST170316G1-6 PFC CS3 17C1602	16-Mar-17	11:33:10
8	170316G1_8	ST170316G1-7 PFC CS4 17C1508	16-Mar-17	11:45:43
9	170316G1_9	ST170316G1-8 PFC CS5 17C1509	16-Mar-17	11:58:17
10	170316G1_10	IPA	16-Mar-17	12:11:12
11	170316G1_11	SS170316G1-1 PFC SSS 17C1510	16-Mar-17	12:23:32
12	170316G1_12	IPA	16-Mar-17	12:36:04
13	170316G1_13	B7C0045-BS1 OPR 0.125	16-Mar-17	12:48:40
14	170316G1_14	B7C0050-BS1 OPR 0.125	16-Mar-17	13:01:10
15	170316G1_15	B7C0063-BS1 OPR 0.125	16-Mar-17	13:58:32
16	170316G1_16	B7C0073-BS1 OPR 0.125	16-Mar-17	14:10:43
17	170316G1_17	IPA	16-Mar-17	14:23:14
18	170316G1_18	B7C0045-BLK1 Method Blank 0.125	16-Mar-17	14:35:47
19	170316G1_19	B7C0050-BLK1 Method Blank 0.125	16-Mar-17	14:48:20
20	170316G1_20	B7C0063-BLK1 Method Blank 0.125	16-Mar-17	15:00:53
21	170316G1_21 (A)	B7C0073-BLK1 Method Blank 0.125	16-Mar-17	15:13:28
22	170316G1_22	1700304-01 Field Blank (420-117740-1) 0.12255	16-Mar-17	15:25:56
23	170316G1_23	IPA	16-Mar-17	16:11:28
24	170316G1_24	B7C0073-BLK1 Method Blank 0.125	16-Mar-17	16:23:45
25	170316G1_25	1700304-01 Field Blank (420-117740-1) 0.12255	16-Mar-17	16:36:18
26	170316G1_26	1700299-01 MATPEW100 0.12287	16-Mar-17	16:48:51
27	170316G1_27	1700299-02 MATPEW101 0.11464	16-Mar-17	17:01:50
28	170316G1_28	1700299-03 MATPEW102 0.12518	16-Mar-17	17:14:11
29	170316G1_29	1700311-02@5X OF-SOW-091D-0317 0.12329	16-Mar-17	17:26:47
30	170316G1_30	1700311-03@5X OF-SOW-091DP-0317 0.124...	16-Mar-17	17:39:24
31	170316G1_31	1700311-06@5X OF-SOW-091M-0317 0.12783	16-Mar-17	17:51:55

(A) RI. Bad injection. EJ 3/17/17

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Friday, March 17, 2017 08:50:58 Pacific Daylight Time
Printed: Friday, March 17, 2017 08:51:49 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170316G1_32	1700311-01 OF-SOW-091A-0317 0.11879	16-Mar-17	18:04:26
33	170316G1_33	1700311-02 OF-SOW-091D-0317 0.12329	16-Mar-17	18:16:55
34	170316G1_34	1700311-03 OF-SOW-091DP-0317 0.12421	16-Mar-17	18:29:40
35	170316G1_35	1700311-04 OF-EB030817 0.12212	16-Mar-17	18:42:01
36	170316G1_36	IPA	16-Mar-17	18:54:35
37	170316G1_37	ST170316G1-9 PFC CS2 17C1603	16-Mar-17	19:07:10
38	170316G1_38	IPA	16-Mar-17	19:19:41
39	170316G1_39	1700311-05 OF-SOW-091K-0317 0.12112	16-Mar-17	19:32:15
40	170316G1_40	1700311-06 OF-SOW-091M-0317 0.12783	16-Mar-17	19:44:47
41	170316G1_41	1700311-07 OF-FB030817 0.12533	16-Mar-17	19:57:20
42	170316G1_42	1700311-08 OF-SOW-091L-0317 0.11948	16-Mar-17	20:09:53
43	170316G1_43	1700311-09 OF14-GW05-0317 0.12223	16-Mar-17	20:22:27
44	170316G1_44	1700314-01 OUTFALL #1 0.125	16-Mar-17	20:34:56
45	170316G1_45	1700314-02 OUTFALL #2 0.125	16-Mar-17	20:47:29
46	170316G1_46	1700314-03 OUTFALL #2A 0.125	16-Mar-17	21:00:02
47	170316G1_47	1700314-04 OUTFALL #3 0.125	16-Mar-17	21:12:35
48	170316G1_48	1700314-05 OUTFALL #4 0.125	16-Mar-17	21:25:09
49	170316G1_49	1700314-06 PFC FIELD BLANK@ OUTFALL#...	16-Mar-17	21:37:42
50	170316G1_50	IPA	16-Mar-17	21:50:15
51	170316G1_51	ST170316G1-10 PFC CS2 17C1603	16-Mar-17	22:02:48
52	170316G1_52	IPA	16-Mar-17	22:15:21
53	170316G1_53	B7C0050-MS1 Matrix Spike 0.125	16-Mar-17	22:27:55
54	170316G1_54	B7C0050-MSD1 Matrix Spike Dup 0.125	16-Mar-17	22:40:46
55	170316G1_55	1700304-02RE1@10XB-104-Trailer(420-1177...	16-Mar-17	22:53:00
56	170316G1_56	1700304-02RE1 B-104 -Trailer (420-117740-2)...	16-Mar-17	23:05:34
57	170316G1_57	IPA	16-Mar-17	23:18:06
58	170316G1_58	ST170316G1-11 PFC CS2 17C1603	16-Mar-17	23:30:41
59	170316G1_59	IPA	16-Mar-17	23:43:14

Vista Analytical Laboratory Q1

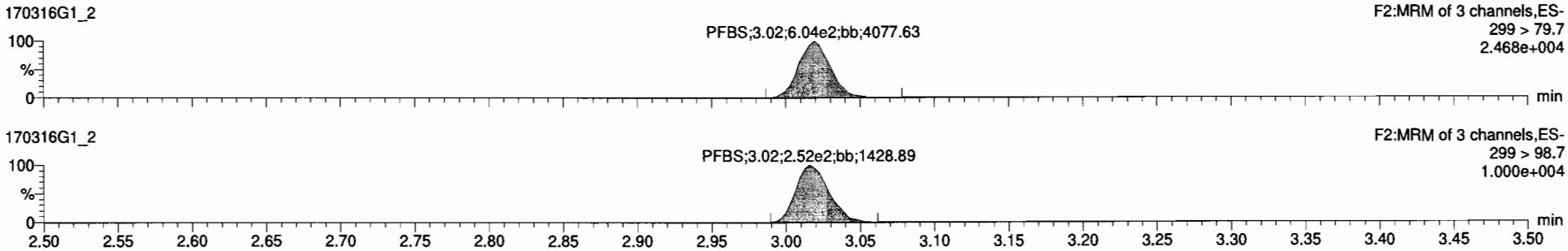
Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

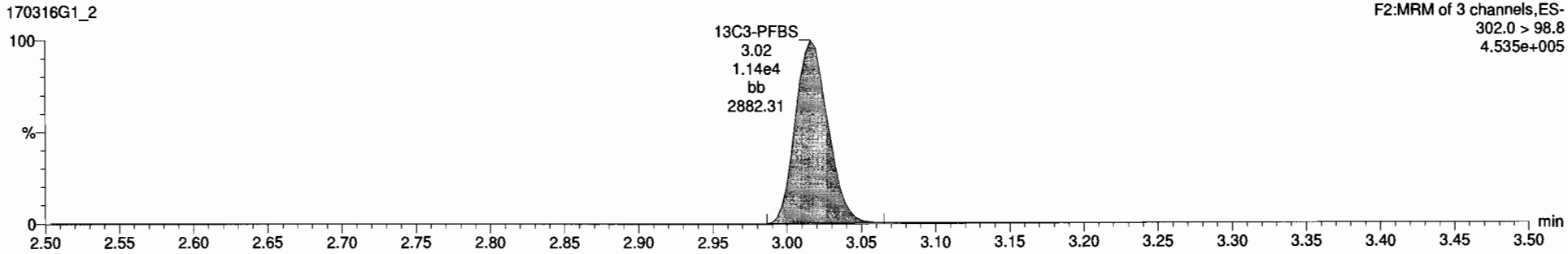
Method: U:\G1.pro\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: 16 Mar 2017 13:27:05

ID: ST170316G1-1 PFC CS-2 17C1502, Description: PFC CS-2 17C1502 A, Name: 170316G1_2, Date: 16-Mar-2017, Time: 10:30:20, Instrument: , Lab: , User:

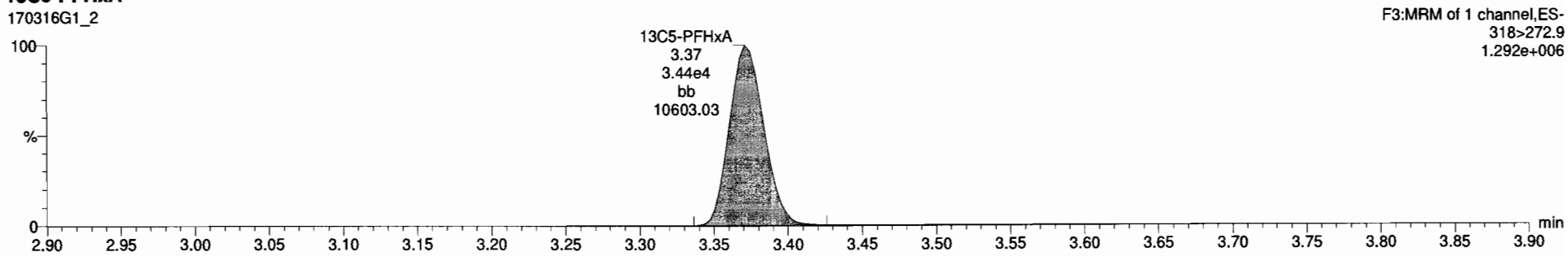
PFBS



13C3-PFBS



13C5-PFHxA

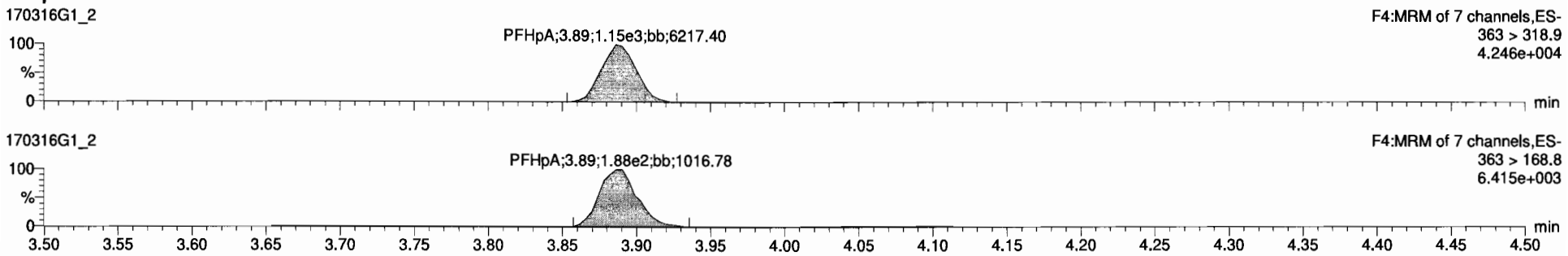


Dataset: Untitled

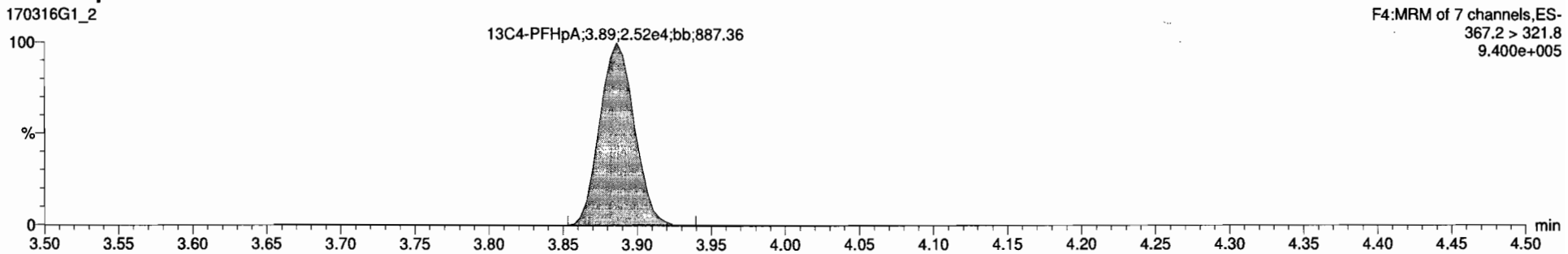
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-1 PFC CS-2 17C1502, Description: PFC CS-2 17C1502 A, Name: 170316G1_2, Date: 16-Mar-2017, Time: 10:30:20, Instrument: , Lab: , User:

PFHpA



13C4-PFHpA



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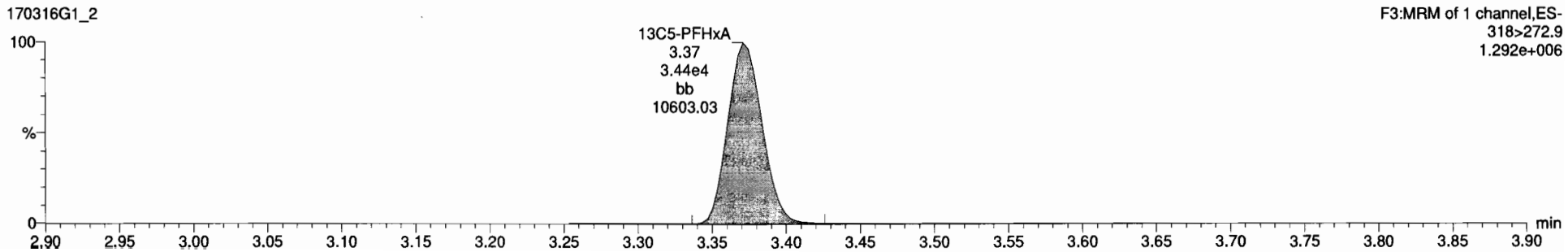

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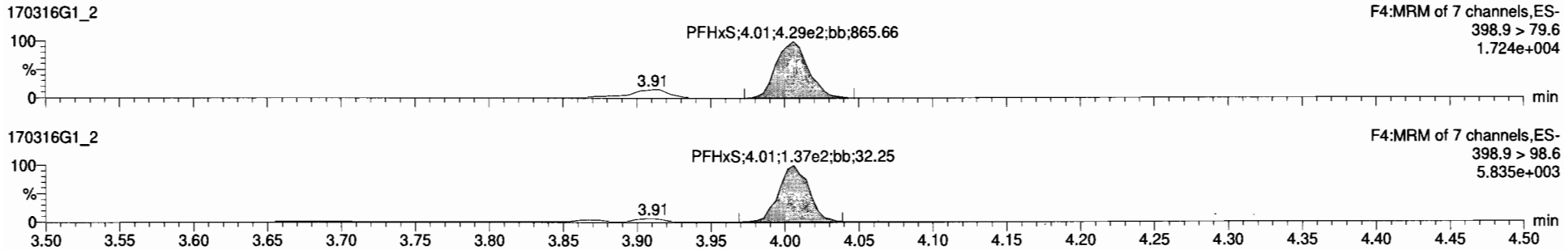
ID: ST170316G1-1 PFC CS-2 17C1502, Description: PFC CS-2 17C1502 A, Name: 170316G1_2, Date: 16-Mar-2017, Time: 10:30:20, Instrument: , Lab: , User:

PFHxS



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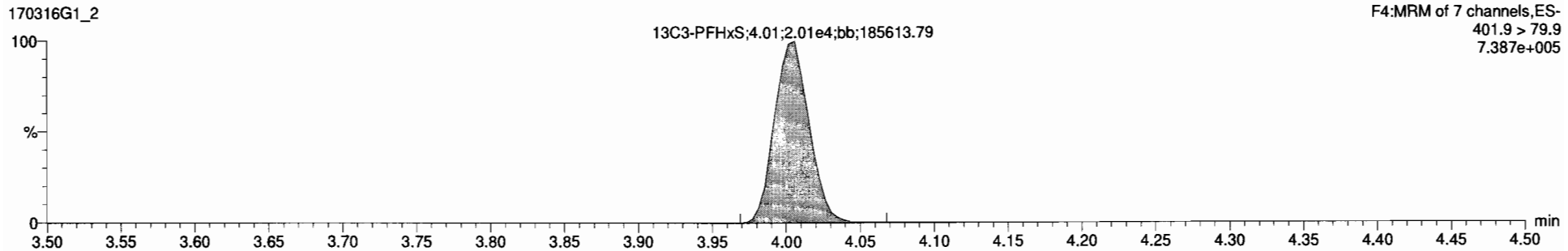
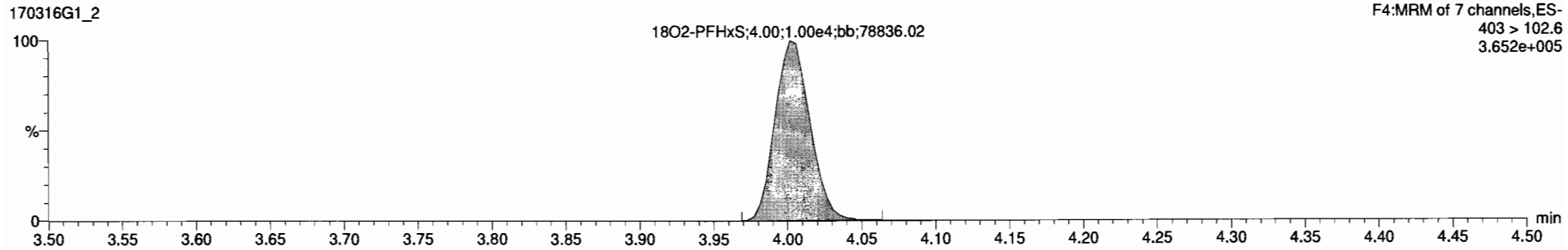
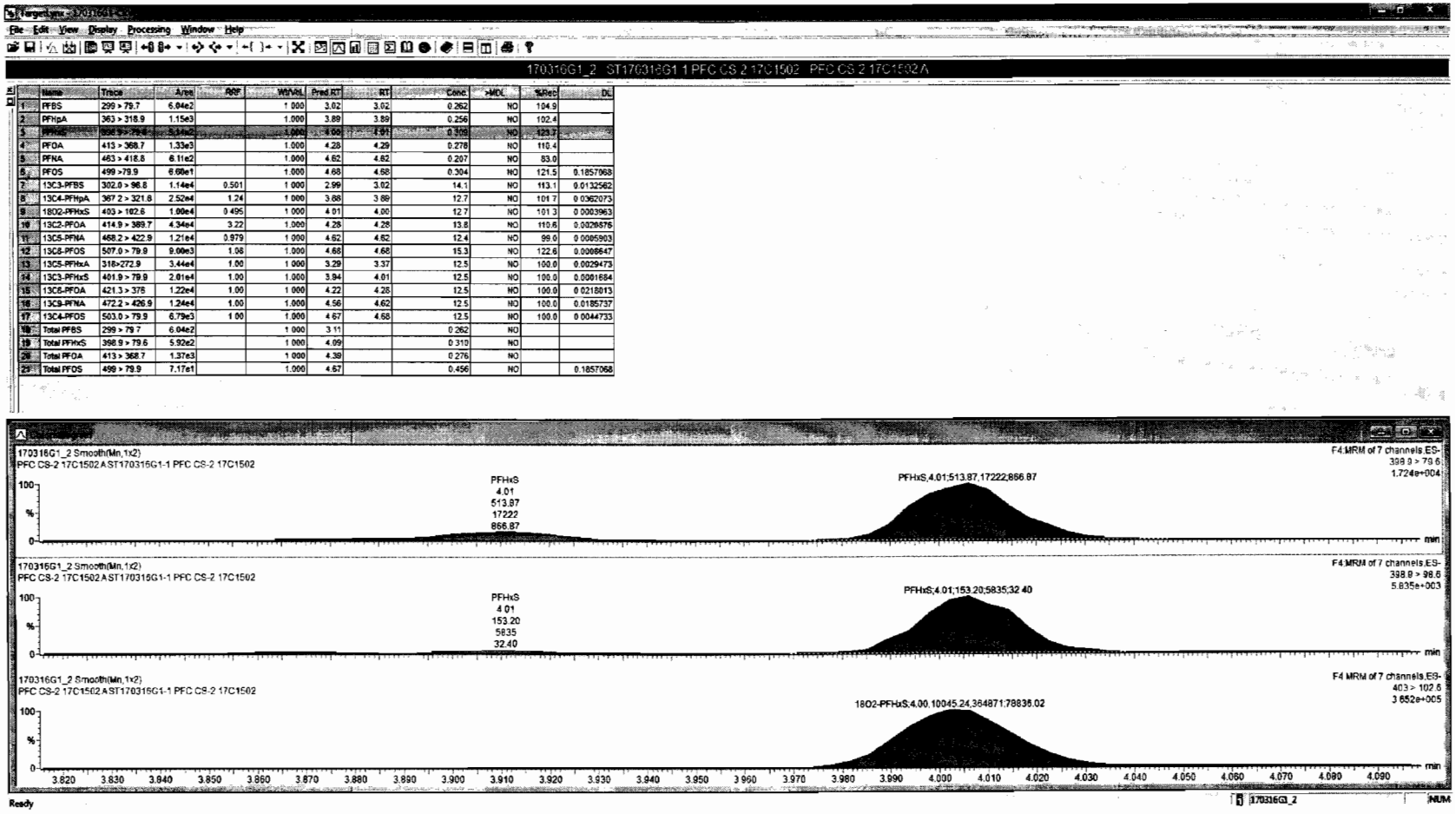


18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	6.04e2		1.000	3.02	3.02	0.262	NO	104.9	
2	PFHpA	363 > 318.9	1.15e3		1.000	3.89	3.89	0.256	NO	102.4	
3	PFHxS	398.9 > 79.6	5.11e2		1.000	4.00	4.01	0.309	NO	123.7	
4	PFOA	413 > 368.7	1.33e3		1.000	4.28	4.29	0.278	NO	110.4	
5	PFNA	463 > 418.8	6.11e2		1.000	4.62	4.62	0.207	NO	83.0	
6	PFOS	499 >79.9	6.60e1		1.000	4.68	4.68	0.304	NO	121.5	0.1857068
7	13C3-PFBS	302.0 > 98.8	1.14e4	0.501	1.000	2.99	3.02	14.1	NO	113.1	0.0132562
8	13C4-PFHpA	367.2 > 321.8	2.52e4	1.24	1.000	3.88	3.89	12.7	NO	101.7	0.0362073
9	18O2-PFHxS	403 > 102.6	1.00e4	0.495	1.000	4.01	4.00	12.7	NO	101.3	0.0003963
10	13C2-PFOA	414.9 > 369.7	4.34e4	3.22	1.000	4.28	4.28	13.8	NO	110.6	0.0026876
11	13C5-PFNA	468.2 > 422.9	1.21e4	0.979	1.000	4.62	4.62	12.4	NO	99.0	0.0005903
12	13C8-PFOS	507.0 > 79.9	9.00e3	1.06	1.000	4.68	4.68	15.3	NO	122.6	0.0008647
13	13C5-PFHxA	318>272.9	3.44e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0029473
14	13C3-PFHxS	401.9 > 79.9	2.01e4	1.00	1.000	3.94	4.01	12.5	NO	100.0	0.0001684
15	13C8-PFOA	421.3 > 376	1.22e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0218013
16	13C9-PFNA	472.2 > 426.9	1.24e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0185737
17	13C4-PFOS	503.0 > 79.9	6.79e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0044733
18	Total PFBS	299 > 79.7	6.04e2		1.000	3.11		0.262	NO		
19	Total PFHxS	398.9 > 79.6	5.92e2		1.000	4.09		0.310	NO		
20	Total PFOA	413 > 368.7	1.37e3		1.000	4.39		0.276	NO		
21	Total PFOS	499 > 79.9	7.17e1		1.000	4.67		0.456	NO		0.1857068

Vista Analytical Laboratory Q1

Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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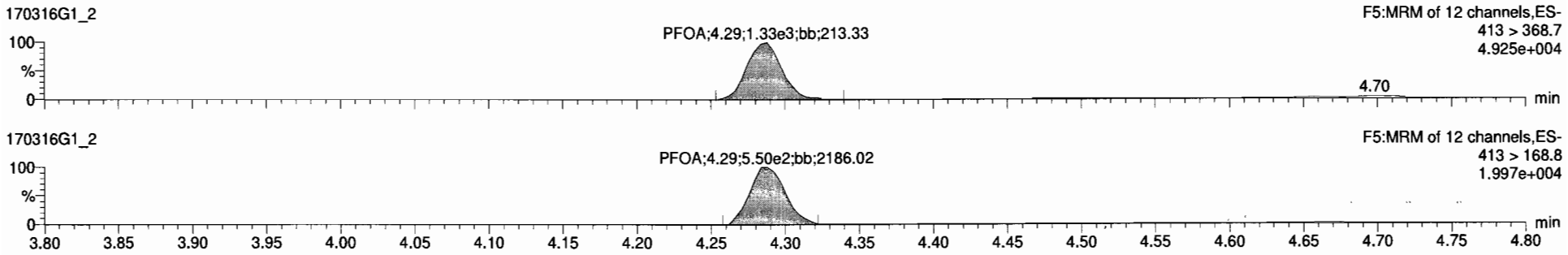
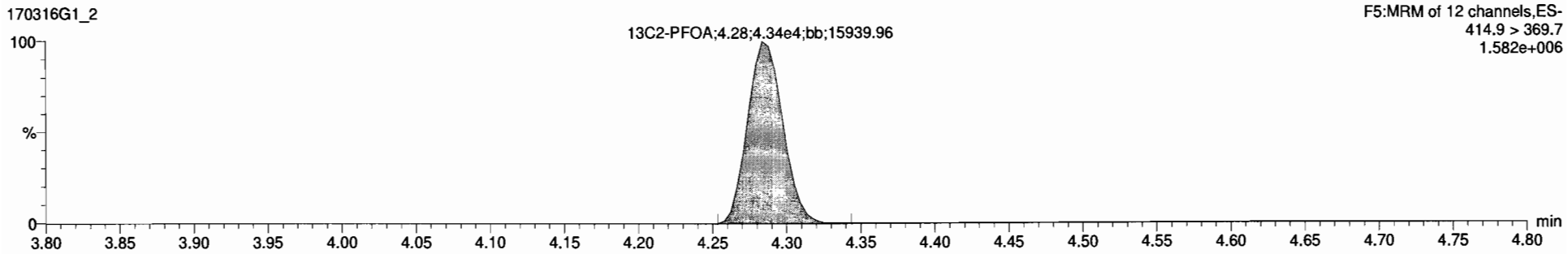
ID: ST170316G1-1 PFC CS-2 17C1502, Description: PFC CS-2 17C1502 A, Name: 170316G1_2, Date: 16-Mar-2017, Time: 10:30:20, Instrument: , Lab: , User:

PFOA



13C2-PFOA



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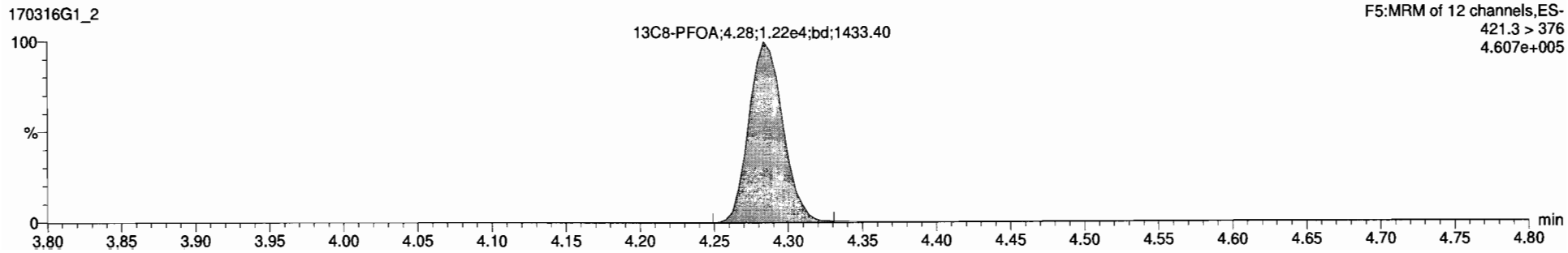

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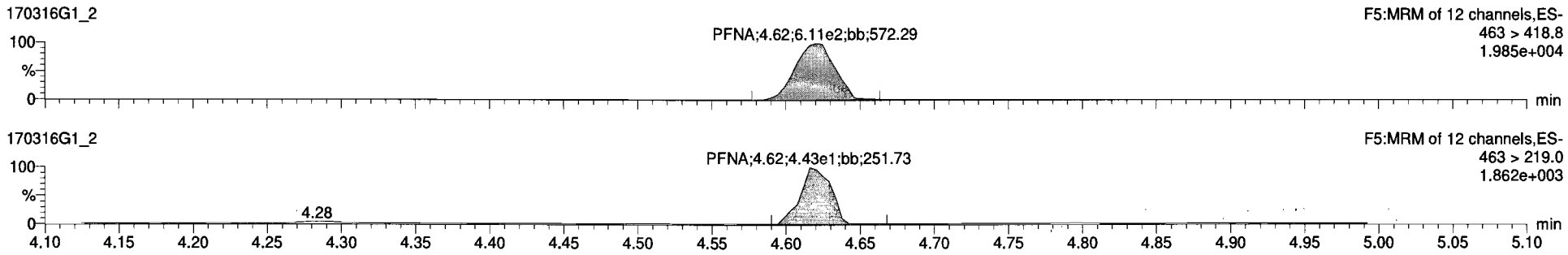
PFNA



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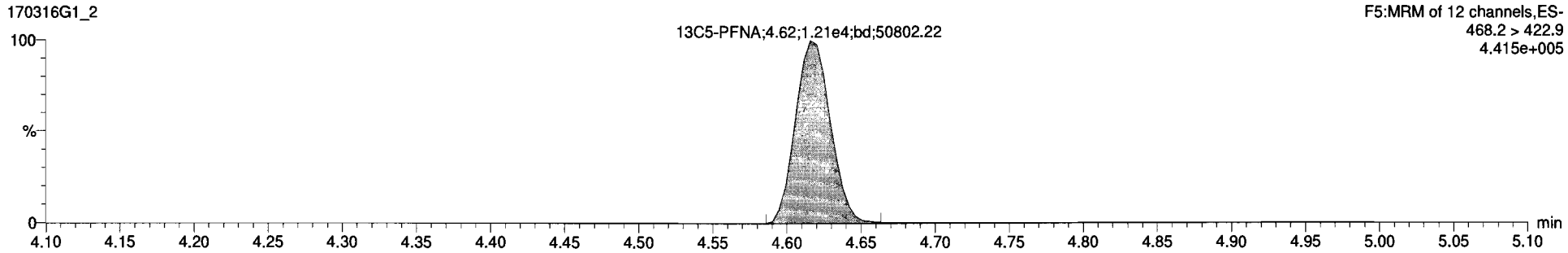

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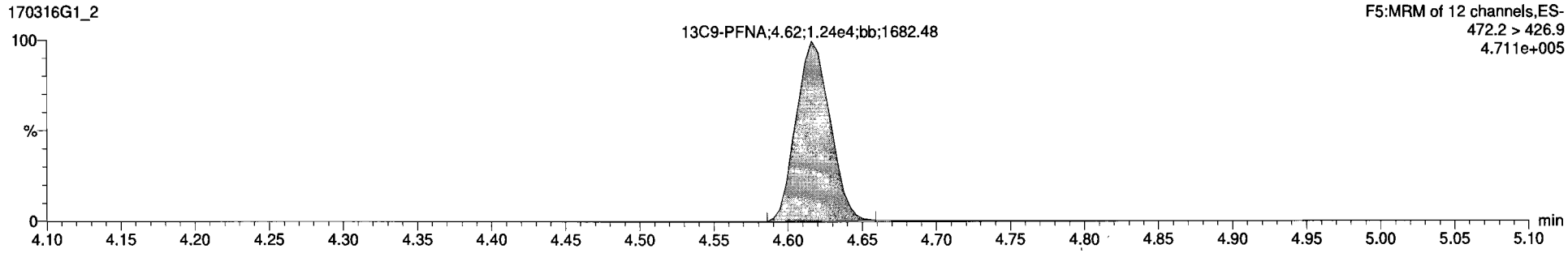

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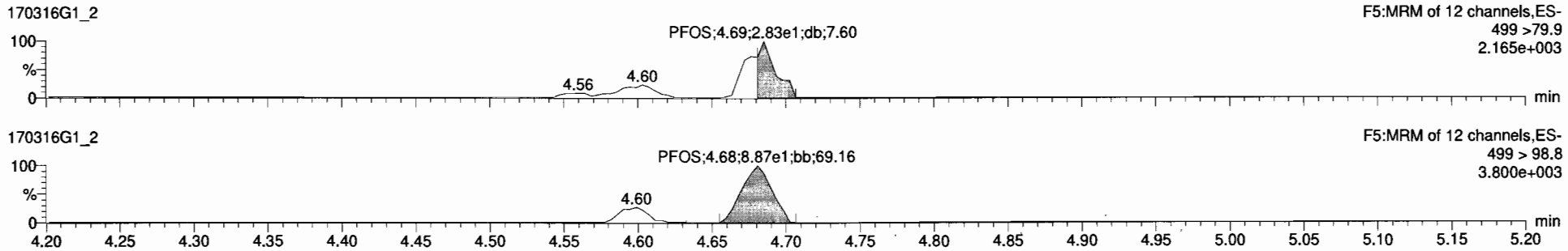
ID: ST170316G1-1 PFC CS-2 17C1502, Description: PFC CS-2 17C1502 A, Name: 170316G1_2, Date: 16-Mar-2017, Time: 10:30:20, Instrument: , Lab: , User:

PFOS



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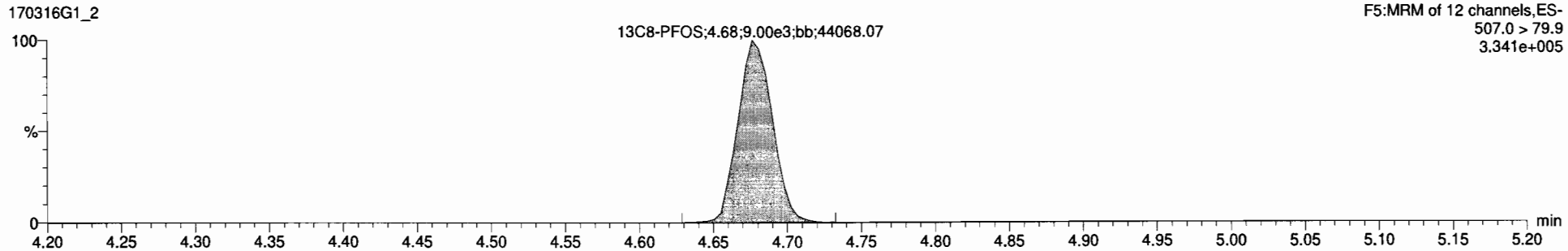

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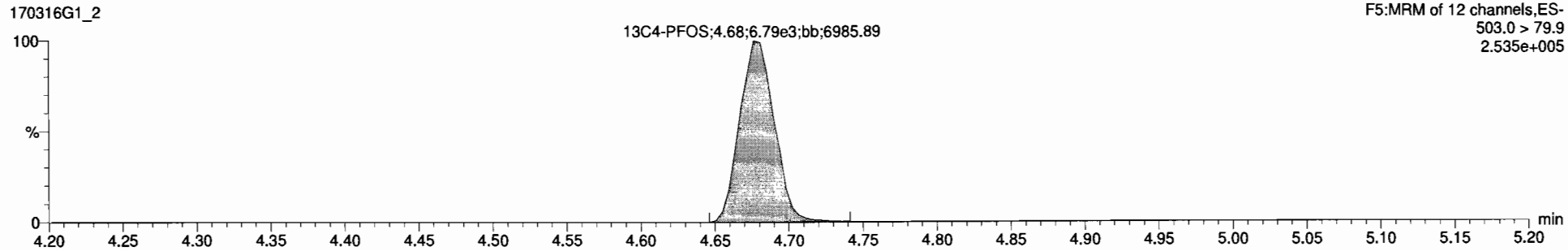

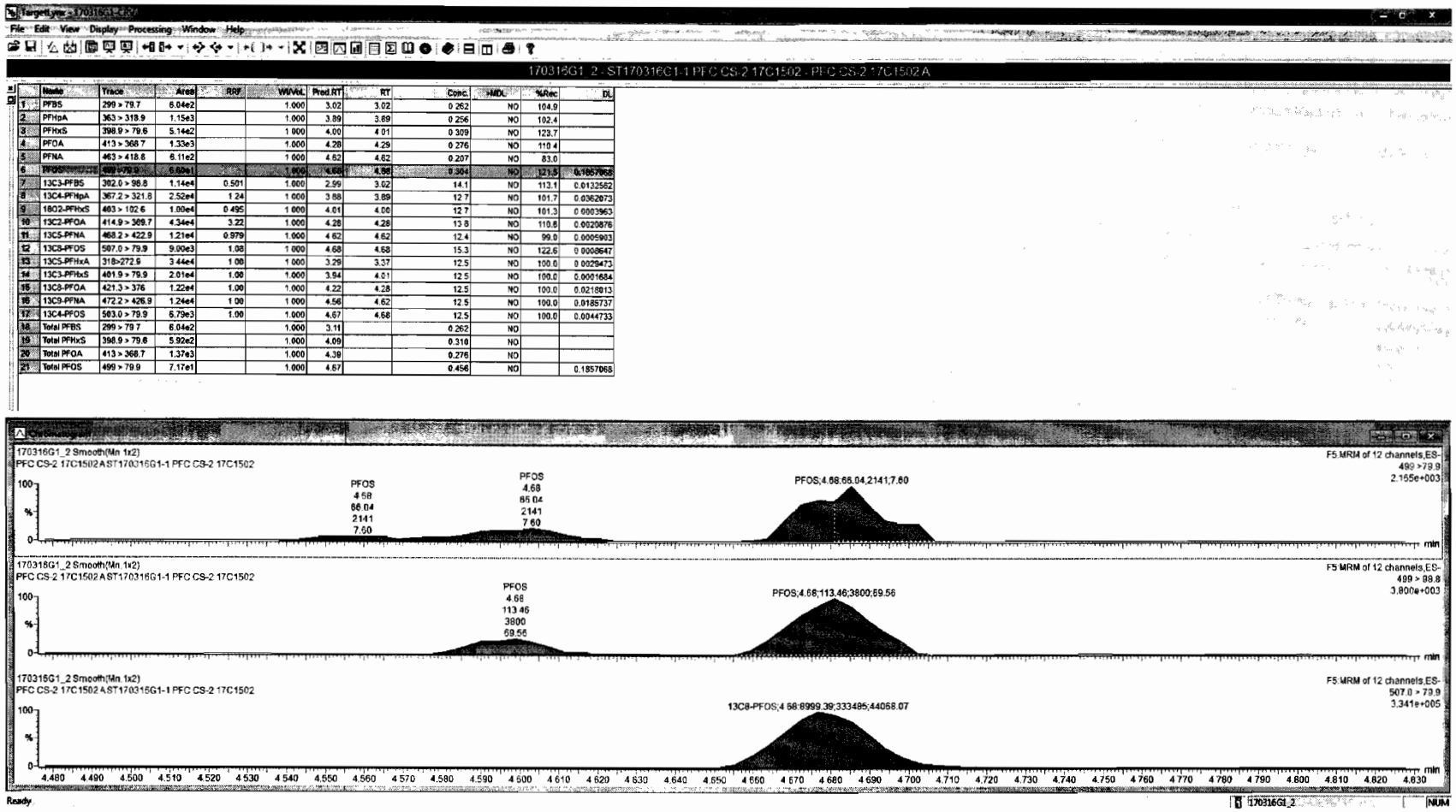

	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc.	MDL	%Rec	DL
1	PFBS	299 > 79.7	6.04e2		1.000	3.02	3.02	0.262	NO	104.9	
2	PFHpA	363 > 318.9	1.15e3		1.000	3.89	3.89	0.256	NO	102.4	
3	PFHxS	398.9 > 79.6	5.14e2		1.000	4.00	4.01	0.309	NO	123.7	
4	PFOA	413 > 368.7	1.33e3		1.000	4.28	4.29	0.276	NO	110.4	
5	PFNA	463 > 418.8	6.11e2		1.000	4.62	4.62	0.207	NO	83.0	
6	PFOS	499 > 79.9	6.60e1		1.000	4.68	4.68	0.304	NO	121.5	0.1857068
7	13C3-PFBS	302.0 > 98.8	1.14e4	0.501	1.000	2.99	3.02	14.1	NO	113.1	0.0132562
8	13C4-PFHpA	367.2 > 321.8	2.52e4	1.24	1.000	3.88	3.89	12.7	NO	101.7	0.0362073
9	18O2-PFHxS	403 > 102.6	1.00e4	0.495	1.000	4.01	4.00	12.7	NO	101.3	0.0003963
10	13C2-PFOA	414.9 > 369.7	4.34e4	3.22	1.000	4.28	4.28	13.8	NO	110.8	0.0020876
11	13C5-PFNA	468.2 > 422.9	1.21e4	0.979	1.000	4.62	4.62	12.4	NO	99.0	0.0005903
12	13C8-PFOS	507.0 > 79.9	9.00e3	1.08	1.000	4.68	4.68	15.3	NO	122.6	0.0008647
13	13C5-PFHxA	318>272.9	3.44e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0029473
14	13C3-PFHxS	401.9 > 79.9	2.01e4	1.00	1.000	3.94	4.01	12.5	NO	100.0	0.0001684
15	13C8-PFOA	421.3 > 376	1.22e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0218913
16	13C9-PFNA	472.2 > 426.9	1.24e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0185737
17	13C4-PFOS	503.0 > 79.9	6.79e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0044733
18	Total PFBS	299 > 79.7	6.04e2		1.000	3.11		0.262	NO		
19	Total PFHxS	398.9 > 79.6	5.92e2		1.000	4.09		0.310	NO		
20	Total PFOA	413 > 368.7	1.37e3		1.000	4.39		0.276	NO		
21	Total PFOS	499 > 79.9	7.17e1		1.000	4.67		0.456	NO		0.1857068

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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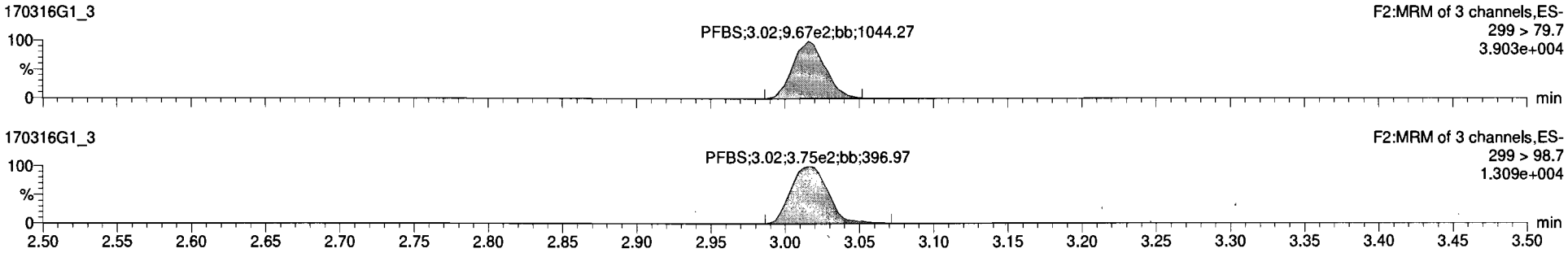
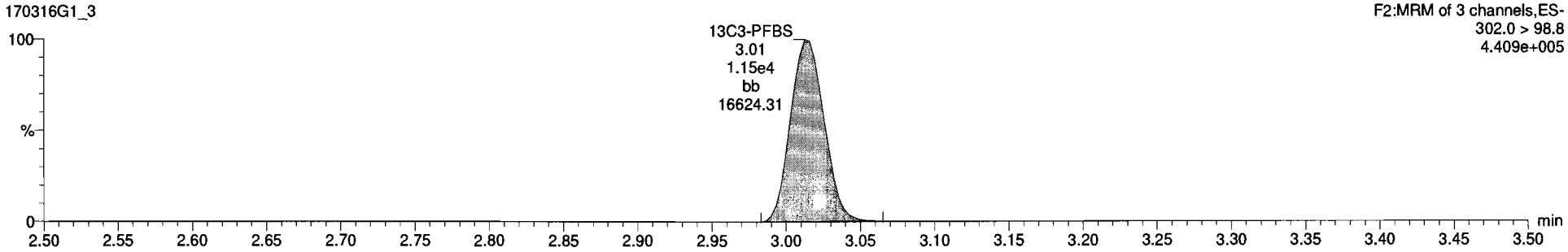
ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

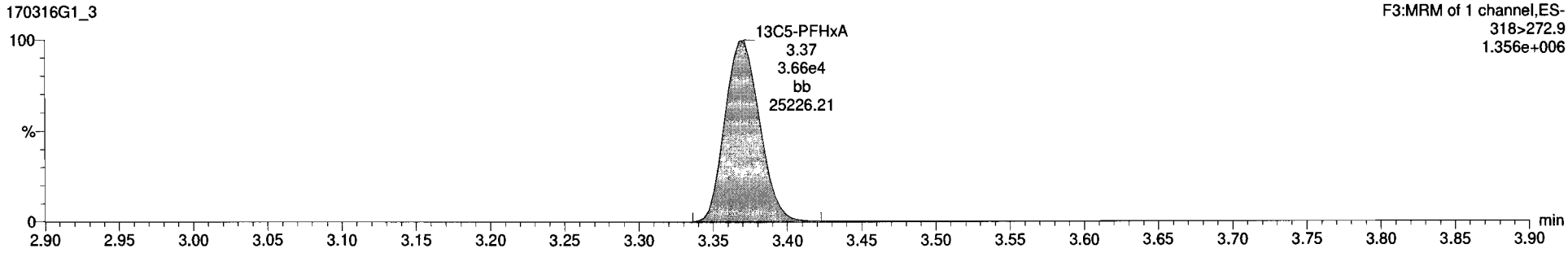
PFBS



13C3-PFBS



13C5-PFHxA



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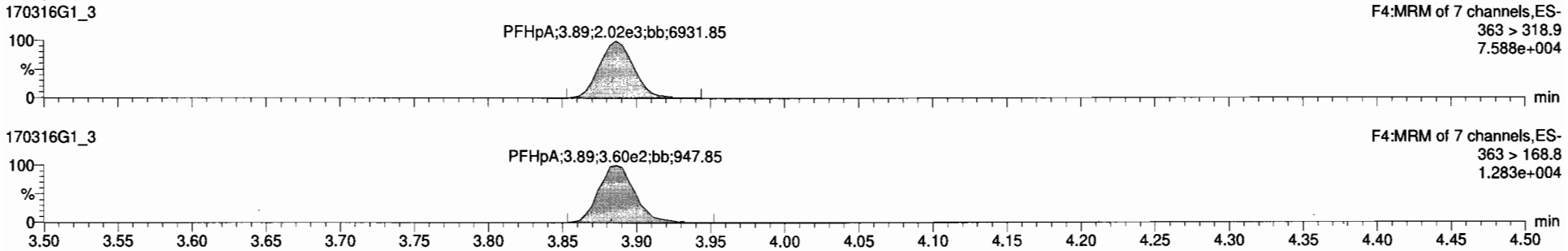
ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

PFHpA



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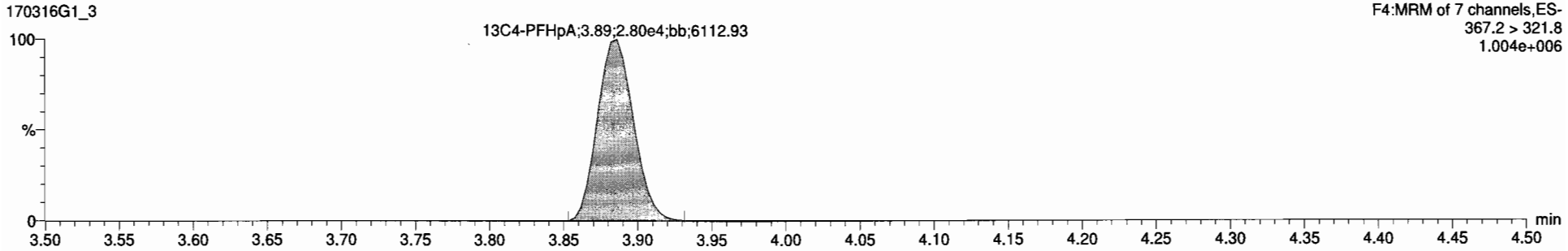
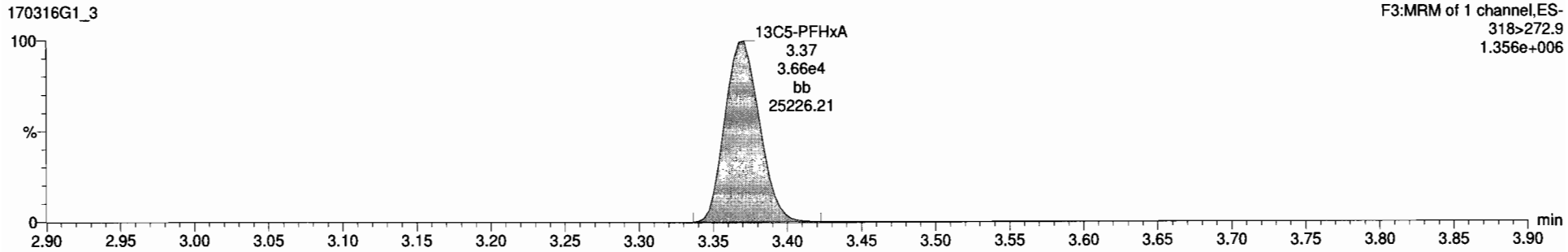


13C5-PFHxA



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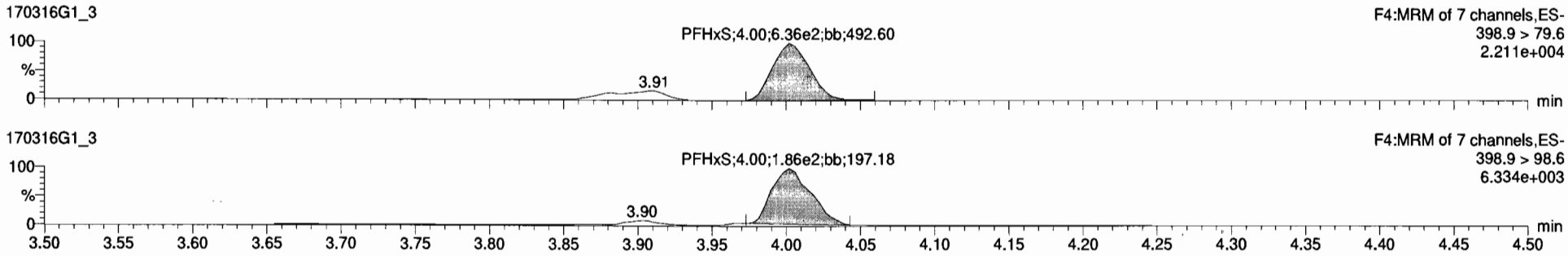
ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

PFHxS



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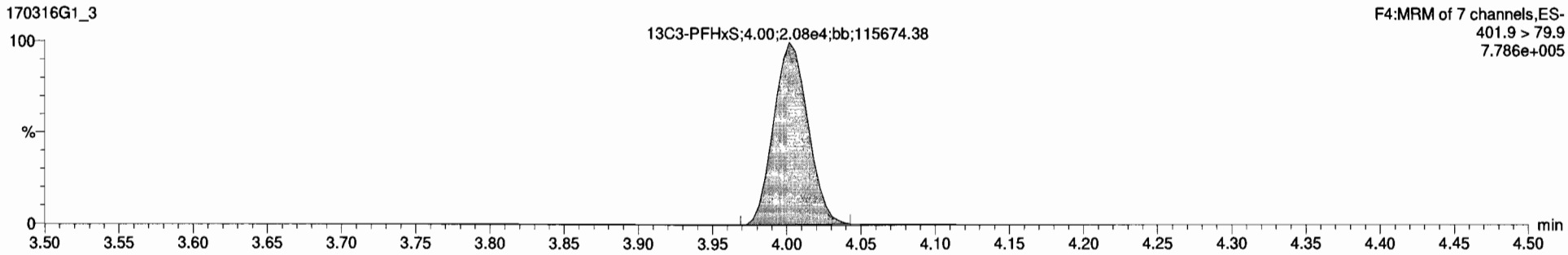
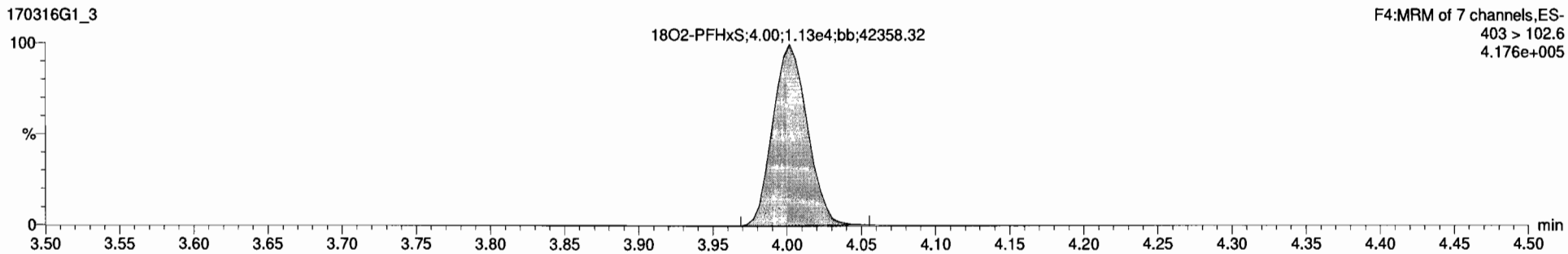
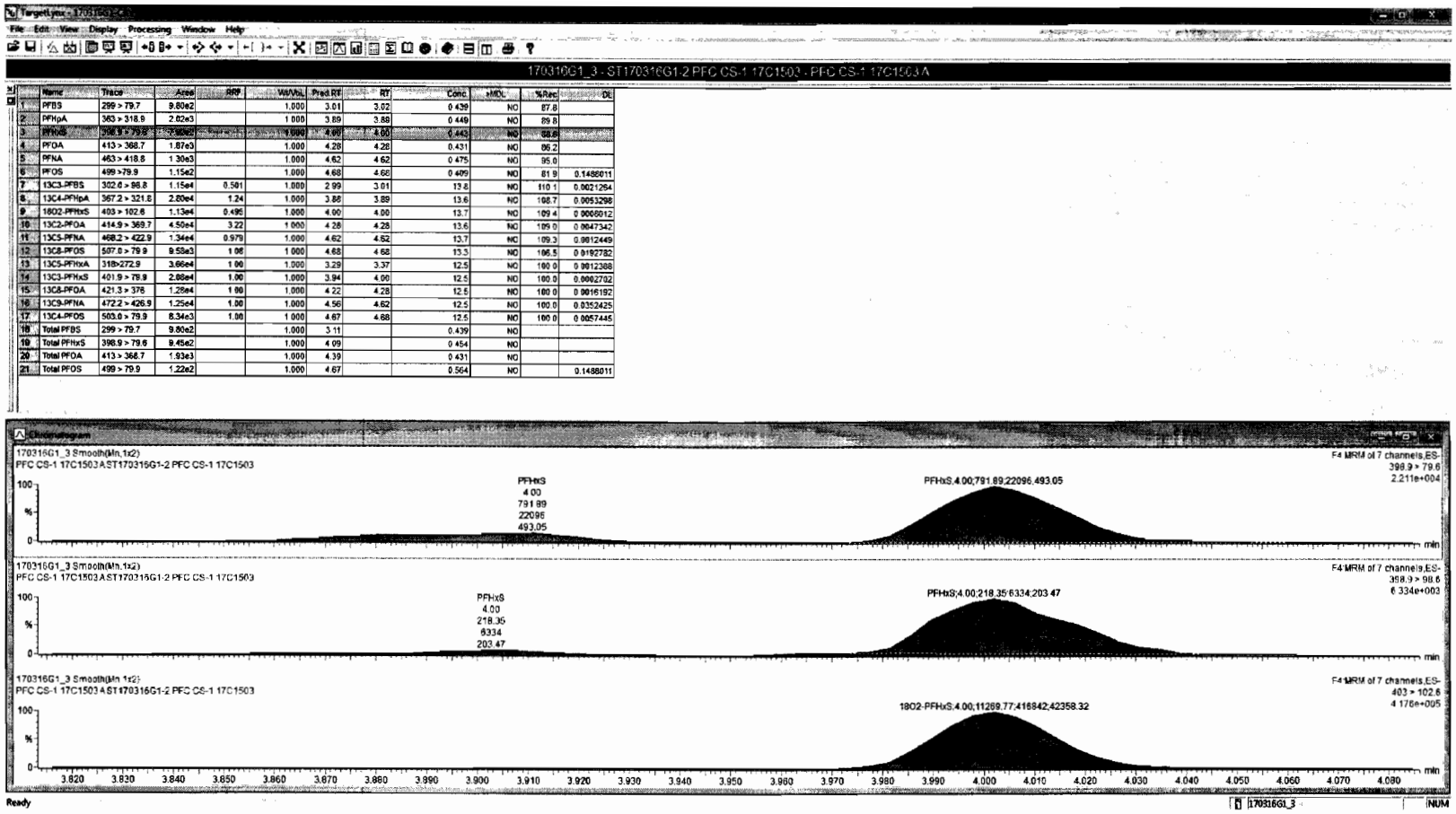


18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	9.80e2		1.000	3.01	3.02	0.439	NO	87.8	
2	PFHpA	363 > 318.9	2.02e3		1.000	3.89	3.88	0.449	NO	89.8	
3	PFHxS	399.9 > 79.6	2.21e4		1.000	4.00	4.00	0.443	NO	88.6	
4	PFOA	413 > 368.7	1.87e3		1.000	4.28	4.28	0.431	NO	86.2	
5	PFNA	463 > 418.8	1.30e3		1.000	4.62	4.62	0.475	NO	95.0	
6	PFOS	499 > 79.9	1.15e2		1.000	4.68	4.68	0.409	NO	81.9	0.1488011
7	13C3-PFBS	302.0 > 98.8	1.15e4	0.591	1.000	2.99	3.01	13.8	NO	110.1	0.0021264
8	13C4-PFHpA	367.2 > 321.8	2.80e4	1.24	1.000	3.88	3.89	13.6	NO	108.7	0.0053298
9	18O2-PFHxS	403 > 102.6	1.13e4	0.495	1.000	4.00	4.00	13.7	NO	109.4	0.0066812
10	13C2-PFOA	414.9 > 369.7	4.50e4	3.22	1.000	4.28	4.28	13.6	NO	109.0	0.0047342
11	13C5-PFNA	468.2 > 422.9	1.34e4	0.979	1.000	4.62	4.62	13.7	NO	109.3	0.0012449
12	13C8-PFOS	507.0 > 79.9	9.58e3	1.06	1.000	4.68	4.68	13.3	NO	106.5	0.0192782
13	13C5-PFHxA	318>272.9	3.66e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0012388
14	13C3-PFHxS	401.9 > 78.9	2.88e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0002702
15	13C8-PFOA	421.3 > 376	1.28e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0016192
16	13C9-PFNA	472.2 > 426.9	1.25e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0352425
17	13C4-PFOS	503.0 > 79.9	8.34e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0057445
18	Total PFBS	299 > 79.7	9.80e2		1.000	3.11		0.439	NO		
19	Total PFHxS	398.9 > 79.6	9.45e2		1.000	4.09		0.454	NO		
20	Total PFOA	413 > 368.7	1.93e3		1.000	4.39		0.431	NO		
21	Total PFOS	499 > 79.9	1.22e2		1.000	4.67		0.564	NO		0.1488011

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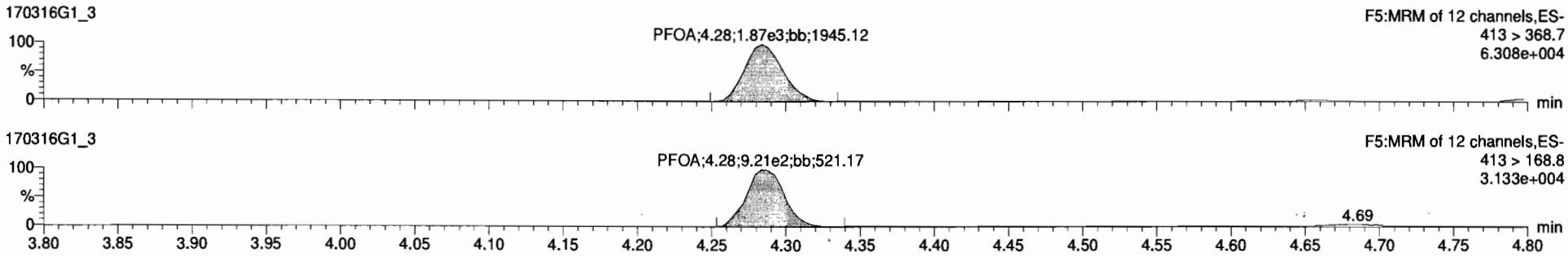
ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

PFOA



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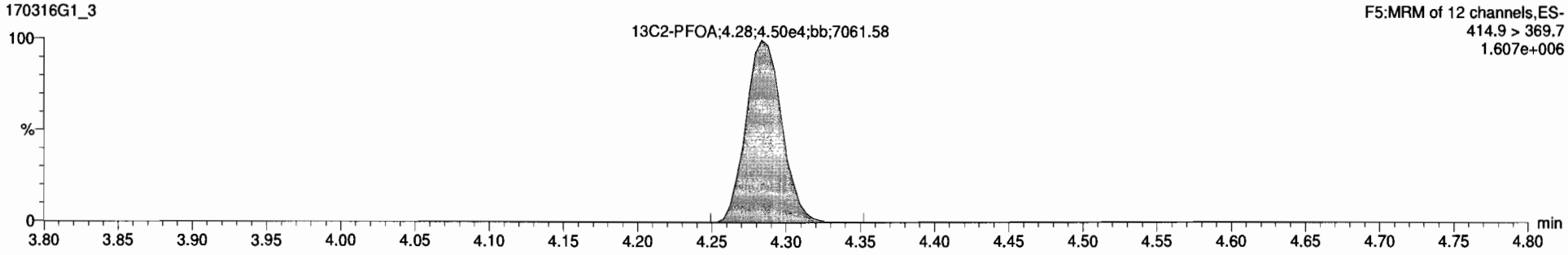

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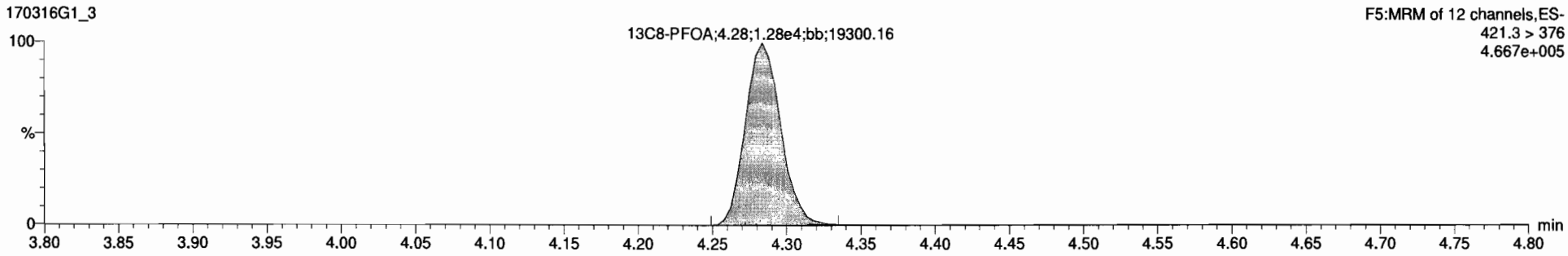

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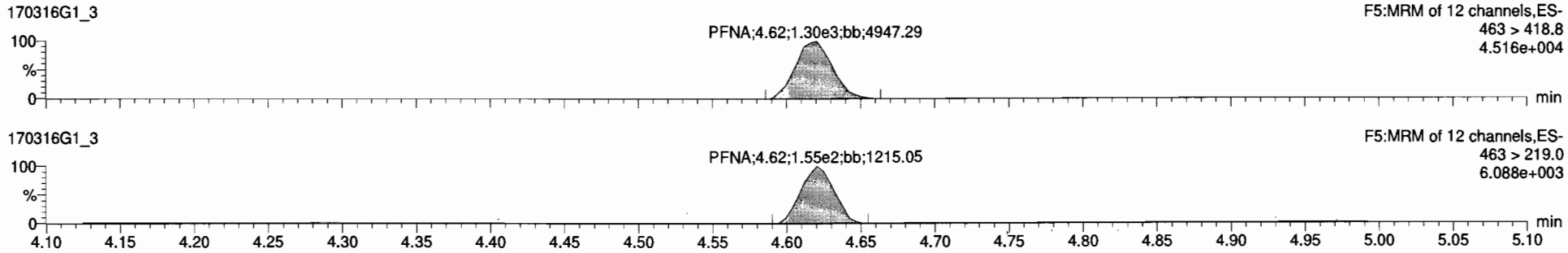
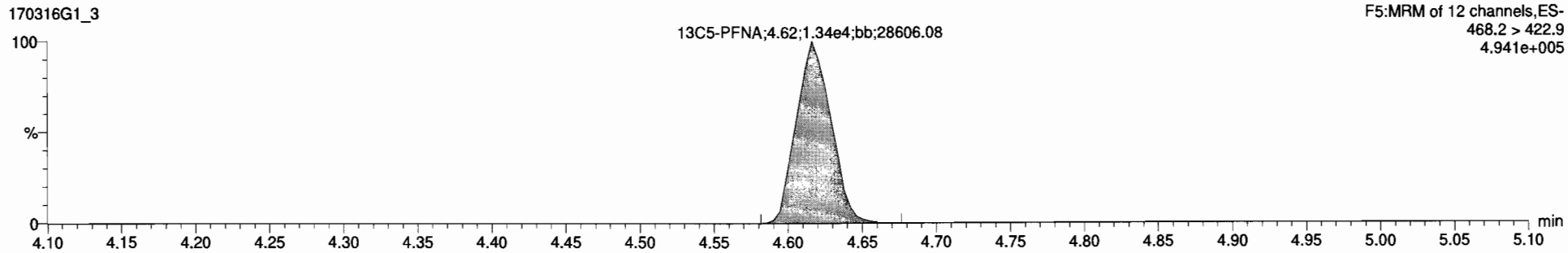
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

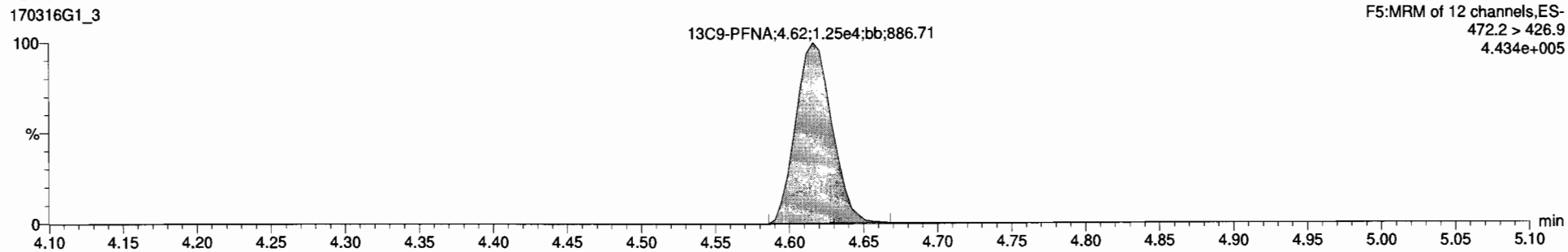
PFNA



13C5-PFNA



13C9-PFNA



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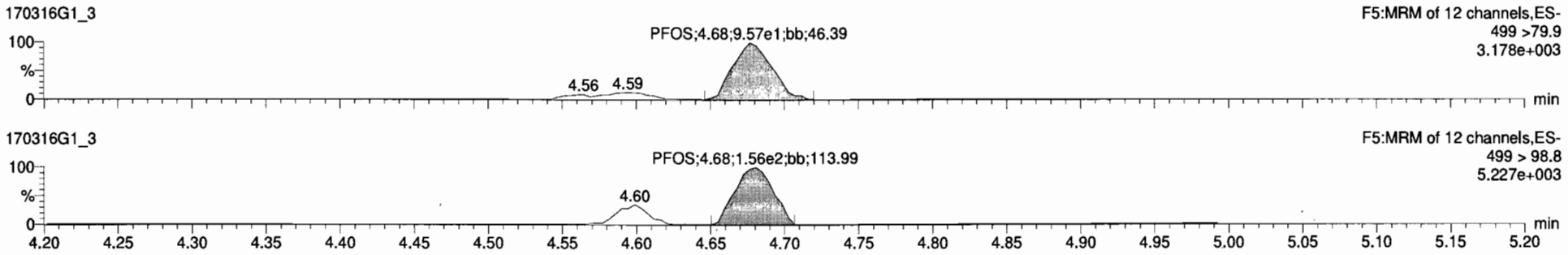
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-2 PFC CS-1 17C1503, Description: PFC CS-1 17C1503 A, Name: 170316G1_3, Date: 16-Mar-2017, Time: 10:42:47, Instrument: , Lab: , User:

PFOS



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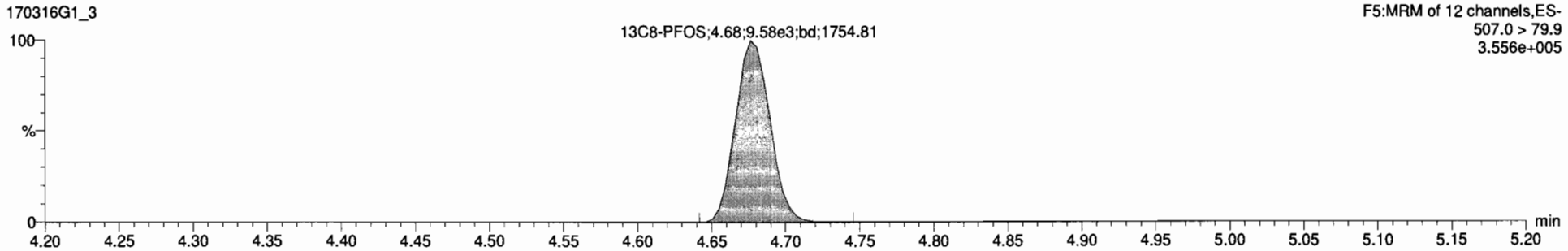
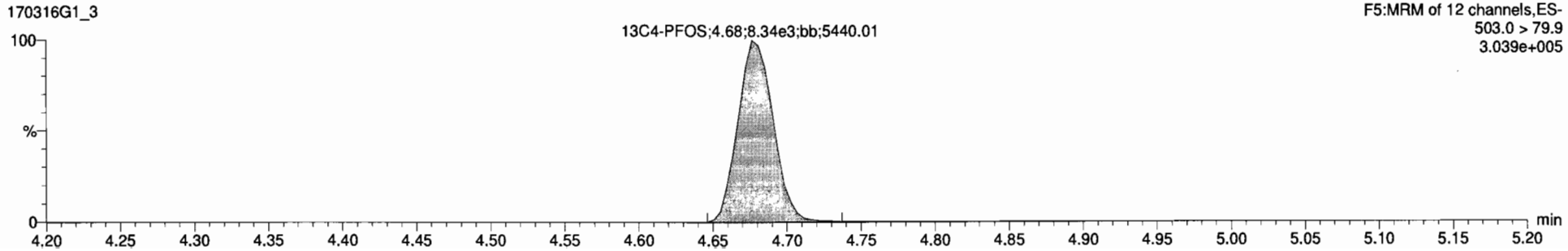
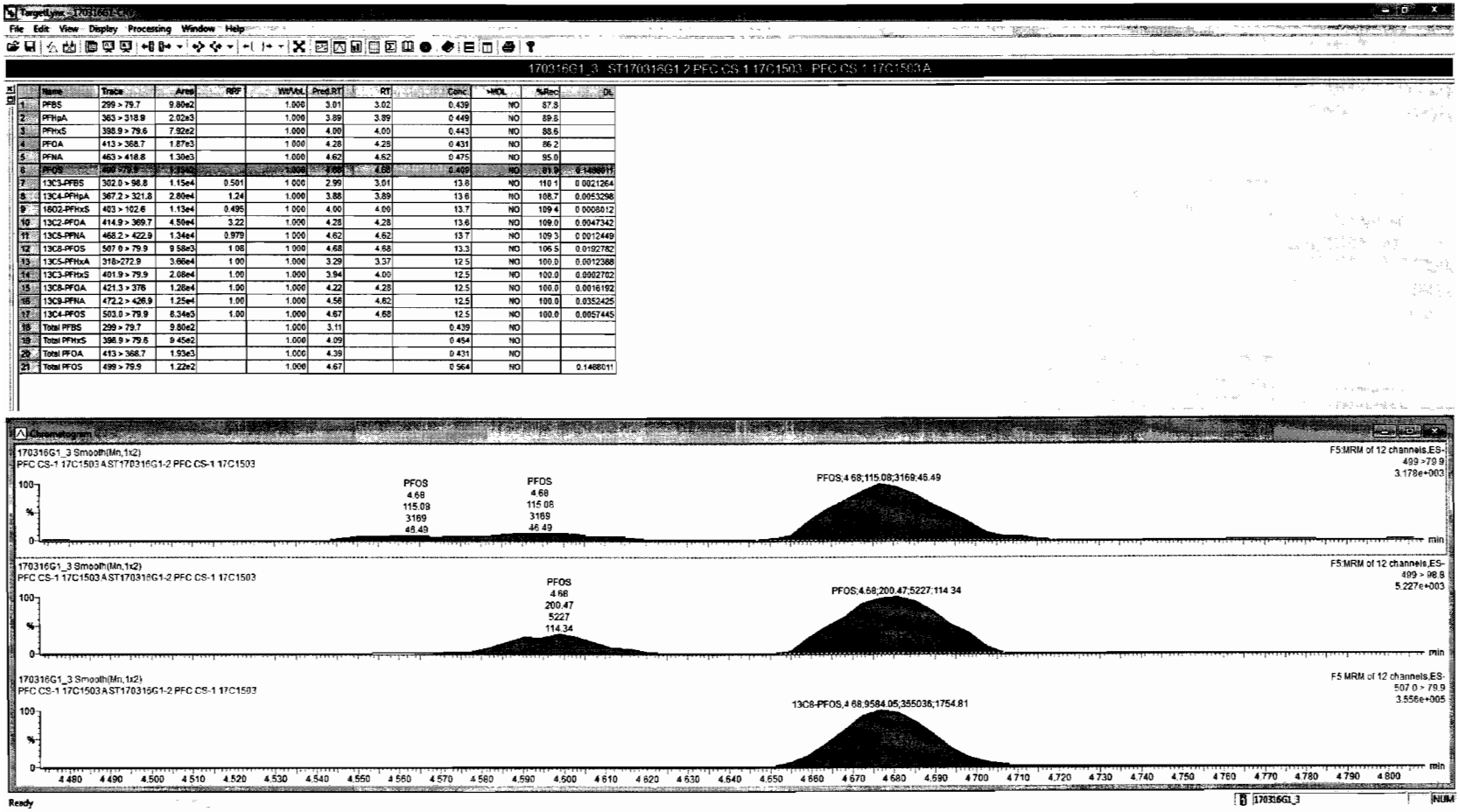


13C4-PFOS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	9.80e2		1.000	3.01	3.02	0.439	NO	87.8	
2	PFHpA	363 > 318.9	2.02e3		1.000	3.89	3.89	0.449	NO	89.8	
3	PFHxS	398.9 > 79.6	7.92e2		1.000	4.00	4.00	0.443	NO	88.6	
4	PFOA	413 > 368.7	1.87e3		1.000	4.28	4.28	0.431	NO	86.2	
5	PFNA	463 > 418.8	1.30e3		1.000	4.62	4.62	0.475	NO	95.0	
6	PFOS	499 >79.9	1.22e2		1.000	4.68	4.68	0.469	NO	93.9	0.1488611
7	13C3-PFBS	302.0 > 98.8	1.15e4	0.501	1.000	2.99	3.01	13.8	NO	110.1	0.0021264
8	13C4-PFHpA	367.2 > 321.8	2.80e4	1.24	1.000	3.88	3.89	13.6	NO	108.7	0.0053298
9	1802-PFHxS	403 > 102.6	1.13e4	0.495	1.000	4.00	4.00	13.7	NO	109.4	0.0006812
10	13C2-PFOA	414.9 > 369.7	4.50e4	3.22	1.000	4.28	4.28	13.6	NO	109.0	0.0047342
11	13C5-PFNA	468.2 > 422.9	1.34e4	0.979	1.000	4.62	4.62	13.7	NO	109.3	0.0012449
12	13C8-PFOS	507.0 > 79.9	9.58e3	1.08	1.000	4.68	4.68	13.3	NO	106.5	0.0192782
13	13C5-PFHxA	318>272.9	3.66e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0012388
14	13C3-PFHxS	401.9 > 79.9	2.08e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0002702
15	13C8-PFOA	421.3 > 376	1.28e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0016192
16	13C9-PFNA	472.2 > 426.9	1.25e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0352425
17	13C4-PFOS	503.0 > 79.9	8.34e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0057445
18	Total PFBS	299 > 79.7	9.80e2		1.000	3.11		0.439	NO		
19	Total PFHxS	398.9 > 79.6	9.45e2		1.000	4.09		0.454	NO		
20	Total PFOA	413 > 368.7	1.93e3		1.000	4.39		0.431	NO		
21	Total PFOS	499 > 79.9	1.22e2		1.000	4.67		0.564	NO		0.1488611

Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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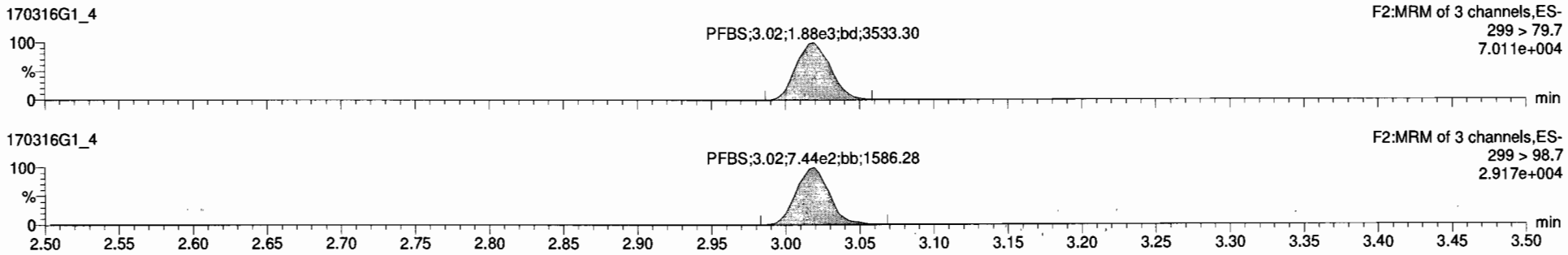
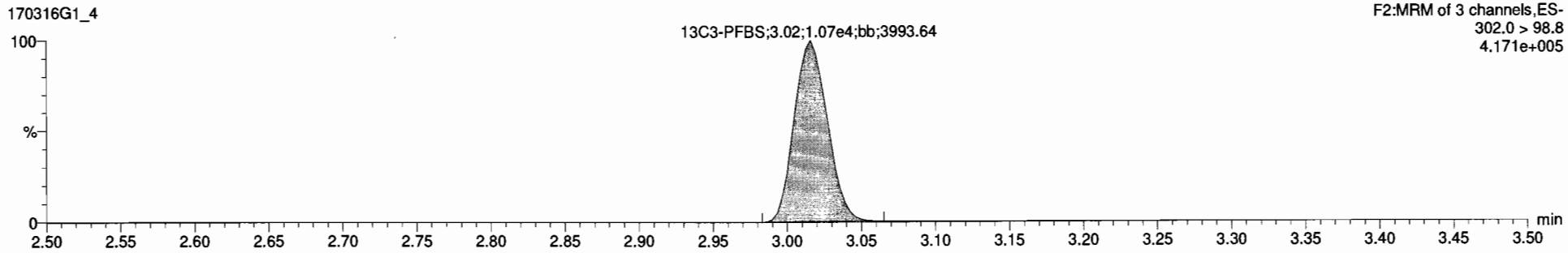
ID: ST170316G1-3 PFC CS0 17C1504, Description: PFC CS0 17C1504 A, Name: 170316G1_4, Date: 16-Mar-2017, Time: 10:55:20, Instrument: , Lab: , User:

PFBS



13C3-PFBS



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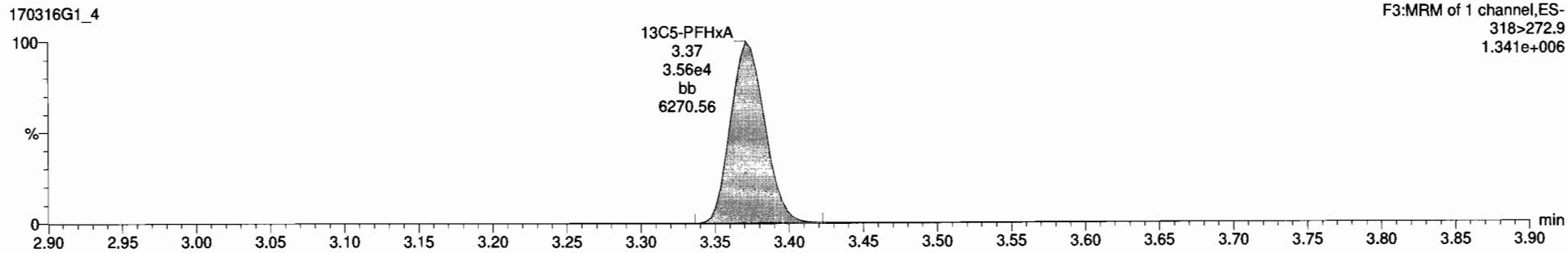

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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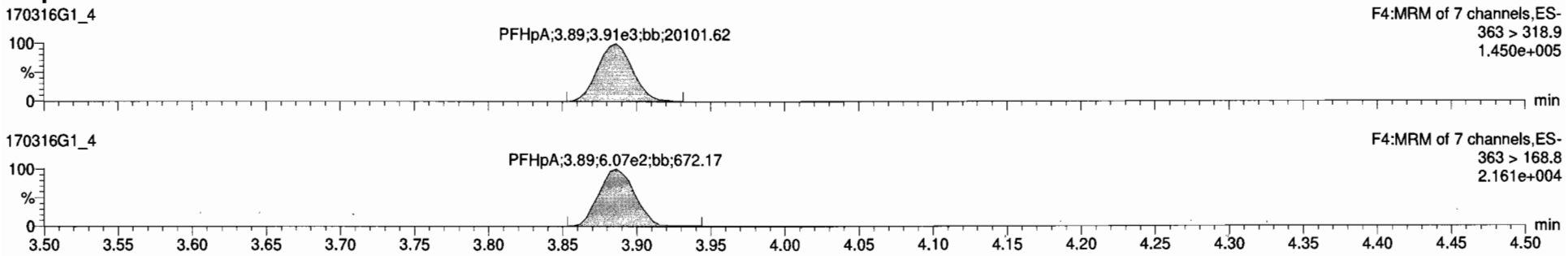
ID: ST170316G1-3 PFC CS0 17C1504, Description: PFC CS0 17C1504 A, Name: 170316G1_4, Date: 16-Mar-2017, Time: 10:55:20, Instrument: , Lab: , User:

PFHpA



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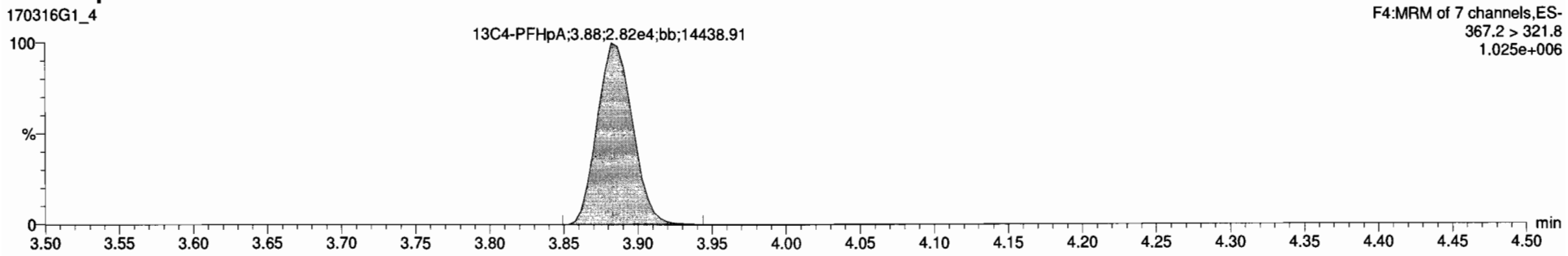

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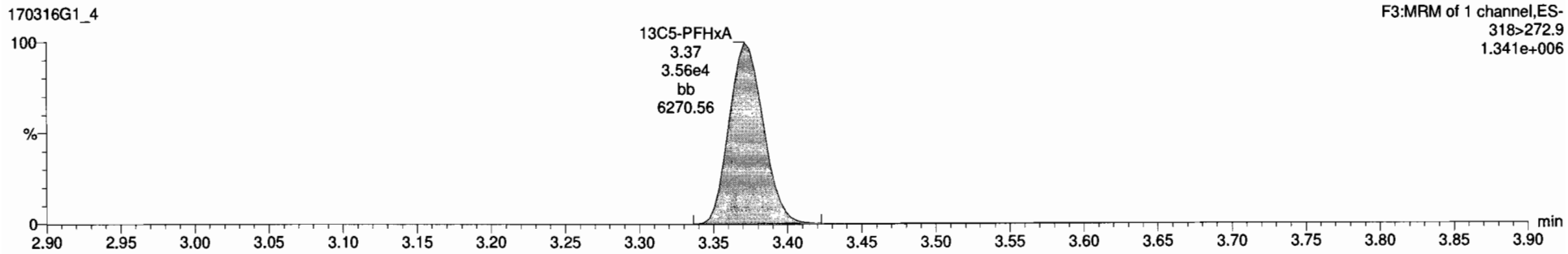

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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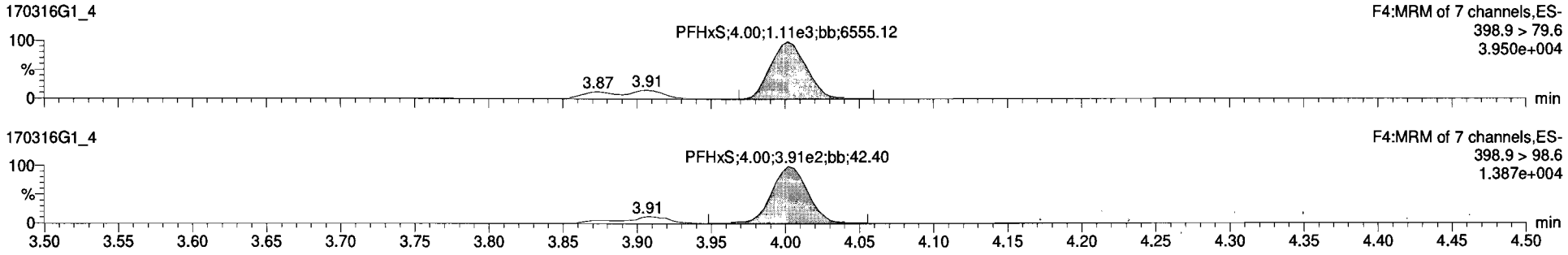
ID: ST170316G1-3 PFC CS0 17C1504, Description: PFC CS0 17C1504 A, Name: 170316G1_4, Date: 16-Mar-2017, Time: 10:55:20, Instrument: , Lab: , User:

PFHxS



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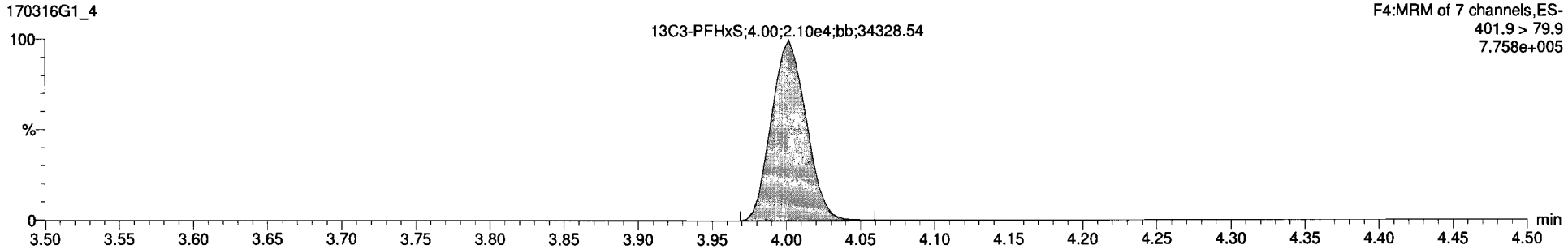
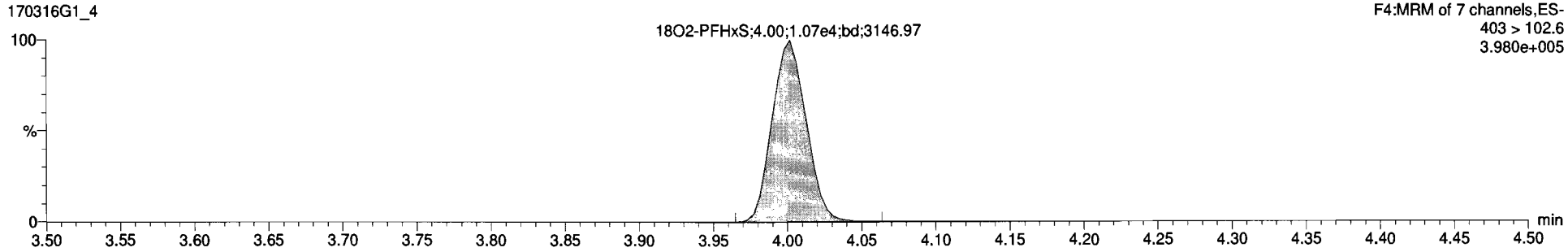
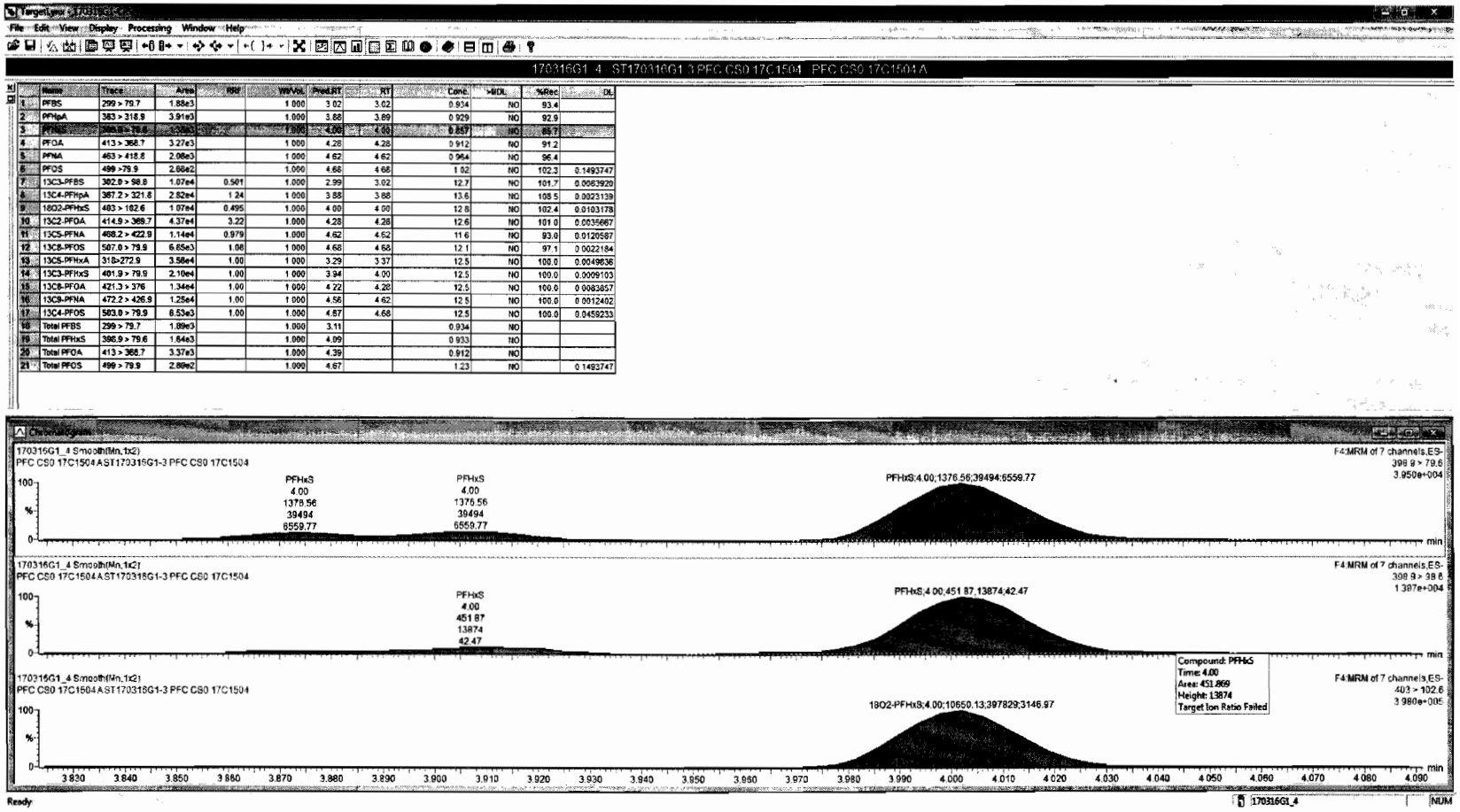


18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	<MDL	%Rec	DL
1	PFBS	299 > 79.7	1.88e3		1.000	3.02	3.02	0.934	NO	93.4	
2	PFHpA	363 > 318.9	3.91e3		1.000	3.88	3.89	0.929	NO	92.9	
3	PFHxS	399.9 > 79.6	3.95e3		1.000	4.00	4.00	0.857	NO	85.7	
4	PFOA	413 > 368.7	3.27e3		1.000	4.28	4.28	0.912	NO	91.2	
5	PFNA	463 > 418.8	2.06e3		1.000	4.62	4.62	0.964	NO	96.4	
6	PFOS	499 >79.9	2.66e2		1.000	4.68	4.68	1.02	NO	102.3	0.1493747
7	13C3-PFBS	382.8 > 98.8	1.07e4	0.501	1.000	2.99	3.02	12.7	NO	101.7	0.0063920
8	13C4-PFHpA	367.2 > 321.8	2.82e4	1.24	1.000	3.88	3.88	13.6	NO	108.5	0.0023139
9	18O2-PFHxS	403 > 102.6	1.07e4	0.495	1.000	4.00	4.00	12.8	NO	102.4	0.0103178
10	13C2-PFOA	414.9 > 369.7	4.37e4	3.22	1.000	4.28	4.28	12.6	NO	101.0	0.0035667
11	13C5-PFNA	468.2 > 422.9	1.14e4	0.979	1.000	4.62	4.62	11.6	NO	93.0	0.0120587
12	13C8-PFOS	507.0 > 79.9	6.65e3	1.08	1.000	4.68	4.68	12.1	NO	97.1	0.0022184
13	13C5-PFHxA	318>272.9	3.58e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0049636
14	13C3-PFHxS	401.9 > 79.9	2.10e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0009103
15	13C8-PFOA	421.3 > 376	1.34e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0083857
16	13C9-PFNA	472.2 > 426.9	1.25e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0012402
17	13C4-PFOS	503.0 > 79.9	6.53e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0459233
18	Total PFBS	299 > 79.7	1.89e3		1.000	3.11		0.934	NO		
19	Total PFHxS	399.9 > 79.6	1.64e3		1.000	4.09		0.933	NO		
20	Total PFOA	413 > 368.7	3.37e3		1.000	4.39		0.912	NO		
21	Total PFOS	499 > 79.9	2.89e2		1.000	4.67		1.23	NO		0.1493747

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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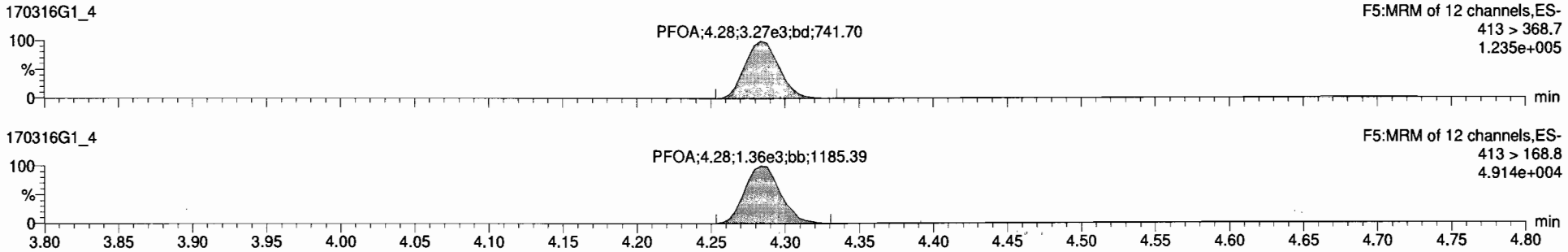
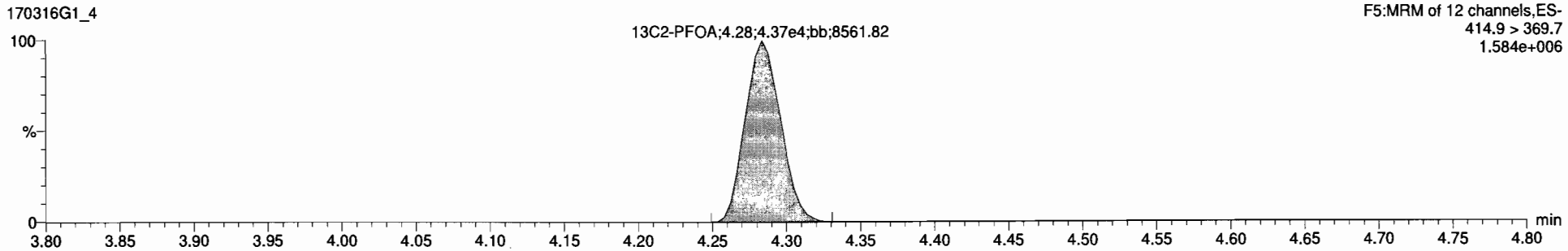
ID: ST170316G1-3 PFC CS0 17C1504, Description: PFC CS0 17C1504 A, Name: 170316G1_4, Date: 16-Mar-2017, Time: 10:55:20, Instrument: , Lab: , User:

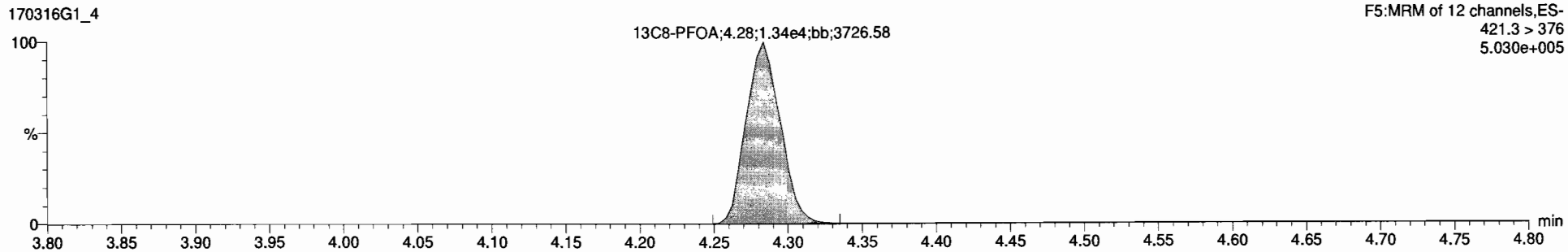
PFOA



13C2-PFOA



13C8-PFOA



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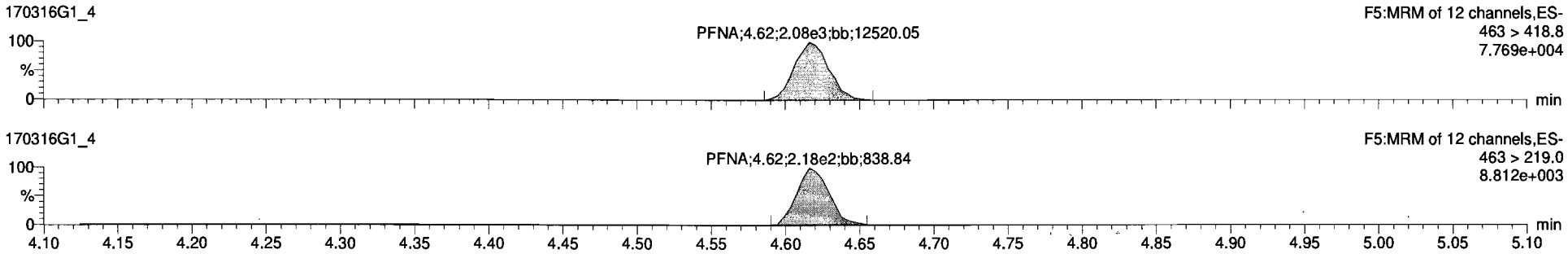
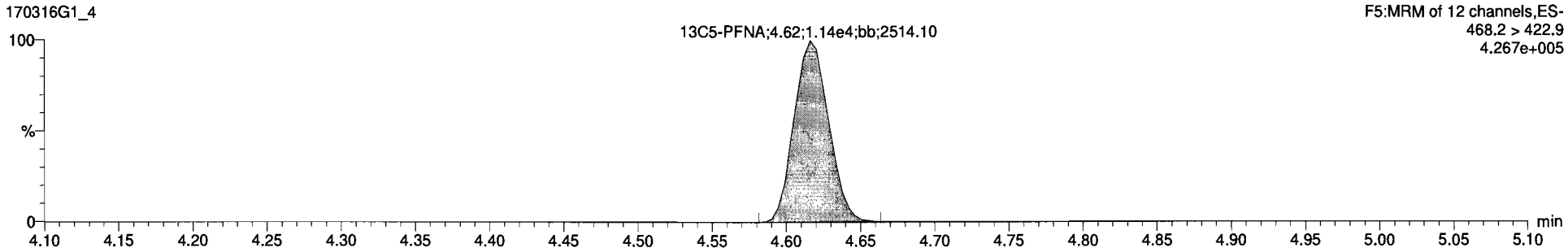


13C5-PFNA



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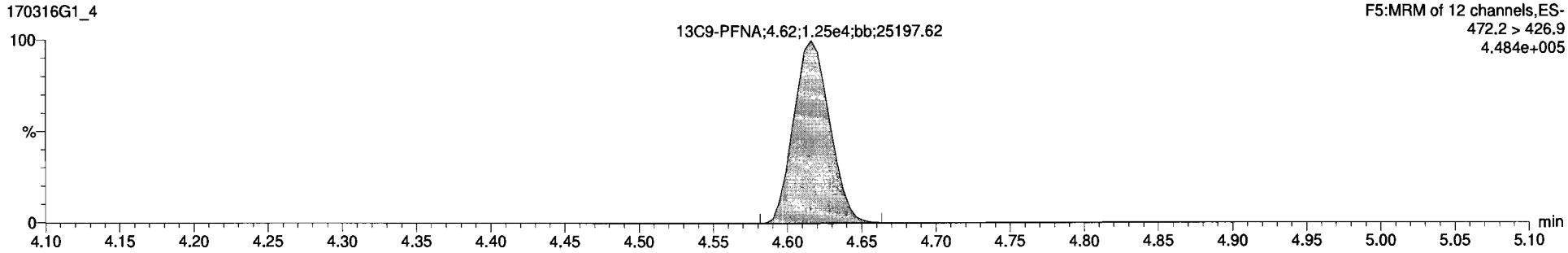

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

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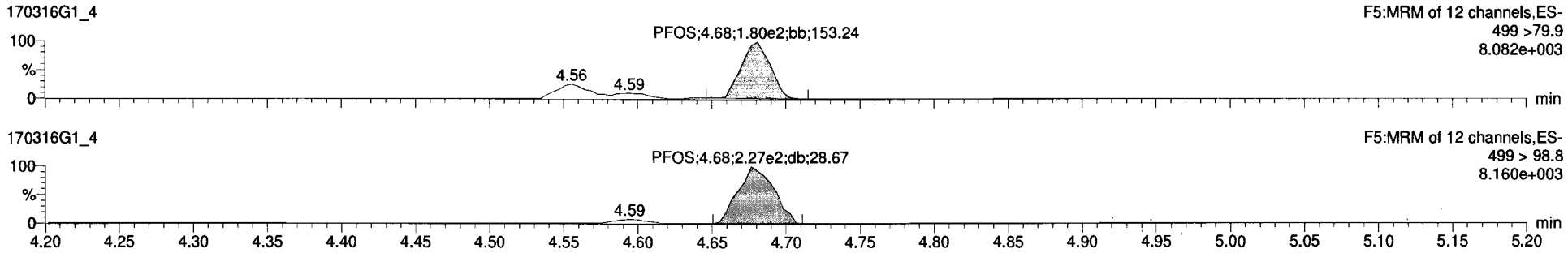
PFOS



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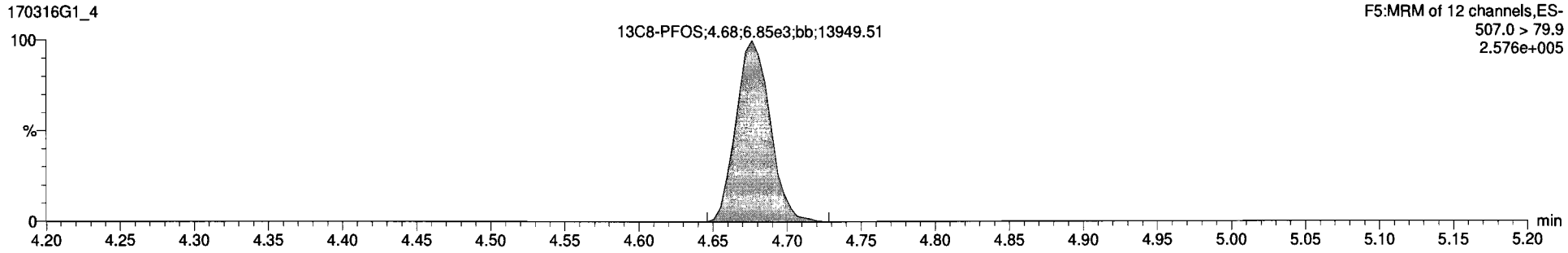
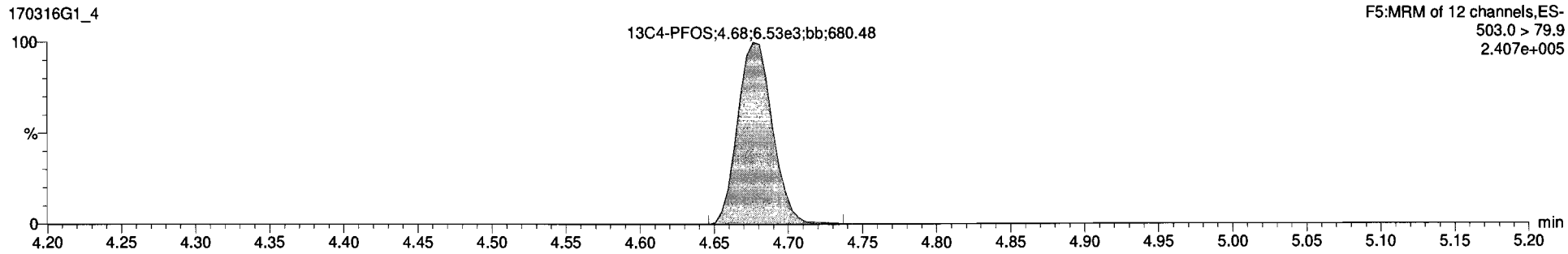
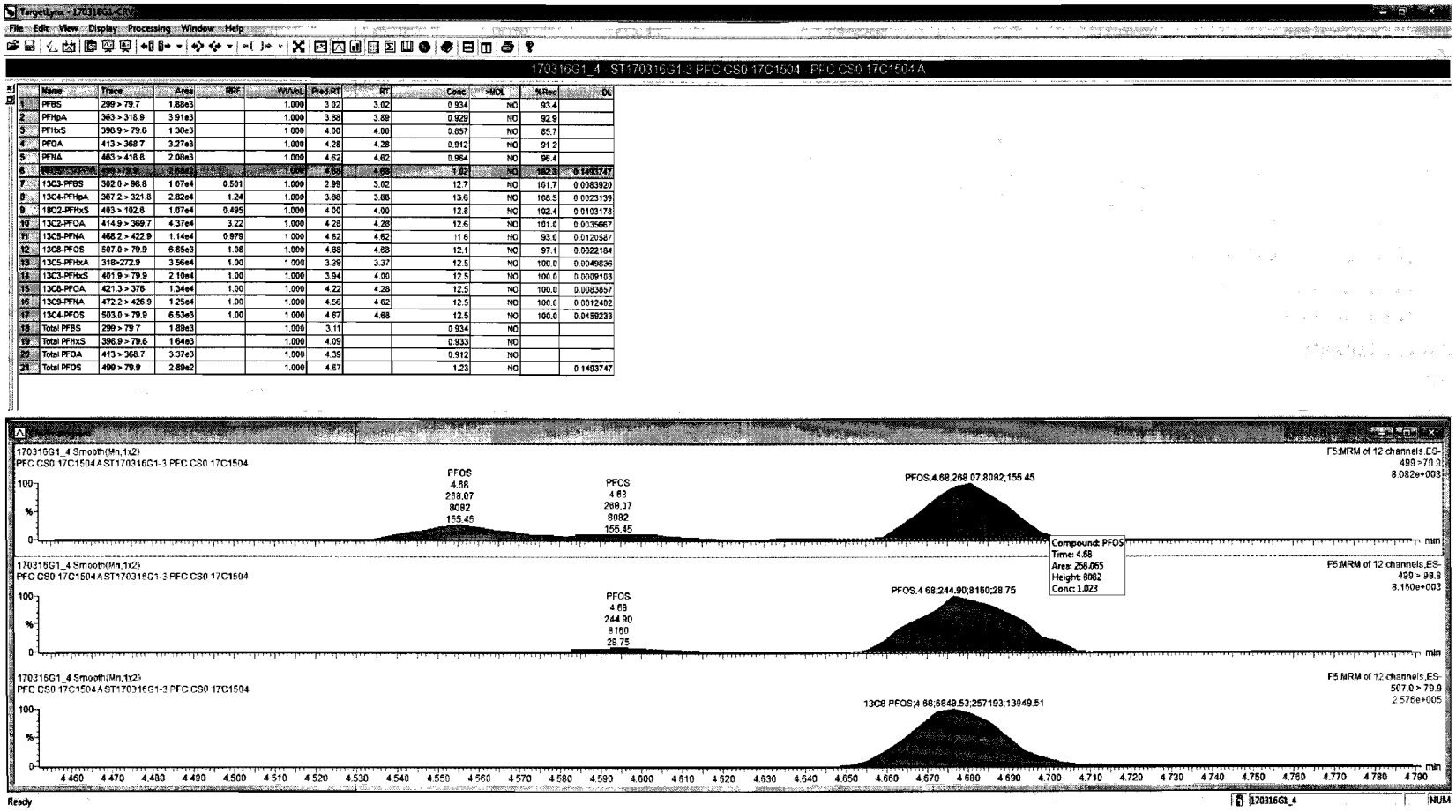


13C4-PFOS





	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	WDL	%Rec	DL
1	PFBS	299 > 79.7	1.88e3		1.000	3.02	3.02	0.934	NO	93.4	
2	PFHpA	363 > 318.9	3.91e3		1.000	3.88	3.88	0.929	NO	92.9	
3	PFHxS	398.9 > 79.6	1.38e3		1.000	4.00	4.00	0.857	NO	85.7	
4	PFOA	413 > 368.7	3.27e3		1.000	4.28	4.28	0.912	NO	91.2	
5	PFNA	463 > 418.8	2.08e3		1.000	4.62	4.62	0.964	NO	96.4	
6	PFOS	499 > 79.9	2.89e2		1.000	4.68	4.68	1.62	NO	162.3	0.1493747
7	13C3-PFBS	302.0 > 98.8	1.07e4	0.501	1.000	2.99	3.02	12.7	NO	101.7	0.0083920
8	13C4-PFHpA	367.2 > 321.8	2.82e4	1.24	1.000	3.88	3.88	13.6	NO	108.5	0.0023139
9	1802-PFHxS	403 > 102.6	1.07e4	0.495	1.000	4.00	4.00	12.8	NO	102.4	0.0103178
10	13C2-PFOA	414.9 > 369.7	4.37e4	3.22	1.000	4.28	4.28	12.6	NO	101.0	0.0035667
11	13C5-PFNA	468.2 > 422.9	1.14e4	0.979	1.000	4.62	4.62	11.6	NO	93.0	0.0120587
12	13C8-PFOS	507.0 > 79.9	6.85e3	1.08	1.000	4.68	4.68	12.1	NO	97.1	0.0022184
13	13C5-PFHxA	318>272.9	3.56e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0049836
14	13C3-PFHxS	401.9 > 79.9	2.10e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0009103
15	13C8-PFOA	421.3 > 376	1.34e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0083857
16	13C9-PFNA	472.2 > 426.9	1.25e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0012402
17	13C4-PFOS	503.0 > 79.9	6.53e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0458233
18	Total PFBS	299 > 79.7	1.88e3		1.000	3.11		0.934	NO		
19	Total PFHxS	398.9 > 79.6	1.64e3		1.000	4.09		0.933	NO		
20	Total PFOA	413 > 368.7	3.37e3		1.000	4.39		0.912	NO		
21	Total PFOS	499 > 79.9	2.89e2		1.000	4.67		1.23	NO		0.1493747

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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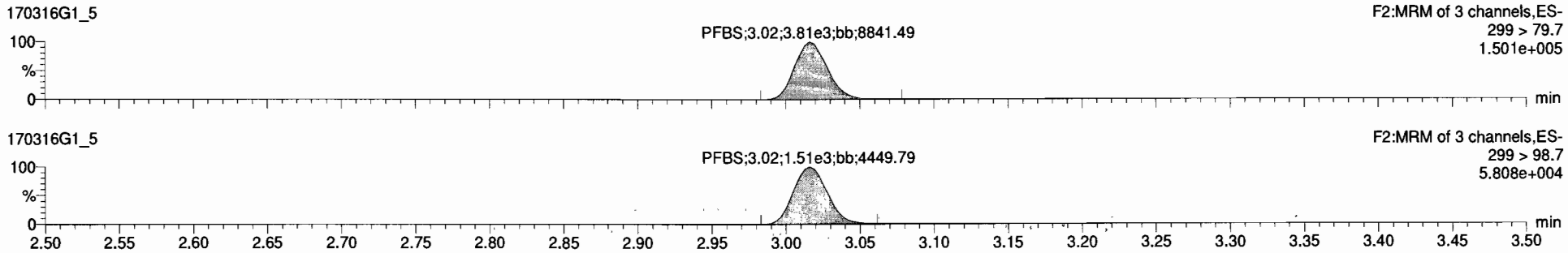
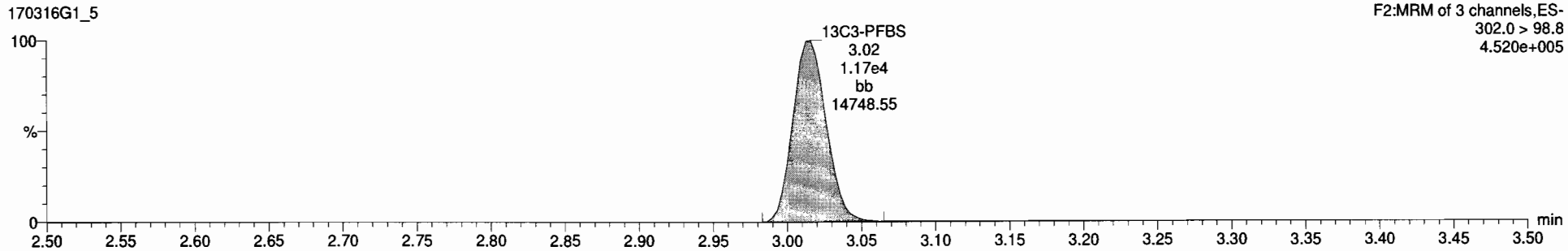
ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

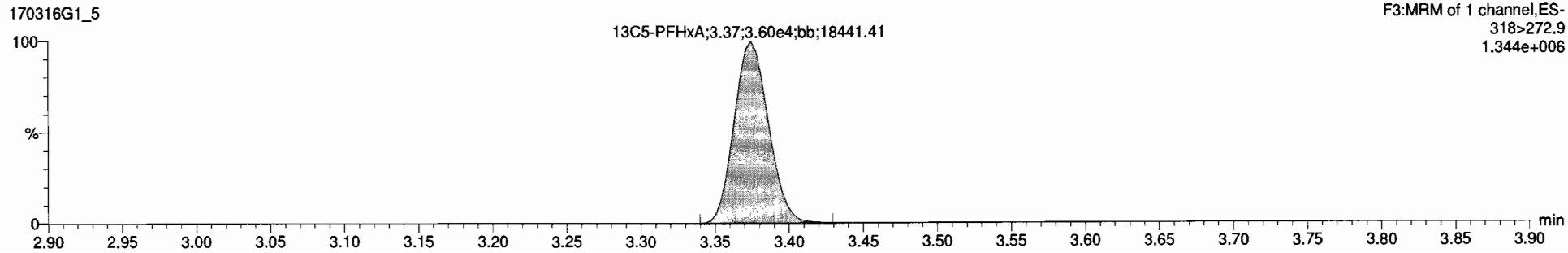
PFBS



13C3-PFBS



13C5-PFHxA



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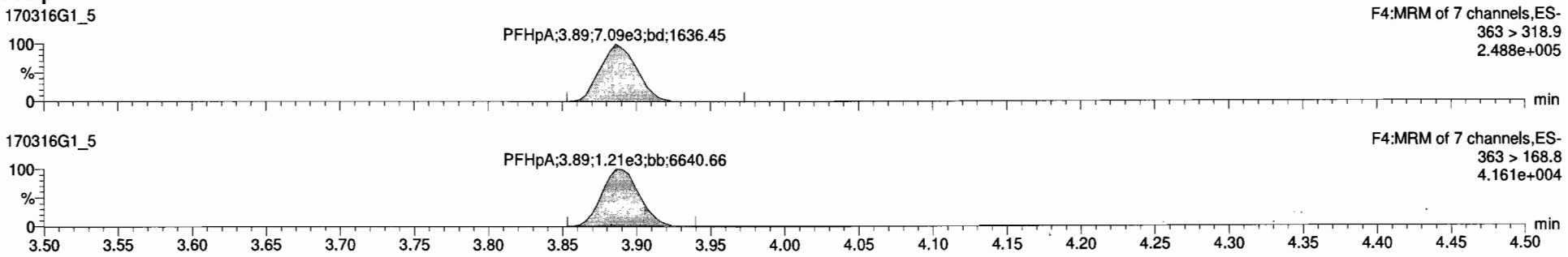
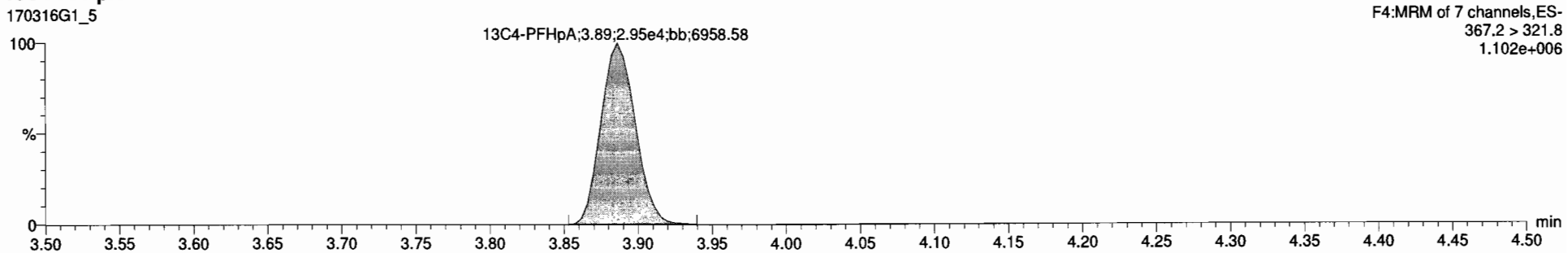
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

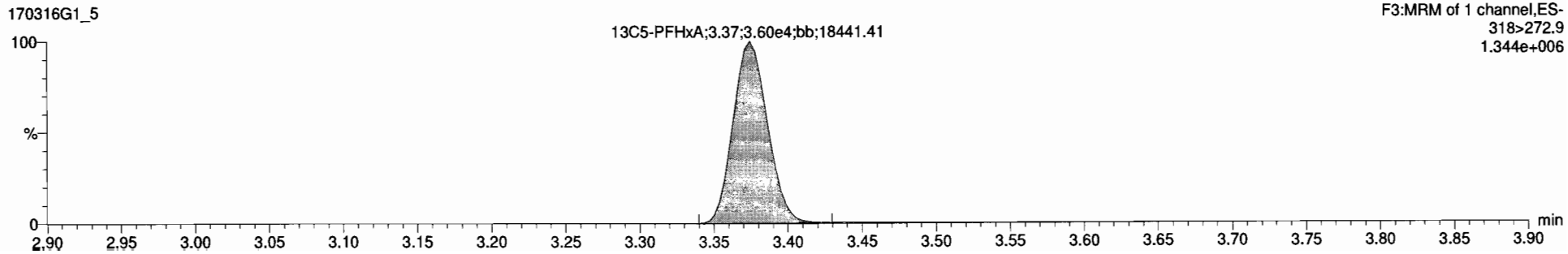
PFHpA



13C4-PFHpA



13C5-PFHxA



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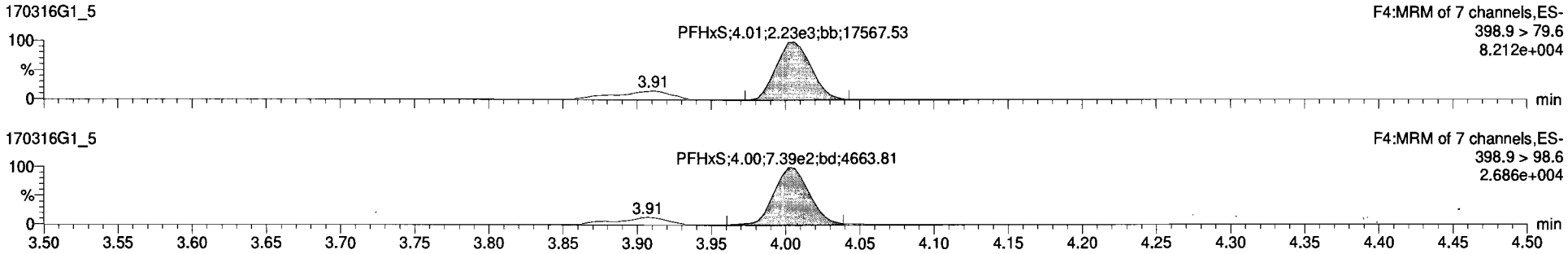
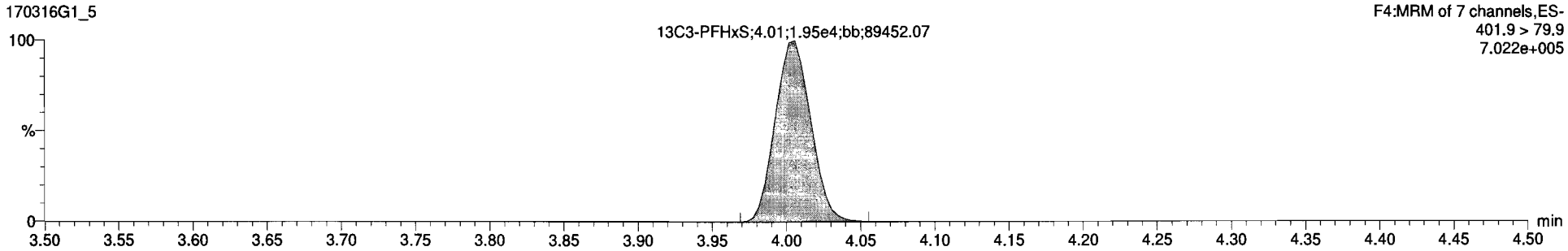
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

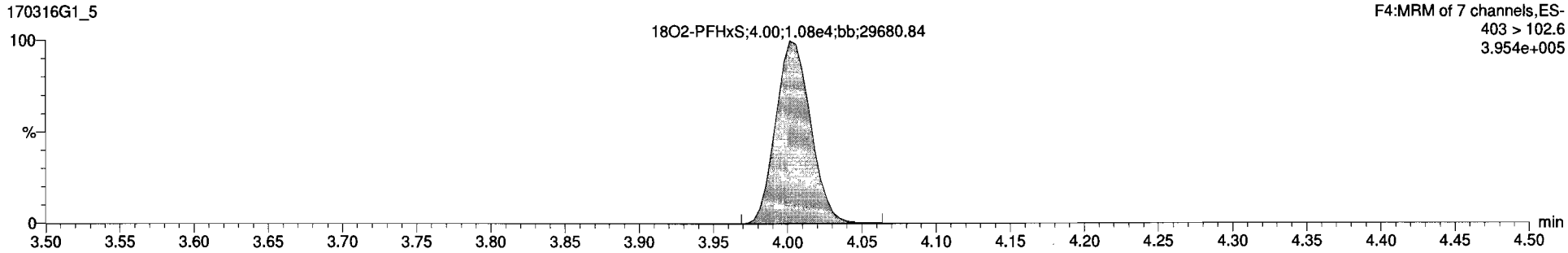
PFHxS

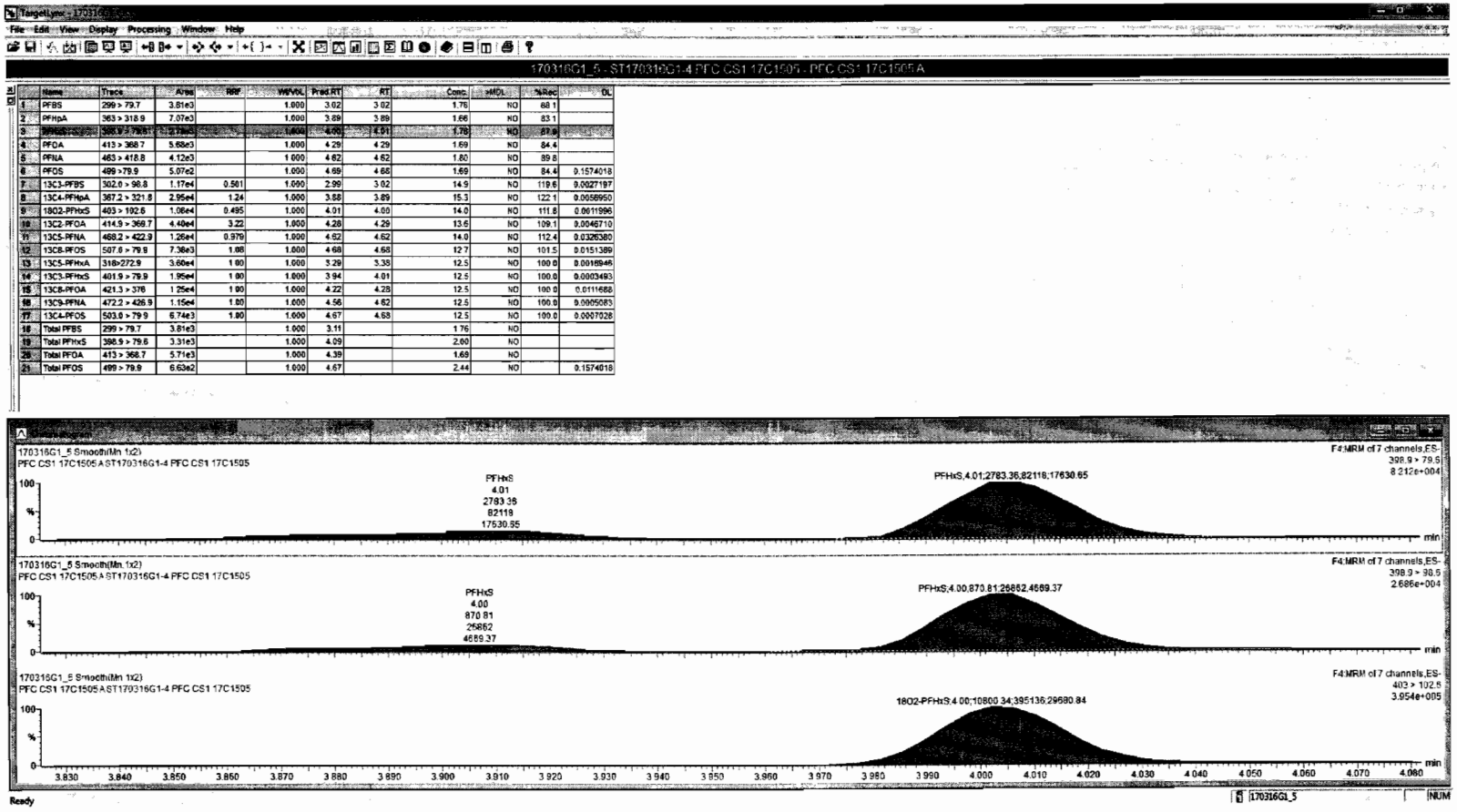


13C3-PFHxS



18O2-PFHxS





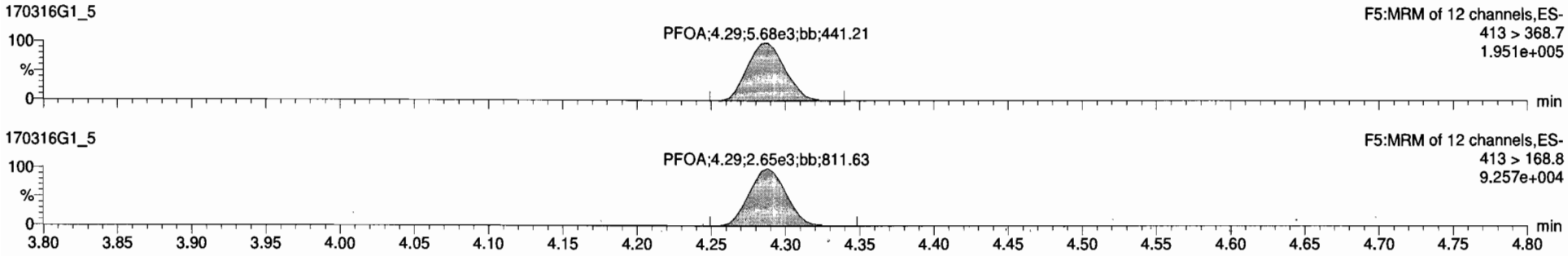
	Name	Trace	Area	RRF	WtVOL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	3.81e3		1.000	3.02	3.02	1.76	NO	88.1	
2	PFHpA	363 > 318.9	7.07e3		1.000	3.89	3.89	1.66	NO	83.1	
3	PFHxS	398.9 > 79.9	8.21e3		1.000	4.00	4.01	1.76	NO	87.9	
4	PFOA	413 > 368.7	5.68e3		1.000	4.29	4.29	1.69	NO	84.4	
5	PFNA	463 > 418.8	4.12e3		1.000	4.62	4.62	1.80	NO	89.8	
6	PFOS	499 > 79.9	5.07e2		1.000	4.69	4.68	1.69	NO	84.4	0.1574018
7	13C3-PFBS	302.0 > 98.8	1.17e4	0.501	1.000	2.99	3.02	14.9	NO	119.6	0.0027197
8	13C4-PFHpA	367.2 > 321.8	2.95e4	1.24	1.000	3.88	3.89	15.3	NO	122.1	0.0058950
9	18O2-PFHxS	403 > 102.9	1.08e4	0.495	1.000	4.01	4.00	14.0	NO	111.8	0.0011996
10	13C2-PFOA	414.9 > 368.7	4.40e4	3.22	1.000	4.28	4.29	13.6	NO	109.1	0.0046710
11	13C5-PFNA	468.2 > 422.9	1.26e4	0.979	1.000	4.62	4.62	14.0	NO	112.4	0.0326380
12	13C8-PFOS	507.6 > 79.9	7.38e3	1.88	1.000	4.68	4.68	12.7	NO	101.5	0.0151389
13	13C5-PFHxA	318>272.9	3.60e4	1.80	1.000	3.29	3.38	12.5	NO	100.0	0.0018946
14	13C3-PFHxS	401.9 > 79.9	1.95e4	1.80	1.000	3.94	4.01	12.5	NO	100.0	0.0003493
15	13C8-PFOA	421.3 > 376	1.25e4	1.90	1.000	4.22	4.28	12.5	NO	100.0	0.0111668
16	13C9-PFNA	472.2 > 426.9	1.15e4	1.80	1.000	4.56	4.62	12.5	NO	100.0	0.0005083
17	13C4-PFOS	503.0 > 79.9	6.74e3	1.80	1.000	4.67	4.68	12.5	NO	100.0	0.0007028
18	Total PFBS	299 > 79.7	3.81e3		1.000	3.11		1.76	NO		
19	Total PFHxS	398.9 > 79.6	3.31e3		1.000	4.09		2.60	NO		
20	Total PFOA	413 > 368.7	5.71e3		1.000	4.39		1.69	NO		
21	Total PFOS	499 > 79.9	6.63e2		1.000	4.67		2.44	NO		0.1574018

Dataset: Untitled

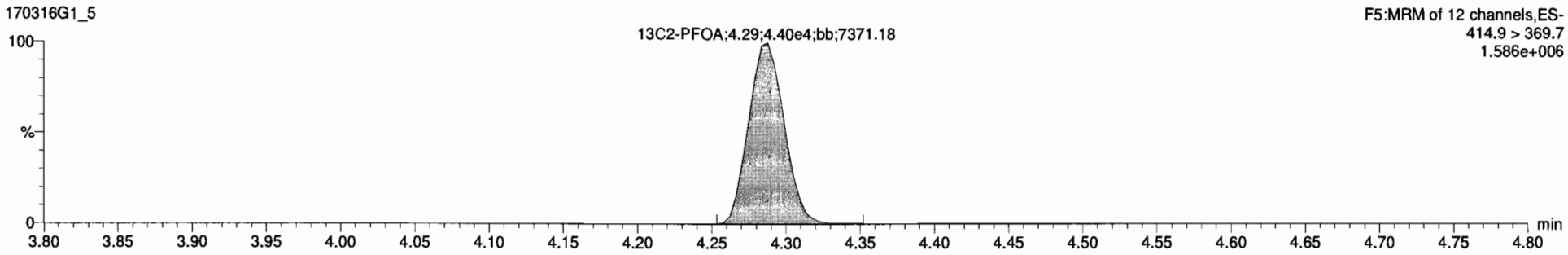
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

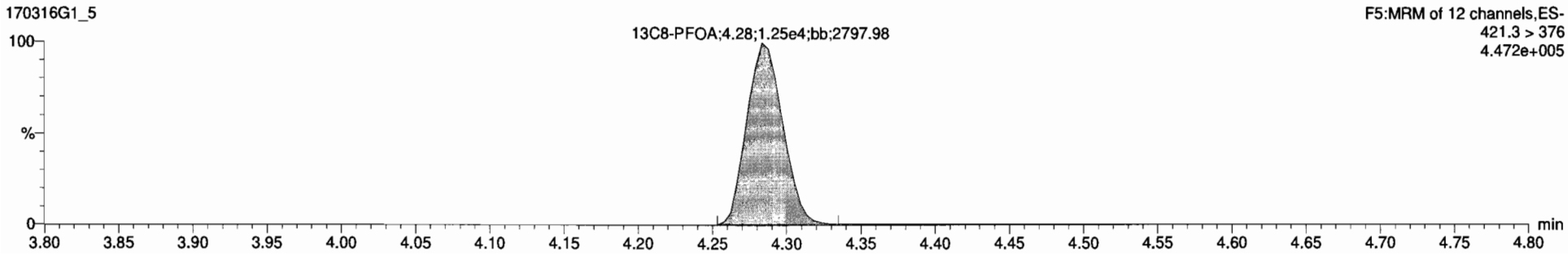
PFOA



13C2-PFOA



13C8-PFOA



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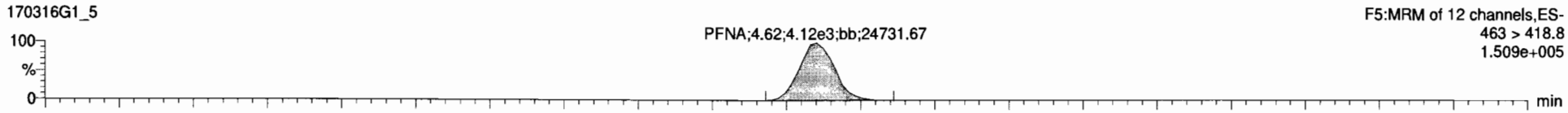
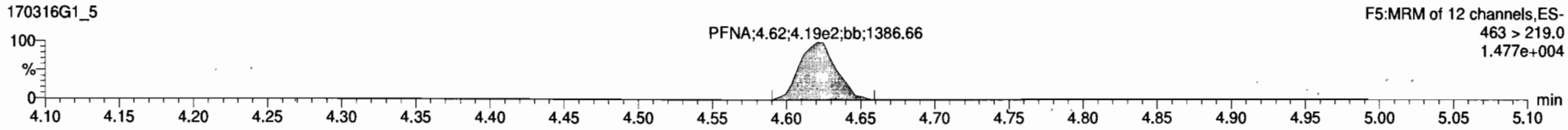
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

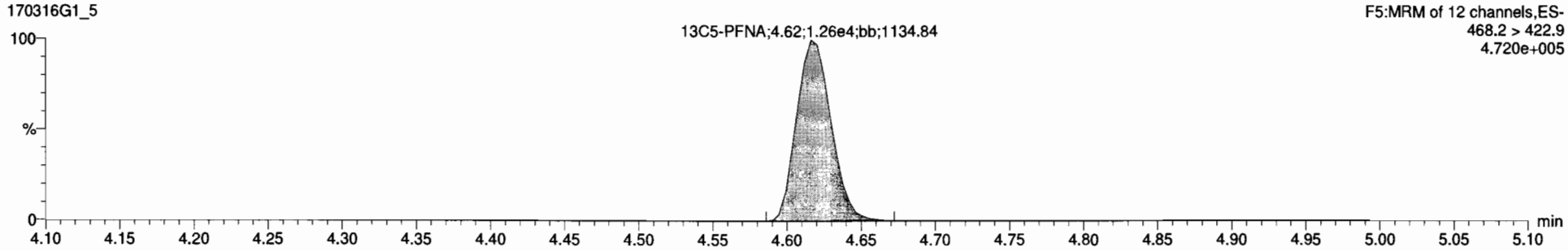
ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

PFNA

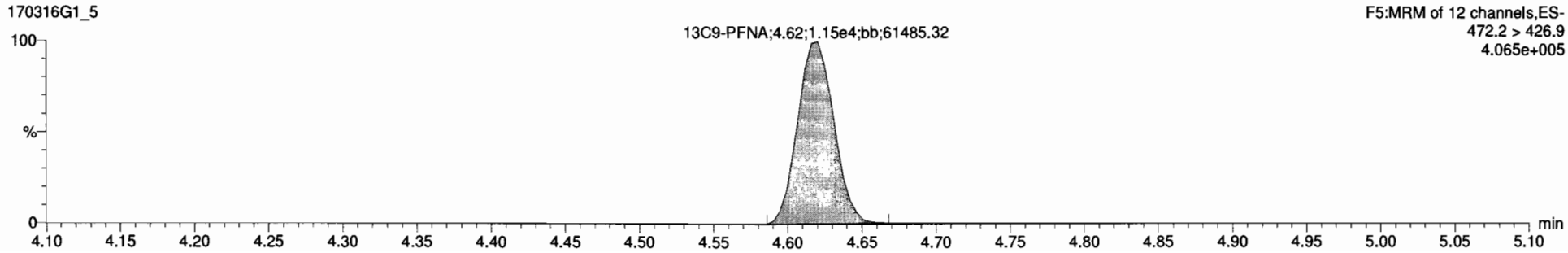




13C5-PFNA



13C9-PFNA



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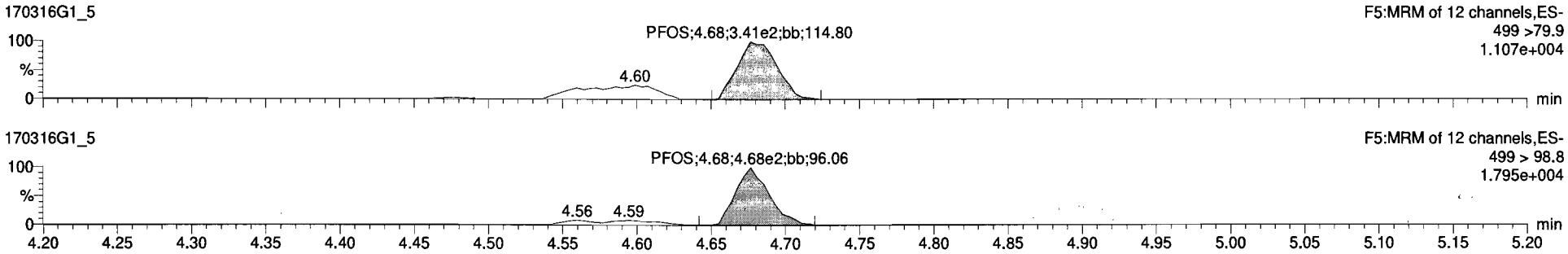
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-4 PFC CS1 17C1505, Description: PFC CS1 17C1505 A, Name: 170316G1_5, Date: 16-Mar-2017, Time: 11:07:54, Instrument: , Lab: , User:

PFOS



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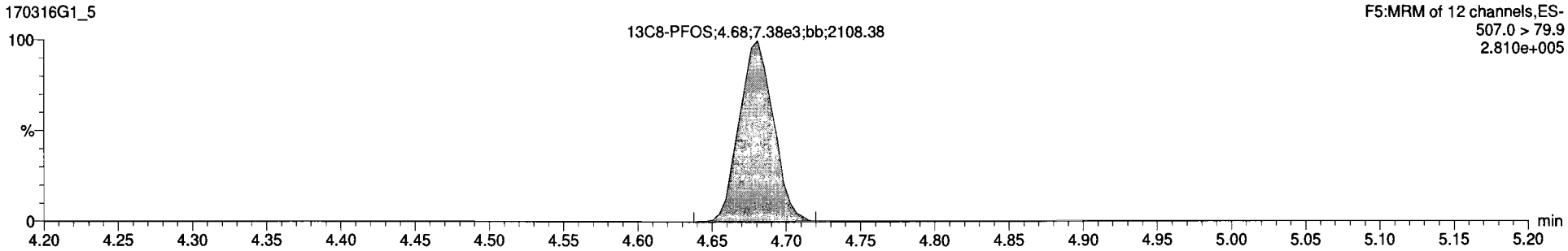
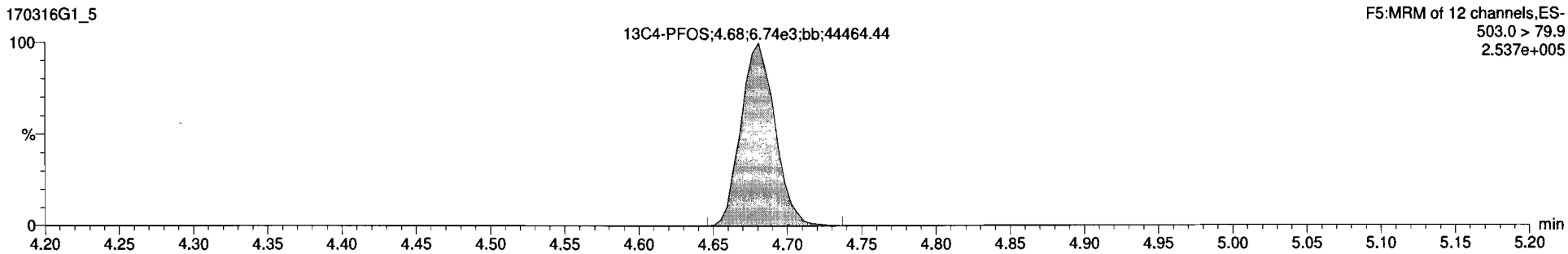
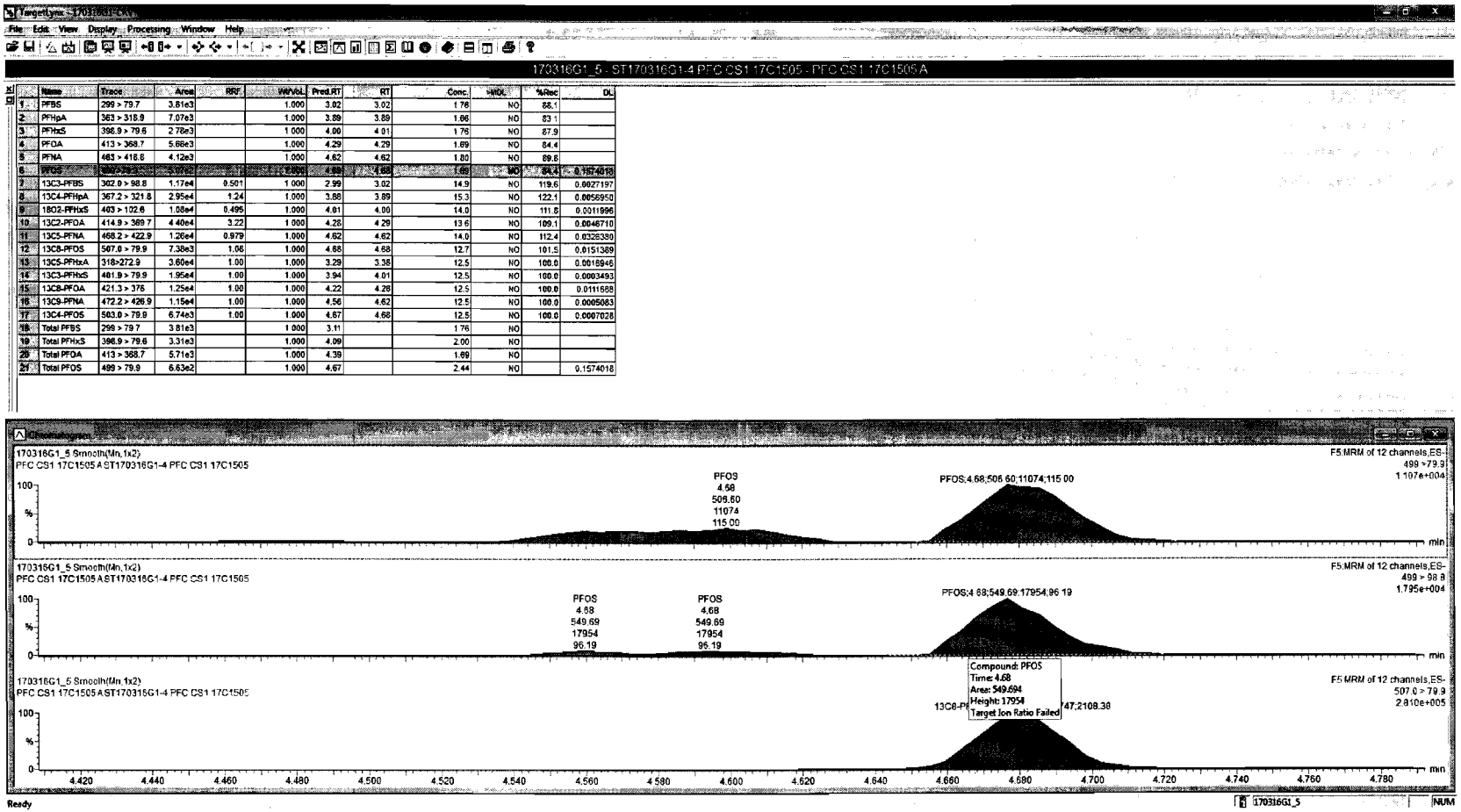


13C4-PFOS





	Name	Trace	Area	RRF	WtVOL	Pred.RT	RT	Conc.	inNOL	%Rec	DL
1	PFBS	299 > 79.7	3.81e3		1.000	3.02	3.02	1.76	NO	88.1	
2	PFHpA	363 > 318.9	7.07e3		1.000	3.89	3.89	1.66	NO	83.1	
3	PFHxS	398.9 > 79.6	2.78e3		1.000	4.00	4.01	1.76	NO	87.9	
4	PFOA	413 > 368.7	5.66e3		1.000	4.29	4.29	1.69	NO	84.4	
5	PFNA	463 > 418.8	4.12e3		1.000	4.62	4.62	1.80	NO	89.8	
6	PFOS	499 > 79.9	6.63e2		1.000	4.68	4.68	1.69	NO	84.4	0.1574018
7	13C3-PFBS	302.0 > 98.8	1.17e4	0.501	1.000	2.99	3.02	14.9	NO	119.6	0.0027197
8	13C4-PFHpA	367.2 > 321.8	2.95e4	1.24	1.000	3.88	3.89	15.3	NO	122.1	0.0056950
9	18O2-PFHxS	403 > 102.6	1.08e4	0.495	1.000	4.01	4.00	14.0	NO	111.8	0.0011996
10	13C2-PFOA	414.9 > 369.7	4.40e4	3.22	1.000	4.28	4.29	13.6	NO	109.1	0.0046710
11	13C5-PFNA	468.2 > 422.9	1.26e4	0.979	1.000	4.62	4.62	14.0	NO	112.4	0.0328380
12	13C8-PFOS	507.0 > 79.9	7.38e3	1.06	1.000	4.68	4.68	12.7	NO	101.5	0.0151389
13	13C5-PFHxA	318>272.9	3.60e4	1.00	1.000	3.29	3.38	12.5	NO	100.0	0.0016946
14	13C3-PFHxS	401.9 > 79.9	1.95e4	1.00	1.000	3.94	4.01	12.5	NO	100.0	0.0003493
15	13C8-PFOA	421.3 > 376	1.25e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0111688
16	13C9-PFNA	472.2 > 426.9	1.15e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0005083
17	13C4-PFOS	503.0 > 79.9	6.74e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0007028
18	Total PFBS	299 > 79.7	3.81e3		1.000	3.11		1.76	NO		
19	Total PFHxS	398.9 > 79.6	3.31e3		1.000	4.09		2.00	NO		
20	Total PFOA	413 > 368.7	5.71e3		1.000	4.39		1.69	NO		
21	Total PFOS	499 > 79.9	6.63e2		1.000	4.67		2.44	NO		0.1574018

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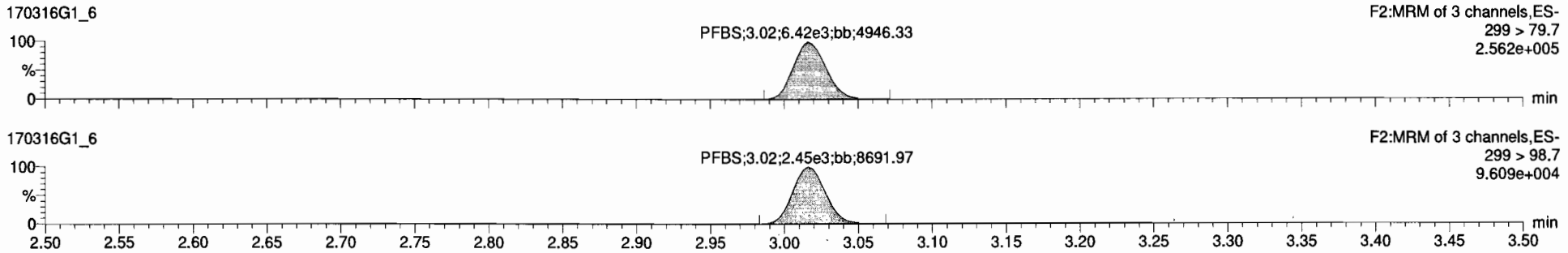
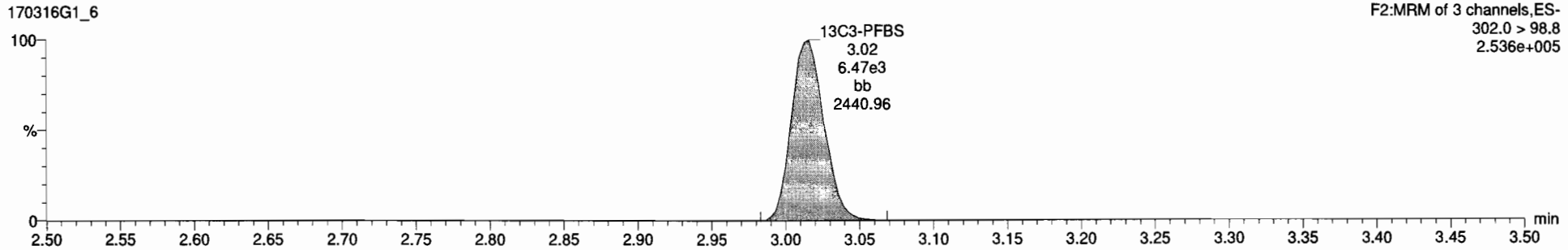
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

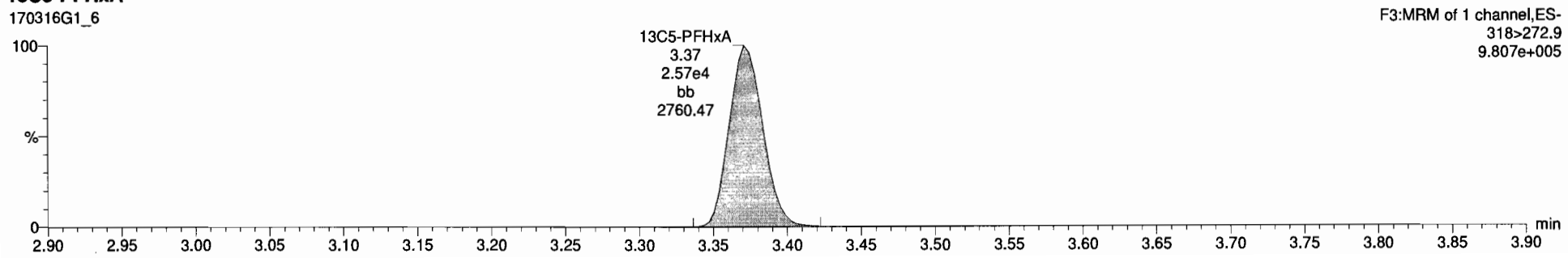
PFBS



13C3-PFBS



13C5-PFHxA



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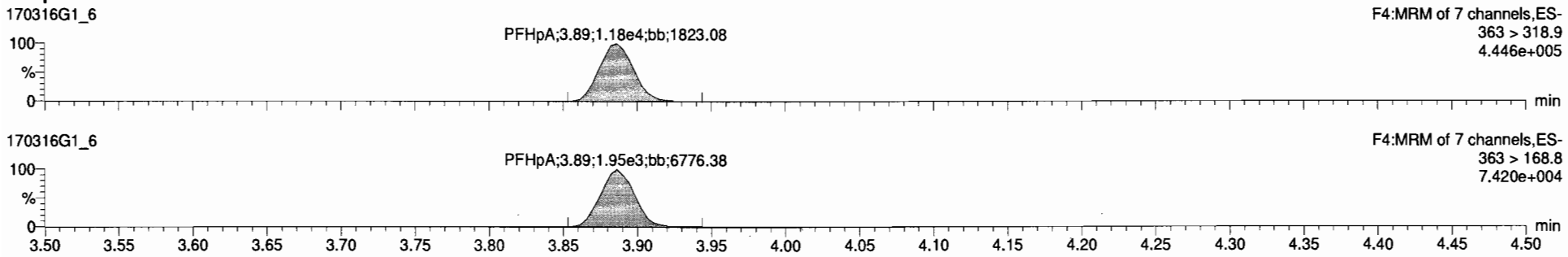
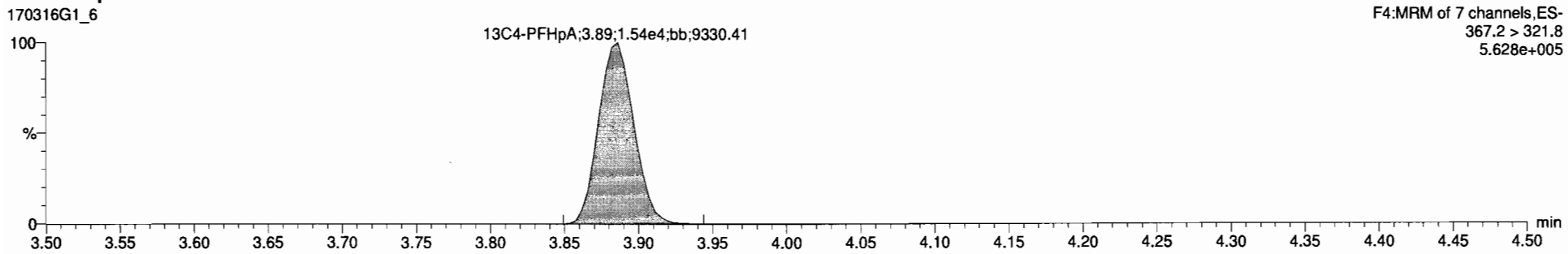
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

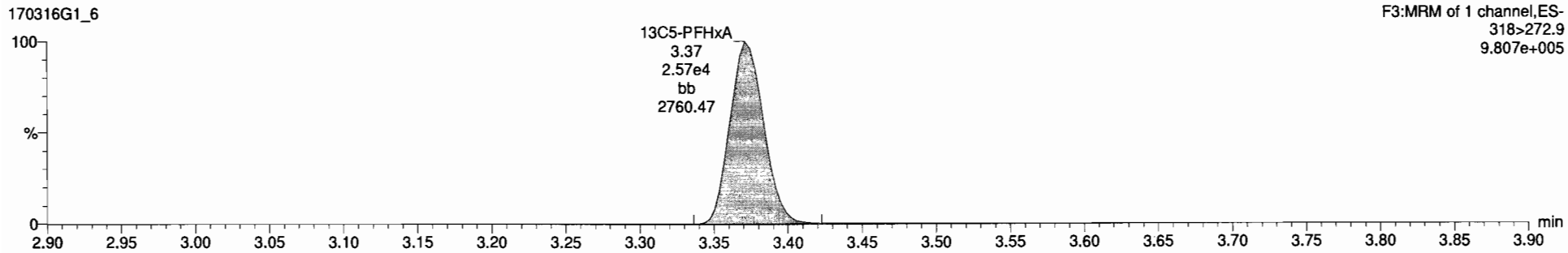
PFHpA



13C4-PFHpA



13C5-PFHxA



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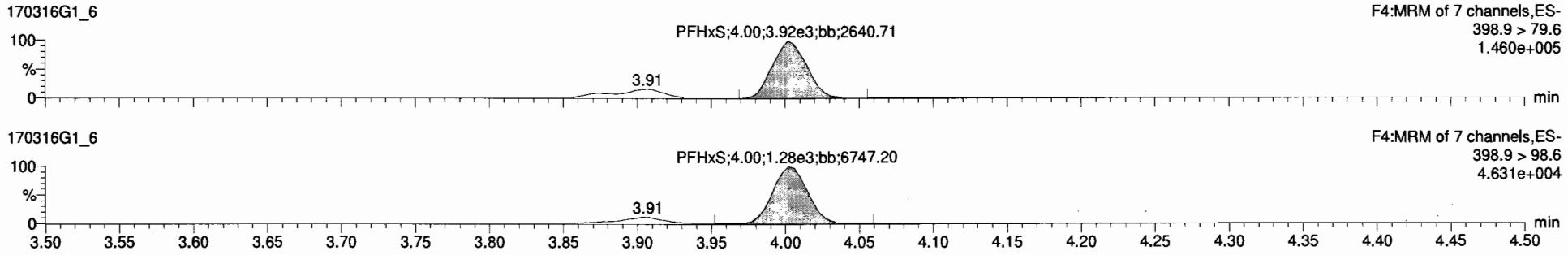
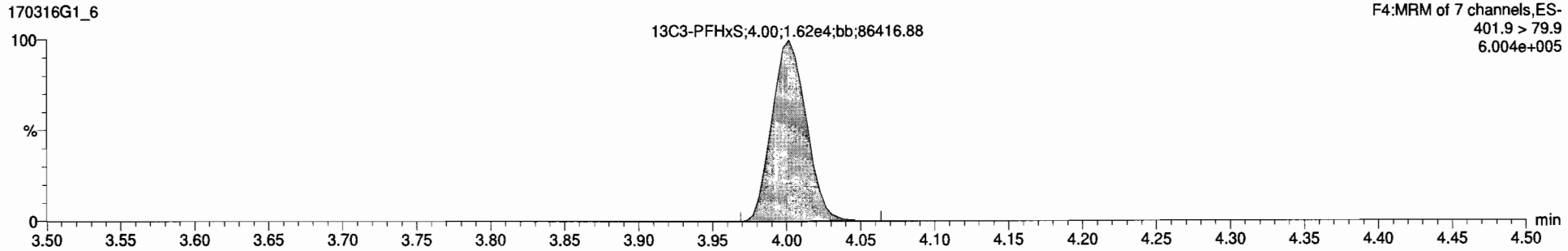
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

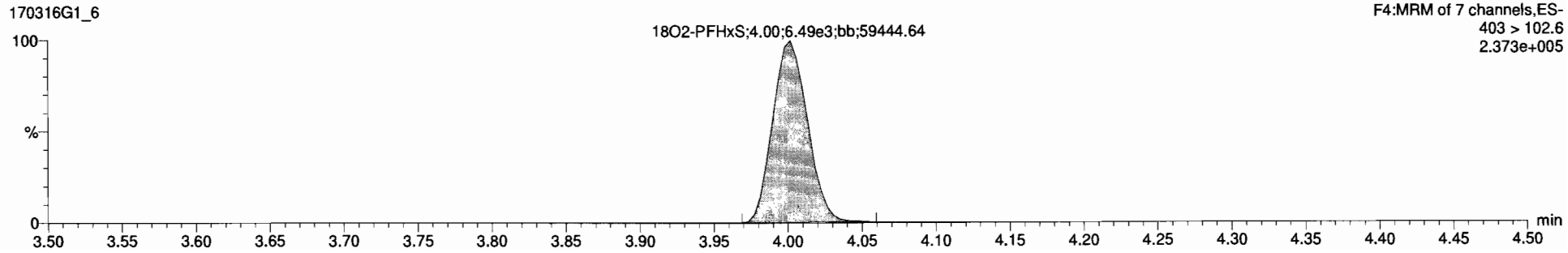
PFHxS

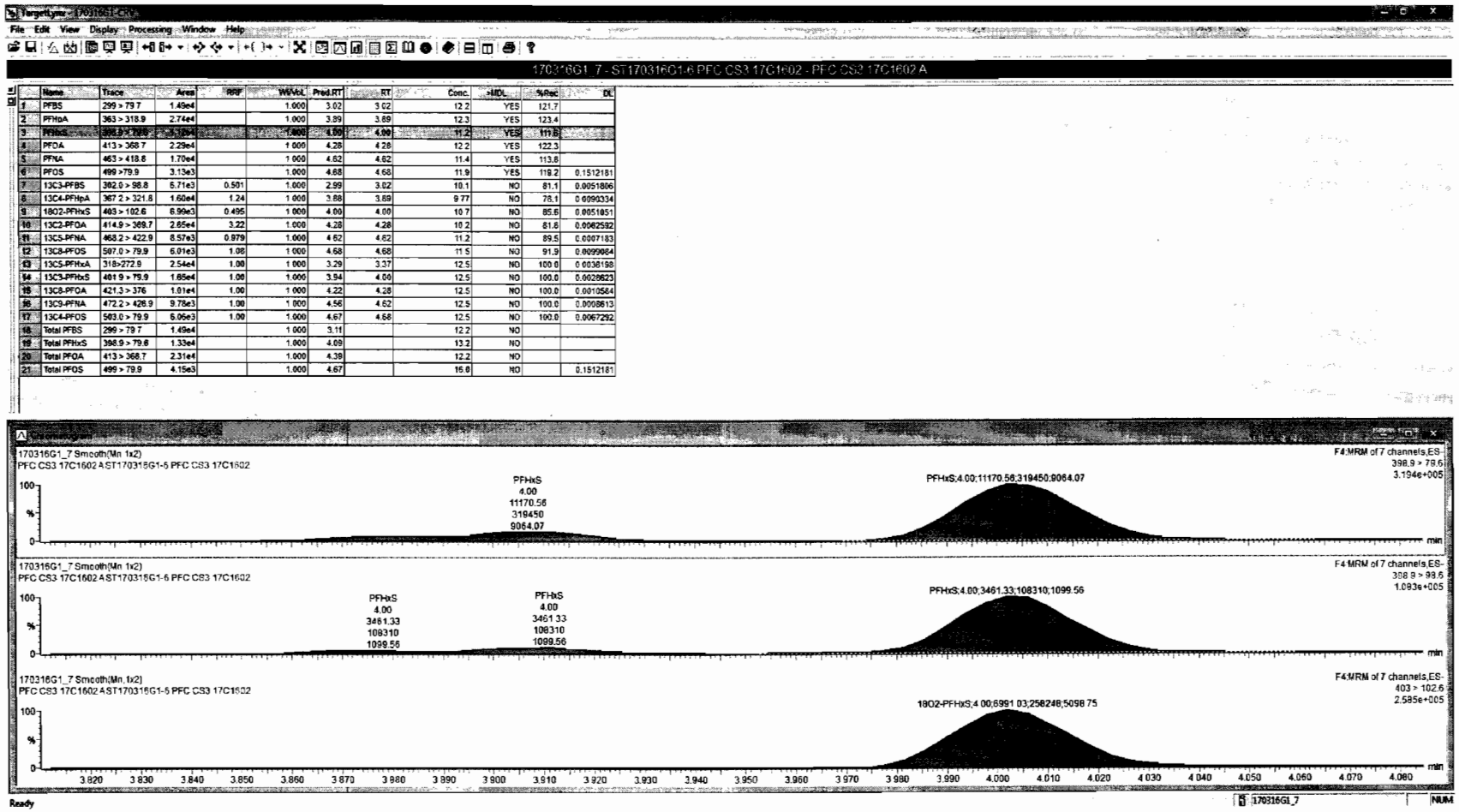


13C3-PFHxS



18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.49e4		1.000	3.02	3.02	12.2	YES	121.7	
2	PFHpA	363 > 318.9	2.74e4		1.000	3.89	3.89	12.3	YES	123.4	
3	PFHxS	398.9 > 79.6	3.19e4		1.000	4.00	4.00	11.2	YES	111.5	
4	PFOA	413 > 368.7	2.29e4		1.000	4.28	4.28	12.2	YES	122.3	
5	PFNA	463 > 418.8	1.70e4		1.000	4.62	4.62	11.4	YES	113.8	
6	PFOS	499 > 79.9	3.13e3		1.000	4.68	4.68	11.9	YES	119.2	0.1512181
7	13C3-PFBS	302.0 > 98.8	5.71e3	0.501	1.000	2.99	3.02	10.1	NO	81.1	0.0051806
8	13C4-PFHpA	367.2 > 321.8	1.60e4	1.24	1.000	3.88	3.89	9.77	NO	78.1	0.0090334
9	1802-PFHxS	403 > 102.6	6.99e3	0.495	1.000	4.00	4.00	10.7	NO	85.6	0.0051851
10	13C2-PFOA	414.9 > 369.7	2.65e4	3.22	1.000	4.28	4.28	10.2	NO	81.6	0.0062592
11	13C5-PFNA	468.2 > 422.9	8.57e3	0.979	1.000	4.62	4.62	11.2	NO	89.5	0.0067183
12	13C8-PFOS	507.0 > 79.9	6.01e3	1.06	1.000	4.68	4.68	11.5	NO	91.9	0.0099084
13	13C5-PFHxA	318>272.9	2.54e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0038198
14	13C3-PFHxS	401.9 > 79.9	1.65e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0028623
15	13C8-PFOA	421.3 > 376	1.01e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0010584
16	13C9-PFNA	472.2 > 426.9	9.78e3	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0008613
17	13C4-PFOS	503.0 > 79.9	6.06e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0067292
18	Total PFBS	299 > 79.7	1.49e4		1.000	3.11		12.2	NO		
19	Total PFHxS	398.9 > 79.6	1.33e4		1.000	4.09		13.2	NO		
20	Total PFOA	413 > 368.7	2.31e4		1.000	4.39		12.2	NO		
21	Total PFOS	499 > 79.9	4.15e3		1.000	4.67		16.8	NO		0.1512181

Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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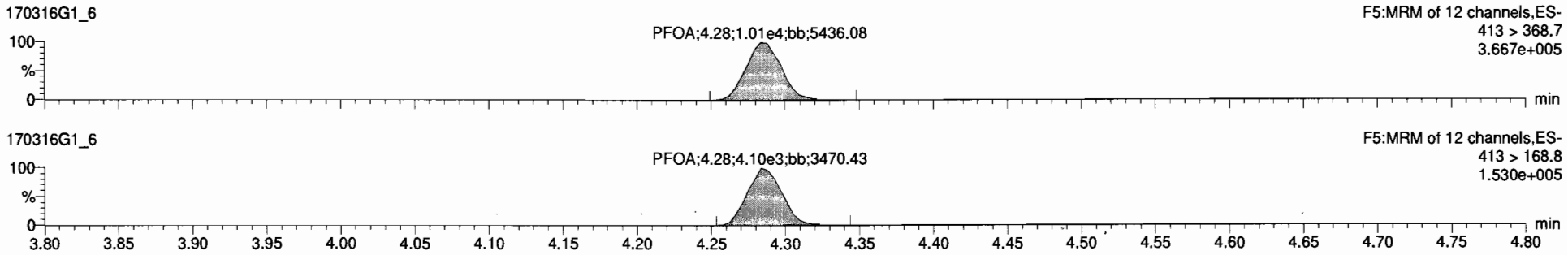
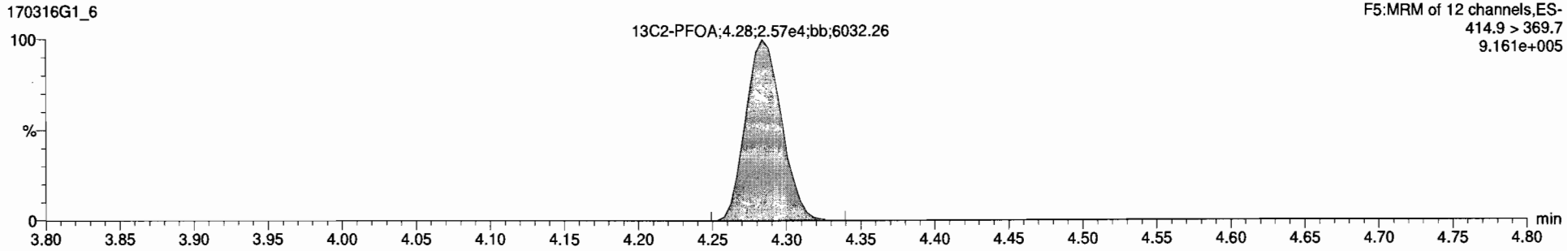
ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

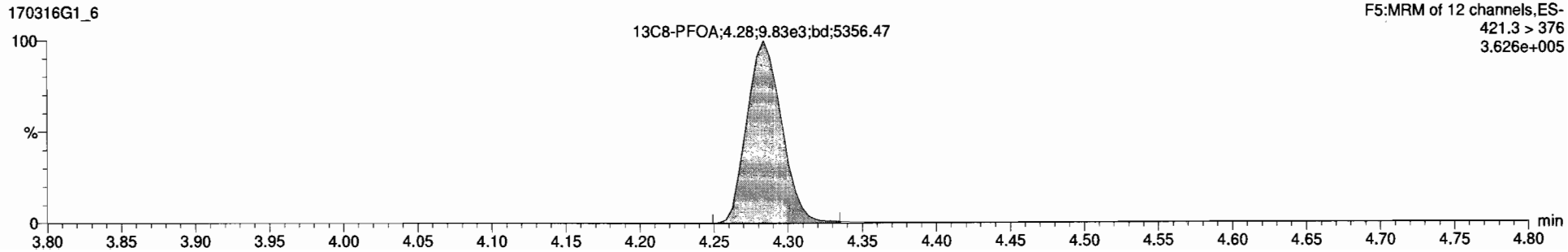
PFOA



13C2-PFOA



13C8-PFOA



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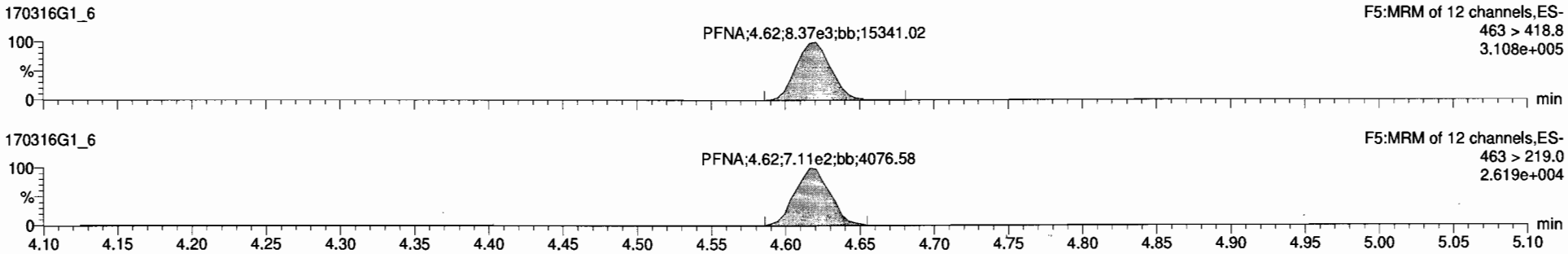
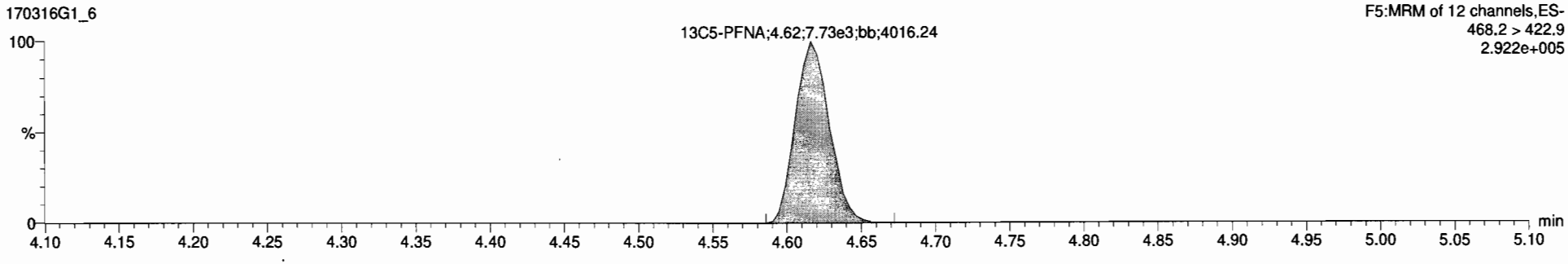
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

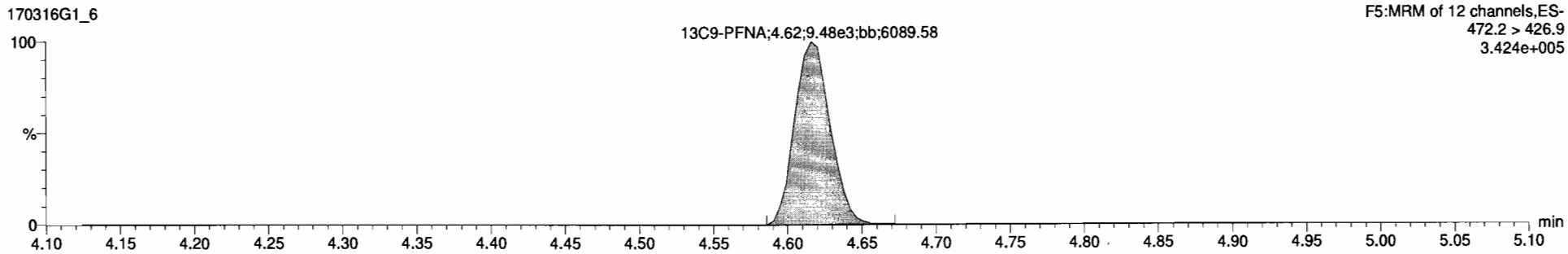
PFNA



13C5-PFNA



13C9-PFNA



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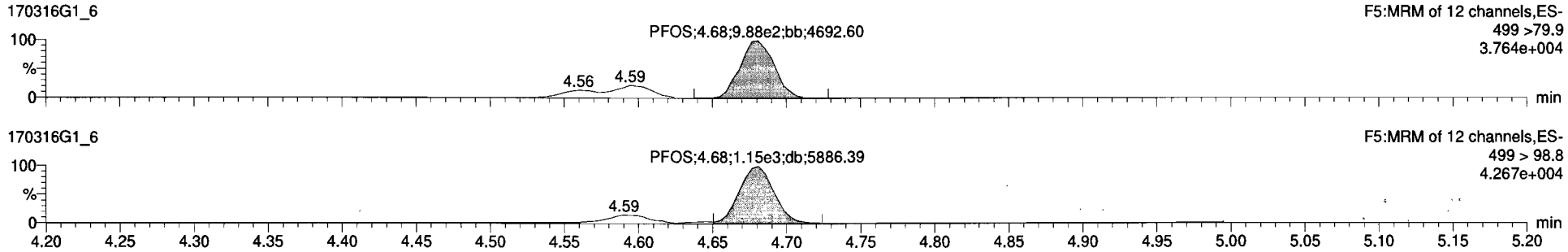
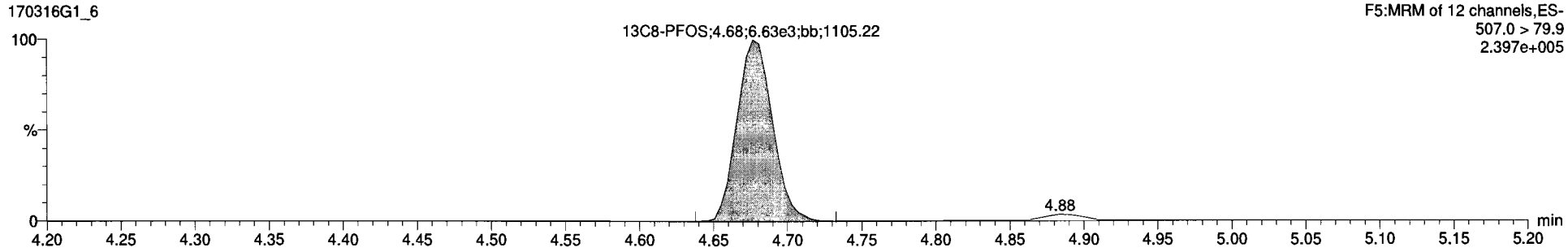
ID: ST170316G1-5 PFC CS2 17C1603, Description: PFC CS2 17C1603 A, Name: 170316G1_6, Date: 16-Mar-2017, Time: 11:20:35, Instrument: , Lab: , User:

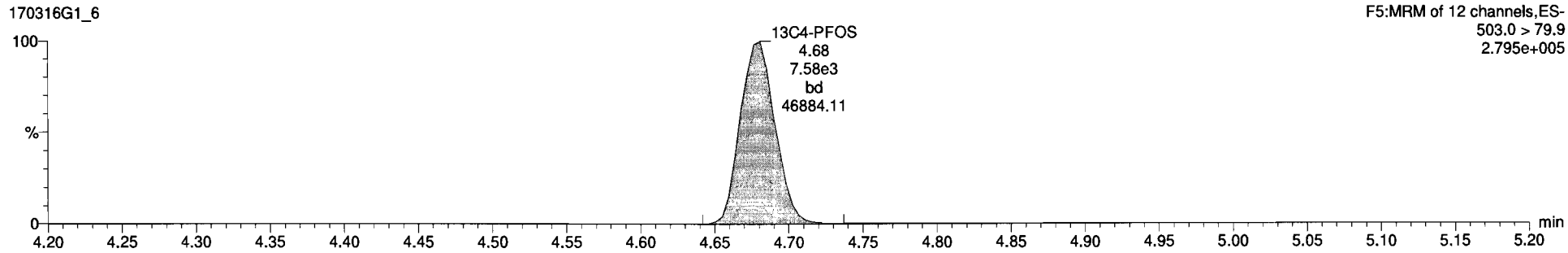
PFOS

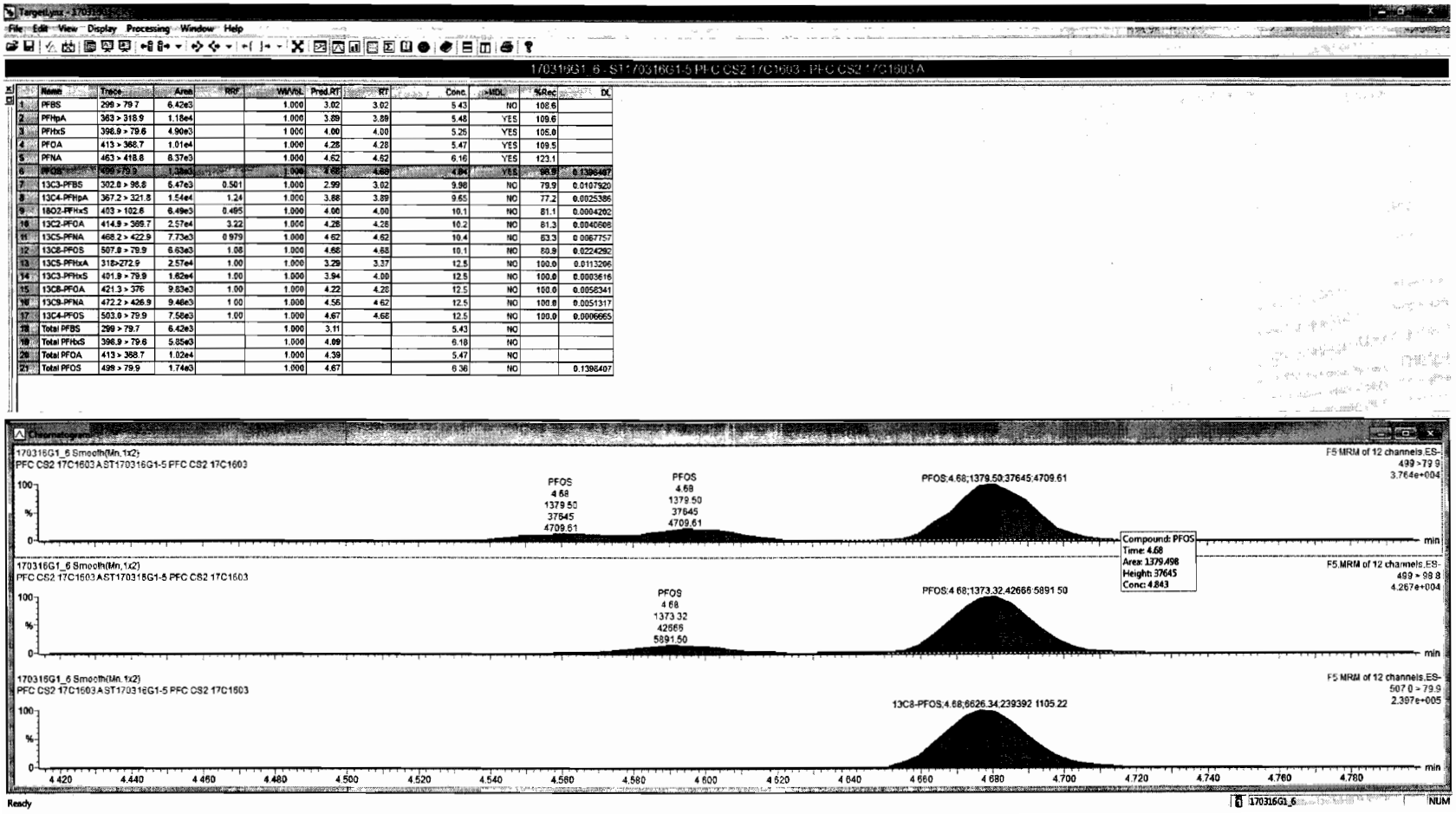


13C8-PFOS



13C4-PFOS





	Name	Trace	Area	RRF	WtVol	Pred.RT	RT	Conc.	>MDL	%Rec	IX
1	PFBS	299 > 79.7	6.42e3		1.000	3.02	3.02	5.43	NO	108.6	
2	PFHpA	363 > 318.9	1.18e4		1.000	3.89	3.89	5.48	YES	109.6	
3	PFHxS	398.9 > 79.6	4.90e3		1.000	4.00	4.00	5.26	YES	105.0	
4	PFOA	413 > 368.7	1.01e4		1.000	4.28	4.28	5.47	YES	109.5	
5	PFNA	463 > 418.8	6.37e3		1.000	4.62	4.62	6.16	YES	123.1	
6	PFOS	499 > 79.9	1.39e3		1.000	4.68	4.68	4.84	YES	96.9	0.1396467
7	13C3-PFBS	302.8 > 98.8	6.47e3	0.501	1.000	2.99	3.02	9.96	NO	79.9	0.0107920
8	13C4-PFHpA	367.2 > 321.8	1.54e4	1.24	1.000	3.88	3.89	9.65	NO	77.2	0.0025386
9	18O2-PFHxS	403 > 102.8	6.49e3	0.495	1.000	4.00	4.00	10.1	NO	81.1	0.0004202
10	13C2-PFOA	414.9 > 369.7	2.57e4	3.22	1.000	4.28	4.28	10.2	NO	81.3	0.0040606
11	13C5-PFNA	468.2 > 422.9	7.73e3	0.979	1.000	4.62	4.62	10.4	NO	83.3	0.0067757
12	13C8-PFOS	507.8 > 79.9	6.63e3	1.08	1.000	4.68	4.68	10.1	NO	80.9	0.0224292
13	13C5-PFHxA	318>272.9	2.57e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0113206
14	13C3-PFHxS	401.9 > 79.9	1.62e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0003616
15	13C8-PFOA	421.3 > 376	9.83e3	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0058341
16	13C9-PFNA	472.2 > 426.9	9.46e3	1.00	1.000	4.56	4.62	12.5	NO	100.8	0.0051317
17	13C4-PFOS	503.0 > 79.9	7.58e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0006665
18	Total PFBS	299 > 79.7	6.42e3		1.000	3.11		5.43	NO		
19	Total PFHxS	398.9 > 79.6	5.85e3		1.000	4.09		6.18	NO		
20	Total PFOA	413 > 368.7	1.02e4		1.000	4.39		5.47	NO		
21	Total PFOS	499 > 79.9	1.74e3		1.000	4.67		6.36	NO		0.1398407

Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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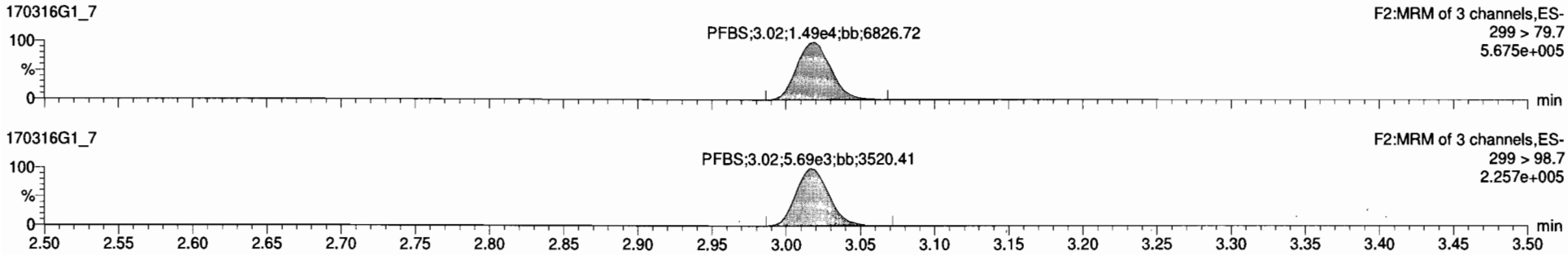
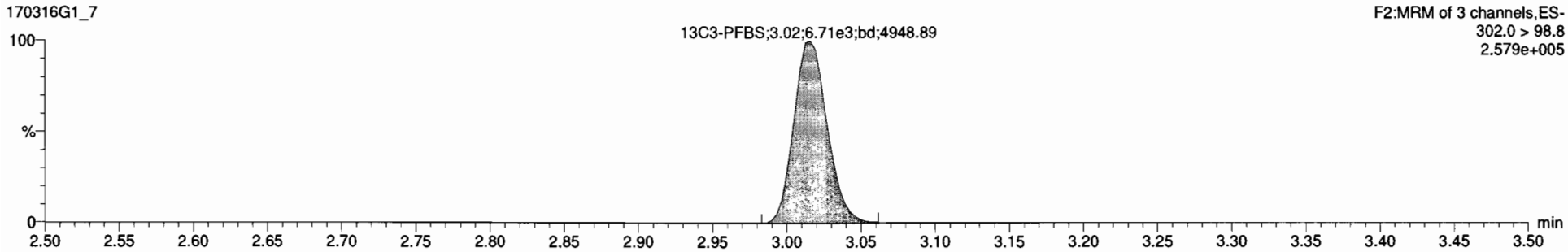
ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

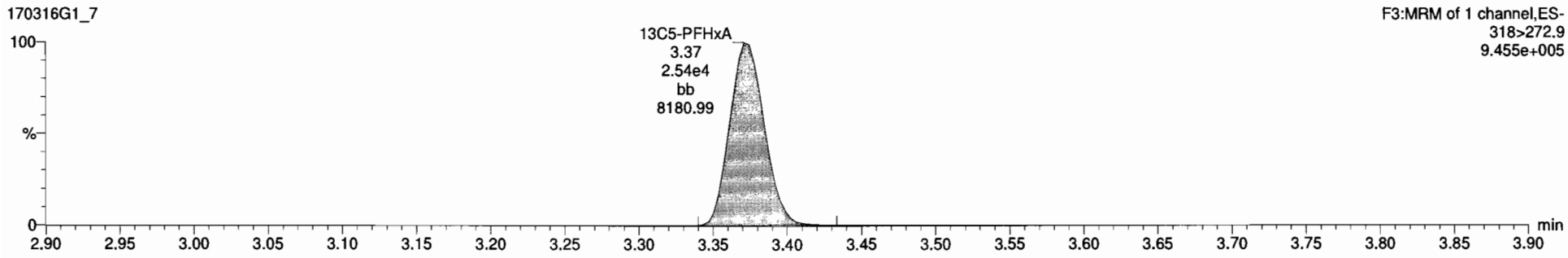
PFBS



13C3-PFBS



13C5-PFHxA



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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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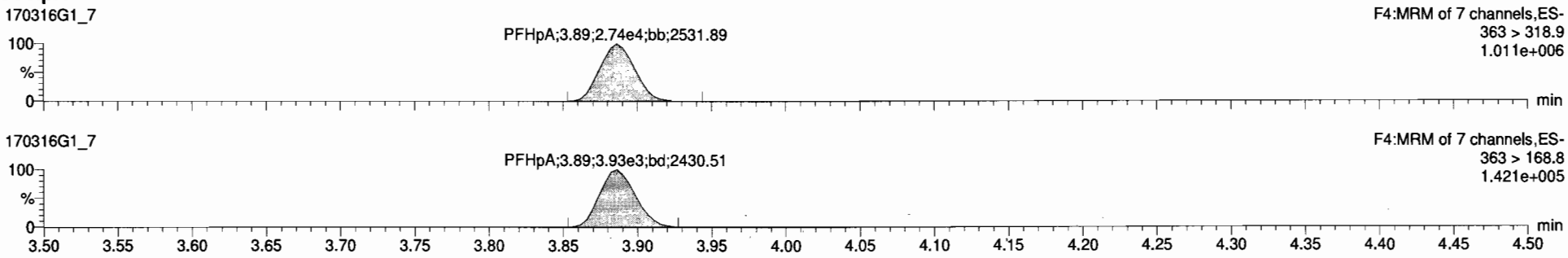
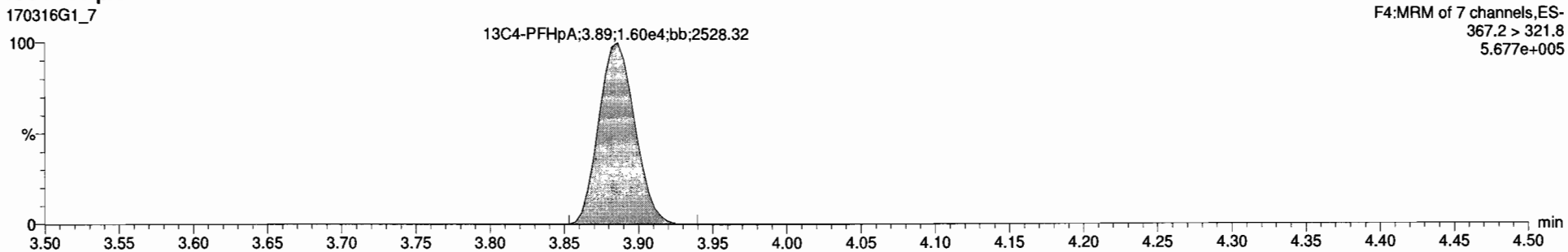
ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

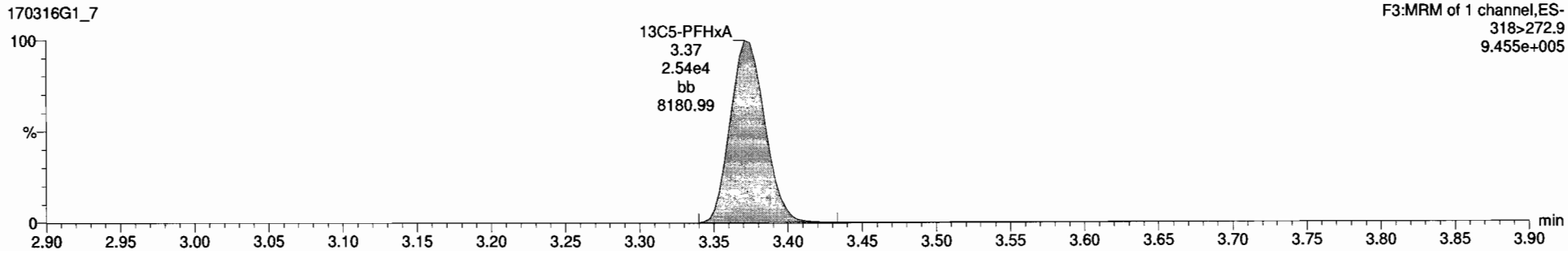
PFHpA



13C4-PFHpA



13C5-PFHxA



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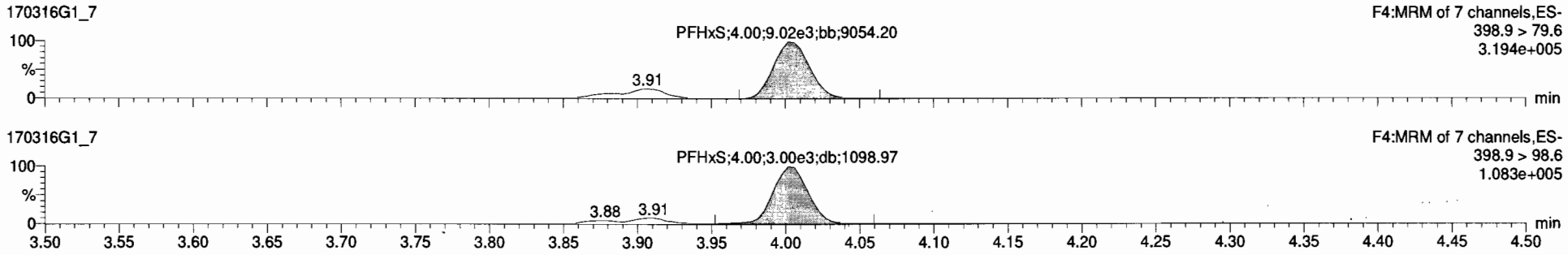
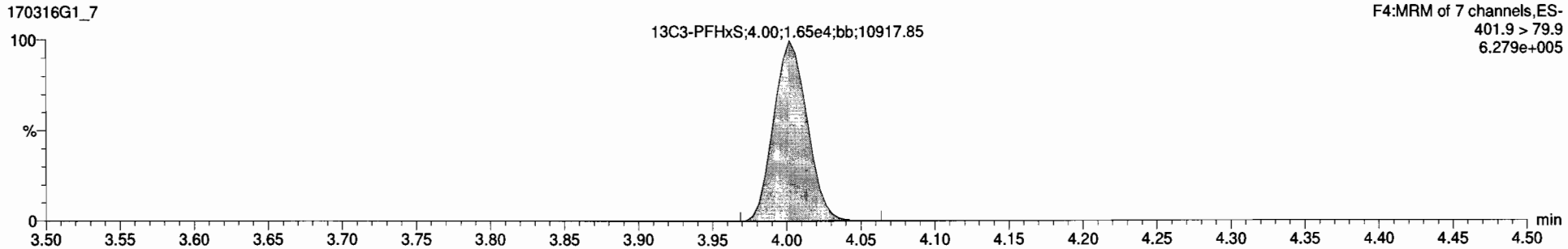
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

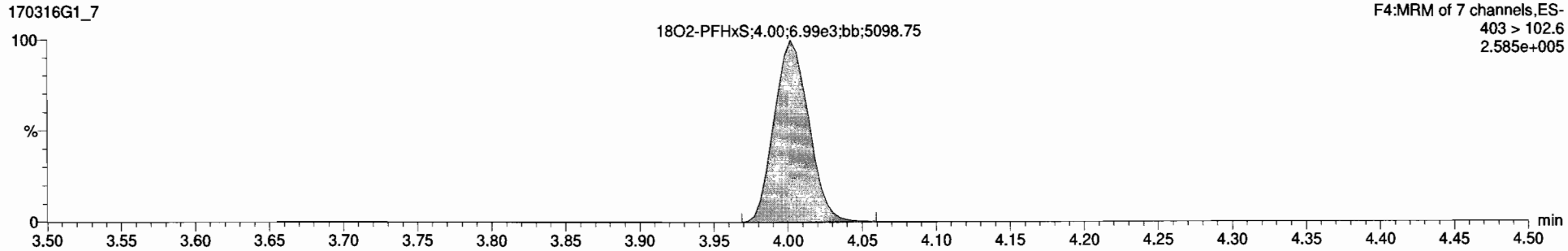
PFHxS

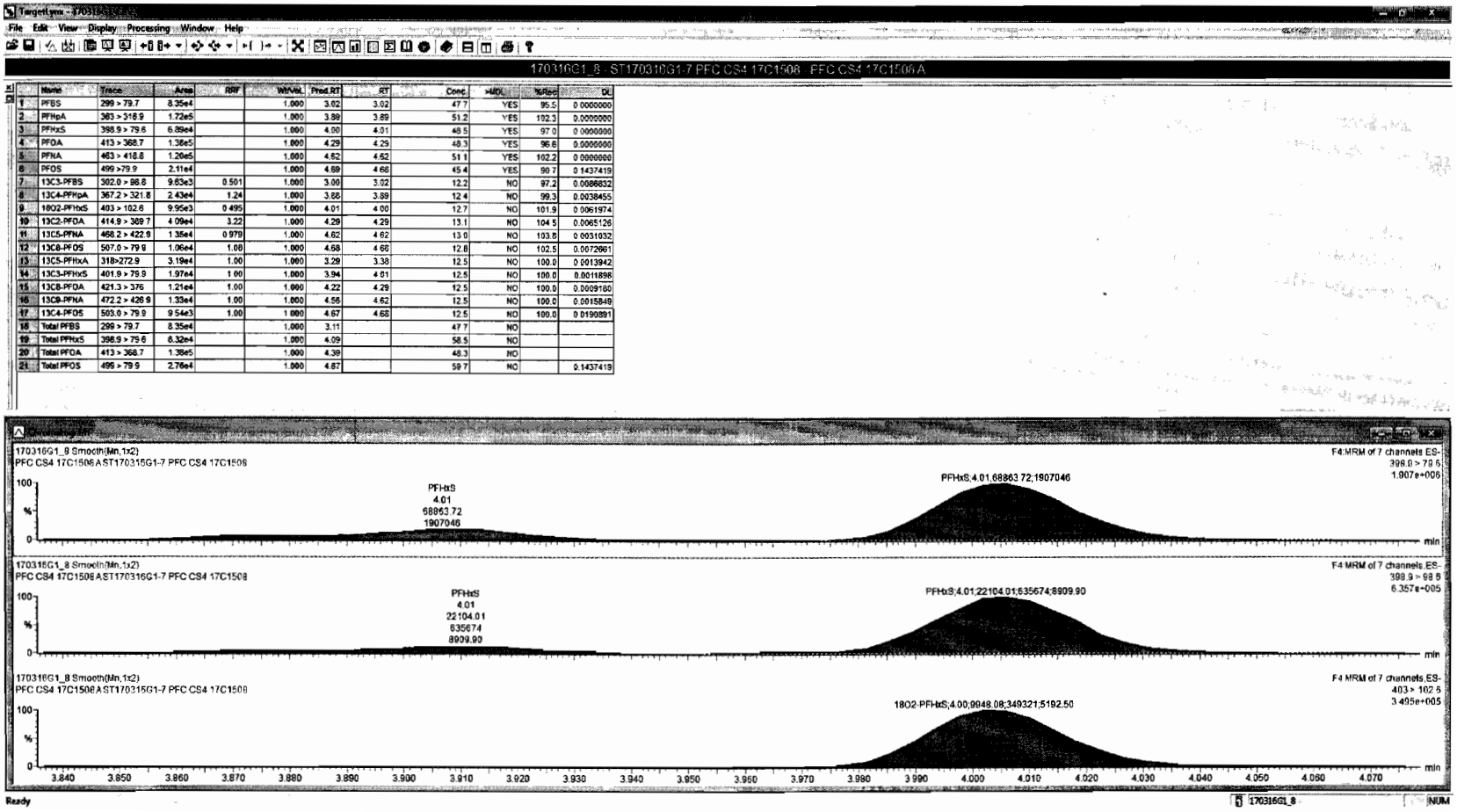


13C3-PFHxS



18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	8.35e4		1.000	3.02	3.02	47.7	YES	95.5	0.0000000
2	PFHpA	363 > 318.9	1.72e5		1.000	3.89	3.89	51.2	YES	102.3	0.0000000
3	PFHxS	398.9 > 79.6	6.89e4		1.000	4.00	4.01	48.5	YES	97.0	0.0000000
4	PFOA	413 > 368.7	1.36e5		1.000	4.29	4.29	48.3	YES	96.6	0.0000000
5	PFNA	463 > 418.8	1.26e5		1.000	4.62	4.62	51.1	YES	102.2	0.0000000
6	PFOS	499 >79.9	2.11e4		1.000	4.68	4.68	45.4	YES	90.7	0.1437419
7	13C3-PFBS	302.0 > 98.8	9.63e3	0.501	1.000	3.00	3.02	12.2	NO	97.2	0.0086832
8	13C4-PFHpA	367.2 > 321.8	2.43e4	1.24	1.000	3.88	3.89	12.4	NO	99.3	0.0038455
9	18O2-PFHxS	403 > 102.6	9.95e3	0.495	1.000	4.01	4.00	12.7	NO	101.9	0.0061974
10	13C2-PFOA	414.9 > 369.7	4.09e4	3.22	1.000	4.29	4.29	13.1	NO	104.5	0.0065126
11	13C5-PFNA	468.2 > 422.8	1.35e4	0.979	1.000	4.62	4.62	13.0	NO	103.8	0.0031032
12	13C8-PFOS	507.0 > 79.9	1.06e4	1.00	1.000	4.68	4.68	12.8	NO	102.5	0.0072661
13	13C5-PFHxA	318>272.9	3.19e4	1.00	1.000	3.29	3.38	12.5	NO	100.0	0.0013942
14	13C3-PFHxS	401.9 > 79.9	1.97e4	1.00	1.000	3.94	4.01	12.5	NO	100.0	0.0011898
15	13C8-PFOA	421.3 > 376	1.21e4	1.00	1.000	4.22	4.29	12.5	NO	100.0	0.0009180
16	13C9-PFNA	472.2 > 426.9	1.33e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0015849
17	13C4-PFOS	503.0 > 79.9	9.54e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0190891
18	Total PFBS	299 > 79.7	8.35e4		1.000	3.11		47.7	NO		
19	Total PFHxS	398.9 > 79.6	6.32e4		1.000	4.09		58.5	NO		
20	Total PFOA	413 > 368.7	1.36e5		1.000	4.39		48.3	NO		
21	Total PFOS	499 > 79.9	2.76e4		1.000	4.67		59.7	NO		0.1437419

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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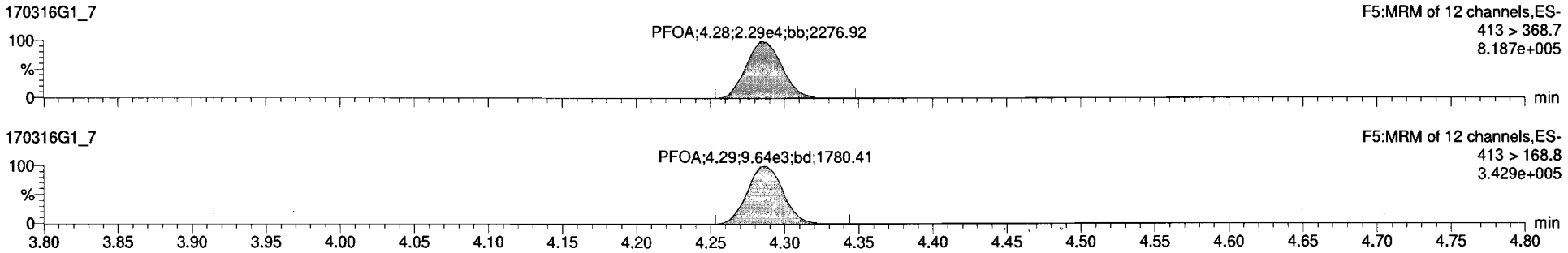
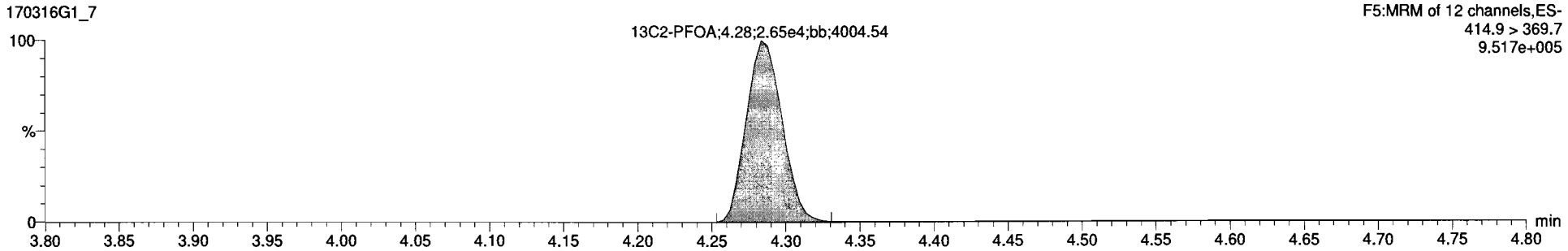
ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

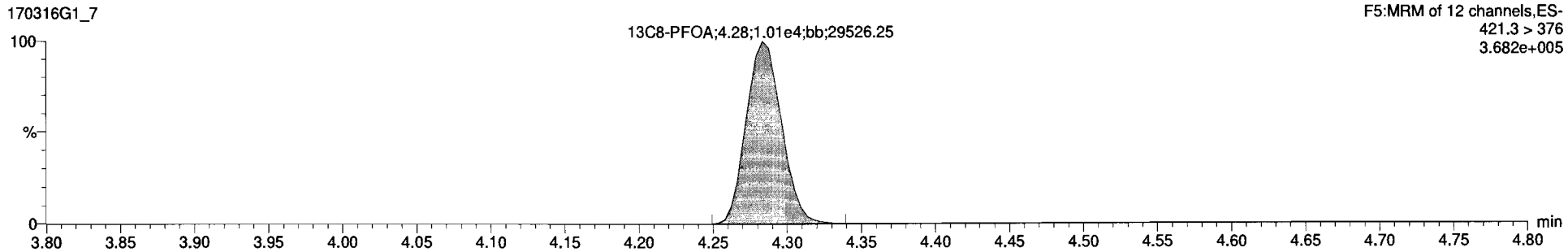
PFOA



13C2-PFOA



13C8-PFOA



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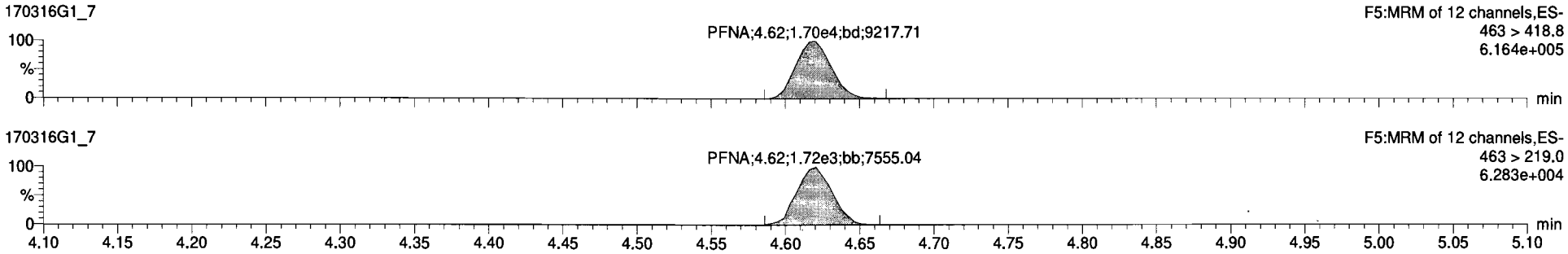
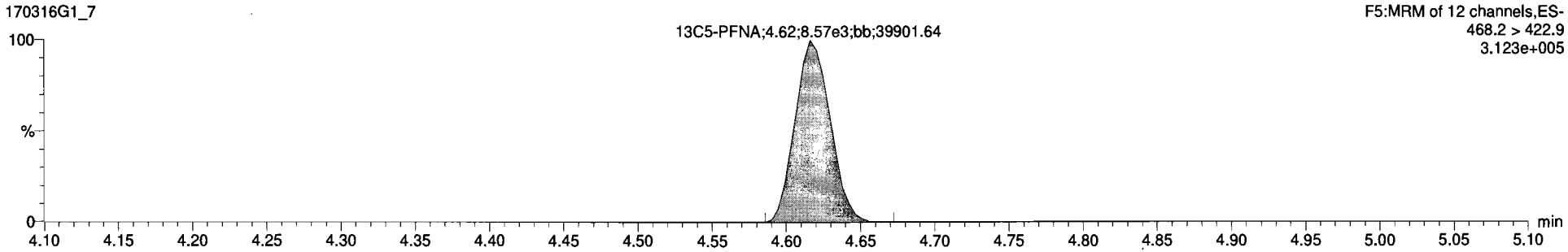
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

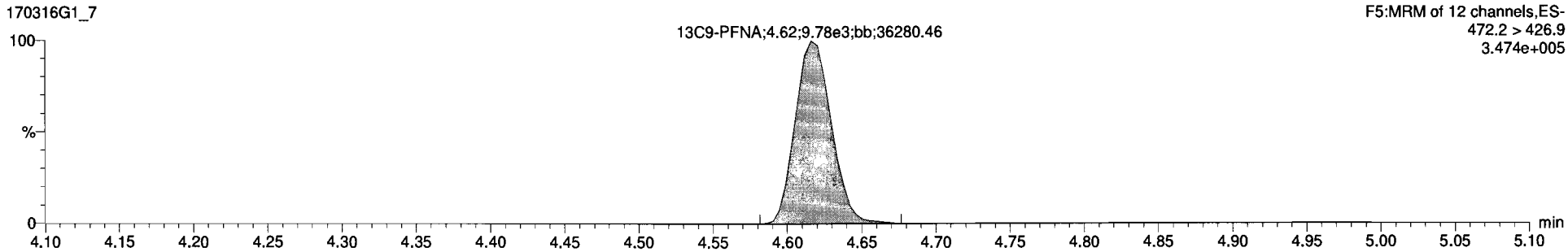
PFNA



13C5-PFNA

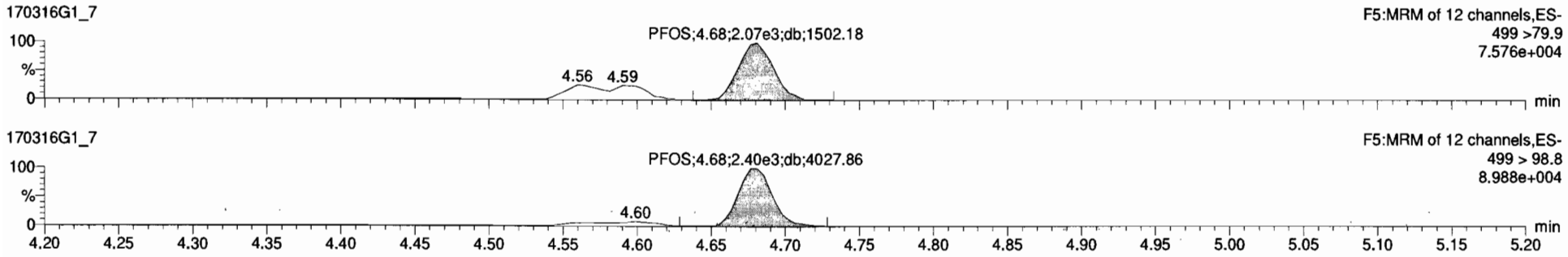


13C9-PFNA



ID: ST170316G1-6 PFC CS3 17C1602, Description: PFC CS3 17C1602 A, Name: 170316G1_7, Date: 16-Mar-2017, Time: 11:33:10, Instrument: , Lab: , User:

PFOS



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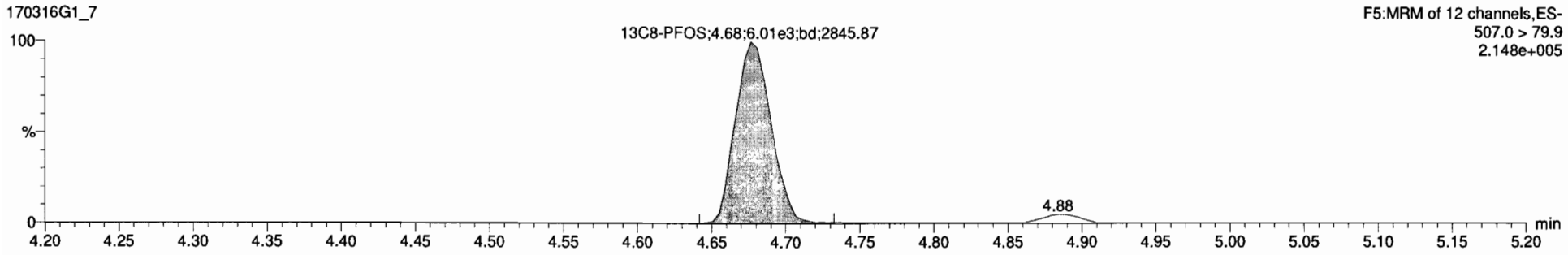
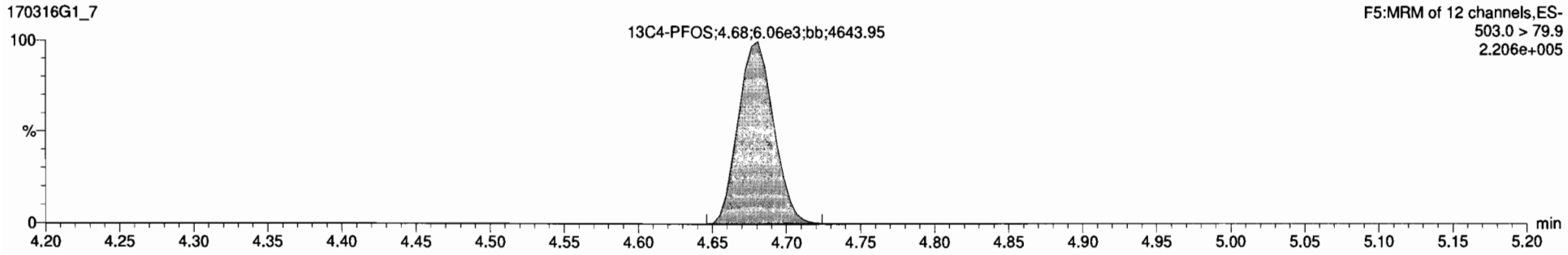
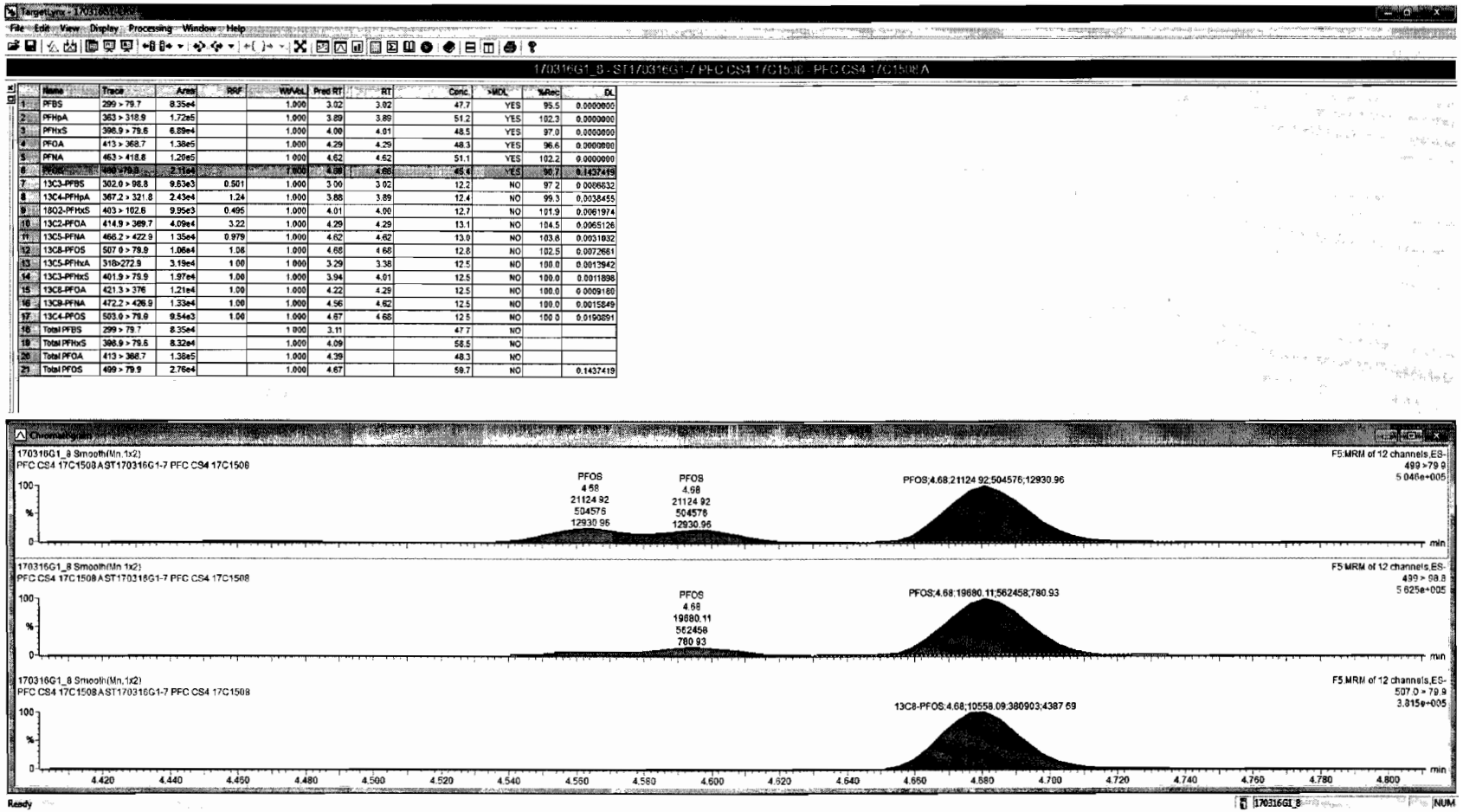


13C4-PFOS





	Name	Trace	Area	RRF	WtVal	Pred RT	RT	Conc.	>MDL	%Rec	IS
1	PFBS	299 > 79.7	8.35e4		1.000	3.02	3.02	47.7	YES	95.5	0.0000000
2	PFHpA	363 > 318.9	1.72e5		1.000	3.89	3.89	51.2	YES	102.3	0.0000000
3	PFHxS	398.9 > 79.8	6.89e4		1.000	4.00	4.01	48.5	YES	97.0	0.0000000
4	PFOA	413 > 368.7	1.38e5		1.000	4.29	4.29	48.3	YES	96.6	0.0000000
5	PFNA	463 > 418.8	1.26e5		1.000	4.62	4.62	51.1	YES	102.2	0.0000000
6	PFOS	499 > 79.9	2.11e4		1.000	4.68	4.68	45.4	YES	90.7	0.1437419
7	13C3-PFBS	302.0 > 98.8	9.83e3	0.501	1.000	3.00	3.02	12.2	NO	97.2	0.0066832
8	13C4-PFHpA	367.2 > 321.8	2.43e4	1.24	1.000	3.88	3.89	12.4	NO	99.3	0.0038455
9	1802-PFHxS	403 > 102.6	9.95e3	0.495	1.000	4.01	4.00	12.7	NO	101.9	0.0061974
10	13C2-PFOA	414.9 > 369.7	4.09e4	3.22	1.000	4.29	4.29	13.1	NO	104.5	0.0065126
11	13C5-PFNA	466.2 > 422.9	1.35e4	0.979	1.000	4.62	4.62	13.0	NO	103.6	0.0031832
12	13C8-PFOS	507.0 > 79.9	1.06e4	1.06	1.000	4.68	4.68	12.8	NO	102.5	0.0072661
13	13C5-PFHxA	318>272.9	3.19e4	1.00	1.000	3.29	3.38	12.5	NO	100.0	0.0013942
14	13C3-PFHxS	401.9 > 79.9	1.97e4	1.00	1.000	3.94	4.01	12.5	NO	100.0	0.0011898
15	13C8-PFOA	421.3 > 376	1.21e4	1.00	1.000	4.22	4.29	12.5	NO	100.0	0.0009160
16	13C9-PFNA	472.2 > 426.9	1.33e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0015849
17	13C4-PFOS	503.0 > 79.9	9.54e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0190891
18	Total PFBS	299 > 79.7	8.35e4		1.000	3.11		47.7	NO		
19	Total PFHxS	398.9 > 79.8	8.32e4		1.000	4.09		58.5	NO		
20	Total PFOA	413 > 368.7	1.38e5		1.000	4.39		48.3	NO		
21	Total PFOS	499 > 79.9	2.76e4		1.000	4.67		59.7	NO		0.1437419

Dataset: Untitled

Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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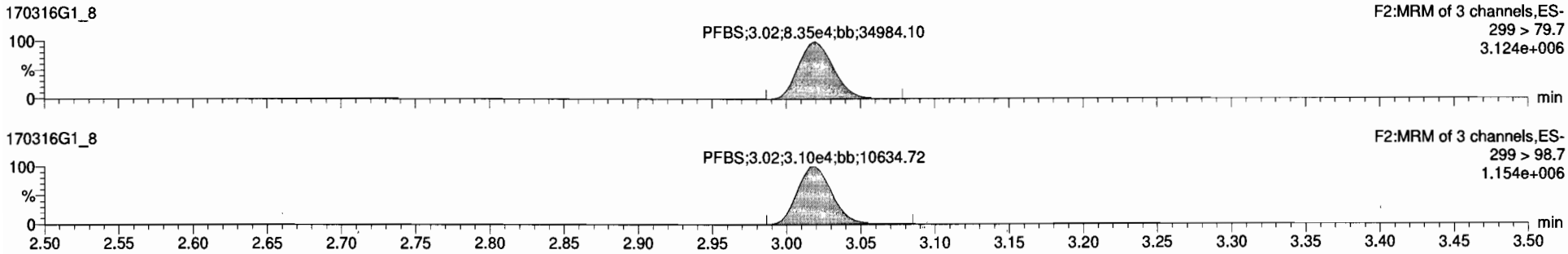
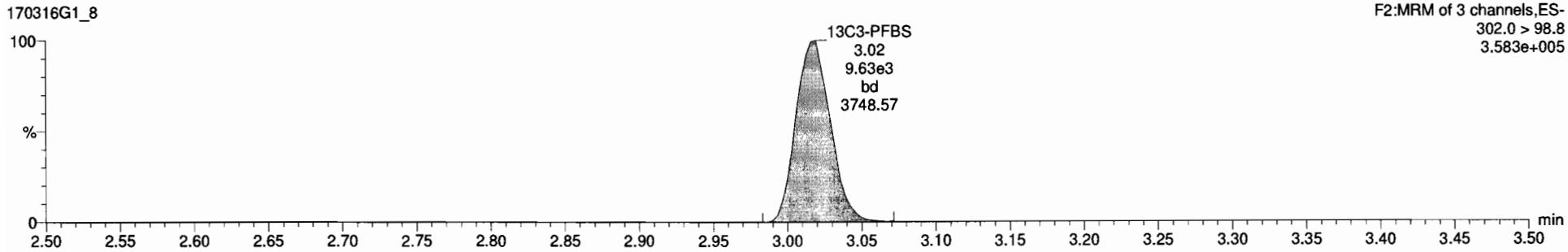
ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

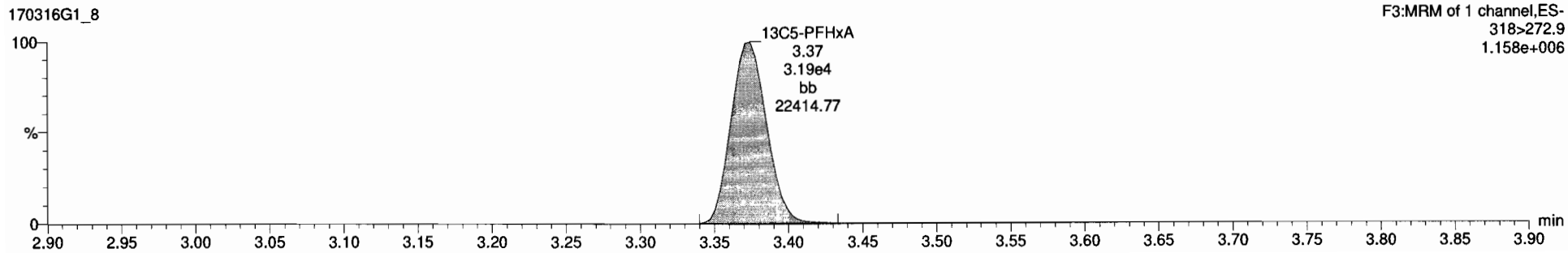
PFBS



13C3-PFBS



13C5-PFHxA



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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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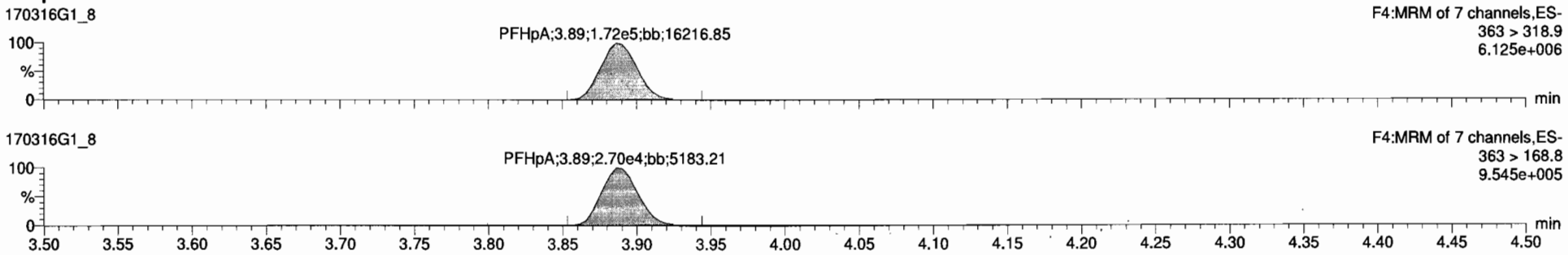
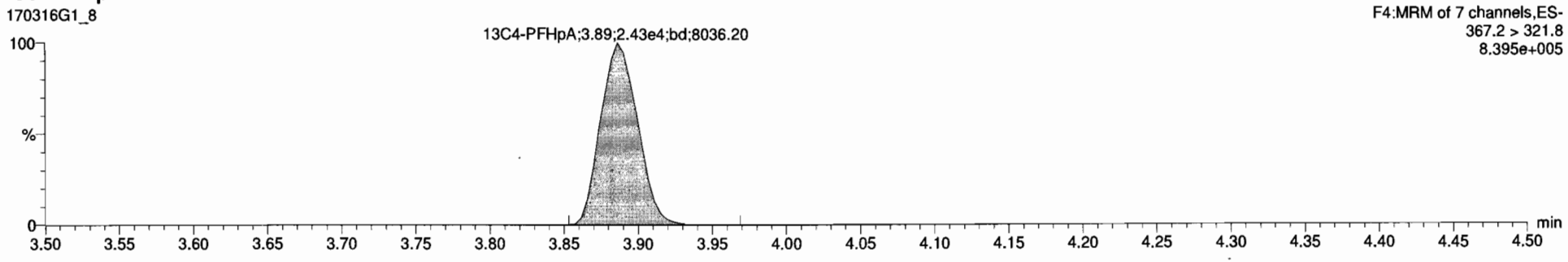
ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

PFHpA



13C4-PFHpA



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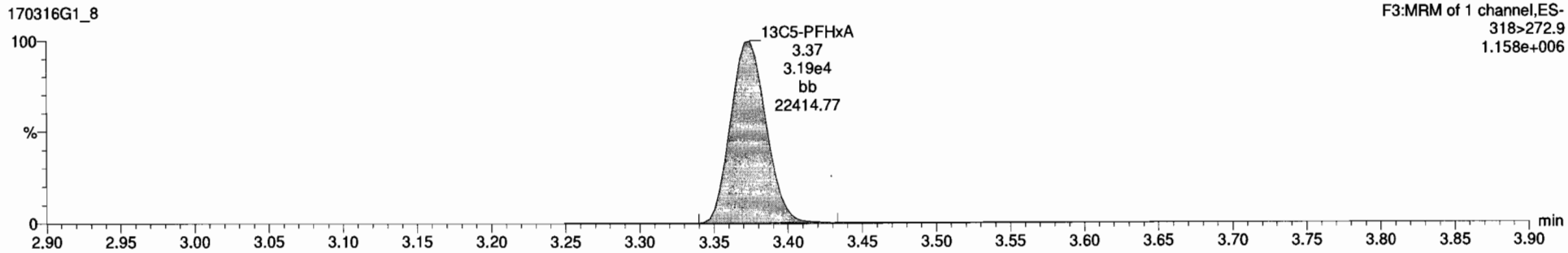

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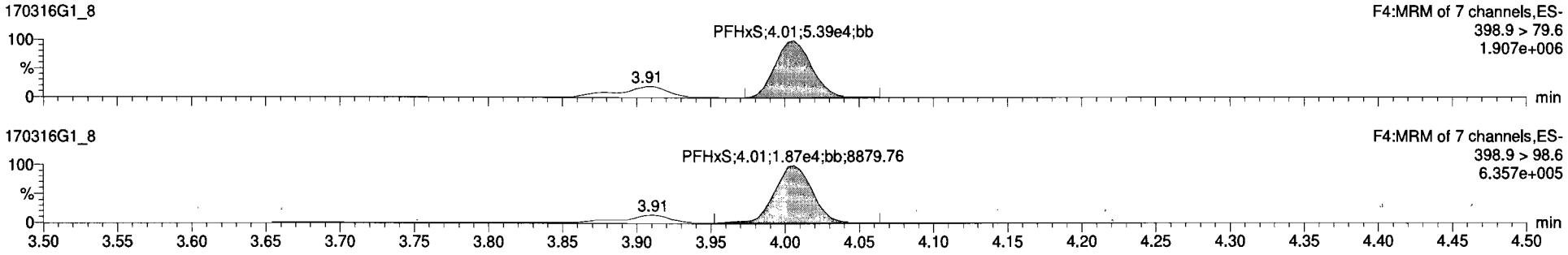
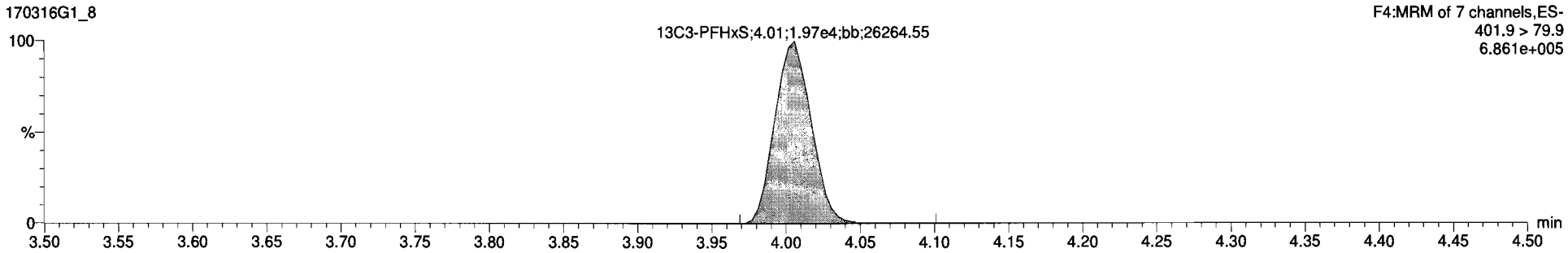
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

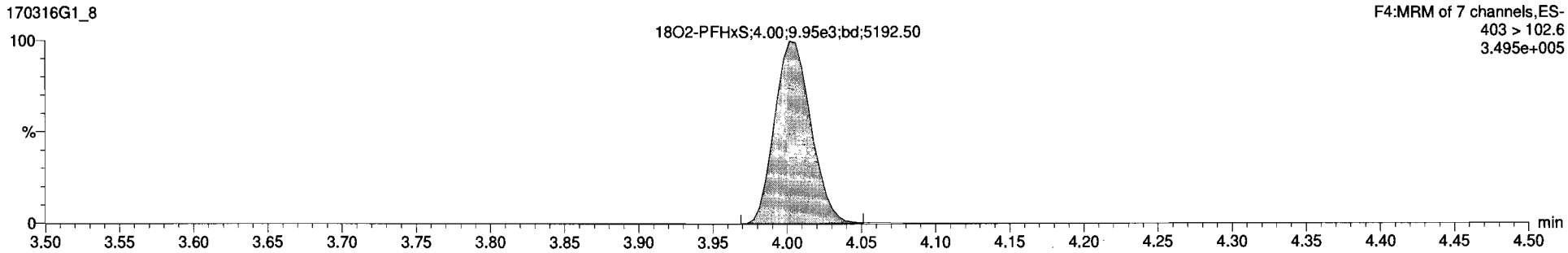
PFHxS

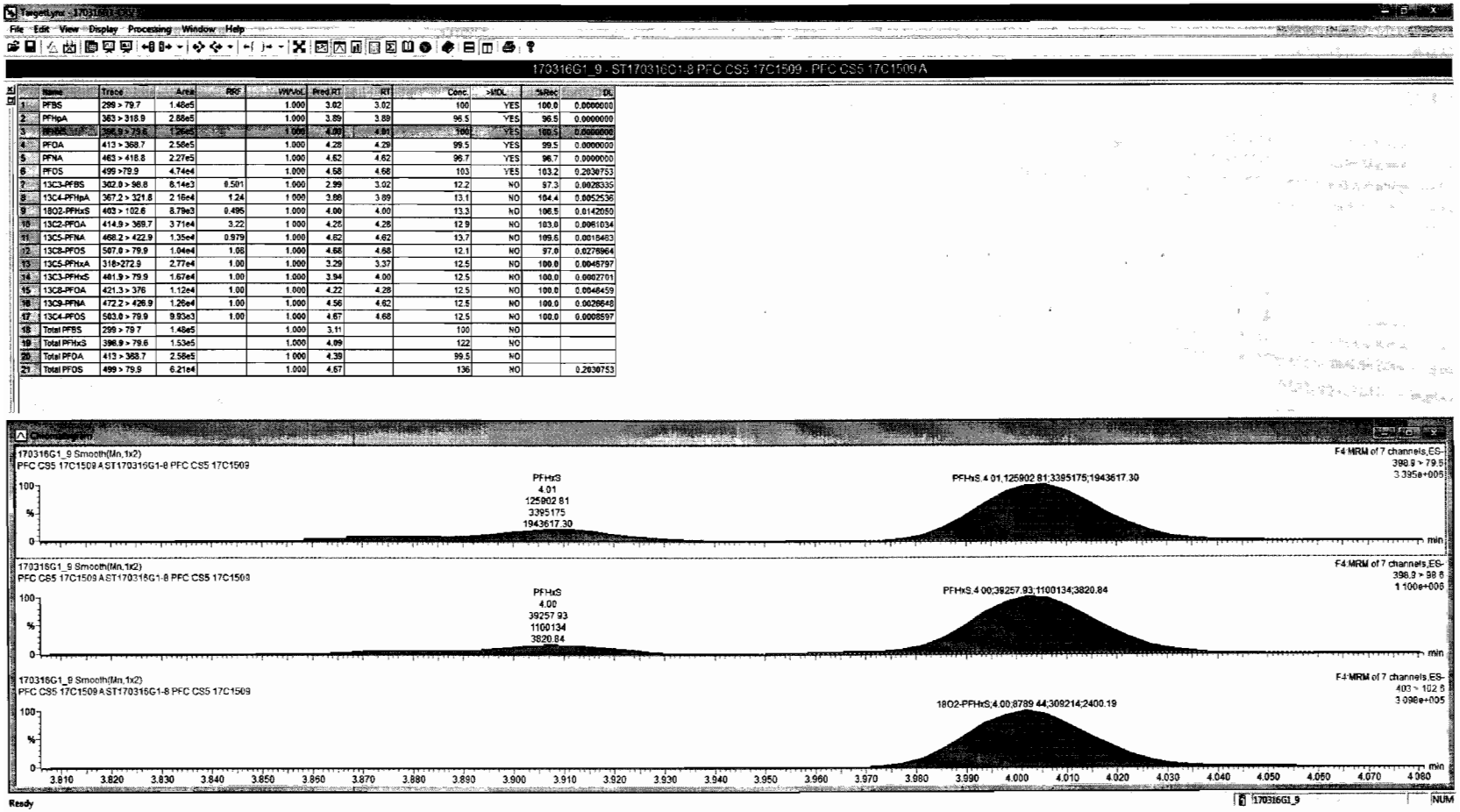


13C3-PFHxS



18O2-PFHxS





	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.48e5		1.000	3.02	3.02	100	YES	100.0	0.0000000
2	PFHpA	363 > 318.9	2.86e5		1.000	3.89	3.89	96.5	YES	96.5	0.0000000
3	PFHxS	399.9 > 79.9	1.25e5		1.000	4.00	4.01	100	YES	100.5	0.0000000
4	PFOA	413 > 368.7	2.58e5		1.000	4.28	4.29	99.5	YES	99.5	0.0000000
5	PFNA	463 > 418.8	2.27e5		1.000	4.62	4.62	96.7	YES	96.7	0.0000000
6	PFOS	499 >79.9	4.74e4		1.000	4.68	4.68	103	YES	103.2	0.2030753
7	13C3-PFBS	302.9 > 98.8	8.14e3	0.501	1.000	2.99	3.02	12.2	NO	97.3	0.0028335
8	13C4-PFHpA	367.2 > 321.8	2.16e4	1.24	1.000	3.88	3.89	13.1	NO	104.4	0.0052536
9	18O2-PFHxS	403 > 102.8	8.79e3	0.495	1.000	4.00	4.00	13.3	NO	106.5	0.0142050
10	13C2-PFOA	414.9 > 369.7	3.71e4	3.22	1.000	4.28	4.28	12.9	NO	103.0	0.0061034
11	13C5-PFNA	468.2 > 422.9	1.35e4	0.979	1.000	4.62	4.62	13.7	NO	109.6	0.0015463
12	13C8-PFOS	507.0 > 79.9	1.04e4	1.08	1.000	4.68	4.68	12.1	NO	97.0	0.0276964
13	13C5-PFHxA	318>272.9	2.77e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0045797
14	13C3-PFHxS	401.9 > 79.9	1.67e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0007701
15	13C8-PFOA	421.3 > 376	1.12e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0046459
16	13C9-PFNA	472.2 > 426.9	1.26e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0026648
17	13C4-PFOS	503.0 > 79.9	9.93e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0008597
18	Total PFBS	299 > 79.7	1.48e5		1.000	3.11		100	NO		
19	Total PFHxS	399.9 > 79.6	1.53e5		1.000	4.09		122	NO		
20	Total PFOA	413 > 368.7	2.58e5		1.000	4.39		99.5	NO		
21	Total PFOS	499 > 79.9	6.21e4		1.000	4.67		136	NO		0.2030753

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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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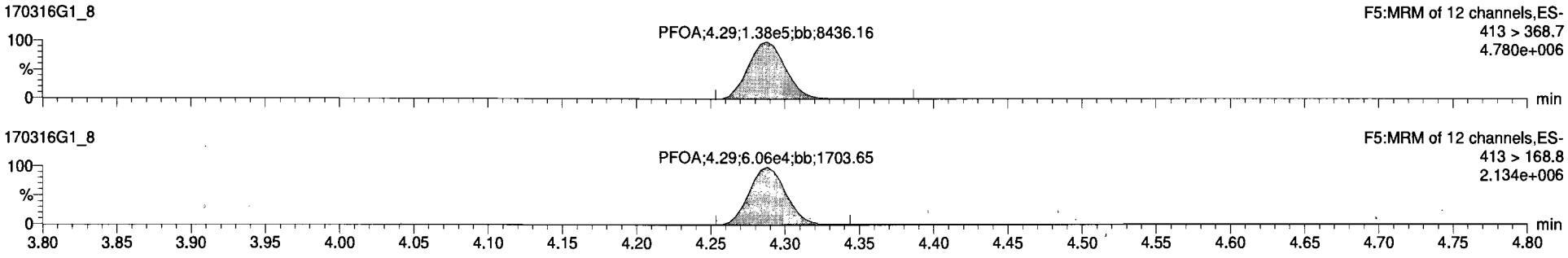
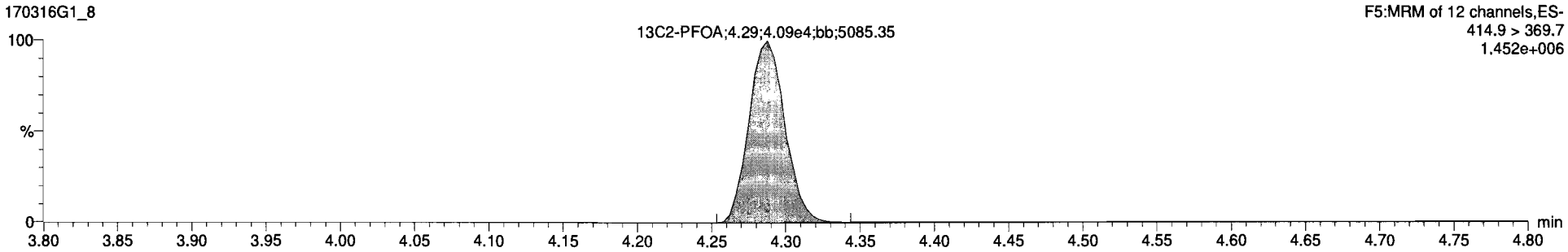
ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

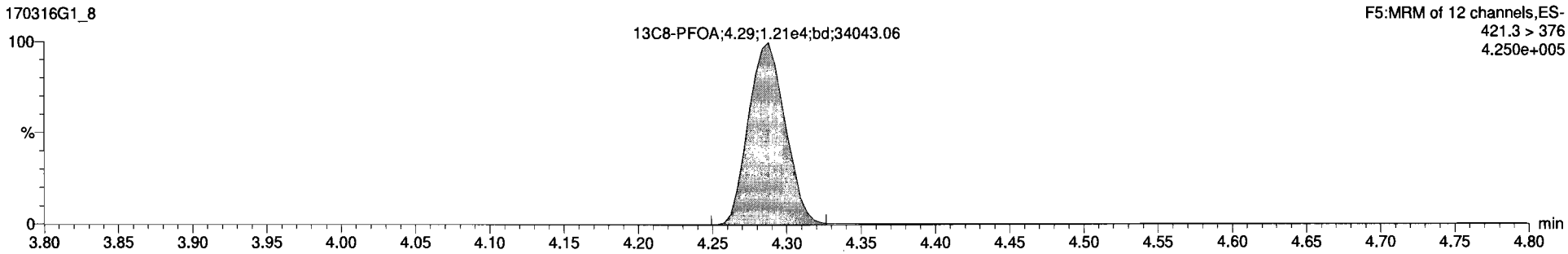
PFOA



13C2-PFOA



13C8-PFOA



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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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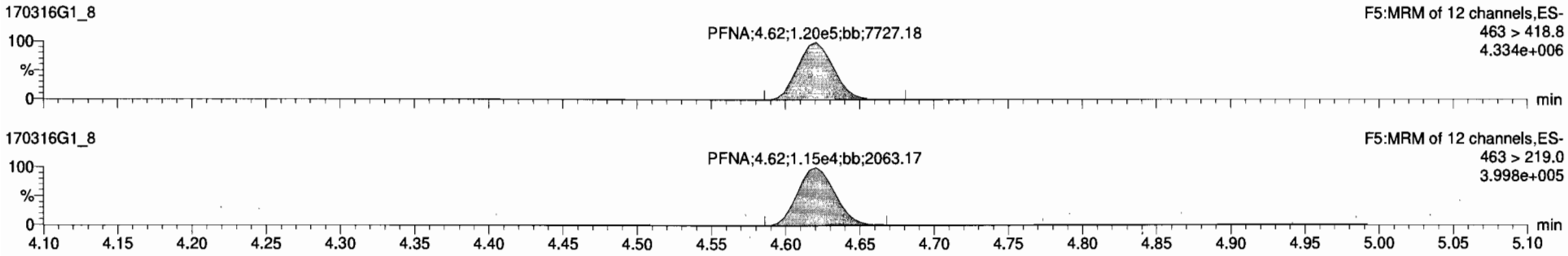
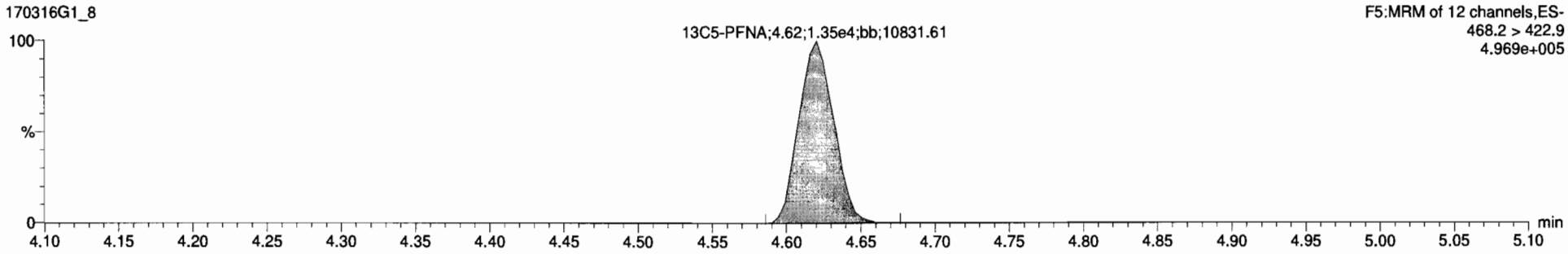
ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

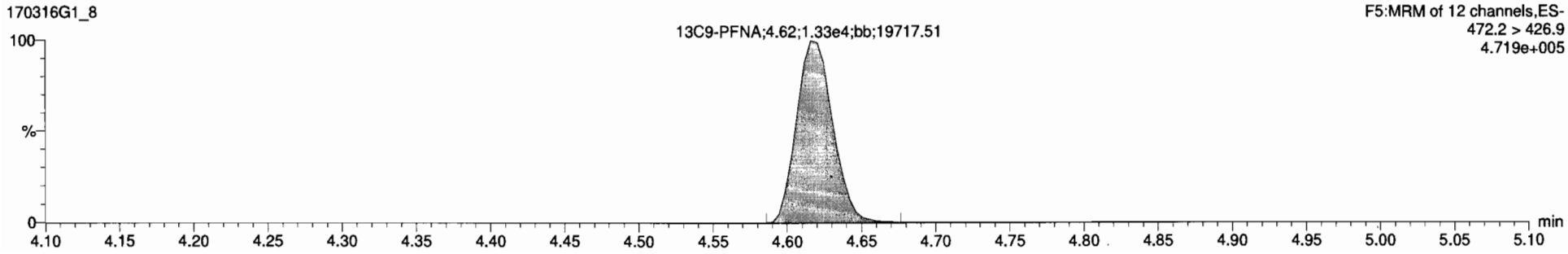
PFNA



13C5-PFNA



13C9-PFNA



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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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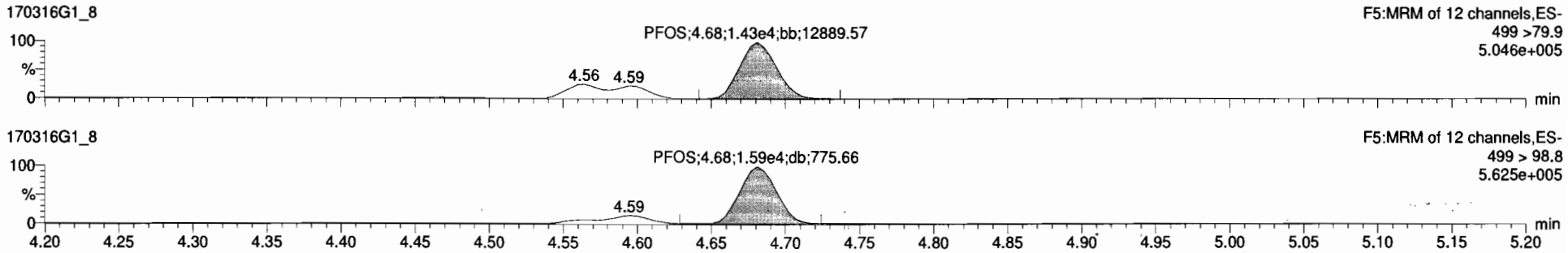
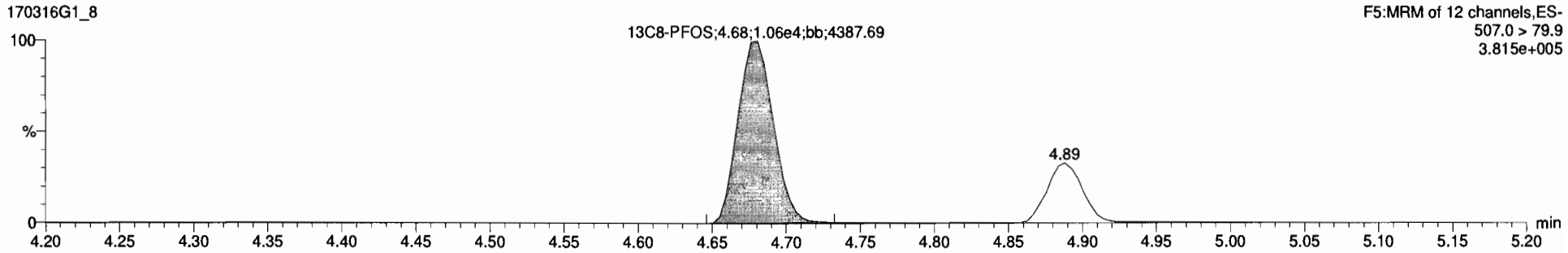
ID: ST170316G1-7 PFC CS4 17C1508, Description: PFC CS4 17C1508 A, Name: 170316G1_8, Date: 16-Mar-2017, Time: 11:45:43, Instrument: , Lab: , User:

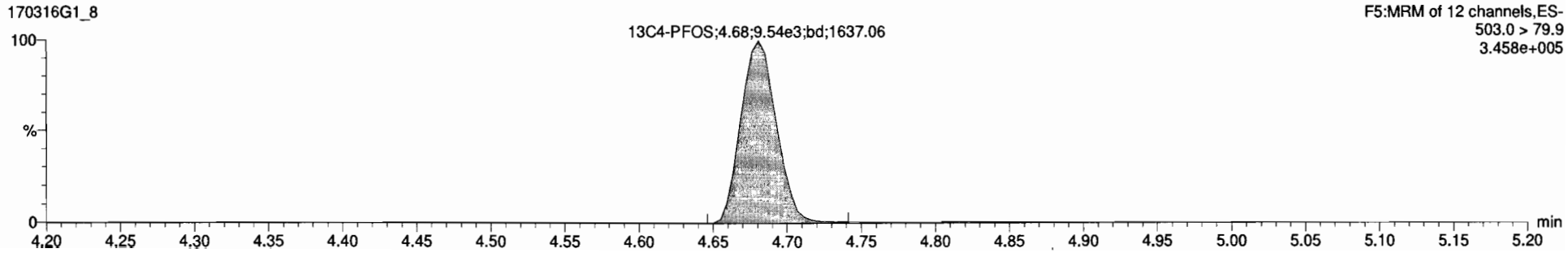
PFOS

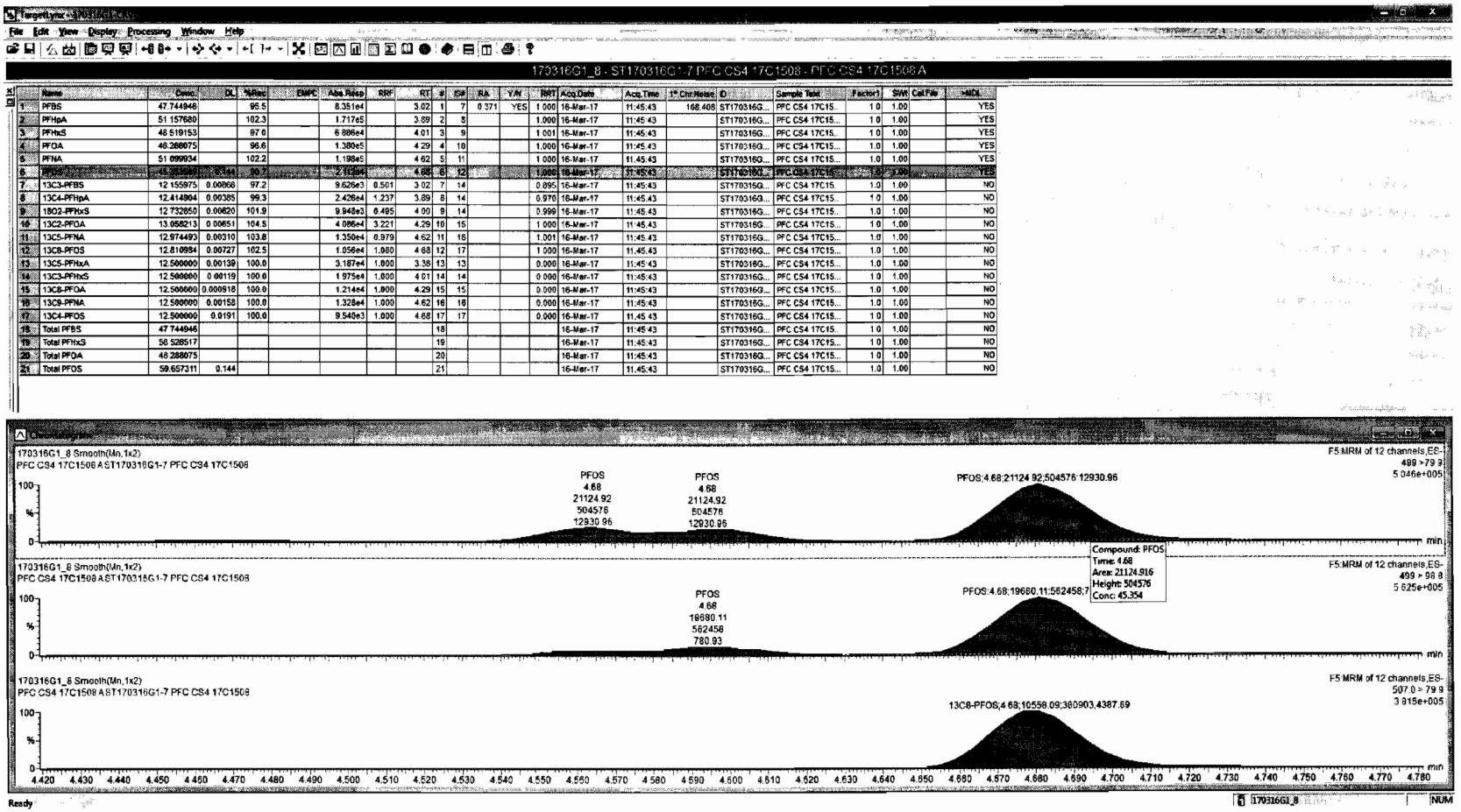


13C8-PFOS



13C4-PFOS





	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq.Date	Acq.Time	1* Chn Noise	ID	Sample Text	Factor1	SW	Cal File	>MDL
1	PFBS	47.744946		95.5		8.351e4		3.02	1	7	0.371	YES	1.000	16-Mar-17	11:45:43	168.408	ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
2	PFHpA	51.157680		102.3		1.717e5		3.89	2	8			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
3	PFHxS	48.519153		97.0		6.886e4		4.01	3	9			1.001	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
4	PFOA	48.288075		96.6		1.380e5		4.29	4	10			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
5	PFNA	51.099934		102.2		1.198e5		4.62	5	11			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
6	PFOS	45.354354	0.144	90.7		2.112e5		4.68	6	12			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		YES
7	13C3-PFBS	12.155975	0.00068	97.2		9.626e3	0.501	3.02	7	14			0.895	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
8	13C4-PFHpA	12.414904	0.00385	99.3		2.426e4	1.237	3.89	8	14			0.970	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
9	18O2-PFHxS	12.732650	0.00620	101.9		9.948e3	0.495	4.00	9	14			0.999	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
10	13C2-PFOA	13.058213	0.00651	104.5		4.086e4	3.221	4.29	10	15			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
11	13C5-PFNA	12.974493	0.00310	103.8		1.350e4	0.979	4.62	11	16			1.001	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
12	13C8-PFOS	12.810984	0.00727	102.5		1.056e4	1.080	4.68	12	17			1.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
13	13C5-PFHxA	12.500000	0.00139	100.0		3.187e4	1.000	3.38	13	13			0.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
14	13C3-PFHxS	12.500000	0.00119	100.0		1.975e4	1.000	4.01	14	14			0.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
15	13C8-PFOA	12.500000	0.000918	100.0		1.214e4	1.000	4.29	15	15			0.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
16	13C9-PFNA	12.500000	0.00158	100.0		1.328e4	1.000	4.62	16	16			0.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
17	13C4-PFOS	12.500000	0.0191	100.0		9.540e3	1.000	4.68	17	17			0.000	16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
18	Total PFBS	47.744946							18					16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
19	Total PFHxS	58.528517							19					16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
20	Total PFOA	48.288075							20					16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO
21	Total PFOS	59.657311	0.144						21					16-Mar-17	11:45:43		ST170316G...	PFC CS4 17C15...	1.0	1.00		NO

Dataset: Untitled

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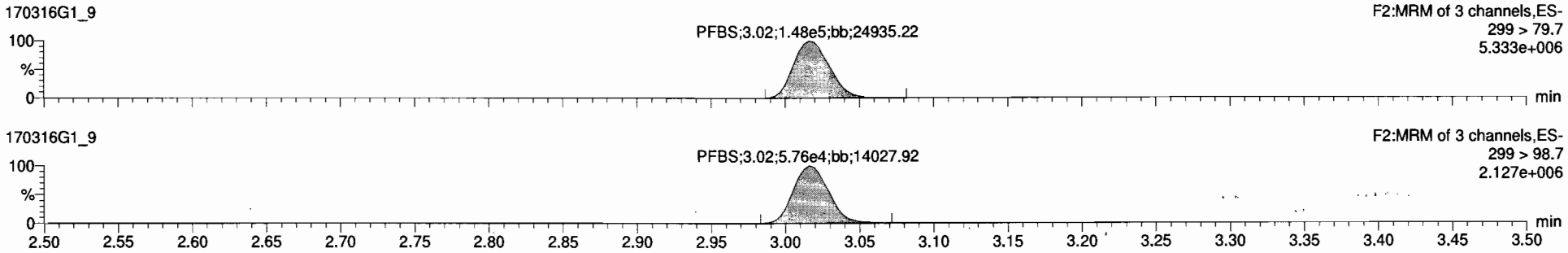
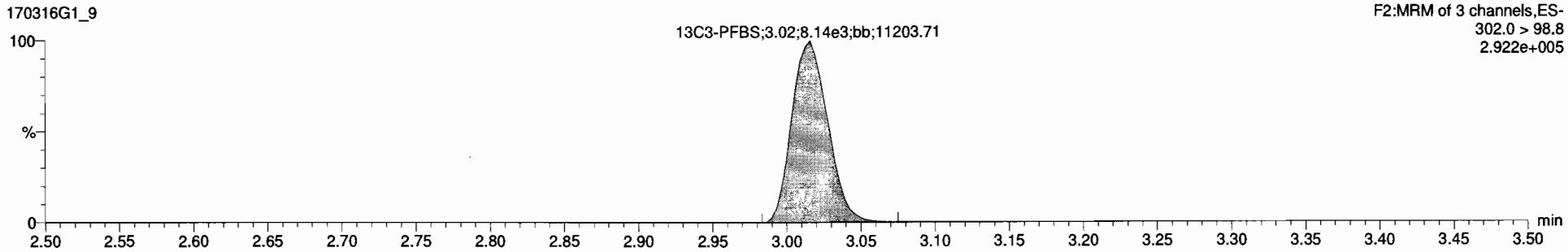
ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

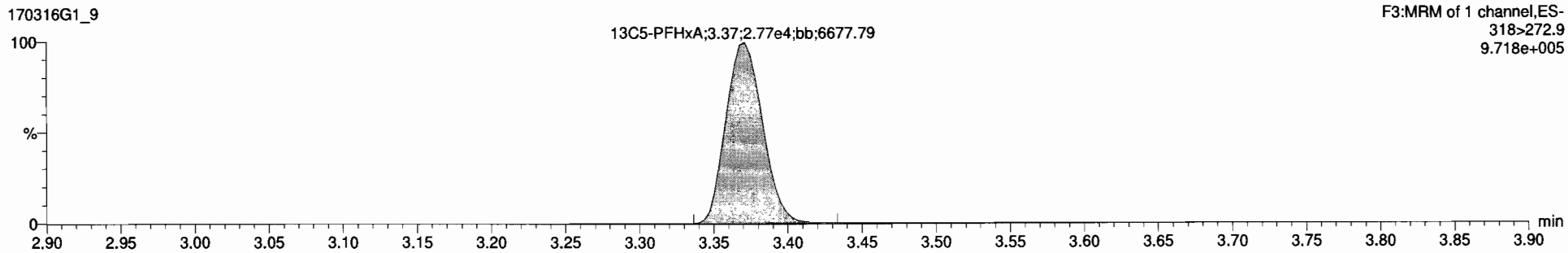
PFBS



13C3-PFBS



13C5-PFHxA



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Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
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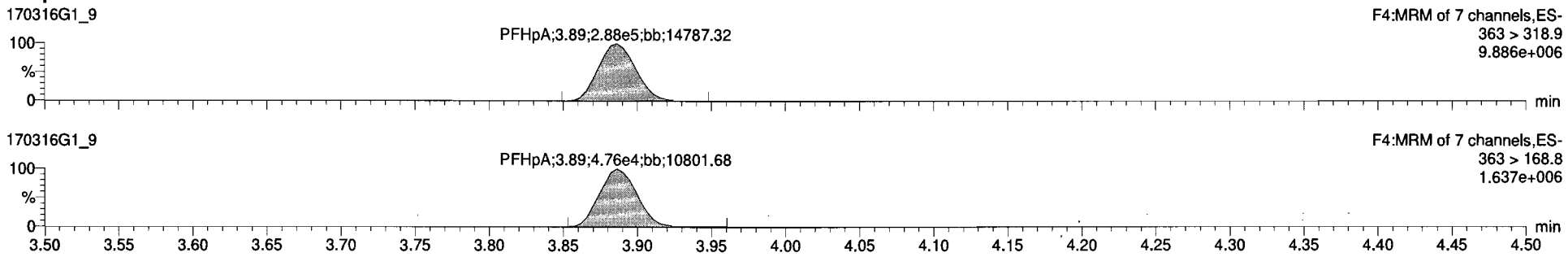
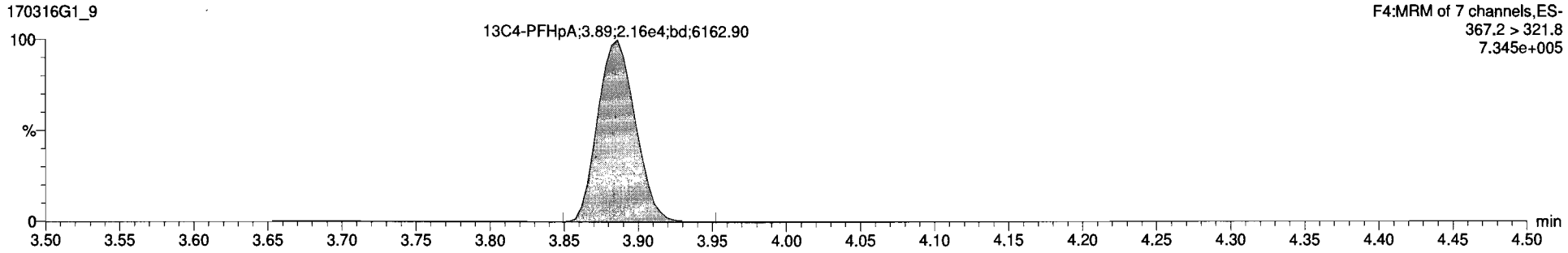
ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

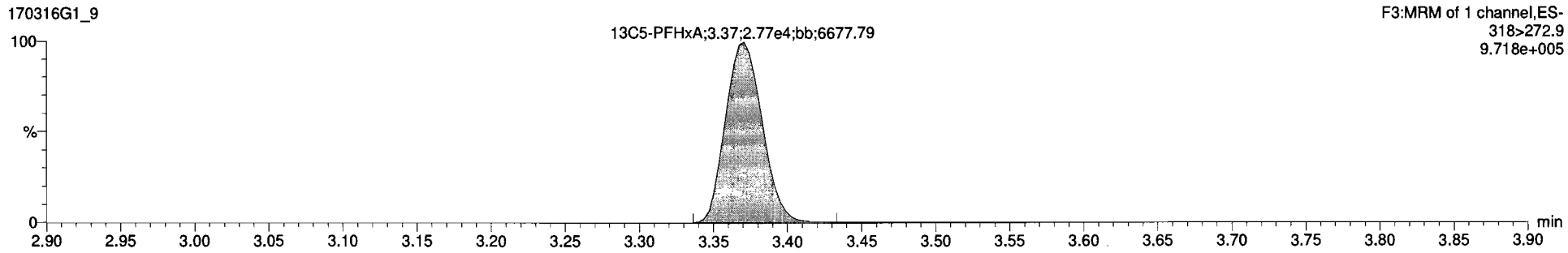
PFHpA



13C4-PFHpA



13C5-PFHxA



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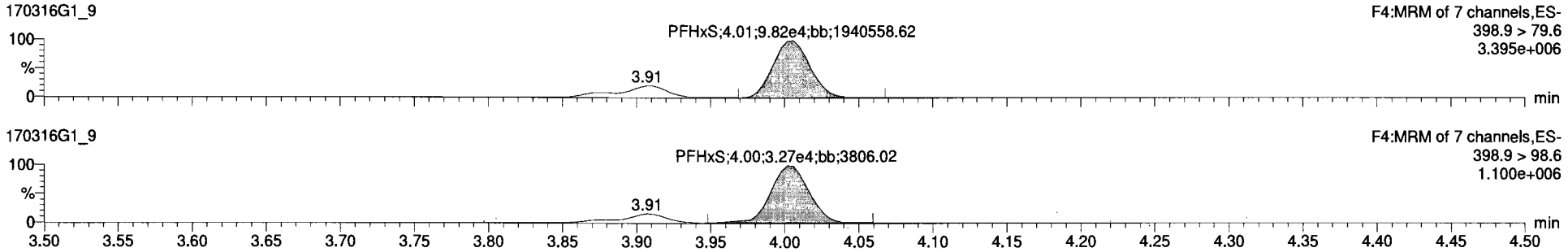
ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

PFHxS



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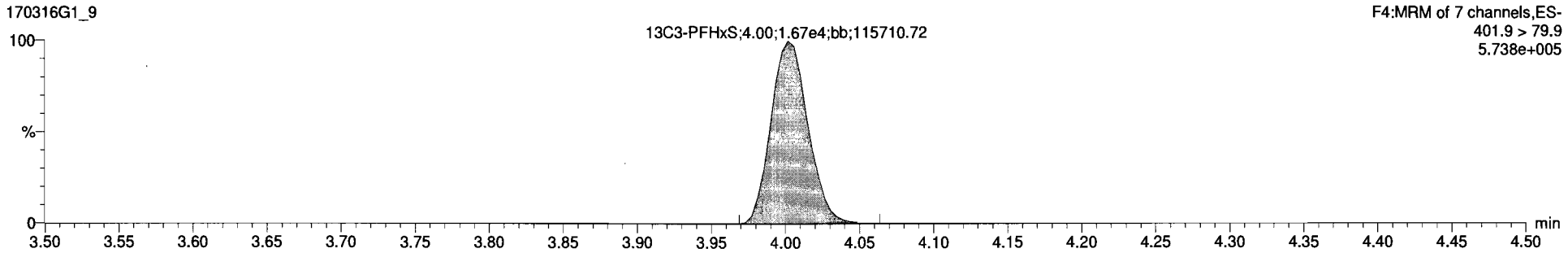
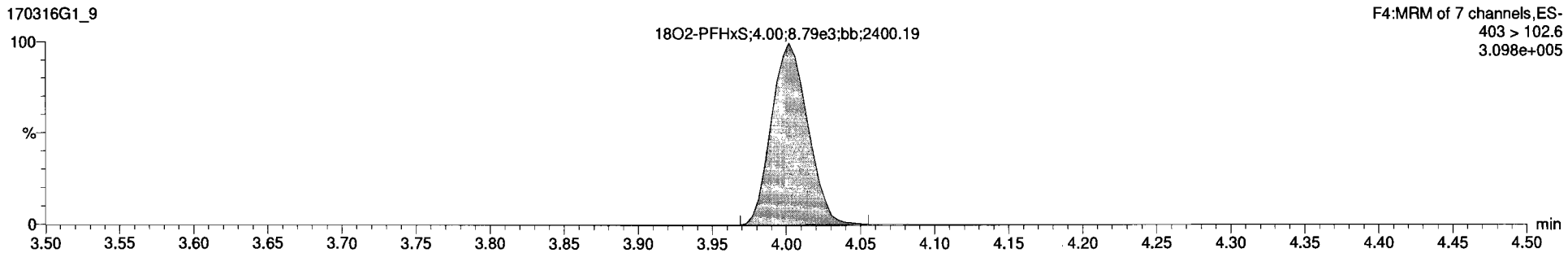
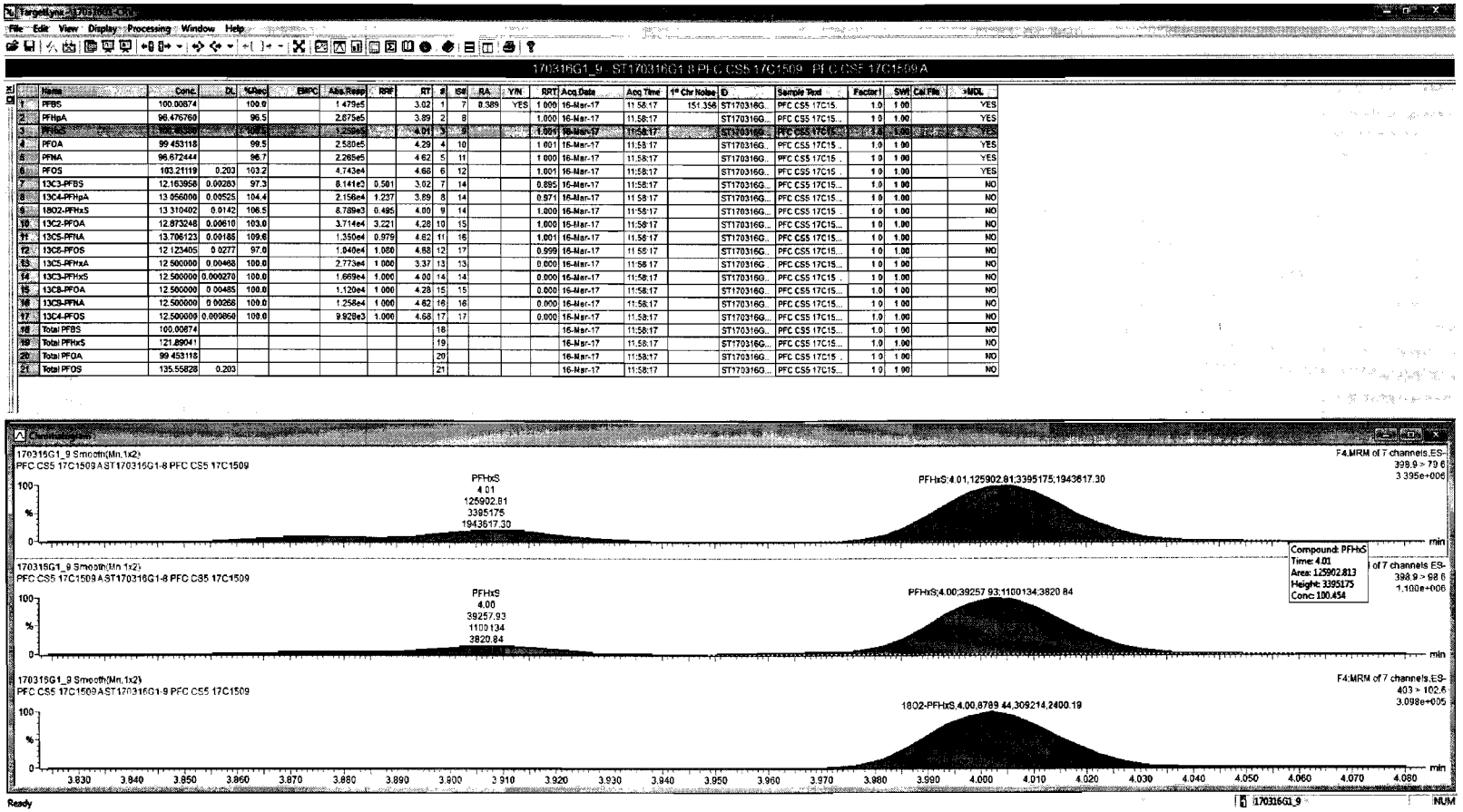


18O2-PFHxS





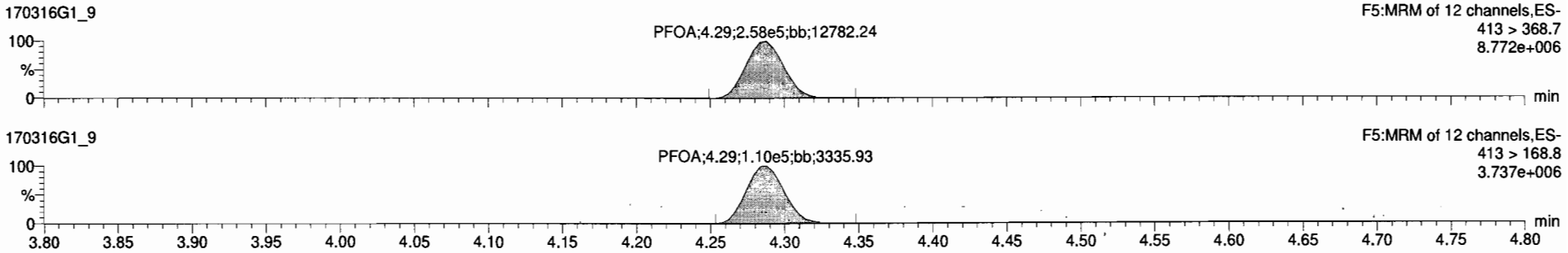
	Name	Conc.	DL	%Rec	EMPC	Abs.Resp	RRF	RT	#	ISF	RA	Y/N	RRT	Acq.Date	Acq.Time	1st Chr Noise	ID	Sample Text	Factor	SWI	Cal File	>MDL
1	PFBS	100.00874		100.0		1.479e5		3.02	1	7	0.589	YES	1.000	16-Mar-17	11:58:17	151.358	ST170316G...	PFC CS5 17C15...	1.0	1.00		YES
2	PFHpA	96.476769		96.5		2.875e5		3.89	2	8			1.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		YES
3	PFHxS	100.45350		100.5		1.259e5		4.01	3	9			1.001	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		YES
4	PFOA	99.453118		99.5		2.589e5		4.29	4	10			1.001	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		YES
5	PFNA	96.672444		96.7		2.265e5		4.62	5	11			1.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		YES
6	PFOS	103.21119	0.203	103.2		4.743e4		4.68	6	12			1.001	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		YES
7	13C3-PFBS	12.163958	0.00283	97.3		8.141e3	0.501	3.02	7	14			0.895	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
8	13C4-PFHpA	13.056000	0.00525	104.4		2.156e4	1.237	3.89	8	14			0.971	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
9	18O2-PFHxS	13.310402	0.0142	106.5		8.789e3	0.495	4.00	9	14			1.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		NO
10	13C2-PFOA	12.873248	0.00610	103.0		3.714e4	3.221	4.28	10	15			1.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
11	13C5-PFNA	13.706123	0.00185	109.6		1.350e4	0.979	4.62	11	16			1.001	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
12	13C2-PFOS	12.123405	0.0277	97.0		1.040e4	1.000	4.68	12	17			0.999	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
13	13C5-PFHxA	12.500000	0.00468	100.0		2.773e4	1.000	3.37	13	13			0.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
14	13C3-PFHxS	12.500000	0.000270	100.0		1.669e4	1.000	4.00	14	14			0.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		NO
15	13C8-PFOA	12.500000	0.00485	100.0		1.120e4	1.000	4.28	15	15			0.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
16	13C9-PFNA	12.500000	0.00268	100.0		1.258e4	1.000	4.62	16	16			0.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
17	13C4-PFOS	12.500000	0.000850	100.0		9.928e3	1.000	4.68	17	17			0.000	16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
18	Total PFBS	100.00874							18					16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
19	Total PFHxS	121.89041							19					16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO
20	Total PFOA	99.453118							20					16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15 ..	1.0	1.00		NO
21	Total PFOS	135.55828	0.203						21					16-Mar-17	11:58:17		ST170316G...	PFC CS5 17C15...	1.0	1.00		NO

Dataset: Untitled

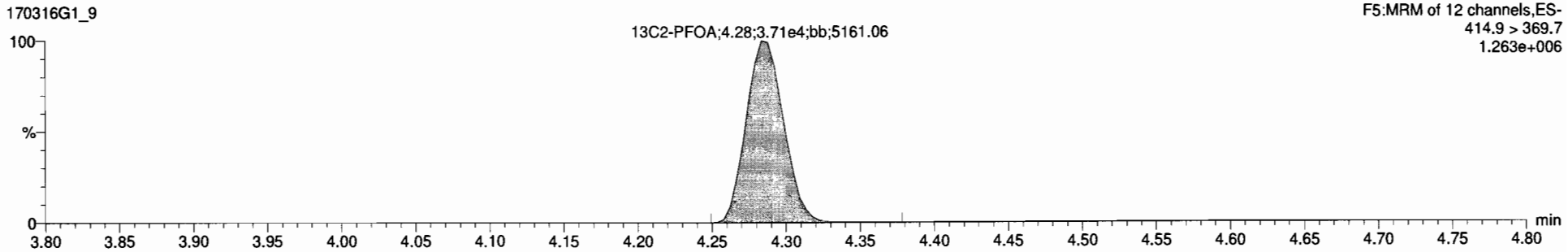
Last Altered: Thursday, March 16, 2017 13:27:05 Pacific Daylight Time
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

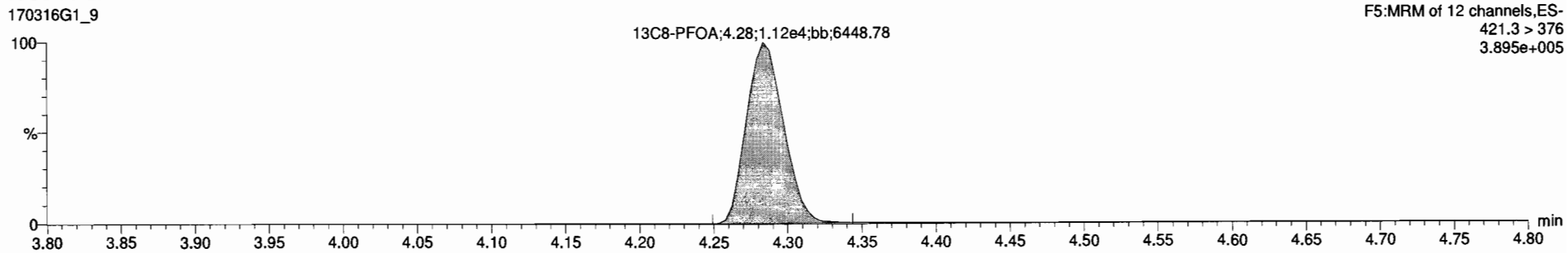
PFOA



13C2-PFOA



13C8-PFOA



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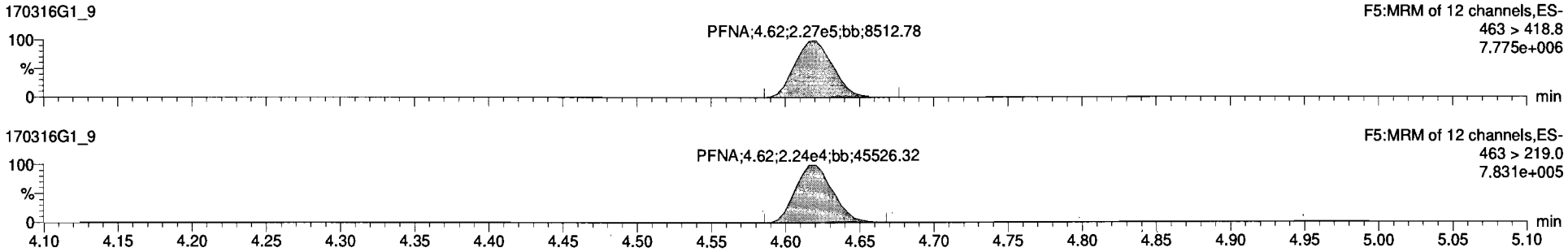
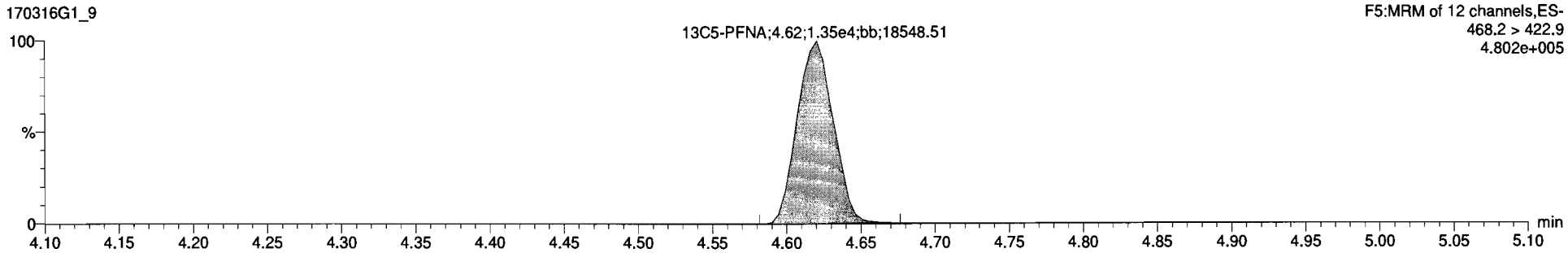
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

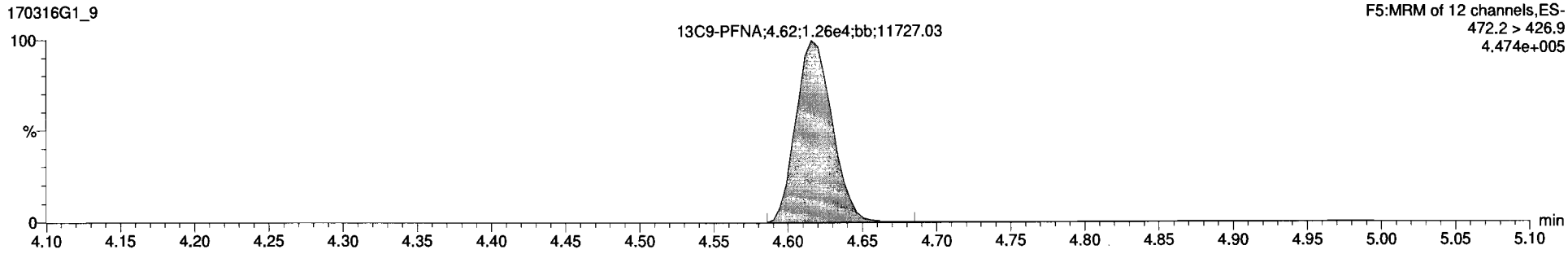
PFNA



13C5-PFNA



13C9-PFNA



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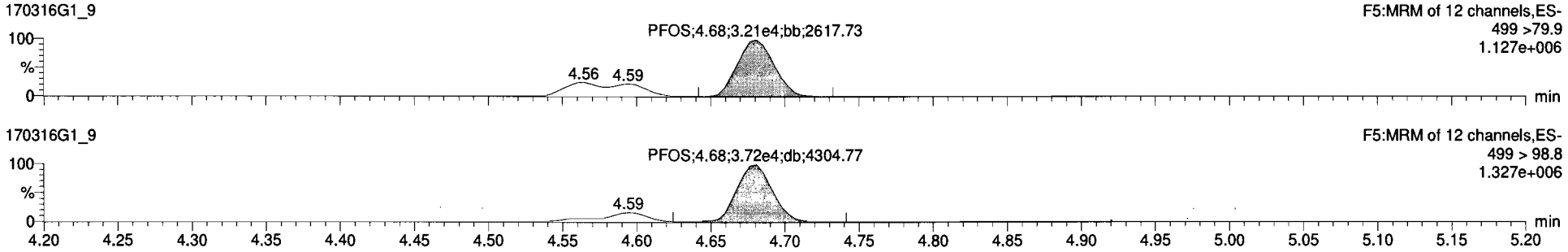
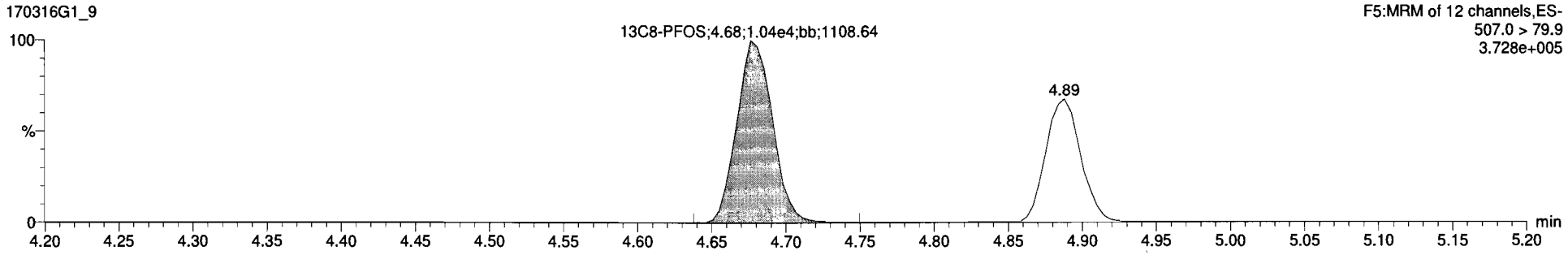
Printed: Thursday, March 16, 2017 13:28:00 Pacific Daylight Time

ID: ST170316G1-8 PFC CS5 17C1509, Description: PFC CS5 17C1509 A, Name: 170316G1_9, Date: 16-Mar-2017, Time: 11:58:17, Instrument: , Lab: , User:

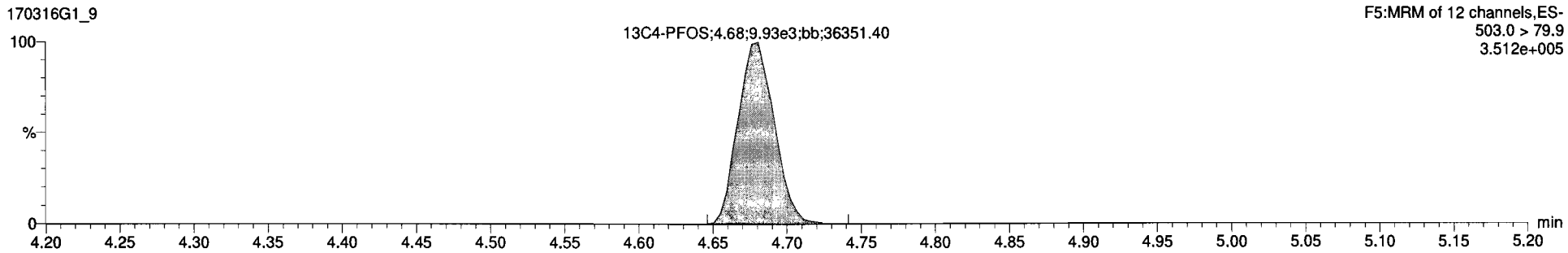
PFOS

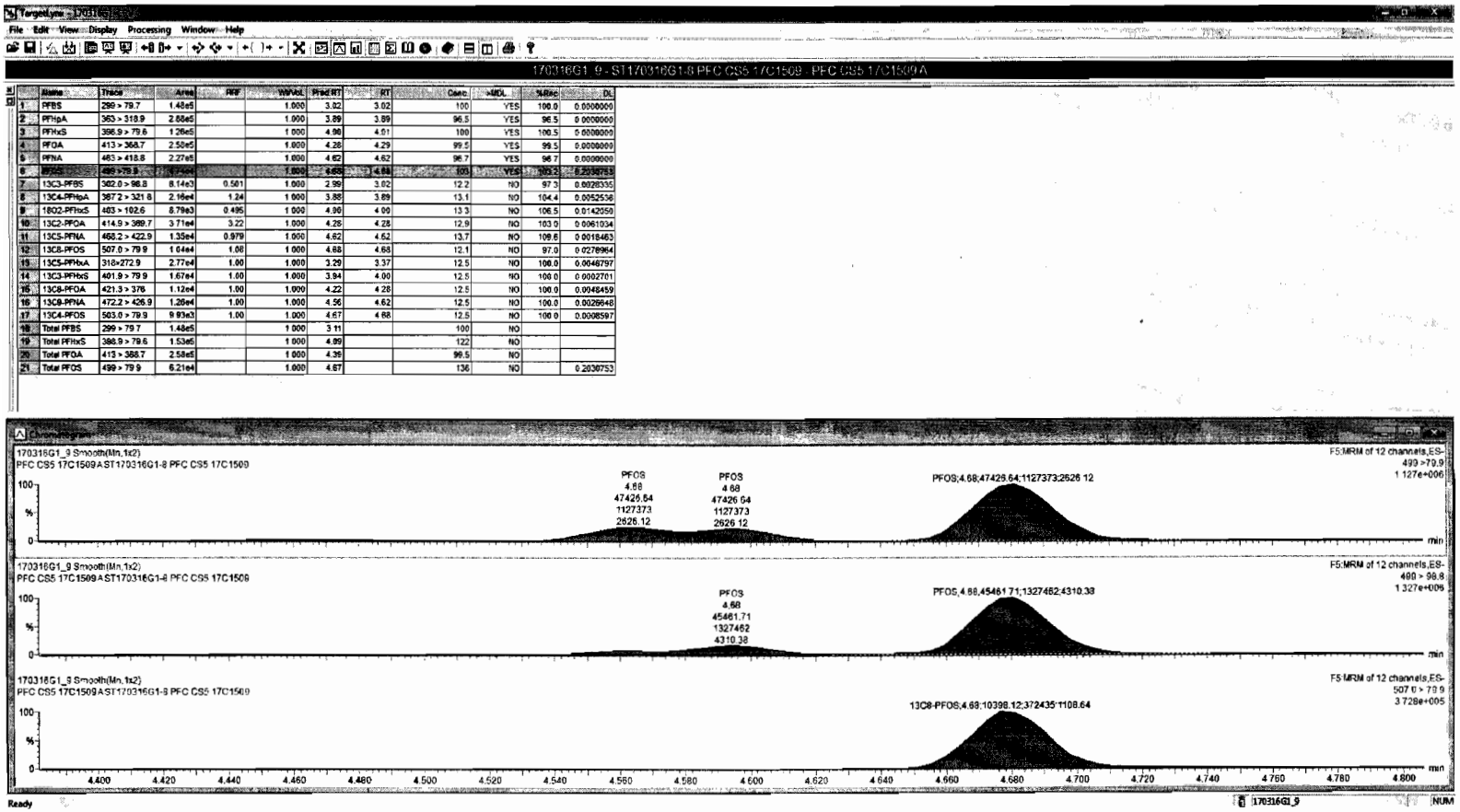


13C8-PFOS



13C4-PFOS





	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc	>MDL	%Rec	DL
1	PFBS	299 > 79.7	1.48e5		1.000	3.02	3.02	100	YES	100.0	0.0000000
2	PFHpA	363 > 319.9	2.66e5		1.000	3.89	3.89	96.5	YES	96.5	0.0000000
3	PFHxS	398.9 > 79.6	1.26e5		1.000	4.98	4.01	100	YES	100.5	0.0000000
4	PFOA	413 > 368.7	2.58e5		1.000	4.28	4.29	99.5	YES	99.5	0.0000000
5	PFNA	463 > 418.8	2.27e5		1.000	4.62	4.62	96.7	YES	96.7	0.0000000
6	PFOS	499 > 79.9	6.21e4		1.000	4.68	4.68	105	YES	105.2	0.2036753
7	13C3-PFBS	302.0 > 98.8	8.14e3	0.581	1.000	2.99	3.02	12.2	NO	97.3	0.0028335
8	13C4-PFHpA	367.2 > 321.8	2.16e4	1.24	1.000	3.88	3.89	13.1	NO	104.4	0.0052536
9	18O2-PFHxS	403 > 102.6	8.79e3	0.495	1.000	4.00	4.00	13.3	NO	106.5	0.0142050
10	13C2-PFOA	414.9 > 369.7	3.71e4	3.22	1.000	4.28	4.28	12.9	NO	103.0	0.0061034
11	13C5-PFNA	468.2 > 422.9	1.35e4	0.979	1.000	4.62	4.62	13.7	NO	109.6	0.0018463
12	13C8-PFOS	507.0 > 79.9	1.04e4	1.06	1.000	4.68	4.68	12.1	NO	97.0	0.0278964
13	13C5-PFHxA	318>272.9	2.77e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0046797
14	13C3-PFHxS	401.9 > 79.9	1.67e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0002701
15	13C8-PFOA	421.3 > 376	1.12e4	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0045459
16	13C9-PFNA	472.2 > 426.9	1.26e4	1.00	1.000	4.56	4.62	12.5	NO	100.0	0.0026648
17	13C4-PFOS	503.0 > 79.9	9.93e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0008597
18	Total PFBS	299 > 79.7	1.48e5		1.000	3.11		100	NO		
19	Total PFHxS	398.9 > 79.6	1.53e5		1.000	4.89		122	NO		
20	Total PFOA	413 > 368.7	2.58e5		1.000	4.39		99.5	NO		
21	Total PFOS	499 > 79.9	6.21e4		1.000	4.67		136	NO		0.2036753

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170316G1\170316G1-11.qld

Last Altered: Thursday, March 16, 2017 14:27:32 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:28:49 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS (A)	299 > 79.7	1.55e4	1.09e4		1.000	3.02	7.76	89.7 ~~77.6~~
2	2	PFHpA	363 > 318.9	3.41e4	2.51e4		1.000	3.89	9.75	97.5
3	3	PFHxS (A)	398.9 > 79.6	1.22e4	1.03e4		1.000	4.01	8.28	90.8 ~~82.8~~
4	4	PFOA	413 > 368.7	2.79e4	4.17e4		1.000	4.29	9.45	94.5
5	5	PFNA	463 > 418.8	2.15e4	1.23e4		1.000	4.62	10.0	100.1
6	6	PFOS (A)	499 >79.9	2.91e3	8.65e3		1.000	4.68	7.73	83.3 ~~77.3~~
7	7	13C3-PFBS	302.0 > 98.8	1.09e4	1.89e4	0.501	1.000	3.02	14.4	115.3
8	8	13C4-PFHpA	367.2 > 321.8	2.51e4	1.89e4	1.237	1.000	3.89	13.4	107.2
9	9	18O2-PFHxS	403 > 102.6	1.03e4	1.89e4	0.495	1.000	4.01	13.8	110.1
10	10	13C2-PFOA	414.9 > 369.7	4.17e4	1.22e4	3.221	1.000	4.29	13.3	106.1
11	11	13C5-PFNA	468.2 > 422.9	1.23e4	1.18e4	0.979	1.000	4.62	13.3	106.4
12	12	13C8-PFOS	507.0 > 79.9	8.65e3	6.92e3	1.080	1.000	4.68	14.5	115.7
13	13	13C5-PFHxA	318>272.9	3.23e4	3.23e4	1.000	1.000	3.37	12.5	100.0
14	14	13C3-PFHxS	401.9 > 79.9	1.89e4	1.89e4	1.000	1.000	4.01	12.5	100.0
15	15	13C8-PFOA	421.3 > 376	1.22e4	1.22e4	1.000	1.000	4.29	12.5	100.0
16	16	13C9-PFNA	472.2 > 426.9	1.18e4	1.18e4	1.000	1.000	4.62	12.5	100.0
17	17	13C4-PFOS	503.0 > 79.9	6.92e3	6.92e3	1.000	1.000	4.68	12.5	100.0

75-125

ES 3/16/17

✓AC 3/17/17

(A) Concentration < 10ng/L in second source native mix ES 3/16/17

Vista Analytical Laboratory Q1

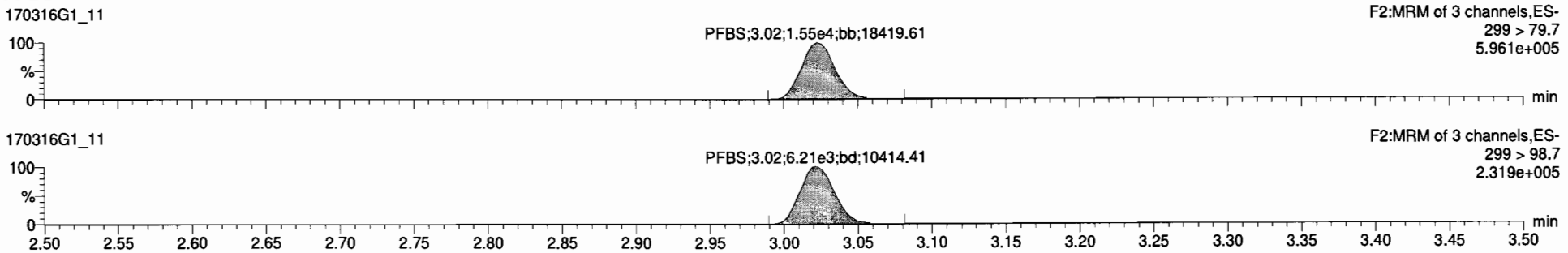
Dataset: Untitled

Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

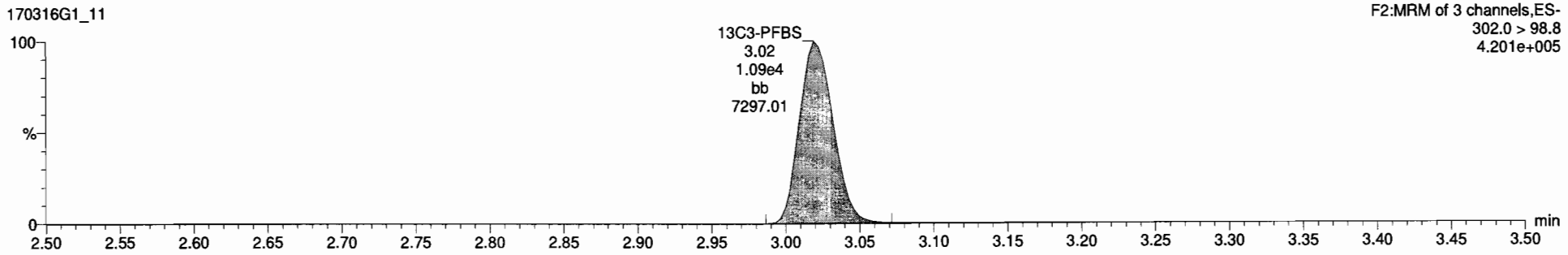
Method: U:\G1.PRO\MethDB\PFAS_6_2trans_LINEAR.mdb 02 Mar 2017 12:26:53
Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_3-16-17_L6_2Trans.cdb 16 Mar 2017 13:24:03

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

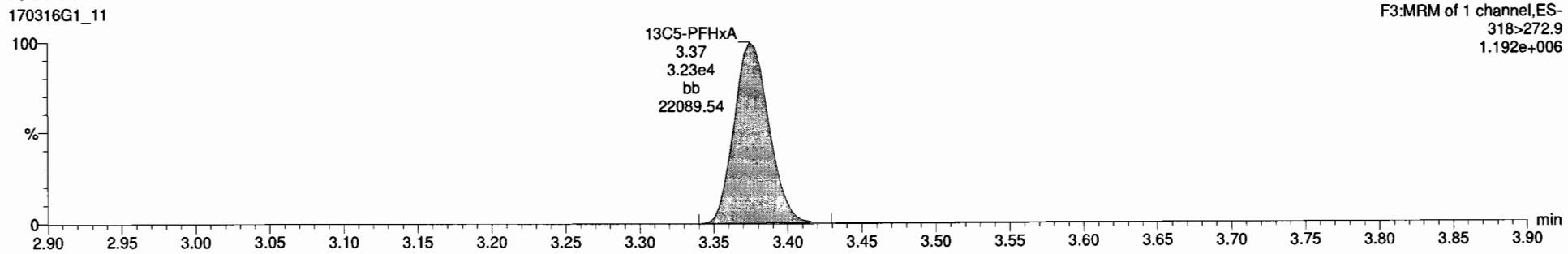
PFBS



13C3-PFBS



13C5-PFHxA

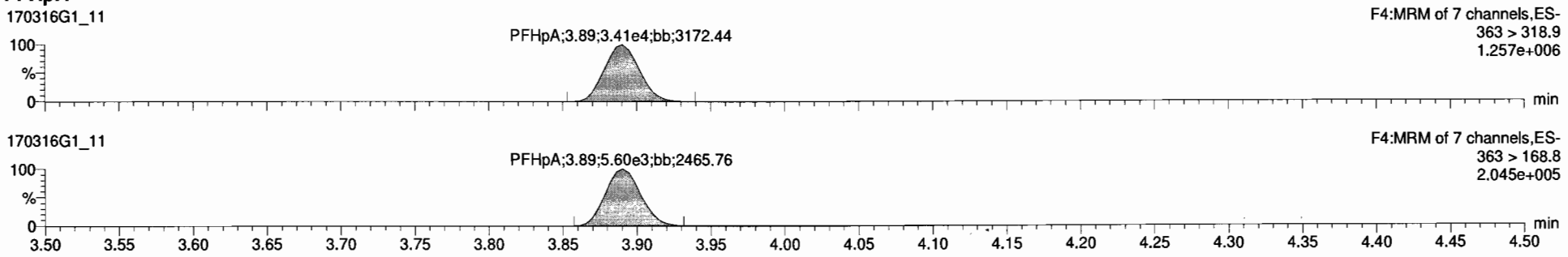


Dataset: Untitled

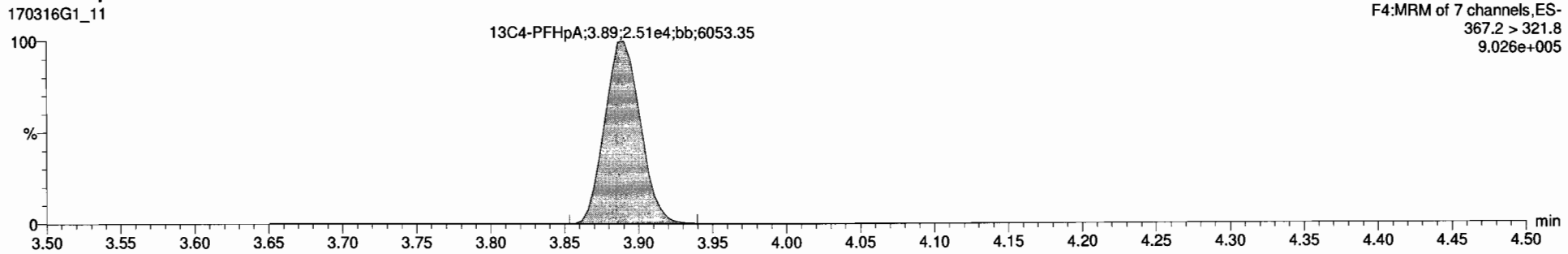
Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

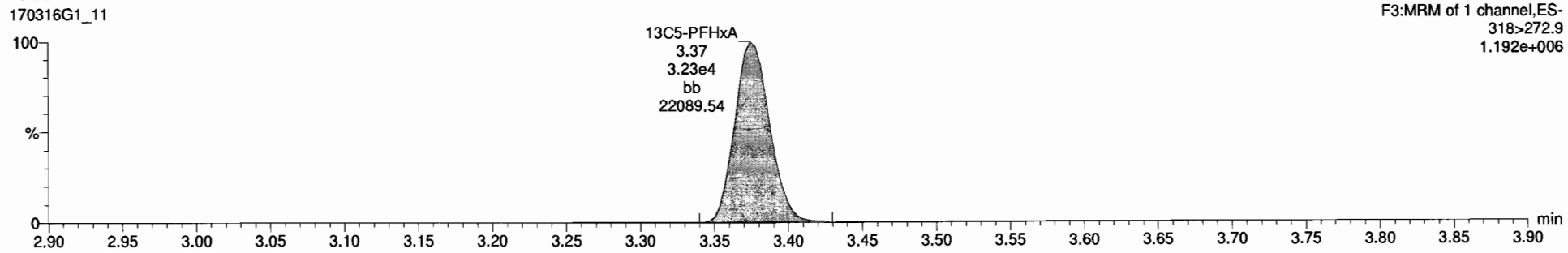
PFHpA



13C4-PFHpA



13C5-PFHxA

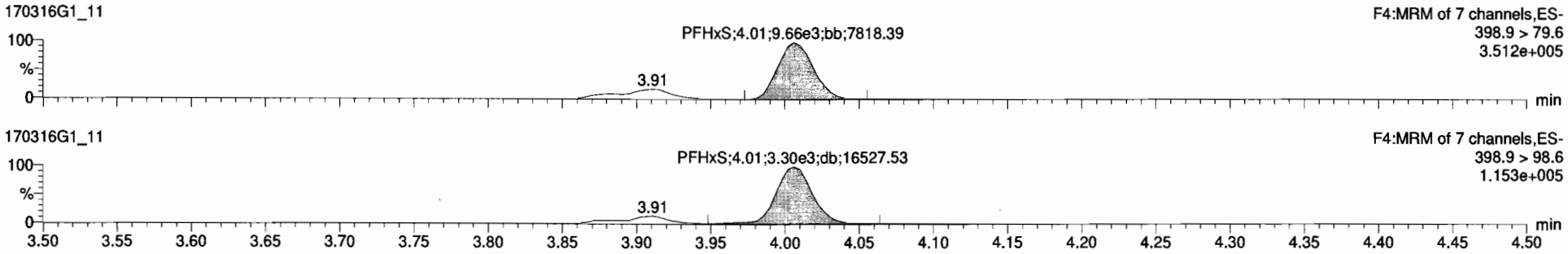


Dataset: Untitled

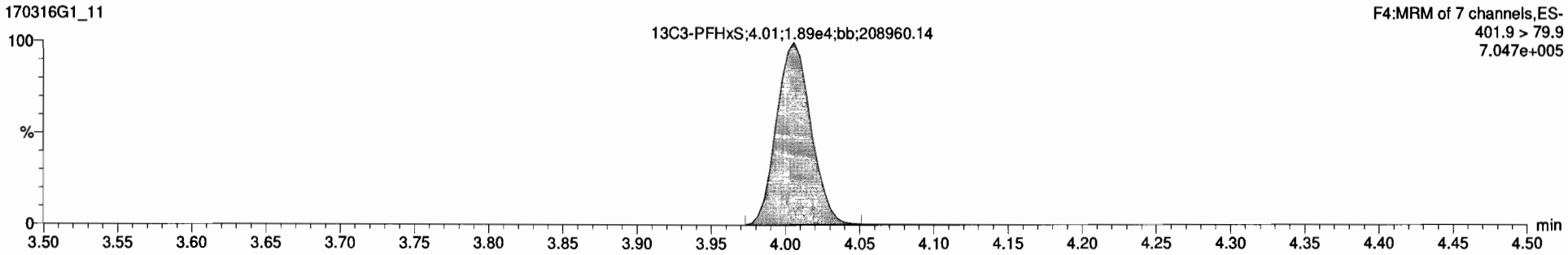
Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

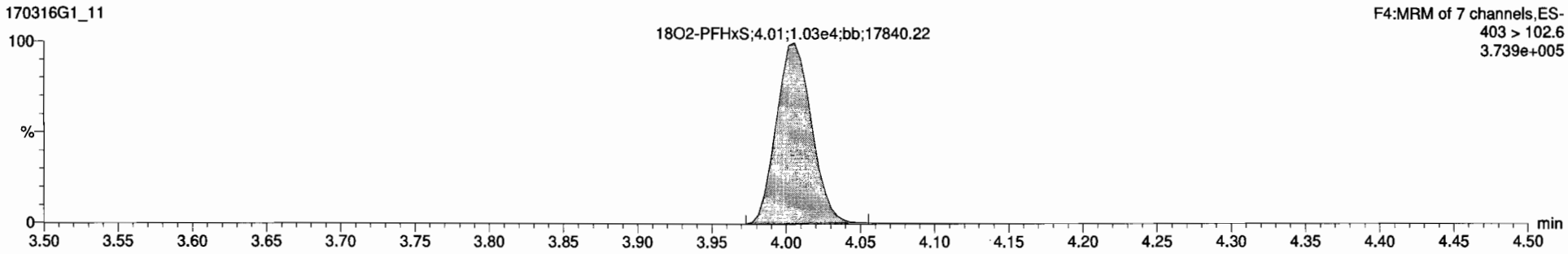
PFHxS

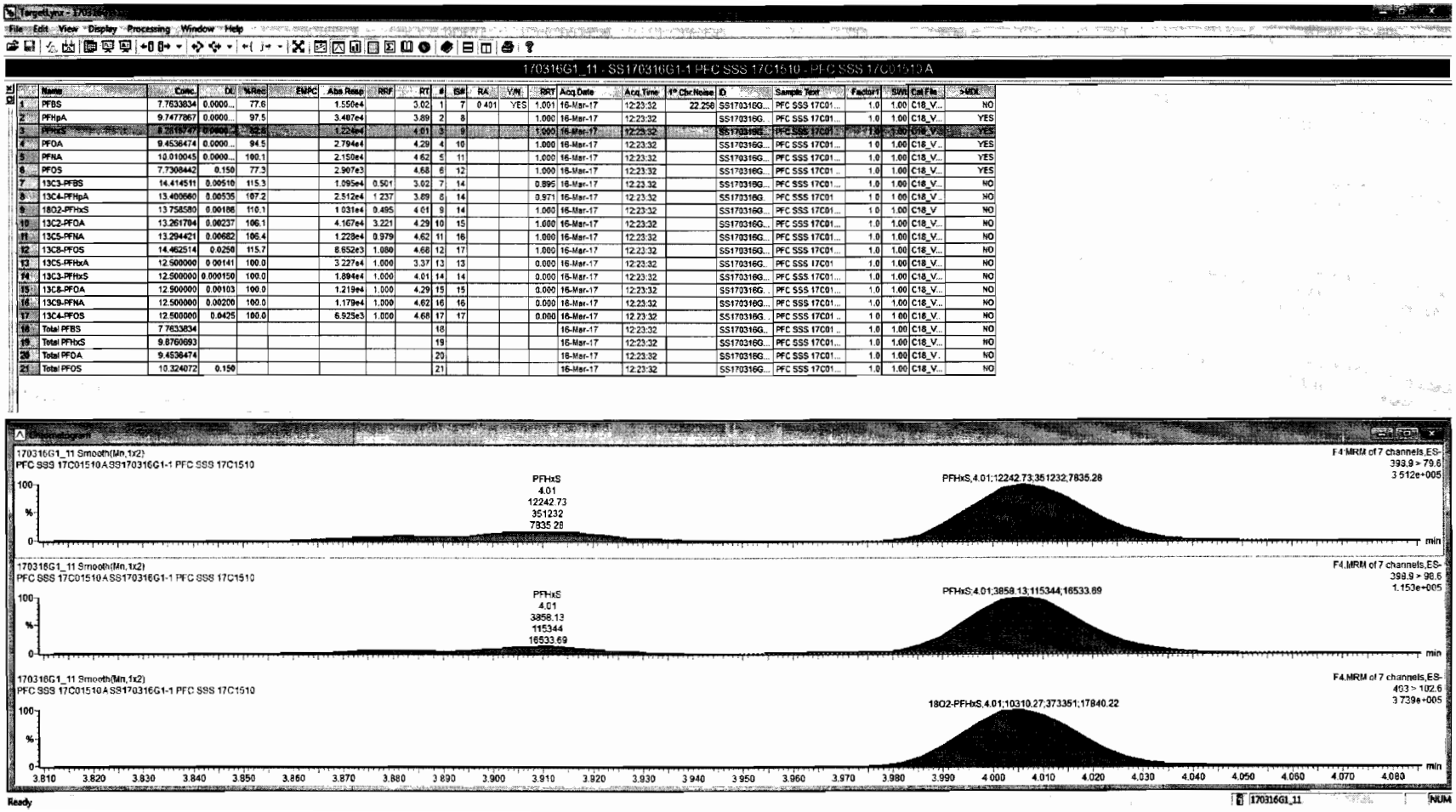


13C3-PFHxS



18O2-PFHxS





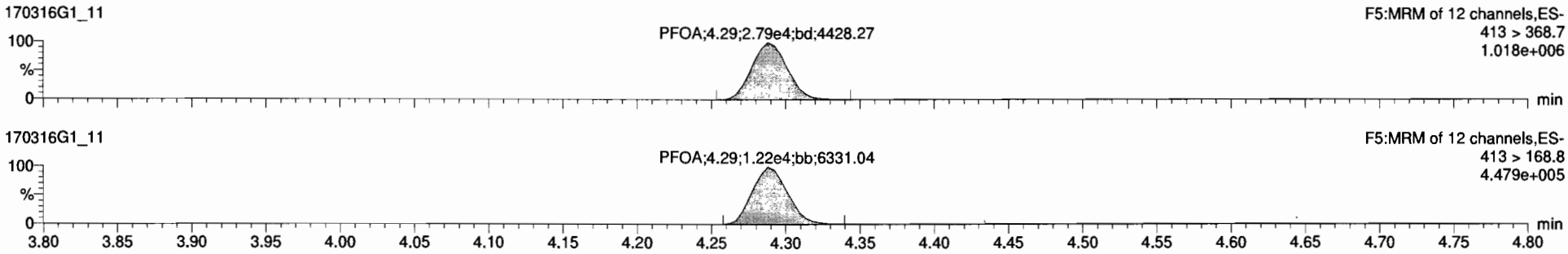
	Name	Conc.	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	ISP	RA	Y/N	RRT	Acq Date	Acq Time	1st Chr Noise	ID	Sample Text	Factor1	SWI	Cal File	SMDL
1	PFBS	7.7633834	0.0000...	77.6		1.550e4		3.02	1	7	0.401	YES	1.001	16-Mar-17	12:23:32	22.256	SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
2	PFHpA	9.7477867	0.0000...	97.5		3.407e4		3.89	2	8			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
3	PFHxS	8.2818747	0.0000...	82.8		1.224e4		4.01	3	9			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
4	PFOA	9.4536474	0.0000...	94.5		2.794e4		4.29	4	10			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
5	PFNA	10.010045	0.0000...	100.1		2.150e4		4.62	5	11			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
6	PFOS	7.7308442	0.150	77.3		2.907e3		4.68	6	12			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	14.414511	0.00510	115.3		1.095e4	0.501	3.02	7	14			0.895	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	13.400660	0.00535	107.2		2.512e4	1.237	3.89	8	14			0.971	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V	NO
9	18O2-PFHxS	13.758580	0.00188	110.1		1.031e4	0.495	4.01	9	14			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V	NO
10	13C2-PFOA	13.261704	0.00237	106.1		4.167e4	3.221	4.29	10	15			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
11	13C5-PFNA	13.294421	0.00682	106.4		1.228e4	0.979	4.62	11	16			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	14.462514	0.0250	115.7		8.652e3	1.080	4.68	12	17			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
13	13C5-PFHxA	12.500000	0.00141	100.0		3.227e4	1.000	3.37	13	13			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V...	NO
14	13C3-PFHxS	12.500000	0.000150	100.0		1.894e4	1.000	4.01	14	14			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
15	13C8-PFOA	12.500000	0.00103	100.0		1.219e4	1.000	4.29	15	15			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.00200	100.0		1.179e4	1.000	4.62	16	16			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
17	13C4-PFOS	12.500000	0.0425	100.0		6.925e3	1.000	4.68	17	17			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
18	Total PFBS	7.7633834							18					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
19	Total PFHxS	9.8760693							19					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
20	Total PFOA	9.4536474							20					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
21	Total PFOS	10.324072	0.150						21					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO

Dataset: Untitled

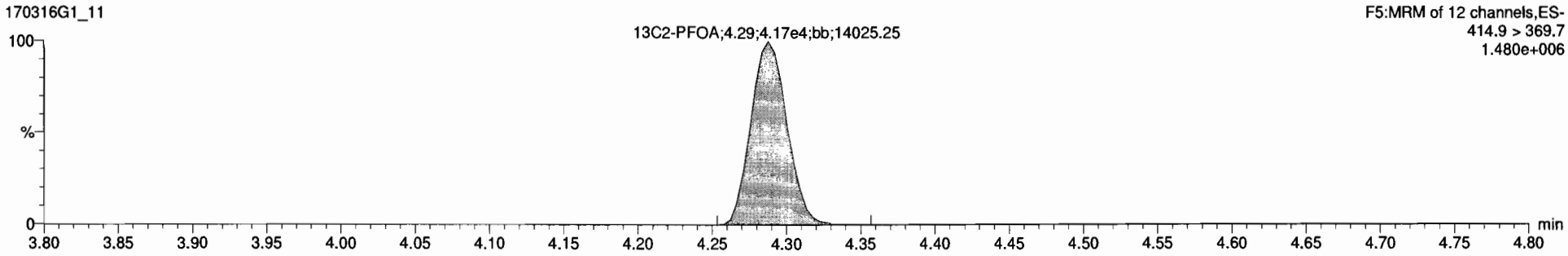
Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

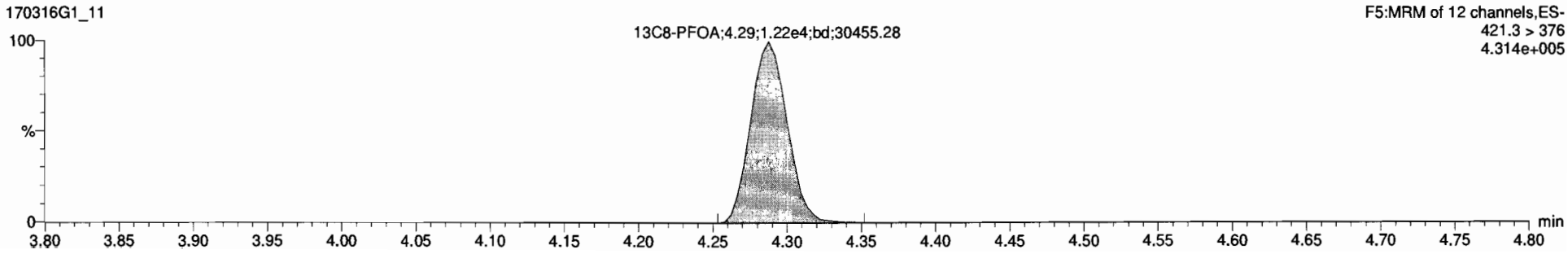
PFOA



13C2-PFOA



13C8-PFOA

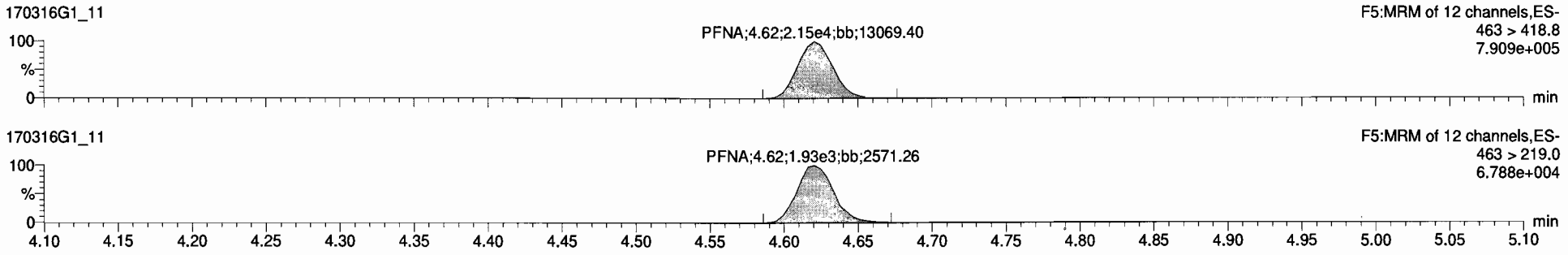


Dataset: Untitled

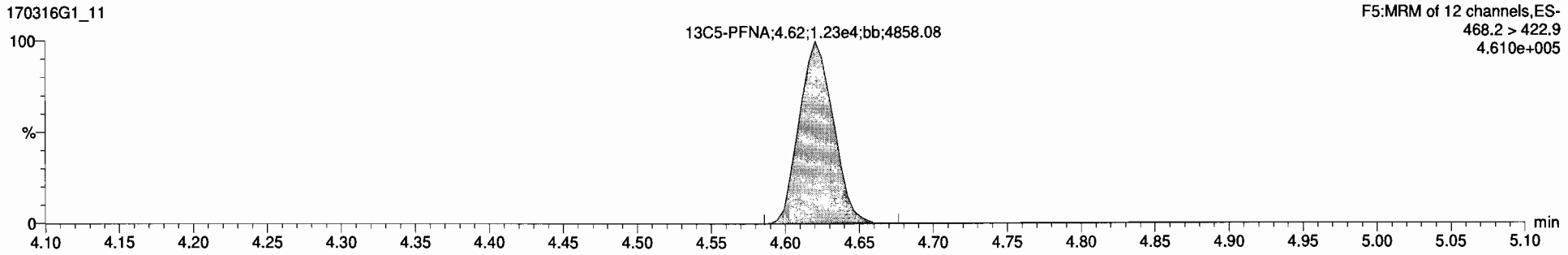
Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

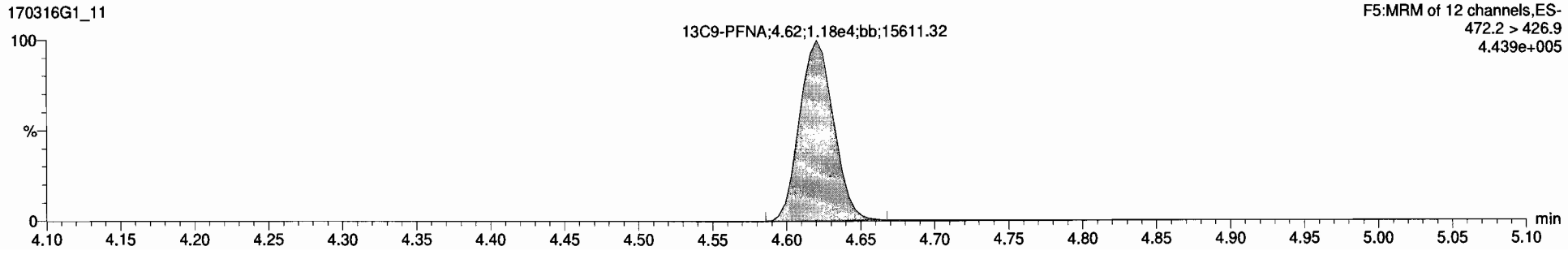
PFNA



13C5-PFNA



13C9-PFNA

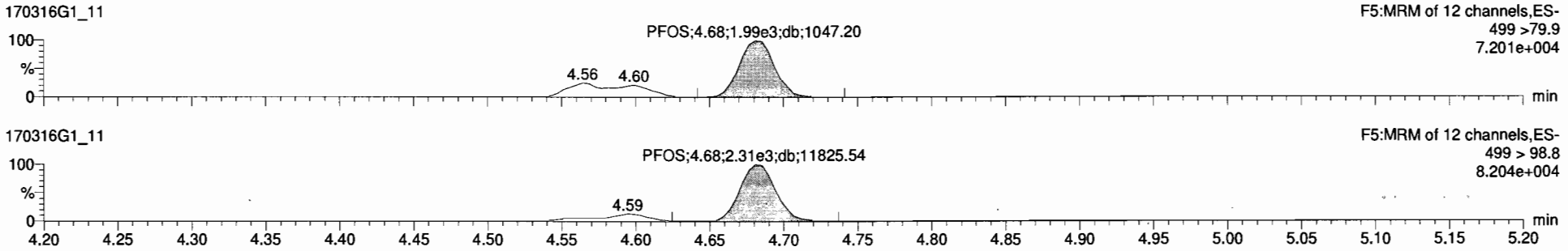


Dataset: Untitled

Last Altered: Thursday, March 16, 2017 14:26:18 Pacific Daylight Time
Printed: Thursday, March 16, 2017 14:26:34 Pacific Daylight Time

ID: SS170316G1-1 PFC SSS 17C1510, Description: PFC SSS 17C01510 A, Name: 170316G1_11, Date: 16-Mar-2017, Time: 12:23:32, Instrument: , Lab: , User:

PFOS



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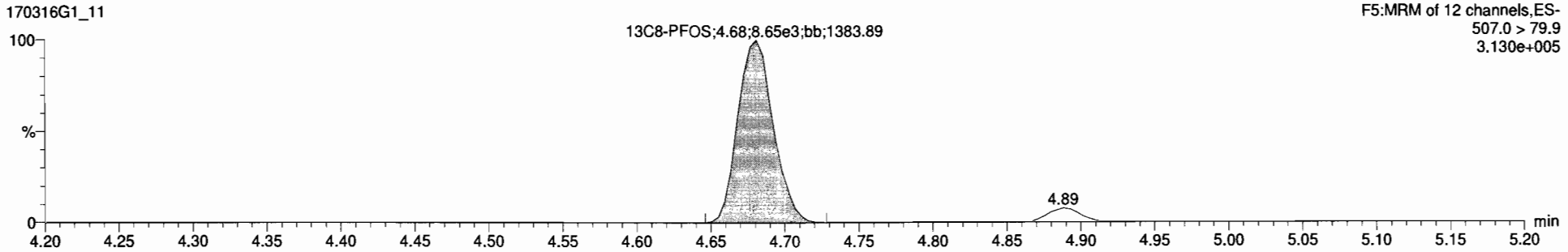

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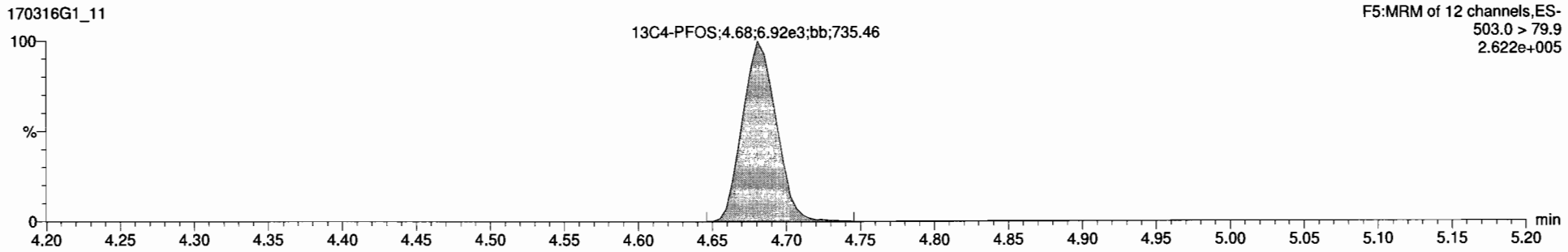

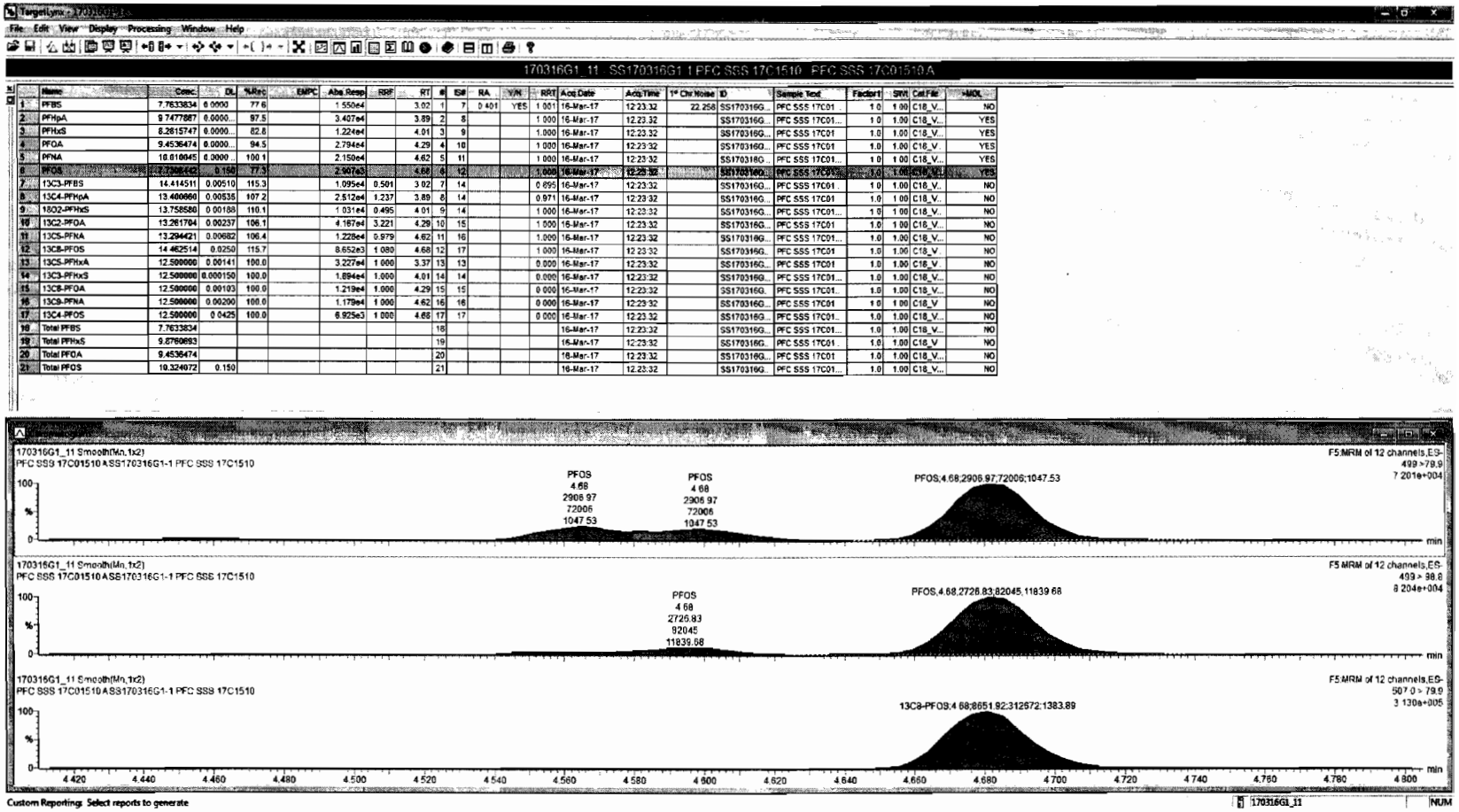

	Name	Conc.	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq Date	Acq Time	1st Chr Noise	ID	Sample Text	Factor1	Sm	Cal File	HiDL
1	PFBS	7.7633834	0.0000	77.6		1.550e4		3.02	1	7	0.401	YES	1.001	16-Mar-17	12:23:32	22.256	SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V...	NO
2	PFHpA	9.7477887	0.0000	97.5		3.407e4		3.89	2	8			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
3	PFHxS	8.2815747	0.0000	82.8		1.224e4		4.01	3	9			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V...	YES
4	PFOA	9.4536474	0.0000	94.5		2.794e4		4.29	4	10			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C16_V...	YES
5	PFNA	10.010045	0.0000	100.1		2.150e4		4.62	5	11			1.000	16-Mar-17	12:23:32		SS170318G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
6	PFOS	13.726642	0.150	77.5		2.907e3		4.68	6	12			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	YES
7	13C3-PFBS	14.414511	0.00510	115.3		1.095e4	0.501	3.02	7	14			0.895	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
8	13C4-PFHpA	13.400660	0.00535	107.2		2.512e4	1.237	3.89	8	14			0.971	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V...	NO
9	18O2-PFHxS	13.758580	0.00188	110.1		1.031e4	0.495	4.01	9	14			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
10	13C2-PFOA	13.261704	0.00237	106.1		4.167e4	3.221	4.29	10	15			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C16_V...	NO
11	13C5-PFNA	13.294421	0.00682	106.4		1.228e4	0.979	4.62	11	16			1.000	16-Mar-17	12:23:32		SS170318G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
12	13C8-PFOS	14.462514	0.0250	115.7		8.652e3	1.080	4.68	12	17			1.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V	NO
13	13C5-PFHxA	12.500000	0.00141	100.0		3.227e4	1.000	3.37	13	13			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C16_V	NO
14	13C3-PFHxS	12.500000	0.000150	100.0		1.894e4	1.000	4.01	14	14			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C16_V...	NO
15	13C8-PFOA	12.500000	0.00103	100.0		1.219e4	1.000	4.29	15	15			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
16	13C9-PFNA	12.500000	0.00200	100.0		1.179e4	1.000	4.62	16	16			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V	NO
17	13C4-PFOS	12.500000	0.0425	100.0		6.925e3	1.000	4.68	17	17			0.000	16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
18	Total PFBS	7.7633834							18					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C18_V...	NO
19	Total PFHxS	9.8760693							19					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C16_V	NO
20	Total PFOA	9.4536474							20					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01	1.0	1.00	C18_V...	NO
21	Total PFOS	10.324072	0.150						21					16-Mar-17	12:23:32		SS170316G...	PFC SSS 17C01...	1.0	1.00	C16_V...	NO

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis_ Group	Analytical_M ethod	PRC_ Code	Lab_ Code	Lab_Name	Leachate_ Method	Sample_B asis	Extraction_Method	Result_ Type	Lab_QC_T ype	Sample_ Medium	QC_ Level	DateTime_ Collected	Date_ Received	Leachate_ Date	Leachate_ Time
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 11:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/22/2017 14:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 12:30	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	03/23/2017 15:45	03/24/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	NONS	SVOA	537_MOD	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/27/2017 09:18	03/27/2017		

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	Extraction_ Date	Extraction _Time	Analysis_ Date	Analysis_ Time	Lab_Sample_I D	Dilution	Run_ Number	Percent_ Moisture	Percent_Li pid	Chem_Name	Analyte_ID	Analyte_V alue	Original_ Analyte_V alue	Result_ Units	Lab_ Qualifier	Validator_Q ualifier
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.03	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.02	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.53	NG_L	J	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			13C3-PFBS	13C3-PFBS		114	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			13C2-PFOA	13C2-PFOA		97.0	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	20170327	09:18:00	20170328	17:09:00	1700367-01	1	-999			13C8-PFOS	13C8-PFOS		92.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.27	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.14	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		17.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			13C3-PFBS	13C3-PFBS		95.6	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			13C2-PFOA	13C2-PFOA		91.3	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	20170327	09:18:00	20170328	17:22:00	1700367-02	1	-999			13C8-PFOS	13C8-PFOS		103	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.03	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.02	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.907	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			13C3-PFBS	13C3-PFBS		105	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			13C2-PFOA	13C2-PFOA		119	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	20170327	09:18:00	20170328	17:34:00	1700367-03	1	-999			13C8-PFOS	13C8-PFOS		105	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.14	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.57	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		1.99	NG_L	J	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			13C3-PFBS	13C3-PFBS		91.6	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			13C2-PFOA	13C2-PFOA		109	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	20170327	09:18:00	20170328	17:47:00	1700367-04	1	-999			13C8-PFOS	13C8-PFOS		110	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		2.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.900	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			13C3-PFBS	13C3-PFBS		126	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			13C2-PFOA	13C2-PFOA		97.9	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	20170327	09:18:00	20170328	16:31:00	B7C0135-BLK1	1	-999			13C8-PFOS	13C8-PFOS		119	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		65.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		64.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		57.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			13C3-PFBS	13C3-PFBS		126	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			13C2-PFOA	13C2-PFOA		96.4	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	20170327	09:18:00	20170328	14:16:00	B7C0135-BS1	1	-999			13C8-PFOS	13C8-PFOS		107	PCT_REC		

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	GC_ Column_ Type	Analysis_ Result_ Type	Result_ Narrative	QC_ Control_ Limit_Code	QC_ Accuracy_ Upper	QC_ Accuracy_ Lower	Control_ Limit_ Date	QC_Narra tive	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch	Validator_ Name	Val_Date
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	TRG									5.0	1.80	4.03	8.06	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	TRG									5.0	0.656	2.02	8.06	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	TRG									5.0	0.813	0.907	8.06	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW14-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	TRG									5.0	1.91	4.27	8.53	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	TRG									5.0	0.694	2.14	8.53	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	TRG									5.0	0.860	0.962	8.53	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032217	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	TRG									5.0	1.80	4.03	8.04	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	TRG									5.0	0.654	2.02	8.04	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	TRG									5.0	0.811	0.907	8.04	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-AOA-MW11-0317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	TRG									5.0	2.30	5.14	10.3	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	TRG									5.0	0.837	2.57	10.3	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	TRG									5.0	1.04	1.16	10.3	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	CBD-EB01-032317	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	TRG									5.0	1.79	4.00	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	TRG									5.0	0.651	2.00	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	TRG									5.0	0.807	0.900	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	Blank	PR	IS		SLSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	TRG		LSA	130	60					5.0	1.79	4.00	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	TRG		LSA	130	70					5.0	0.651	2.00	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	TRG		LSA	130	70					5.0	0.807	0.900	8.00	1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	IS		LSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	IS		LSA	150	60					5.0				1700367	S7C0062		
N6247016D9000	0008		CHESAPEAKE_BEACH_NRL	LCS	PR	IS		LSA	150	60					5.0				1700367	S7C0062		

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
NRL-CBD, MARYLAND

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1700367
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: NRL-CBD, CTO-0008, Maryland
Date: April 18, 2017

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CBD-AOA-MW14-0317	1700367-01	Water
2	CBD-EB01-032217	1700367-02	Water
3	CBD-AOA-MW11-0317	1700367-03	Water
4	CBD-EB01-032317	1700367-04	Water

A full data validation was performed on the analytical data for two water samples and two aqueous equipment blank samples collected on March 22-23, 2017 by CH2M HILL at the NRL-CBD site in Maryland. 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 as qualified for the data quality indicator criteria as detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

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 exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-EB01-032217	PFOS	17.7	U	1
CBD-EB01-032317	PFOS	1.99	None	Associated Sample ND

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- MS/MSD samples were not analyzed.

Ongoing Precision and Recovery (OPR)

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

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

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

Signed: Nancy Weaver Dated: 4/19/17

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.

1

Sample ID: CBD-AOA-MW14-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700367-01	Date Received:	24-Mar-2017 9:09
Project:	NRL-CBD PFAS	Sample Size:	0.124 L	QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Collected:	22-Mar-2017 11:45			Date Analyzed:	28-Mar-17 17:09	Column:	BEH C18
Location:	AOA-MW14						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	**ND**	**1.80**	**4.03**	**8.06**	
PFOA	ND	0.656	2.02	8.06	
PFOS	**1.53** u	**0.813**	**0.907**	**8.06**	EBL ✓

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	**13C3-PFBS**	**114**	**60 - 150**	
IS	13C2-PFOA	97.0	60 - 150	
IS	**13C8-PFOS**	**92.8**	**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 4/18/17

2

Sample ID: CBD-EB01-032217 — Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700367-02	Date Received:	24-Mar-2017 9:09
Project:	NRL-CBD PFAS	Sample Size:	0.117 L	QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Collected:	22-Mar-2017 14:30			Date Analyzed:	28-Mar-17 17:22	Column:	BEH C18
Location:	Equip Blank						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	**ND**	**1.91**	**4.27**	**8.53**	
PFOA	ND	0.694	2.14	8.53	
PFOS	**17.7**	**0.860**	**0.962**	**8.53**	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	**13C3-PFBS**	**95.6**	**60 - 150**	
IS	13C2-PFOA	91.3	60 - 150	
IS	**13C8-PFOS**	**103**	**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 4.18.17

3

Sample ID: CBD-AOA-MW11-0317

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700367-03	Date Received:	24-Mar-2017 9:09
Project:	NRL-CBD PFAS	Sample Size:	0.124 L	QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Collected:	23-Mar-2017 12:30			Date Analyzed:	28-Mar-17 17:34	Column:	BEH C18
Location:	AOA-MW14						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	**ND**	**1.80**	**4.03**	**8.04**	
PFOA	ND	0.654	2.02	8.04	
PFOS	**ND**	**0.811**	**0.907**	**8.04**	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	**13C3-PFBS**	**105**	**60 - 150**	
IS	13C2-PFOA	119	60 - 150	
IS	**13C8-PFOS**	**105**	**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 4/18/17

4

Sample ID: CBD-EB01-032317 — **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700367-04	Date Received:	24-Mar-2017 9:09
Project:	NRL-CBD PFAS	Sample Size:	0.0972 L	QC Batch:	B7C0135	Date Extracted:	27-Mar-2017 9:18
Date Collected:	23-Mar-2017 15:45			Date Analyzed:	28-Mar-17 17:47	Column:	BEH C18
Location:	Equip Blank						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	**2.30**	**5.14**	**10.3**	
PFOA	ND	0.837	2.57	10.3	
PFOS	1.99	**1.04**	**1.16**	**10.3**	**J**

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	**13C3-PFBS**	**91.6**	**60 - 150**	
IS	13C2-PFOA	109	60 - 150	
IS	**13C8-PFOS**	**110**	**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 4/18/17

\\brookside\GIS_SHARE\ENBG\00_Proj\N\Navy\CLEAN\MULTI_REGION\PFC_679580\MapFiles\WA\ChesapeakeBeach\Tech Memo\Figure_9_Detections_Exceedances_GW_Deep.mxd1/23/2018AM038876

Legend

- Newly Installed Deep Monitoring Well Location
- 0.5-foot Contour Interval (dashed where inferred)
- Direction of Deep Groundwater Flow
- Surface Water Centerline
- Site Boundary (suspected source)
- Base Boundary
- Surface Water

N

0 150 300 Feet

1 inch equals 300 feet

Basemap Data: Esri

Figure 9
Analytical Results of PFAS in the Piney Point Aquifer (deep)
Naval Research Laboratory - Chesapeake Bay Detachment
Chesapeake Beach, Maryland