



**Groundwater Sample Results,  
Level 2 Laboratory Report, Level 4 Laboratory Report,  
Electronic Data Deliverable, and Data Validation Report,  
SDG 1700296**

*Naval Air Station Whidbey Island  
Oak Harbor, Washington*

June 2019



March 14, 2017

**Vista Work Order No. 1700296**

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 07, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Navy Clean CTO-08'.

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

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

Sincerely,

A handwritten signature in black ink that reads "Karen Lopez for".

Martha Maier  
Laboratory Director



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

**Vista Work Order No. 1700296**

**Case Narrative**

**Sample Condition on Receipt:**

Eight 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**

All samples contained particulate and were centrifuged prior to extraction.

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

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1700296-01	WI-CV-GW08M-0317	04-Mar-17 12:00	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-02	WI-CV-EB12-030317	03-Mar-17 17:15	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-03	WI-CV-GW07S-0317	04-Mar-17 13:25	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-04	WI-CV-EB13-030417	04-Mar-17 14:30	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-05	WI-CV-GW14M-0317	04-Mar-17 17:00	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-06	WI-CV-GW13S-0317	03-Mar-17 17:05	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-07	WI-CV-GW07M-0317	04-Mar-17 17:15	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-08	WI-CV-EB14-030417	04-Mar-17 17:45	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

## **ANALYTICAL RESULTS**

<b>Sample ID: Method Blank</b>	<b>Modified EPA Method 537</b>
--------------------------------	--------------------------------

Matrix: Aqueous	QC Batch: B7C0034	Lab Sample: B7C0034-BLK1
Sample Size: 0.125 L	Date Extracted: 08-Mar-2017 8:40	Date Analyzed: 09-Mar-17 16:38 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	127	60 - 150	
PFOA	ND	0.651	2.00	8.00		IS 13C2-PFOA	89.3	60 - 150	
PFOS	ND	0.807	0.900	8.00		IS 13C8-PFOS	118	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: B7C0034	Lab Sample: B7C0034-BS1					
Sample Size: 0.125 L	Date Extracted: 08-Mar-2017 8:40	Date Analyzed: 09-Mar-17 16:13 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	81.9	80.0	102	60 - 130	IS 13C3-PFBS	107	60 - 150
PFOA	86.5	80.0	108	70 - 130	IS 13C2-PFOA	81.7	60 - 150
PFOS	88.6	80.0	111	70 - 130	IS 13C8-PFOS	108	60 - 150

LCL-UCL - Lower control limit - upper control limit



**Sample ID: WI-CV-GW08M-0317**

**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-01	Date Received:	07-Mar-2017 10:32
Project:	Navy Clean CTO-08	Sample Size:	0.128 L	QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40
Date Collected:	04-Mar-2017 12:00			Date Analyzed:	09-Mar-17 16:51	Column:	BEH C18
Location:	MW-08M						

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.74	3.91	7.79		IS 13C3-PFBS	117	60 - 150	
PFOA	ND	0.634	1.95	7.79		IS 13C2-PFOA	91.9	60 - 150	
PFOS	ND	0.786	0.879	7.79		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.

**Sample ID: WI-CV-EB12-030317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-02	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.121 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	03-Mar-2017 17:15				Date Analyzed:	09-Mar-17 17:03 Column: BEH C18			
Location:	EB12								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.85	4.13	8.28		IS 13C3-PFBS	105	60 - 150	
PFOA	ND	0.674	2.07	8.28		IS 13C2-PFOA	81.9	60 - 150	
PFOS	ND	0.836	0.930	8.28		IS 13C8-PFOS	101	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-GW07S-0317****Modified EPA Method 537**

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Groundwater		Lab Sample:	1700296-03	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08		Sample Size:	0.114 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 13:25					Date Analyzed:	09-Mar-17 17:16 Column: BEH C18			
Location:	MW-07S									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.97	4.39	8.81		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.717	2.19	8.81		IS 13C2-PFOA	91.0	60 - 150	
PFOS	ND	0.889	0.987	8.81		IS 13C8-PFOS	123	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-EB13-030417**

**Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-04	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.124 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 14:30				Date Analyzed:	09-Mar-17 17:28	Column:	BEH C18	
Location:	EB-13								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.03	8.08		IS 13C3-PFBS	101	60 - 150	
PFOA	ND	0.657	2.02	8.08		IS 13C2-PFOA	89.1	60 - 150	
PFOS	ND	0.815	0.907	8.08		IS 13C8-PFOS	107	60 - 150	

DL - Detection limit  
RL - Reporting limit

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

**Sample ID: WI-CV-GW14M-0317**

**Modified EPA Method 537**

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Groundwater		Lab Sample:	1700296-05	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08		Sample Size:	0.123 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:00					Date Analyzed:	09-Mar-17 17:41		Column: BEH C18	
Location:	MW-14M									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	111	1.82	4.07	8.14		IS 13C3-PFBS	95.5	60 - 150	
PFOA	166	0.662	2.03	8.14		IS 13C2-PFOA	95.4	60 - 150	
PFOS	0.898	0.821	0.915	8.14	J	IS 13C8-PFOS	122	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-GW13S-0317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-06	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.123 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	03-Mar-2017 17:05				Date Analyzed:	09-Mar-17 17:53 Column: BEH C18			
Location:	MW-13S								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.07	8.11		IS 13C3-PFBS	101	60 - 150	
PFOA	ND	0.660	2.03	8.11		IS 13C2-PFOA	89.4	60 - 150	
PFOS	ND	0.818	0.915	8.11		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: WI-CV-GW07M-0317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-07	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.128 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:15				Date Analyzed:	09-Mar-17 18:06 Column: BEH C18			
Location:	MW-07M								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.80		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.635	1.95	7.80		IS 13C2-PFOA	90.0	60 - 150	
PFOS	0.844	0.787	0.879	7.80	J	IS 13C8-PFOS	124	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-EB14-030417****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-08	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.128 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:45				Date Analyzed:	09-Mar-17 18:18 Column: BEH C18			
Location:	EB-14								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.82		IS 13C3-PFBS	110	60 - 150	
PFOA	ND	0.636	1.95	7.82		IS 13C2-PFOA	102	60 - 150	
PFOS	ND	0.789	0.879	7.82		IS 13C8-PFOS	114	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>B</b>	<b>This compound was also detected in the method blank.</b>
<b>D</b>	<b>Dilution</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument.</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits.</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ.</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration. (CA Region 2 projects only)</b>
<b>*</b>	<b>See Cover Letter</b>
<b>Conc.</b>	<b>Concentration</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>

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

**CERTIFICATIONS**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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



# CHAIN OF CUSTODY

For Laboratory Use Only

Laboratory Project ID: 1700296 Temp: 5.7 °C  
Storage ID: WR-2 ES Storage Secured: Yes  No

Project ID: Navy CLEAN CT08 P.O.#: 10006-7-10651 Sampler: B. Mentore  
E. Bilylev  
M. Wither  
679550.09.FI.WS (name)

TAT Standard:  21 days  
(check one): Rush (surcharge may apply)  
 14 days  7 days Specify: \_\_\_\_\_  
City State Ph# Fax#

Invoice to: Name <u>Kathie TIPPIN</u>	Company <u>CH2M</u>	Address <u>Sydney Roughton</u>	City <u>Sydney Roughton</u>	State <u>3/7/17</u>	Ph# <u>1034</u>	Fax#
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time	

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

Method of Shipment: FLX

Add Analysis(es) Requested

Container(s)

Tracking No.:

ATTN: Sample Receiving

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDF	PCDD/PCDF	2378-TCDD	2378-TCDF	PCDD/PCDF	2378-TCDD	2378-TCDF	PCDD/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments	
WI-CV-GW08M-0317	3/4/17	1200	MW-08M	2	0	GW																		
WI-CV-EB12-0317	3/3/17	1715	EB12	2	0	EB																		
WI-CV-GW07S-0317	3/4/17	1325	WM-07S	2	0	GW																		
WI-CV-EB13-030417	3/4/17	1430	EB-13	2	0	EB																		
WI-CV-GW14M-0317	3/4/17	1700	MW-14M	2	0	GW																		
WI-CV-GW13S-0317	3/3/17	1705	MW-13S	2	0	GW																		
WI-CV-GW07M-0317	3/4/17	1715	MW-07M	2	0	GW																		
WI-CV-EB14-030417	3/4/17	1745	EB-14	2	0	EB																		

Special Instructions/Comments: \_\_\_\_\_

SEND DOCUMENTATION AND RESULTS TO:

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

Container Types: A = 1 Liter Amber, G = Glass Jar  
P = HDPE. Work Order: 1700296 5 ml HDPE

Bottle Preservation Type: T = Thiosulfate,  
TZ = Trizma: 60°C

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

# SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700296 TAT 7

Samples Arrival:	Date/Time <u>3/7/17 1032</u>	Initials: <u>SR</u>	Location: <u>WR-2</u> Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>03/07/17 1047</u>	Initials: <u>SRB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>E5</u>
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: <u>5.4</u> (uncorrected)	Time: <u>1036</u>	Thermometer ID: IR-1	
Temp °C: <u>5.7</u> (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>		

SR 3/7/17

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7858 1693 1746</u>			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Preservation Documented:	Yes	<input checked="" type="radio"/> No	NA
	<u>Vista</u>	Trizma	
Shipping Container	<input type="radio"/> Vista	<input type="radio"/> Client	<input type="radio"/> Retain
	<input type="radio"/> Return	<input type="radio"/> Dispose	

Comments:

March 14, 2017

**Vista Work Order No. 1700296**

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 07, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Navy Clean CTO-08'.

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

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

Sincerely,



Martha Maier  
Laboratory Director



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

**Vista Work Order No. 1700296**

**Case Narrative**

**Sample Condition on Receipt:**

Eight 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**

All samples contained particulate and were centrifuged prior to extraction.

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
1700296-01	WI-CV-GW08M-0317	04-Mar-17 12:00	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-02	WI-CV-EB12-030317	03-Mar-17 17:15	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-03	WI-CV-GW07S-0317	04-Mar-17 13:25	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-04	WI-CV-EB13-030417	04-Mar-17 14:30	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-05	WI-CV-GW14M-0317	04-Mar-17 17:00	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-06	WI-CV-GW13S-0317	03-Mar-17 17:05	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-07	WI-CV-GW07M-0317	04-Mar-17 17:15	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700296-08	WI-CV-EB14-030417	04-Mar-17 17:45	07-Mar-17 10:32	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

## **ANALYTICAL RESULTS**

Sample ID: Method Blank						Modified EPA Method 537			
Matrix: Aqueous Sample Size: 0.125 L		QC Batch: B7C0034 Date Extracted: 08-Mar-2017 8:40		Lab Sample: B7C0034-BLK1 Date Analyzed: 09-Mar-17 16:38 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	127	60 - 150	
PFOA	ND	0.651	2.00	8.00		IS 13C2-PFOA	89.3	60 - 150	
PFOS	ND	0.807	0.900	8.00		IS 13C8-PFOS	118	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 Sample Size: 0.125 L	QC Batch: B7C0034 Date Extracted: 08-Mar-2017 8:40	Lab Sample: B7C0034-BS1 Date Analyzed: 09-Mar-17 16:13 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	81.9	80.0	102	60 - 130	IS 13C3-PFBS	107	60 - 150
PFOA	86.5	80.0	108	70 - 130	IS 13C2-PFOA	81.7	60 - 150
PFOS	88.6	80.0	111	70 - 130	IS 13C8-PFOS	108	60 - 150

LCL-UCL - Lower control limit - upper control limit

**Sample ID: WI-CV-GW08M-0317**

**Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-01	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.128 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 12:00				Date Analyzed:	09-Mar-17 16:51 Column: BEH C18			
Location:	MW-08M								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.74	3.91	7.79		IS 13C3-PFBS	117	60 - 150	
PFOA	ND	0.634	1.95	7.79		IS 13C2-PFOA	91.9	60 - 150	
PFOS	ND	0.786	0.879	7.79		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.

**Sample ID: WI-CV-EB12-030317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-02	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.121 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	03-Mar-2017 17:15				Date Analyzed:	09-Mar-17 17:03 Column: BEH C18			
Location:	EB12								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.85	4.13	8.28		IS 13C3-PFBS	105	60 - 150	
PFOA	ND	0.674	2.07	8.28		IS 13C2-PFOA	81.9	60 - 150	
PFOS	ND	0.836	0.930	8.28		IS 13C8-PFOS	101	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-GW07S-0317****Modified EPA Method 537**

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Groundwater		Lab Sample:	1700296-03	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08		Sample Size:	0.114 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 13:25					Date Analyzed:	09-Mar-17 17:16 Column: BEH C18			
Location:	MW-07S									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.97	4.39	8.81		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.717	2.19	8.81		IS 13C2-PFOA	91.0	60 - 150	
PFOS	ND	0.889	0.987	8.81		IS 13C8-PFOS	123	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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



**Sample ID: WI-CV-EB13-030417**

**Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-04	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.124 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 14:30				Date Analyzed:	09-Mar-17 17:28 Column: BEH C18			
Location:	EB-13								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.03	8.08		IS 13C3-PFBS	101	60 - 150	
PFOA	ND	0.657	2.02	8.08		IS 13C2-PFOA	89.1	60 - 150	
PFOS	ND	0.815	0.907	8.08		IS 13C8-PFOS	107	60 - 150	

DL - Detection limit  
RL - Reporting limit

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

**Sample ID: WI-CV-GW14M-0317****Modified EPA Method 537**

Client Data			Sample Data			Laboratory Data				
Name:	CH2M Hill		Matrix:	Groundwater		Lab Sample:	1700296-05	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08		Sample Size:	0.123 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:00					Date Analyzed:	09-Mar-17 17:41		Column: BEH C18	
Location:	MW-14M									

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	111	1.82	4.07	8.14		IS 13C3-PFBS	95.5	60 - 150	
PFOA	166	0.662	2.03	8.14		IS 13C2-PFOA	95.4	60 - 150	
PFOS	0.898	0.821	0.915	8.14	J	IS 13C8-PFOS	122	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-GW13S-0317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-06	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.123 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	03-Mar-2017 17:05				Date Analyzed:	09-Mar-17 17:53 Column: BEH C18			
Location:	MW-13S								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.07	8.11		IS 13C3-PFBS	101	60 - 150	
PFOA	ND	0.660	2.03	8.11		IS 13C2-PFOA	89.4	60 - 150	
PFOS	ND	0.818	0.915	8.11		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: WI-CV-GW07M-0317****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-07	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.128 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:15				Date Analyzed:	09-Mar-17 18:06 Column: BEH C18			
Location:	MW-07M								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.80		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.635	1.95	7.80		IS 13C2-PFOA	90.0	60 - 150	
PFOS	0.844	0.787	0.879	7.80	J	IS 13C8-PFOS	124	60 - 150	

DL - Detection limit  
 RL - Reporting limit

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

**Sample ID: WI-CV-EB14-030417****Modified EPA Method 537**

Client Data		Sample Data			Laboratory Data				
Name:	CH2M Hill	Matrix:	Groundwater		Lab Sample:	1700296-08	Date Received:	07-Mar-2017 10:32	
Project:	Navy Clean CTO-08	Sample Size:	0.128 L		QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40	
Date Collected:	04-Mar-2017 17:45				Date Analyzed:	09-Mar-17 18:18 Column: BEH C18			
Location:	EB-14								

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.82		IS 13C3-PFBS	110	60 - 150	
PFOA	ND	0.636	1.95	7.82		IS 13C2-PFOA	102	60 - 150	
PFOS	ND	0.789	0.879	7.82		IS 13C8-PFOS	114	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>B</b>	<b>This compound was also detected in the method blank.</b>
<b>D</b>	<b>Dilution</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument.</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits.</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ.</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration. (CA Region 2 projects only)</b>
<b>*</b>	<b>See Cover Letter</b>
<b>Conc.</b>	<b>Concentration</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>

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

**CERTIFICATIONS**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
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



# CHAIN OF CUSTODY

**For Laboratory Use Only**  
 Laboratory Project ID: 1700296 Temp: 5.7 °C  
 Storage ID: WR-2 ES Storage Secured: Yes  No

Project ID: Navy CLEAN CT08 P.O.#: 10006-7-10651 Sampler: B. Mentore  
E. Bilcyk  
M. Wither  
679550.09.FI.WS (name)

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

Invoice to: Name Kelise Tippin Company CH2M Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Ph# \_\_\_\_\_ Fax# \_\_\_\_\_  
 Relinquished by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by (printed name and signature) Sydney Roughton Date 3/7/17 Time 1034

Relinquished by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

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

Method of Shipment: FLA EX

Add Analysis(es) Requested			EPA 1613	EPA 8280	EPA 8280	EPA 1668	EPA 1614	CARB-129										
Container(s)																		
Quantity	Type	Matrix	2378-TCDD	2378-TCDD	PCDD/F/PCDF	2378-TCDD	2378-TCDD	PCDD/F/PCDF	2378-TCDD	2378-TCDD	PCDD/F/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537

Tracking No.: \_\_\_\_\_

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD	PCDD/F/PCDF	2378-TCDD	2378-TCDD	PCDD/F/PCDF	2378-TCDD	2378-TCDD	PCDD/F/PCDF	TOTALS	COPLANAR PCB's	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Comments	
WI-CV-GW08M-0317	3/4/17	1200	MW-08M	2	0	GW																	X	
WI-CV-EB12-030317	3/3/17	1715	EB12	2	0	EB																	X	
WI-CV-GW07S-0317	3/4/17	1325	WM-07S	2	0	GW																	X	
WI-CV-EB13-030417	3/4/17	1430	EB-13	2	0	EB																	X	
WI-CV-GW14M-0317	3/4/17	1700	MW-14M	2	0	GW																	X	
WI-CV-GW13S-0317	3/3/17	1705	MW-13S	2	0	GW																	X	
WI-CV-GW07M-0317	3/4/17	1715	MW-07M	2	0	GW																	X	
WI-CV-EB14-030417	3/4/17	1745	EB-14	2	0	EB																	X	

Special Instructions/Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**SEND DOCUMENTATION AND RESULTS TO:**

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

### SAMPLE LOG-IN CHECKLIST



Vista Project #: 1700296 TAT 7

Samples Arrival:	Date/Time <u>3/7/17 1032</u>	Initials: <u>SR</u>	Location: <u>WR-2</u> Shelf/Rack: <u>N/A</u>
Logged In:	Date/Time <u>03/07/17 1047</u>	Initials: <u>SRB</u>	Location: <u>WR-2</u> Shelf/Rack: <u>E5</u>
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: <u>5.4</u> (uncorrected)	Time: <u>1036</u>	Thermometer ID: IR-1	
Temp °C: <u>5.7</u> (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>		

SR 3/7/17

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # <u>7858 1693 1746</u>			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Preservation Documented:	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> NA
	<input type="radio"/> Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	<input type="radio"/> Trizma	
Shipping Container	<input checked="" type="radio"/> Vista	<input type="radio"/> Client	<input type="radio"/> Retain
	<input type="radio"/> Return	<input type="radio"/> Dispose	

Comments:

## **EXTRACTION INFORMATION**

Process Sheet  
 Workorder: **1700296**



Prep Expiration: 2017-Mar-17  
 Client: CH2M Hill

Workorder Due: 14-Mar-17 00:00

TAT: 7

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

Prep Batch: BFC0034

Prep Data Entered: 3/9/17 ZAC  
Date and Initials

Version: PFOA, PFOS, PFBS

Initial Sequence: \_\_\_\_\_

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700296-01	<input checked="" type="checkbox"/>	WI-CV-GW08M-0317	07-Mar-17 10:32	WR-2 E-5	
1700296-02	<input checked="" type="checkbox"/>	WI-CV-EB12-030317	07-Mar-17 10:32	WR-2 E-5	
1700296-03	<input checked="" type="checkbox"/>	WI-CV-GW07S-0317	07-Mar-17 10:32	WR-2 E-5	
1700296-04	<input checked="" type="checkbox"/>	WI-CV-EB13-030417	07-Mar-17 10:32	WR-2 E-5	
1700296-05	<input checked="" type="checkbox"/>	WI-CV-GW14M-0317	07-Mar-17 10:32	WR-2 E-5	
1700296-06	<input checked="" type="checkbox"/>	WI-CV-GW13S-0317	07-Mar-17 10:32	WR-2 E-5	
1700296-07	<input checked="" type="checkbox"/>	WI-CV-GW07M-0317	07-Mar-17 10:32	WR-2 E-5	
1700296-08	<input checked="" type="checkbox"/>	WI-CV-EB14-030417	07-Mar-17 10:32	WR-2 E-5	

Vista PM: Martha Maier

Vial Box ID: Carthagen

Sample Reconciled By: [Signature] 3/8/17

# Percent Solids



Project: B7C0034

Balance ID: N/A

Sample ID	Chemist: <u>N/A</u> Date: <u>  </u> Time: <u>  </u>		Chemist: <u>N/A</u> Date: <u>  </u> Time: <u>  </u>		Chemist/Date <u>JK</u> 3/8/17	
	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH after	CF
1700296-01 <sup>ⓑ</sup>				7	2	ⓐ
<u>JK Hc 3/8/17</u>				N/A	N/A	N/A
1700296-02 <sup>ⓐ</sup>				5	2	ⓐ
-03 <sup>ⓑ</sup>				7	2	ⓐ
-04 <sup>ⓐ</sup>				5	2	ⓐ
-05 <sup>ⓑ</sup>				7	2	ⓐ
-06 <sup>ⓑ</sup>				7	2	ⓐ
-07 <sup>ⓑ</sup>				7	2	ⓐ
-08 <sup>ⓐ</sup>				5	2	ⓐ
1700298-01 <sup>ⓐ</sup>				7	2	ⓐ

**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:**

- ⓐ 2 dropps HCl to adjust pH to 2.0
- ⓑ 3 dropps HCl to adjust pH to 2.0
- ⓒ 6 dropps HCl to adjust pH 2

Hc 3/8/17

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

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS

Method: 537 PFAS DOD (LOO as mRL)

B7C0034

Chemist: E. Schneider

Prep Date/Time: 08-Mar-17 08:40

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	RS CHEM/WIT DATE
<input type="checkbox"/>	B7C0034-BLK1 (A)	N/A	N/A	(0.250) <sup>0.125</sup>	ES HC 3/8/17	HC 3/8/17	ES HC 3/8/17
<input type="checkbox"/>	B7C0034-BS1 (A)	↓	↓	↓ 0.125			
<input type="checkbox"/>	1700296-01 (B)	155.27	26.97	0.1283 ✓	↓	↓	↓
<input type="checkbox"/>	1700296-02	147.48	26.77	0.12071			
<input type="checkbox"/>	1700296-03	140.31	26.78	0.11353			
<input type="checkbox"/>	1700296-04	150.78	26.97	0.12381			
<input type="checkbox"/>	1700296-05	149.81	26.93	0.12288			
<input type="checkbox"/>	1700296-06	150.14	26.78	0.12396			
<input type="checkbox"/>	1700296-07	155.02	26.87	0.12815			
<input type="checkbox"/>	1700296-08	154.62	26.75	0.12787			
<input type="checkbox"/>	1700298-01	237.95	27.40	0.21055			

(A) 0.625g trizma added to QCs HC 3/8/17

(B) centrifuged samples to remove gelatinous substance HC 3/8/17

IS Name	NS Name	RS Name	SPE Chem:	Check Out:
16L1920, 10µl (V3)	16I2905, 10µl (V2)	17A1201, 10µl (V3)	Strata XAW 33µm 200mg Ele SOLV: 0.5% NH4OH in MeOH + MeOH Final Volume(s) 1 mL	3/8/17 HC Chemist/Date: Check In: Chemist/Date: N/A Balance ID: HRMS-8

Comments: Assume 1 g = 1 mL

**SAMPLE DATA – MODIFIED EPA METHOD 537**



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:57:24 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\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	4.079e0	6.326e3		0.125	3.00		
2	2 PFHpA	363 > 318.9	2.743e1	1.448e4		0.125	3.89		
3	3 PFHxS	398.9 > 79.6	2.611e1	6.570e3		0.125	4.00		
4	4 PFOA	413 > 368.7	1.963e2	2.815e4		0.125	4.28		
5	5 PFNA	463 > 418.8		7.611e3		0.125			
6	6 PFOS	499 > 79.9		8.918e3		0.125			
7	7 13C3-PFBS	302.0 > 98.8	6.326e3	1.216e4	0.410	0.125	2.99	127	127
8	8 13C4-PFHpA	367.2 > 321.8	1.448e4	1.216e4	1.098	0.125	3.88	109	109
9	9 18O2-PFHxS	403 > 102.6	6.570e3	1.216e4	0.434	0.125	4.00	124	124
10	10 13C2-PFOA	414.9 > 369.7	2.815e4	6.836e3	4.608	0.125	4.28	89.3	89.3
11	11 13C5-PFNA	468.2 > 422.9	7.611e3	8.256e3	0.867	0.125	4.61	106	106
12	12 13C8-PFOS	507.0 > 79.9	8.918e3	7.866e3	0.958	0.125	4.67	118	118
13	13 13C5-PFHxA	318>272.9	2.215e4	2.215e4	1.000	0.125	3.37	100	100
14	14 13C3-PFHxS	401.9 > 79.9	1.216e4	1.216e4	1.000	0.125	4.00	100	100
15	15 13C8-PFOA	421.3 > 376	6.836e3	6.836e3	1.000	0.125	4.28	100	100
16	16 13C9-PFNA	472.2 > 426.9	8.256e3	8.256e3	1.000	0.125	4.61	100	100
17	17 13C4-PFOS	503.0 > 79.9	7.866e3	7.866e3	1.000	0.125	4.68	100	100
18	18 Total PFBS	299 > 79.7		6.570e3		0.125			
19	19 Total PFHxS	398.9 > 79.6		6.570e3		0.125			
20	20 Total PFOA	413 > 368.7		2.815e4		0.125			
21	21 Total PFOS	499 > 79.9		8.918e3		0.125			

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:57:24 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\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38

**Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	18 Total PFBS	299 > 79.7	3.00	4.079	6569.784	
2	1 PFBS	299 > 79.7	3.00	4.079	6325.771	

**Total PFHxS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	398.9 > 79.6	4.00	26.106	6569.784	

**Total PFOA**

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	413 > 368.7	4.28	196.284	28145.277	

**Total PFOS**

	# Name	Trace	RT	Area	IS Area	Conc.
1						

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

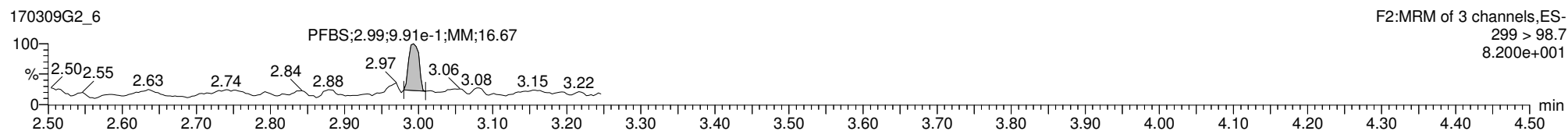
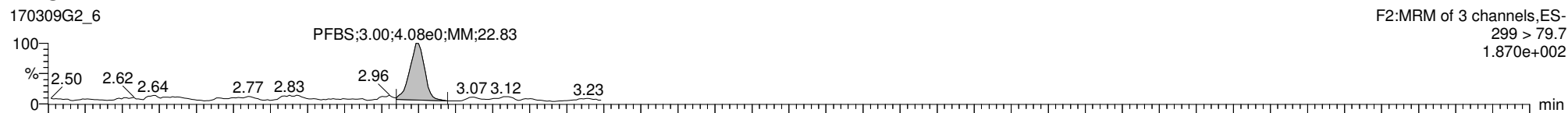
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 12:26:53

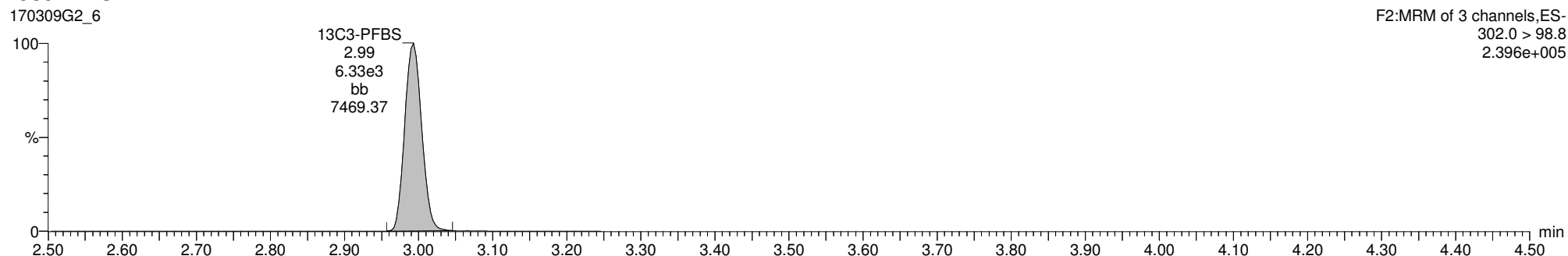
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

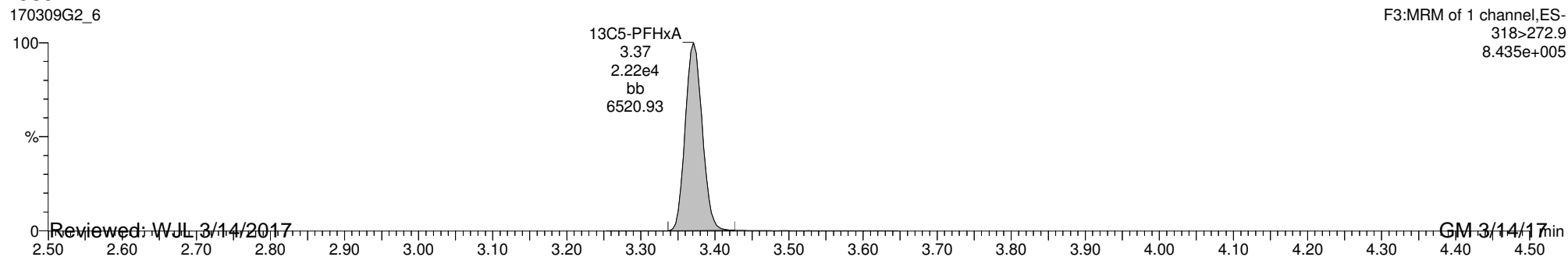
**PFBS**



**13C3-PFBS**



**13C5-PFHxA**



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

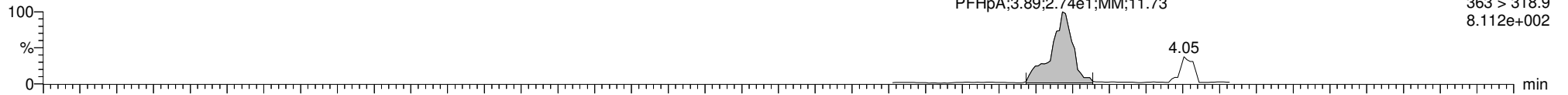
Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time  
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

**PFHpA**

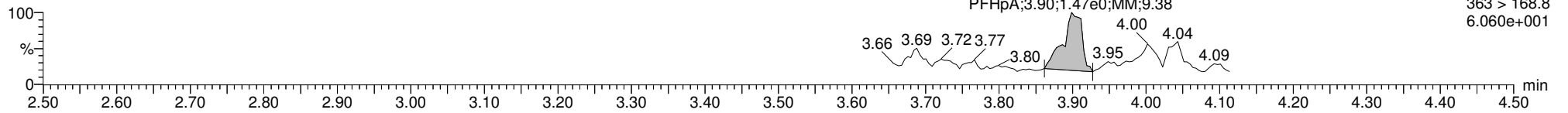
170309G2\_6

F4:MRM of 7 channels,ES-  
363 > 318.9  
8.112e+002



170309G2\_6

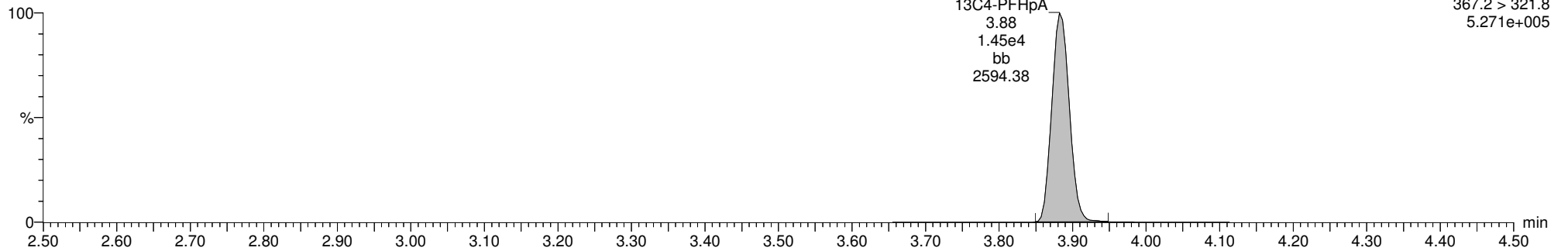
F4:MRM of 7 channels,ES-  
363 > 168.8  
6.060e+001



**13C4-PFHpA**

170309G2\_6

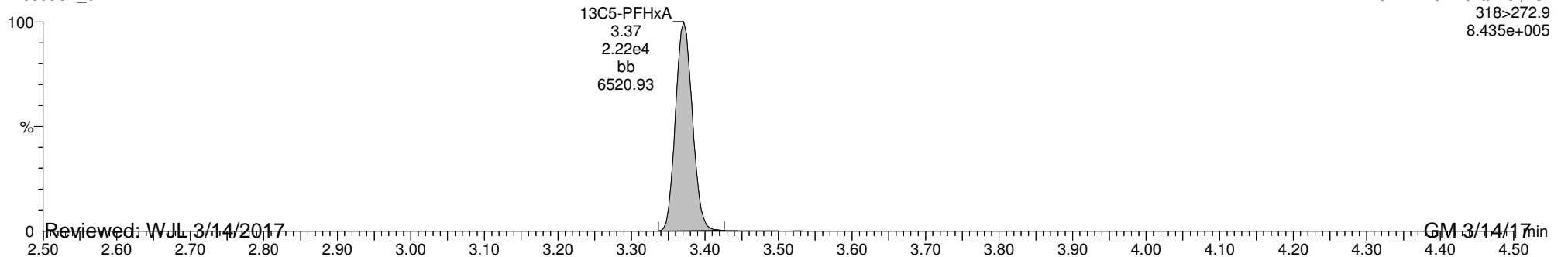
F4:MRM of 7 channels,ES-  
367.2 > 321.8  
5.271e+005



**13C5-PFHxA**

170309G2\_6

F3:MRM of 1 channel,ES-  
318>272.9  
8.435e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

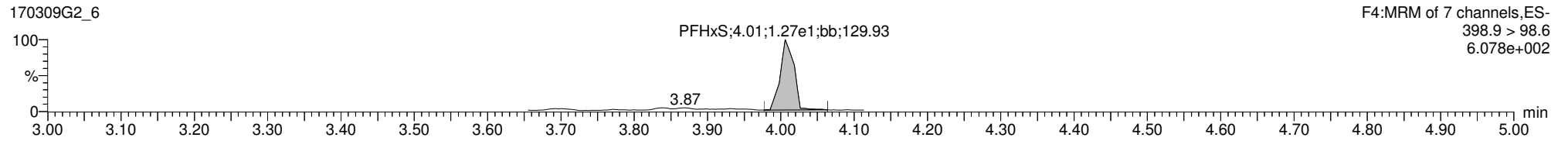
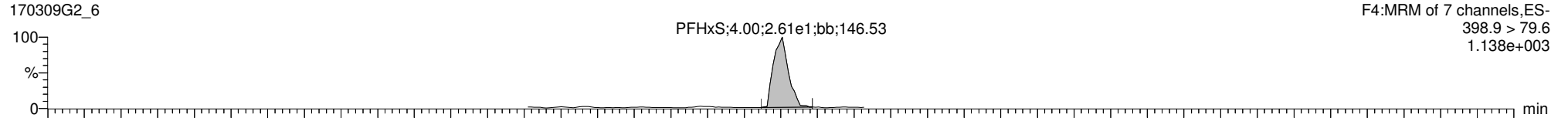
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Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

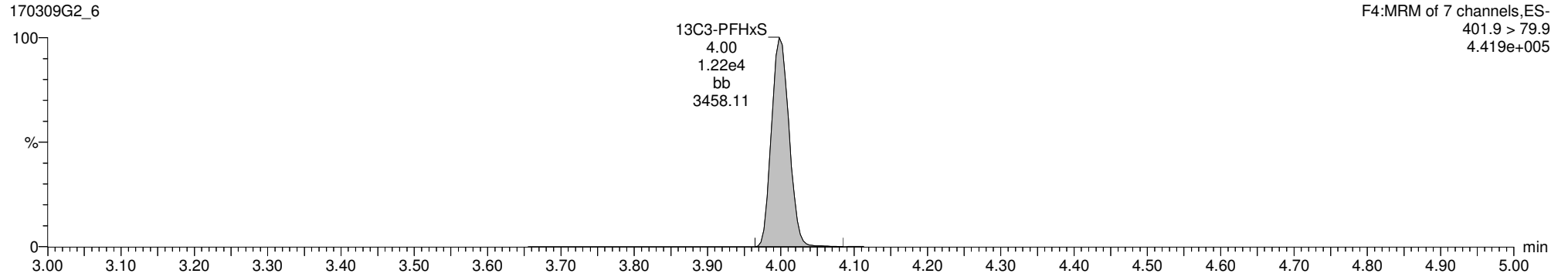
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

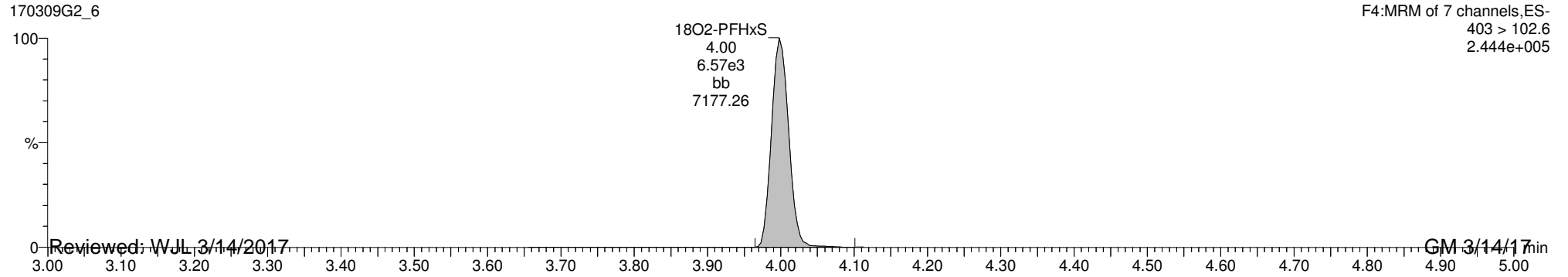
**Total PFHxS**



**13C3-PFHxS**



**18O2-PFHxS**



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

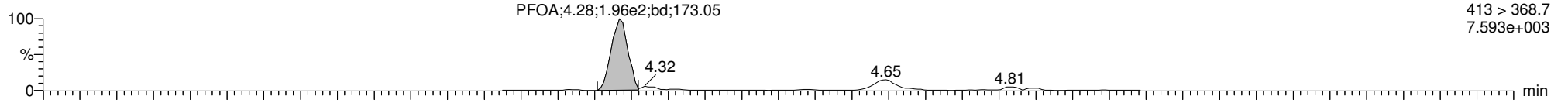
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

**Total PFOA**

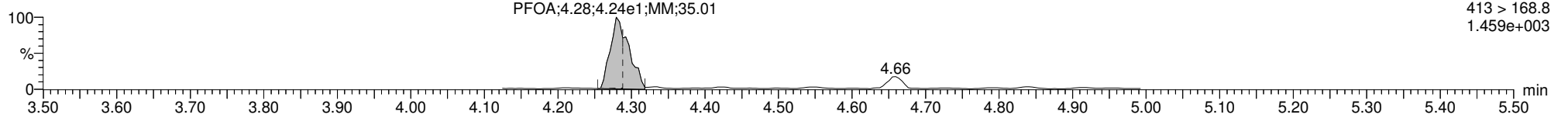
170309G2\_6

F5:MRM of 12 channels,ES-  
413 > 368.7  
7.593e+003



170309G2\_6

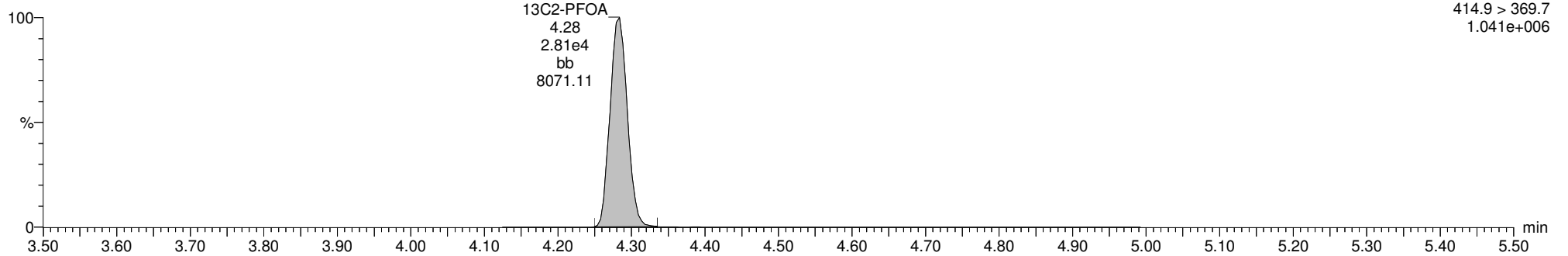
F5:MRM of 12 channels,ES-  
413 > 168.8  
1.459e+003



**13C2-PFOA**

170309G2\_6

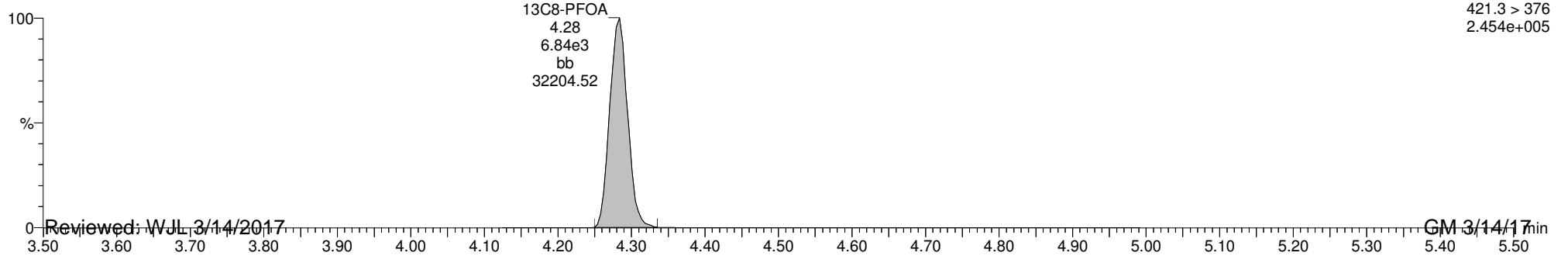
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.041e+006



**13C8-PFOA**

170309G2\_6

F5:MRM of 12 channels,ES-  
421.3 > 376  
2.454e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

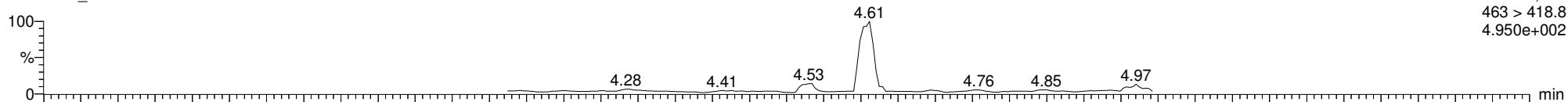
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

**PFNA**

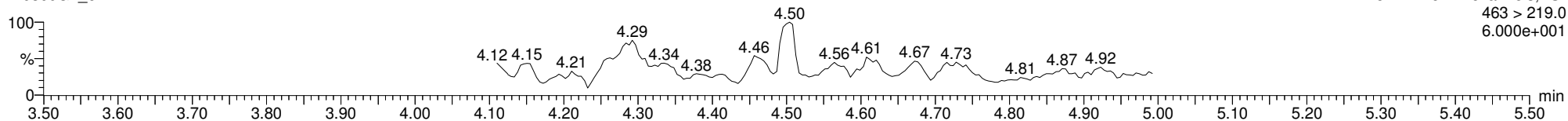
170309G2\_6

F5:MRM of 12 channels,ES-  
463 > 418.8  
4.950e+002



170309G2\_6

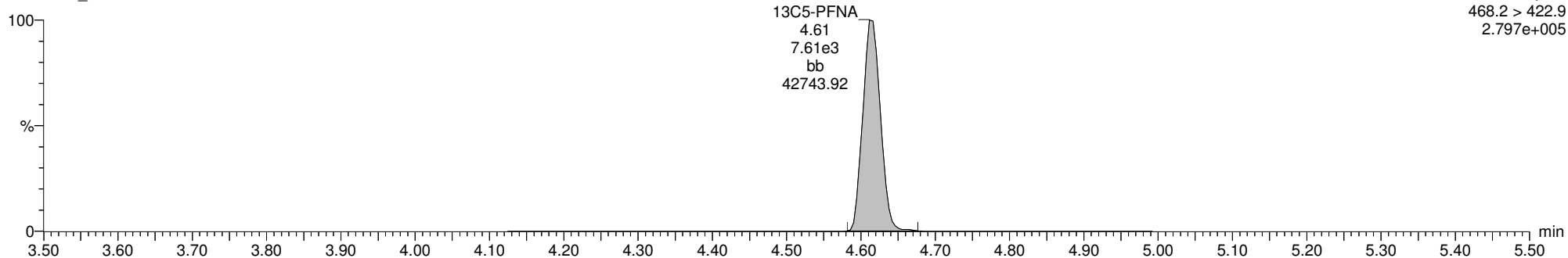
F5:MRM of 12 channels,ES-  
463 > 219.0  
6.000e+001



**13C5-PFNA**

170309G2\_6

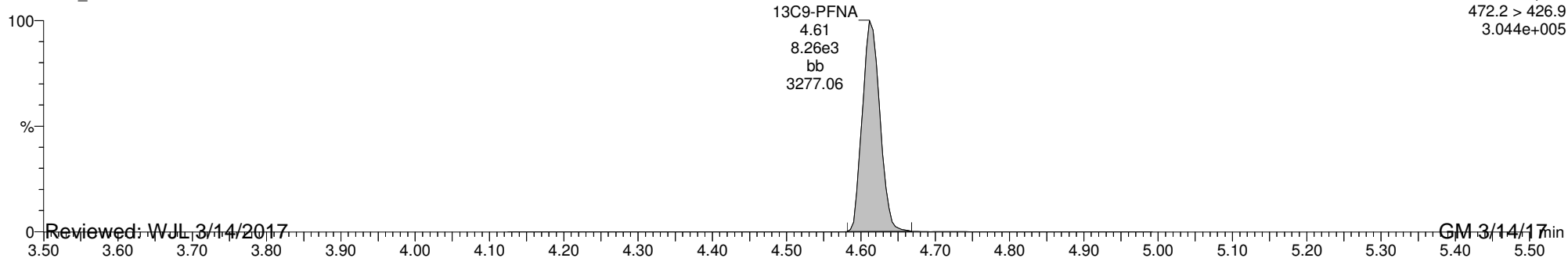
F5:MRM of 12 channels,ES-  
468.2 > 422.9  
2.797e+005



**13C9-PFNA**

170309G2\_6

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
3.044e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-6.qld

Last Altered: Tuesday, March 14, 2017 10:57:00 Pacific Daylight Time

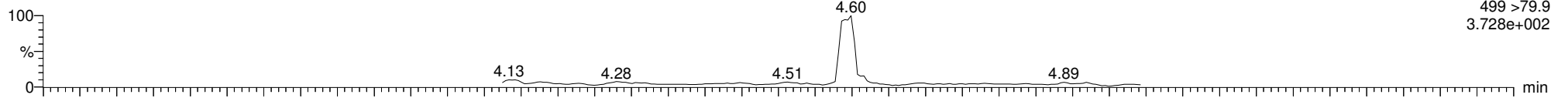
Printed: Tuesday, March 14, 2017 10:57:24 Pacific Daylight Time

ID: B7C0034-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170309G2\_6, Date: 09-Mar-2017, Time: 16:38:38, Instrument: , Lab: , User:

**Total PFOS**

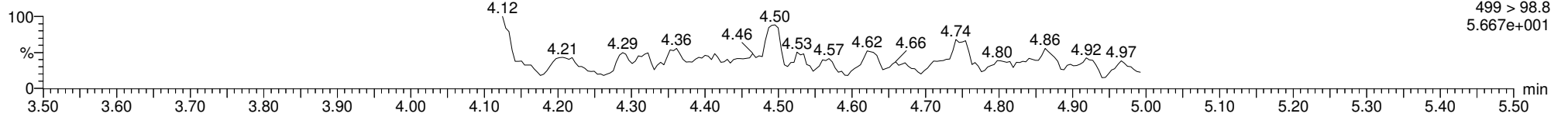
170309G2\_6

F5:MRM of 12 channels,ES-  
499 >79.9  
3.728e+002



170309G2\_6

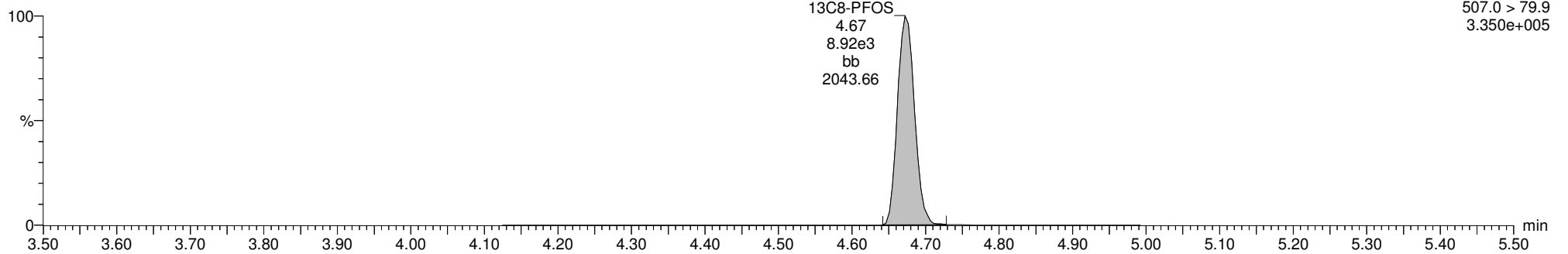
F5:MRM of 12 channels,ES-  
499 > 98.8  
5.667e+001



**13C8-PFOS**

170309G2\_6

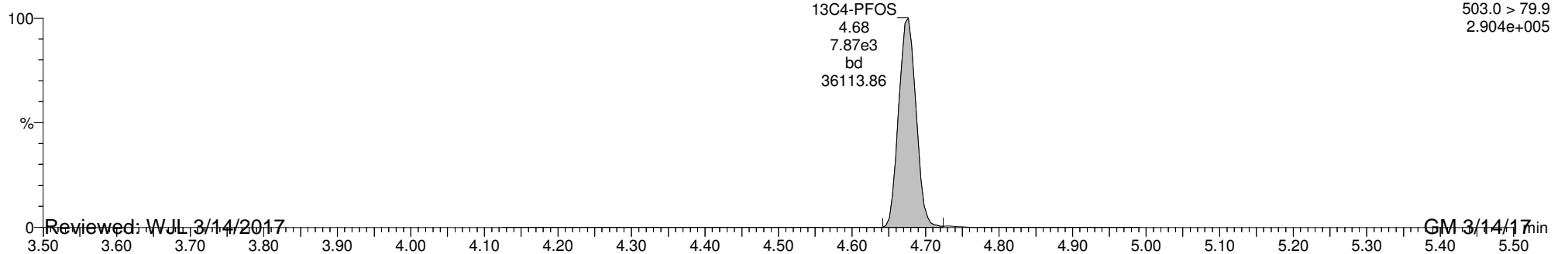
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
3.350e+005



**13C4-PFOS**

170309G2\_6

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
2.904e+005



Reviewed: WJL 3/14/2017

GM 3/14/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:50:39 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\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.240e4	6.338e3		0.125	2.99	81.9	102
2	2 PFHpA	363 > 318.9	2.418e4	1.638e4		0.125	3.88	81.5	102
3	3 PFHxS	398.9 > 79.6	9.937e3	7.001e3		0.125	4.00	77.8	97.3
4	4 PFOA	413 > 368.7	2.127e4	3.032e4		0.125	4.28	86.5	108
5	5 PFNA	463 > 418.8	1.748e4	8.372e3		0.125	4.61	76.0	95.0
6	6 PFOS	499 > 79.9	4.143e3	8.764e3		0.125	4.67	88.6	111
7	7 13C3-PFBS	302.0 > 98.8	6.338e3	1.451e4	0.410	0.125	2.99	107	107
8	8 13C4-PFHpA	367.2 > 321.8	1.638e4	1.451e4	1.098	0.125	3.88	103	103
9	9 18O2-PFHxS	403 > 102.6	7.001e3	1.451e4	0.434	0.125	4.00	111	111
10	10 13C2-PFOA	414.9 > 369.7	3.032e4	8.057e3	4.608	0.125	4.28	81.7	81.7
11	11 13C5-PFNA	468.2 > 422.9	8.372e3	8.979e3	0.867	0.125	4.61	108	108
12	12 13C8-PFOS	507.0 > 79.9	8.764e3	8.467e3	0.958	0.125	4.67	108	108
13	13 13C5-PFHxA	318>272.9	2.252e4	2.252e4	1.000	0.125	3.37	100	100
14	14 13C3-PFHxS	401.9 > 79.9	1.451e4	1.451e4	1.000	0.125	4.00	100	100
15	15 13C8-PFOA	421.3 > 376	8.057e3	8.057e3	1.000	0.125	4.28	100	100
16	16 13C9-PFNA	472.2 > 426.9	8.979e3	8.979e3	1.000	0.125	4.61	100	100
17	17 13C4-PFOS	503.0 > 79.9	8.467e3	8.467e3	1.000	0.125	4.67	100	100
18	18 Total PFBS	299 > 79.7		7.001e3		0.125		81.9	
19	19 Total PFHxS	398.9 > 79.6		7.001e3		0.125		77.8	
20	20 Total PFOA	413 > 368.7		3.032e4		0.125		86.5	
21	21 Total PFOS	499 > 79.9		8.764e3		0.125		88.6	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:50:39 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\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33

**Total PFBS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	299 > 79.7	2.99	12400.189	6338.477	81.9

**Total PFHxS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	398.9 > 79.6	4.00	9937.394	7000.535	77.8

**Total PFOA**

#	Name	Trace	RT	Area	IS Area	Conc.
1	20 Total PFOA	413 > 368.7	4.66	59.737	30316.322	
2	20 Total PFOA	413 > 368.7	4.54	5.196	30316.322	
3	20 Total PFOA	413 > 368.7	4.45	14.105	30316.322	
4	20 Total PFOA	413 > 368.7	4.39	18.677	30316.322	
5	4 PFOA	413 > 368.7	4.28	21269.826	30316.322	86.5
6	20 Total PFOA	413 > 368.7	4.19	6.076	30316.322	

**Total PFOS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	6 PFOS	499 > 79.9	4.67	4142.626	8764.335	88.6

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:50:39 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\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 09:35:26

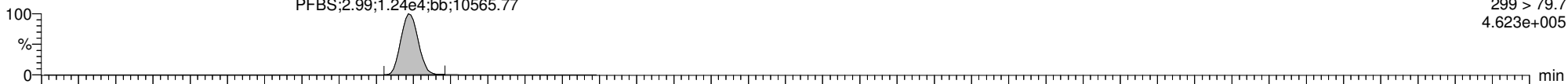
ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33, Instrument: , Lab: , User:

**PFBS**

170309G2\_4

PFBS;2.99;1.24e4;bb;10565.77

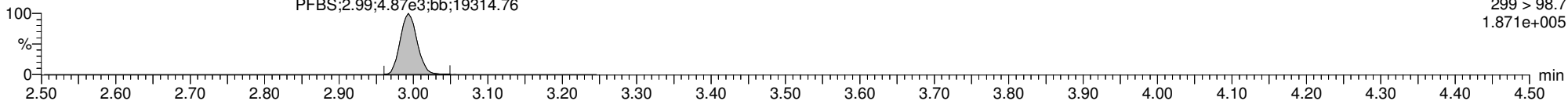
F2:MRM of 3 channels,ES-  
299 > 79.7  
4.623e+005



170309G2\_4

PFBS;2.99;4.87e3;bb;19314.76

F2:MRM of 3 channels,ES-  
299 > 98.7  
1.871e+005

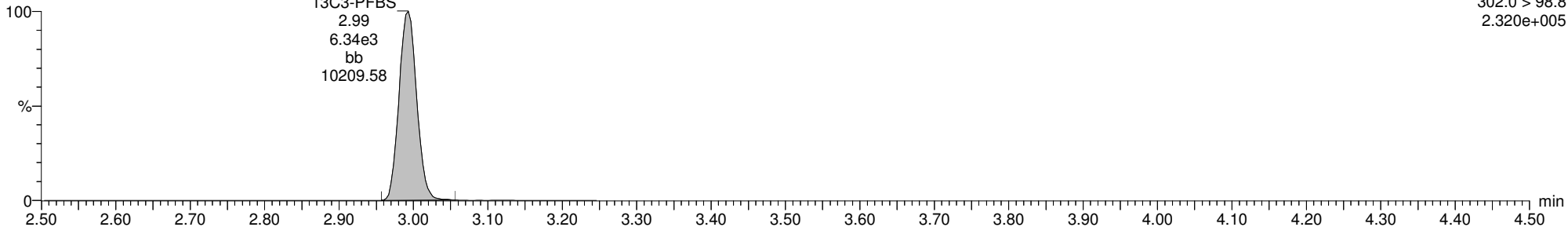


**13C3-PFBS**

170309G2\_4

13C3-PFBS  
2.99  
6.34e3  
bb  
10209.58

F2:MRM of 3 channels,ES-  
302.0 > 98.8  
2.320e+005

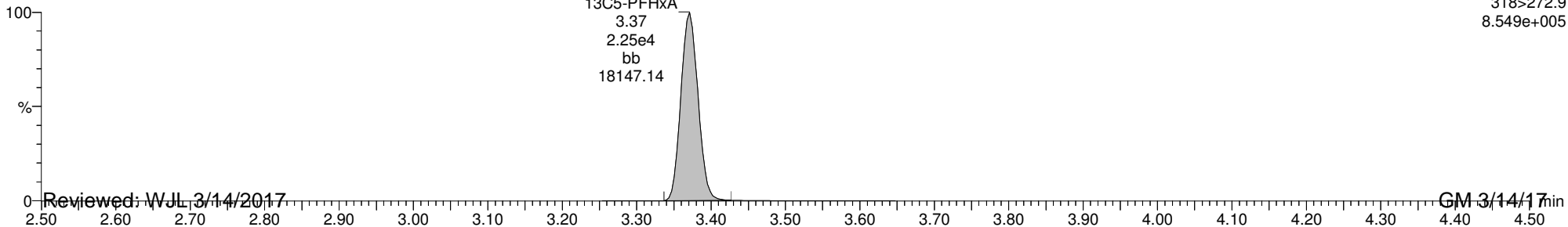


**13C5-PFHxA**

170309G2\_4

13C5-PFHxA  
3.37  
2.25e4  
bb  
18147.14

F3:MRM of 1 channel,ES-  
318>272.9  
8.549e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

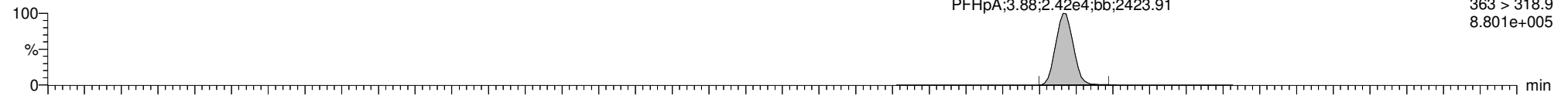
Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 10:50:39 Pacific Daylight Time

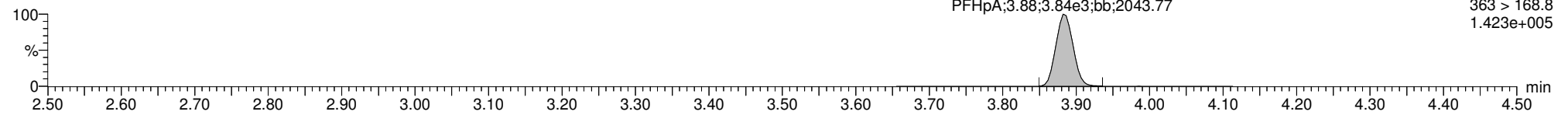
ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33, Instrument: , Lab: , User:

**PFHpA**

170309G2\_4

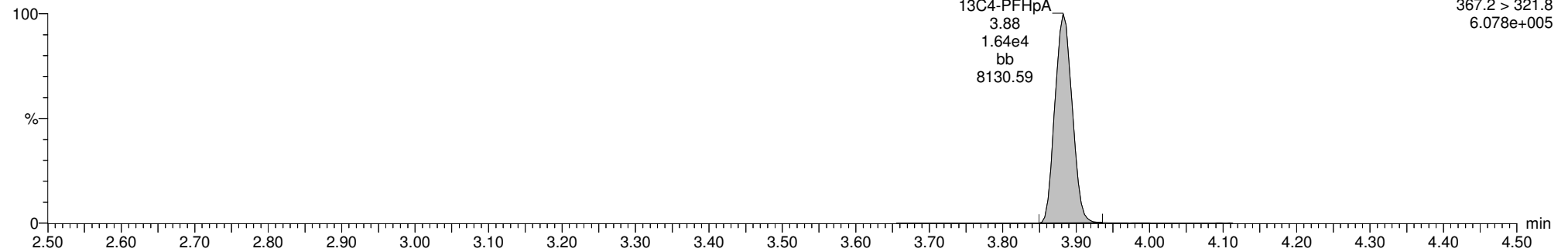


170309G2\_4



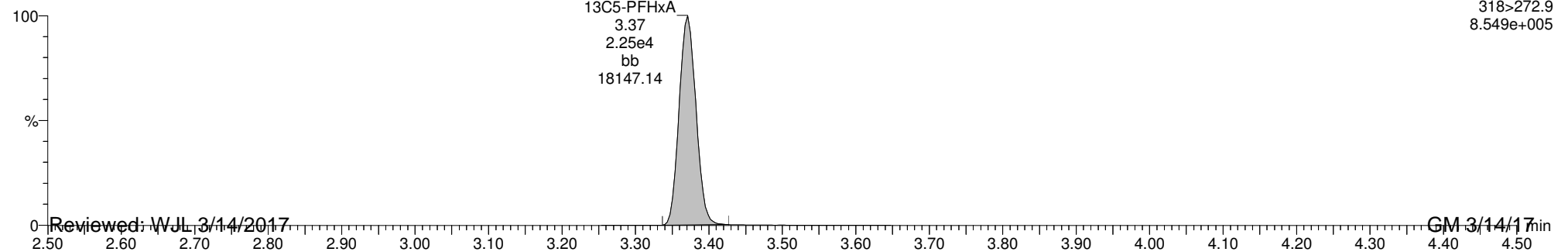
**13C4-PFHpA**

170309G2\_4



**13C5-PFHxA**

170309G2\_4



Reviewed: WJL 3/14/2017

GM 3/14/17

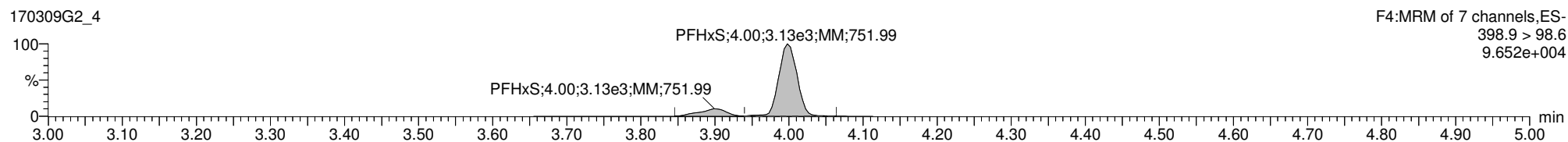
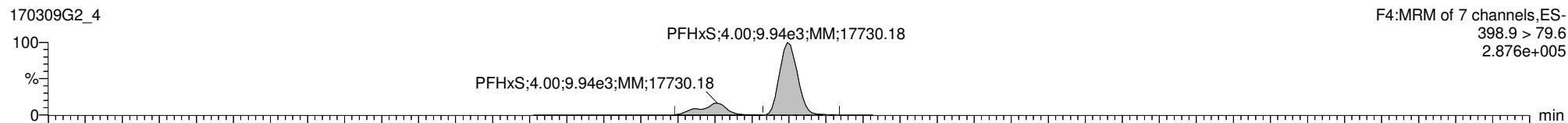
Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

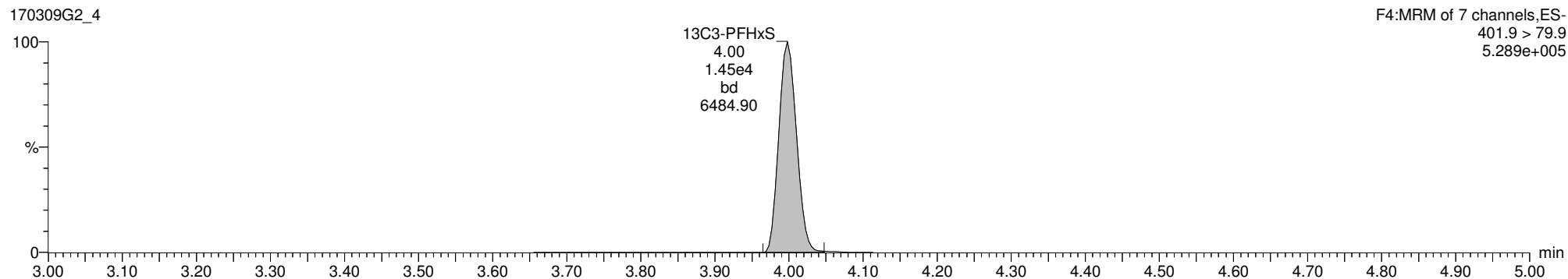
Printed: Tuesday, March 14, 2017 10:50:39 Pacific Daylight Time

ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33, Instrument: , Lab: , User:

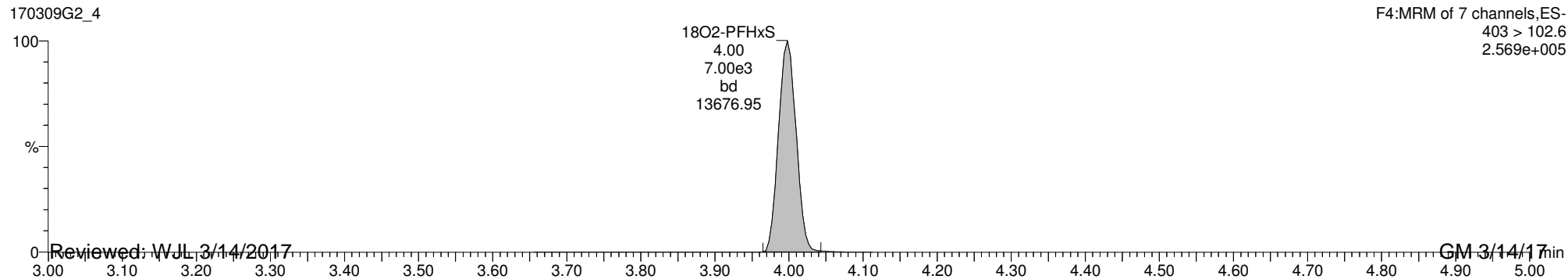
**Total PFHxS**



**13C3-PFHxS**



**18O2-PFHxS**



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

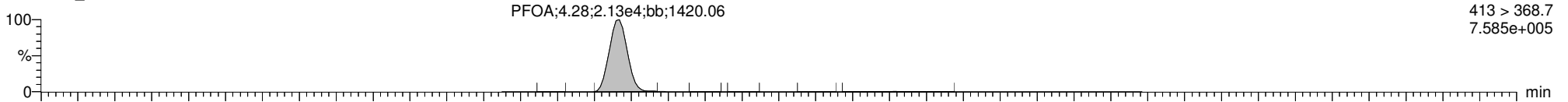
Printed: Tuesday, March 14, 2017 10:50:39 Pacific Daylight Time

ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33, Instrument: , Lab: , User:

**Total PFOA**

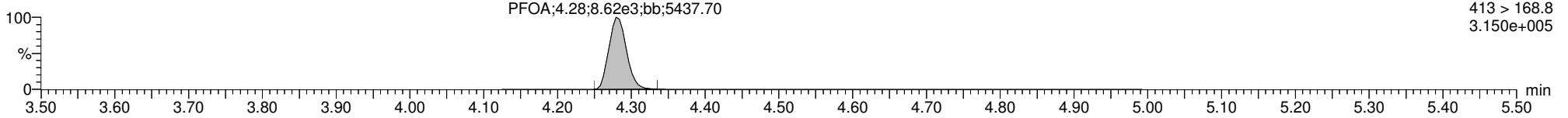
170309G2\_4

F5:MRM of 12 channels,ES-  
413 > 368.7  
7.585e+005



170309G2\_4

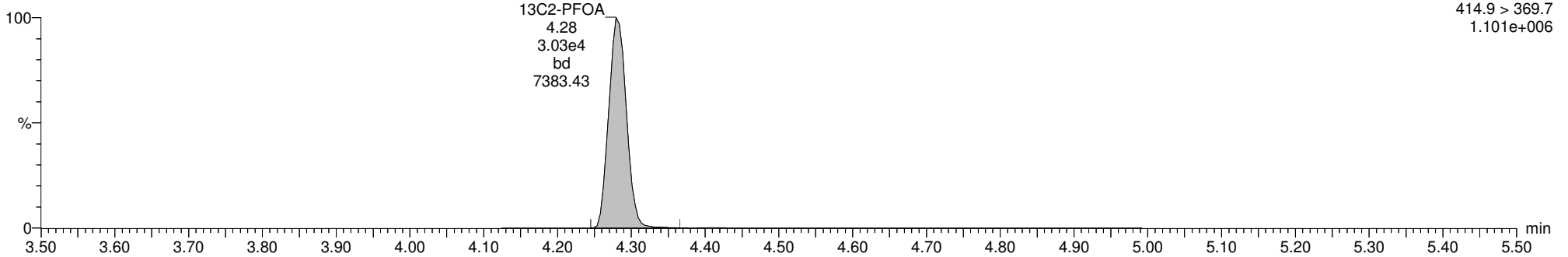
F5:MRM of 12 channels,ES-  
413 > 168.8  
3.150e+005



**13C2-PFOA**

170309G2\_4

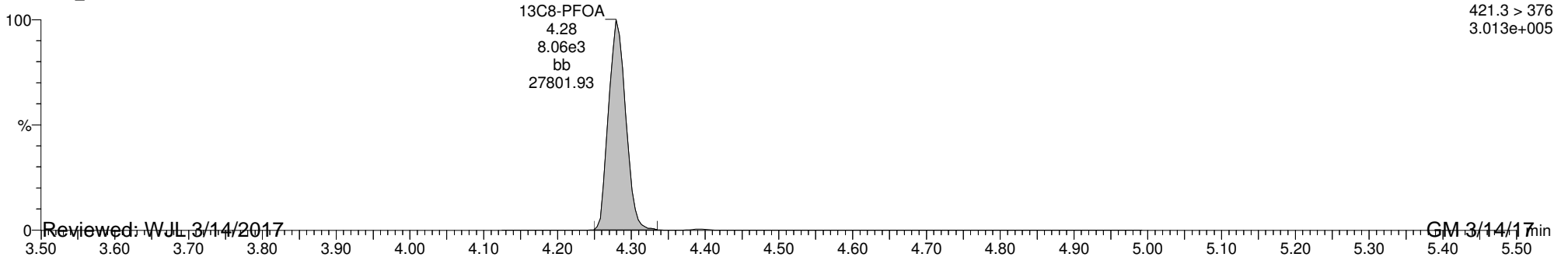
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.101e+006



**13C8-PFOA**

170309G2\_4

F5:MRM of 12 channels,ES-  
421.3 > 376  
3.013e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-4.qld

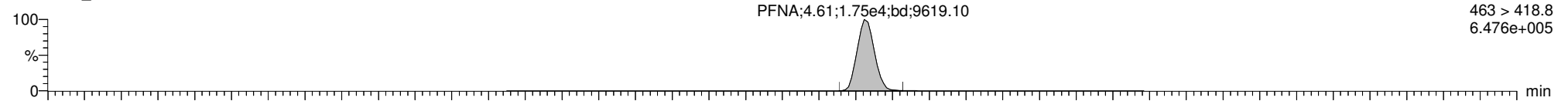
Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

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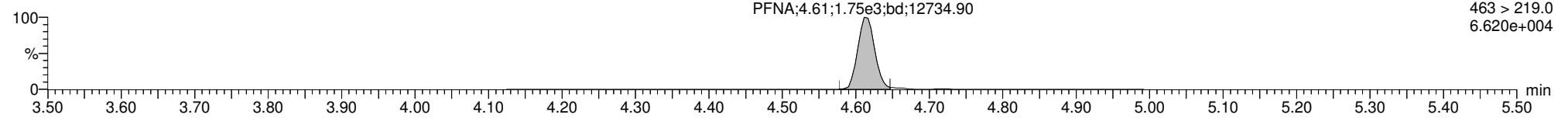
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**PFNA**

170309G2\_4

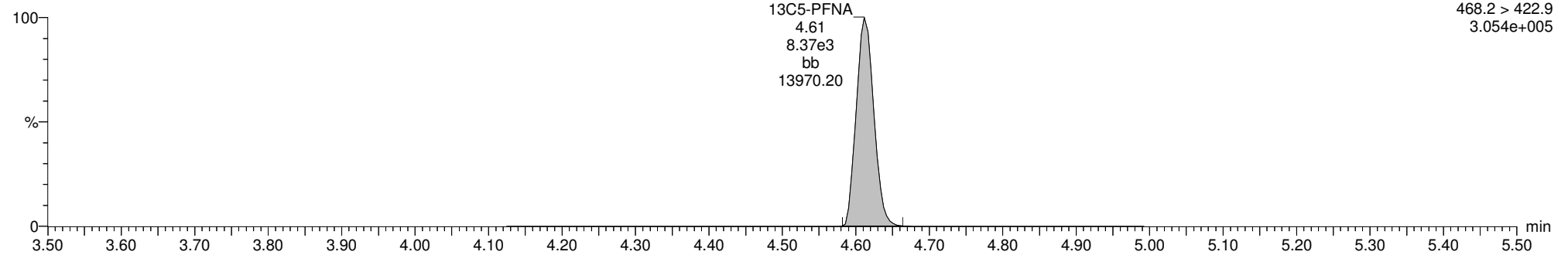


170309G2\_4



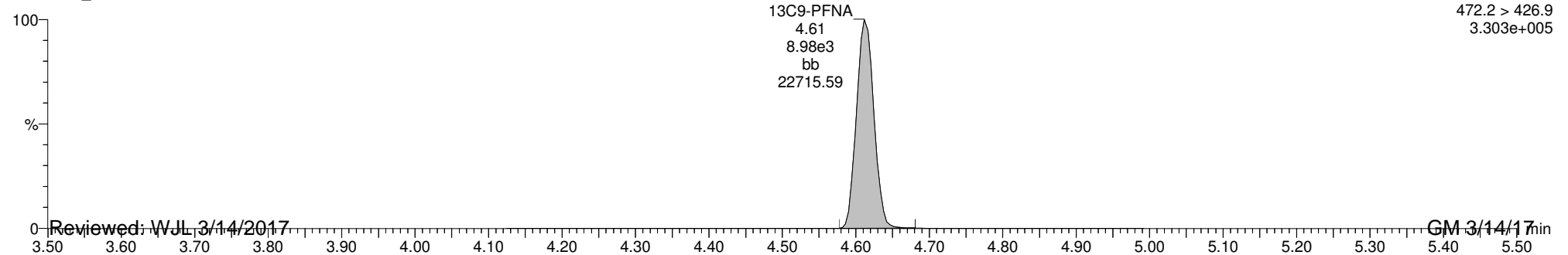
**13C5-PFNA**

170309G2\_4



**13C9-PFNA**

170309G2\_4



Reviewed: WJL 3/14/2017

GM 3/14/17

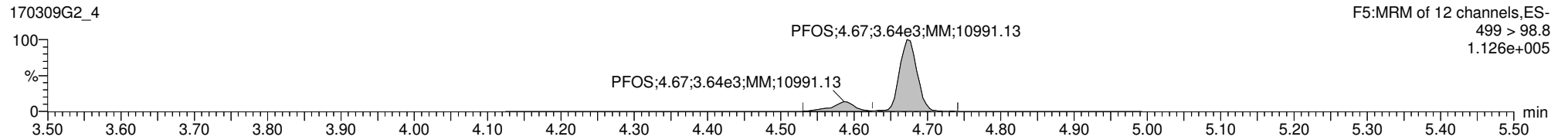
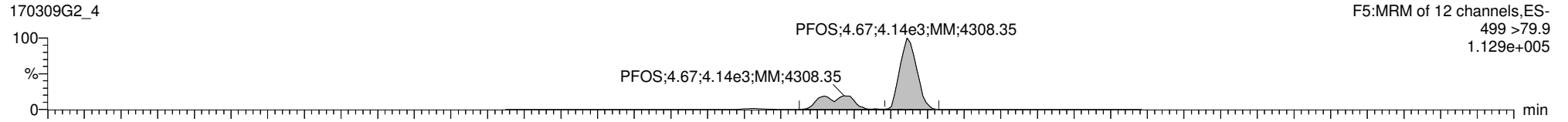
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Last Altered: Tuesday, March 14, 2017 10:49:02 Pacific Daylight Time

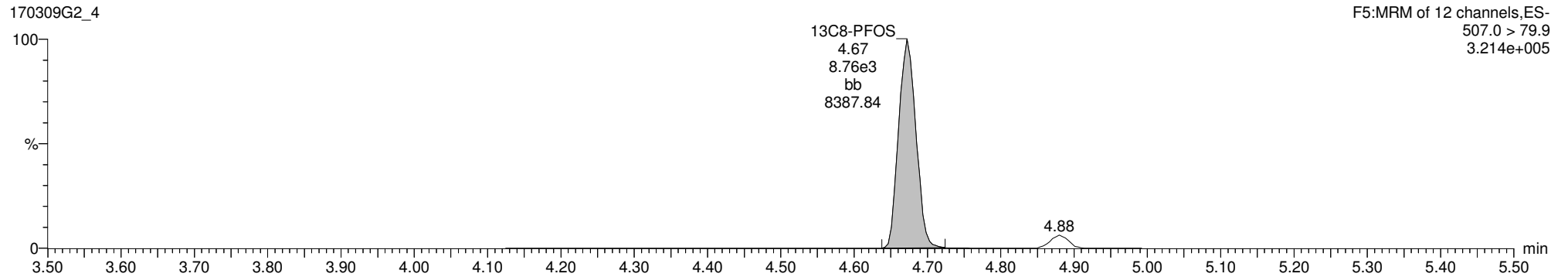
Printed: Tuesday, March 14, 2017 10:50:39 Pacific Daylight Time

ID: B7C0034-BS1 OPR 0.125, Description: OPR, Name: 170309G2\_4, Date: 09-Mar-2017, Time: 16:13:33, Instrument: , Lab: , User:

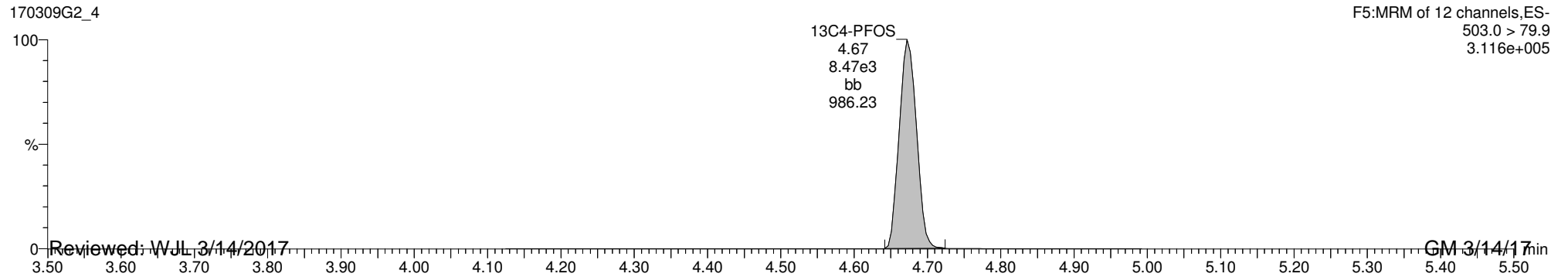
**Total PFOS**



**13C8-PFOS**



**13C4-PFOS**



Reviewed: WJL 3/14/2017

GM 3/14/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-7.qld

Last Altered: Friday, March 10, 2017 2:39:07 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:40:13 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-01 WI-CV-GW08M-0317 0.125, Description: WI-CV-GW08M-0317, Name: 170309G2\_7, Date: 09-Mar-2017, Time: 16:51:08

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.801e2	6.346e3		0.128	3.00	1.58	
2	4 PFOA	413 > 368.7	4.930e2	2.794e4		0.128	4.28	0.407	
3	6 PFOS	499 >79.9		8.486e3		0.128			
4	7 13C3-PFBS	302.0 > 98.8	6.346e3	1.324e4	0.410	0.128	3.00	114	117
5	10 13C2-PFOA	414.9 > 369.7	2.794e4	6.594e3	4.608	0.128	4.28	89.6	91.9
6	12 13C8-PFOS	507.0 > 79.9	8.486e3	8.089e3	0.958	0.128	4.68	107	109
7	15 13C8-PFOA	421.3 > 376	6.594e3	6.594e3	1.000	0.128	4.28	97.4	100
8	17 13C4-PFOS	503.0 > 79.9	8.089e3	8.089e3	1.000	0.128	4.68	97.4	100

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-7.qld

Last Altered: Friday, March 10, 2017 2:39:07 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:40:26 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-01 WI-CV-GW08M-0317 0.125, Description: WI-CV-GW08M-0317, Name: 170309G2\_7, Date: 09-Mar-2017, Time: 16:51:08

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		6.391e3		0.128		1.58	
2	20 Total PFOA	413 > 368.7		2.794e4		0.128		0.407	
3	21 Total PFOS	499 > 79.9		8.486e3		0.128			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-7.qld

Last Altered: Friday, March 10, 2017 2:39:07 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:40:13 PM Pacific Standard Time

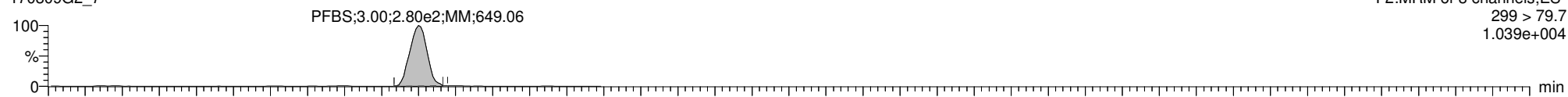
Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

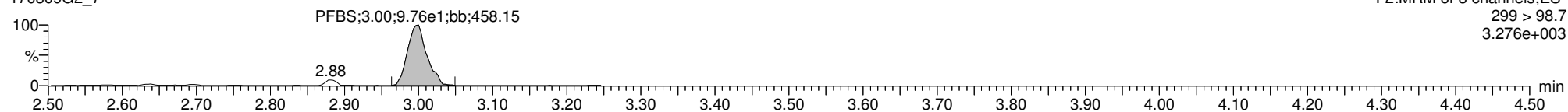
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**PFBS**

170309G2\_7

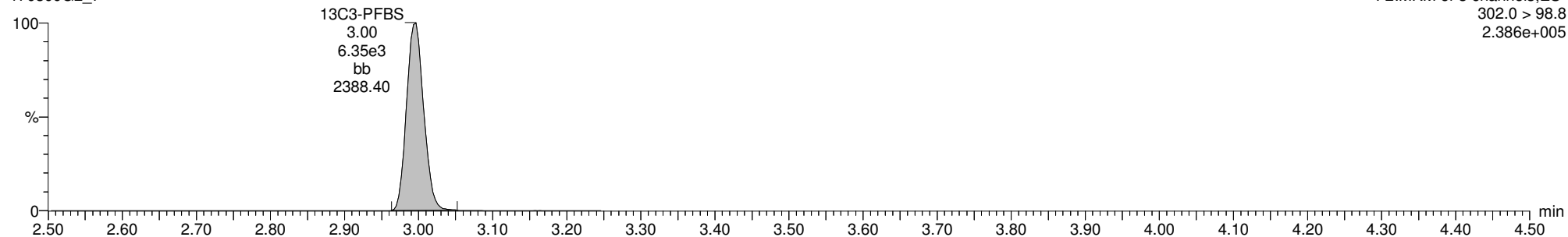


170309G2\_7



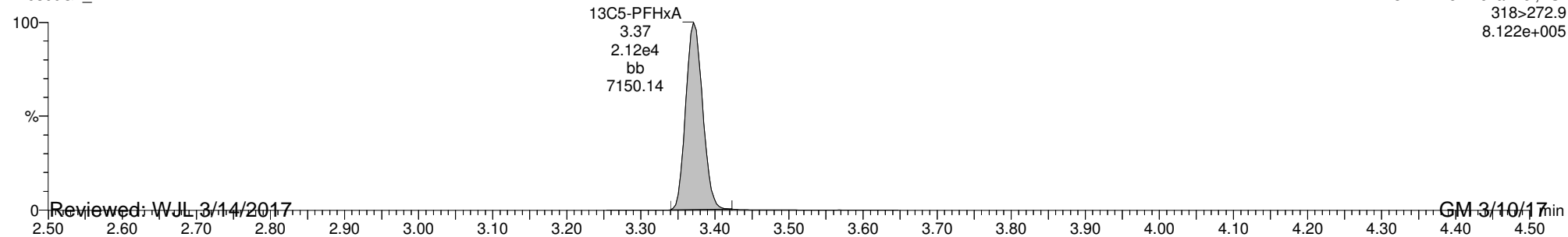
**13C3-PFBS**

170309G2\_7



**13C5-PFHxA**

170309G2\_7



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-7.qld

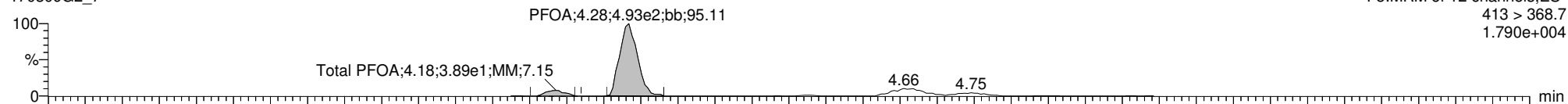
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Printed: Friday, March 10, 2017 2:40:13 PM Pacific Standard Time

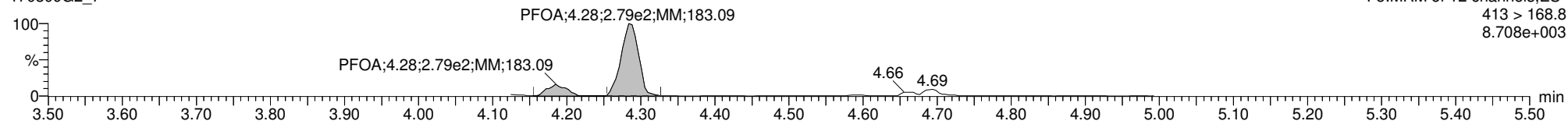
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**Total PFOA**

170309G2\_7

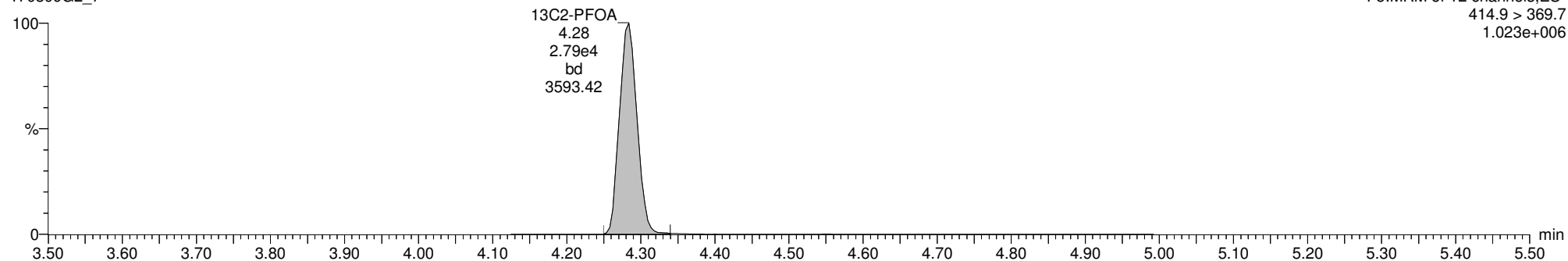


170309G2\_7



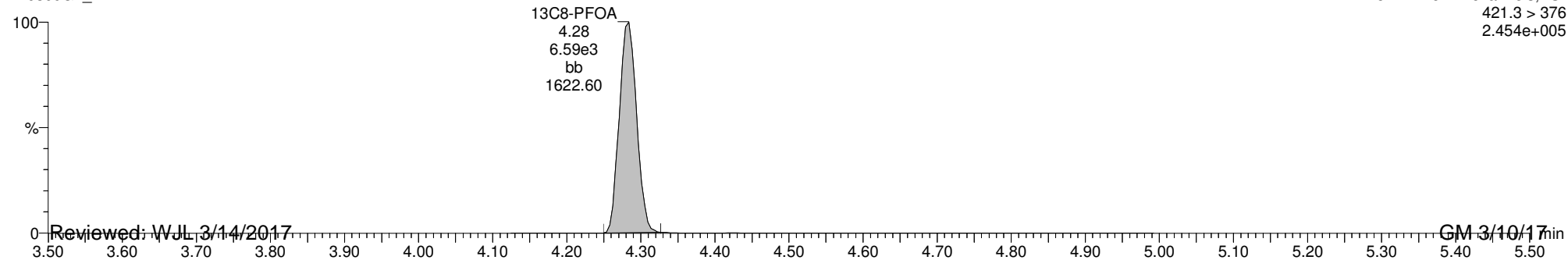
**13C2-PFOA**

170309G2\_7



**13C8-PFOA**

170309G2\_7



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-7.qld

Last Altered: Friday, March 10, 2017 2:39:07 PM Pacific Standard Time

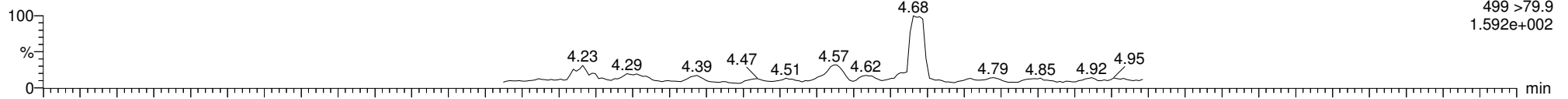
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Total PFOS

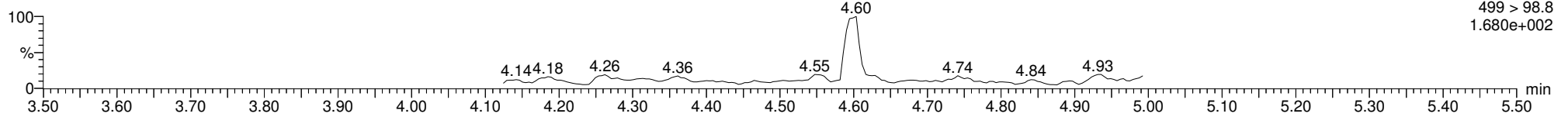
170309G2\_7

F5:MRM of 12 channels,ES-  
499 >79.9  
1.592e+002



170309G2\_7

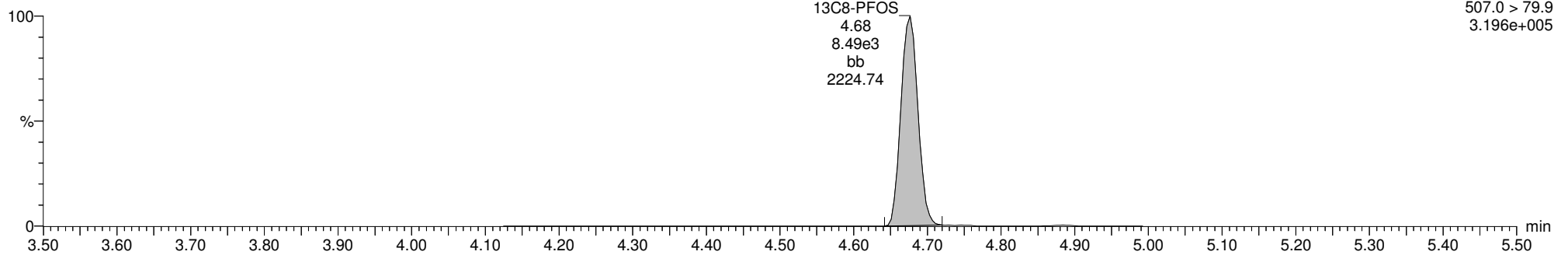
F5:MRM of 12 channels,ES-  
499 > 98.8  
1.680e+002



13C8-PFOS

170309G2\_7

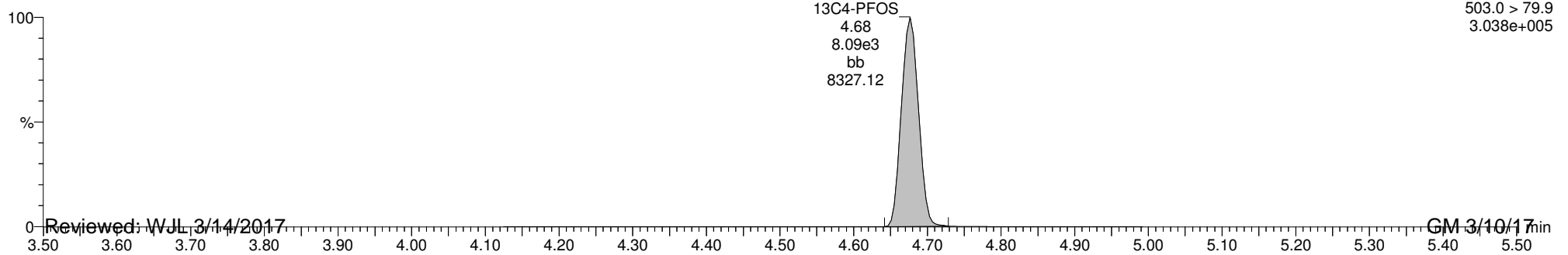
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
3.196e+005



13C4-PFOS

170309G2\_7

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.038e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-8.qld

Last Altered: Friday, March 10, 2017 2:42:54 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:43:13 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-02 WI-CV-EB12-030317 0.125, Description: WI-CV-EB12-030317, Name: 170309G2\_8, Date: 09-Mar-2017, Time: 17:03:41

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		6.725e3		0.121			
2	4 PFOA	413 > 368.7	2.068e2	3.462e4		0.121	4.28		
3	6 PFOS	499 >79.9		9.705e3		0.121			
4	7 13C3-PFBS	302.0 > 98.8	6.725e3	1.561e4	0.410	0.121	2.99	109	105
5	10 13C2-PFOA	414.9 > 369.7	3.462e4	9.172e3	4.608	0.121	4.28	84.8	81.9
6	12 13C8-PFOS	507.0 > 79.9	9.705e3	9.990e3	0.958	0.121	4.68	105	101
7	15 13C8-PFOA	421.3 > 376	9.172e3	9.172e3	1.000	0.121	4.28	104	100
8	17 13C4-PFOS	503.0 > 79.9	9.990e3	9.990e3	1.000	0.121	4.68	104	100

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-8.qld

Last Altered: Friday, March 10, 2017 2:42:54 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:43:23 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-02 WI-CV-EB12-030317 0.125, Description: WI-CV-EB12-030317, Name: 170309G2\_8, Date: 09-Mar-2017, Time: 17:03:41

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		7.902e3		0.121			
2	20 Total PFOA	413 > 368.7		3.462e4		0.121			
3	21 Total PFOS	499 > 79.9		9.705e3		0.121			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-8.qld

Last Altered: Friday, March 10, 2017 2:42:54 PM Pacific Standard Time

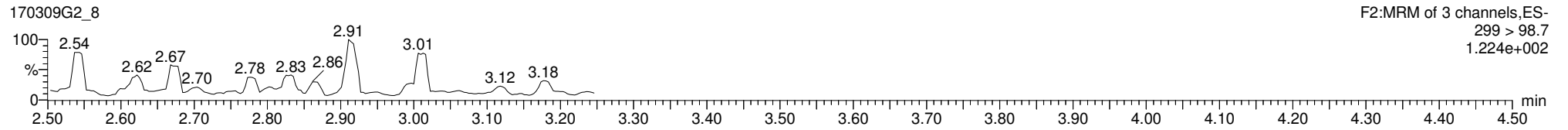
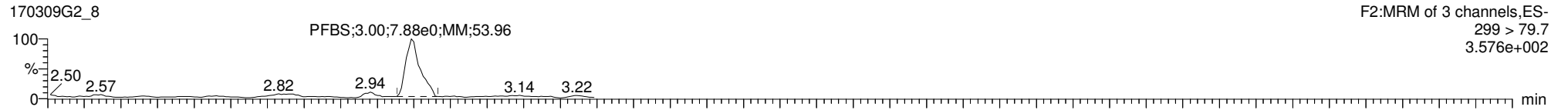
Printed: Friday, March 10, 2017 2:43:13 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

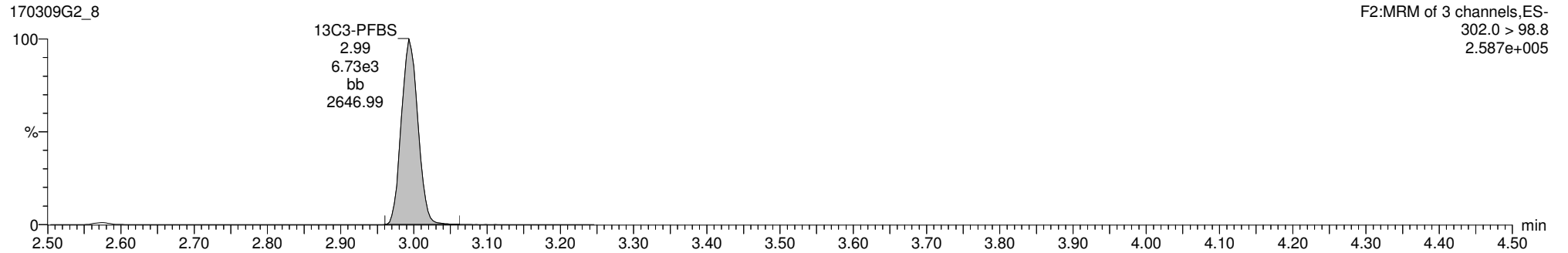
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-02 WI-CV-EB12-030317 0.125, Description: WI-CV-EB12-030317, Name: 170309G2\_8, Date: 09-Mar-2017, Time: 17:03:41, Instrument: , Lab: , User:

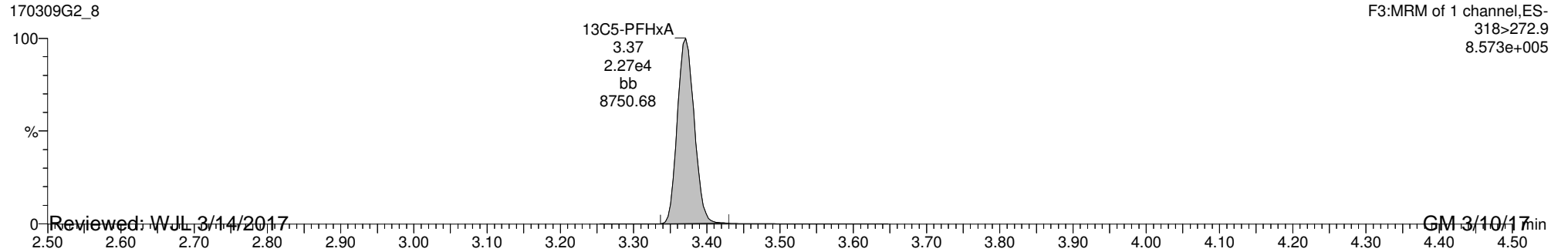
**PFBS**



**13C3-PFBS**



**13C5-PFHxA**



Reviewed: WJL 3/14/2017

GM 3/10/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-8.qld

Last Altered: Friday, March 10, 2017 2:42:54 PM Pacific Standard Time

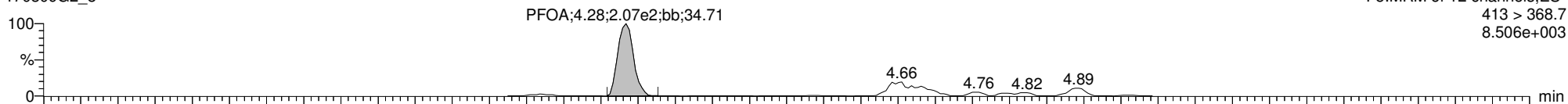
Printed: Friday, March 10, 2017 2:43:13 PM Pacific Standard Time

ID: 1700296-02 WI-CV-EB12-030317 0.125, Description: WI-CV-EB12-030317, Name: 170309G2\_8, Date: 09-Mar-2017, Time: 17:03:41, Instrument: , Lab: , User:

**Total PFOA**

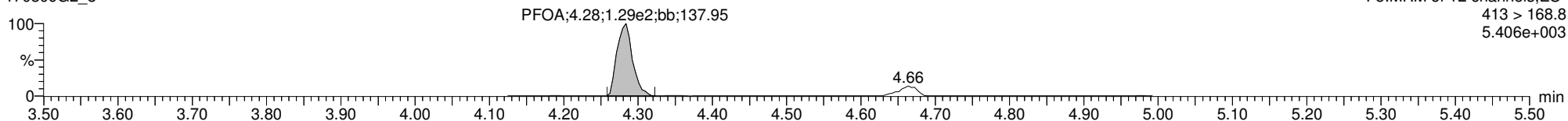
170309G2\_8

F5:MRM of 12 channels,ES-  
413 > 368.7  
8.506e+003



170309G2\_8

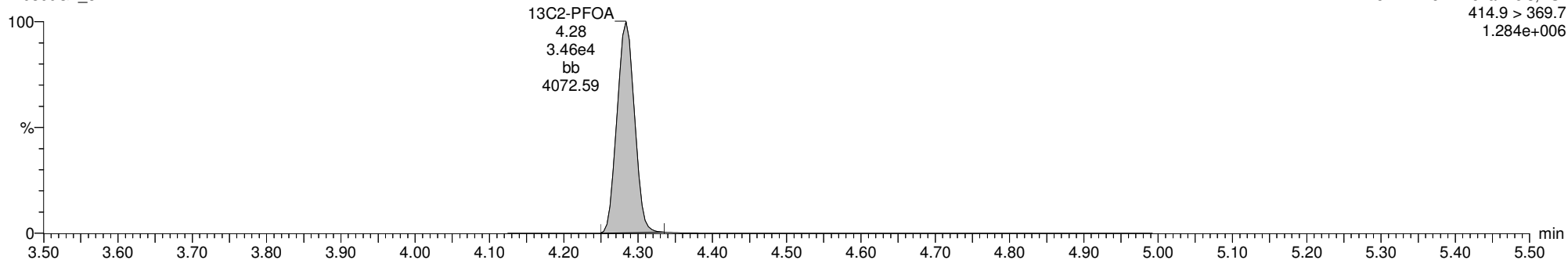
F5:MRM of 12 channels,ES-  
413 > 168.8  
5.406e+003



**13C2-PFOA**

170309G2\_8

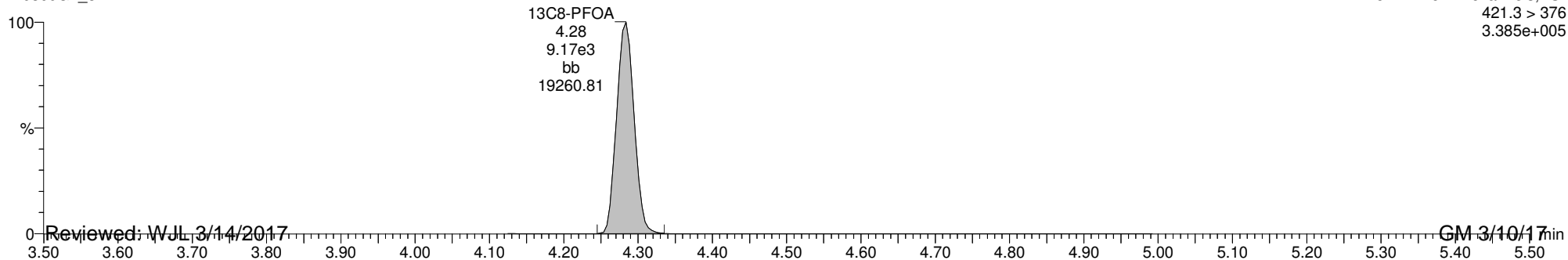
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.284e+006



**13C8-PFOA**

170309G2\_8

F5:MRM of 12 channels,ES-  
421.3 > 376  
3.385e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-8.qld

Last Altered: Friday, March 10, 2017 2:42:54 PM Pacific Standard Time

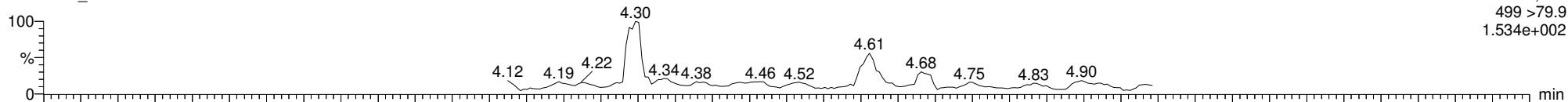
Printed: Friday, March 10, 2017 2:43:13 PM Pacific Standard Time

ID: 1700296-02 WI-CV-EB12-030317 0.125, Description: WI-CV-EB12-030317, Name: 170309G2\_8, Date: 09-Mar-2017, Time: 17:03:41, Instrument: , Lab: , User:

**Total PFOS**

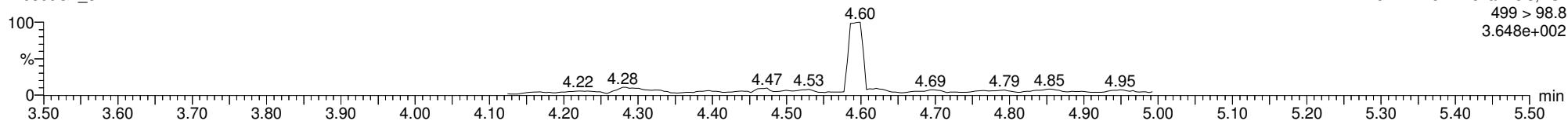
170309G2\_8

F5:MRM of 12 channels,ES-  
499 >79.9  
1.534e+002



170309G2\_8

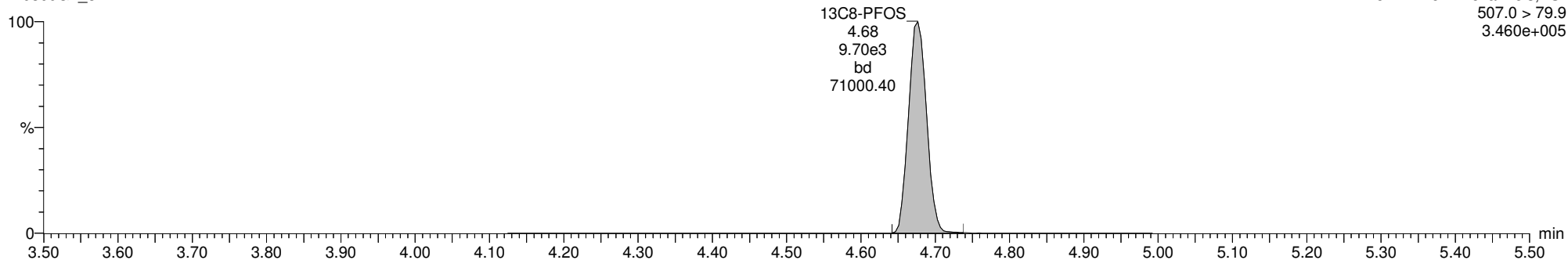
F5:MRM of 12 channels,ES-  
499 > 98.8  
3.648e+002



**13C8-PFOS**

170309G2\_8

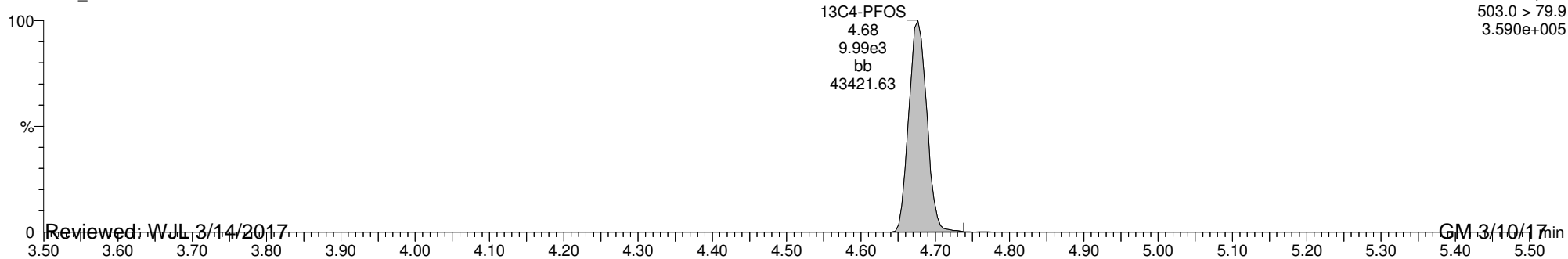
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
3.460e+005



**13C4-PFOS**

170309G2\_8

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.590e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-9.qld

Last Altered: Friday, March 10, 2017 12:14:50 PM Pacific Standard Time

Printed: Friday, March 10, 2017 12:17:31 PM Pacific Standard Time

Method: Untitled 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-03 WI-CV-GW07S-0317 0.125, Description: WI-CV-GW07S-0317, Name: 170309G2\_9, Date: 09-Mar-2017, Time: 17:16:14

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		6.719e3		0.114			
2	4 PFOA	413 > 368.7	2.500e2	3.369e4		0.114	4.29		
3	6 PFOS	499 >79.9		1.095e4		0.114			
4	7 13C3-PFBS	302.0 > 98.8	6.719e3	1.461e4	0.410	0.114	2.99	124	112
5	10 13C2-PFOA	414.9 > 369.7	3.369e4	8.037e3	4.608	0.114	4.28	100	91.0
6	12 13C8-PFOS	507.0 > 79.9	1.095e4	9.283e3	0.958	0.114	4.68	136	123
7	15 13C8-PFOA	421.3 > 376	8.037e3	8.037e3	1.000	0.114	4.28	110	100
8	17 13C4-PFOS	503.0 > 79.9	9.283e3	9.283e3	1.000	0.114	4.68	110	100

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-9.qld

Last Altered: Friday, March 10, 2017 12:14:50 PM Pacific Standard Time

Printed: Friday, March 10, 2017 12:18:02 PM Pacific Standard Time

Method: Untitled 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-03 WI-CV-GW07S-0317 0.125, Description: WI-CV-GW07S-0317, Name: 170309G2\_9, Date: 09-Mar-2017, Time: 17:16:14

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		7.443e3		0.114			
2	20 Total PFOA	413 > 368.7		3.369e4		0.114			
3	21 Total PFOS	499 > 79.9		1.095e4		0.114			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-9.qld

Last Altered: Friday, March 10, 2017 12:14:50 PM Pacific Standard Time

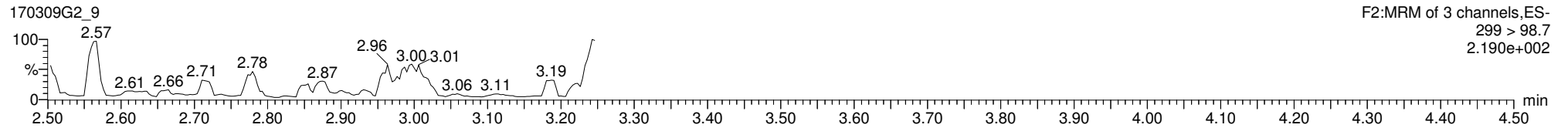
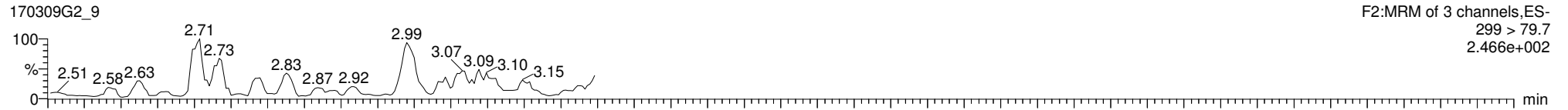
Printed: Friday, March 10, 2017 12:17:31 PM Pacific Standard Time

Method: Untitled 02 Mar 2017 11:26:53

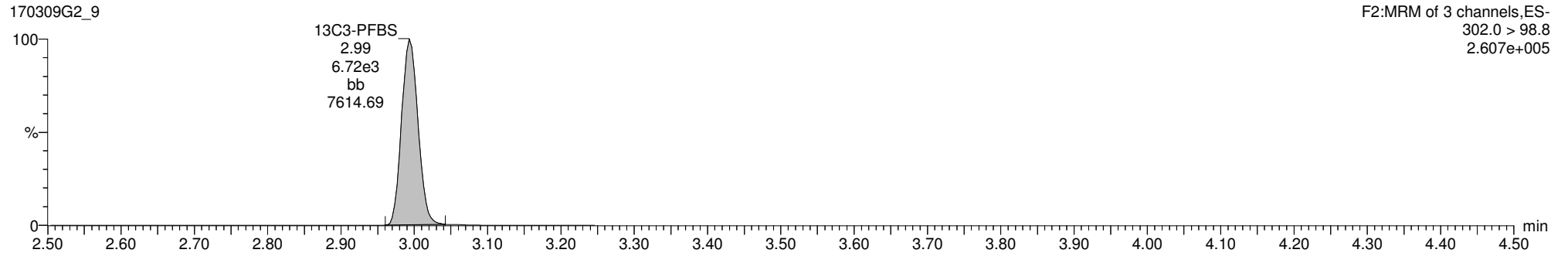
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-03 WI-CV-GW07S-0317 0.125, Description: WI-CV-GW07S-0317, Name: 170309G2\_9, Date: 09-Mar-2017, Time: 17:16:14, Instrument: , Lab: , User:

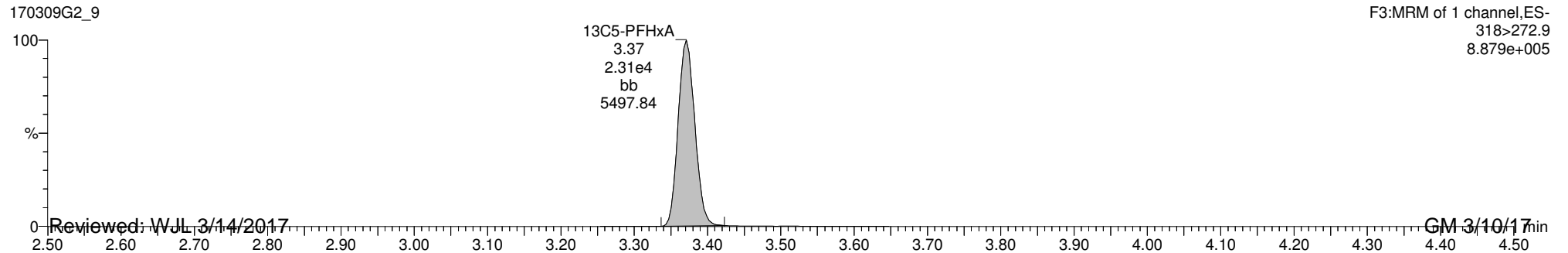
PFBS



13C3-PFBS



13C5-PFHxA



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-9.qld

Last Altered: Friday, March 10, 2017 12:14:50 PM Pacific Standard Time

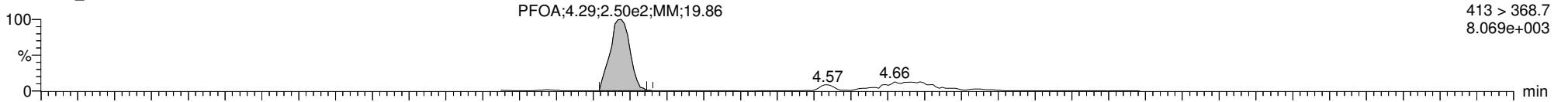
Printed: Friday, March 10, 2017 12:17:31 PM Pacific Standard Time

ID: 1700296-03 WI-CV-GW07S-0317 0.125, Description: WI-CV-GW07S-0317, Name: 170309G2\_9, Date: 09-Mar-2017, Time: 17:16:14, Instrument: , Lab: , User:

**Total PFOA**

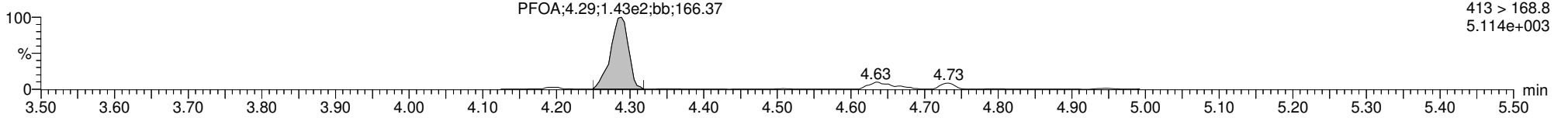
170309G2\_9

F5:MRM of 12 channels,ES-  
413 > 368.7  
8.069e+003



170309G2\_9

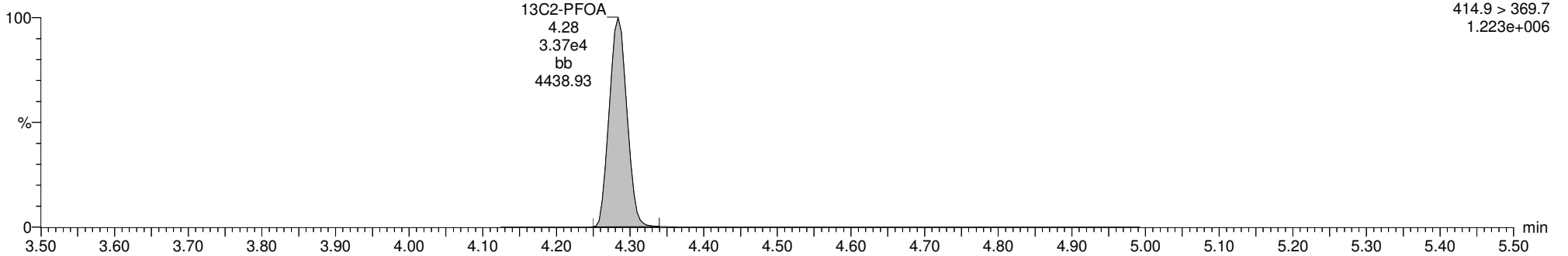
F5:MRM of 12 channels,ES-  
413 > 168.8  
5.114e+003



**13C2-PFOA**

170309G2\_9

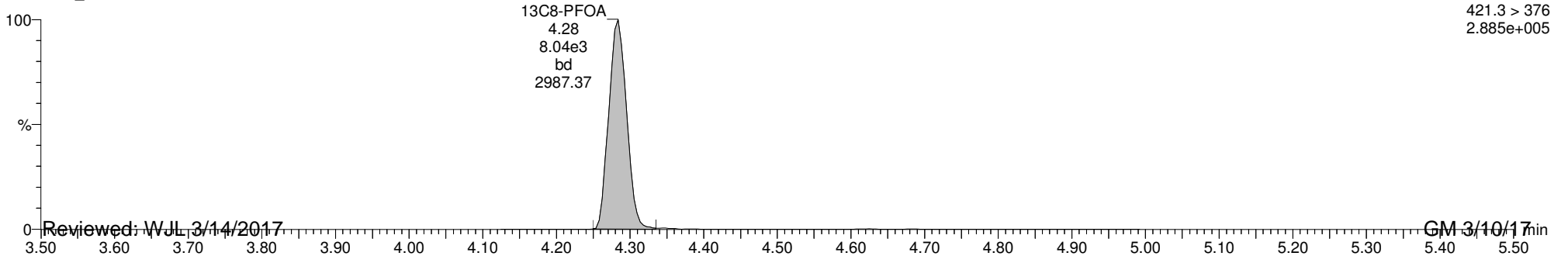
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.223e+006



**13C8-PFOA**

170309G2\_9

F5:MRM of 12 channels,ES-  
421.3 > 376  
2.885e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-9.qld

Last Altered: Friday, March 10, 2017 12:14:50 PM Pacific Standard Time

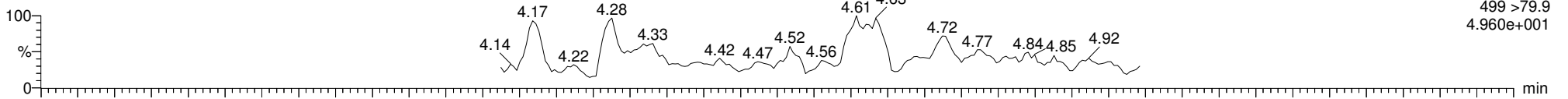
Printed: Friday, March 10, 2017 12:17:31 PM Pacific Standard Time

ID: 1700296-03 WI-CV-GW07S-0317 0.125, Description: WI-CV-GW07S-0317, Name: 170309G2\_9, Date: 09-Mar-2017, Time: 17:16:14, Instrument: , Lab: , User:

**Total PFOS**

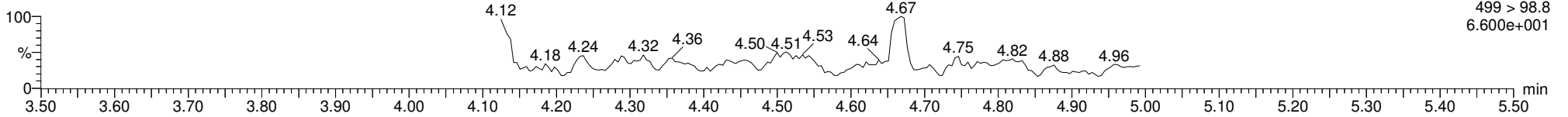
170309G2\_9

F5:MRM of 12 channels,ES-  
499 >79.9  
4.960e+001



170309G2\_9

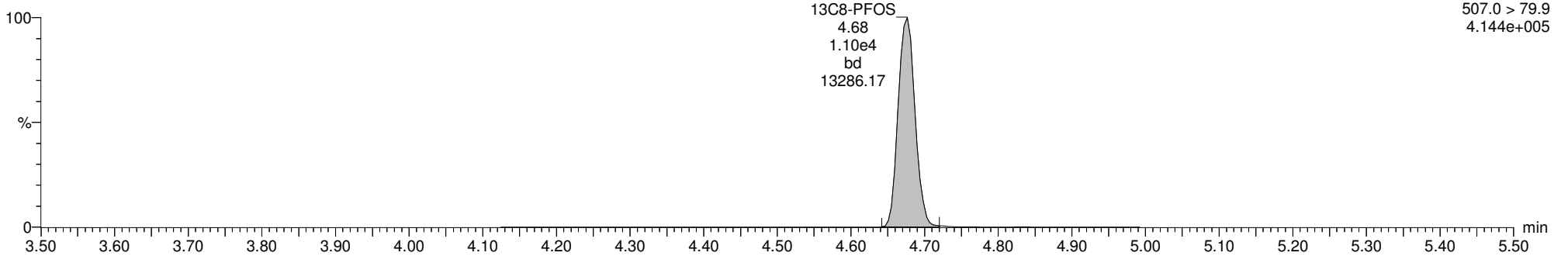
F5:MRM of 12 channels,ES-  
499 > 98.8  
6.600e+001



**13C8-PFOS**

170309G2\_9

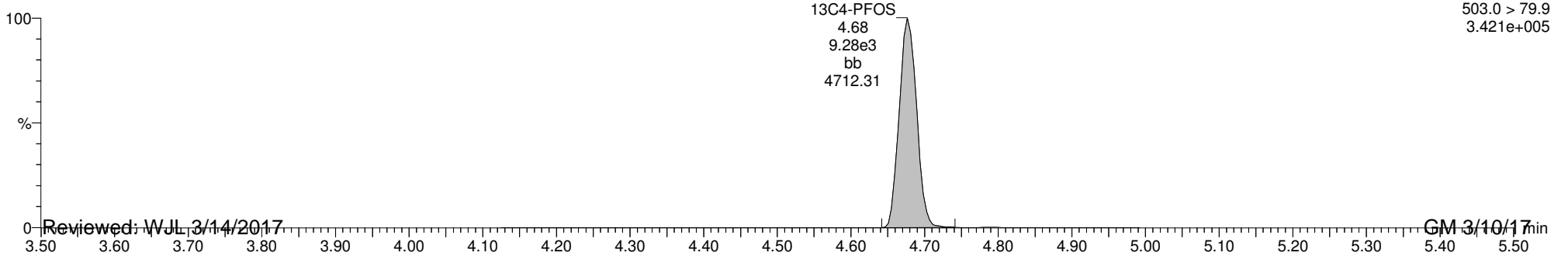
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
4.144e+005



**13C4-PFOS**

170309G2\_9

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.421e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-10.qld

Last Altered: Friday, March 10, 2017 10:26:36 AM Pacific Standard Time

Printed: Friday, March 10, 2017 10:27:35 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-04 WI-CV-EB13-030417 0.125, Description: WI-CV-EB13-030417, Name: 170309G2\_10, Date: 09-Mar-2017, Time: 17:28:47

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.285e1	6.562e3		0.124	2.99		
2	4 PFOA	413 > 368.7	2.585e2	3.551e4		0.124	4.28		
3	6 PFOS	499 >79.9		1.340e4		0.124			
4	7 13C3-PFBS	302.0 > 98.8	6.562e3	1.592e4	0.410	0.124	3.00	102	101
5	10 13C2-PFOA	414.9 > 369.7	3.551e4	8.648e3	4.608	0.124	4.28	90.0	89.1
6	12 13C8-PFOS	507.0 > 79.9	1.340e4	1.303e4	0.958	0.124	4.67	108	107
7	15 13C8-PFOA	421.3 > 376	8.648e3	8.648e3	1.000	0.124	4.28	101	100
8	17 13C4-PFOS	503.0 > 79.9	1.303e4	1.303e4	1.000	0.124	4.68	101	100



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-10.qld

Last Altered: Friday, March 10, 2017 10:26:36 AM Pacific Standard Time

Printed: Friday, March 10, 2017 10:28:04 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-04 WI-CV-EB13-030417 0.125, Description: WI-CV-EB13-030417, Name: 170309G2\_10, Date: 09-Mar-2017, Time: 17:28:47

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		7.879e3		0.124			
2	20 Total PFOA	413 > 368.7		3.551e4		0.124			
3	21 Total PFOS	499 > 79.9		1.340e4		0.124			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-10.qld

Last Altered: Friday, March 10, 2017 10:26:36 AM Pacific Standard Time

Printed: Friday, March 10, 2017 10:27:35 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

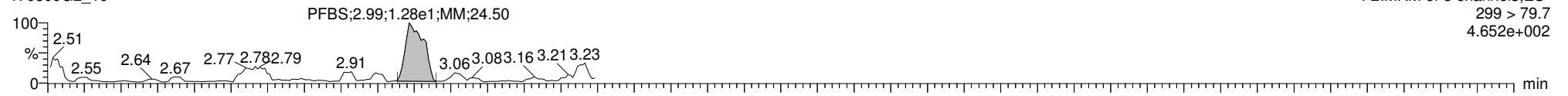
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-04 WI-CV-EB13-030417 0.125, Description: WI-CV-EB13-030417, Name: 170309G2\_10, Date: 09-Mar-2017, Time: 17:28:47, Instrument: , Lab: , User:

**Total PFBS**

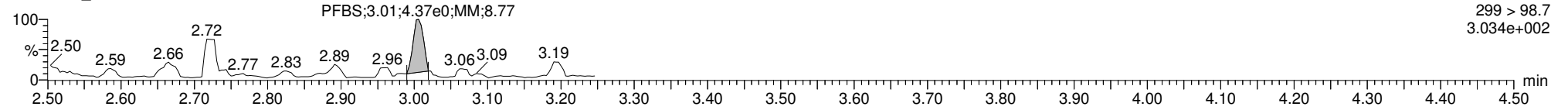
170309G2\_10

F2:MRM of 3 channels,ES-  
299 > 79.7  
4.652e+002



170309G2\_10

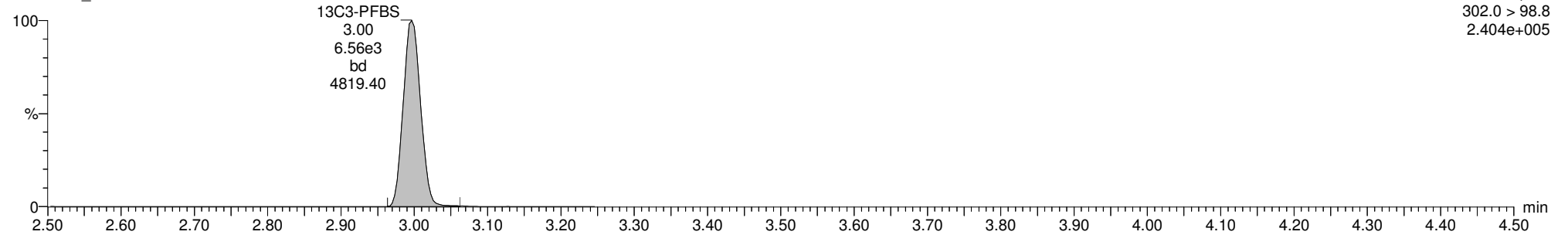
F2:MRM of 3 channels,ES-  
299 > 98.7  
3.034e+002



**13C3-PFBS**

170309G2\_10

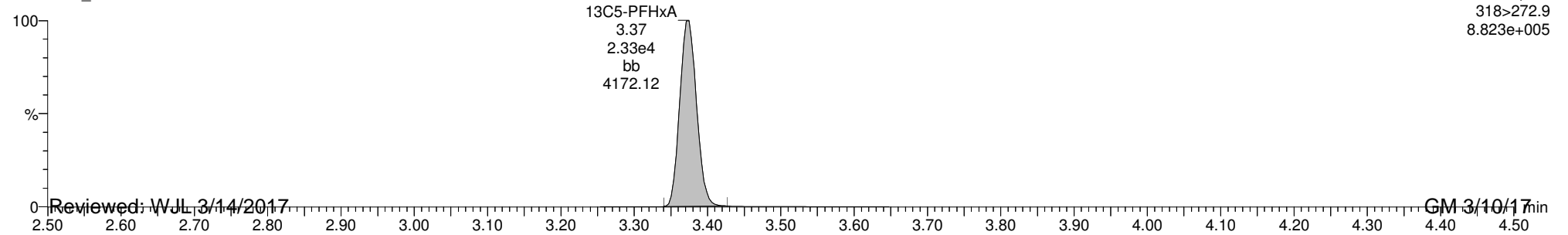
F2:MRM of 3 channels,ES-  
302.0 > 98.8  
2.404e+005



**13C5-PFHxA**

170309G2\_10

F3:MRM of 1 channel,ES-  
318>272.9  
8.823e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-10.qld

Last Altered: Friday, March 10, 2017 10:26:36 AM Pacific Standard Time

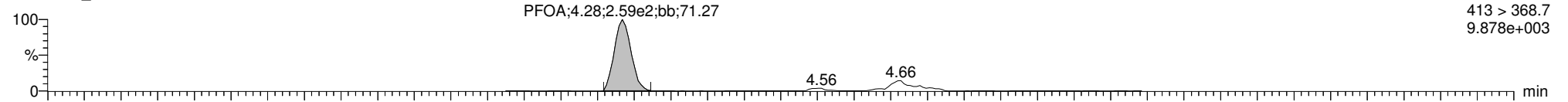
Printed: Friday, March 10, 2017 10:27:35 AM Pacific Standard Time

ID: 1700296-04 WI-CV-EB13-030417 0.125, Description: WI-CV-EB13-030417, Name: 170309G2\_10, Date: 09-Mar-2017, Time: 17:28:47, Instrument: , Lab: , User:

**Total PFOA**

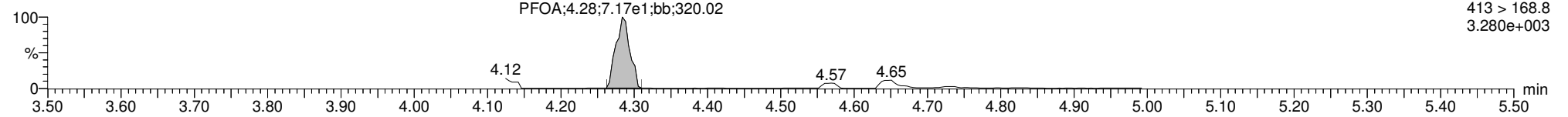
170309G2\_10

F5:MRM of 12 channels,ES-  
413 > 368.7  
9.878e+003



170309G2\_10

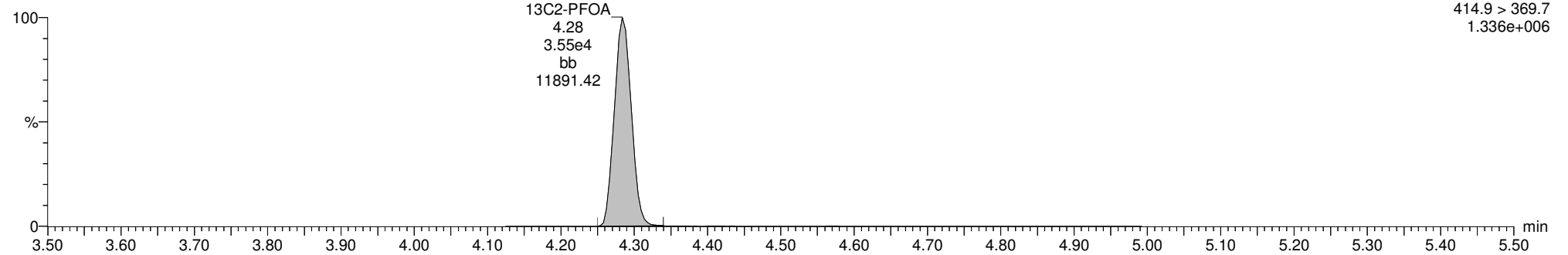
F5:MRM of 12 channels,ES-  
413 > 168.8  
3.280e+003



**13C2-PFOA**

170309G2\_10

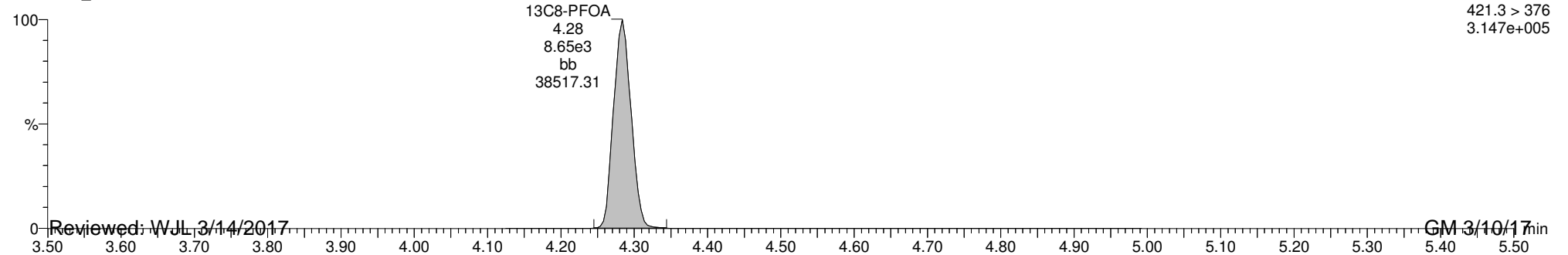
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.336e+006



**13C8-PFOA**

170309G2\_10

F5:MRM of 12 channels,ES-  
421.3 > 376  
3.147e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-10.qld

Last Altered: Friday, March 10, 2017 10:26:36 AM Pacific Standard Time

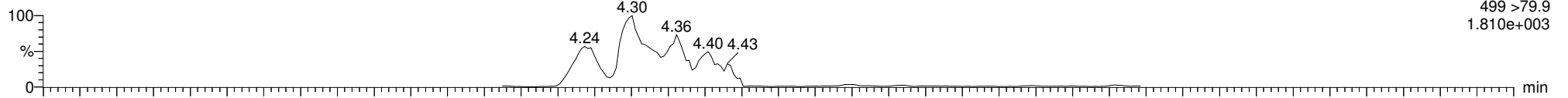
Printed: Friday, March 10, 2017 10:27:35 AM Pacific Standard Time

ID: 1700296-04 WI-CV-EB13-030417 0.125, Description: WI-CV-EB13-030417, Name: 170309G2\_10, Date: 09-Mar-2017, Time: 17:28:47, Instrument: , Lab: , User:

**Total PFOS**

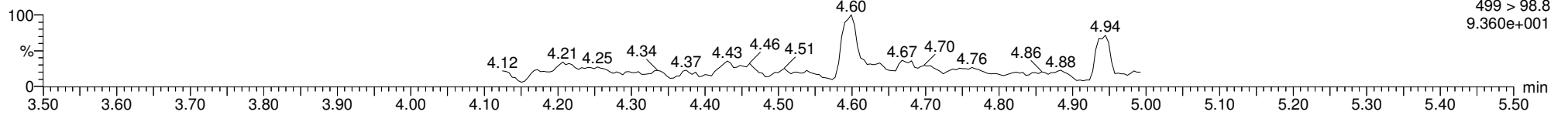
170309G2\_10

F5:MRM of 12 channels,ES-  
499 >79.9  
1.810e+003



170309G2\_10

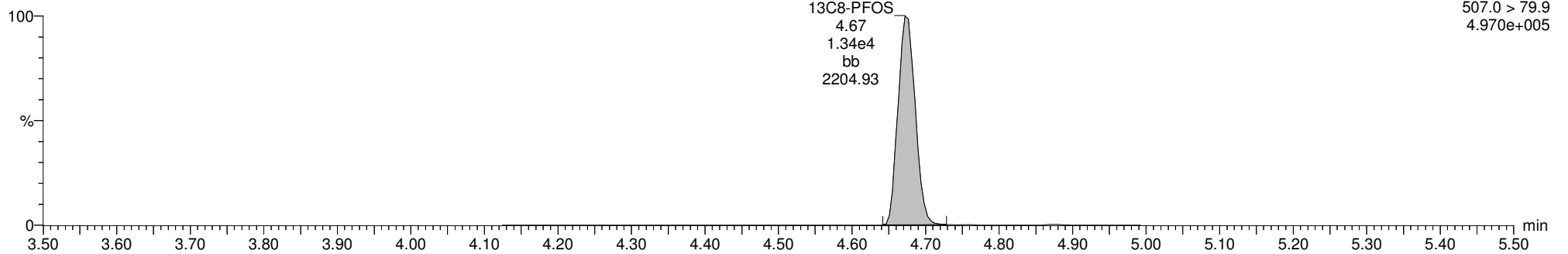
F5:MRM of 12 channels,ES-  
499 > 98.8  
9.360e+001



**13C8-PFOS**

170309G2\_10

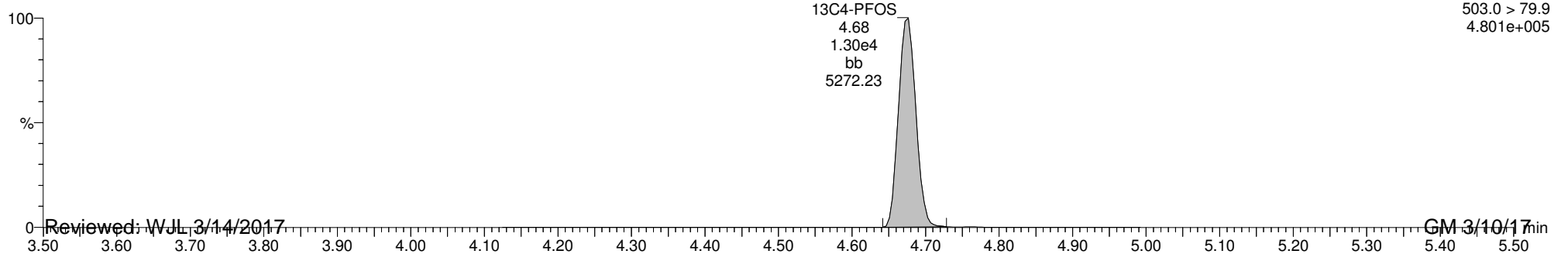
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
4.970e+005



**13C4-PFOS**

170309G2\_10

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
4.801e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

Last Altered: Tuesday, March 14, 2017 11:03:21 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 11:03:39 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-05 WI-CV-GW14M-0317 0.125, Description: WI-CV-GW14M-0317, Name: 170309G2\_11, Date: 09-Mar-2017, Time: 17:41:21

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	1.535e4	5.918e3		0.123	2.99	111	
2	2 PFHpA	363 > 318.9	1.112e4	1.645e4		0.123	3.88	37.6	
3	3 PFHxS	398.9 > 79.6	1.961e4	7.696e3		0.123	4.00	142	
4	4 PFOA	413 > 368.7	3.542e4	3.264e4		0.123	4.28	137	
5	5 PFNA	463 > 418.8		1.130e4		0.123			
6	6 PFOS	499 > 79.9	7.292e0	1.287e4		0.123	4.59	0.898	
7	7 13C3-PFBS	302.0 > 98.8	5.918e3	1.511e4	0.410	0.123	2.99	97.2	95.5
8	8 13C4-PFHpA	367.2 > 321.8	1.645e4	1.511e4	1.098	0.123	3.88	101	99.2
9	9 18O2-PFHxS	403 > 102.6	7.696e3	1.511e4	0.434	0.123	3.99	119	117
10	10 13C2-PFOA	414.9 > 369.7	3.264e4	7.421e3	4.608	0.123	4.28	97.1	95.4
11	11 13C5-PFNA	468.2 > 422.9	1.130e4	1.125e4	0.867	0.123	4.62	118	116
12	12 13C8-PFOS	507.0 > 79.9	1.287e4	1.098e4	0.958	0.123	4.67	124	122
13	13 13C5-PFHxA	318 > 272.9	1.940e4	1.940e4	1.000	0.123	3.37	102	100
14	14 13C3-PFHxS	401.9 > 79.9	1.511e4	1.511e4	1.000	0.123	3.99	102	100
15	15 13C8-PFOA	421.3 > 376	7.421e3	7.421e3	1.000	0.123	4.28	102	100
16	16 13C9-PFNA	472.2 > 426.9	1.125e4	1.125e4	1.000	0.123	4.61	102	100
17	17 13C4-PFOS	503.0 > 79.9	1.098e4	1.098e4	1.000	0.123	4.67	102	100
18	18 Total PFBS	299 > 79.7		7.696e3		0.123		111	
19	19 Total PFHxS	398.9 > 79.6		7.696e3		0.123		142	
20	20 Total PFOA	413 > 368.7		3.264e4		0.123		166	
21	21 Total PFOS	499 > 79.9		1.287e4		0.123		0.898	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

Last Altered: Tuesday, March 14, 2017 11:03:21 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 11:03:39 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-05 WI-CV-GW14M-0317 0.125, Description: WI-CV-GW14M-0317, Name: 170309G2\_11, Date: 09-Mar-2017, Time: 17:41:21

**Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	1 PFBS	299 > 79.7	2.99	15350.423	5917.723	110.6

**Total PFHxS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	398.9 > 79.6	4.00	19607.484	7695.920	142.5

**Total PFOA**

	# Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	413 > 368.7	4.28	35421.238	32636.701	137.1
2	20 Total PFOA	413 > 368.7	4.18	7862.728	32636.701	29.0

**Total PFOS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFOS	499 > 79.9	4.59	7.292	12868.387	0.9

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

Last Altered: Tuesday, March 14, 2017 11:03:21 Pacific Daylight Time

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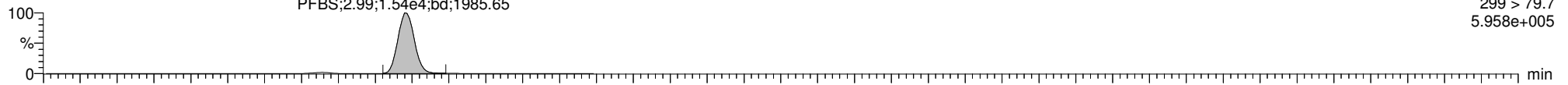
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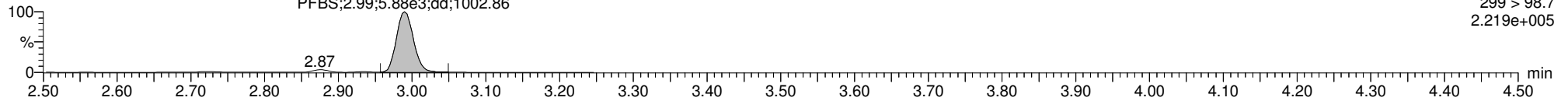
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**PFBS**

170309G2\_11

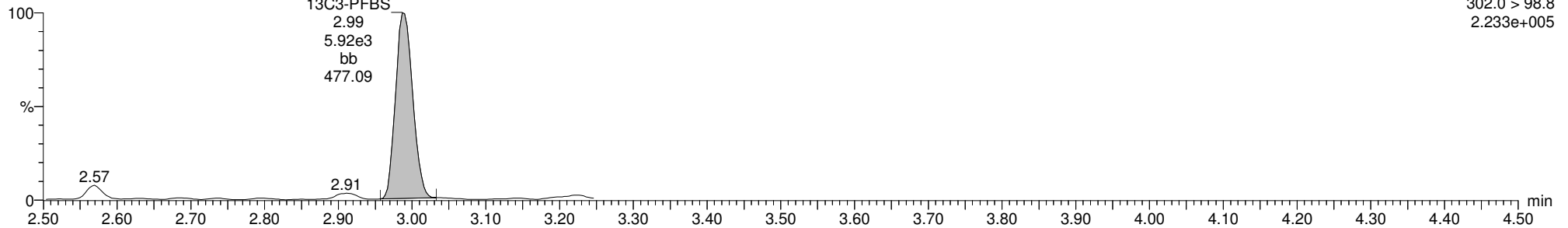


170309G2\_11



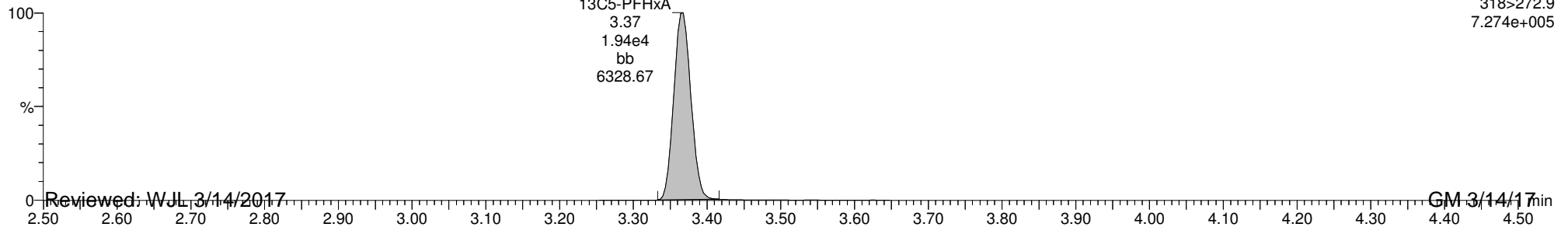
**13C3-PFBS**

170309G2\_11



**13C5-PFHxA**

170309G2\_11



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

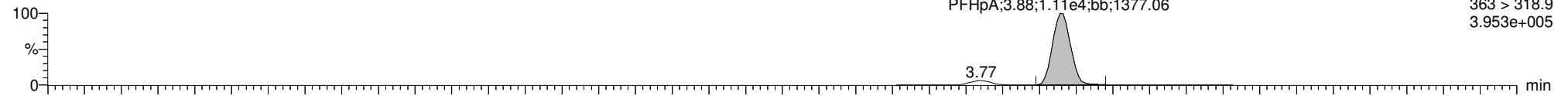
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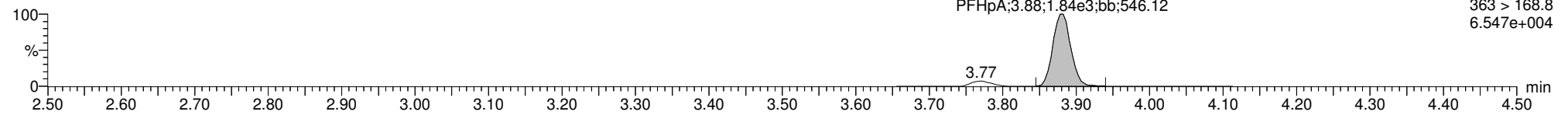
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**PFHpA**

170309G2\_11

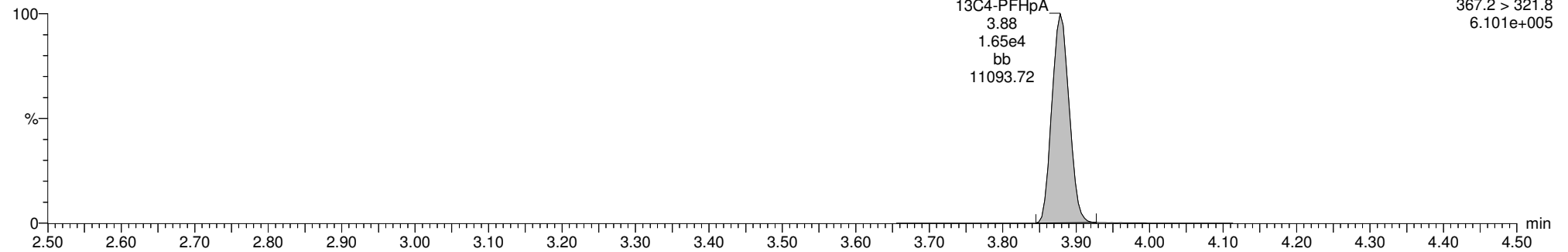


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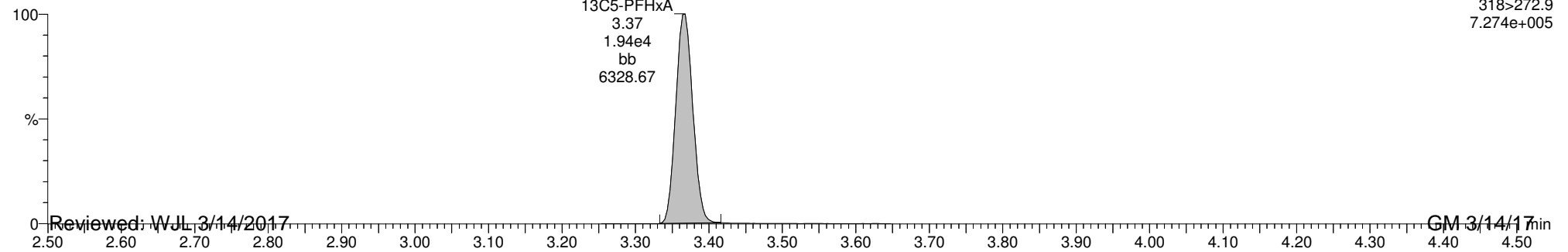
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170309G2\_11



**13C5-PFHxA**

170309G2\_11



Reviewed: WJL 3/14/2017

GM 3/14/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

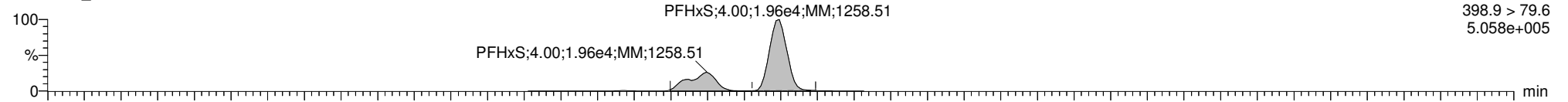
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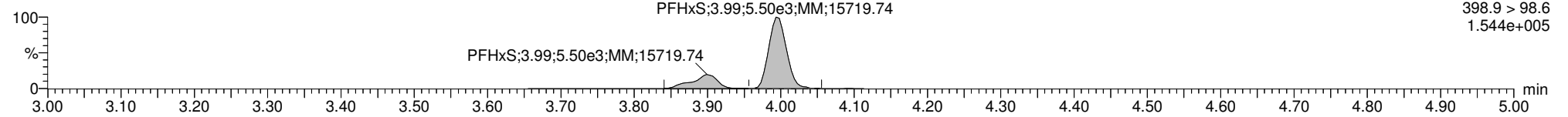
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**Total PFHxS**

170309G2\_11

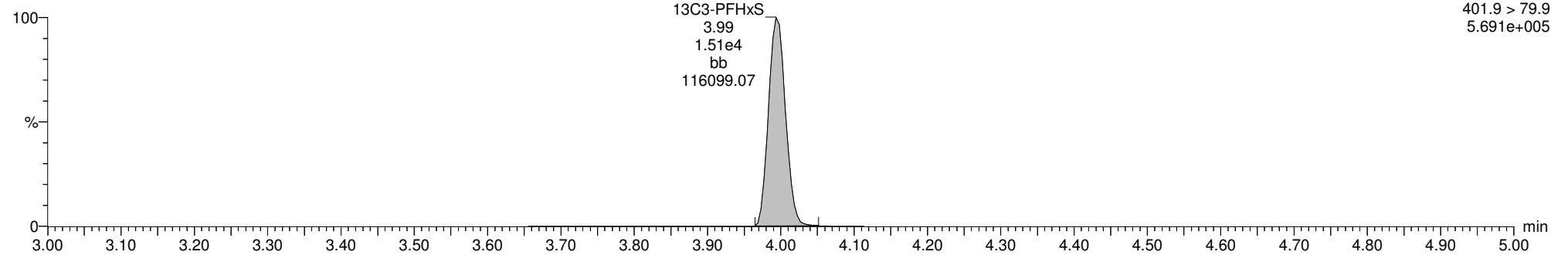


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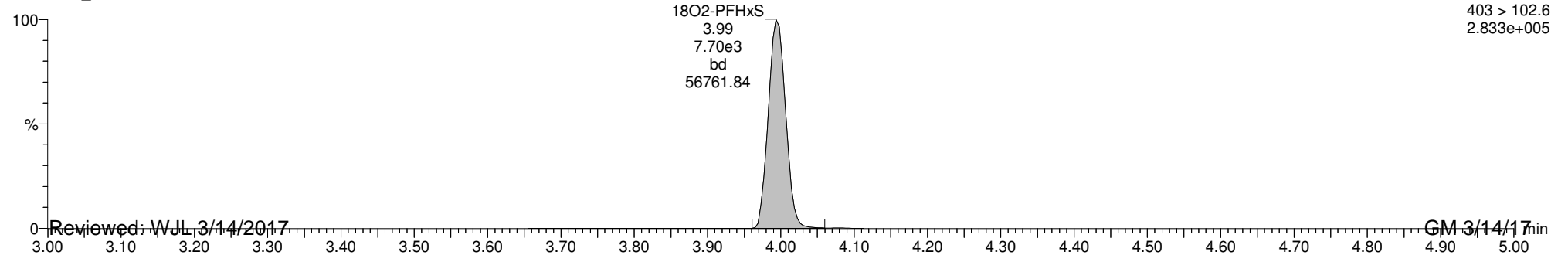
**13C3-PFHxS**

170309G2\_11



**18O2-PFHxS**

170309G2\_11



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

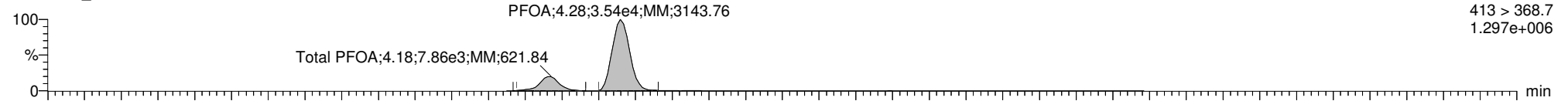
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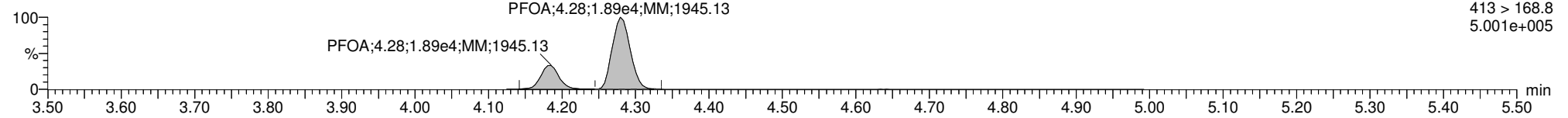
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**Total PFOA**

170309G2\_11

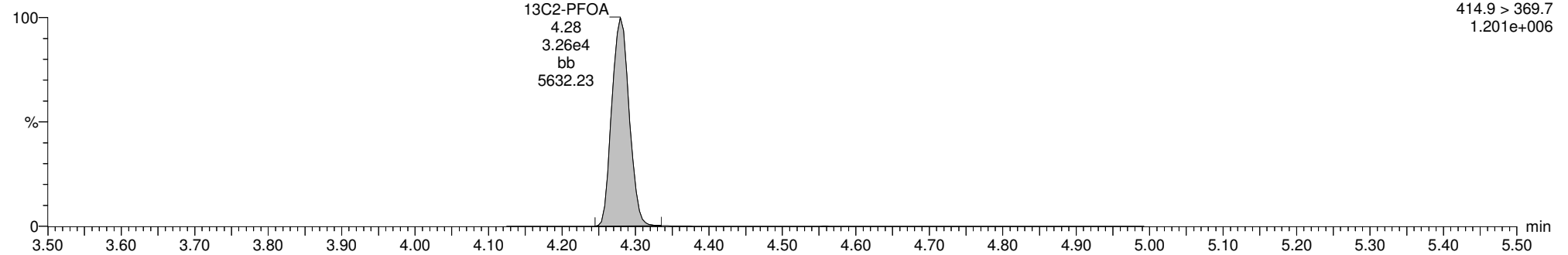


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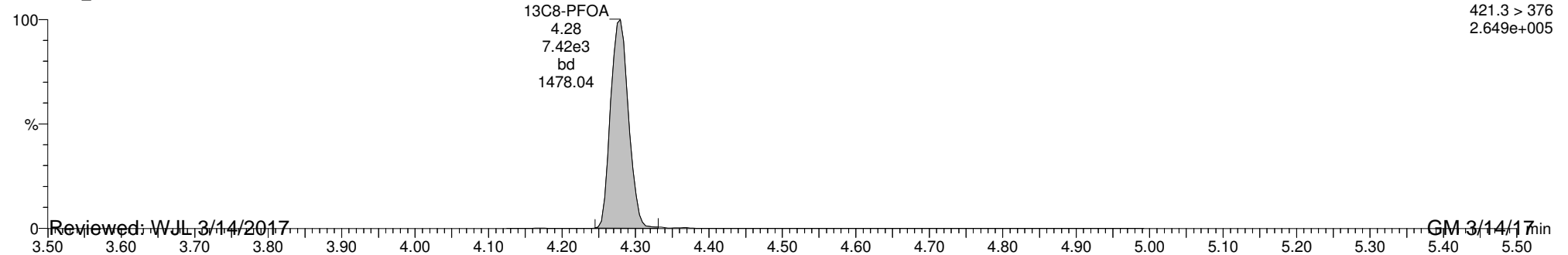
**13C2-PFOA**

170309G2\_11



**13C8-PFOA**

170309G2\_11



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

Last Altered: Tuesday, March 14, 2017 11:03:21 Pacific Daylight Time

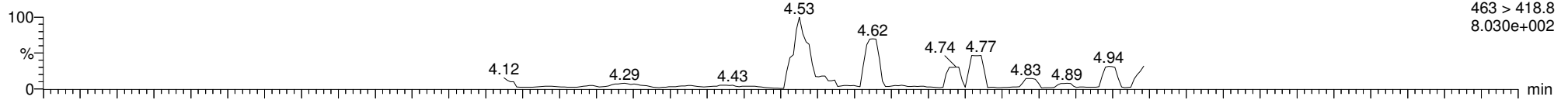
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PFNA

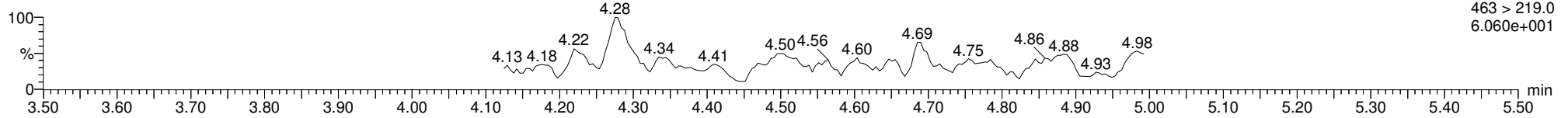
170309G2\_11

F5:MRM of 12 channels,ES-  
463 > 418.8  
8.030e+002



170309G2\_11

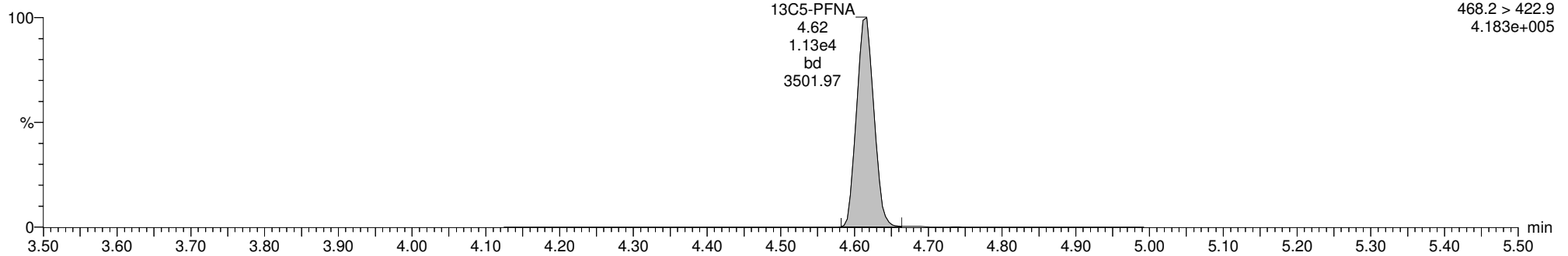
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463 > 219.0  
6.060e+001



13C5-PFNA

170309G2\_11

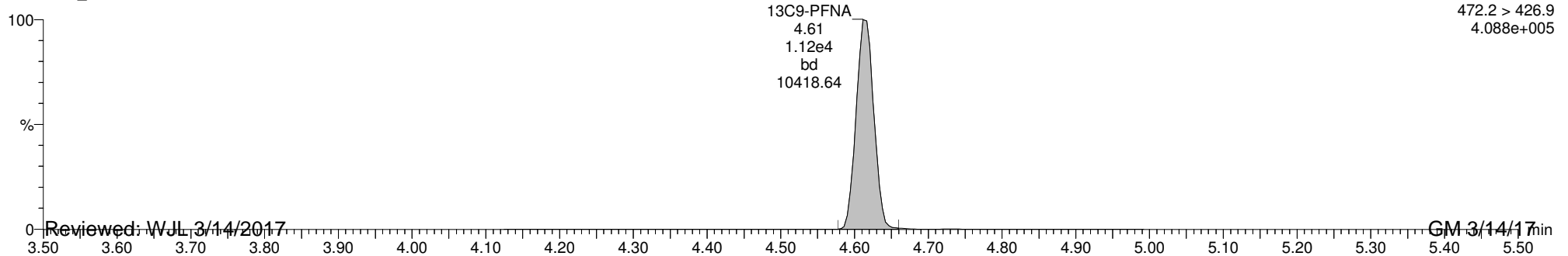
F5:MRM of 12 channels,ES-  
468.2 > 422.9  
4.183e+005



13C9-PFNA

170309G2\_11

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
4.088e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-11.qld

Last Altered: Tuesday, March 14, 2017 11:03:21 Pacific Daylight Time

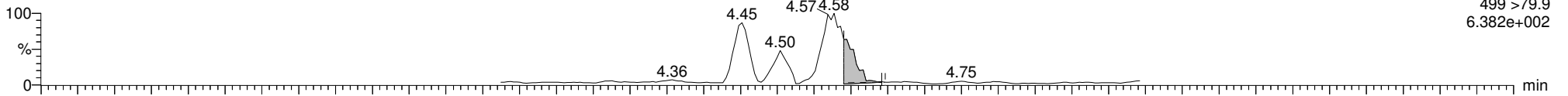
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**Total PFOS**

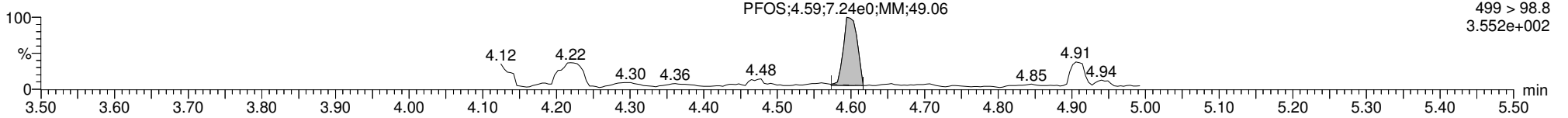
170309G2\_11

F5:MRM of 12 channels,ES-  
499 >79.9  
6.382e+002



170309G2\_11

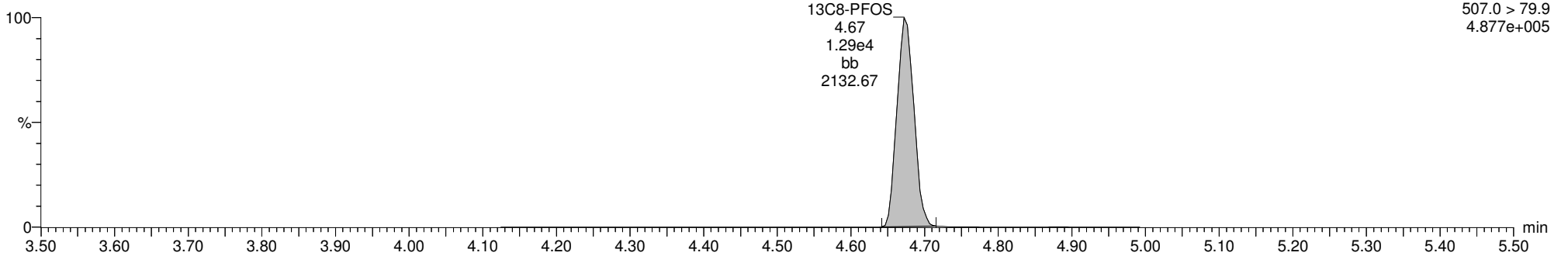
F5:MRM of 12 channels,ES-  
499 > 98.8  
3.552e+002



**13C8-PFOS**

170309G2\_11

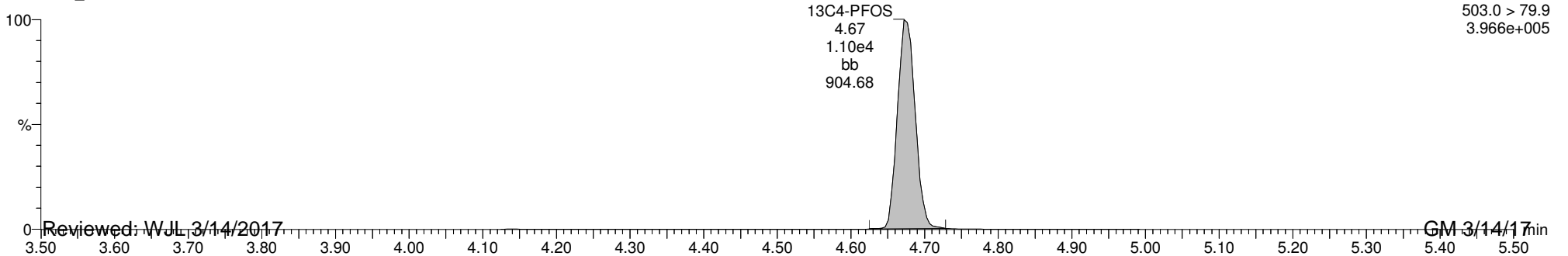
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
4.877e+005



**13C4-PFOS**

170309G2\_11

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.966e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-12.qld

Last Altered: Friday, March 10, 2017 10:40:34 AM Pacific Standard Time

Printed: Friday, March 10, 2017 10:40:56 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-06 WI-CV-GW13S-0317 0.125, Description: WI-CV-GW13S-0317, Name: 170309G2\_12, Date: 09-Mar-2017, Time: 17:53:53

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.791e2	6.019e3		0.123	3.00	1.74	
2	4 PFOA	413 > 368.7	3.409e2	3.371e4		0.123	4.29		
3	6 PFOS	499 > 79.9		1.202e4		0.123			
4	7 13C3-PFBS	302.0 > 98.8	6.019e3	1.459e4	0.410	0.123	2.99	102	101
5	10 13C2-PFOA	414.9 > 369.7	3.371e4	8.187e3	4.608	0.123	4.28	90.5	89.4
6	12 13C8-PFOS	507.0 > 79.9	1.202e4	1.053e4	0.958	0.123	4.68	121	119
7	15 13C8-PFOA	421.3 > 376	8.187e3	8.187e3	1.000	0.123	4.28	101	100
8	17 13C4-PFOS	503.0 > 79.9	1.053e4	1.053e4	1.000	0.123	4.68	101	100

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-12.qld

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Printed: Friday, March 10, 2017 10:41:08 AM Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-06 WI-CV-GW13S-0317 0.125, Description: WI-CV-GW13S-0317, Name: 170309G2\_12, Date: 09-Mar-2017, Time: 17:53:53

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		7.225e3		0.123		1.74	
2	20 Total PFOA	413 > 368.7		3.371e4		0.123			
3	21 Total PFOS	499 > 79.9		1.202e4		0.123			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-12.qld

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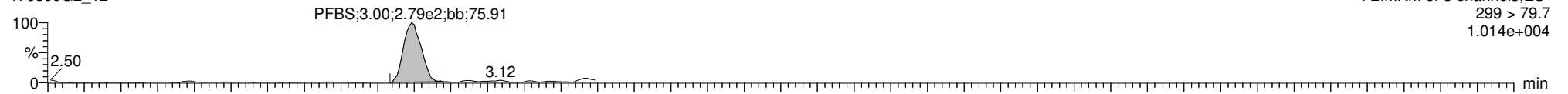
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**Total PFBS**

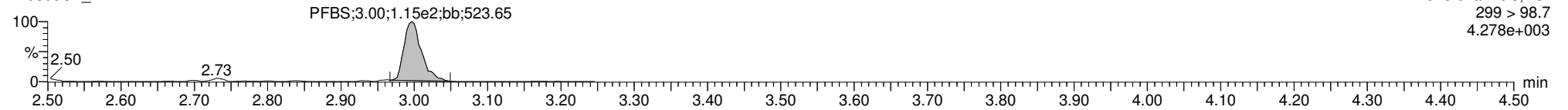
170309G2\_12

F2:MRM of 3 channels,ES-  
299 > 79.7  
1.014e+004



170309G2\_12

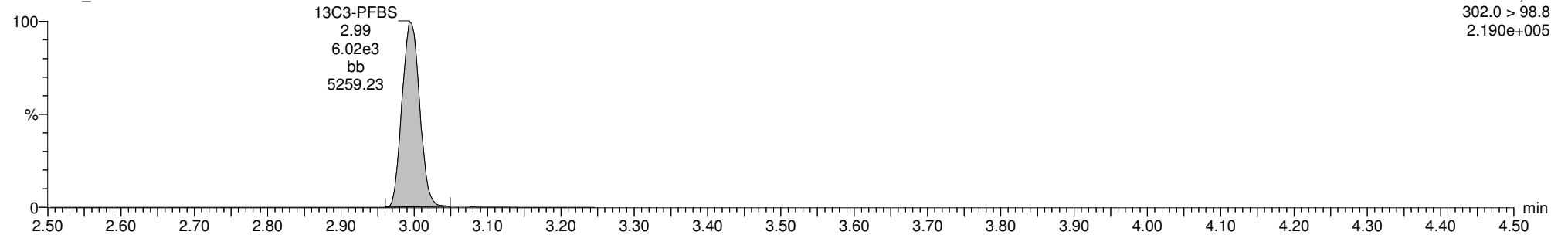
F2:MRM of 3 channels,ES-  
299 > 98.7  
4.278e+003



**13C3-PFBS**

170309G2\_12

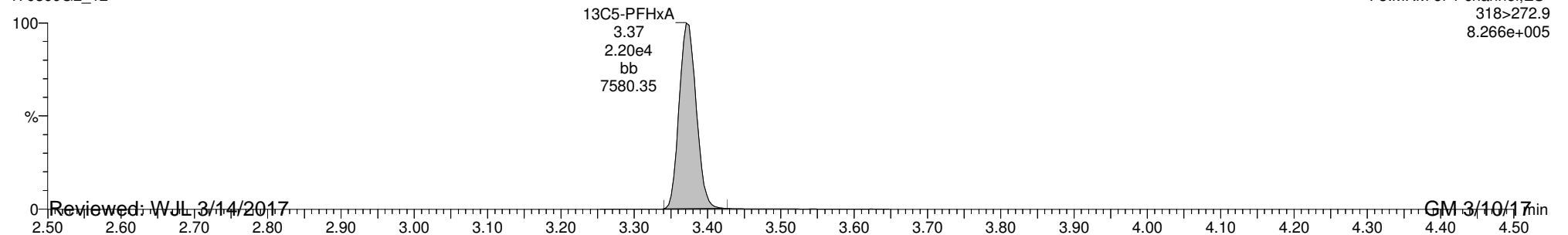
F2:MRM of 3 channels,ES-  
302.0 > 98.8  
2.190e+005



**13C5-PFHxA**

170309G2\_12

F3:MRM of 1 channel,ES-  
318>272.9  
8.266e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-12.qld

Last Altered: Friday, March 10, 2017 10:40:34 AM Pacific Standard Time

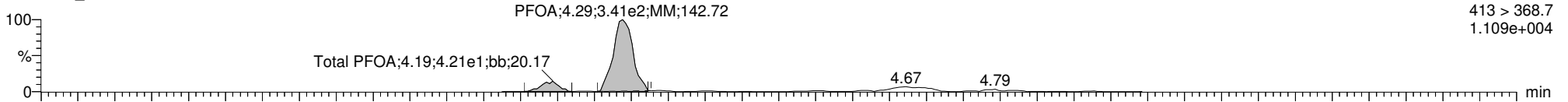
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**Total PFOA**

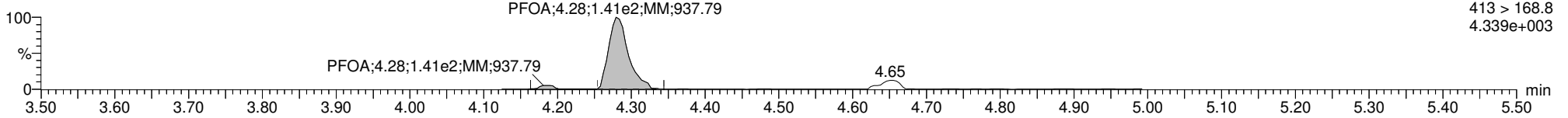
170309G2\_12

F5:MRM of 12 channels,ES-  
413 > 368.7  
1.109e+004



170309G2\_12

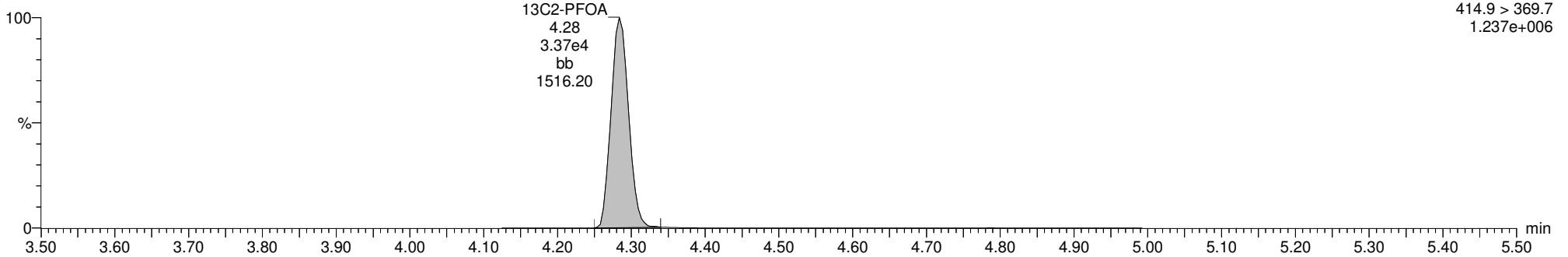
F5:MRM of 12 channels,ES-  
413 > 168.8  
4.339e+003



**13C2-PFOA**

170309G2\_12

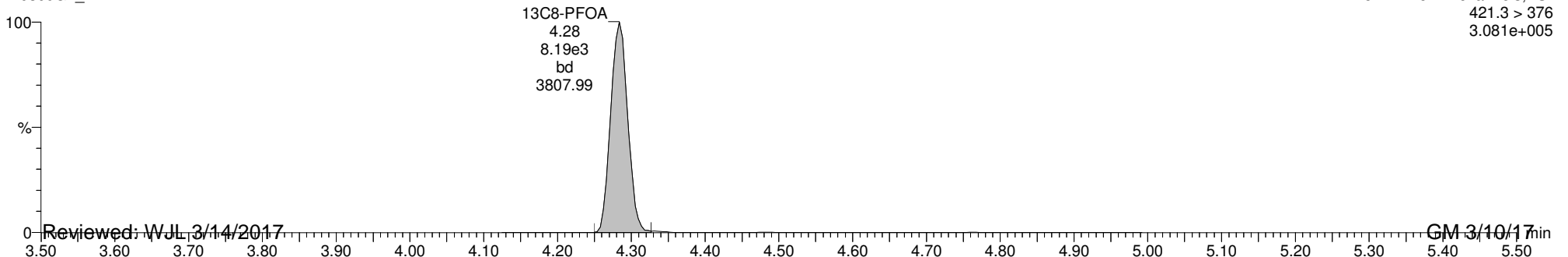
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.237e+006



**13C8-PFOA**

170309G2\_12

F5:MRM of 12 channels,ES-  
421.3 > 376  
3.081e+005



Reviewed: WJL 3/14/2017

GM 3/10/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-12.qld

Last Altered: Friday, March 10, 2017 10:40:34 AM Pacific Standard Time

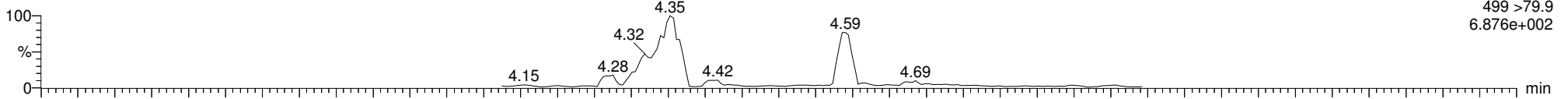
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**Total PFOS**

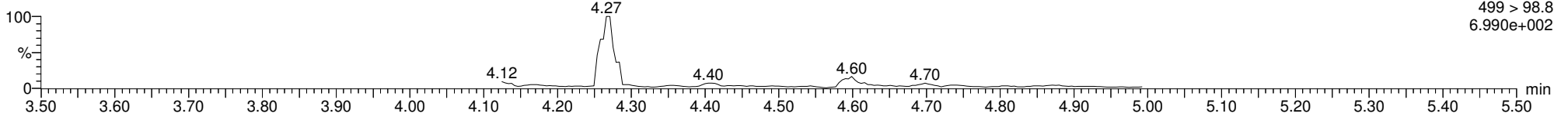
170309G2\_12

F5:MRM of 12 channels,ES-  
499 >79.9  
6.876e+002



170309G2\_12

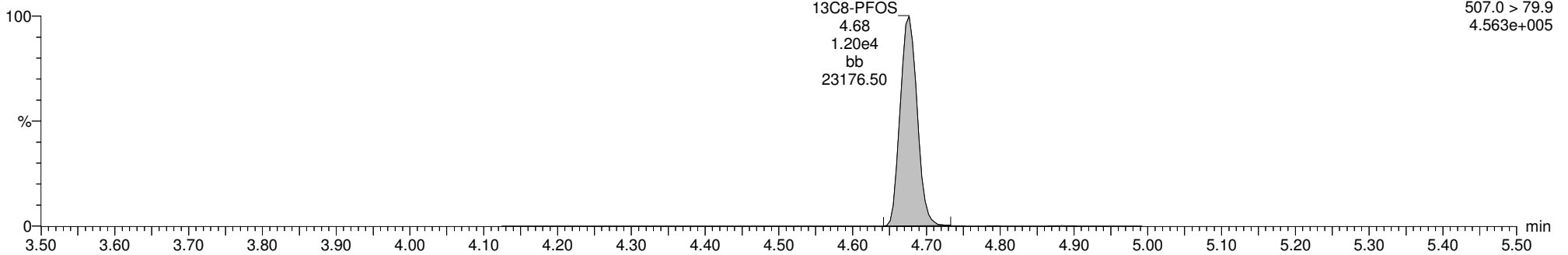
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**13C8-PFOS**

170309G2\_12

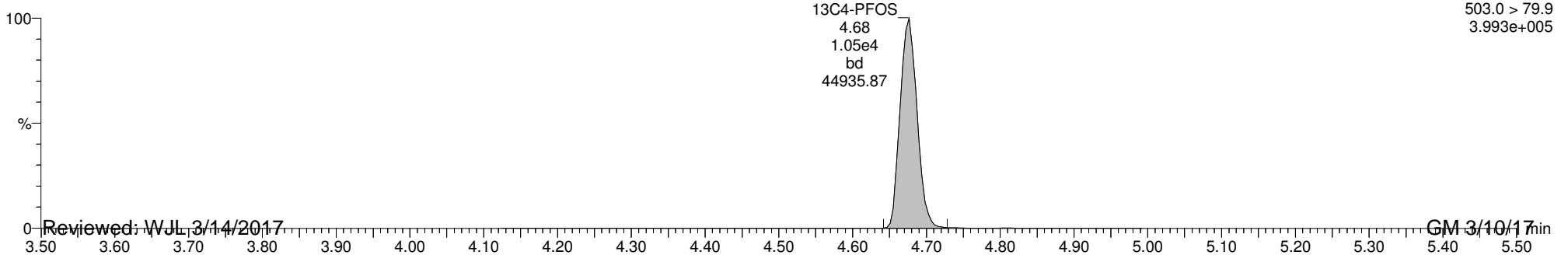
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
4.563e+005



**13C4-PFOS**

170309G2\_12

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.993e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

Last Altered: Tuesday, March 14, 2017 10:59:33 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 11:05:18 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-07 WI-CV-GW07M-0317 0.125, Description: WI-CV-GW07M-0317, Name: 170309G2\_13, Date: 09-Mar-2017, Time: 18:06:27

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7		6.935e3		0.128			
2	2 PFHpA	363 > 318.9		1.683e4		0.128			
3	3 PFHxS	398.9 > 79.6	6.125e1	7.680e3		0.128	4.00		
4	4 PFOA	413 > 368.7	1.886e2	3.580e4		0.128	4.28		
5	5 PFNA	463 > 418.8		1.042e4		0.128			
6	6 PFOS	499 > 79.9	5.385e0	1.137e4		0.128	4.68	0.844	
7	7 13C3-PFBS	302.0 > 98.8	6.935e3	1.510e4	0.410	0.128	3.00	109	112
8	8 13C4-PFHpA	367.2 > 321.8	1.683e4	1.510e4	1.098	0.128	3.89	99.0	102
9	9 18O2-PFHxS	403 > 102.6	7.680e3	1.510e4	0.434	0.128	4.00	114	117
10	10 13C2-PFOA	414.9 > 369.7	3.580e4	8.628e3	4.608	0.128	4.28	87.8	90.0
11	11 13C5-PFNA	468.2 > 422.9	1.042e4	1.096e4	0.867	0.128	4.62	107	110
12	12 13C8-PFOS	507.0 > 79.9	1.137e4	9.610e3	0.958	0.128	4.68	120	124
13	13 13C5-PFHxA	318>272.9	2.316e4	2.316e4	1.000	0.128	3.37	97.5	100
14	14 13C3-PFHxS	401.9 > 79.9	1.510e4	1.510e4	1.000	0.128	4.00	97.5	100
15	15 13C8-PFOA	421.3 > 376	8.628e3	8.628e3	1.000	0.128	4.28	97.5	100
16	16 13C9-PFNA	472.2 > 426.9	1.096e4	1.096e4	1.000	0.128	4.62	97.5	100
17	17 13C4-PFOS	503.0 > 79.9	9.610e3	9.610e3	1.000	0.128	4.68	97.5	100
18	18 Total PFBS	299 > 79.7		7.680e3		0.128			
19	19 Total PFHxS	398.9 > 79.6		7.680e3		0.128			
20	20 Total PFOA	413 > 368.7		3.580e4		0.128			
21	21 Total PFOS	499 > 79.9		1.137e4		0.128		0.844	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

Last Altered: Tuesday, March 14, 2017 10:59:33 Pacific Daylight Time

Printed: Tuesday, March 14, 2017 11:05:18 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-07 WI-CV-GW07M-0317 0.125, Description: WI-CV-GW07M-0317, Name: 170309G2\_13, Date: 09-Mar-2017, Time: 18:06:27

**Total PFBS**

#	Name	Trace	RT	Area	IS Area	Conc.
1						

**Total PFHxS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFHxS	398.9 > 79.6	4.00	61.252	7680.350	

**Total PFOA**

#	Name	Trace	RT	Area	IS Area	Conc.
1	4 PFOA	413 > 368.7	4.28	188.594	35798.289	

**Total PFOS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	6 PFOS	499 > 79.9	4.68	5.385	11373.567	0.8

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

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Printed: Tuesday, March 14, 2017 11:05:18 Pacific Daylight Time

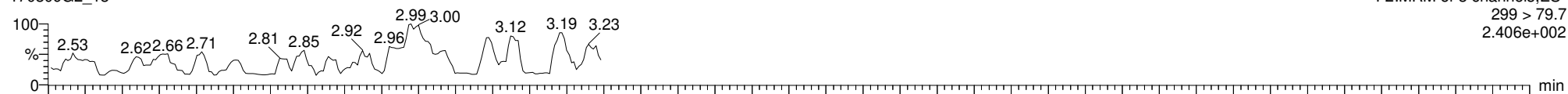
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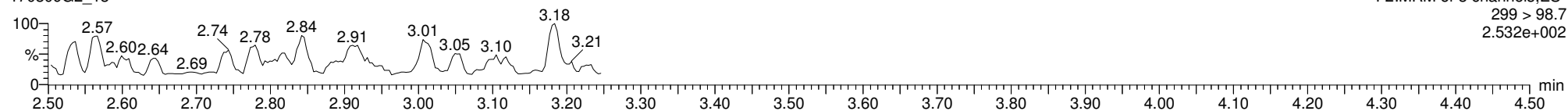
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**PFBS**

170309G2\_13

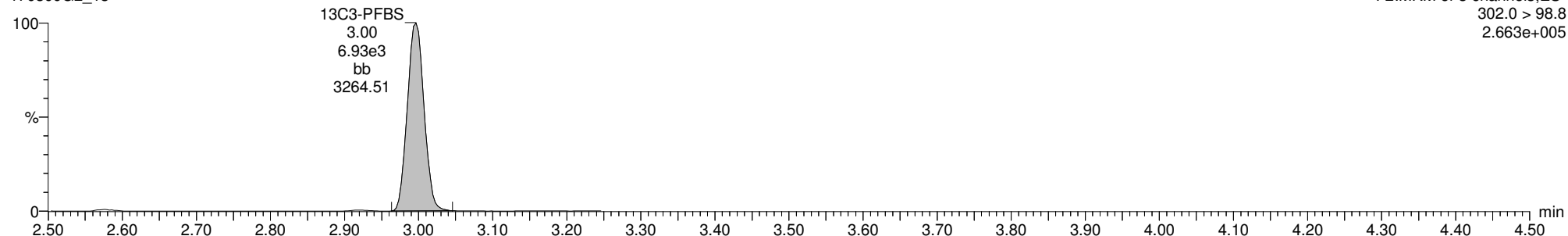


170309G2\_13



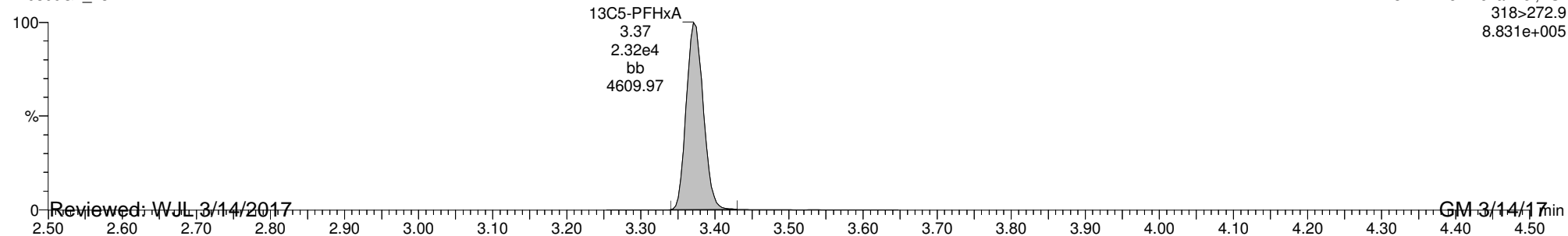
**13C3-PFBS**

170309G2\_13



**13C5-PFHxA**

170309G2\_13



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

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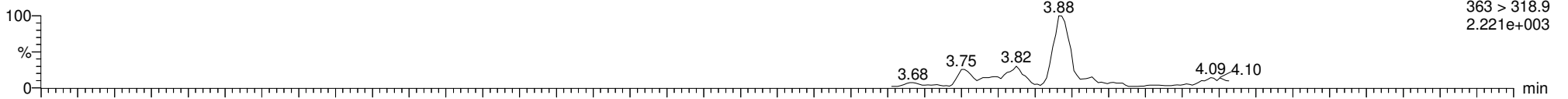
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**PFHpA**

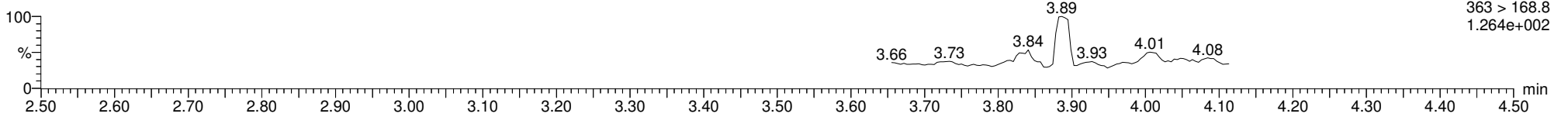
170309G2\_13

F4:MRM of 7 channels,ES-  
363 > 318.9  
2.221e+003



170309G2\_13

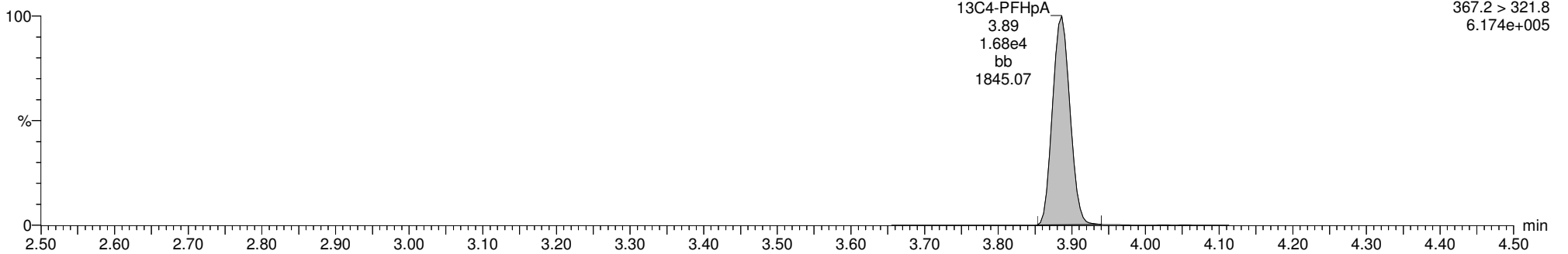
F4:MRM of 7 channels,ES-  
363 > 168.8  
1.264e+002



**13C4-PFHpA**

170309G2\_13

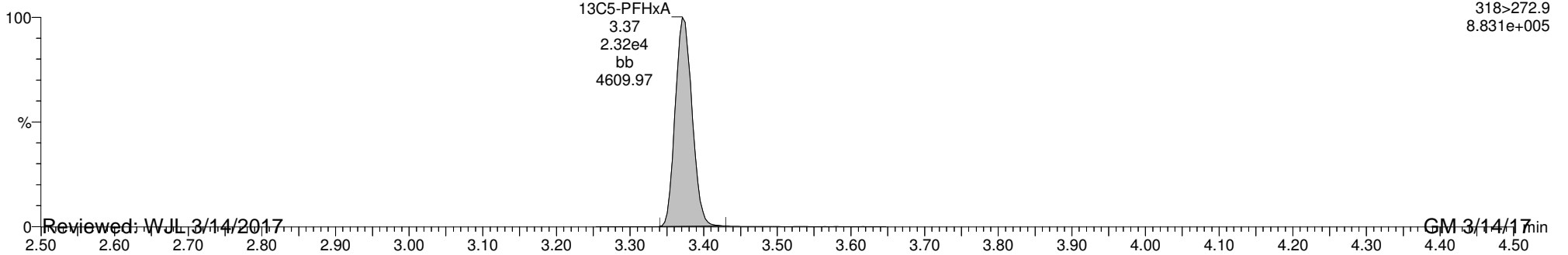
F4:MRM of 7 channels,ES-  
367.2 > 321.8  
6.174e+005



**13C5-PFHxA**

170309G2\_13

F3:MRM of 1 channel,ES-  
318>272.9  
8.831e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

Last Altered: Tuesday, March 14, 2017 10:59:33 Pacific Daylight Time

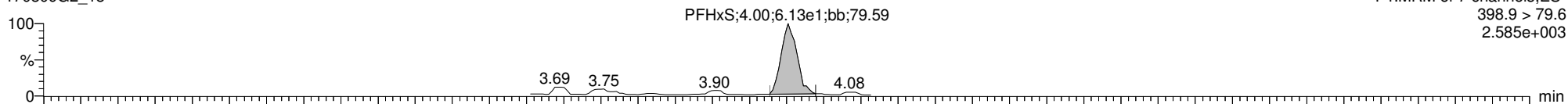
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ID: 1700296-07 WI-CV-GW07M-0317 0.125, Description: WI-CV-GW07M-0317, Name: 170309G2\_13, Date: 09-Mar-2017, Time: 18:06:27, Instrument: , Lab: , User:

**Total PFHxS**

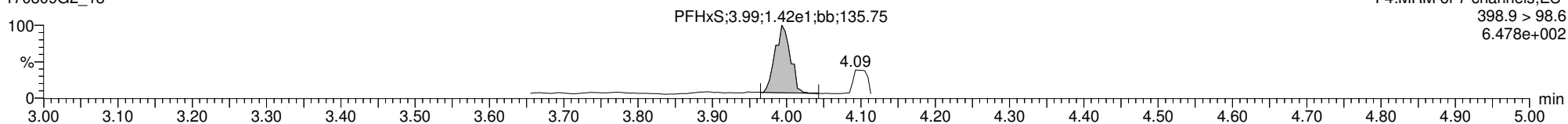
170309G2\_13

F4:MRM of 7 channels,ES-  
398.9 > 79.6  
2.585e+003



170309G2\_13

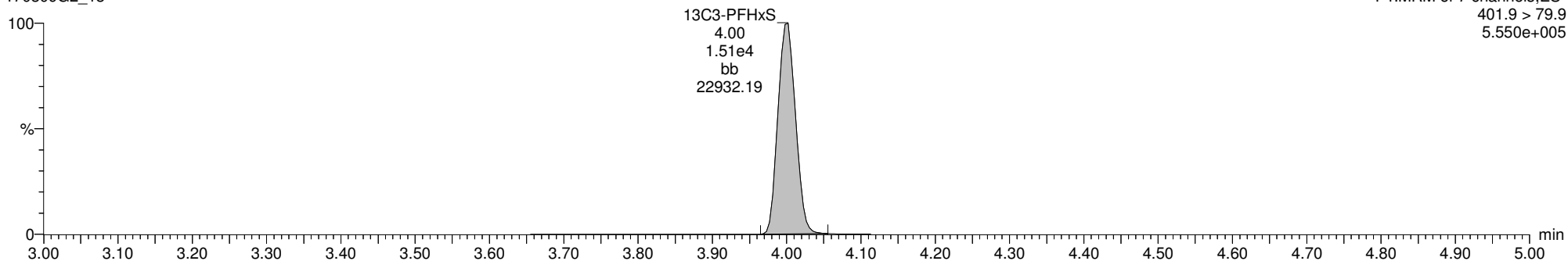
F4:MRM of 7 channels,ES-  
398.9 > 98.6  
6.478e+002



**13C3-PFHxS**

170309G2\_13

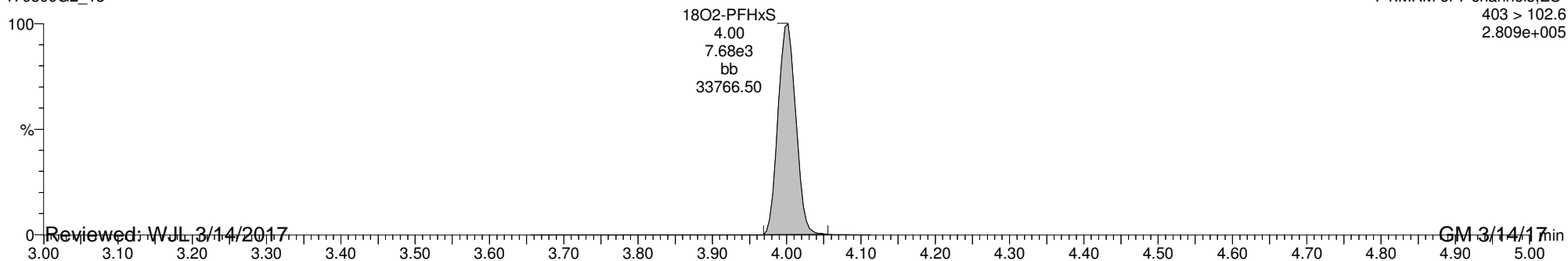
F4:MRM of 7 channels,ES-  
401.9 > 79.9  
5.550e+005



**18O2-PFHxS**

170309G2\_13

F4:MRM of 7 channels,ES-  
403 > 102.6  
2.809e+005



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

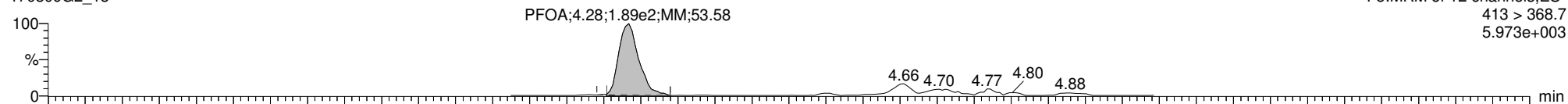
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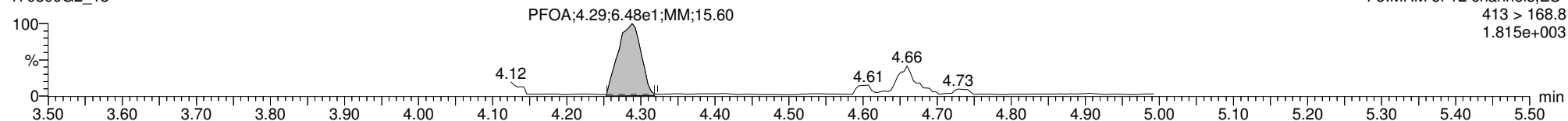
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### Total PFOA

170309G2\_13

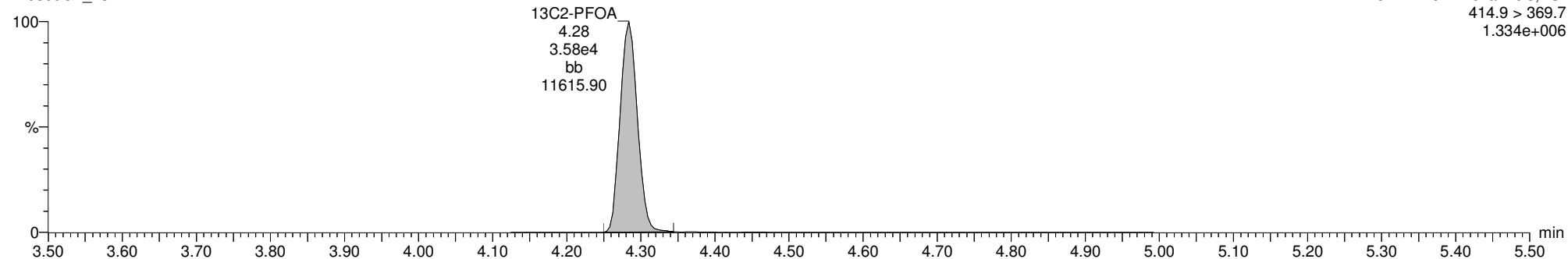


170309G2\_13



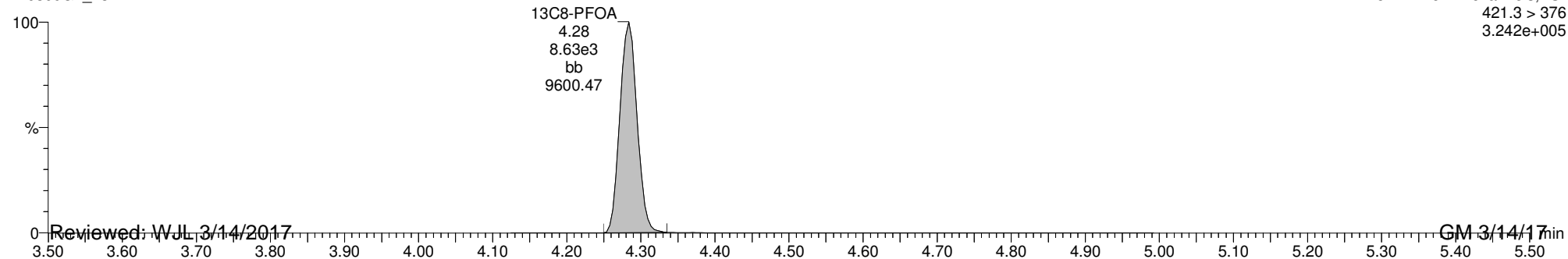
### 13C2-PFOA

170309G2\_13



### 13C8-PFOA

170309G2\_13



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

Last Altered: Tuesday, March 14, 2017 10:59:33 Pacific Daylight Time

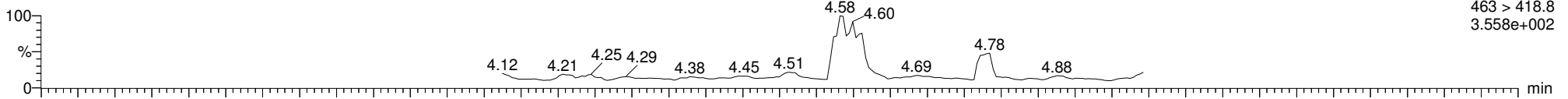
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**PFNA**

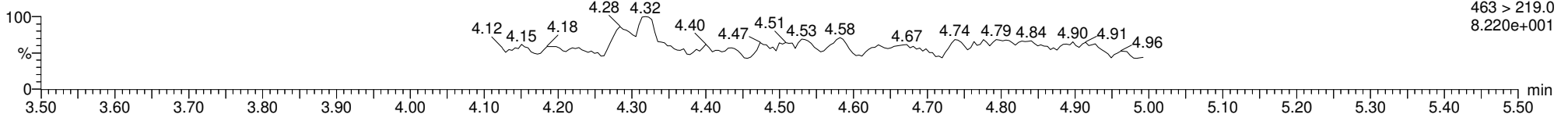
170309G2\_13

F5:MRM of 12 channels,ES-  
463 > 418.8  
3.558e+002



170309G2\_13

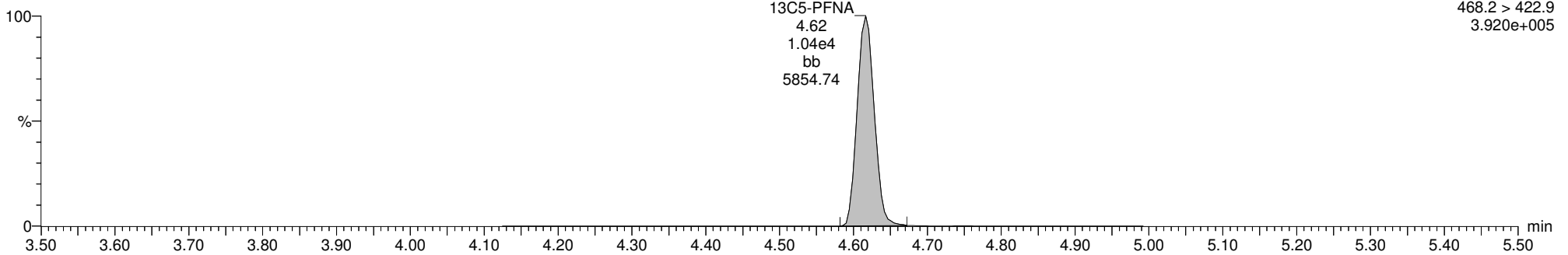
F5:MRM of 12 channels,ES-  
463 > 219.0  
8.220e+001



**13C5-PFNA**

170309G2\_13

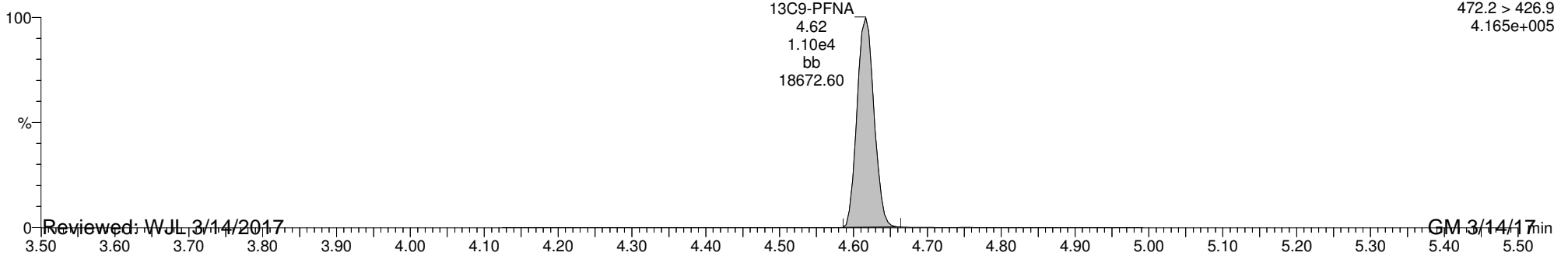
F5:MRM of 12 channels,ES-  
468.2 > 422.9  
3.920e+005



**13C9-PFNA**

170309G2\_13

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
4.165e+005



Reviewed: WJL 3/14/2017

GM 3/14/17



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-13.qld

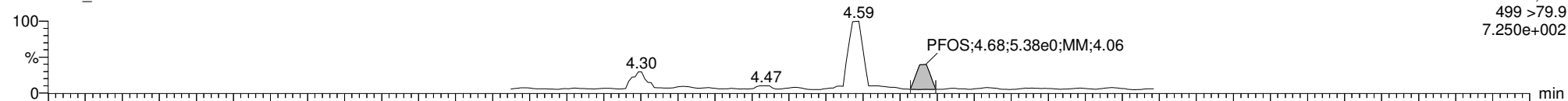
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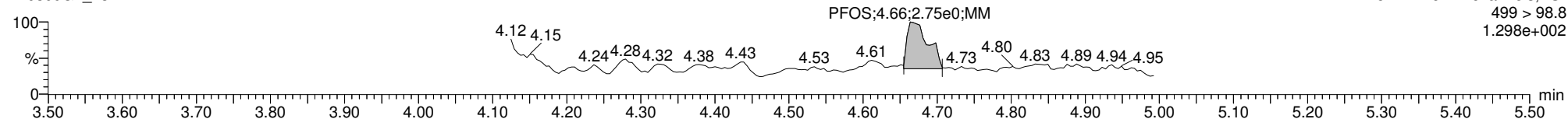
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**Total PFOS**

170309G2\_13

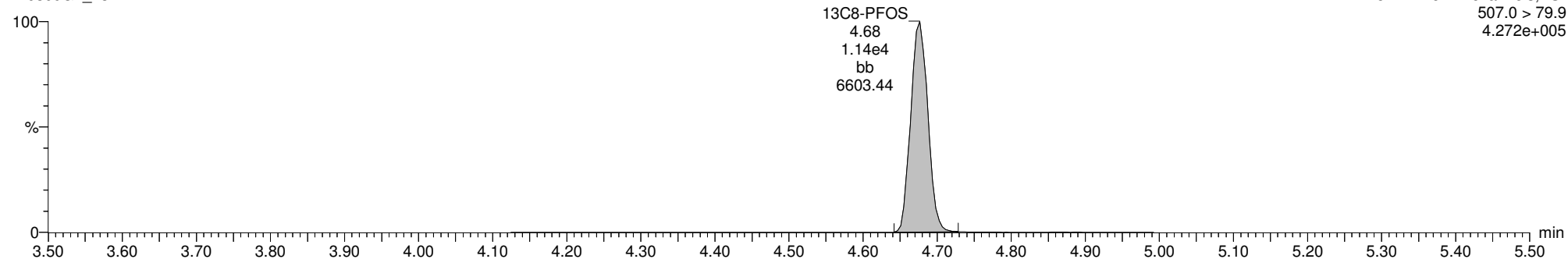


170309G2\_13



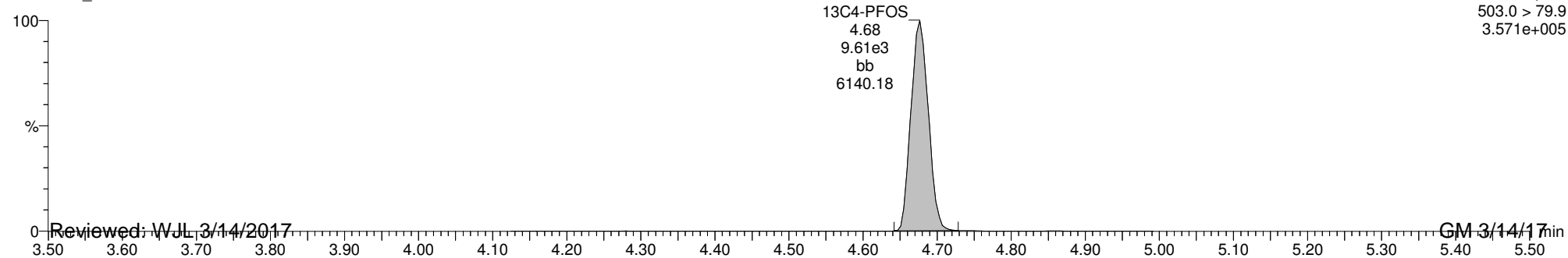
**13C8-PFOS**

170309G2\_13



**13C4-PFOS**

170309G2\_13



Reviewed: WJL 3/14/2017

GM 3/14/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-14.qld

Last Altered: Friday, March 10, 2017 2:46:56 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:47:14 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-08 WI-CV-EB14-030417 0.125, Description: WI-CV-EB14-030417, Name: 170309G2\_14, Date: 09-Mar-2017, Time: 18:18:56

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	2.880e0	6.182e3		0.128	3.00		
2	4 PFOA	413 > 368.7	1.344e2	2.985e4		0.128	4.28		
3	6 PFOS	499 >79.9		9.086e3		0.128			
4	7 13C3-PFBS	302.0 > 98.8	6.182e3	1.367e4	0.410	0.128	3.00	108	110
5	10 13C2-PFOA	414.9 > 369.7	2.985e4	6.374e3	4.608	0.128	4.28	99.3	102
6	12 13C8-PFOS	507.0 > 79.9	9.086e3	8.332e3	0.958	0.128	4.68	111	114
7	15 13C8-PFOA	421.3 > 376	6.374e3	6.374e3	1.000	0.128	4.28	97.8	100
8	17 13C4-PFOS	503.0 > 79.9	8.332e3	8.332e3	1.000	0.128	4.68	97.8	100

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-14.qld

Last Altered: Friday, March 10, 2017 2:46:56 PM Pacific Standard Time

Printed: Friday, March 10, 2017 2:47:25 PM Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-08 WI-CV-EB14-030417 0.125, Description: WI-CV-EB14-030417, Name: 170309G2\_14, Date: 09-Mar-2017, Time: 18:18:56

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	18 Total PFBS	299 > 79.7		7.045e3		0.128			
2	20 Total PFOA	413 > 368.7		2.985e4		0.128			
3	21 Total PFOS	499 > 79.9		9.086e3		0.128			

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-14.qld

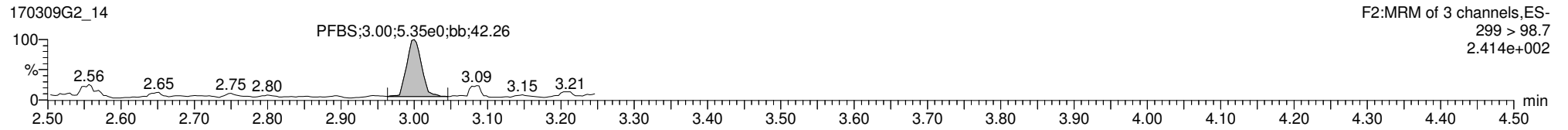
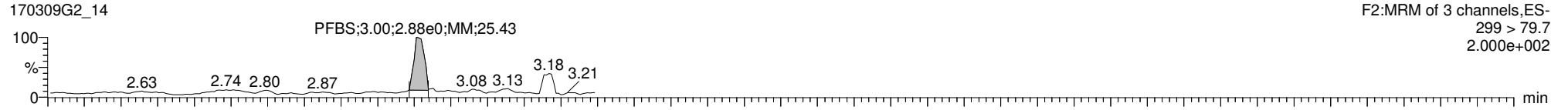
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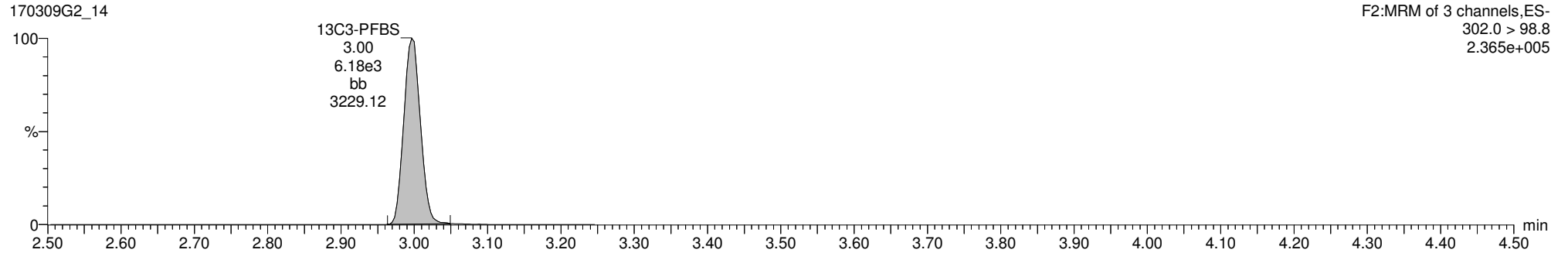
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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: 1700296-08 WI-CV-EB14-030417 0.125, Description: WI-CV-EB14-030417, Name: 170309G2\_14, Date: 09-Mar-2017, Time: 18:18:56, Instrument: , Lab: , User:

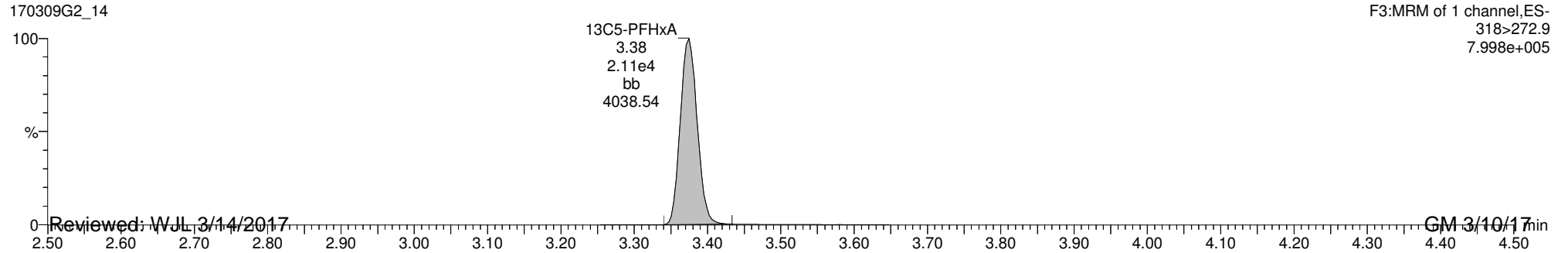
**PFBS**



**13C3-PFBS**



**13C5-PFHxA**



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-14.qld

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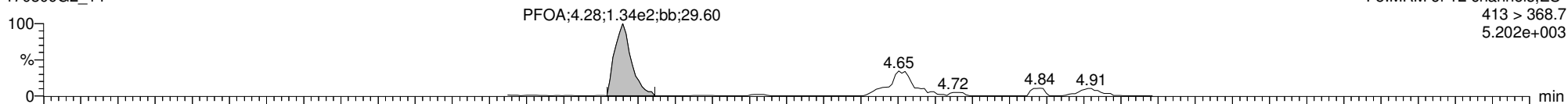
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**Total PFOA**

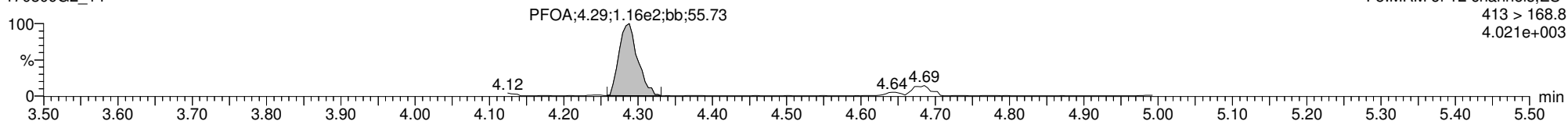
170309G2\_14

F5:MRM of 12 channels,ES-  
413 > 368.7  
5.202e+003



170309G2\_14

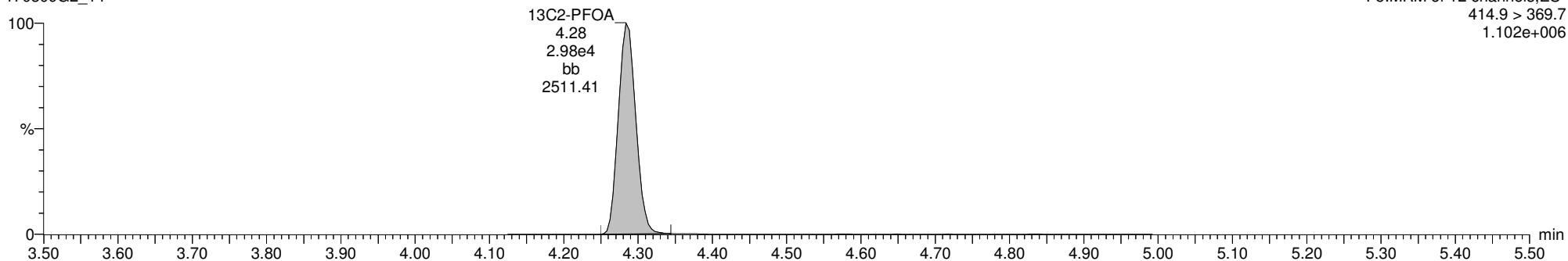
F5:MRM of 12 channels,ES-  
413 > 168.8  
4.021e+003



**13C2-PFOA**

170309G2\_14

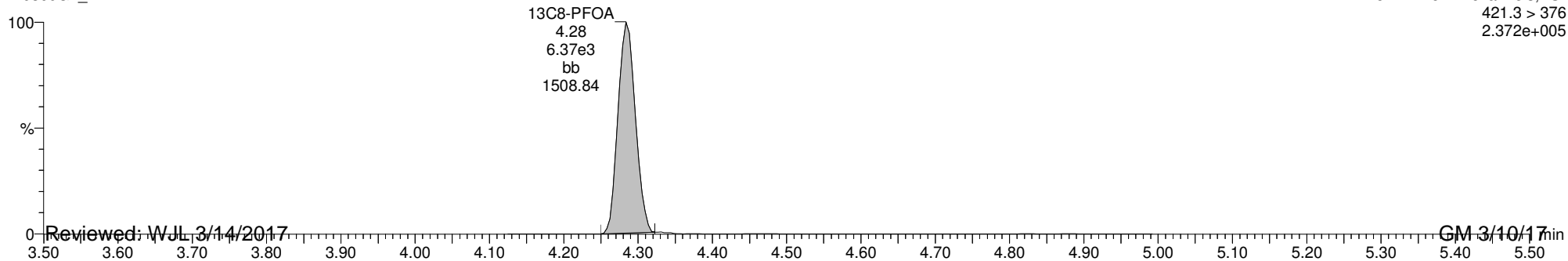
F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.102e+006



**13C8-PFOA**

170309G2\_14

F5:MRM of 12 channels,ES-  
421.3 > 376  
2.372e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-14.qld

Last Altered: Friday, March 10, 2017 2:46:56 PM Pacific Standard Time

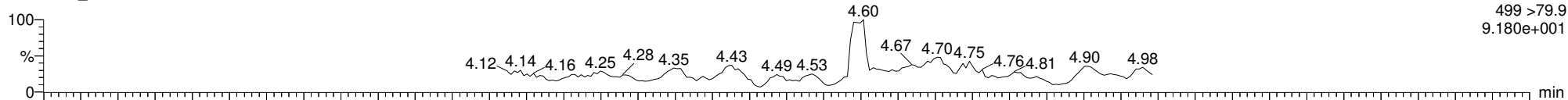
Printed: Friday, March 10, 2017 2:47:14 PM Pacific Standard Time

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**Total PFOS**

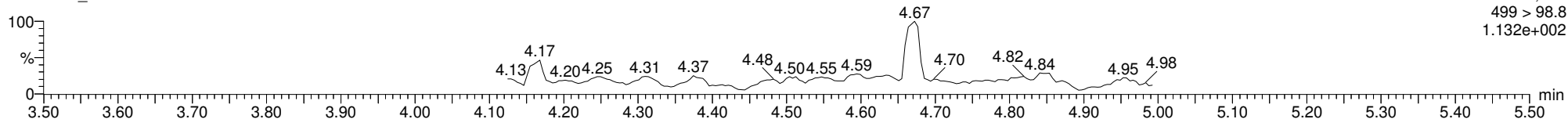
170309G2\_14

F5:MRM of 12 channels,ES-  
499 >79.9  
9.180e+001



170309G2\_14

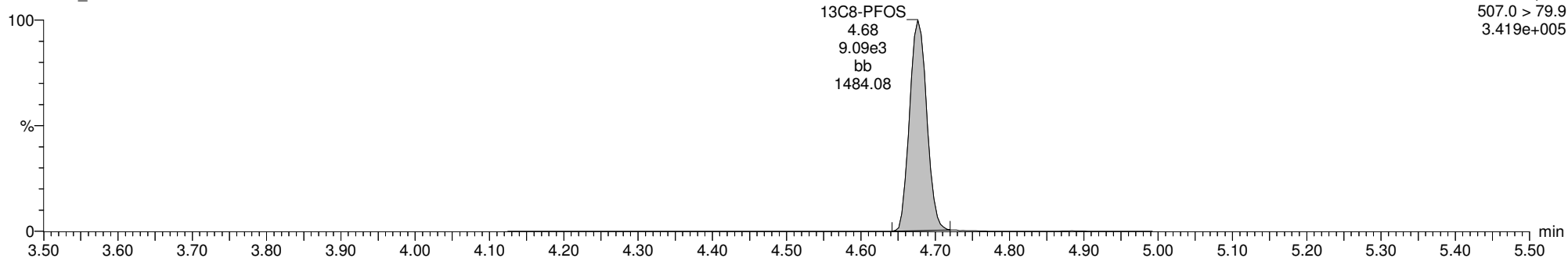
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499 > 98.8  
1.132e+002



**13C8-PFOS**

170309G2\_14

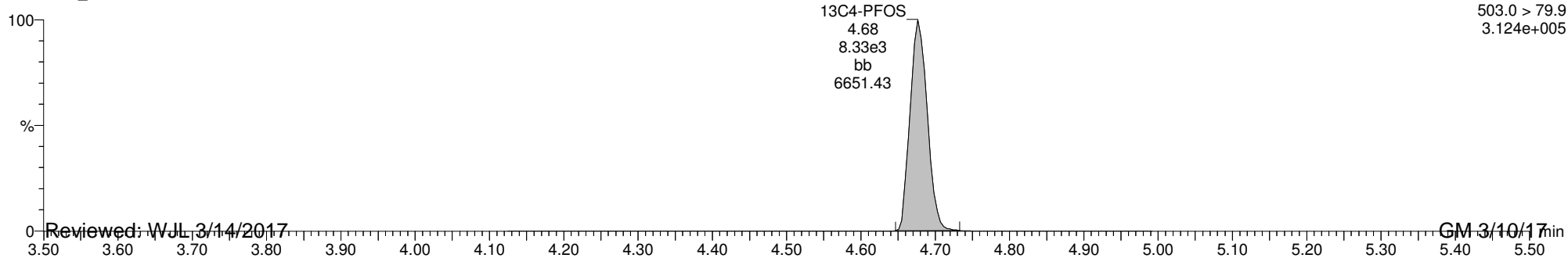
F5:MRM of 12 channels,ES-  
507.0 > 79.9  
3.419e+005



**13C4-PFOS**

170309G2\_14

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
3.124e+005



Reviewed: WJL 3/14/2017

GM 3/10/17

## **CONTINUING CALIBRATION**

Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-2.qld

Last Altered: Friday, March 10, 2017 08:32:33 Pacific Standard Time

Printed: Friday, March 10, 2017 08:33:02 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170309G2\_2, Date: 09-Mar-2017, Time: 15:48:23, ID: ST170309G2-1 PFC CS2 17C0905, Description: PFC CS2 17C0905 A

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	6.39e3	7.72e3		1.000	2.99	4.32	86.4
2	2 PFHpA	363 > 318.9	1.18e4	1.80e4		1.000	3.88	4.49	89.7
3	3 PFHxS	398.9 > 79.6	5.02e3	7.78e3		1.000	4.00	4.40	87.9
4	4 PFOA	413 > 368.7	1.18e4	3.52e4		1.000	4.28	5.02	100.4
5	5 PFNA	463 > 418.8	8.82e3	1.01e4		1.000	4.61	3.94	78.7
6	6 PFOS	499 > 79.9	1.55e3	9.20e3		1.000	4.67	3.99	79.9
7	7 13C3-PFBS	302.0 > 98.8	7.72e3	1.75e4	0.410	1.000	2.99	13.5	107.8
8	8 13C4-PFHpA	367.2 > 321.8	1.80e4	1.75e4	1.098	1.000	3.88	11.7	93.7
9	9 18O2-PFHxS	403 > 102.6	7.78e3	1.75e4	0.434	1.000	4.00	12.8	102.5
10	10 13C2-PFOA	414.9 > 369.7	3.52e4	9.52e3	4.608	1.000	4.28	10.0	80.3
11	11 13C5-PFNA	468.2 > 422.9	1.01e4	1.13e4	0.867	1.000	4.62	12.9	103.3
12	12 13C8-PFOS	507.0 > 79.9	9.20e3	9.01e3	0.958	1.000	4.67	13.3	106.6
13	13 13C5-PFHxA	318 > 272.9	2.97e4	2.97e4	1.000	1.000	3.37	12.5	100.0
14	14 13C3-PFHxS	401.9 > 79.9	1.75e4	1.75e4	1.000	1.000	4.00	12.5	100.0
15	15 13C8-PFOA	421.3 > 376	9.52e3	9.52e3	1.000	1.000	4.28	12.5	100.0
16	16 13C9-PFNA	472.2 > 426.9	1.13e4	1.13e4	1.000	1.000	4.61	12.5	100.0
17	17 13C4-PFOS	503.0 > 79.9	9.01e3	9.01e3	1.000	1.000	4.68	12.5	100.0

75-125  
↓  
60-150  
↓  
50-150  
60-150  
↓  
3/10/17

ES 3/10/17



Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:58:05 Pacific Standard Time

Printed: Friday, March 10, 2017 08:58:22 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53  
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170309G2_1	IPA	09-Mar-17	15:36:10
2	170309G2_2	ST170309G2-1 PFC CS2 17C0905	09-Mar-17	15:48:23
3	170309G2_3	IPA	09-Mar-17	16:01:07
4	170309G2_4	B7C0034-BS1 OPR 0.125	09-Mar-17	16:13:33
5	170309G2_5	IPA	09-Mar-17	16:26:02
6	170309G2_6	B7C0034-BLK1 Method Blank 0.125	09-Mar-17	16:38:38
7	170309G2_7	1700296-01 WI-CV-GW08M-0317 0.125	09-Mar-17	16:51:08
8	170309G2_8	1700296-02 WI-CV-EB12-030317 0.125	09-Mar-17	17:03:41
9	170309G2_9	1700296-03 WI-CV-GW07S-0317 0.125	09-Mar-17	17:16:14
10	170309G2_10	1700296-04 WI-CV-EB13-030417 0.125	09-Mar-17	17:28:47
11	170309G2_11	1700296-05 WI-CV-GW14M-0317 0.125	09-Mar-17	17:41:21
12	170309G2_12	1700296-06 WI-CV-GW13S-0317 0.125	09-Mar-17	17:53:53
13	170309G2_13	1700296-07 WI-CV-GW07M-0317 0.125	09-Mar-17	18:06:27
14	170309G2_14	1700296-08 WI-CV-EB14-030417 0.125	09-Mar-17	18:18:56
15	170309G2_15	1700298-01 Kitchen Sink 0.125	09-Mar-17	18:31:30
16	170309G2_16	IPA	09-Mar-17	18:44:03
17	170309G2_17	ST170309G2-2 PFC CS2 17C0905	09-Mar-17	18:56:38
18	170309G2_18	IPA	09-Mar-17	19:09:10

# LC Calibration Standards Review Checklist

21

Calibration ID:	L M H	ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
<u>STH0309G2-1</u>	<u>LMH</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>NA</u>
<u>↓ -2</u>	<u>LMH</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>↓</u>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	LMH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Full Mass Cal. Date: 12/7/16

Run Log Present:

# of Samples per Sequence Checked:

Reviewed By: am 3/10/17  
Initials/Date

**Comments:**  
List 6.

Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:27:57 Pacific Standard Time

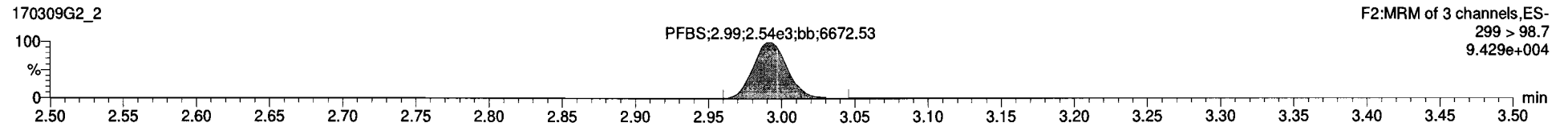
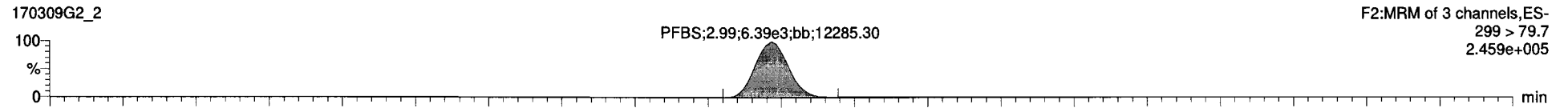
Printed: Friday, March 10, 2017 08:28:35 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

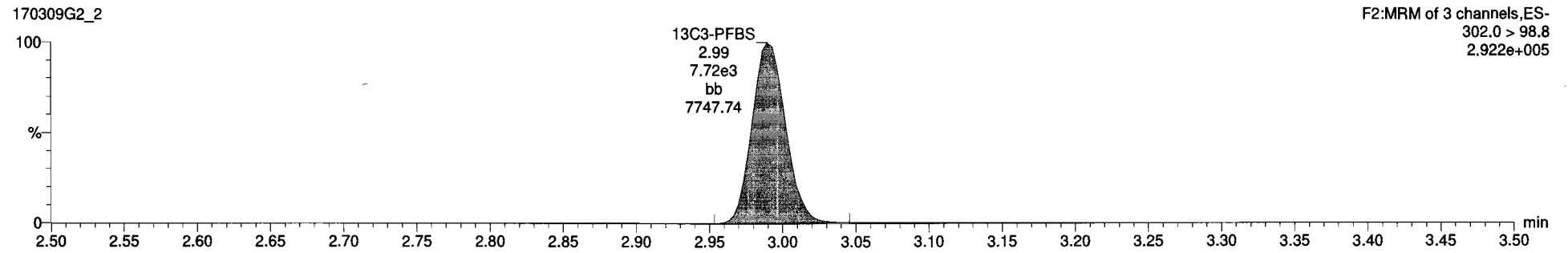
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

ID: ST170309G2-1 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_2, Date: 09-Mar-2017, Time: 15:48:23, Instrument: , Lab: , User:

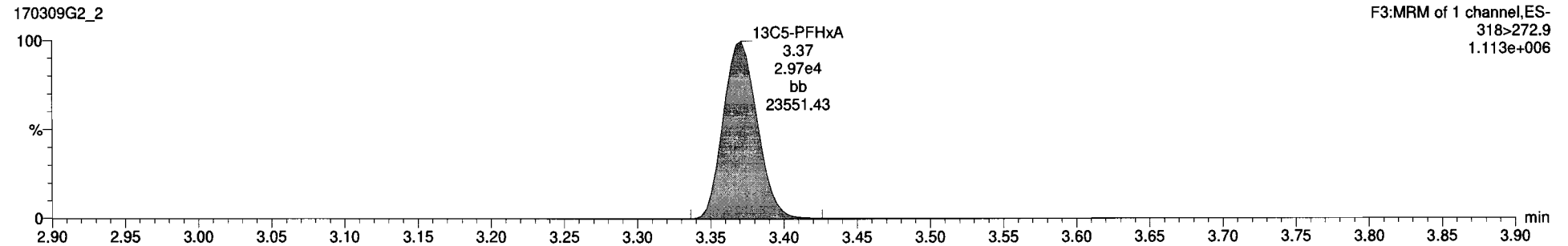
**PFBS**



**13C3-PFBS**



**13C5-PFHxA**



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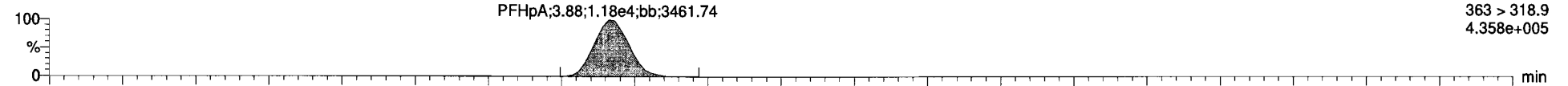
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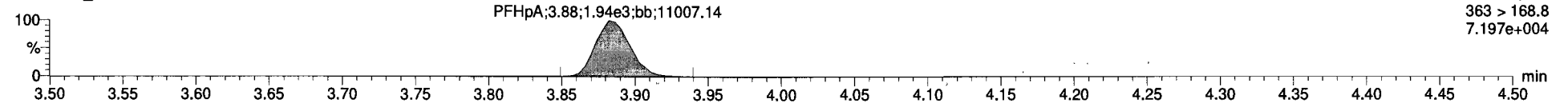
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**PFHpA**

170309G2\_2

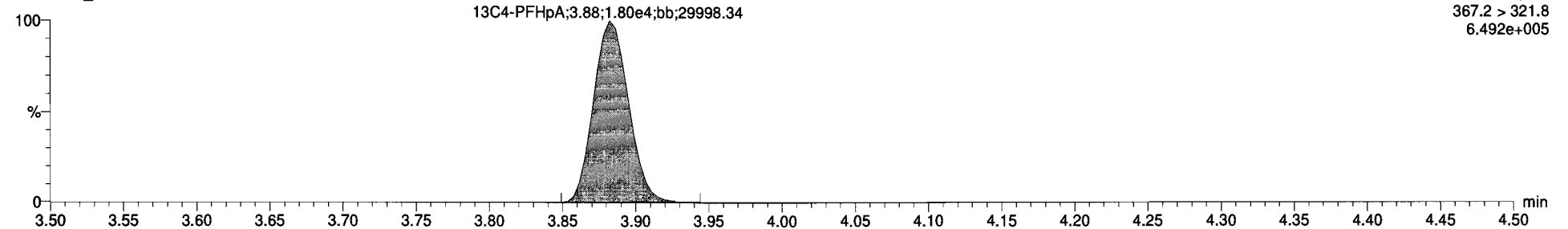


170309G2\_2



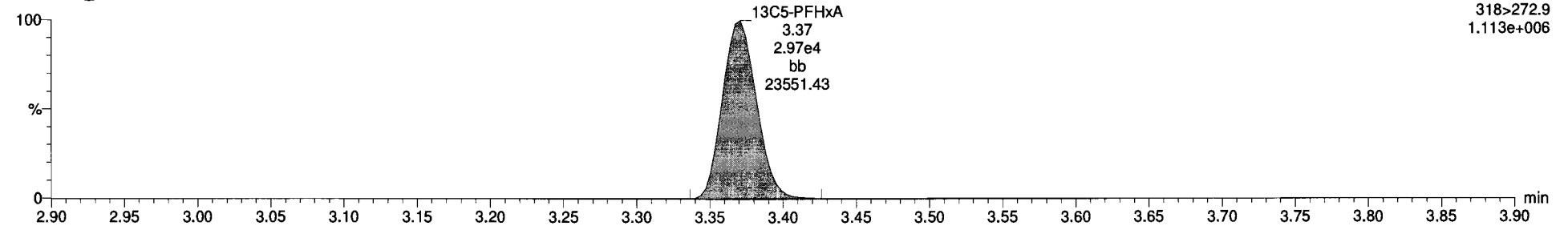
**13C4-PFHpA**

170309G2\_2



**13C5-PFHxA**

170309G2\_2



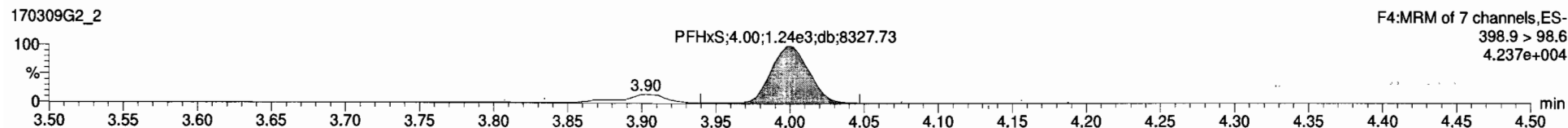
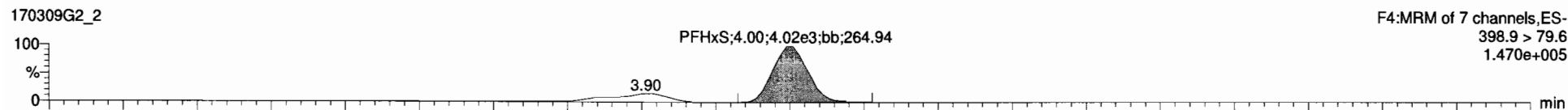
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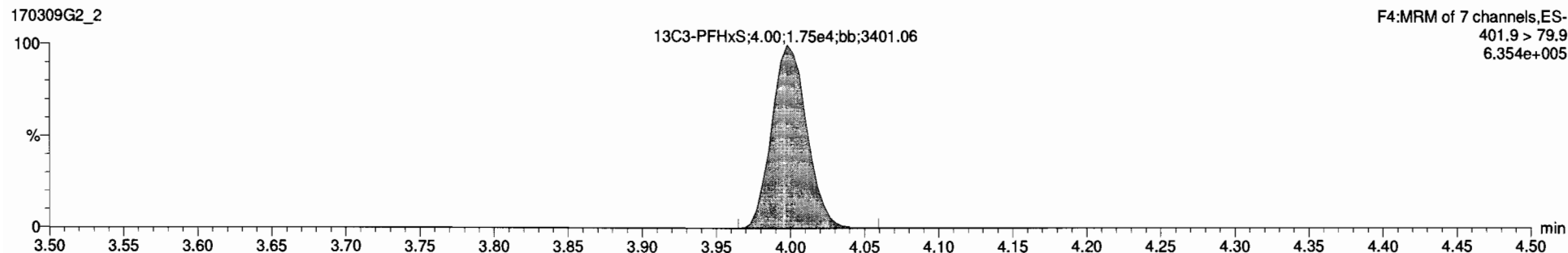
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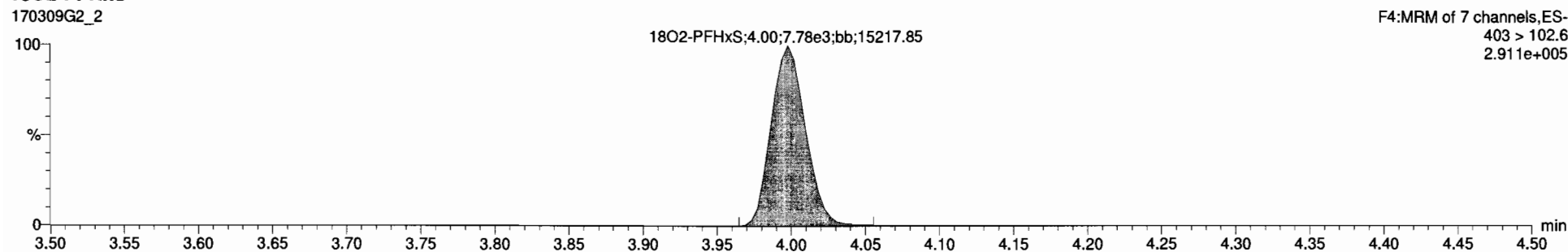
**PFHxS**



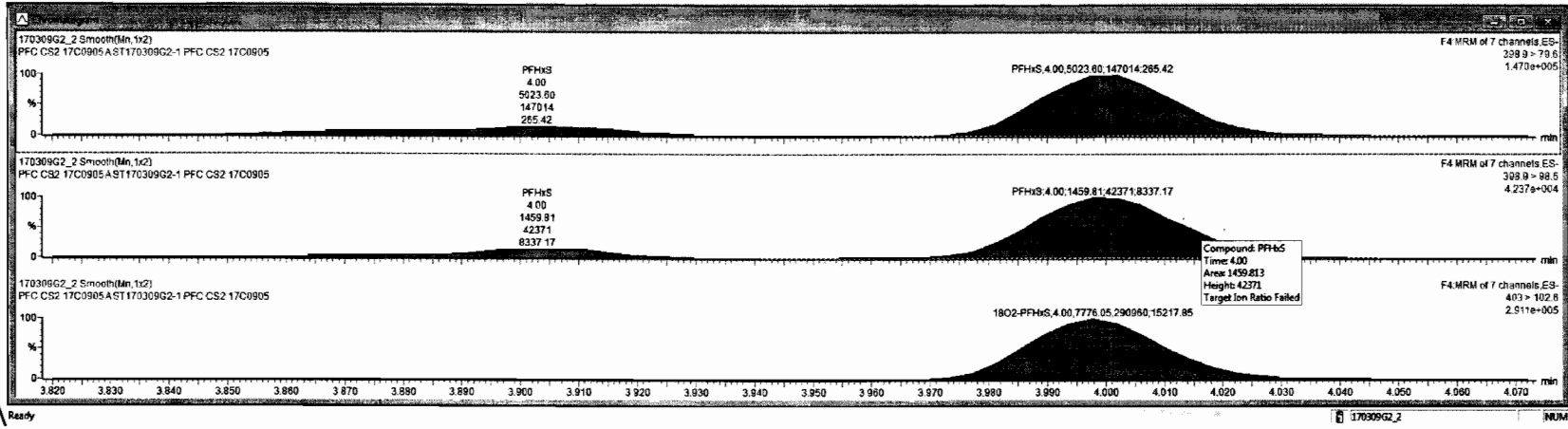
**13C3-PFHxS**



**18O2-PFHxS**



#	Name	Traces	Area	PF	WtVal	Prod.RT	RT	Conc.	SMOL	%Rec	DL
1	PFBS	299 > 79.7	6.39e3		1.000	2.99	2.99	4.32	NO	96.4	0.0000000
2	PFHpA	383 > 318.9	1.18e4		1.000	3.88	3.88	4.49	NO	89.7	0.0000000
3	PFHxS	398.9 > 79.8	5.99e3		1.000	4.00	4.00	5.02	YES	87.6	0.0000000
4	PFDA	413 > 368.7	1.18e4		1.000	4.28	4.28	5.02	YES	100.4	0.0000000
5	PFNA	463 > 418.8	8.82e3		1.000	4.62	4.61	3.94	YES	78.7	0.0000000
6	PFOS	499 > 79.9	1.35e3		1.000	4.68	4.67	3.99	YES	79.9	0.1049103
7	13C3-PFBS	302.0 > 98.8	7.72e3	0.410	1.000	2.98	2.99	13.5	NO	107.8	0.0045209
8	13C4-PFHpA	367.2 > 321.8	1.00e4	1.10	1.000	3.88	3.88	11.7	NO	93.7	0.0009691
9	18O2-PFHxS	403 > 102.6	7.79e3	0.434	1.000	4.00	4.00	12.8	NO	102.5	0.0021667
10	13C2-PFDA	414.9 > 389.7	3.52e4	4.61	1.000	4.28	4.28	10.0	NO	80.3	0.0022274
11	13C5-PFNA	468.2 > 422.9	1.01e4	0.887	1.000	4.61	4.62	12.9	NO	103.3	0.0028529
12	13C5-PFOS	507.0 > 79.9	9.20e3	0.958	1.000	4.68	4.67	13.3	NO	106.6	0.0007787
13	13C5-PFHxA	318 > 272.9	2.97e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0013289
14	13C5-PFHxS	401.9 > 79.9	1.75e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0091683
15	13C5-PFDA	421.3 > 376	9.52e3	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0109072
16	13C5-PFNA	472.2 > 428.9	1.13e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0008898
17	13C4-PFOS	503.0 > 79.9	9.01e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0073231
18	Total PFBS	299 > 79.7	6.39e3		1.000	3.11					
19	Total PFHxS	398.9 > 79.8	5.99e3		1.000	4.09		5.14	NO		
20	Total PFDA	413 > 368.7	1.18e4		1.000	4.39		5.02	NO		
21	Total PFOS	499 > 79.9	1.89e3		1.000	4.67		5.05	NO		0.1049103



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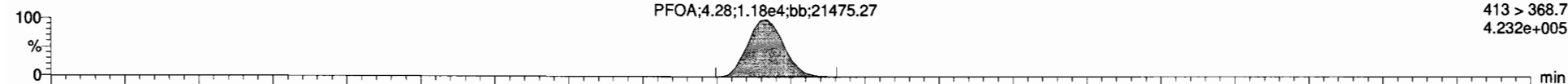
Last Altered: Friday, March 10, 2017 08:27:57 Pacific Standard Time

Printed: Friday, March 10, 2017 08:28:35 Pacific Standard Time

ID: ST170309G2-1 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_2, Date: 09-Mar-2017, Time: 15:48:23, Instrument: , Lab: , User:

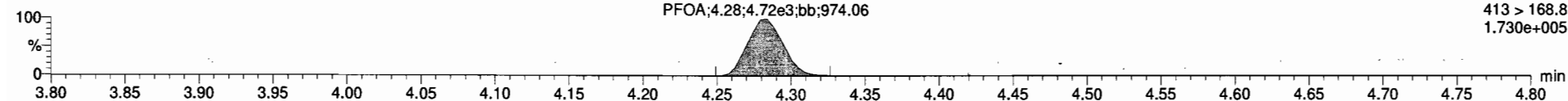
**PFOA**

170309G2\_2



F5:MRM of 12 channels,ES-  
413 > 368.7  
4.232e+005

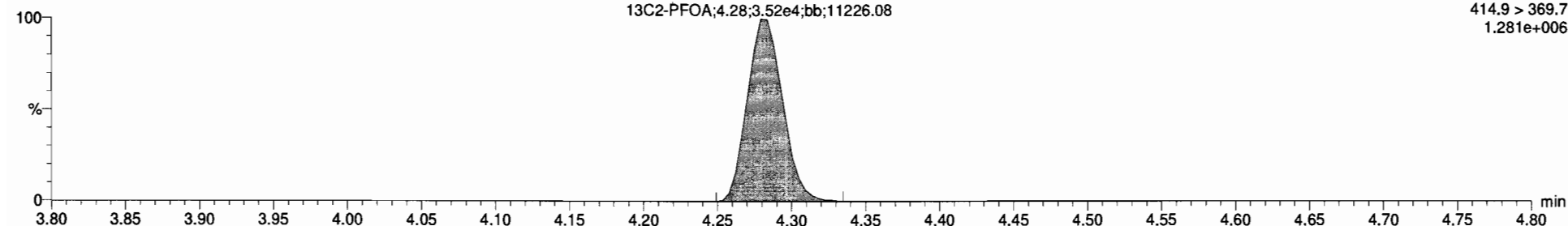
170309G2\_2



F5:MRM of 12 channels,ES-  
413 > 168.8  
1.730e+005

**13C2-PFOA**

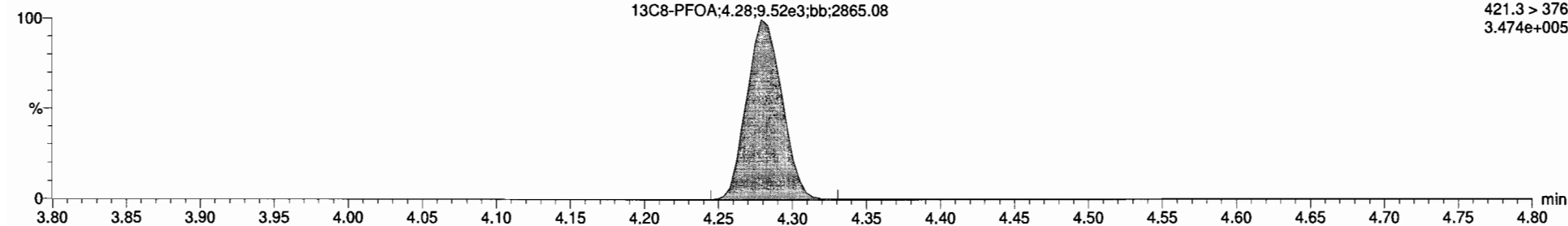
170309G2\_2



F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.281e+006

**13C8-PFOA**

170309G2\_2



F5:MRM of 12 channels,ES-  
421.3 > 376  
3.474e+005

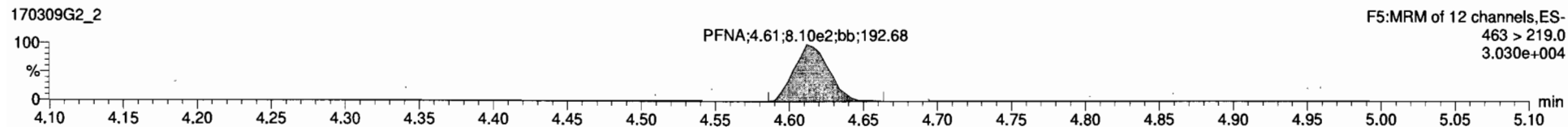
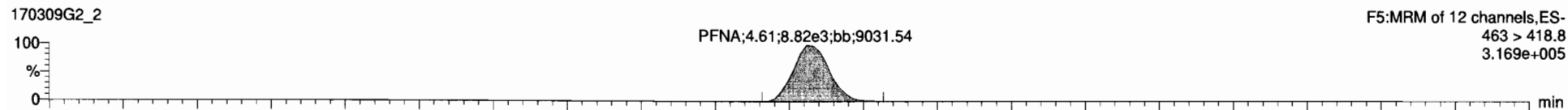
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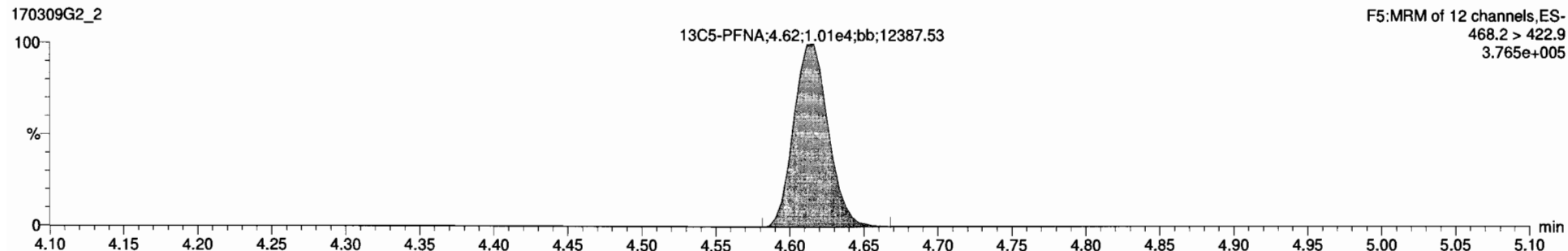
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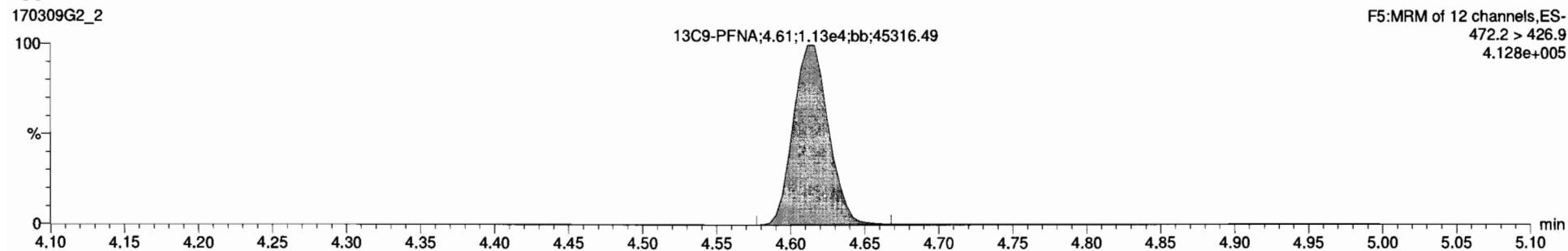
**PFNA**



**13C5-PFNA**



**13C9-PFNA**



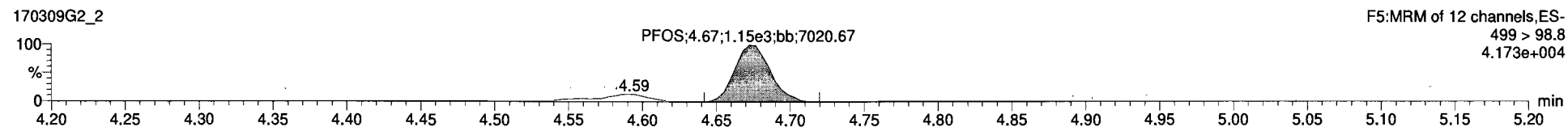
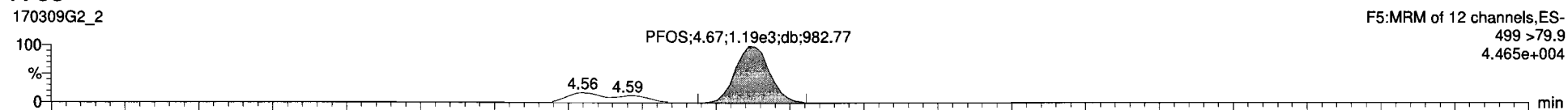


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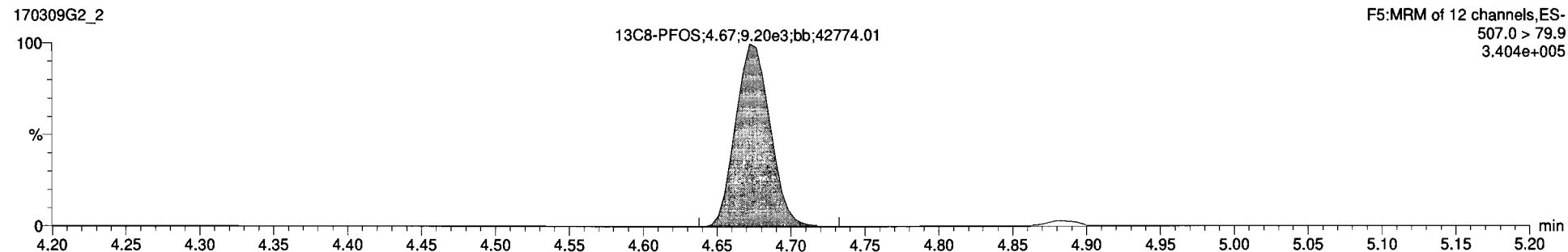
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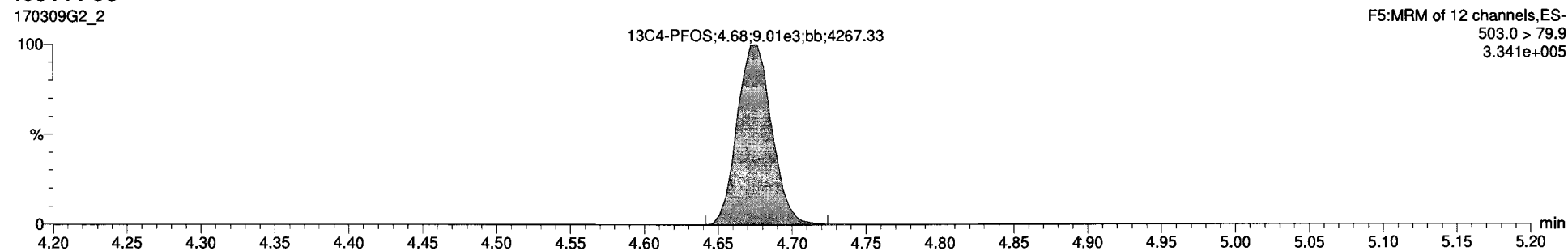
**PFOS**



**13C8-PFOS**



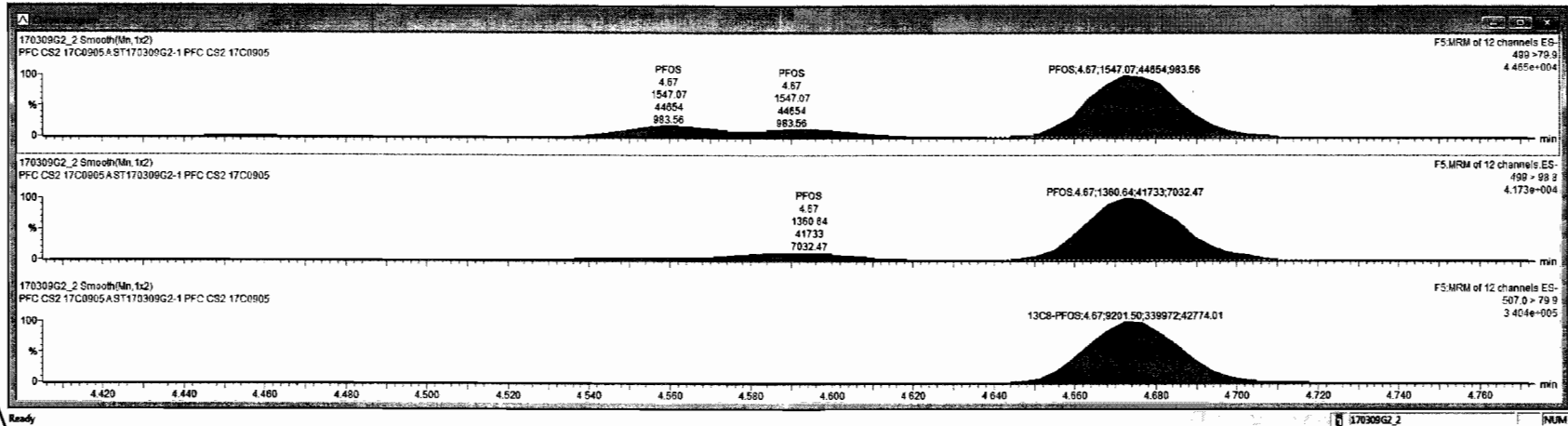
**13C4-PFOS**





170309G2\_2 - ST 170309G2-1 PFC CS2 17C0905 - PFC CS2 17C0905.A

#	Name	Trace	Area	FWHM	WVAL	PRELRT	RT	Comp	INCL	%Rec	DL
1	PFBS	299 > 79.7	6.39e3		1.000	2.99	2.99	4.32	NO	86.4	0.0000000
2	PFHpA	363 > 318.9	1.18e4		1.000	3.68	3.68	4.49	NO	89.7	0.0000000
3	PFHxS	398.9 > 79.6	4.02e3		1.000	4.00	4.00	3.51	YES	70.2	0.0000000
4	PFOA	413 > 368.7	1.18e4		1.000	4.28	4.28	5.02	YES	100.4	0.0000000
5	PFNA	463 > 418.8	8.62e3		1.000	4.62	4.61	3.94	YES	76.7	0.0000000
7	13C3-PFBS	302.0 > 98.8	7.72e3	0.410	1.000	2.99	2.99	13.5	NO	107.8	0.0045209
8	13C4-PFHpA	367.2 > 321.8	1.80e4	1.10	1.000	3.68	3.68	11.7	NO	93.7	0.0009691
9	18O2-PFHxS	403 > 182.6	7.78e3	0.434	1.000	4.00	4.00	12.8	NO	102.5	0.0021667
10	13C2-PFOA	414.9 > 369.7	3.52e4	4.61	1.000	4.28	4.28	10.0	NO	80.3	0.0022274
11	13C3-PFNA	468.2 > 422.9	1.01e4	0.867	1.000	4.61	4.62	12.9	NO	103.3	0.0028529
12	13C3-PFOS	507.0 > 79.9	9.20e3	0.958	1.000	4.68	4.67	13.3	NO	106.6	0.0007767
13	13C3-PFPhx	318-272.9	2.97e4	1.00	1.000	3.29	3.37	12.5	NO	100.0	0.0013269
14	13C3-PFHxS	401.9 > 79.9	1.75e4	1.00	1.000	3.94	4.00	12.5	NO	100.0	0.0091863
15	13C8-PFOA	421.3 > 376	9.52e3	1.00	1.000	4.22	4.28	12.5	NO	100.0	0.0109072
16	13C9-PFNA	472.2 > 426.9	1.13e4	1.00	1.000	4.56	4.61	12.5	NO	100.0	0.0006896
17	13C4-PFOS	505.0 > 79.9	9.01e3	1.00	1.000	4.67	4.68	12.5	NO	100.0	0.0073211
18	Total PFBS	299 > 79.7	6.39e3		1.000	3.11		4.32	NO		
19	Total PFHxS	398.9 > 79.6	4.96e3		1.000	4.00		4.35	NO		
20	Total PFOA	413 > 368.7	1.18e4		1.000	4.39		5.02	NO		
21	Total PFOS	498 > 79.9	1.89e3		1.000	4.67		5.05	NO		0.1049103



Dataset: U:\G1.PRO\Results\2017\170309G2\170309G2-17.qld

Last Altered: Friday, March 10, 2017 08:50:53 Pacific Standard Time

Printed: Friday, March 10, 2017 08:52:35 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBS	299 > 79.7	7.33e3	9.09e3	1.000	3.00	3.00	4.20	84.1
2	2 PFHpA	363 > 318.9	1.57e4	2.25e4	1.000	3.89	3.89	4.78	95.7
3	3 PFHxS	398.9 > 79.6	6.26e3	9.46e3	1.000	4.00	4.00	4.50	90.0
4	4 PFOA	413 > 368.7	1.42e4	4.69e4	1.000	4.28	4.28	4.55	91.1
5	5 PFNA	463 > 418.8	1.20e4	1.30e4	1.000	4.62	4.62	4.19	83.8
6	6 PFOS	499 > 79.9	2.13e3	1.22e4	1.000	4.68	4.68	4.12	82.5
7	7 13C3-PFBS	302.0 > 98.8	9.09e3	2.18e4	0.410	1.000	3.00	12.7	101.5
8	8 13C4-PFHpA	367.2 > 321.8	2.25e4	2.18e4	1.098	1.000	3.89	11.7	94.0
9	9 18O2-PFHxS	403 > 102.6	9.46e3	2.18e4	0.434	1.000	4.00	12.5	99.8
10	10 13C2-PFOA	414.9 > 369.7	4.69e4	1.24e4	4.608	1.000	4.28	10.3	82.0
11	11 13C5-PFNA	468.2 > 422.9	1.30e4	1.37e4	0.867	1.000	4.62	13.6	109.1
12	12 13C8-PFOS	507.0 > 79.9	1.22e4	1.29e4	0.958	1.000	4.68	12.4	99.3
13	13 13C5-PFHxA	318 > 272.9	3.55e4	3.55e4	1.000	1.000	3.37	12.5	100.0
14	14 13C3-PFHxS	401.9 > 79.9	2.18e4	2.18e4	1.000	1.000	4.00	12.5	100.0
15	15 13C8-PFOA	421.3 > 376	1.24e4	1.24e4	1.000	1.000	4.28	12.5	100.0
16	16 13C9-PFNA	472.2 > 426.9	1.37e4	1.37e4	1.000	1.000	4.62	12.5	100.0
17	17 13C4-PFOS	503.0 > 79.9	1.29e4	1.29e4	1.000	1.000	4.68	12.5	100.0

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

ES 3/10/17

Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:58:05 Pacific Standard Time

Printed: Friday, March 10, 2017 08:58:22 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

Name	ID	Acq.Date	Acq.Time
170309G2_1	IPA	09-Mar-17	15:36:10
170309G2_2	ST170309G2-1 PFC CS2 17C0905	09-Mar-17	15:48:23
170309G2_3	IPA	09-Mar-17	16:01:07
170309G2_4	B7C0034-BS1 OPR 0.125	09-Mar-17	16:13:33
170309G2_5	IPA	09-Mar-17	16:26:02
170309G2_6	B7C0034-BLK1 Method Blank 0.125	09-Mar-17	16:38:38
170309G2_7	1700296-01 WI-CV-GW08M-0317 0.125	09-Mar-17	16:51:08
170309G2_8	1700296-02 WI-CV-EB12-030317 0.125	09-Mar-17	17:03:41
170309G2_9	1700296-03 WI-CV-GW07S-0317 0.125	09-Mar-17	17:16:14
170309G2_10	1700296-04 WI-CV-EB13-030417 0.125	09-Mar-17	17:28:47
170309G2_11	1700296-05 WI-CV-GW14M-0317 0.125	09-Mar-17	17:41:21
170309G2_12	1700296-06 WI-CV-GW13S-0317 0.125	09-Mar-17	17:53:53
170309G2_13	1700296-07 WI-CV-GW07M-0317 0.125	09-Mar-17	18:06:27
170309G2_14	1700296-08 WI-CV-EB14-030417 0.125	09-Mar-17	18:18:56
170309G2_15	1700298-01 Kitchen Sink 0.125	09-Mar-17	18:31:30
170309G2_16	IPA	09-Mar-17	18:44:03
170309G2_17	ST170309G2-2 PFC CS2 17C0905	09-Mar-17	18:56:38
170309G2_18	IPA	09-Mar-17	19:09:10

Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:33:19 Pacific Standard Time

Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

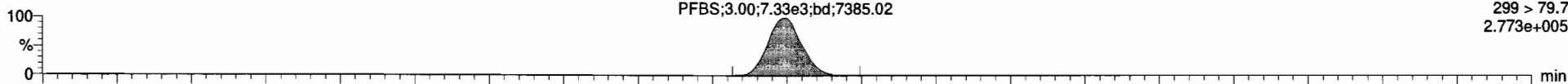
ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, Instrument: , Lab: , User:

**PFBS**

170309G2\_17

PFBS;3.00;7.33e3;bd;7385.02

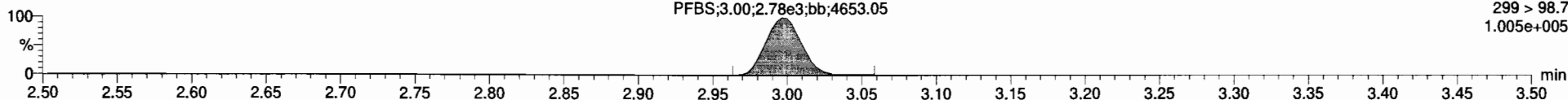
F2:MRM of 3 channels,ES-  
299 > 79.7  
2.773e+005



170309G2\_17

PFBS;3.00;2.78e3;bb;4653.05

F2:MRM of 3 channels,ES-  
299 > 98.7  
1.005e+005

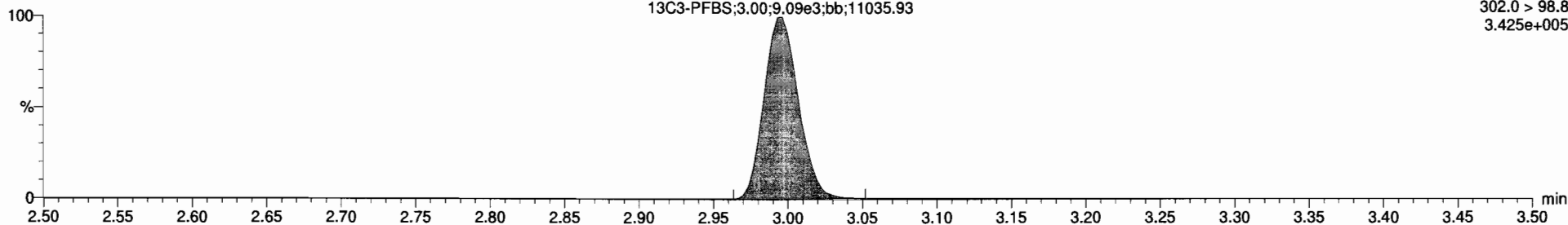


**13C3-PFBS**

170309G2\_17

13C3-PFBS;3.00;9.09e3;bb;11035.93

F2:MRM of 3 channels,ES-  
302.0 > 98.8  
3.425e+005

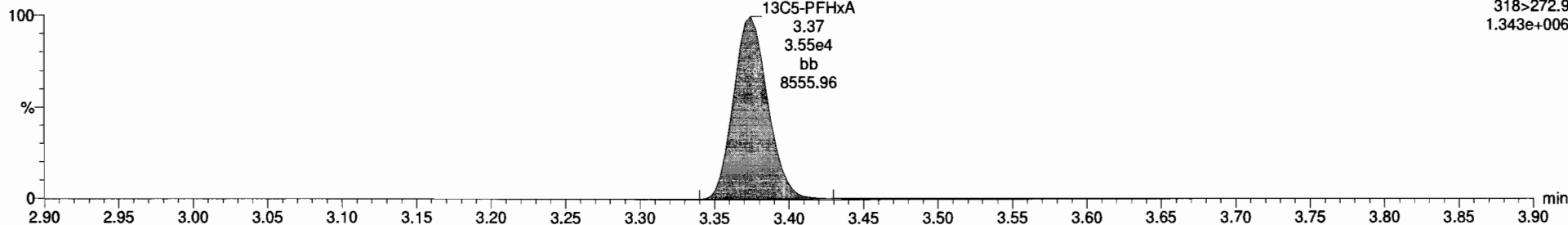


**13C5-PFHxA**

170309G2\_17

13C5-PFHxA  
3.37  
3.55e4  
bb  
8555.96

F3:MRM of 1 channel,ES-  
318>272.9  
1.343e+006



Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:33:19 Pacific Standard Time

Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, Instrument: , Lab: , User:

**PFHpA**

170309G2\_17

PFHpA;3.89;1.57e4;bb;4571.46

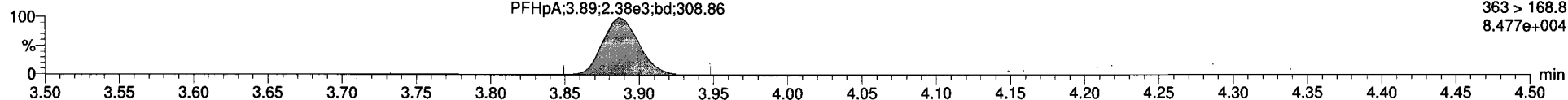
F4:MRM of 7 channels,ES-  
363 > 318.9  
5.826e+005



170309G2\_17

PFHpA;3.89;2.38e3;bd;308.86

F4:MRM of 7 channels,ES-  
363 > 168.8  
8.477e+004

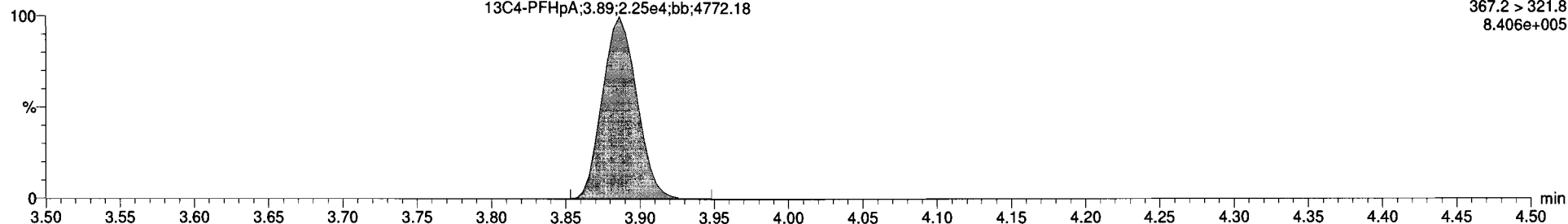


**13C4-PFHpA**

170309G2\_17

13C4-PFHpA;3.89;2.25e4;bb;4772.18

F4:MRM of 7 channels,ES-  
367.2 > 321.8  
8.406e+005

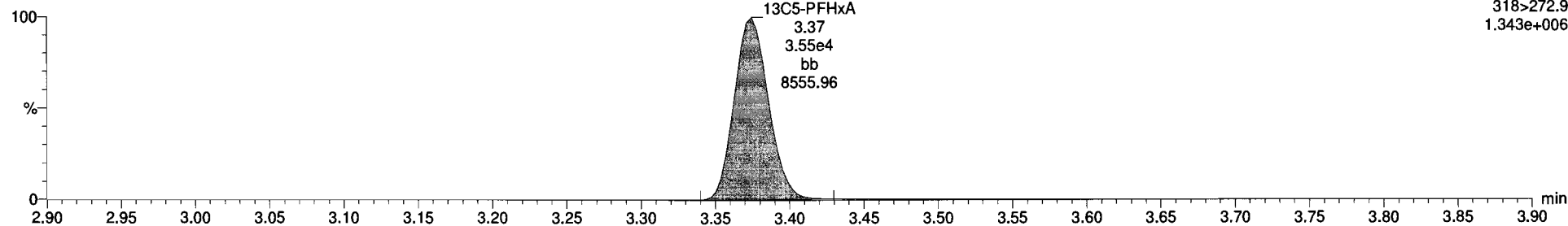


**13C5-PFHxA**

170309G2\_17

13C5-PFHxA  
3.37  
3.55e4  
bb  
8555.96

F3:MRM of 1 channel,ES-  
318>272.9  
1.343e+006

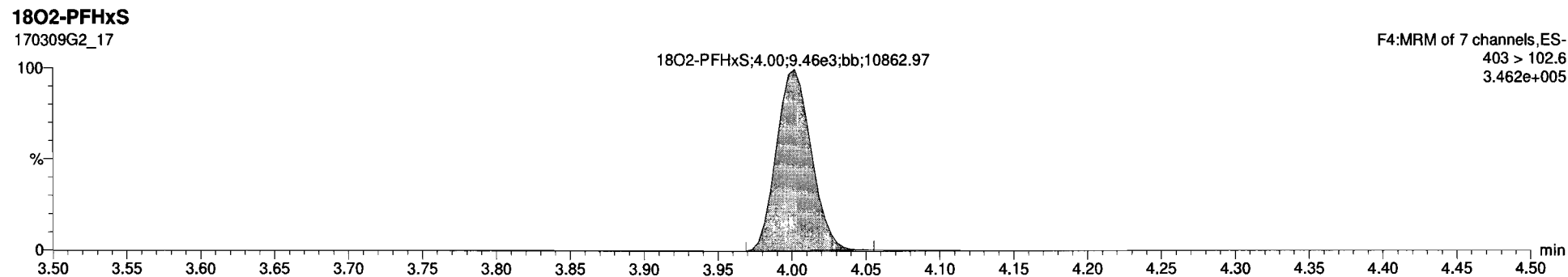
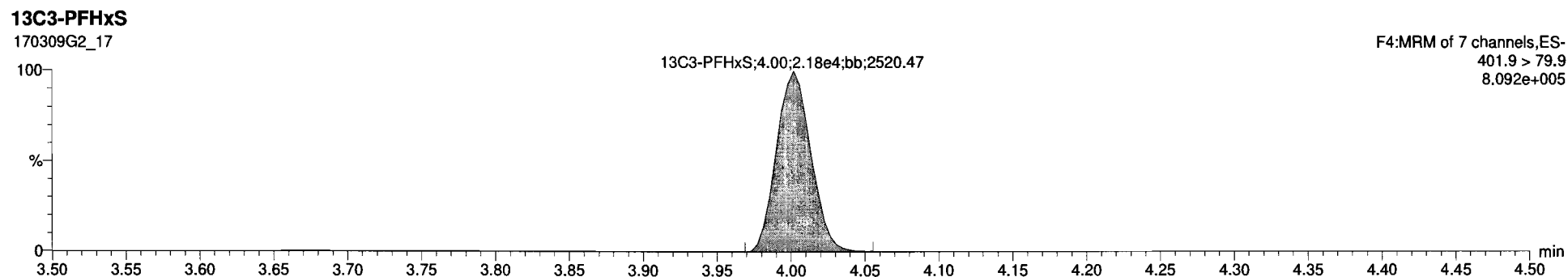
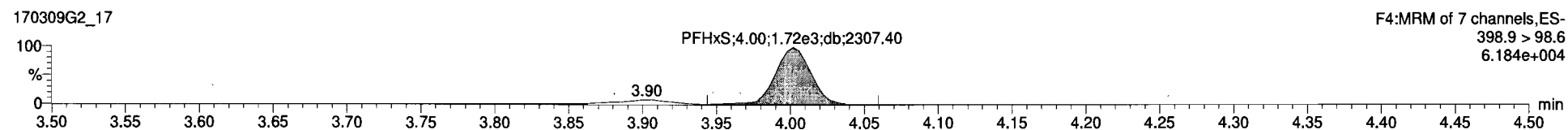
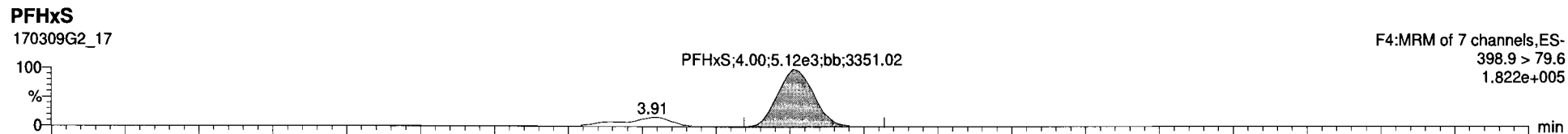


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Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

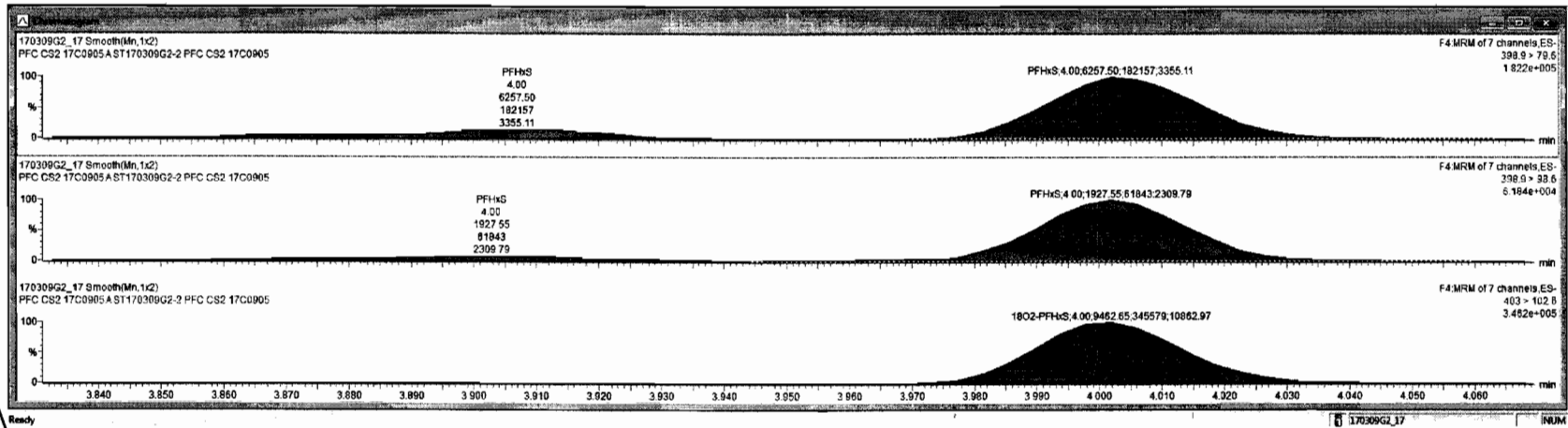
ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, Instrument: , Lab: , User:





170309G2\_17 - ST170309G2-2 PFC CS2 17C0905 - PFC CS2 17C0905 A

Line	Name	Conc.	DL	%Rec	EMPC	Abs. Resp	RRF	RT	#	IS#	RA	Y/N	RRT	Acq Date	Acq Time	1# Chr/Noise	ID	Sample Text	Factor	SWI	Cal File	MEM
1	PFBS	4.2037938	0.0000	84.1		7.32e3	3.00	1	7	0.380		YES	1.001	09-Mar-17	18:56:38	21.677	ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
2	PFHpA	4.7629216	0.0000	95.7		1.573e4	3.89	2	8				1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
3	PFHxS	4.2037938	0.0000	84.1		7.32e3	3.00	3	8				1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
4	PFDA	4.5532065	0.0000	91.1		1.425e4	4.28	4	10				1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
5	PFNA	4.1964492	0.0000	83.8		1.202e4	4.62	5	11				1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
6	PFOS	3.0716776	0.106	61.4		1.573e3	4.68	6	12				1.001	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
7	13CB-PFBS	12.899527	0.00232	191.3		9.987e3	0.410	3.00	7	14			0.888	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
8	13CB-PFHpA	11.744990	0.00820	94.0		2.252e4	1.968	3.89	8	14			0.971	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
9	18O2-PFHxS	12.475788	0.02283	99.6		9.483e3	0.434	4.00	9	14			1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
10	13CB-PFDA	10.253756	0.00291	82.0		4.691e4	4.608	4.28	10	15			1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
11	13CS-PFNA	13.633337	0.00648	109.1		1.299e4	0.867	4.62	11	16			1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
12	13CB-PFOS	12.417425	0.00693	86.3		1.225e4	0.958	4.68	12	17			1.000	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
13	13CS-PFHxA	12.590000	0.00365	100.0		3.552e4	1.000	3.37	13	13			0.900	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
14	13CB-PFHxS	12.590000	0.0124	100.0		2.183e4	1.000	4.00	14	14			0.900	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
15	13CB-PFDA	12.590000	0.00487	100.0		1.241e4	1.000	4.28	15	15			0.900	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
16	13CB-PFNA	12.590000	0.00568	100.0		1.374e4	1.000	4.62	16	16			0.900	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
17	13CB-PFOS	12.590000	0.00146	100.0		1.286e4	1.000	4.68	17	17			0.900	09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
18	Total PFBS	4.2037938							18					09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
19	Total PFHpA	5.1988804							19					09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
20	Total PFDA	4.5532065							20					09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
21	Total PFOS	4.2453712	0.106						21					09-Mar-17	18:56:38		ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO





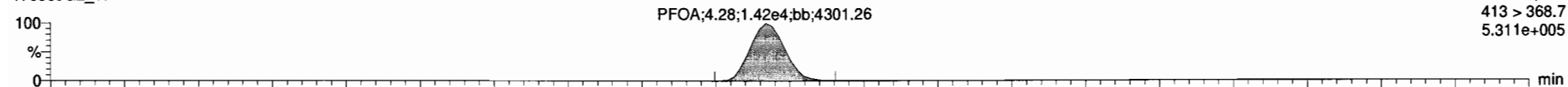
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Last Altered: Friday, March 10, 2017 08:33:19 Pacific Standard Time  
Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

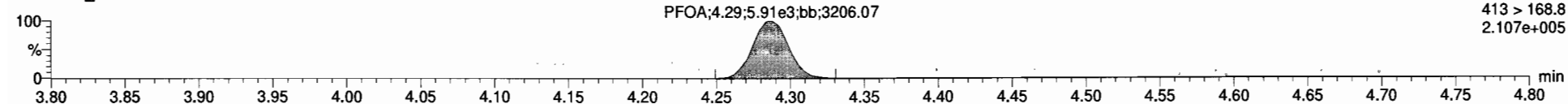
ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, Instrument: , Lab: , User:

**PFOA**

170309G2\_17

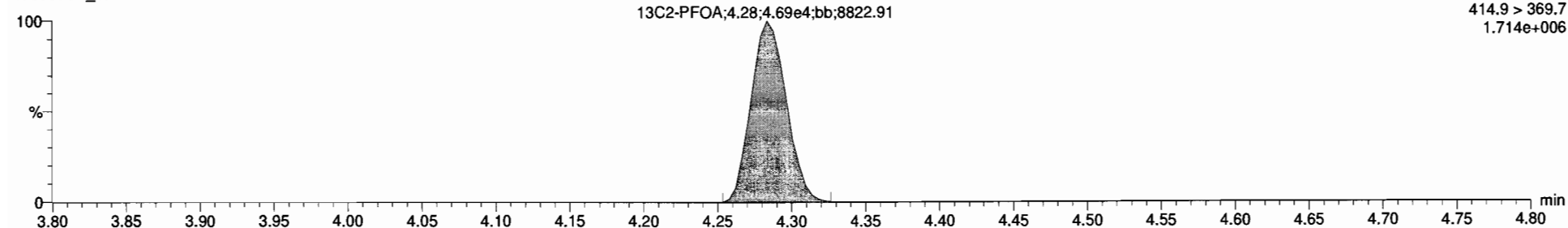


170309G2\_17



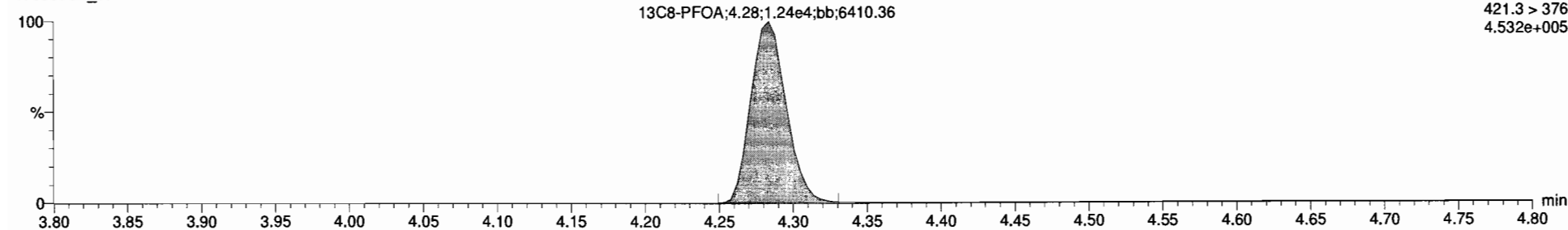
**13C2-PFOA**

170309G2\_17



**13C8-PFOA**

170309G2\_17



Dataset: Untitled

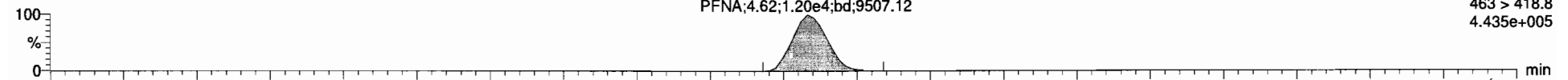
Last Altered: Friday, March 10, 2017 08:33:19 Pacific Standard Time

Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

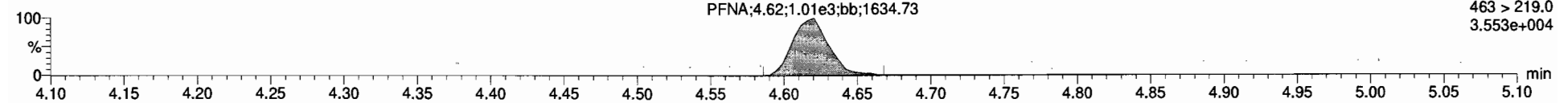
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**PFNA**

170309G2\_17

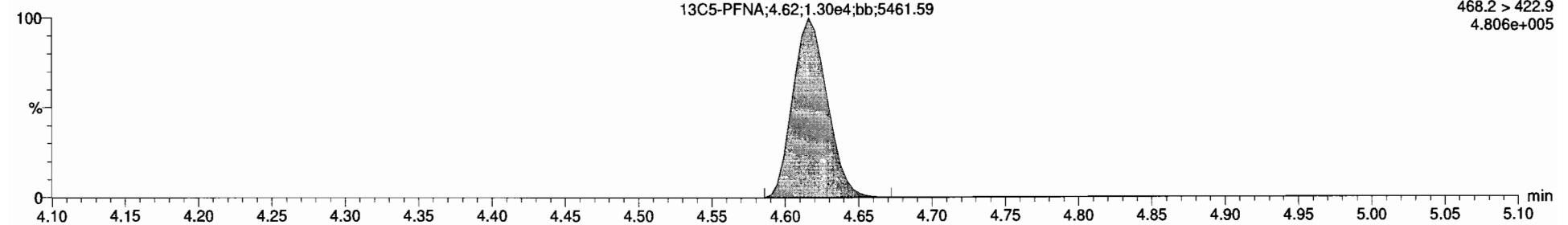


170309G2\_17



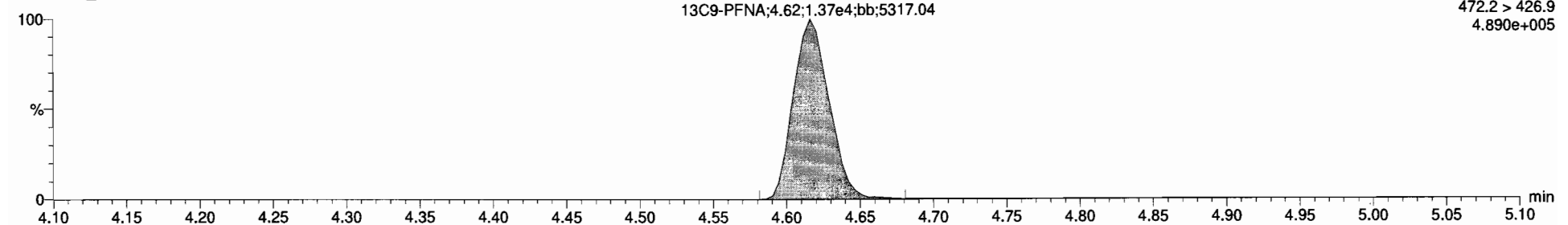
**13C5-PFNA**

170309G2\_17



**13C9-PFNA**

170309G2\_17



Dataset: Untitled

Last Altered: Friday, March 10, 2017 08:33:19 Pacific Standard Time

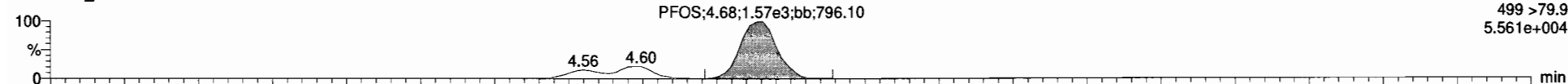
Printed: Friday, March 10, 2017 08:34:00 Pacific Standard Time

ID: ST170309G2-2 PFC CS2 17C0905, Description: PFC CS2 17C0905 A, Name: 170309G2\_17, Date: 09-Mar-2017, Time: 18:56:38, Instrument: , Lab: , User:

**PFOS**

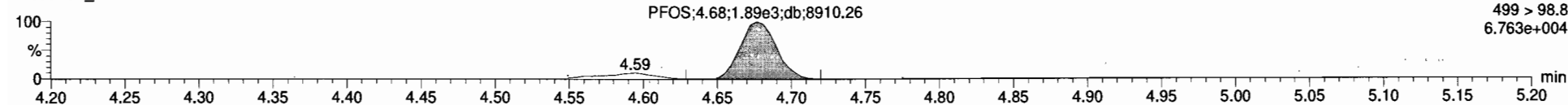
170309G2\_17

F5:MRM of 12 channels,ES-  
499 >79.9  
5.561e+004



170309G2\_17

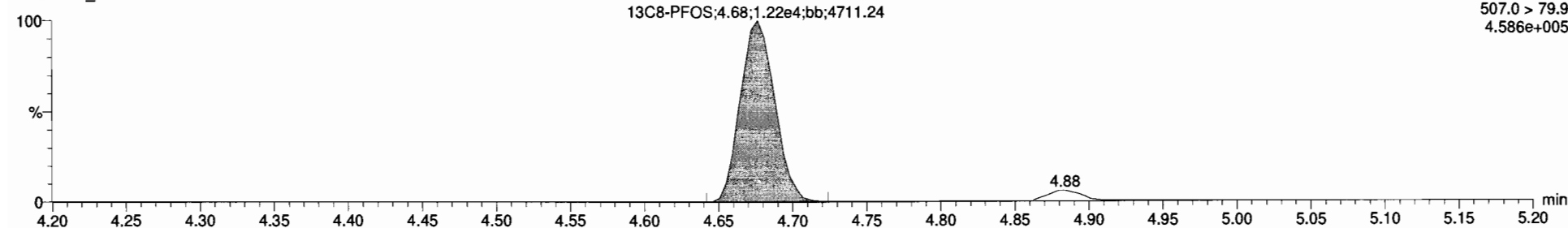
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6.763e+004



**13C8-PFOS**

170309G2\_17

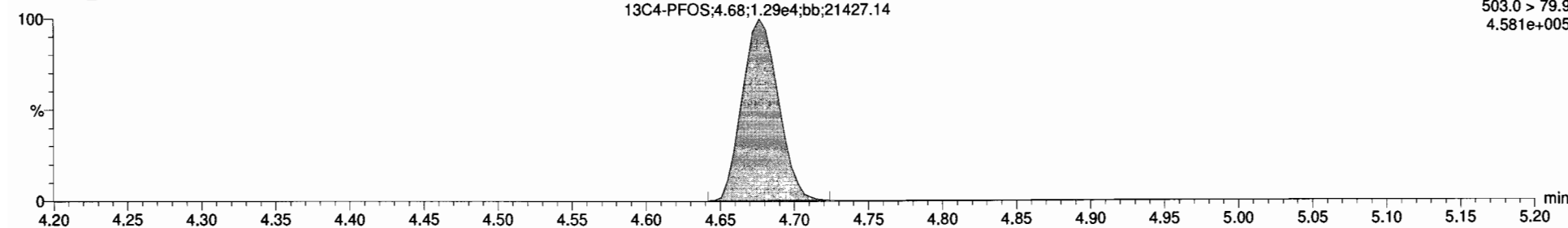
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507.0 > 79.9  
4.586e+005



**13C4-PFOS**

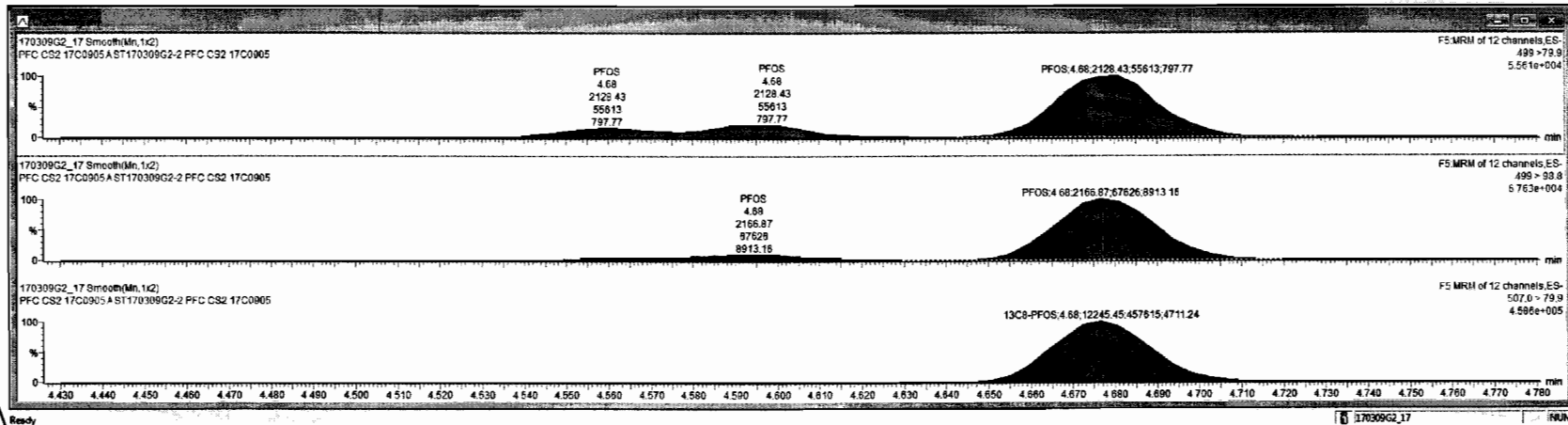
170309G2\_17

F5:MRM of 12 channels,ES-  
503.0 > 79.9  
4.581e+005



170309G2\_17 - ST170309G2-2 PFC CS2 17C0905 - PFC CS2 17C0905 A

Name	Contc	DL	%Rec	EMPC	Abs.Pasp	RPF	RT	#	SA	RA	VNE	RRT	Acq Date	Acq Time	Yr	CherNotes	D	Sample	Factor1	SWI	Cal File	MDL
1 PFBS	4.2037938	0.0000	84.1		7.326e3	3.00	1	7	0.380		YES	1.001	09-Mar-17	18:56:38		21 577	ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
2 PFHxA	4.7829216	0.0000	95.7		1.573e4	3.89	2	8				1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
3 PFHxS	4.5015733	0.0000	90.0		6.256e3	4.00	3	9				1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
4 PFOA	4.5532065	0.0000	91.1		1.425e4	4.28	4	10				1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
5 PFNA	4.1904492	0.0000	83.8		1.202e4	4.62	5	11				1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
6 PFOS	4.1704052	0.106	82.5		2.170e3	4.68	6	12				1.001	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	YES
7 13C3-PFBS	12.699527	0.00252	101.5		9.987e3	0.410	3.90	7	14			0.898	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
8 13C4-PFHxA	11.744890	0.00620	94.0		2.252e4	1.068	3.89	8	14			0.971	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
9 18O2-PFHxS	12.475788	0.00283	99.0		9.463e3	0.434	4.00	9	14			1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
10 13C2-PFOA	10.253756	0.00291	82.0		4.891e4	4.628	4.20	10	15			1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
11 13C5-PFNA	13.633337	0.00648	109.1		1.299e4	0.967	4.02	11	16			1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
12 13C8-PFOS	12.417425	0.00683	98.3		1.225e4	0.958	4.68	12	17			1.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
13 13C5-PFHxA	12.500000	0.00365	100.0		3.552e4	1.000	3.37	13	13			0.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
14 13C3-PFHxS	12.500000	0.0124	100.0		2.183e4	1.000	4.00	14	14			0.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
15 13C8-PFOA	12.500000	0.00487	100.0		1.241e4	1.000	4.20	15	15			0.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
16 13C9-PFNA	12.500000	0.00508	100.0		1.374e4	1.000	4.62	16	16			0.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
17 13C4-PFOS	12.500000	0.00146	100.0		1.286e4	1.000	4.68	17	17			0.000	09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
18 Total PFBS	4.2037938							18					09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
19 Total PFHxS	5.1988804							19					09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
20 Total PFOA	4.5532065							20					09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO
21 Total PFOS	5.2981920	0.106						21					09-Mar-17	18:56:38			ST170309G	PFC CS2 17C09	1.0	1.00	C18_V	NO



## **INITIAL CALIBRATION**

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

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Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:19:21

**Compound name: PFBS**

Correlation coefficient:  $r = 0.999596$ ,  $r^2 = 0.999192$

Calibration curve:  $2.38097 * x + 0.0682571$

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

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

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

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**Compound name: PFHpA**

Correlation coefficient:  $r = 0.999429$ ,  $r^2 = 0.998857$

Calibration curve:  $1.79957 * x + 0.123896$

Response type: Internal Std ( Ref 8 ), Area \* ( IS Conc. / IS Area )

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

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

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**Compound name: PFHxS**

Correlation coefficient:  $r = 0.999200$ ,  $r^2 = 0.998401$

Calibration curve:  $1.81334 * x + 0.103191$

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

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

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

**Compound name: PFOA**

Correlation coefficient:  $r = 0.998804$ ,  $r^2 = 0.997609$

Calibration curve:  $0.794457 * x + 0.179058$

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

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

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

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**Compound name: PFNA**

Correlation coefficient:  $r = 0.999011$ ,  $r^2 = 0.998022$

Calibration curve:  $2.73664 * x + 0.0966541$

Response type: Internal Std ( Ref 11 ), Area \* ( IS Conc. / IS Area )

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

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

**Compound name: PFOS**

Coefficient of Determination:  $R^2 = 0.997963$

Calibration curve:  $-0.000185224 * x^2 + 0.54028 * x + -0.0525057$

Response type: Internal Std ( Ref 12 ), Area \* ( IS Conc. / IS Area )

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

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

Ⓐ Point excluded.  
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**Compound name: 13C3-PFBS**

Response Factor: 0.40994

RRF SD: 0.0411734, Relative SD: 10.0438

Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

**Compound name: 13C4-PFHpA**

Response Factor: 1.09794

RRF SD: 0.0510391, Relative SD: 4.64862

Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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**Compound name: 18O2-PFHxS**

Response Factor: 0.434252

RRF SD: 0.0243573, Relative SD: 5.60903

Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

**Compound name: 13C2-PFOA**

Response Factor: 4.60838

RRF SD: 0.269705, Relative SD: 5.85249

Response type: Internal Std ( Ref 15 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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**Compound name: 13C5-PFNA**

Response Factor: 0.867114

RRF SD: 0.0501317, Relative SD: 5.78144

Response type: Internal Std ( Ref 16 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

**Compound name: 13C8-PFOS**

Response Factor: 0.95832

RRF SD: 0.0597595, Relative SD: 6.23587

Response type: Internal Std ( Ref 17 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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**Compound name: 13C5-PFHxA**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 13 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

**Compound name: 13C3-PFHxS**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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

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

Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

**Compound name: 13C8-PFOA**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 15 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

**Compound name: 13C9-PFNA**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 16 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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

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

Printed: Monday, March 06, 2017 08:29:13 Pacific Standard Time

**Compound name: 13C4-PFOS**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 17 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

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

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

Printed: Monday, March 06, 2017 09:14:12 Pacific Standard Time

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Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Compound name: PFBS

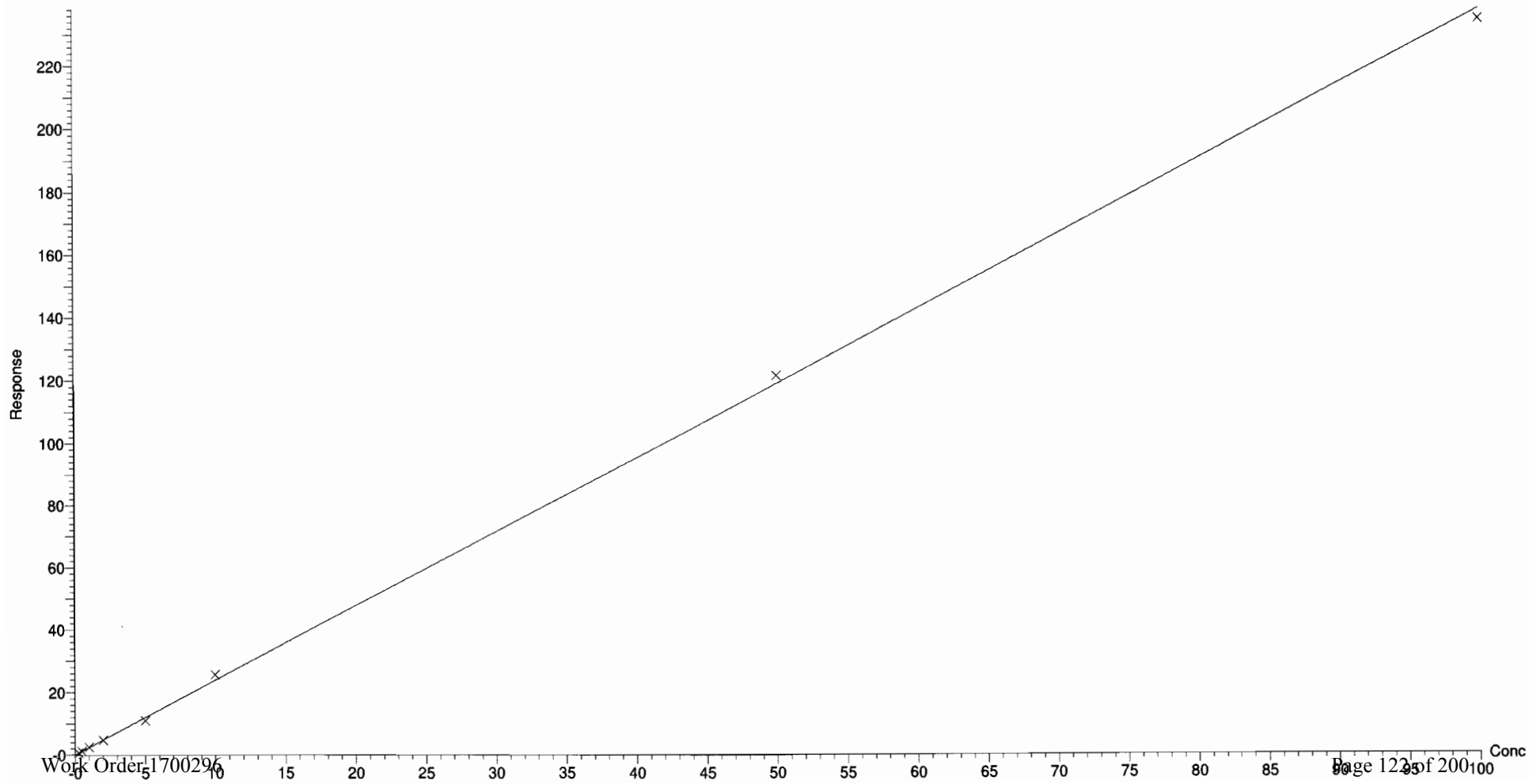
	Name	ID	Acq.Date	Acq.Time
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2	170305G1_2	ST170305G1-1 PFC CS-2 17C0501	05-Mar-17	12:46:48
3	170305G1_3	ST170305G1-2 PFC CS-1 17C0502	05-Mar-17	12:59:15
4	170305G1_4	ST170305G1-3 PFC CS0 17C0503	05-Mar-17	13:11:49
5	170305G1_5	ST170305G1-4 PFC CS1 17C0504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

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

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

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:19:21

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

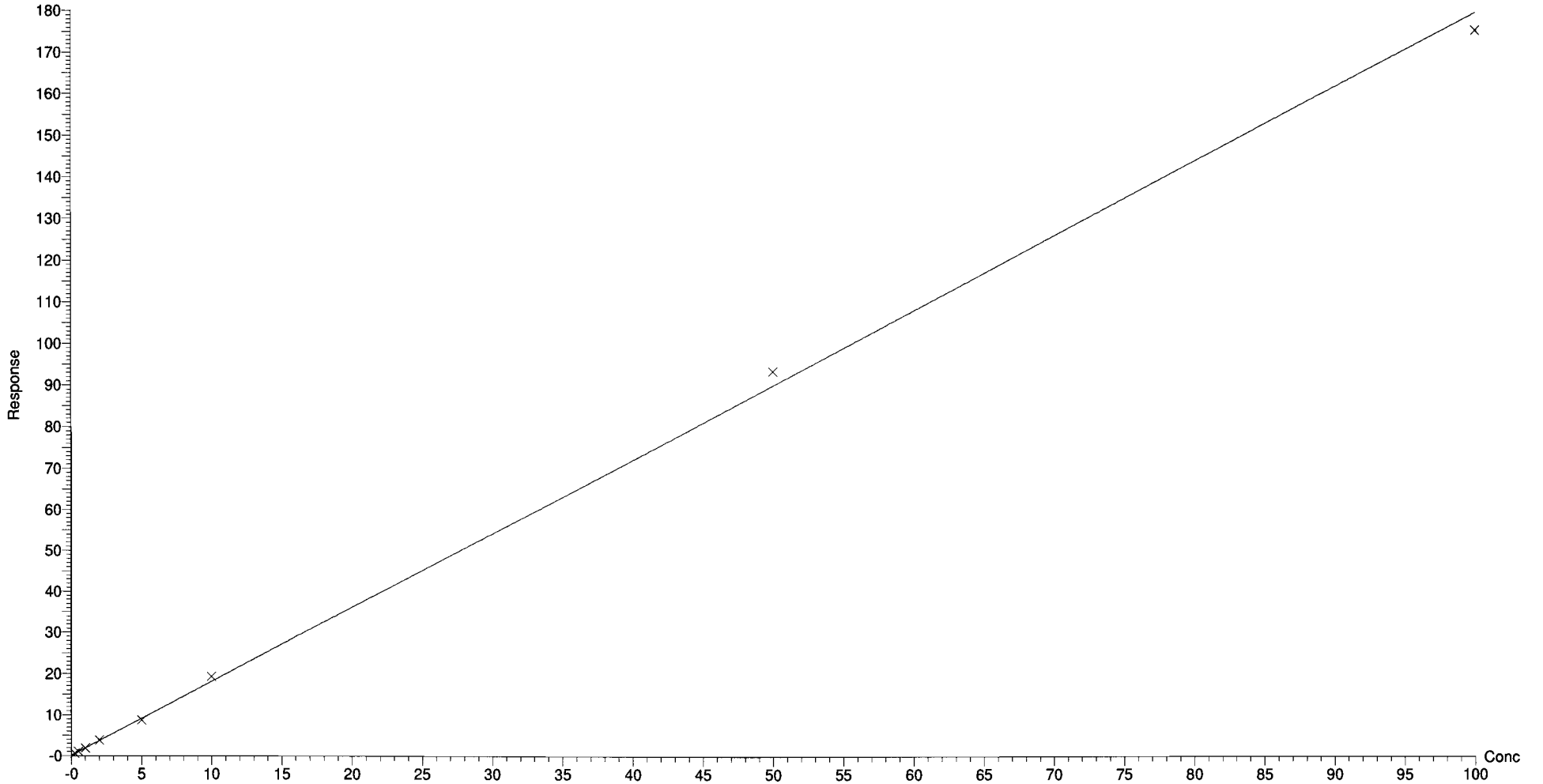




Dataset: U:\G1.PRO\Results\2017\170305G1\170305G1-CRV.qld

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

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



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

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

Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

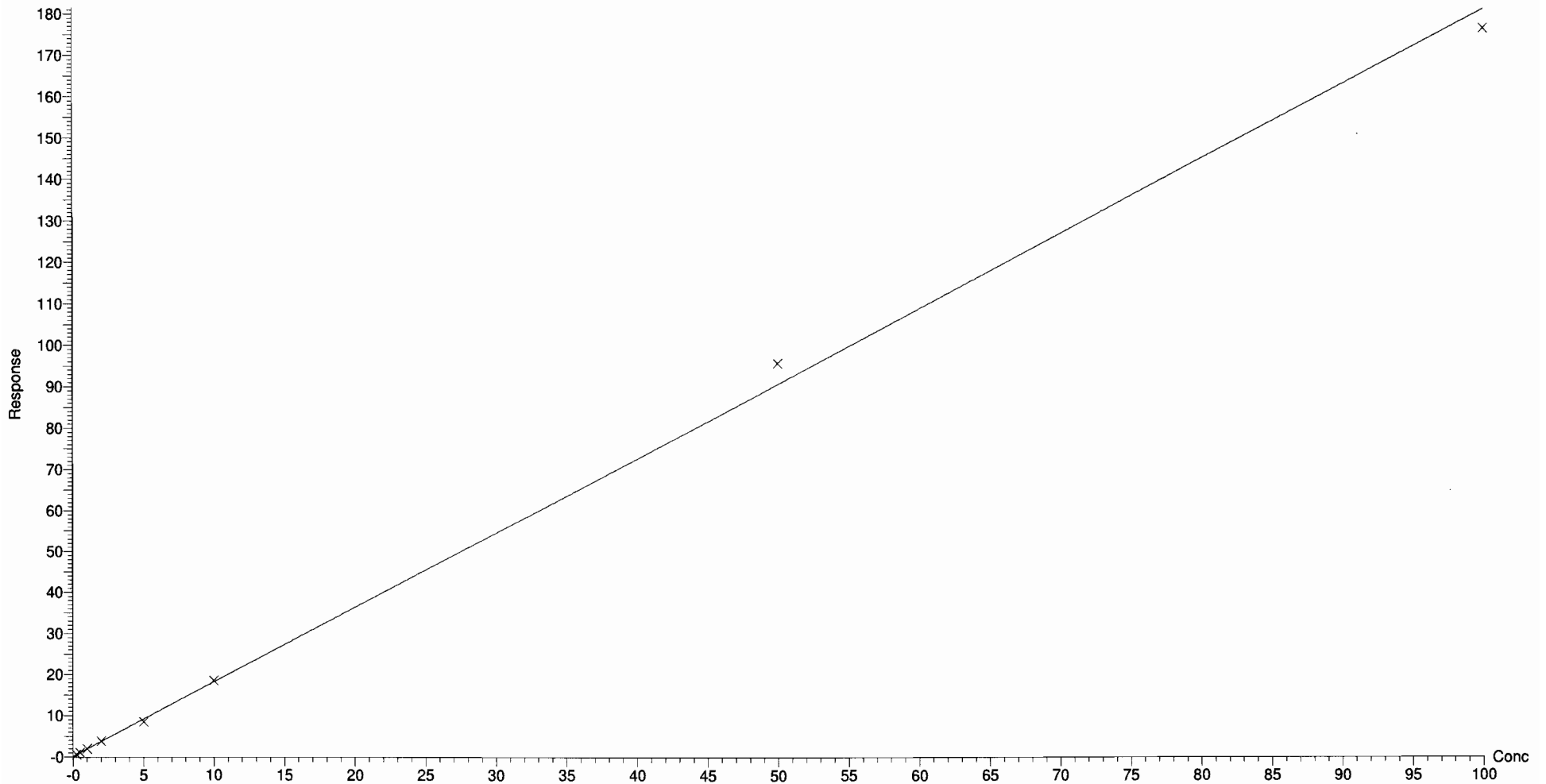
Compound name: PFHxS

Correlation coefficient:  $r = 0.999200$ ,  $r^2 = 0.998401$

Calibration curve:  $1.81334 * x + 0.103191$

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

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



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

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

Printed: Monday, March 06, 2017 08:27:41 Pacific Standard Time

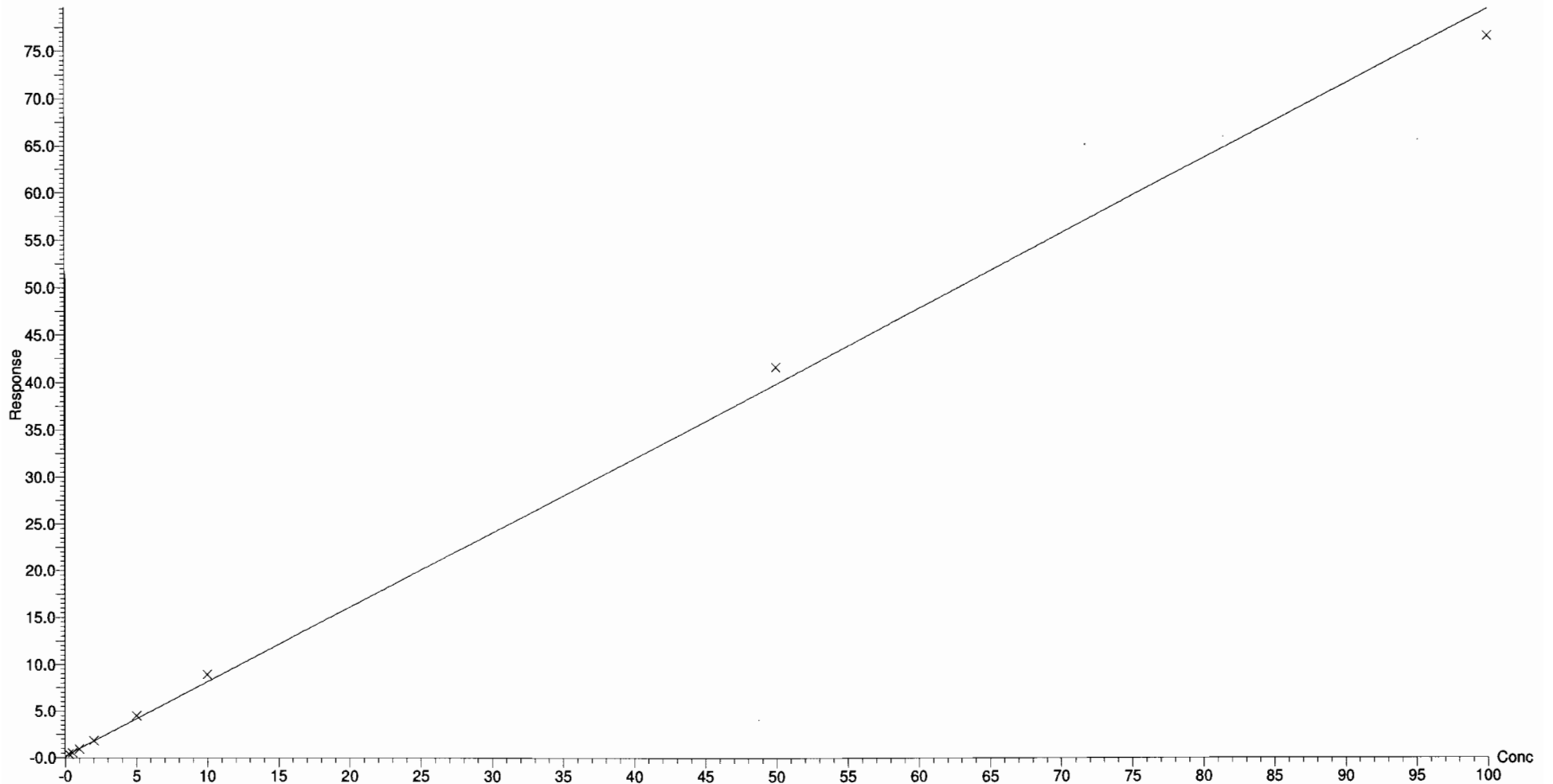
Compound name: PFOA

Correlation coefficient:  $r = 0.998804$ ,  $r^2 = 0.997609$

Calibration curve:  $0.794457 * x + 0.179058$

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

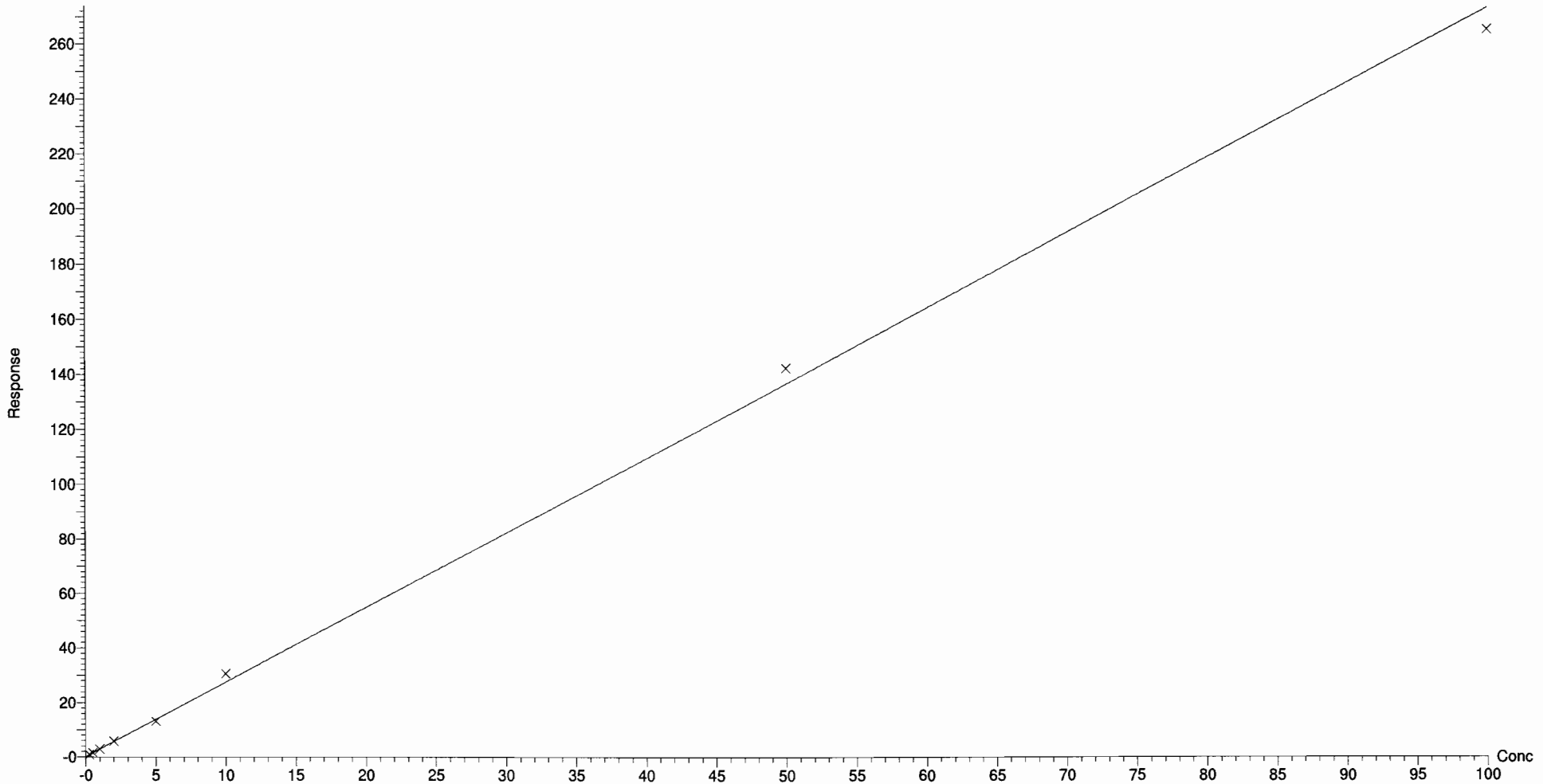
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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

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

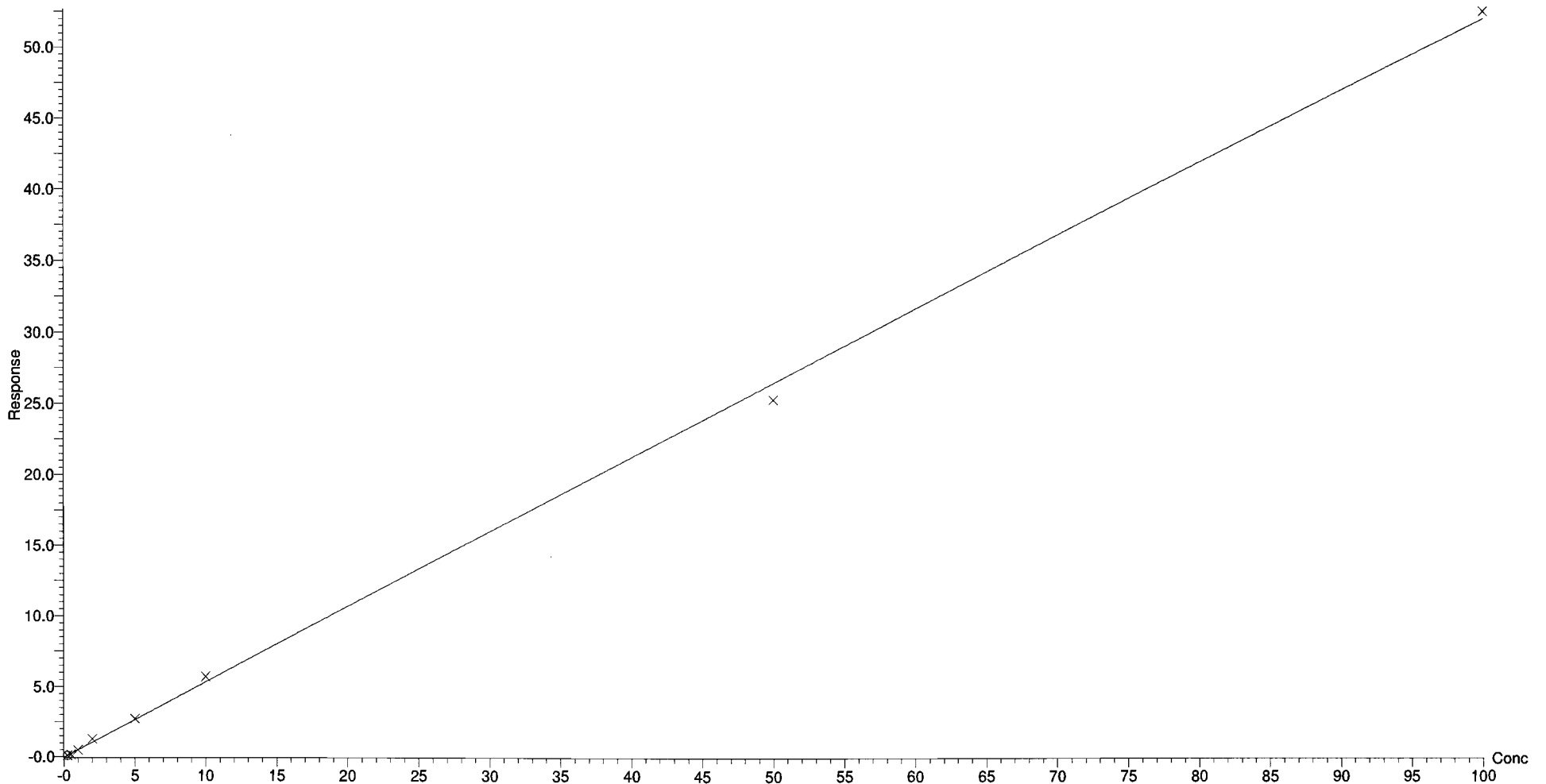
Compound name: PFNA  
Correlation coefficient:  $r = 0.999011$ ,  $r^2 = 0.998022$   
Calibration curve:  $2.73664 * x + 0.0966541$   
Response type: Internal Std ( Ref 11 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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

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

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



Dataset: Untitled

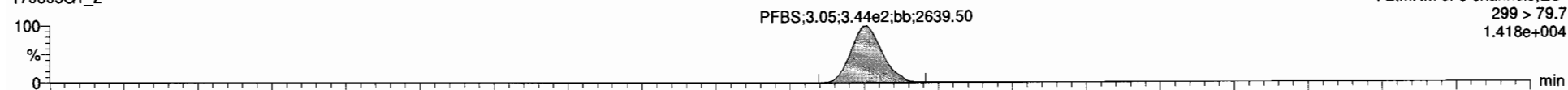
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53  
Calibration: 06 Mar 2017 08:36:20

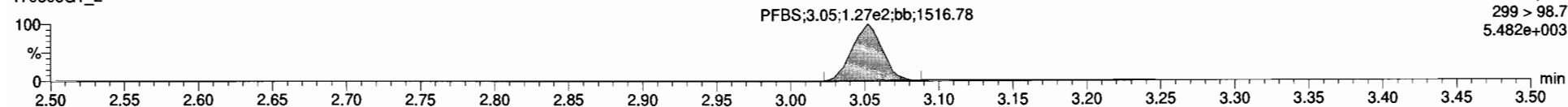
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**PFBS**

170305G1\_2

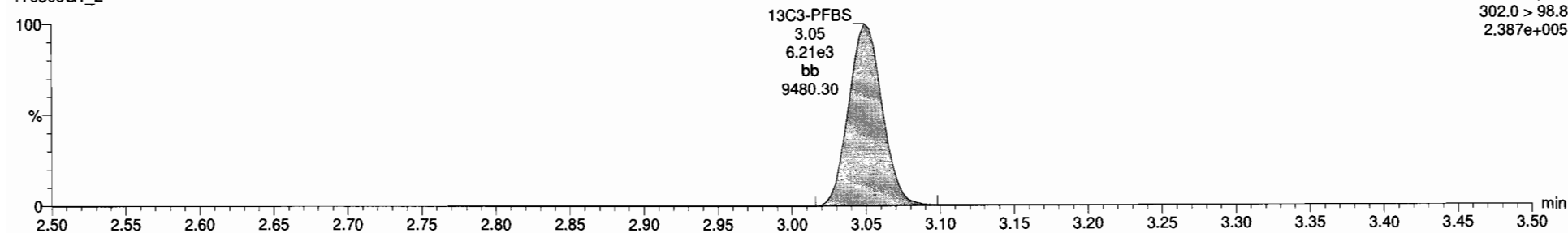


170305G1\_2



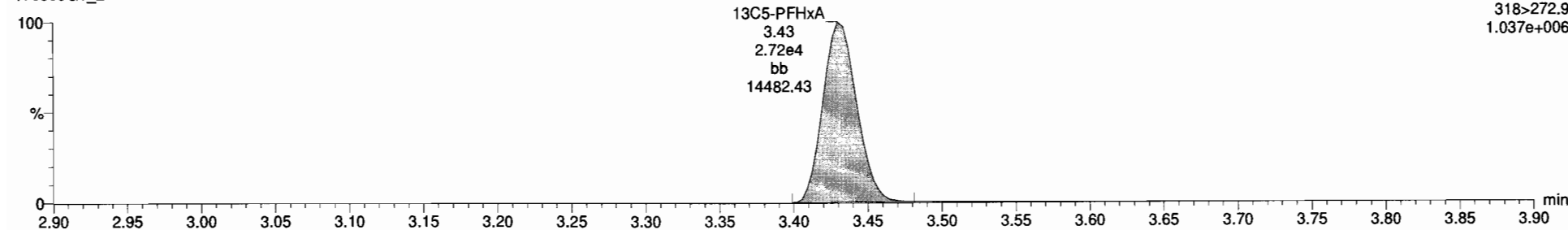
**13C3-PFBS**

170305G1\_2



**13C5-PFHxA**

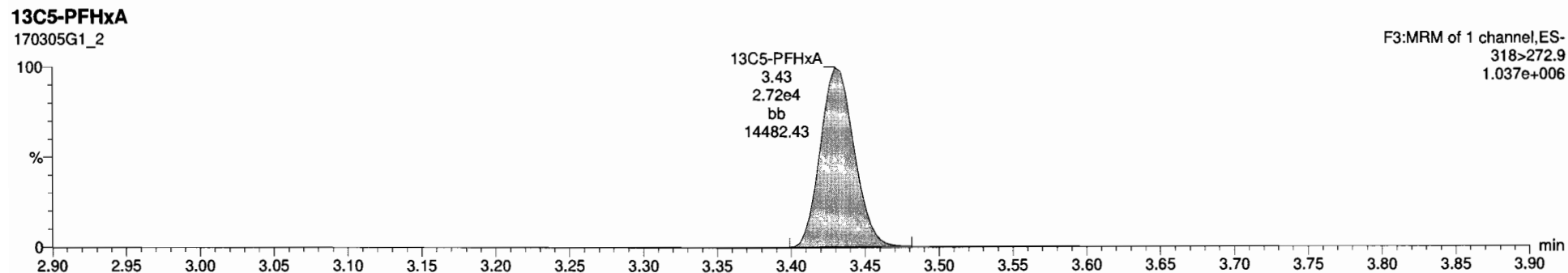
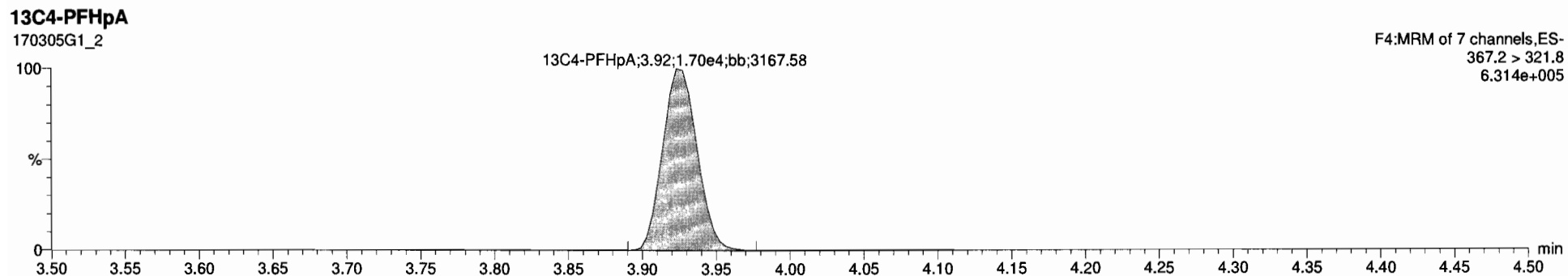
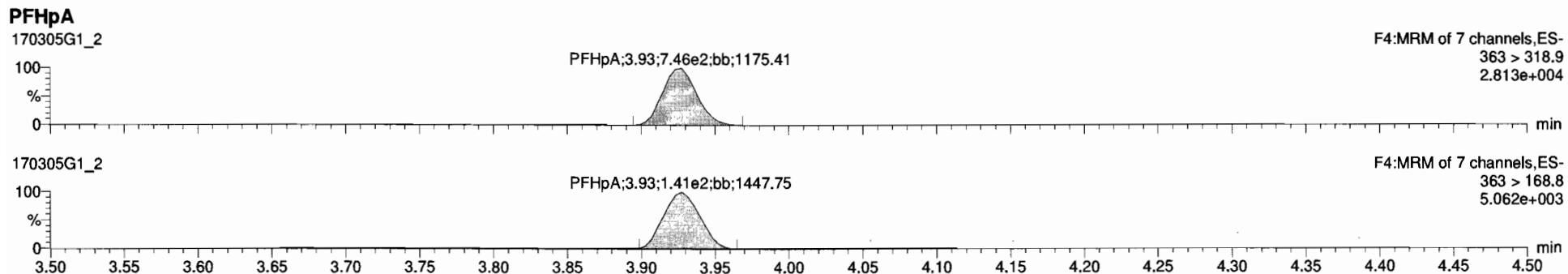
170305G1\_2



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Last Altered:    Monday, March 06, 2017 08:36:20 Pacific Standard Time  
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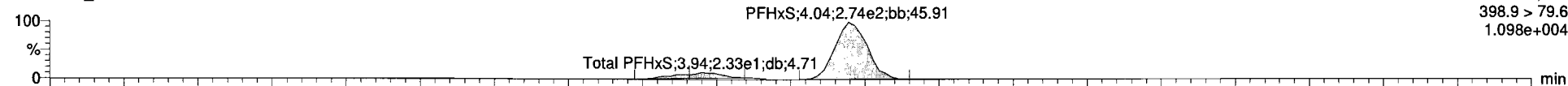
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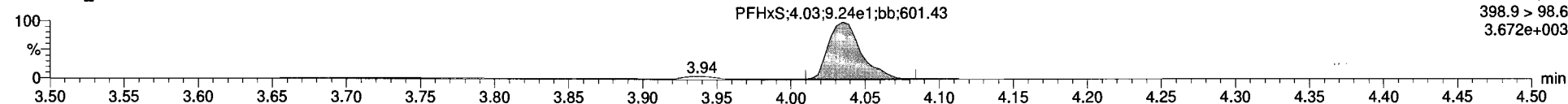
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**Total PFHxS**

170305G1\_2

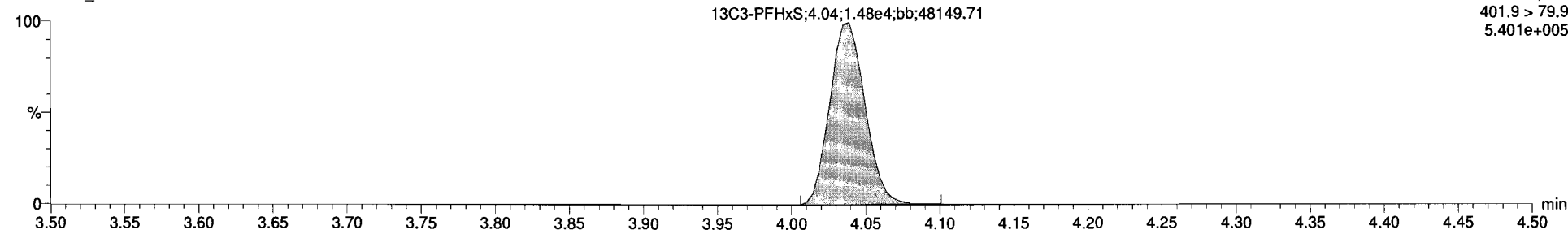


170305G1\_2



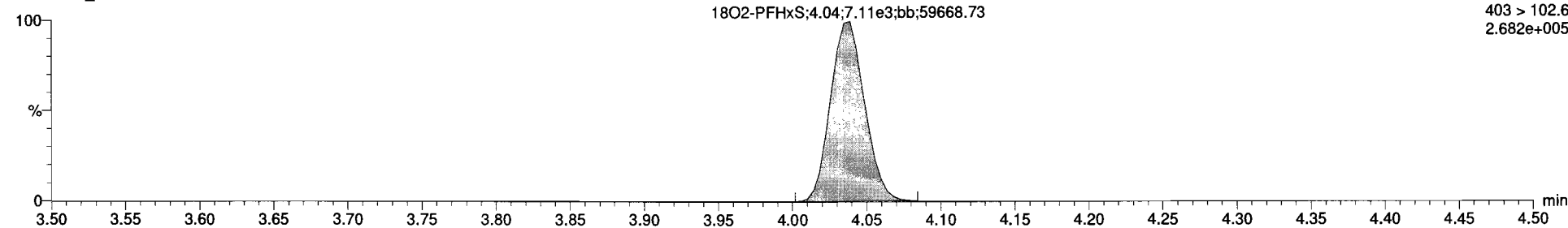
**13C3-PFHxS**

170305G1\_2



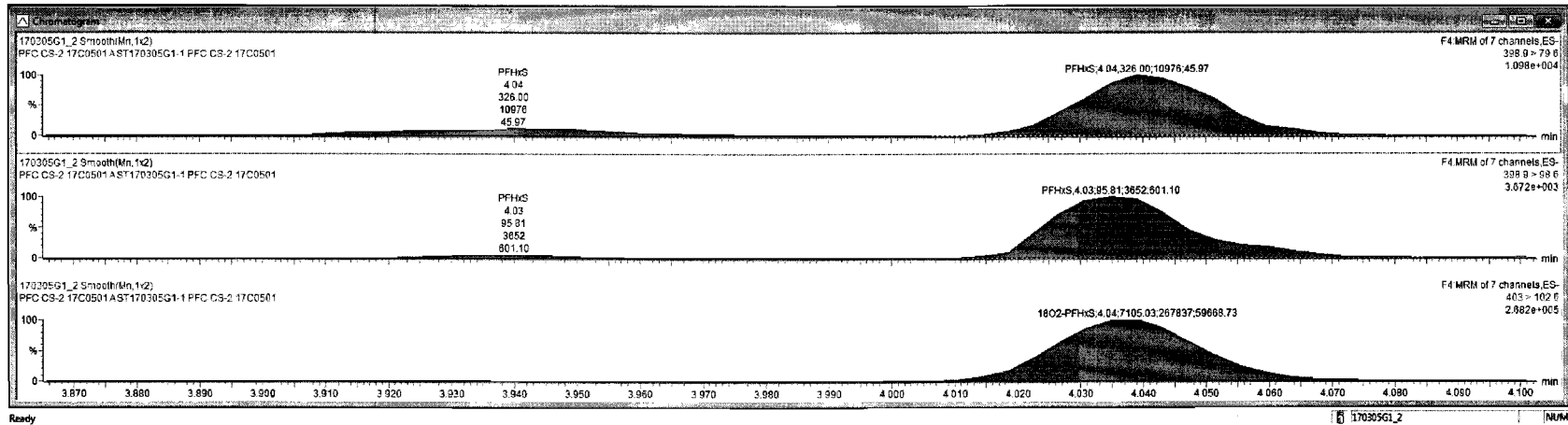
**18O2-PFHxS**

170305G1\_2





#	Name	Trace	Area	RRP	WtWt	Pred RT	RT	Conc.	SUOL	%Rec	DL
1	PFBS	299 > 79.7	3.44e2		1.000	3.05	3.05	0.283	NO	105.1	
2	PFHpA	363 > 318.8	7.46e2		1.000	3.92	3.93	0.235	NO	94.2	
3	PFHxS	398.9 > 79.8	3.29e2		1.000	4.04	4.04	0.259	NO	103.8	
4	PFOA	413 > 368.7	1.04e3		1.000	4.32	4.32	0.241	NO	96.3	
5	PFNA	463 > 418.8	5.06e2		1.000	4.64	4.65	0.241	NO	96.5	
6	PFOS	499 > 79.9	3.72e1		1.000	4.71	4.62	0.234	NO	93.7	0.1069576
7	13C3-PFBS	302.0 > 98.8	6.21e3	0.410	1.000	3.04	3.05	12.8	NO	102.4	0.0035537
8	13C4-PFHpA	367.2 > 321.8	1.70e4	1.10	1.000	3.82	3.92	13.1	NO	105.0	0.0105143
9	18O2-PFHxS	403 > 102.6	7.11e3	0.434	1.000	4.04	4.04	13.8	NO	110.7	0.0005992
10	13C2-PFOA	414.8 > 368.7	3.51e4	4.61	1.000	4.32	4.32	12.2	NO	98.0	0.0040166
11	13C5-PFNA	468.2 > 422.9	8.36e3	0.867	1.000	4.64	4.64	13.6	NO	103.7	0.0016950
12	13C8-PFOS	507.0 > 79.9	6.28e3	0.958	1.000	4.70	4.70	12.2	NO	97.5	0.0431338
13	13C5-PFHpA	518 > 272.9	2.72e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0021576
14	13C3-PFHxS	401.8 > 79.9	1.48e4	1.00	1.000	3.94	4.04	12.5	NO	100.0	0.0036490
15	13C3-PFOA	421.3 > 376	7.77e3	1.00	1.000	4.22	4.32	12.5	NO	100.0	0.0021119
16	13C5-PFNA	472.2 > 428.9	8.87e3	1.00	1.000	4.56	4.64	12.5	NO	100.0	0.0028988
17	13C4-PFOS	503.0 > 79.9	6.73e3	1.60	1.000	4.67	4.70	12.5	NO	100.0	0.0015837
18	Total PFBS	299 > 79.7	3.44e2		1.000	3.11		0.283	NO		
19	Total PFHxS	398.9 > 79.6	3.63e2		1.000	4.09		0.259	NO		
20	Total PFOA	413 > 368.7	1.10e3		1.000	4.39		0.241	NO		
21	Total PFOS	499 > 79.9	3.72e1		1.000	4.67		0.234	NO		0.1069576



Dataset: Untitled

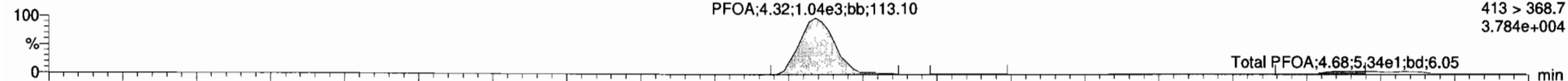
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

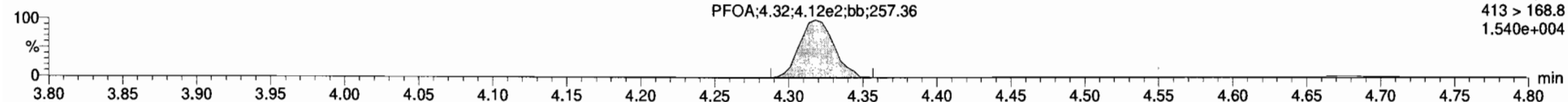
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**Total PFOA**

170305G1\_2

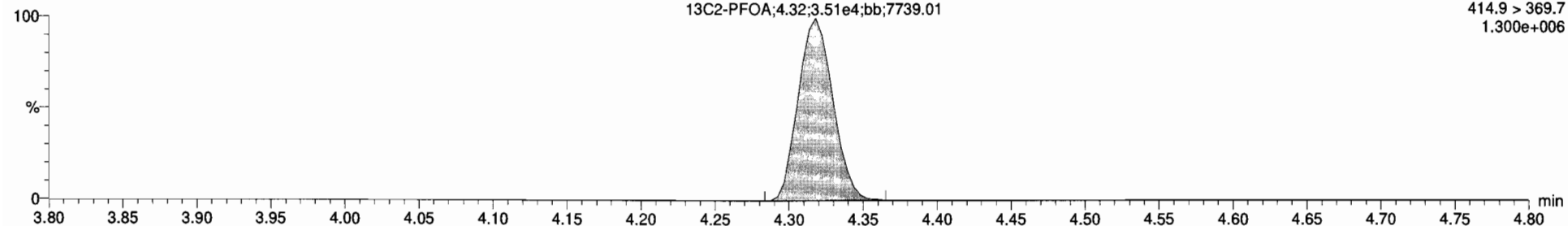


170305G1\_2



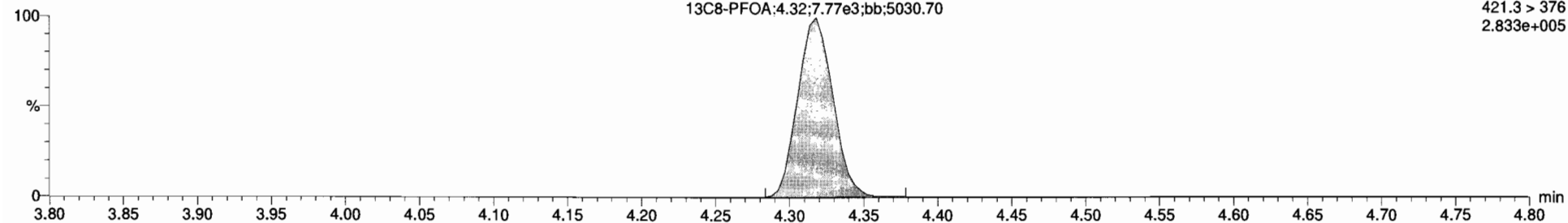
**13C2-PFOA**

170305G1\_2



**13C8-PFOA**

170305G1\_2

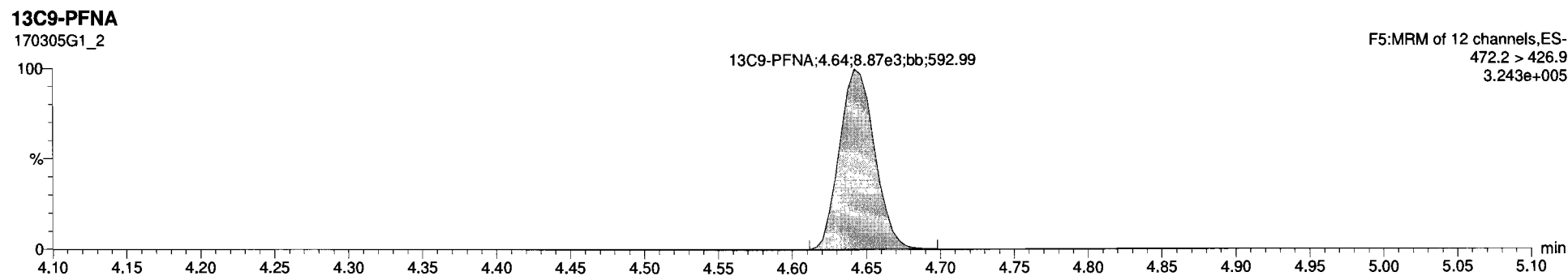
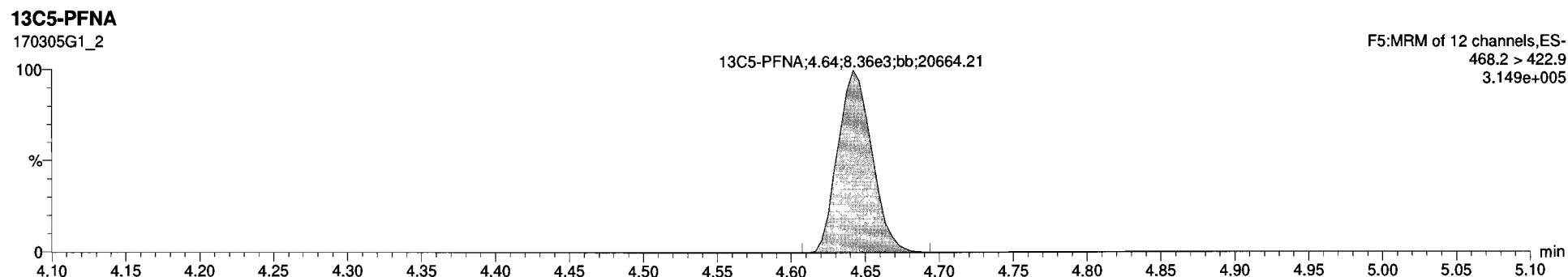
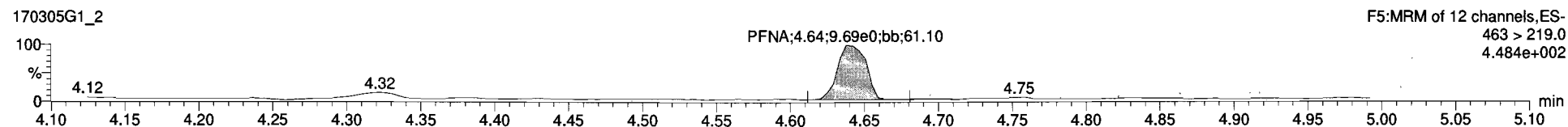
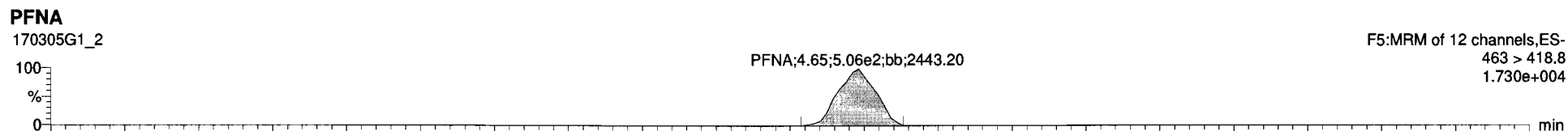


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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

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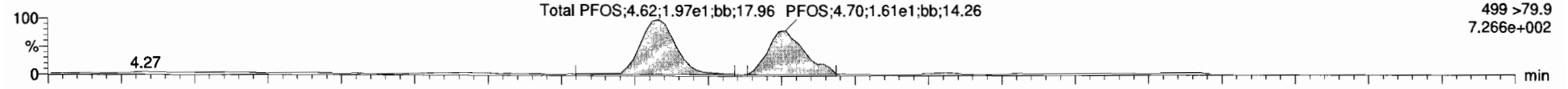
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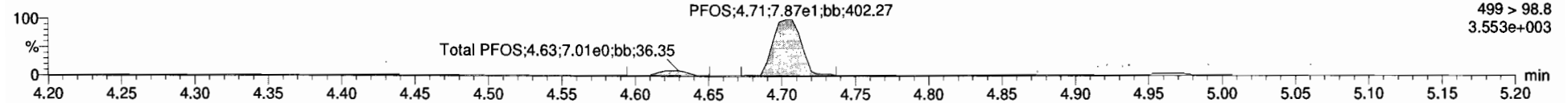
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**Total PFOS**

170305G1\_2

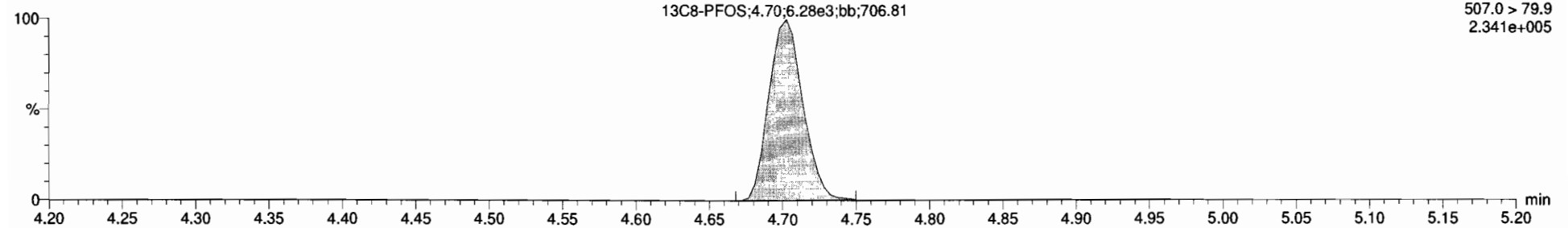


170305G1\_2



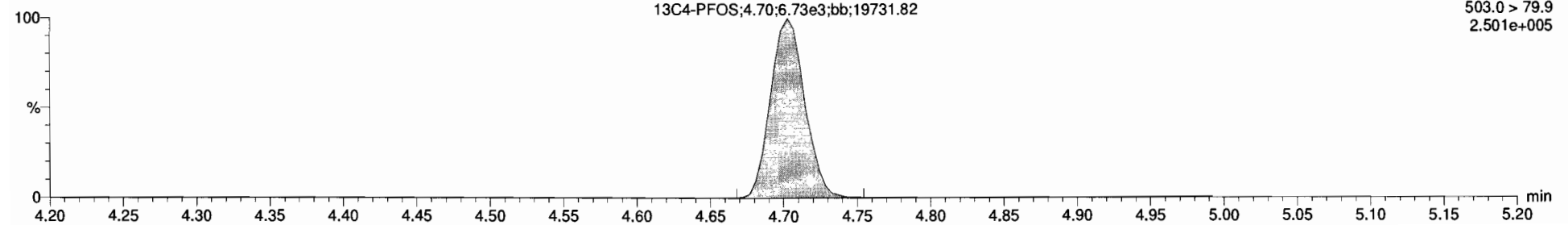
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170305G1\_2



**13C4-PFOS**

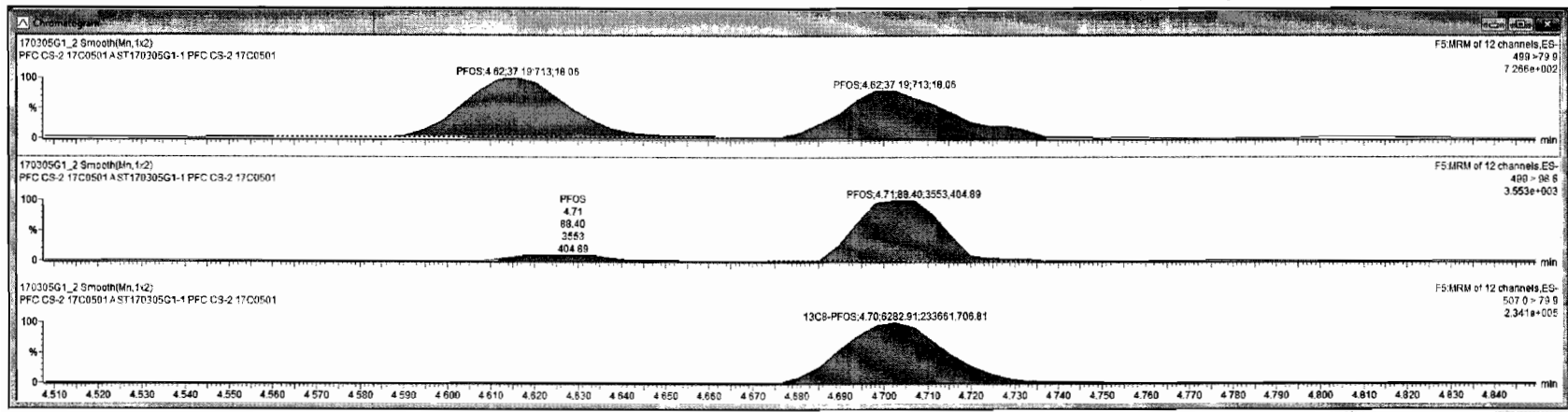
170305G1\_2





170305G1\_2 - ST170305G1-1-PFC CS-2 17C0501 - PFC CS-2 17C0501A

#	Name	Area	Area	RRF	Yield	Prod.RT	RT	Conc.	>MOL	%Rec	DL
1	PFBS	299 > 79.7	3.44e2		1.000	3.95	3.95	0.263	NO	165.1	
2	PFHpA	363 > 318.9	7.45e2		1.000	3.92	3.93	0.235	NO	94.2	
3	PFHxS	398.9 > 79.6	3.26e2		1.000	4.04	4.04	0.259	NO	103.8	
4	PFOA	413 > 368.7	1.04e3		1.000	4.32	4.32	0.241	NO	95.3	
5	PFNA	463 > 418.8	5.06e2		1.000	4.64	4.65	0.241	NO	96.5	
6	PFOS	499 > 79.9	3.72e1		1.000	4.71	4.62	0.234	NO	93.7	0.1069576
7	13C3-PFBS	302.0 > 98.8	6.21e3	0.410	1.000	3.94	3.95	12.8	NO	102.4	0.0035537
8	13C4-PFHpA	367.2 > 321.8	1.70e4	1.10	1.000	3.92	3.92	13.1	NO	105.0	0.0105143
9	18O2-PFHxS	403 > 102.6	7.11e3	0.434	1.000	4.04	4.04	13.8	NO	110.7	0.0025922
10	13C2-PFOA	414.9 > 369.7	3.51e4	4.61	1.000	4.32	4.32	12.2	NO	99.0	0.0040166
11	13C5-PFNA	468.2 > 422.9	8.36e3	0.867	1.000	4.64	4.64	13.6	NO	108.7	0.0016950
12	13C8-PFOS	507.0 > 79.9	6.28e3	0.958	1.000	4.70	4.70	12.2	NO	97.5	0.0431338
13	13C3-PFHxS	316 > 272.9	2.72e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0021578
14	13C3-PFHxS	401.9 > 79.9	1.48e4	1.00	1.000	3.94	4.04	12.5	NO	100.0	0.0006490
15	13C3-PFOA	421.3 > 376	7.77e3	1.00	1.000	4.22	4.32	12.5	NO	100.0	0.0052119
16	13C3-PFNA	472.2 > 426.5	8.87e3	1.00	1.000	4.58	4.64	12.5	NO	100.0	0.0526988
17	13C4-PFOS	503.0 > 79.9	6.73e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0015837
18	Total PFBS	299 > 79.7	3.44e2		1.000	3.11		0.263	NO		
19	Total PFHxS	398.9 > 79.6	3.63e2		1.000	4.09		0.259	NO		
20	Total PFOA	413 > 368.7	1.10e3		1.000	4.39		0.241	NO		
21	Total PFOS	499 > 79.9	3.72e1		1.000	4.67		0.234	NO		0.1069576



Ready

170305G1\_2

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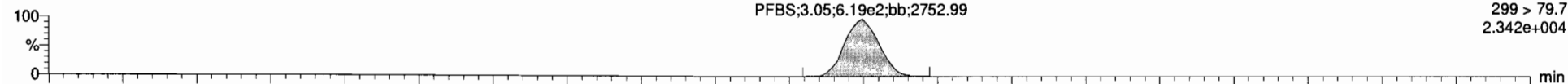
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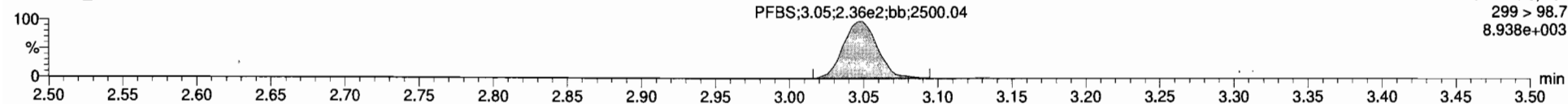
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**PFBS**

170305G1\_3

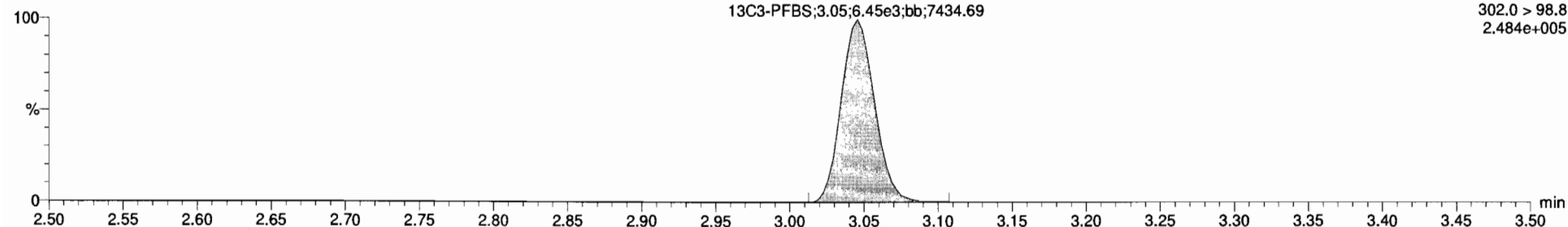


170305G1\_3



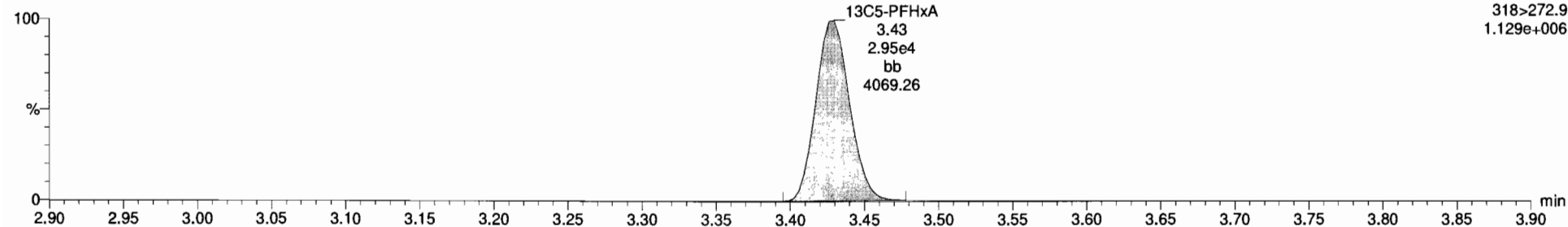
**13C3-PFBS**

170305G1\_3



**13C5-PFHxA**

170305G1\_3



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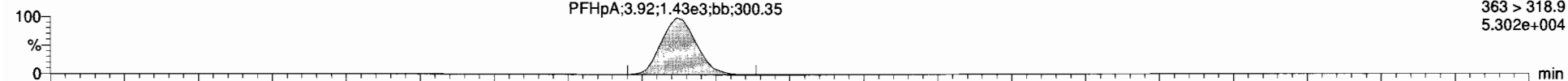
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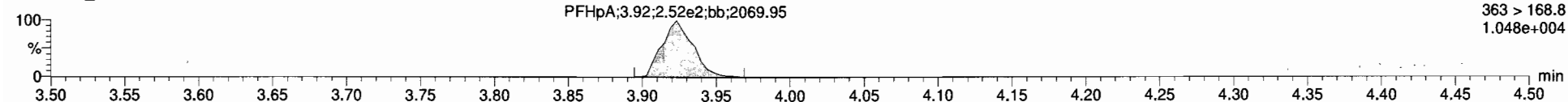
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**PFHpA**

170305G1\_3

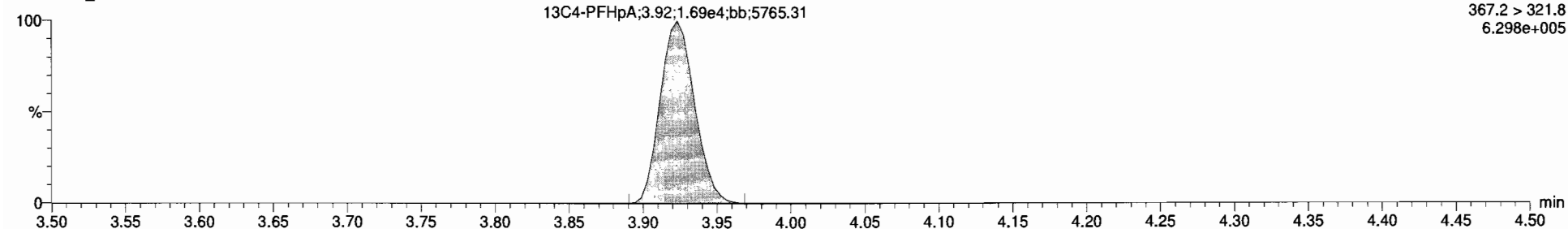


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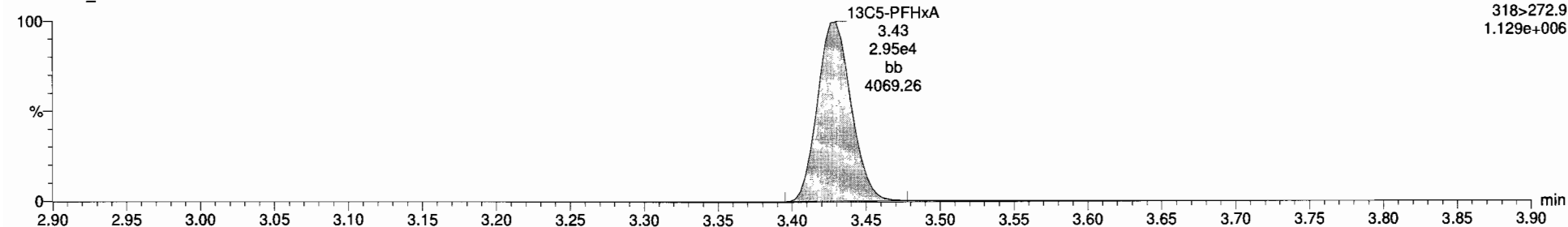
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170305G1\_3



**13C5-PFHxA**

170305G1\_3



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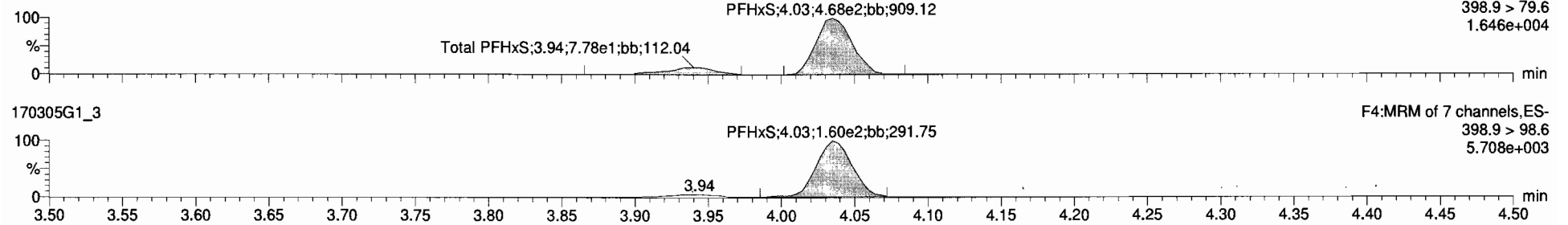
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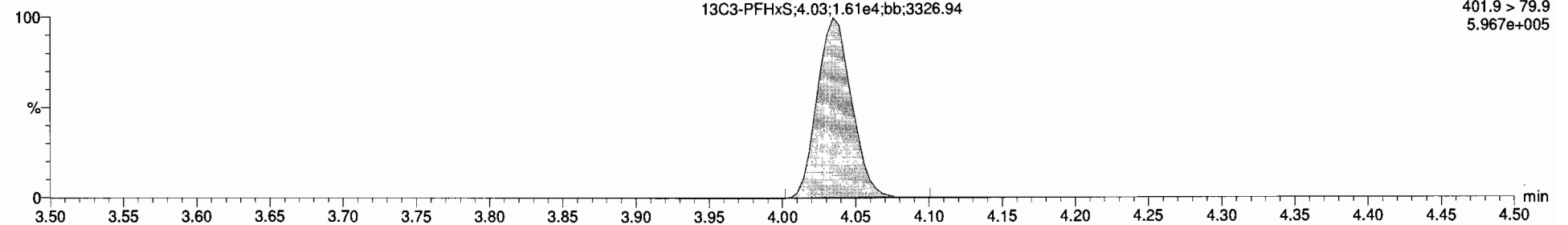
**Total PFHxS**

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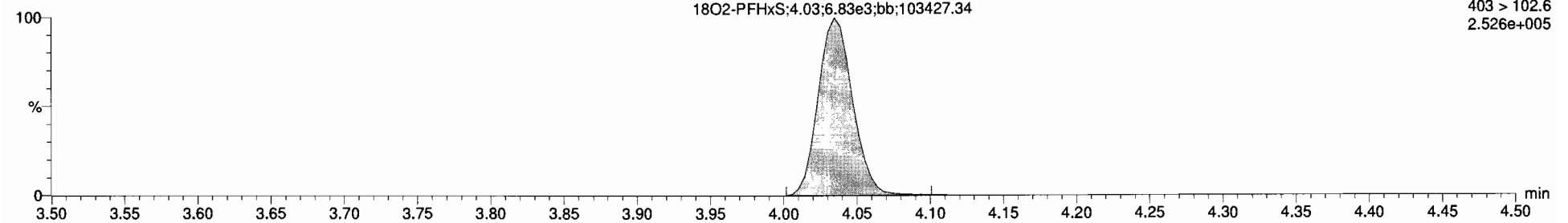
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170305G1\_3



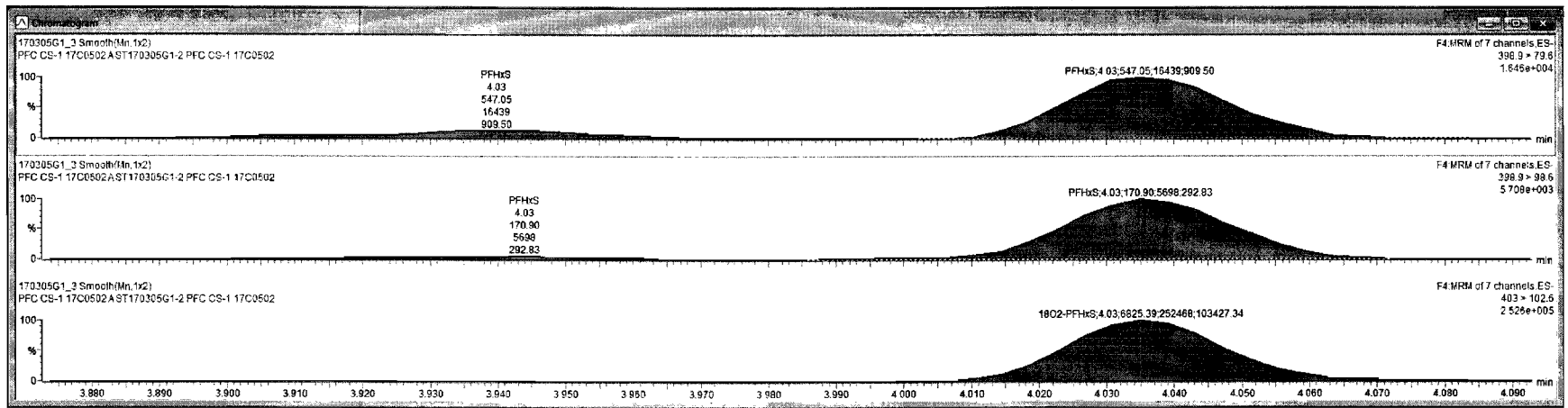
**18O2-PFHxS**

170305G1\_3





Name	Trace	Area	RRF	WtVol	Prod.RT	RT	Conc.	>NDL	%Rec	DL	
1	PFBS	299 > 79.7	6.19e2	1.000	3.05	3.05	0.475	NO	95.0		
2	PFHpA	363 > 318.9	1.43e3	1.000	3.92	3.92	0.518	NO	103.7		
3	PFHxS	398.9 > 79.8	5.47e2	1.000	4.03	4.03	0.496	NO	99.1		
4	PFOA	413 > 368.7	1.52e3	1.000	4.31	4.31	0.452	NO	90.4		
5	PFNA	463 > 418.8	8.81e2	1.000	4.64	4.64	0.489	NO	97.9		
6	PFOS	499 > 79.9	7.39e1	1.000	4.71	4.71	0.358	NO	71.5	0.1053526	
7	13C3-PFBS	302.0 > 98.8	6.45e3	0.410	1.000	3.04	3.95	12.2	NO	97.5	0.0042668
8	13C4-PFHpA	367.2 > 321.8	1.89e4	1.10	1.000	3.91	3.92	11.9	NO	95.5	0.0052041
9	18O2-PFHxS	403 > 102.6	6.83e3	0.434	1.000	4.03	4.03	12.2	NO	97.4	0.0002946
10	13C2-PFOA	414.9 > 369.7	3.53e4	4.61	1.000	4.31	4.31	11.8	NO	94.2	0.0083474
11	13C3-PFNA	468.2 > 422.9	7.87e3	0.867	1.000	4.64	4.64	13.5	NO	107.9	0.0073319
12	13C8-PFOS	507.0 > 79.9	6.57e3	0.958	1.000	4.70	4.70	12.1	NO	96.4	0.0047793
13	13C5-PFHxA	318 > 272.9	2.95e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0076795
14	13C3-PFHxS	401.9 > 79.9	1.61e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0083970
15	13C8-PFOA	421.3 > 376	8.14e3	1.00	1.000	4.22	4.31	12.5	NO	100.0	0.0096315
16	13C9-PFNA	472.2 > 426.8	8.20e3	1.00	1.000	4.56	4.64	12.5	NO	100.0	0.0015263
17	13C4-PFOS	503.0 > 79.9	7.11e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0052005
18	Total PFBS	299 > 79.7	6.19e2		1.000	3.11		0.475	NO		
19	Total PFHxS	398.9 > 79.8	6.25e2		1.000	4.09		0.517	NO		
20	Total PFOA	413 > 368.7	1.56e3		1.000	4.39		0.452	NO		
21	Total PFOS	499 > 79.9	9.52e1		1.000	4.67		0.530	NO		0.1053528



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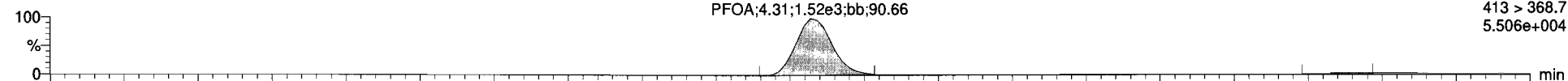
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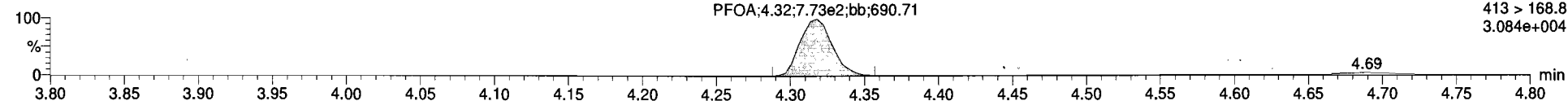
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**Total PFOA**

170305G1\_3

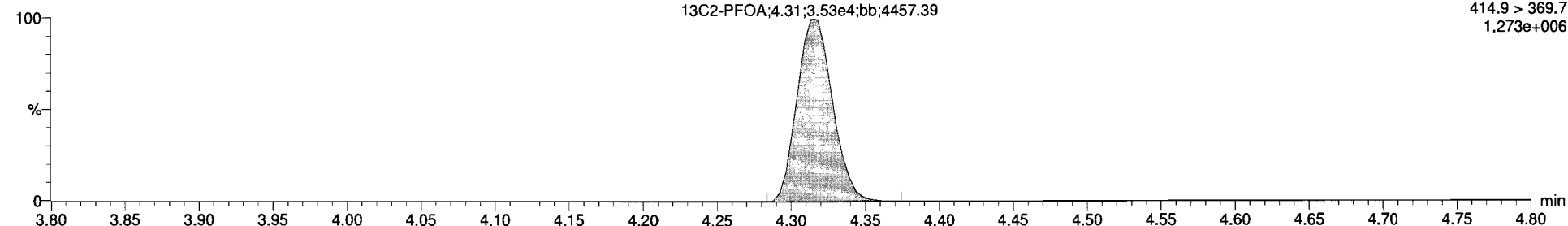


170305G1\_3



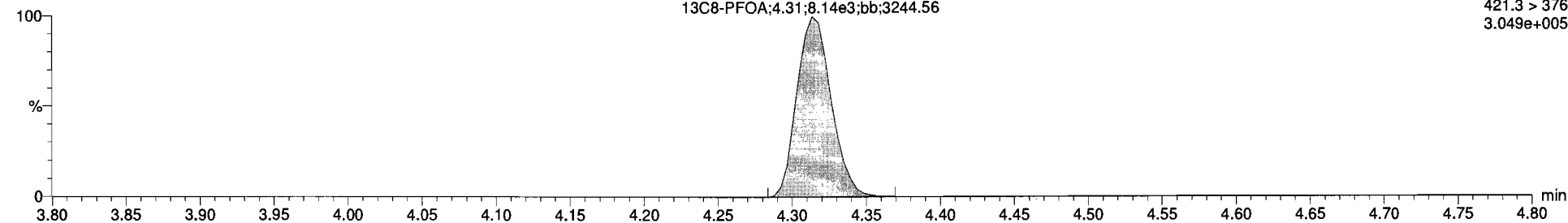
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170305G1\_3



**13C8-PFOA**

170305G1\_3



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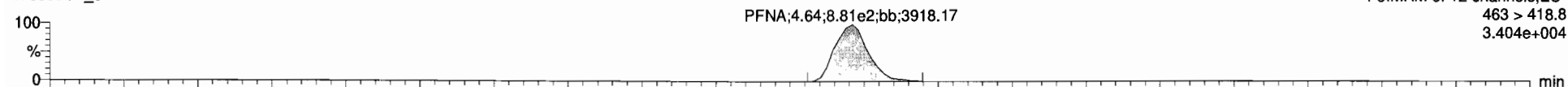
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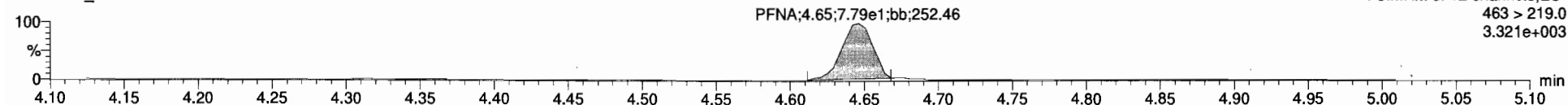
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**PFNA**

170305G1\_3

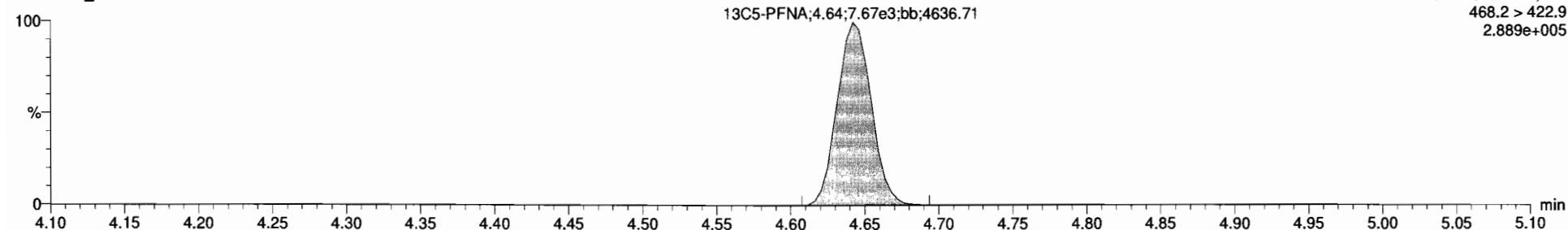


170305G1\_3



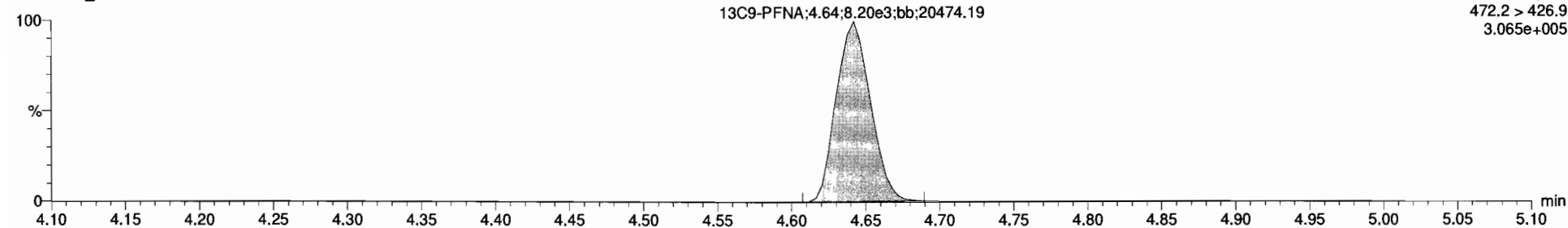
**13C5-PFNA**

170305G1\_3



**13C9-PFNA**

170305G1\_3



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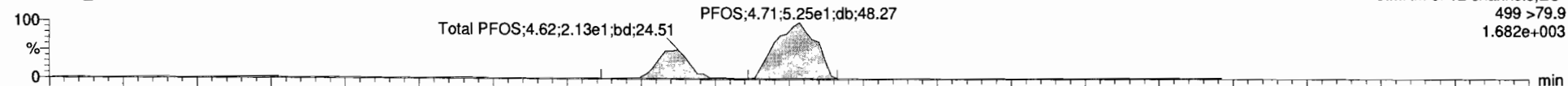
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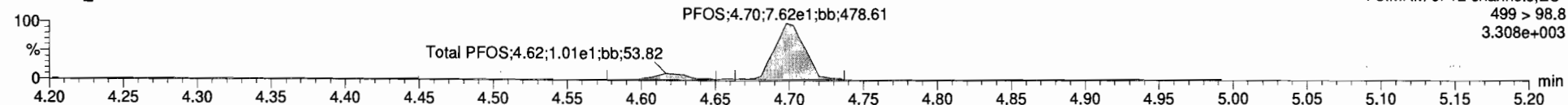
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**Total PFOS**

170305G1\_3

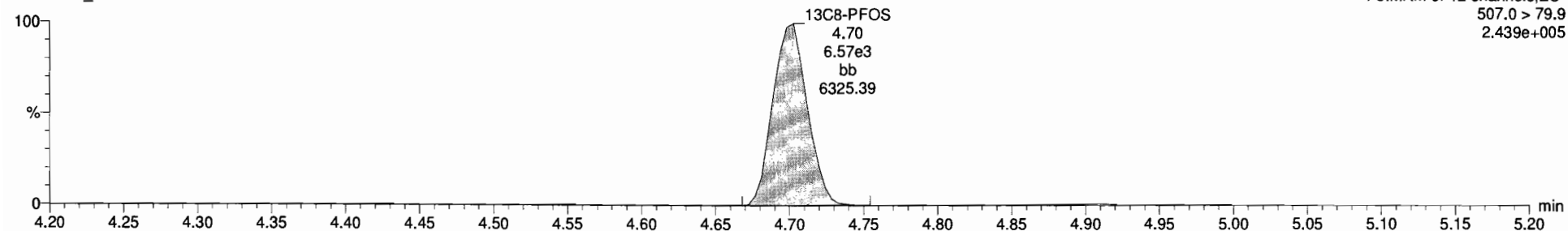


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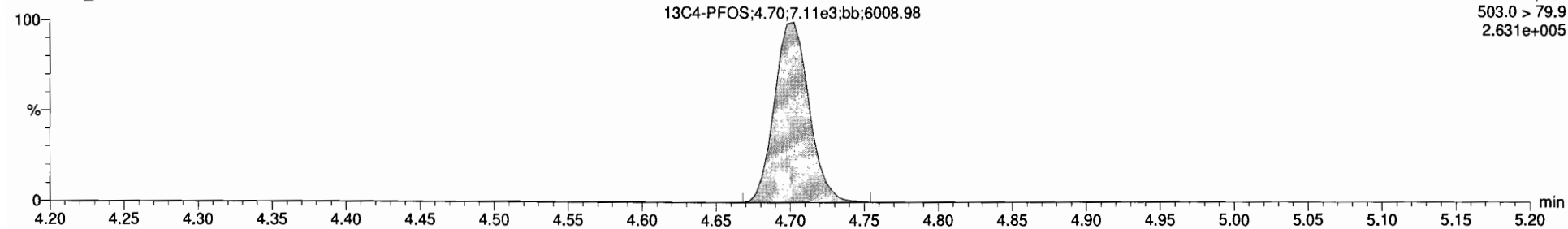
**13C8-PFOS**

170305G1\_3



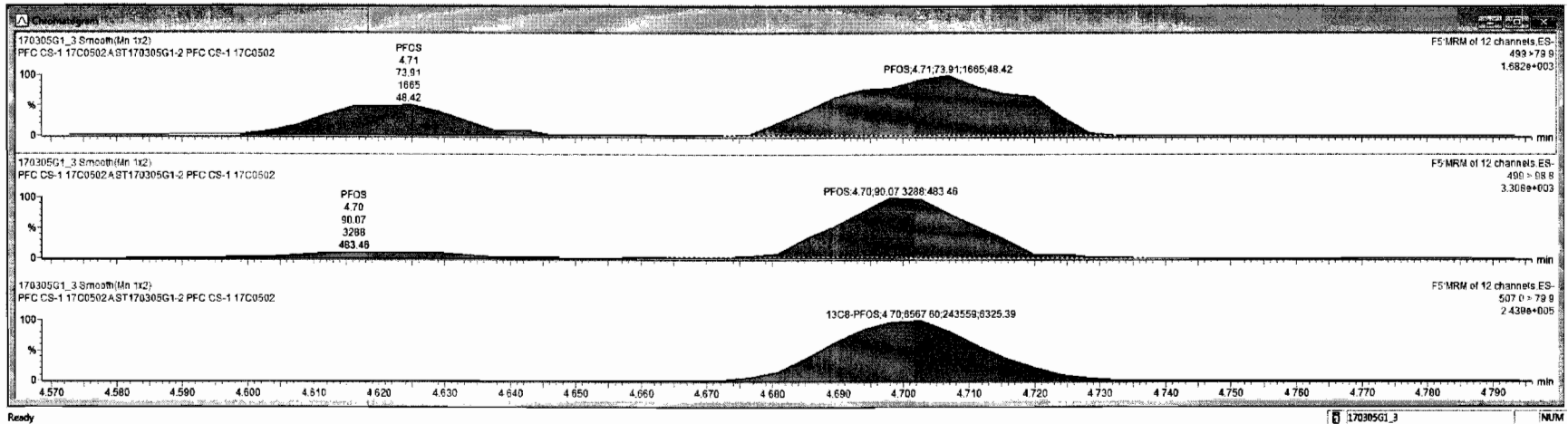
**13C4-PFOS**

170305G1\_3





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PFBS	299 > 79.7	6.19e2		1.000	3.05	3.65	0.475	NO	95.0	
PFHpA	362 > 318.9	1.43e3		1.000	3.92	3.92	0.518	NO	103.7	
PFHxS	388.9 > 79.6	5.47e2		1.000	4.03	4.03	0.490	NO	99.1	
PFOA	413 > 368.7	1.52e3		1.000	4.31	4.31	0.452	NO	90.4	
PFNA	463 > 418.8	8.81e2		1.000	4.64	4.64	0.489	NO	97.8	
PFOS	499 > 79.9	7.39e1		1.000	4.71	4.71	0.358	NO	71.5	0.1053526
13C3-PFBS	392.0 > 98.8	6.45e3	0.410	1.000	3.04	3.05	12.2	NO	97.5	0.0042968
13C4-PFHpA	367.2 > 321.8	1.69e4	1.10	1.000	3.91	3.92	11.9	NO	95.5	0.0052041
18O2-PFHxS	403 > 102.6	6.83e3	0.434	1.000	4.03	4.03	12.2	NO	97.4	0.0002948
13C2-PFOA	414.9 > 369.7	3.53e4	4.61	1.000	4.31	4.31	11.8	NO	94.2	0.0063474
13C5-PFNA	468.2 > 422.9	7.67e3	0.867	1.000	4.64	4.64	13.5	NO	107.9	0.0073319
13C8-PFOS	507.0 > 79.9	6.57e3	0.958	1.000	4.70	4.70	12.1	NO	96.4	0.0047793
13C5-PFHpA	316 > 272.9	2.95e4	1.00	1.000	3.29	3.43	12.5	NO	100.0	0.0076795
13C3-PFHxS	401.6 > 79.9	1.61e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0093930
13C8-PFOA	421.3 > 376	8.14e3	1.00	1.000	4.22	4.31	12.5	NO	100.0	0.006315
13C9-PFNA	472.2 > 426.9	8.20e3	1.00	1.000	4.55	4.64	12.5	NO	100.0	0.0015263
13C4-PFOS	503.0 > 79.9	7.11e3	1.00	1.000	4.67	4.70	12.5	NO	100.0	0.0052005
Total PFBS	299 > 79.7	6.19e2		1.000	3.11		0.475	NO		
Total PFHxS	388.9 > 79.6	6.25e2		1.000	4.09		0.517	NO		
Total PFOA	413 > 368.7	1.56e3		1.000	4.39		0.452	NO		
Total PFOS	499 > 79.9	9.52e1		1.000	4.67		0.530	NO		0.1053526



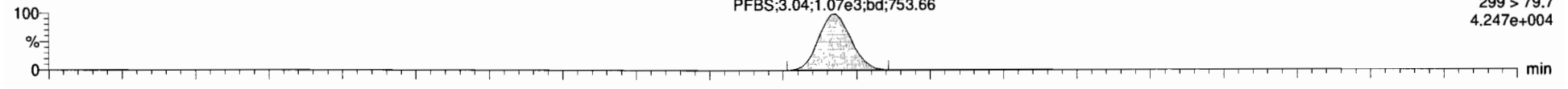
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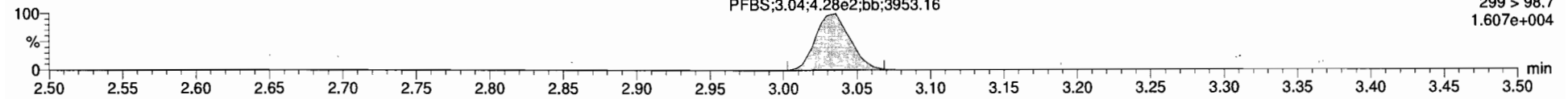
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**PFBS**

170305G1\_4

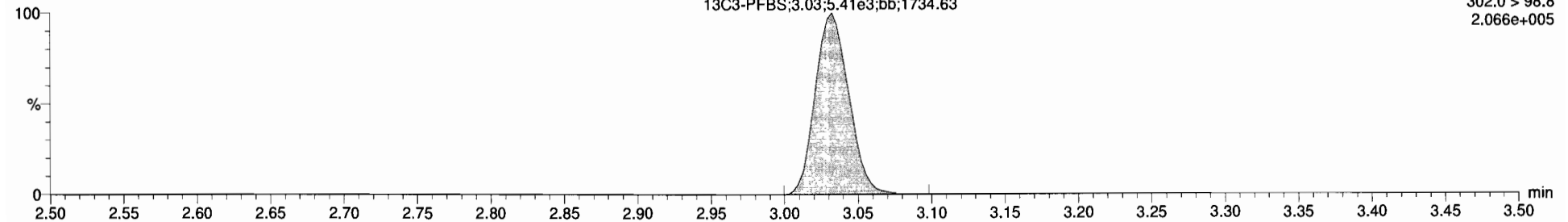


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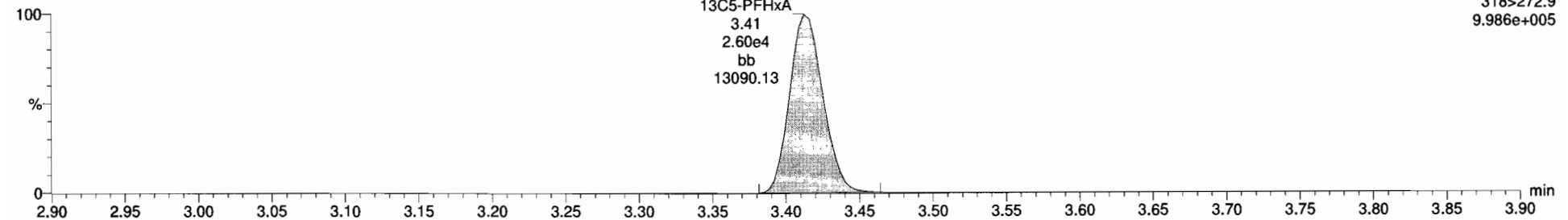
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170305G1\_4



**13C5-PFHxA**

170305G1\_4



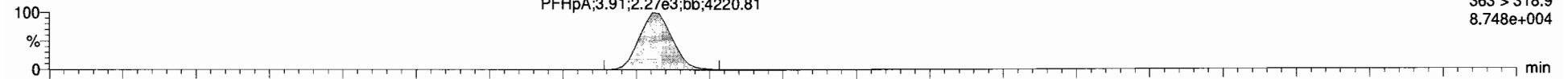
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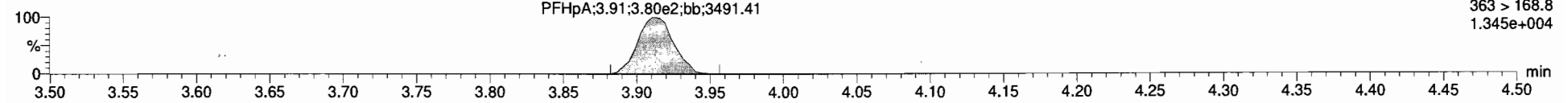
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**PFHpA**

170305G1\_4

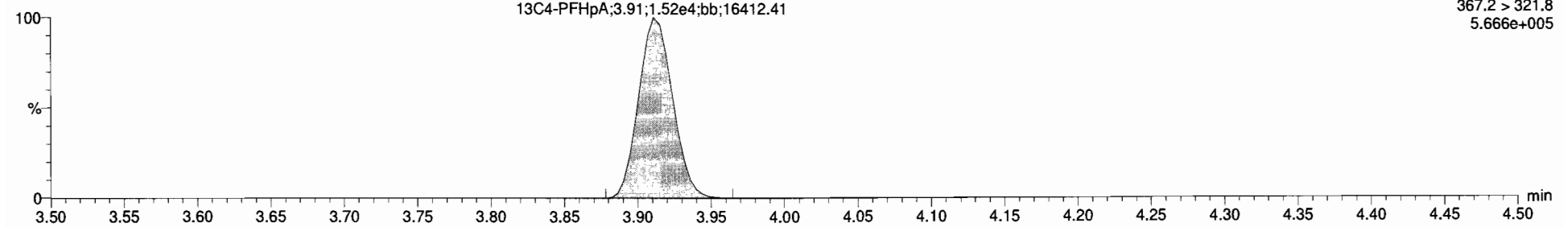


170305G1\_4



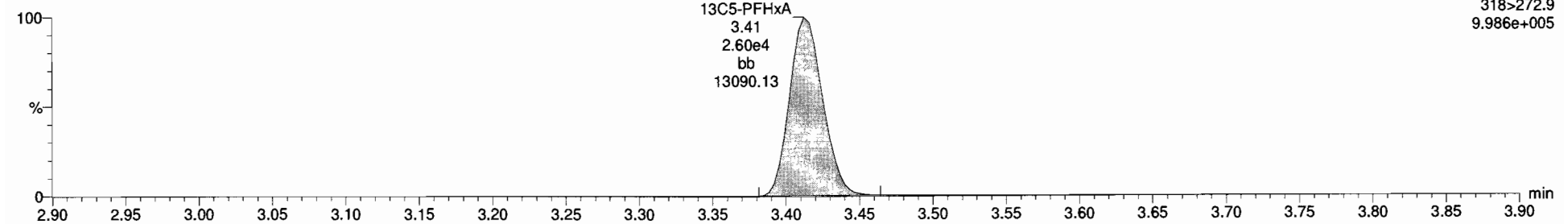
**13C4-PFHpA**

170305G1\_4



**13C5-PFHxA**

170305G1\_4



Dataset: Untitled

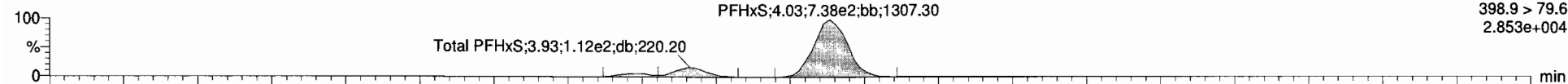
Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time

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

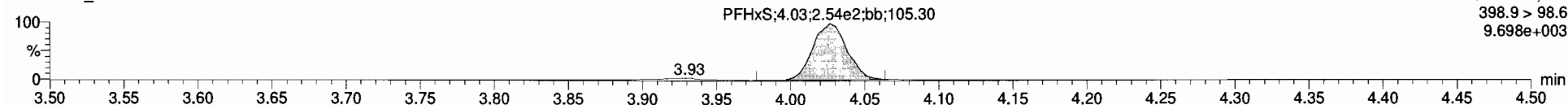
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**Total PFHxS**

170305G1\_4

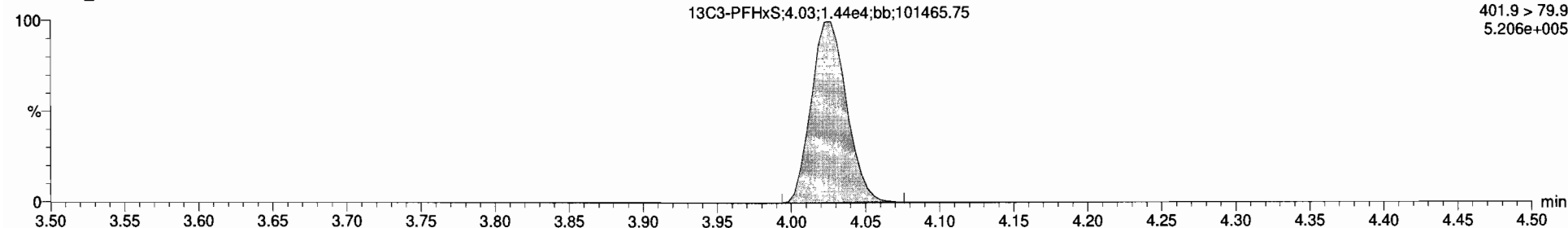


170305G1\_4



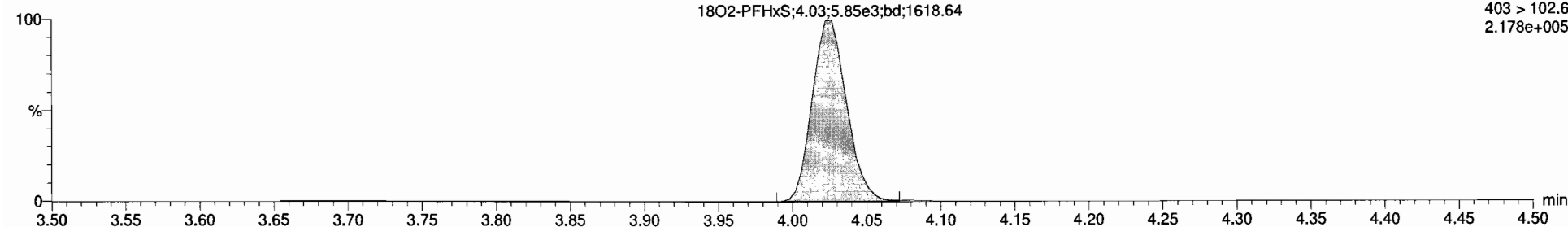
**13C3-PFHxS**

170305G1\_4



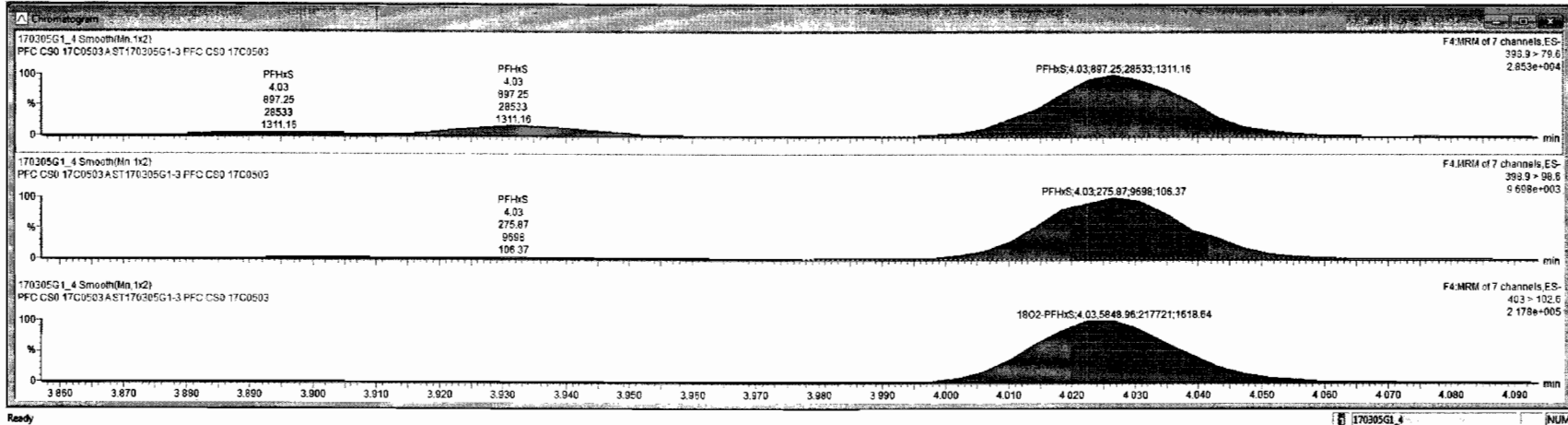
**18O2-PFHxS**

170305G1\_4





Name	Trace	Area	RF	Wt/Mol	Pred RT	RT	Conc	MOL	%Rec	DL
1	PFBS	299 > 79.7	1.07e3	1.000	3.03	3.04	1.91	NO	101.1	
2	PFHpA	363 > 318.9	2.27e3	1.000	3.91	3.91	0.964	NO	96.4	
3	PFHxS	398.9 > 79.6	2.67e3	1.000	4.03	4.03	1.00	NO	100.0	
4	PFOA	413 > 368.7	2.09e3	1.000	4.31	4.30	0.908	NO	90.8	
5	PFNA	463 > 419.5	1.26e3	1.000	4.63	4.63	0.958	NO	95.8	
6	PFOS	499 > 79.9	1.82e2	1.000	4.70	4.69	0.589	NO	58.9	0.1002511
7	13C3-PFBS	302.0 > 98.8	5.41e3	0.410	1.000	3.03	3.03	11.5	91.5	0.0174615
8	13C4-PFHpA	367.2 > 321.5	1.52e4	1.10	1.000	3.90	3.91	12.1	96.6	0.0018598
9	18O2-PFHxS	403 > 102.6	5.85e3	0.434	1.000	4.03	4.03	11.7	93.8	0.0186300
10	13C2-PFOA	414.9 > 369.7	2.91e4	4.61	1.000	4.30	4.31	12.4	99.0	0.0006311
11	13C5-PFNA	468.2 > 422.9	5.74e3	0.867	1.000	4.63	4.63	11.6	92.6	0.0007193
12	13C8-PFOS	507.0 > 79.9	4.73e3	0.958	1.000	4.69	4.69	11.9	95.3	0.0110670
13	13C5-PFNA	318 > 272.9	2.60e4	1.00	1.000	3.29	3.41	12.5	NO	100.0
14	13C3-PFHxS	401.9 > 79.9	1.44e4	1.00	1.000	3.94	4.03	12.5	NO	100.0
15	13C8-PFOA	421.3 > 376	6.38e3	1.00	1.000	4.22	4.30	12.5	NO	100.0
16	13C9-PFNA	472.2 > 428.9	7.15e3	1.00	1.000	4.56	4.63	12.5	NO	100.0
17	13C4-PFOS	503.0 > 79.9	5.15e3	1.00	1.000	4.67	4.69	12.5	NO	100.0
18	Total PFBS	299 > 79.7	1.08e3		1.000	3.11				
19	Total PFHxS	398.9 > 79.6	1.05e3		1.000	4.09				
20	Total PFOA	413 > 368.7	2.16e3		1.000	4.39				
21	Total PFOS	499 > 79.9	2.19e2		1.000	4.67				



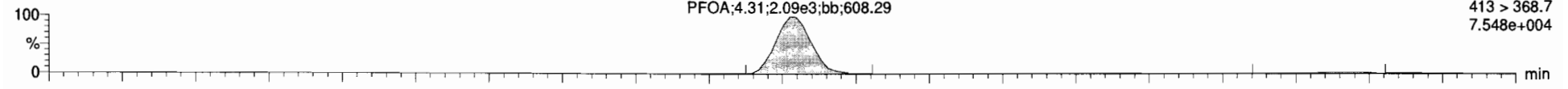
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-3 PFC CS0 17C0503, Description: PFC CS0 17C0503 A, Name: 170305G1\_4, Date: 05-Mar-2017, Time: 13:11:49, Instrument: , Lab: , User:

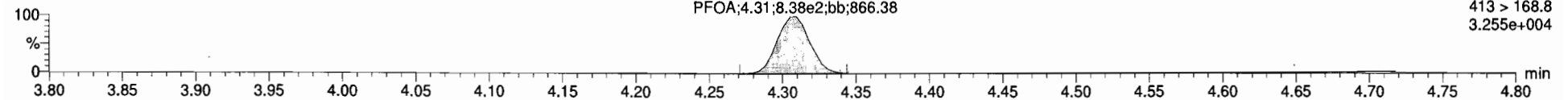
**Total PFOA**

170305G1\_4



F5:MRM of 12 channels,ES-  
413 > 368.7  
7.548e+004

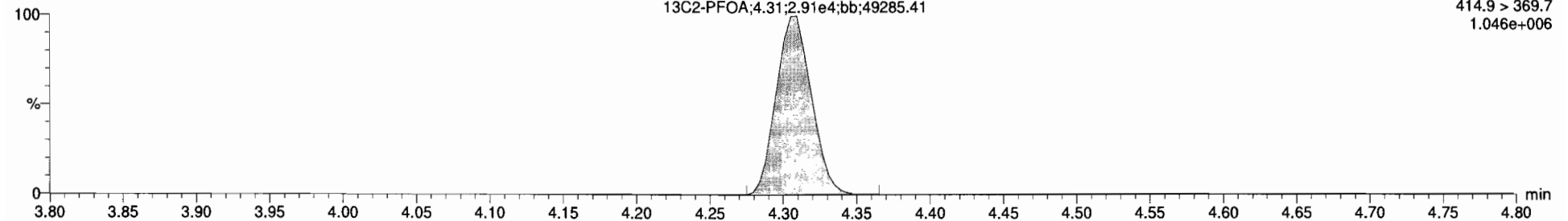
170305G1\_4



F5:MRM of 12 channels,ES-  
413 > 168.8  
3.255e+004

**13C2-PFOA**

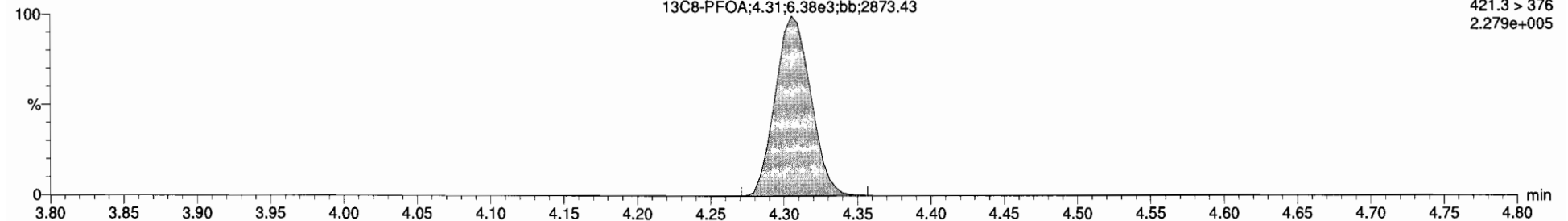
170305G1\_4



F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.046e+006

**13C8-PFOA**

170305G1\_4



F5:MRM of 12 channels,ES-  
421.3 > 376  
2.279e+005

Dataset: Untitled

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

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

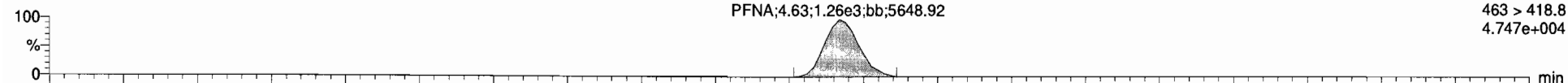
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**PFNA**

170305G1\_4

PFNA;4.63;1.26e3;bb;5648.92

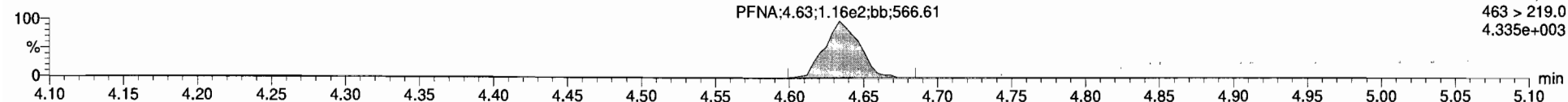
F5:MRM of 12 channels,ES-  
463 > 418.8  
4.747e+004



170305G1\_4

PFNA;4.63;1.16e2;bb;566.61

F5:MRM of 12 channels,ES-  
463 > 219.0  
4.335e+003

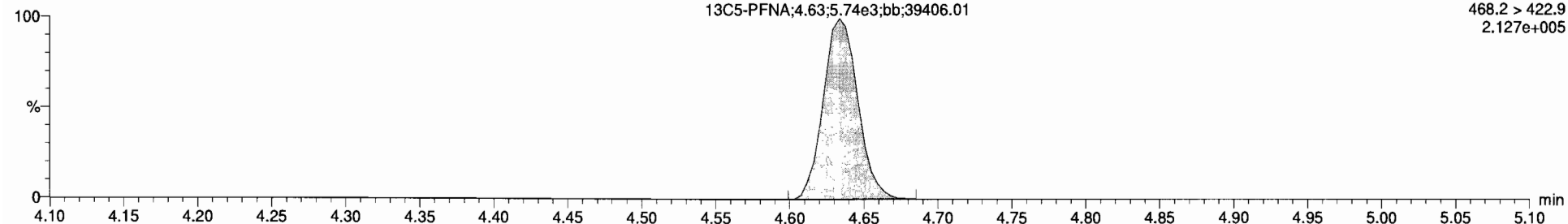


**13C5-PFNA**

170305G1\_4

13C5-PFNA;4.63;5.74e3;bb;39406.01

F5:MRM of 12 channels,ES-  
468.2 > 422.9  
2.127e+005

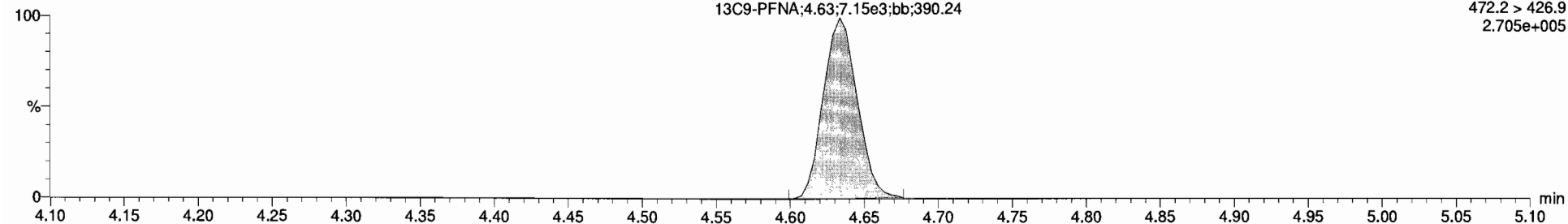


**13C9-PFNA**

170305G1\_4

13C9-PFNA;4.63;7.15e3;bb;390.24

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
2.705e+005



Dataset: Untitled

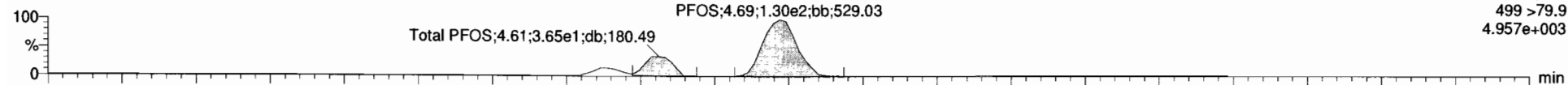
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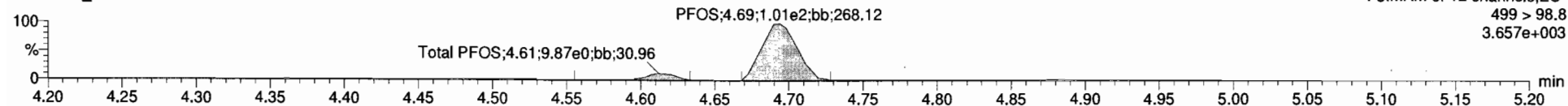
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**Total PFOS**

170305G1\_4

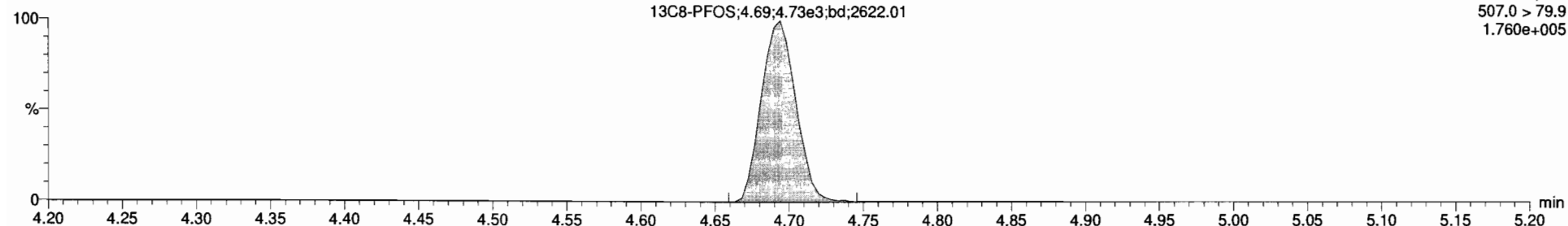


170305G1\_4



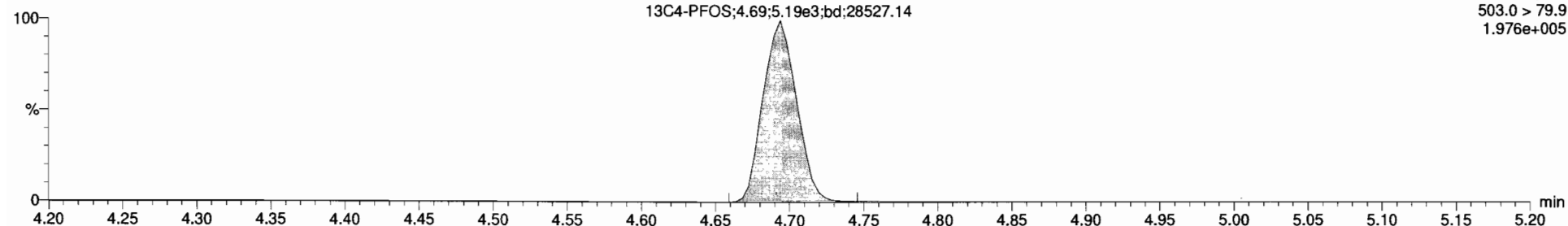
**13C8-PFOS**

170305G1\_4

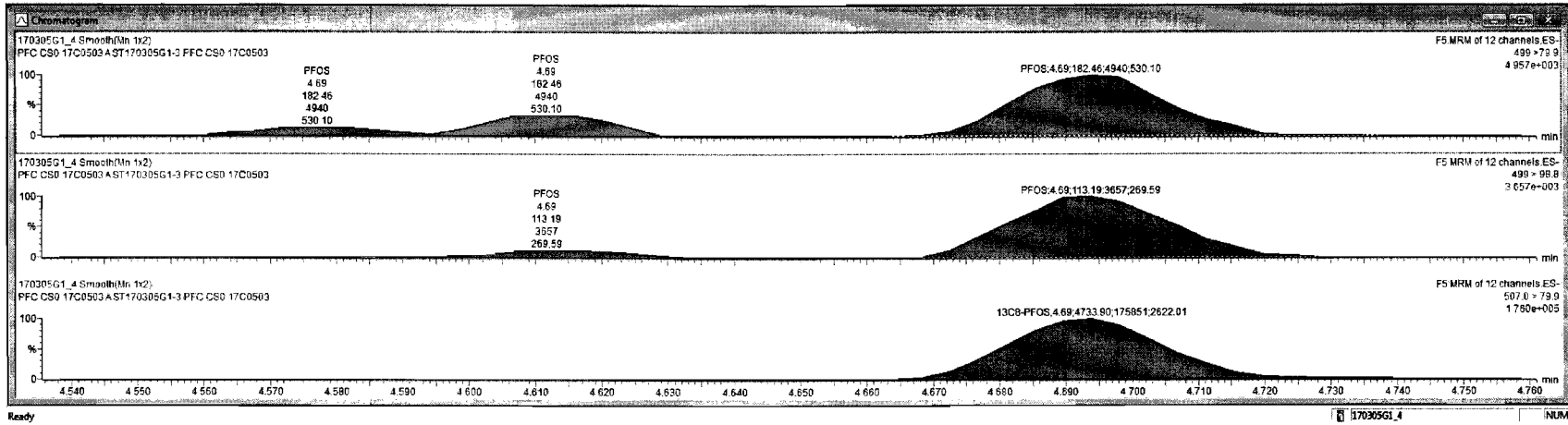


**13C4-PFOS**

170305G1\_4



Name	Trace	Area	RRF	WVVol	Pred.RT	RT	Conc	NID	%Rec	Dt	
1	PFBS	299 > 79.7	1.07e3	1.000	3.03	3.04	1.01	NO	181.1		
2	PFHpA	363 > 316.9	2.27e3	1.000	3.91	3.91	0.964	NO	96.4		
3	PFHxS	398.9 > 79.6	8.97e2	1.000	4.03	4.03	1.00	NO	100.1		
4	PFOA	413 > 368.7	2.19e3	1.000	4.31	4.30	0.908	NO	90.8		
5	PFNA	463 > 416.8	1.26e3	1.000	4.63	4.63	0.968	NO	96.8		
6	PFOS	499 > 79.9	1.82e2	1.000	4.70	4.69	0.989	NO	98.9	0.1002511	
7	13C3-PFBS	302.0 > 98.8	5.41e3	0.410	1.000	3.03	3.03	11.5	NO	91.9	0.0174615
8	13C4-PFHpA	367.2 > 321.8	1.52e4	1.10	1.000	3.90	3.91	12.1	NO	96.6	0.0018598
9	18O2-PFHxS	403 > 102.8	5.85e3	0.434	1.000	4.03	4.03	11.7	NO	93.8	0.0186308
10	13C2-PFOA	414.9 > 369.7	2.91e4	4.61	1.000	4.20	4.31	12.4	NO	99.0	0.0009311
11	13C5-PFNA	468.2 > 422.9	5.74e3	0.867	1.000	4.63	4.63	11.6	NO	92.6	0.0007193
12	13C8-PFOS	507.0 > 79.9	4.73e3	0.958	1.000	4.69	4.69	11.9	NO	95.3	0.0110670
13	13C5-PFHxS	318 > 272.9	2.60e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0023873
14	13C1-PFHxS	401.9 > 79.9	1.44e4	1.00	1.000	3.94	4.03	12.5	NO	100.0	0.0003080
15	13C8-PFOA	421.3 > 376	6.38e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0108755
16	13C8-PFNA	472.2 > 426.9	7.15e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0808798
17	13C4-PFOS	503.0 > 79.9	5.19e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0010954
18	Total PFBS	299 > 79.7	1.08e3		1.000	3.11		1.01	NO		
19	Total PFHxS	398.9 > 79.6	1.05e3		1.000	4.09		1.08	NO		
20	Total PFOA	413 > 368.7	2.19e3		1.000	4.39		6.908	NO		
21	Total PFOS	499 > 79.9	2.19e2		1.000	4.67		1.26	NO		0.1002511



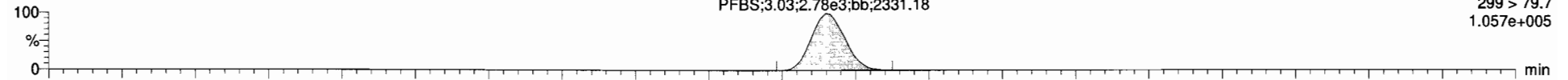
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-4 PFC CS1 17C0504, Description: PFC CS1 17C0504 A, Name: 170305G1\_5, Date: 05-Mar-2017, Time: 13:24:21, Instrument: , Lab: , User:

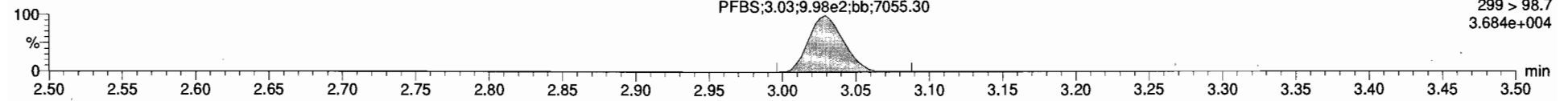
**PFBS**

170305G1\_5



F2:MRM of 3 channels,ES-  
299 > 79.7  
1.057e+005

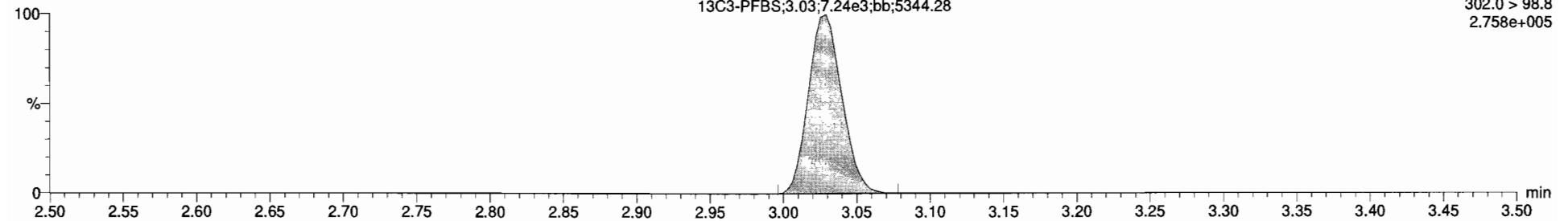
170305G1\_5



F2:MRM of 3 channels,ES-  
299 > 98.7  
3.684e+004

**13C3-PFBS**

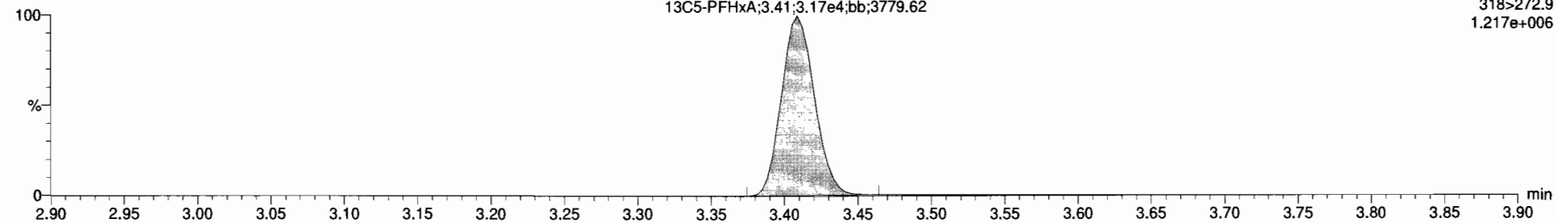
170305G1\_5



F2:MRM of 3 channels,ES-  
302.0 > 98.8  
2.758e+005

**13C5-PFHxA**

170305G1\_5



F3:MRM of 1 channel,ES-  
318>272.9  
1.217e+006

Dataset: Untitled

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

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

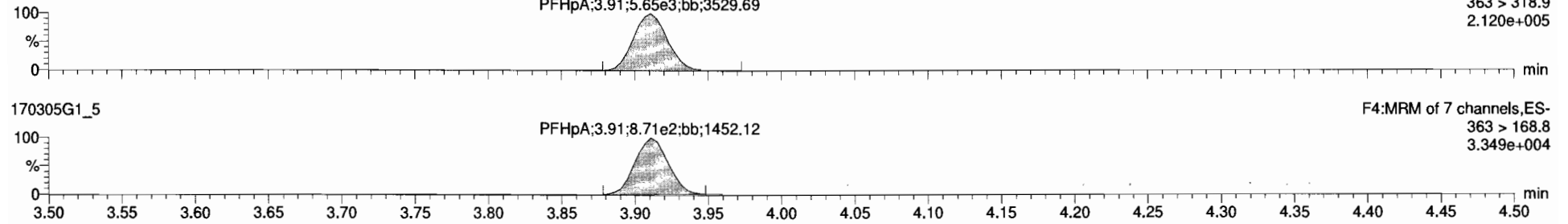
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**PFHpA**

170305G1\_5

PFHpA;3.91;5.65e3;bb;3529.69

F4:MRM of 7 channels,ES-  
363 > 318.9  
2.120e+005

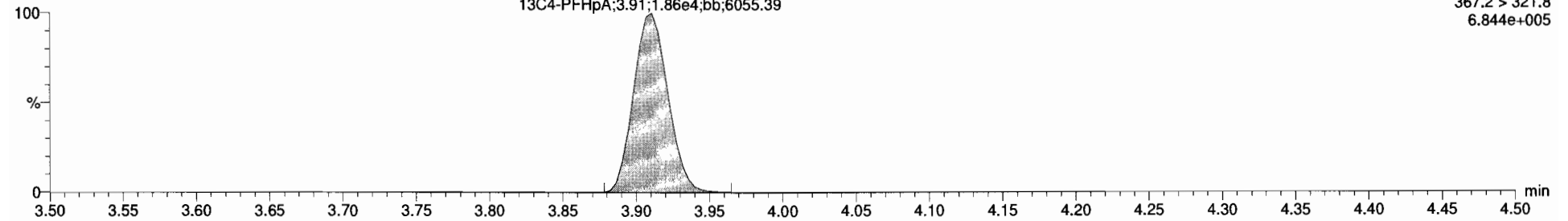


**13C4-PFHpA**

170305G1\_5

13C4-PFHpA;3.91;1.86e4;bb;6055.39

F4:MRM of 7 channels,ES-  
367.2 > 321.8  
6.844e+005

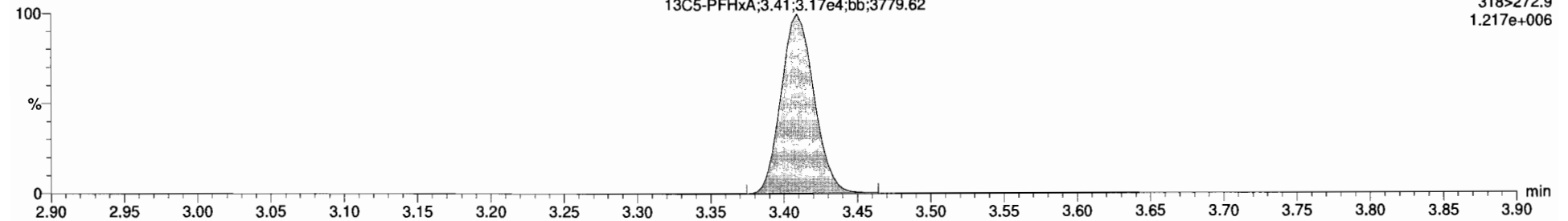


**13C5-PFHxA**

170305G1\_5

13C5-PFHxA;3.41;3.17e4;bb;3779.62

F3:MRM of 1 channel,ES-  
318>272.9  
1.217e+006



Dataset: Untitled

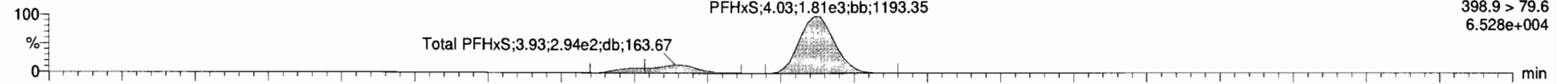
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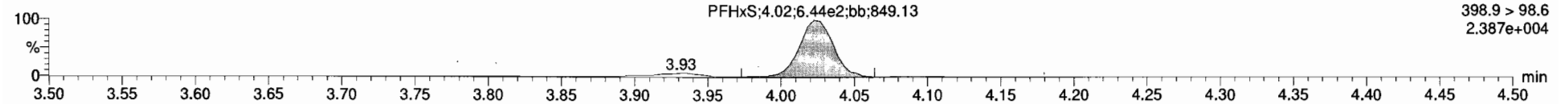
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**Total PFHxS**

170305G1\_5

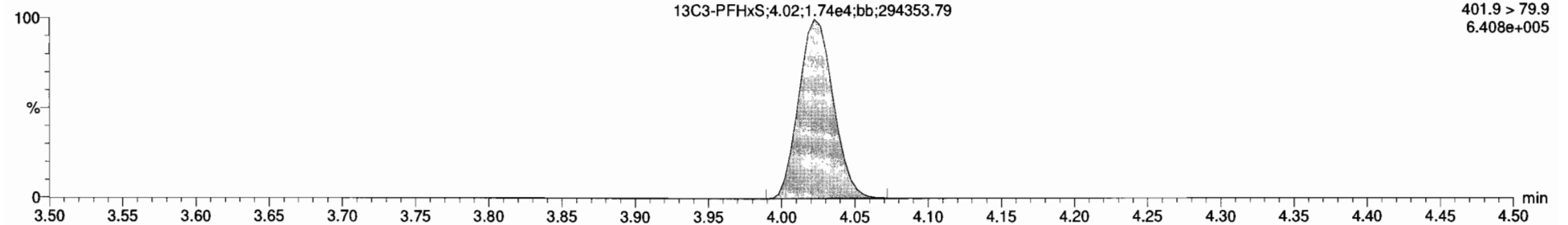


170305G1\_5



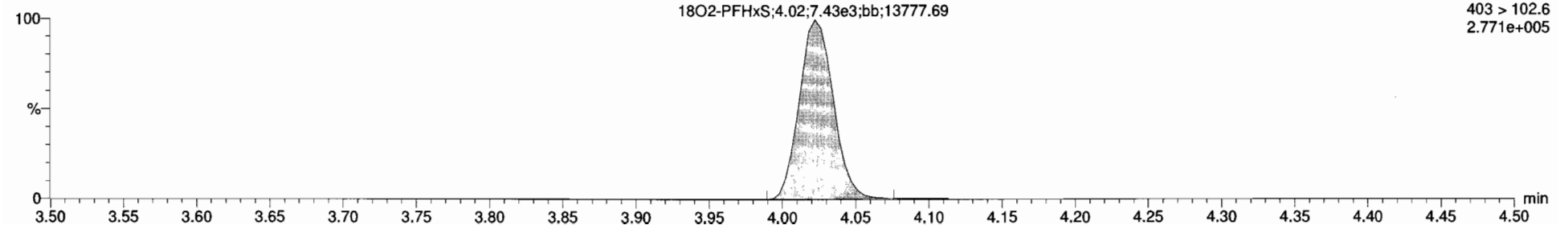
**13C3-PFHxS**

170305G1\_5



**18O2-PFHxS**

170305G1\_5

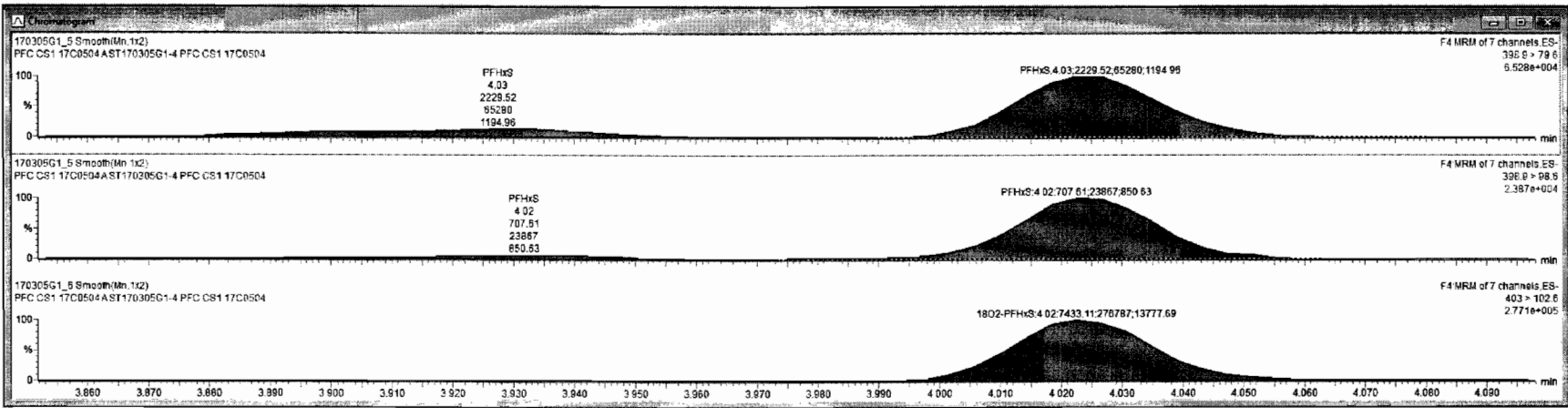






170305G1\_5 ST:170305G1 4 PFC CS1 17C0504 PFC CS1 17C0504A

Name	Trace	Area	RRF	Wt%	Pres RT	RT	Conc	>MOL	%Rec	DL	
1	PFBS	299 > 79.7	2.7843	1.000	3.93	3.93	1.99	NO	99.3		
2	PFHpA	383 > 318.9	5.6543	1.000	3.91	3.91	2.05	NO	102.2		
3	PFHxS	388.9 > 79.6	2.2343	1.000	4.82	4.82	2.81	NO	100.5		
4	PFOA	413 > 368.7	5.3943	1.000	4.30	4.30	2.06	NO	103.1		
5	PFNA	483 > 418.8	3.1743	1.000	4.63	4.63	2.84	NO	102.0		
6	PFOS	499 > 79.9	5.2842	1.000	4.69	4.69	2.46	YES	123.0	0.1190520	
7	13C3-PFBS	302.0 > 98.6	7.2443	0.410	1.000	3.93	3.93	12.7	NO	101.2	0.0961404
8	13C4-PFHpA	367.2 > 321.8	1.8644	1.10	1.000	3.90	3.91	12.1	NO	96.9	0.0059196
9	18O2-PFHxS	403 > 102.6	7.4343	0.434	1.000	4.02	4.02	12.3	NO	96.2	0.0022555
10	13C2-PFOA	414.9 > 369.7	3.7044	4.61	1.000	4.30	4.30	12.2	NO	97.6	0.0185493
11	13C5-PFNA	468.2 > 422.9	6.9743	0.867	1.000	4.63	4.63	12.3	NO	96.8	0.0011307
12	13C8-PFOS	507.0 > 79.9	5.1843	0.958	1.000	4.69	4.69	12.4	NO	99.1	0.0187137
13	13C5-PFHxS	318-272.9	3.1744	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0082680
14	13C3-PFHxS	401.8 > 79.9	1.7444	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0001062
15	13C8-PFOA	421.3 > 376	8.2343	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0221408
16	13C9-PFNA	472.2 > 426.9	8.1643	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0009300
17	13C4-PFOS	503.0 > 79.9	5.4543	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0016094
18	Total PFBS	299 > 79.7	2.7843		1.000	3.11		1.99	NO		
19	Total PFHxS	388.9 > 79.6	2.6343		1.000	4.09		2.27	NO		
20	Total PFOA	413 > 368.7	5.4643		1.000	4.39		2.06	NO		
21	Total PFOS	499 > 79.9	6.8842		1.000	4.67		3.37	NO		0.1190520



Ready

170305G1\_5

INUM

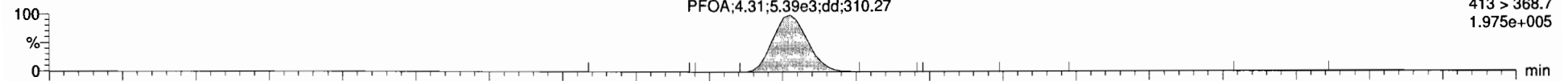
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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time  
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ID: ST170305G1-4 PFC CS1 17C0504, Description: PFC CS1 17C0504 A, Name: 170305G1\_5, Date: 05-Mar-2017, Time: 13:24:21, Instrument: , Lab: , User:

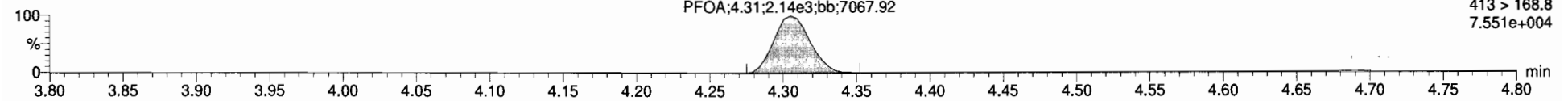
**Total PFOA**

170305G1\_5



F5:MRM of 12 channels,ES-  
413 > 368.7  
1.975e+005

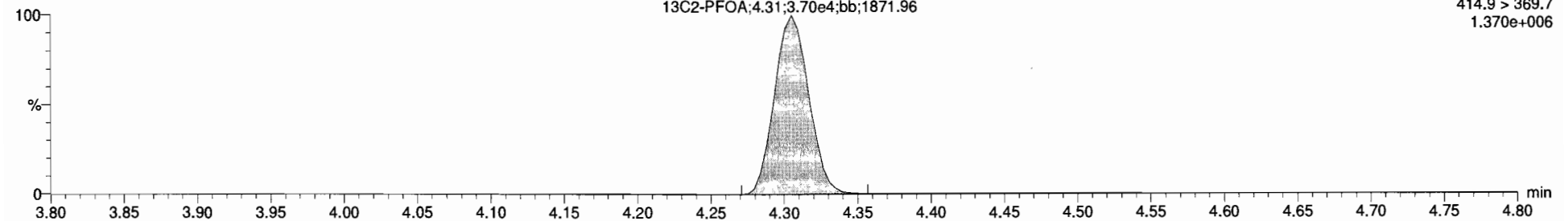
170305G1\_5



F5:MRM of 12 channels,ES-  
413 > 168.8  
7.551e+004

**13C2-PFOA**

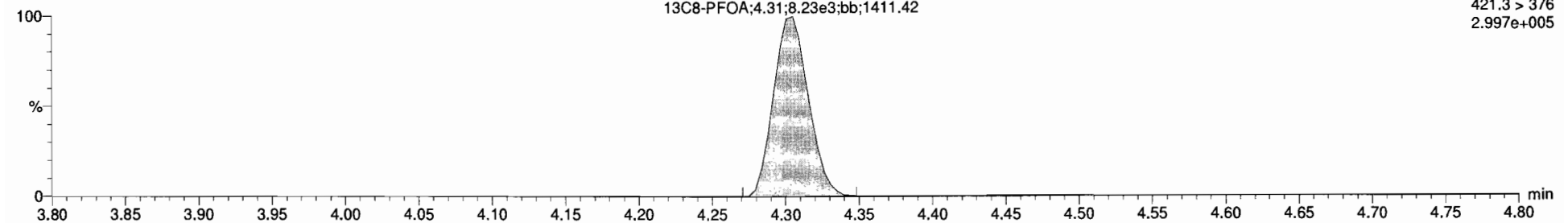
170305G1\_5



F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.370e+006

**13C8-PFOA**

170305G1\_5



F5:MRM of 12 channels,ES-  
421.3 > 376  
2.997e+005

Dataset: Untitled

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

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

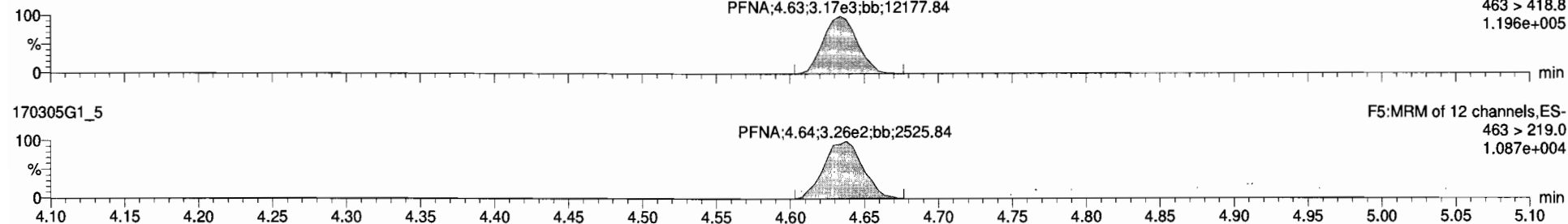
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**PFNA**

170305G1\_5

PFNA;4.63;3.17e3;bb;12177.84

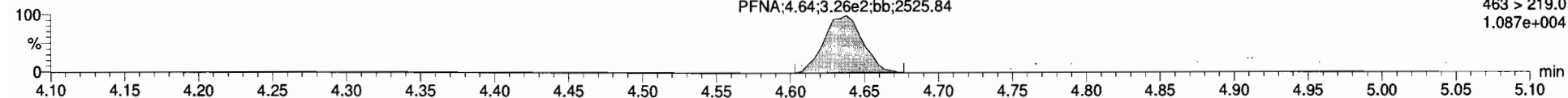
F5:MRM of 12 channels,ES-  
463 > 418.8  
1.196e+005



170305G1\_5

PFNA;4.64;3.26e2;bb;2525.84

F5:MRM of 12 channels,ES-  
463 > 219.0  
1.087e+004

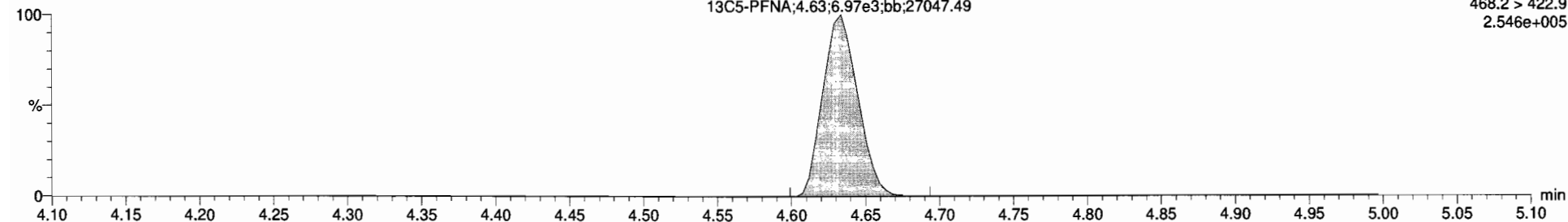


**13C5-PFNA**

170305G1\_5

13C5-PFNA;4.63;6.97e3;bb;27047.49

F5:MRM of 12 channels,ES-  
468.2 > 422.9  
2.546e+005

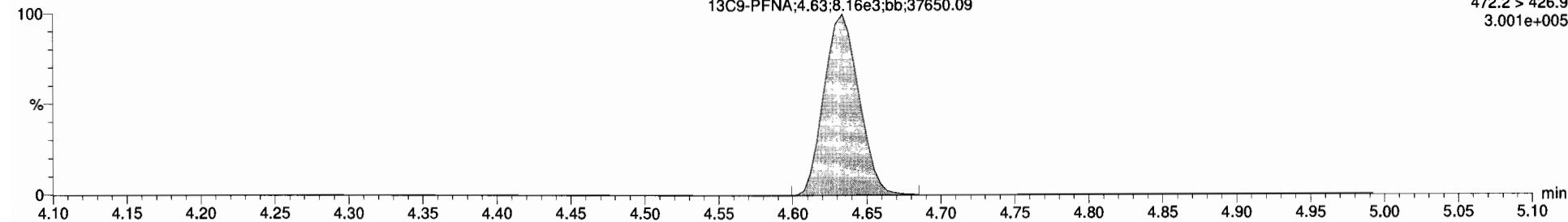


**13C9-PFNA**

170305G1\_5

13C9-PFNA;4.63;8.16e3;bb;37650.09

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
3.001e+005



Dataset: Untitled

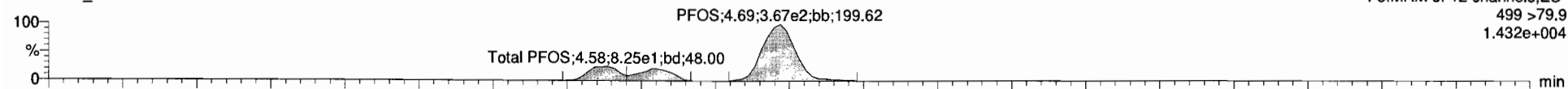
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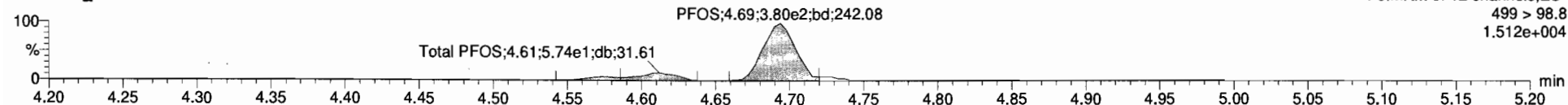
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**Total PFOS**

170305G1\_5

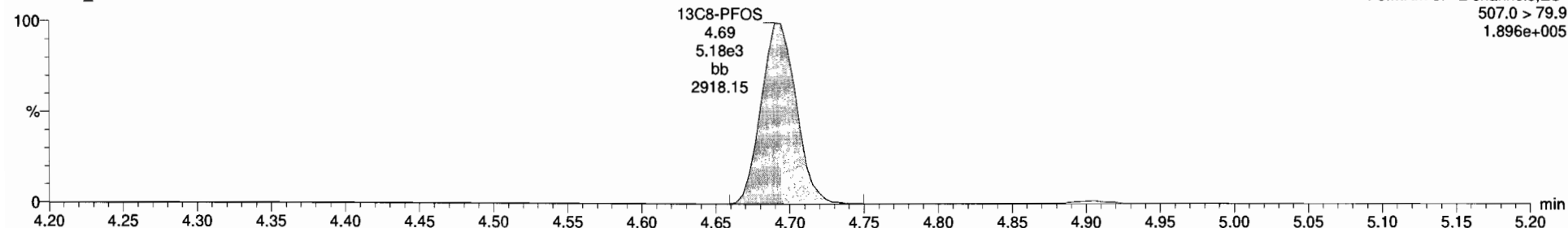


170305G1\_5



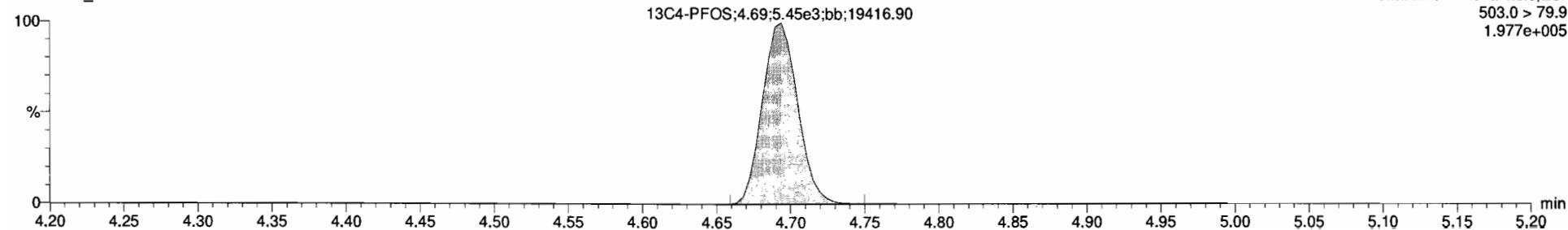
**13C8-PFOS**

170305G1\_5

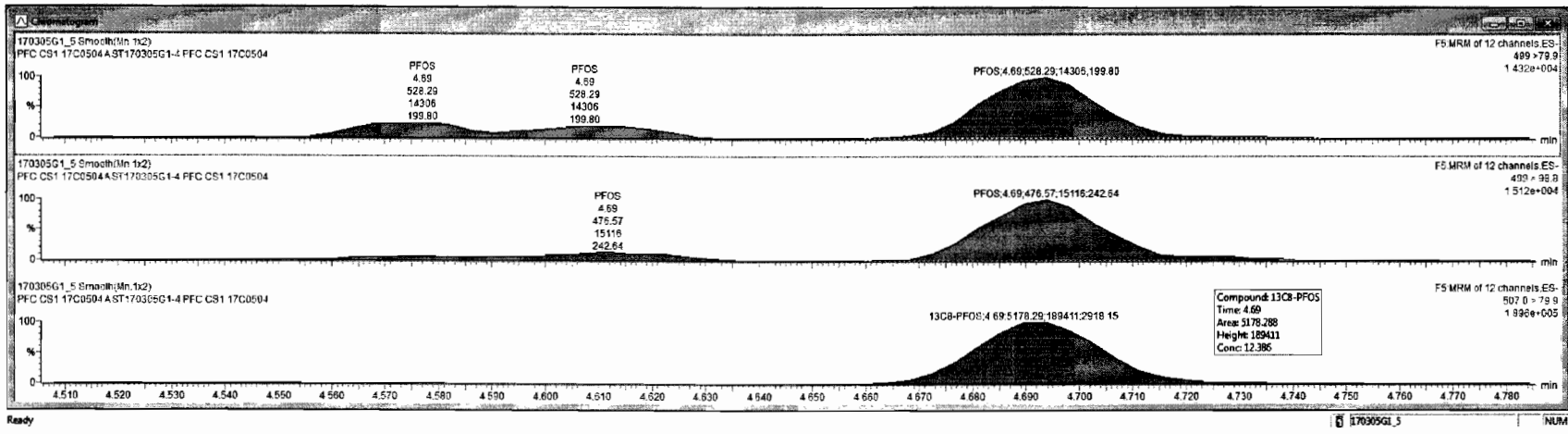


**13C4-PFOS**

170305G1\_5



Name	TrAc	Area	RRF	WtVol	Prod.RT	RT	Conc	>MDL	%Rec	DL
1 PFBS	299 > 79.7	2.78e3		1.000	3.03	3.03	1.99	NO	99.3	
2 PFHpA	383 > 318.9	5.85e3		1.000	3.91	3.91	2.05	NO	162.3	
3 PFHxS	398.9 > 79.6	2.23e3		1.000	4.02	4.02	2.01	NO	190.5	
4 PFOA	413 > 368.7	5.38e3		1.000	4.38	4.38	2.56	NO	193.1	
5 PFNA	463 > 418.8	3.17e3		1.000	4.63	4.63	2.04	NO	102.0	
6 PFOS	499 > 379.9	3.28e3		1.000	4.69	4.69	2.46	YES	122.0	0.1190520
7 13C3-PFBS	502.0 > 98.8	7.24e3	0.410	1.000	3.03	3.03	12.7	NO	101.2	0.0061404
8 13C4-PFHpA	367.2 > 321.8	1.86e4	1.10	1.000	3.90	3.91	12.1	NO	96.9	0.0050186
9 18O2-PFHxS	403 > 102.6	7.43e3	0.434	1.000	4.02	4.02	13.3	NO	98.2	0.0022595
10 13C2-PFOA	414.9 > 369.7	3.70e4	4.61	1.000	4.38	4.38	12.2	NO	97.6	0.0165493
11 13C5-PFNA	466.2 > 422.9	6.97e3	0.667	1.000	4.63	4.63	12.3	NO	98.6	0.0011387
12 13C6-PFOS	507.0 > 79.9	5.18e3	0.958	1.000	4.69	4.69	12.4	NO	99.1	0.0107137
13 13C5-PFHxA	310 > 272.9	3.17e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0062680
14 13C3-PFHxS	401.9 > 79.9	1.74e4	1.00	1.000	3.54	4.02	12.5	NO	100.0	0.0001082
15 13C8-PFOA	421.3 > 378	8.23e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0221406
16 13C8-PFNA	472.2 > 426.9	8.18e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0005300
17 13C4-PFOS	503.0 > 79.9	5.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0016094
18 Total PFBS	299 > 79.7	2.78e3		1.000	3.11		1.99	NO		
19 Total PFHxS	398.9 > 79.6	2.63e3		1.000	4.09		2.27	NO		
20 Total PFOA	413 > 368.7	5.48e3		1.000	4.39		2.06	NO		
21 Total PFOS	499 > 79.9	6.88e3		1.000	4.67		3.37	NO		0.1190520



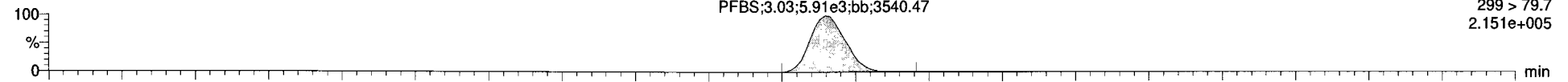
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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time  
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

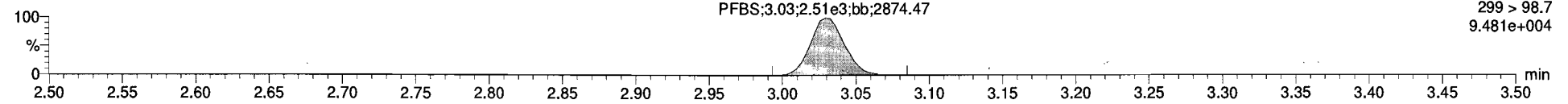
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**PFBS**

170305G1\_6

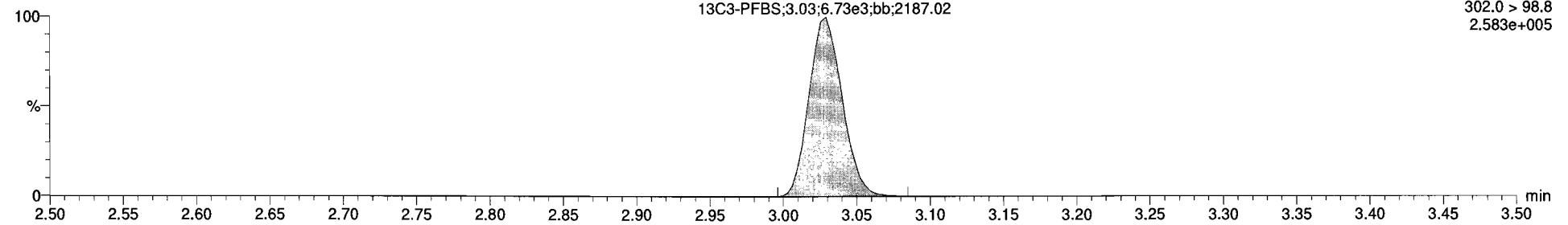


170305G1\_6



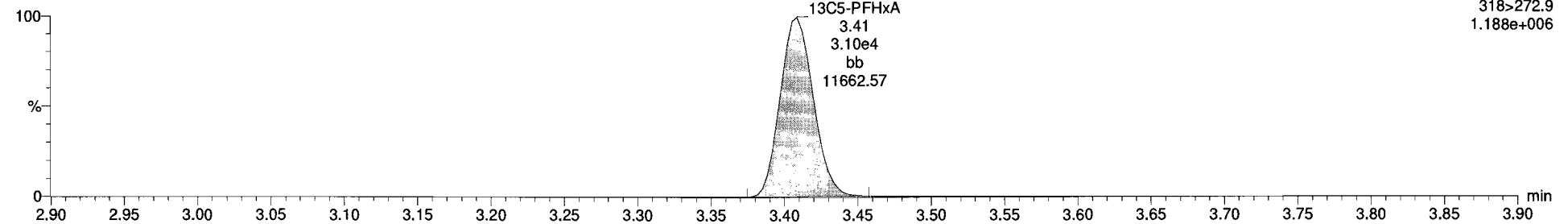
**13C3-PFBS**

170305G1\_6



**13C5-PFHxA**

170305G1\_6



Dataset: Untitled

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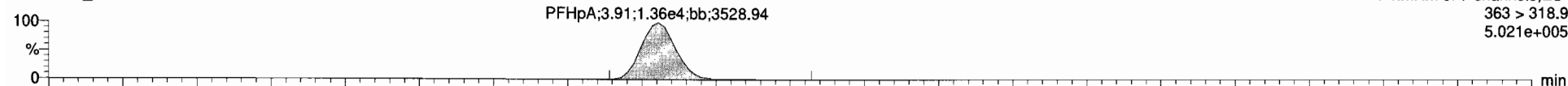
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-5 PFC CS2 17C0505, Description: PFC CS2 17C0505 A, Name: 170305G1\_6, Date: 05-Mar-2017, Time: 13:36:55, Instrument: , Lab: , User:

**PFHpA**

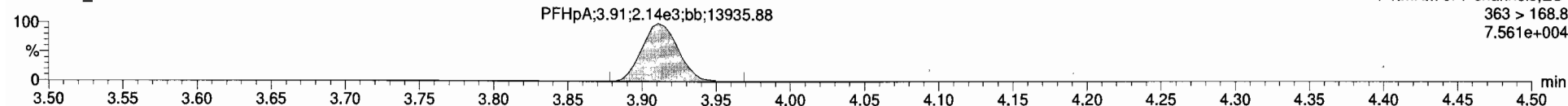
170305G1\_6

F4:MRM of 7 channels,ES-  
363 > 318.9  
5.021e+005



170305G1\_6

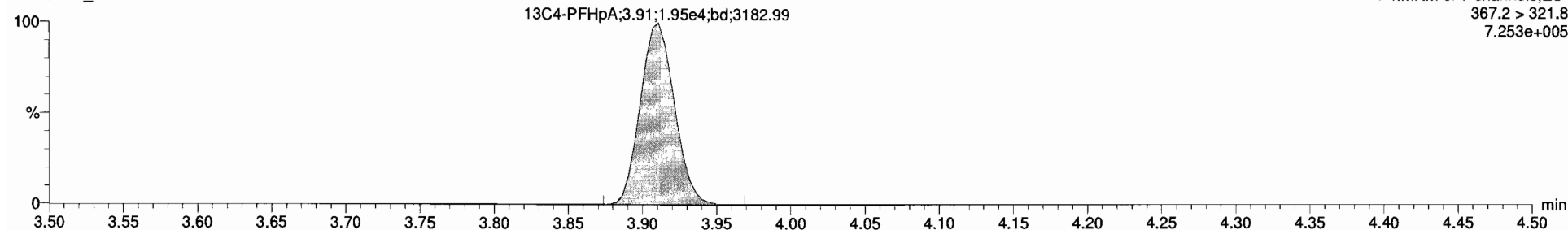
F4:MRM of 7 channels,ES-  
363 > 168.8  
7.561e+004



**13C4-PFHxA**

170305G1\_6

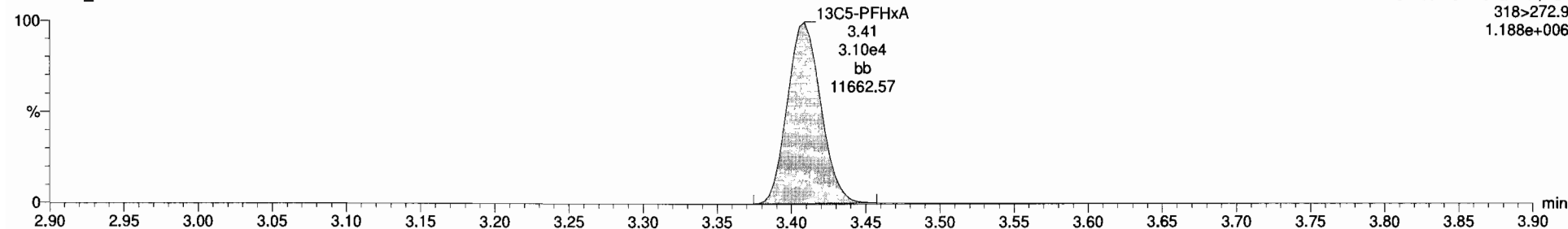
F4:MRM of 7 channels,ES-  
367.2 > 321.8  
7.253e+005



**13C5-PFHxA**

170305G1\_6

F3:MRM of 1 channel,ES-  
318>272.9  
1.188e+006



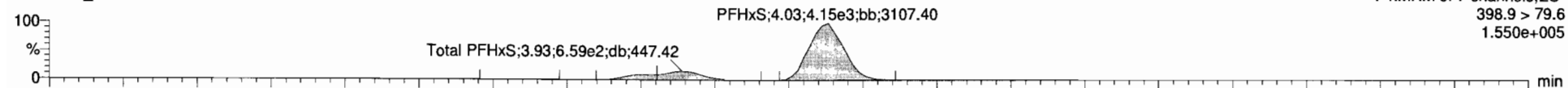
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

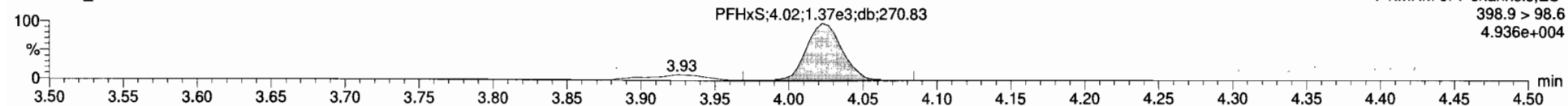
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**Total PFHxS**

170305G1\_6

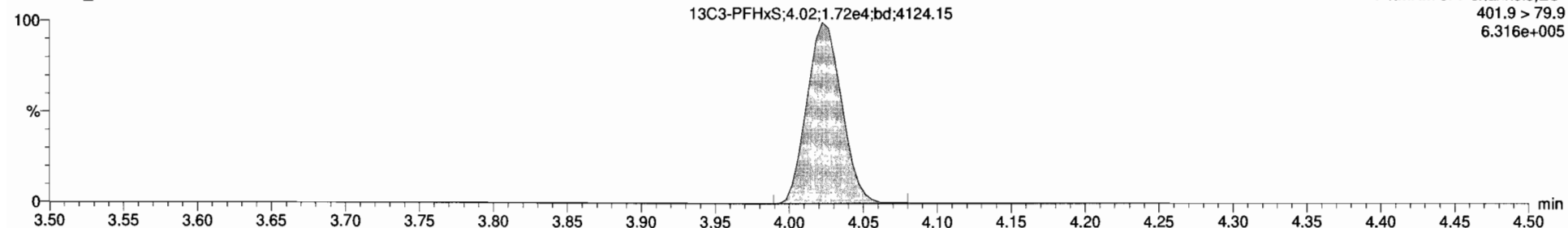


170305G1\_6



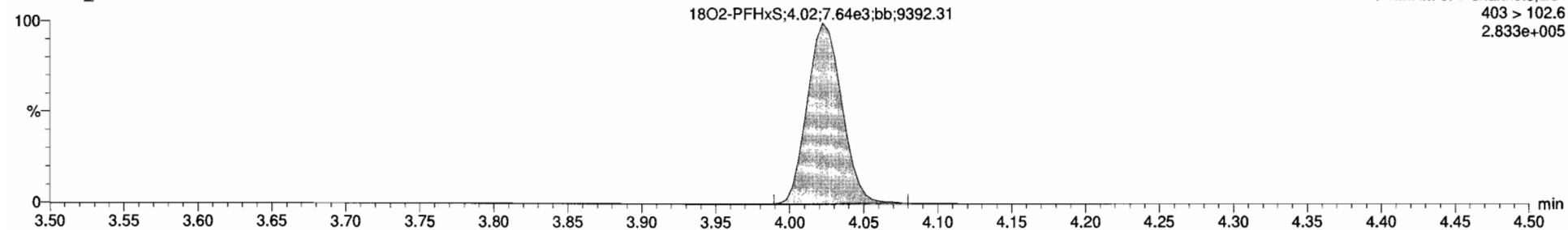
**13C3-PFHxS**

170305G1\_6

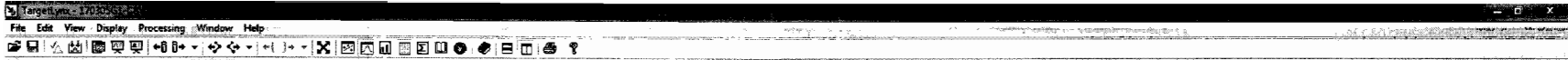


**18O2-PFHxS**

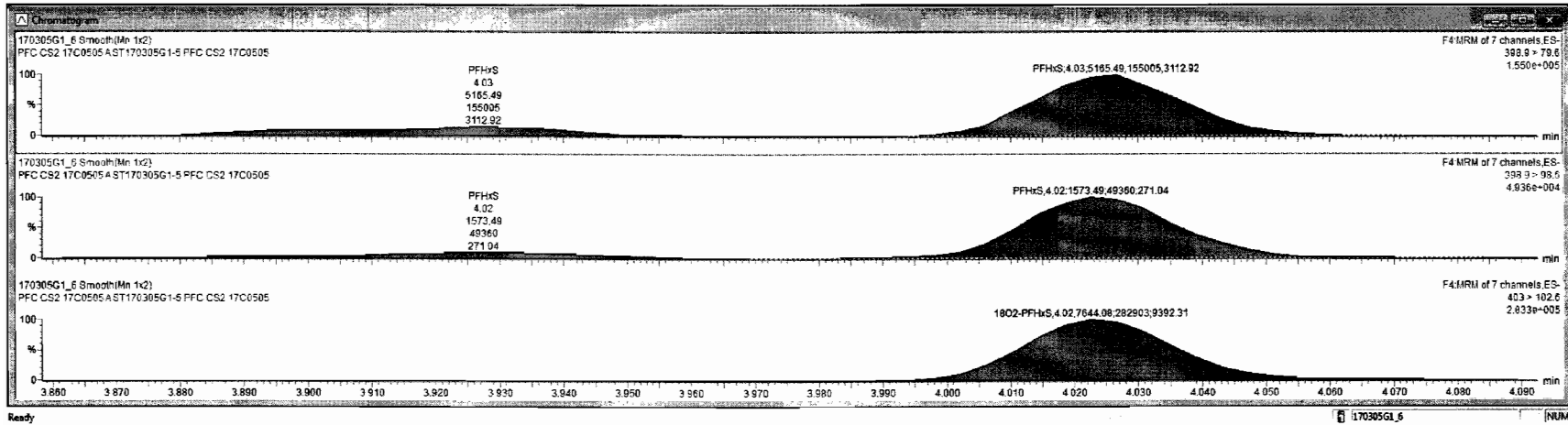
170305G1\_6







#	Name	Trace	Area	RRF	WtV%	Pred RT	RT	Conc	>NDL	%Rec	DL
1	PFBS	299 > 79.7	5.91e3		1.000	3.03	3.03	4.58	NO	91.6	
2	PFHpA	363 > 318.9	1.36e4		1.000	3.91	3.91	4.78	NO	95.6	
3	PFHxS	398.8 > 79.8	5.17e3		1.000	4.02	4.03	4.80	YES	92.0	
4	PFOA	413 > 368.7	1.24e4		1.000	4.30	4.30	5.43	YES	108.5	
5	PFNA	463 > 418.8	7.77e3		1.000	4.63	4.63	4.71	YES	94.2	
6	PFDS	499 > 79.9	1.22e3		1.000	4.70	4.69	5.14	YES	102.8	0.0999192
7	13C3-PFBS	302.0 > 98.8	6.73e3	0.410	1.000	3.03	3.03	11.9	NO	95.3	0.0142443
8	13C4-PFHpA	367.2 > 321.9	1.95e4	1.10	1.000	3.90	3.91	12.9	NO	103.0	0.0102764
9	18O2-PFHxS	403 > 102.6	7.64e3	0.424	1.000	4.02	4.02	12.8	NO	102.2	0.0034349
10	13C2-PFOA	414.9 > 369.7	3.46e4	4.61	1.000	4.30	4.30	11.9	NO	95.4	0.0046755
11	13C5-PFNA	468.2 > 422.9	7.48e3	0.867	1.000	4.63	4.63	12.5	NO	100.0	0.0007409
12	13C8-PFDS	507.0 > 79.9	5.64e3	0.958	1.000	4.69	4.69	11.7	NO	93.2	0.0435914
13	13C5-PFHxS	318 > 272.9	3.10e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0026795
14	13C3-PFHxS	401.9 > 79.9	1.72e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0075773
15	13C5-PFOA	421.3 > 376	7.89e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0007868
16	13C5-PFNA	472.2 > 426.9	8.62e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0006215
17	13C4-PFDS	505.0 > 79.9	8.31e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0165574
18	Total PFBS	299 > 79.7	5.91e3		1.000	3.11		4.58	NO		
19	Total PFHxS	398.8 > 79.8	6.15e3		1.000	4.09		5.37	NO		
20	Total PFOA	413 > 368.7	1.25e4		1.000	4.39		5.43	NO		
21	Total PFDS	499 > 79.9	1.67e3		1.000	4.67		7.17	NO		0.0999192



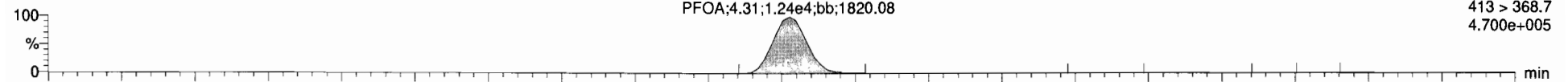
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Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time  
Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

ID: ST170305G1-5 PFC CS2 17C0505, Description: PFC CS2 17C0505 A, Name: 170305G1\_6, Date: 05-Mar-2017, Time: 13:36:55, Instrument: , Lab: , User:

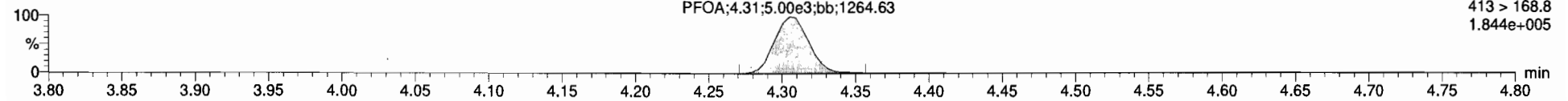
**Total PFOA**

170305G1\_6



F5:MRM of 12 channels,ES-  
413 > 368.7  
4.700e+005

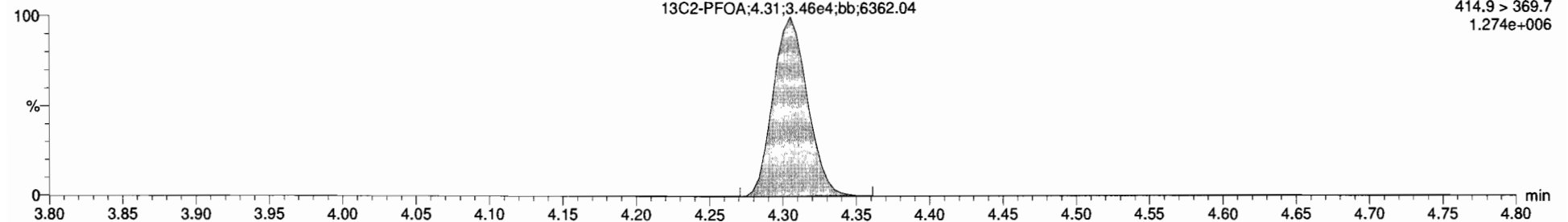
170305G1\_6



F5:MRM of 12 channels,ES-  
413 > 168.8  
1.844e+005

**13C2-PFOA**

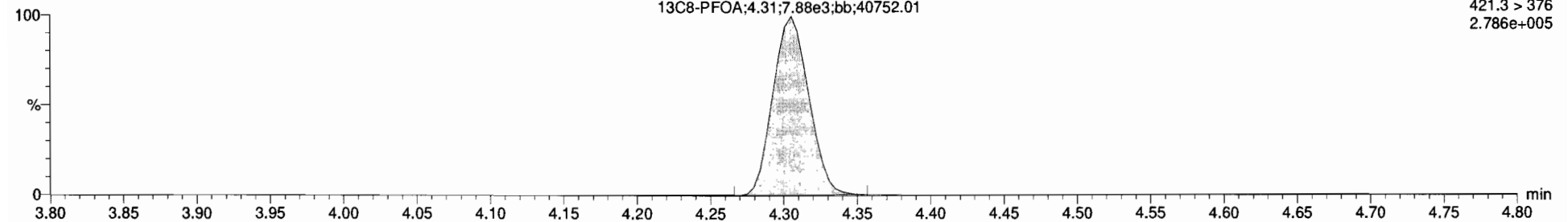
170305G1\_6



F5:MRM of 12 channels,ES-  
414.9 > 369.7  
1.274e+006

**13C8-PFOA**

170305G1\_6



F5:MRM of 12 channels,ES-  
421.3 > 376  
2.786e+005

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

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

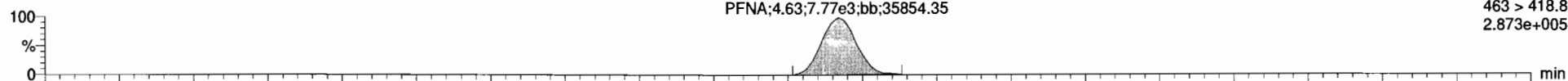
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**PFNA**

170305G1\_6

PFNA;4.63;7.77e3;bb;35854.35

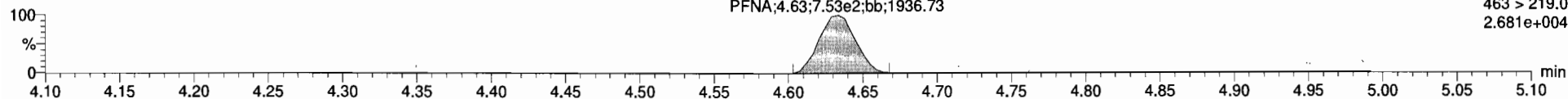
F5:MRM of 12 channels,ES-  
463 > 418.8  
2.873e+005



170305G1\_6

PFNA;4.63;7.53e2;bb;1936.73

F5:MRM of 12 channels,ES-  
463 > 219.0  
2.681e+004

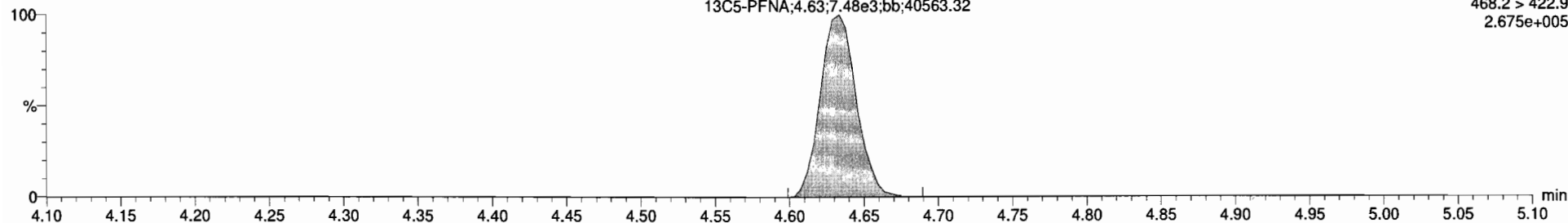


**13C5-PFNA**

170305G1\_6

13C5-PFNA;4.63;7.48e3;bb;40563.32

F5:MRM of 12 channels,ES-  
468.2 > 422.9  
2.675e+005

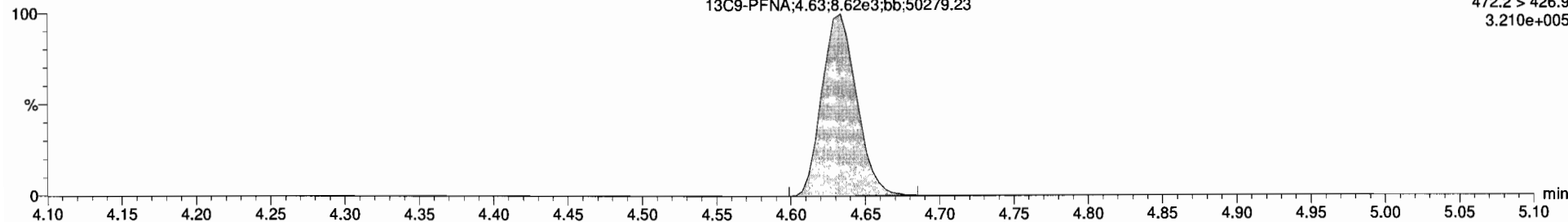


**13C9-PFNA**

170305G1\_6

13C9-PFNA;4.63;8.62e3;bb;50279.23

F5:MRM of 12 channels,ES-  
472.2 > 426.9  
3.210e+005



Dataset: Untitled

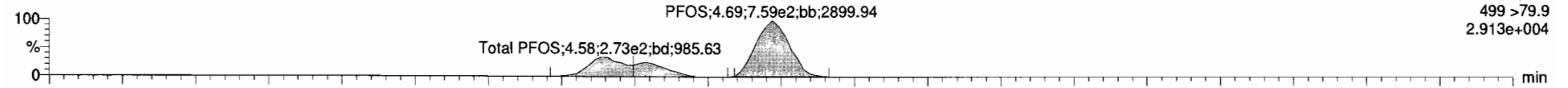
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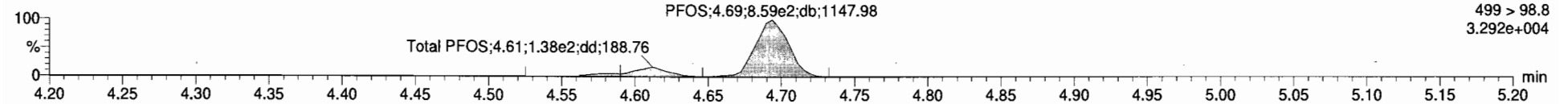
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**Total PFOS**

170305G1\_6

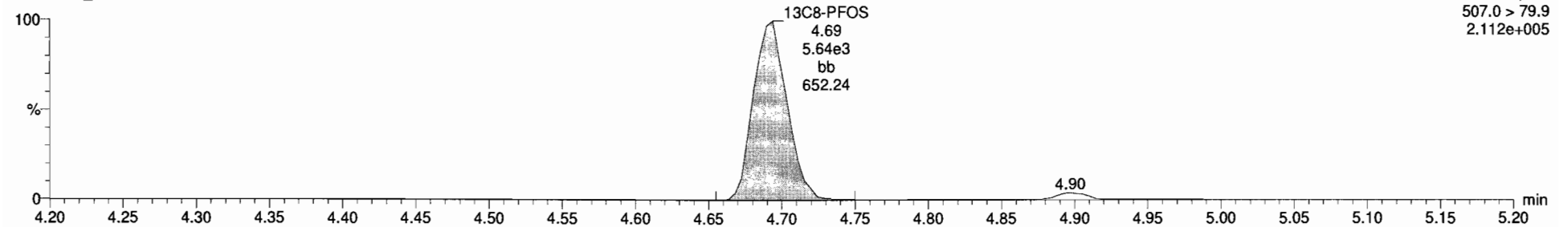


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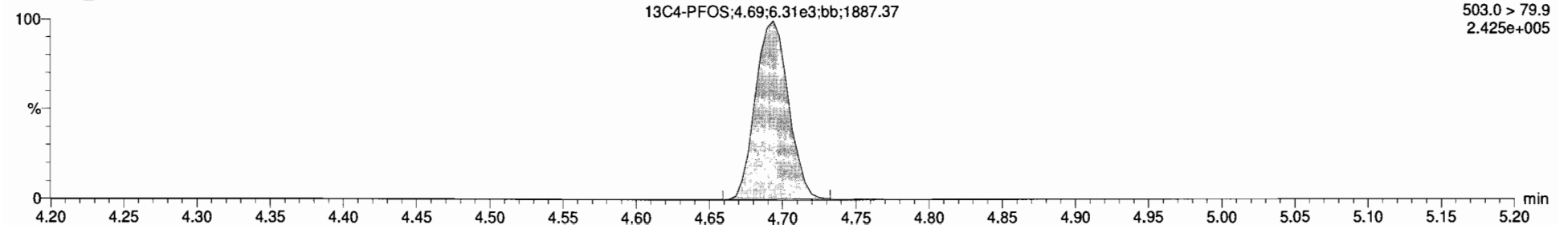
**13C8-PFOS**

170305G1\_6



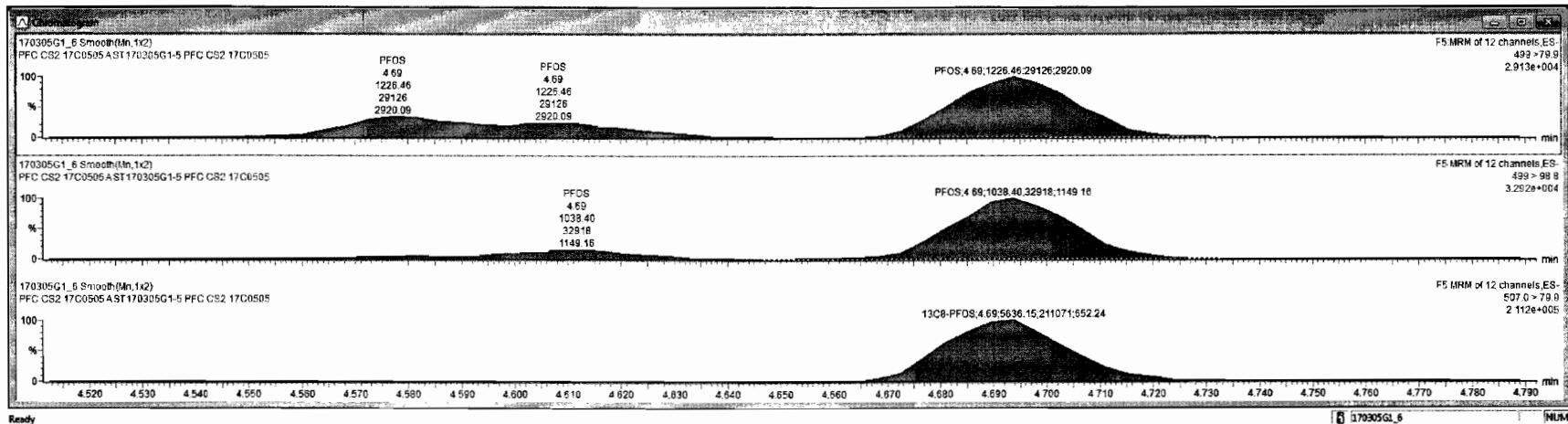
**13C4-PFOS**

170305G1\_6



170305G1\_6 ST170305G1-5 PFC CS2 17C0505 PFC CS2 17C0505A

Name	Trace	Area	RRF	WAVL	Pred RT	RT	Cone	SMDL	%Rel	DL	
1	PFBS	299 > 79.7	5.91e3	1.000	3.83	3.03	4.58	NO	91.6		
2	PFHpA	363 > 318.9	1.36e4	1.000	3.91	3.91	4.78	NO	95.6		
3	PFHxS	398.9 > 79.8	5.17e3	1.000	4.62	4.03	4.60	YES	92.0		
4	PFOA	413 > 368.7	1.24e4	1.000	4.30	4.30	5.43	YES	108.5		
5	PFNA	463 > 418.8	7.77e3	1.000	4.63	4.63	4.71	YES	94.2		
6	PFOS	499 > 79.9	1.23e3	1.000	4.79	4.69	5.14	YES	102.8	0.0999192	
7	13C3-PFBS	302.0 > 98.8	6.73e3	0.410	1.000	3.83	3.03	11.9	NO	95.3	0.0142443
8	13C4-PFHpA	367.2 > 321.8	1.95e4	1.10	1.000	3.90	3.91	12.9	NO	103.0	0.0102764
9	16O2-PFHxS	403 > 102.6	7.64e3	0.434	1.000	4.62	4.02	12.8	NO	102.2	0.0034349
10	13C2-PFOA	414.9 > 369.7	3.46e4	4.61	1.000	4.30	4.30	11.9	NO	95.4	0.0048755
11	13C5-PFNA	468.2 > 422.9	7.48e3	0.867	1.000	4.63	4.63	12.5	NO	100.0	0.0007409
12	13C8-PFOS	507.0 > 79.9	5.64e3	0.958	1.000	4.69	4.69	11.7	NO	93.2	0.0435914
13	13C5-PFHxS	318 > 272.9	3.10e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0026795
14	13C3-PFHxS	401.9 > 79.9	1.72e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0075773
15	13C8-PFOA	421.3 > 376	7.88e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0007688
16	13C9-PFNA	472.2 > 426.9	8.62e3	1.00	1.000	4.58	4.63	12.5	NO	100.0	0.0008215
17	13C4-PFOS	503.0 > 79.9	6.31e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0165574
18	Total PFBS	299 > 79.7	5.91e3	1.000	3.11		4.58	NO			
19	Total PFHxS	398.9 > 79.8	6.15e3	1.000	4.69		5.37	NO			
20	Total PFOA	413 > 368.7	1.25e4	1.000	4.39		5.43	NO			
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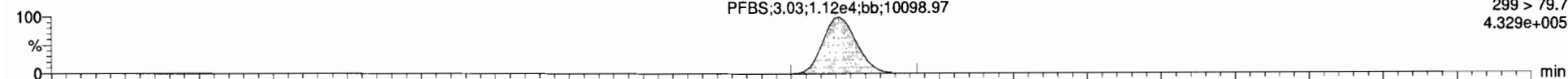
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

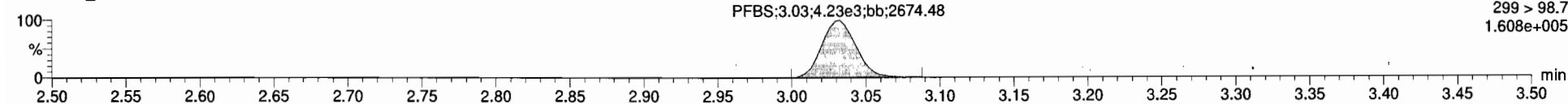
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**PFBS**

170305G1\_7

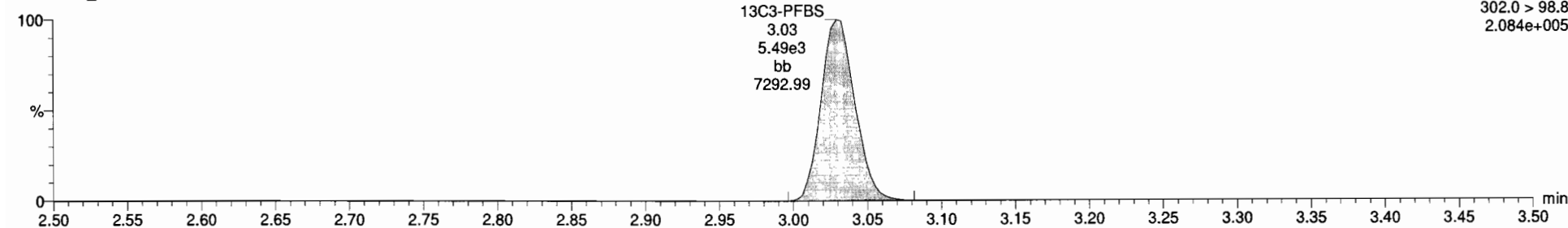


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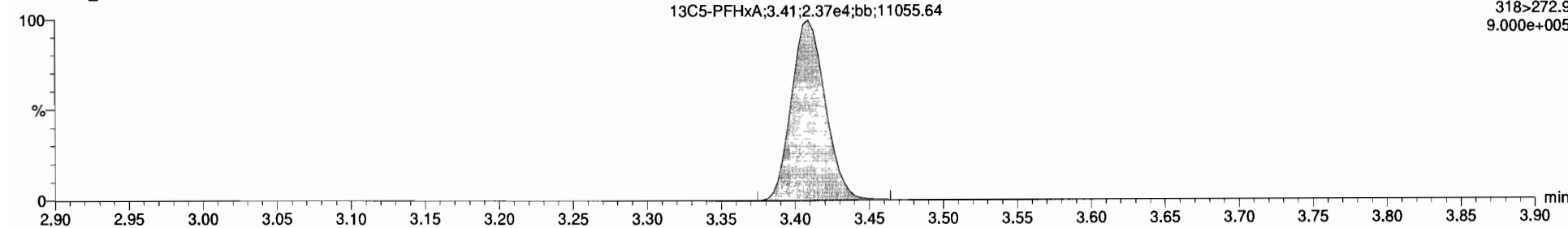
**13C3-PFBS**

170305G1\_7



**13C5-PFHxA**

170305G1\_7



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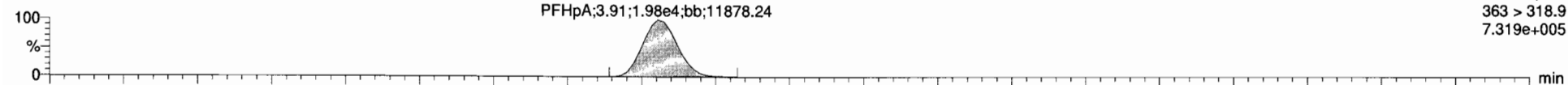
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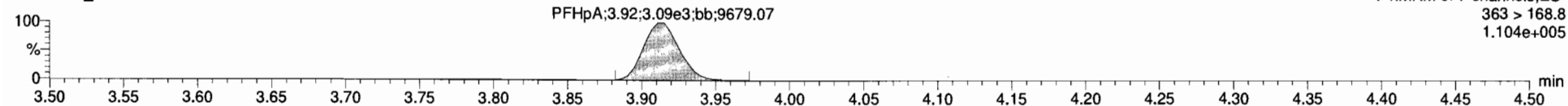
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**PFHpA**

170305G1\_7

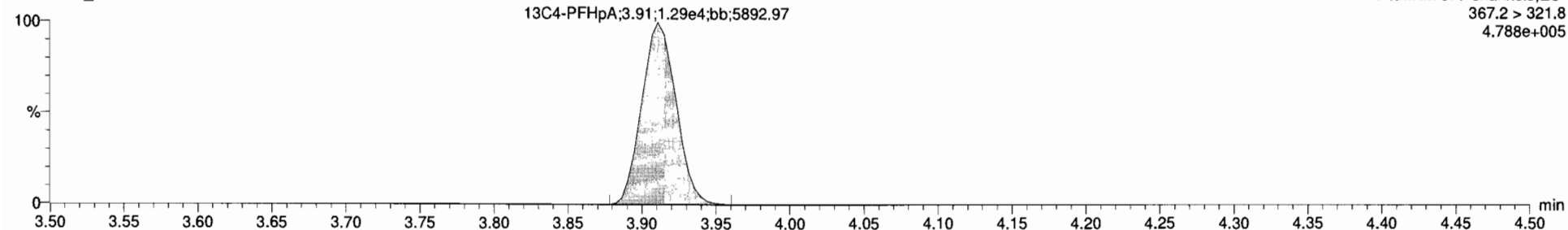


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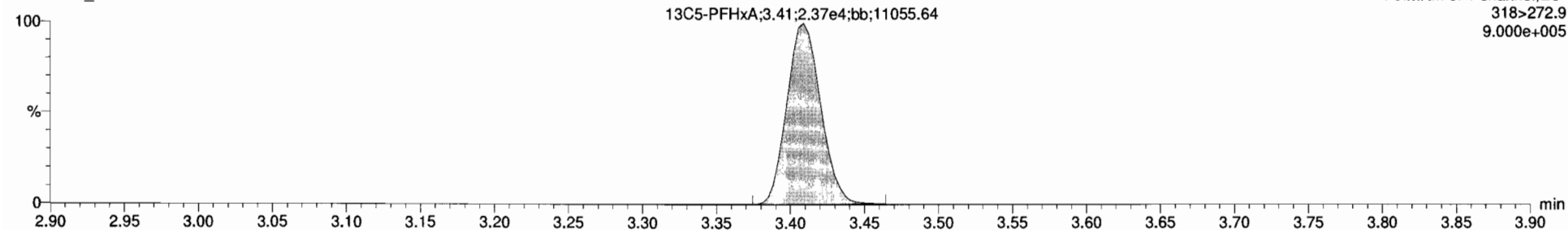
**13C4-PFHpA**

170305G1\_7



**13C5-PFHxA**

170305G1\_7



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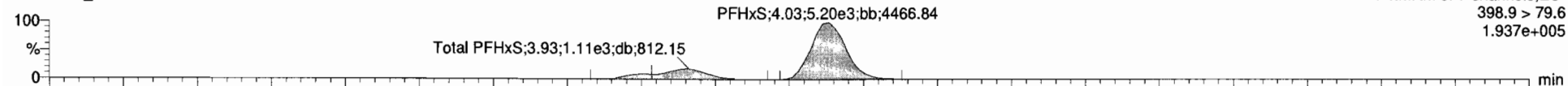
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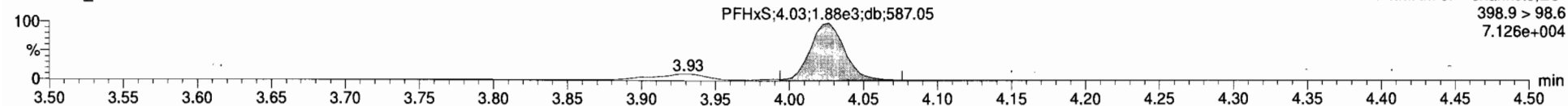
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**Total PFHxS**

170305G1\_7

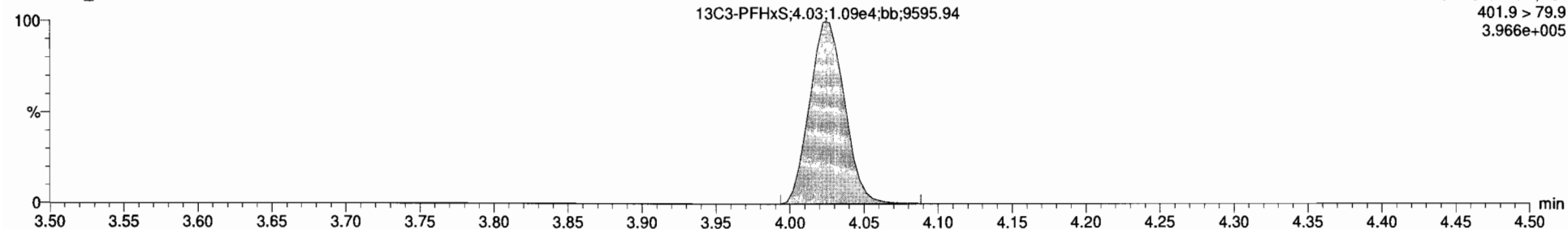


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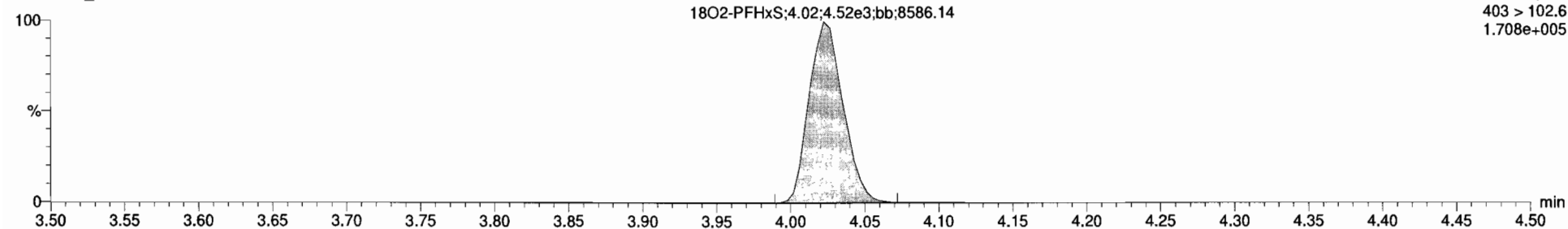
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170305G1\_7

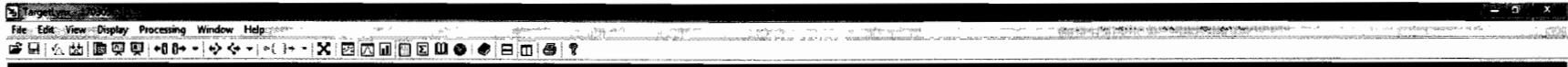


**18O2-PFHxS**

170305G1\_7

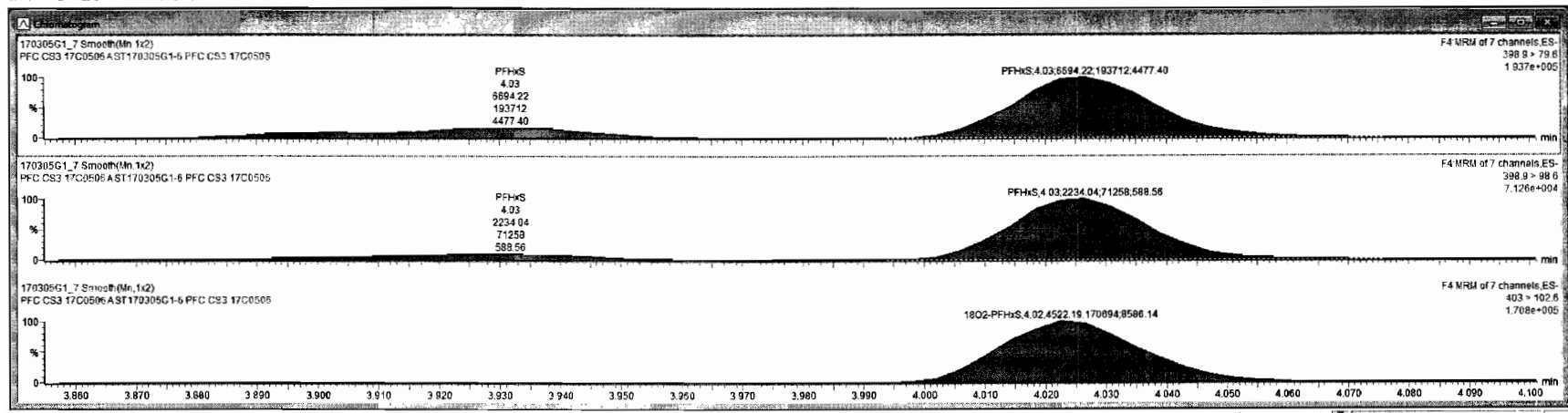






170305G1\_7 ST170305G1-6 PFC CS3 17C0506 PFC CS3 17C0506 A

Name	Trace	Area	RPV	Wt%	Pred RT	RT	Case	>MUL	%Rec	DL
1	PFBS	299 > 79.7	1.12e4		1.000	3.03	3.03	10.7	YES	107.2
2	PFHpA	363 > 316.9	1.96e4		1.000	3.91	3.91	10.6	YES	106.4
3	PFHxS	388 > 79.6	6.69e3		1.000	4.02	4.03	10.1	YES	101.5
4	PFOA	413 > 368.7	1.56e4		1.000	4.30	4.30	11.0	YES	109.8
5	PFNA	463 > 418.8	7.05e3		1.000	4.63	4.63	11.1	YES	111.4
6	PFOS	499 > 79.9	6.60e2		1.000	4.70	4.69	10.7	YES	107.1
7	13C3-PFBS	302.0 > 98.8	5.48e3	0.410	1.000	3.03	3.03	15.4	NO	123.0
8	13C3-PFHpA	367.2 > 321.8	1.29e4	1.10	1.000	3.90	3.91	13.4	NO	107.6
9	18O2-PFHxS	403 > 102.6	4.52e3	0.434	1.000	4.03	4.02	12.0	NO	95.6
10	13C3-PFOA	414.9 > 369.7	2.16e4	4.61	1.000	4.30	4.30	13.9	NO	111.6
11	13C3-PFNA	468.2 > 422.9	2.89e3	0.967	1.000	4.63	4.63	11.7	NO	94.0
12	13C3-PFOS	507.0 > 79.9	1.69e3	0.958	1.000	4.69	4.69	14.1	NO	112.8
13	13C3-PFHxA	318 > 272.9	2.37e4	1.00	1.000	3.29	3.41	12.5	NO	100.0
14	13C3-PFHxS	401.9 > 79.3	1.09e4	1.00	1.000	3.94	4.03	12.5	NO	100.0
15	13C3-PFOA	421.3 > 376	4.25e3	1.00	1.000	4.22	4.30	12.5	NO	100.0
16	13C3-PFNA	472.2 > 426.9	3.54e3	1.00	1.000	4.56	4.63	12.5	NO	100.0
17	13C3-PFOS	503.0 > 79.9	1.74e3	1.00	1.000	4.67	4.69	12.5	NO	100.0
18	Total PFBS	299 > 79.7	1.12e4		1.000	3.11		10.7	NO	
19	Total PFHxS	388 > 79.6	8.14e3		1.000	4.09		12.2	NO	
20	Total PFOA	413 > 368.7	1.57e4		1.000	4.39		11.0	NO	
21	Total PFOS	499 > 79.9	1.01e3		1.000	4.67		12.8	NO	0.1341527



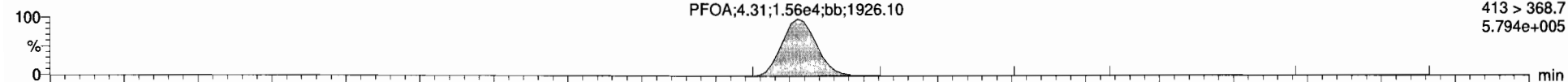
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

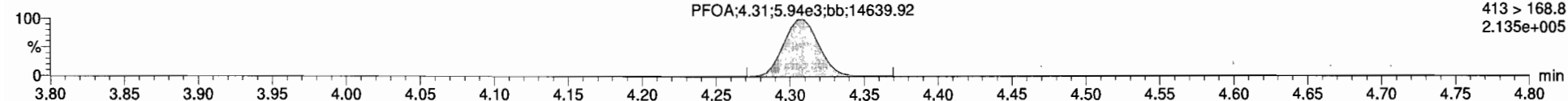
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**Total PFOA**

170305G1\_7

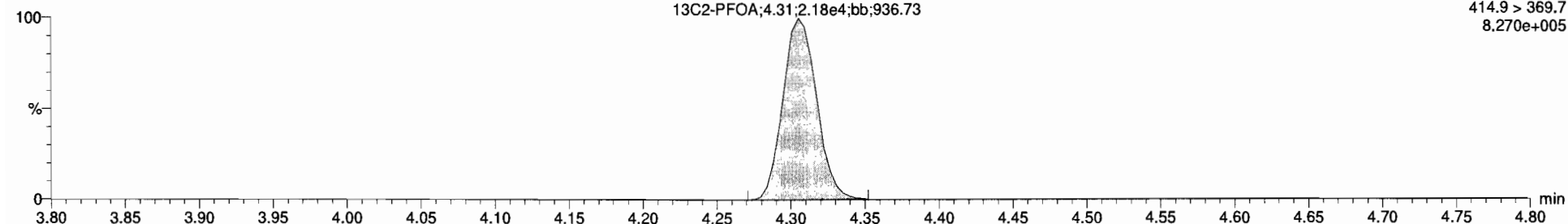


170305G1\_7



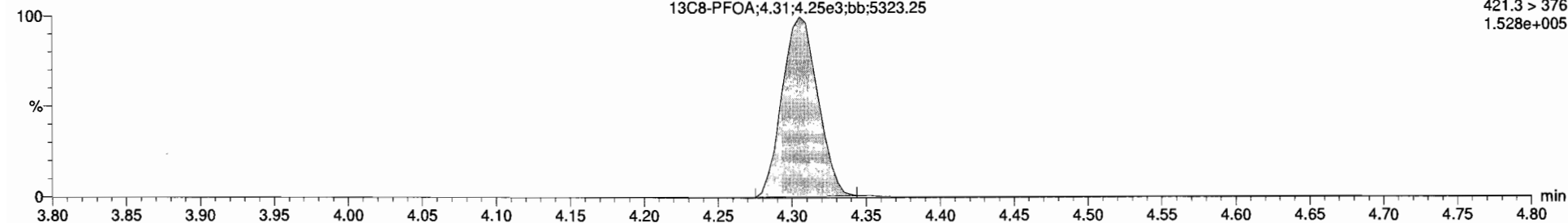
**13C2-PFOA**

170305G1\_7



**13C8-PFOA**

170305G1\_7



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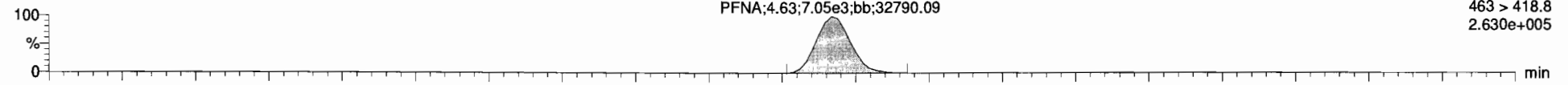
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Printed: Monday, March 06, 2017 08:37:19 Pacific Standard Time

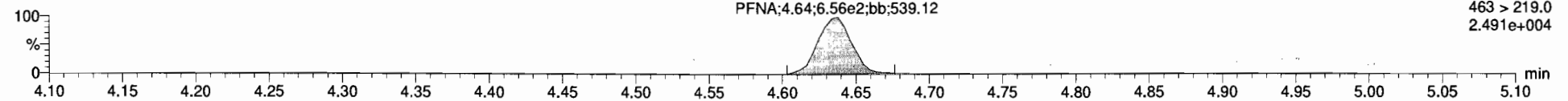
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**PFNA**

170305G1\_7

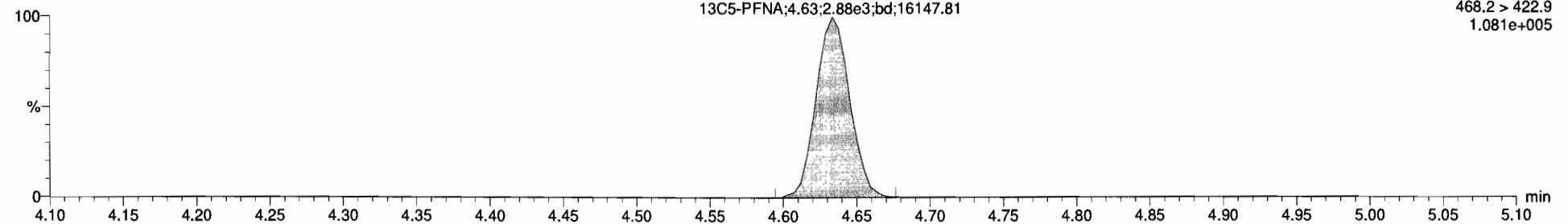


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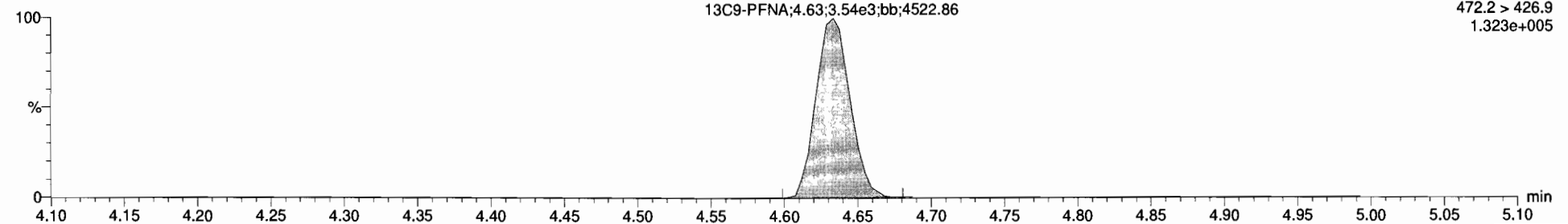
**13C5-PFNA**

170305G1\_7



**13C9-PFNA**

170305G1\_7



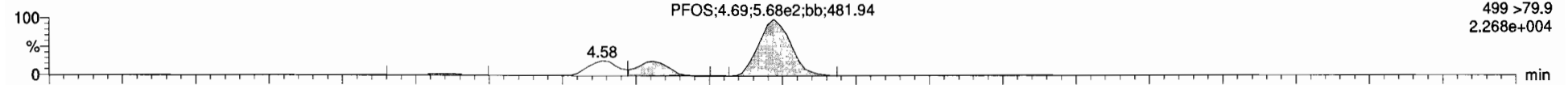
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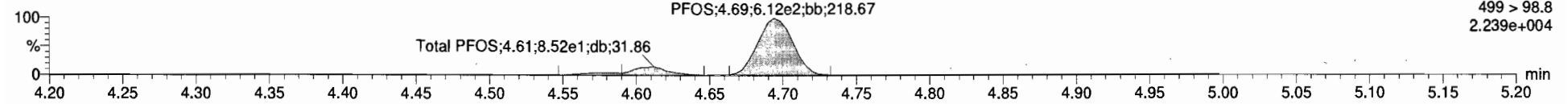
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**Total PFOS**

170305G1\_7

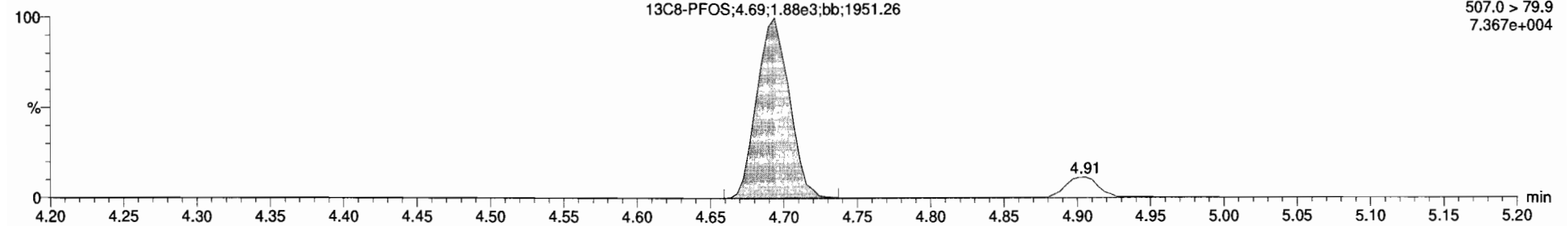


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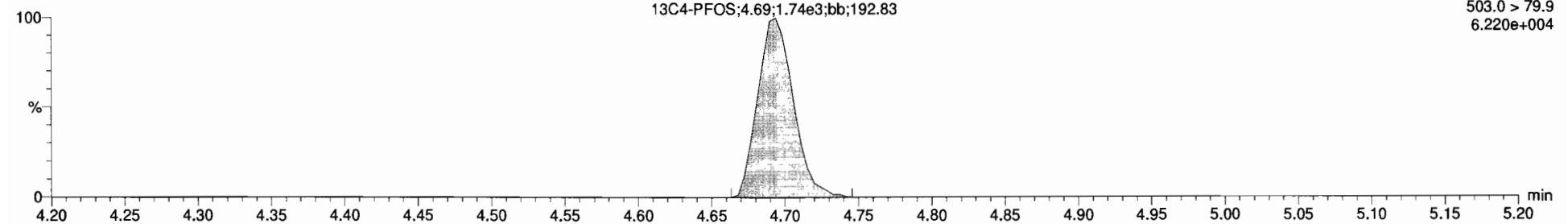
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170305G1\_7



**13C4-PFOS**

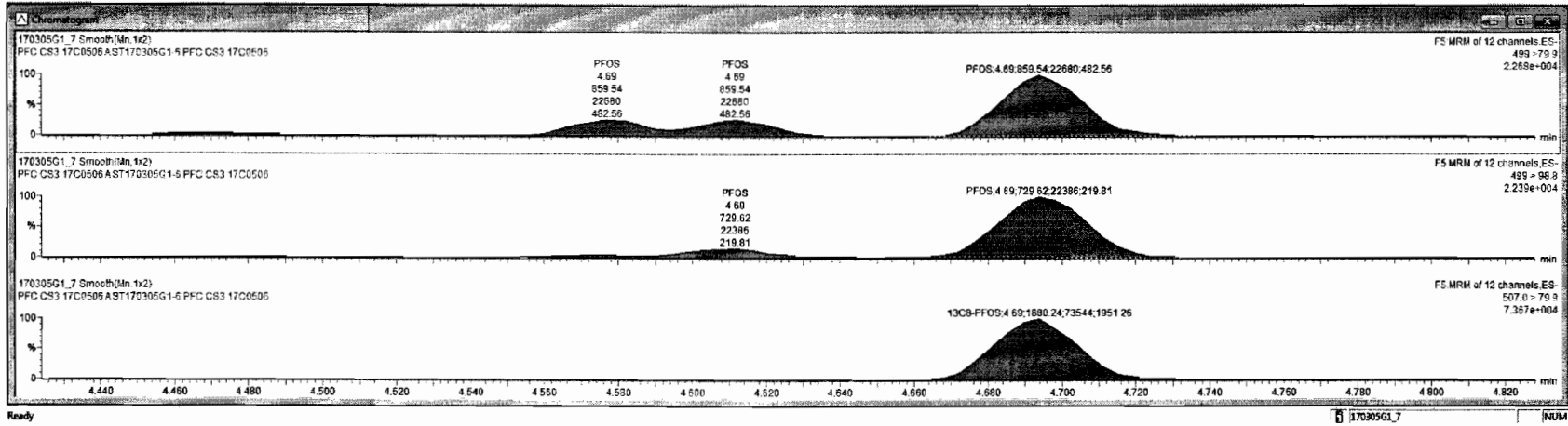
170305G1\_7





170305G1\_7 - ST170305G1-6 PFC CS3 17C0506 - PFC CS3 17C0506 A

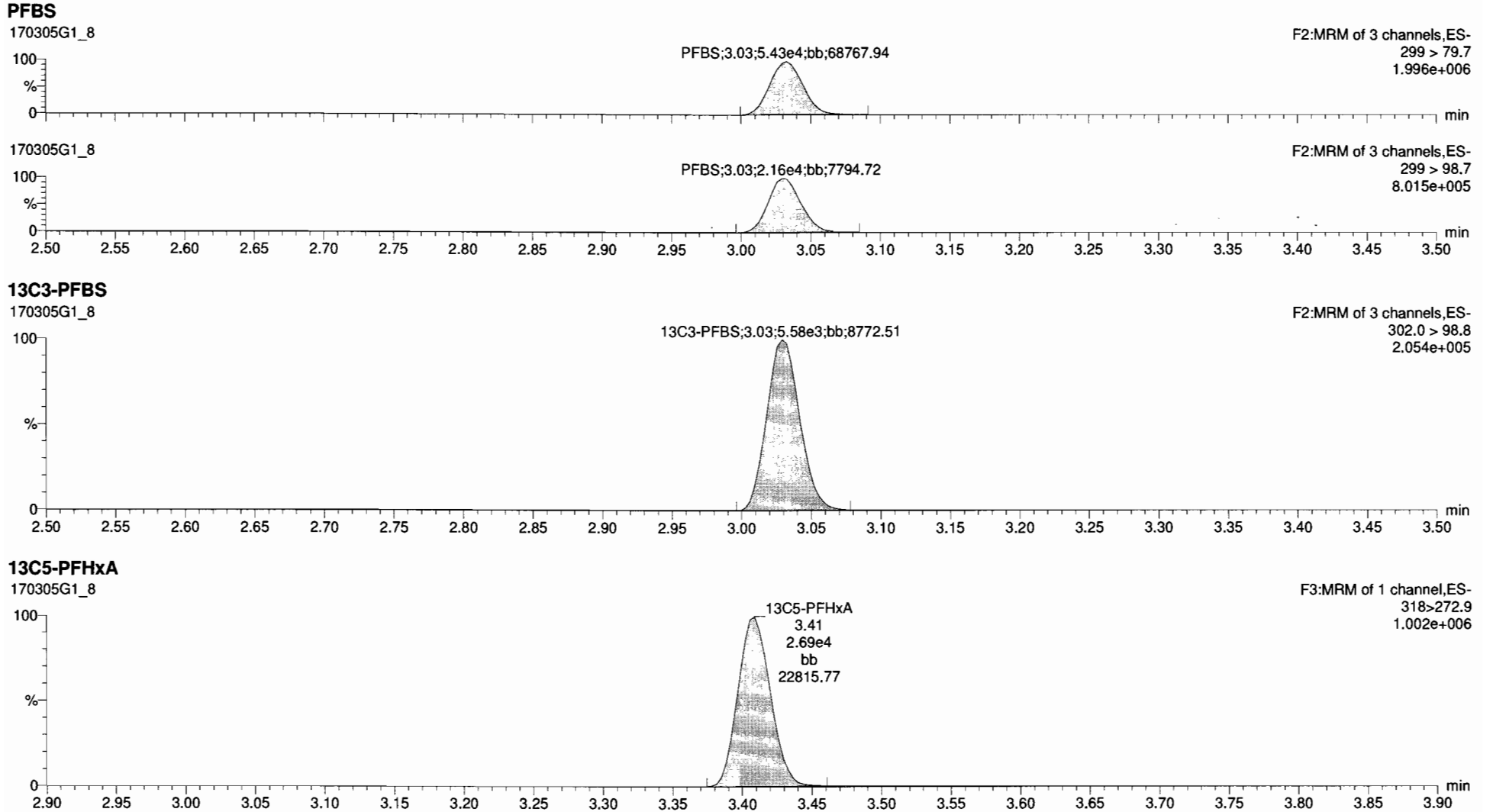
Name	Trace	Area	RRF	WtVal	Prod RT	RT	Conc.	IDL	%Rec	DL
1	PFBS	299 > 79.7	1.12e4	1.000	3.03	3.03	10.7	YES	107.2	0.0000000
2	PFHpA	363 > 318.9	1.96e4	1.000	3.91	3.91	10.6	YES	106.4	0.0000000
3	PFHxS	398.9 > 79.6	6.69e3	1.000	4.02	4.03	10.1	YES	101.5	0.0000000
4	PFOA	413 > 368.7	1.56e4	1.000	4.30	4.30	11.0	YES	109.8	0.0000000
5	PFNA	463 > 418.8	7.05e3	1.000	4.63	4.63	11.1	YES	111.4	0.0000000
6	PFOS	499 > 79.9	8.60e3	1.000	4.69	4.69	10.9	YES	108.8	0.1024216
7	13C3-PFBS	302.0 > 98.8	5.49e3	0.410	1.000	3.03	3.03	NO	123.0	0.0054942
8	13C4-PFHpA	367.2 > 321.8	1.29e4	1.10	1.000	3.90	3.91	NO	107.8	0.0058321
9	18O2-PFHxS	403 > 102.6	4.52e3	0.434	1.000	4.03	4.02	NO	95.5	0.0036126
10	13C2-PFOA	414.8 > 369.7	2.18e4	4.61	1.000	4.30	4.30	NO	111.6	0.032472
11	13C3-PFNA	468.2 > 422.9	2.86e3	0.867	1.000	4.63	4.63	NO	94.0	0.0018267
12	13C8-PFOS	507.0 > 79.9	1.86e3	0.958	1.000	4.69	4.69	NO	112.8	0.0197667
13	13C3-PFHxS	318 > 272.9	2.37e4	1.00	1.000	3.29	3.41	NO	100.0	0.0028266
14	13C3-PFHxS	461.9 > 79.9	1.09e4	1.00	1.000	3.84	4.03	NO	100.0	0.0032568
15	13C8-PFOA	421.3 > 376	4.25e3	1.00	1.000	4.22	4.30	NO	100.0	0.0058706
16	13C9-PFNA	472.2 > 426.9	3.54e3	1.00	1.000	4.56	4.63	NO	100.0	0.0059093
17	13C4-PFOS	503.0 > 79.9	1.74e3	1.00	1.000	4.67	4.69	NO	100.0	0.1620576
18	Total PFBS	299 > 79.7	1.12e4		1.000	3.11		NO		
19	Total PFHxS	398.9 > 79.6	8.14e3		1.000	4.09		NO		
20	Total PFOA	413 > 368.7	1.57e4		1.000	4.39		NO		
21	Total PFOS	499 > 79.9	1.01e3		1.000	4.67		NO		0.1024216



Dataset: Untitled

Last Altered: Monday, March 06, 2017 08:36:20 Pacific Standard Time  
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ID: ST170305G1-7 PFC CS4 17C0507, Description: PFC CS4 17C0507 A, Name: 170305G1\_8, Date: 05-Mar-2017, Time: 14:02:00, Instrument: , Lab: , User:



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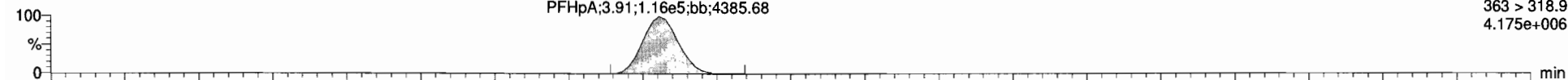
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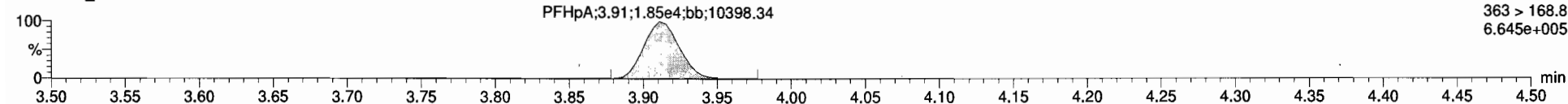
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**PFHpA**

170305G1\_8

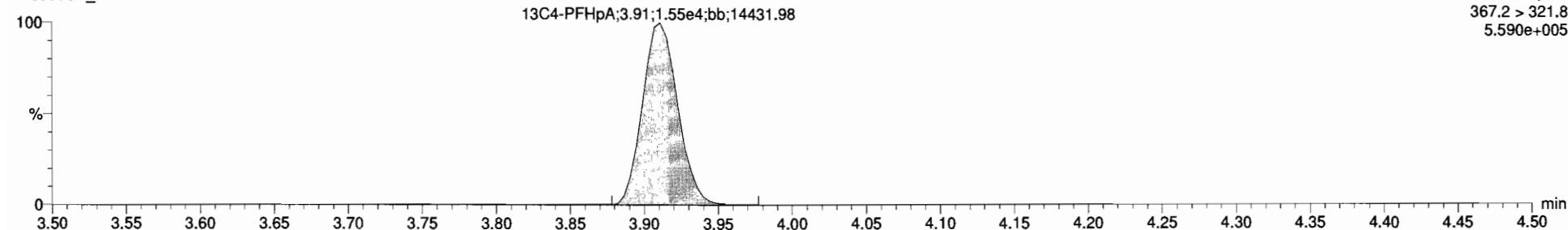


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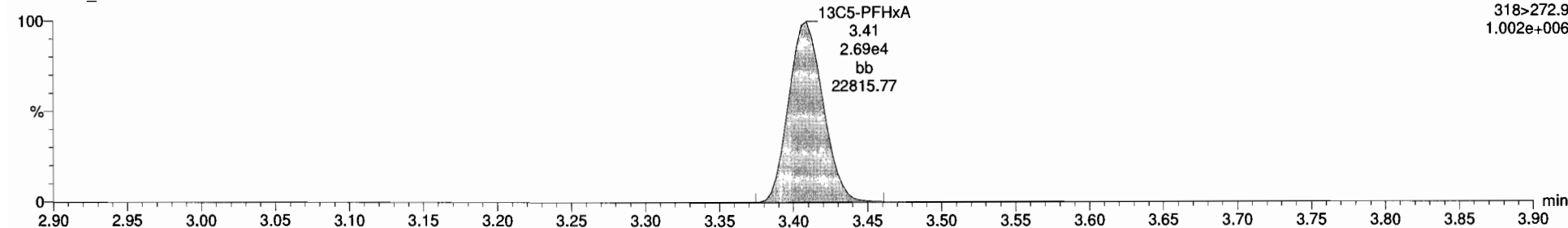
**13C4-PFHpA**

170305G1\_8



**13C5-PFHxA**

170305G1\_8



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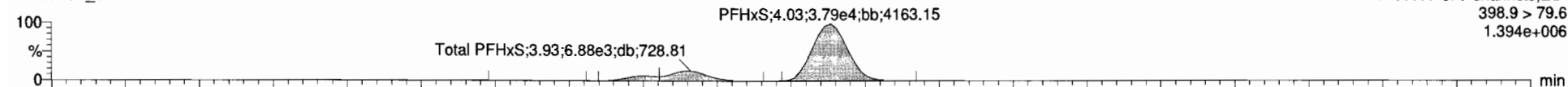
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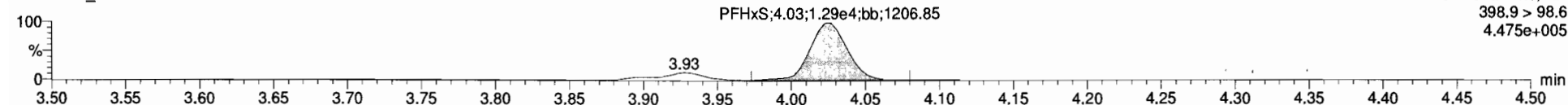
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**Total PFHxS**

170305G1\_8

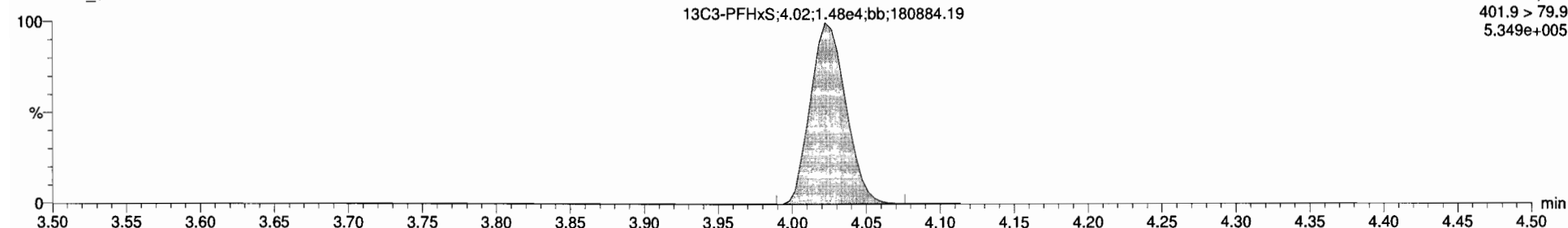


170305G1\_8



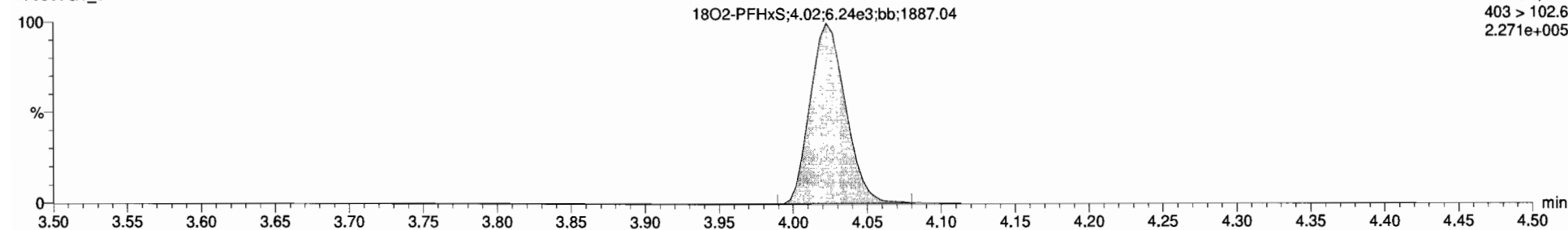
**13C3-PFHxS**

170305G1\_8



**18O2-PFHxS**

170305G1\_8

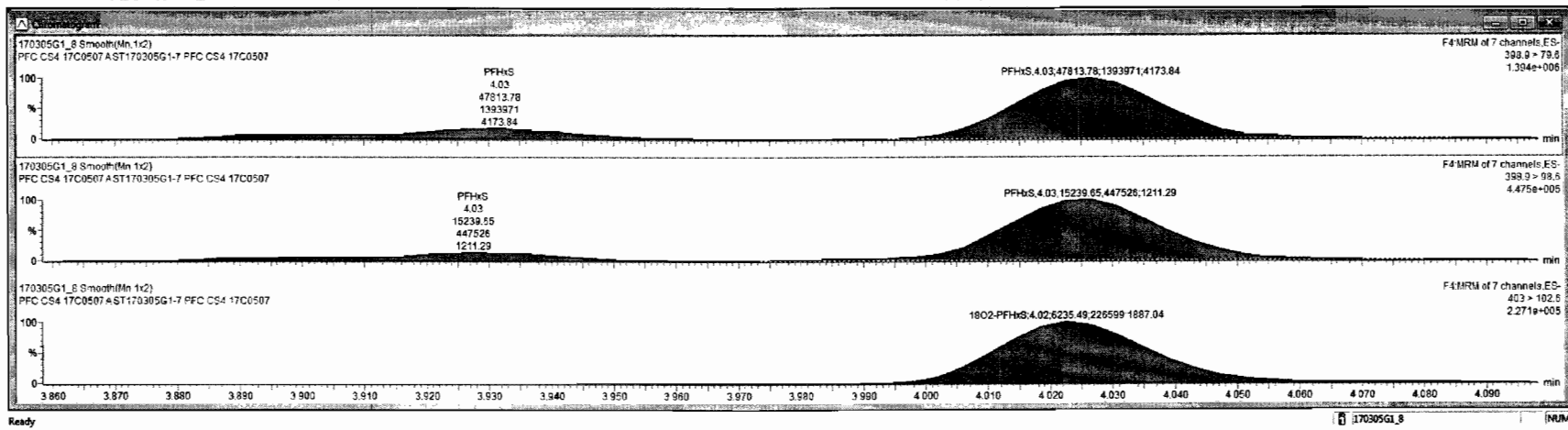






170305G1\_8 - ST170305G1-7 PFC CS4 17C0507 - PFC CS4 17C0507A

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PFBS	299 > 79.7	5.43e4		1.000	3.03	3.03	51.1	YES	102.1	0.0000000
PFHpA	363 > 318.9	1.16e5		1.000	3.91	3.91	51.9	YES	103.8	0.0000000
PFHxS	398.9 > 79.6	4.79e4		1.000	4.03	4.03	52.8	YES	105.8	0.0000000
PFDA	413 > 368.7	1.10e5		1.000	4.30	4.30	52.3	YES	104.6	0.0000000
PFNA	453 > 418.8	7.41e4		1.000	4.63	4.63	52.1	YES	104.1	0.0000000
PFOS	499 > 79.9	1.04e4		1.000	4.69	4.69	48.3	YES	96.6	0.1281301
13C1-PFBS	302.0 > 98.8	5.58e3	0.410	1.000	3.03	3.03	11.5	NO	82.1	0.0033337
13C1-PFHpA	367.2 > 321.8	1.55e4	1.10	1.000	3.90	3.91	11.9	NO	85.6	0.0020622
1602-PFHxS	403 > 102.6	6.24e3	0.434	1.000	4.02	4.02	12.1	NO	97.2	0.0161792
13C2-PFOA	414.9 > 369.7	3.30e4	4.61	1.000	4.30	4.30	12.3	NO	98.2	0.0024226
13C2-PFNA	458.2 > 422.9	6.50e3	0.667	1.000	4.63	4.63	12.3	NO	98.7	0.0031015
13C2-PFOS	507.0 > 79.9	5.14e3	0.958	1.000	4.69	4.69	13.1	NO	104.4	0.0094134
13C3-PFHxS	316.272.9	2.89e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0013897
13C3-PFHxS	401.9 > 79.9	1.48e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0001728
13C3-PFOA	421.2 > 376	7.29e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0034967
13C3-PFNA	472.2 > 426.9	7.60e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0166538
13C3-PFOS	503.0 > 79.9	5.13e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0018396
Total PFBS	299 > 79.7	5.43e4		1.000	3.11		51.1	NO		
Total PFHxS	398.9 > 79.6	5.73e4		1.000	4.09		63.2	NO		
Total PFDA	413 > 368.7	1.10e5		1.000	4.39		52.3	NO		
Total PFOS	499 > 79.9	1.33e4		1.000	4.67		62.0	NO		0.1281301



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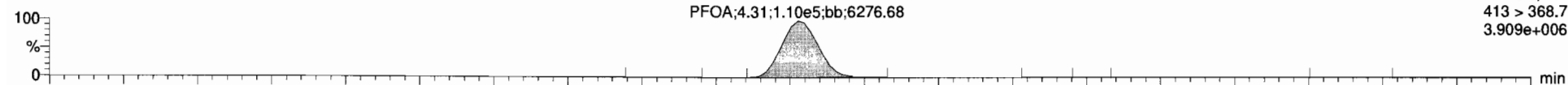
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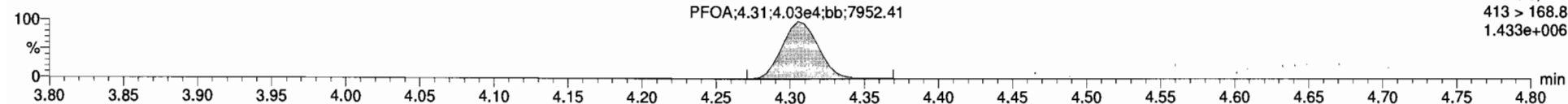
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**Total PFOA**

170305G1\_8

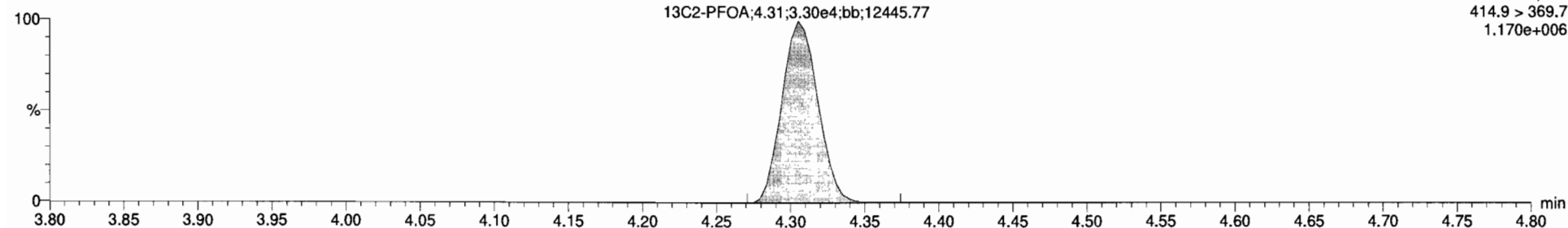


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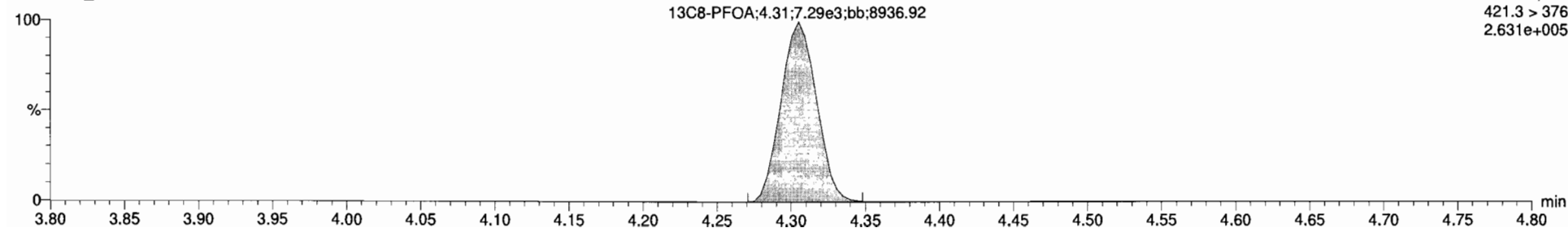
**13C2-PFOA**

170305G1\_8



**13C8-PFOA**

170305G1\_8



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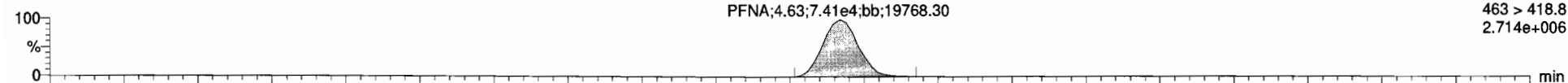
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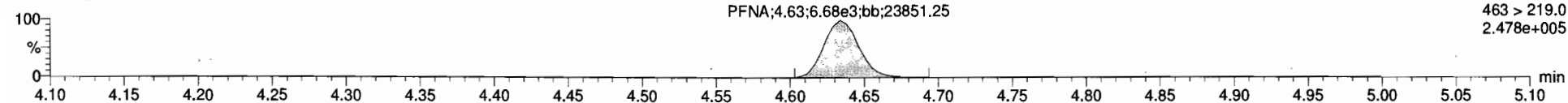
**PFNA**

170305G1\_8



F5:MRM of 12 channels,ES-  
463 > 418.8  
2.714e+006

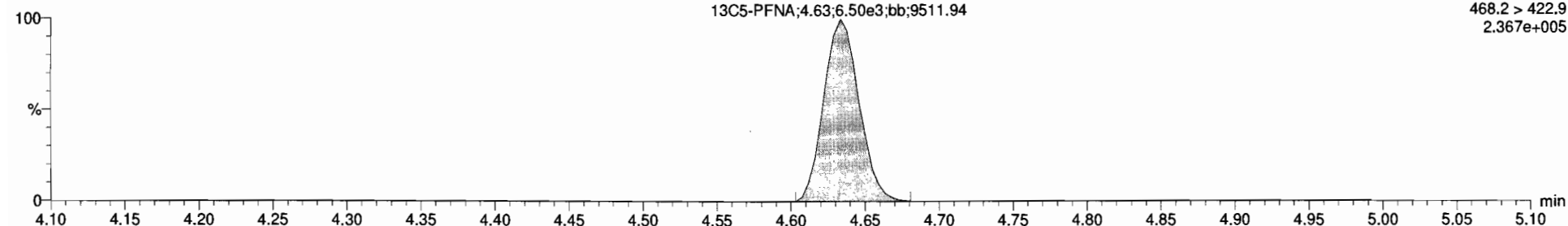
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463 > 219.0  
2.478e+005

**13C5-PFNA**

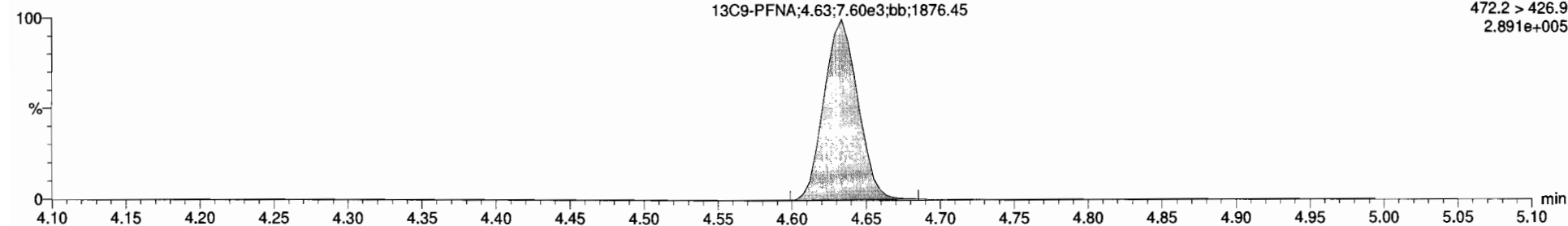
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F5:MRM of 12 channels,ES-  
468.2 > 422.9  
2.367e+005

**13C9-PFNA**

170305G1\_8



F5:MRM of 12 channels,ES-  
472.2 > 426.9  
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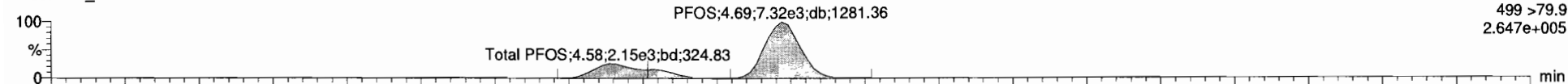
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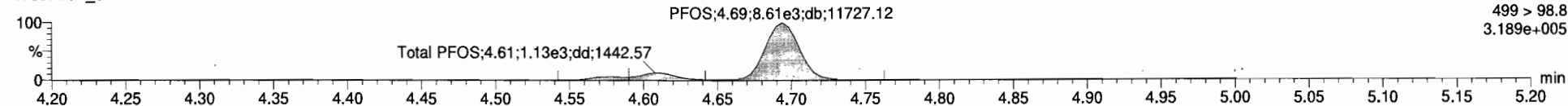
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**Total PFOS**

170305G1\_8

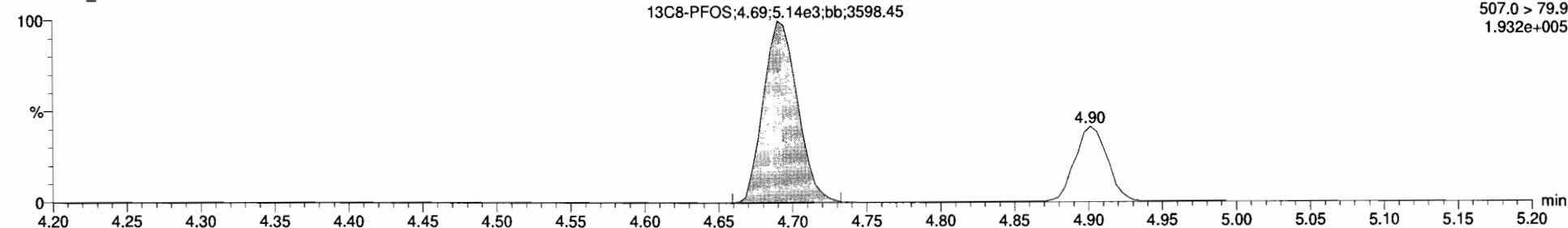


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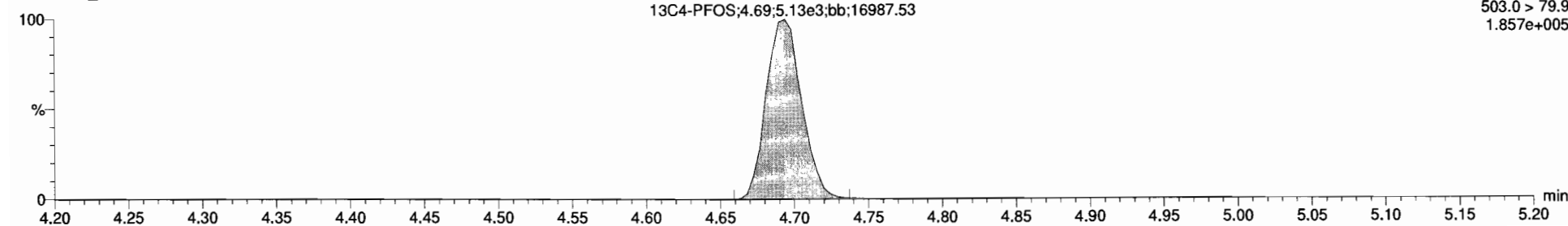
**13C8-PFOS**

170305G1\_8

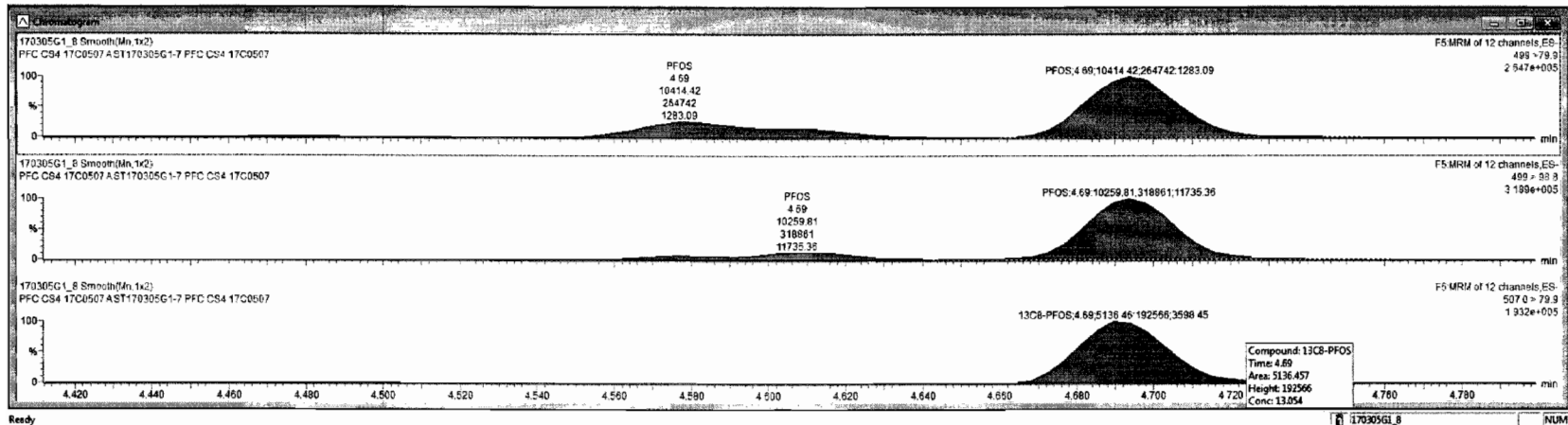


**13C4-PFOS**

170305G1\_8



Name	Trace	Area	W/F	W/Ht	Pre-RT	RT	Conc.	MSL	WRet	DL	
1	PFBS	290 > 79.7	5.43e4		1.000	3.03	3.03	51.1	YES	102.1	0.0000000
2	PFHPA	362 > 318.9	1.16e5		1.000	3.91	3.91	51.9	YES	103.3	0.0000000
3	PFHS	398.9 > 79.6	4.78e4		1.000	4.02	4.03	52.8	YES	105.6	0.0000000
4	PFOA	413 > 368.7	1.10e5		1.000	4.30	4.30	52.3	YES	104.6	0.0000000
5	PFNA	463 > 418.6	7.41e4		1.000	4.63	4.63	52.1	YES	104.1	0.0000000
6	PFOS	499 > 79.9	1.04e4		1.000	4.69	4.69	48.3	YES	96.8	0.1281301
7	13C3-PFBS	302.0 > 96.6	5.58e3	0.410	1.000	3.03	3.03	11.5	NO	92.1	0.0033337
8	13C4-PFHPA	367.2 > 321.8	1.55e4	1.10	1.000	3.90	3.91	11.9	NO	95.6	0.0020622
9	18O2-PFHS	403 > 102.6	6.24e3	0.434	1.000	4.02	4.02	12.1	NO	97.2	0.0161792
10	13C2-PFOA	414.9 > 369.7	3.30e4	4.61	1.000	4.30	4.30	12.3	NO	98.2	0.0024228
11	13C5-PFNA	468.2 > 422.9	6.50e3	0.867	1.000	4.63	4.63	12.3	NO	95.7	0.0031015
12	13C8-PFOS	507.0 > 79.9	5.14e3	0.936	1.000	4.69	4.69	13.1	NO	104.4	0.0094134
13	13C5-PFHPA	319 > 272.9	2.99e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0019697
14	13C3-PFHS	401.9 > 79.9	1.40e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0034967
15	13C8-PFOA	421.3 > 378	7.29e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0166532
16	13C9-PFNA	472.2 > 426.9	7.60e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0166532
17	13C4-PFOS	503.0 > 79.9	5.13e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0016396
18	Total PFBS	290 > 79.7	5.43e4		1.000	3.11		51.1	NO		
19	Total PFHS	398.9 > 79.6	5.73e4		1.000	4.09		63.2	NO		
20	Total PFOA	413 > 368.7	1.10e5		1.000	4.39		52.3	NO		
21	Total PFOS	499 > 79.9	1.33e4		1.000	4.67		62.0	NO		0.1281301



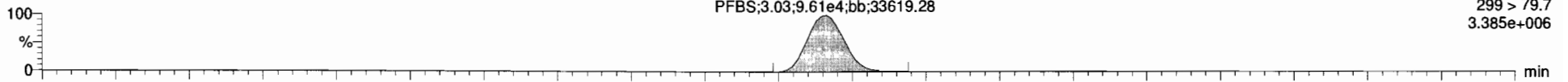
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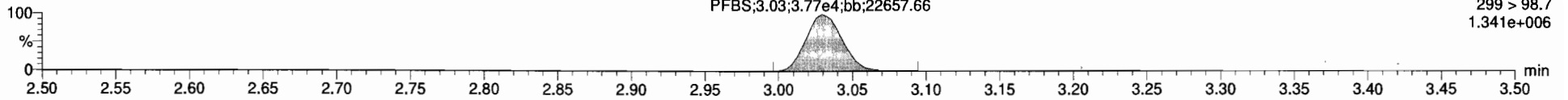
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**PFBS**

170305G1\_9

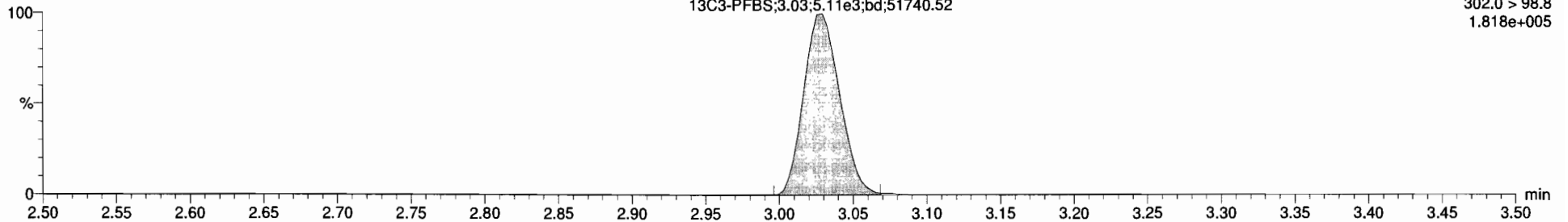


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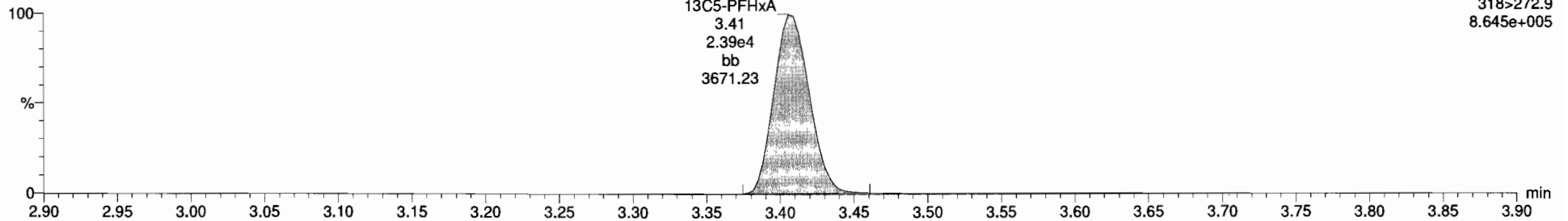
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170305G1\_9



**13C5-PFHxA**

170305G1\_9



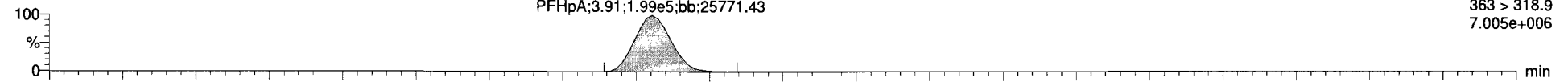
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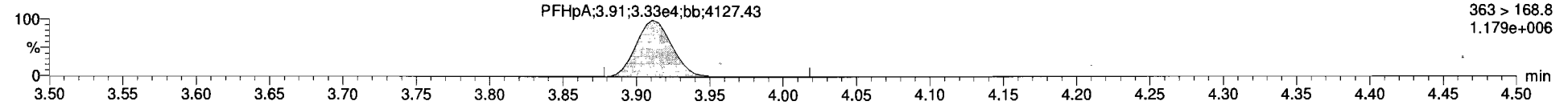
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**PFHpA**

170305G1\_9

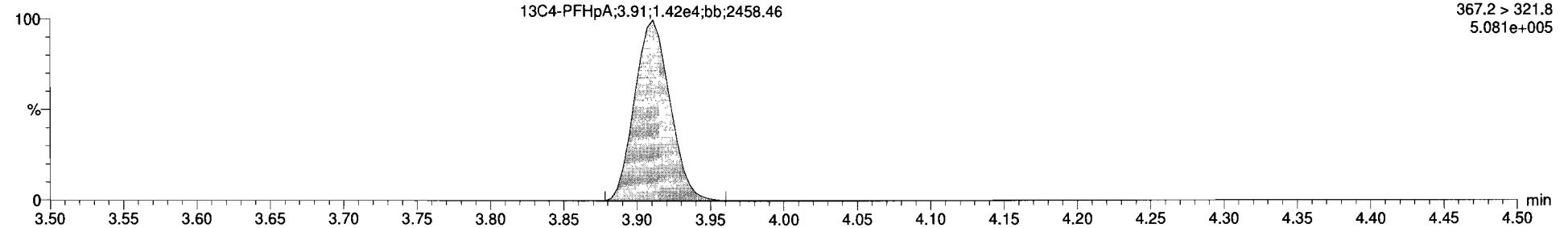


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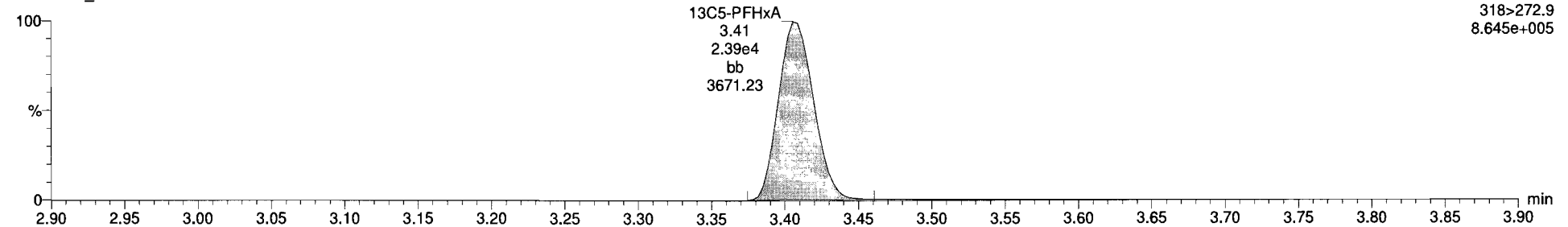
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170305G1\_9



**13C5-PFHxA**

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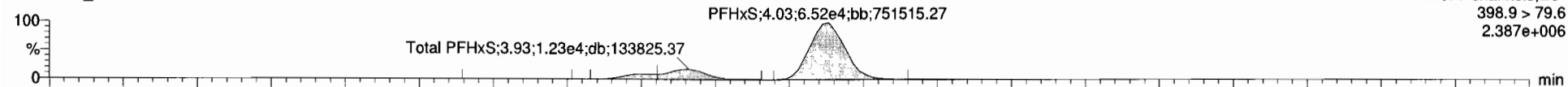
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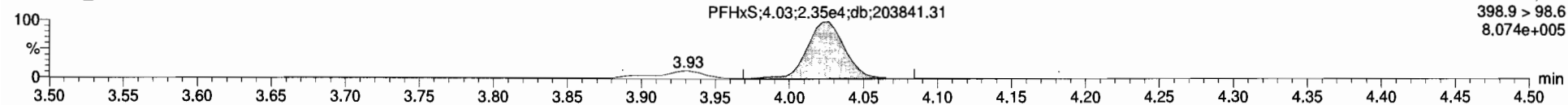
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**Total PFHxS**

170305G1\_9

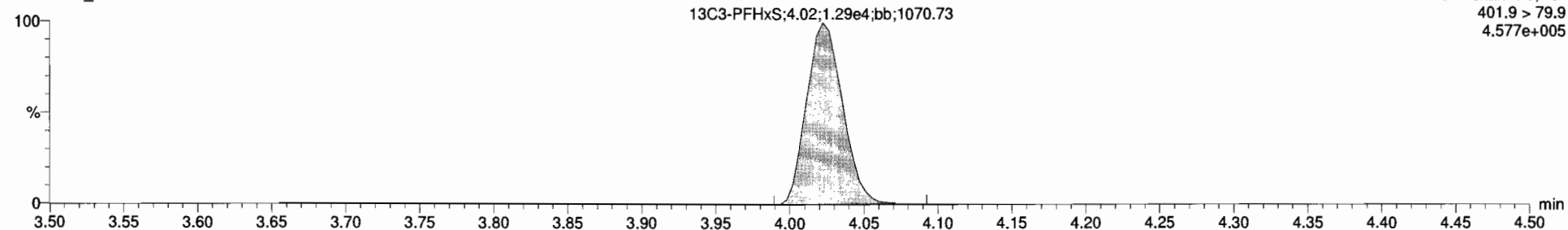


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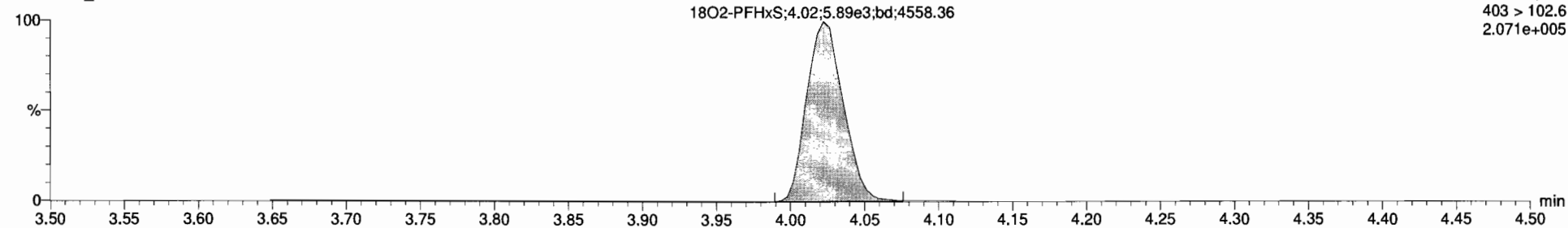
**13C3-PFHxS**

170305G1\_9



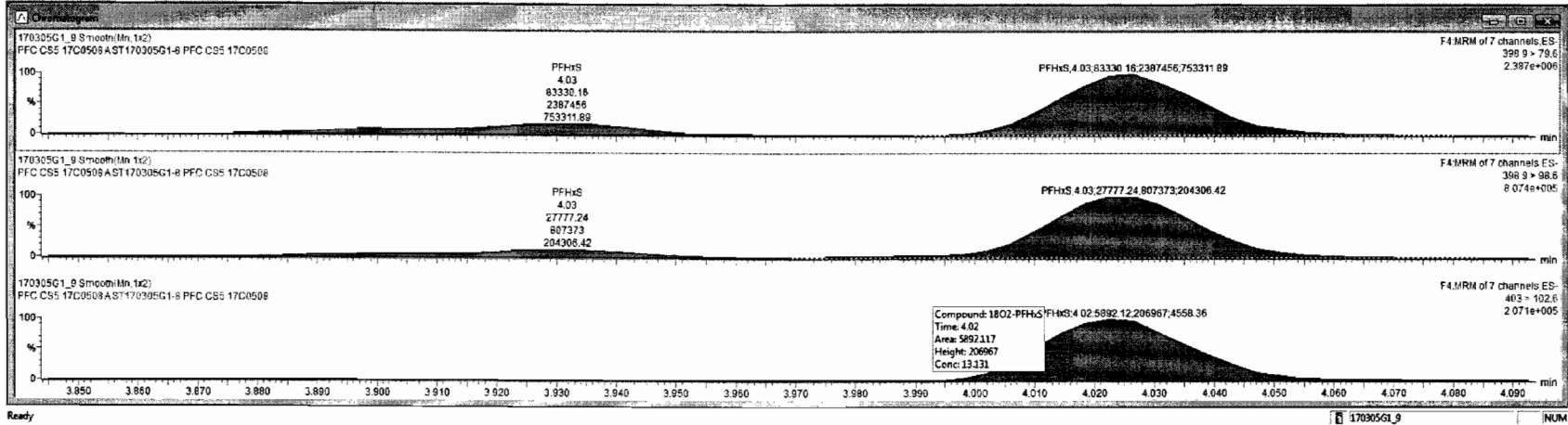
**18O2-PFHxS**

170305G1\_9





Peak	Name	Trace	Area	RRP	WtVol	Prod RT	RT	Conc	UIOL	NRAC	DL
1	PFBS	299 > 79.7	9.81e4		1.000	3.03	3.03	98.6	YES	98.6	0.000000
2	PFHpA	363 > 318.9	1.99e5		1.000	3.91	3.91	97.6	YES	97.6	0.000000
3	PFHxS	368.9 > 79.6	8.33e4		1.000	4.02	4.03	97.4	YES	97.4	0.000000
4	PFDA	413 > 368.7	1.98e5		1.000	4.30	4.30	96.4	YES	96.4	0.000000
5	PFNA	463 > 418.8	1.56e5		1.000	4.63	4.63	97.1	YES	97.1	0.000000
6	PFOS	499 > 79.9	2.64e4		1.000	4.78	4.69	100	YES	100.2	0.096692
7	13Cl-PFBS	302.0 > 98.8	5.11e3	0.410	1.000	3.02	3.03	12.1	NO	96.5	0.007023
8	13Cl-PFHpA	367.2 > 321.8	1.42e4	1.10	1.000	3.90	3.91	12.5	NO	99.8	0.0154075
9	18O2-PFHxS	403 > 102.6	5.89e3	0.434	1.000	4.02	4.02	13.1	NO	105.0	0.0085761
10	13Cl-PFOA	414.9 > 369.7	3.22e4	4.81	1.000	4.30	4.30	13.3	NO	105.0	0.0220827
11	13Cl-PFNA	462.2 > 422.9	7.35e3	0.867	1.000	4.63	4.63	12.4	NO	99.5	0.0013263
12	13Cl-PFOS	507.8 > 79.9	6.36e3	0.958	1.000	4.69	4.69	12.7	NO	101.3	0.0096289
13	13Cl-PFNA	318 > 272.9	2.39e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0102146
14	13Cl-PFHxS	401.9 > 79.9	1.29e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0350229
15	13Cl-PFOA	421.3 > 378	6.59e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0104096
16	13Cl-PFNA	472.2 > 426.9	8.52e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0039269
17	13Cl-PFOS	503.0 > 79.9	6.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0016940
18	Total PFBS	299 > 79.7	9.81e4		1.000	3.11		98.6	NO		0.0000000
19	Total PFHxS	368.9 > 79.6	1.01e5		1.000	4.09		118	NO		0.0000000
20	Total PFOA	413 > 368.7	1.98e5		1.000	4.39		96.4	NO		0.0000000
21	Total PFOS	499 > 79.9	3.65e4		1.000	4.67		135	NO		0.096692



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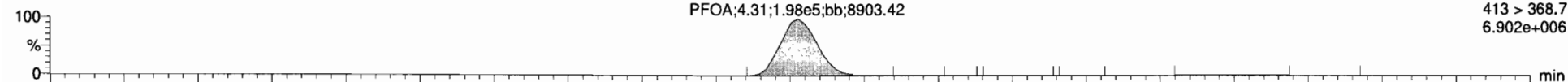
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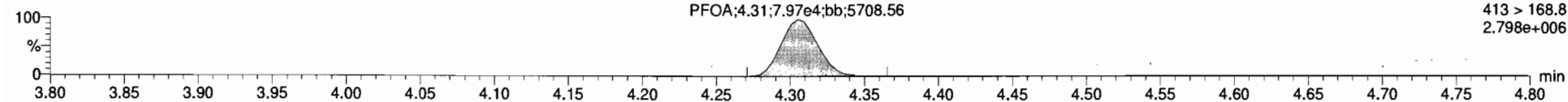
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**Total PFOA**

170305G1\_9

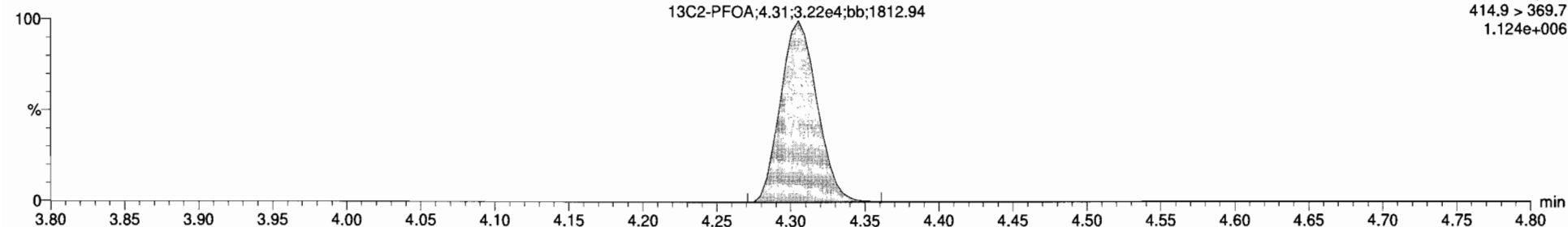


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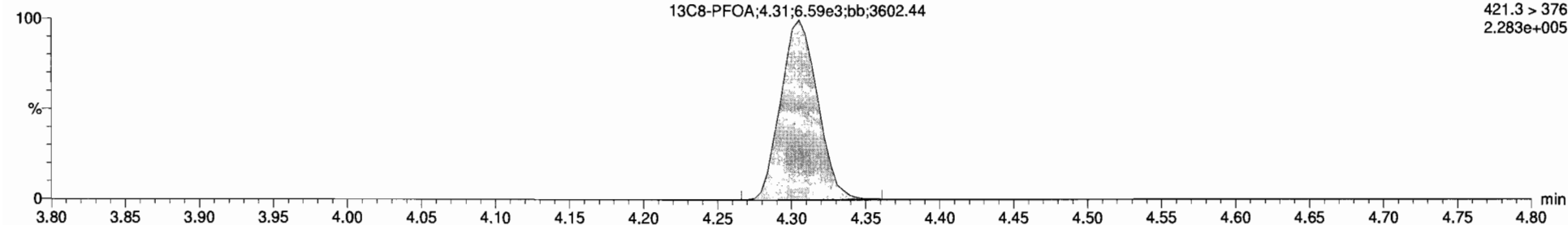
**13C2-PFOA**

170305G1\_9



**13C8-PFOA**

170305G1\_9

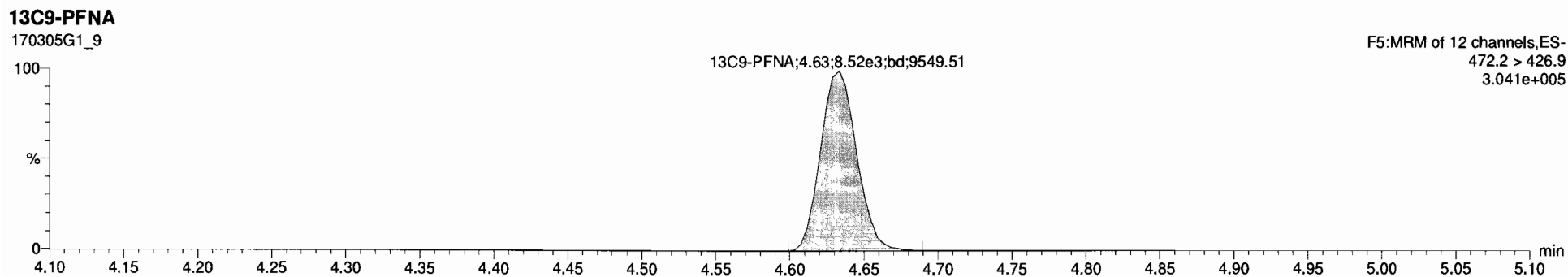
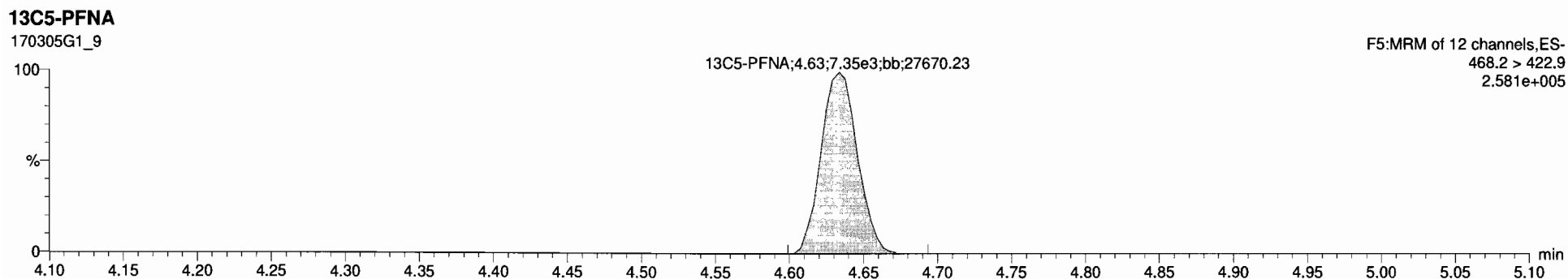
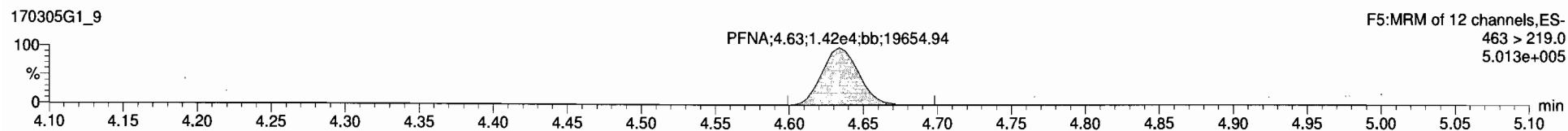
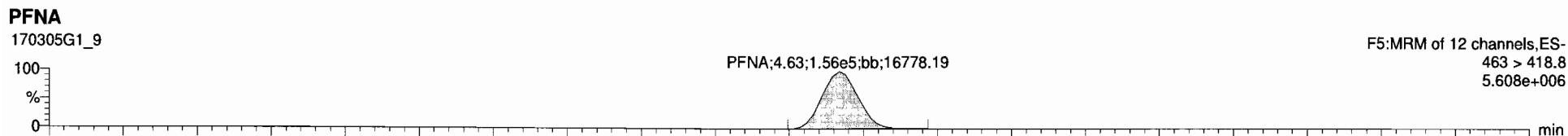


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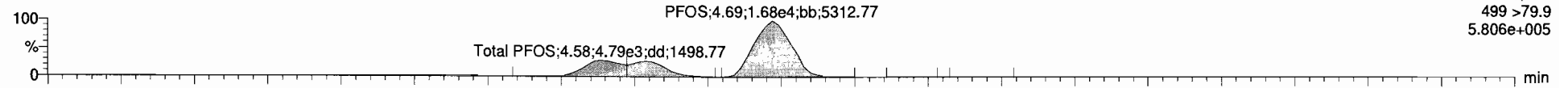
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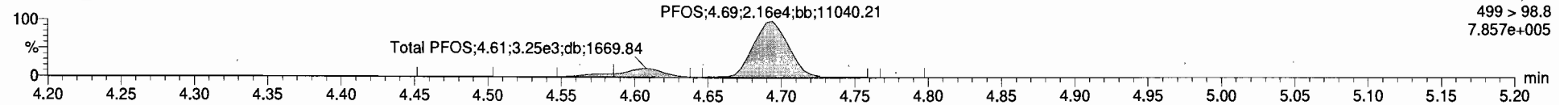
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**Total PFOS**

170305G1\_9

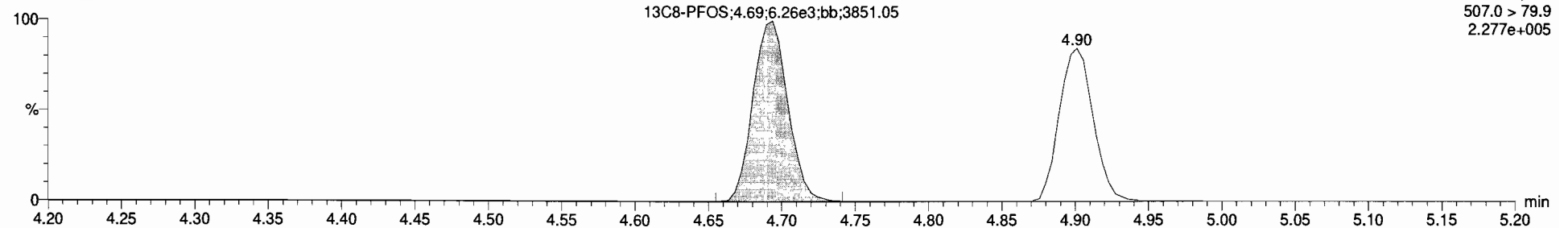


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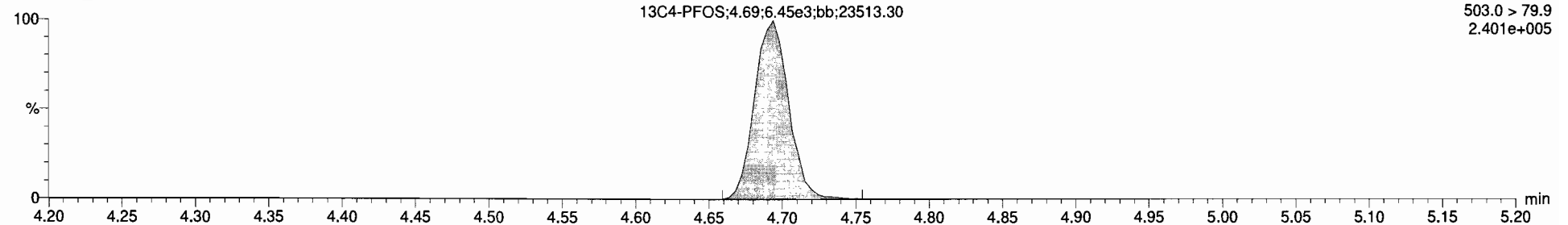
**13C8-PFOS**

170305G1\_9

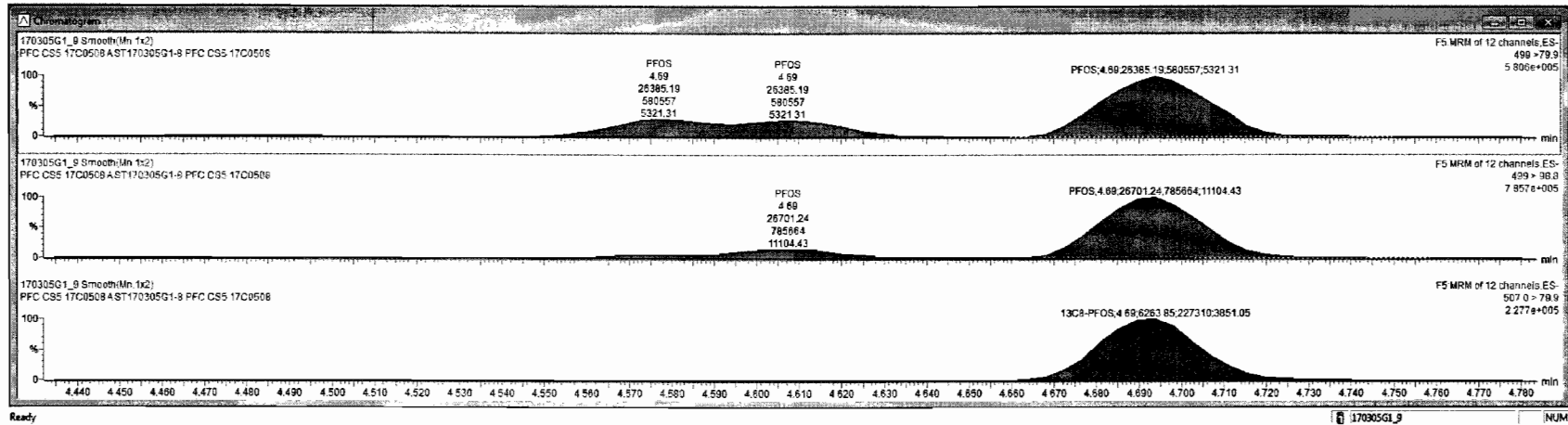


**13C4-PFOS**

170305G1\_9



#	Name	Traps	Area	RRF	Wt%	Prod RT	RT	Conc.	>IDL	%Rec	DL
1	PFBS	299 > 78.7	9.61e4		1.000	3.03	3.03	98.8	YES	98.8	0.000000
2	PFNA	363 > 318.9	1.99e5		1.000	3.91	3.91	97.6	YES	97.6	0.000000
3	PFHxS	392.9 > 79.6	8.33e4		1.000	4.02	4.02	97.4	YES	97.4	0.000000
4	PFDA	413 > 368.7	1.98e5		1.000	4.30	4.30	96.4	YES	96.4	0.000000
5	PFNA	463 > 418.8	1.56e5		1.000	4.63	4.63	97.1	YES	97.1	0.000000
6	PFOS	499 > 79.9	3.55e4		1.000	4.70	4.69	100	YES	100.2	0.0686992
7	13C3-PFBS	302.0 > 98.8	5.11e3	0.410	1.000	3.02	3.03	12.1	NO	96.5	0.007023
8	13C4-PFHxA	367.2 > 321.8	1.42e4	1.10	1.000	3.90	3.91	12.5	NO	99.8	0.0154075
9	18O2-PFHxS	403 > 102.6	5.89e3	0.434	1.000	4.02	4.02	13.1	NO	105.0	0.0085751
10	13C2-PFDA	414.9 > 369.7	3.22e4	4.61	1.000	4.30	4.30	13.3	NO	105.0	0.0220827
11	13C3-PFNA	468.2 > 422.9	7.35e3	0.867	1.000	4.63	4.63	12.4	NO	99.5	0.0013253
12	13C8-PFOS	507.0 > 79.9	6.29e3	0.958	1.000	4.69	4.69	12.7	NO	101.3	0.0096289
13	13C3-PFHxA	318-272.9	2.39e4	1.00	1.000	3.29	3.41	12.5	NO	100.0	0.0102146
14	13C3-PFHxS	401.9 > 79.9	1.29e4	1.00	1.000	3.94	4.02	12.5	NO	100.0	0.0350220
15	13C6-PFDA	421.3 > 378	6.59e3	1.00	1.000	4.22	4.30	12.5	NO	100.0	0.0104096
16	13C9-PFNA	472.2 > 426.9	8.53e3	1.00	1.000	4.56	4.63	12.5	NO	100.0	0.0039259
17	13C4-PFOS	503.0 > 79.9	8.45e3	1.00	1.000	4.67	4.69	12.5	NO	100.0	0.0015848
18	Total PFBS	299 > 78.7	9.61e4		1.000	3.11		98.6	NO		0.000000
19	Total PFHxS	392.9 > 79.6	1.01e5		1.000	4.00		100	NO		0.000000
20	Total PFDA	413 > 368.7	1.98e5		1.000	4.39		96.4	NO		0.000000
21	Total PFOS	499 > 79.9	3.55e4		1.000	4.67		135	NO		0.0686992



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

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

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

Method: U:\G1.pro\MethDB\PFAS\_6\_2trans\_LINEAR.mdb 02 Mar 2017 11:26:53

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_3-05-17\_L6\_2Trans.cdb 06 Mar 2017 08:35:26

Name: 170305G1\_11, Date: 05-Mar-2017, Time: 14:39:40, ID: SS170305G1-1 PFC SSS 17C0509, Description: PFC SSS 17C0509 A

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

75-125

ES  
 3/6/17  
 ✓ AC  
 3/6/17

Dataset: Untitled

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

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

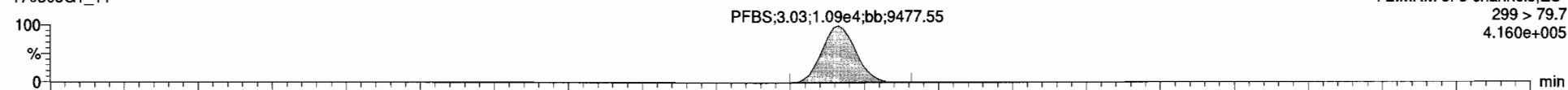
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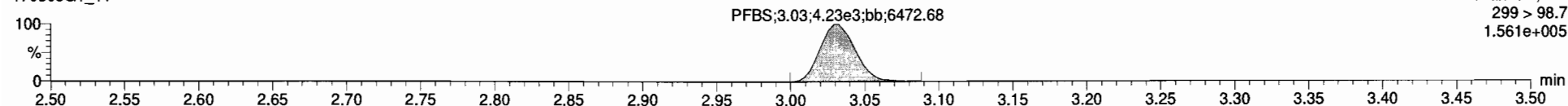
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**PFBS**

170305G1\_11

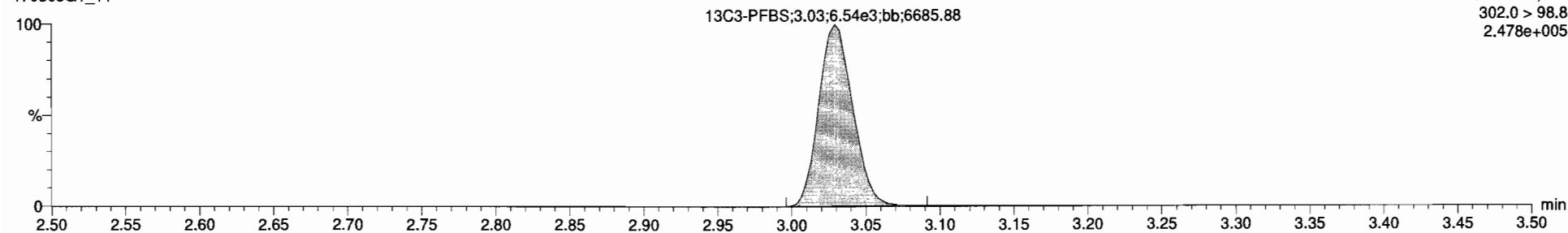


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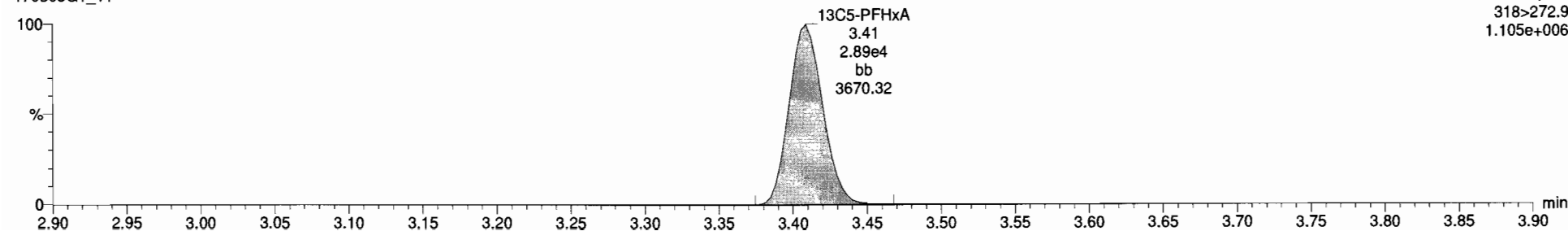
**13C3-PFBS**

170305G1\_11



**13C5-PFHxA**

170305G1\_11



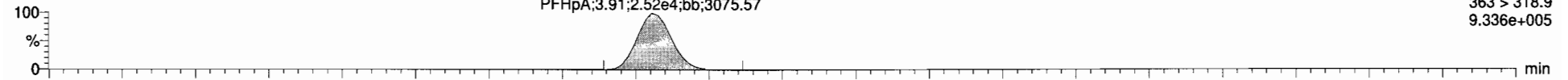
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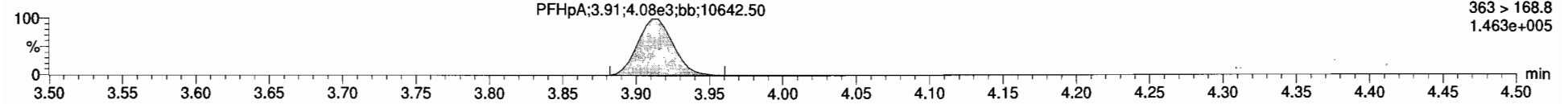
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**PFHpA**

170305G1\_11

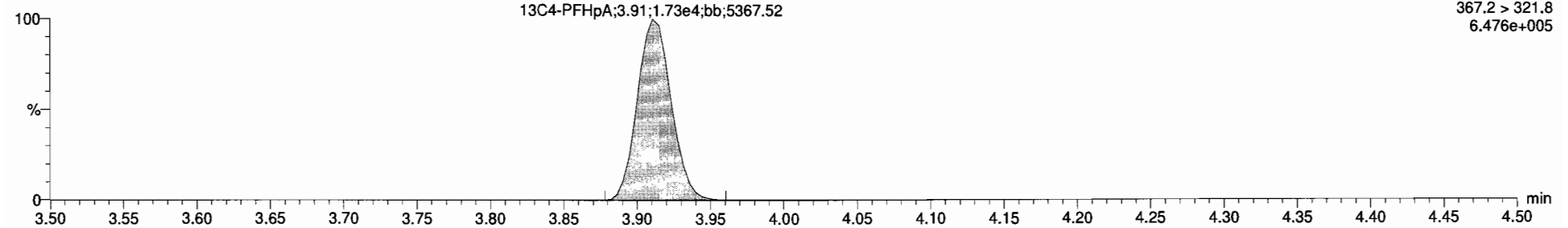


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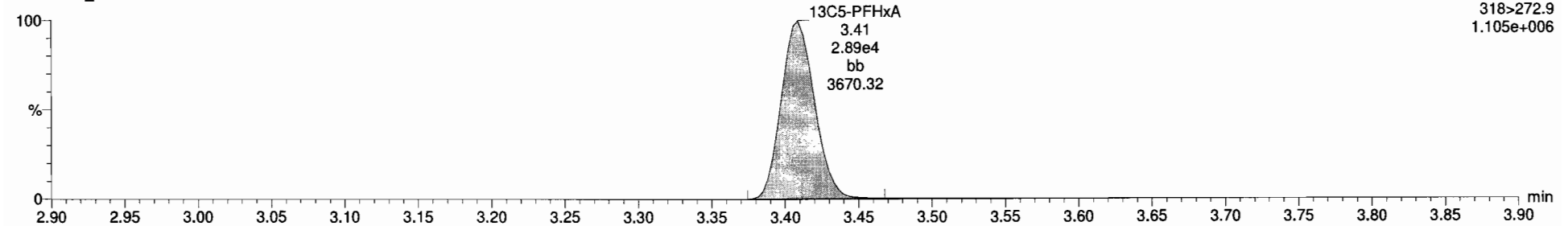
**13C4-PFHpA**

170305G1\_11



**13C5-PFHxA**

170305G1\_11





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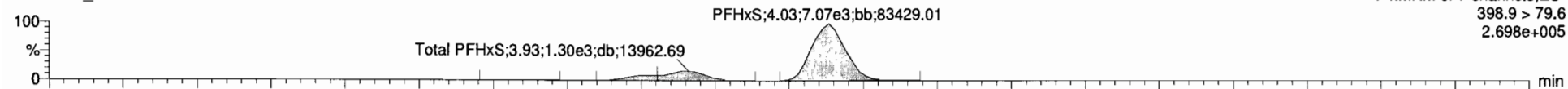
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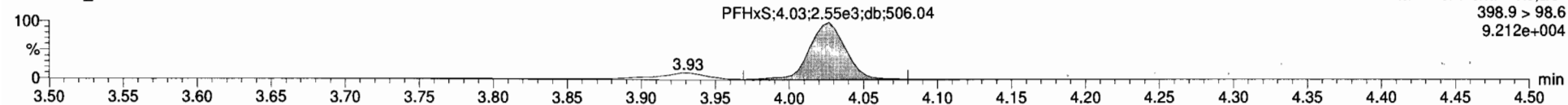
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**Total PFHxS**

170305G1\_11

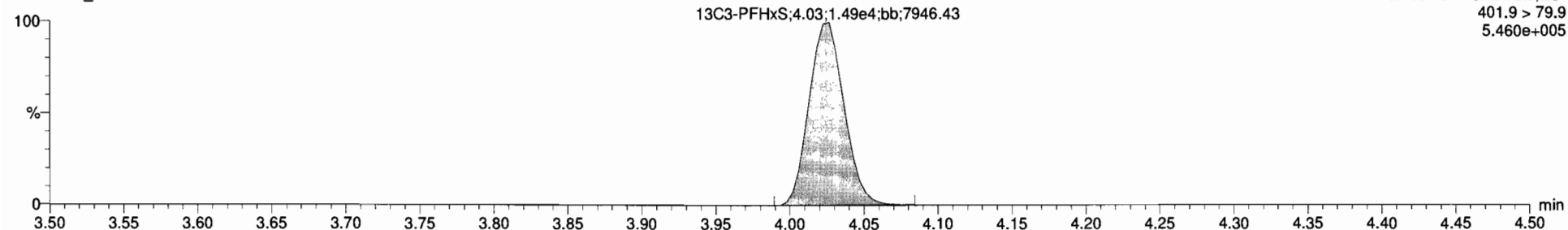


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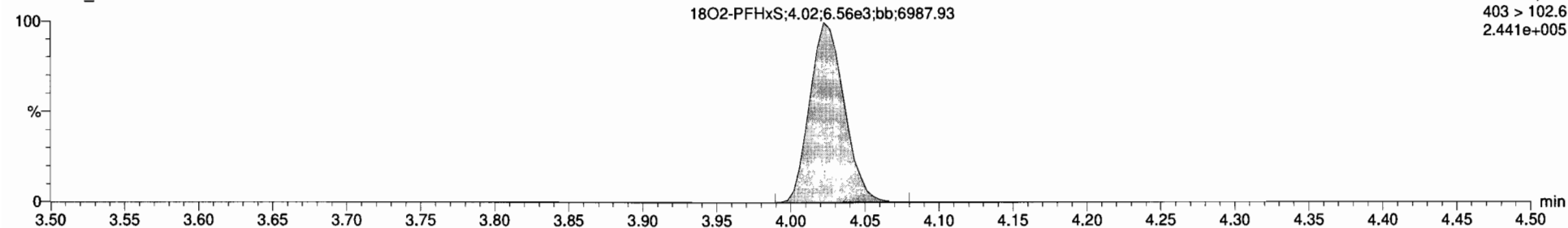
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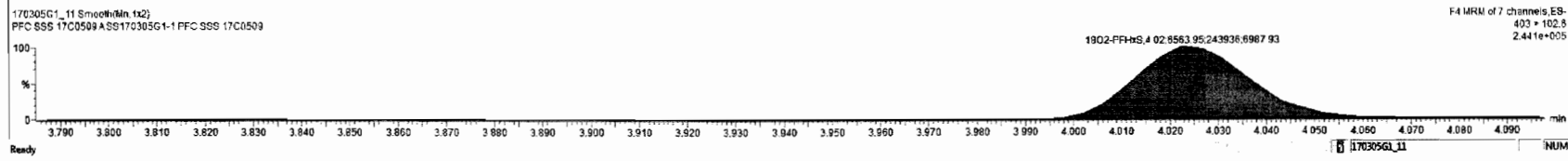
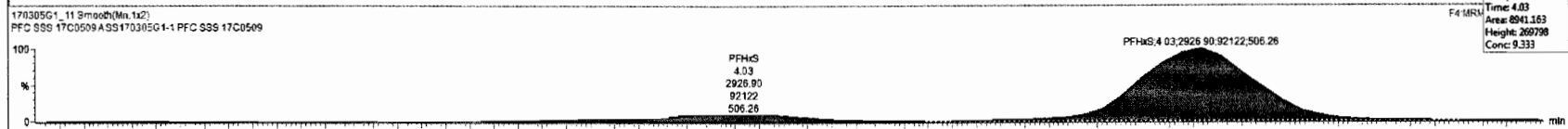
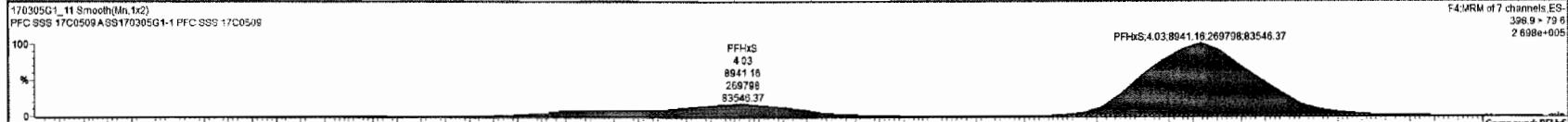


**18O2-PFHxS**

170305G1\_11



Name	Conc.	DL	%Rec	EMPC	Abs Resp	RRP	RT	#	ISA	RA	Y/N	RRT	Acq Date	Acq Time	# of Chk Noise	ID	Sample Text	Factor1	SW	Cal File	MOL
1 PFBS	8.698458	0.0000	87.0		1.097e4	3.03	1	7	0.389	YES	1.001	05-Mar-17	14:39:43	24	078	SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
2 PFHpA	10.037598	0.0000	100.4		2.523e4	3.91	2	8			1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
3 PFHxS	9.3329736	0.0000	83.3		8.841e3	4.03	3	9			1.001	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
4 PFOA	10.865712	0.0000	108.7		2.256e4	4.31	4	10			1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
5 PFNA	10.042823	0.0000	100.4		1.279e4	4.63	5	11			1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
6 PFOS	7.5852330	0.122	75.9		1.296e3	4.69	6	12			1.000	05-Mar-17	14:39:43			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
7 13C3-PFBS	13.351268	0.00517	106.8		6.541e3	0.410	3.03	7	14		0.889	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
8 13C4-PFHpA	13.214482	0.00629	105.7		1.734e4	1.938	3.91	8	14		0.971	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
9 18O2-PFHxS	12.948832	0.00481	101.2		6.564e3	0.434	4.02	9	14		0.999	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
10 13C2-PFOA	11.761296	0.00247	94.1		3.201e4	4.698	4.31	10	15		1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
11 13C5-PFNA	12.488185	0.00143	99.0		5.797e3	0.287	4.63	11	16		1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
12 13C6-PFOS	11.580781	0.00302	93.4		4.014e3	0.958	4.69	12	17		1.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
13 13C5-PFHxS	12.500000	0.00051	100.0		2.890e4	1.000	3.41	13	13		0.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
14 13C3-PFHS	12.500000	0.00393	100.0		1.494e4	1.000	4.03	14	14		0.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
15 13C4-PFOA	12.500000	0.00378	100.0		7.382e3	1.000	4.31	15	15		0.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
16 13C6-PFNA	12.500000	0.00140	100.0		6.692e3	1.000	4.63	16	16		0.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
17 13C4-PFOS	12.500000	0.00137	100.0		4.482e3	1.000	4.69	17	17		0.000	05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
18 Total PFBS	8.698458							18				05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
19 Total PFHxS	11.119483							19				05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
20 Total PFOA	10.865712							20				05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
21 Total PFOS	11.670726	0.122						21				05-Mar-17	14:39:40			SS170305G...	PFC SSS 17C05...	1.0	1.00	C18_V...	NO



Dataset: Untitled

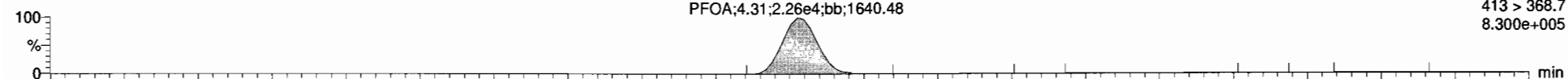
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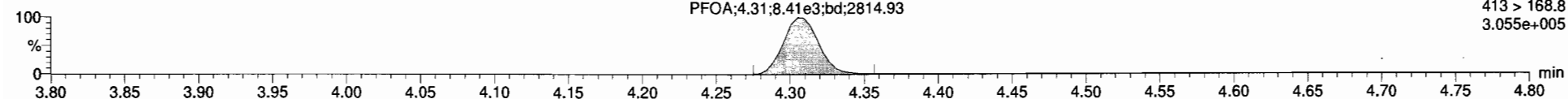
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**Total PFOA**

170305G1\_11

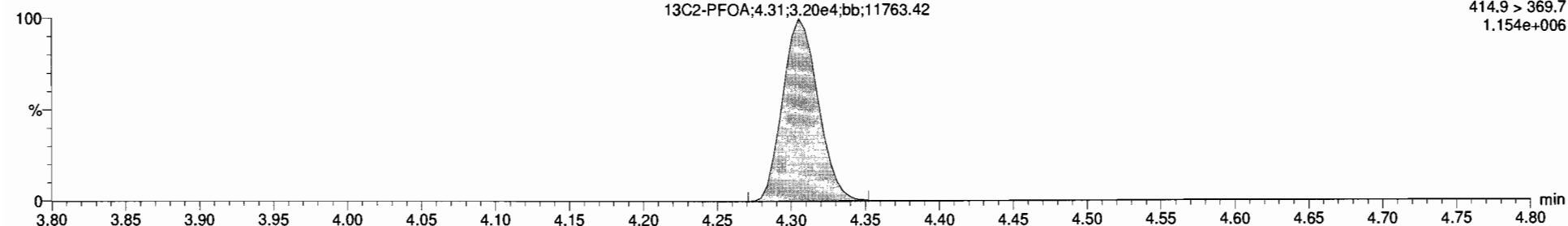


170305G1\_11



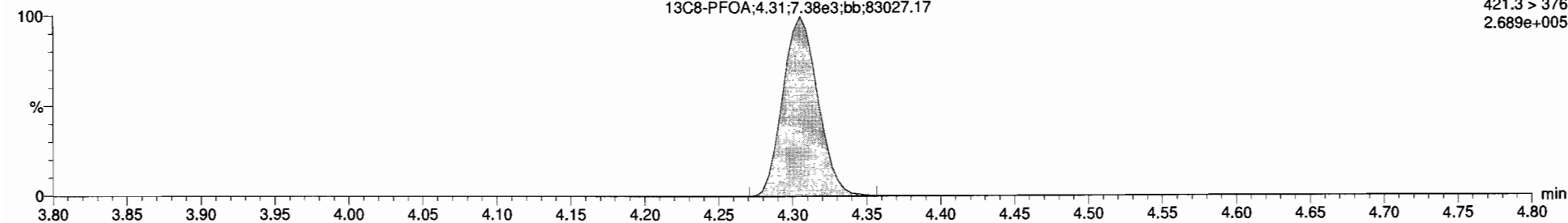
**13C2-PFOA**

170305G1\_11



**13C8-PFOA**

170305G1\_11



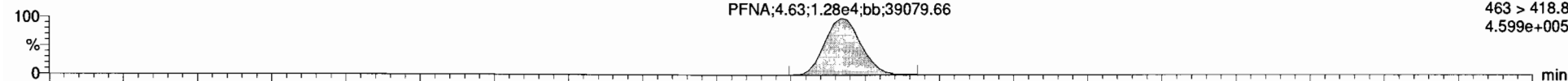
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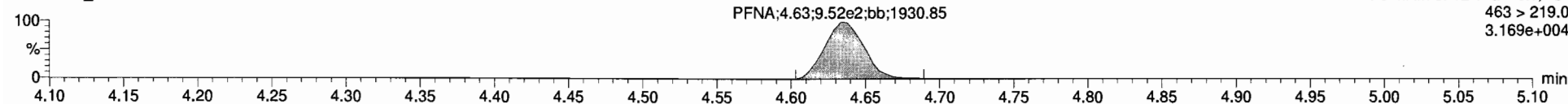
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**PFNA**

170305G1\_11

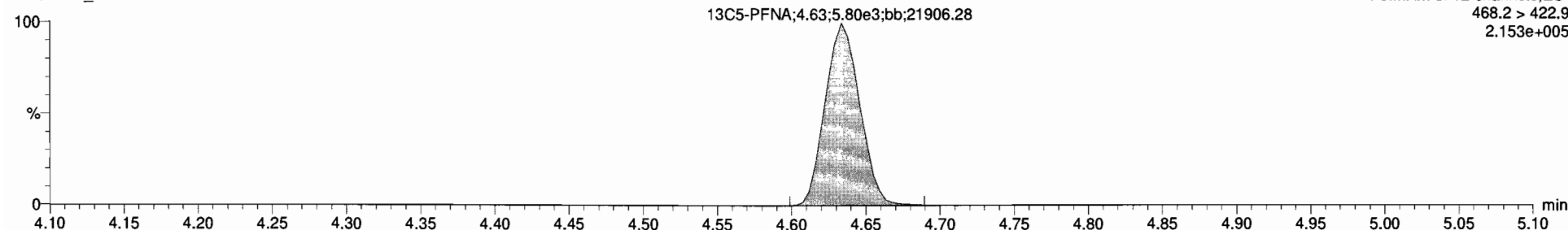


170305G1\_11



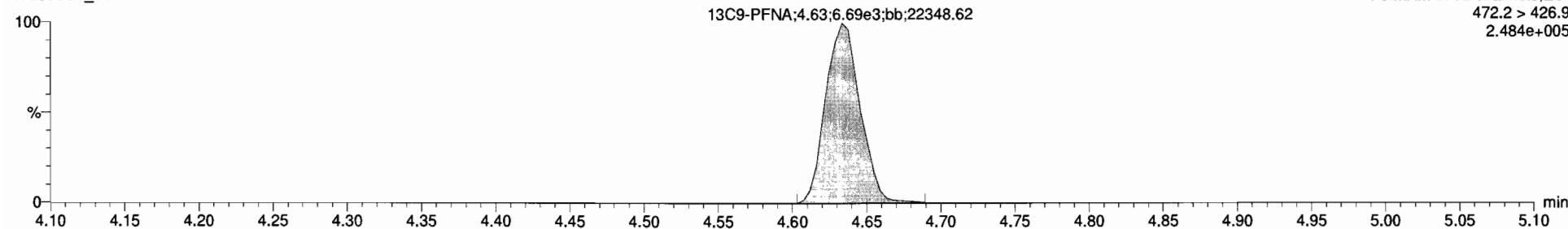
**13C5-PFNA**

170305G1\_11



**13C9-PFNA**

170305G1\_11



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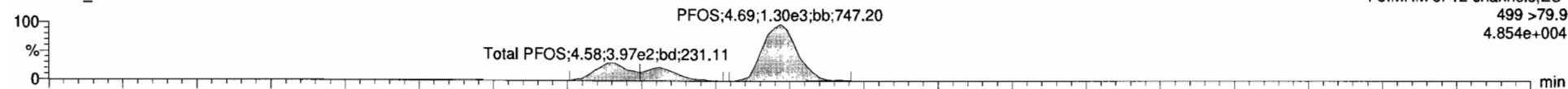
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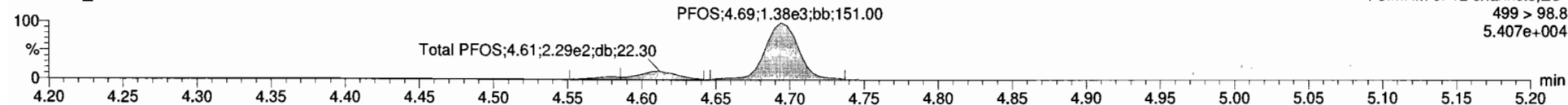
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**Total PFOS**

170305G1\_11

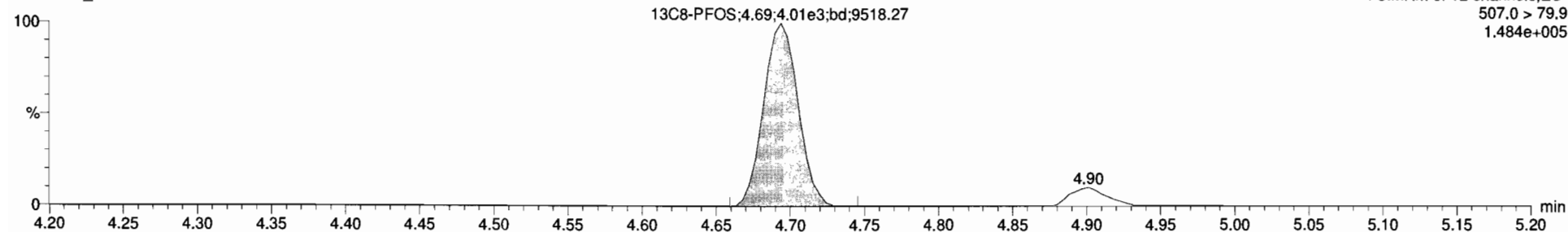


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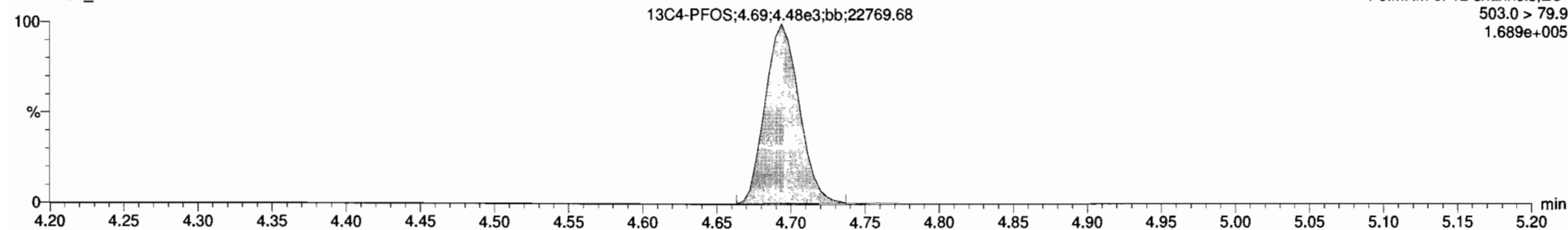
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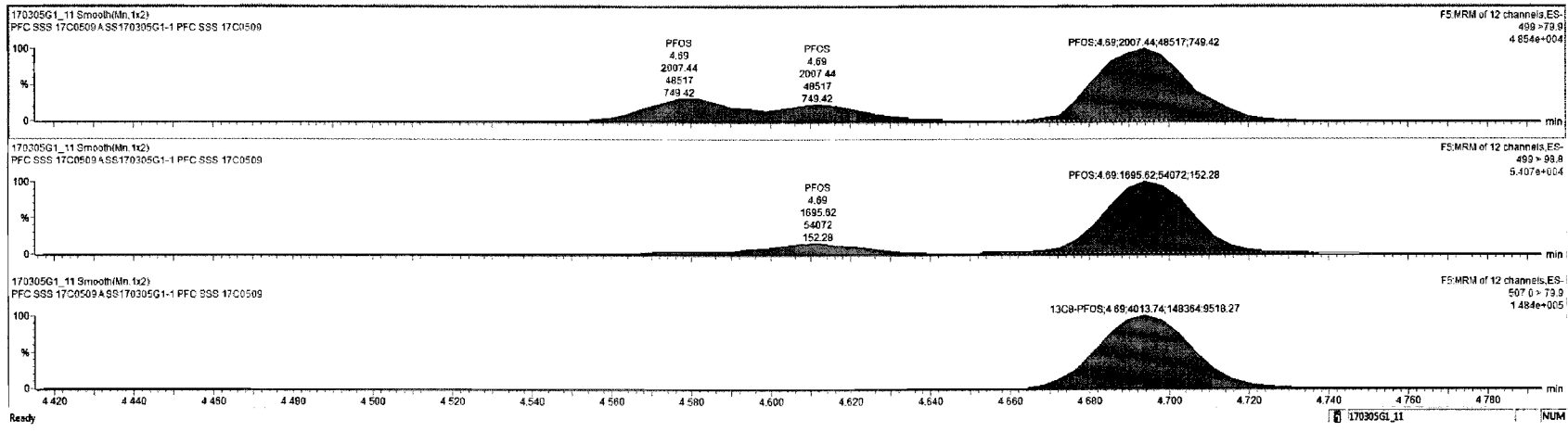
**13C4-PFOS**

170305G1\_11





Name	Conc.	DL	%Rec	EMPC	Abn Resp	RRR	QRT	#	SI	RA	YN	RRP	Acq Date	Acq Time	1* Chr/Node	ID	Sample Text	Factor1	SW	Cal File	MOD
1 PFBS	8.6989458	0.0000	87.0		1.087e4		3.03	1	7	0.388	YES	1.001	05-Mar-17	14:39:40	24.076	SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
2 PFHxA	10.037596	0.0000	100.4		2.523e4		3.91	2	0			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
3 PFHxS	9.3329736	0.0000	83.3		9.941e3		4.05	3	3			1.001	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
4 PFDA	10.865712	0.0000	108.7		2.256e4		4.31	4	10			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
5 PFNA	10.042823	0.0000	100.4		1.279e4		4.63	5	11			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
6 PFOS	11.719535	9.122	117.2		2.907e3		4.69	6	12			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	YES
7 13C3-PFBS	13.351258	0.00517	106.8		6.541e3	0.410	3.03	7	14			0.889	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
8 13C4-PFHxA	13.214482	0.00629	105.7		1.734e4	1.095	3.91	8	14			0.971	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
9 16O2-PFHxS	12.648532	0.00461	101.2		6.564e3	0.434	4.02	9	14			0.999	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
10 13C2-PFDA	11.781296	0.00247	94.1		3.201e4	4.608	4.31	10	15			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
11 13C5-PFNA	12.468185	0.00143	99.9		5.797e3	0.867	4.63	11	16			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
12 13C4-PFOS	11.600781	0.00302	85.4		4.014e3	0.358	4.69	12	17			1.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
13 13C5-PFHxA	12.509000	0.00851	100.0		2.890e4	1.000	3.41	13	13			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
14 13C3-PFHxS	12.509000	0.00393	100.0		1.494e4	1.000	4.03	14	14			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
15 13C8-PFDA	12.509000	0.000376	100.0		7.382e3	1.000	4.31	15	15			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
16 13C9-PFNA	12.509000	0.00140	100.0		6.692e3	1.000	4.63	16	16			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
17 13C4-PFOS	12.509000	0.00137	100.0		4.482e3	1.000	4.69	17	17			0.000	05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
18 Total PFBS	8.6989458							18					05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
19 Total PFHxS	11.119483							19					05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
20 Total PFDA	10.865712							20					05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO
21 Total PFOS	15.801081	0.122						21					05-Mar-17	14:39:40		SS170305G	PFC SSS 17C05...	1.0	1.00	C18_V...	NO











**DATA VALIDATION SUMMARY REPORT  
COUPEVILLE, WASHINGTON**

Client: CH2M HILL, Inc., Corvallis, Oregon  
 SDG: 1700296  
 Laboratory: Vista Analytical Laboratory, El Dorado Hills, California  
 Site: Coupeville, CTO-0008, Washington  
 Date: March 24, 2017

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	WI-CV-GW08M-0317	1700296-01	Water
2	WI-CV-EB12-030317	1700296-02	Water
3	WI-CV-GW07S-0317	1700296-03	Water
4	WI-CV-EB13-030417	1700296-04	Water
5	WI-CV-GW14M-0317	1700296-05	Water
6	WI-CV-GW13S-0317	1700296-06	Water
7	WI-CV-GW07M-0317	1700296-07	Water
8	WI-CV-EB14-030417	1700296-08	Water

A full data validation was performed on the analytical data for five water samples and three aqueous equipment blank samples collected on March 3-4, 2017 by CH2M HILL at the Coupeville site in Washington. The samples were analyzed under the EPA Method “Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)”.

Specific method references are as follows:

Analysis  
PFCs

Method References  
USEPA Method 537 Modified

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

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

The following data quality indicators were reviewed for this report:

## ***Organics***

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

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

### **Data Usability Assessment**

There were no rejections of data.

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

### **Perfluorinated Compounds (PFCs)**

#### **Data Completeness, Case Narrative & Custody Documentation**

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

#### **Holding Times**

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

#### **Initial Calibration**

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

#### **Continuing Calibration**

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

### Method Blank

- The method blanks were free of contamination.

### Field QC Blank

- The equipment blank samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
WI-CV-EB12-030317	None - ND	-	-	-
WI-CV-EB13-030417	None - ND	-	-	-
WI-CV-EB14-030417	None - ND	-	-	-
WI-CV-FB01-030217 (SDG 1700293)	None - ND	-	-	-

### Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- A MS/MSD sample was not collected.

### 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  
Nancy Weaver  
Senior Chemist

Dated: 3/24/17

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



**Sample ID: WI-CV-GW08M-0317**

**Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-01				
Project:	Navy Clean CTO-08	Sample Size:	0.128 L	QC Batch:	B7C0034				
Date Collected:	04-Mar-2017 12:00			Date Analyzed:	09-Mar-17 16:51				
Location:	MW-08M			Column:	BEH C18				
				Date Received:	07-Mar-2017 10:32				
				Date Extracted:	08-Mar-2017 8:40				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.74	3.91	7.79		IS 13C3-PFBS	117	60 - 150	
PFOA	ND	0.634	1.95	7.79		IS 13C2-PFOA	91.9	60 - 150	
PFOS	ND	0.786	0.879	7.79		IS 13C8-PFOS	110	60 - 150	

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

DL - Detection limit

RL - Reporting limit

ww 3/24/17



2

Sample ID: WI-CV-EB12-030317		Modified EPA Method 537						
Client Data		Sample Data	Laboratory Data					
Name:	CH2M Hill	Matrix:	Lab Sample: 1700296-02					
Project:	Navy Clean CTO-08	Sample Size:	QC Batch: B7C0034					
Date Collected:	03-Mar-2017 17:15		Date Analyzed: 09-Mar-17 17:03					
Location:	EB12		Column: BEH C18					
			Date Received: 07-Mar-2017 10:32					
			Date Extracted: 08-Mar-2017 8:40					
Analyte	Conc. (ng/L)	DL	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.85	4.13	8.28	IS 13C3-PFBS	105	60 - 150	
PFOA	ND	0.674	2.07	8.28	IS 13C2-PFOA	81.9	60 - 150	
PFOS	ND	0.836	0.930	8.28	IS 13C8-PFOS	101	60 - 150	

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

mw 3/24/17

3

Sample ID: WI-CV-GW07S-0317		Modified EPA Method 537							
Client Data		Laboratory Data							
Name: CH2M Hill	Lab Sample: 1700296-03	Date Received: 07-Mar-2017 10:32							
Project: Navy Clean CTO-08	QC Batch: B7C0034	Date Extracted: 08-Mar-2017 8:40							
Date Collected: 04-Mar-2017 13:25	Date Analyzed: 09-Mar-17 17:16	Column: BEH C18							
Location: MW-07S	Matrix: Groundwater								
	Sample Size: 0.114 L								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.97	4.39	8.81		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.717	2.19	8.81		IS 13C2-PFOA	91.0	60 - 150	
PFOS	ND	0.889	0.987	8.81		IS 13C8-PFOS	123	60 - 150	

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

NW 3/24/17

4

Sample ID: WI-CV-EB13-030417				Modified EPA Method 537					
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-04	Date Received:	07-Mar-2017 10:32		
Project:	Navy Clean CTO-08	Sample Size:	0.124 L	QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40		
Date Collected:	04-Mar-2017 14:30			Date Analyzed:	09-Mar-17 17:28	Column:	BEH C18		
Location:	EB-13								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.81	4.03	8.08		IS 13C3-PFBS	101	60 - 150	
PFOA	ND	0.657	2.02	8.08		IS 13C2-PFOA	89.1	60 - 150	
PFOS	ND	0.815	0.907	8.08		IS 13C8-PFOS	107	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

new 31241.7

5

Sample ID: WI-CV-GW14M-0317		Modified EPA Method 537							
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-05				
Project:	Navy Clean CTO-08	Sample Size:	0.123 L	QC Batch:	B7C0034				
Date Collected:	04-Mar-2017 17:00			Date Analyzed:	09-Mar-17 17:41				
Location:	MW-14M			Column:	BEH C18				
				Date Received:	07-Mar-2017 10:32				
				Date Extracted:	08-Mar-2017 8:40				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	111	1.82	4.07	8.14		IS 13C3-PFBS	95.5	60- 150	
PFOA	166	0.662	2.03	8.14		IS 13C2-PFOA	95.4	60- 150	
PFOS	0.898	0.821	0.915	8.14	J	IS 13C8-PFOS	122	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 31241.7

6

Sample ID: WI-CV-GW13S-0317		Modified EPA Method 537			
Client Data		Sample Data		Laboratory Data	
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-06
Project:	Navy Clean CTO-08	Sample Size:	0.123 L	QC Batch:	B7C0034
Date Collected:	03-Mar-2017 17:05	DL	LOD	LOQ	LOQ
Location:	MW-13S	Conc. (ng/L)	DL	LOQ	LOQ
Analyte					
PFBS	ND	1.81	4.07	8.11	IS 13C3-PFBS
PFOA	ND	0.660	2.03	8.11	IS 13C2-PFOA
PFOS	ND	0.818	0.915	8.11	IS 13C8-PFOS

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

MW3/24/17

7

Sample ID: WI-CV-GW07M-0317				Modified EPA Method 537					
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-07	Date Received:	07-Mar-2017 10:32		
Project:	Navy Clean CTO-08	Sample Size:	0.128 L	QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40		
Date Collected:	04-Mar-2017 17:15			Date Analyzed:	09-Mar-17 18:06	Column:	BEH C18		
Location:	MW-07M								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.80		IS 13C3-PFBS	112	60 - 150	
PFOA	ND	0.635	1.95	7.80		IS 13C2-PFOA	90.0	60 - 150	
PFOS	0.844	0.787	0.879	7.80	J	IS 13C8-PFOS	124	60 - 150	

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

mw 3/24/17

Sample ID: WI-CV-EB14-030417				Modified EPA Method 537					
Client Data		Sample Data		Laboratory Data					
Name:	CH2M Hill	Matrix:	Groundwater	Lab Sample:	1700296-08	Date Received:	07-Mar-2017 10:32		
Project:	Navy Clean CTO-08	Sample Size:	0.128 L	QC Batch:	B7C0034	Date Extracted:	08-Mar-2017 8:40		
Date Collected:	04-Mar-2017 17:45			Date Analyzed:	09-Mar-17 18:18	Column:	BEH C18		
Location:	EB-14								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.82		IS 13C3-PFBS	110	60 - 150	
PFOA	ND	0.636	1.95	7.82		IS 13C2-PFOA	102	60 - 150	
PFOS	ND	0.789	0.879	7.82		IS 13C8-PFOS	114	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.

new 3/24/17