NAVFAC
Naval Facilities Engineering Command

Drinking Water Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, Sample Location Report, SDG 1700759

NAS

Chase Field, TX

December 2020

July 10, 2017

Vista Work Order No. 1700759

Ms. Nia Nikmanesh
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Nikmanesh,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 23, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Former NAS Chase Field / 5026167008'.

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

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

Sincerely,

Karen J. Volpendesta 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. 1700759
Case Narrative

Sample Condition on Receipt:

Twelve drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. As directed on the Chain of Custody, the Field Reagent Blanks were extracted and held for analysis. The client confirmed the sample IDs listed on the Chain of Custody are correct.

Analytical Notes:

EPA Method 537

The drinking water samples were extracted and analyzed for the list of 14 PFAS using EPA Method 537.

Holding Times

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

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria. The RPD was outside of the Initial Calibration for compounds EtFOSAA and MeFOSSA which are non-detects in the samples.

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

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

An MS/MSD was performed on sample "Tower1-DW-20170622".

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700759-01	Well2-G0130002-DW-20170622		22-Jun-17 09:05	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-02	Well2-G0130002-FRB-20170622		22-Jun-17 09:06	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-03	Well5-G0130002-DW-20170622		22-Jun-17 09:39	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-04	Well5-G0130002-FRB-20170622		22-Jun-17 09:41	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-05	Well6-G0130002-DW-20170622		22-Jun-17 10:00	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-06	Well6-G0130002-FRB-20170622		22-Jun-17 10:03	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-07	Tower2-DW-20170622		22-Jun-17 10:20	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-08	Tower2-FRB-20170622		22-Jun-17 10:21	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-09	Tower1-DW-20170622	MS/MSD	22-Jun-17 11:22	23-Jun-17 09:42	HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
1700759-10	Tower1-DW-20170622FD		22-Jun-17 11:22	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-11	Tower1-FRB-20170622		22-Jun-17 11:26	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-12	Tower1 - FRB-20170622FD		22-Jun-17 11:26	23-Jun-17 09:42	HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Matrix: Drinking Water
Sample Size: 0.250 L

QC Batch: B7F0113
Date Extracted: 27-Jun-2017 8:45

Lab Sample: B7F0113-BLK1
Date Analyzed: 28-Jun-17 21:03 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000443	0.00500	0.0100	
PFHxA	0.00103	0.000663	0.00500	0.0100	J
PFHpA	ND	0.000533	0.00500	0.0100	
PFHxS	ND	0.000415	0.00500	0.0100	
PFOA	ND	0.00108	0.00500	0.0100	
PFNA	ND	0.00144	0.00500	0.0100	
PFOS	ND	0.00104	0.00500	0.0100	
PFDA	ND	0.00128	0.00500	0.0100	
MeFOSAA	ND	0.00304	0.00500	0.0100	
EtFOSAA	ND	0.00193	0.00500	0.0100	
PFUnA	ND	0.000255	0.00500	0.0100	
PFDoA	ND	0.000952	0.00500	0.0100	
PFTrDA	ND	0.000943	0.00500	0.0100	
PFTeDA	ND	0.000777	0.00500	0.0100	

Labeled Standard		%R	LCL-UCL	Qualifiers
SUR	13C2-PFHxA	98.9	70 - 130	
SUR	13C2-PFDA	95.0	70 - 130	
SUR	d5-EtFOSAA	92.6	70 - 130	

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: LFB

EPA Method 537

Matrix:	Drinking Water	QC Batch:	B7F0113	Lab Sample:	B7F0113-BS1
Sample Size:	0.250 L	Date Extracted:	27-Jun-2017 8:45	Date Analyzed:	28-Jun-17 21:15 Column: BEH C18

Analyte	Amt Found (ug/L)	Spike Amt	%R	Limits
PFBS	0.0679	0.0708	95.9	70 - 130
PFHxA	0.0731	0.0800	91.3	70 - 130
PFHpA	0.0705	0.0800	88.1	70 - 130
PFHxS	0.0722	0.0728	99.2	70 - 130
PFOA	0.0685	0.0800	85.7	70 - 130
PFNA	0.0716	0.0800	89.5	70 - 130
PFOS	0.0618	0.0740	83.6	70 - 130
PFDA	0.0739	0.0800	92.4	70 - 130
MeFOSAA	0.0731	0.0800	91.3	70 - 130
EtFOSAA	0.0749	0.0800	93.6	70 - 130
PFUnA	0.0607	0.0800	75.8	70 - 130
PFDoA	0.0728	0.0800	91.0	70 - 130
PFTrDA	0.0698	0.0800	87.3	70 - 130
PFTeDA	0.0659	0.0800	82.3	70 - 130

	Labeled Standard	%R	LCL-UCL
SUR	13C2-PFHxA	90.9	70 - 130
SUR	13C2-PFDA	87.1	70 - 130
SUR	d5-EtFOSAA	103	70 - 130

LCL-UCL - Lower control limit - upper control limit

Sample ID: Well2-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 9:05
Location: Well 2

Sample Data

Matrix: Drinking Water
Sample Size: 0.278 L

Laboratory Data

Lab Sample: 1700759-01 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 21:28 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000398	0.00450	0.00900	
PFHxA	0.00110	0.000596	0.00450	0.00900	J, B
PFHpA	ND	0.000479	0.00450	0.00900	
PFHxS	ND	0.000373	0.00450	0.00900	
PFOA	ND	0.000971	0.00450	0.00900	
PFNA	ND	0.00130	0.00450	0.00900	
PFOS	ND	0.000935	0.00450	0.00900	
PFDA	ND	0.00115	0.00450	0.00900	
MeFOSAA	ND	0.00273	0.00450	0.00900	
EtFOSAA	ND	0.00174	0.00450	0.00900	
PFUnA	ND	0.000229	0.00450	0.00900	
PFDoA	ND	0.000856	0.00450	0.00900	
PFTrDA	ND	0.000848	0.00450	0.00900	
PFTeDA	ND	0.000699	0.00450	0.00900	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	101	70 - 130	
SUR 13C2-PFDA	93.3	70 - 130	
SUR d5-EtFOSAA	81.3	70 - 130	

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: Well5-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 9:39
Location: Well 5

Sample Data

Matrix: Drinking Water
Sample Size: 0.285 L

Laboratory Data

Lab Sample: 1700759-03 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 21:53 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000389	0.00439	0.00879	
PFHxA	0.000882	0.000583	0.00439	0.00879	J, B
PFHpA	ND	0.000468	0.00439	0.00879	
PFHxS	ND	0.000365	0.00439	0.00879	
PFOA	ND	0.000949	0.00439	0.00879	
PFNA	ND	0.00127	0.00439	0.00879	
PFOS	ND	0.000914	0.00439	0.00879	
PFDA	ND	0.00112	0.00439	0.00879	
MeFOSAA	ND	0.00267	0.00439	0.00879	
EtFOSAA	ND	0.00170	0.00439	0.00879	
PFUnA	ND	0.000224	0.00439	0.00879	
PFDoA	ND	0.000836	0.00439	0.00879	
PFTrDA	ND	0.000829	0.00439	0.00879	
PFTeDA	ND	0.000683	0.00439	0.00879	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	102	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	103	70 - 130	

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: Well6-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 10:00
Location: Well 6

Sample Data

Matrix: Drinking Water
Sample Size: 0.276 L

Laboratory Data

Lab Sample: 1700759-05 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 22:19 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000401	0.00452	0.00905	
PFHxA	0.000929	0.000600	0.00452	0.00905	J, B
PFHpA	ND	0.000482	0.00452	0.00905	
PFHxS	ND	0.000375	0.00452	0.00905	
PFOA	ND	0.000977	0.00452	0.00905	
PFNA	ND	0.00130	0.00452	0.00905	
PFOS	ND	0.000941	0.00452	0.00905	
PFDA	ND	0.00116	0.00452	0.00905	
MeFOSAA	ND	0.00275	0.00452	0.00905	
EtFOSAA	ND	0.00175	0.00452	0.00905	
PFUnA	ND	0.000231	0.00452	0.00905	
PFDoA	ND	0.000861	0.00452	0.00905	
PFTrDA	ND	0.000853	0.00452	0.00905	
PFTeDA	ND	0.000703	0.00452	0.00905	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	102	70 - 130	
SUR 13C2-PFDA	99.0	70 - 130	
SUR d5-EtFOSAA	96.9	70 - 130	

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: Tower2-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 10:20
Location: Tower 2

Sample Data

Matrix: Drinking Water
Sample Size: 0.282 L

Laboratory Data

Lab Sample: 1700759-07 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 22:45 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000392	0.00443	0.00886	
PFHxA	0.000810	0.000587	0.00443	0.00886	J, B
PFHpA	ND	0.000472	0.00443	0.00886	
PFHxS	ND	0.000368	0.00443	0.00886	
PFOA	ND	0.000957	0.00443	0.00886	
PFNA	ND	0.00128	0.00443	0.00886	
PFOS	ND	0.000921	0.00443	0.00886	
PFDA	ND	0.00113	0.00443	0.00886	
MeFOSAA	ND	0.00269	0.00443	0.00886	
EtFOSAA	ND	0.00171	0.00443	0.00886	
PFUnA	ND	0.000226	0.00443	0.00886	
PFDoA	ND	0.000843	0.00443	0.00886	
PFTrDA	ND	0.000835	0.00443	0.00886	
PFTeDA	ND	0.000688	0.00443	0.00886	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	105	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	74.3	70 - 130	

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: Tower1-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:22
Location: Tower 1 + FD + MS MD

Sample Data

Matrix: Drinking Water
Sample Size: 0.286 L

Laboratory Data

Lab Sample: 1700759-09 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 23:10 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000388	0.00438	0.00875	
PFHxA	0.000890	0.000580	0.00438	0.00875	J, B
PFHpA	ND	0.000466	0.00438	0.00875	
PFHxS	ND	0.000363	0.00438	0.00875	
PFOA	ND	0.000945	0.00438	0.00875	
PFNA	ND	0.00126	0.00438	0.00875	
PFOS	ND	0.000910	0.00438	0.00875	
PFDA	ND	0.00112	0.00438	0.00875	
MeFOSAA	ND	0.00266	0.00438	0.00875	
EtFOSAA	ND	0.00169	0.00438	0.00875	
PFUnA	ND	0.000223	0.00438	0.00875	
PFDoA	ND	0.000833	0.00438	0.00875	
PFTrDA	ND	0.000825	0.00438	0.00875	
PFTeDA	ND	0.000680	0.00438	0.00875	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	93.3	70 - 130	
SUR 13C2-PFDA	91.4	70 - 130	
SUR d5-EtFOSAA	121	70 - 130	

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.

Matrix Spike Results

EPA Method 537

Source Client ID: Tower1-DW-20170622
Source LabNumber: 1700759-09
Matrix: Drinking Water
Sample Size: 0.278/0.280 L

QC Batch: B7F0113
Date Extracted: 27-Jun-2017 8:45

Lab Sample: B7F0113-MS1/B7F0113-MSD1
Date Analyzed: 28-Jun-17 23:22 Column: BEH C18
28-Jun-17 23:34 Column: BEH C18

Analyte	Spike-MS (ug/L)	MS %R	MS Qual.	Spike-MSD (ug/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	0.0636	75.7		0.0631	83.3	9.56		70 - 130	30
PFHxA	0.0719	86.0	B	0.0714	86.8	0.926	B	70 - 130	30
PFHpA	0.0719	86.3		0.0714	88.1	2.06		70 - 130	30
PFHxS	0.0654	79.5		0.0649	89.1	11.4		70 - 130	30
PFOA	0.0719	88.1		0.0714	87.5	0.683		70 - 130	30
PFNA	0.0719	91.0		0.0714	90.5	0.551		70 - 130	30
PFOS	0.0665	75.6		0.0660	85.3	12.1		70 - 130	30
PFDA	0.0719	88.3		0.0714	74.9	16.4		70 - 130	30
MeFOSAA	0.0719	86.0		0.0714	75.1	13.5		70 - 130	30
EtFOSAA	0.0719	84.0		0.0714	76.4	9.48		70 - 130	30
PFUnA	0.0719	83.1		0.0714	86.0	3.43		70 - 130	30
PFDoA	0.0719	87.7		0.0714	80.1	9.06		70 - 130	30
PFTrDA	0.0719	83.7		0.0714	74.1	12.2		70 - 130	30
PFTeDA	0.0719	87.9		0.0714	78.5	11.3		70 - 130	30

Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
SUR 13C2-PFHxA	98.5		94.2	
SUR 13C2-PFDA	85.6		78.7	
SUR d5-EtFOSAA	96.9		98.8	

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: Tower1-DW-20170622FD

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:22
Location: Tower 1 + FD + MS MD

Sample Data

Matrix: Drinking Water
Sample Size: 0.275 L

Laboratory Data

Lab Sample: 1700759-10 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 23:47 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000402	0.00454	0.00909	
PFHxA	0.000959	0.000602	0.00454	0.00909	J, B
PFHpA	ND	0.000484	0.00454	0.00909	
PFHxS	ND	0.000377	0.00454	0.00909	
PFOA	ND	0.000981	0.00454	0.00909	
PFNA	ND	0.00131	0.00454	0.00909	
PFOS	ND	0.000945	0.00454	0.00909	
PFDA	ND	0.00116	0.00454	0.00909	
MeFOSAA	ND	0.00276	0.00454	0.00909	
EtFOSAA	ND	0.00175	0.00454	0.00909	
PFUnA	ND	0.000232	0.00454	0.00909	
PFDoA	ND	0.000865	0.00454	0.00909	
PFTrDA	ND	0.000857	0.00454	0.00909	
PFTeDA	ND	0.000706	0.00454	0.00909	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	103	70 - 130	
SUR 13C2-PFDA	109	70 - 130	
SUR d5-EtFOSAA	85.4	70 - 130	

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: Tower1 - FRB-20170622FD

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:26
Location: Tower 1 FRB + FD

Sample Data

Matrix: Drinking Water
Sample Size: 0.285 L

Laboratory Data

Lab Sample: 1700759-12 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 29-Jun-17 00:50 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000389	0.00439	0.00879	
PFHxA	0.000627	0.000583	0.00439	0.00879	J, B
PFHpA	ND	0.000468	0.00439	0.00879	
PFHxS	ND	0.000365	0.00439	0.00879	
PFOA	ND	0.000949	0.00439	0.00879	
PFNA	ND	0.00127	0.00439	0.00879	
PFOS	ND	0.000914	0.00439	0.00879	
PFDA	ND	0.00112	0.00439	0.00879	
MeFOSAA	ND	0.00267	0.00439	0.00879	
EtFOSAA	ND	0.00170	0.00439	0.00879	
PFUnA	ND	0.000224	0.00439	0.00879	
PFDoA	ND	0.000837	0.00439	0.00879	
PFTrDA	ND	0.000829	0.00439	0.00879	
PFTeDA	ND	0.000683	0.00439	0.00879	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	107	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	95.5	70 - 130	

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

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

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

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

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

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

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

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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Laboratory Project ID: 1700759 Temp: 2.7 °C
Storage ID: WR-2, 2-4 Storage Secured: Yes ☒ No ☐

Project ID: 5026167008 PO#: _____ Sampler: Dan Haug / Keavn Olress (name)

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

Invoice to: Name: Lou Ann Vogler Company: KMEA Address: 2423 Hoover Ave City: National City State: CA Ph#: 91950 Fax#:

Relinquished by (printed name and signature): Daniel B. Haug Date: 6/22/2017 Time: 1330
Received by (printed name and signature): Marissa Sparks MSparks Date: 6/23/17 Time: 1005

Relinquished by (printed name and signature): Daniel B. Haug 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: _____

ATTN: _____ Tracking No.: _____

06/22/17

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA 1613: 2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	EPA 8290: 2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	EPA 8280: 2378-TCDD	2378 TCDD/TCDF	PCDD/PCDF	TOTALS	EPA 1668: COPLANAR PCB's	209 CONGENERS	PBDE	PAH	EPA 1614: WHO-29	CARB429: Mod. EPA 537	Unmodified 537	Comments
Well 2-G0130002-DW-20170622		0905	Well 2	1																			X	Full US EPA Method 537 list
Well 2-G0130002-FRB-20170622		0906	Well 2 FRB	1																			X	Extraction only
Well 5-G0130002-DW-20170622		0939	Well 5	1																			X	
Well 5-G0130002-FRB-20170622		0941	Well 5 FRB	1																			X	Extraction only
Well 6-G0130002-DW-20170622		1000	Well 6	1																			X	
Well 6-G0130002-FRB-20170622		1003	Well 6 FRB	1																			X	Extraction only
Tower 2-DW-20170622		1020	Tower 2	1																			X	
Tower 2-FRB-20170622		1021	Tower 2 FRB	1																			X	Extraction only
Tower 1-DW-20170622/FD/MS/MSD		1125 1126	Tower 1 + FD + MS/MSD	4																			X	FD + MS/MSD
Tower 1-FRB-20170622/FD		1126	Tower 1 FRB + FD	2																			X	Extraction only at FD

Special Instructions/Comments: Extraction only for FRB samples; analyze FRB samples if parent sample has detections of PFAS; full US EPA Method 537 only 575

SEND DOCUMENTATION AND RESULTS TO:
Name: _____
Company: _____
Address: _____
City: _____ State: ____ Zip: _____
Phone: _____ Fax: _____
Email: _____

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

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

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

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1700759 **TAT** 14 day

Samples Arrival:	**Date/Time** 6/23/17 0942	**Initials:** WMS	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 6/23/17 1039	**Initials:** WMS	**Location:** WR-2 **Shelf/Rack:** 2-4

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

Temp °C: 3.1 (uncorrected)	**Time:** 1004	**Thermometer ID:** IR-2	
Temp °C: 2.7 (corrected)	**Probe used:** Yes☐ No☒		

	YES	NO	NA
Adequate Sample Volume Received? *	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 8099 2251 5370	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		

If Chlorinated or Drinking Water Samples, Acceptable Preservation?					✓		
Preservation Documented:	$Na_2S_2O_3$	Trizma	None	Sample Container	Yes	No	NA
Shipping Container	Vista	Client	Retain	Return		Dispose	

Comments: * 1-250mh bottle each

(*) Labels do not match COC

Sample Label ID's

Tower1-FRB-20170622-FD
Tower1-DW-20170622-FD
Tower1-DW-20170622-MSD
Tower1-DW-20170622-MS
Tower1-DW-20170622
Tower1-FRB-20170622
Well2-G0130002-FRB-20170622
Well2-G0130002-DW-20170622
Well5-G0130002-DW-20170622
Well5-G0130002-FRB-20170622
(*) Well6-0130002-DW-20170622
(*) Well6-0130002-FRB-20170622
Tower2-DW-20170622
Tower2-FRB-20170622

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client:	KMEA	Workorder Number:	1700759
Contact:	Nia Nikmanesh	Date Received:	23-Jun-17 09:42
Email:	nnikmanesh@kmea.net	Documented by/date:	B.Benedict 06/24/2017
Phone:	(858) 444-6107		

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

- ☐ Complete Chain-of-Custody
- ☐ Test Method Requested
- ☐ Analyte List Requested
- ☐ Other:
- ☐ Preservative
- ☐ Sample Identification
- ☐ Sample Collection Date and/or Time
- ☐ Collector's Name
- ☐ Sample Type
- ☐ Sample Location

The following anomalies were noted. Authorization is needed to proceed with analysis.

☐ Temperature outside < 6°C Range Samples Affected: _____

Temperature _____°C Ice Present? Yes No Melted

- ☒ Sample ID Discrepancy: **See Comments**
- ☐ Sample Holding Time Missed
- ☐ Custody Seals Broken
- ☐ Insufficient Sample Size
- ☐ Sample Container(s) Broken
- ☐ Incorrect Container Type

Comments:

Label ID:	COC ID:
Well 6-0130002-DW-20170622	Well 6-**G0130002**-DW-20170622
Well 6-0130002-FRB-20170622	Well 6-**G0130002**-FRB-20170622

Client Authorization

Proceed with Analysis: (YES) NO Signature and Date Karen J. Wojcik 6-26-2017

Client Comments/Instructions Per email from Kevin Olmeda on 6-26-2017, the sample ID's on the COC are correct.

July 10, 2017

Vista Work Order No. 1700759

Ms. Nia Nikmanesh
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Nikmanesh,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on June 23, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'Former NAS Chase Field / 5026167008'.

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

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

Sincerely,

Karen J. Volpendesta 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. 1700759
Case Narrative

Sample Condition on Receipt:

Twelve drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. As directed on the Chain of Custody, the Field Reagent Blanks were extracted and held for analysis. The client confirmed the sample IDs listed on the Chain of Custody are correct.

Analytical Notes:

EPA Method 537

The drinking water samples were extracted and analyzed for the list of 14 PFAS using EPA Method 537.

Holding Times

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

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria. The RPD was outside of the Initial Calibration for compounds EtFOSAA and MeFOSSA which are non-detects in the samples.

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

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

An MS/MSD was performed on sample "Tower1-DW-20170622".

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID		Sampled	Received	Components/Containers
1700759-01	Well2-G0130002-DW-20170622		22-Jun-17 09:05	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-02	Well2-G0130002-FRB-20170622		22-Jun-17 09:06	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-03	Well5-G0130002-DW-20170622		22-Jun-17 09:39	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-04	Well5-G0130002-FRB-20170622		22-Jun-17 09:41	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-05	Well6-G0130002-DW-20170622		22-Jun-17 10:00	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-06	Well6-G0130002-FRB-20170622		22-Jun-17 10:03	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-07	Tower2-DW-20170622		22-Jun-17 10:20	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-08	Tower2-FRB-20170622		22-Jun-17 10:21	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-09	Tower1-DW-20170622	MS/MSD	22-Jun-17 11:22	23-Jun-17 09:42	HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
		MS/MSD			HDPE Bottle, 250 mL
1700759-10	Tower1-DW-20170622FD		22-Jun-17 11:22	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-11	Tower1-FRB-20170622		22-Jun-17 11:26	23-Jun-17 09:42	HDPE Bottle, 250 mL
1700759-12	Tower1 - FRB-20170622FD		22-Jun-17 11:26	23-Jun-17 09:42	HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Matrix: Drinking Water
Sample Size: 0.250 L

QC Batch: B7F0113
Date Extracted: 27-Jun-2017 8:45

Lab Sample: B7F0113-BLK1
Date Analyzed: 28-Jun-17 21:03 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000443	0.00500	0.0100	
PFHxA	0.00103	0.000663	0.00500	0.0100	J
PFHpA	ND	0.000533	0.00500	0.0100	
PFHxS	ND	0.000415	0.00500	0.0100	
PFOA	ND	0.00108	0.00500	0.0100	
PFNA	ND	0.00144	0.00500	0.0100	
PFOS	ND	0.00104	0.00500	0.0100	
PFDA	ND	0.00128	0.00500	0.0100	
MeFOSAA	ND	0.00304	0.00500	0.0100	
EtFOSAA	ND	0.00193	0.00500	0.0100	
PFUnA	ND	0.000255	0.00500	0.0100	
PFDoA	ND	0.000952	0.00500	0.0100	
PFTrDA	ND	0.000943	0.00500	0.0100	
PFTeDA	ND	0.000777	0.00500	0.0100	

Labeled Standard		%R	LCL-UCL	Qualifiers
SUR	13C2-PFHxA	98.9	70 - 130	
SUR	13C2-PFDA	95.0	70 - 130	
SUR	d5-EtFOSAA	92.6	70 - 130	

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: LFB

EPA Method 537

Matrix:	Drinking Water	QC Batch:	B7F0113	Lab Sample:	B7F0113-BS1
Sample Size:	0.250 L	Date Extracted:	27-Jun-2017 8:45	Date Analyzed:	28-Jun-17 21:15 Column: BEH C18

Analyte	Amt Found (ug/L)	Spike Amt	%R	Limits
PFBS	0.0679	0.0708	95.9	70 - 130
PFHxA	0.0731	0.0800	91.3	70 - 130
PFHpA	0.0705	0.0800	88.1	70 - 130
PFHxS	0.0722	0.0728	99.2	70 - 130
PFOA	0.0685	0.0800	85.7	70 - 130
PFNA	0.0716	0.0800	89.5	70 - 130
PFOS	0.0618	0.0740	83.6	70 - 130
PFDA	0.0739	0.0800	92.4	70 - 130
MeFOSAA	0.0731	0.0800	91.3	70 - 130
EtFOSAA	0.0749	0.0800	93.6	70 - 130
PFUnA	0.0607	0.0800	75.8	70 - 130
PFDoA	0.0728	0.0800	91.0	70 - 130
PFTrDA	0.0698	0.0800	87.3	70 - 130
PFTeDA	0.0659	0.0800	82.3	70 - 130

	Labeled Standard	%R	LCL-UCL
SUR	13C2-PFHxA	90.9	70 - 130
SUR	13C2-PFDA	87.1	70 - 130
SUR	d5-EtFOSAA	103	70 - 130

LCL-UCL - Lower control limit - upper control limit

Sample ID: Well2-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 9:05
Location: Well 2

Sample Data

Matrix: Drinking Water
Sample Size: 0.278 L

Laboratory Data

Lab Sample: 1700759-01 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 21:28 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000398	0.00450	0.00900	
PFHxA	0.00110	0.000596	0.00450	0.00900	J, B
PFHpA	ND	0.000479	0.00450	0.00900	
PFHxS	ND	0.000373	0.00450	0.00900	
PFOA	ND	0.000971	0.00450	0.00900	
PFNA	ND	0.00130	0.00450	0.00900	
PFOS	ND	0.000935	0.00450	0.00900	
PFDA	ND	0.00115	0.00450	0.00900	
MeFOSAA	ND	0.00273	0.00450	0.00900	
EtFOSAA	ND	0.00174	0.00450	0.00900	
PFUnA	ND	0.000229	0.00450	0.00900	
PFDoA	ND	0.000856	0.00450	0.00900	
PFTrDA	ND	0.000848	0.00450	0.00900	
PFTeDA	ND	0.000699	0.00450	0.00900	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	101	70 - 130	
SUR 13C2-PFDA	93.3	70 - 130	
SUR d5-EtFOSAA	81.3	70 - 130	

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: Well5-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 9:39
Location: Well 5

Sample Data

Matrix: Drinking Water
Sample Size: 0.285 L

Laboratory Data

Lab Sample: 1700759-03 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 21:53 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000389	0.00439	0.00879	
PFHxA	0.000882	0.000583	0.00439	0.00879	J, B
PFHpA	ND	0.000468	0.00439	0.00879	
PFHxS	ND	0.000365	0.00439	0.00879	
PFOA	ND	0.000949	0.00439	0.00879	
PFNA	ND	0.00127	0.00439	0.00879	
PFOS	ND	0.000914	0.00439	0.00879	
PFDA	ND	0.00112	0.00439	0.00879	
MeFOSAA	ND	0.00267	0.00439	0.00879	
EtFOSAA	ND	0.00170	0.00439	0.00879	
PFUnA	ND	0.000224	0.00439	0.00879	
PFDoA	ND	0.000836	0.00439	0.00879	
PFTrDA	ND	0.000829	0.00439	0.00879	
PFTeDA	ND	0.000683	0.00439	0.00879	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	102	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	103	70 - 130	

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: Well6-G0130002-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 10:00
Location: Well 6

Sample Data

Matrix: Drinking Water
Sample Size: 0.276 L

Laboratory Data

Lab Sample: 1700759-05 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 22:19 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000401	0.00452	0.00905	
PFHxA	0.000929	0.000600	0.00452	0.00905	J, B
PFHpA	ND	0.000482	0.00452	0.00905	
PFHxS	ND	0.000375	0.00452	0.00905	
PFOA	ND	0.000977	0.00452	0.00905	
PFNA	ND	0.00130	0.00452	0.00905	
PFOS	ND	0.000941	0.00452	0.00905	
PFDA	ND	0.00116	0.00452	0.00905	
MeFOSAA	ND	0.00275	0.00452	0.00905	
EtFOSAA	ND	0.00175	0.00452	0.00905	
PFUnA	ND	0.000231	0.00452	0.00905	
PFDoA	ND	0.000861	0.00452	0.00905	
PFTrDA	ND	0.000853	0.00452	0.00905	
PFTeDA	ND	0.000703	0.00452	0.00905	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	102	70 - 130	
SUR 13C2-PFDA	99.0	70 - 130	
SUR d5-EtFOSAA	96.9	70 - 130	

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: Tower2-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 10:20
Location: Tower 2

Sample Data

Matrix: Drinking Water
Sample Size: 0.282 L

Laboratory Data

Lab Sample: 1700759-07 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 22:45 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000392	0.00443	0.00886	
PFHxA	0.000810	0.000587	0.00443	0.00886	J, B
PFHpA	ND	0.000472	0.00443	0.00886	
PFHxS	ND	0.000368	0.00443	0.00886	
PFOA	ND	0.000957	0.00443	0.00886	
PFNA	ND	0.00128	0.00443	0.00886	
PFOS	ND	0.000921	0.00443	0.00886	
PFDA	ND	0.00113	0.00443	0.00886	
MeFOSAA	ND	0.00269	0.00443	0.00886	
EtFOSAA	ND	0.00171	0.00443	0.00886	
PFUnA	ND	0.000226	0.00443	0.00886	
PFDoA	ND	0.000843	0.00443	0.00886	
PFTrDA	ND	0.000835	0.00443	0.00886	
PFTeDA	ND	0.000688	0.00443	0.00886	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	105	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	74.3	70 - 130	

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: Tower1-DW-20170622

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:22
Location: Tower 1 + FD + MS MD

Sample Data

Matrix: Drinking Water
Sample Size: 0.286 L

Laboratory Data

Lab Sample: 1700759-09 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 23:10 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000388	0.00438	0.00875	
PFHxA	0.000890	0.000580	0.00438	0.00875	J, B
PFHpA	ND	0.000466	0.00438	0.00875	
PFHxS	ND	0.000363	0.00438	0.00875	
PFOA	ND	0.000945	0.00438	0.00875	
PFNA	ND	0.00126	0.00438	0.00875	
PFOS	ND	0.000910	0.00438	0.00875	
PFDA	ND	0.00112	0.00438	0.00875	
MeFOSAA	ND	0.00266	0.00438	0.00875	
EtFOSAA	ND	0.00169	0.00438	0.00875	
PFUnA	ND	0.000223	0.00438	0.00875	
PFDoA	ND	0.000833	0.00438	0.00875	
PFTrDA	ND	0.000825	0.00438	0.00875	
PFTeDA	ND	0.000680	0.00438	0.00875	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	93.3	70 - 130	
SUR 13C2-PFDA	91.4	70 - 130	
SUR d5-EtFOSAA	121	70 - 130	

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.

Matrix Spike Results

EPA Method 537

Source Client ID: Tower1-DW-20170622
Source LabNumber: 1700759-09
Matrix: Drinking Water
Sample Size: 0.278/0.280 L

QC Batch: B7F0113
Date Extracted: 27-Jun-2017 8:45

Lab Sample: B7F0113-MS1/B7F0113-MSD1
Date Analyzed: 28-Jun-17 23:22 Column: BEH C18
28-Jun-17 23:34 Column: BEH C18

Analyte	Spike-MS (ug/L)	MS %R	MS Qual.	Spike-MSD (ug/L)	MSD %R	RPD	MSD Qual.	%R Limit	%RPD Limit
PFBS	0.0636	75.7		0.0631	83.3	9.56		70 - 130	30
PFHxA	0.0719	86.0	B	0.0714	86.8	0.926	B	70 - 130	30
PFHpA	0.0719	86.3		0.0714	88.1	2.06		70 - 130	30
PFHxS	0.0654	79.5		0.0649	89.1	11.4		70 - 130	30
PFOA	0.0719	88.1		0.0714	87.5	0.683		70 - 130	30
PFNA	0.0719	91.0		0.0714	90.5	0.551		70 - 130	30
PFOS	0.0665	75.6		0.0660	85.3	12.1		70 - 130	30
PFDA	0.0719	88.3		0.0714	74.9	16.4		70 - 130	30
MeFOSAA	0.0719	86.0		0.0714	75.1	13.5		70 - 130	30
EtFOSAA	0.0719	84.0		0.0714	76.4	9.48		70 - 130	30
PFUnA	0.0719	83.1		0.0714	86.0	3.43		70 - 130	30
PFDoA	0.0719	87.7		0.0714	80.1	9.06		70 - 130	30
PFTrDA	0.0719	83.7		0.0714	74.1	12.2		70 - 130	30
PFTeDA	0.0719	87.9		0.0714	78.5	11.3		70 - 130	30

Labeled Standard	MS %R	MS Qualifiers	MSD %R	MS Qual.
SUR 13C2-PFHxA	98.5		94.2	
SUR 13C2-PFDA	85.6		78.7	
SUR d5-EtFOSAA	96.9		98.8	

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: Tower1-DW-20170622FD

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:22
Location: Tower 1 + FD + MS MD

Sample Data

Matrix: Drinking Water
Sample Size: 0.275 L

Laboratory Data

Lab Sample: 1700759-10 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 28-Jun-17 23:47 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000402	0.00454	0.00909	
PFHxA	0.000959	0.000602	0.00454	0.00909	J, B
PFHpA	ND	0.000484	0.00454	0.00909	
PFHxS	ND	0.000377	0.00454	0.00909	
PFOA	ND	0.000981	0.00454	0.00909	
PFNA	ND	0.00131	0.00454	0.00909	
PFOS	ND	0.000945	0.00454	0.00909	
PFDA	ND	0.00116	0.00454	0.00909	
MeFOSAA	ND	0.00276	0.00454	0.00909	
EtFOSAA	ND	0.00175	0.00454	0.00909	
PFUnA	ND	0.000232	0.00454	0.00909	
PFDoA	ND	0.000865	0.00454	0.00909	
PFTrDA	ND	0.000857	0.00454	0.00909	
PFTeDA	ND	0.000706	0.00454	0.00909	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	103	70 - 130	
SUR 13C2-PFDA	109	70 - 130	
SUR d5-EtFOSAA	85.4	70 - 130	

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: Tower1 - FRB-20170622FD

EPA Method 537

Client Data

Name: KMEA
Project: Former NAS Chase Field / 5026167008
Date Collected: 22-Jun-2017 11:26
Location: Tower 1 FRB + FD

Sample Data

Matrix: Drinking Water
Sample Size: 0.285 L

Laboratory Data

Lab Sample: 1700759-12 Date Received: 23-Jun-2017 9:42
QC Batch: B7F0113 Date Extracted: 27-Jun-2017 8:45
Date Analyzed: 29-Jun-17 00:50 Column: BEH C18

Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.000389	0.00439	0.00879	
PFHxA	0.000627	0.000583	0.00439	0.00879	J, B
PFHpA	ND	0.000468	0.00439	0.00879	
PFHxS	ND	0.000365	0.00439	0.00879	
PFOA	ND	0.000949	0.00439	0.00879	
PFNA	ND	0.00127	0.00439	0.00879	
PFOS	ND	0.000914	0.00439	0.00879	
PFDA	ND	0.00112	0.00439	0.00879	
MeFOSAA	ND	0.00267	0.00439	0.00879	
EtFOSAA	ND	0.00170	0.00439	0.00879	
PFUnA	ND	0.000224	0.00439	0.00879	
PFDoA	ND	0.000837	0.00439	0.00879	
PFTrDA	ND	0.000829	0.00439	0.00879	
PFTeDA	ND	0.000683	0.00439	0.00879	

Labeled Standard	%R	LCL-UCL	Qualifiers
SUR 13C2-PFHxA	107	70 - 130	
SUR 13C2-PFDA	103	70 - 130	
SUR d5-EtFOSAA	95.5	70 - 130	

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

DATA QUALIFIERS & ABBREVIATIONS

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

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

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

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

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

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

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

Vista Analytical Laboratory

CHAIN OF COUSTODY

For Laboratory Use Only	
Laboratory Project ID: 1700759	Temp: 2.7 °C
Storage ID: WR-2, 2-4	Storage Secured: Yes ☒ No ☐

Project ID: 5026167008 PO#: Sampler: Dan Hang/Kevin Olvess (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Lou Ann Vogler	KMEA	2423 Hoover Ave	National City	CA 91950		

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Daniel B. Hang (signature)	6/22/2017	1330	Marissa Sparkes MSparks	6/23/17	1005
Daniel B. Hang			—		

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

ATTN:

Method of Shipment:

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	EPA 1613 2378-TCDD	EPA 1613 2378 TCDD/TCDF	EPA 1613 PCDD/PCDF	EPA 8290 2378-TCDD	EPA 8290 2378-TCDD/TCDF	EPA 8290 PCDD/PCDF	EPA 8280 2378-TCDD	EPA 8280 2378 TCDD/TCDF	EPA 8280 PCDD/PCDF	EPA 8280 TOTALS	EPA 1668 COPLANAR PCB's	EPA 1668 209 CONGENERS	EPA 1614 PBDE	CARB429 PAH	WHO-29	Mod. EPA 537	Unmodified 537	Comments (Full US EPA Method 537 list)
Well2-G0130002-DW-20170622	06/22/17	0905	Well 2	1																			X	
Well2-G0130002-FRB-20170622	—	0906	Well 2 FRB	1																			X	Extraction only
Well5-G0130002-DW-20170622	—	0939	Well 5	1																			X	
Well5-G0130002-FRB-20170622	—	0941	Well 5 FRB	1																			X	Extraction only
Well6-G0130002-DW-20170622	—	1000	Well 6	1																			X	
Well6-G0130002-FRB-20170622	—	1003	Well 6 FRB	1																			X	Extraction only
Tower2-DW-20170622	—	1020	Tower 2	1																			X	
Tower2-FRB-20170622	—	1021	Tower 2 FRB	1																			X	Extraction only
Tower1-DW-20170622	FD/MSD	1125 1128	Tower 1 + FD + MS/MSD	4																			X	FD + MS/MSD
Tower1-FRB-20170622	/FD	1126	Tower 1 FRB + FD	2																			X	Extraction only and FD

Special Instructions/Comments: Extraction only for FRB samples; analyze FRB samples if parent sample has detections of PFAS; full US EPA Method 537 analytes

SEND DOCUMENTATION AND RESULTS TO:

Name:
Company:
Address:
City: State: Zip:
Phone: Fax:
Email:

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

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

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

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1700759 **TAT** 14 day

Samples Arrival:	**Date/Time** 6/23/17 0942	**Initials:** WMS	**Location:** WR-2 **Shelf/Rack:** N/3
Logged In:	**Date/Time** 6/23/17 1039	**Initials:** WMS	**Location:** WR-2 **Shelf/Rack:** 3-4

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

Temp °C: 3.1 (uncorrected)	**Time:** 1004	**Thermometer ID:** IR-2	
Temp °C: 2.7 (corrected)	**Probe used:** Yes☐ No☒		

	YES	NO	NA
Adequate Sample Volume Received? *	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 8099 2251 5370	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		

If Chlorinated or Drinking Water Samples, Acceptable Preservation?				✓		
Preservation Documented:	$Na_2S_2O_3$	Trizma	None (Sample Container)	Yes	No	NA
Shipping Container	Vista	Client	Retain	Return	Dispose	

Comments: * 1-250mh bottle each

(*) Labels do not match COC

Sample Label ID's

Tower1-FRB-20170622-FD
Tower1-DW-20170622-FD
Tower1-DW-20170622-MSD
Tower1-DW-20170622-MS
Tower1-DW-20170622
Tower1-FRB-20170622
Well2-G0130002-FRB-20170622
Well2-G0130002-DW-20170622
Well5-G0130002-DW-20170622
Well5-G0130002-FRB-20170622
(*) Well6-0130002-DW-20170622
(*) Well6-0130002-FRB-20170622
Tower2-DW-20170622
Tower2-FRB-20170622

Chain of Custody Anomaly/Sample Acceptance Form

Vista Analytical Laboratory

Client:	KMEA	Workorder Number:	1700759
Contact:	Nia Nikmanesh	Date Received:	23-Jun-17 09:42
Email:	nnikmanesh@kmea.net	Documented by/date:	B.Benedict 06/24/2017
Phone:	(858) 444-6107		

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

Thank you,

Martha Maier
mmaier@vista-analytical.com
916-673-1520

The following information or item is needed to proceed with analysis:

- ☐ Complete Chain-of-Custody
- ☐ Test Method Requested
- ☐ Analyte List Requested
- ☐ Other:
- ☐ Preservative
- ☐ Sample Identification
- ☐ Sample Collection Date and/or Time
- ☐ Collector's Name
- ☐ Sample Type
- ☐ Sample Location

The following anomalies were noted. Authorization is needed to proceed with analysis.

☐ Temperature outside < 6°C Range Samples Affected: _____

Temperature _____°C Ice Present? Yes No Melted

- ☒ Sample ID Discrepancy: **See Comments**
- ☐ Sample Holding Time Missed
- ☐ Custody Seals Broken
- ☐ Insufficient Sample Size
- ☐ Sample Container(s) Broken
- ☐ Incorrect Container Type

Comments:

Label ID:	COC ID:
Well 6-0130002-DW-20170622	Well 6-**G0130002**-DW-20170622
Well 6-0130002-FRB-20170622	Well 6-**G0130002**-FRB-20170622

Client Authorization

Proceed with Analysis: (YES) NO Signature and Date Karen J. Wojcik 6-26-2017

Client Comments/Instructions Per email from Kevin Olmeda on 6-26-2017, the sample ID's on the COC are correct.

EXTRACTION INFORMATION

Process Sheet

Workorder: 1700759

Prep Expiration: 2017-Jul-06
Client: KMEA

Workorder Due: 10-Jul-17 00:00

TAT: 17

Method: **537 PFAS DW DoD Unmodified**
Matrix: **Drinking Water**

Prep Batch: B7F0113

Prep Data Entered: HB 6/28/17
Date and Initials

Version: 14 Analyte DW Full List

Initial Sequence: S7F0065

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700759-01	☑	Well2-G0130002-DW-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-02	☑	Well2-G0130002-FRB-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-03	☑	Well5-G0130002-DW-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-04	☑	Well5-G0130002-FRB-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-05	☑	Well6-G0130002-DW-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-06	☑	Well6-G0130002-FRB-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-07	☑	Tower2-DW-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-08	☑	Tower2-FRB-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-09	☑	Tower1-DW-20170622	23-Jun-17 09:42	WR-2 A-4	**MS/MSD**
1700759-10	☑	Tower1-DW-20170622FD	23-Jun-17 09:42	WR-2 A-4	
1700759-11	☑	Tower1-FRB-20170622	23-Jun-17 09:42	WR-2 A-4	
1700759-12	☑	Tower1 - FRB-20170622FD	23-Jun-17 09:42	WR-2 A-4	

Vista PM:Martha Maier

Vial Box ID: Ze-brand

Sample Reconciled By: [signature] 6/27/17

Page 1 of 1

Batch: B7F0113

Matrix: Drinking Water

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700759-01	0.27793 ✓	NA	NA	1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-02	0.27256 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-03	0.28452 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-04	0.29611 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-05	0.27638 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-06	0.27694 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-07	0.2822 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-08	0.28373 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-09	0.28567 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
1700759-09	0.28567 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-10	0.27517 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-11	0.27641 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700759-12	0.28451 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW DoD Unmoc
1700765-01	0.24505 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
1700765-02	0.24915 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
1700765-03	0.24892 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
1700765-04	0.2463 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
1700765-05	0.2497 ✓			1000	27-Jun-17 08:45	HAC			Drinking Water	537 PFAS DW Unmodified
B7F0113-BLK1	0.25 ✓			1000	27-Jun-17 08:45	HAC				QC
B7F0113-BS1	0.25 ✓			1000	27-Jun-17 08:45	HAC	17D1705 ✓	20 ✓		QC
B7F0113-MS1	0.27828 ✓			1000	27-Jun-17 08:45	HAC	17D1705 ✓	20 ✓		QC
B7F0113-MSD1	0.28029 ✓			1000	27-Jun-17 08:45	HAC	17D1705 ✓	20 ✓		QC

HB 6/28/17

PREPARATION BENCH SHEET

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodifie
Method: 537 PFAS DW Unmodified

B7F0113

Chemist: JC

Prep Date/Time: 27-Jun-17 08:45

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 C7F0121	RS CHEM/WIT DATE
☐	1700765-01	272.54	27.49	0.24505	JC BP 6.27.17	JC BP 6.27.17	JC BP 6.27.17
☐	1700765-02	276.43	27.28	0.24915	—	"	"
☐	1700765-03	276.56	27.64	0.24892	"	"	"
☐	1700765-04	273.63	27.33	0.24630	"	"	"
☐	1700765-05	276.86	27.16	0.24970	"	"	"

55

IS Name	NS Name	RS Name		
17F1415, 50µL (V5)	17D1705, 20µL (V1)	17F[illegible], 50µL (V3)	(B) SPE Chem: Strata-X 33µm 500mg/6mL (C) Ele SOLV: MeOH Final Volume(s) 1 mL	Check Out: Chemist/Date: JC 6/27/17 Check In: Chemist/Date: N/A Balance ID: HMS-8

Comments: Assume 1 g = 1 mL

(B) Product Lot # 517-00187M BP 6.27.17
(C) Lot #: OR972 BP 6.27.17

PREPARATION BENCH SHEET

B7F0113

Chemist: HC

Prep Date/Time: 27-Jun-17 08:45

Matrix: Drinking Water

Method: 537 PFAS DW DoD Unmodifie

Method: 537 PFAS DW Unmodified

Prepared using: LCMS - SPE Extraction-LCMS

C7F0121

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
☐	B7F0113-BLK1 (A)	N/A	N/A	(0.250)	HC BP 6.27.17	HC BP MSF 6.27.17	HC BP 6.27.17
☐	B7F0113-BS1 (A)	↓	↓	↓	↓	↓	↓
☐	B7F0113-MS1 1700759-09	HC 6/27/17 ~~331.98~~ 306.70	28.42	0.27828			
☐	B7F0113-MSD1 1700759-09	HC 6/27/17 ~~336.96~~ 308.69	28.40	0.28029			
☐	1700759-01	~~331.78~~ HC 6/27/17 304.36	26.43	0.27793			
☐	1700759-02	~~309.50~~ HC 6/27/17 299.30	26.74	~~0.27856~~ ~~0.272.56~~ KMP 6/28/17			
☐	1700759-03	~~342.20~~ HC 6/27/17 312.93	28.41	0.28452			
☐	1700759-04	323.21	27.10	0.29611			
☐	1700759-05	303.83	27.45	0.27638			
☐	1700759-06	303.70	26.76	0.27694			
☐	1700759-07	309.80	27.60	0.28220			
☐	1700759-08	311.93	28.20	0.28373			
☐	1700759-09	312.08	26.41	0.28567			
☐	1700759-10	301.60	26.43	0.27517			
☐	1700759-11	303.46	27.05	0.27641			
☐	1700759-12	310.93	26.42	0.28451			

~~IS~~ Name: ~~55~~ 17F1415, 50µL (V5)

NS Name: HC 6/27/17 17D11 HC 6/27/17 17D1705, 20µL (V6)

RS Name: 17F1416, 50µL (V5)

(B) SPE Chem: ~~strata x~~ 33um 500mg/6mL

(C) Ele SOLV: MeOH

Final Volume(s): 1mL

Check Out: Chemist/Date: HC 6/27/17

Check In: Chemist/Date: N/A

Balance ID: HMS-8

Comments: Assume 1 g = 1 mL

(A) 1.25g of trizma added HC 6/27/17

(B) Product Lot # S17-001874 BP 6.27.17

(C) Lot #: DR972 BP 6.27.17

SAMPLE DATA –EPA METHOD 537

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

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Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.558e3		0.250			
2	2	PFHxA	313.2 > 268.9	3.070e1	5.417e3		0.250	3.45	1.03	
3	3	PFHpA	363 > 318.9	9.899e0	5.417e3		0.250	3.96	0.0912	
4	4	PFHxS	398.9 > 79.6	3.655e0	6.558e3		0.250	4.07	0.0634	
5	5	PFOA	413 > 368.7	3.369e1	5.417e3		0.250	4.37	0.342	
6	6	PFNA	463 > 418.8		5.417e3		0.250			
7	7	PFOS	499 >79.9		6.558e3		0.250			
8	8	PFDA	513 > 468.8	1.596e1	5.417e3		0.250	4.98	0.171	
9	9	N-MeFOSAA	570.1 > 419.0		3.732e3		0.250			
10	10	N-EtFOSAA	584.2 >419.0		3.732e3		0.250			
11	11	PFUnA	563 > 518.9	3.150e0	5.417e3		0.250	5.24	0.0391	
12	12	PFDoA	612.9 > 318.8		5.417e3		0.250			
13	13	PFTrDA	662.9 > 618.9		5.417e3		0.250			
14	14	PFTeDA	712.9 > 668.8		5.417e3		0.250			
15	15	13C2-PFHxA	315 > 269.8	2.298e3	5.417e3	0.429	0.250	3.45	39.5	98.9
16	16	13C2-PFDA	515.1 > 469.9	2.646e3	5.417e3	0.514	0.250	4.98	38.0	95.0
17	17	d5-N-EtFOSAA	589.3 > 419.0	3.681e3	3.732e3	1.065	0.250	5.22	148	92.6
18	18	13C2-PFOA	414.9 > 369.7	5.417e3	5.417e3	1.000	0.250	4.36	40.0	100
19	19	13C4-PFOS	503.0 > 79.9	6.558e3	6.558e3	1.000	0.250	4.75	115	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.732e3	3.732e3	1.000	0.250	5.10	160	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

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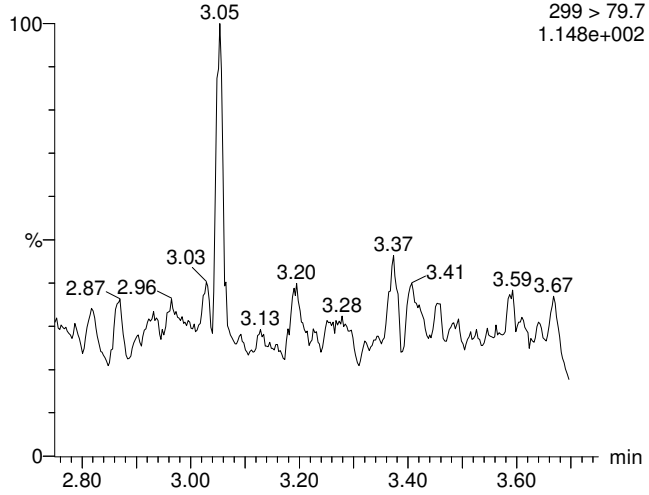
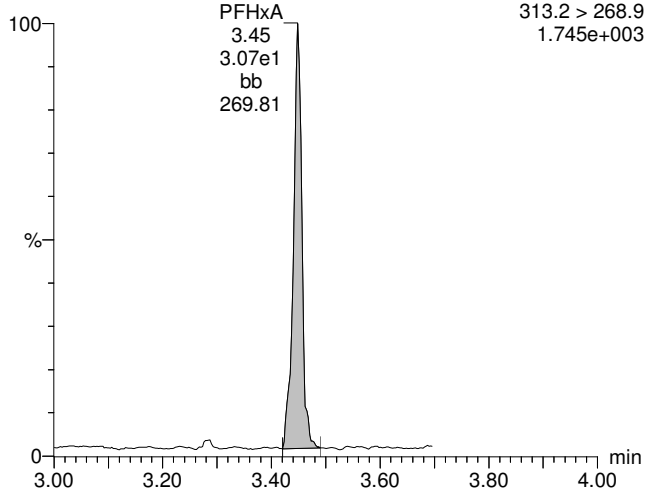
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

PFBS



PFHxA



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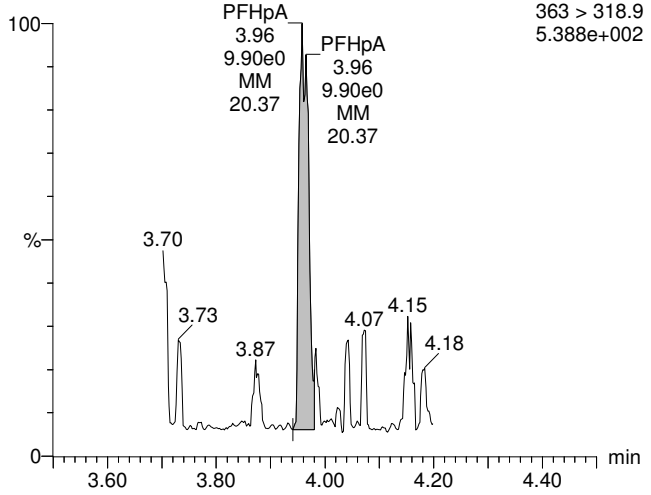
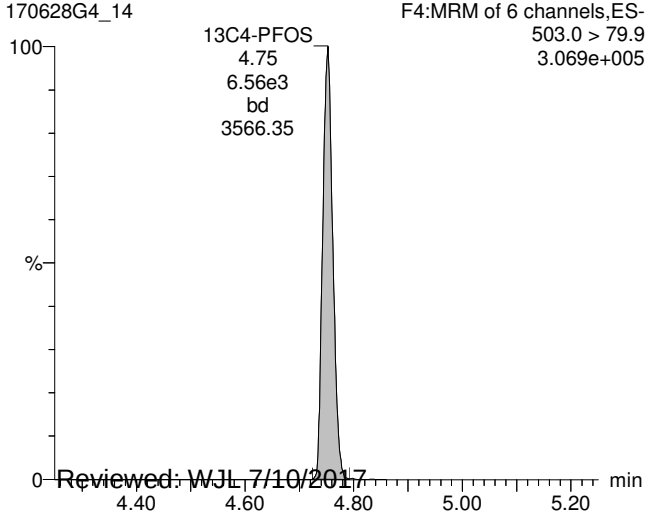


13C4-PFOS



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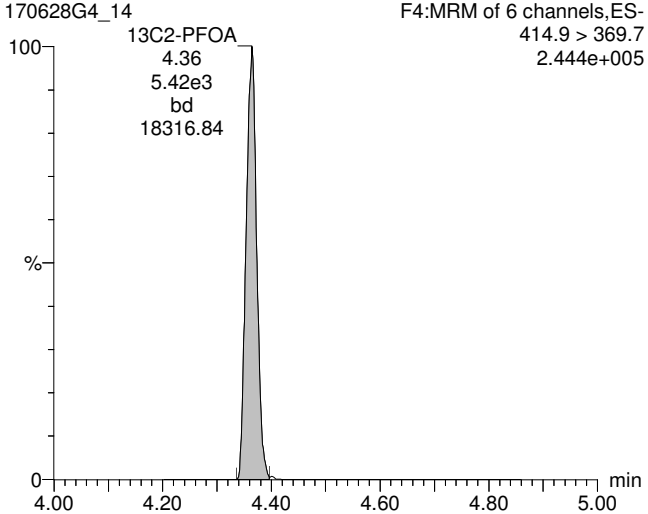

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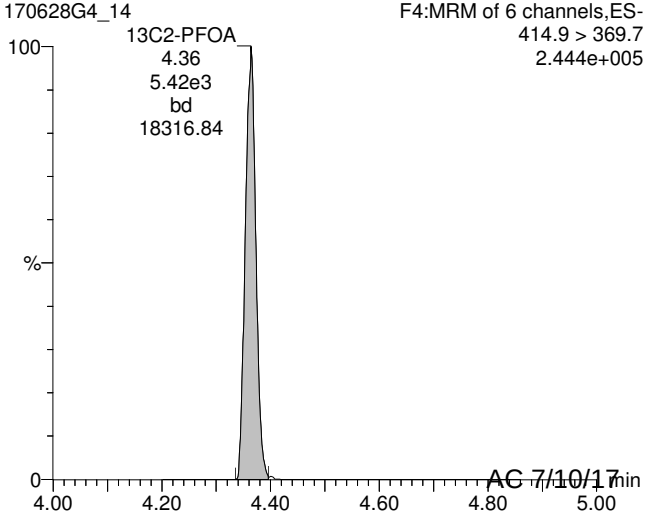

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

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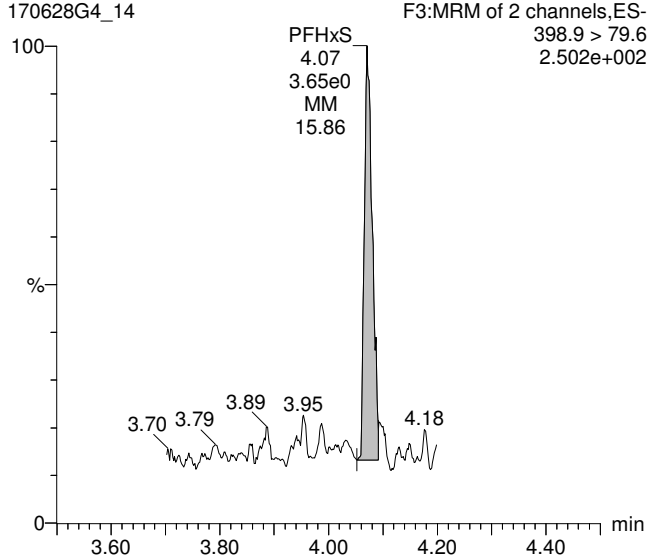
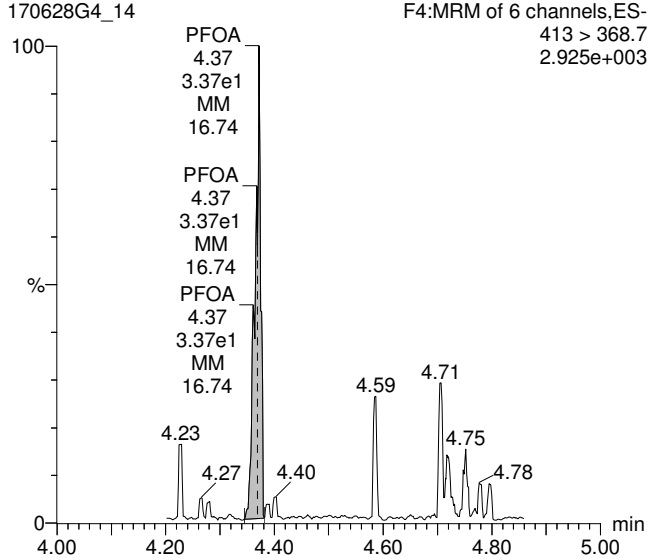


PFOA



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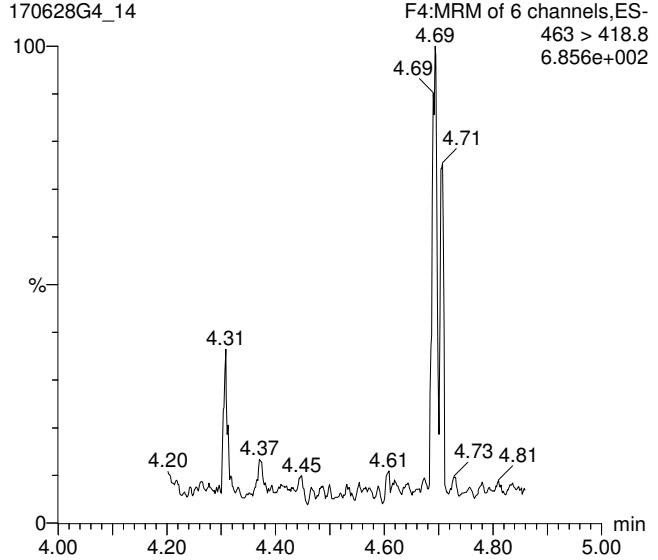

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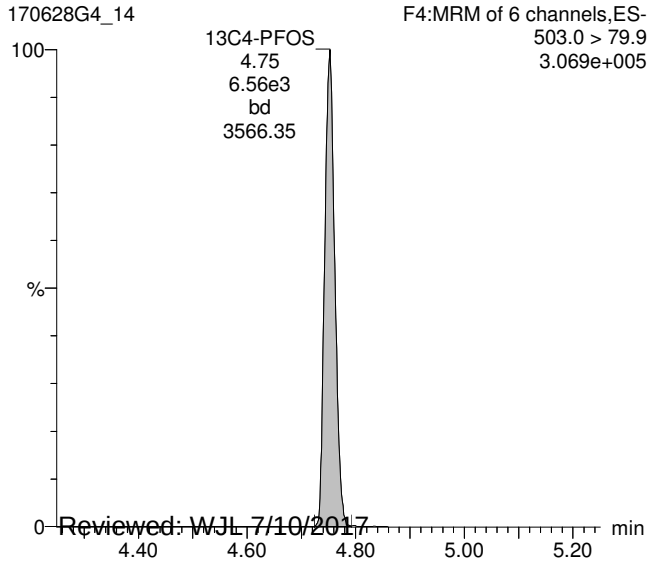

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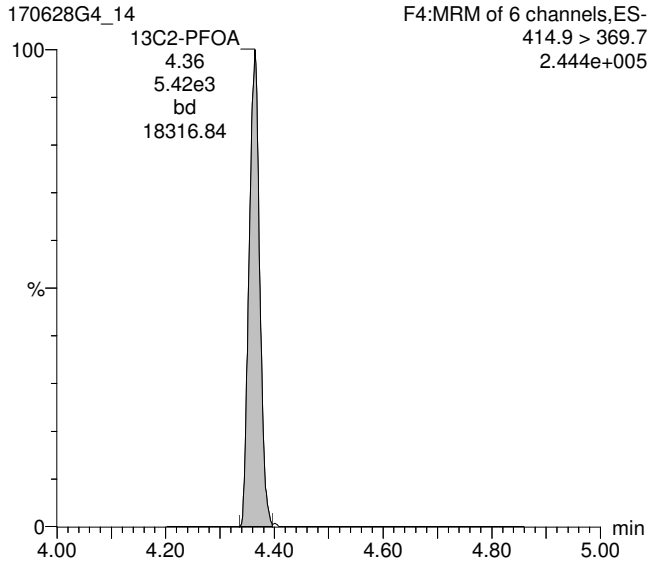

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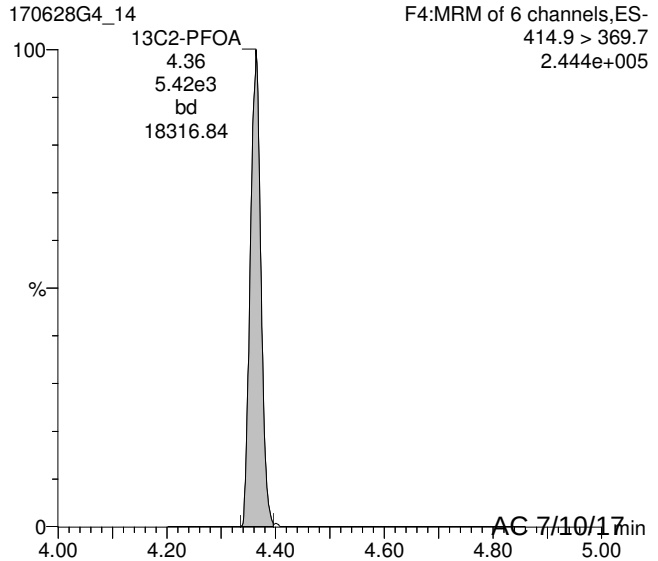


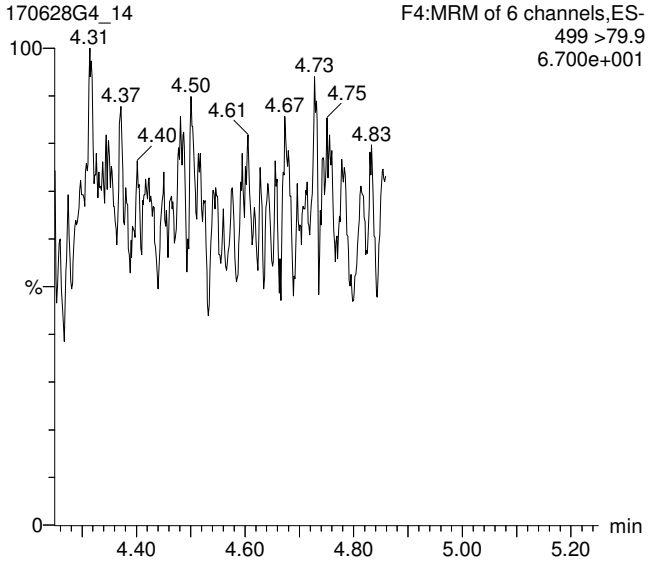
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

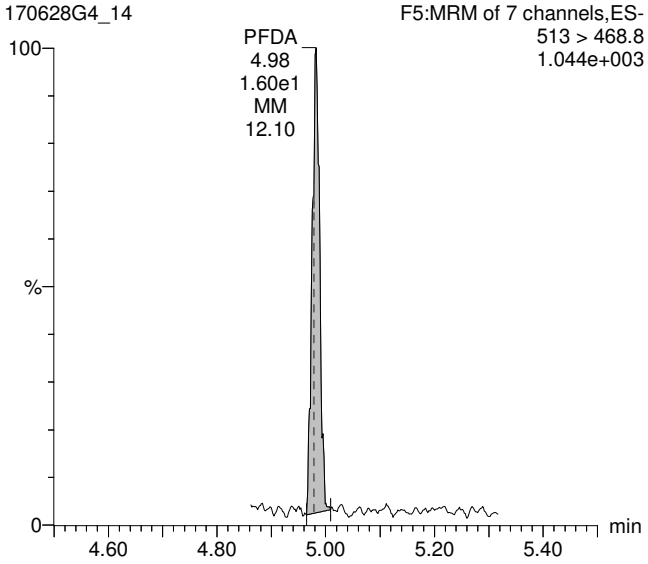
Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

PFOS



PFDA



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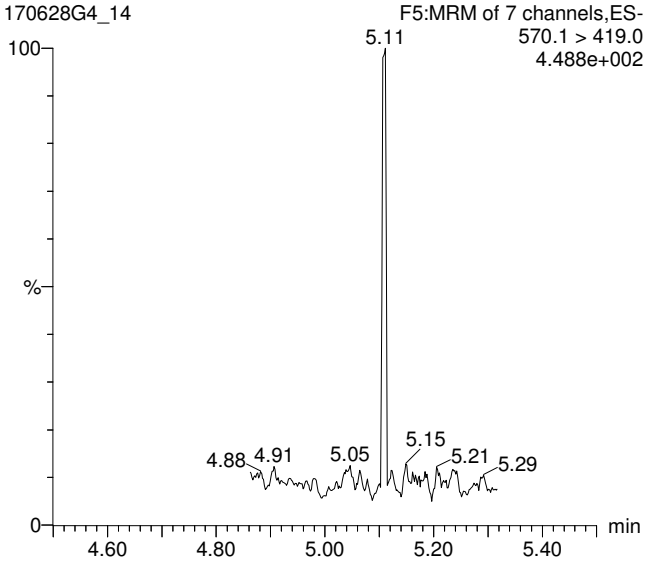

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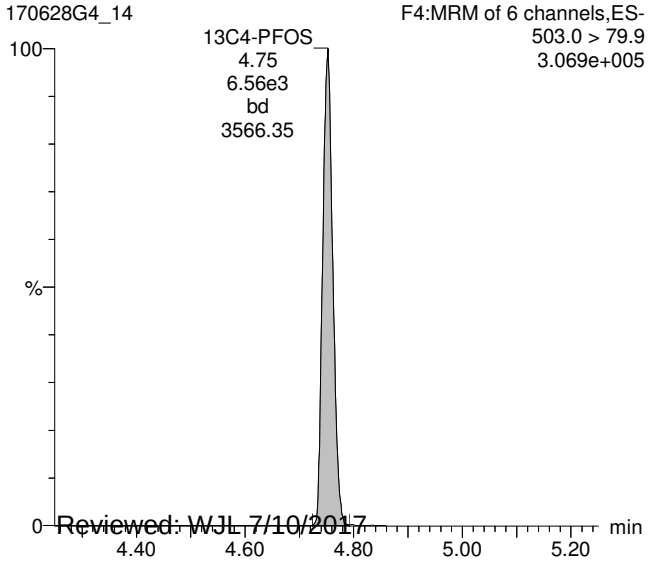

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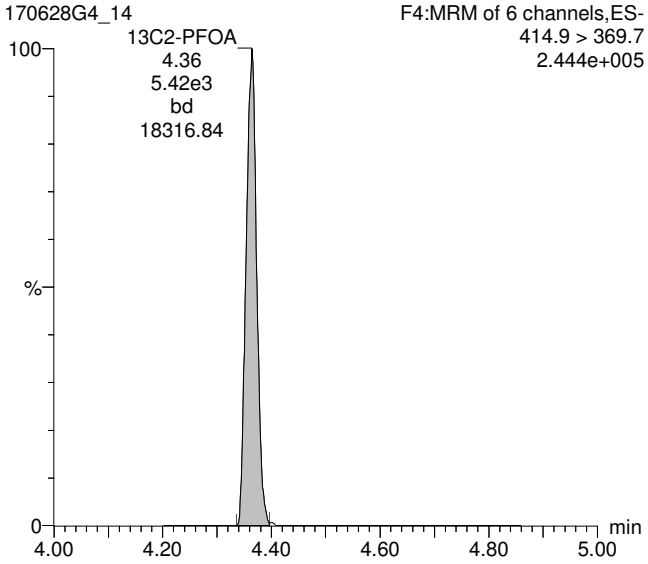
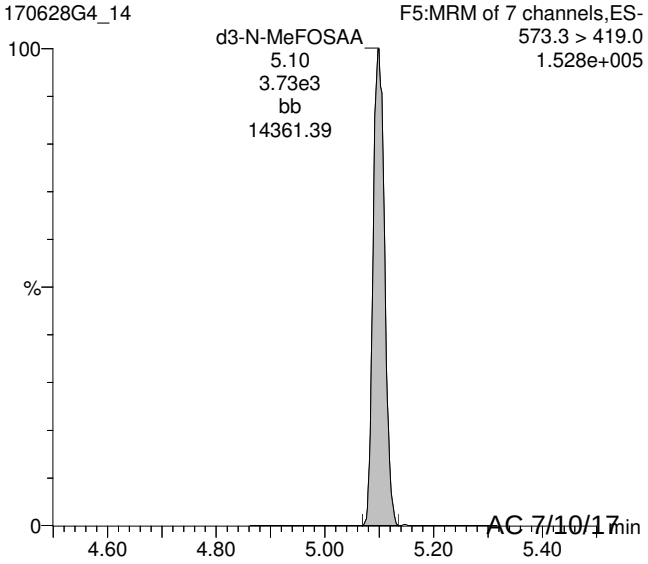


d3-N-MeFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

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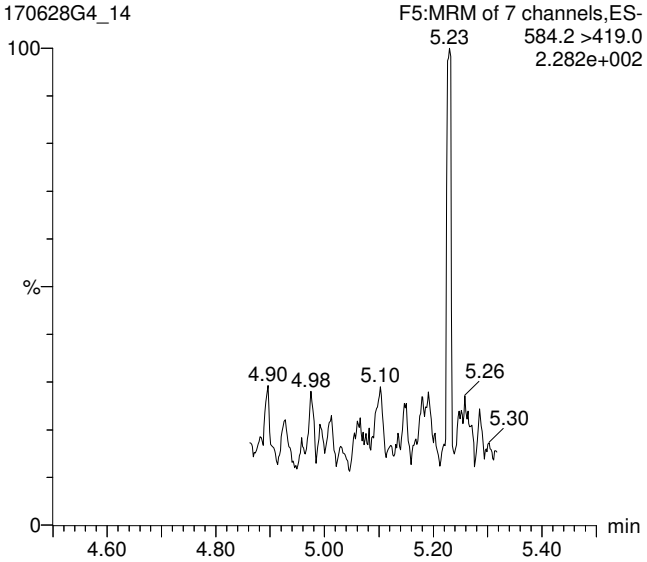

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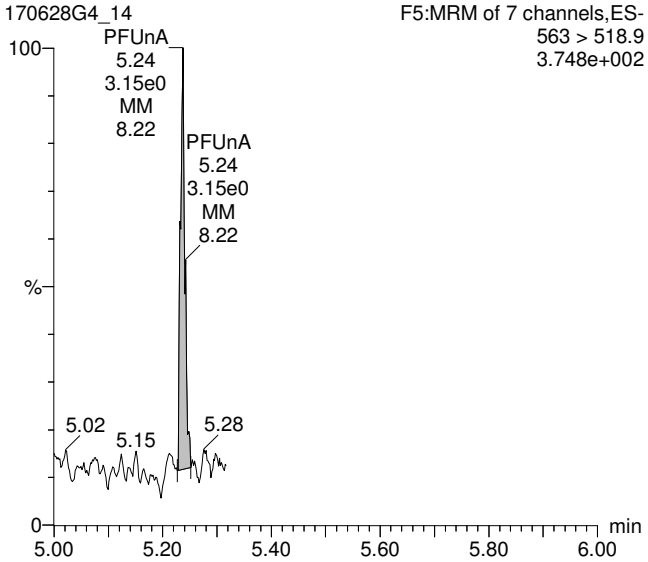
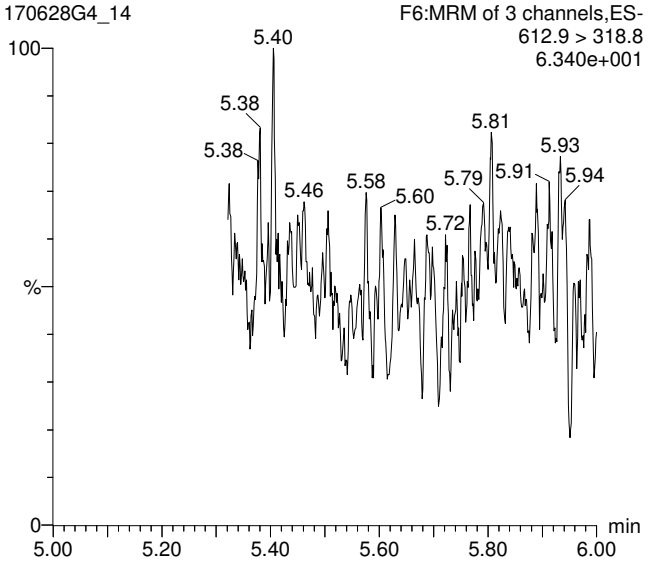


PFDoA



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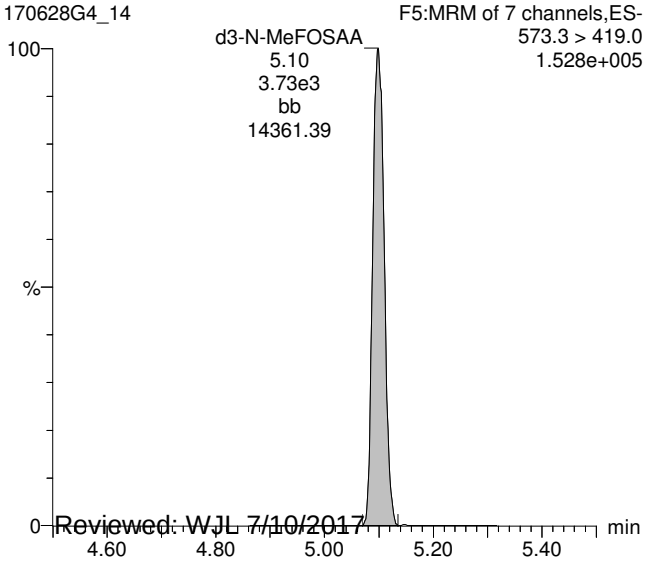

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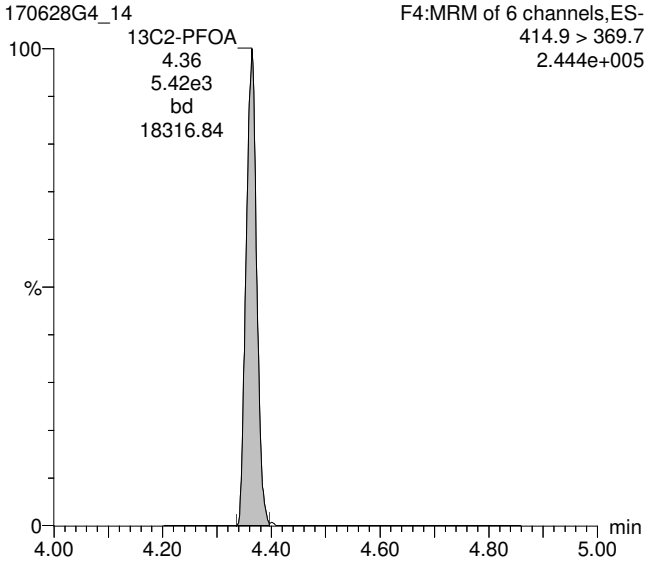

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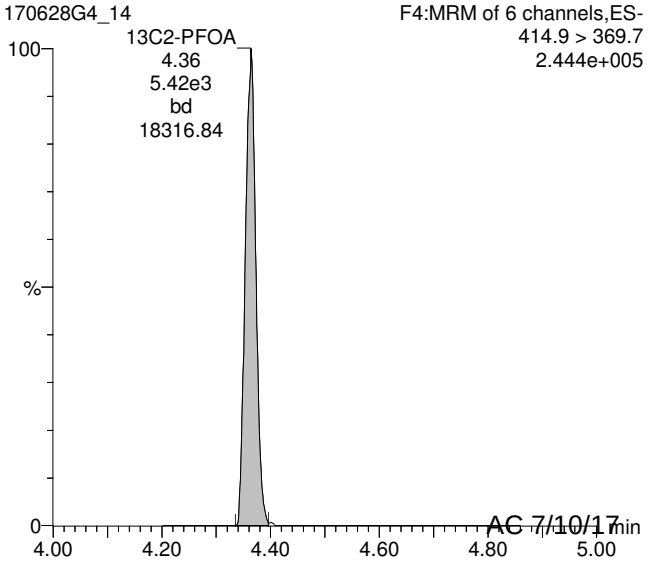

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

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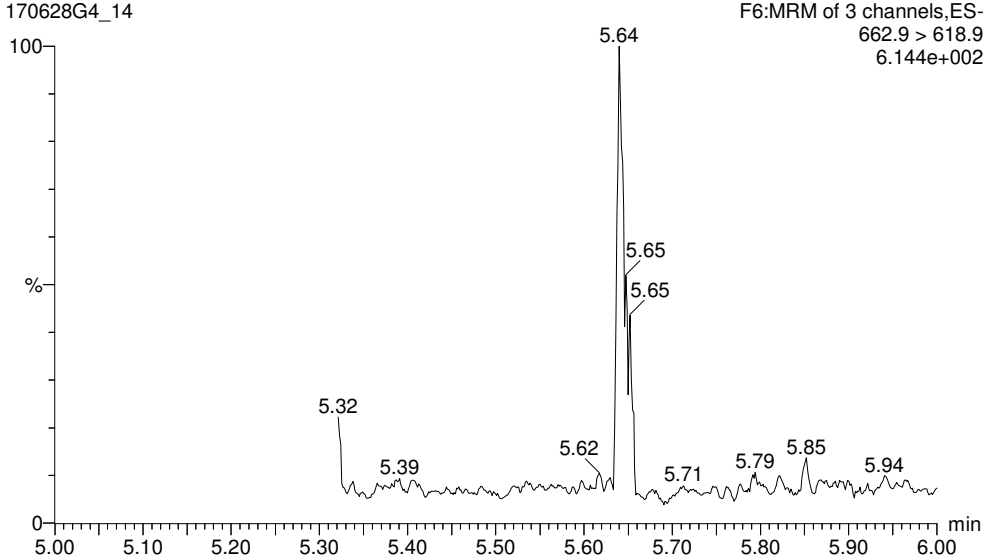

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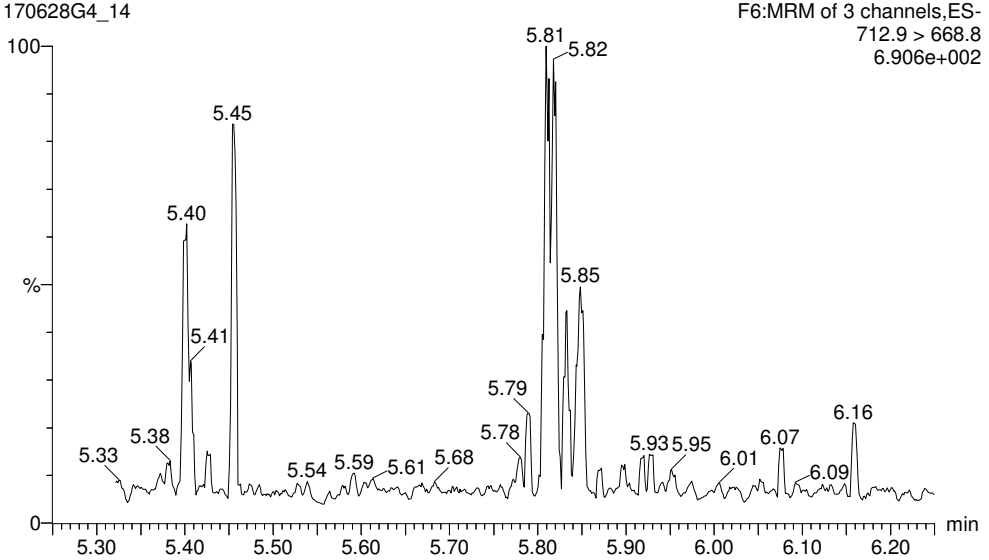

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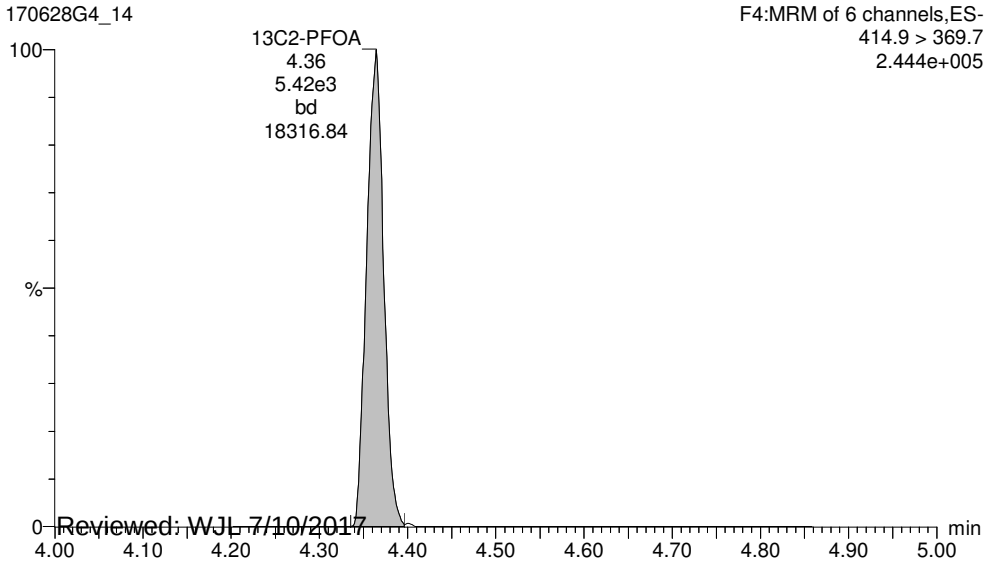

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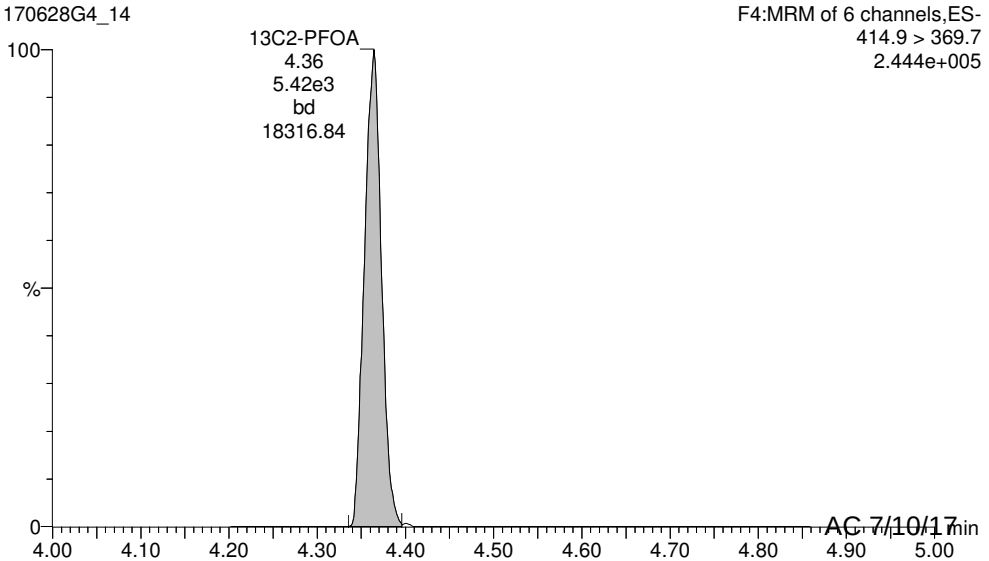

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-14.qld

Last Altered: Monday, July 10, 2017 11:58:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:00:20 Pacific Daylight Time

ID: B7F0113-BLK1 LRB 0.25, Description: LRB, Name: 170628G4_14, Date: 28-Jun-2017, Time: 21:03:33, Instrument: , Lab: , User:

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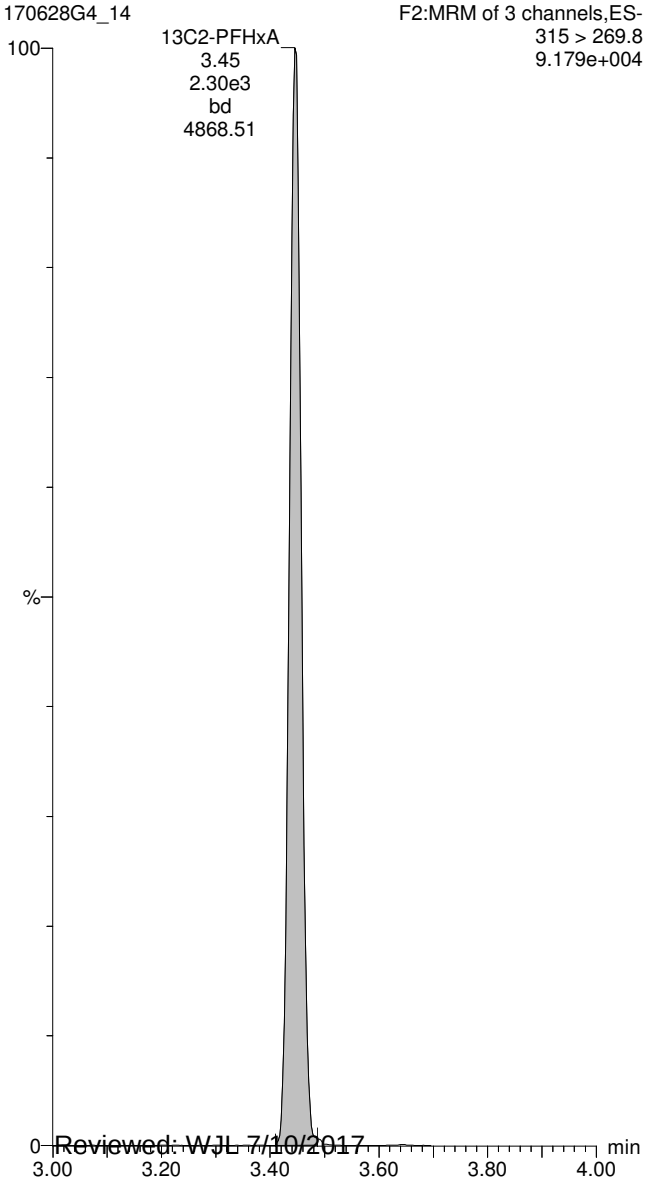

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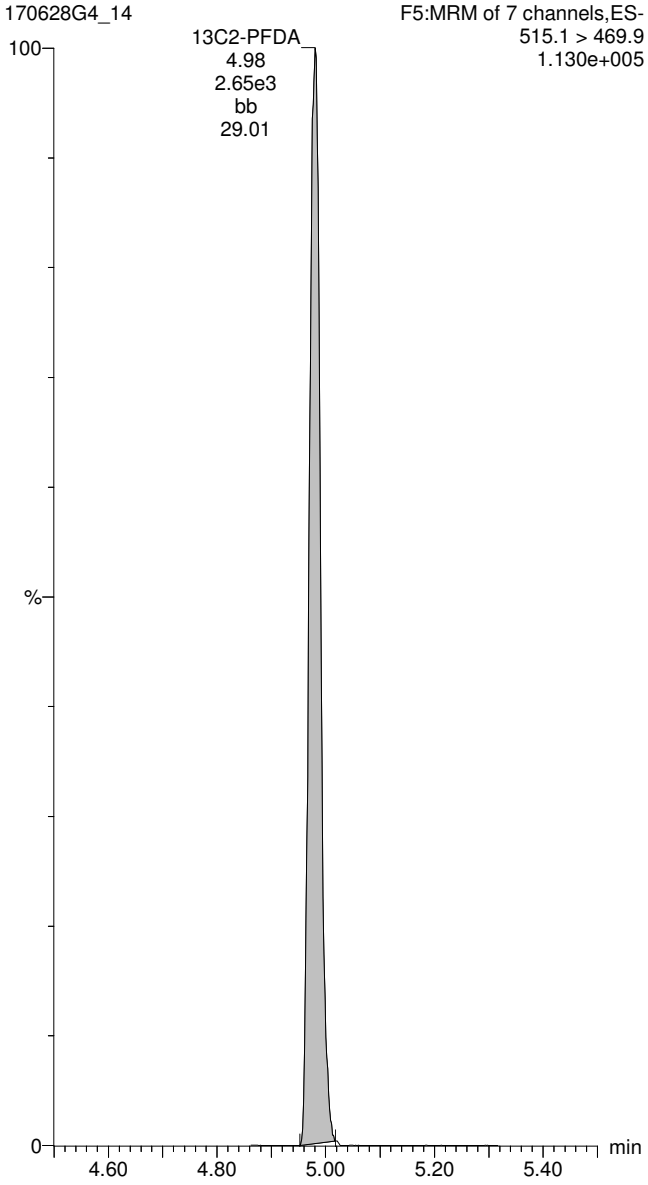

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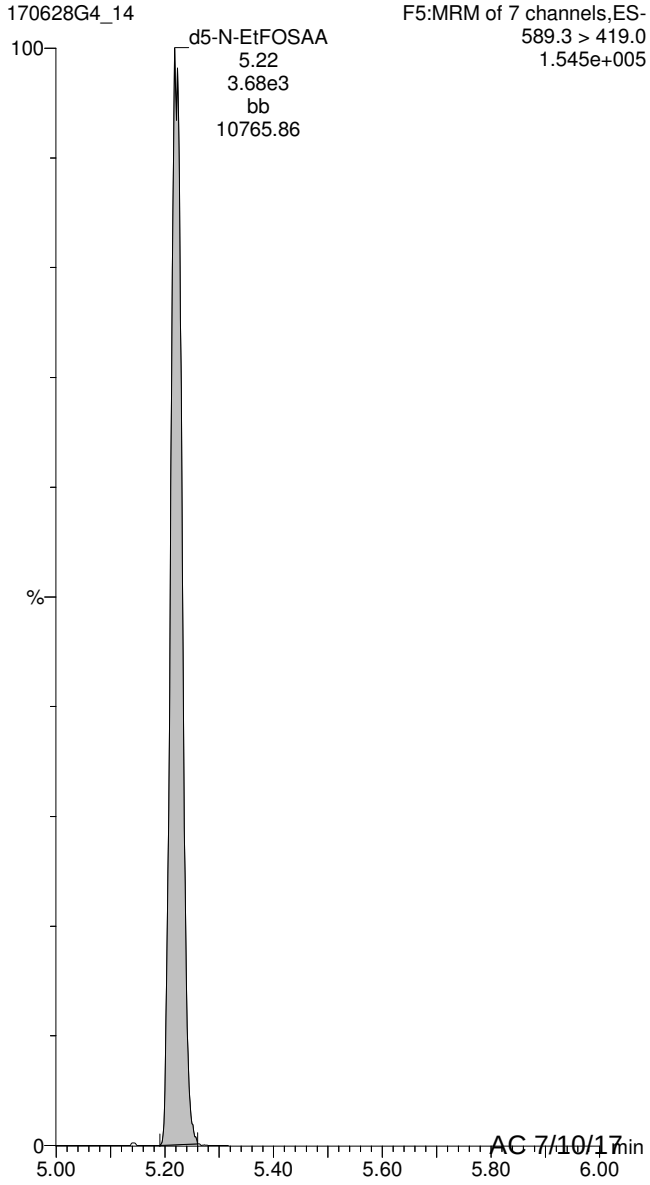

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

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Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57

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1	1	PFBS	299 > 79.7	3.194e3	6.231e3		0.250	3.06	67.9	95.9
2	2	PFHxA	313.2 > 268.9	2.473e3	6.142e3		0.250	3.45	73.1	91.3
3	3	PFHpA	363 > 318.9	8.677e3	6.142e3		0.250	3.97	70.5	88.1
4	4	PFHxS	398.9 > 79.6	3.959e3	6.231e3		0.250	4.08	72.2	99.2
5	5	PFOA	413 > 368.7	7.657e3	6.142e3		0.250	4.36	68.5	85.7
6	6	PFNA	463 > 418.8	1.049e4	6.142e3		0.250	4.69	71.6	89.5
7	7	PFOS	499 >79.9	9.962e2	6.231e3		0.250	4.76	61.8	83.6
8	8	PFDA	513 > 468.8	7.317e3	6.142e3		0.250	4.98	73.9	92.4
9	9	N-MeFOSAA	570.1 > 419.0	3.301e3	3.712e3		0.250	5.10	73.1	91.3
10	10	N-EtFOSAA	584.2 >419.0	2.901e3	3.712e3		0.250	5.22	74.9	93.6
11	11	PFUnA	563 > 518.9	5.537e3	6.142e3		0.250	5.23	60.7	75.8
12	12	PFDoA	612.9 > 318.8	1.190e3	6.142e3		0.250	5.45	72.8	91.0
13	13	PFTrDA	662.9 > 618.9	1.076e4	6.142e3		0.250	5.65	69.8	87.3
14	14	PFTeDA	712.9 > 668.8	9.936e3	6.142e3		0.250	5.82	65.9	82.3
15	15	13C2-PFHxA	315 > 269.8	2.395e3	6.142e3	0.429	0.250	3.45	36.4	90.9
16	16	13C2-PFDA	515.1 > 469.9	2.750e3	6.142e3	0.514	0.250	4.98	34.8	87.1
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.086e3	3.712e3	1.065	0.250	5.22	165	103
18	18	13C2-PFOA	414.9 > 369.7	6.142e3	6.142e3	1.000	0.250	4.37	40.0	100
19	19	13C4-PFOS	503.0 > 79.9	6.231e3	6.231e3	1.000	0.250	4.75	115	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.712e3	3.712e3	1.000	0.250	5.10	160	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

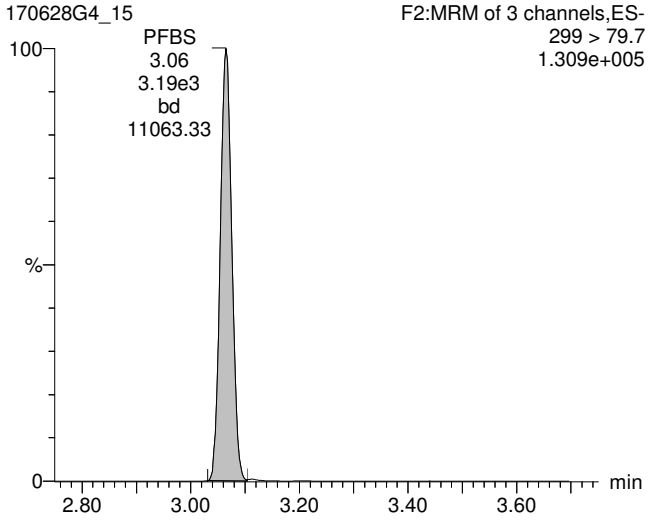
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

PFBS



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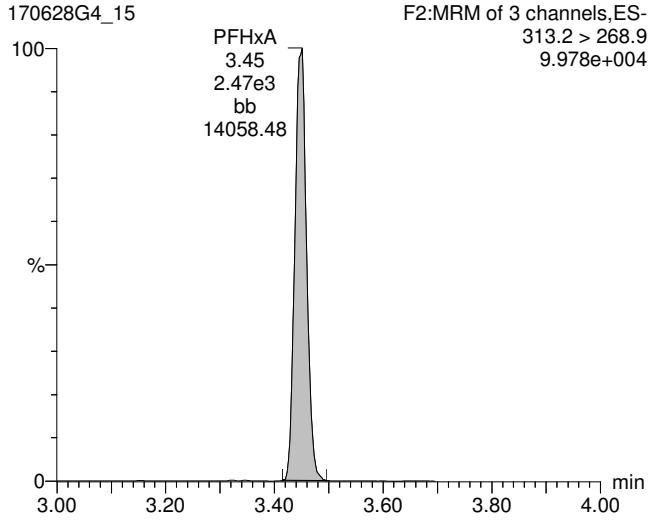

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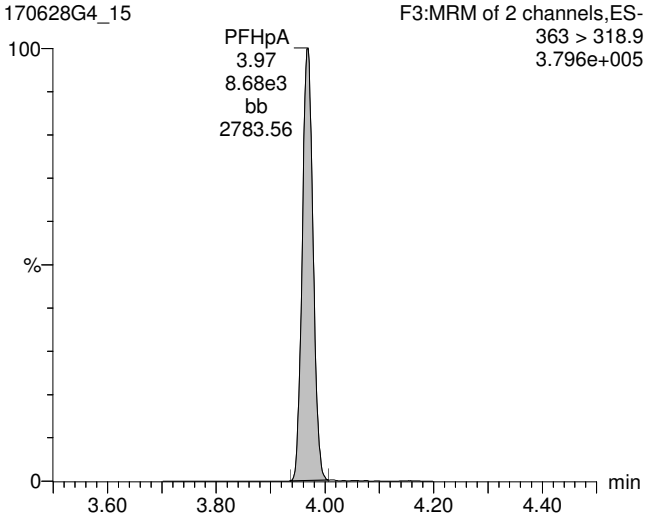

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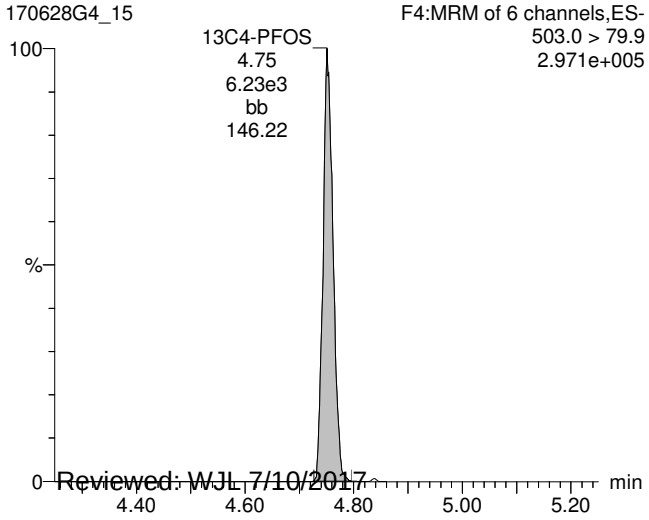

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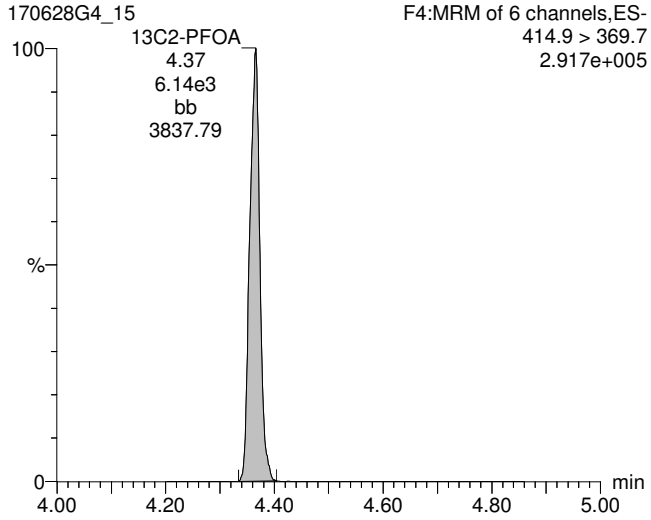

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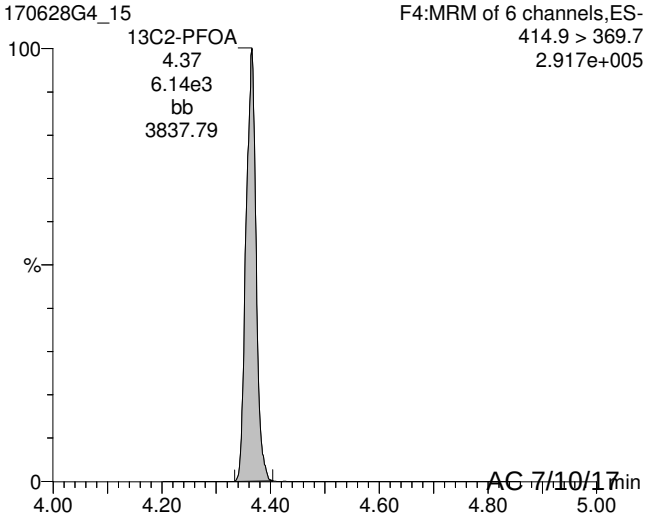

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

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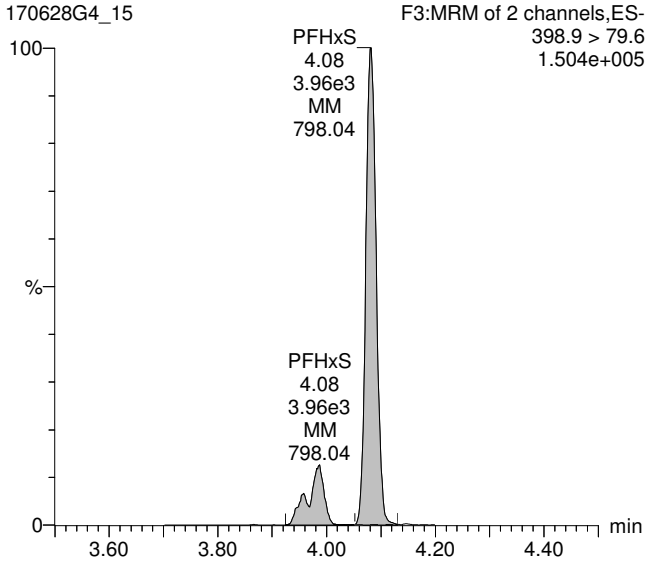

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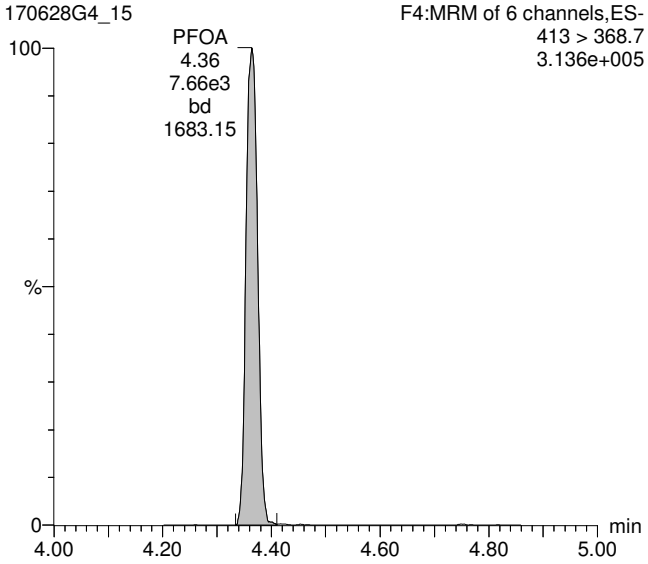

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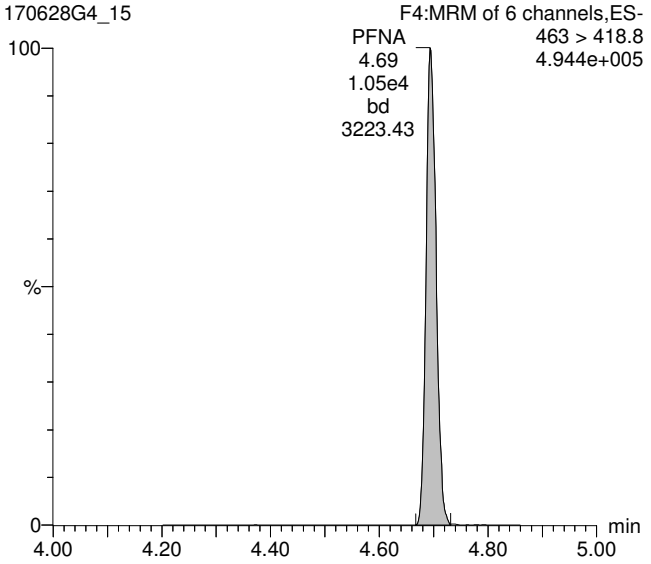

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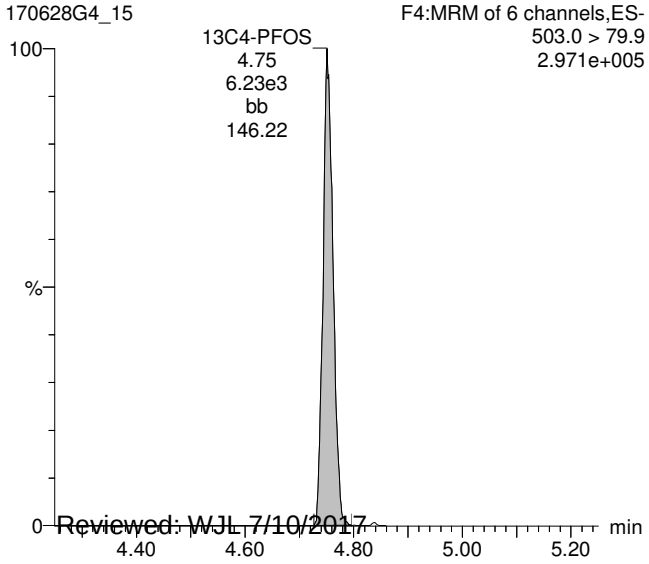

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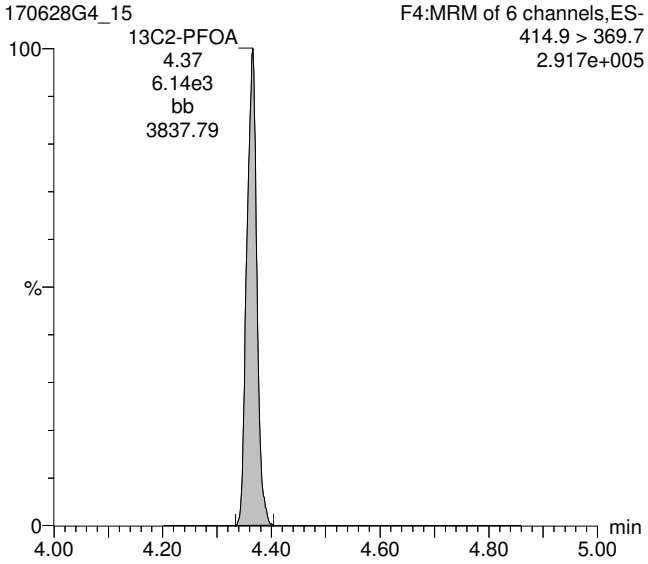

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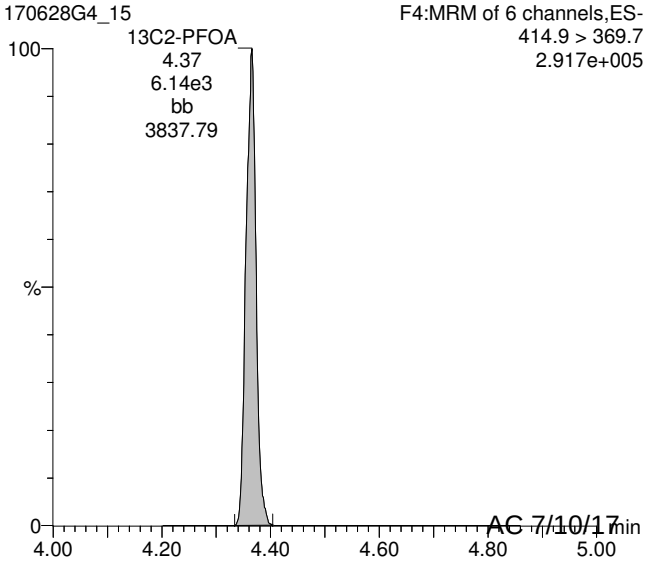


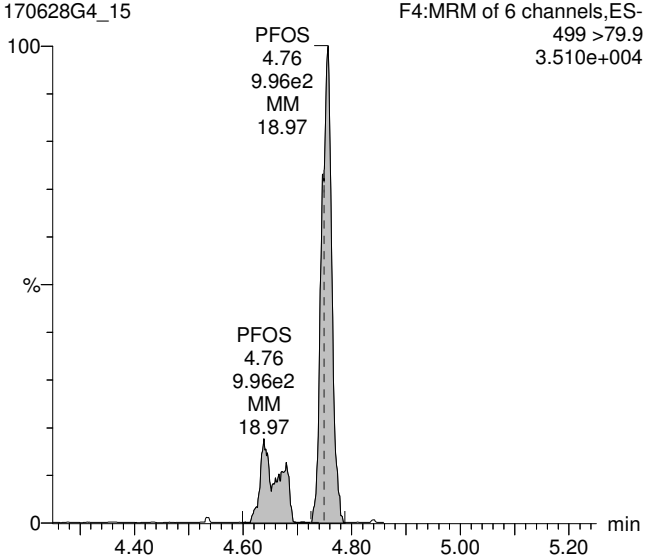
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

PFOS



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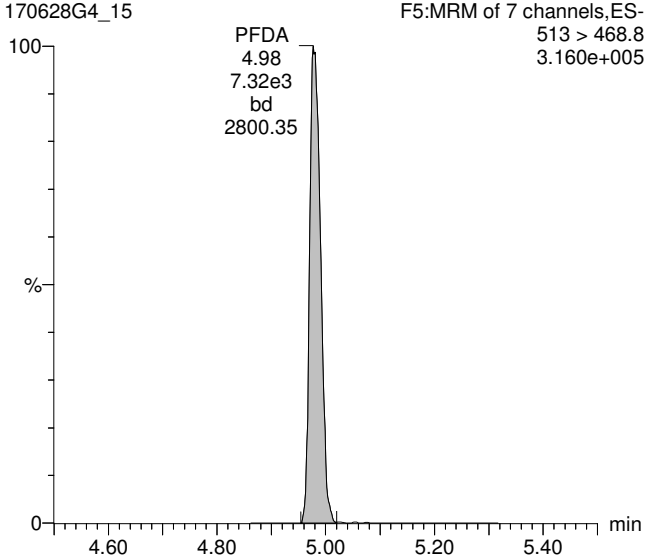

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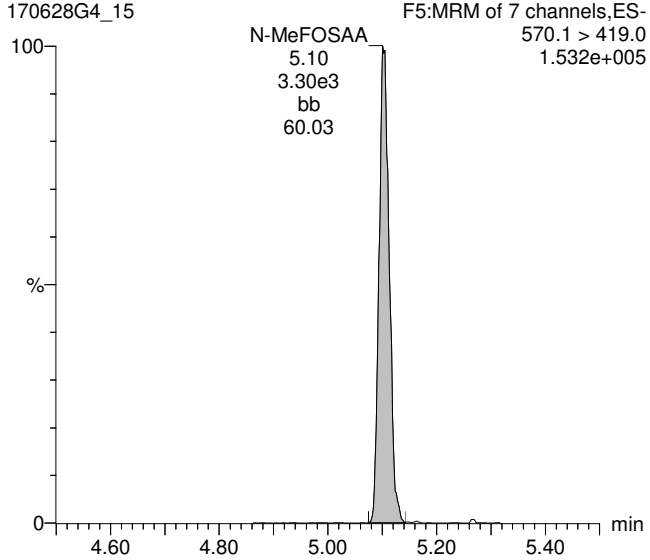

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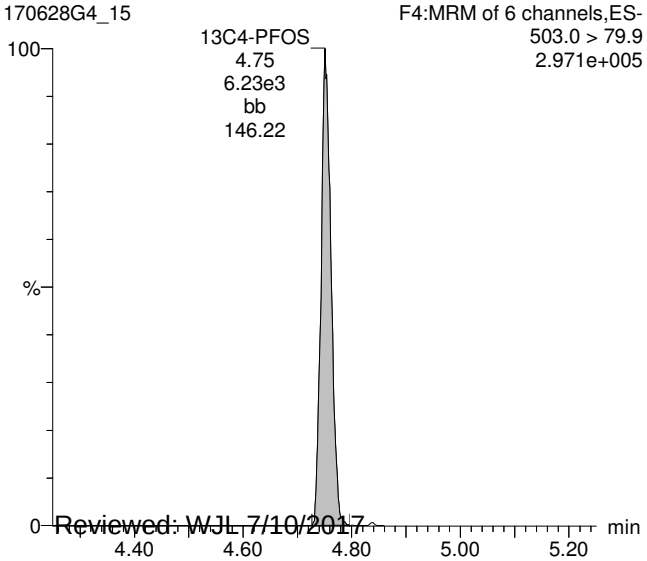

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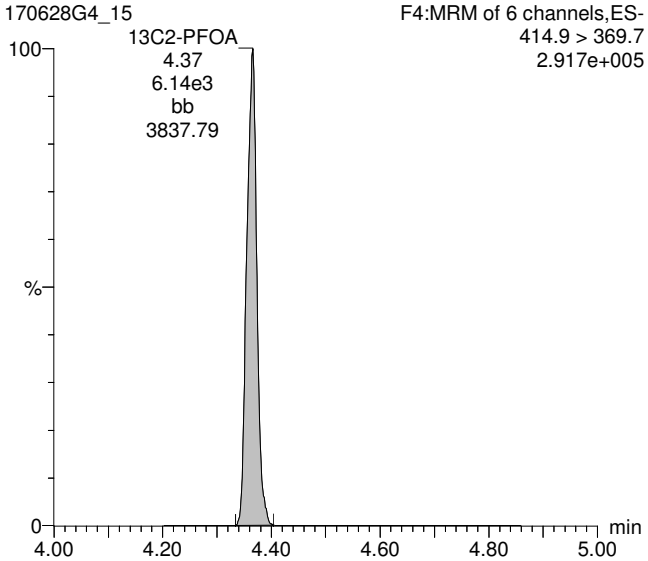

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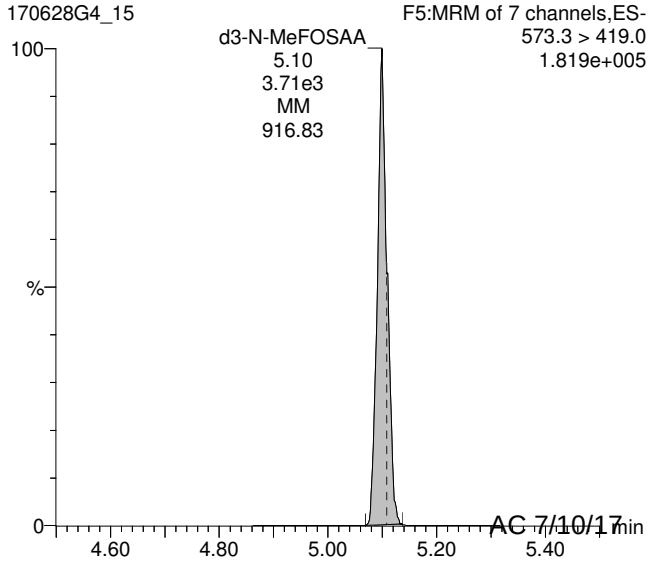

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

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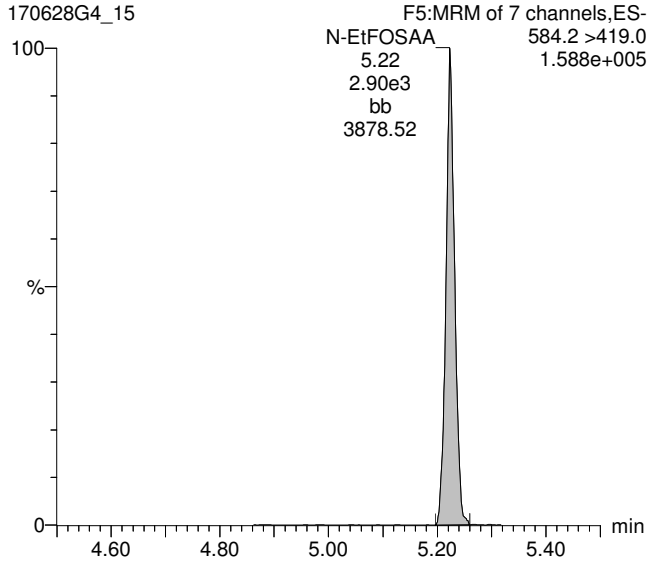

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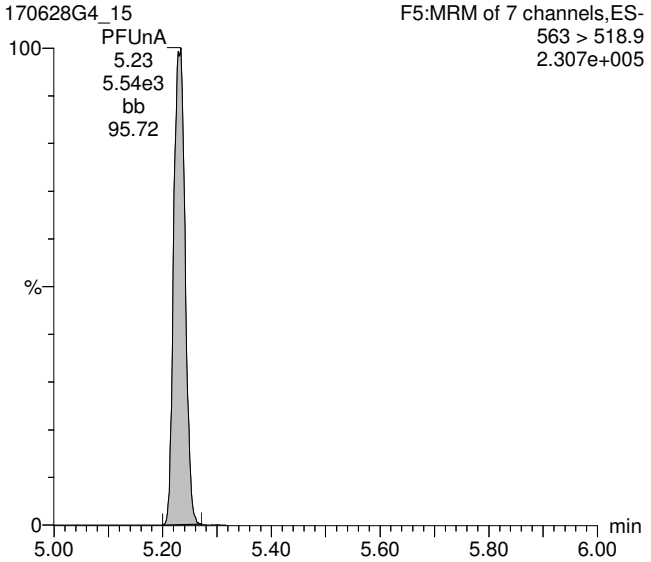

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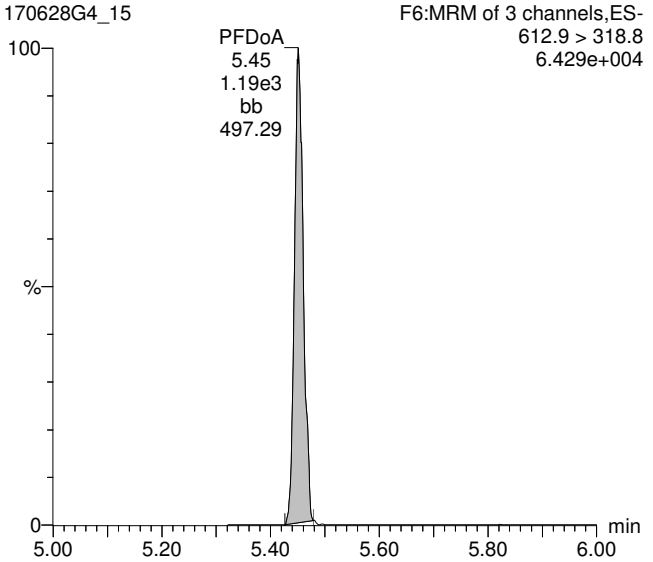

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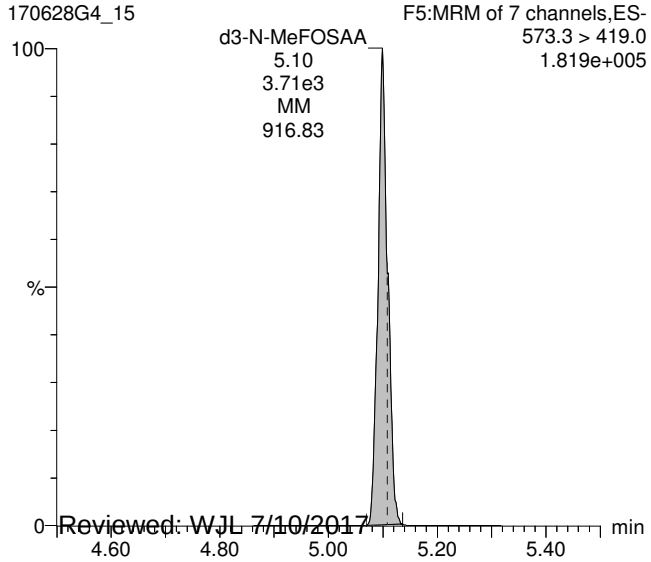

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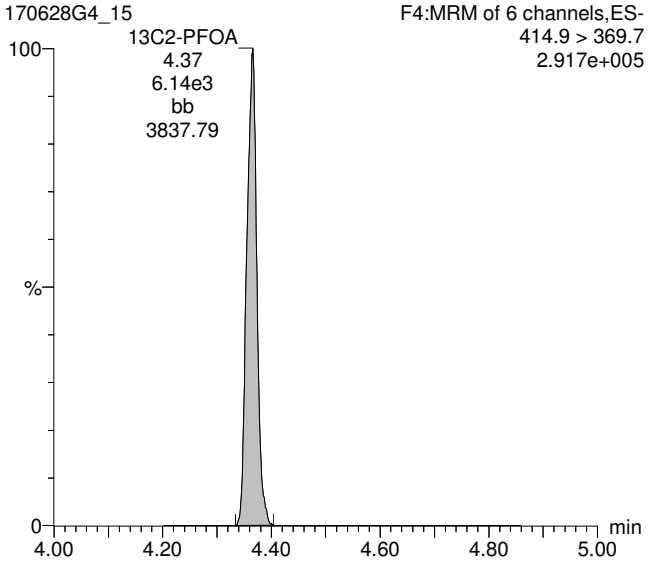

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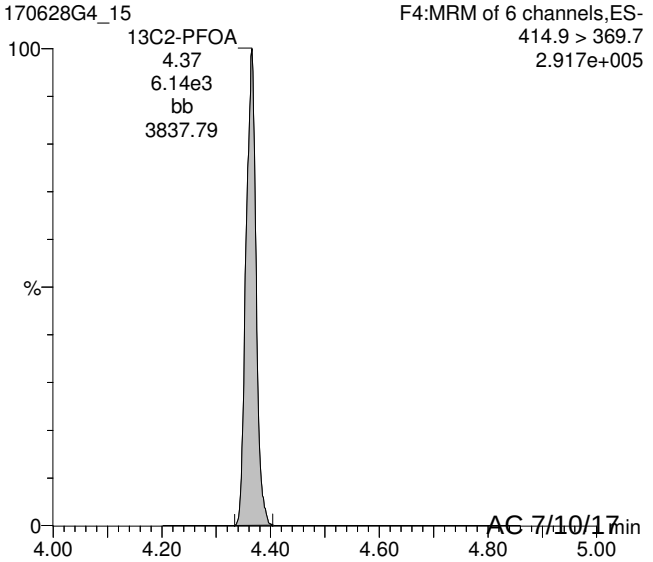

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:05:17 Pacific Daylight Time

ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

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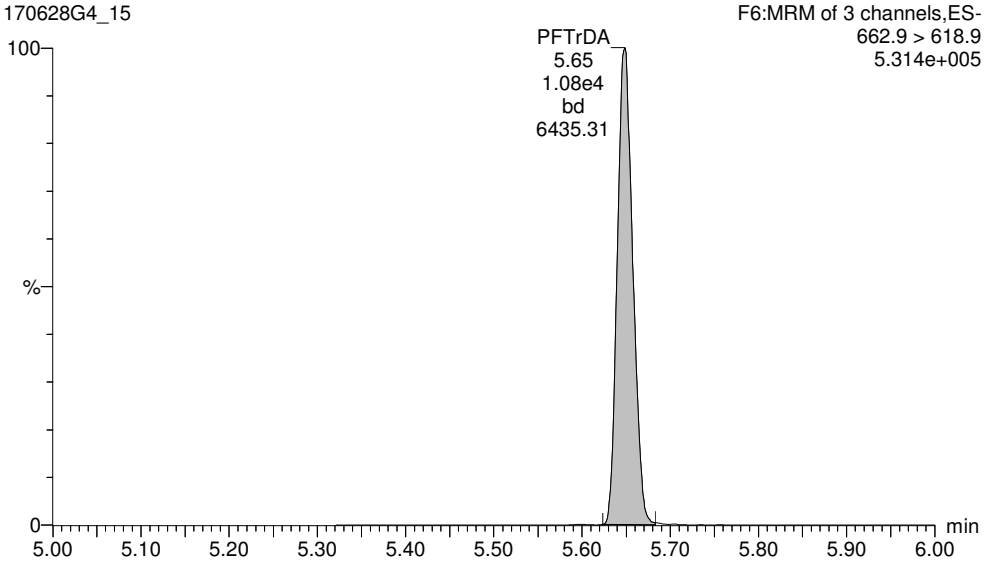

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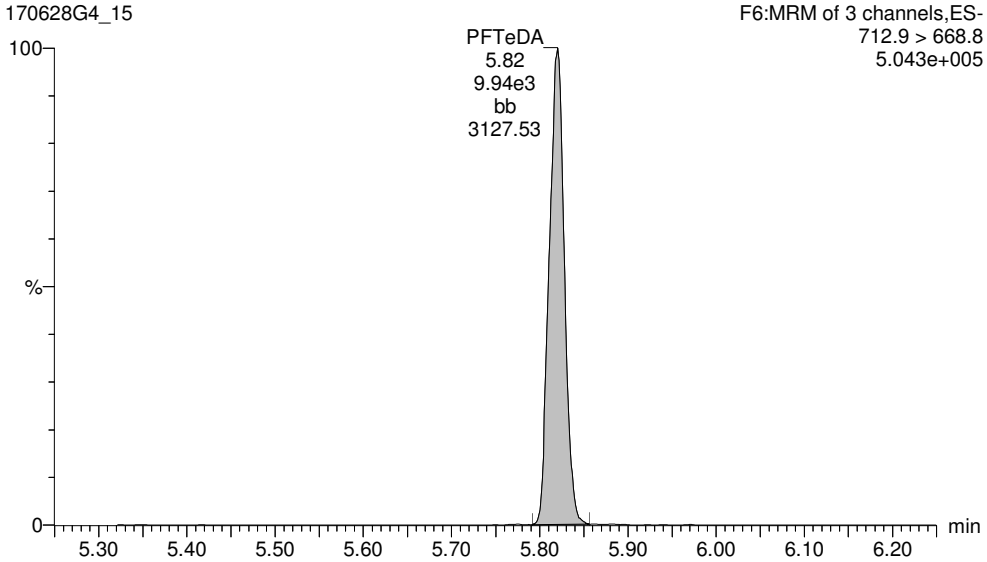

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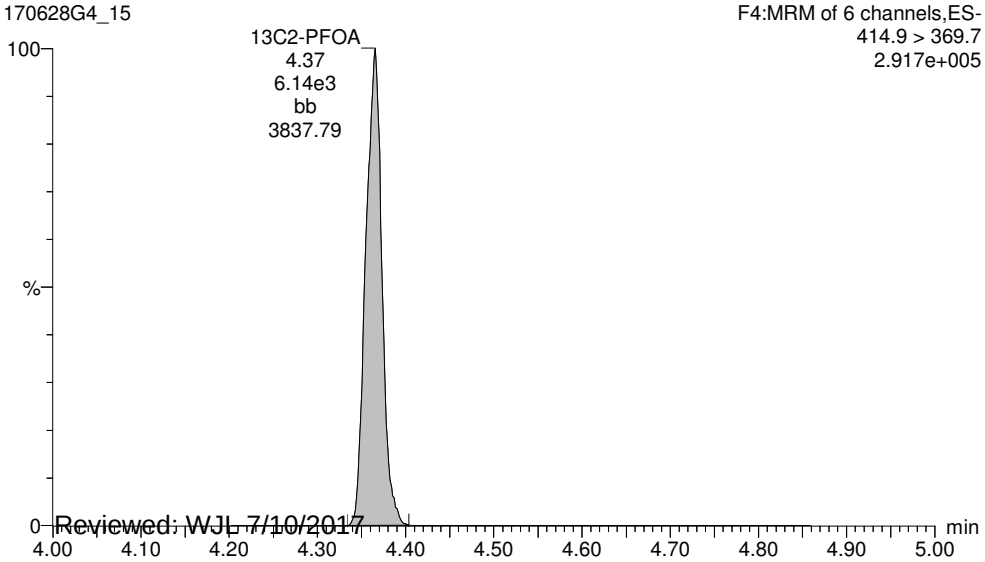

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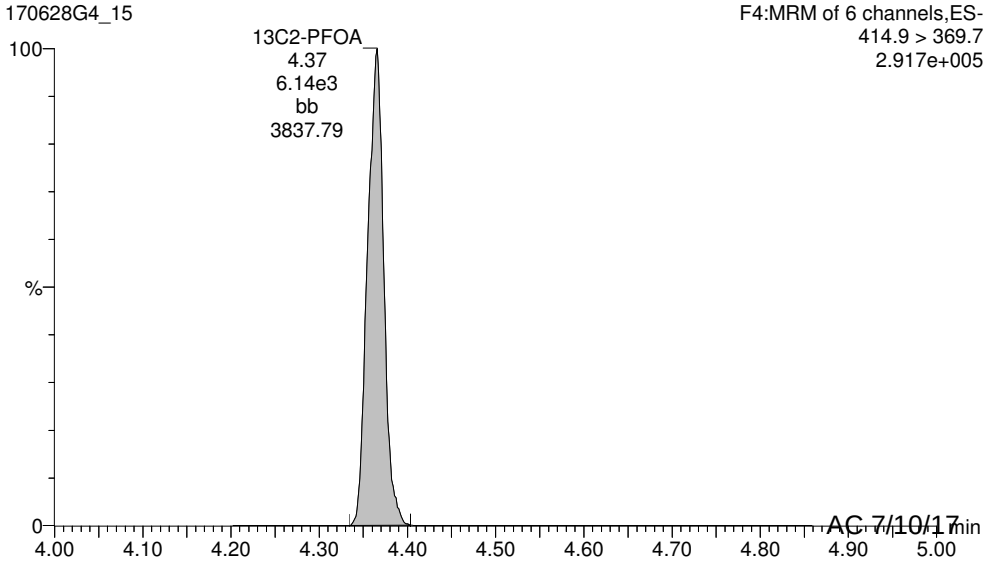

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-15.qld

Last Altered: Monday, July 10, 2017 12:04:33 Pacific Daylight Time
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ID: B7F0113-BS1 LFB 0.25, Description: LFB, Name: 170628G4_15, Date: 28-Jun-2017, Time: 21:15:57, Instrument: , Lab: , User:

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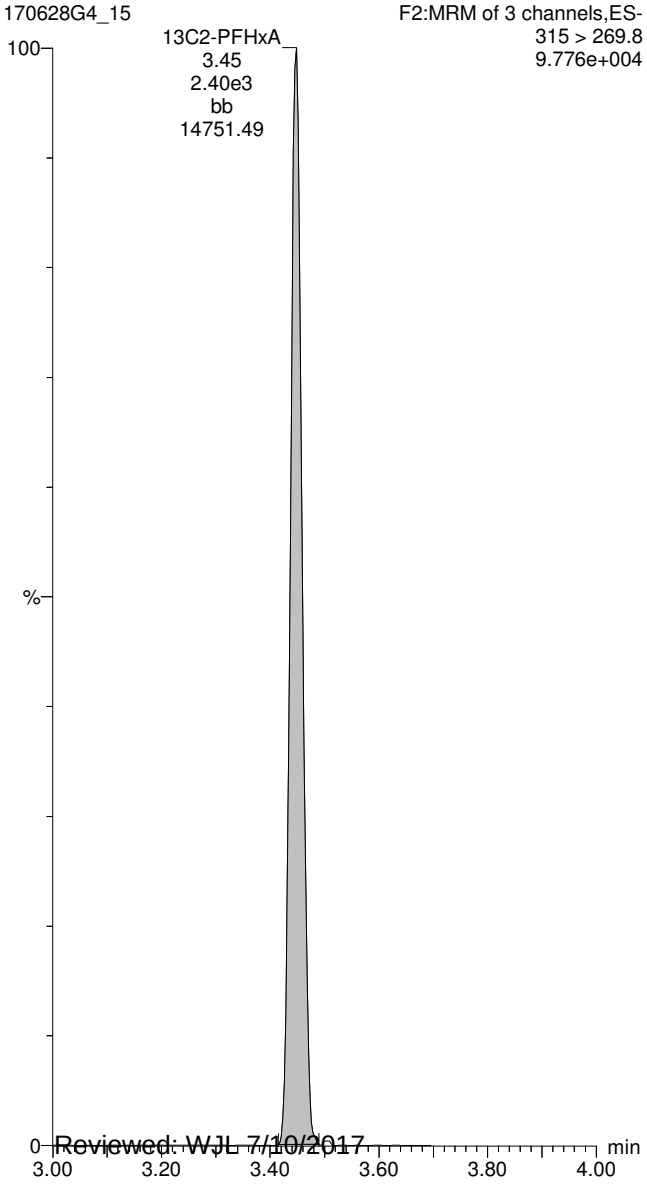

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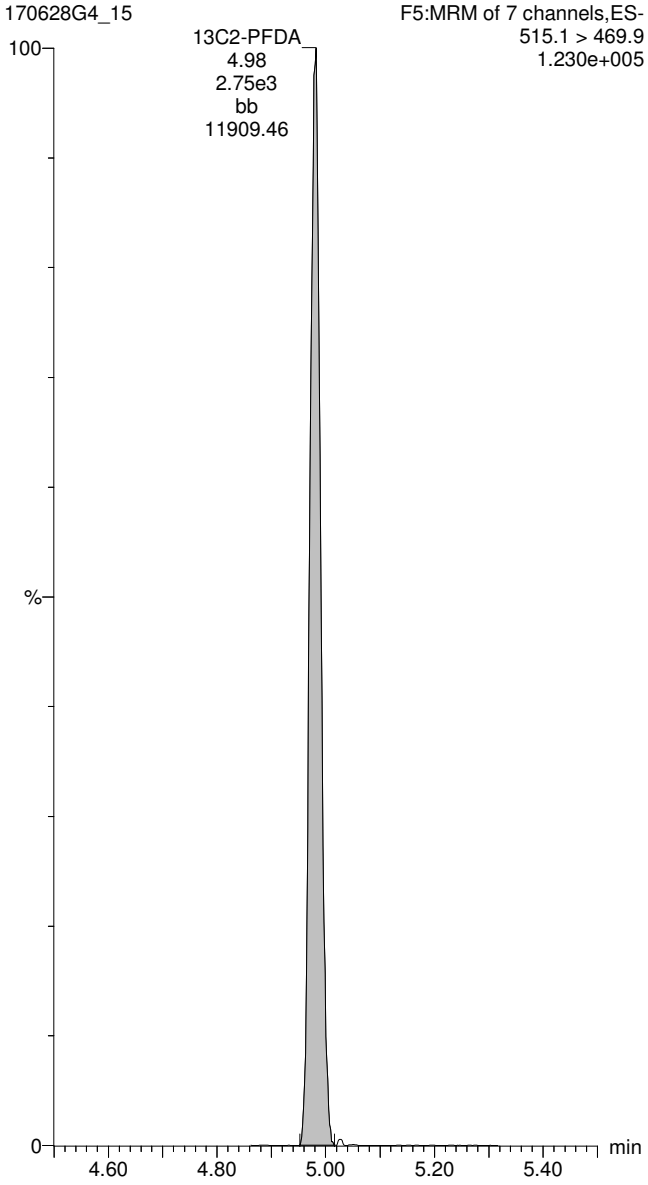
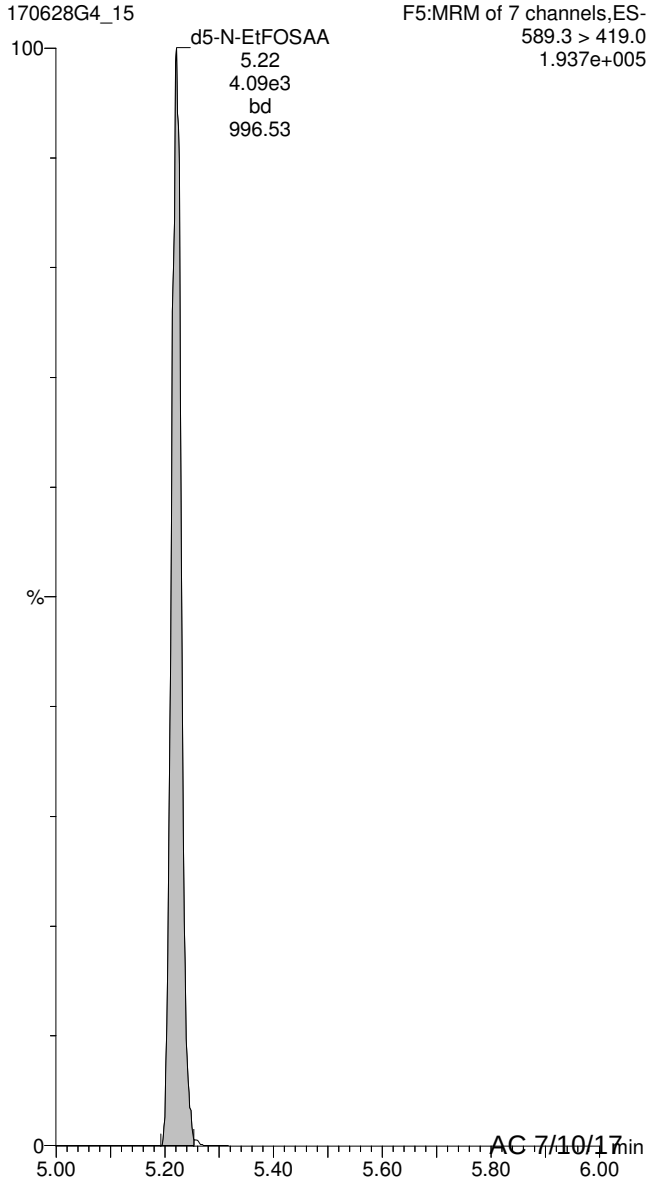


d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-16.qld

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

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	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.041e3		0.278			
2	2	PFHxA	313.2 > 268.9	3.583e1	5.332e3		0.278	3.45	1.10	
3	3	PFHpA	363 > 318.9		5.332e3		0.278			
4	4	PFHxS	398.9 > 79.6		6.041e3		0.278			
5	5	PFOA	413 > 368.7	1.538e1	5.332e3		0.278	4.36	0.143	
6	6	PFNA	463 > 418.8		5.332e3		0.278			
7	7	PFOS	499 >79.9		6.041e3		0.278			
8	8	PFDA	513 > 468.8	1.228e1	5.332e3		0.278	4.98	0.120	
9	9	N-MeFOSAA	570.1 > 419.0		4.024e3		0.278			
10	10	N-EtFOSAA	584.2 >419.0		4.024e3		0.278			
11	11	PFUnA	563 > 518.9		5.332e3		0.278			
12	12	PFDoA	612.9 > 318.8		5.332e3		0.278			
13	13	PFTrDA	662.9 > 618.9		5.332e3		0.278			
14	14	PFTeDA	712.9 > 668.8		5.332e3		0.278			
15	15	13C2-PFHxA	315 > 269.8	2.312e3	5.332e3	0.429	0.278	3.45	36.4	101
16	16	13C2-PFDA	515.1 > 469.9	2.560e3	5.332e3	0.514	0.278	4.98	33.6	93.3
17	17	d5-N-EtFOSAA	589.3 > 419.0	3.484e3	4.024e3	1.065	0.278	5.22	117	81.3
18	18	13C2-PFOA	414.9 > 369.7	5.332e3	5.332e3	1.000	0.278	4.36	36.0	100
19	19	13C4-PFOS	503.0 > 79.9	6.041e3	6.041e3	1.000	0.278	4.75	103	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.024e3	4.024e3	1.000	0.278	5.10	144	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-16.qld

Last Altered: Monday, July 10, 2017 12:06:24 Pacific Daylight Time
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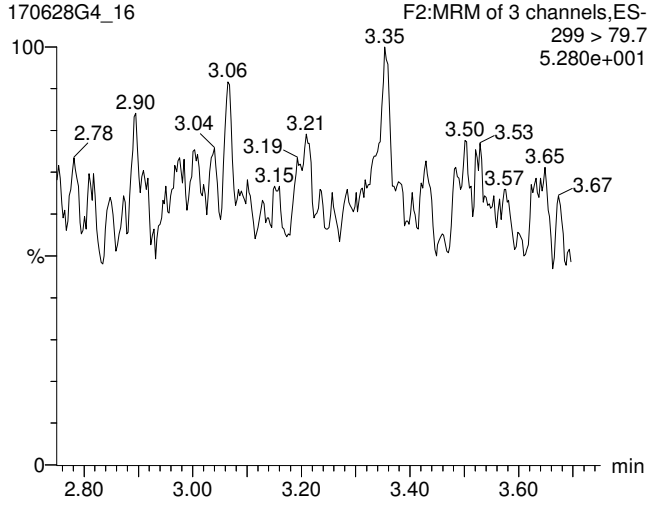
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-01 Well2-G0130002-DW-20170622 0.27793, Description: Well2-G0130002-DW-20170622, Name: 170628G4_16, Date: 28-Jun-2017, Time: 21:28:21, Instrument: , Lab: , User:

PFBS



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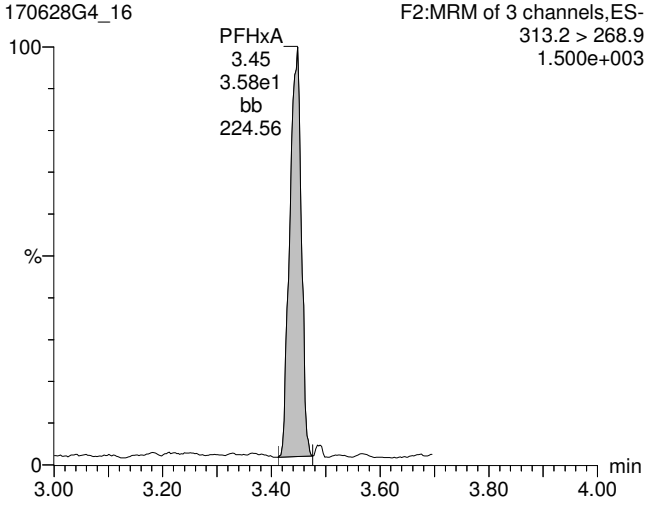

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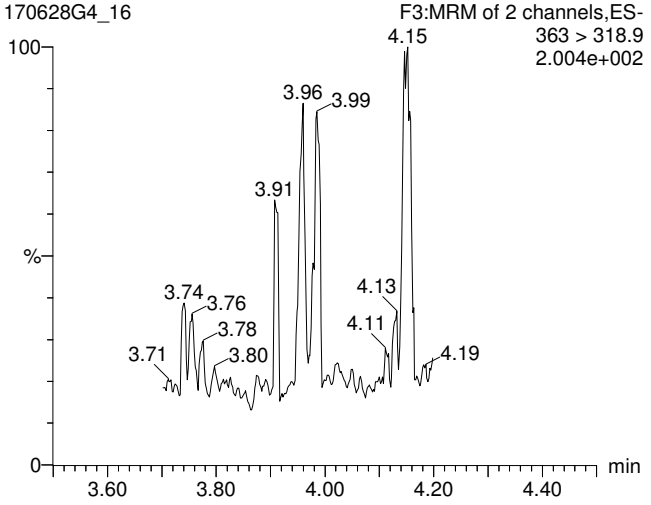

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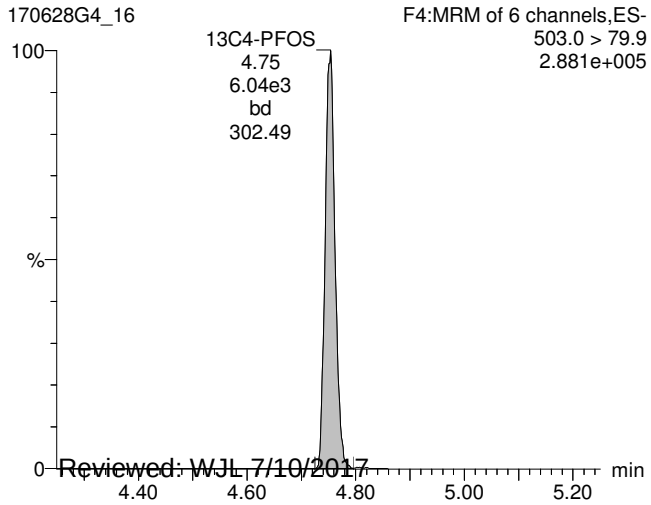

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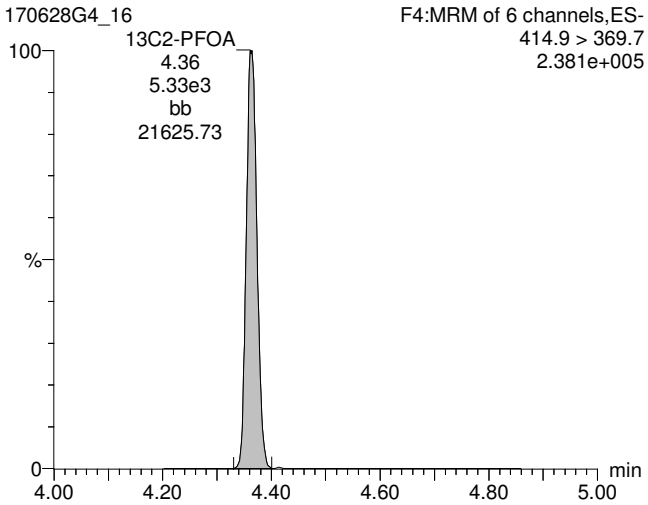

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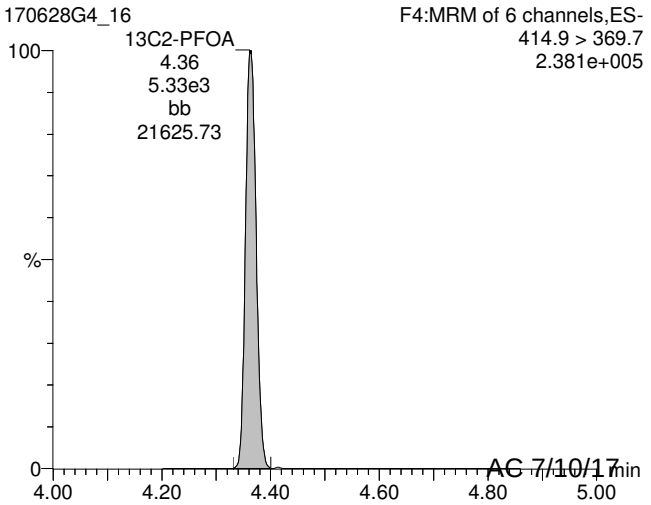

Reviewed: WJL 7/10/2017 AC 7/10/17

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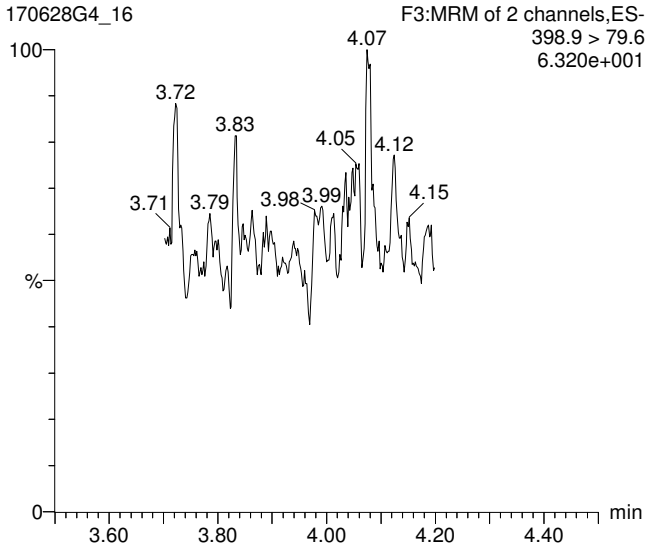
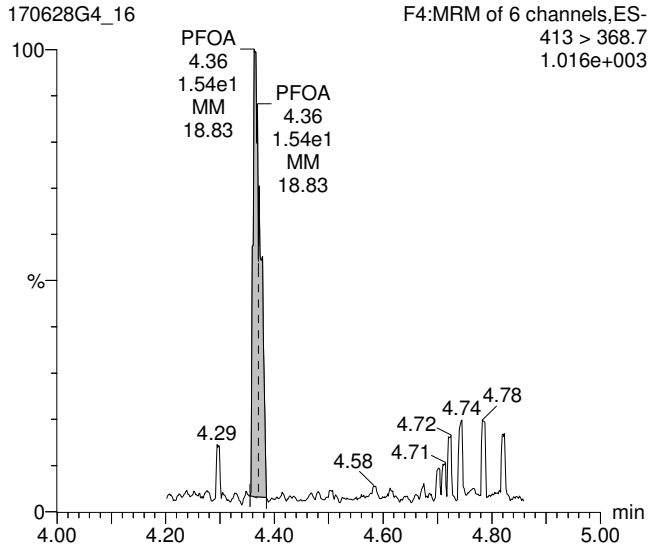
ID: 1700759-01 Well2-G0130002-DW-20170622 0.27793, Description: Well2-G0130002-DW-20170622, Name: 170628G4_16, Date: 28-Jun-2017, Time: 21:28:21, Instrument: , Lab: , User:

PFHxS



PFOA



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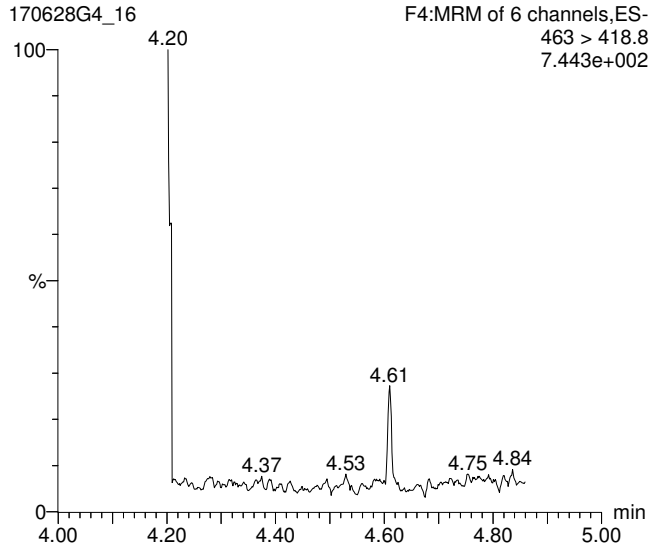
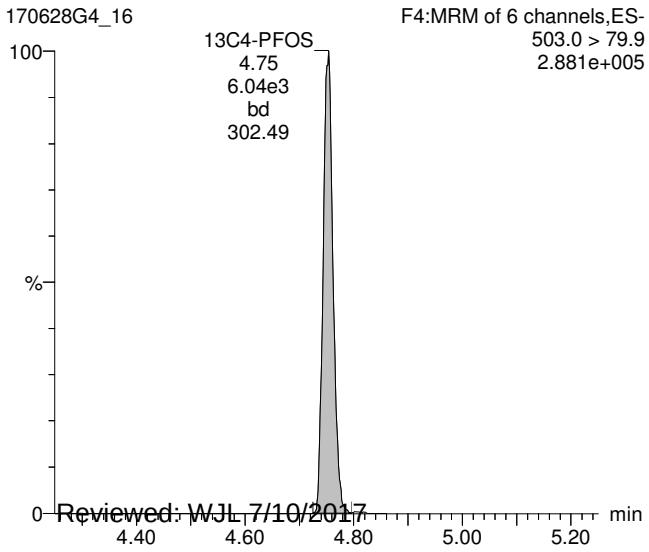


13C4-PFOS



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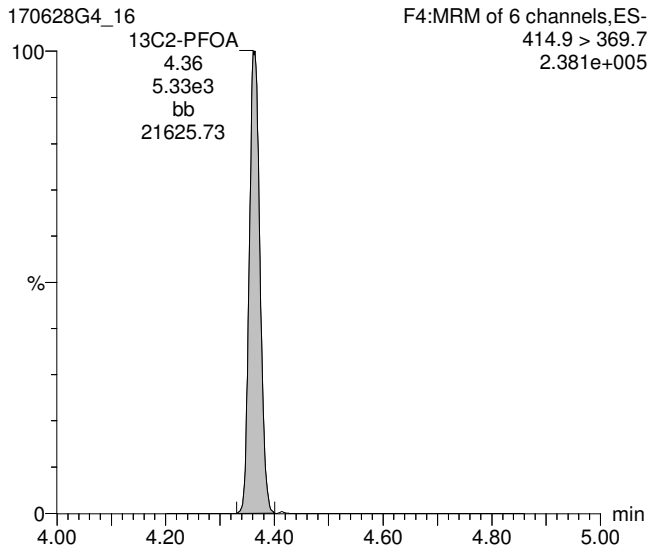

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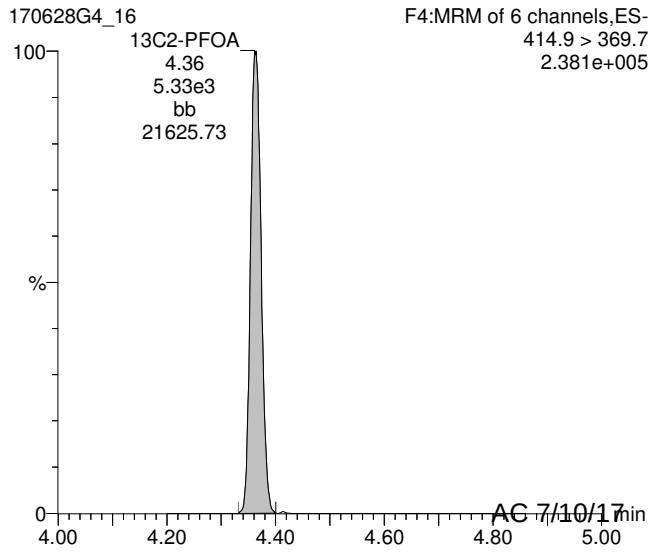

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-16.qld

Last Altered: Monday, July 10, 2017 12:06:24 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:07:15 Pacific Daylight Time

ID: 1700759-01 Well2-G0130002-DW-20170622 0.27793, Description: Well2-G0130002-DW-20170622, Name: 170628G4_16, Date: 28-Jun-2017, Time: 21:28:21, Instrument: , Lab: , User:

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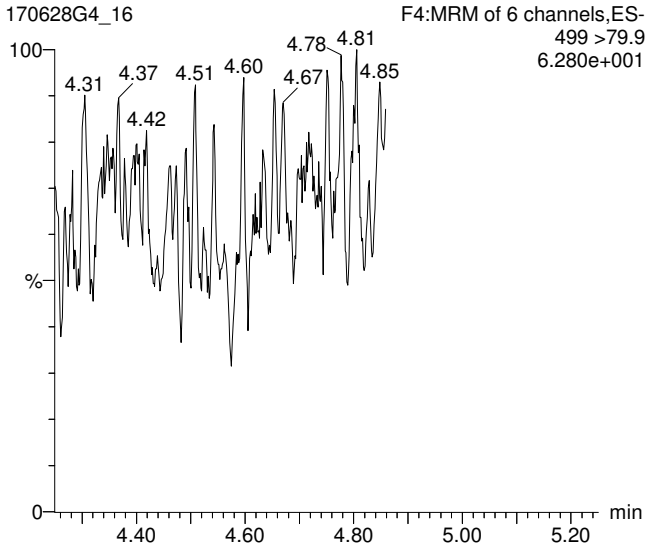

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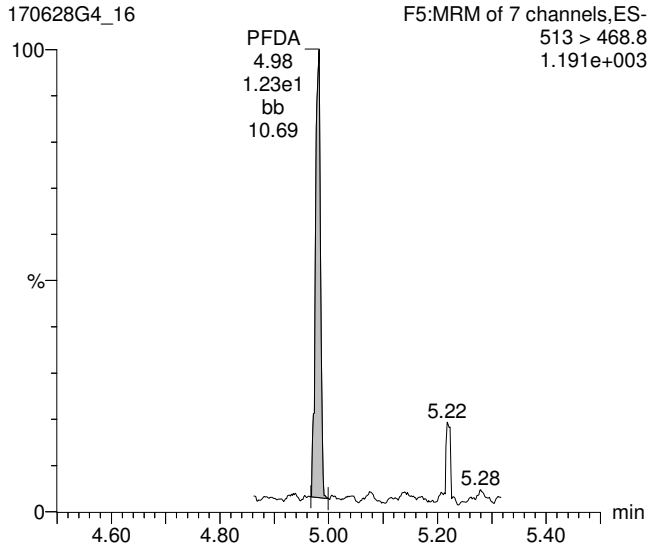

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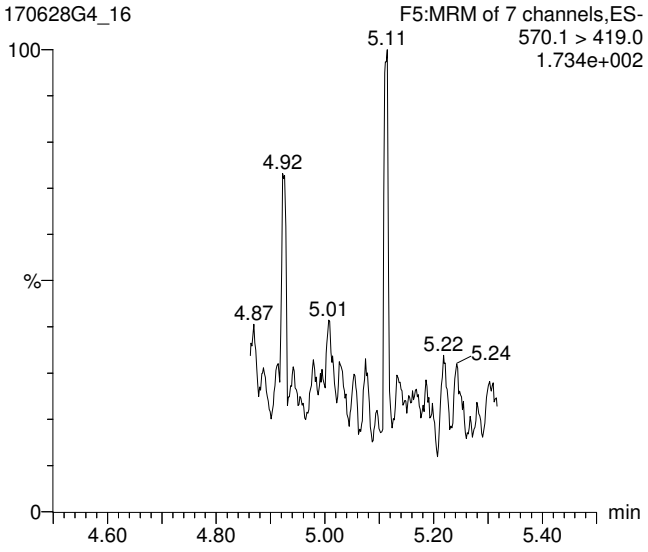

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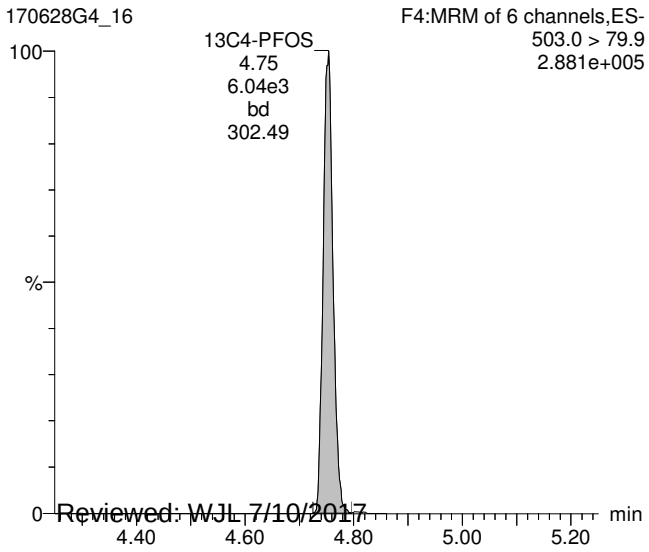

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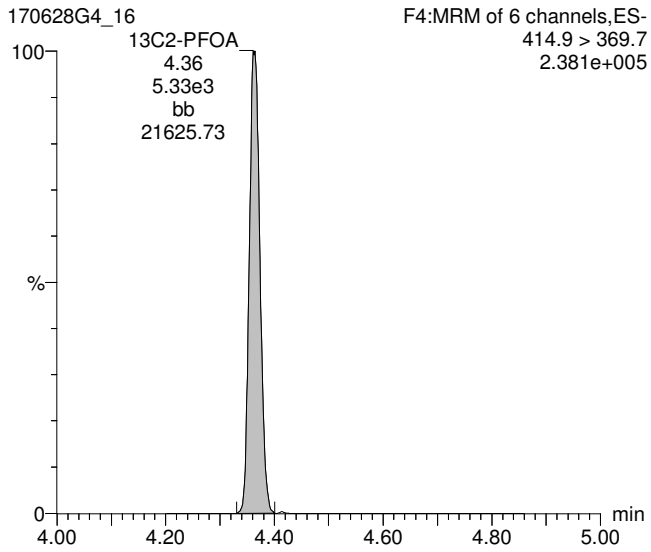

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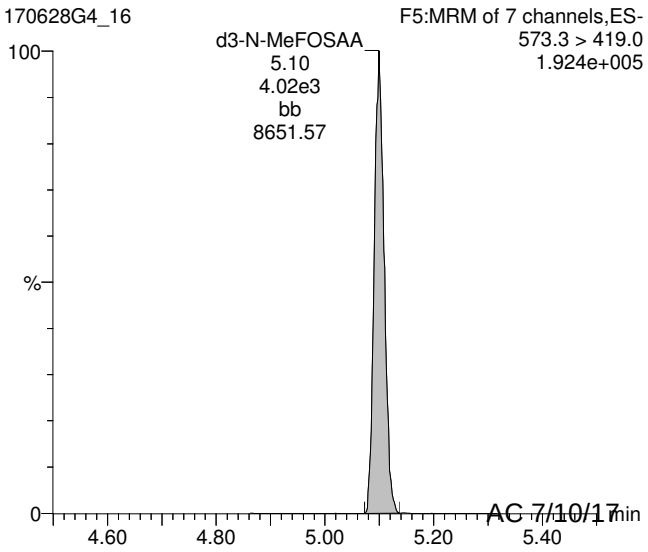

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-16.qld

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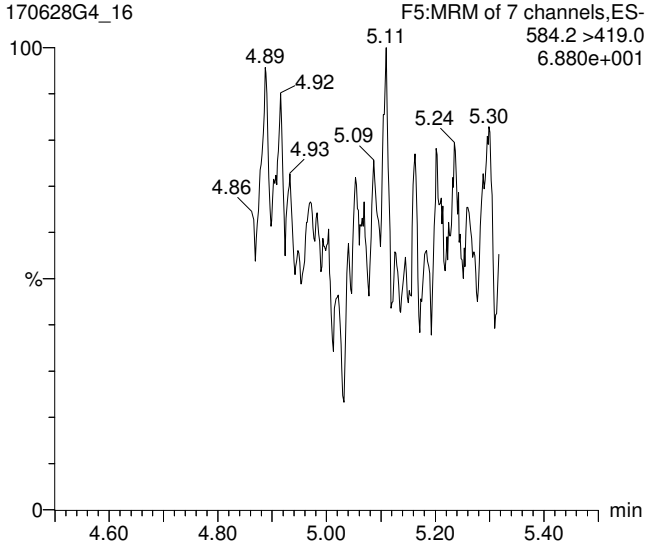

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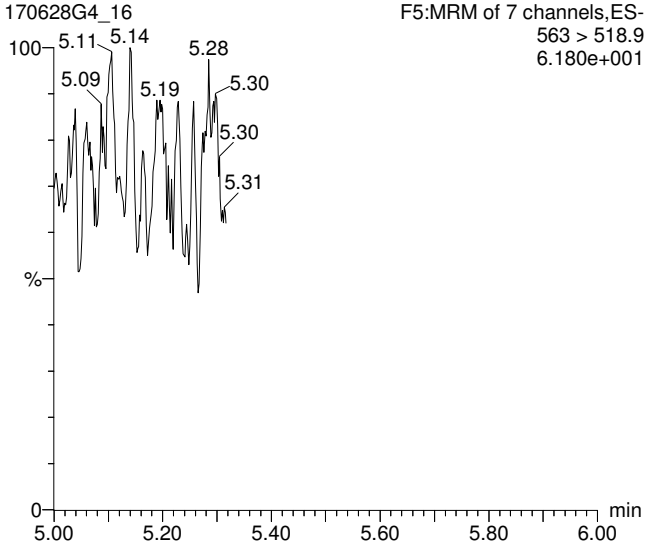

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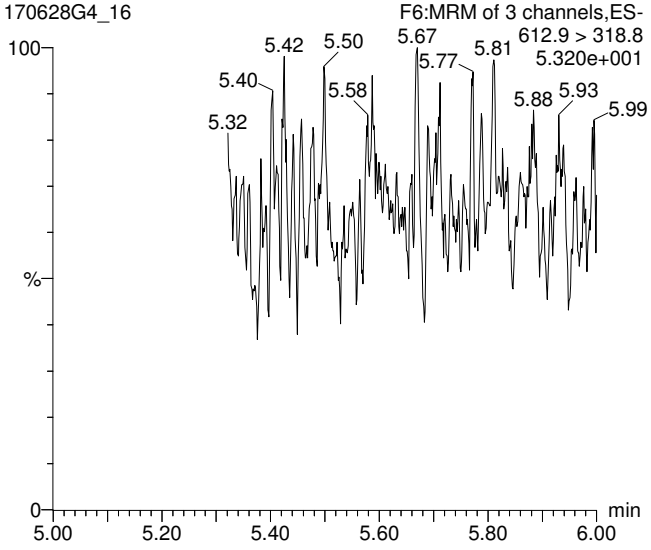

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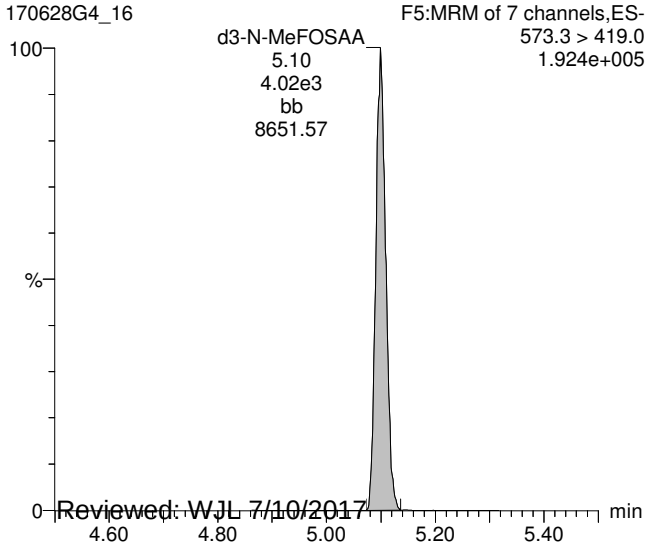

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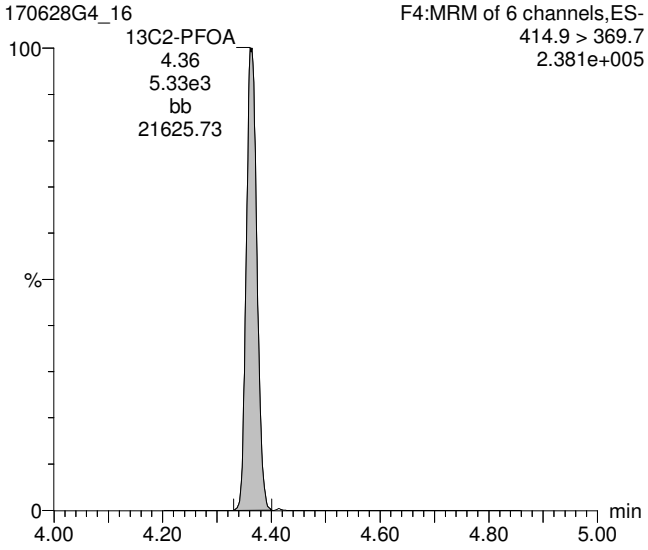

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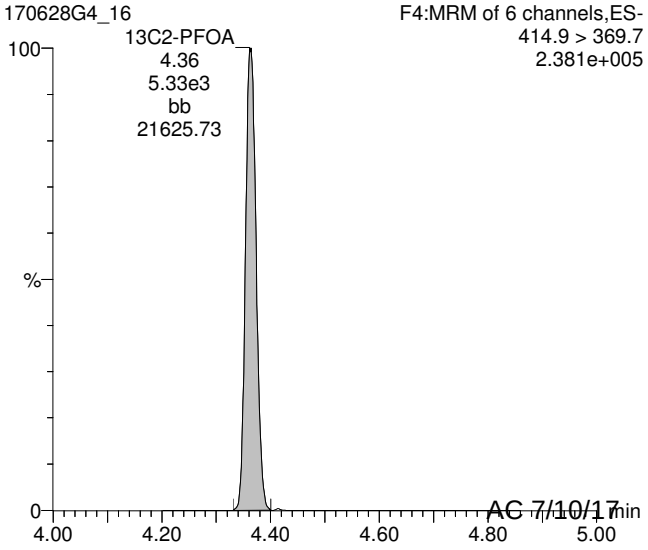

Reviewed: WJL 7/10/2017 AC 7/10/17

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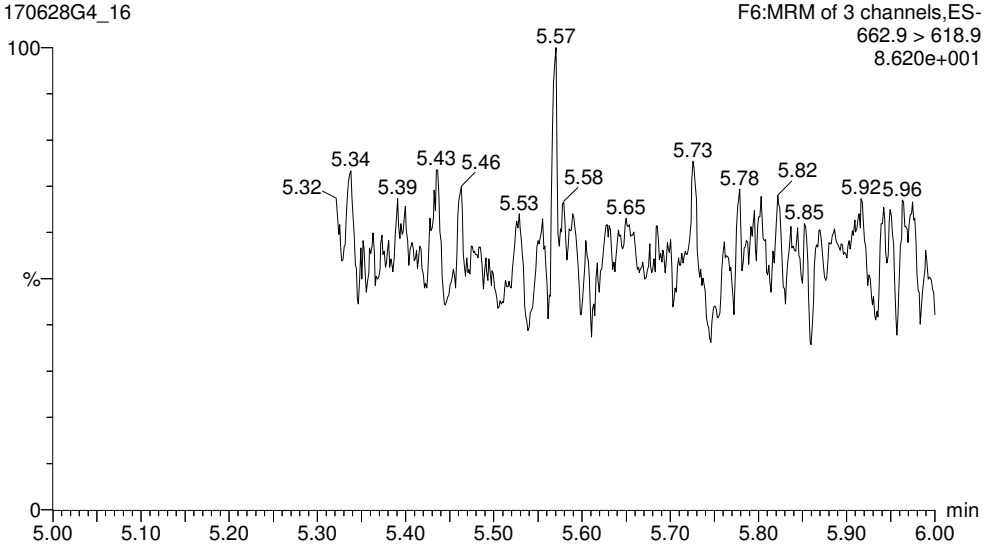

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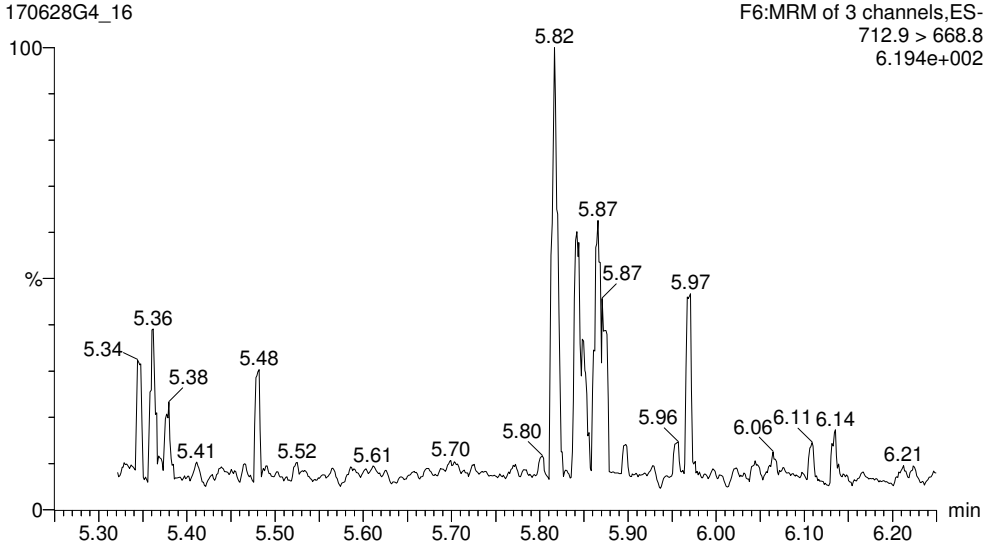

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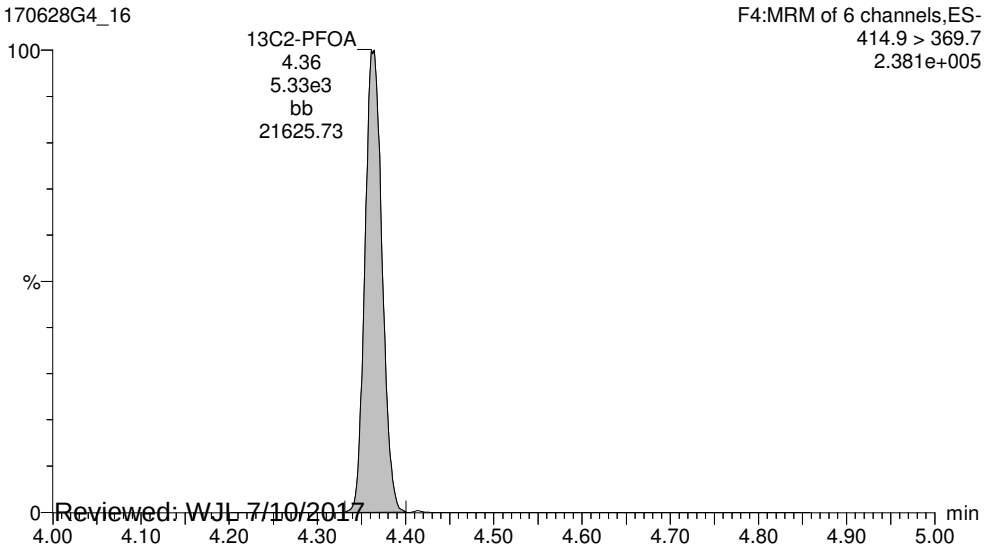

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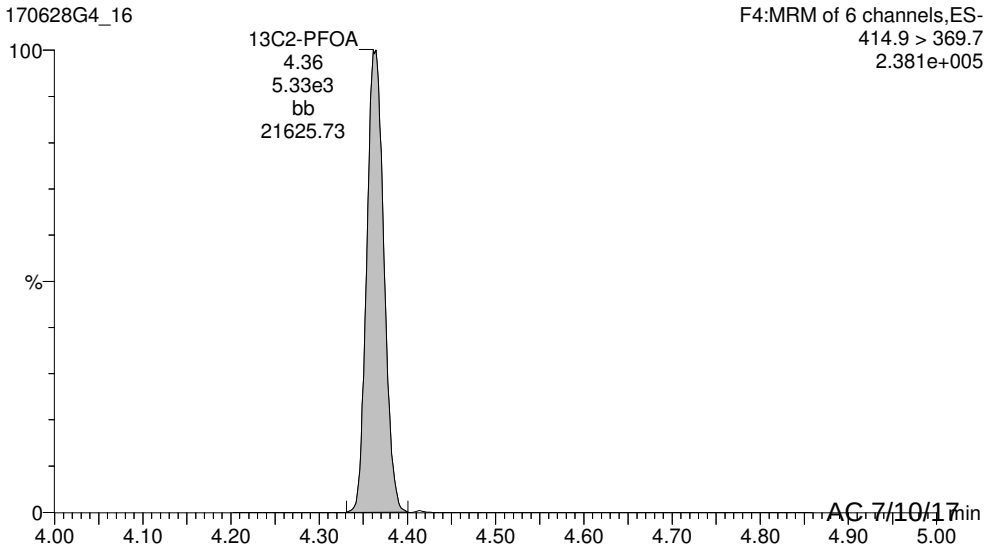

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-16.qld

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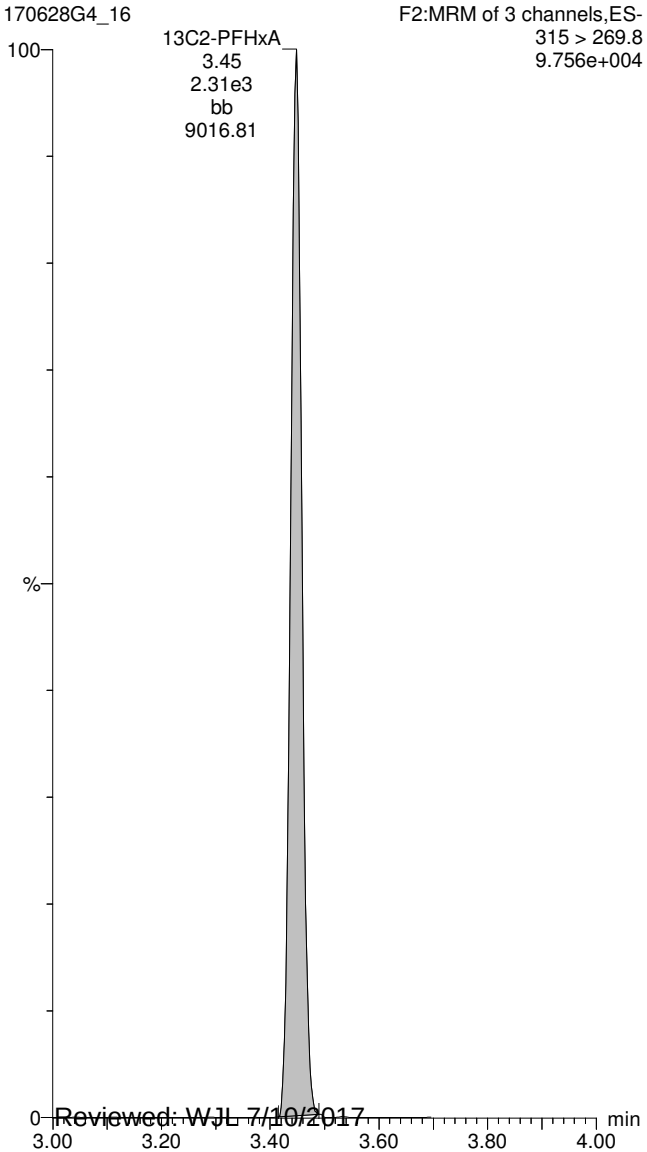
13C2-PFHxA



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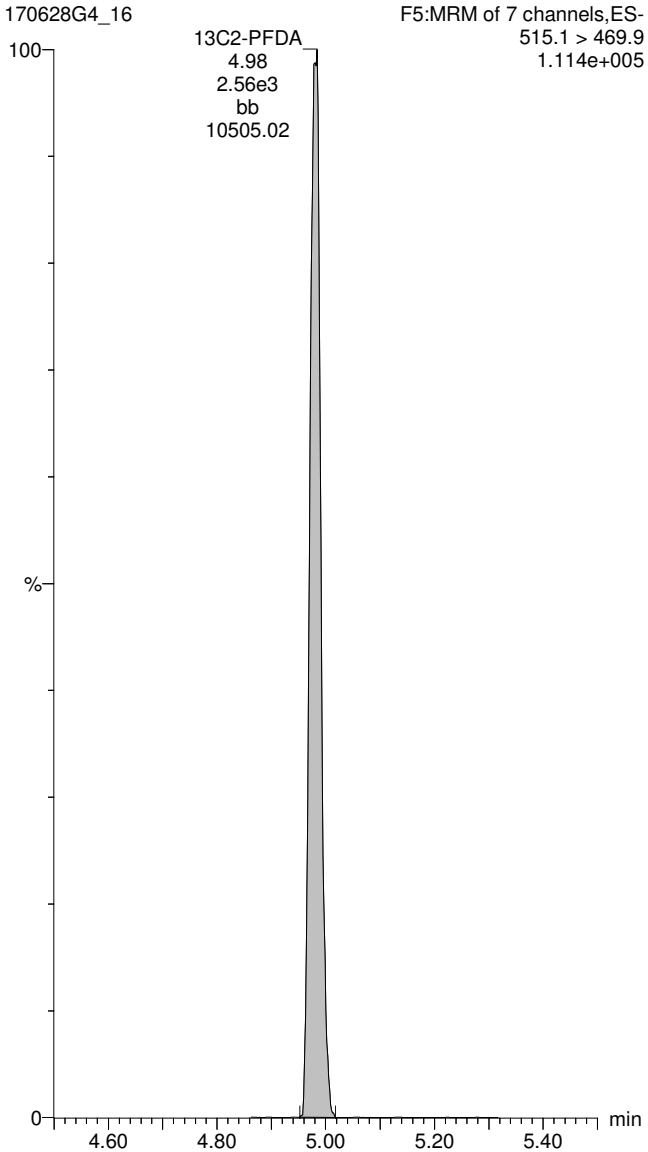

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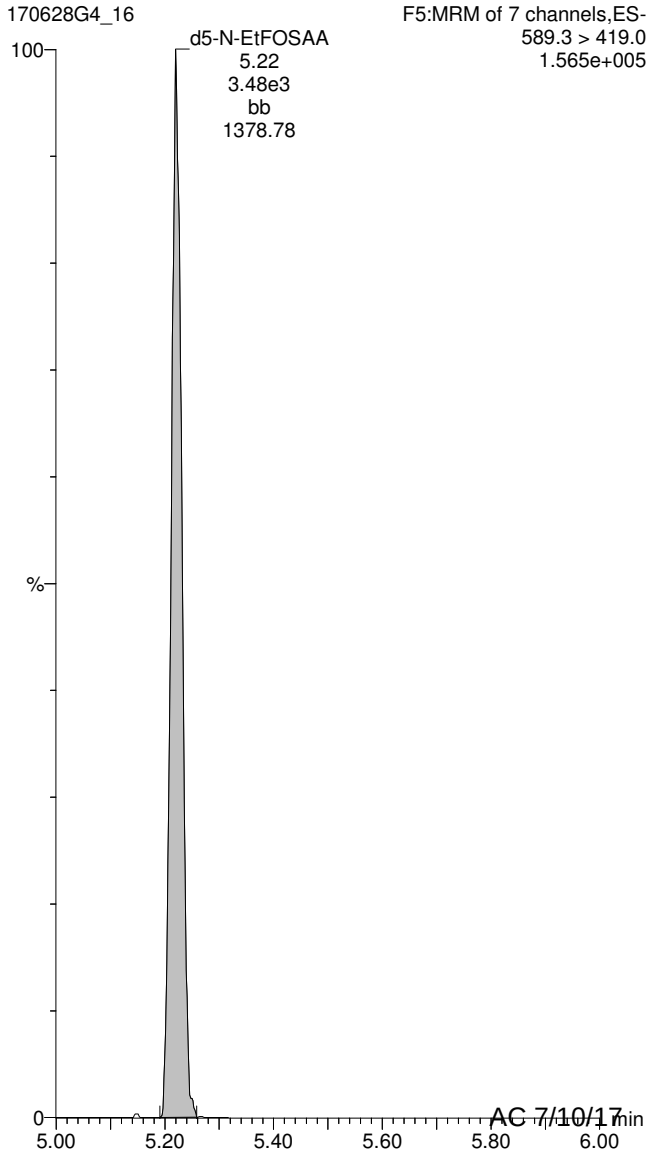

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-18.qld

Last Altered: Monday, July 10, 2017 12:11:29 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:11:53 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-03 Well5-G0130002-DW-20170622 0.28452, Description: Well5-G0130002-DW-20170622, Name: 170628G4_18, Date: 28-Jun-2017, Time: 21:53:09

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.289e3		0.285			
2	2	PFHxA	313.2 > 268.9	3.053e1	5.518e3		0.285	3.45	0.882	
3	3	PFHpA	363 > 318.9	8.932e0	5.518e3		0.285	3.97	0.0710	
4	4	PFHxS	398.9 > 79.6		6.289e3		0.285			
5	5	PFOA	413 > 368.7	1.496e1	5.518e3		0.285	4.36	0.131	
6	6	PFNA	463 > 418.8		5.518e3		0.285			
7	7	PFOS	499 >79.9		6.289e3		0.285			
8	8	PFDA	513 > 468.8	2.199e1	5.518e3		0.285	4.98	0.203	
9	9	N-MeFOSAA	570.1 > 419.0		3.926e3		0.285			
10	10	N-EtFOSAA	584.2 >419.0		3.926e3		0.285			
11	11	PFUnA	563 > 518.9		5.518e3		0.285			
12	12	PFDoA	612.9 > 318.8		5.518e3		0.285			
13	13	PFTrDA	662.9 > 618.9		5.518e3		0.285			
14	14	PFTeDA	712.9 > 668.8		5.518e3		0.285			
15	15	13C2-PFHxA	315 > 269.8	2.411e3	5.518e3	0.429	0.285	3.45	35.8	102
16	16	13C2-PFDA	515.1 > 469.9	2.910e3	5.518e3	0.514	0.285	4.98	36.0	103
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.320e3	3.926e3	1.065	0.285	5.22	145	103
18	18	13C2-PFOA	414.9 > 369.7	5.518e3	5.518e3	1.000	0.285	4.36	35.1	100
19	19	13C4-PFOS	503.0 > 79.9	6.289e3	6.289e3	1.000	0.285	4.76	101	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.926e3	3.926e3	1.000	0.285	5.10	141	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-18.qld

Last Altered: Monday, July 10, 2017 12:11:29 Pacific Daylight Time
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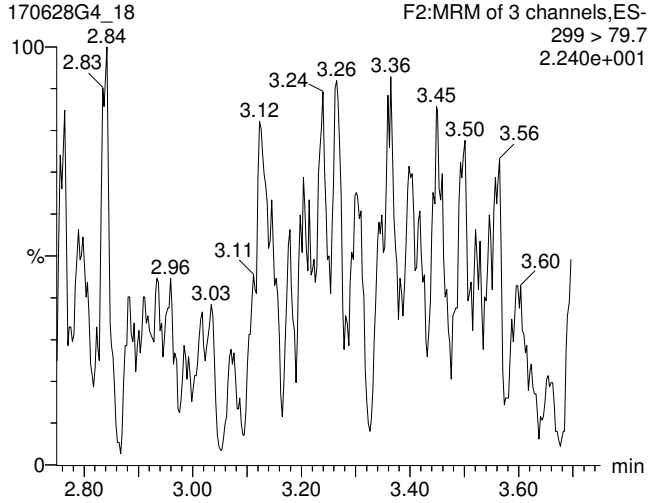
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-03 Well5-G0130002-DW-20170622 0.28452, Description: Well5-G0130002-DW-20170622, Name: 170628G4_18, Date: 28-Jun-2017, Time: 21:53:09, Instrument: , Lab: , User:

PFBS



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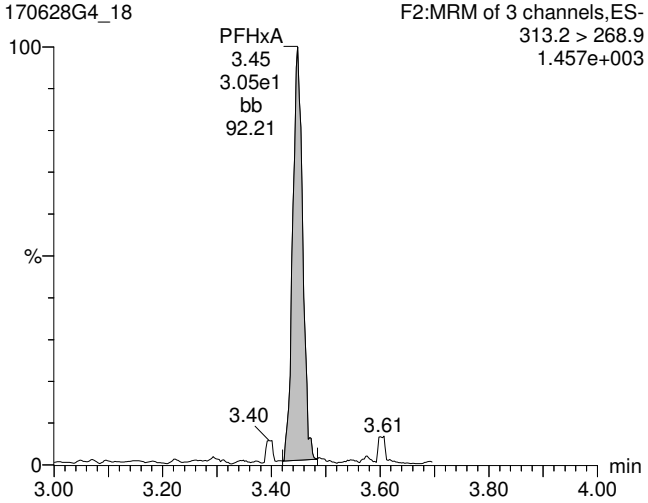

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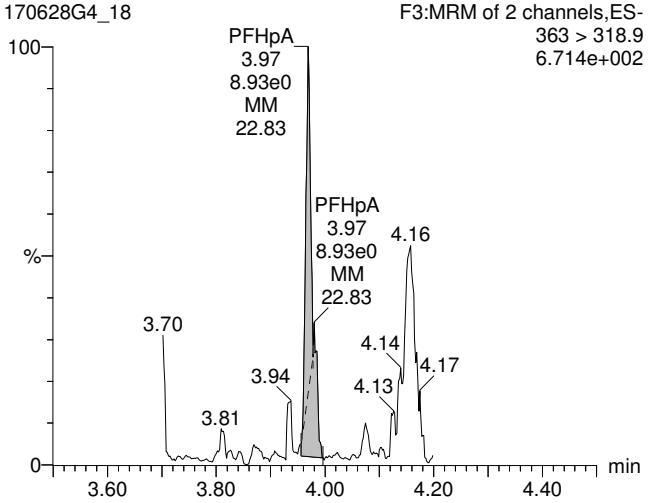

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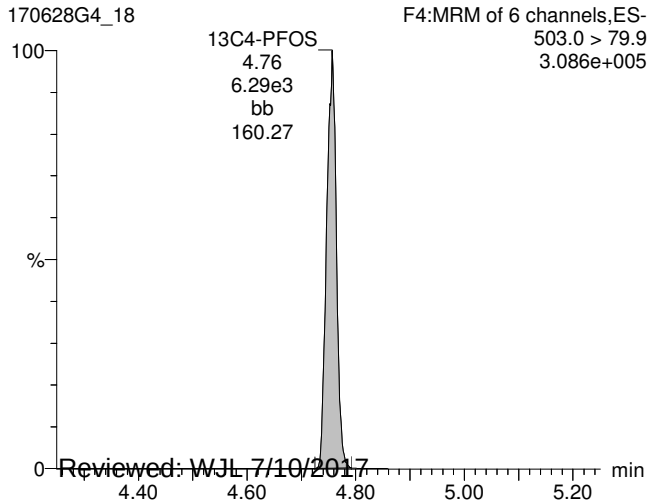

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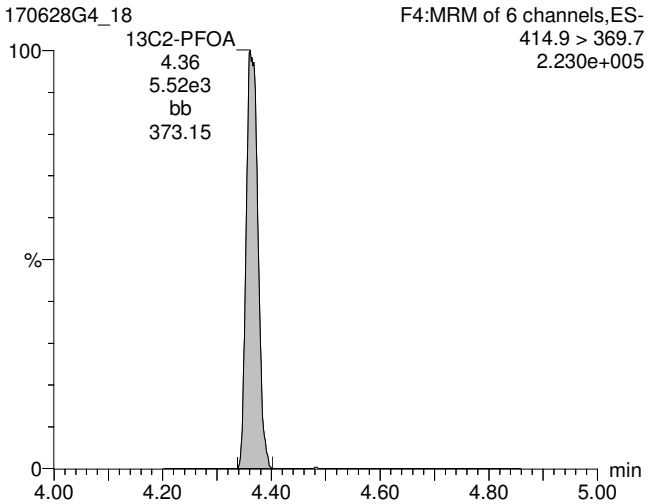

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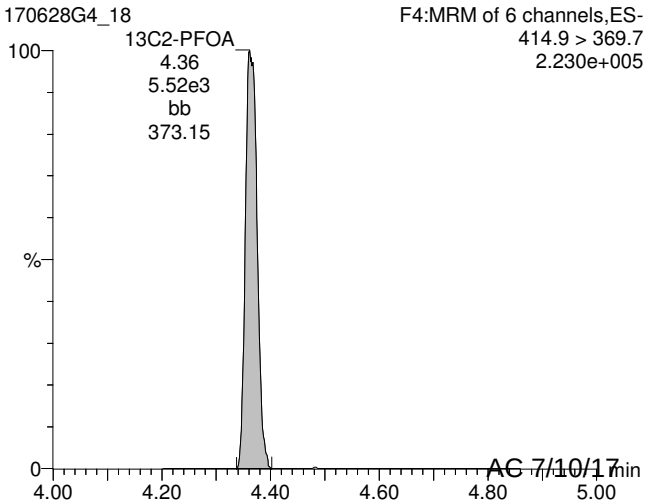

Reviewed: WJL 7/10/2017 AC 7/10/17

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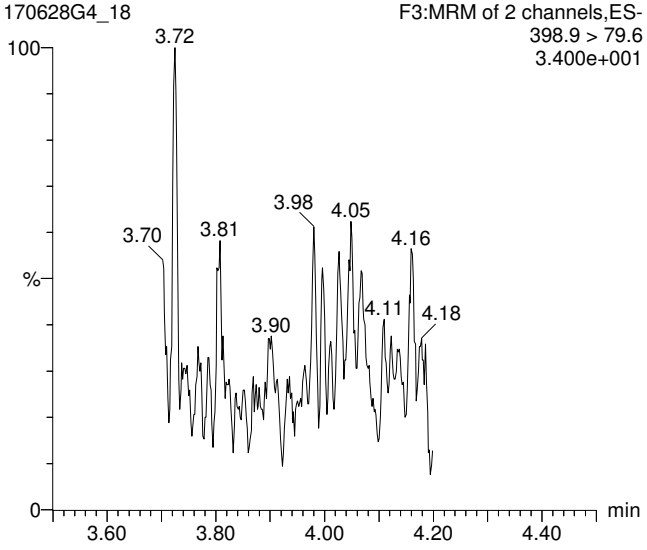

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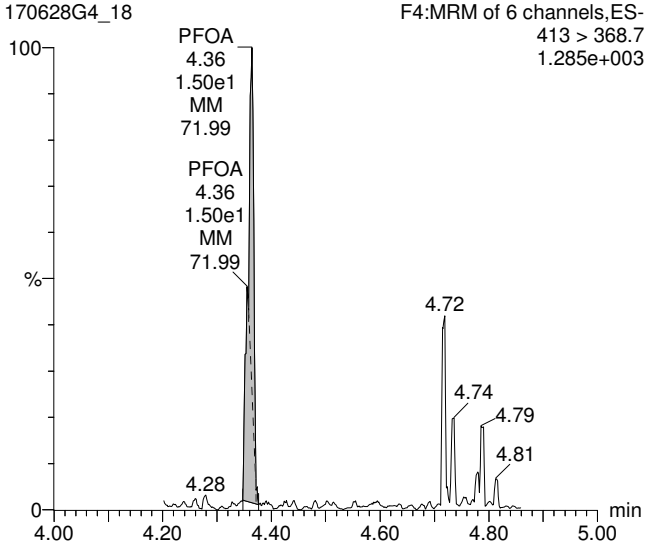

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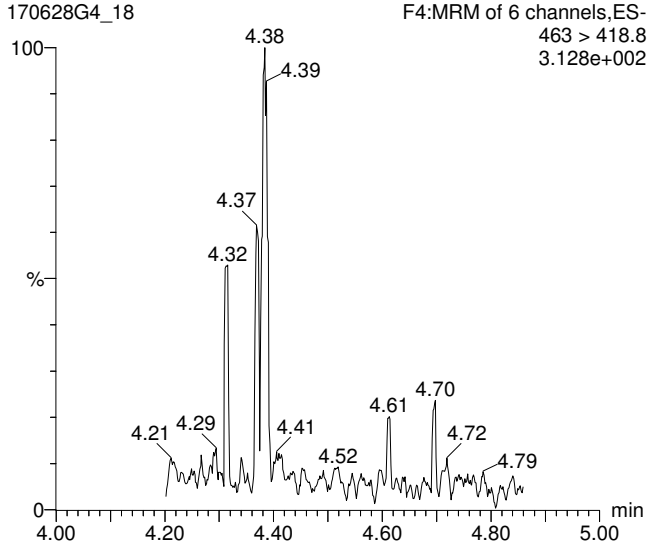

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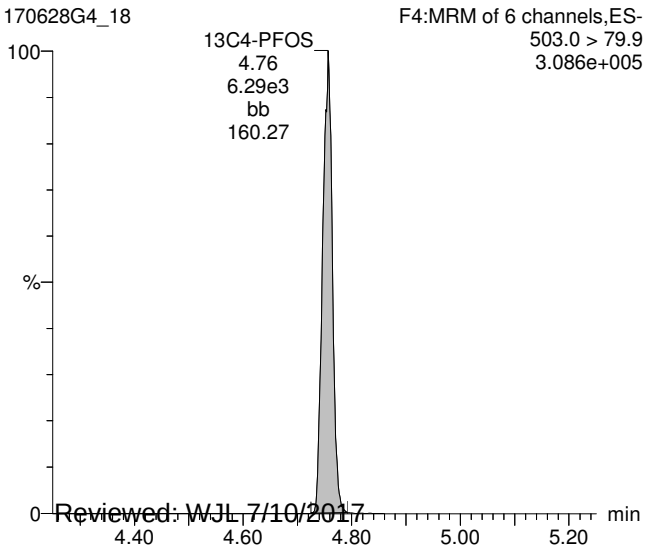

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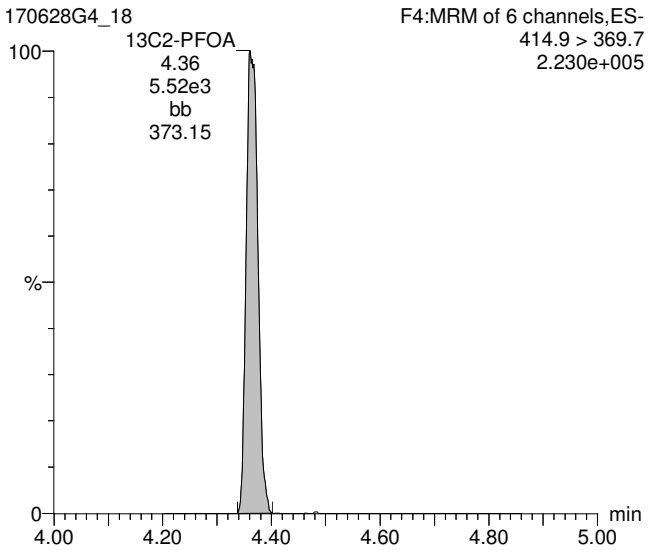

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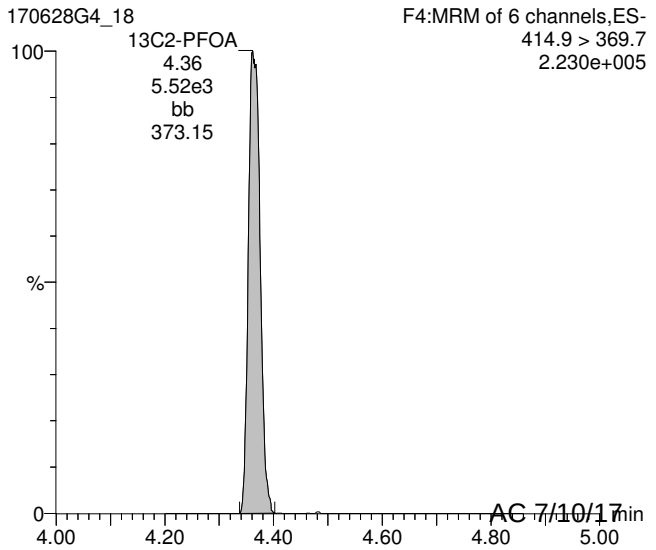

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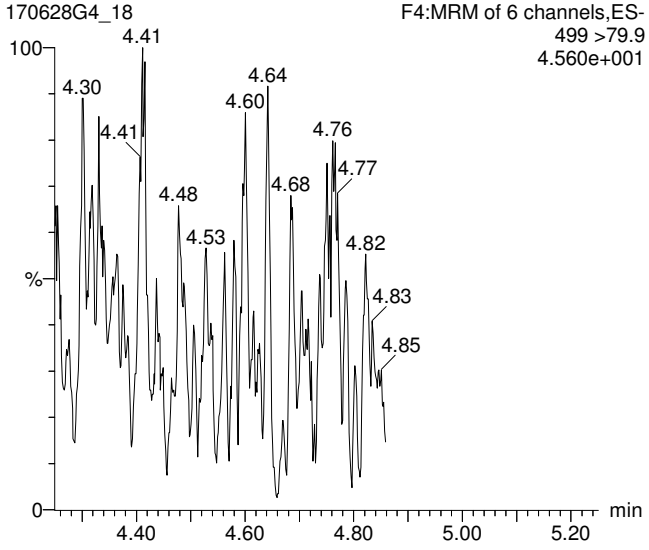

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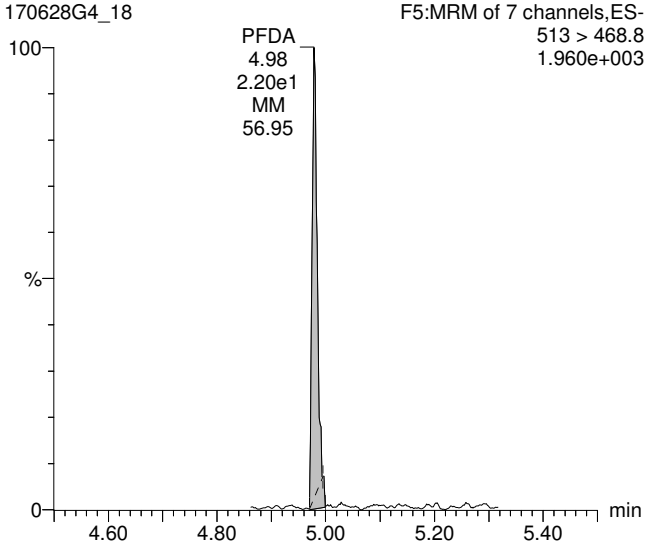

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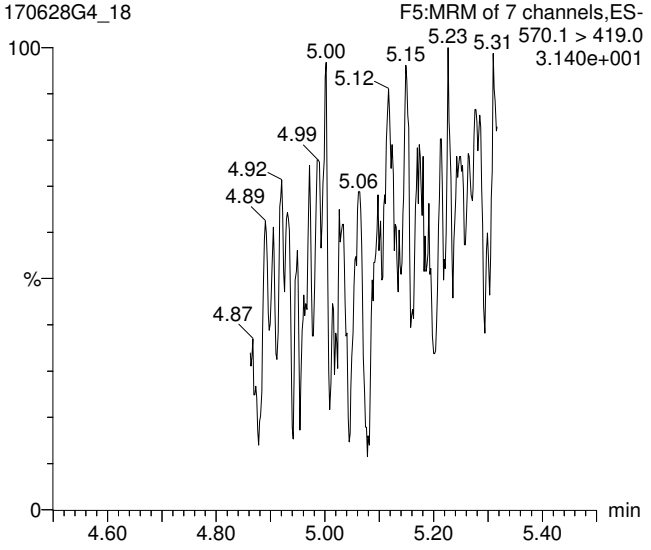

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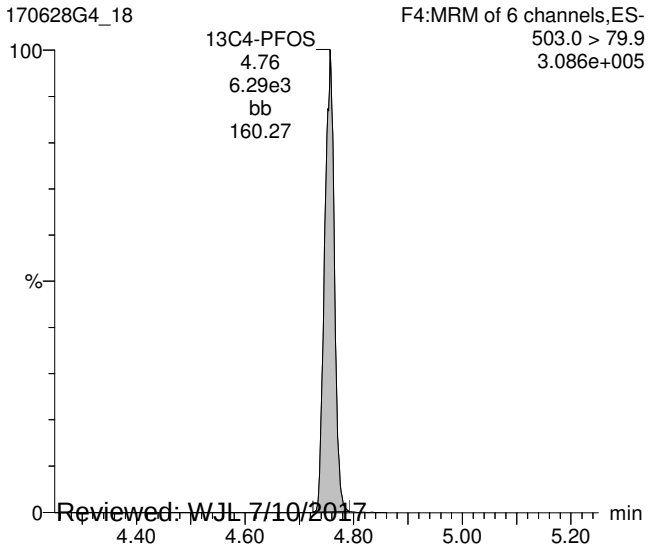

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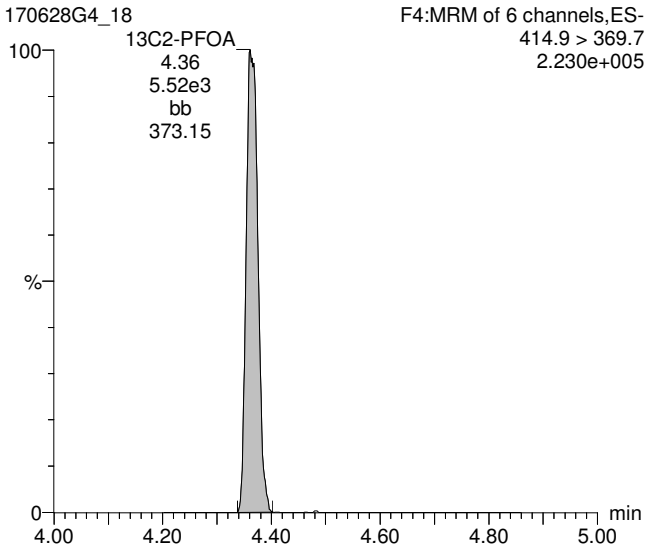

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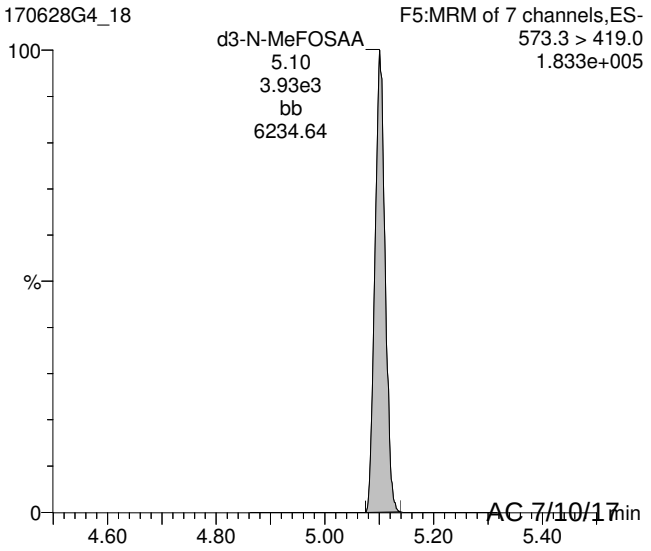

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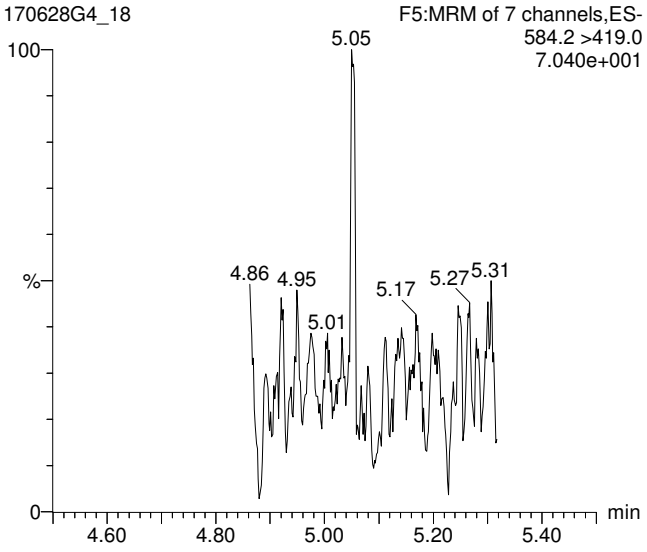

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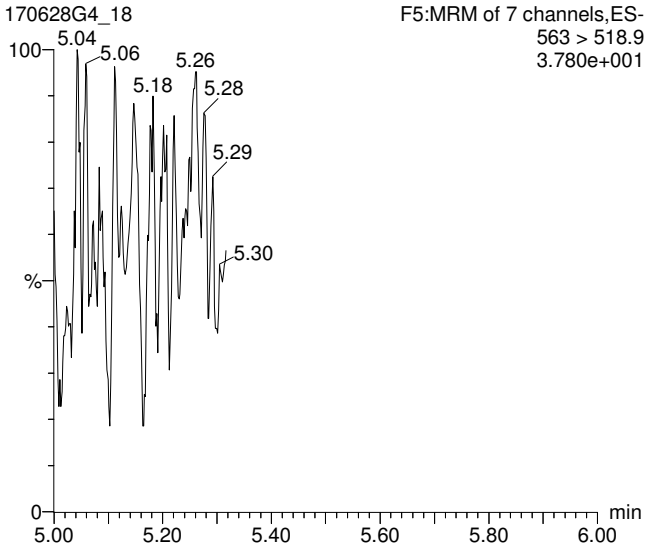
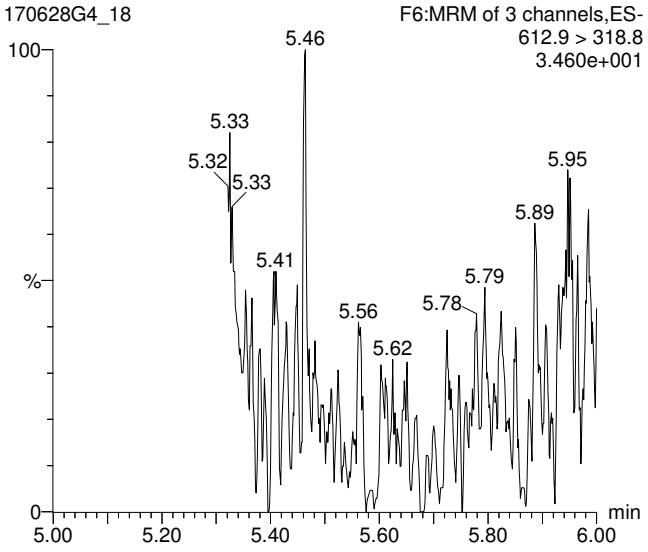


PFDoA



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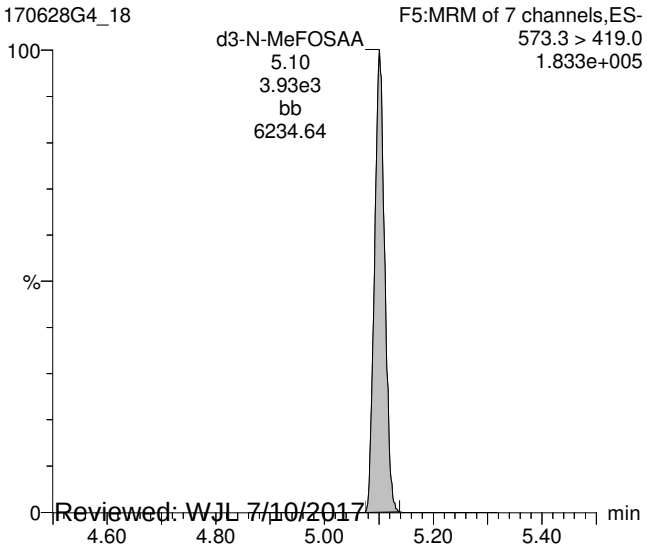

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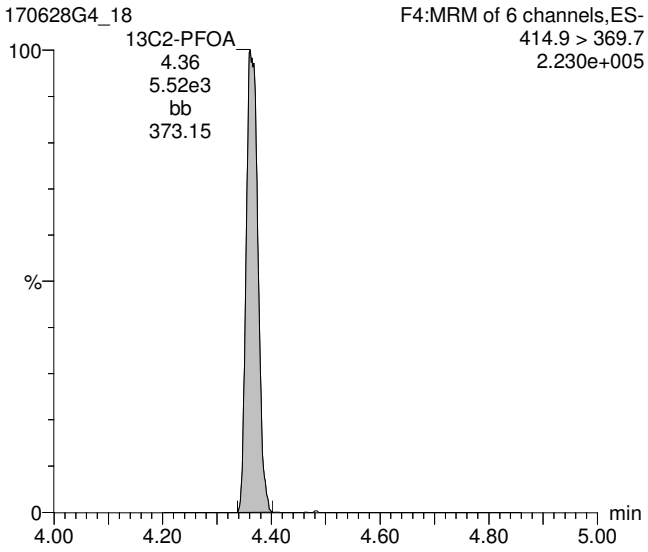

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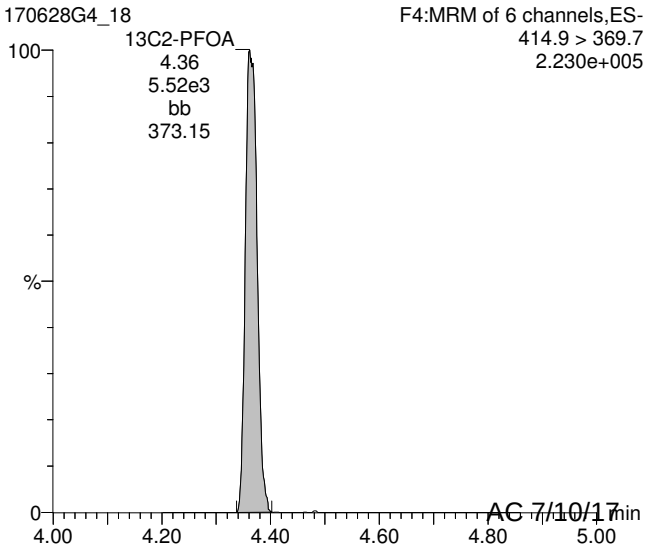

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-18.qld

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Printed: Monday, July 10, 2017 12:11:53 Pacific Daylight Time

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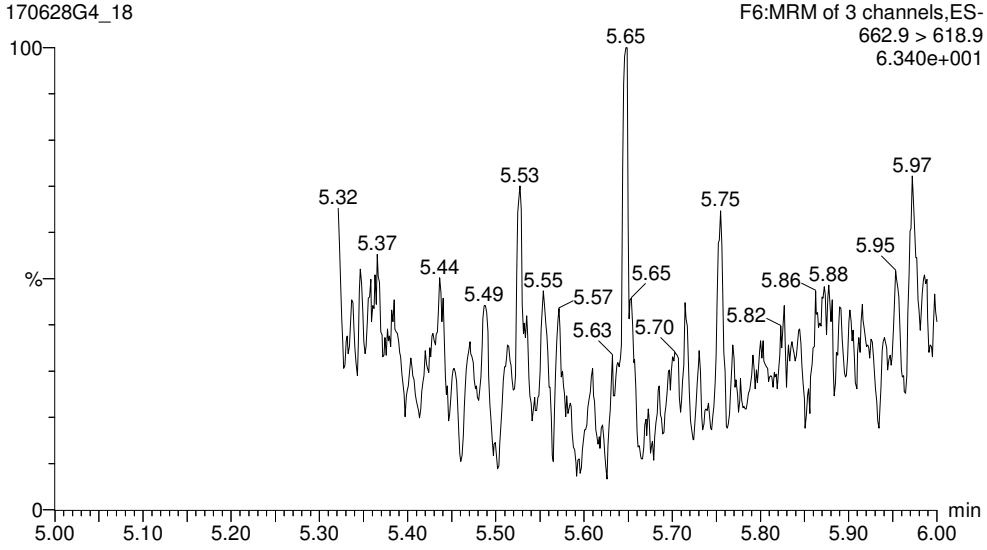

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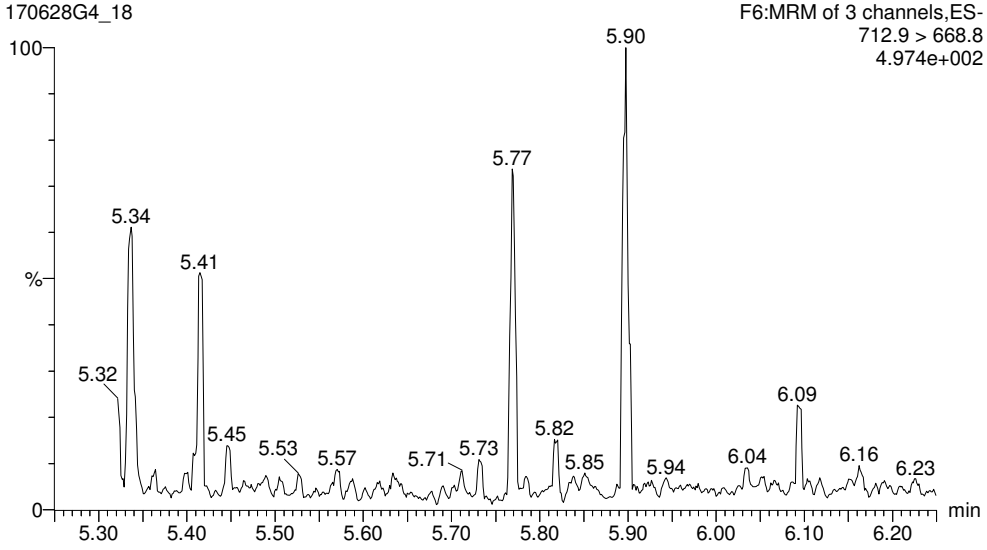

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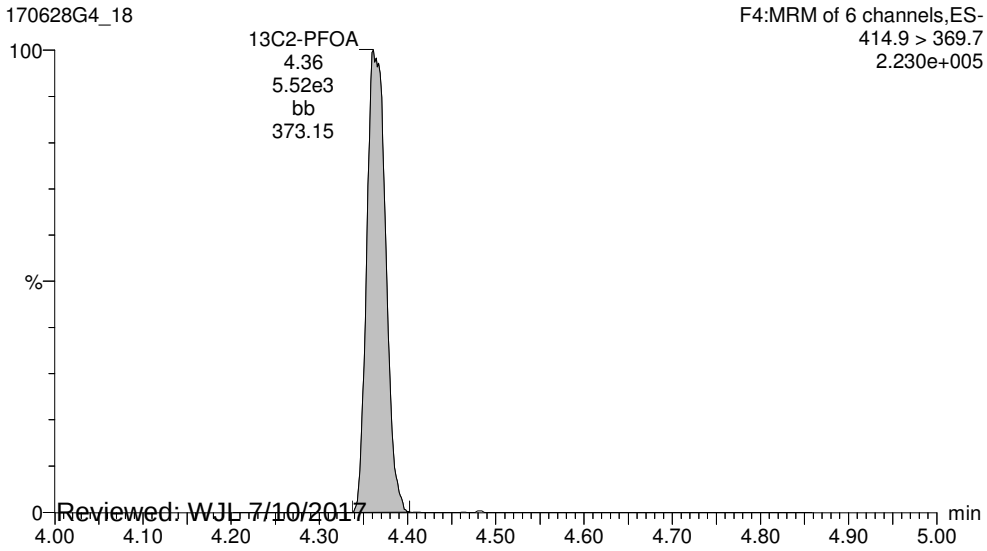

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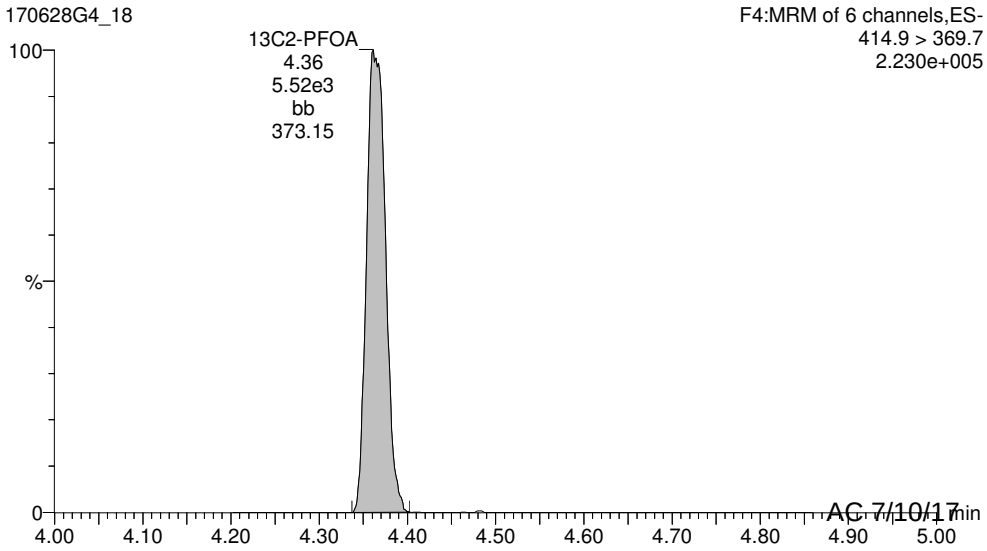

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

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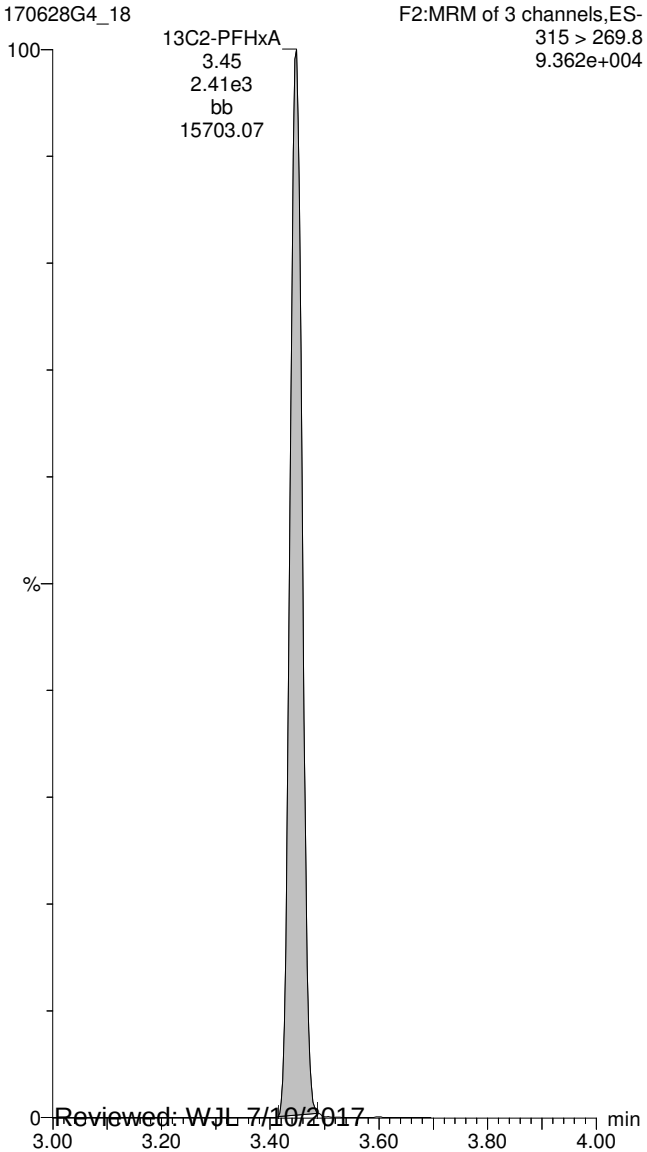
13C2-PFHxA



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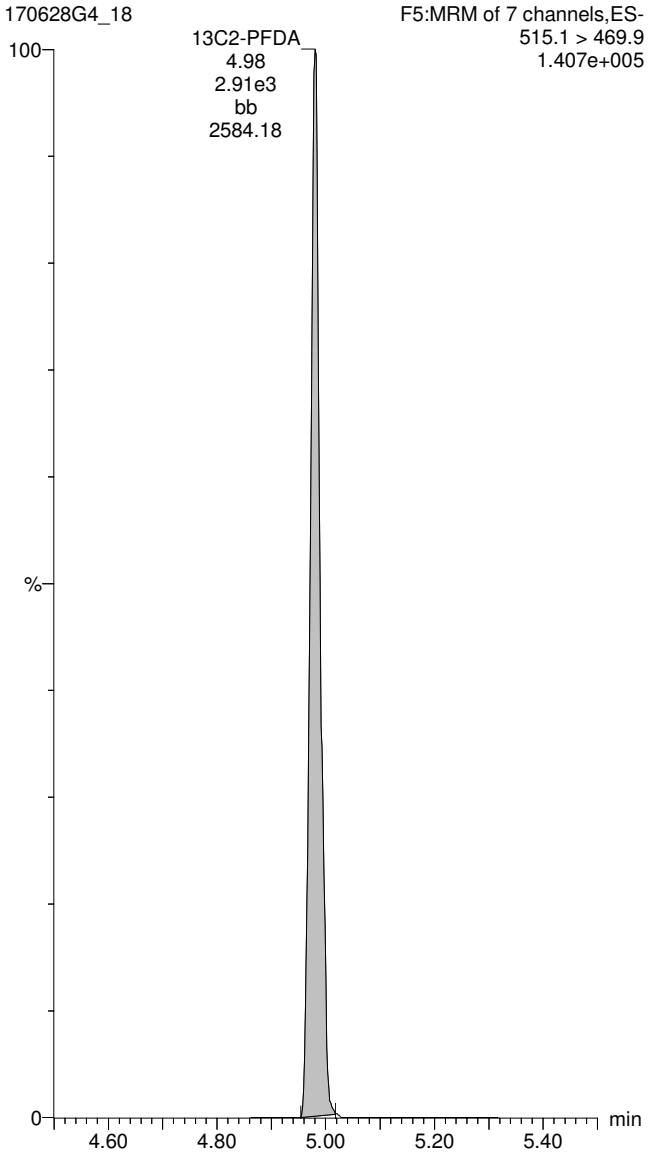

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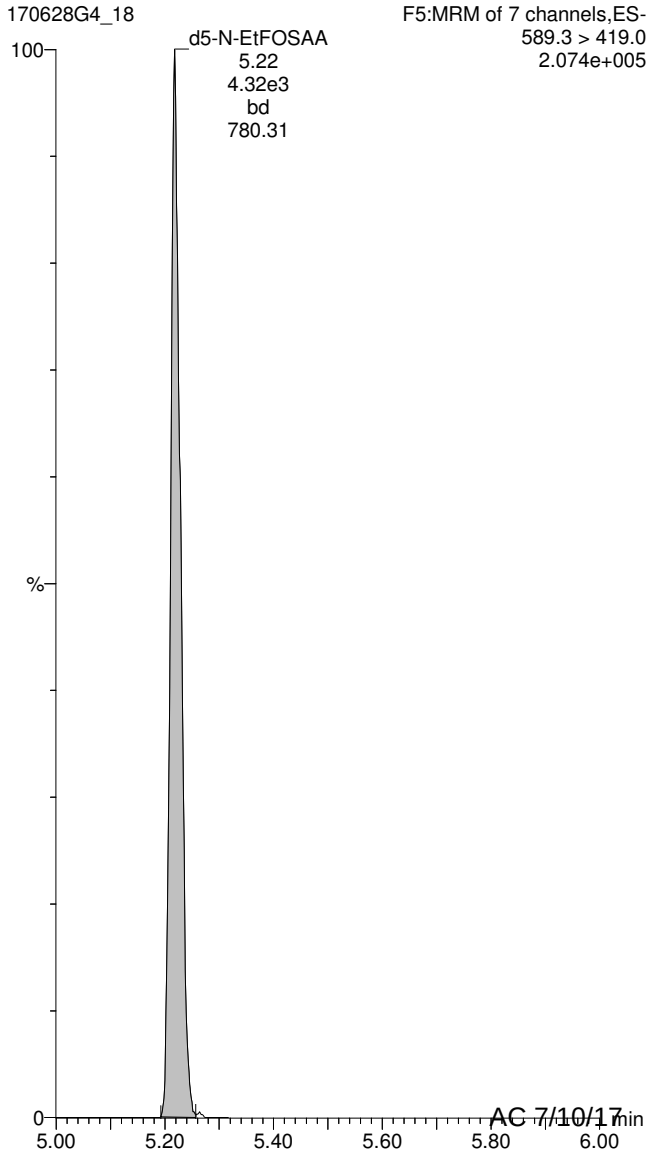

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-20.qld

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Printed: Monday, July 10, 2017 12:14:57 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-05 Well6-G0130002-DW-20170622 0.27638, Description: Well6-G0130002-DW-20170622, Name: 170628G4_20, Date: 28-Jun-2017, Time: 22:19:40

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.602e3		0.276			
2	2	PFHxA	313.2 > 268.9	3.269e1	5.777e3		0.276	3.45	0.929	
3	3	PFHpA	363 > 318.9		5.777e3		0.276			
4	4	PFHxS	398.9 > 79.6		6.602e3		0.276			
5	5	PFOA	413 > 368.7	7.816e0	5.777e3		0.276	4.37	0.0673	
6	6	PFNA	463 > 418.8		5.777e3		0.276			
7	7	PFOS	499 >79.9		6.602e3		0.276			
8	8	PFDA	513 > 468.8	1.713e1	5.777e3		0.276	4.98	0.156	
9	9	N-MeFOSAA	570.1 > 419.0		3.919e3		0.276			
10	10	N-EtFOSAA	584.2 >419.0		3.919e3		0.276			
11	11	PFUnA	563 > 518.9		5.777e3		0.276			
12	12	PFDoA	612.9 > 318.8		5.777e3		0.276			
13	13	PFTrDA	662.9 > 618.9		5.777e3		0.276			
14	14	PFTeDA	712.9 > 668.8		5.777e3		0.276			
15	15	13C2-PFHxA	315 > 269.8	2.521e3	5.777e3	0.429	0.276	3.45	36.8	102
16	16	13C2-PFDA	515.1 > 469.9	2.942e3	5.777e3	0.514	0.276	4.99	35.8	99.0
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.043e3	3.919e3	1.065	0.276	5.23	140	96.9
18	18	13C2-PFOA	414.9 > 369.7	5.777e3	5.777e3	1.000	0.276	4.37	36.2	100
19	19	13C4-PFOS	503.0 > 79.9	6.602e3	6.602e3	1.000	0.276	4.76	104	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.919e3	3.919e3	1.000	0.276	5.10	145	100

Reviewed: WJL 7/10/2017 AC 7/10/17

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Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-20.qld

Last Altered: Monday, July 10, 2017 12:14:23 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:14:57 Pacific Daylight Time

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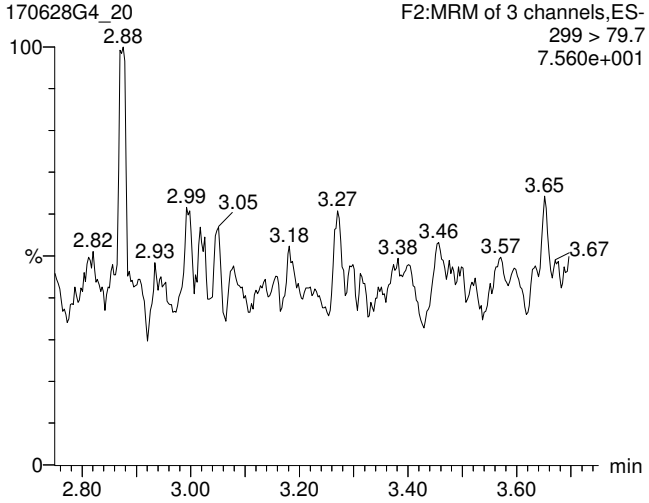
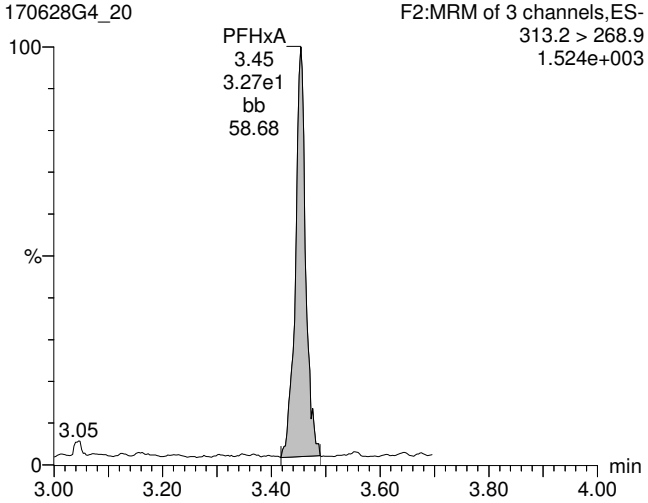
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-05 Well6-G0130002-DW-20170622 0.27638, Description: Well6-G0130002-DW-20170622, Name: 170628G4_20, Date: 28-Jun-2017, Time: 22:19:40, Instrument: , Lab: , User:

PFBS



PFHxA



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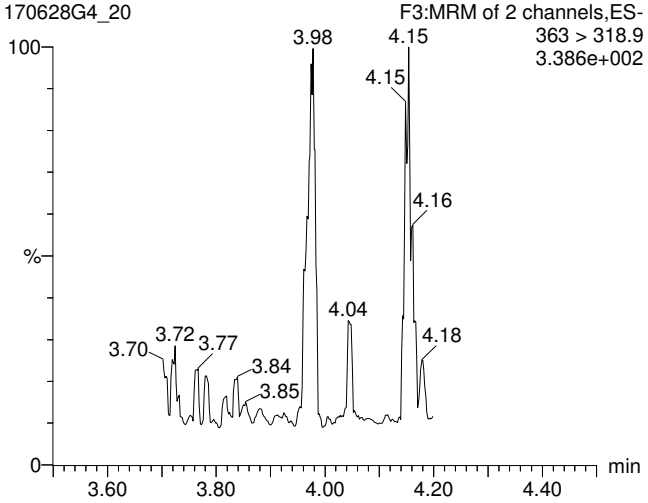

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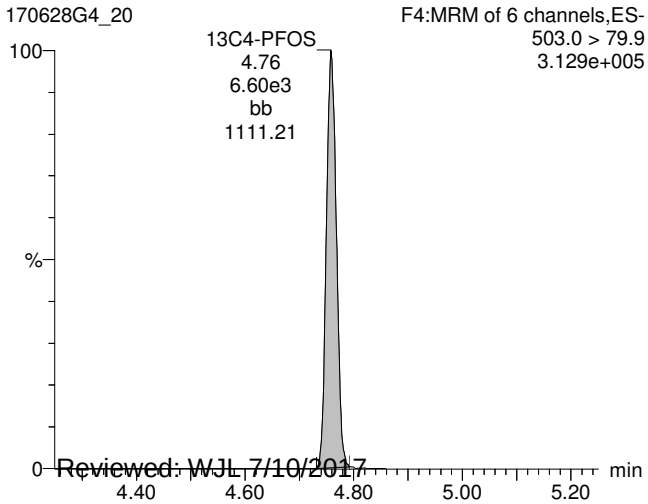

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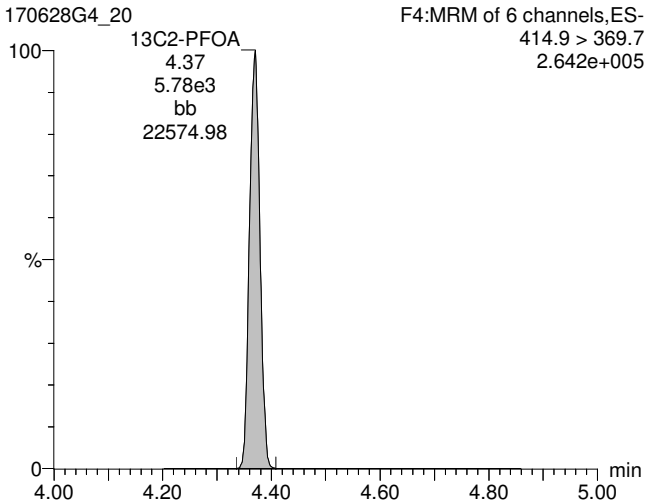

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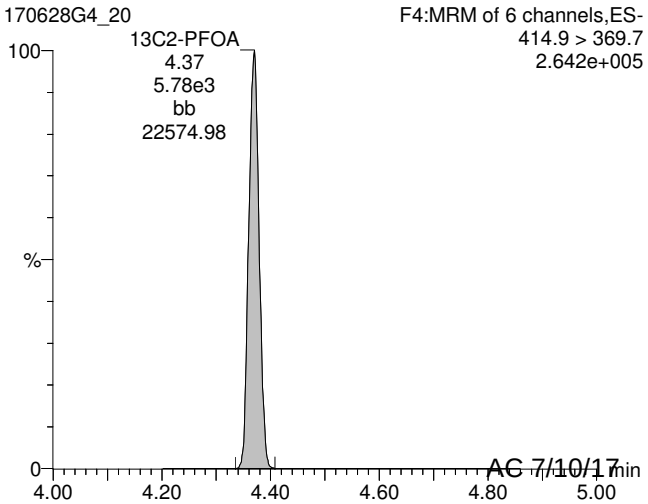

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-20.qld

Last Altered: Monday, July 10, 2017 12:14:23 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:14:57 Pacific Daylight Time

ID: 1700759-05 Well6-G0130002-DW-20170622 0.27638, Description: Well6-G0130002-DW-20170622, Name: 170628G4_20, Date: 28-Jun-2017, Time: 22:19:40, Instrument: , Lab: , User:

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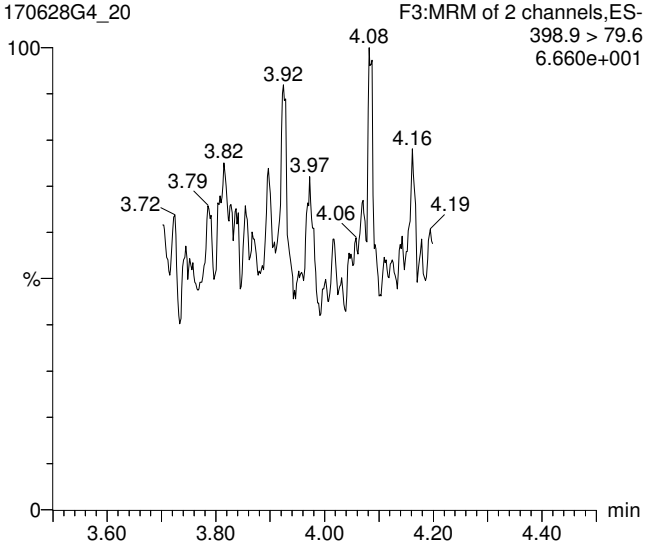

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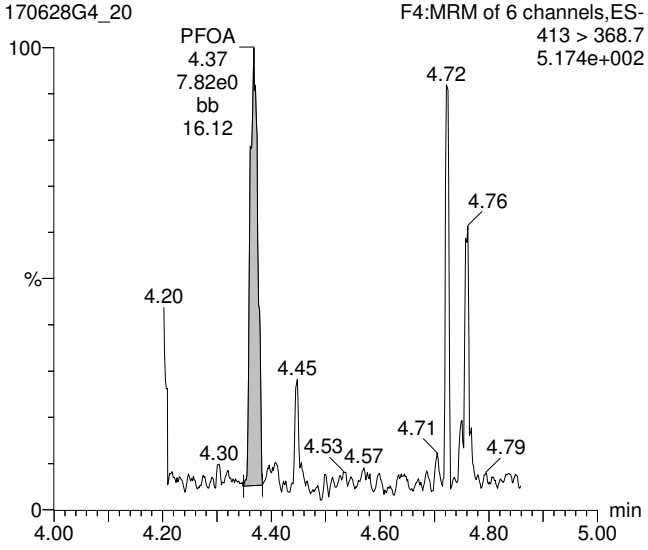

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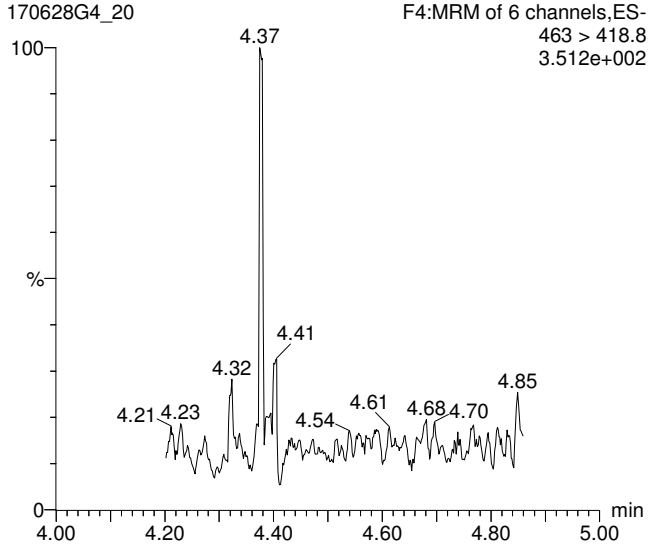

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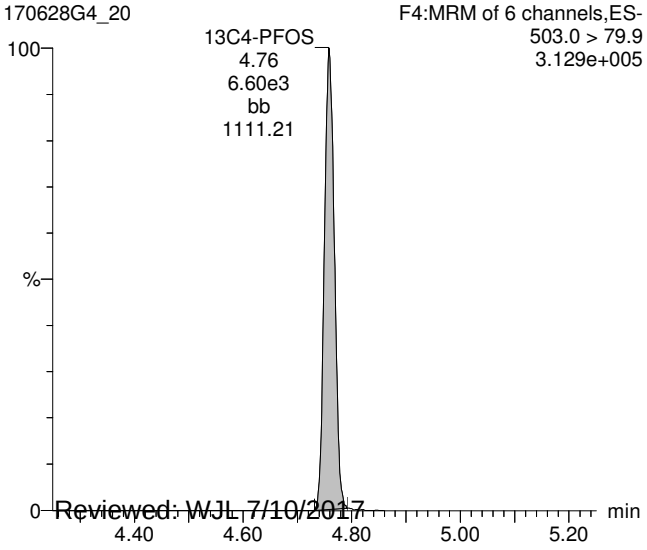

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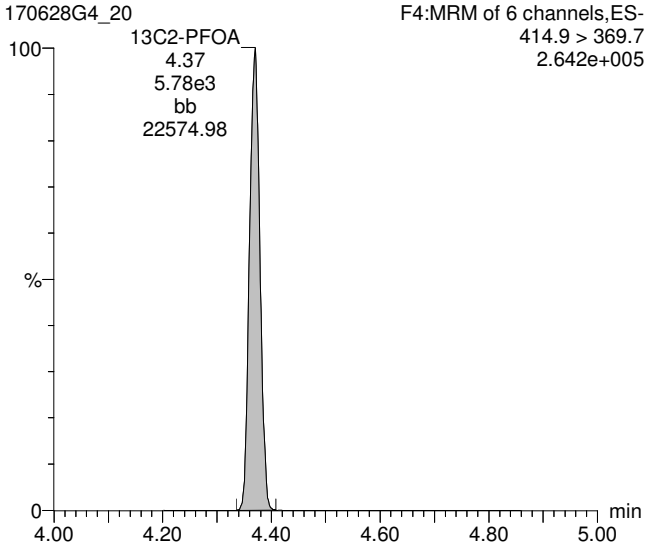

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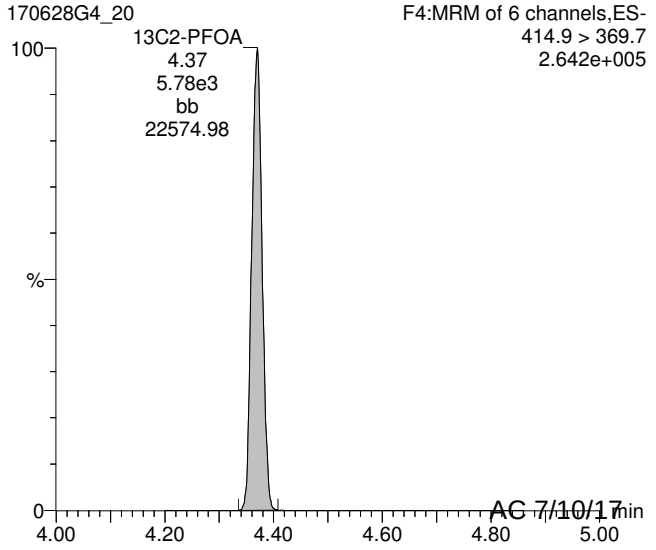

Reviewed: WJL 7/10/2017 AC 7/10/17

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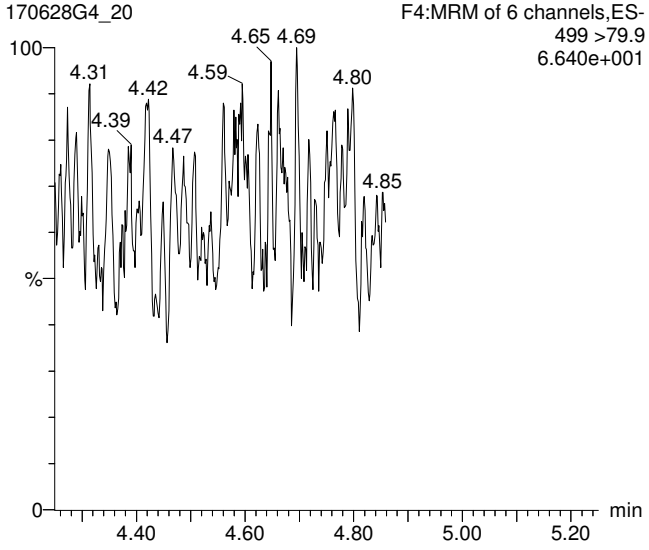

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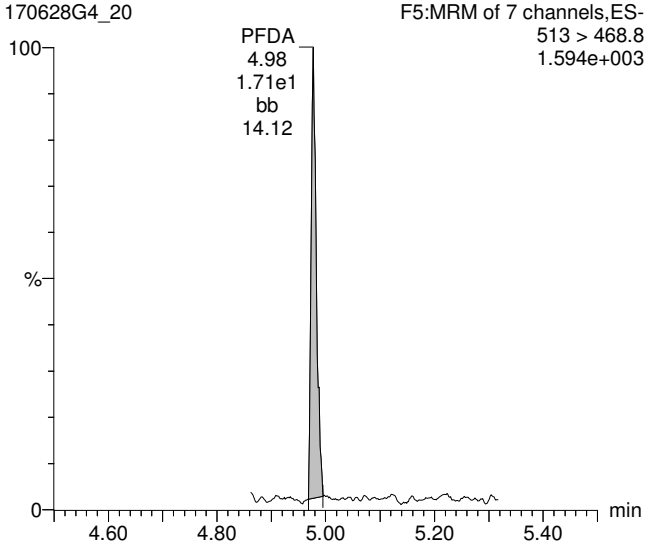

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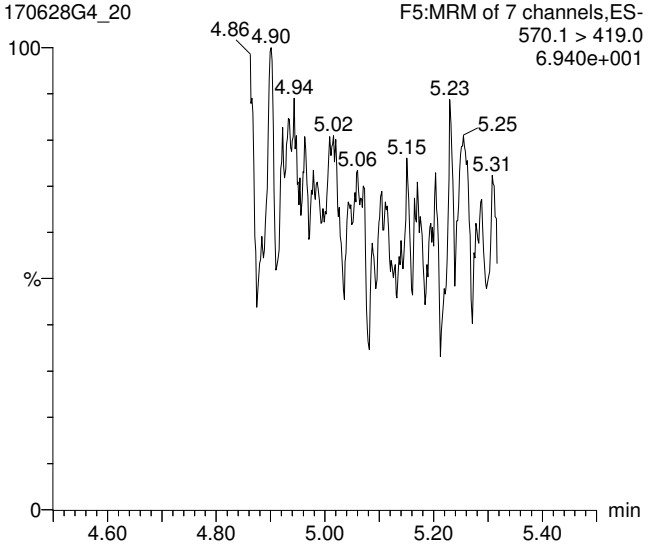

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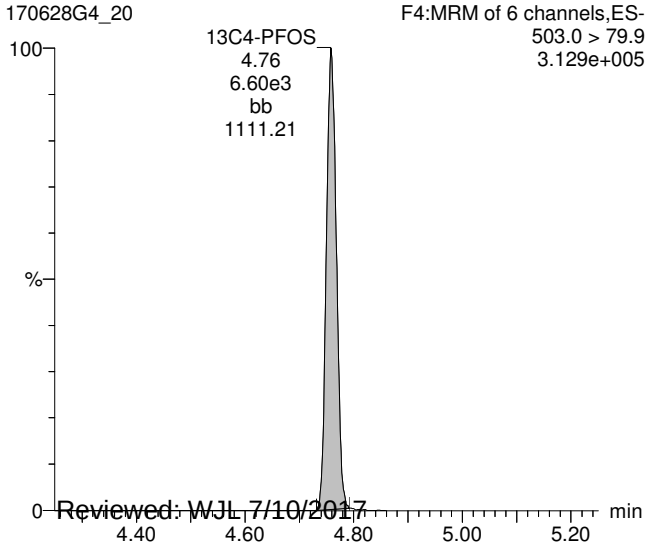

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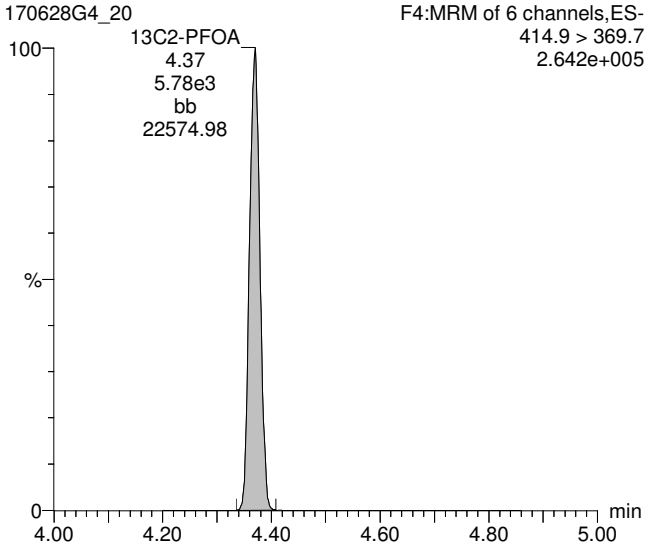

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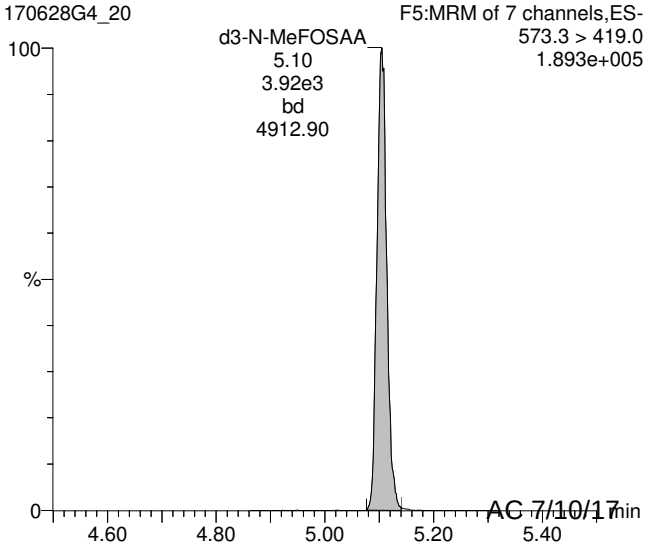

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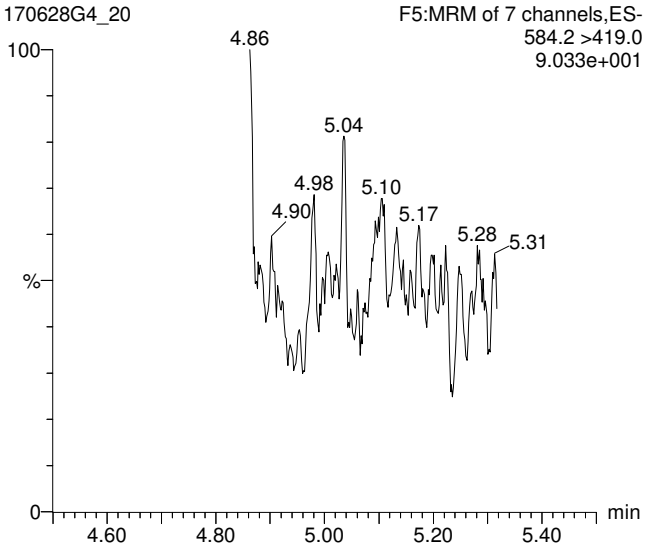

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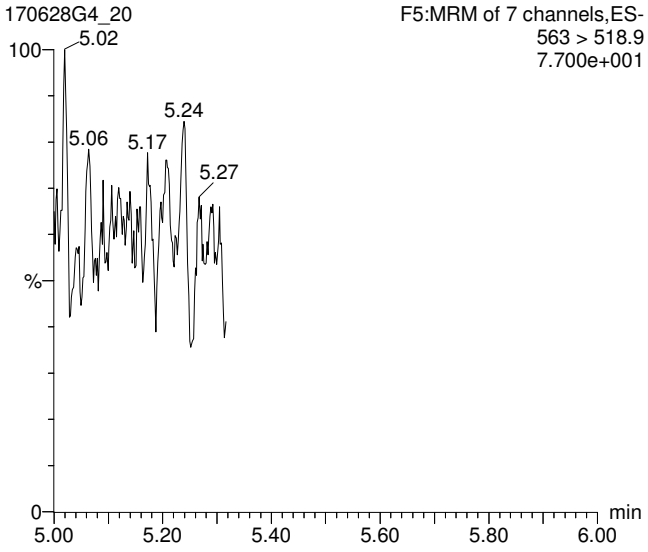

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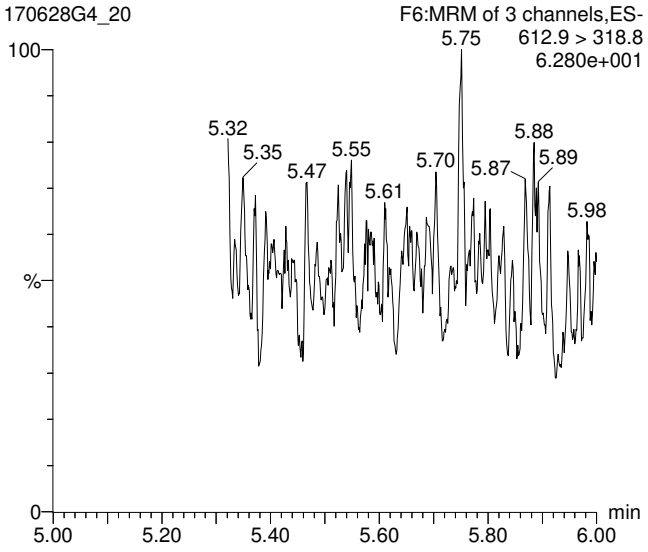

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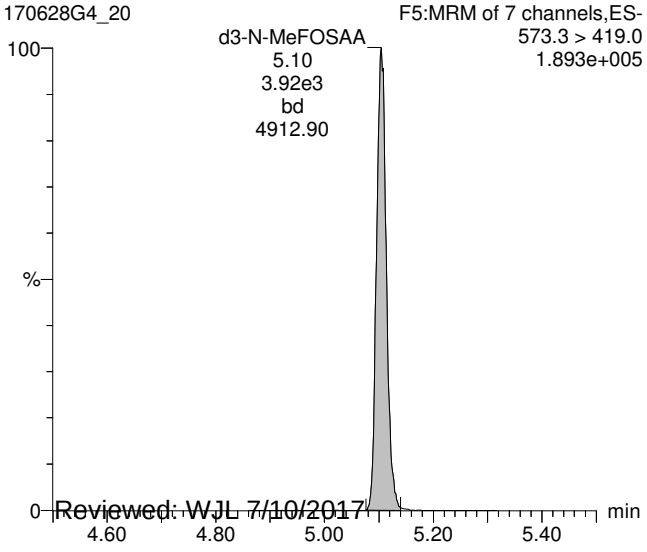

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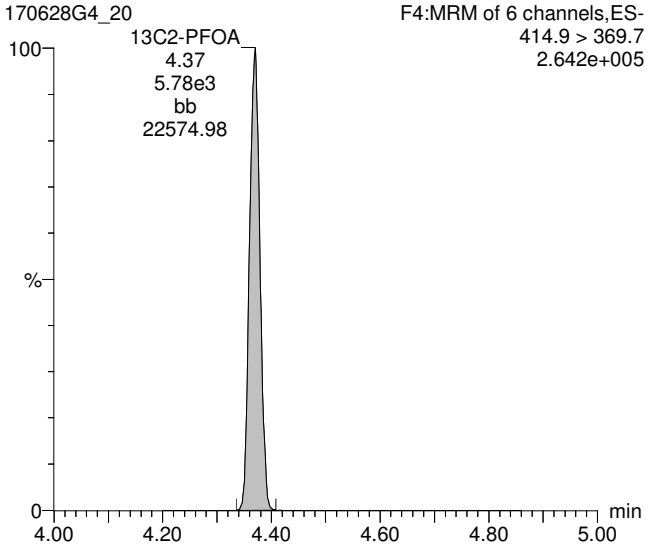

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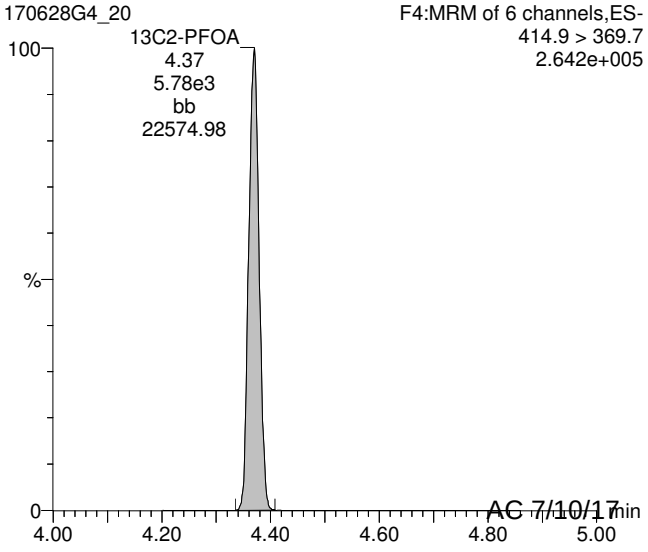

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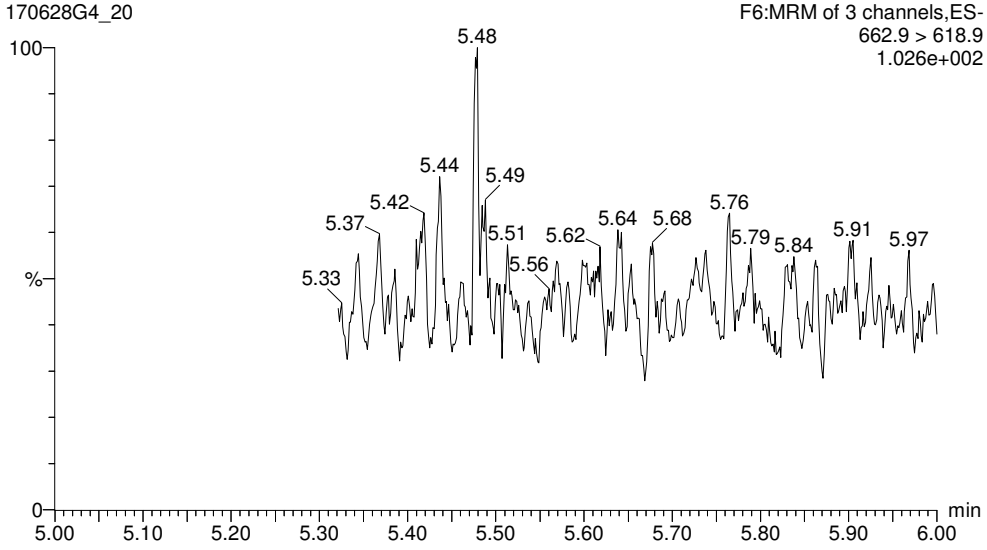

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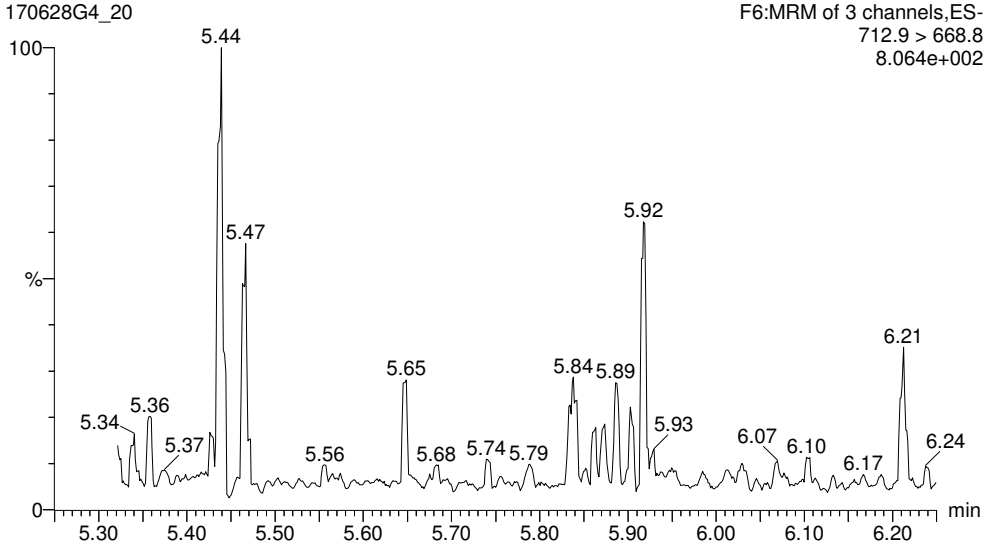

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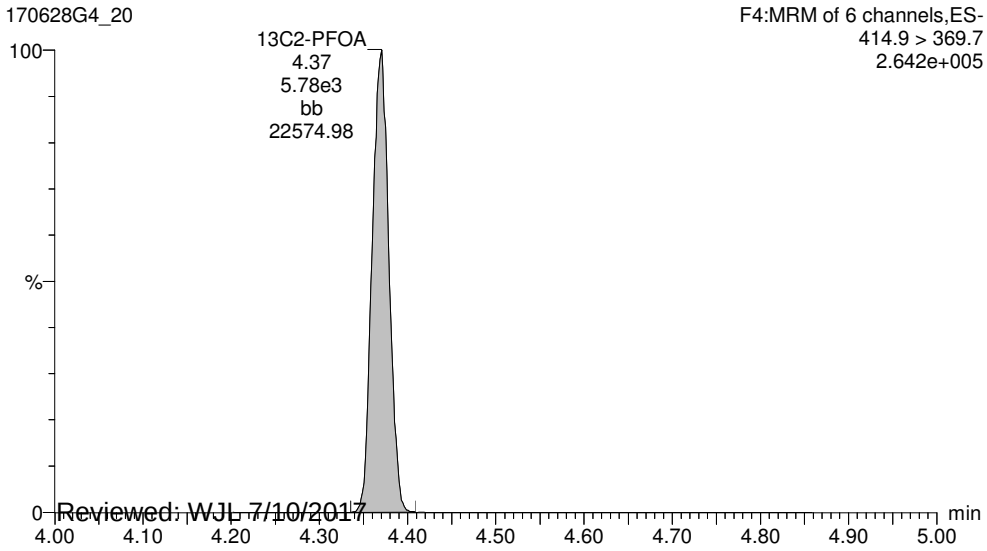

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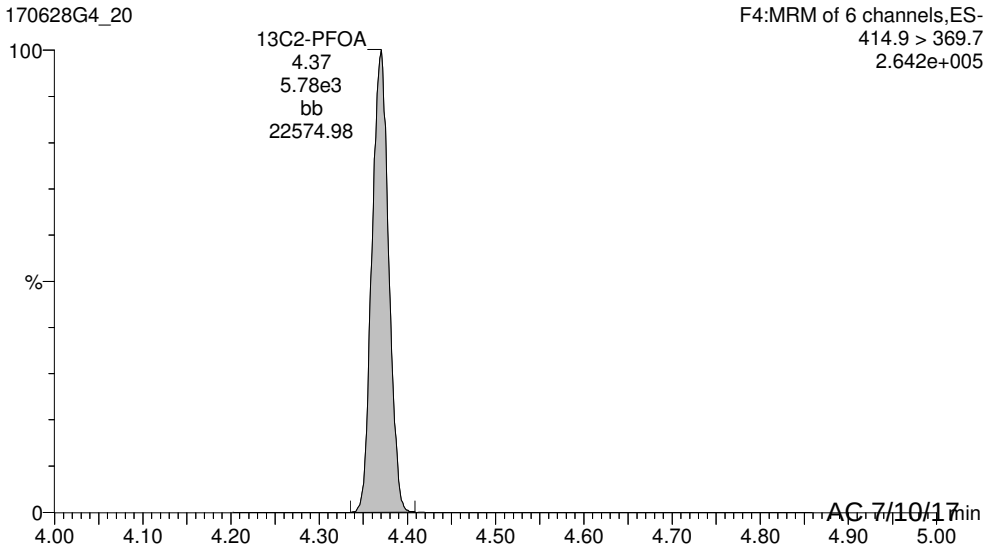

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

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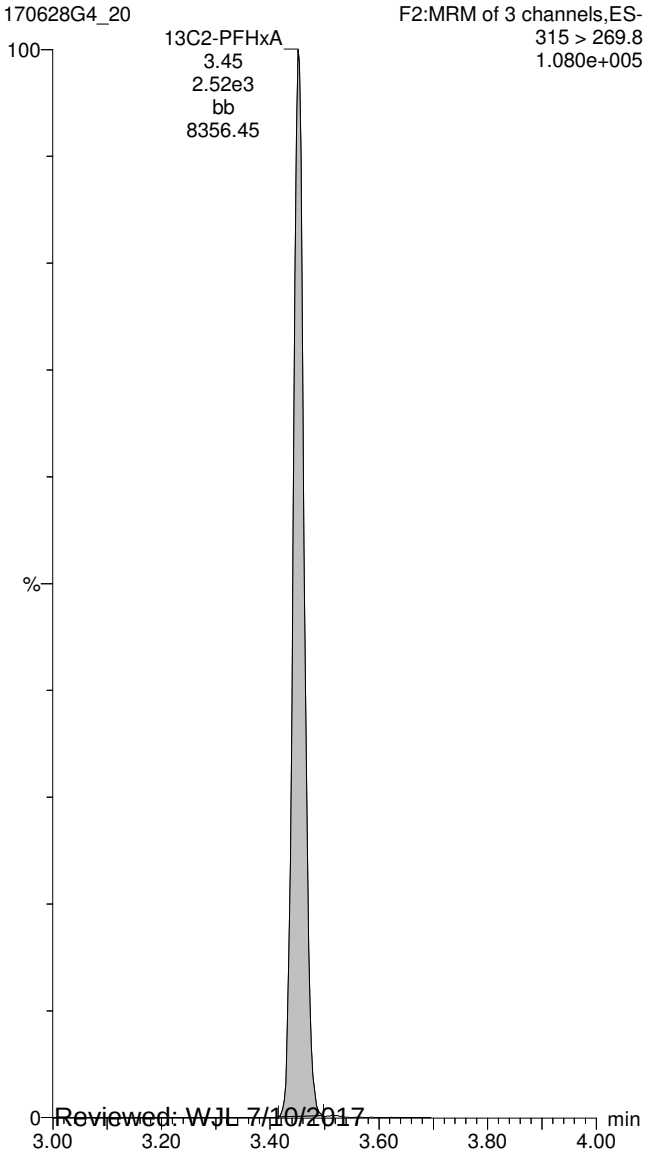

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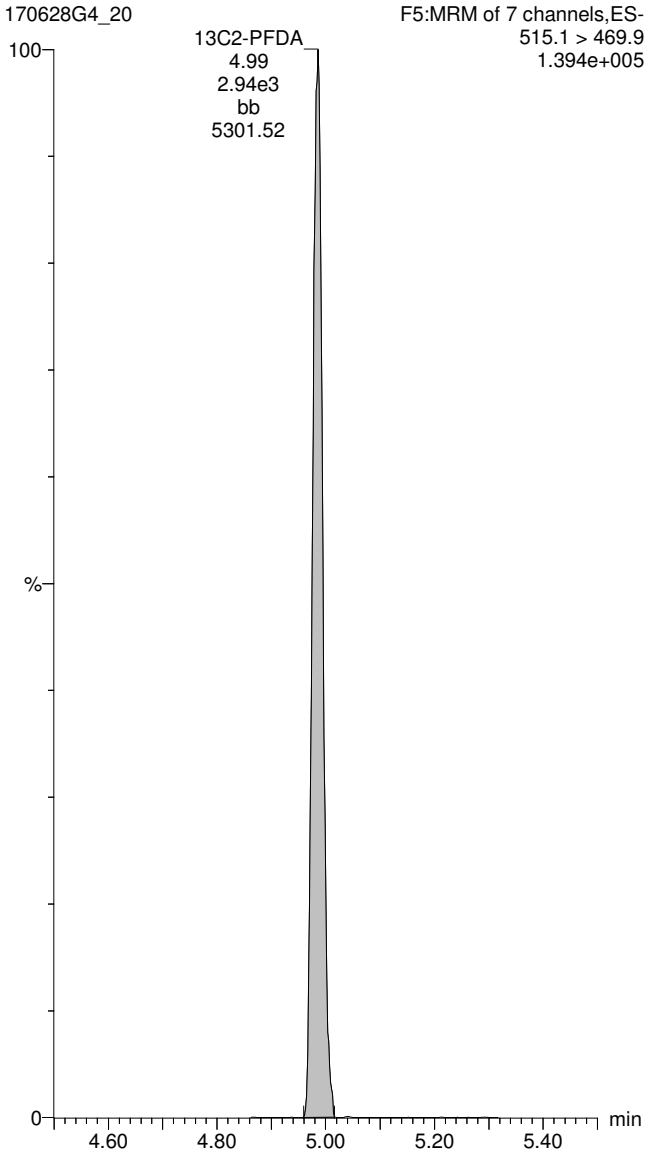

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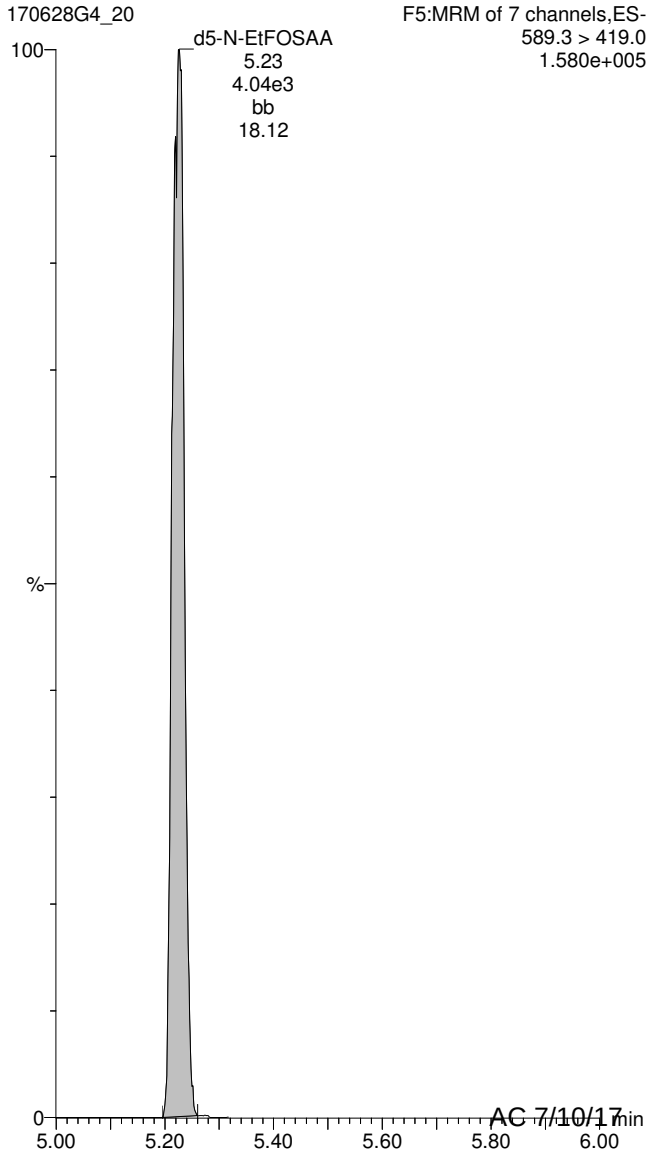


Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:24:30 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.747e3		0.282			
2	2	PFHxA	313.2 > 268.9	2.896e1	5.744e3		0.282	3.45	0.810	
3	3	PFHpA	363 > 318.9		5.744e3		0.282			
4	4	PFHxS	398.9 > 79.6		6.747e3		0.282			
5	5	PFOA	413 > 368.7	2.881e1	5.744e3		0.282	4.36	0.244	
6	6	PFNA	463 > 418.8		5.744e3		0.282			
7	7	PFOS	499 >79.9		6.747e3		0.282			
8	8	PFDA	513 > 468.8	8.699e0	5.744e3		0.282	4.99	0.0778	
9	9	N-MeFOSAA	570.1 > 419.0		4.524e3		0.282			
10	10	N-EtFOSAA	584.2 >419.0		4.524e3		0.282			
11	11	PFUnA	563 > 518.9		5.744e3		0.282			
12	12	PFDoA	612.9 > 318.8		5.744e3		0.282			
13	13	PFTrDA	662.9 > 618.9		5.744e3		0.282			
14	14	PFTeDA	712.9 > 668.8		5.744e3		0.282			
15	15	13C2-PFHxA	315 > 269.8	2.581e3	5.744e3	0.429	0.282	3.45	37.1	105
16	16	13C2-PFDA	515.1 > 469.9	3.055e3	5.744e3	0.514	0.282	4.98	36.6	103
17	17	d5-N-EtFOSAA	589.3 > 419.0	3.578e3	4.524e3	1.065	0.282	5.22	105	74.3
18	18	13C2-PFOA	414.9 > 369.7	5.744e3	5.744e3	1.000	0.282	4.36	35.4	100
19	19	13C4-PFOS	503.0 > 79.9	6.747e3	6.747e3	1.000	0.282	4.75	102	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.524e3	4.524e3	1.000	0.282	5.10	142	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

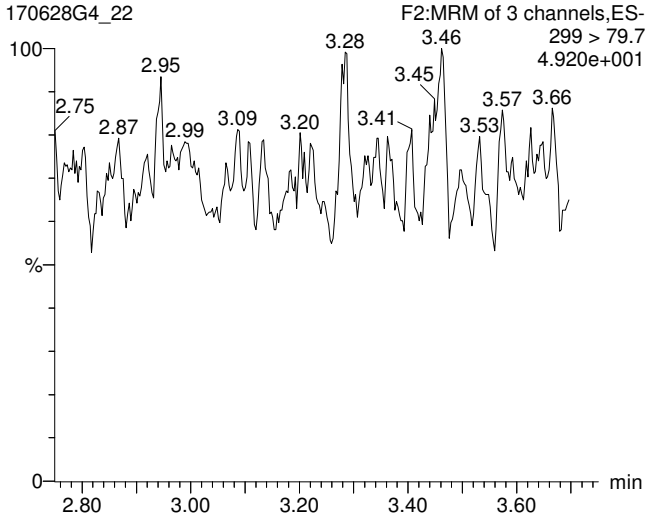
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:24:30 Pacific Daylight Time

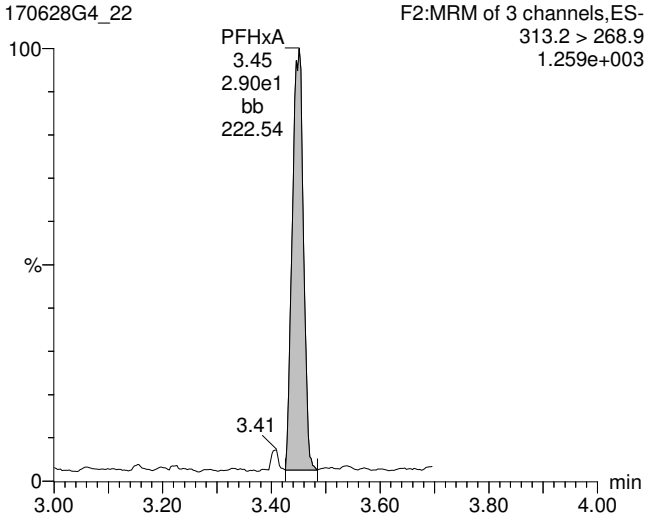
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

PFBS



PFHxA



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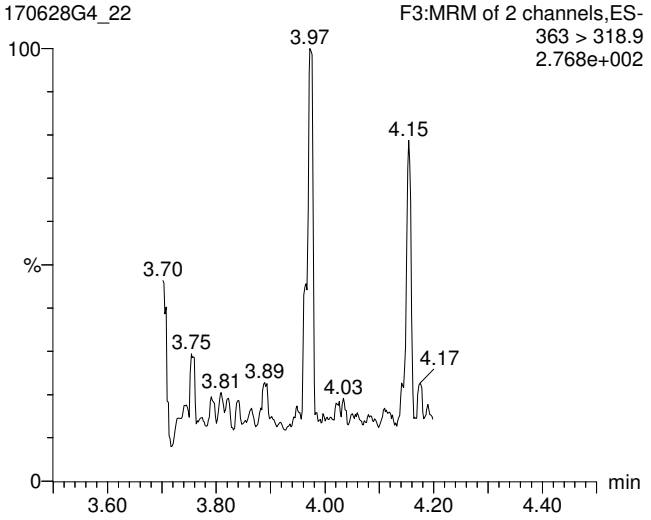

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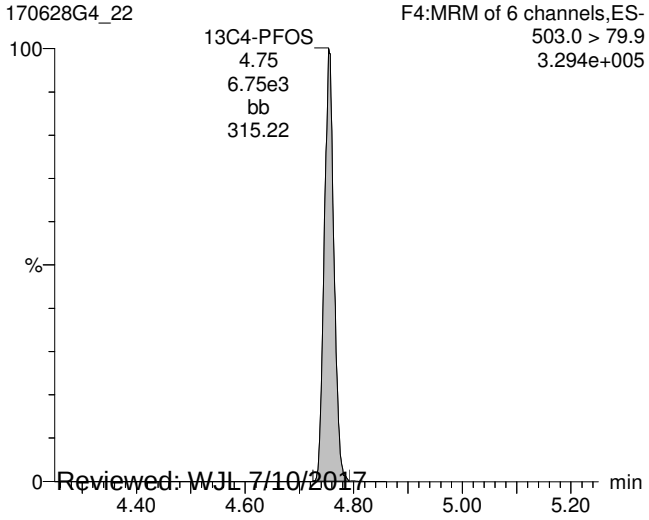

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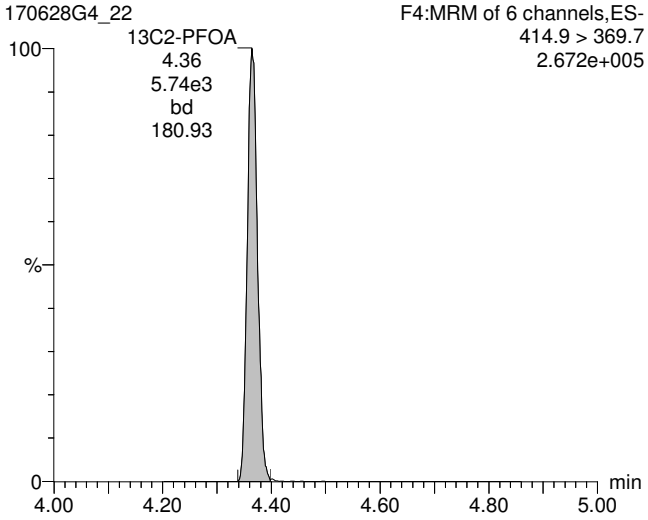

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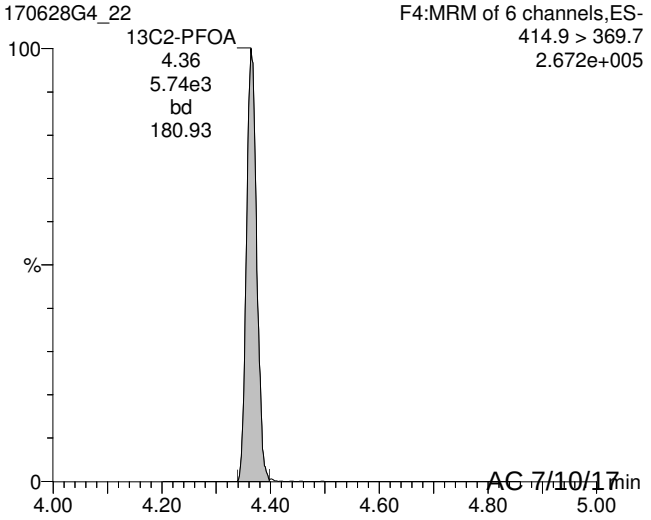


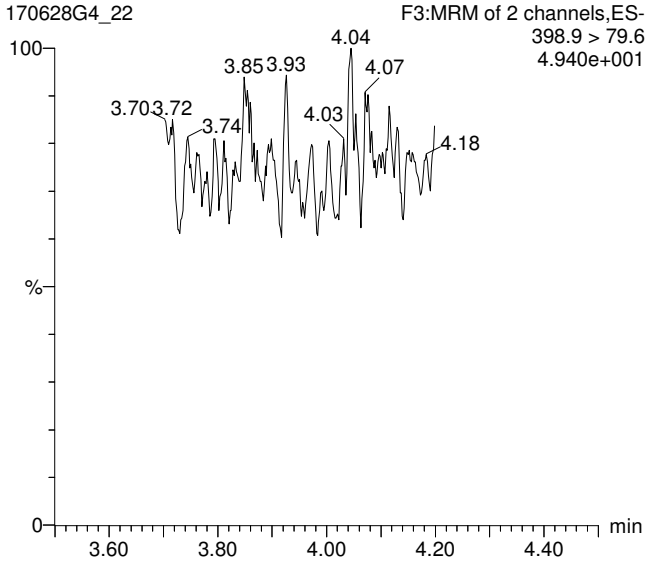
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

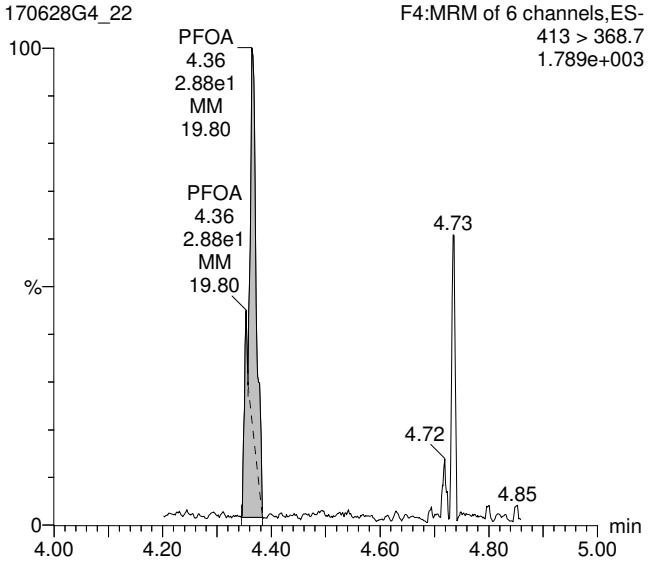
Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:24:30 Pacific Daylight Time

ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

PFHxS



PFOA



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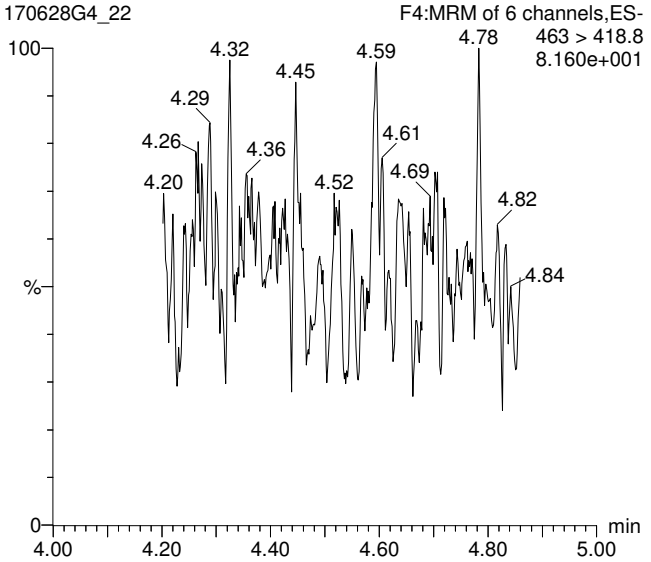

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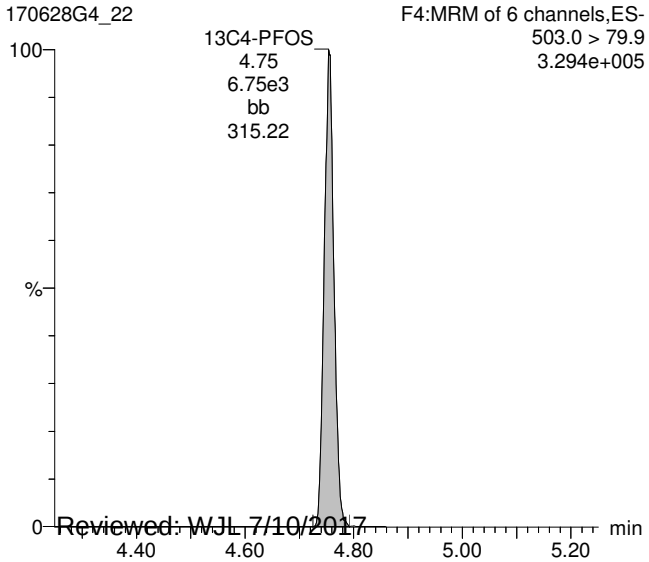

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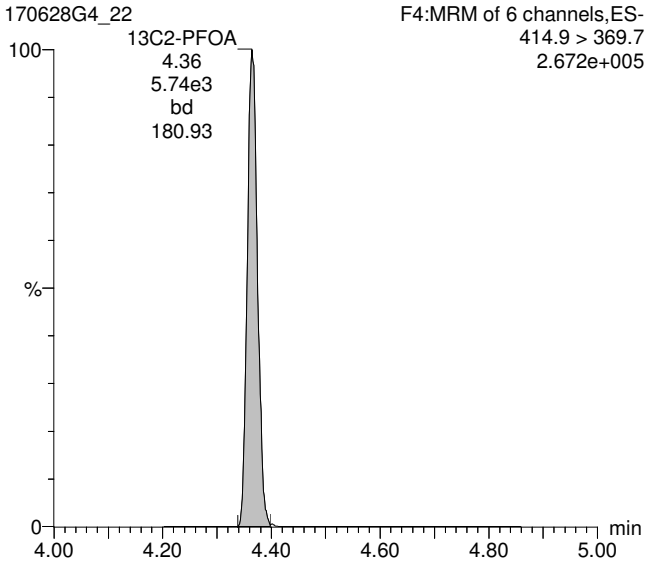

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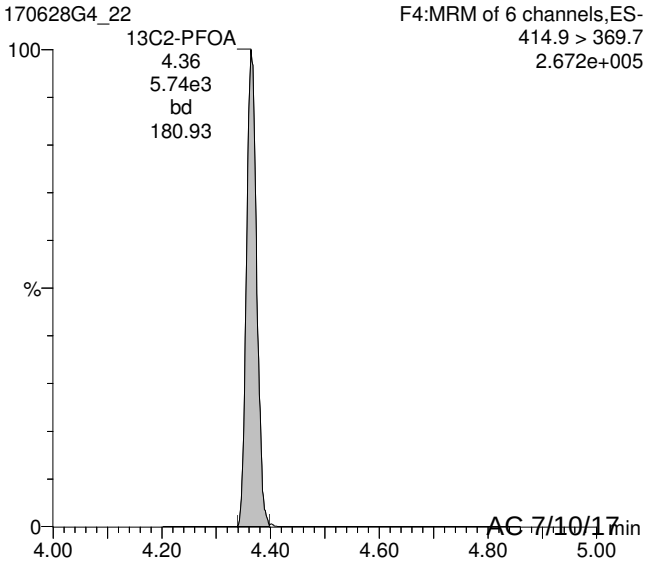


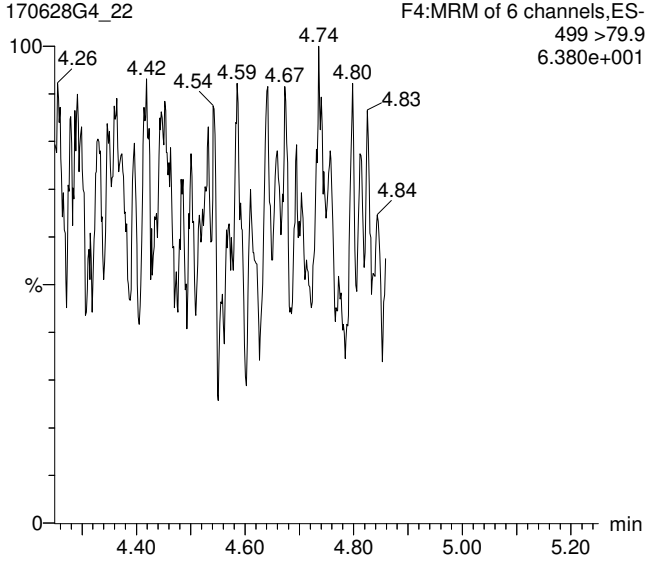
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:24:30 Pacific Daylight Time

ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

PFOS



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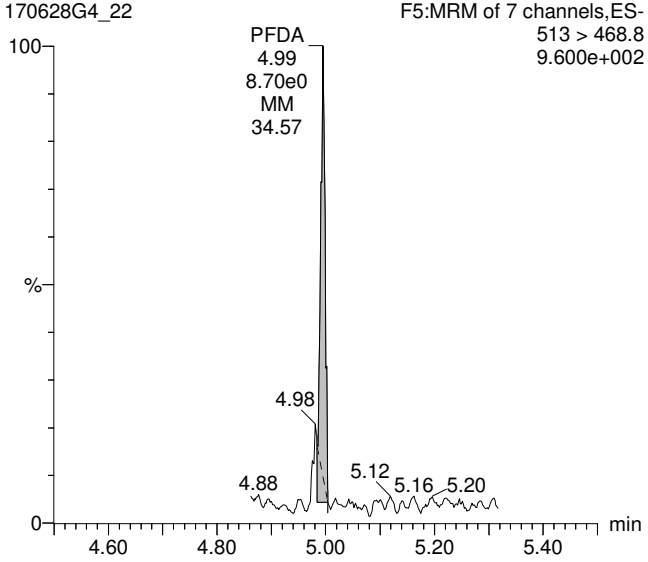
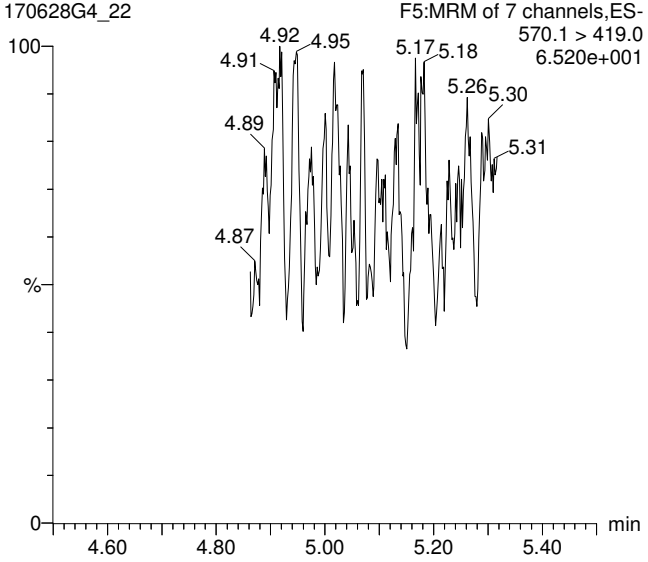


N-MeFOSAA



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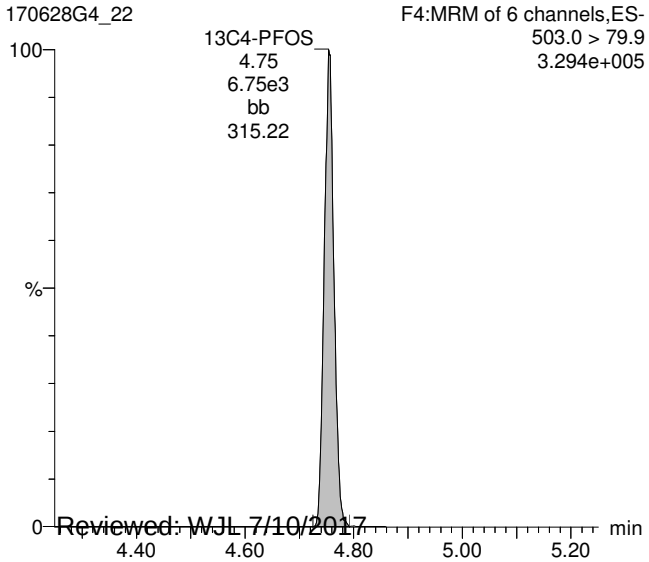

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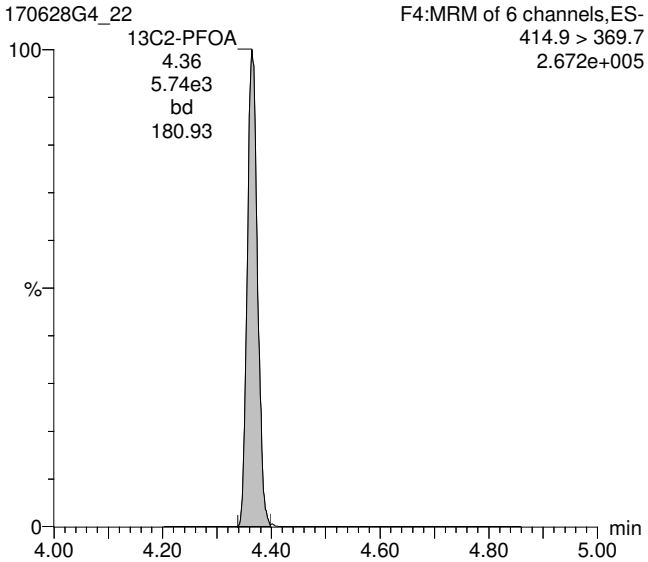
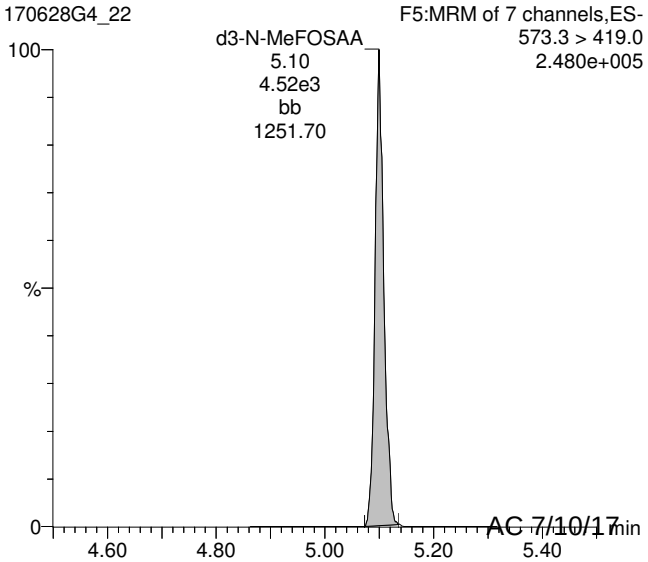


d3-N-MeFOSAA



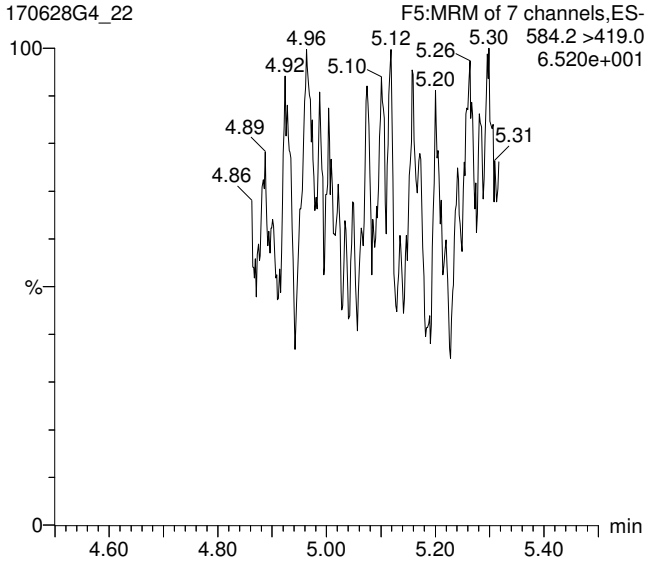
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:24:30 Pacific Daylight Time

ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

N-EtFOSAA



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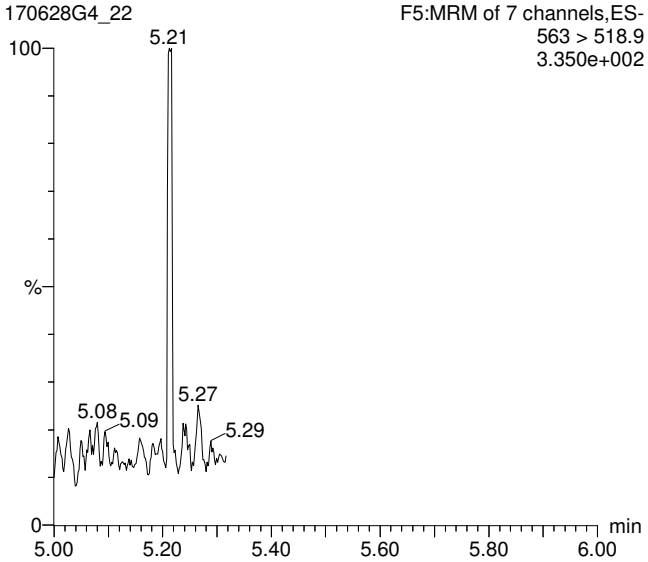
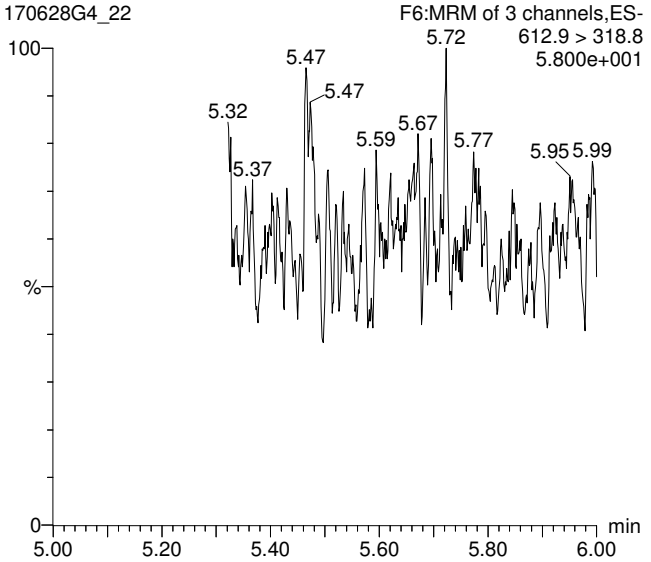
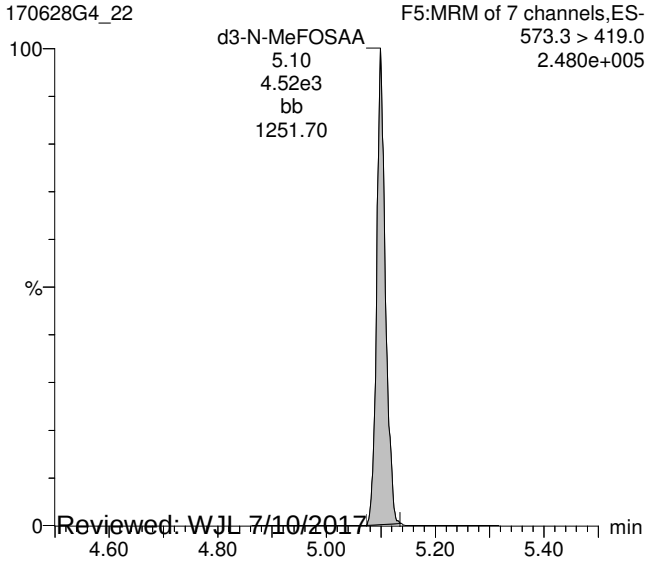


PFDoA



d3-N-MeFOSAA



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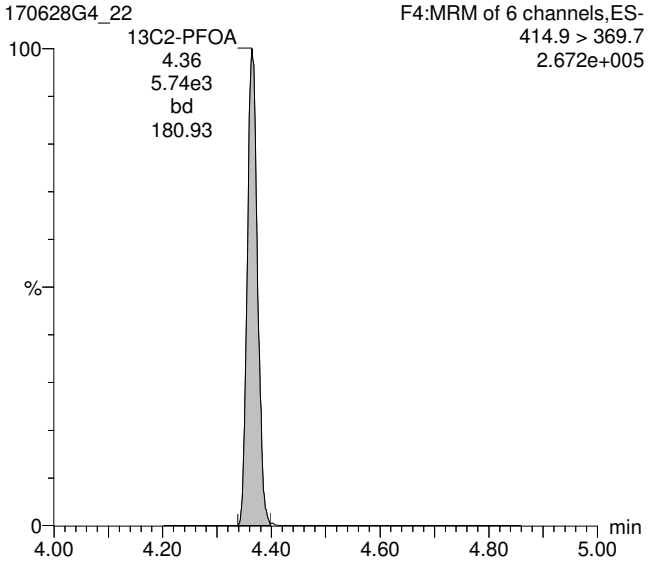

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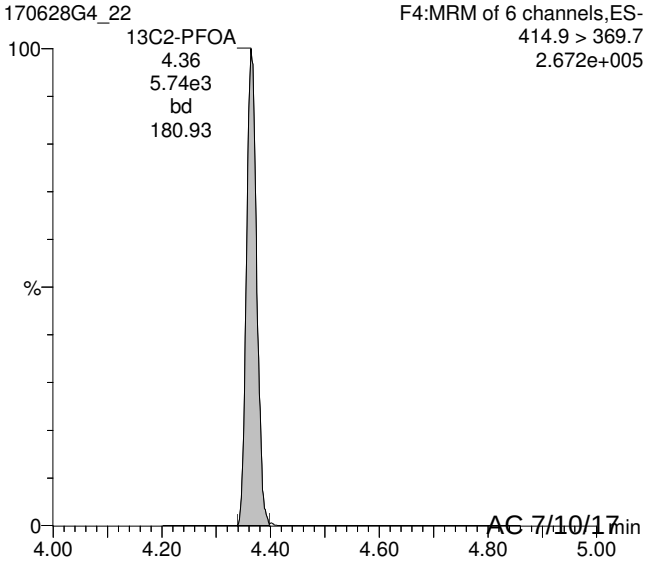

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

Last Altered: Monday, July 10, 2017 12:24:05 Pacific Daylight Time
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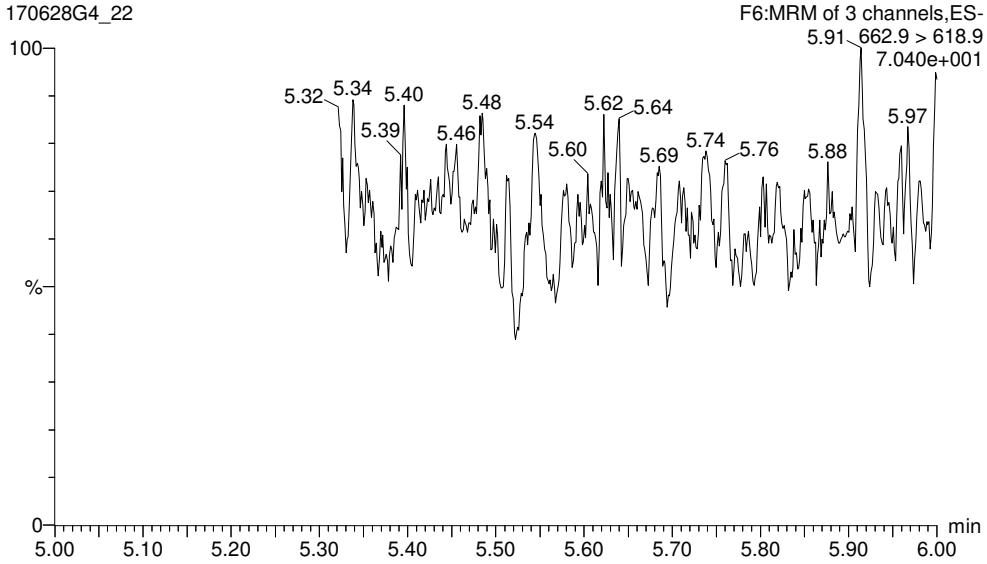
ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

PFTrDA



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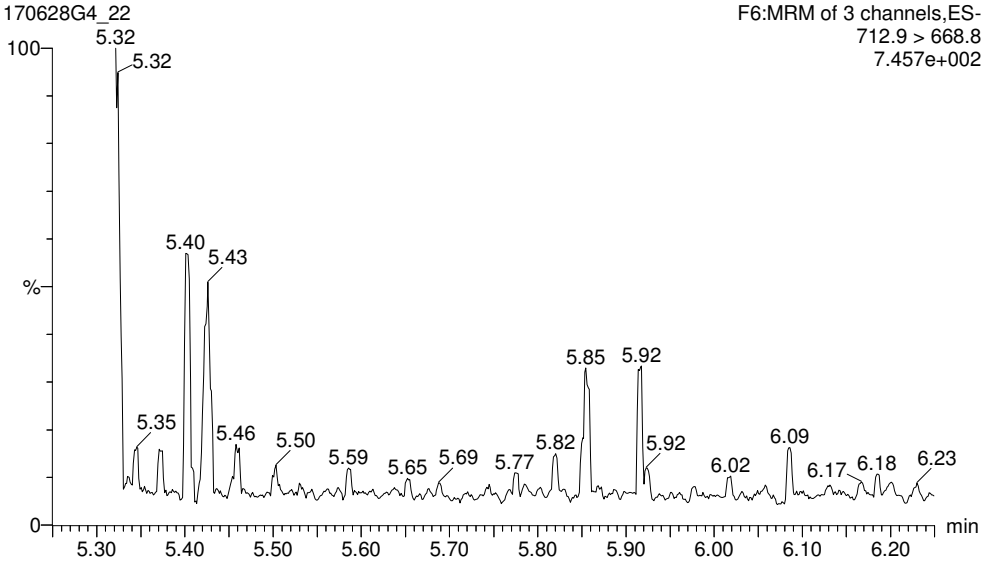

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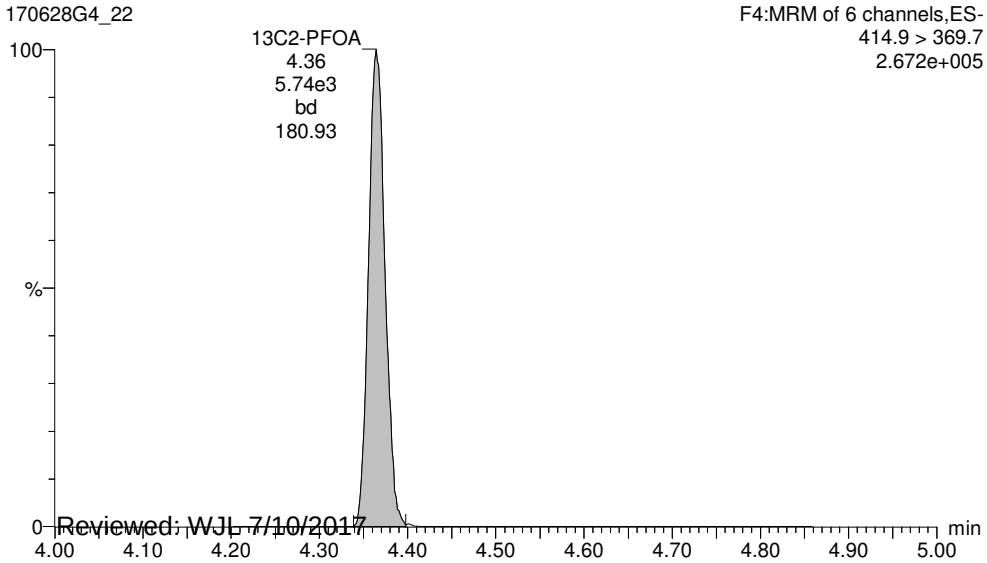

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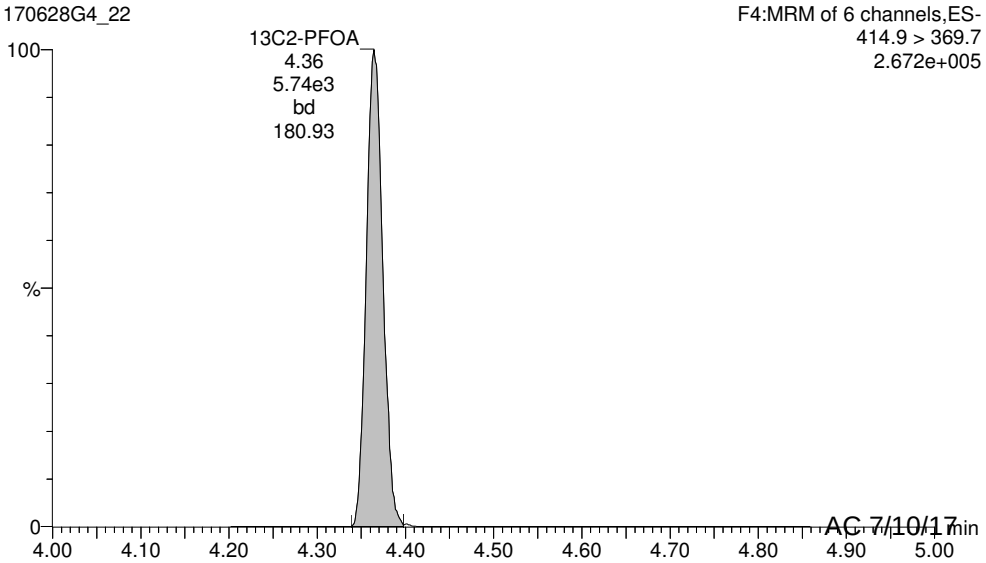

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-22.qld

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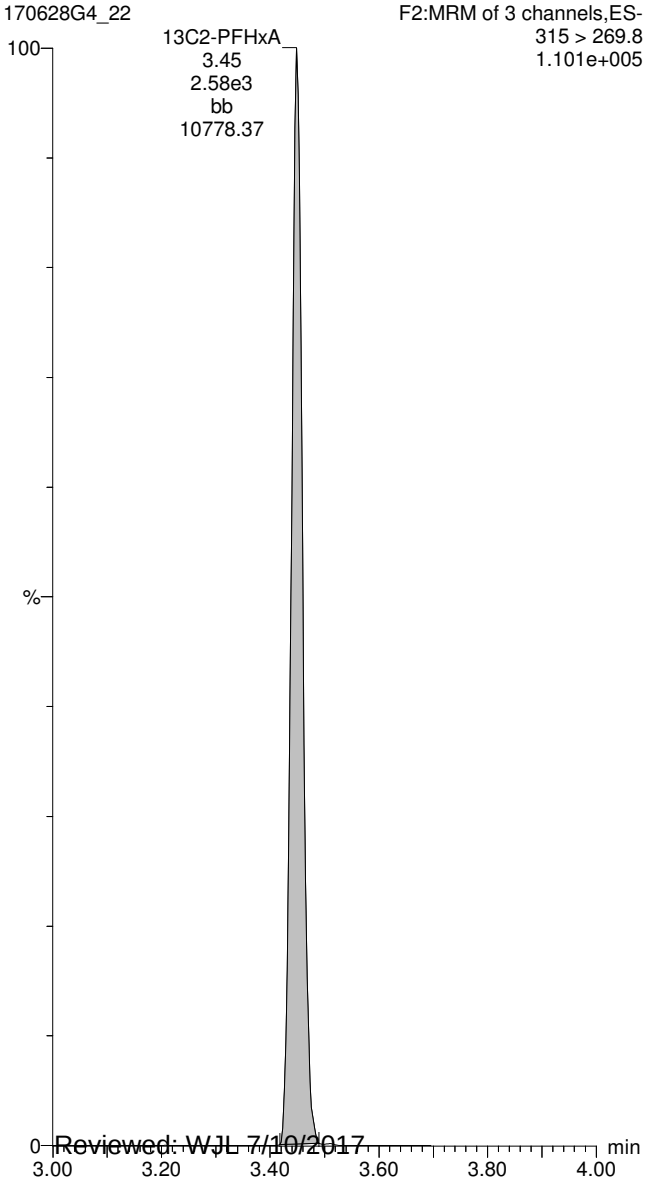
ID: 1700759-07 Tower2-DW-20170622 0.2822, Description: Tower2-DW-20170622, Name: 170628G4_22, Date: 28-Jun-2017, Time: 22:45:24, Instrument: , Lab: , User:

13C2-PFHxA



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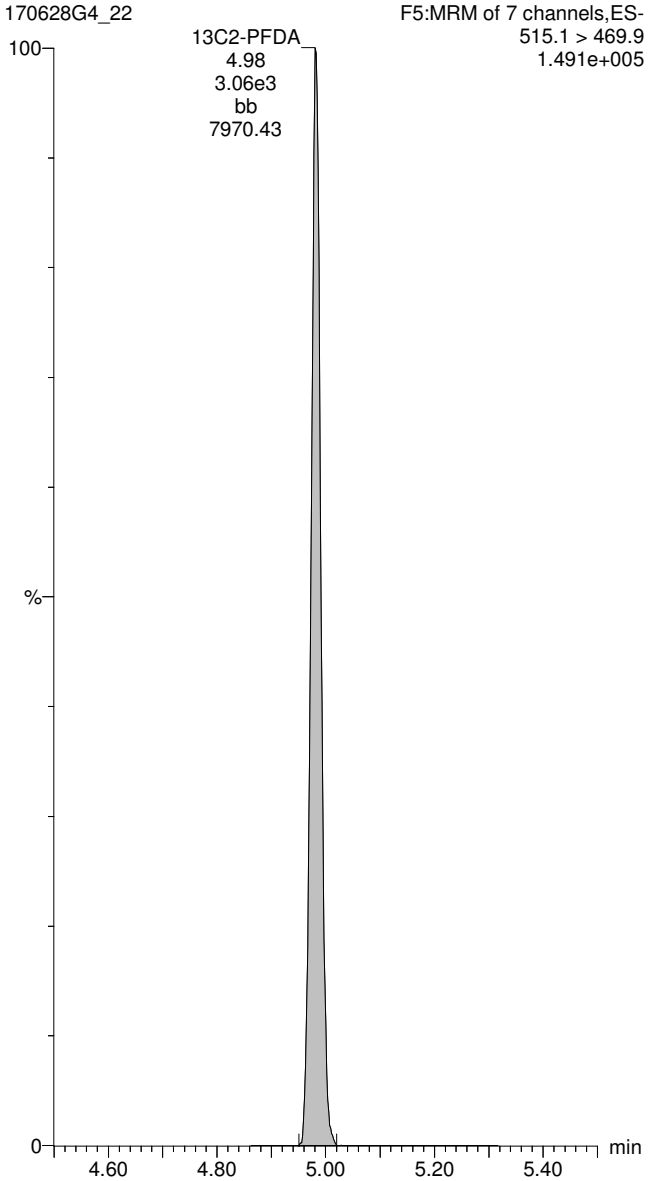
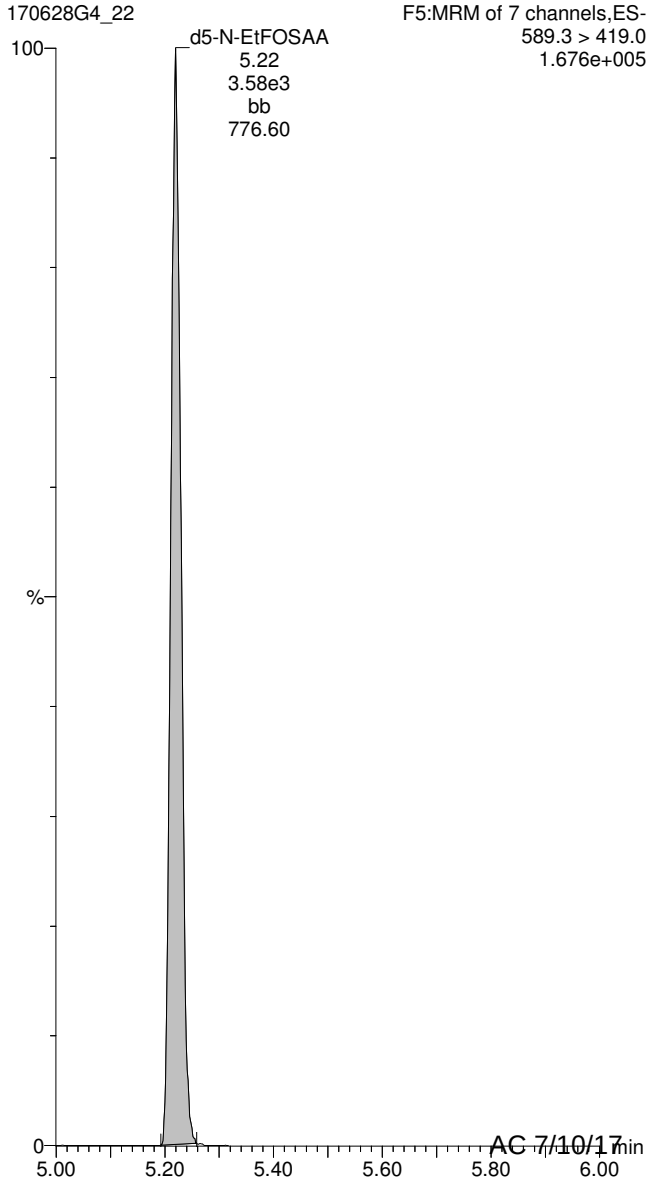


d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		6.540e3		0.286			
2	2	PFHxA	313.2 > 268.9	3.296e1	5.882e3		0.286	3.45	0.890	
3	3	PFHpA	363 > 318.9		5.882e3		0.286			
4	4	PFHxS	398.9 > 79.6		6.540e3		0.286			
5	5	PFOA	413 > 368.7	1.831e1	5.882e3		0.286	4.36	0.150	
6	6	PFNA	463 > 418.8		5.882e3		0.286			
7	7	PFOS	499 >79.9		6.540e3		0.286			
8	8	PFDA	513 > 468.8	2.092e1	5.882e3		0.286	4.98	0.180	
9	9	N-MeFOSAA	570.1 > 419.0		3.250e3		0.286			
10	10	N-EtFOSAA	584.2 >419.0		3.250e3		0.286			
11	11	PFUnA	563 > 518.9		5.882e3		0.286			
12	12	PFDoA	612.9 > 318.8		5.882e3		0.286			
13	13	PFTrDA	662.9 > 618.9		5.882e3		0.286			
14	14	PFTeDA	712.9 > 668.8		5.882e3		0.286			
15	15	13C2-PFHxA	315 > 269.8	2.355e3	5.882e3	0.429	0.286	3.45	32.7	93.3
16	16	13C2-PFDA	515.1 > 469.9	2.764e3	5.882e3	0.514	0.286	4.98	32.0	91.4
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.189e3	3.250e3	1.065	0.286	5.22	170	121
18	18	13C2-PFOA	414.9 > 369.7	5.882e3	5.882e3	1.000	0.286	4.37	35.0	100
19	19	13C4-PFOS	503.0 > 79.9	6.540e3	6.540e3	1.000	0.286	4.76	100	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.250e3	3.250e3	1.000	0.286	5.10	140	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:30:49 Pacific Daylight Time

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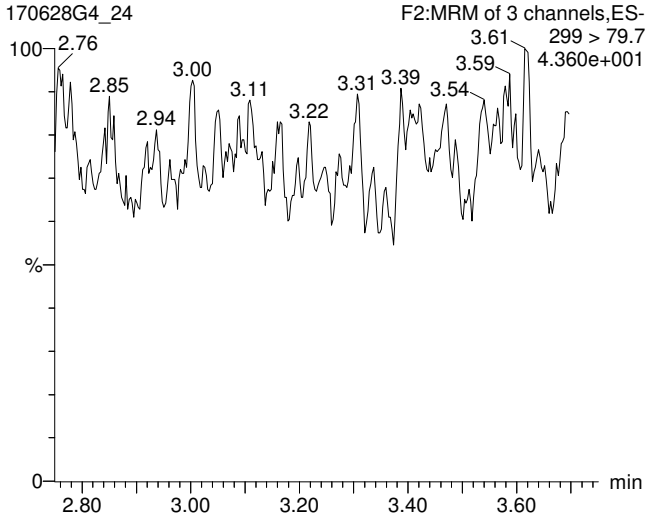
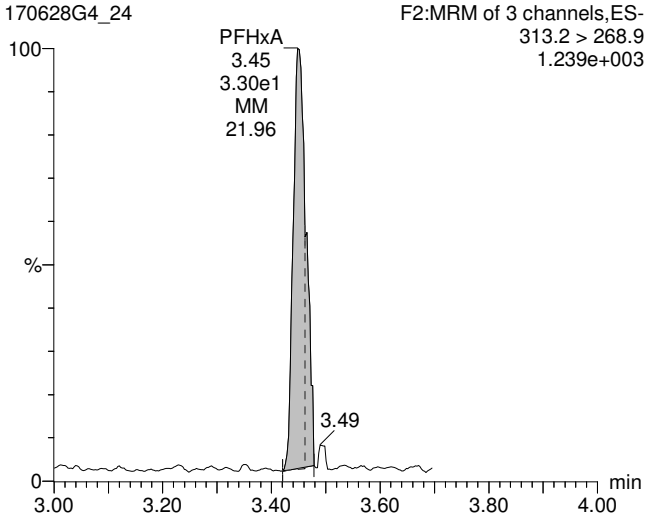
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

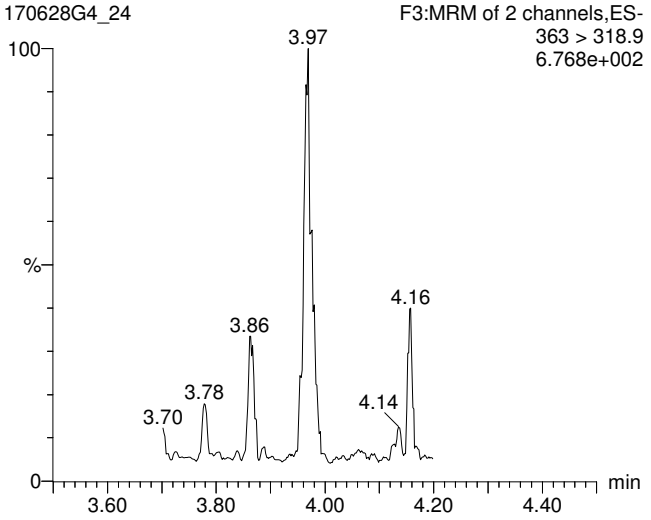
PFBS



PFHxA



PFHpA



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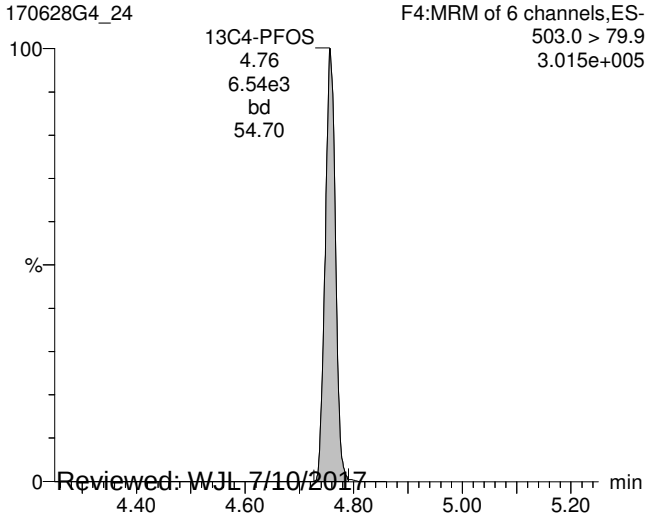
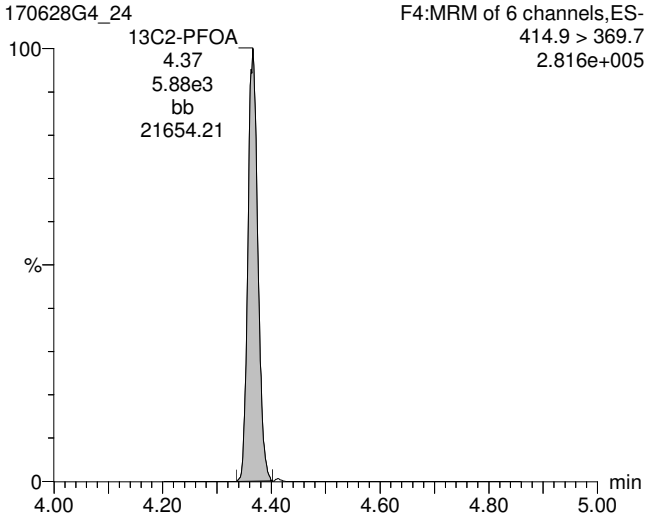


13C2-PFOA



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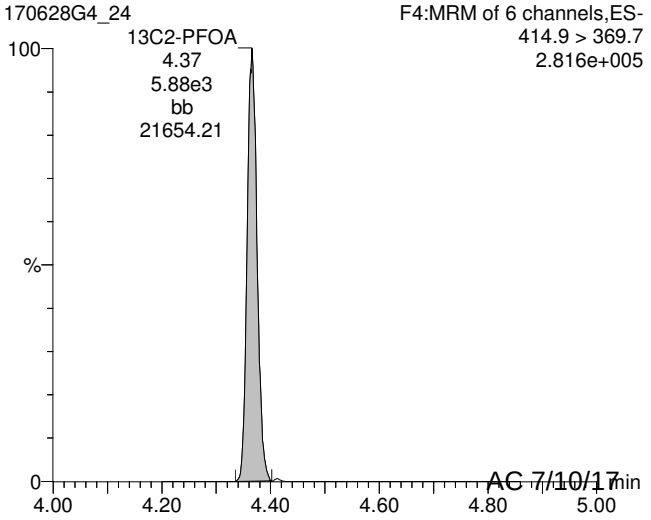

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:30:49 Pacific Daylight Time

ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

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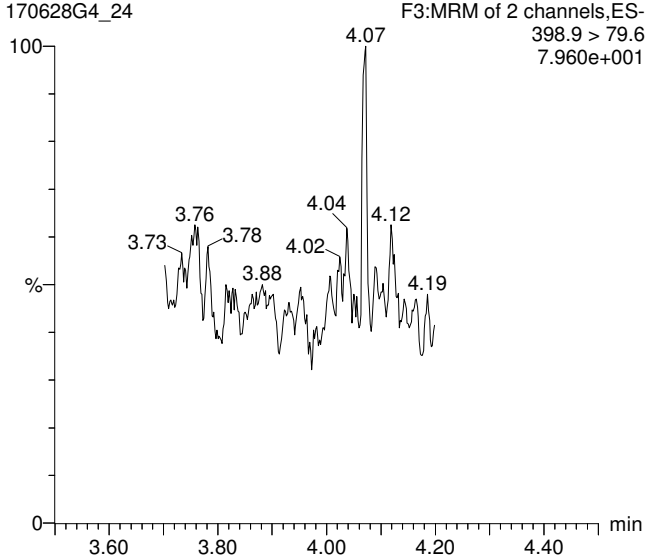

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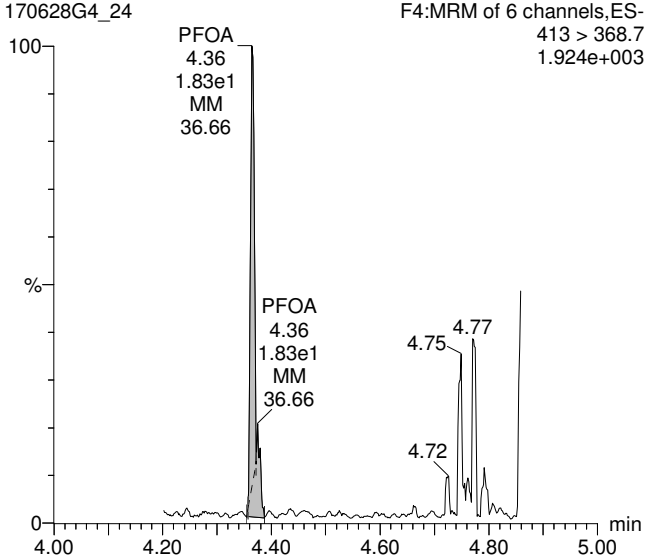

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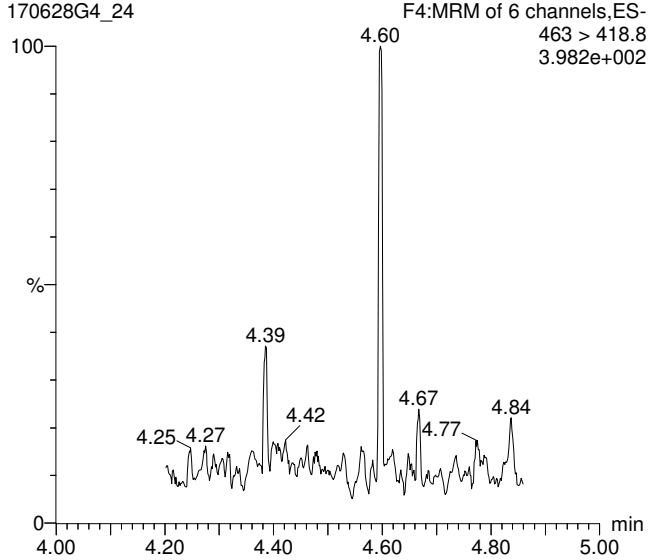

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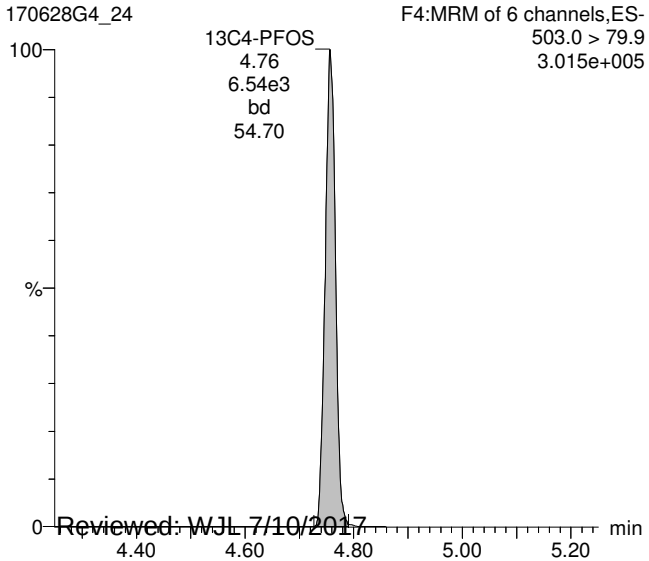

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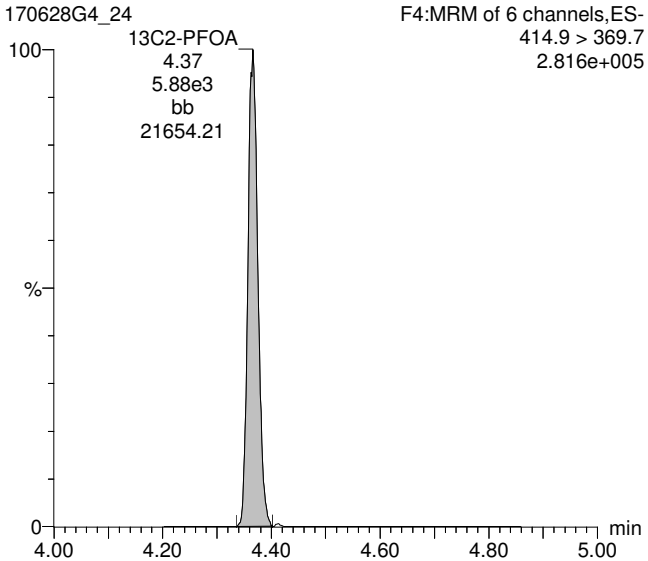

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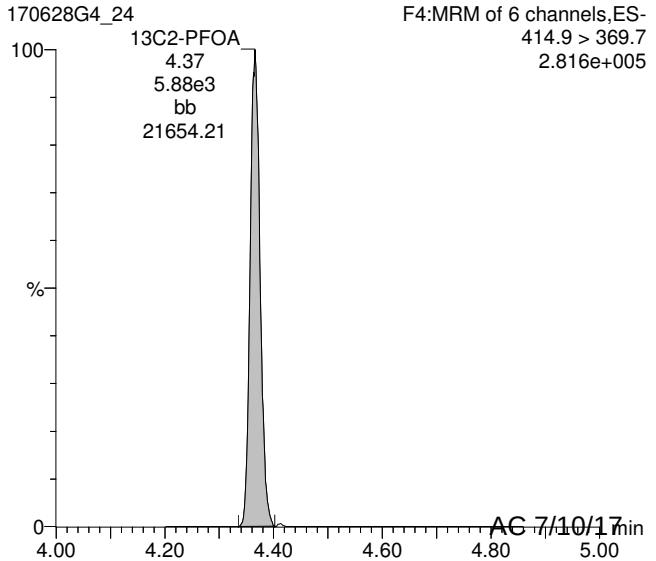

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
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ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

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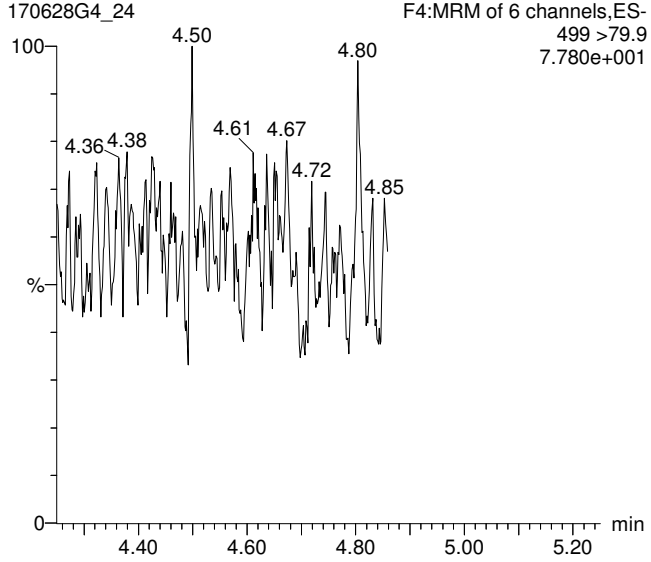

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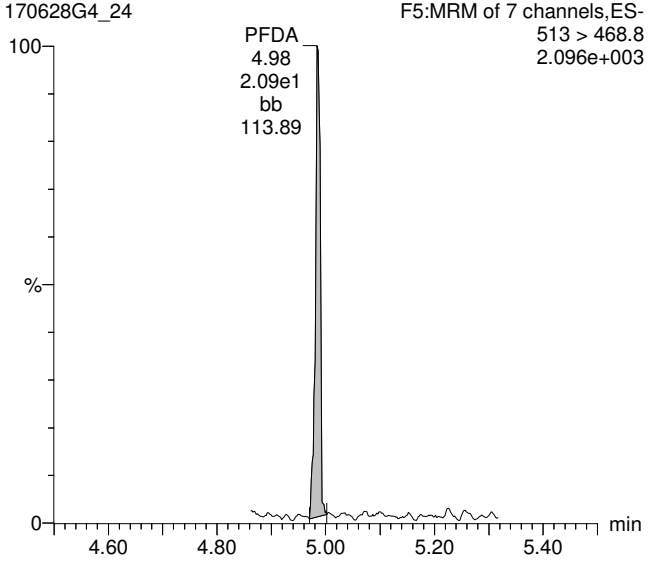

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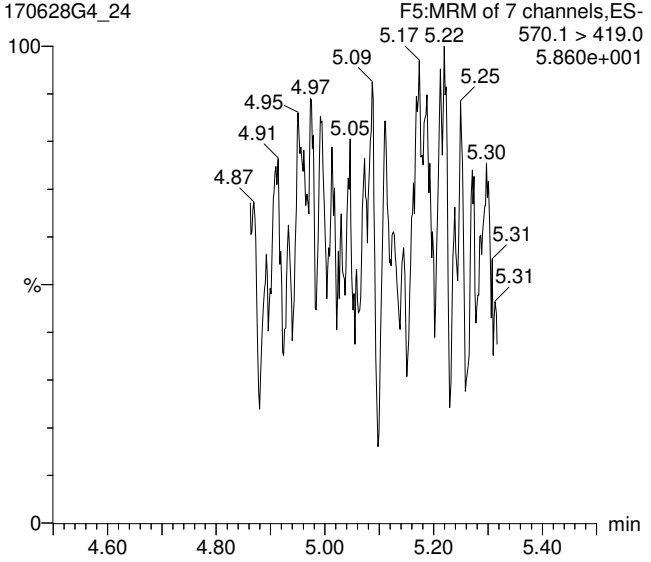

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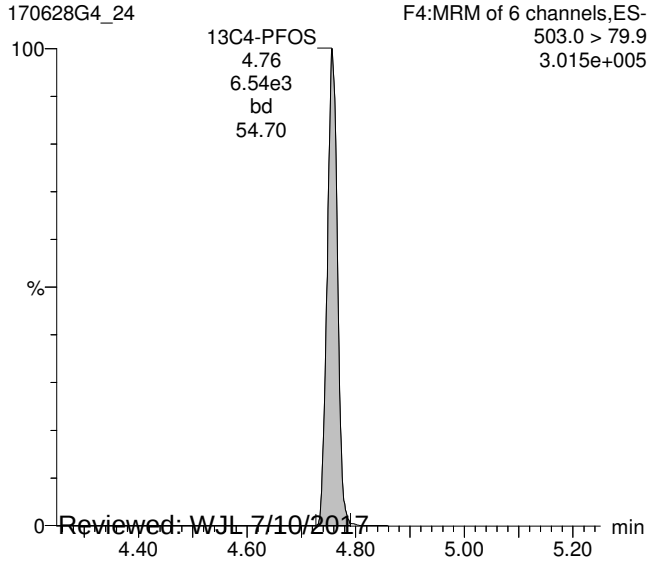

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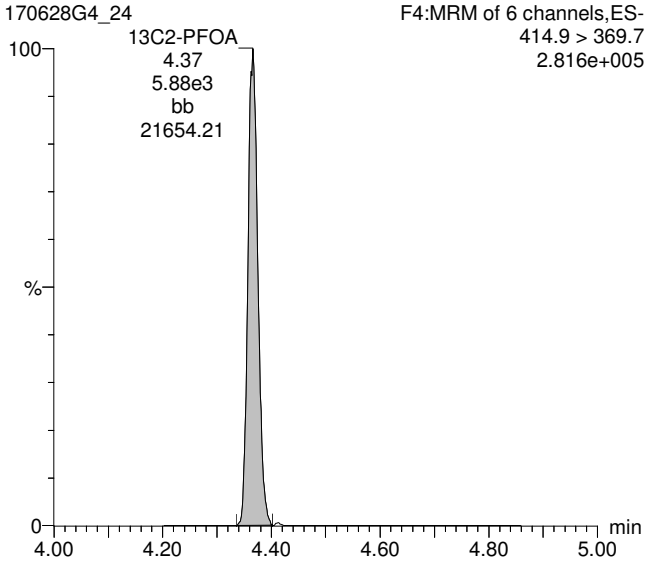

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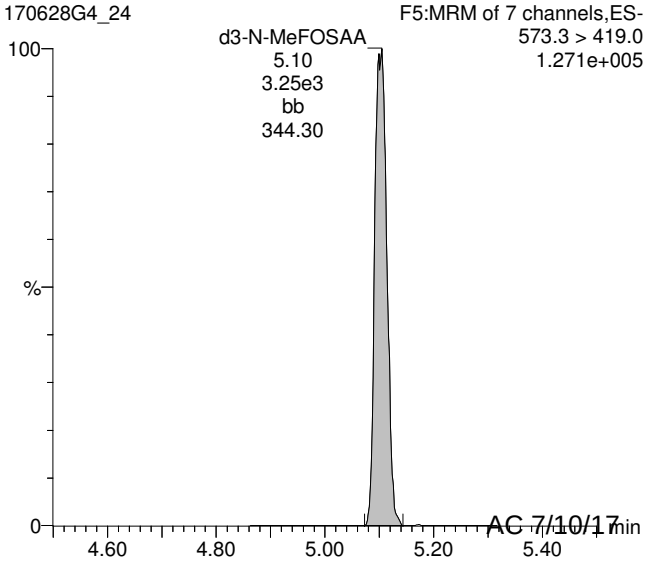

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:30:49 Pacific Daylight Time

ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

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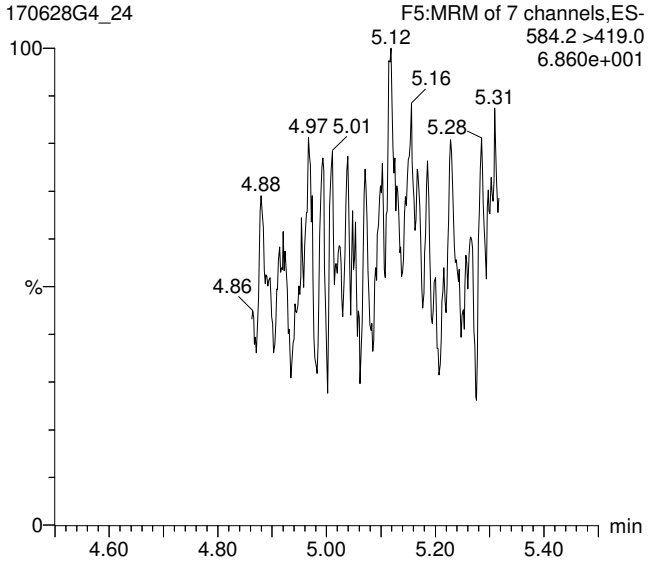

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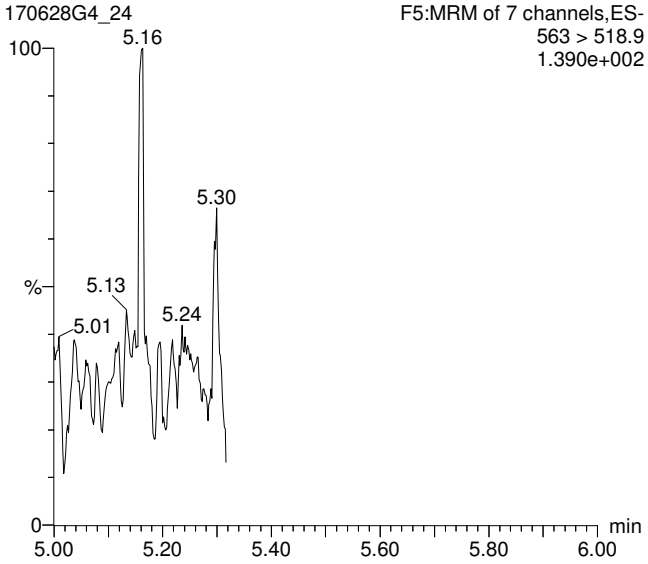

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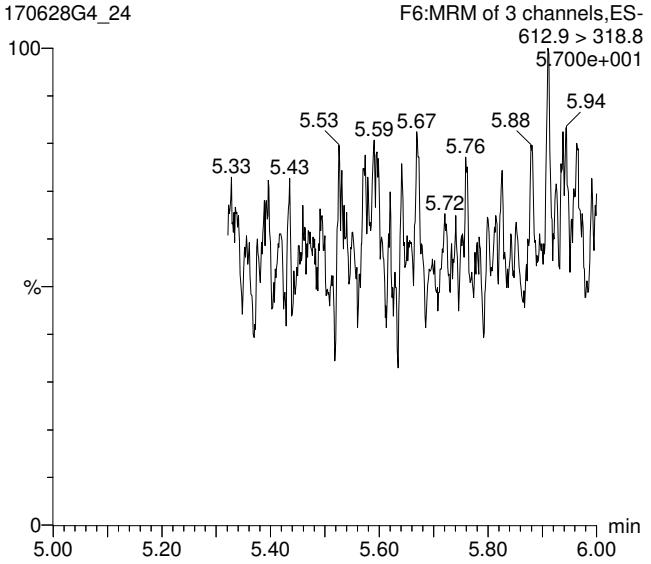

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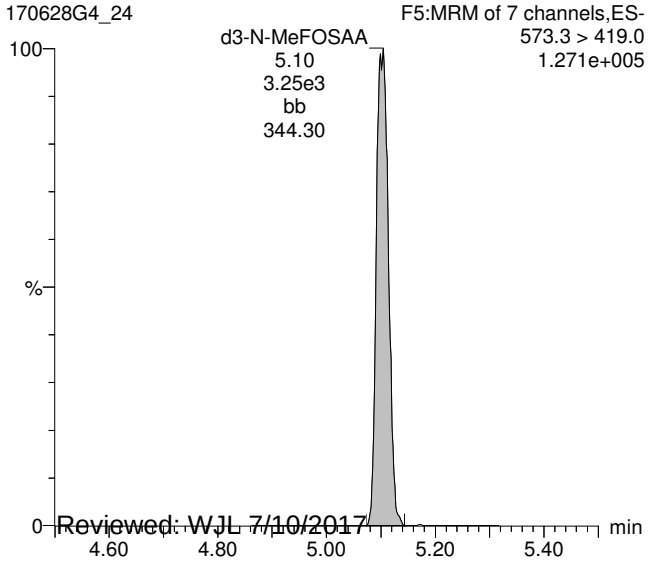

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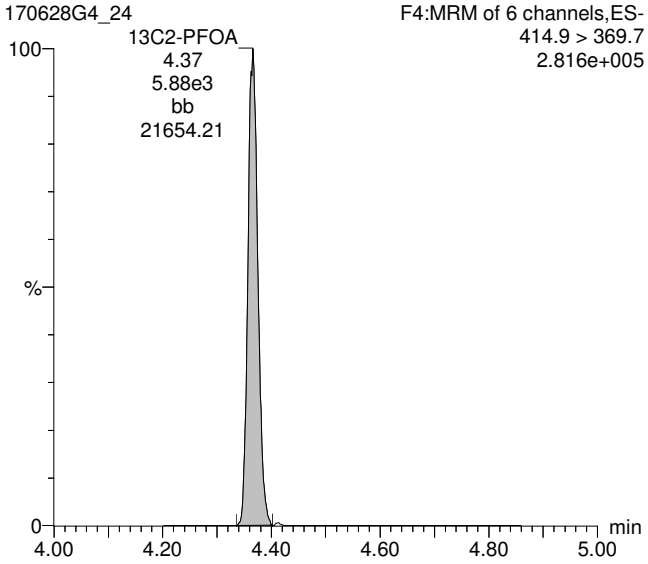

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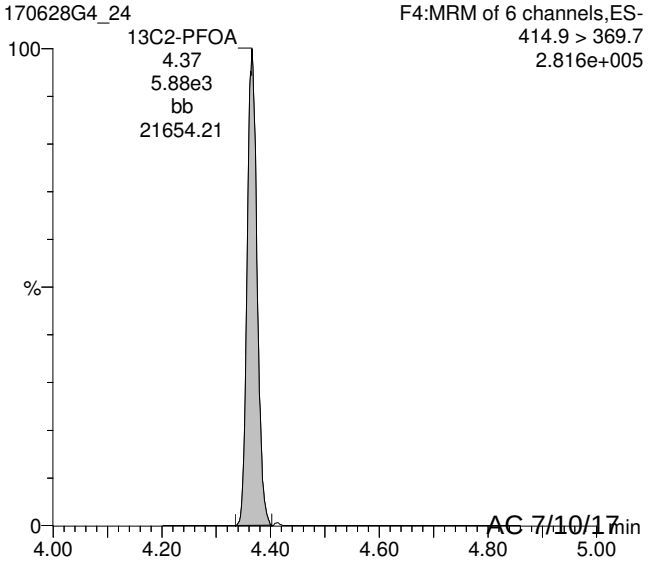

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
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ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

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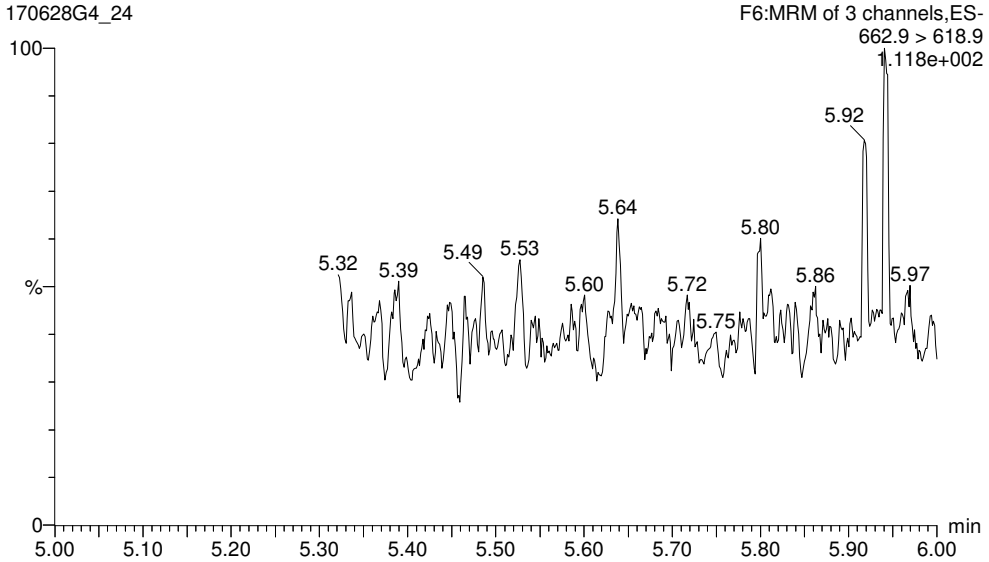

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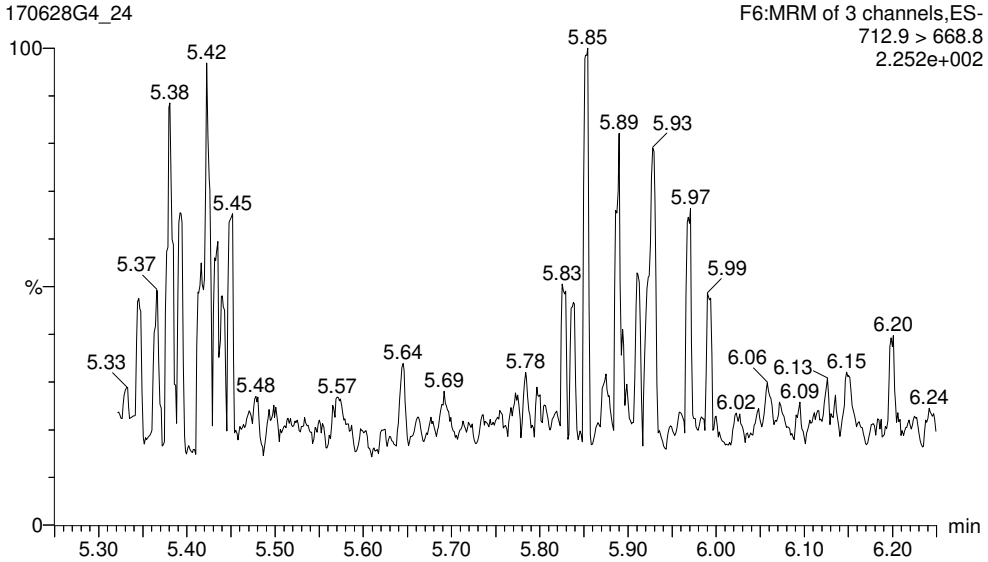

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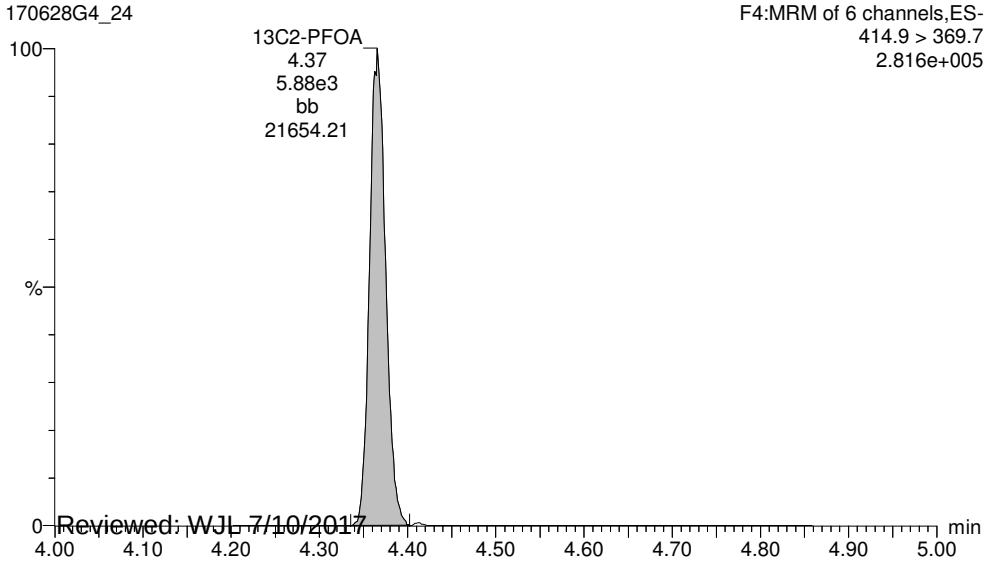

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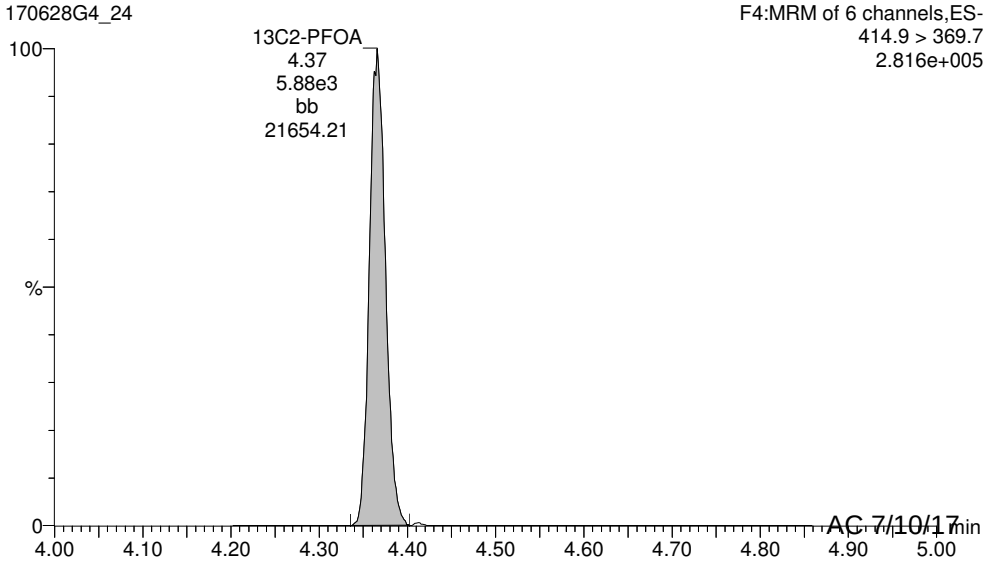

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-24.qld

Last Altered: Monday, July 10, 2017 12:30:20 Pacific Daylight Time
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ID: 1700759-09 Tower1-DW-20170622 0.28567, Description: Tower1-DW-20170622, Name: 170628G4_24, Date: 28-Jun-2017, Time: 23:10:10, Instrument: , Lab: , User:

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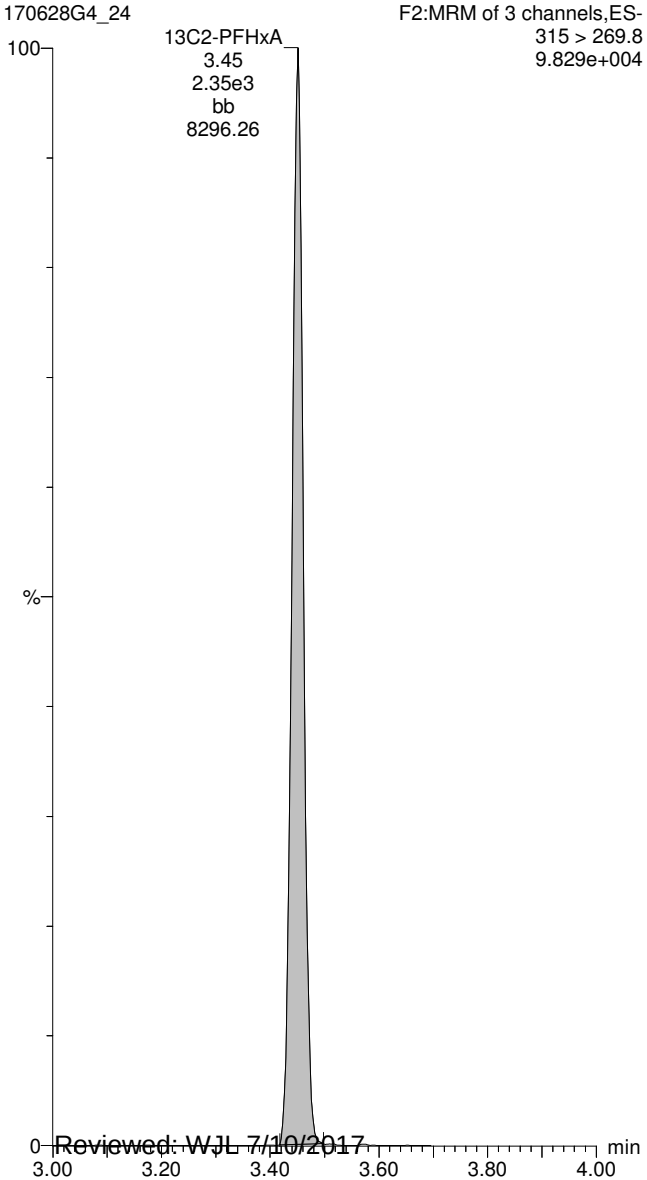

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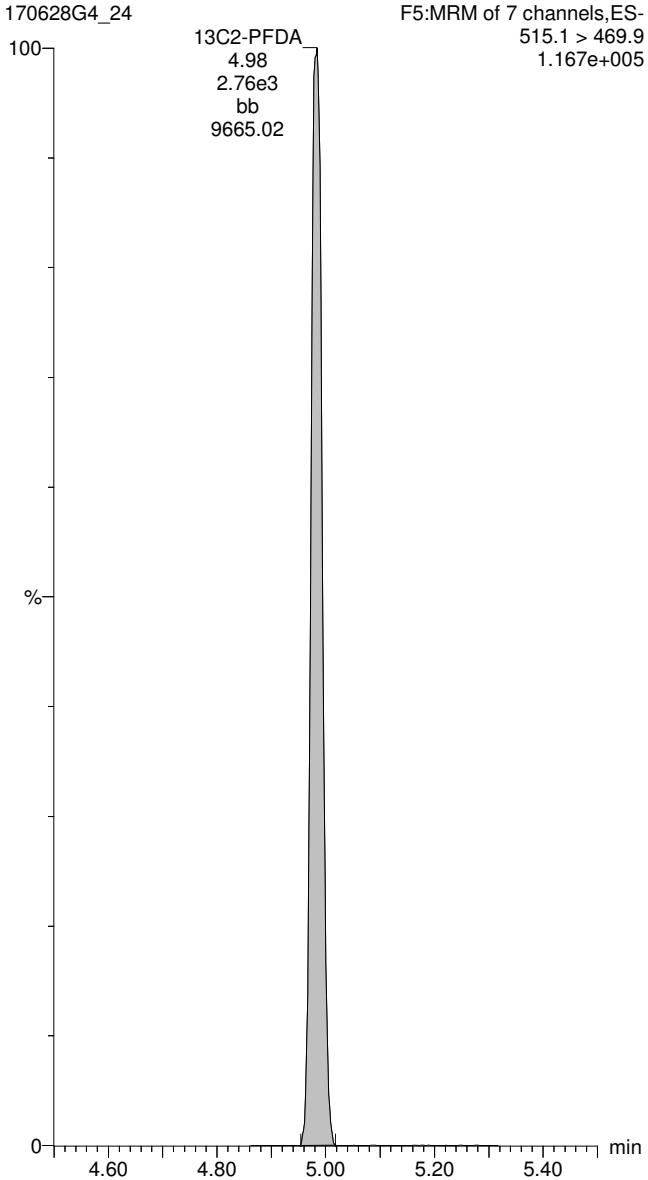

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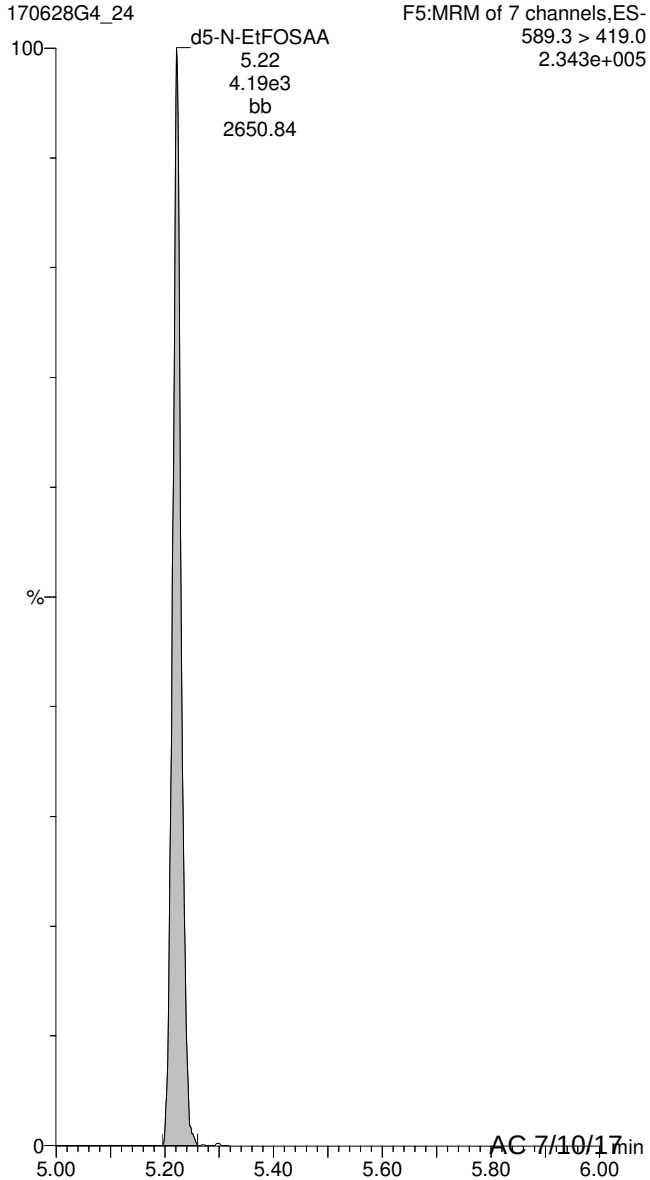

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:35:09 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	2.897e3	7.165e3		0.278	3.07	48.1	
2	2	PFHxA	313.2 > 268.9	2.220e3	5.767e3		0.278	3.45	62.7	
3	3	PFHpA	363 > 318.9	7.981e3	5.767e3		0.278	3.97	62.0	
4	4	PFHxS	398.9 > 79.6	3.647e3	7.165e3		0.278	4.08	52.0	
5	5	PFOA	413 > 368.7	7.417e3	5.767e3		0.278	4.37	63.5	
6	6	PFNA	463 > 418.8	1.001e4	5.767e3		0.278	4.70	65.4	
7	7	PFOS	499 >79.9	1.037e3	7.165e3		0.278	4.76	50.3	
8	8	PFDA	513 > 468.8	6.606e3	5.767e3		0.278	4.98	63.7	
9	9	N-MeFOSAA	570.1 > 419.0	3.361e3	3.999e3		0.278	5.10	61.8	
10	10	N-EtFOSAA	584.2 >419.0	2.805e3	3.999e3		0.278	5.22	60.4	
11	11	PFUnA	563 > 518.9	5.701e3	5.767e3		0.278	5.23	59.8	
12	12	PFDoA	612.9 > 318.8	1.078e3	5.767e3		0.278	5.46	63.1	
13	13	PFTrDA	662.9 > 618.9	9.695e3	5.767e3		0.278	5.65	60.2	
14	14	PFTeDA	712.9 > 668.8	9.962e3	5.767e3		0.278	5.82	63.2	
15	15	13C2-PFHxA	315 > 269.8	2.436e3	5.767e3	0.429	0.278	3.45	35.4	98.5
16	16	13C2-PFDA	515.1 > 469.9	2.540e3	5.767e3	0.514	0.278	4.98	30.8	85.6
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.124e3	3.999e3	1.065	0.278	5.22	139	96.9
18	18	13C2-PFOA	414.9 > 369.7	5.767e3	5.767e3	1.000	0.278	4.36	35.9	100
19	19	13C4-PFOS	503.0 > 79.9	7.165e3	7.165e3	1.000	0.278	4.76	103	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	3.999e3	3.999e3	1.000	0.278	5.10	144	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
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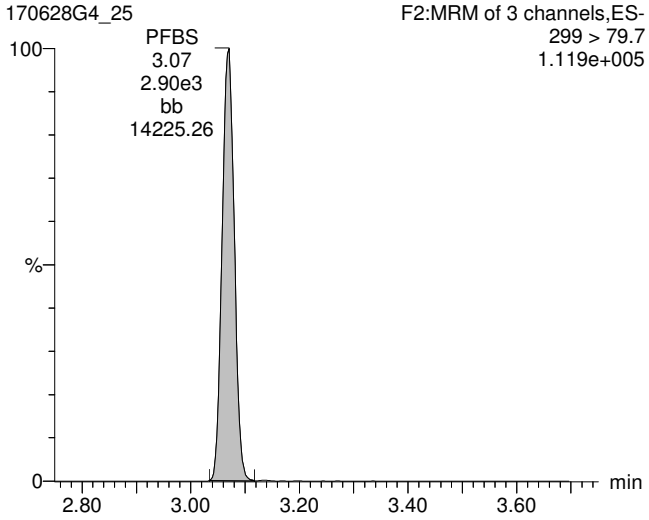
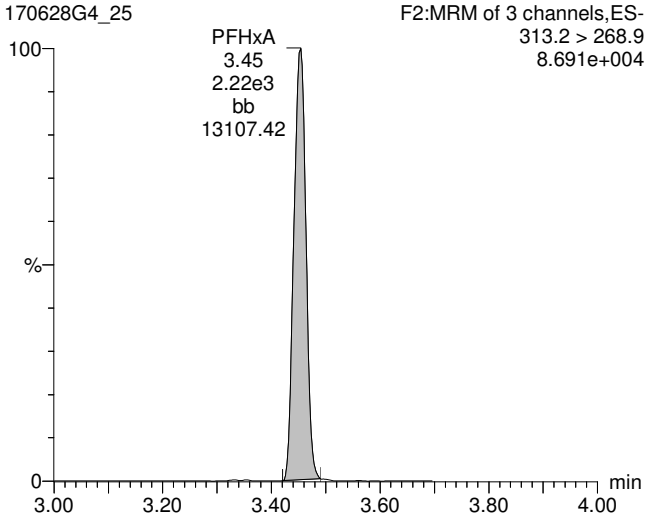
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

PFBS



PFHxA



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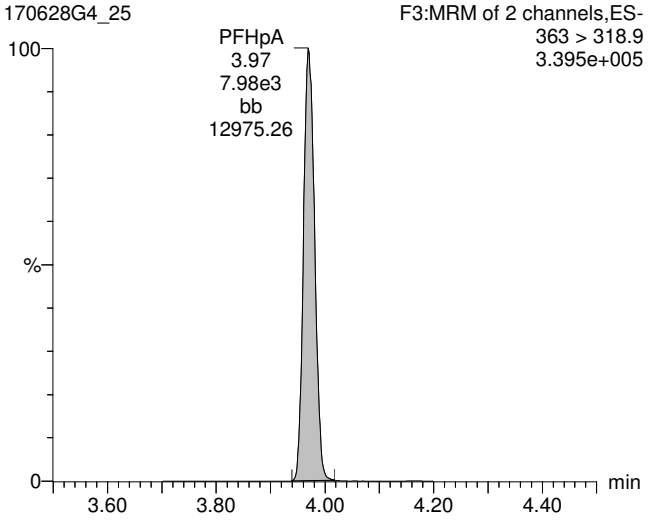

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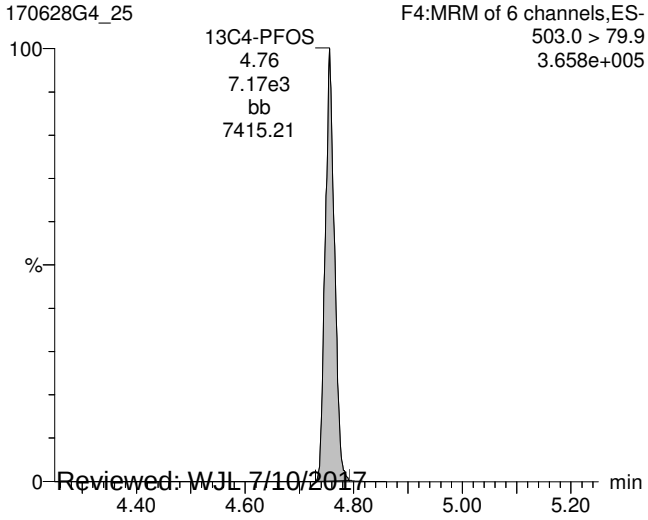

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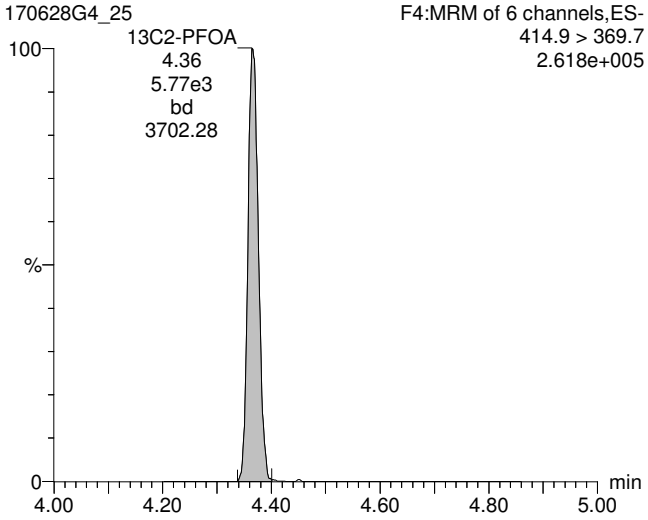

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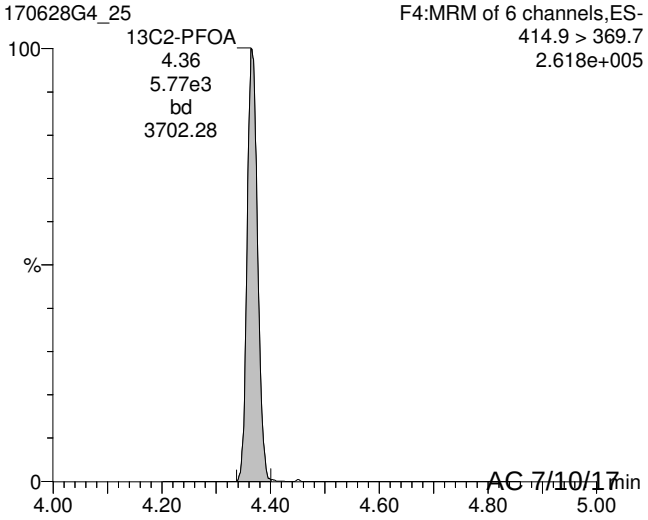

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
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ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

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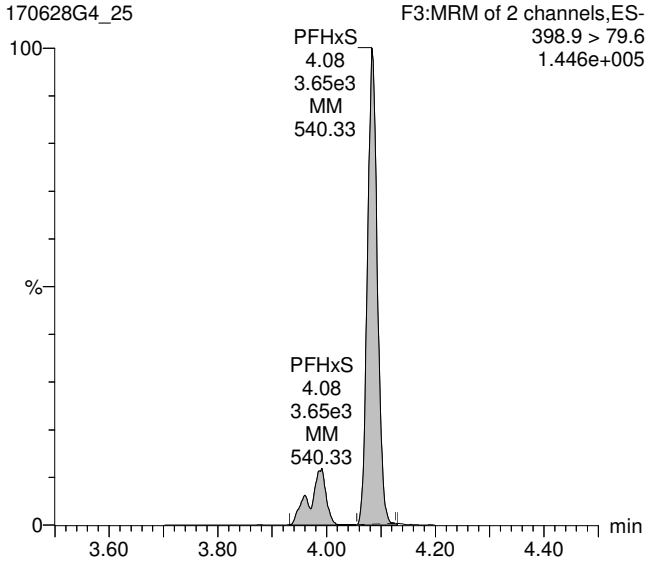
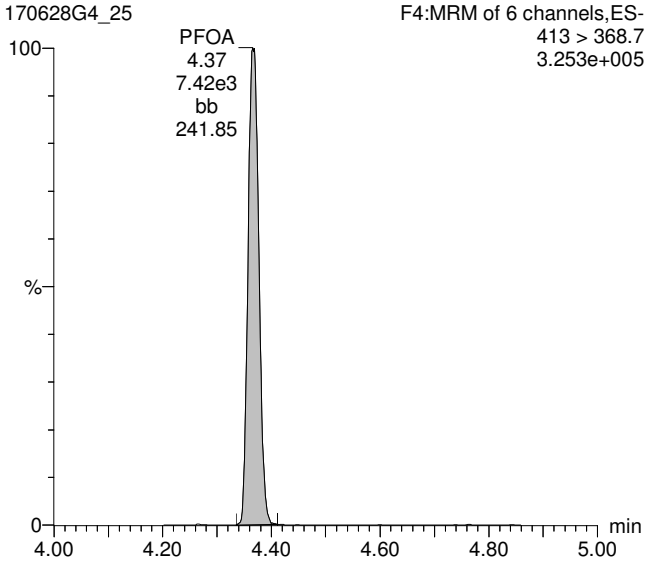


PFOA



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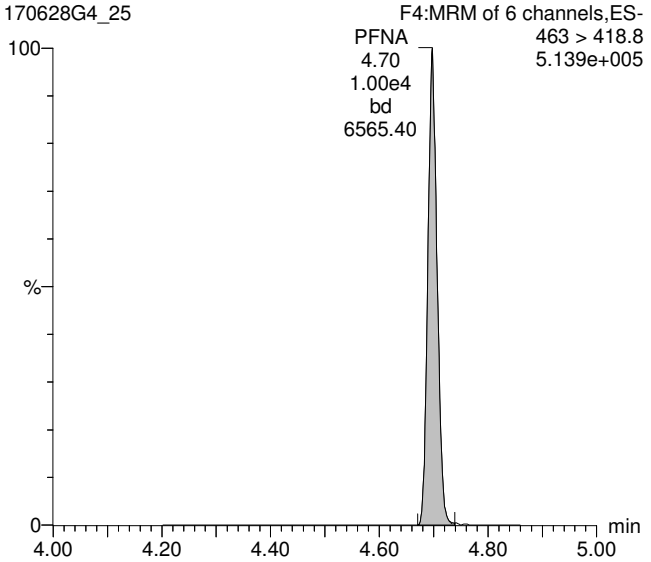

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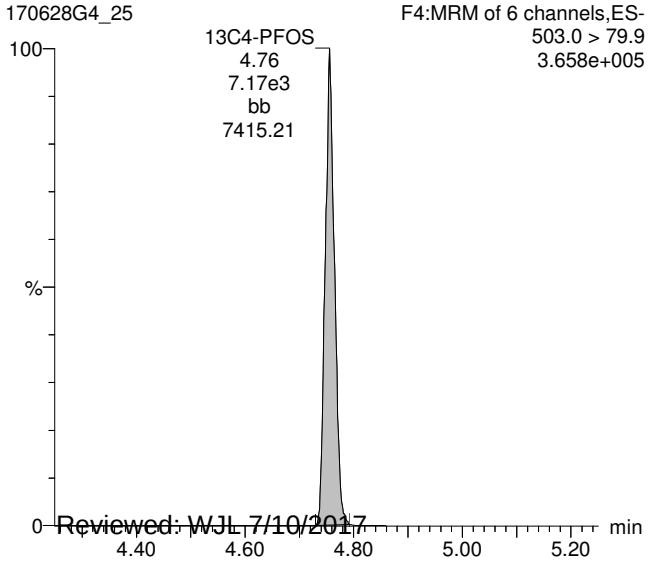

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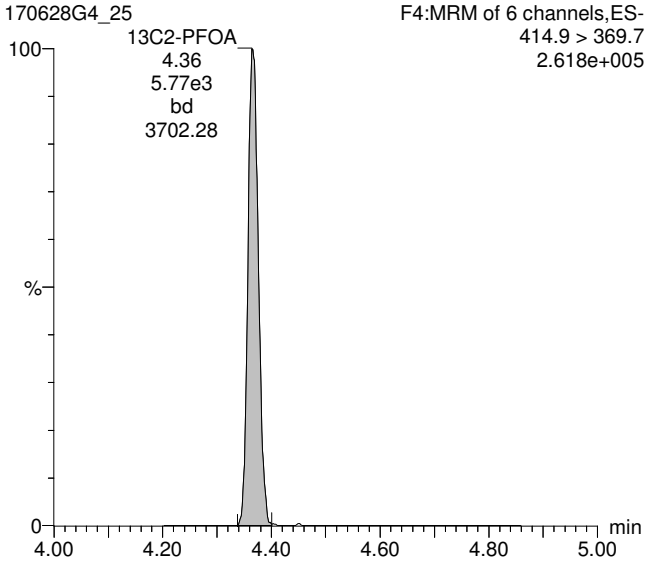

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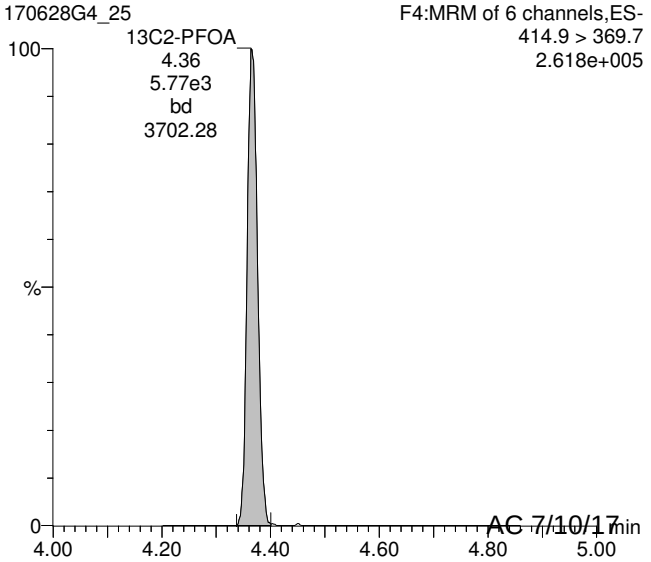

Reviewed: WJL 7/10/2017 AC 7/10/17

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ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

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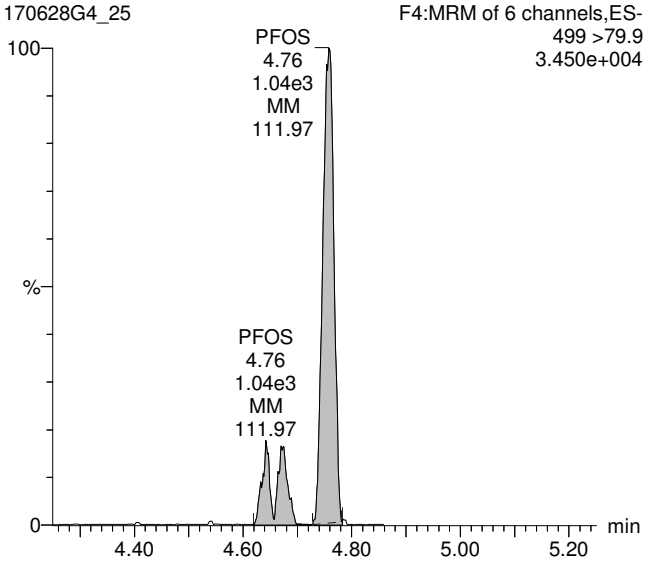

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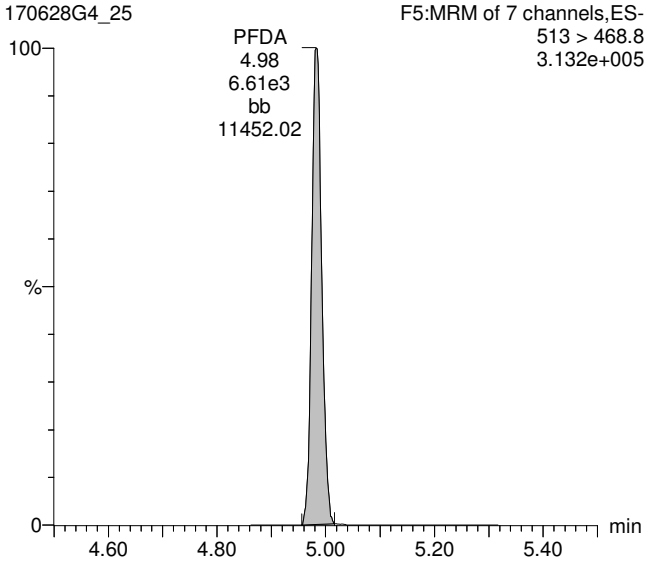

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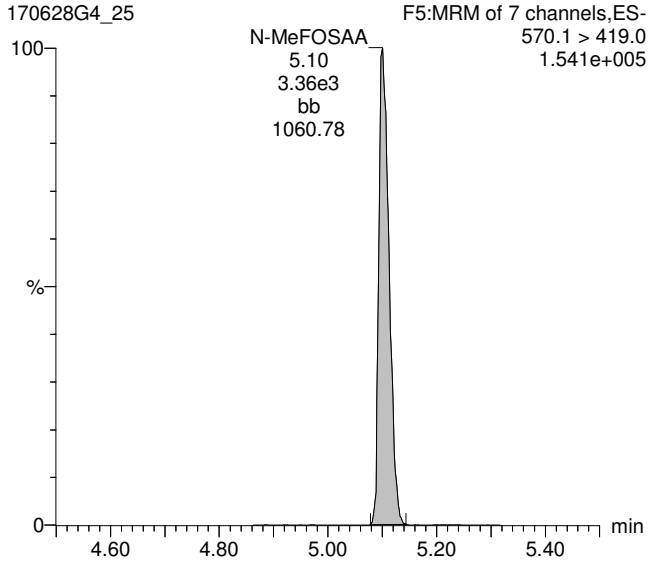
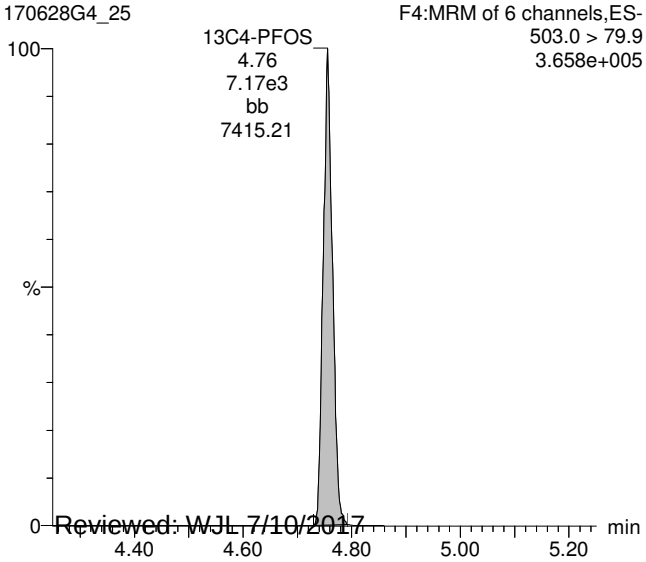
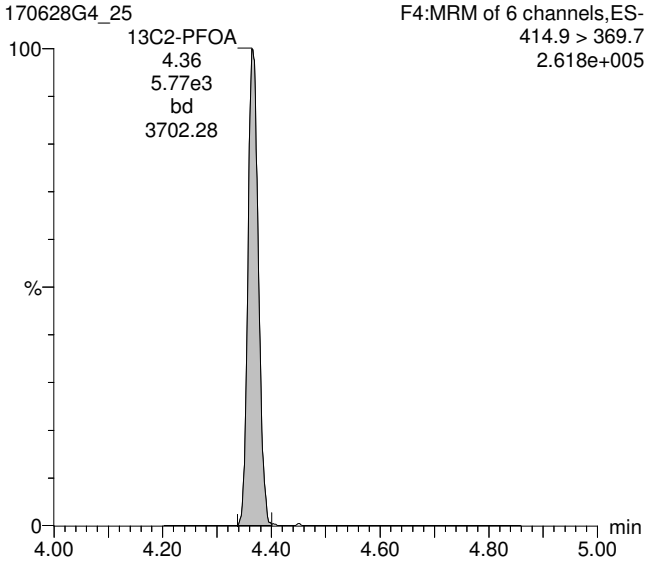


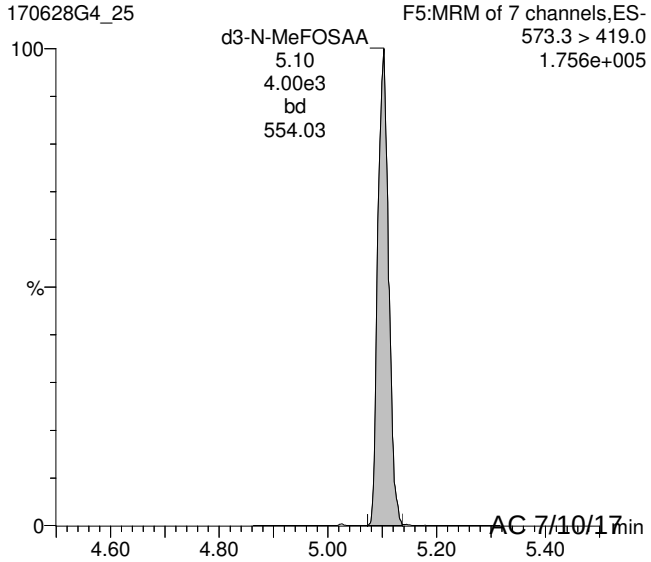
13C4-PFOS



13C2-PFOA



d3-N-MeFOSAA



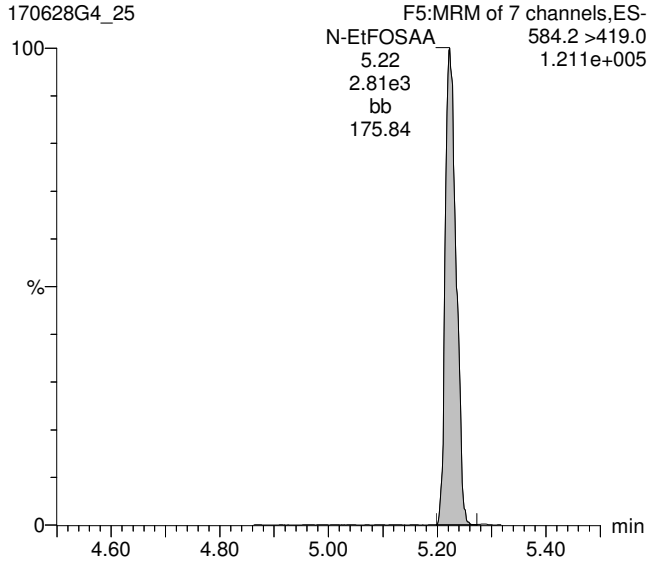
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:35:09 Pacific Daylight Time

ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

N-EtFOSAA



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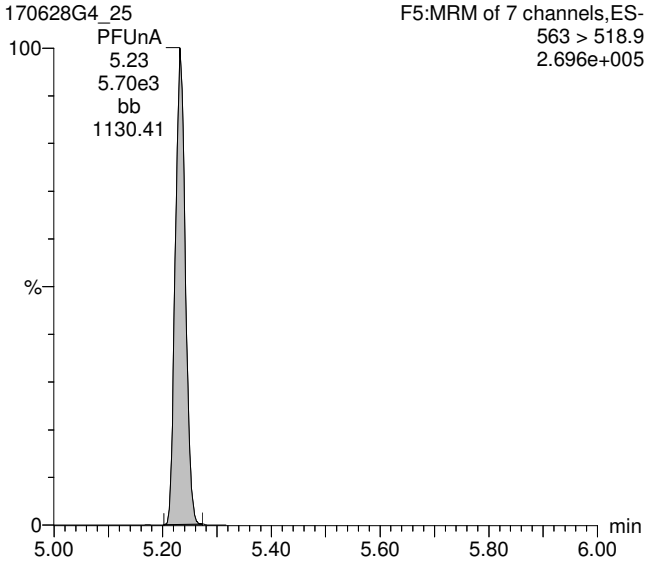

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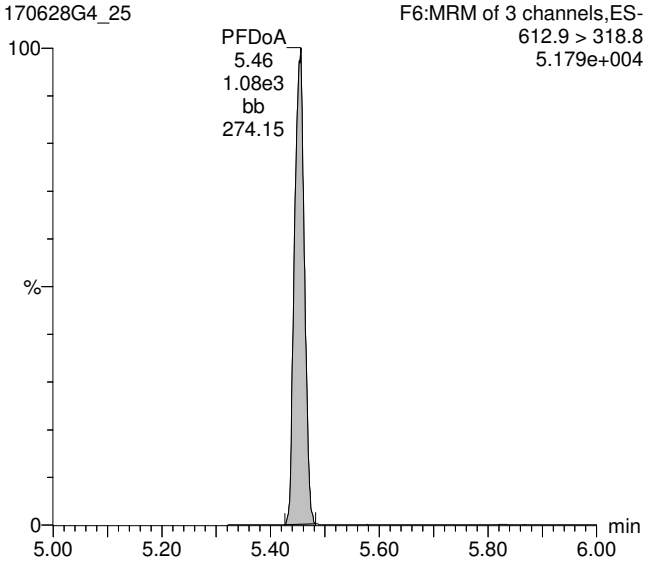

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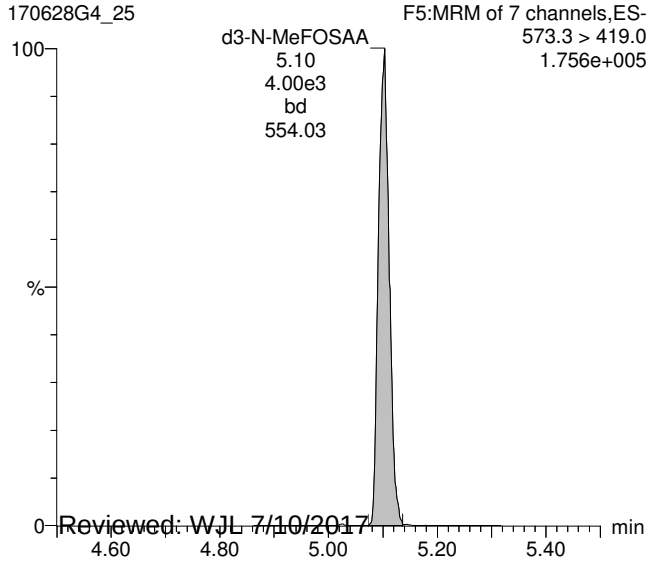

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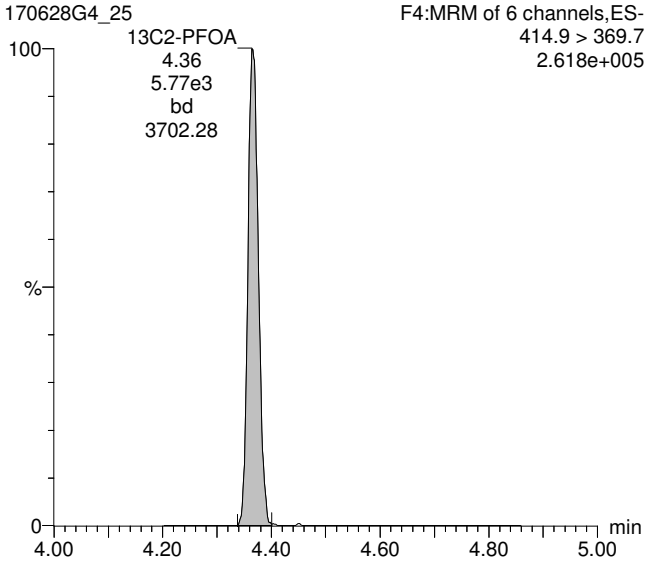

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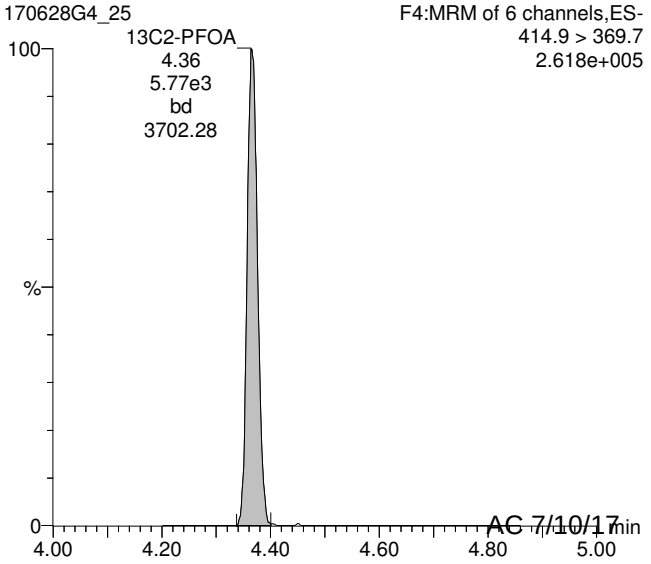


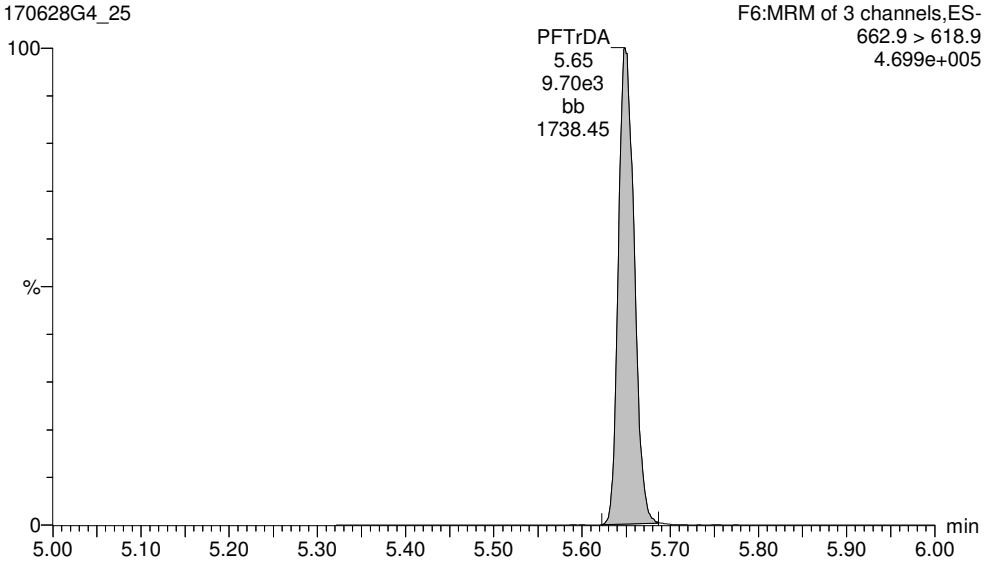
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

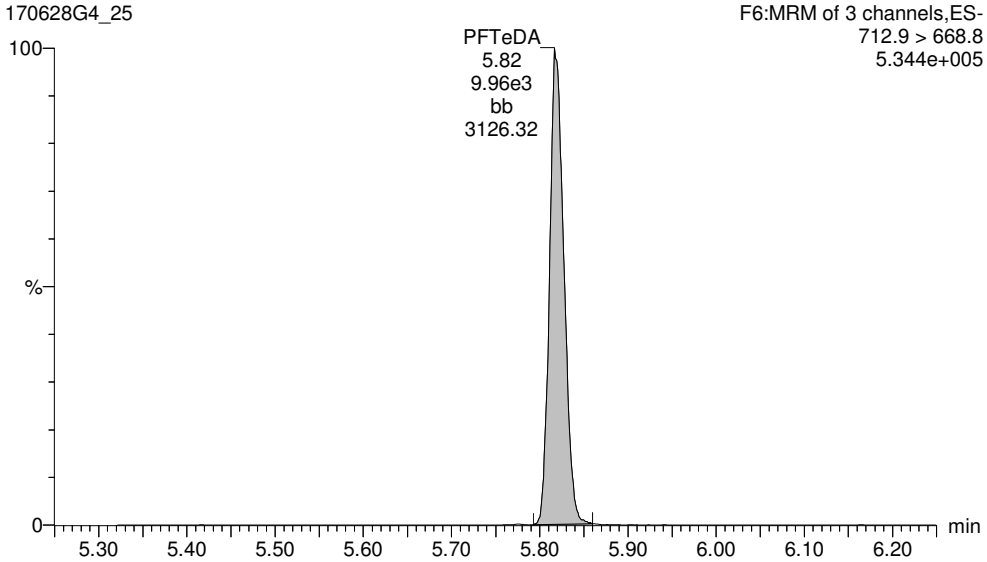
Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:35:09 Pacific Daylight Time

ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

PFTrDA



PFTeDA



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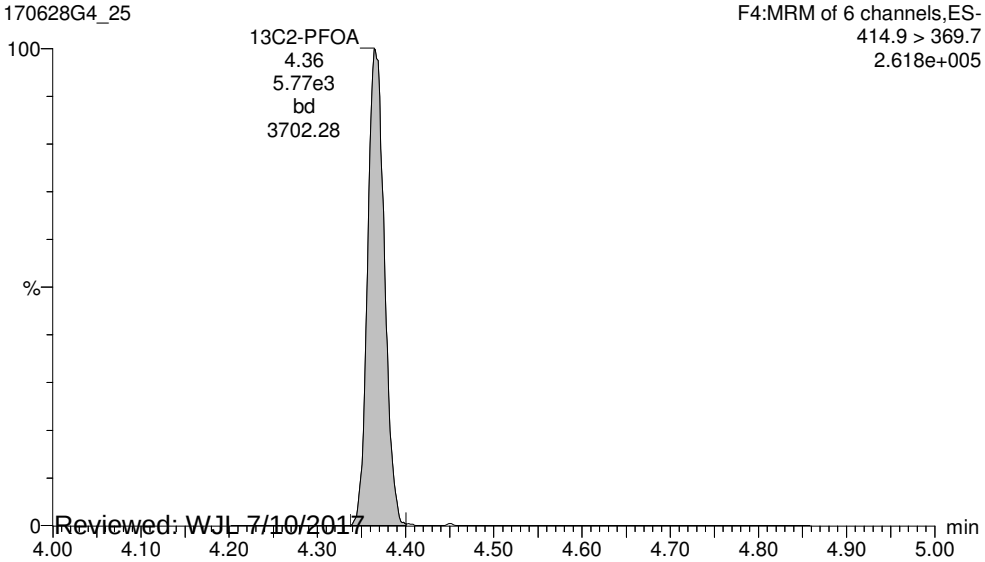

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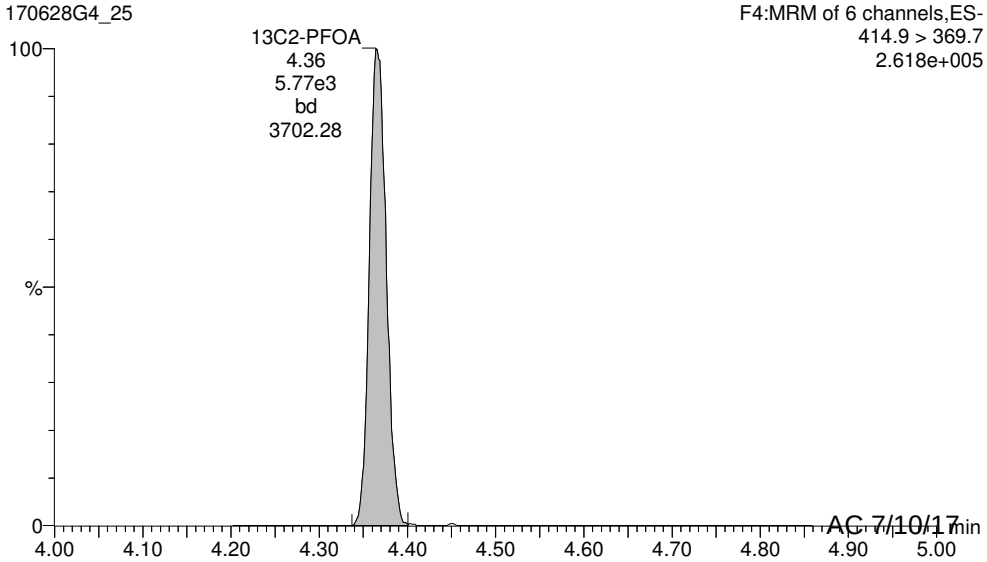


Reviewed: WJL 7/10/2017 AC 7/10/17

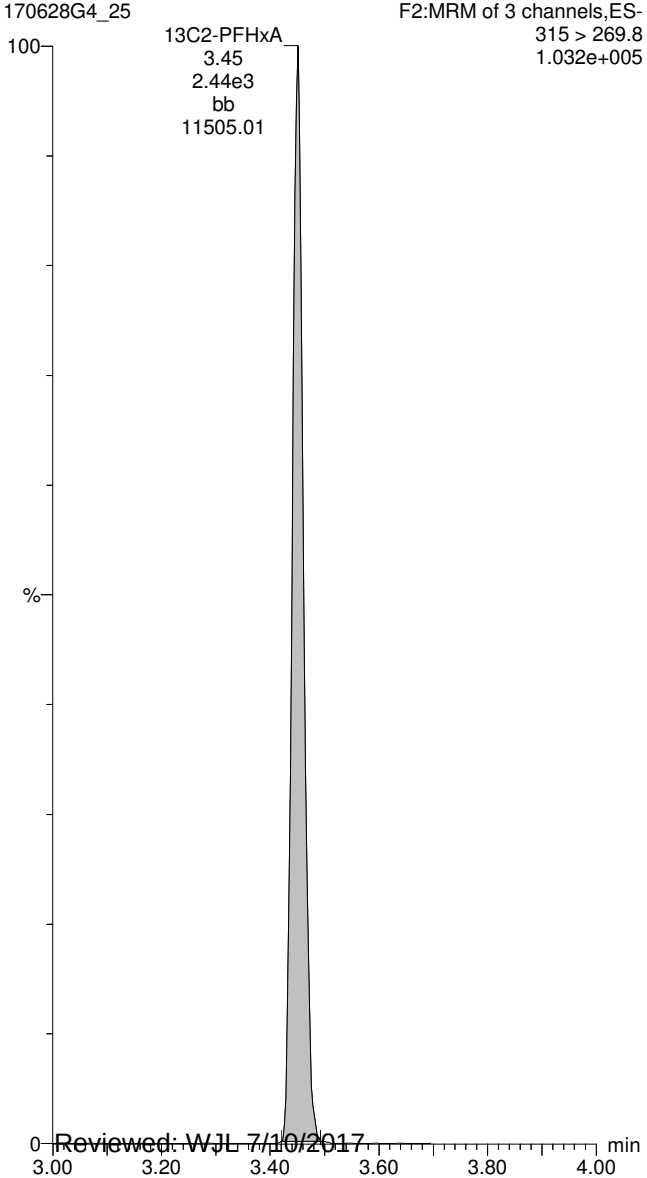
Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-25.qld

Last Altered: Monday, July 10, 2017 12:35:05 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:35:09 Pacific Daylight Time

ID: B7F0113-MS1 LFSM 0.27828, Description: LFSM, Name: 170628G4_25, Date: 28-Jun-2017, Time: 23:22:32, Instrument: , Lab: , User:

13C2-PFHxA



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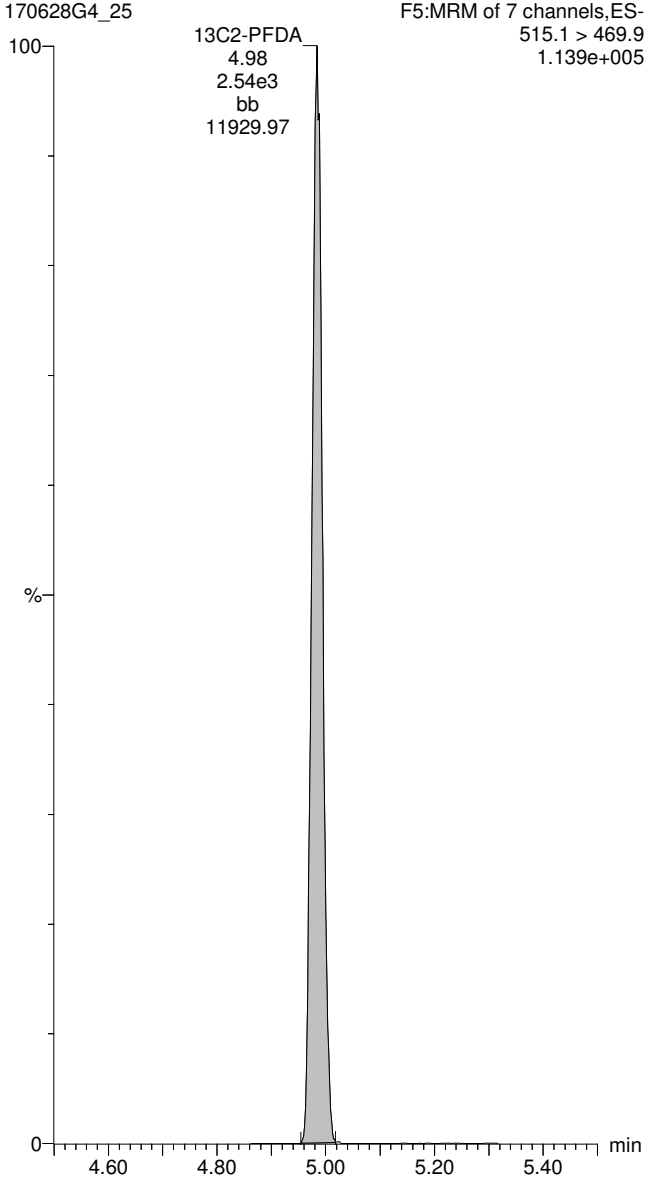
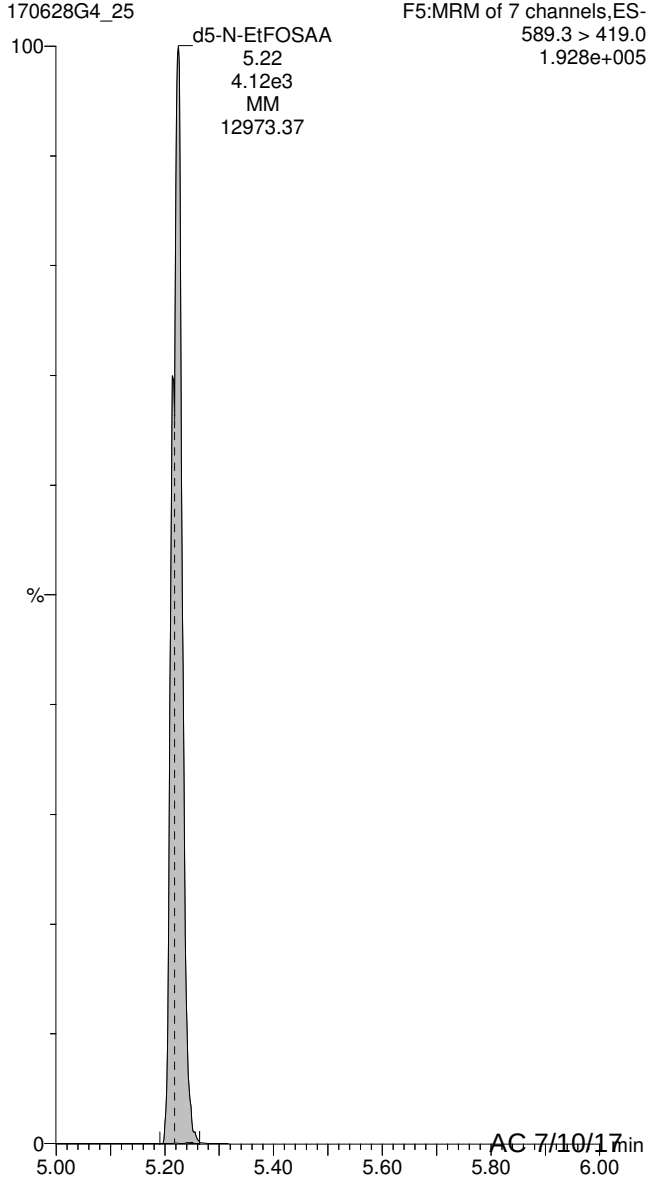


d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.141e3	7.065e3		0.280	3.07	52.5	
2	2	PFHxA	313.2 > 268.9	2.544e3	6.545e3		0.280	3.45	62.9	
3	3	PFHpA	363 > 318.9	9.251e3	6.545e3		0.280	3.97	62.9	
4	4	PFHxS	398.9 > 79.6	4.026e3	7.065e3		0.280	4.09	57.8	
5	5	PFOA	413 > 368.7	8.360e3	6.545e3		0.280	4.36	62.6	
6	6	PFNA	463 > 418.8	1.130e4	6.545e3		0.280	4.70	64.6	
7	7	PFOS	499 >79.9	1.154e3	7.065e3		0.280	4.76	56.3	
8	8	PFDA	513 > 468.8	6.434e3	6.545e3		0.280	4.98	53.7	
9	9	N-MeFOSAA	570.1 > 419.0	2.994e3	4.050e3		0.280	5.11	53.6	
10	10	N-EtFOSAA	584.2 >419.0	2.585e3	4.050e3		0.280	5.23	54.6	
11	11	PFUnA	563 > 518.9	6.692e3	6.545e3		0.280	5.23	61.4	
12	12	PFDoA	612.9 > 318.8	1.117e3	6.545e3		0.280	5.45	57.2	
13	13	PFTrDA	662.9 > 618.9	9.737e3	6.545e3		0.280	5.65	52.9	
14	14	PFTeDA	712.9 > 668.8	1.010e4	6.545e3		0.280	5.82	56.0	
15	15	13C2-PFHxA	315 > 269.8	2.646e3	6.545e3	0.429	0.280	3.45	33.6	94.2
16	16	13C2-PFDA	515.1 > 469.9	2.649e3	6.545e3	0.514	0.280	4.98	28.1	78.7
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.262e3	4.050e3	1.065	0.280	5.22	141	98.8
18	18	13C2-PFOA	414.9 > 369.7	6.545e3	6.545e3	1.000	0.280	4.37	35.7	100
19	19	13C4-PFOS	503.0 > 79.9	7.065e3	7.065e3	1.000	0.280	4.76	102	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.050e3	4.050e3	1.000	0.280	5.10	143	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

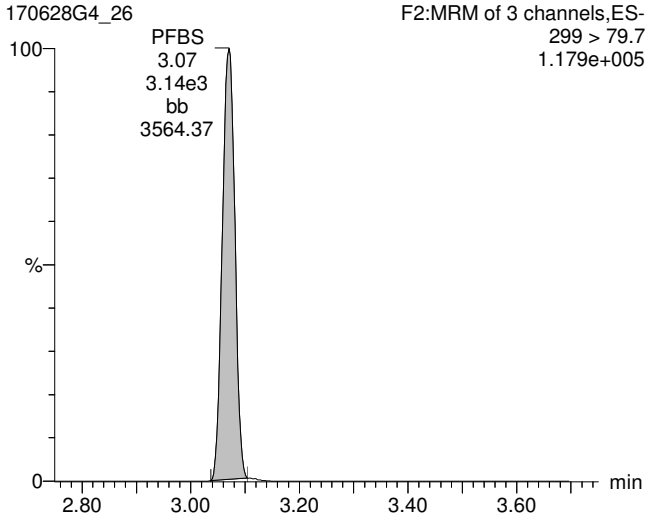
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

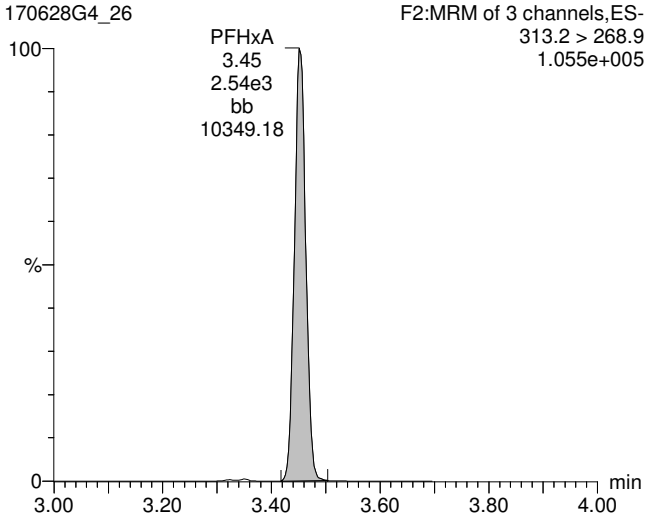
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

PFBS



PFHxA



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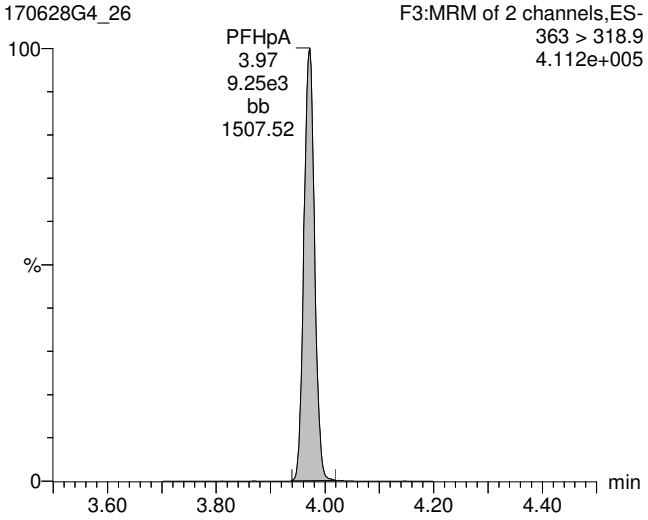
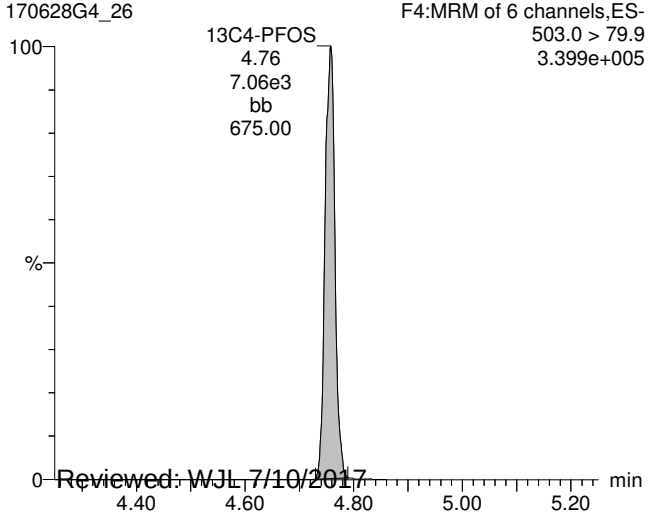


13C4-PFOS



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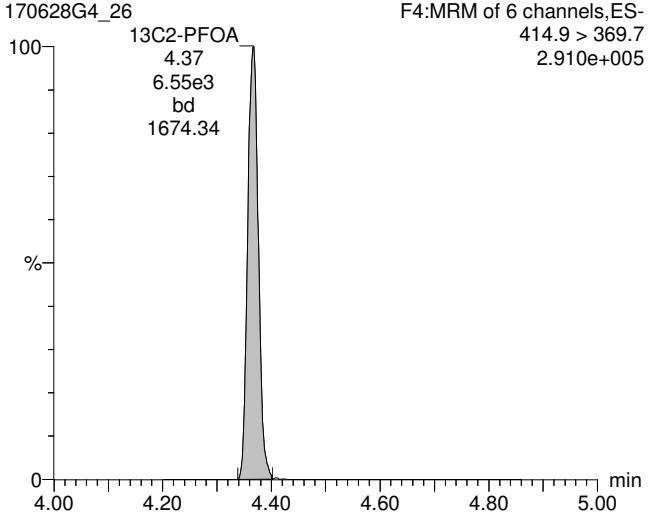

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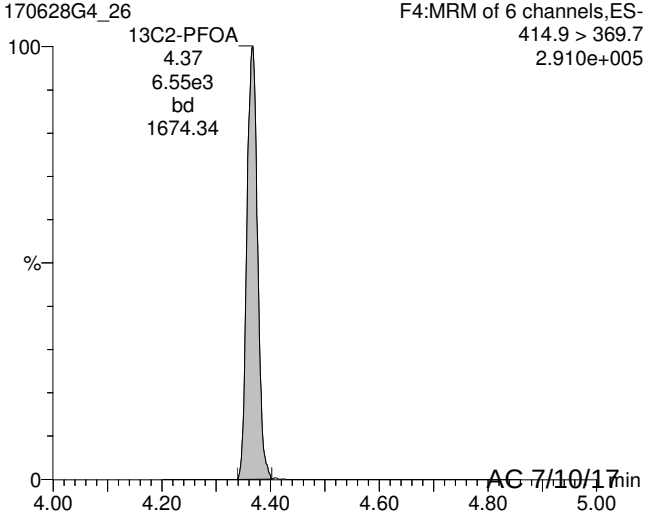


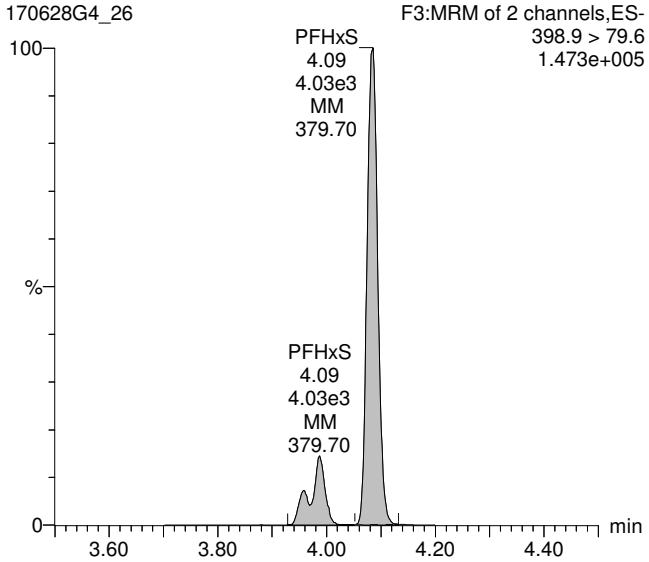
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

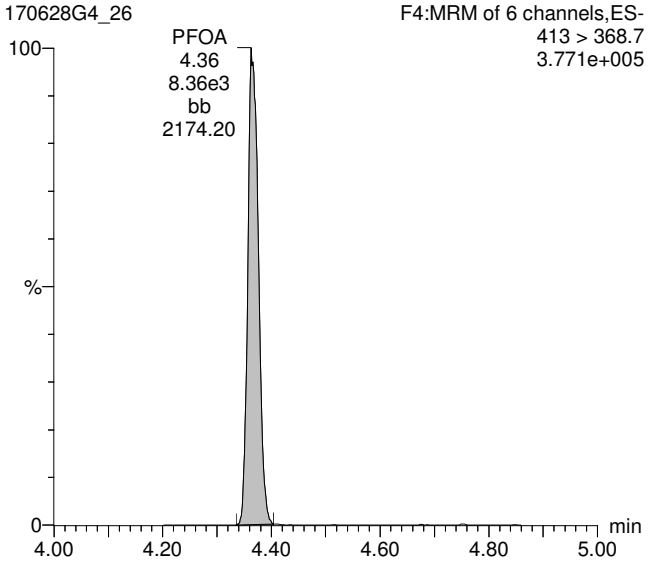
Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

PFHxS



PFOA



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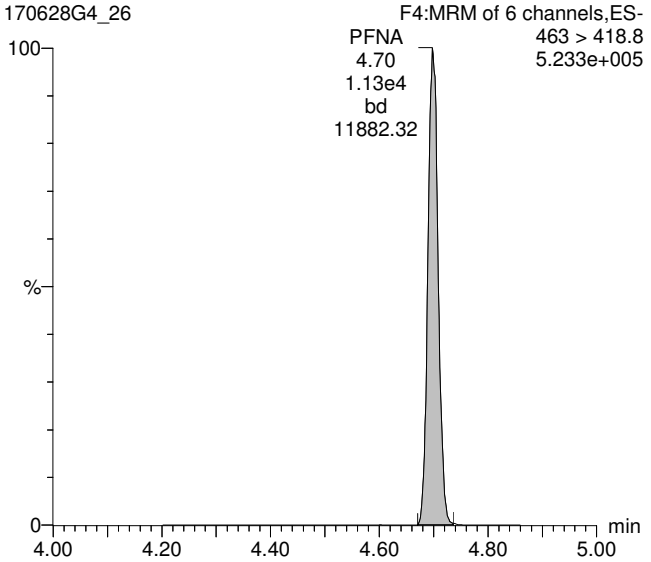

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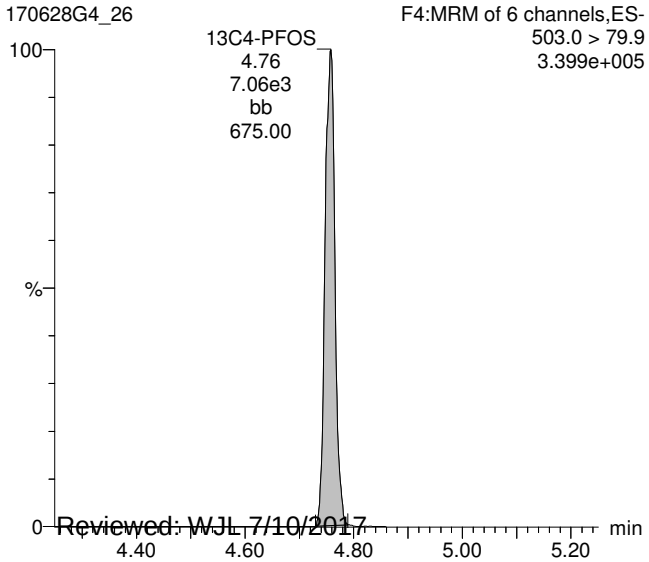

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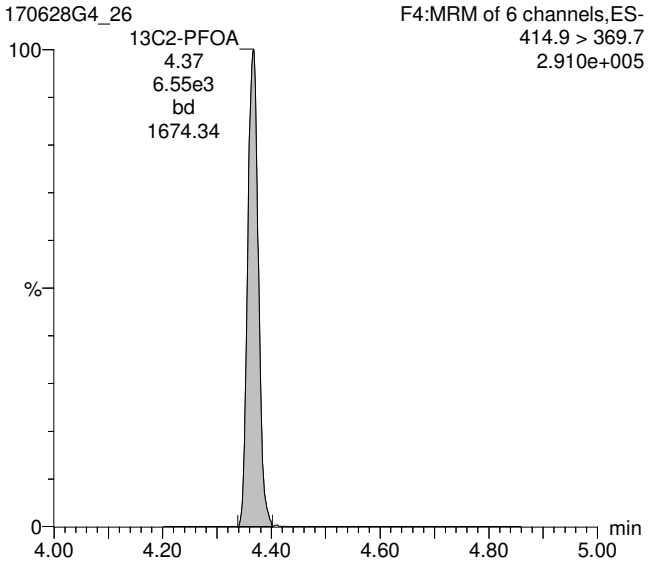

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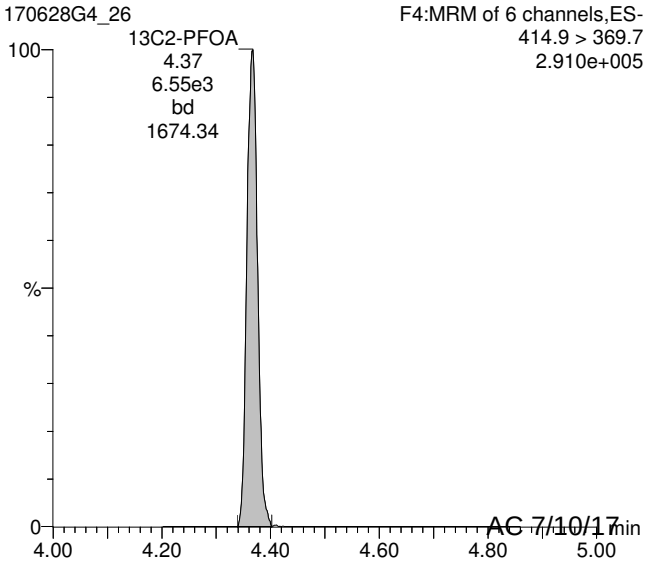


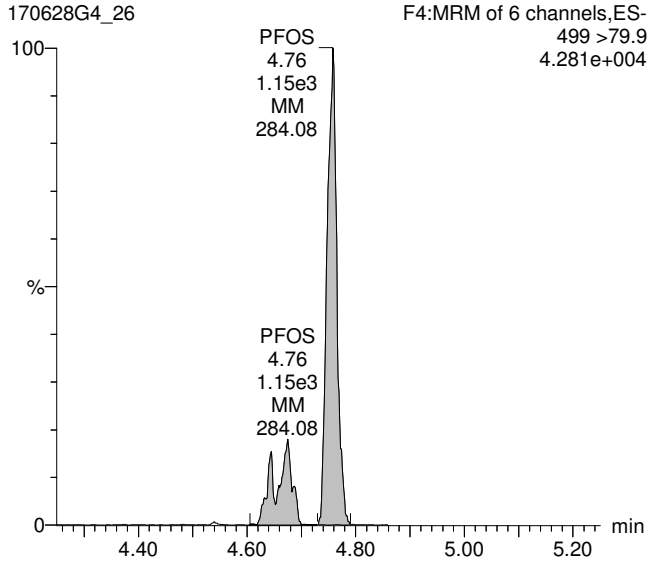
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

PFOS



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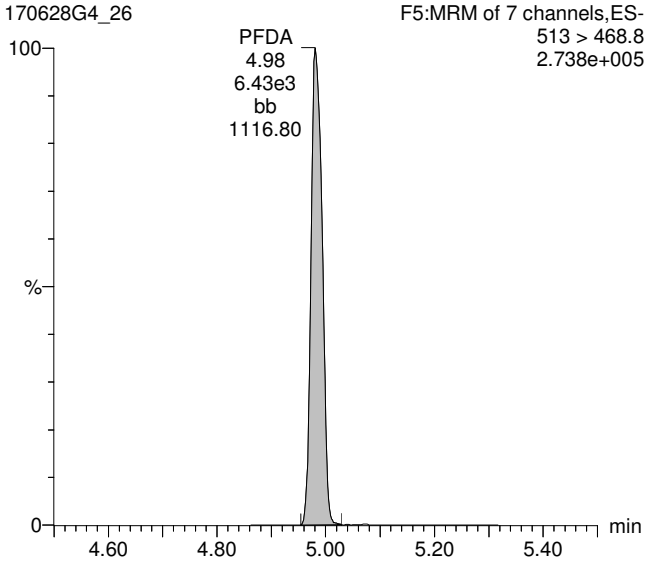
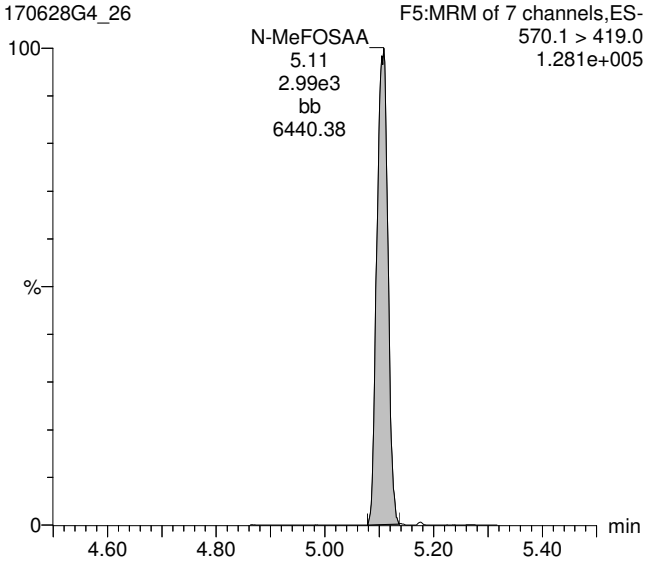


N-MeFOSAA



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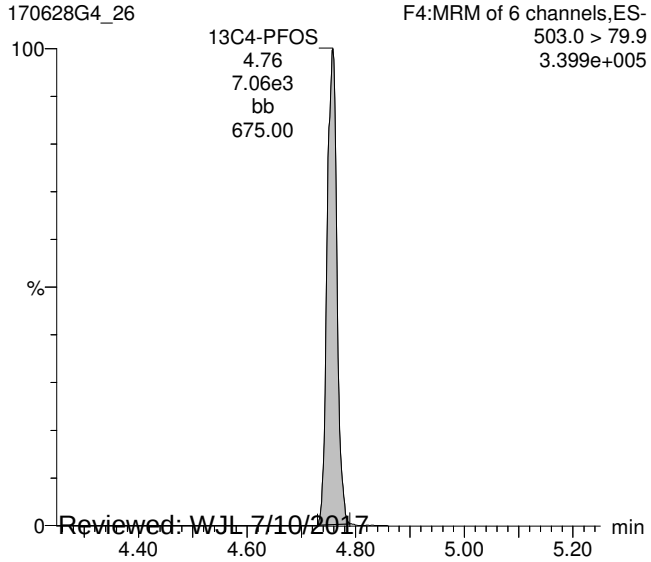

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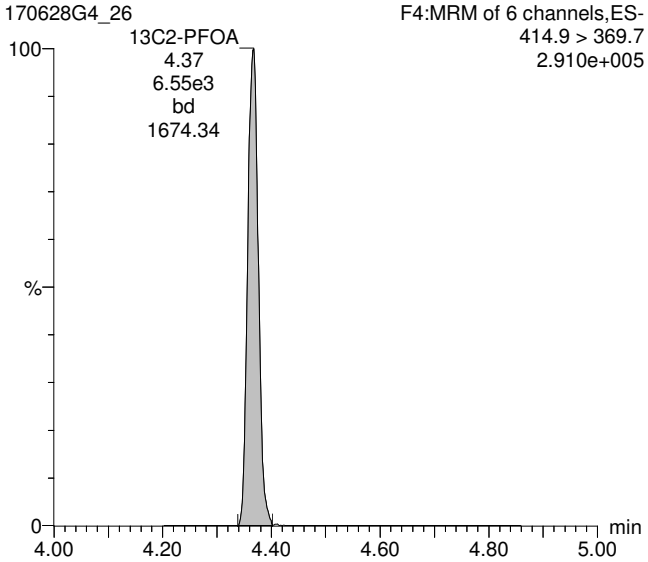

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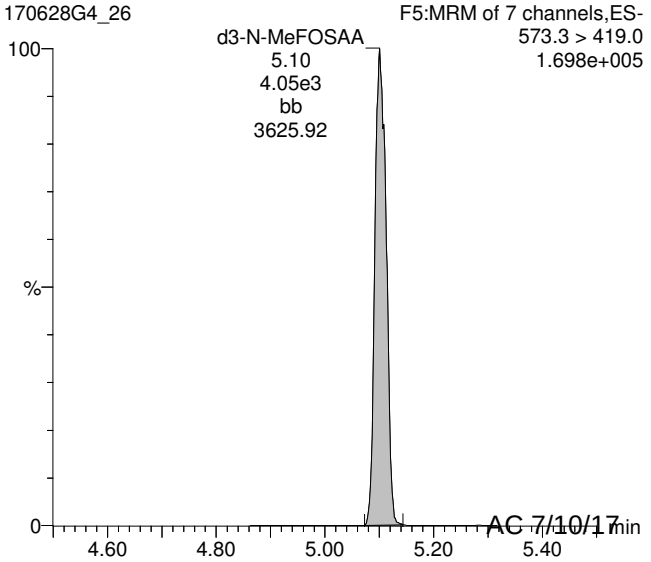

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

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Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

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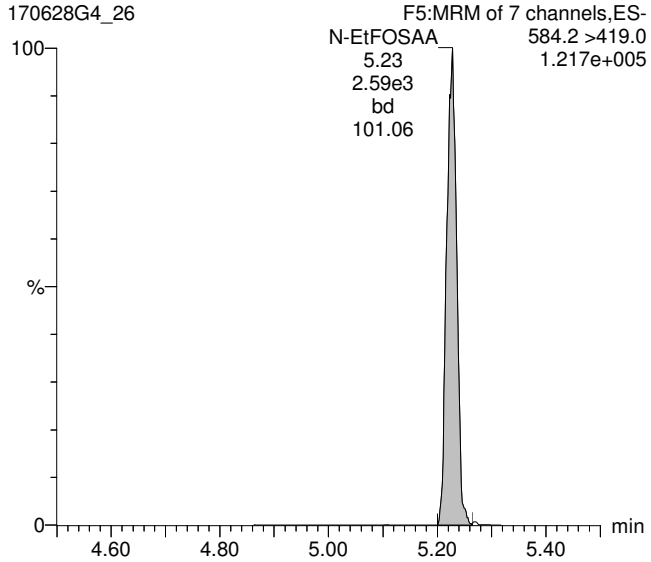

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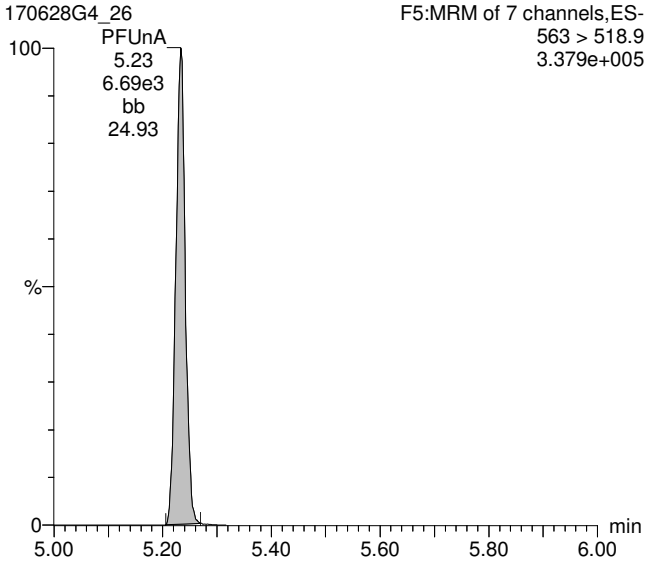

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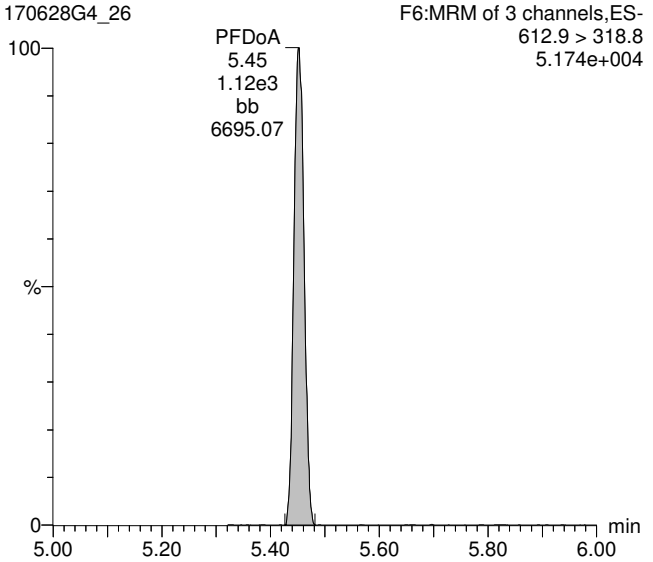
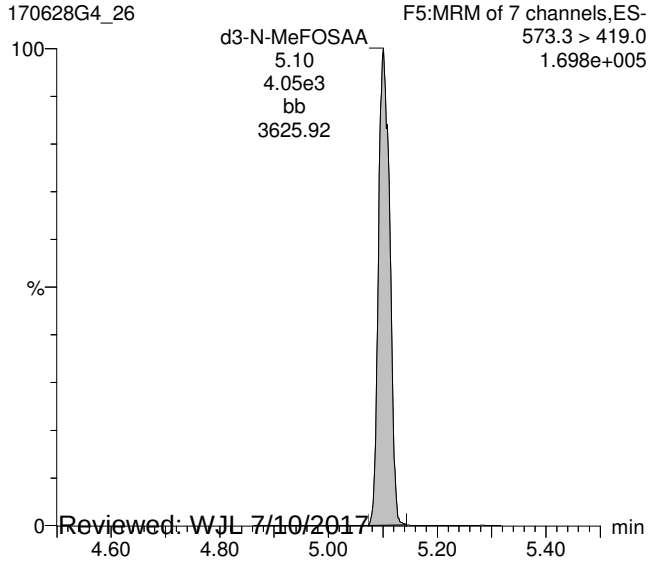


d3-N-MeFOSAA



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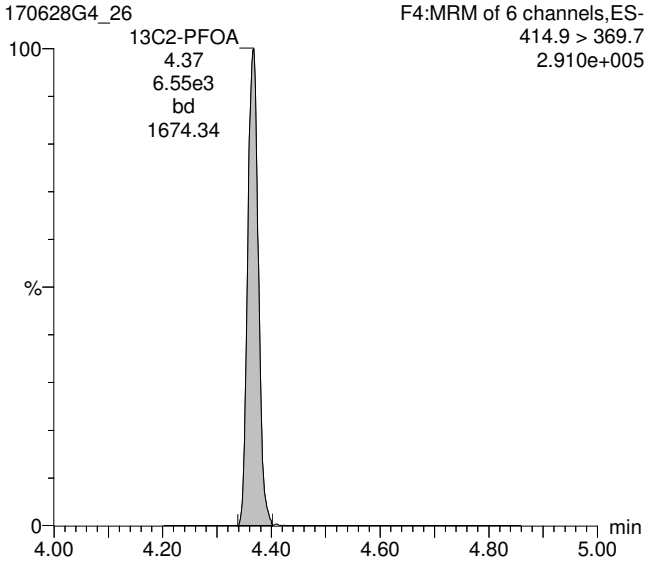

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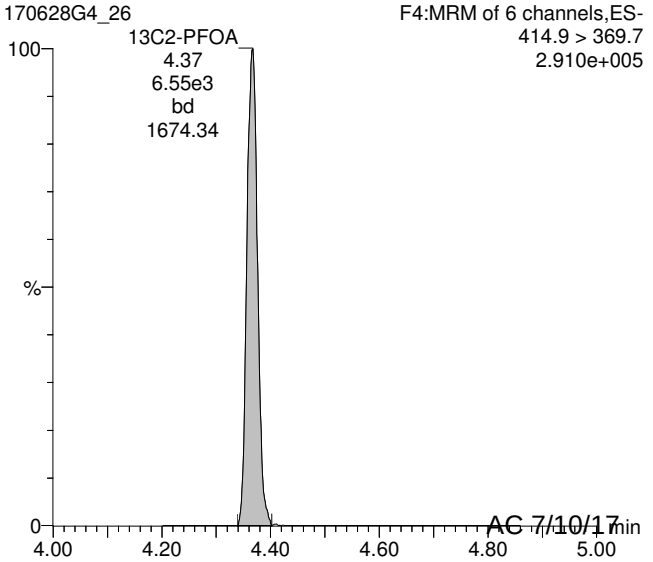


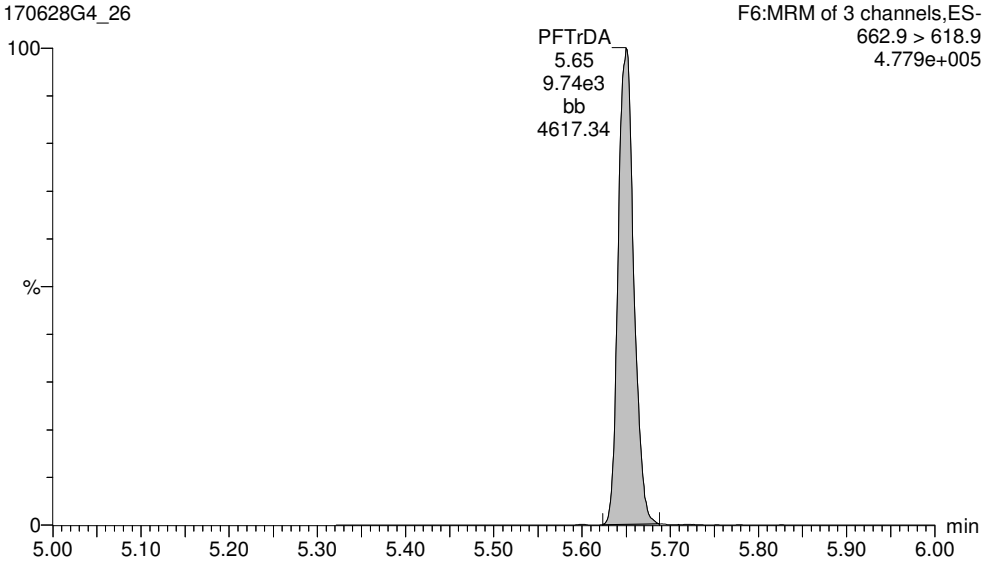
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

PFTrDA



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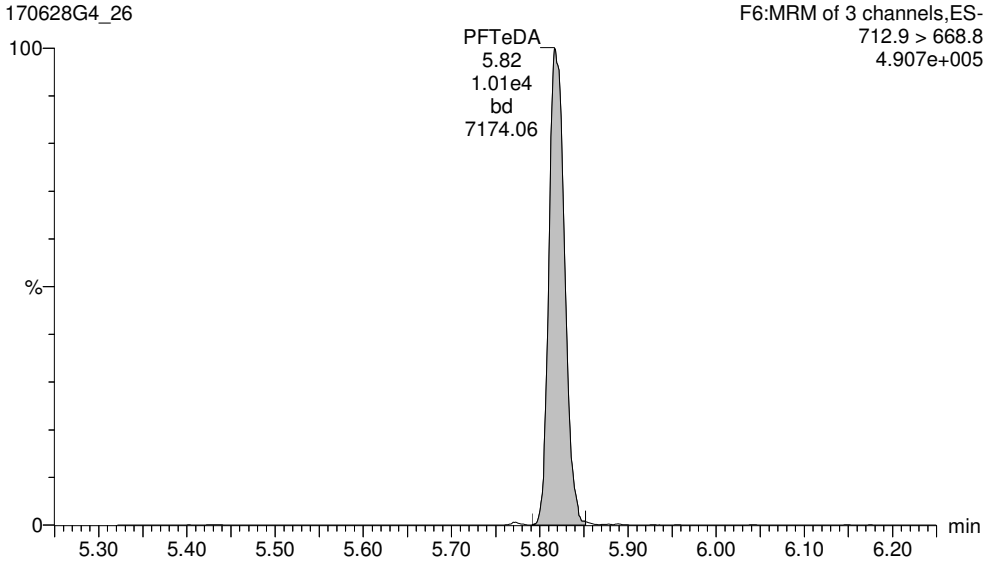
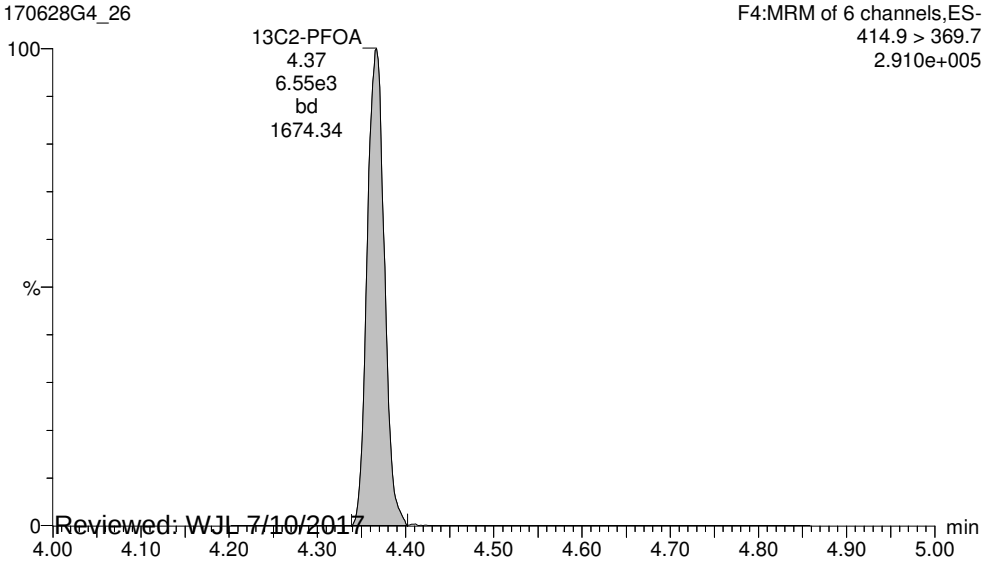


13C2-PFOA



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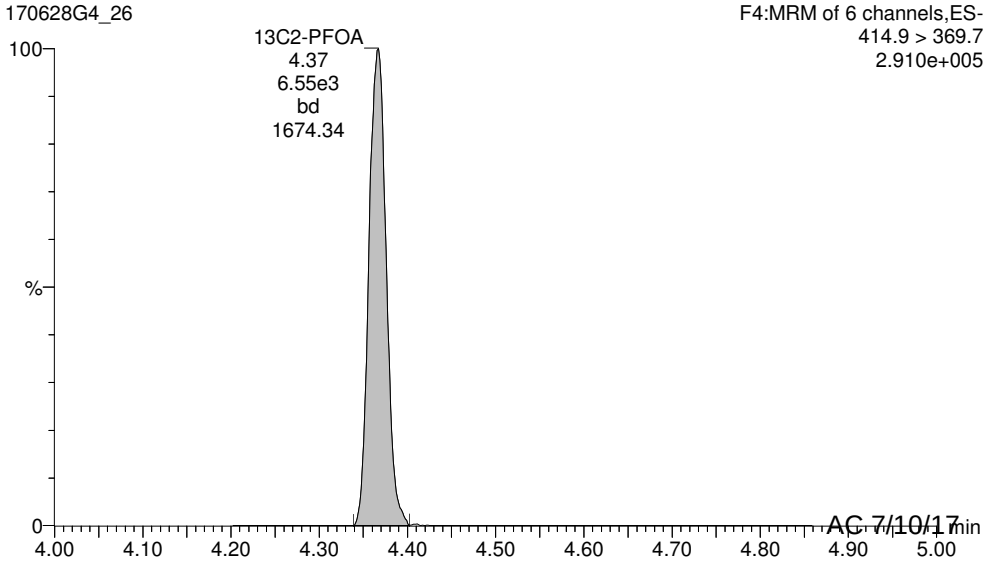


Reviewed: WJL 7/10/2017 AC 7/10/17

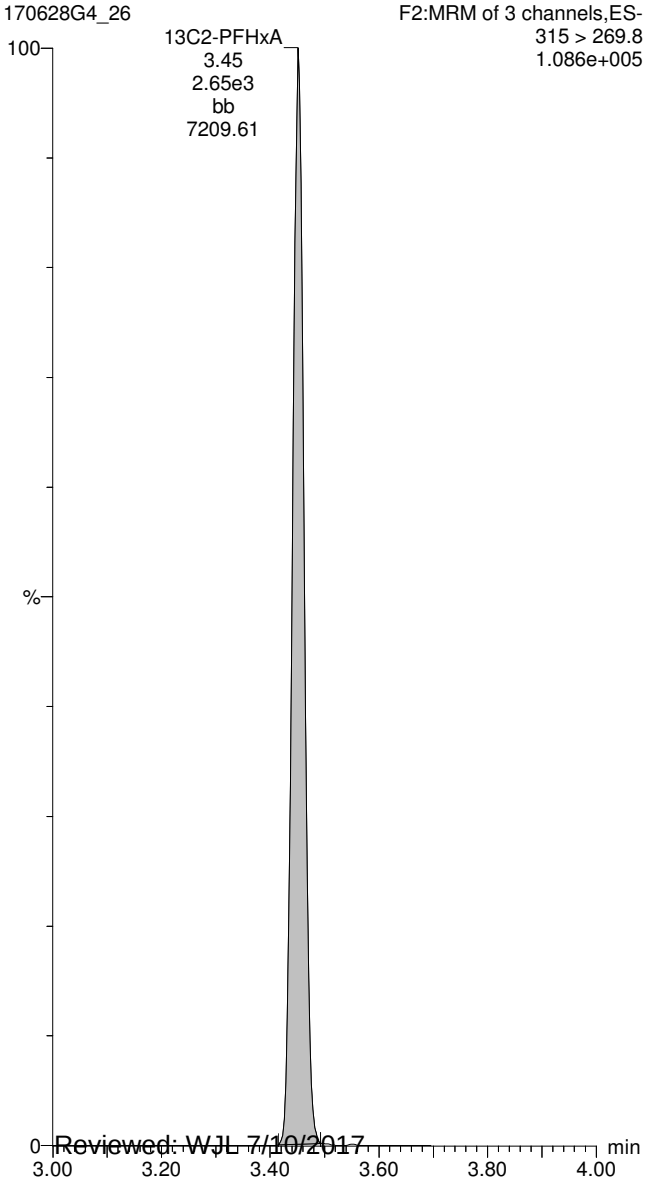
Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-26.qld

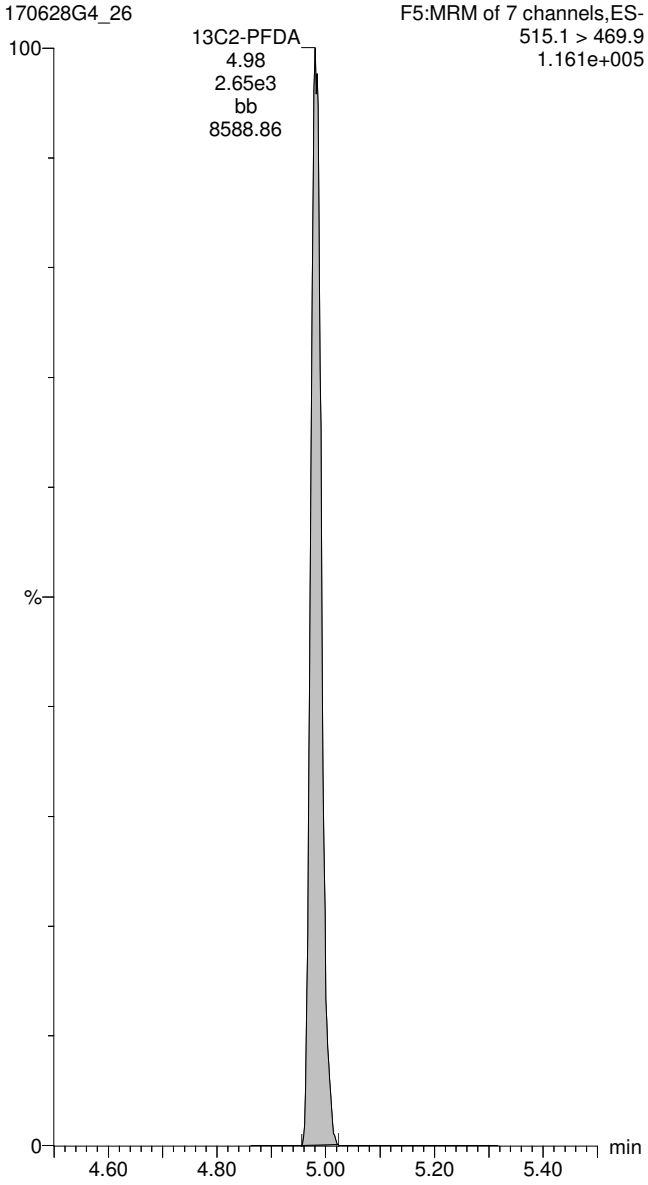
Last Altered: Monday, July 10, 2017 12:36:08 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:38:46 Pacific Daylight Time

ID: B7F0113-MSD1 LFSMD 0.28029, Description: LFSMD, Name: 170628G4_26, Date: 28-Jun-2017, Time: 23:34:54, Instrument: , Lab: , User:

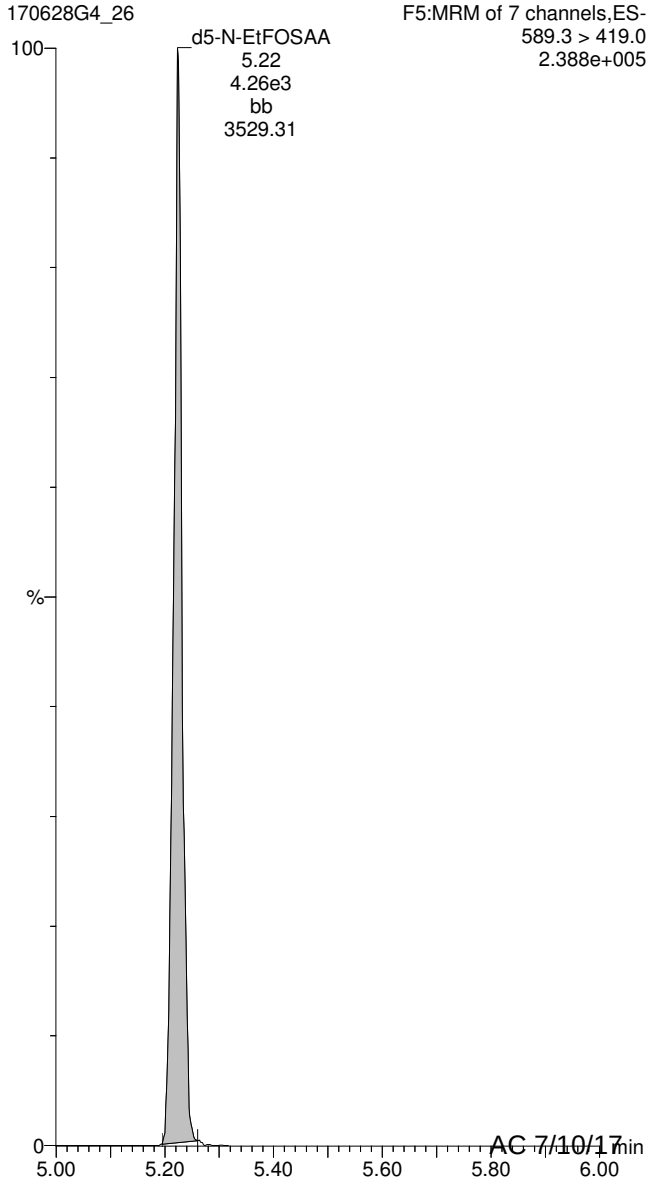
13C2-PFHxA



13C2-PFDA



d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.424e0	6.219e3		0.275	3.08	0.0663	
2	2	PFHxA	313.2 > 268.9	3.195e1	5.488e3		0.275	3.45	0.959	
3	3	PFHpA	363 > 318.9		5.488e3		0.275			
4	4	PFHxS	398.9 > 79.6		6.219e3		0.275			
5	5	PFOA	413 > 368.7	1.894e1	5.488e3		0.275	4.37	0.172	
6	6	PFNA	463 > 418.8		5.488e3		0.275			
7	7	PFOS	499 >79.9		6.219e3		0.275			
8	8	PFDA	513 > 468.8	3.213e1	5.488e3		0.275	4.98	0.308	
9	9	N-MeFOSAA	570.1 > 419.0		4.108e3		0.275			
10	10	N-EtFOSAA	584.2 >419.0		4.108e3		0.275			
11	11	PFUnA	563 > 518.9		5.488e3		0.275			
12	12	PFDoA	612.9 > 318.8		5.488e3		0.275			
13	13	PFTrDA	662.9 > 618.9		5.488e3		0.275			
14	14	PFTeDA	712.9 > 668.8		5.488e3		0.275			
15	15	13C2-PFHxA	315 > 269.8	2.420e3	5.488e3	0.429	0.275	3.45	37.4	103
16	16	13C2-PFDA	515.1 > 469.9	3.064e3	5.488e3	0.514	0.275	4.98	39.5	109
17	17	d5-N-EtFOSAA	589.3 > 419.0	3.734e3	4.108e3	1.065	0.275	5.22	124	85.4
18	18	13C2-PFOA	414.9 > 369.7	5.488e3	5.488e3	1.000	0.275	4.37	36.3	100
19	19	13C4-PFOS	503.0 > 79.9	6.219e3	6.219e3	1.000	0.275	4.76	104	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.108e3	4.108e3	1.000	0.275	5.10	145	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

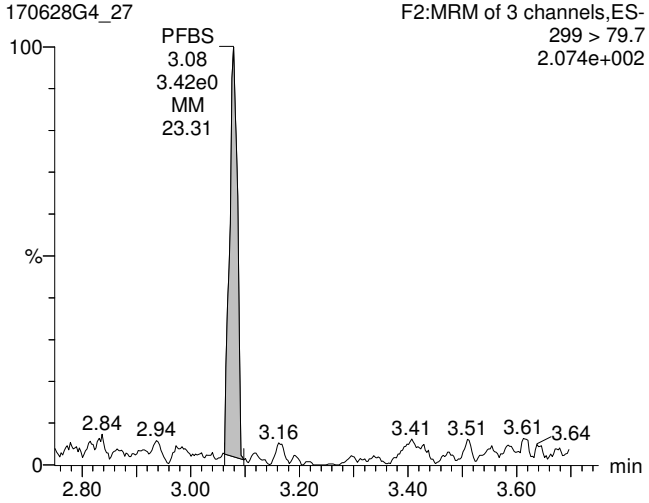
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

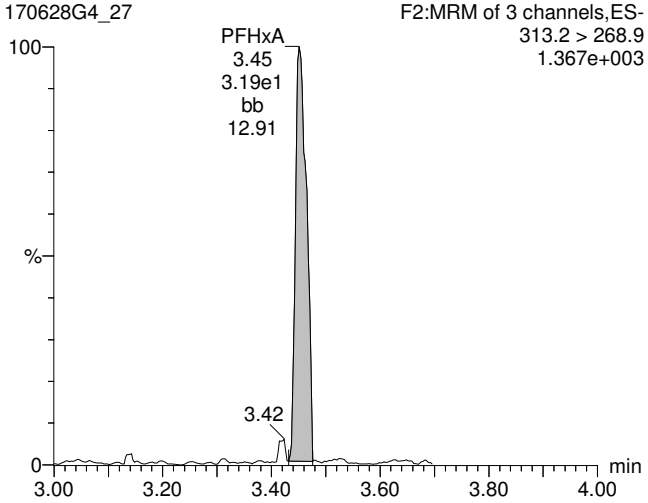
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

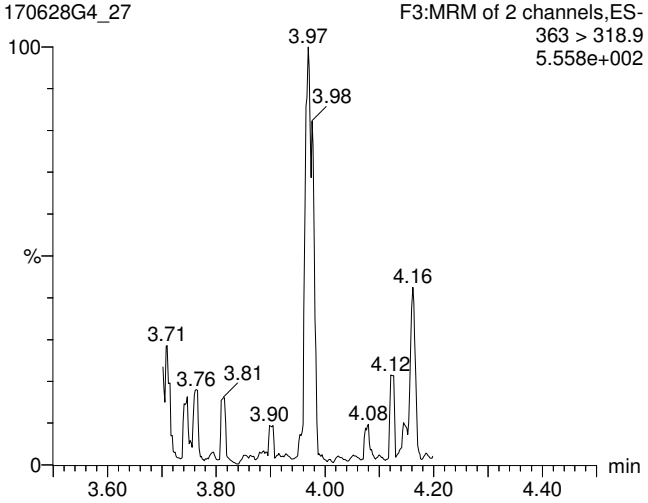
PFBS



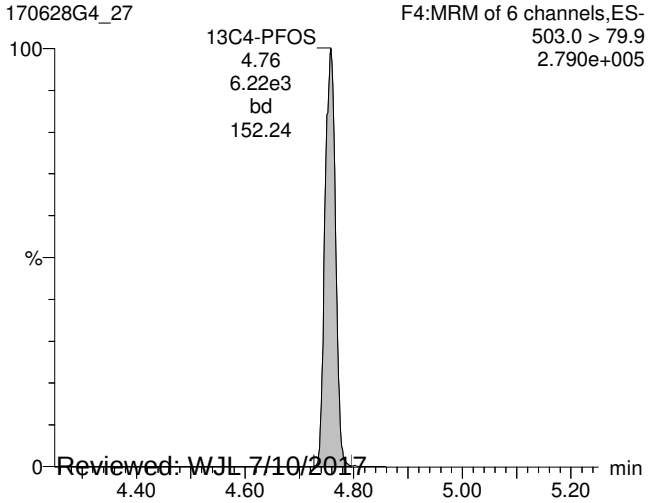
PFHxA



PFHpA



13C4-PFOS



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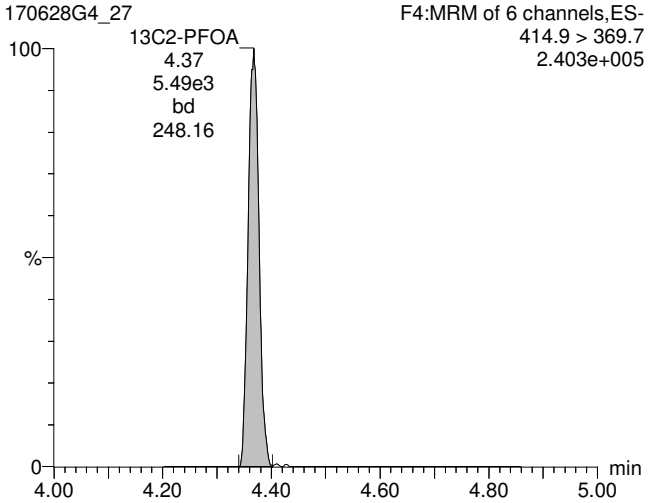

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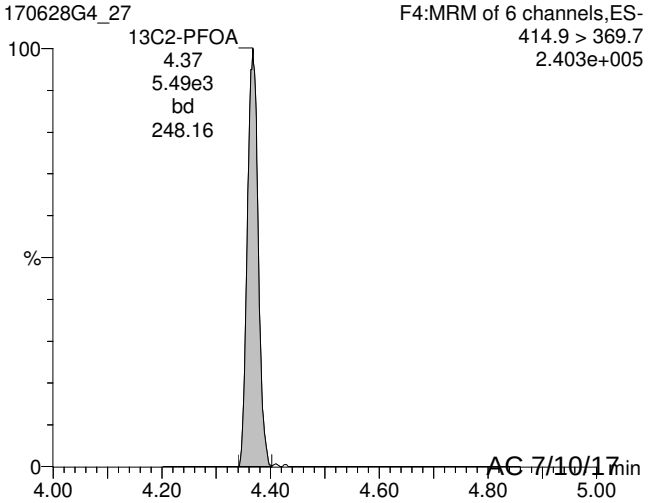


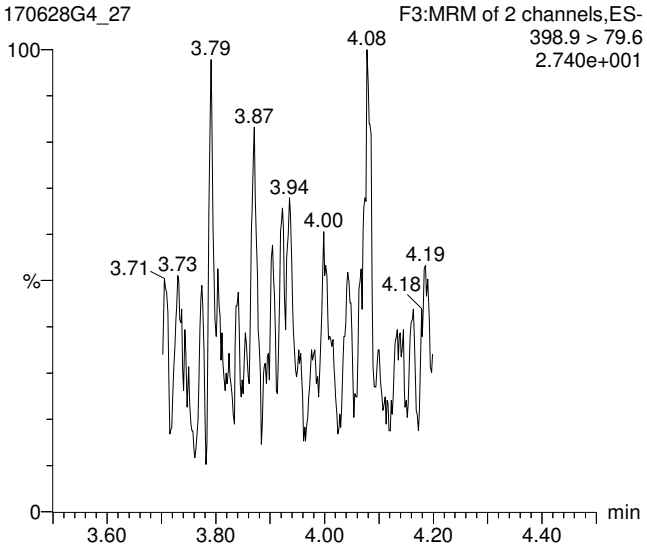
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

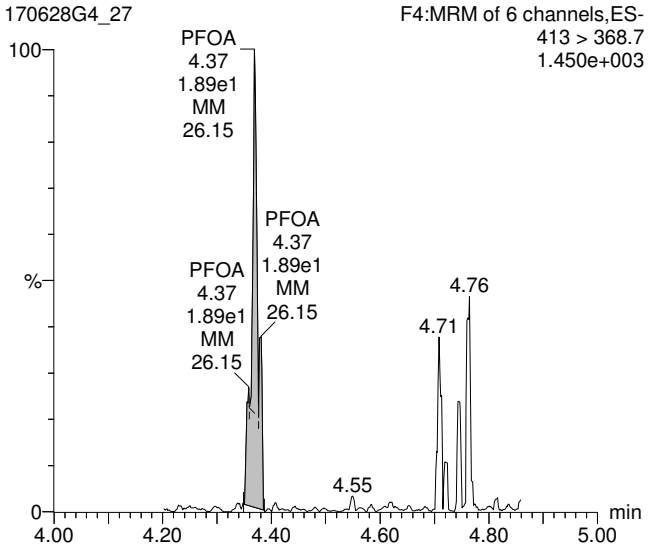
Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

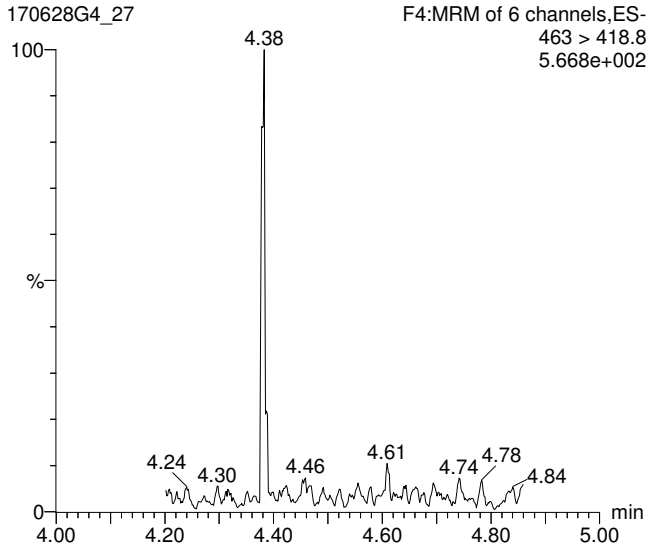
PFHxS



PFOA



PFNA



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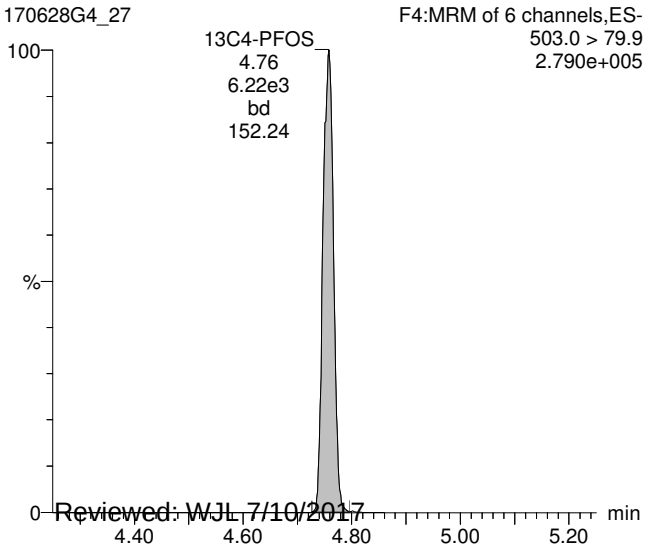

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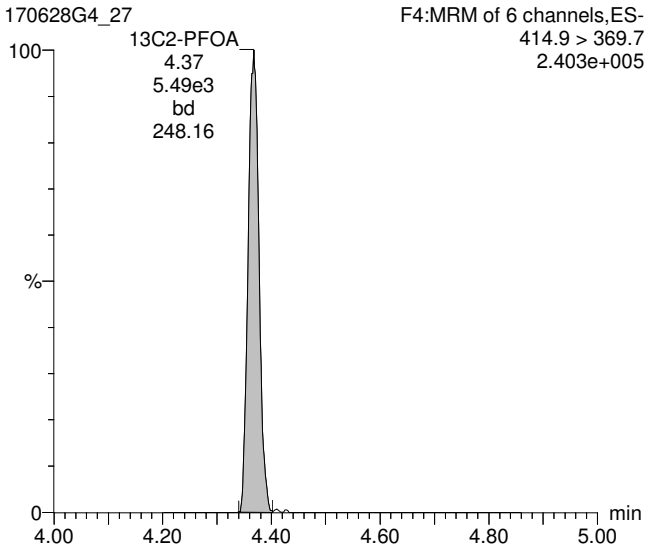

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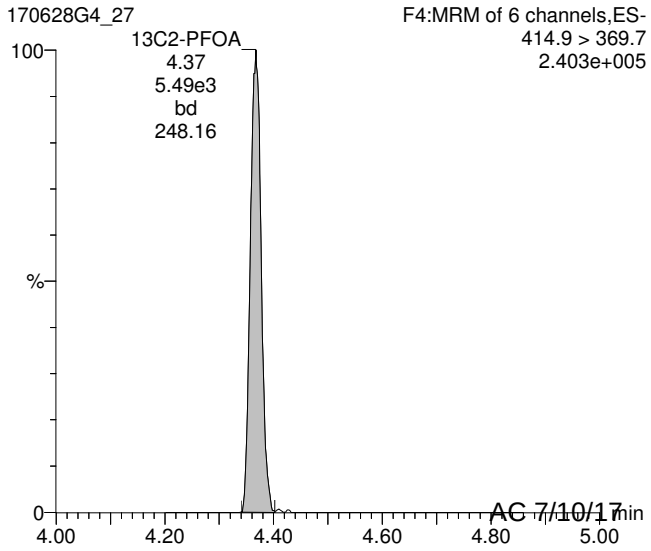


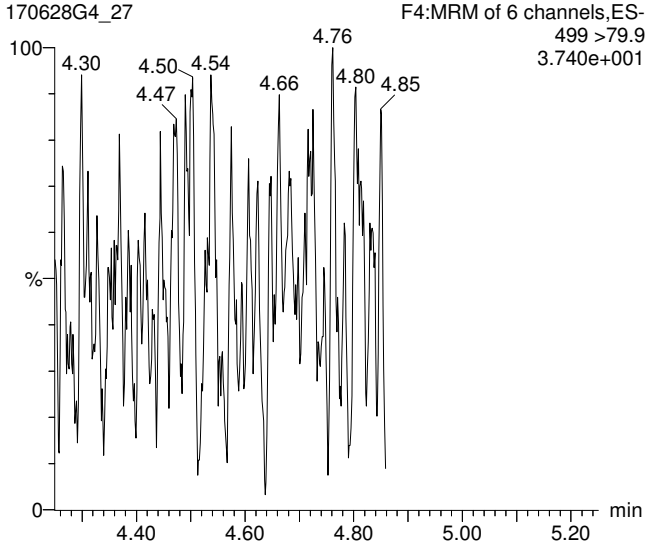
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

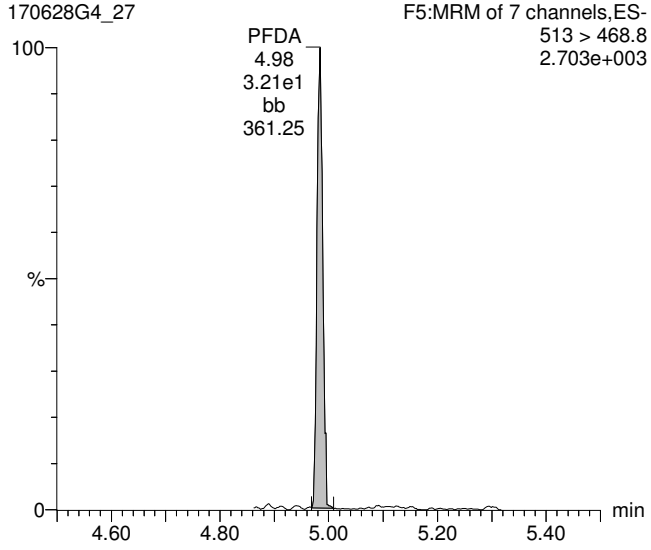
Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

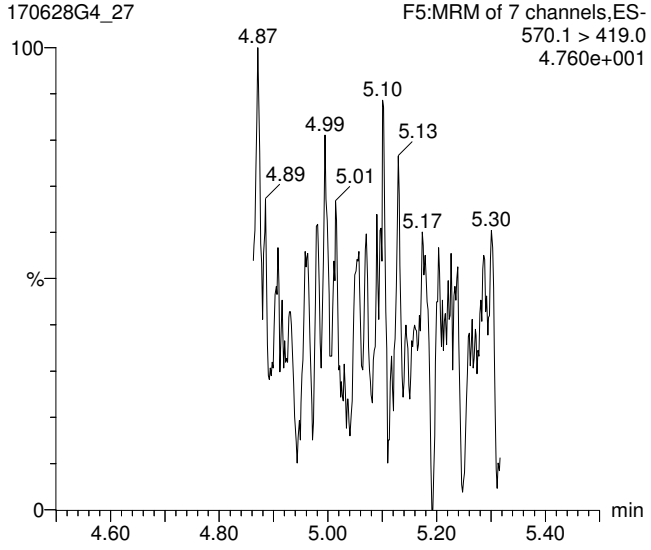
PFOS



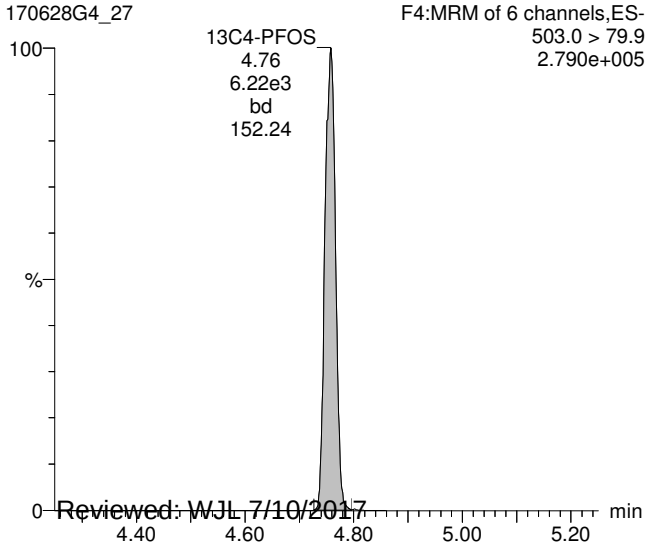
PFDA



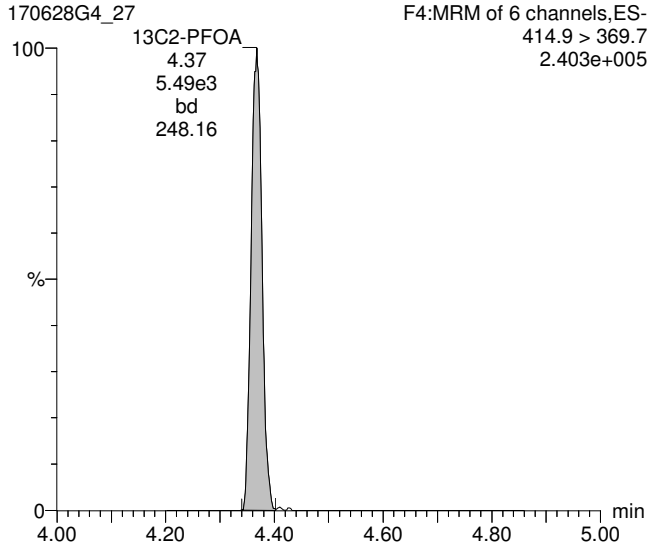
N-MeFOSAA



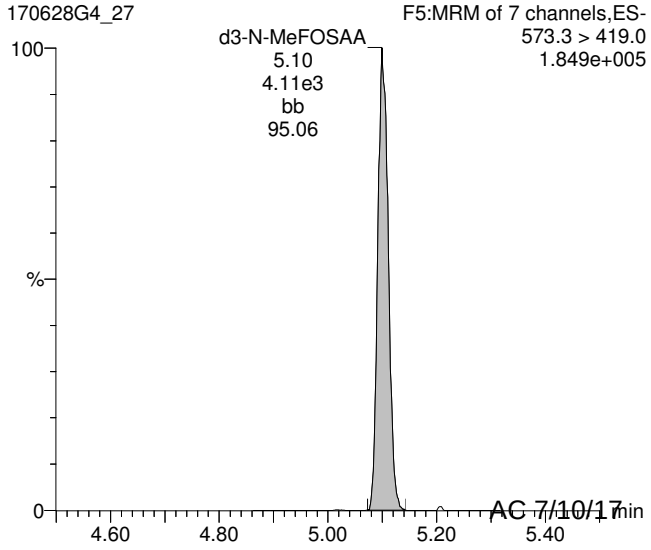
13C4-PFOS



13C2-PFOA



d3-N-MeFOSAA



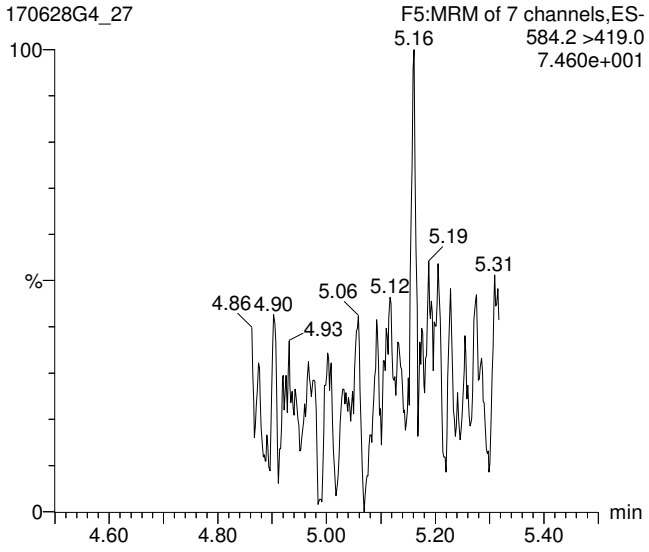
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

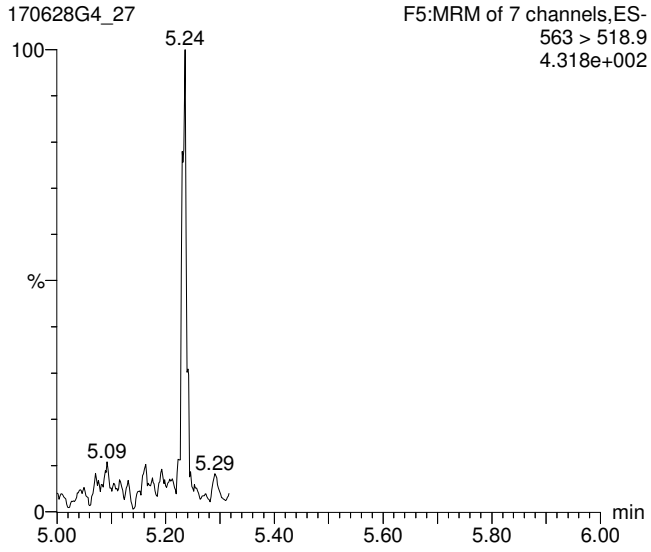
Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

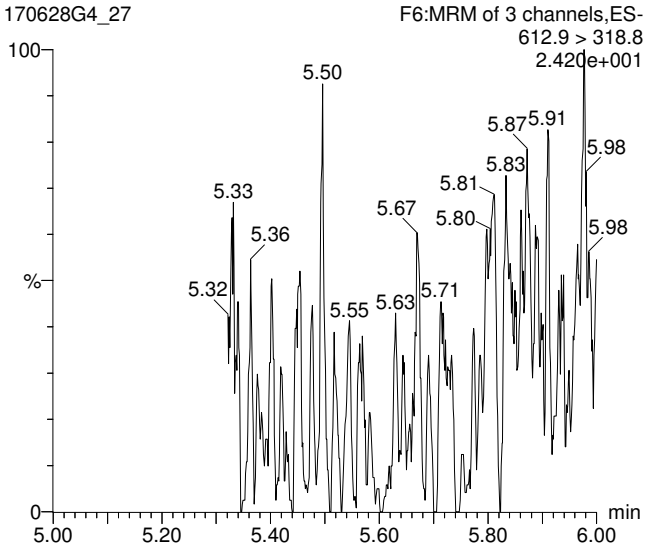
N-EtFOSAA



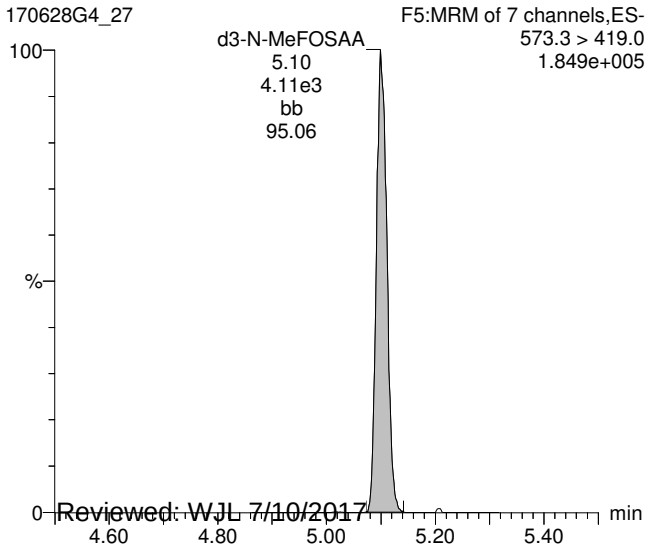
PFUnA



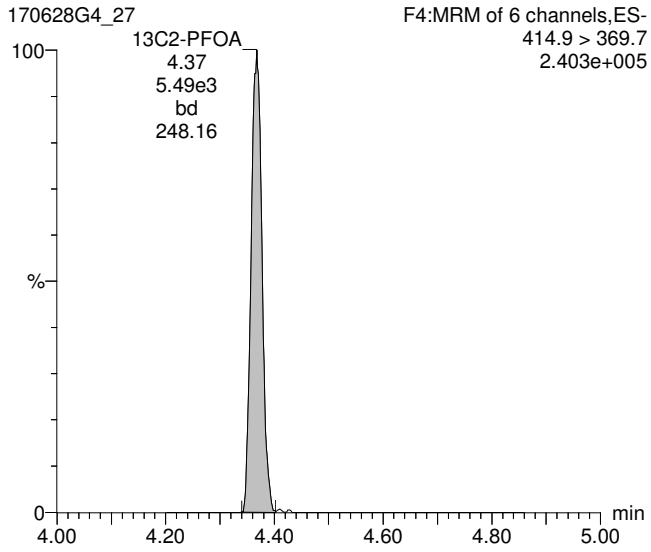
PFDoA



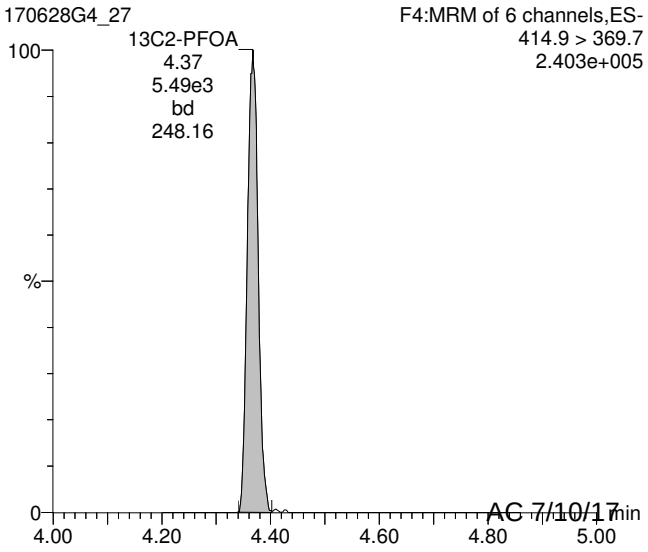
d3-N-MeFOSAA



13C2-PFOA



13C2-PFOA



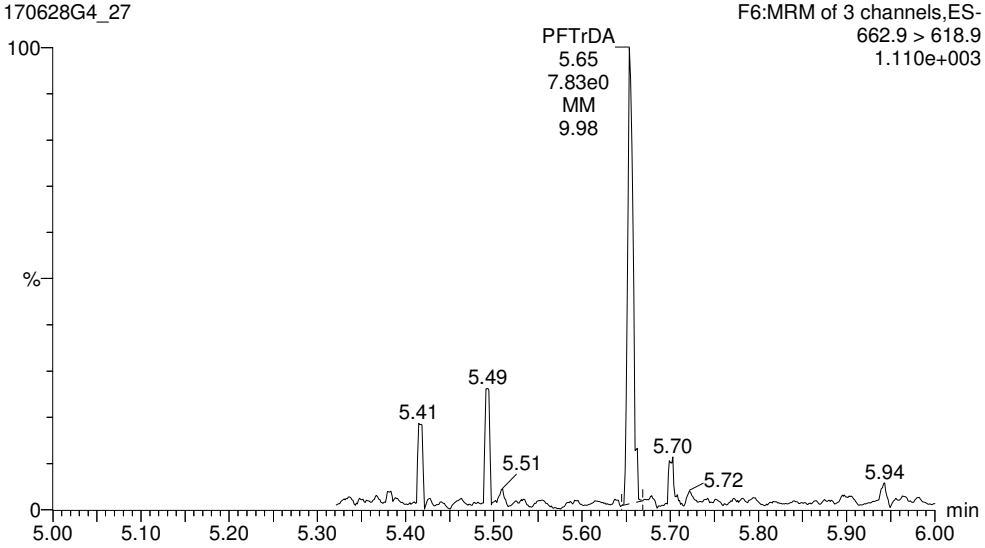
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

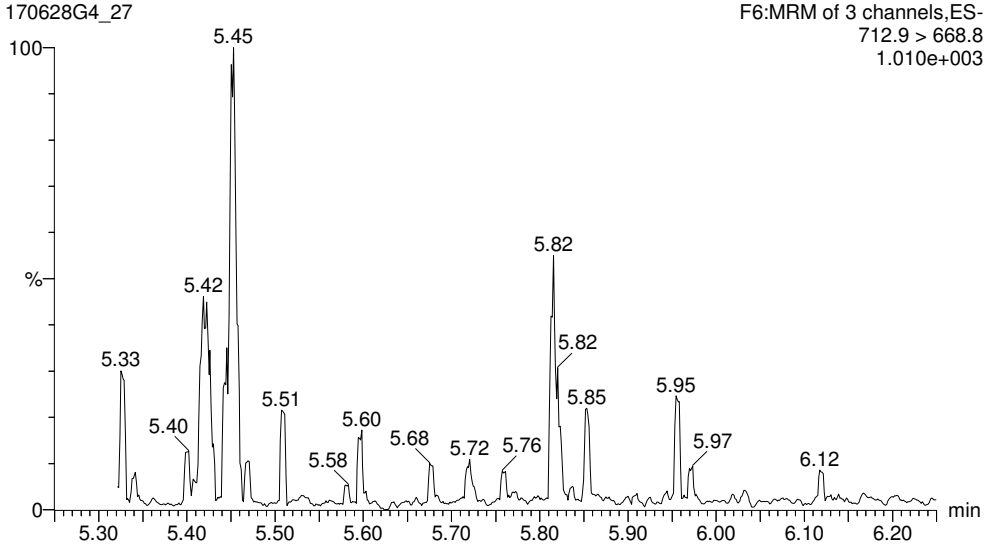
Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

PFTrDA



PFTeDA



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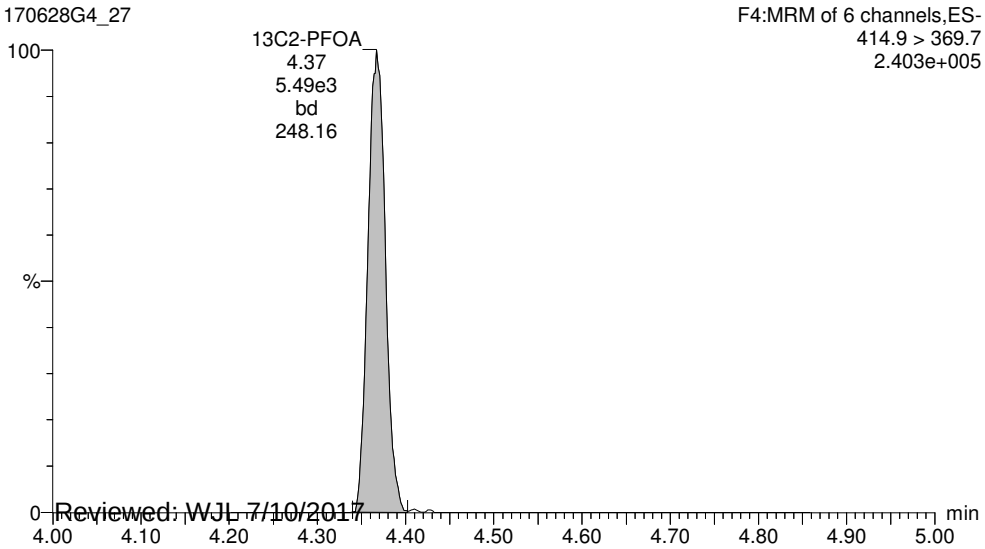
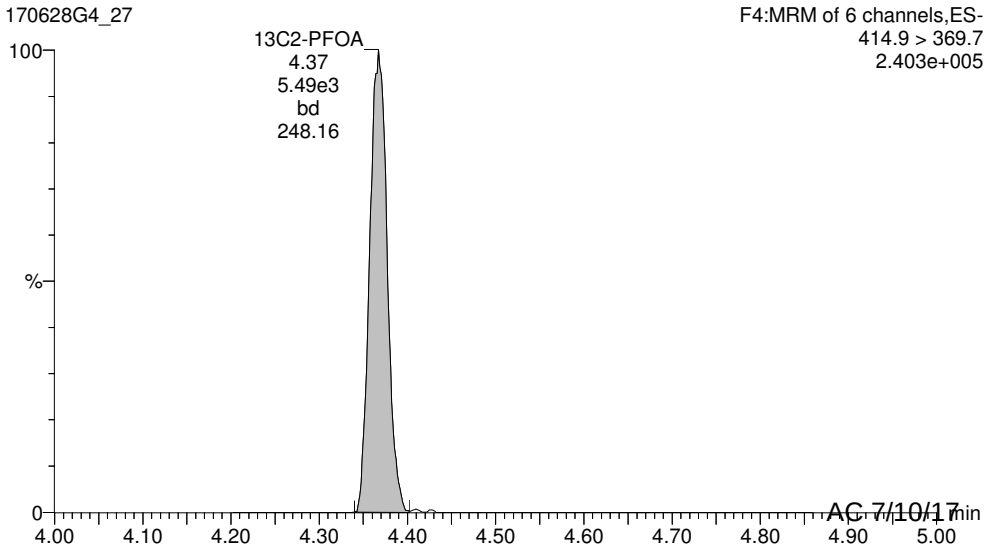


13C2-PFOA



Reviewed: WJL 7/10/2017 AC 7/10/17

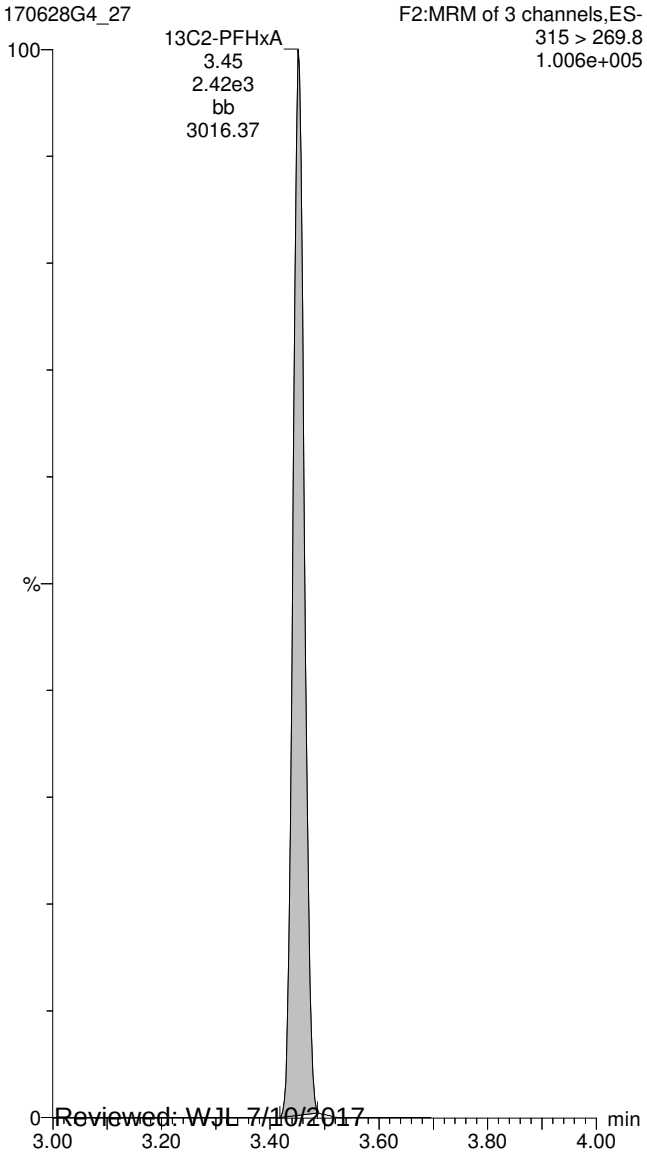
Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-27.qld

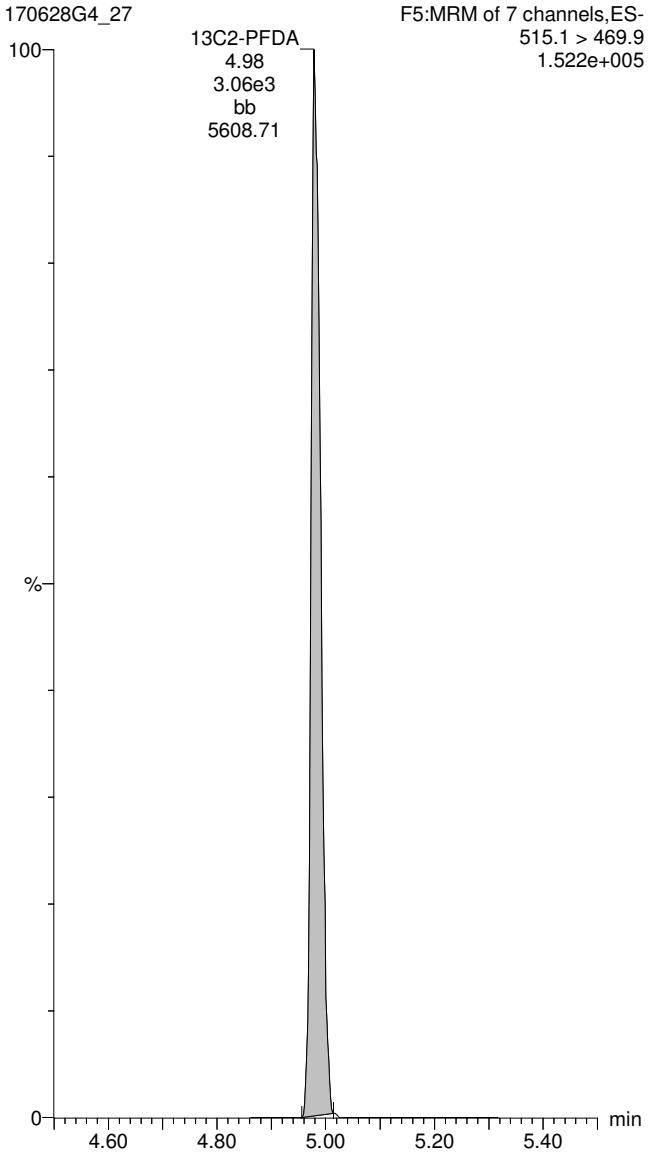
Last Altered: Monday, July 10, 2017 12:41:40 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:42:00 Pacific Daylight Time

ID: 1700759-10 Tower1-DW-20170622FD 0.27517, Description: Tower1-DW-20170622FD, Name: 170628G4_27, Date: 28-Jun-2017, Time: 23:47:17, Instrument: , Lab: , User:

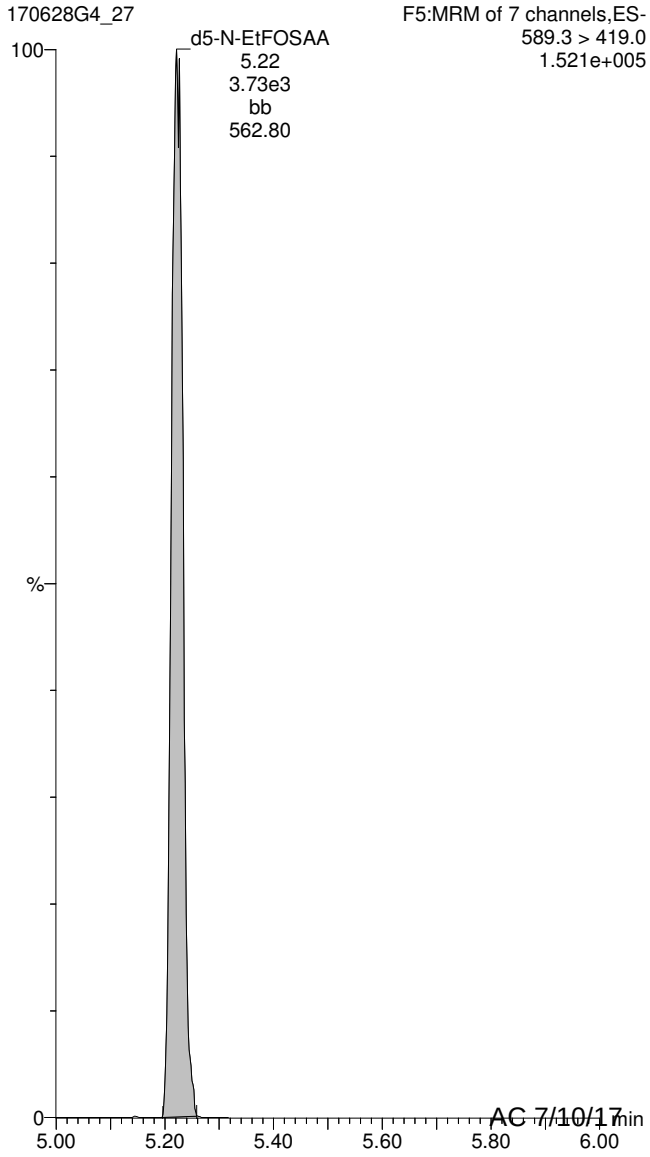
13C2-PFHxA



13C2-PFDA



d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22

	#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7		7.277e3		0.285			
2	2	PFHxA	313.2 > 268.9	2.296e1	5.841e3		0.285	3.46	0.627	
3	3	PFHpA	363 > 318.9		5.841e3		0.285			
4	4	PFHxS	398.9 > 79.6		7.277e3		0.285			
5	5	PFOA	413 > 368.7	3.167e1	5.841e3		0.285	4.37	0.262	
6	6	PFNA	463 > 418.8		5.841e3		0.285			
7	7	PFOS	499 >79.9		7.277e3		0.285			
8	8	PFDA	513 > 468.8	2.408e1	5.841e3		0.285	4.98	0.210	
9	9	N-MeFOSAA	570.1 > 419.0		4.100e3		0.285			
10	10	N-EtFOSAA	584.2 >419.0		4.100e3		0.285			
11	11	PFUnA	563 > 518.9		5.841e3		0.285			
12	12	PFDoA	612.9 > 318.8		5.841e3		0.285			
13	13	PFTrDA	662.9 > 618.9		5.841e3		0.285			
14	14	PFTeDA	712.9 > 668.8		5.841e3		0.285			
15	15	13C2-PFHxA	315 > 269.8	2.673e3	5.841e3	0.429	0.285	3.46	37.5	107
16	16	13C2-PFDA	515.1 > 469.9	3.082e3	5.841e3	0.514	0.285	4.98	36.1	103
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.168e3	4.100e3	1.065	0.285	5.22	134	95.5
18	18	13C2-PFOA	414.9 > 369.7	5.841e3	5.841e3	1.000	0.285	4.37	35.1	100
19	19	13C4-PFOS	503.0 > 79.9	7.277e3	7.277e3	1.000	0.285	4.76	101	100
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.100e3	4.100e3	1.000	0.285	5.10	141	100

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

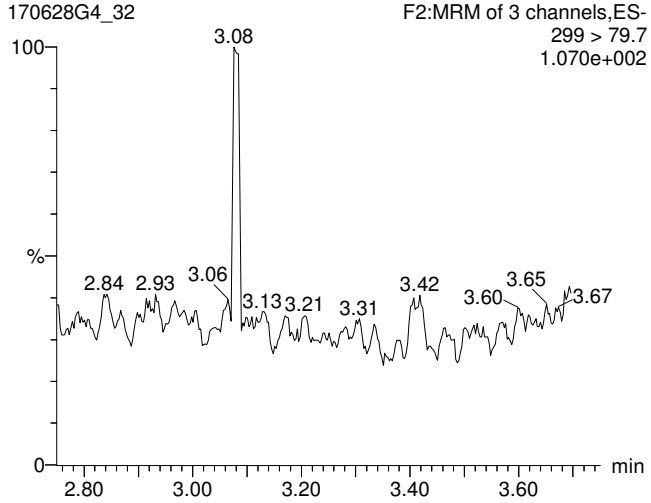
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

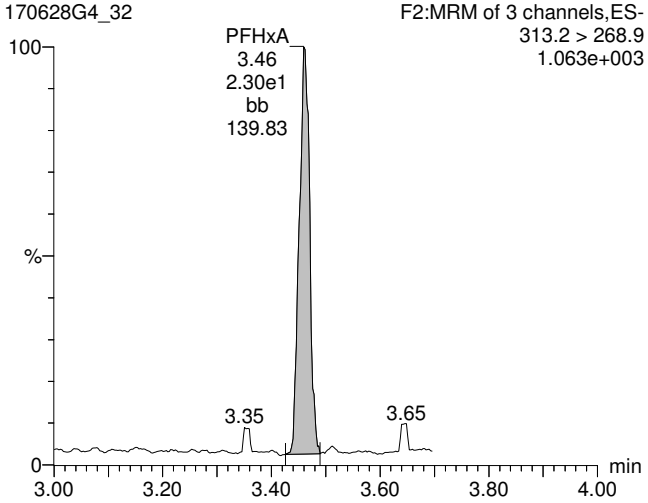
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

PFBS



PFHxA



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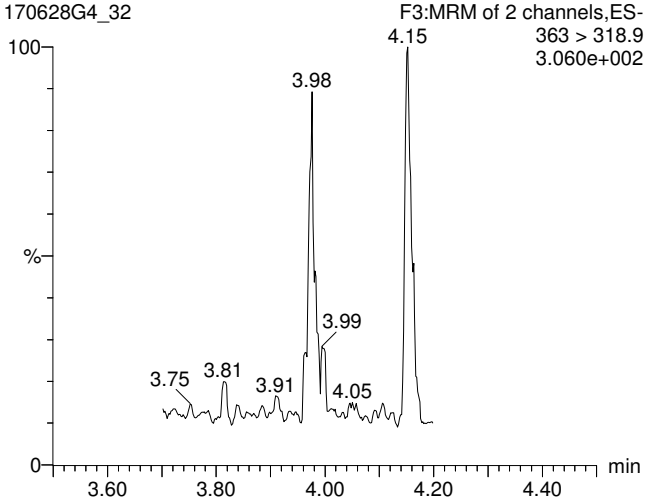
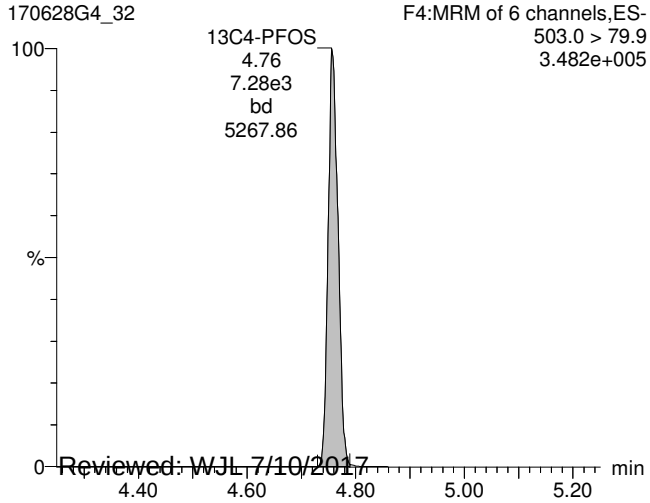


13C4-PFOS



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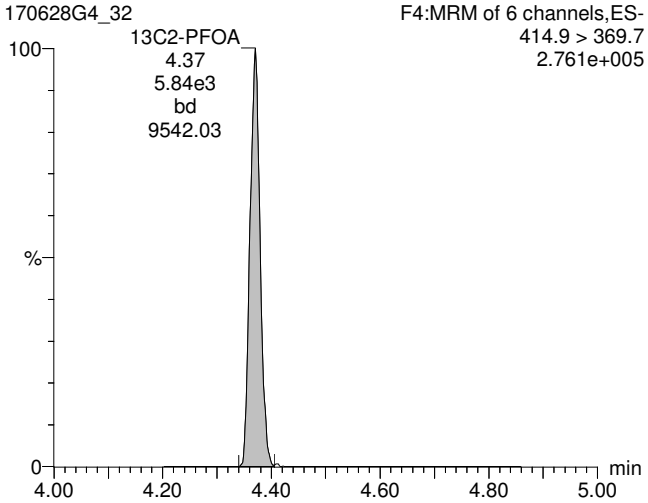

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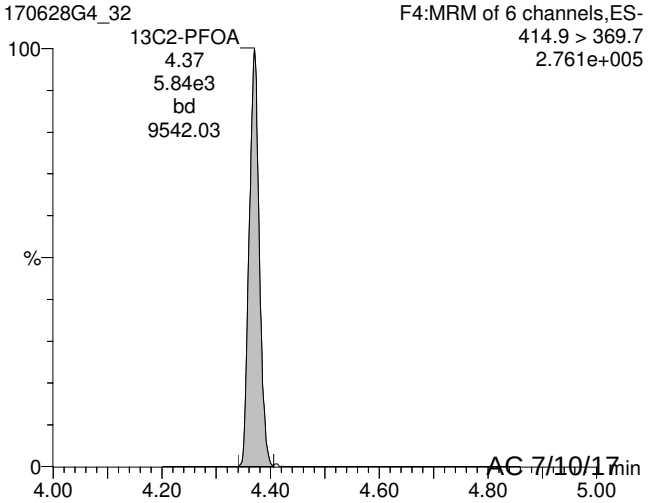

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

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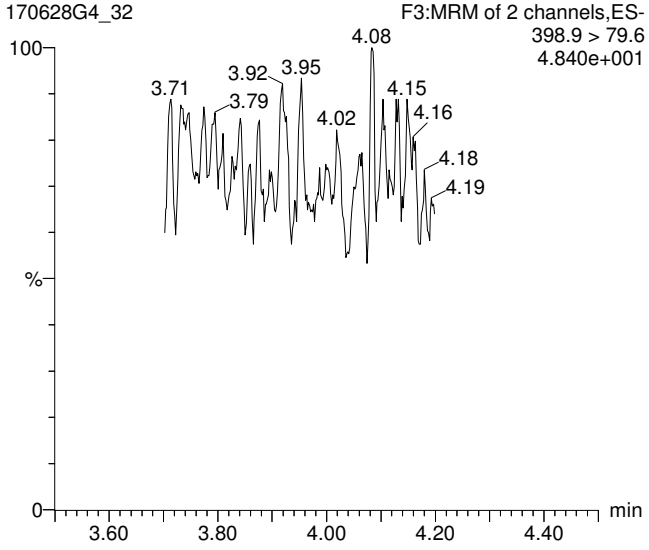
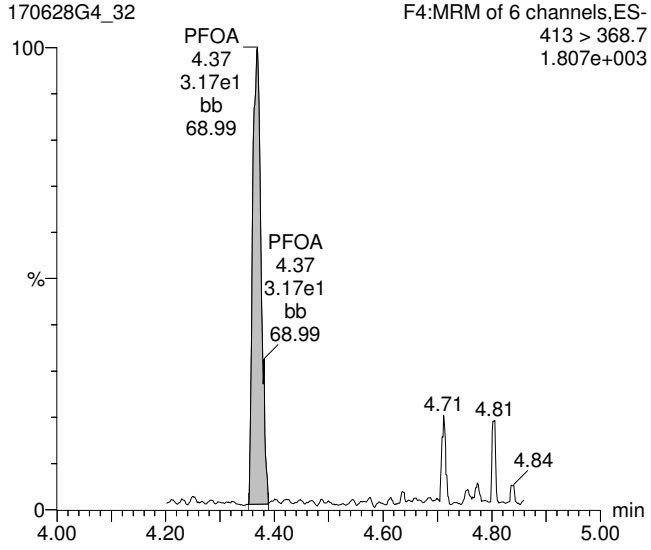


PFOA



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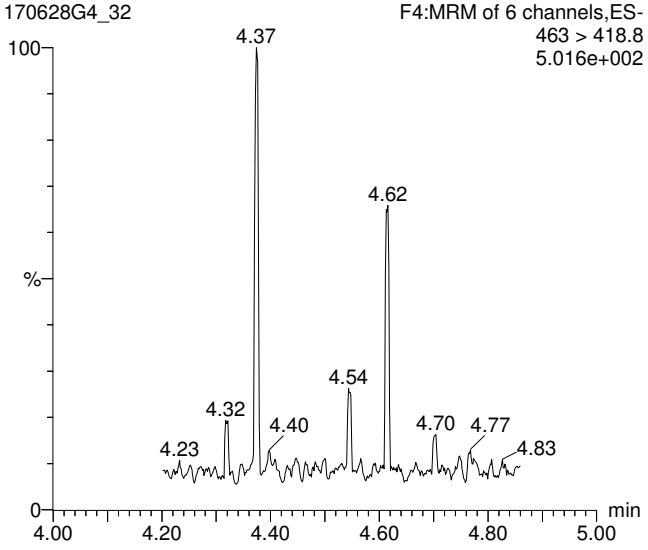

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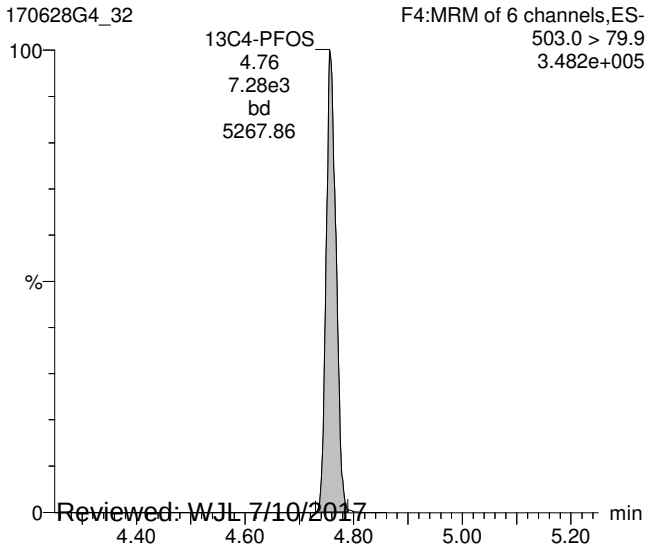

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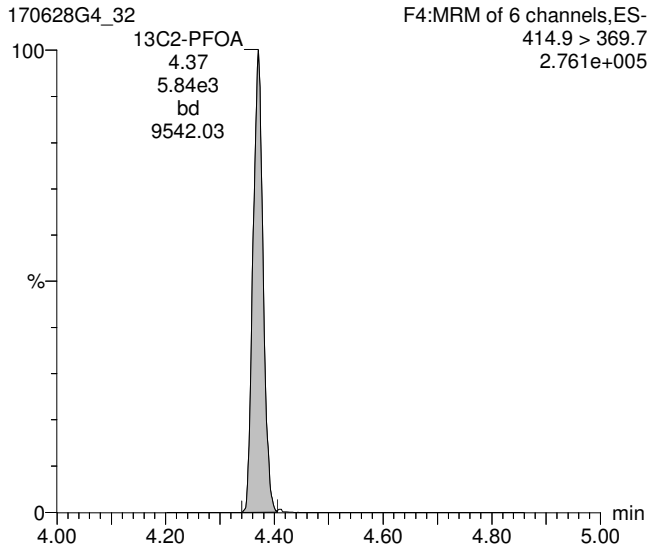

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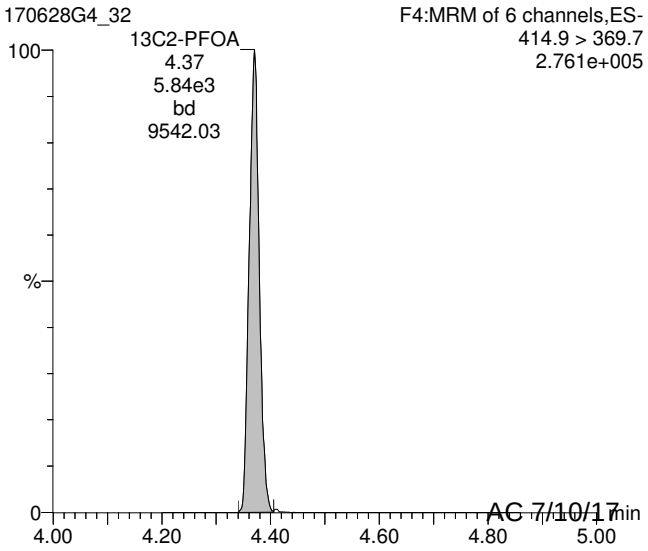


Reviewed: WJL 7/10/2017 AC 7/10/17

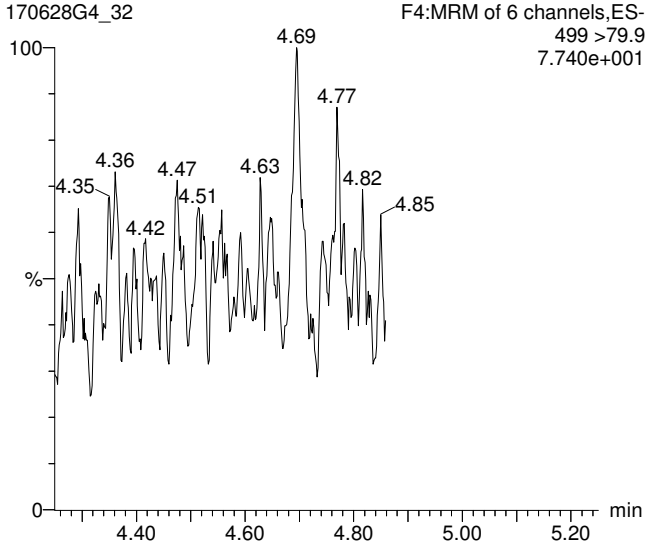
Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

PFOS



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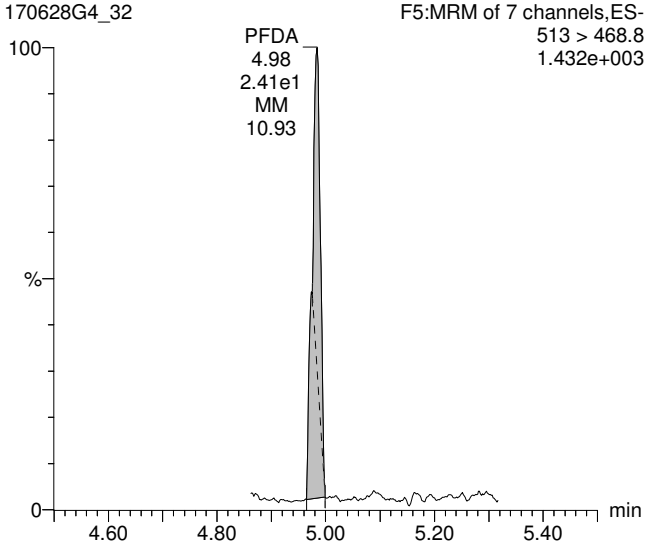

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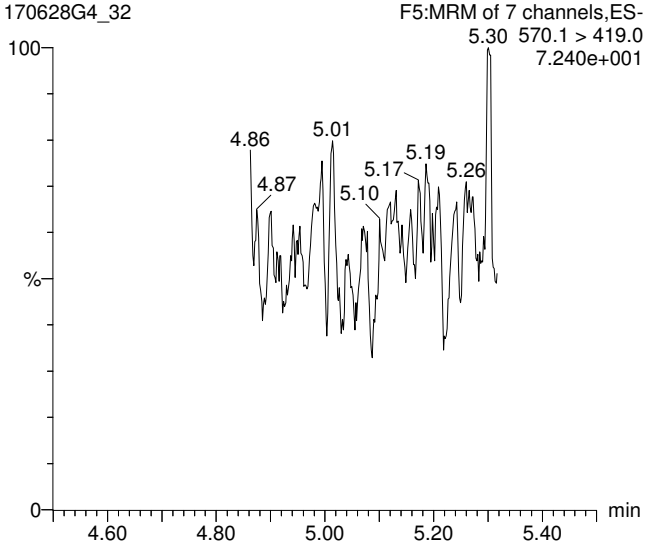

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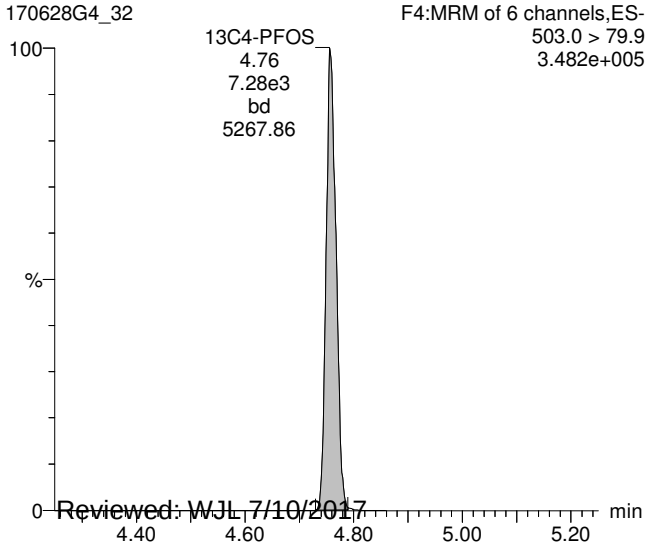

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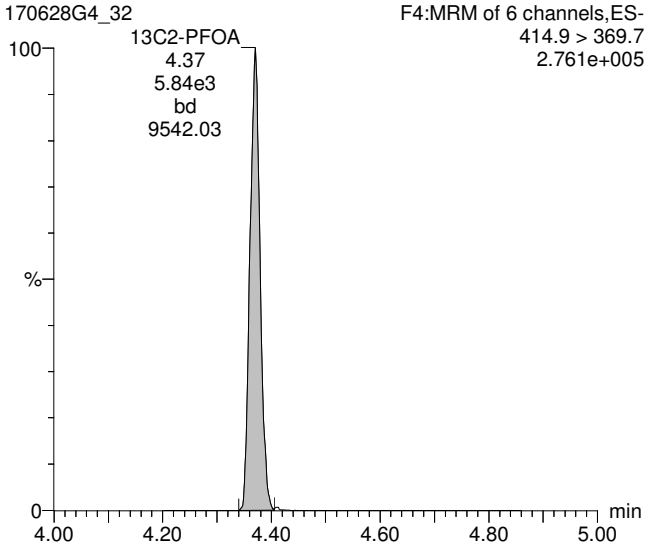

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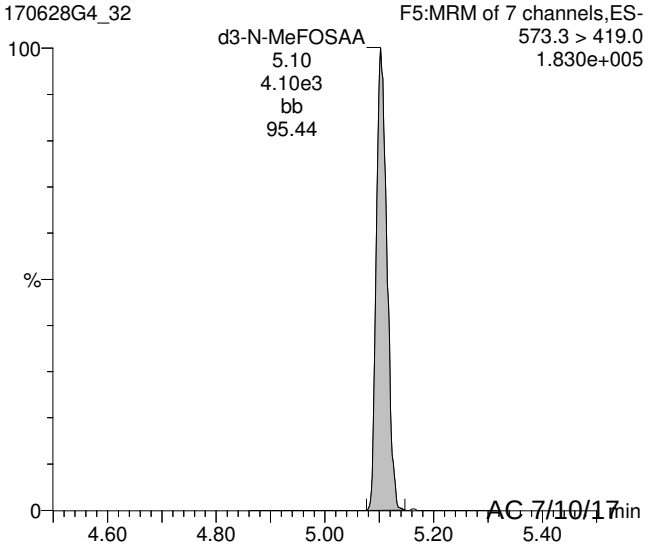


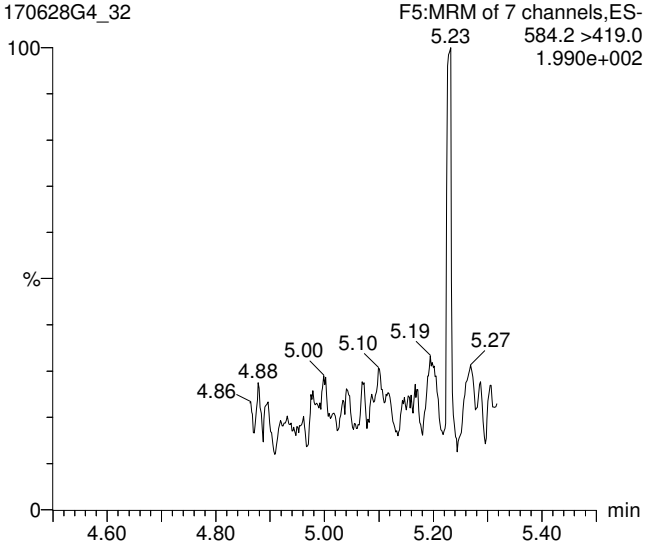
Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

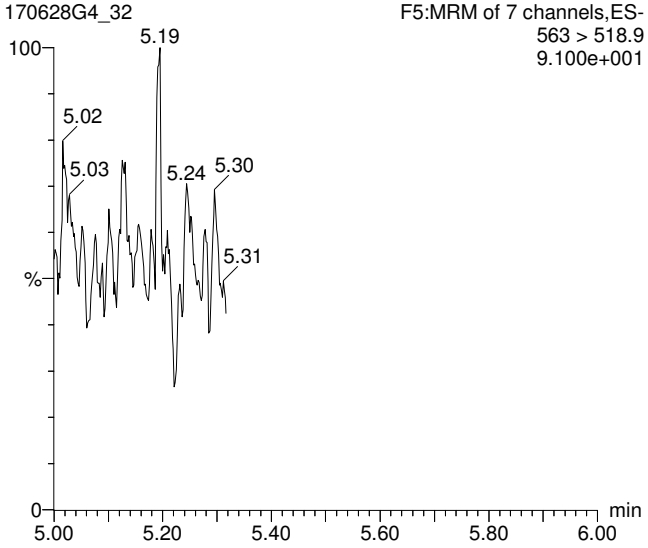
Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

N-EtFOSAA



PFUnA



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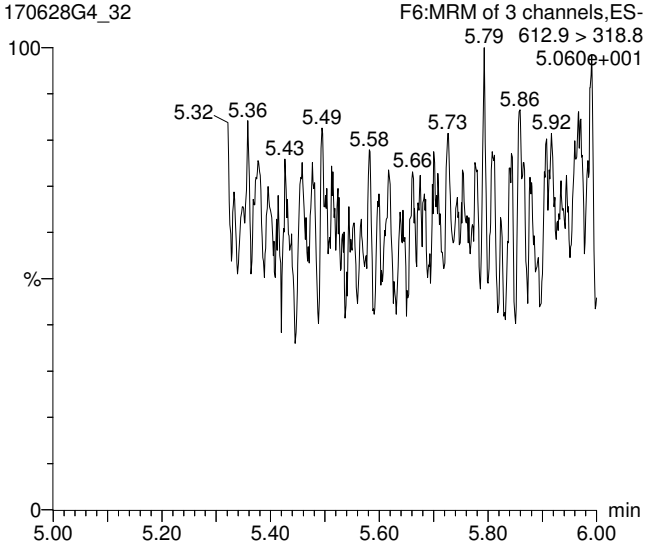
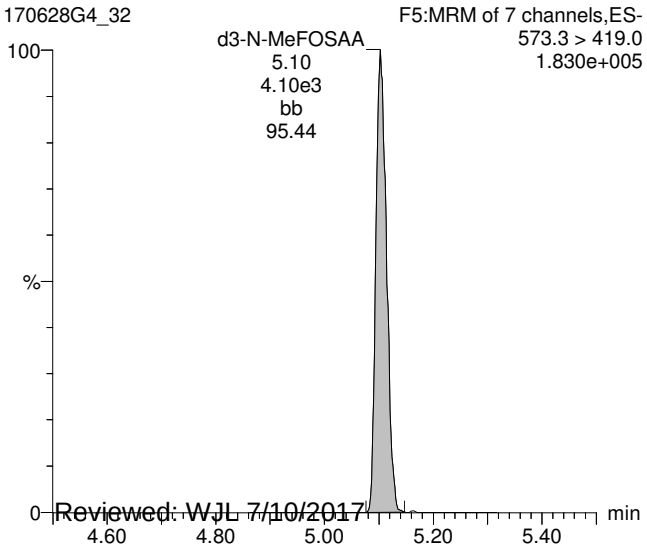


d3-N-MeFOSAA



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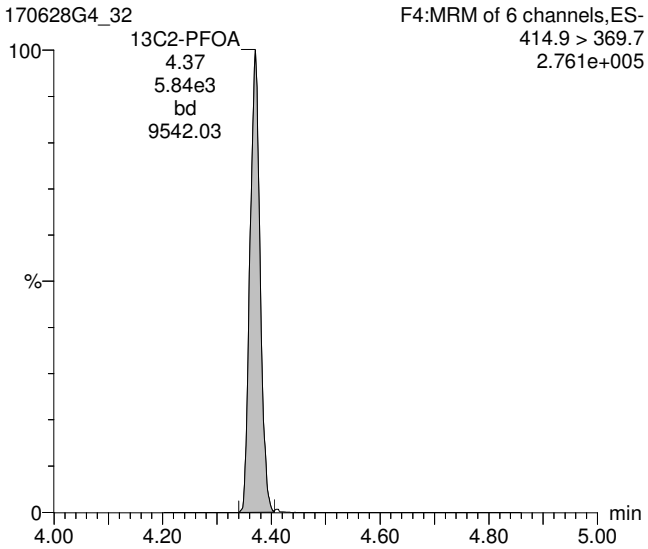

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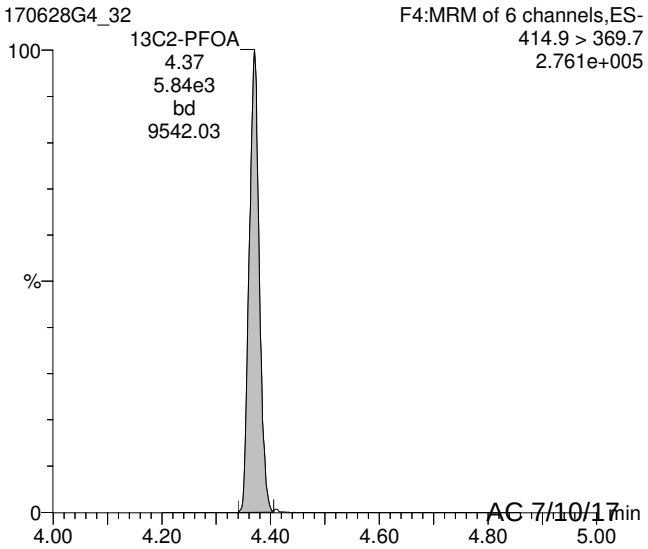

Reviewed: WJL 7/10/2017 AC 7/10/17

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

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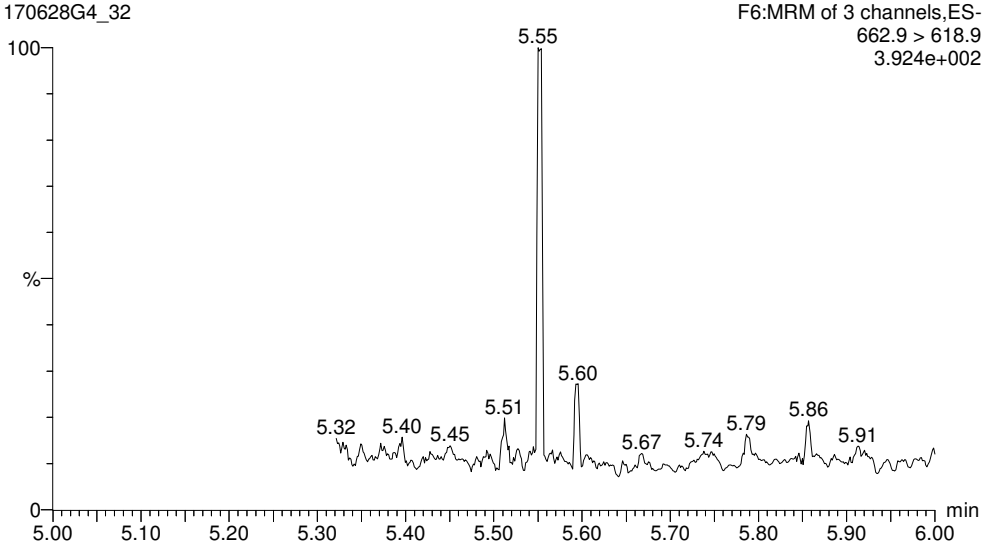

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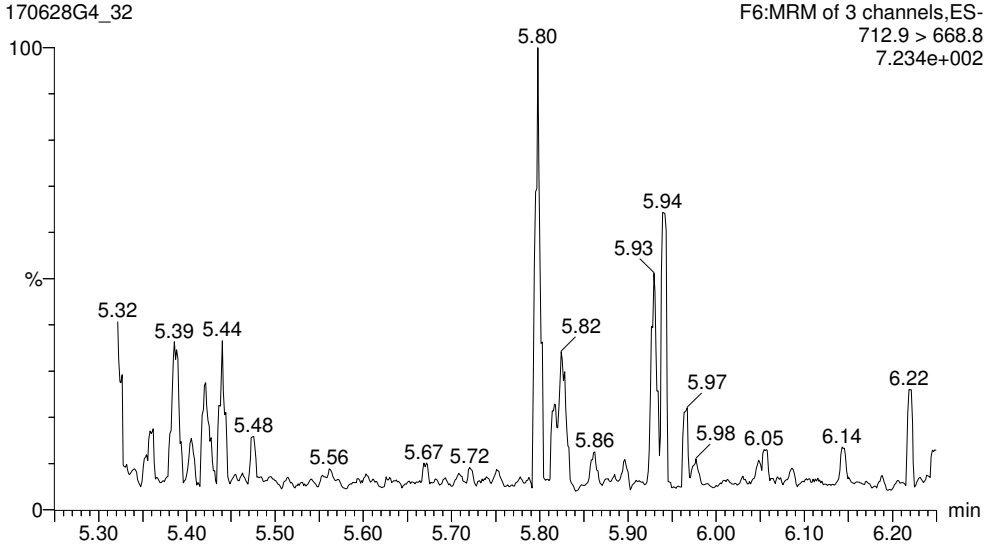

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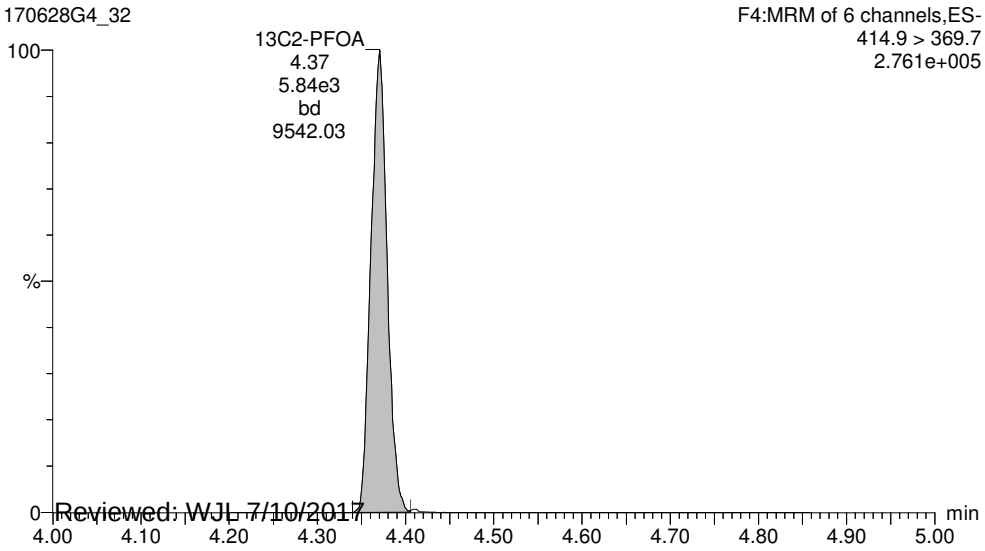

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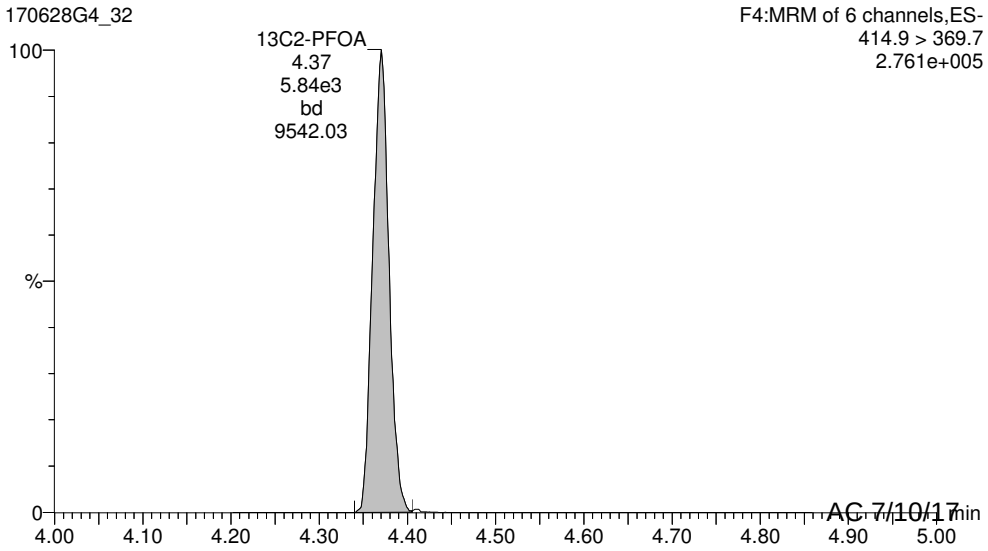

Reviewed: WJL 7/10/2017 AC 7/10/17

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-32.qld

Last Altered: Monday, July 10, 2017 12:50:02 Pacific Daylight Time
Printed: Monday, July 10, 2017 12:50:37 Pacific Daylight Time

ID: 1700759-12 Tower1 - FRB-20170622FD 0.28451, Description: Tower1 - FRB-20170622FD, Name: 170628G4_32, Date: 29-Jun-2017, Time: 00:50:22, Instrument: , Lab: , User:

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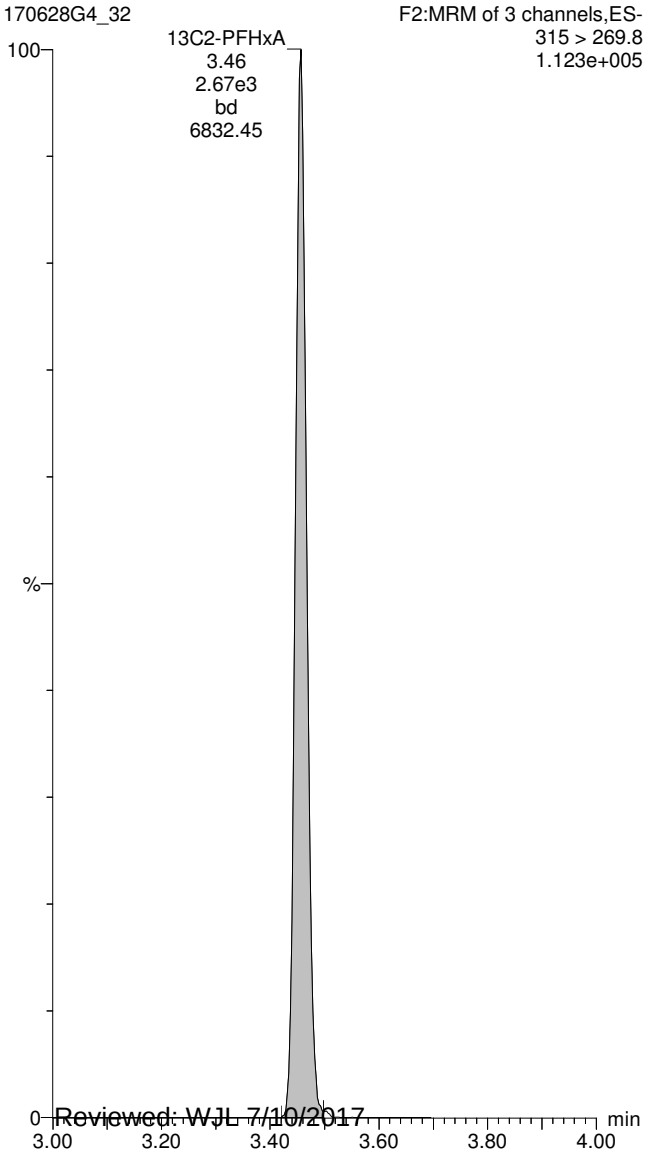

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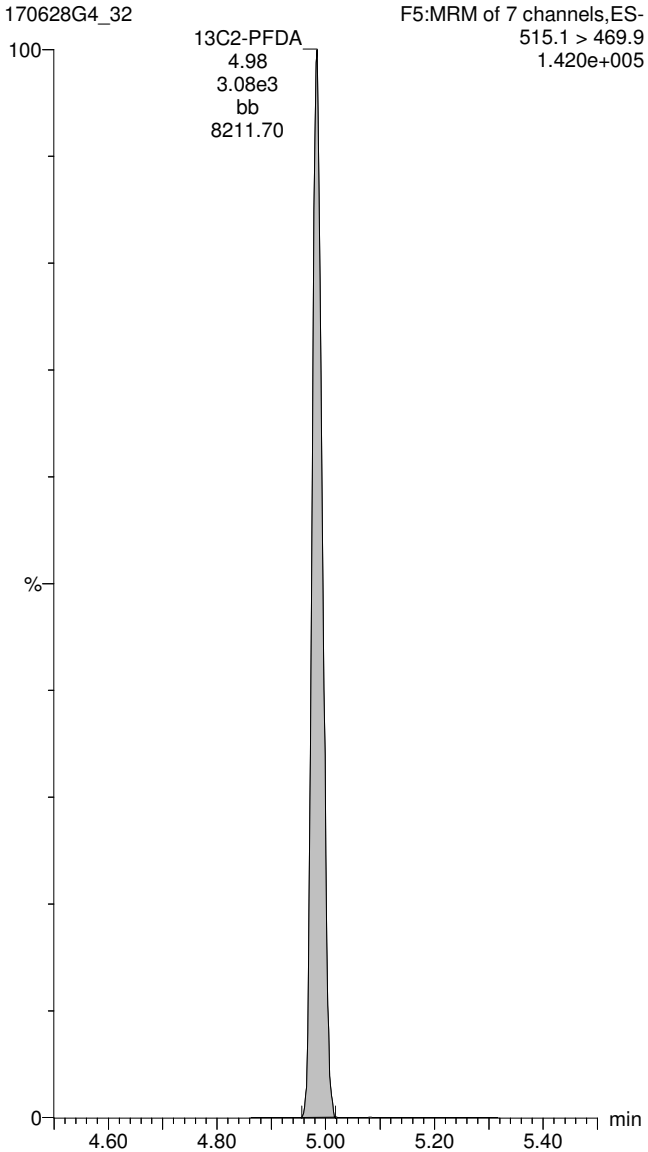
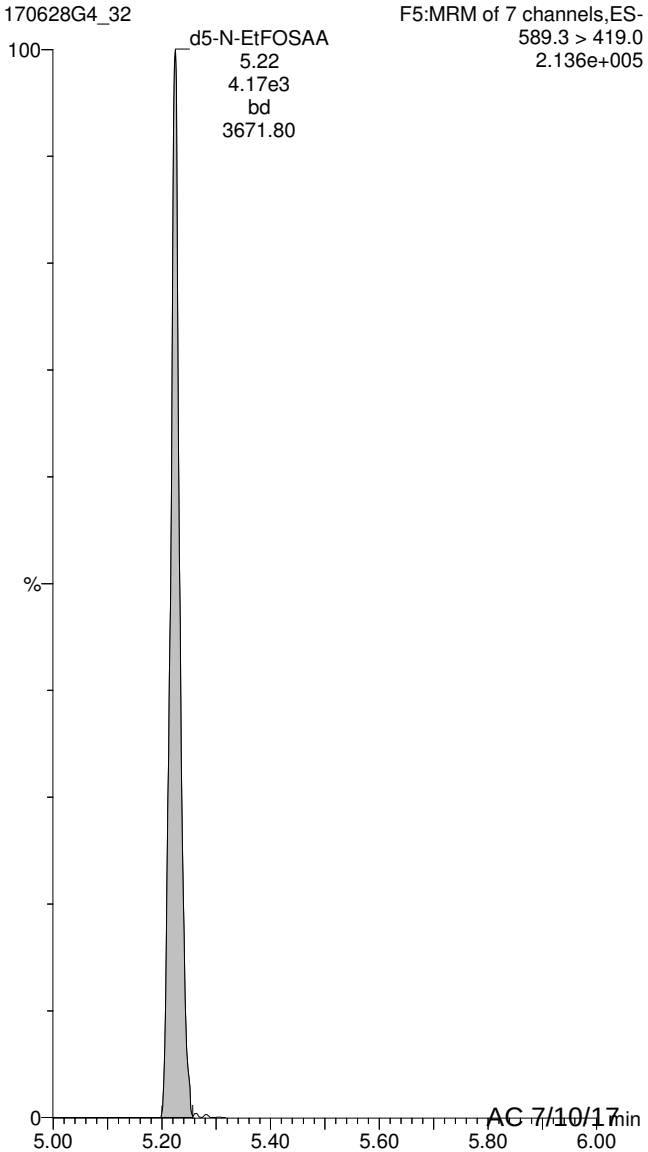


d5-N-EtFOSAA



Reviewed: WJL 7/10/2017 AC 7/10/17

CONTINUING CALIBRATION

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-29.qld

Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:26 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	3.42e3	7.81e3		1.000	3.07	14.5	109.3
2	2	PFHxA	313.2 > 268.9	2.40e3	7.39e3		1.000	3.45	14.7	98.0
3	3	PFHpA	363 > 318.9	8.92e3	7.39e3		1.000	3.97	15.1	100.4
4	4	PFHxS	398.9 > 79.6	3.79e3	7.81e3		1.000	4.09	13.8	100.7
5	5	PFOA	413 > 368.7	7.45e3	7.39e3		1.000	4.37	13.8	92.3
6	6	PFNA	463 > 418.8	1.11e4	7.39e3		1.000	4.70	15.8	105.4
7	7	PFOS	499 >79.9	1.16e3	7.81e3		1.000	4.76	14.3	102.8
8	8	PFDA	513 > 468.8	6.29e3	7.39e3		1.000	4.98	12.9	86.2
9	9	N-MeFOSAA	570.1 > 419.0	3.60e3	4.51e3		1.000	5.11	16.3	108.7
10	10	N-EtFOSAA	584.2 >419.0	2.17e3	4.51e3		1.000	5.23	11.5	76.7
11	11	PFUnA	563 > 518.9	6.25e3	7.39e3		1.000	5.23	14.2	94.8
12	12	PFDoA	612.9 > 318.8	1.17e3	7.39e3		1.000	5.45	14.9	99.5
13	13	PFTrDA	662.9 > 618.9	9.97e3	7.39e3		1.000	5.65	13.4	89.6
14	14	PFTeDA	712.9 > 668.8	1.05e4	7.39e3		1.000	5.82	14.5	96.8
15	15	13C2-PFHxA	315 > 269.8	3.13e3	7.39e3	0.429	1.000	3.45	9.87	98.7
16	16	13C2-PFDA	515.1 > 469.9	3.70e3	7.39e3	0.514	1.000	4.99	9.74	97.4
17	17	d5-N-EtFOSAA	589.3 > 419.0	5.81e3	4.51e3	1.065	1.000	5.22	48.4	121.1
18	18	13C2-PFOA	414.9 > 369.7	7.39e3	7.39e3	1.000	1.000	4.37	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	7.81e3	7.81e3	1.000	1.000	4.76	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.51e3	4.51e3	1.000	1.000	5.10	40.0	100.0

70-130

lm 7/10/17

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Monday, July 10, 2017 11:46:01 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:46:13 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

Compound name: PFBS

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1	170628G4_1	IPA	28-Jun-17	18:20:48
2	170628G4_2	ST170628G4-1 PFC CS-3 17F1604	28-Jun-17	18:33:13
3	170628G4_3	ST170628G4-2 PFC CS-2 17F1605	28-Jun-17	18:45:35
4	170628G4_4	ST170628G4-3 PFC CS-1 17F1607	28-Jun-17	18:58:38
5	170628G4_5	ST170628G4-4 PFC CS0 17F1608	28-Jun-17	19:11:31
6	170628G4_6	ST170628G4-5 PFC CS1 17F1609	28-Jun-17	19:23:55
7	170628G4_7	ST170628G4-6 PFC CS2 17F1610	28-Jun-17	19:36:18
8	170628G4_8	ST170628G4-7 PFC CS3 17F501	28-Jun-17	19:48:43
9	170628G4_9	ST170628G4-8 PFC CS4 17F1611	28-Jun-17	20:01:36
10	170628G4_10	ST170628G4-9 PFC CS5 17F1612	28-Jun-17	20:13:58
11	170628G4_11	IPA	28-Jun-17	20:26:21
12	170628G4_12	SS170628G4-1 PFC SSS 17F1613	28-Jun-17	20:38:45
13	170628G4_13	IPA	28-Jun-17	20:51:08
14	170628G4_14	B7F0113-BLK1 LRB 0.25	28-Jun-17	21:03:33
15	170628G4_15	B7F0113-BS1 LFB 0.25	28-Jun-17	21:15:57
16	170628G4_16	1700759-01 Well2-G0130002-DW-20170622 ...	28-Jun-17	21:28:21
17	170628G4_17	1700759-02 Well2-G0130002-FRB-20170622 ...	28-Jun-17	21:40:46
18	170628G4_18	1700759-03 Well5-G0130002-DW-20170622 ...	28-Jun-17	21:53:09
19	170628G4_19	1700759-04 Well5-G0130002-FRB-20170622 ...	28-Jun-17	22:05:32
20	170628G4_20	1700759-05 Well6-G0130002-DW-20170622 ...	28-Jun-17	22:19:40
21	170628G4_21	1700759-06 Well6-G0130002-FRB-20170622 ...	28-Jun-17	22:32:59
22	170628G4_22	1700759-07 Tower2-DW-20170622 0.2822	28-Jun-17	22:45:24
23	170628G4_23	1700759-08 Tower2-FRB-20170622 0.28373	28-Jun-17	22:57:50
24	170628G4_24	1700759-09 Tower1-DW-20170622 0.28567	28-Jun-17	23:10:10
25	170628G4_25	B7F0113-MS1 LFSM 0.27828	28-Jun-17	23:22:32
26	170628G4_26	B7F0113-MSD1 LFSMD 0.28029	28-Jun-17	23:34:54
27	170628G4_27	1700759-10 Tower1-DW-20170622FD 0.27517	28-Jun-17	23:47:17
28	170628G4_28	IPA	28-Jun-17	23:59:52
29	170628G4_29	ST170628G4-10 PFC CS2 17F1610	29-Jun-17	00:12:17
30	170628G4_30	IPA	29-Jun-17	00:24:43
31	170628G4_31	1700759-11 Tower1-FRB-20170622 0.27641	29-Jun-17	00:37:36

Dataset: Untitled

Last Altered: Monday, July 10, 2017 11:46:01 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:46:13 Pacific Daylight Time

Compound name: PFBS

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33	170628G4_33	1700765-01 10 Main St 0.24505	29-Jun-17	01:02:47
34	170628G4_34	1700765-02 11 Daniel 0.24915	29-Jun-17	01:15:12
35	170628G4_35	1700765-03 12 Main St 0.24892	29-Jun-17	01:27:34
36	170628G4_36	1700765-04 13 Daniel 0.2463	29-Jun-17	01:39:56
37	170628G4_37	1700765-05 32 Sunrise 0.2497	29-Jun-17	01:52:19
38	170628G4_38	IPA	29-Jun-17	02:04:43
39	170628G4_39	ST170628G4-11 PFC CS5 17F1612	29-Jun-17	02:17:08
40	170628G4_40	IPA	29-Jun-17	02:29:48

LC Calibration Standards Review Checklist Q1

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID:	ST17062864-10	L M H (M circled; 0k 7/10/17)	NA ☑	☑	☑	☑	☑	☑	☐ ↓
Calibration ID:	↓ -11	L M H (H circled)	☑ ↓	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 4/5/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Comments:
L14_DW

Reviewed By: AC 7/10/17
Initials/Date

Vista Analytical Laboratory

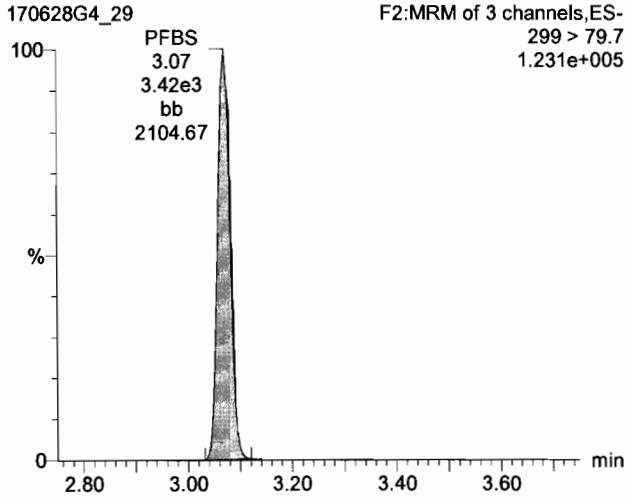
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-29.qld

Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

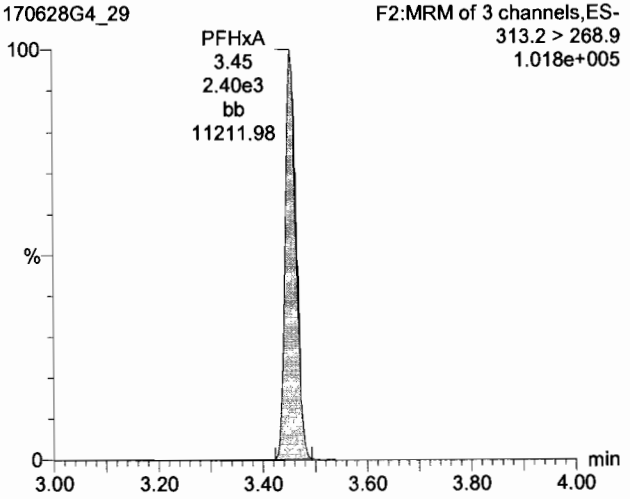
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

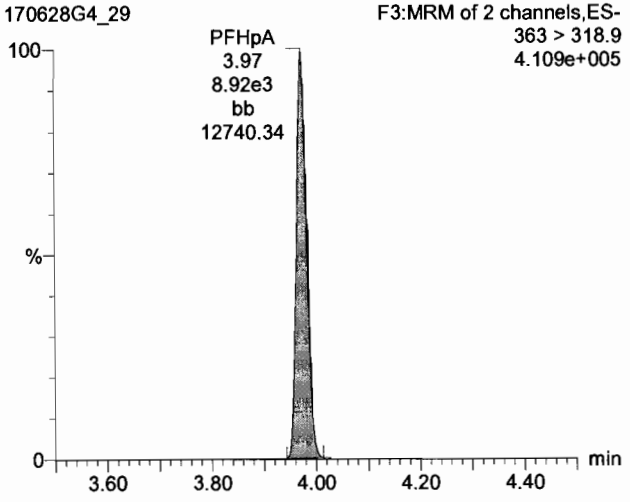
PFBS



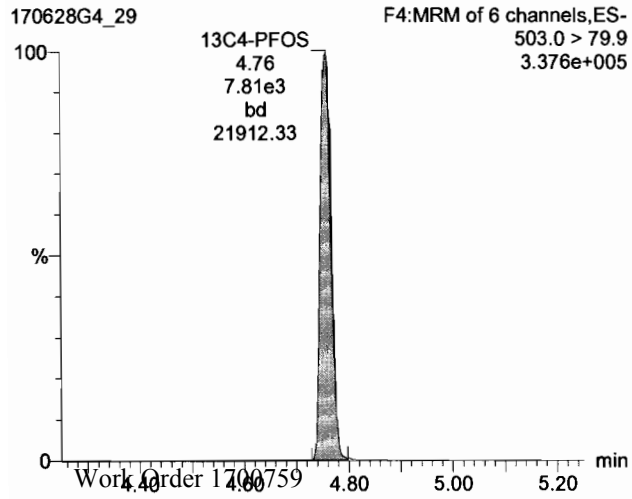
PFHxA



PFHpA



13C4-PFOS



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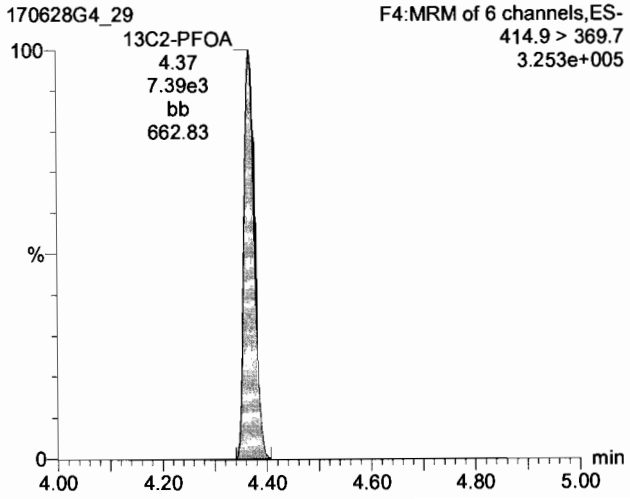

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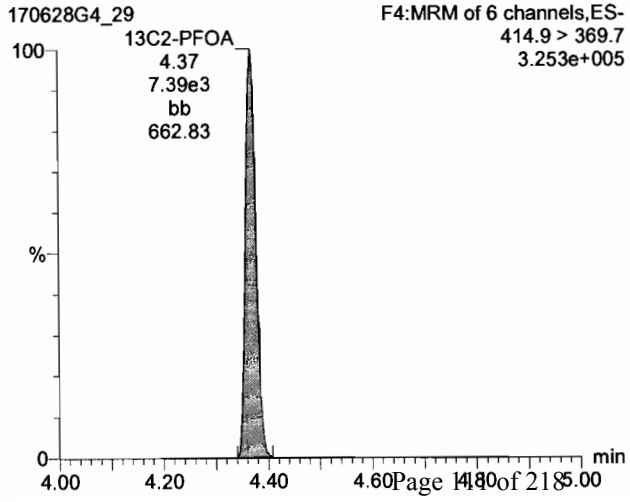
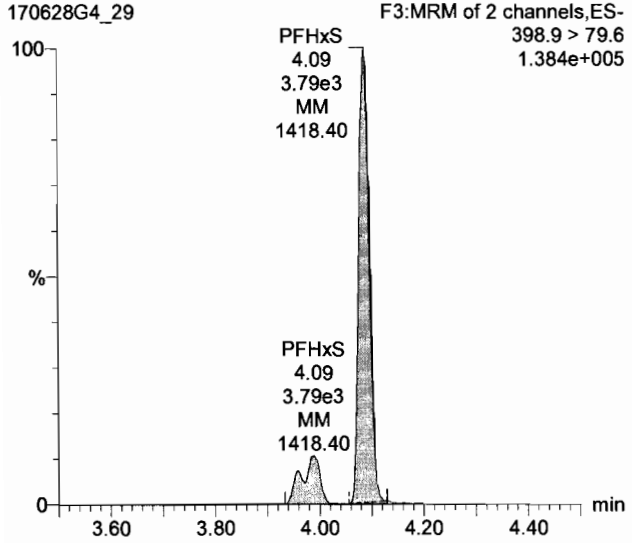


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-29.qld

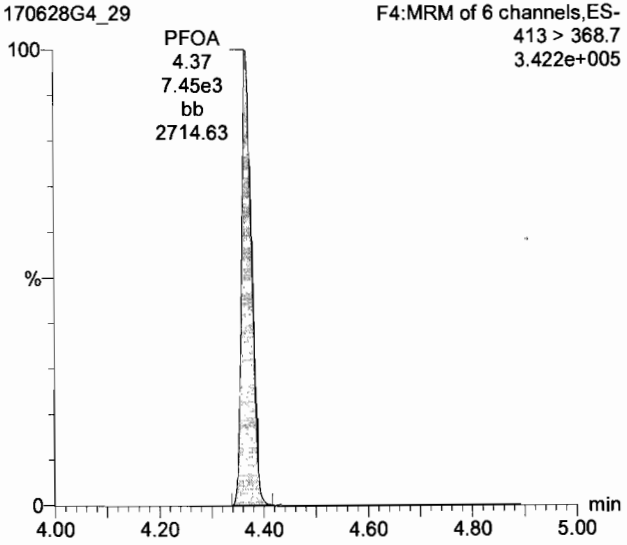
Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

PFHxS



PFOA



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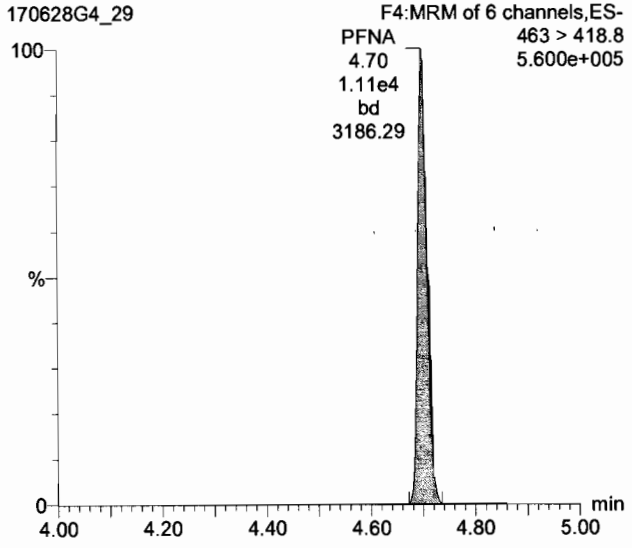

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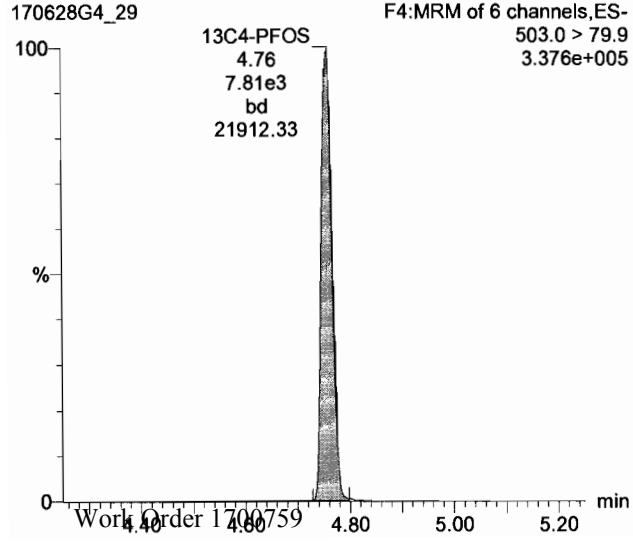

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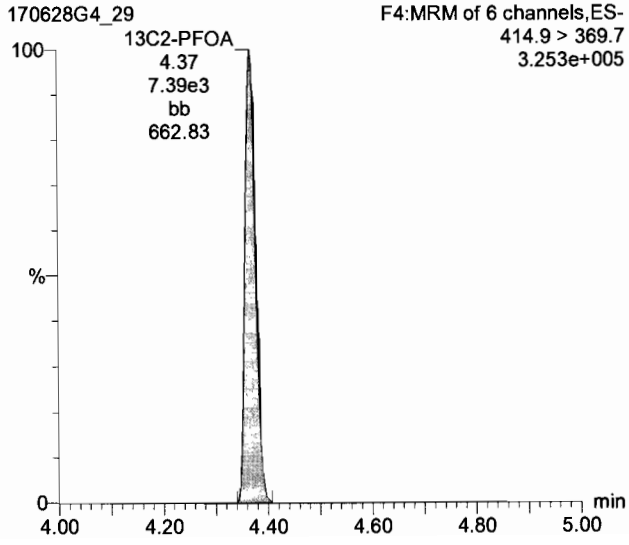

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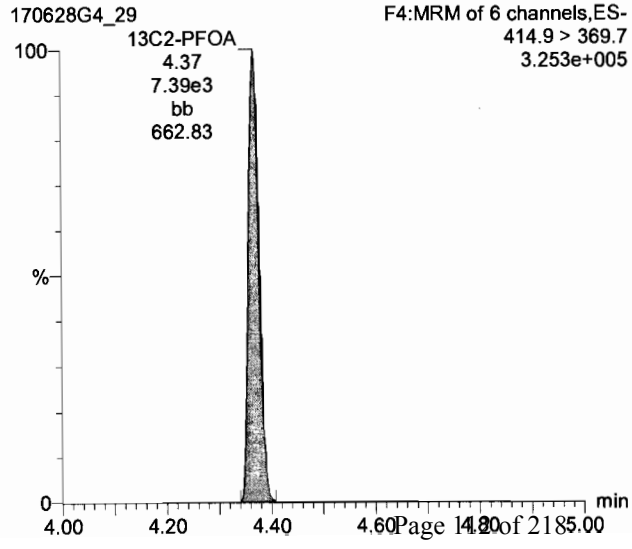

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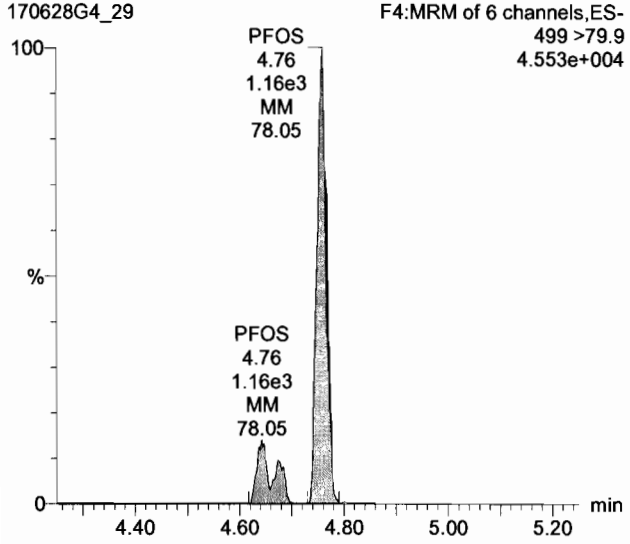
Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

PFOS



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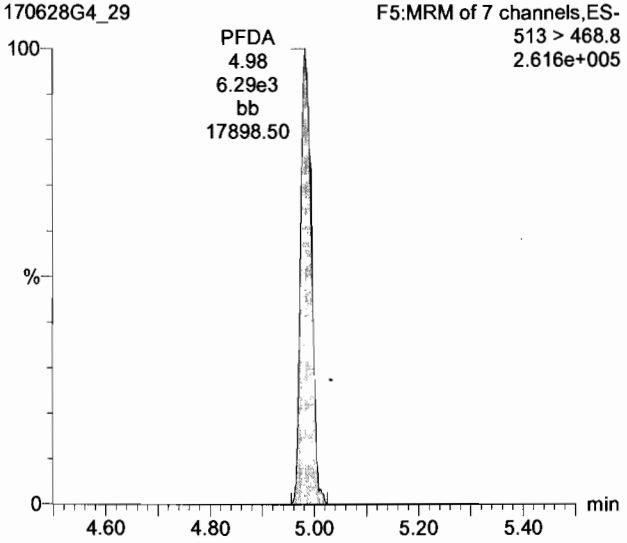

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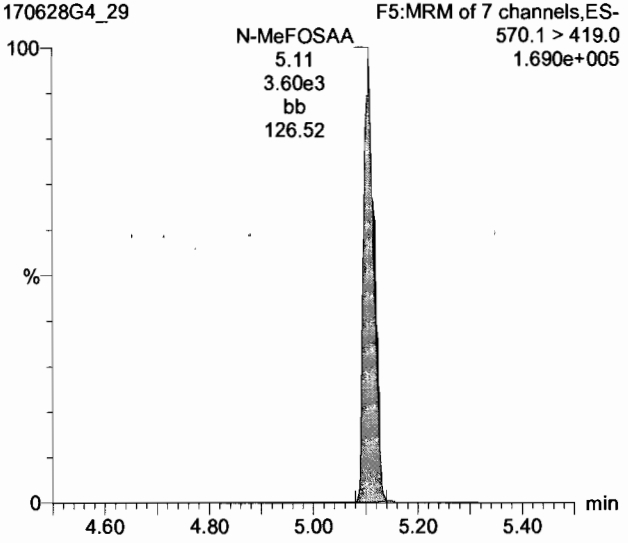

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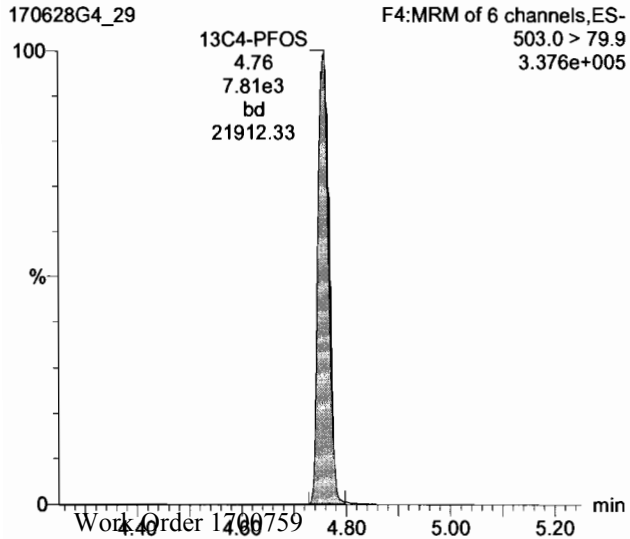

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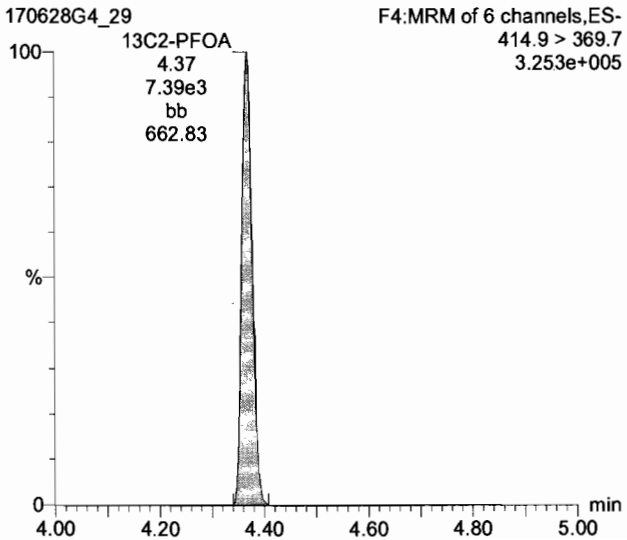

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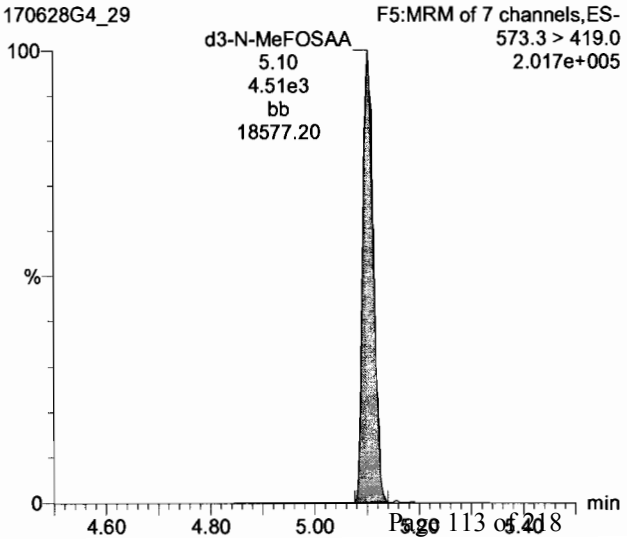
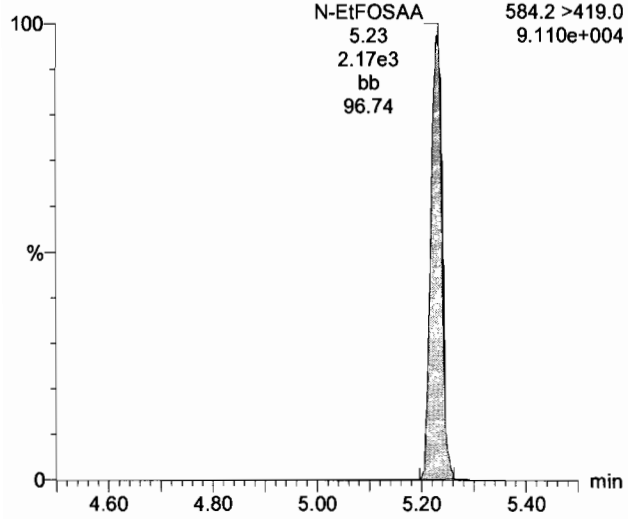


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-29.qld

Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

N-EtFOSAA



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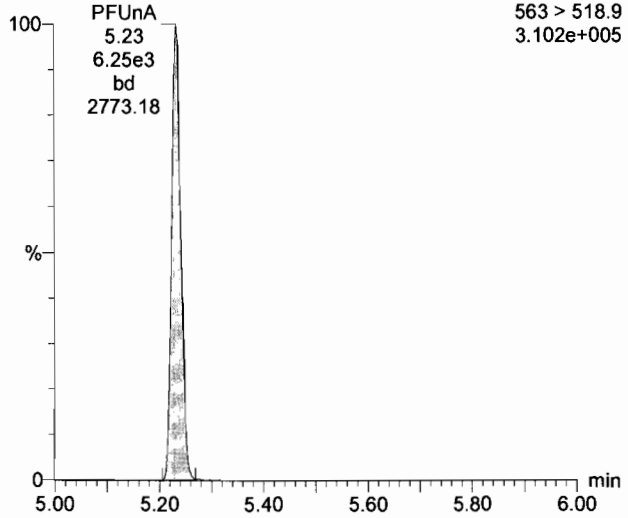
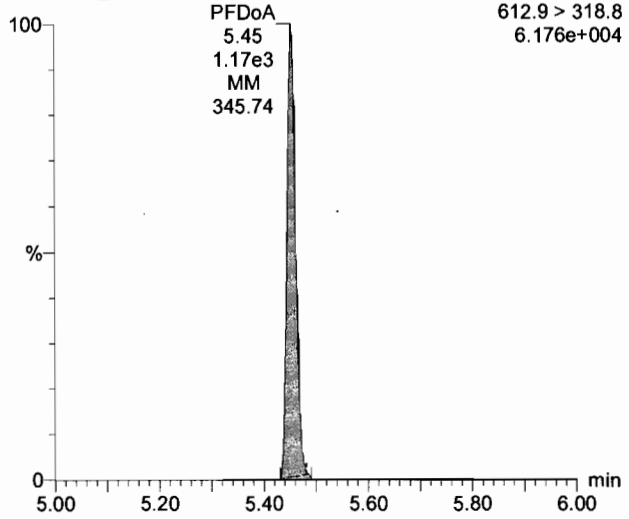


PFDoA



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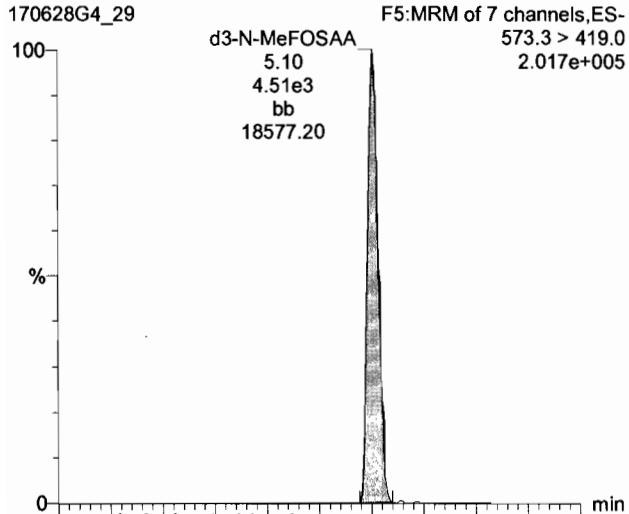

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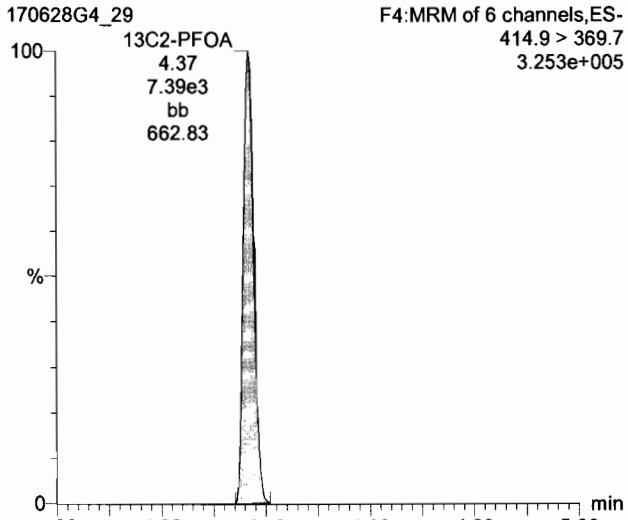

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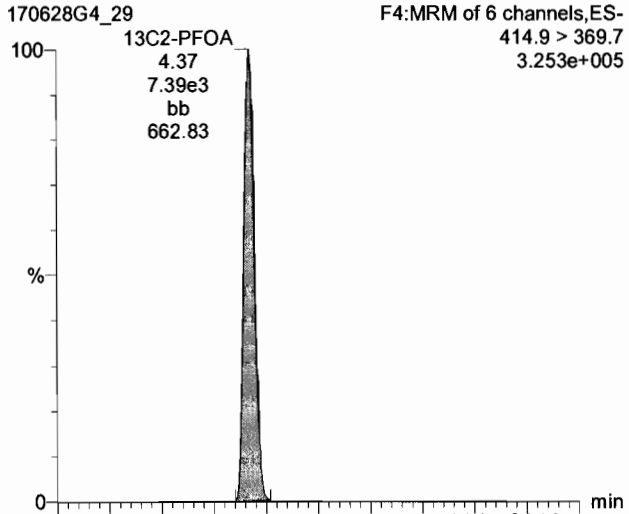
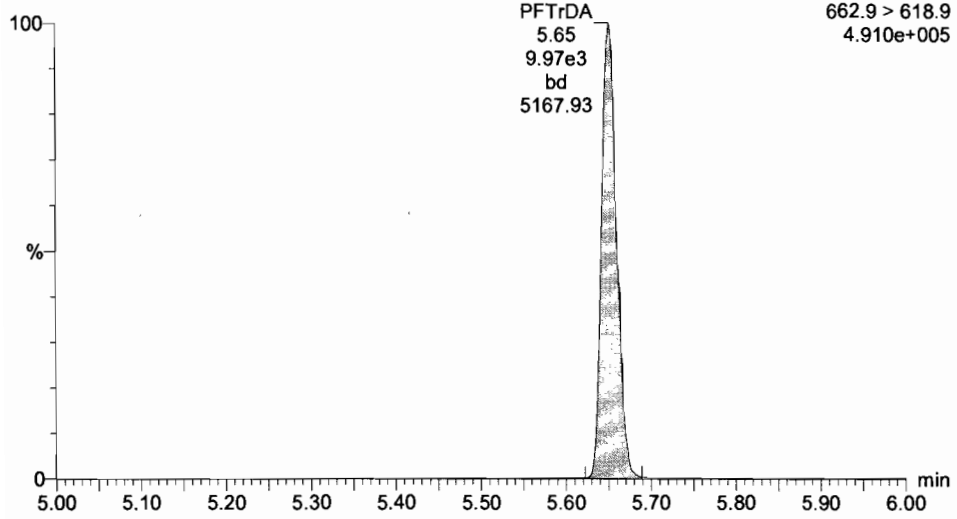


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-29.qld

Last Altered: Monday, July 10, 2017 11:43:12 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

PFTrDA



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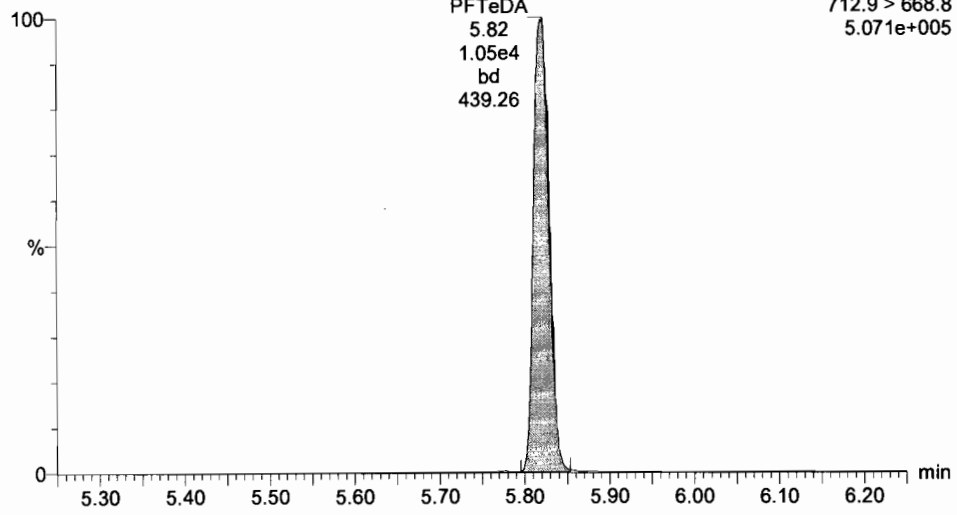

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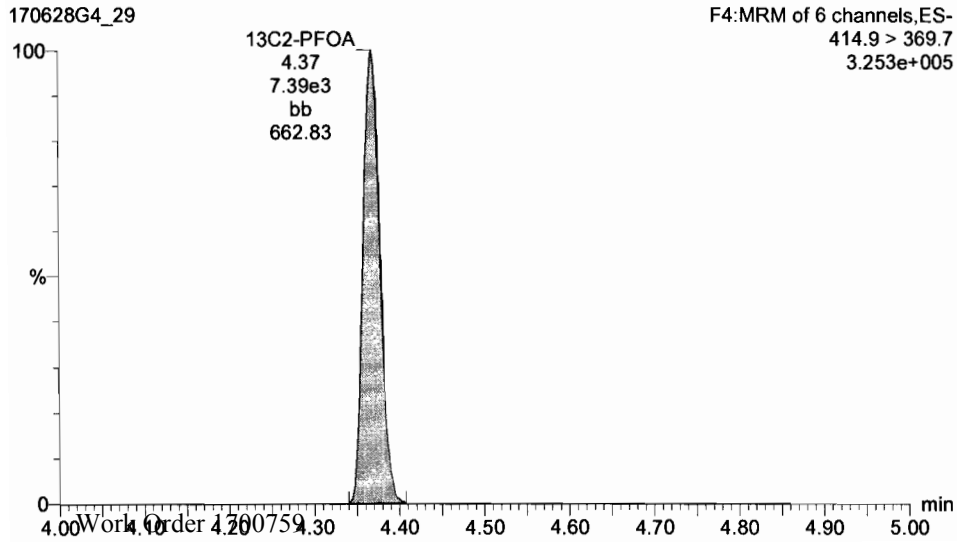

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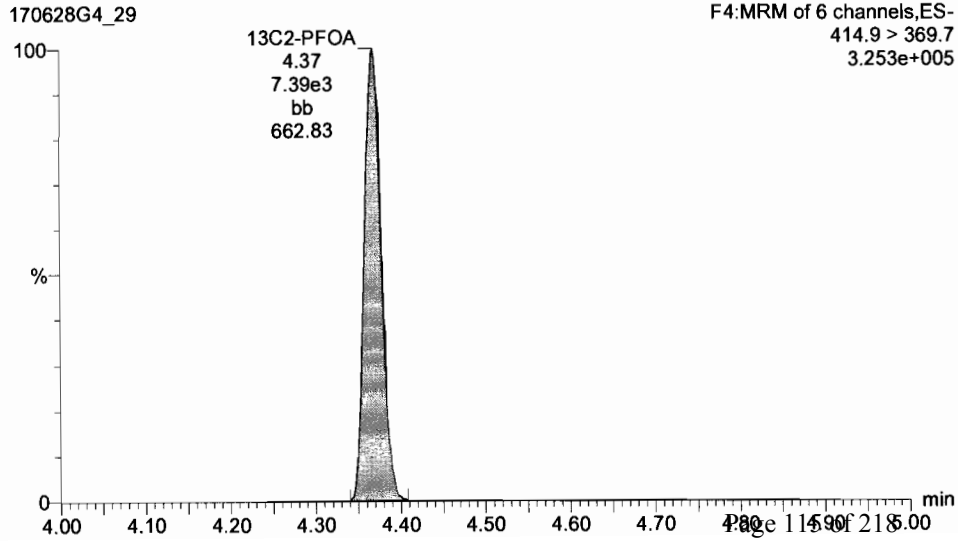

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Printed: Monday, July 10, 2017 11:43:36 Pacific Daylight Time

ID: ST170628G4-10 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_29, Date: 29-Jun-2017, Time: 00:12:17, Instrument: , Lab: , User:

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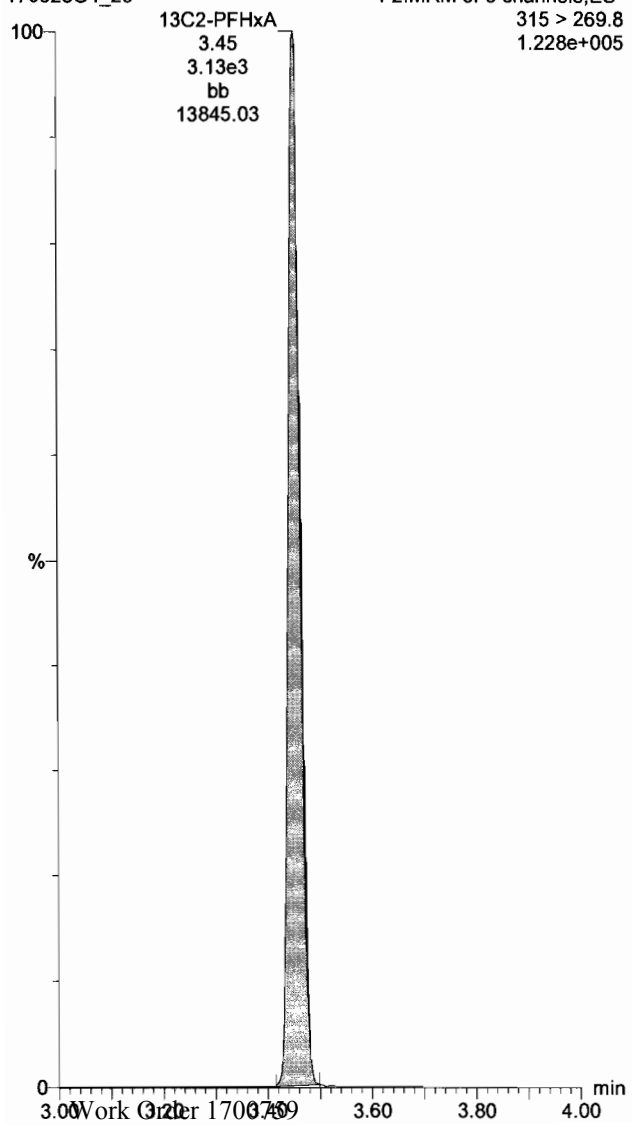

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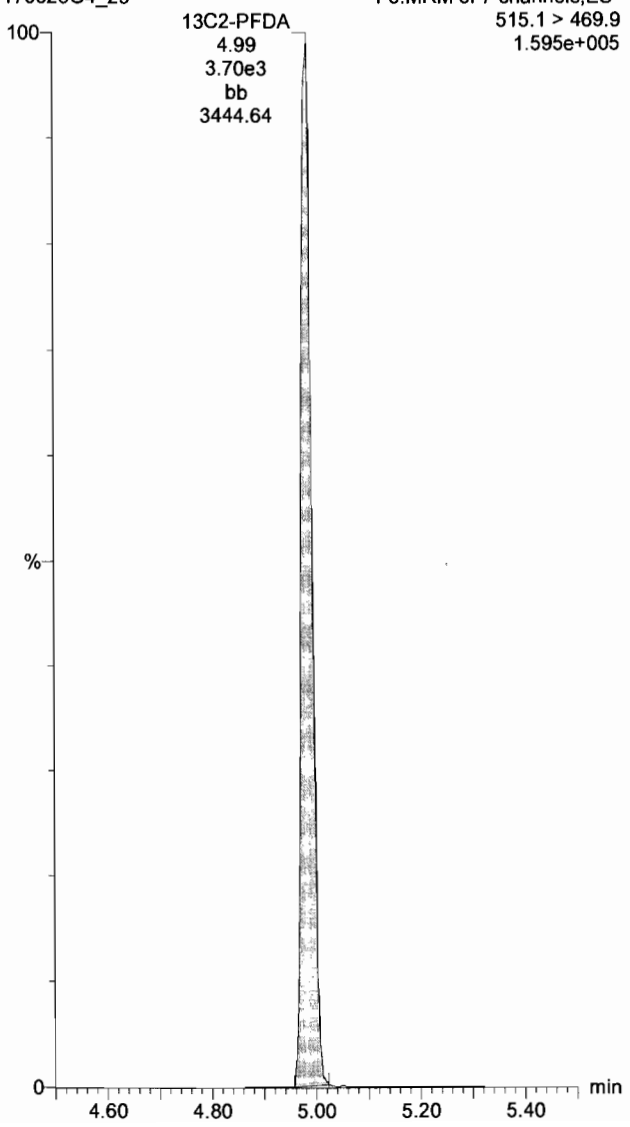
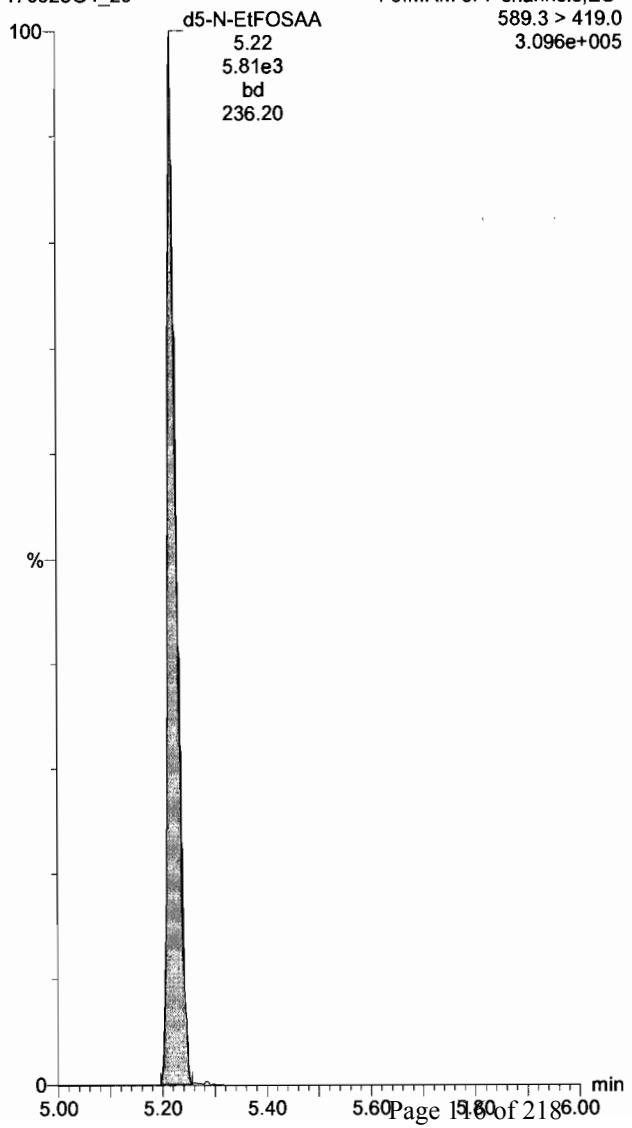


d5-N-EtFOSAA



Vista Analytical Laboratory Q1

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Printed: Monday, July 10, 2017 11:45:40 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.29e4	9.08e3		1.000	3.08	47.0	106.4
2	2	PFHxA	313.2 > 268.9	9.84e3	9.02e3		1.000	3.46	49.5	99.0
3	3	PFHpA	363 > 318.9	3.45e4	9.02e3		1.000	3.98	47.7	95.4
4	4	PFHxS	398.9 > 79.6	1.51e4	9.08e3		1.000	4.09	47.1	103.4
5	5	PFOA	413 > 368.7	2.98e4	9.02e3		1.000	4.37	45.5	91.0
6	6	PFNA	463 > 418.8	4.24e4	9.02e3		1.000	4.70	49.3	98.6
7	7	PFOS	499 >79.9	4.89e3	9.08e3		1.000	4.76	52.1	112.5
8	8	PFDA	513 > 468.8	2.85e4	9.02e3		1.000	4.99	57.5	114.9
9	9	N-MeFOSAA	570.1 > 419.0	1.29e4	6.10e3		1.000	5.11	47.9	95.8
10	10	N-EtFOSAA	584.2 >419.0	1.13e4	6.10e3		1.000	5.23	44.6	89.2
11	11	PFUnA	563 > 518.9	2.39e4	9.02e3		1.000	5.24	44.7	89.3
12	12	PFDoA	612.9 > 318.8	4.77e3	9.02e3		1.000	5.46	49.7	99.3
13	13	PFTrDA	662.9 > 618.9	4.36e4	9.02e3		1.000	5.65	48.2	96.5
14	14	PFTeDA	712.9 > 668.8	3.82e4	9.02e3		1.000	5.82	43.2	86.3
15	15	13C2-PFHxA	315 > 269.8	3.77e3	9.02e3	0.429	1.000	3.46	9.76	97.6
16	16	13C2-PFDA	515.1 > 469.9	4.35e3	9.02e3	0.514	1.000	4.99	9.38	93.8
17	17	d5-N-EtFOSAA	589.3 > 419.0	5.69e3	6.10e3	1.065	1.000	5.22	35.0	87.6
18	18	13C2-PFOA	414.9 > 369.7	9.02e3	9.02e3	1.000	1.000	4.37	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	9.08e3	9.08e3	1.000	1.000	4.76	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	6.10e3	6.10e3	1.000	1.000	5.10	40.0	100.0

70-130

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Monday, July 10, 2017 11:46:01 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:46:13 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

Compound name: PFBS

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2	170628G4_2	ST170628G4-1 PFC CS-3 17F1604	28-Jun-17	18:33:13
3	170628G4_3	ST170628G4-2 PFC CS-2 17F1605	28-Jun-17	18:45:35
4	170628G4_4	ST170628G4-3 PFC CS-1 17F1607	28-Jun-17	18:58:38
5	170628G4_5	ST170628G4-4 PFC CS0 17F1608	28-Jun-17	19:11:31
6	170628G4_6	ST170628G4-5 PFC CS1 17F1609	28-Jun-17	19:23:55
7	170628G4_7	ST170628G4-6 PFC CS2 17F1610	28-Jun-17	19:36:18
8	170628G4_8	ST170628G4-7 PFC CS3 17F501	28-Jun-17	19:48:43
9	170628G4_9	ST170628G4-8 PFC CS4 17F1611	28-Jun-17	20:01:36
10	170628G4_10	ST170628G4-9 PFC CS5 17F1612	28-Jun-17	20:13:58
11	170628G4_11	IPA	28-Jun-17	20:26:21
12	170628G4_12	SS170628G4-1 PFC SSS 17F1613	28-Jun-17	20:38:45
13	170628G4_13	IPA	28-Jun-17	20:51:08
14	170628G4_14	B7F0113-BLK1 LRB 0.25	28-Jun-17	21:03:33
15	170628G4_15	B7F0113-BS1 LFB 0.25	28-Jun-17	21:15:57
16	170628G4_16	1700759-01 Well2-G0130002-DW-20170622 ...	28-Jun-17	21:28:21
17	170628G4_17	1700759-02 Well2-G0130002-FRB-20170622 ...	28-Jun-17	21:40:46
18	170628G4_18	1700759-03 Well5-G0130002-DW-20170622 ...	28-Jun-17	21:53:09
19	170628G4_19	1700759-04 Well5-G0130002-FRB-20170622 ...	28-Jun-17	22:05:32
20	170628G4_20	1700759-05 Well6-G0130002-DW-20170622 ...	28-Jun-17	22:19:40
21	170628G4_21	1700759-06 Well6-G0130002-FRB-20170622 ...	28-Jun-17	22:32:59
22	170628G4_22	1700759-07 Tower2-DW-20170622 0.2822	28-Jun-17	22:45:24
23	170628G4_23	1700759-08 Tower2-FRB-20170622 0.28373	28-Jun-17	22:57:50
24	170628G4_24	1700759-09 Tower1-DW-20170622 0.28567	28-Jun-17	23:10:10
25	170628G4_25	B7F0113-MS1 LFSM 0.27828	28-Jun-17	23:22:32
26	170628G4_26	B7F0113-MSD1 LFSMD 0.28029	28-Jun-17	23:34:54
27	170628G4_27	1700759-10 Tower1-DW-20170622FD 0.27517	28-Jun-17	23:47:17
28	170628G4_28	IPA	28-Jun-17	23:59:52
29	170628G4_29	ST170628G4-10 PFC CS2 17F1610	29-Jun-17	00:12:17
30	170628G4_30	IPA	29-Jun-17	00:24:43
31	170628G4_31	1700759-11 Tower1-FRB-20170622 0.27641	29-Jun-17	00:37:36

Dataset: Untitled

Last Altered: Monday, July 10, 2017 11:46:01 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:46:13 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170628G4_32	1700759-12 Tower1 - FRB-20170622FD 0.284...	29-Jun-17	00:50:22
33	170628G4_33	1700765-01 10 Main St 0.24505	29-Jun-17	01:02:47
34	170628G4_34	1700765-02 11 Daniel 0.24915	29-Jun-17	01:15:12
35	170628G4_35	1700765-03 12 Main St 0.24892	29-Jun-17	01:27:34
36	170628G4_36	1700765-04 13 Daniel 0.2463	29-Jun-17	01:39:56
37	170628G4_37	1700765-05 32 Sunrise 0.2497	29-Jun-17	01:52:19
38	170628G4_38	IPA	29-Jun-17	02:04:43
39	170628G4_39	ST170628G4-11 PFC CS5 17F1612	29-Jun-17	02:17:08
40	170628G4_40	IPA	29-Jun-17	02:29:48

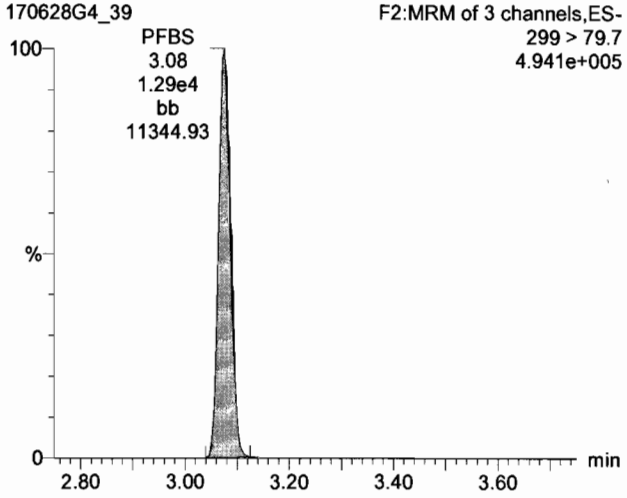
Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

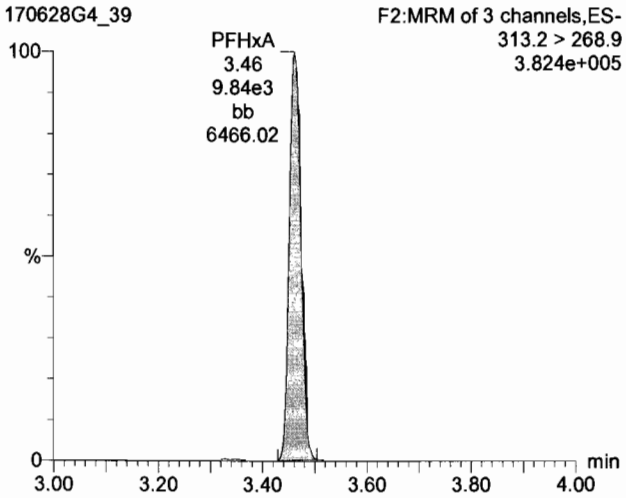
Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.pro\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:31:18

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

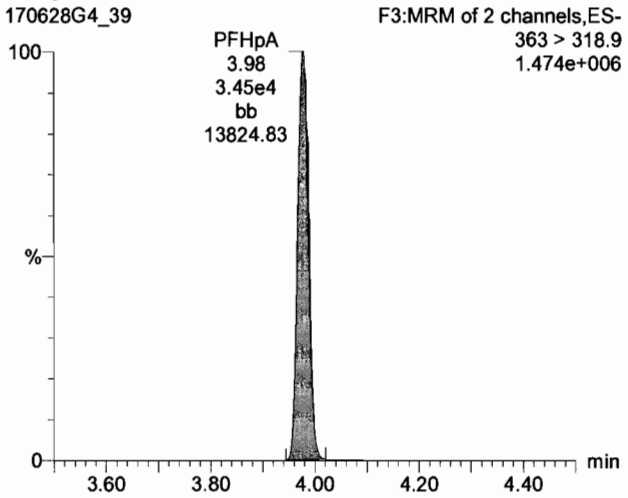
PFBS



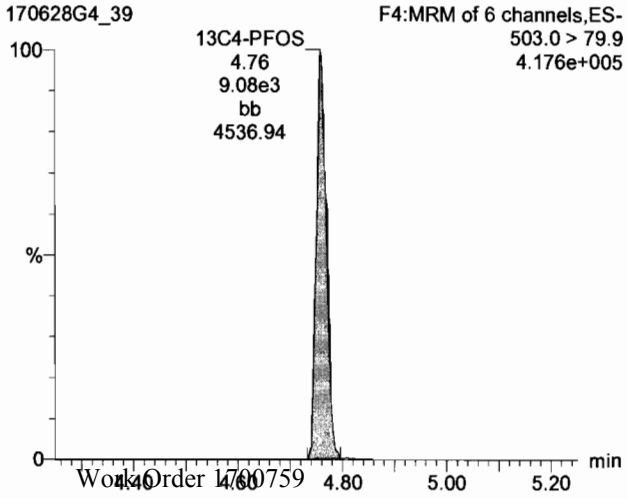
PFHxA



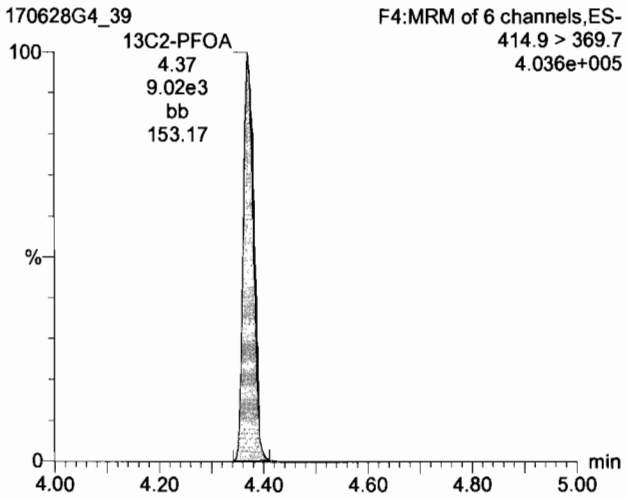
PFHpA



13C4-PFOS



13C2-PFOA



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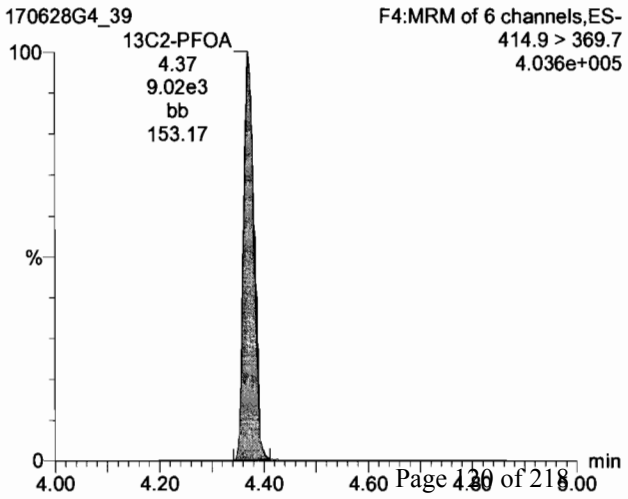
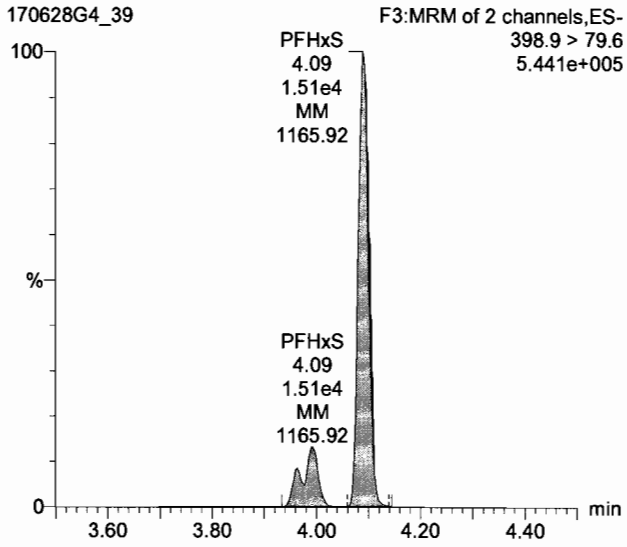


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

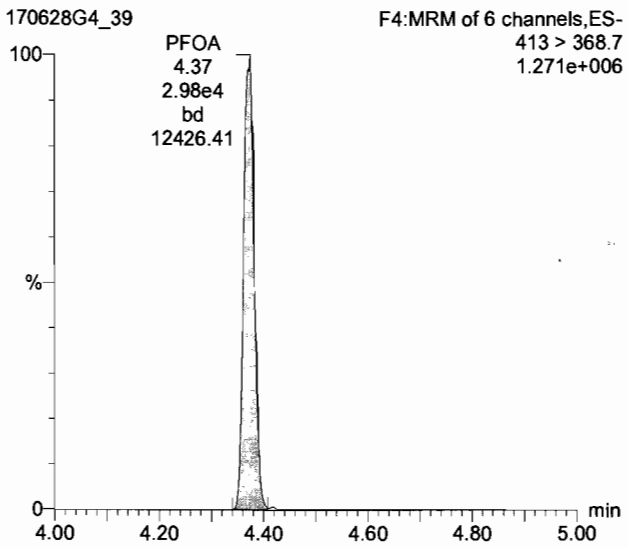
Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

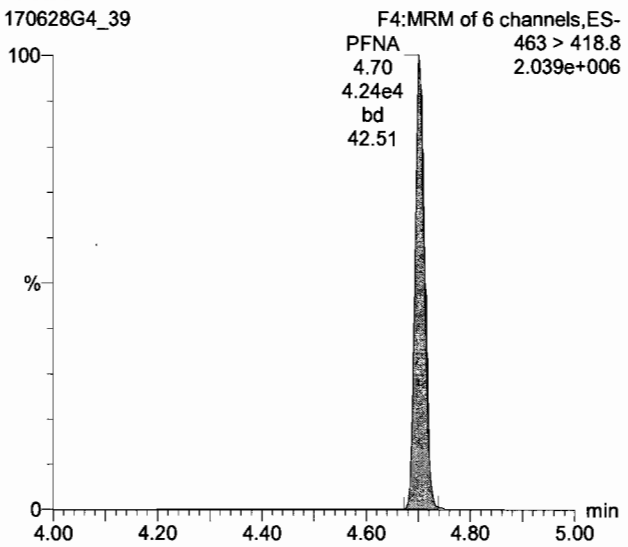
PFHxS



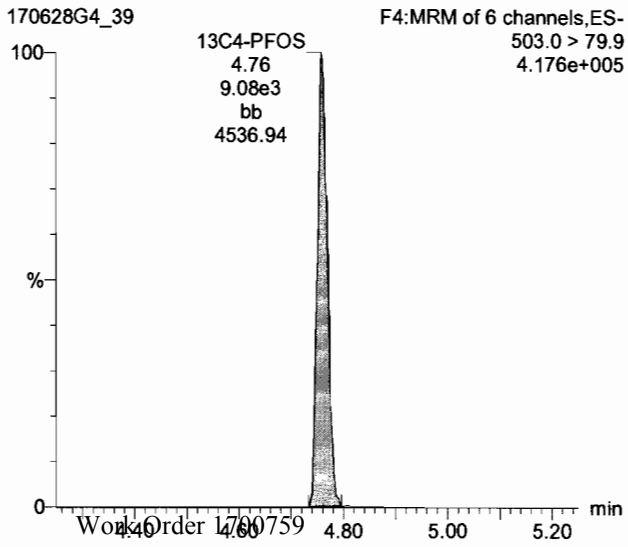
PFOA



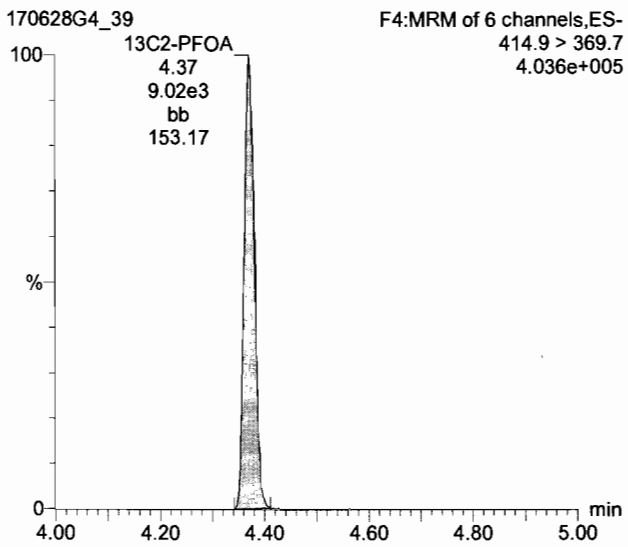
PFNA



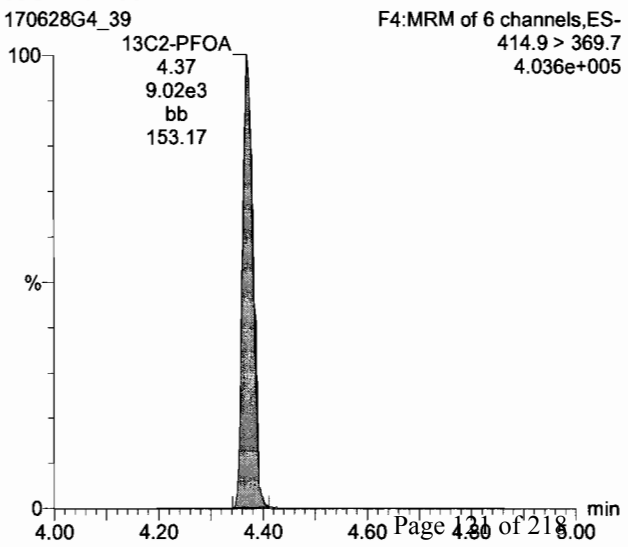
13C4-PFOS



13C2-PFOA



13C2-PFOA

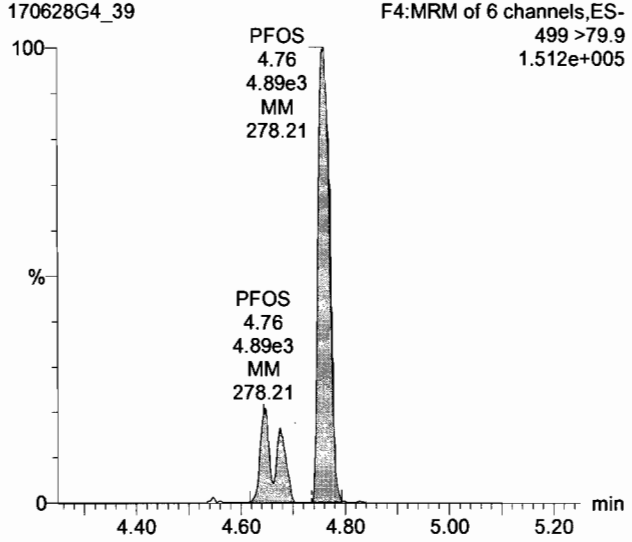


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

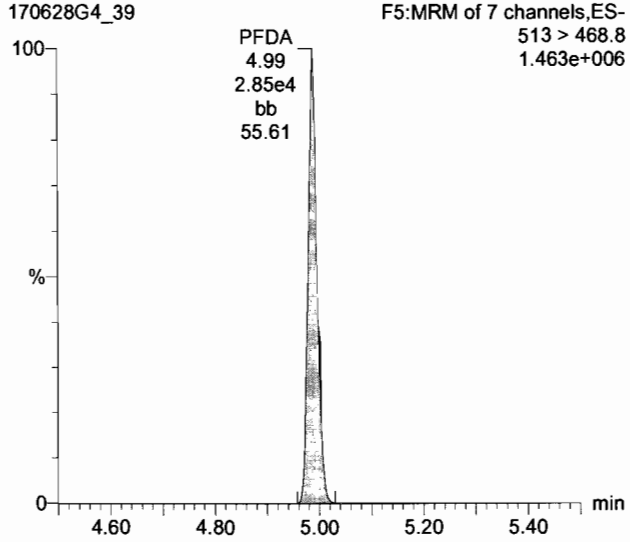
Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

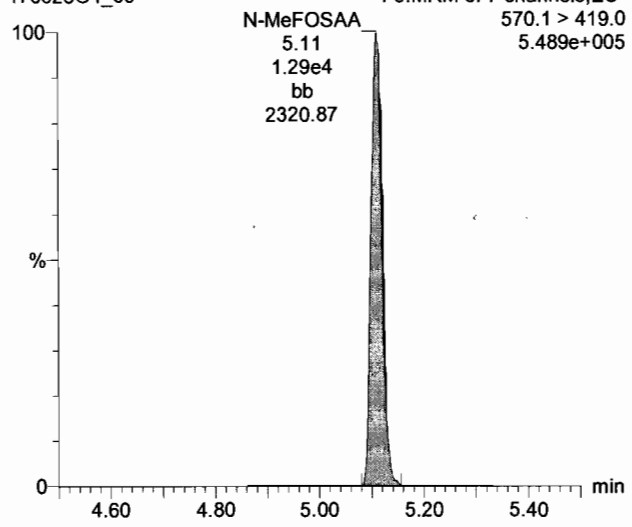
PFOS



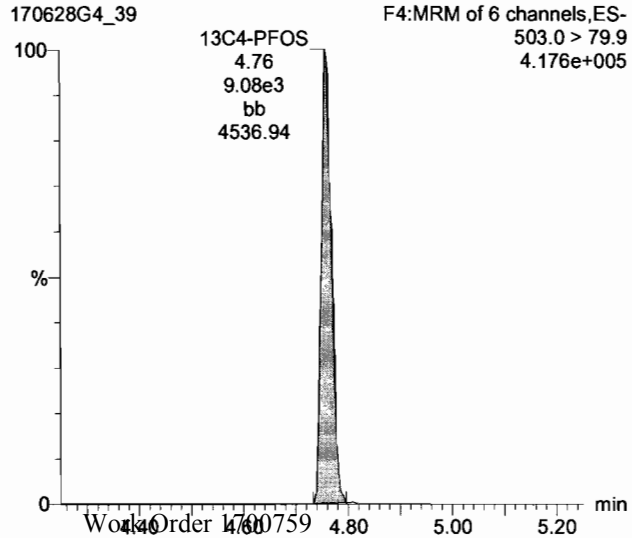
PFDA



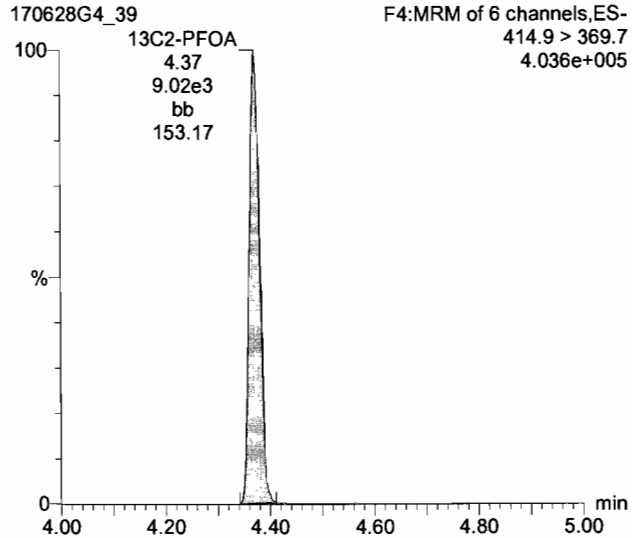
N-MeFOSAA



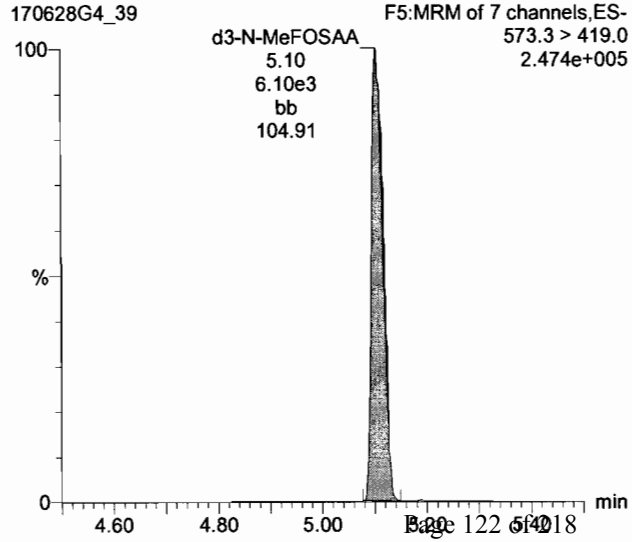
13C4-PFOS



13C2-PFOA



d3-N-MeFOSAA

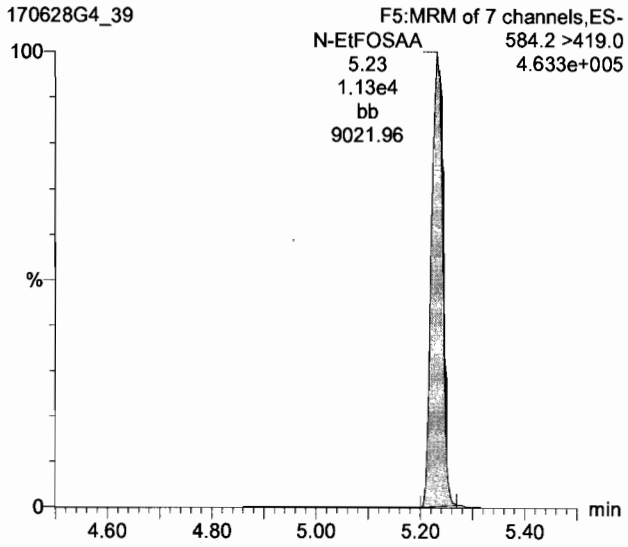


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

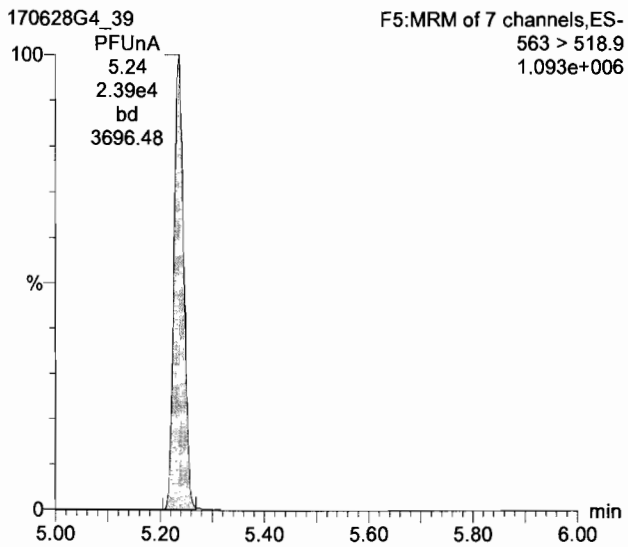
Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

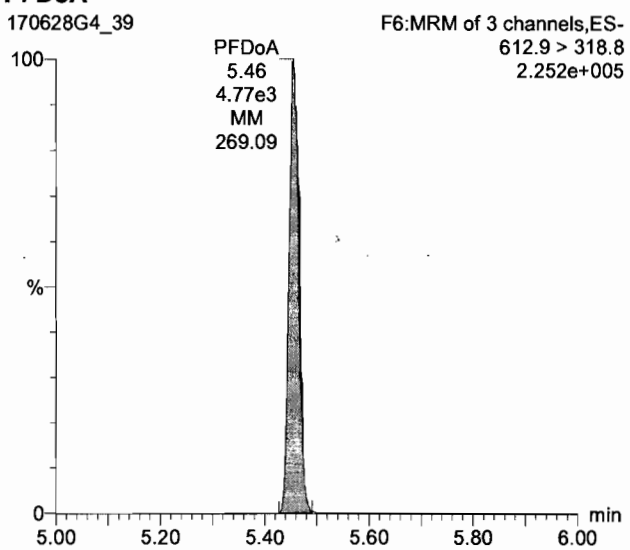
N-EtFOSAA



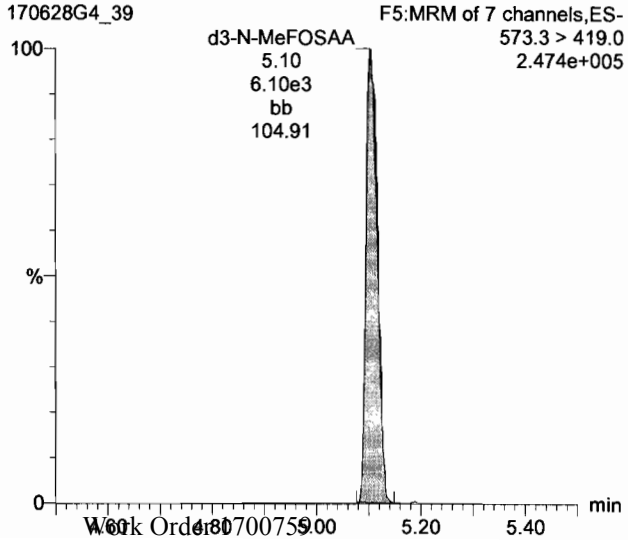
PFUnA



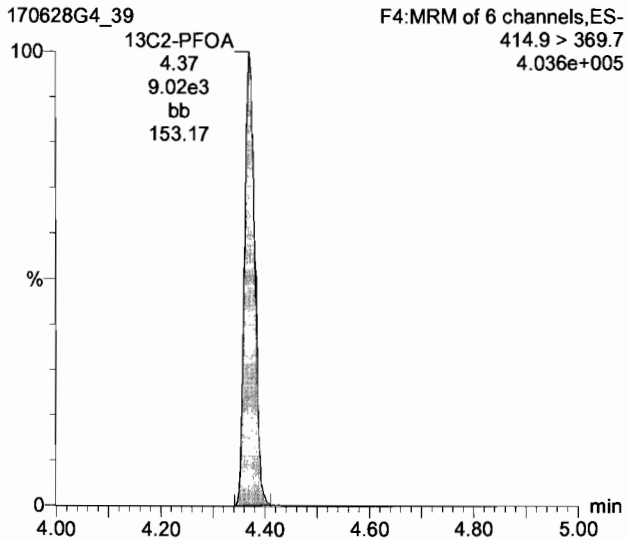
PFDoA



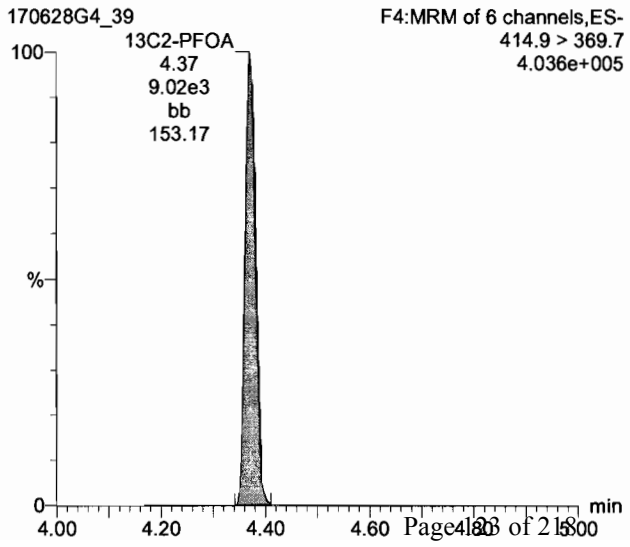
d3-N-MeFOSAA



13C2-PFOA



13C2-PFOA



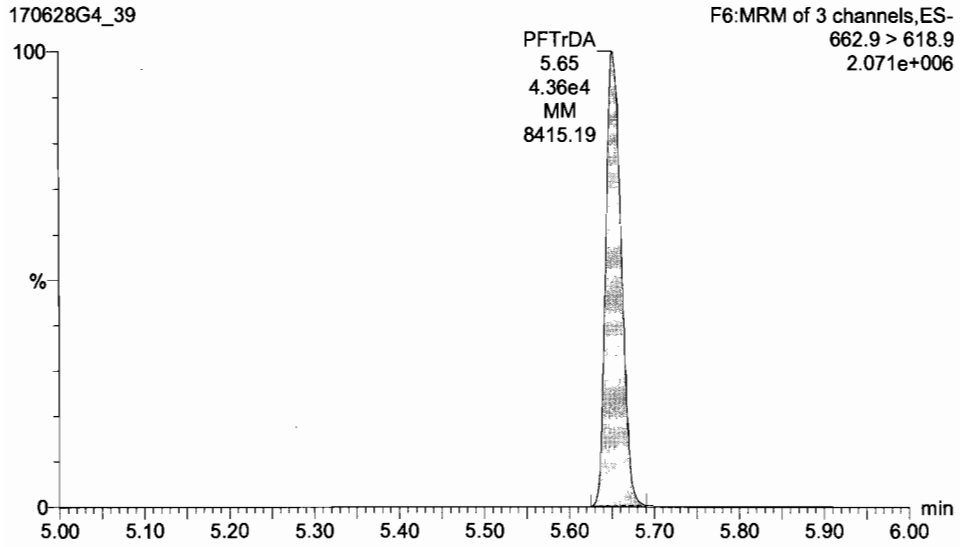
Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

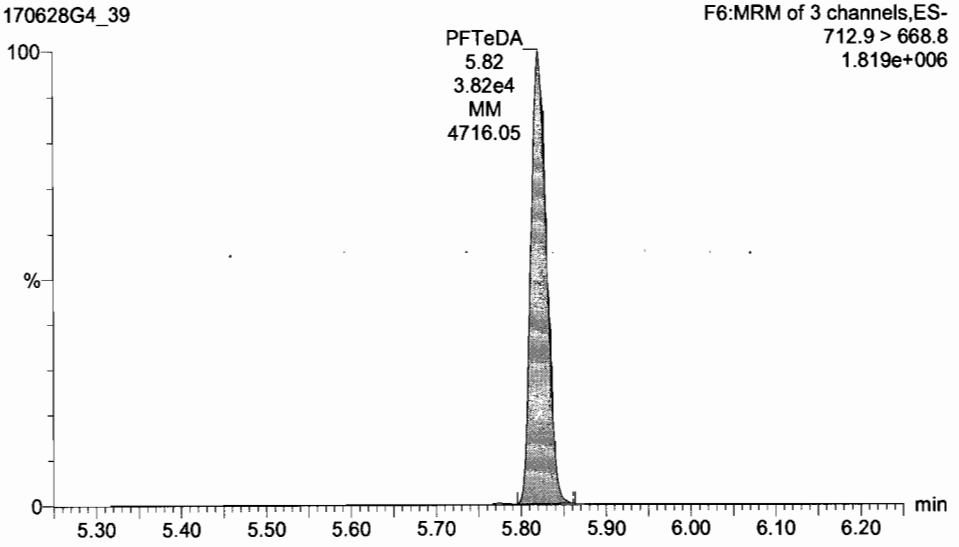
Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

PFTrDA



PFTeDA



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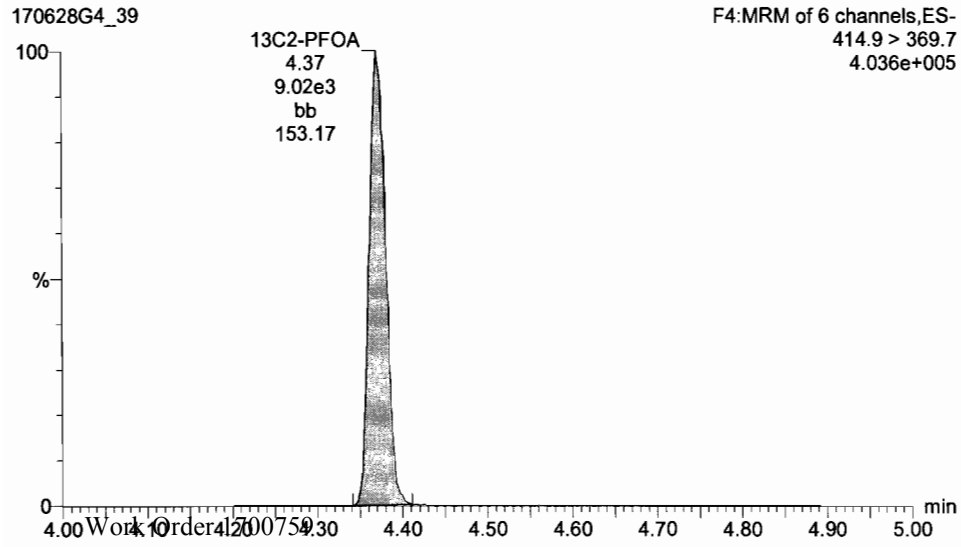
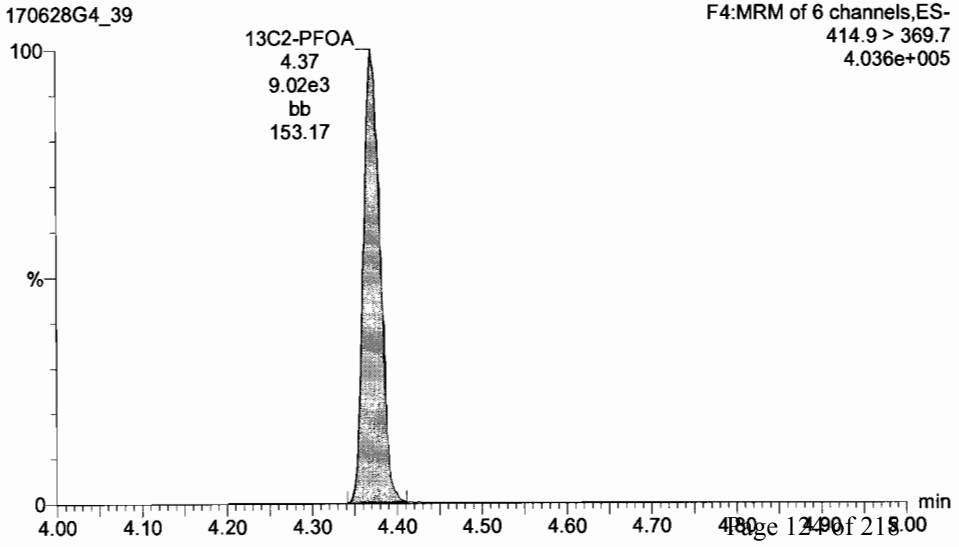


13C2-PFOA

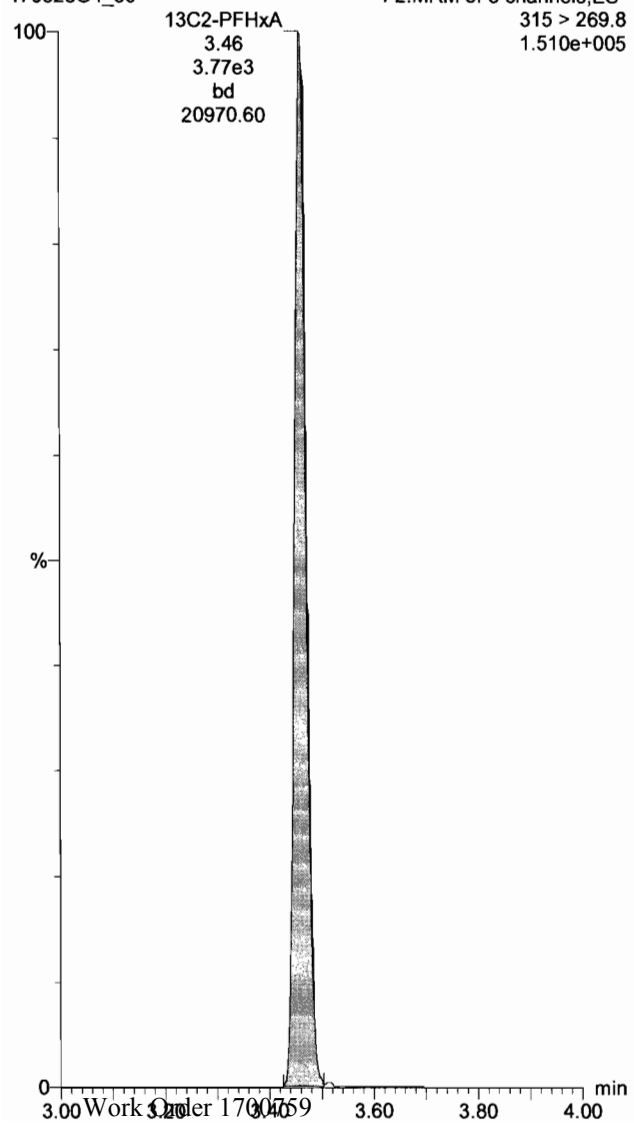


Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-39.qld

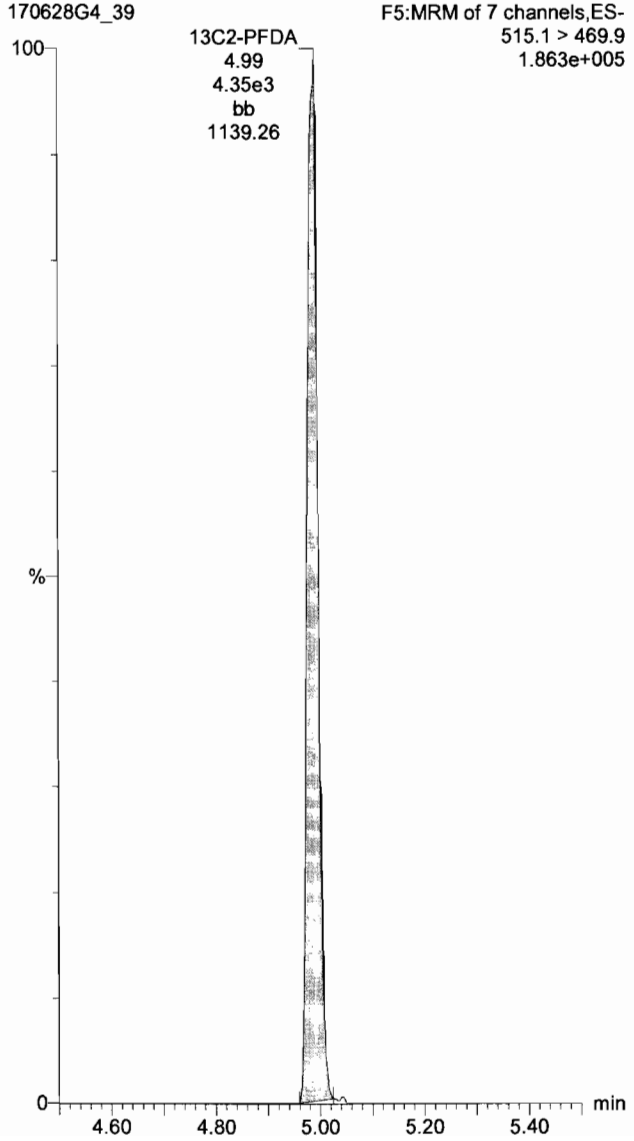
Last Altered: Monday, July 10, 2017 11:44:56 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:45:18 Pacific Daylight Time

ID: ST170628G4-11 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_39, Date: 29-Jun-2017, Time: 02:17:08, Instrument: , Lab: , User:

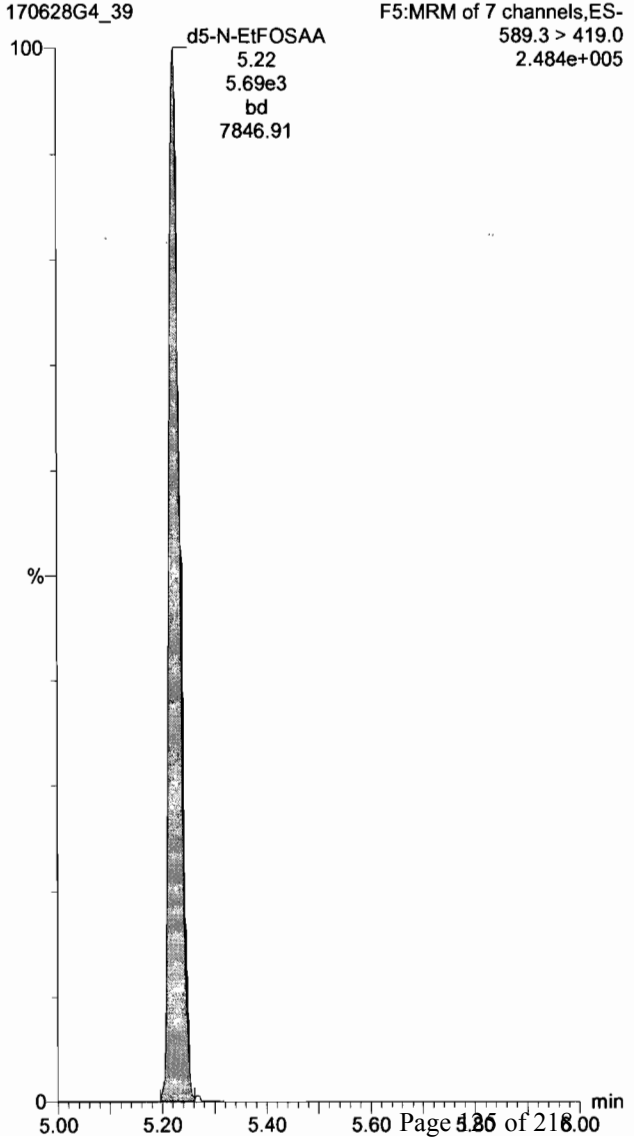
13C2-PFHxA



13C2-PFDA



d5-N-EtFOSAA



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:14:34 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:10:21

Compound name: PFBS
Coefficient of Determination: R^2 = 0.998576
Calibration curve: 0.866399 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.442	3.06	8.08e1	7.29e3	0.367	-17.0	0.719
2	2	170628G4_3	0.885	3.05	1.81e2	6.69e3	0.898	1.5	0.879
3	3	170628G4_4	1.77	3.05	3.77e2	7.07e3	1.77	-0.1	0.866
4	4	170628G4_5	4.42	3.06	9.25e2	6.89e3	4.45	0.6	0.872
5	5	170628G4_6	8.85	3.06	1.74e3	6.84e3	8.43	-4.7	0.825
6	6	170628G4_7	13.3	3.06	2.61e3	6.68e3	13.0	-2.3	0.846
7	7	170628G4_8	17.7	3.06	3.89e3	6.95e3	18.5	4.6	0.906
8	8	170628G4_9	22.1	3.06	4.42e3	6.92e3	21.1	-4.3	0.829
9	9	170628G4_10	44.2	3.06	8.72e3	6.41e3	45.1	2.1	0.884

JM 7/10/17

(A) Point was excluded.

✓ AC
7/10/17

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.990042
Calibration curve: 0.220495 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	3.44	1.04e2	5.95e3	0.795	59.0 (A)	0.351
2	2	170628G4_3	1.00	3.44	1.52e2	6.26e3	1.10	9.9	0.242
3	3	170628G4_4	2.00	3.44	3.31e2	5.86e3	2.56	28.1	0.283
4	4	170628G4_5	5.00	3.44	6.94e2	5.95e3	5.29	5.8	0.233
5	5	170628G4_6	10.0	3.44	1.37e3	6.24e3	9.94	-0.6	0.219
6	6	170628G4_7	15.0	3.44	2.04e3	6.12e3	15.1	0.7	0.222
7	7	170628G4_8	20.0	3.44	3.17e3	6.28e3	22.9	14.3	0.252
8	8	170628G4_9	25.0	3.44	3.36e3	6.04e3	25.2	0.7	0.222
9	9	170628G4_10	50.0	3.45	6.32e3	6.24e3	46.0	-8.1	0.203

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:14:34 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.997878
Calibration curve: 0.801874 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	3.96	3.01e2	5.95e3	0.630	26.1	1.01
2	2	170628G4_3	1.00	3.96	5.10e2	6.26e3	1.02	1.6	0.814
3	3	170628G4_4	2.00	3.96	1.05e3	5.86e3	2.23	11.6	0.895
4	4	170628G4_5	5.00	3.96	2.42e3	5.95e3	5.07	1.3	0.813
5	5	170628G4_6	10.0	3.96	4.81e3	6.24e3	9.62	-3.8	0.771
6	6	170628G4_7	15.0	3.96	7.42e3	6.12e3	15.1	0.8	0.808
7	7	170628G4_8	20.0	3.96	1.08e4	6.28e3	21.4	7.1	0.859
8	8	170628G4_9	25.0	3.96	1.16e4	6.04e3	24.0	-4.0	0.770
9	9	170628G4_10	50.0	3.97	2.47e4	6.24e3	49.4	-1.2	0.792

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.995481
Calibration curve: 1.00963 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.456	4.08	1.23e2	7.29e3	0.480	5.3	1.06
2	2	170628G4_3	0.910	4.07	2.34e2	6.69e3	0.996	9.4	1.10
3	3	170628G4_4	1.82	4.08	4.52e2	7.07e3	1.82	-0.0	1.01
4	4	170628G4_5	4.56	4.08	1.09e3	6.89e3	4.50	-1.3	0.997
5	5	170628G4_6	9.12	4.08	2.05e3	6.84e3	8.54	-6.4	0.945
6	6	170628G4_7	13.7	4.08	3.28e3	6.68e3	14.0	2.2	1.03
7	7	170628G4_8	18.2	4.08	4.92e3	6.95e3	20.1	10.5	1.12
8	8	170628G4_9	22.8	4.08	5.05e3	6.92e3	20.7	-9.1	0.918
9	9	170628G4_10	45.6	4.08	1.04e4	6.41e3	46.0	0.8	1.02

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:14:34 Pacific Daylight Time

Compound name: PFOA
Coefficient of Determination: R^2 = 0.996802
Calibration curve: 0.727677 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	4.36	2.94e2	5.95e3	0.679	35.7	0.988
2	2	170628G4_3	1.00	4.36	4.66e2	6.26e3	1.02	2.3	0.744
3	3	170628G4_4	2.00	4.36	9.59e2	5.86e3	2.25	12.4	0.818
4	4	170628G4_5	5.00	4.36	2.13e3	5.95e3	4.93	-1.4	0.718
5	5	170628G4_6	10.0	4.36	4.72e3	6.24e3	10.4	4.0	0.757
6	6	170628G4_7	15.0	4.36	6.70e3	6.12e3	15.0	0.2	0.729
7	7	170628G4_8	20.0	4.36	9.89e3	6.28e3	21.6	8.2	0.787
8	8	170628G4_9	25.0	4.36	1.08e4	6.04e3	24.6	-1.4	0.717
9	9	170628G4_10	50.0	4.36	2.17e4	6.24e3	47.9	-4.2	0.697

Compound name: PFNA
Coefficient of Determination: R^2 = 0.997442
Calibration curve: 0.953299 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	4.69	3.42e2	5.95e3	0.603	20.6	1.15
2	2	170628G4_3	1.00	4.69	5.96e2	6.26e3	0.997	-0.3	0.951
3	3	170628G4_4	2.00	4.69	1.05e3	5.86e3	1.88	-6.2	0.894
4	4	170628G4_5	5.00	4.69	3.08e3	5.95e3	5.43	8.5	1.03
5	5	170628G4_6	10.0	4.69	5.58e3	6.24e3	9.38	-6.2	0.894
6	6	170628G4_7	15.0	4.69	8.80e3	6.12e3	15.1	0.5	0.958
7	7	170628G4_8	20.0	4.69	1.27e4	6.28e3	21.3	6.3	1.01
8	8	170628G4_9	25.0	4.69	1.48e4	6.04e3	25.7	3.0	0.982
9	9	170628G4_10	50.0	4.70	2.86e4	6.24e3	48.1	-3.7	0.918

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.997129
Calibration curve: 0.296814 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.464	4.75	3.46e1	7.29e3	0.458	-1.3	0.293
2	2	170628G4_3	0.930	4.75	4.72e1	6.69e3	0.682	-26.7	0.218
3	3	170628G4_4	1.86	4.75	1.06e2	7.07e3	1.45	-21.8	0.232
4	4	170628G4_5	4.64	4.74	3.06e2	6.89e3	4.30	-7.3	0.275
5	5	170628G4_6	9.26	4.75	6.03e2	6.84e3	8.52	-8.0	0.273
6	6	170628G4_7	13.9	4.75	9.83e2	6.68e3	14.2	2.3	0.304
7	7	170628G4_8	18.5	4.75	1.38e3	6.95e3	19.2	3.9	0.308
8	8	170628G4_9	23.1	4.75	1.64e3	6.92e3	22.9	-0.9	0.294
9	9	170628G4_10	46.3	4.75	3.13e3	6.41e3	47.2	2.0	0.303

Compound name: PFDA
Coefficient of Determination: R^2 = 0.996832
Calibration curve: -0.00244639 * x^2 + 0.690067 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	4.98	2.53e2	5.95e3	0.618	23.6	0.851
2	2	170628G4_3	1.00	4.98	4.49e2	6.26e3	1.04	4.3	0.717
3	3	170628G4_4	2.00	4.98	7.41e2	5.86e3	1.84	-7.8	0.632
4	4	170628G4_5	5.00	4.98	1.93e3	5.95e3	4.79	-4.2	0.650
5	5	170628G4_6	10.0	4.98	3.75e3	6.24e3	9.00	-10.0	0.602
6	6	170628G4_7	15.0	4.98	5.95e3	6.12e3	14.9	-0.8	0.649
7	7	170628G4_8	20.0	4.98	8.74e3	6.28e3	21.9	9.3	0.696
8	8	170628G4_9	25.0	4.98	9.53e3	6.04e3	25.1	0.4	0.631
9	9	170628G4_10	50.0	4.98	1.75e4	6.24e3	49.3	-1.3	0.562

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Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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(A) Out for method criteria. DM 7/10/17

Method: U:\G1.PRO\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:20:39

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.956964 (A)
Calibration curve: -0.00626361 * x^2 + 2.06222 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

(B) Points were excluded - DM 7/10/17

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.10	6.75e1	4.51e3	0.291	-41.8 (B)	1.20
2	2	170628G4_3	1.00	5.11	1.77e2	4.13e3	0.836	-16.4	1.72
3	3	170628G4_4	2.00	5.10	3.60e2	4.57e3	1.54	-23.1	1.58
4	4	170628G4_5	5.00	5.10	1.01e3	4.17e3	4.77	-4.7	1.94
5	5	170628G4_6	10.0	5.10	1.78e3	3.61e3	9.89	-1.1	1.98
6	6	170628G4_7	15.0	5.10	2.44e3	3.84e3	12.9	-14.3	1.70
7	7	170628G4_8	20.0	5.10	4.91e3	4.03e3	25.6	28.2	2.44
8	8	170628G4_9	25.0	5.10	4.54e3	4.27e3	22.1	-11.6	1.70
9	9	170628G4_10	50.0	5.10	7.76e3	3.55e3	49.9	-0.2	1.75

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.990927
Calibration curve: 1.66983 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

(B) Points were excluded. DM 7/10/17

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.22	6.66e1	4.51e3	0.354	-29.1 (B)	1.18
2	2	170628G4_3	1.00	5.22	1.39e2	4.13e3	0.808	-19.2	1.35
3	3	170628G4_4	2.00	5.22	2.50e2	4.57e3	1.31	-34.4	1.10
4	4	170628G4_5	5.00	5.22	8.08e2	4.17e3	4.64	-7.3	1.55
5	5	170628G4_6	10.0	5.22	1.72e3	3.61e3	11.4	14.0	1.90
6	6	170628G4_7	15.0	5.22	2.51e3	3.84e3	15.7	4.5	1.74
7	7	170628G4_8	20.0	5.22	3.43e3	4.03e3	20.4	2.1	1.71
8	8	170628G4_9	25.0	5.22	4.08e3	4.27e3	22.9	-8.5	1.53
9	9	170628G4_10	50.0	5.23	7.41e3	3.55e3	50.0	-0.1	1.67

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999421
Calibration curve: 0.594398 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.23	1.80e2	5.95e3	0.510	2.0	0.606
2	2	170628G4_3	1.00	5.23	3.73e2	6.26e3	1.00	0.2	0.596
3	3	170628G4_4	2.00	5.23	7.96e2	5.86e3	2.28	14.2	0.679
4	4	170628G4_5	5.00	5.23	1.79e3	5.95e3	5.07	1.4	0.603
5	5	170628G4_6	10.0	5.23	3.75e3	6.24e3	10.1	1.2	0.601
6	6	170628G4_7	15.0	5.23	5.33e3	6.12e3	14.7	-2.3	0.581
7	7	170628G4_8	20.0	5.23	7.30e3	6.28e3	19.5	-2.3	0.581
8	8	170628G4_9	25.0	5.23	9.01e3	6.04e3	25.1	0.3	0.596
9	9	170628G4_10	50.0	5.23	1.86e4	6.24e3	50.2	0.5	0.597

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995271
Calibration curve: 0.106528 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.46	2.97e1	5.95e3	0.468	-6.5	0.0996
2	2	170628G4_3	1.00	5.45	6.40e1	6.26e3	0.959	-4.1	0.102
3	3	170628G4_4	2.00	5.45	1.57e2	5.86e3	2.51	25.6	0.134
4	4	170628G4_5	5.00	5.45	3.02e2	5.95e3	4.77	-4.6	0.102
5	5	170628G4_6	10.0	5.45	6.67e2	6.24e3	10.0	0.4	0.107
6	6	170628G4_7	15.0	5.45	9.20e2	6.12e3	14.1	-6.0	0.100
7	7	170628G4_8	20.0	5.45	1.49e3	6.28e3	22.3	11.6	0.119
8	8	170628G4_9	25.0	5.45	1.59e3	6.04e3	24.7	-1.3	0.105
9	9	170628G4_10	50.0	5.45	3.23e3	6.24e3	48.6	-2.7	0.104

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Printed: Monday, July 10, 2017 11:14:34 Pacific Daylight Time

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.995022
Calibration curve: 1.00369 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.64	3.38e2	5.95e3	0.566	13.2	1.14
2	2	170628G4_3	1.00	5.65	6.60e2	6.26e3	1.05	4.9	1.05
3	3	170628G4_4	2.00	5.65	1.36e3	5.86e3	2.30	15.2	1.16
4	4	170628G4_5	5.00	5.65	3.13e3	5.95e3	5.24	4.8	1.05
5	5	170628G4_6	10.0	5.65	6.26e3	6.24e3	9.99	-0.1	1.00
6	6	170628G4_7	15.0	5.65	9.14e3	6.12e3	14.9	-0.9	0.995
7	7	170628G4_8	20.0	5.64	1.42e4	6.28e3	22.5	12.3	1.13
8	8	170628G4_9	25.0	5.65	1.51e4	6.04e3	24.9	-0.6	0.998
9	9	170628G4_10	50.0	5.65	2.95e4	6.24e3	47.2	-5.6	0.947

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.997633
Calibration curve: 0.982281 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	0.500	5.82	3.11e2	5.95e3	0.532	6.5	1.05
2	2	170628G4_3	1.00	5.82	6.08e2	6.26e3	0.988	-1.2	0.971
3	3	170628G4_4	2.00	5.82	1.30e3	5.86e3	2.26	13.2	1.11
4	4	170628G4_5	5.00	5.82	3.17e3	5.95e3	5.42	8.4	1.06
5	5	170628G4_6	10.0	5.82	6.07e3	6.24e3	9.90	-1.0	0.972
6	6	170628G4_7	15.0	5.82	8.80e3	6.12e3	14.6	-2.4	0.958
7	7	170628G4_8	20.0	5.81	1.28e4	6.28e3	20.7	3.5	1.02
8	8	170628G4_9	25.0	5.82	1.56e4	6.04e3	26.2	4.8	1.03
9	9	170628G4_10	50.0	5.82	2.93e4	6.24e3	47.9	-4.3	0.941

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Compound name: 13C2-PFHxA
Response Factor: 0.429074
RRF SD: 0.0111743, Relative SD: 2.60428
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	10.0	3.44	2.52e3	5.95e3	9.86	-1.4	0.423
2	2	170628G4_3	10.0	3.44	2.71e3	6.26e3	10.1	0.8	0.432
3	3	170628G4_4	10.0	3.44	2.61e3	5.86e3	10.4	3.7	0.445
4	4	170628G4_5	10.0	3.44	2.56e3	5.95e3	10.0	0.4	0.431
5	5	170628G4_6	10.0	3.44	2.65e3	6.24e3	9.92	-0.8	0.425
6	6	170628G4_7	10.0	3.44	2.55e3	6.12e3	9.71	-2.9	0.417
7	7	170628G4_8	10.0	3.44	2.72e3	6.28e3	10.1	0.9	0.433
8	8	170628G4_9	10.0	3.44	2.68e3	6.04e3	10.3	3.3	0.443
9	9	170628G4_10	10.0	3.45	2.57e3	6.24e3	9.59	-4.1	0.412

Compound name: 13C2-PFDA
Response Factor: 0.514239
RRF SD: 0.033831, Relative SD: 6.57885
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	10.0	4.98	3.00e3	5.95e3	9.81	-1.9	0.504
2	2	170628G4_3	10.0	4.98	3.32e3	6.26e3	10.3	3.1	0.530
3	3	170628G4_4	10.0	4.98	3.05e3	5.86e3	10.1	1.3	0.521
4	4	170628G4_5	10.0	4.98	3.47e3	5.95e3	11.3	13.4	0.583
5	5	170628G4_6	10.0	4.98	3.36e3	6.24e3	10.5	4.8	0.539
6	6	170628G4_7	10.0	4.98	2.89e3	6.12e3	9.18	-8.2	0.472
7	7	170628G4_8	10.0	4.98	3.18e3	6.28e3	9.83	-1.7	0.505
8	8	170628G4_9	10.0	4.98	2.93e3	6.04e3	9.44	-5.6	0.486
9	9	170628G4_10	10.0	4.98	3.04e3	6.24e3	9.49	-5.1	0.488

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Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:20:39 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:24:01 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:20:39

Compound name: d5-N-EtFOSAA
Response Factor: 1.06469
RRF SD: 0.112001, Relative SD: 10.5196
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170628G4_2	40.0	5.22	4.36e3	4.51e3	36.4	-9.0 (A)	0.968
2	2 170628G4_3	40.0	5.22	4.54e3	4.13e3	41.3	3.3	1.10
3	3 170628G4_4	40.0	5.22	4.51e3	4.57e3	37.1	-7.2	0.988
4	4 170628G4_5	40.0	5.22	4.09e3	4.17e3	36.8	-7.9	0.981
5	5 170628G4_6	40.0	5.22	4.12e3	3.61e3	42.9	7.1	1.14
6	6 170628G4_7	40.0	5.22	4.59e3	3.84e3	44.9	12.3	1.20
7	7 170628G4_8	40.0	5.22	4.00e3	4.03e3	37.3	-6.8	0.992
8	8 170628G4_9	40.0	5.22	3.95e3	4.27e3	34.8	-13.1	0.925
9	9 170628G4_10	40.0	5.22	4.10e3	3.55e3	43.4	8.4	1.15

(A) Points were excluded. dm 7/10/17 dm 7/10/17

Compound name: 13C2-PFOA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170628G4_2	10.0	4.36	5.95e3	5.95e3	10.0	0.0	1.00
2	2 170628G4_3	10.0	4.36	6.26e3	6.26e3	10.0	0.0	1.00
3	3 170628G4_4	10.0	4.36	5.86e3	5.86e3	10.0	0.0	1.00
4	4 170628G4_5	10.0	4.36	5.95e3	5.95e3	10.0	0.0	1.00
5	5 170628G4_6	10.0	4.36	6.24e3	6.24e3	10.0	0.0	1.00
6	6 170628G4_7	10.0	4.36	6.12e3	6.12e3	10.0	0.0	1.00
7	7 170628G4_8	10.0	4.36	6.28e3	6.28e3	10.0	0.0	1.00
8	8 170628G4_9	10.0	4.36	6.04e3	6.04e3	10.0	0.0	1.00
9	9 170628G4_10	10.0	4.36	6.24e3	6.24e3	10.0	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	28.7	4.75	7.29e3	7.29e3	28.7	0.0	1.00
2	2	170628G4_3	28.7	4.75	6.69e3	6.69e3	28.7	0.0	1.00
3	3	170628G4_4	28.7	4.75	7.07e3	7.07e3	28.7	0.0	1.00
4	4	170628G4_5	28.7	4.75	6.89e3	6.89e3	28.7	0.0	1.00
5	5	170628G4_6	28.7	4.75	6.84e3	6.84e3	28.7	0.0	1.00
6	6	170628G4_7	28.7	4.75	6.68e3	6.68e3	28.7	0.0	1.00
7	7	170628G4_8	28.7	4.75	6.95e3	6.95e3	28.7	0.0	1.00
8	8	170628G4_9	28.7	4.75	6.92e3	6.92e3	28.7	0.0	1.00
9	9	170628G4_10	28.7	4.75	6.41e3	6.41e3	28.7	0.0	1.00

Compound name: d3-N-MeFOSAA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

(A) Points were excluded on 7/10/17

	#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1	170628G4_2	40.0	5.10	4.51e3	4.51e3	40.0	0.0 (A)	1.00
2	2	170628G4_3	40.0	5.10	4.13e3	4.13e3	40.0	0.0	1.00
3	3	170628G4_4	40.0	5.09	4.57e3	4.57e3	40.0	0.0	1.00
4	4	170628G4_5	40.0	5.10	4.17e3	4.17e3	40.0	0.0	1.00
5	5	170628G4_6	40.0	5.10	3.61e3	3.61e3	40.0	0.0	1.00
6	6	170628G4_7	40.0	5.10	3.84e3	3.84e3	40.0	0.0	1.00
7	7	170628G4_8	40.0	5.10	4.03e3	4.03e3	40.0	0.0	1.00
8	8	170628G4_9	40.0	5.10	4.27e3	4.27e3	40.0	0.0	1.00
9	9	170628G4_10	40.0	5.10	3.55e3	3.55e3	40.0	0.0	1.00

Vista Analytical Laboratory VG-9

Dataset: Untitled

Last Altered: Friday, July 07, 2017 12:30:41 Pacific Daylight Time
Printed: Friday, July 07, 2017 12:31:50 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 07 Jul 2017 12:24:54

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	170628G4_1	IPA	28-Jun-17	18:20:48
2	170628G4_2	ST170628G4-1 PFC CS-3 17F1604	28-Jun-17	18:33:13
3	170628G4_3	ST170628G4-2 PFC CS-2 17F1605	28-Jun-17	18:45:35
4	170628G4_4	ST170628G4-3 PFC CS-1 17F1607	28-Jun-17	18:58:38
5	170628G4_5	ST170628G4-4 PFC CS0 17F1608	28-Jun-17	19:11:31
6	170628G4_6	ST170628G4-5 PFC CS1 17F1609	28-Jun-17	19:23:55
7	170628G4_7	ST170628G4-6 PFC CS2 17F1610	28-Jun-17	19:36:18
8	170628G4_8	ST170628G4-7 PFC CS3 17F501	28-Jun-17	19:48:43
9	170628G4_9	ST170628G4-8 PFC CS4 17F1611	28-Jun-17	20:01:36
10	170628G4_10	ST170628G4-9 PFC CS5 17F1612	28-Jun-17	20:13:58
11	170628G4_11	IPA	28-Jun-17	20:26:21
12	170628G4_12	SS170628G4-1 PFC SSS 17F1613	28-Jun-17	20:38:45
13	170628G4_13	IPA	28-Jun-17	20:51:08
14	170628G4_14	B7F0113-BLK1 LRB 0.25	28-Jun-17	21:03:33
15	170628G4_15	B7F0113-BS1 LFB 0.25	28-Jun-17	21:15:57
16	170628G4_16	1700759-01 Well2-G0130002-DW-20170622 ...	28-Jun-17	21:28:21
17	170628G4_17	1700759-02 Well2-G0130002-FRB-20170622 ...	28-Jun-17	21:40:46
18	170628G4_18	1700759-03 Well5-G0130002-DW-20170622 ...	28-Jun-17	21:53:09
19	170628G4_19	1700759-04 Well5-G0130002-FRB-20170622 ...	28-Jun-17	22:05:32
20	170628G4_20	1700759-05 Well6-G0130002-DW-20170622 ...	28-Jun-17	22:19:40
21	170628G4_21	1700759-06 Well6-G0130002-FRB-20170622 ...	28-Jun-17	22:32:59
22	170628G4_22	1700759-07 Tower2-DW-20170622 0.2822	28-Jun-17	22:45:24
23	170628G4_23	1700759-08 Tower2-FRB-20170622 0.28373	28-Jun-17	22:57:50
24	170628G4_24	1700759-09 Tower1-DW-20170622 0.28567	28-Jun-17	23:10:10
25	170628G4_25	B7F0113-MS1 LFSM 0.27828	28-Jun-17	23:22:32
26	170628G4_26	B7F0113-MSD1 LFSMD 0.28029	28-Jun-17	23:34:54
27	170628G4_27	1700759-10 Tower1-DW-20170622FD 0.27517	28-Jun-17	23:47:17
28	170628G4_28	IPA	28-Jun-17	23:59:52
29	170628G4_29	ST170628G4-10 PFC CS2 17F1610	29-Jun-17	00:12:17
30	170628G4_30	IPA	29-Jun-17	00:24:43
31	170628G4_31	1700759-11 Tower1-FRB-20170622 0.27641	29-Jun-17	00:37:36

Dataset: Untitled

Last Altered: Friday, July 07, 2017 12:30:41 Pacific Daylight Time
Printed: Friday, July 07, 2017 12:31:50 Pacific Daylight Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
32	170628G4_32	1700759-12 Tower1 - FRB-20170622FD 0.284...	29-Jun-17	00:50:22
33	170628G4_33	1700765-01 10 Main St 0.24505	29-Jun-17	01:02:47
34	170628G4_34	1700765-02 11 Daniel 0.24915	29-Jun-17	01:15:12
35	170628G4_35	1700765-03 12 Main St 0.24892	29-Jun-17	01:27:34
36	170628G4_36	1700765-04 13 Daniel 0.2463	29-Jun-17	01:39:56
37	170628G4_37	1700765-05 32 Sunrise 0.2497	29-Jun-17	01:52:19
38	170628G4_38	IPA	29-Jun-17	02:04:43
39	170628G4_39	ST170628G4-11 PFC CS5 17F1612	29-Jun-17	02:17:08
40	170628G4_40	IPA	29-Jun-17	02:29:48

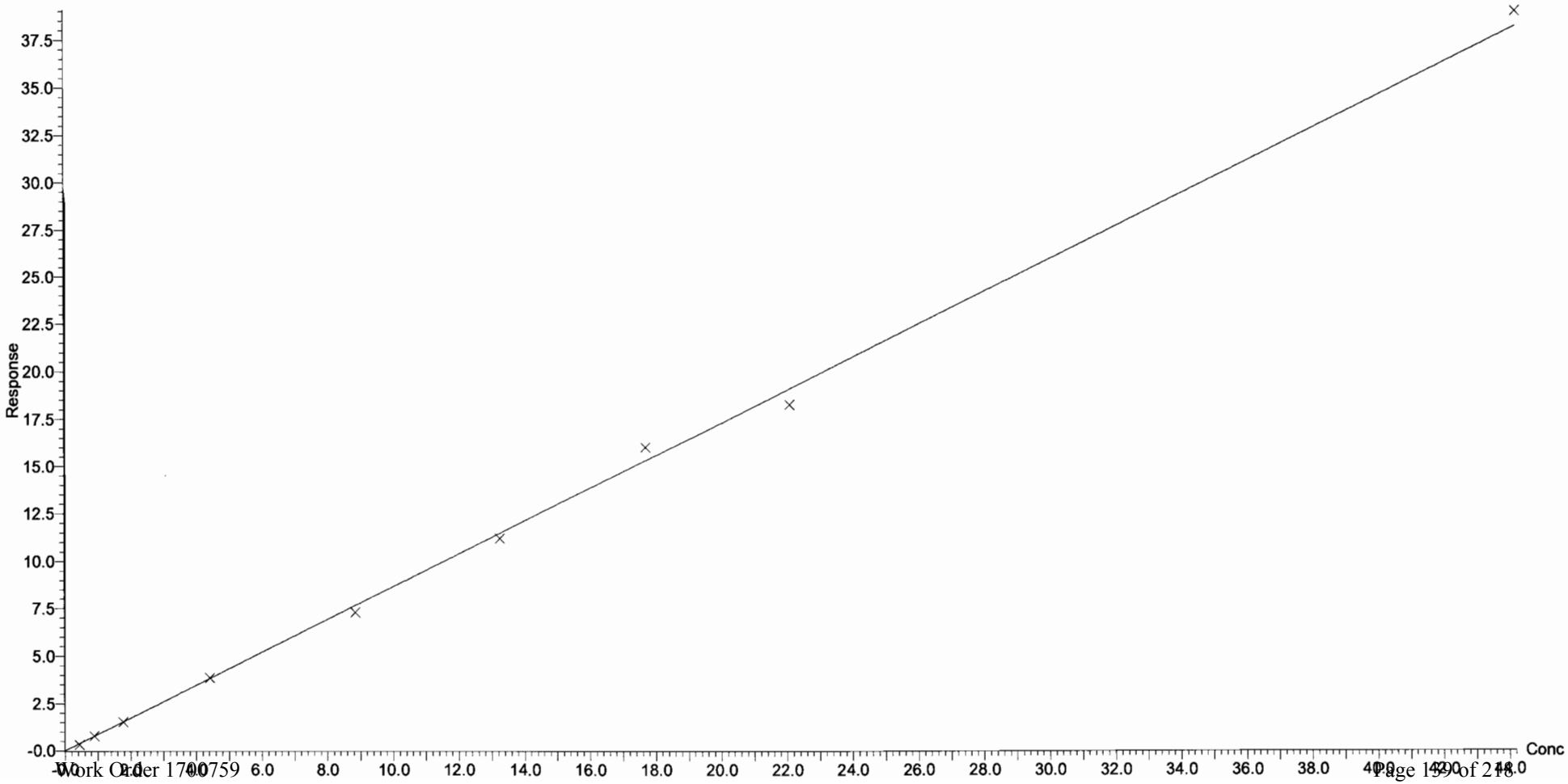
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:10:21

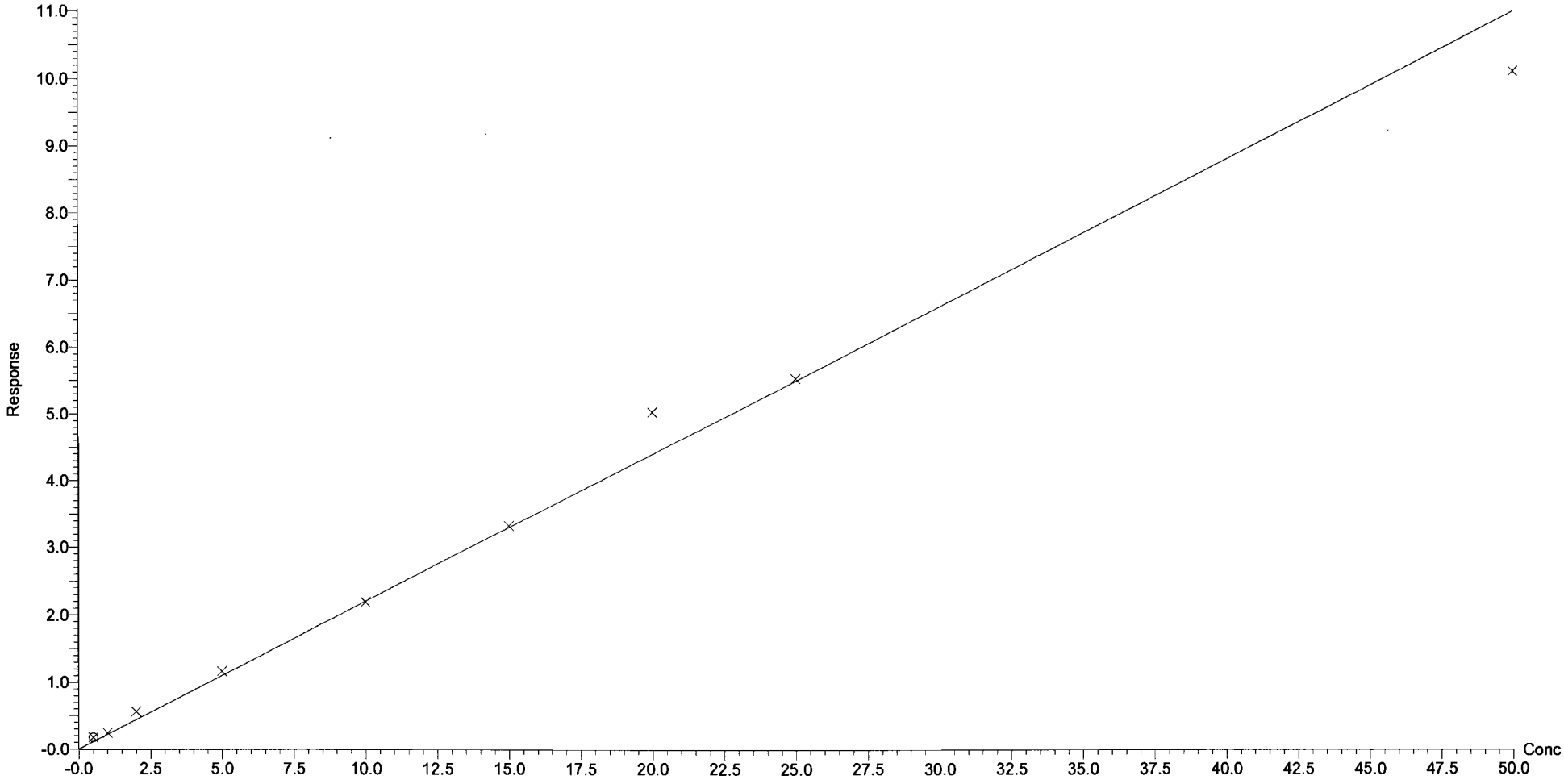
Compound name: PFBS
Coefficient of Determination: R^2 = 0.998576
Calibration curve: 0.866399 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

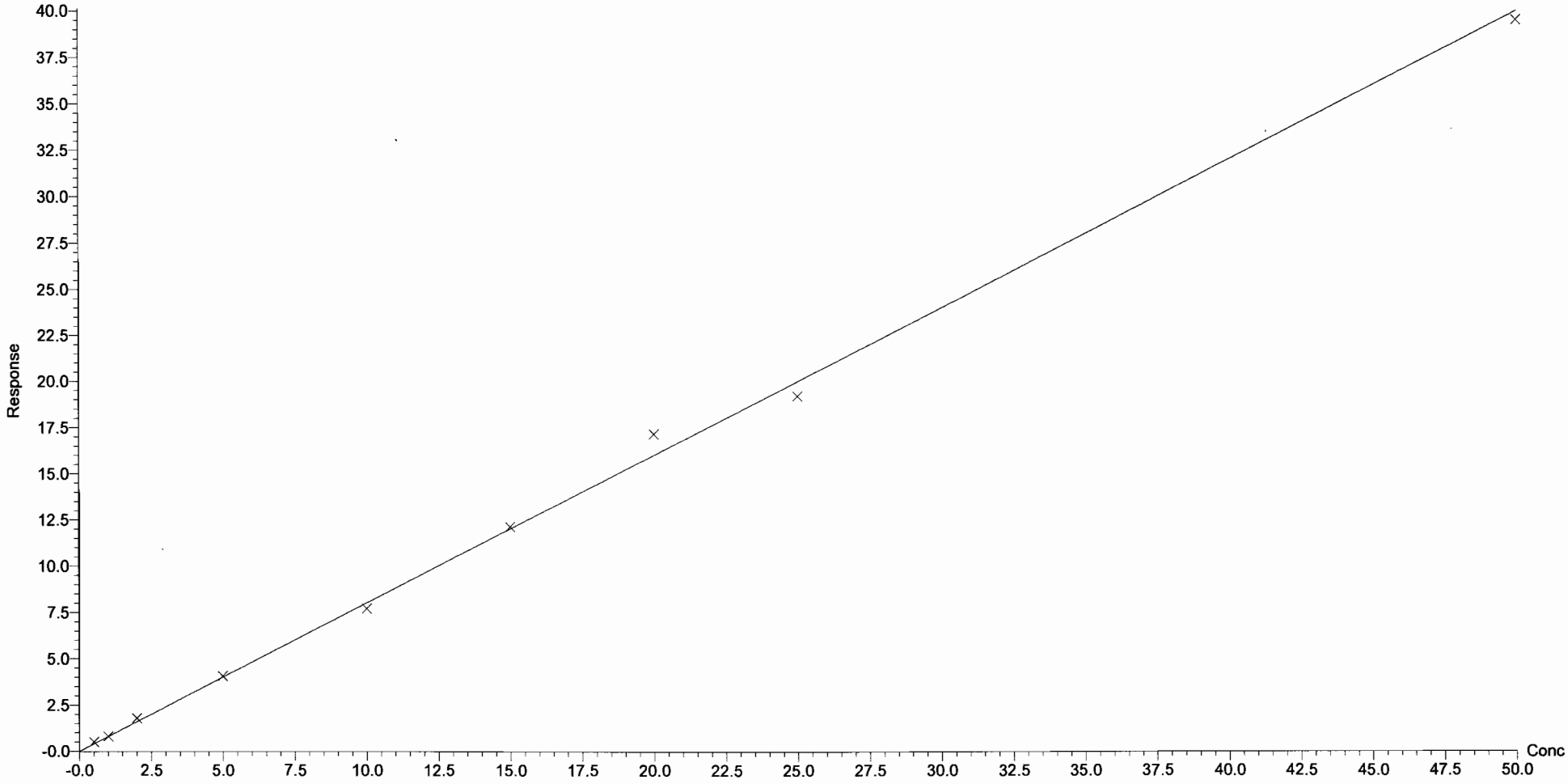
Compound name: PFHxA
Coefficient of Determination: R^2 = 0.990042
Calibration curve: 0.220495 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

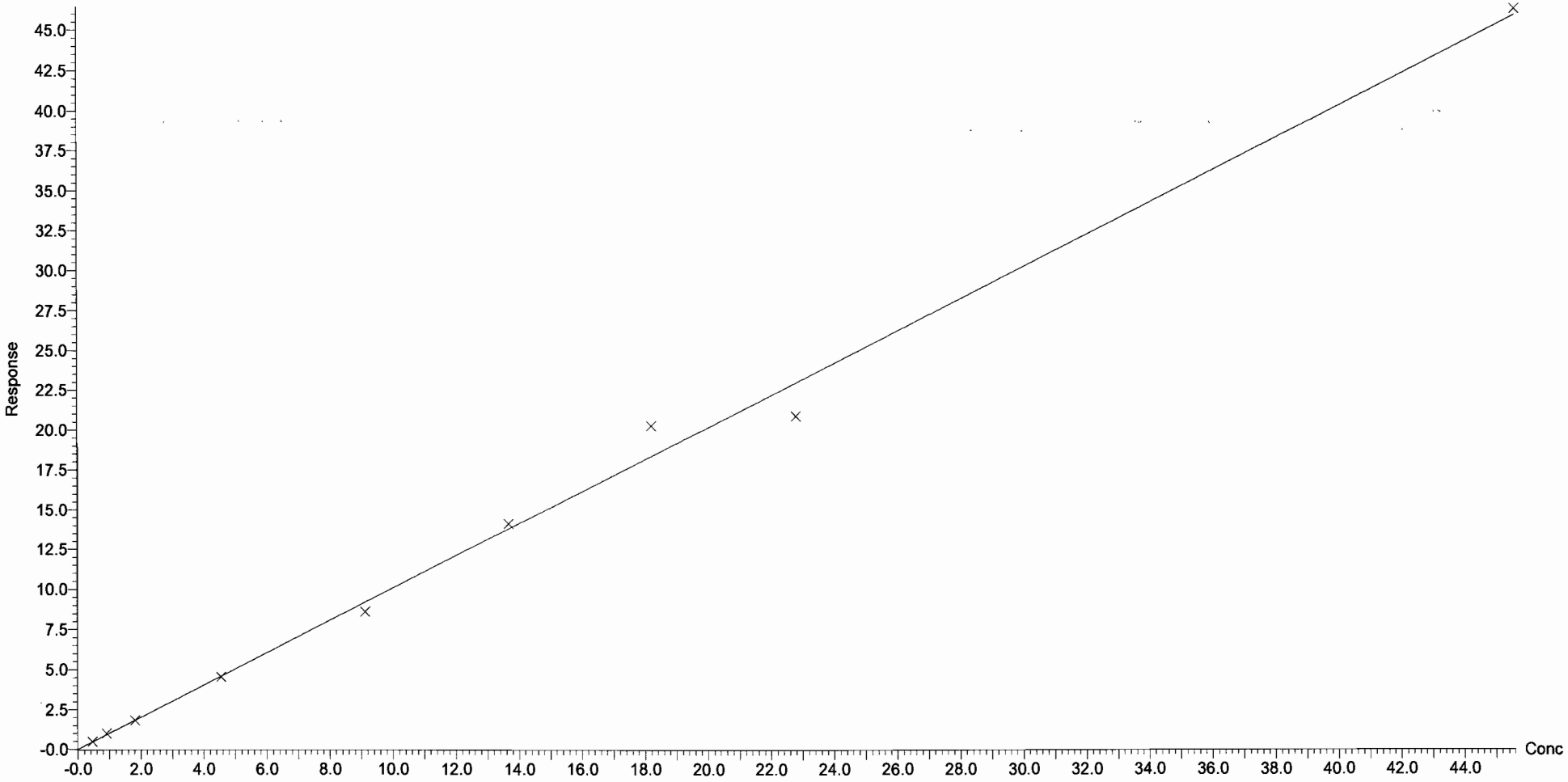
Compound name: PFHpA
Coefficient of Determination: R^2 = 0.997878
Calibration curve: 0.801874 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

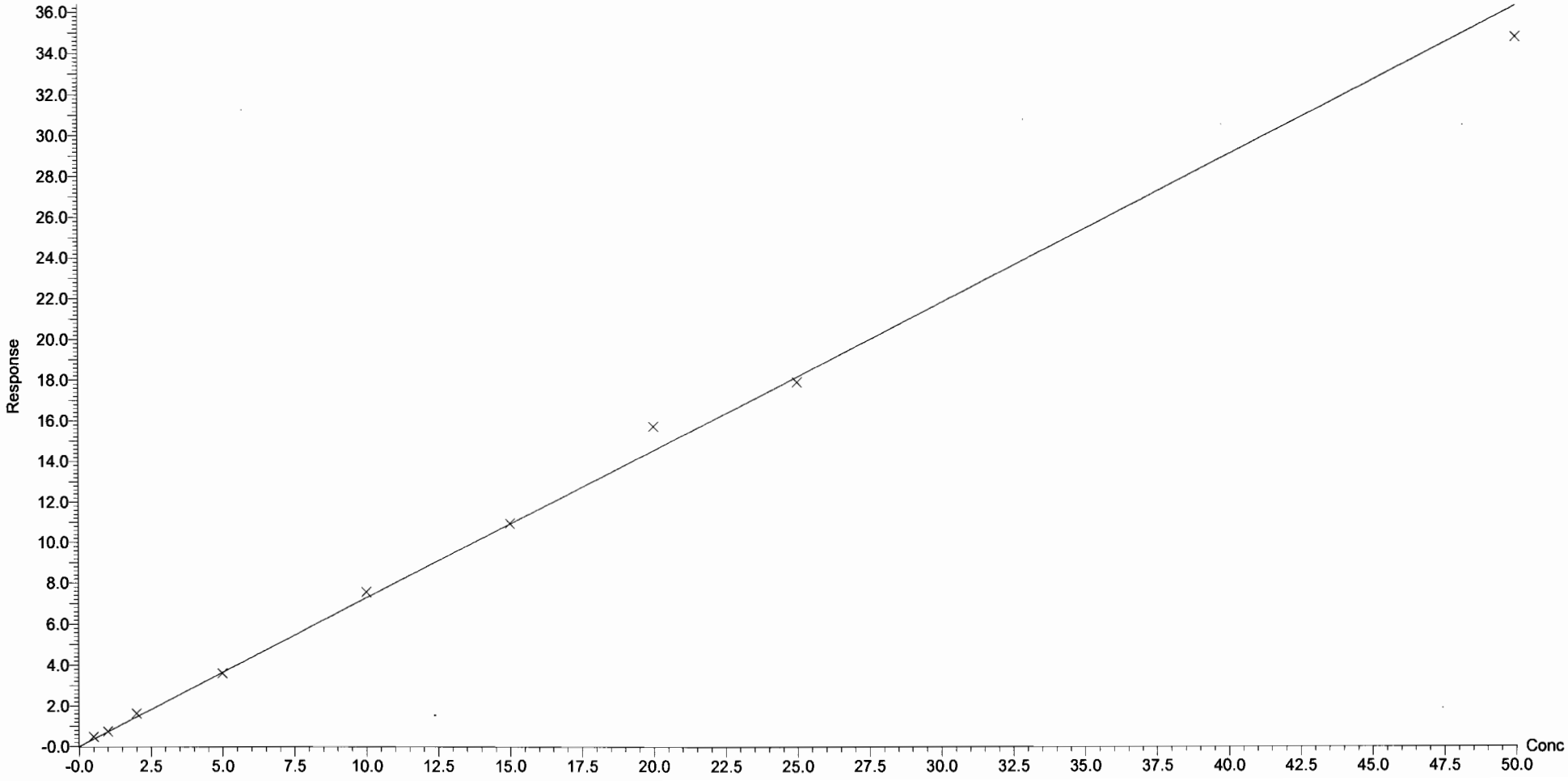
Compound name: PFHxS
Coefficient of Determination: R^2 = 0.995481
Calibration curve: 1.00963 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

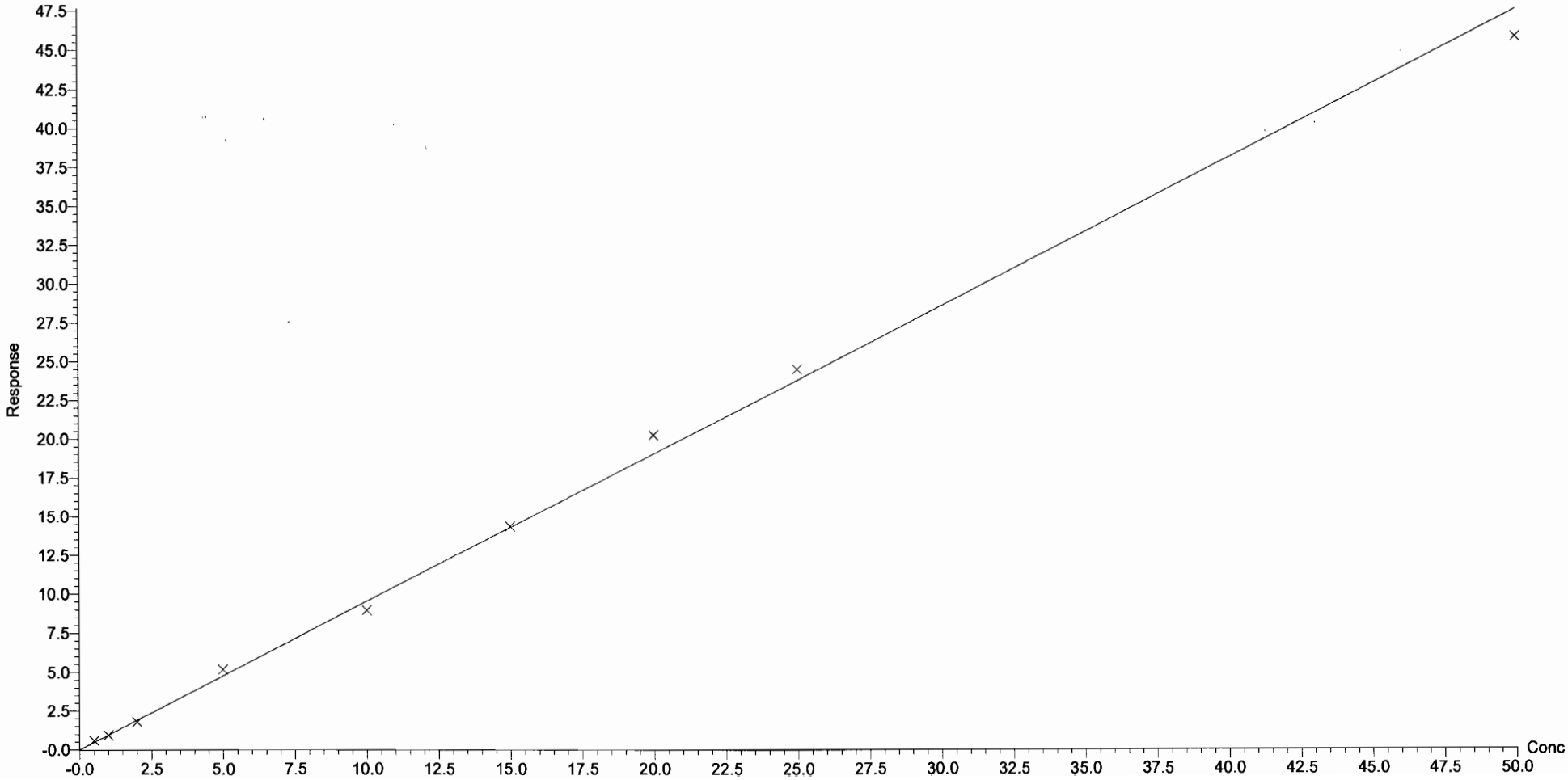
Compound name: PFOA
Coefficient of Determination: R^2 = 0.996802
Calibration curve: 0.727677 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

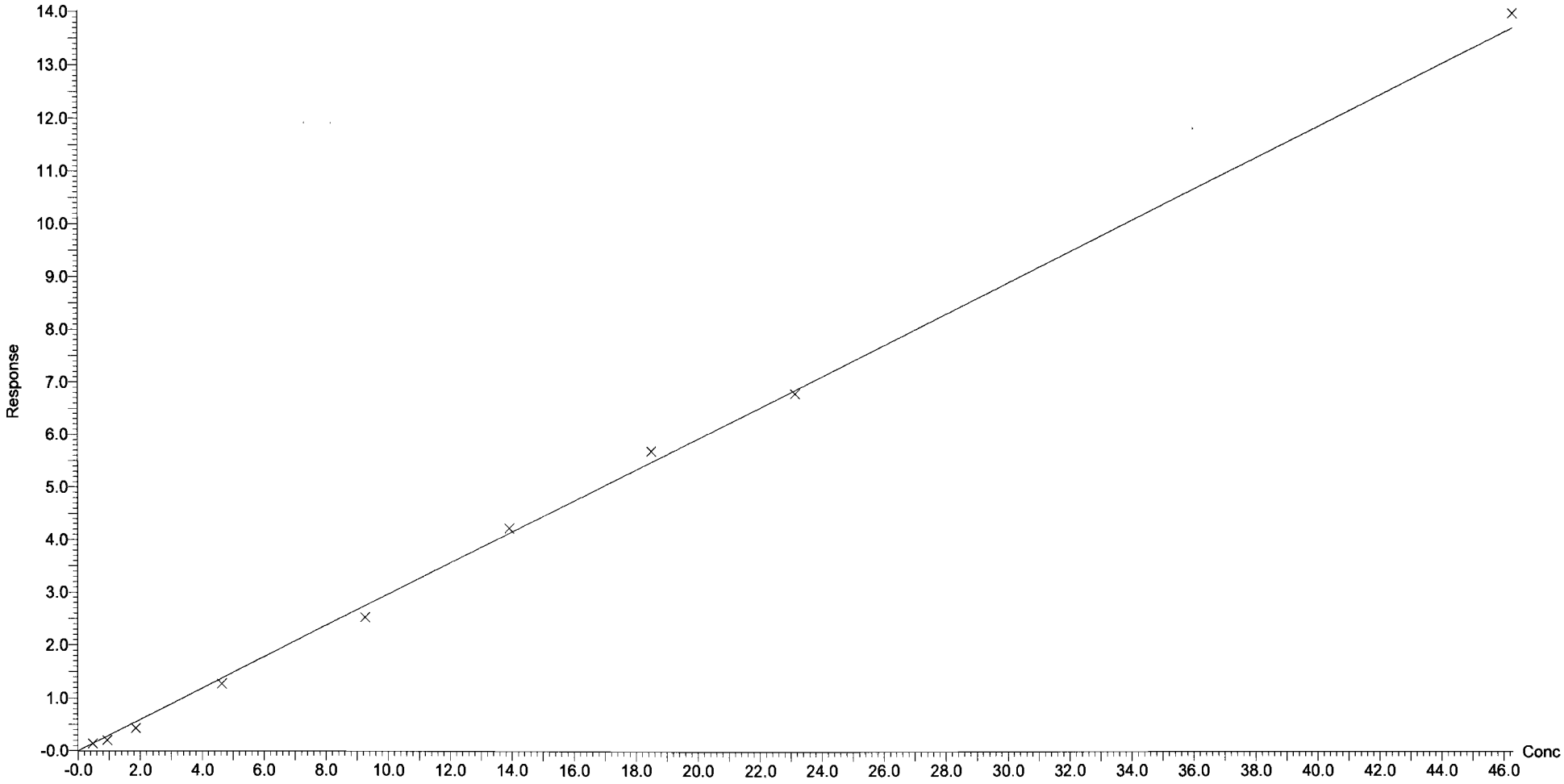
Compound name: PFNA
Coefficient of Determination: R^2 = 0.997442
Calibration curve: 0.953299 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

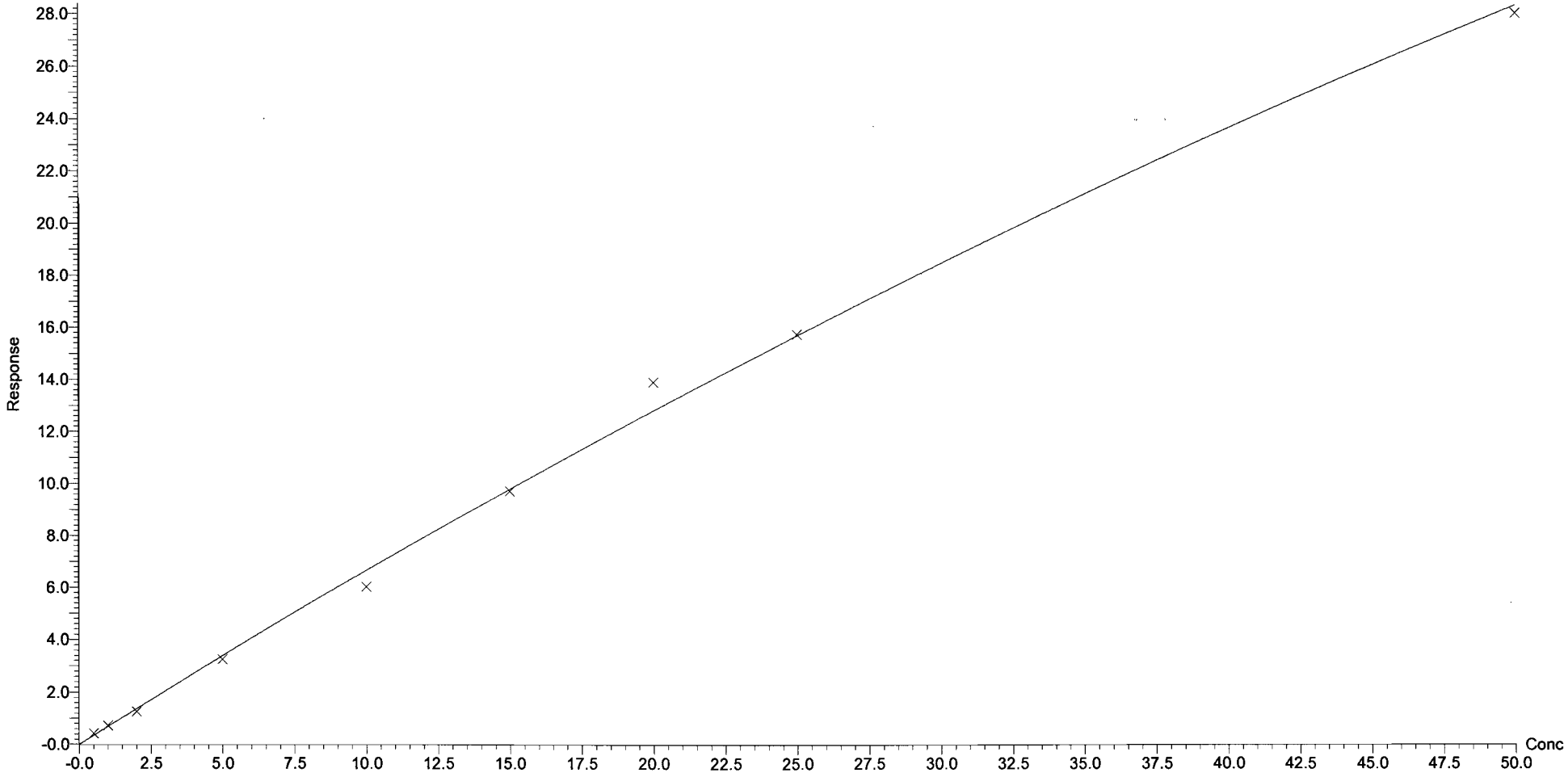
Compound name: PFOS
Coefficient of Determination: R^2 = 0.997129
Calibration curve: 0.296814 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.996832
Calibration curve: -0.00244639 * x^2 + 0.690067 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



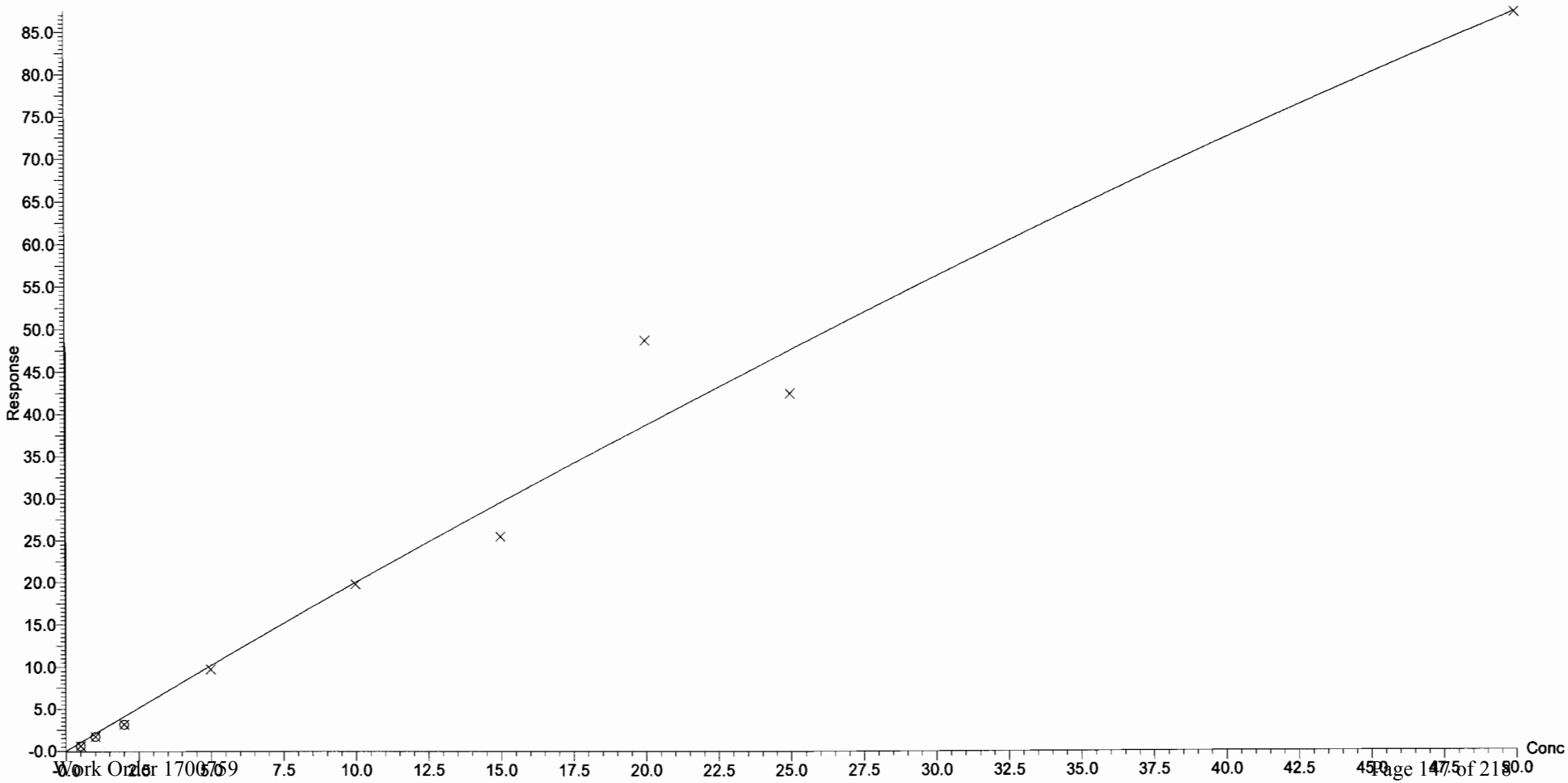
Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:20:39 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:25:57 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_DW_L14_0607.mdb 07 Jul 2017 12:26:51
Calibration: U:\G1.PRO\CurveDB\C18_537_Q1_06-28-17_L14.cdb 10 Jul 2017 11:20:39

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.956964
Calibration curve: -0.00626361 * x^2 + 2.06222 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

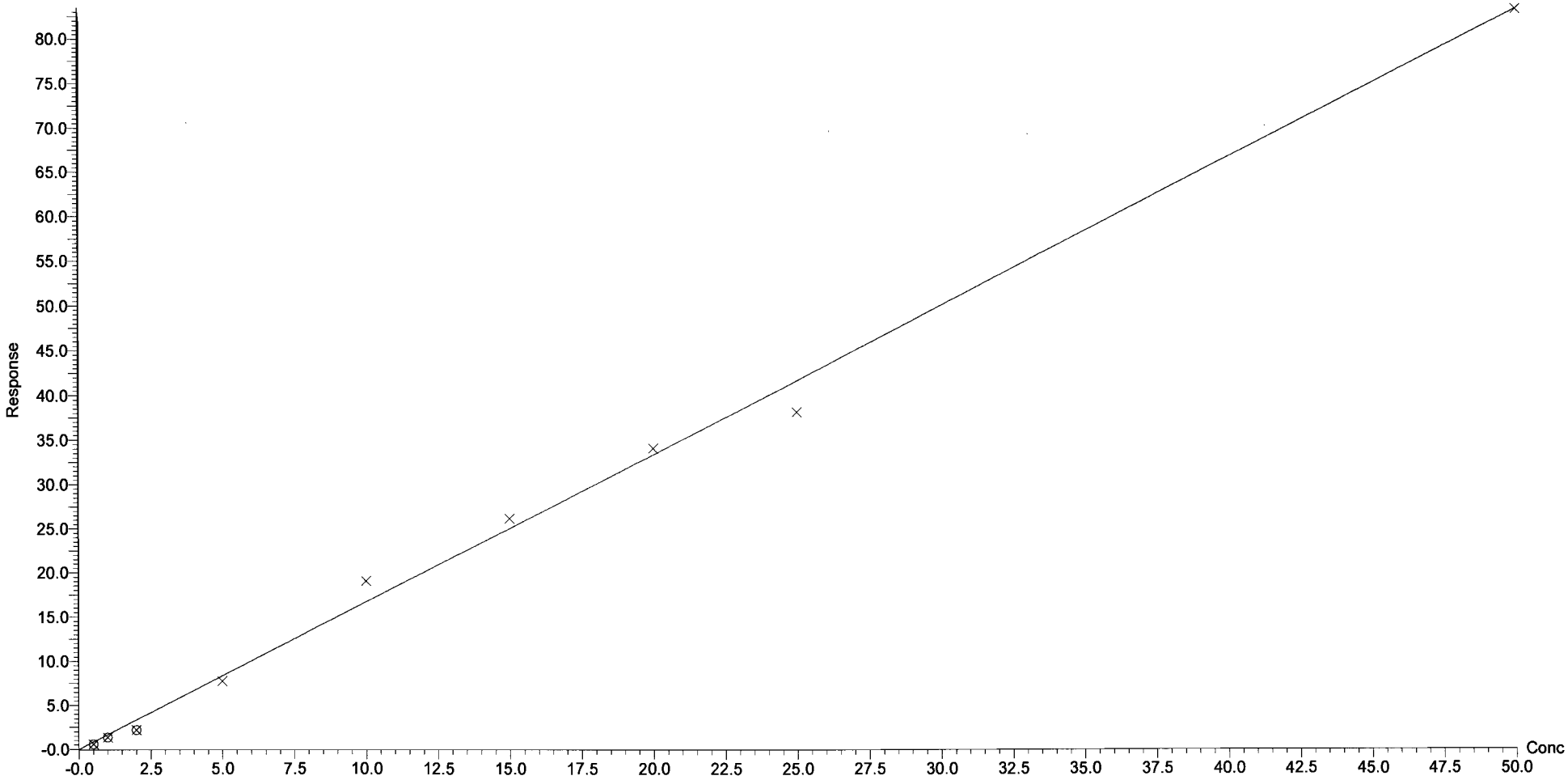


Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:20:39 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:25:57 Pacific Daylight Time

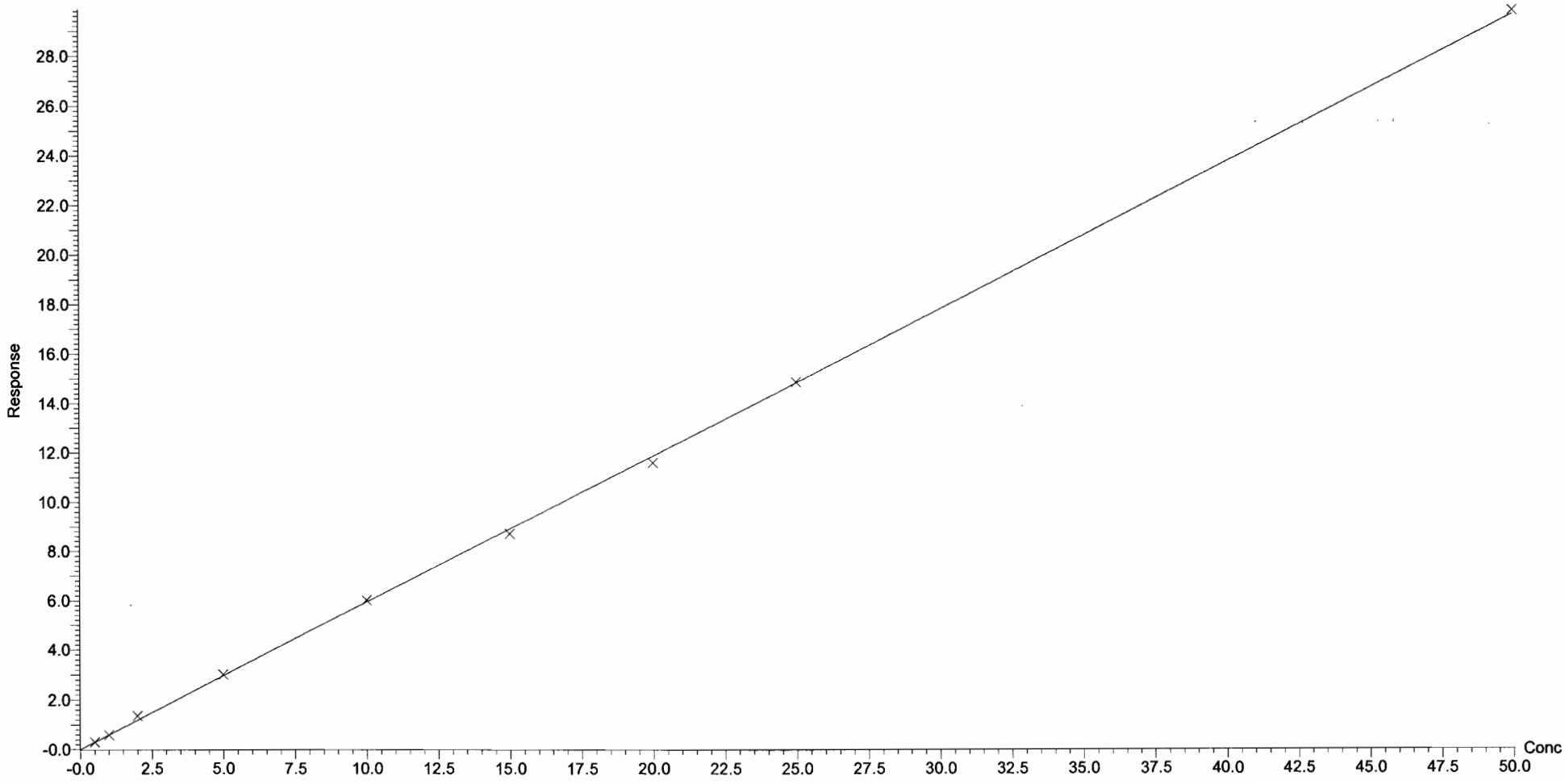
Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.990927
Calibration curve: 1.66983 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

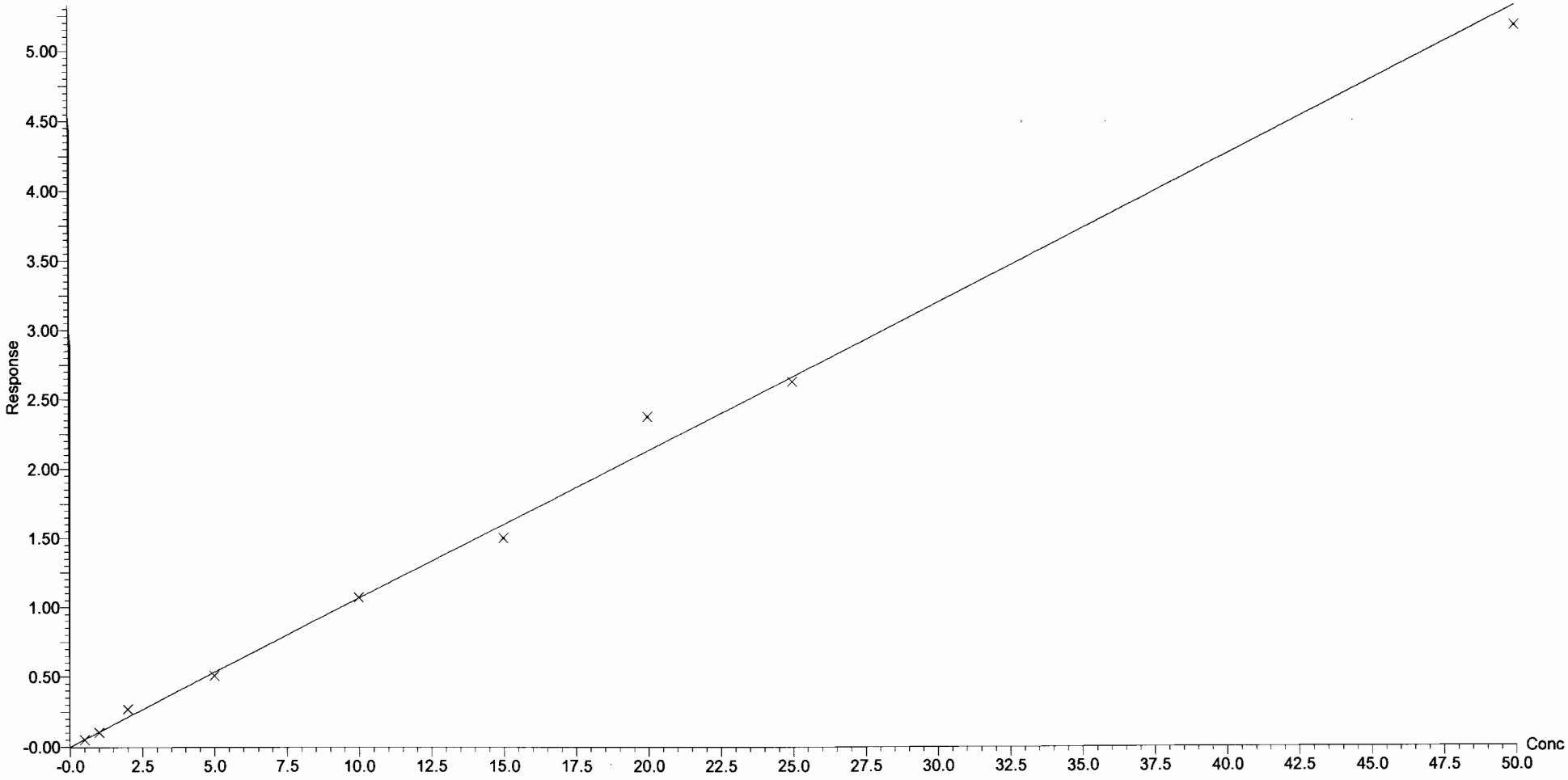
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999421
Calibration curve: 0.594398 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

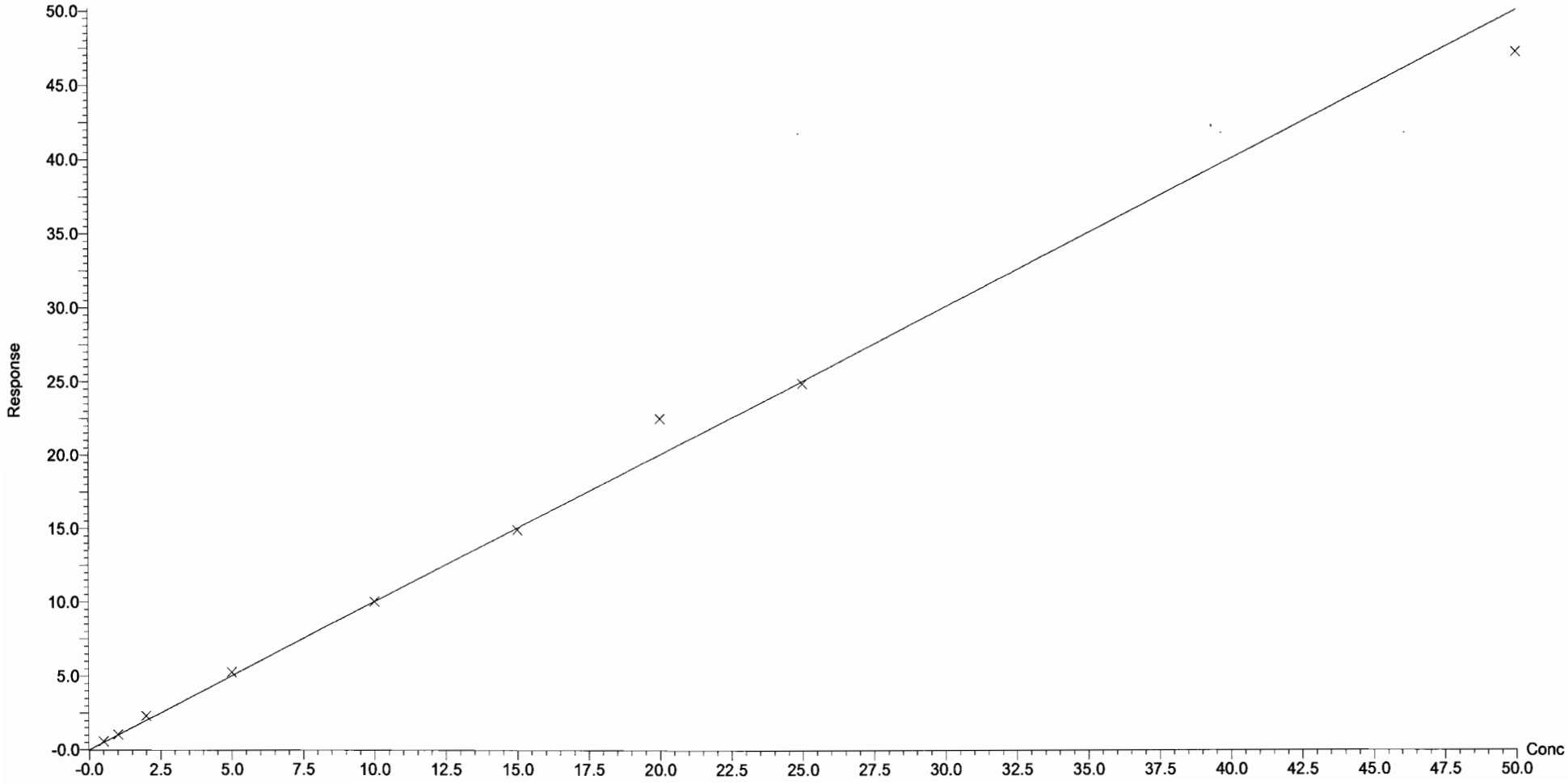
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995271
Calibration curve: 0.106528 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

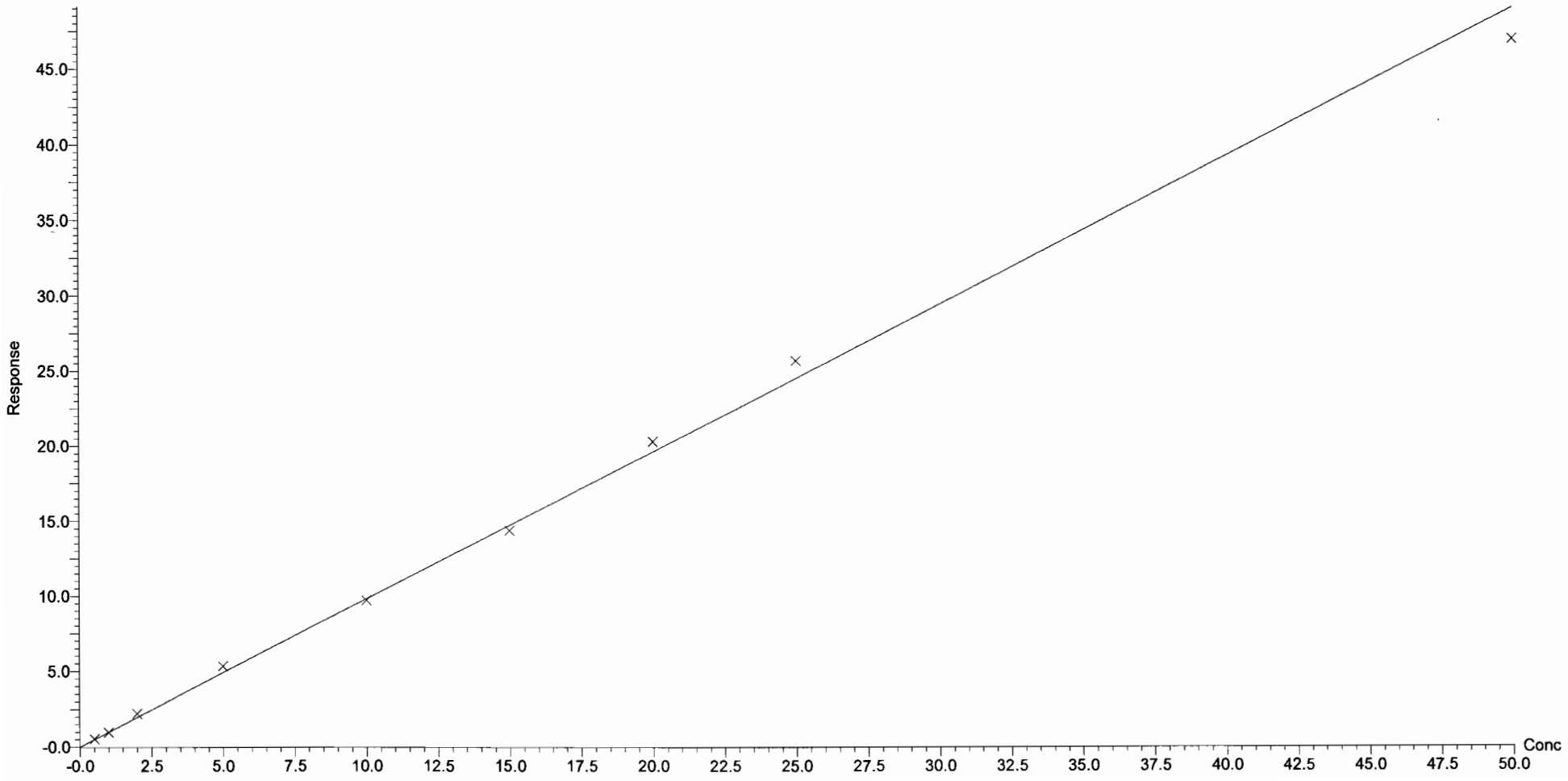
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.995022
Calibration curve: 1.00369 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:15:30 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.997633
Calibration curve: 0.982281 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

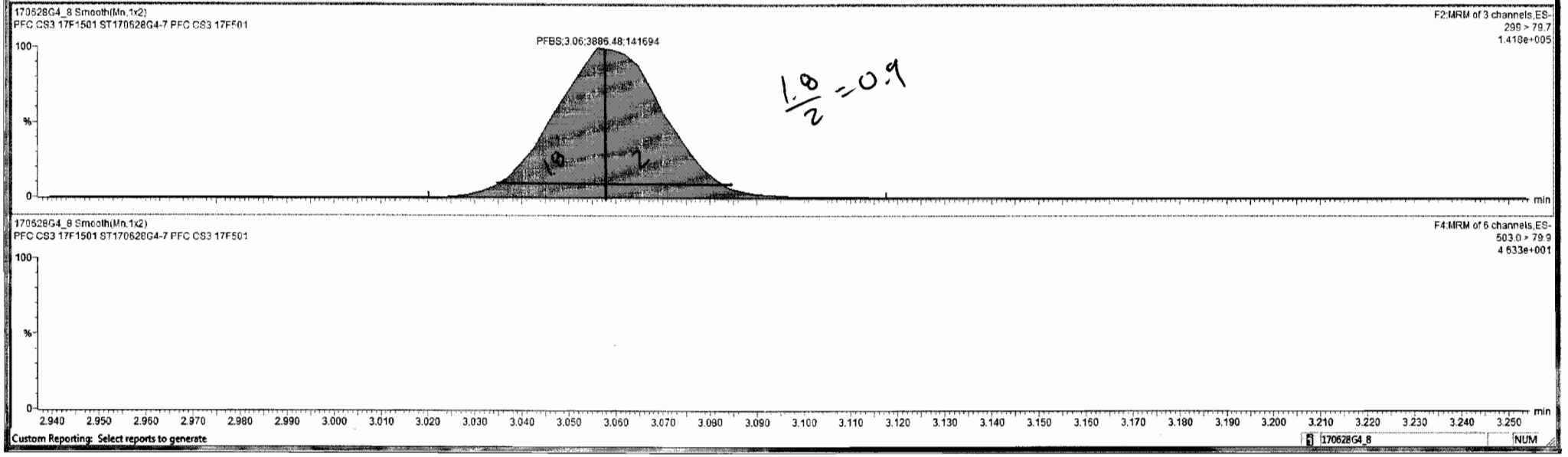


TargetLynx - 170628G4-CRV.qld *

File Edit View Display Processing Window Help

170628G4_8 - ST170628G4-7 PFC CS3 17F501 - PFC CS3 17F1501

	Name	Trace	Area	RRF	Wt/Vol	Pred RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	3.89e3		1.000	3.02	3.06	18.5	YES	104.5	0.0053489
2	PFHxA	313.2 > 268.9	3.17e3		1.000	3.42	3.44	23.0	YES	114.9	0.0333559
3	PFHpA	363 > 318.9	1.08e4		1.000	3.97	3.96	21.5	YES	107.4	0.0061800
4	PFHxS	398.9 > 79.8	4.92e3		1.000	4.09	4.08	20.2	YES	111.2	0.1270060
5	PFOA	413 > 368.7	9.89e3		1.000	4.36	4.36	21.7	YES	108.6	0.3981637
6	PFNA	463 > 418.8	1.27e4		1.000	4.68	4.69	21.3	YES	106.3	0.0077689
7	PFOS	499 >79.9	1.39e3		1.000	4.75	4.75	19.2	YES	103.5	0.1491051
8	PFDA	513 > 468.8	6.74e3		1.000	4.96	4.98	21.9	NO	109.4	0.0040907
9	N-MeFOSAA	570.1 > 419.0	4.95e3		1.000	5.10	5.10	25.7	YES	128.7	0.0242826
10	N-EtFOSAA	584.2 >419.0	3.35e3		1.000	5.21	5.22	20.0	YES	100.1	0.0639268
11	PFUnA	563 > 518.9	7.30e3		1.000	5.21	5.23	19.6	YES	98.0	0.0137836
12	PFDoA	612.9 > 318.8	1.49e3		1.000	5.41	5.45	22.4	YES	112.0	0.0081644
13	PFTrDA	662.9 > 618.9	1.42e4		1.000	5.59	5.64	22.6	YES	113.0	0.0106000
14	PFTeDA	712.9 > 668.8	1.28e4		1.000	5.76	5.81	20.8	YES	103.9	0.0017923
15	13C2-PFHxA	315 > 269.8	2.72e3	0.427	1.000	3.50	3.44	10.1	NO	101.5	0.0043878
16	13C2-PFDA	515.1 > 469.9	3.16e3	0.512	1.000	4.97	4.98	9.87	NO	98.7	0.0310051
17	d5-N-EtFOSAA	589.3 > 419.0	4.00e3	1.06	1.000	5.10	5.22	37.3	NO	93.2	0.2129527
18	13C2-PFOA	414.9 > 369.7	6.28e3	1.00	1.000	4.50	4.36	10.0	NO	100.0	0.0034000
19	13C4-PFOS	503.0 > 79.9	6.95e3	1.00	1.000	4.89	4.75	28.7	NO	100.0	0.0400898
20	d3-N-MeFOS...	573.3 > 419.0	4.03e3	1.00	1.000	5.24	5.10	40.0	NO	100.0	0.0424620



Custom Reporting: Select reports to generate

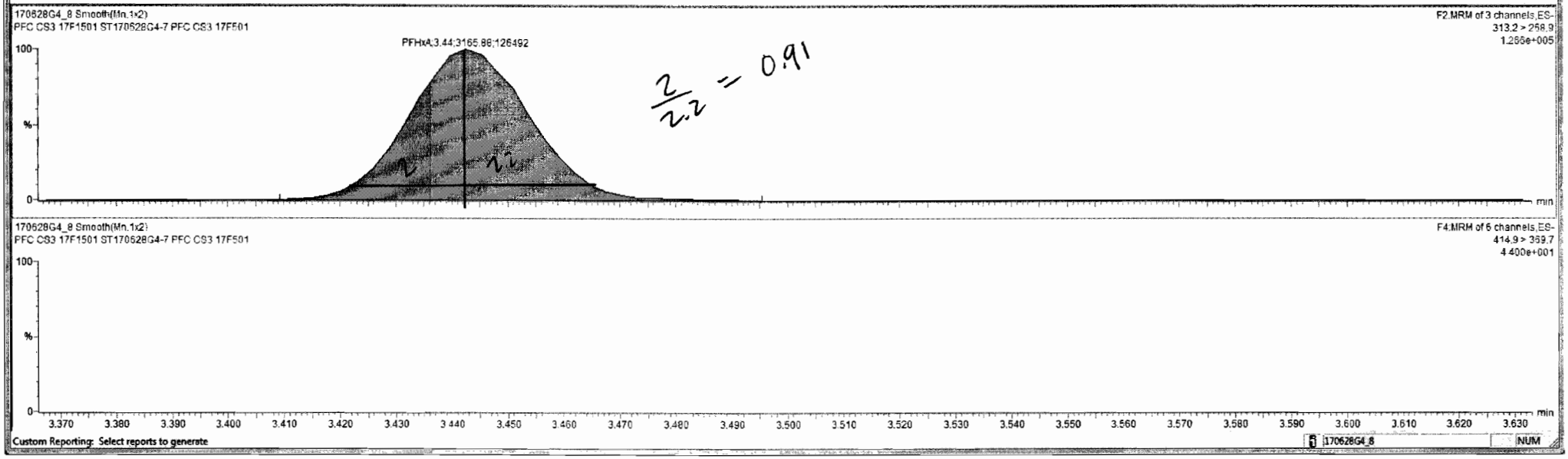
170628G4_8 NUM

TargetLynx - 170628G4-CKV.qld * - [Chromatogram]

File Edit View Display Processing Window Help

170628G4_8 - ST170628G4-7 PFC CS3 17F501 - PFC CS3 17F1501

	Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
1	PFBS	299 > 79.7	3.89e3		1.000	3.02	3.06	18.5	YES	104.5	0.0053469
2	PFHxA	313.2 > 268.9	3.17e3		1.000	3.42	3.44	23.0	YES	114.9	0.0333559
3	PFHpA	363 > 318.9	1.08e4		1.000	3.97	3.95	21.5	YES	107.4	0.0061800
4	PFHxS	398.9 > 79.6	4.92e3		1.000	4.09	4.08	20.2	YES	111.2	0.1270060
5	PFOA	413 > 368.7	9.89e3		1.000	4.36	4.36	21.7	YES	108.6	0.3981637
6	PFNA	463 > 418.8	1.27e4		1.000	4.68	4.69	21.3	YES	106.3	0.0077589
7	PFOS	499 >79.9	1.39e3		1.000	4.75	4.75	19.2	YES	103.5	0.1491051
8	PFDA	513 > 468.8	8.74e3		1.000	4.96	4.98	21.9	NO	109.4	0.0040907
9	N-MeFOSAA	570.1 > 419.0	4.95e3		1.000	5.10	5.10	25.7	YES	128.7	0.0242826
10	N-EtFOSAA	584.2 >419.0	3.35e3		1.000	5.21	5.22	20.0	YES	100.1	0.0638268
11	PFUnA	563 > 518.9	7.30e3		1.000	5.21	5.23	19.6	YES	98.0	0.0137838
12	PFDoA	612.9 > 318.8	1.49e3		1.000	5.41	5.45	22.4	YES	112.0	0.0081644
13	PFTrDA	662.9 > 618.9	1.42e4		1.000	5.59	5.64	22.6	YES	113.0	0.0106000
14	PFTeDA	712.9 > 668.8	1.28e4		1.000	5.76	5.81	20.8	YES	103.9	0.0017923
15	13C2-PFHxA	315 > 269.8	2.72e3	0.427	1.000	3.50	3.44	10.1	NO	101.5	0.0043878
16	13C2-PFDA	515.1 > 469.9	3.18e3	0.512	1.000	4.97	4.98	9.87	NO	98.7	0.0310051
17	d5-N-EtFOSAA	589.3 > 419.0	4.00e3	1.06	1.000	5.10	5.22	37.3	NO	93.2	0.2129627
18	13C2-PFOA	414.9 > 369.7	6.28e3	1.00	1.000	4.50	4.36	10.0	NO	100.0	0.0034000
19	13C4-PFOS	503.0 > 79.9	6.95e3	1.00	1.000	4.89	4.75	28.7	NO	100.0	0.0400898
20	d3-N-MeFOS...	573.3 > 419.0	4.03e3	1.00	1.000	5.24	5.10	40.0	NO	100.0	0.0424620



Custom Reporting: Select reports to generate

170628G4_8 NUM

Quantify Compound Summary Report

Printed Mon Jul 10 11:33:19 2017

Compound 18: 13C2-PFOA

	Name	ID	Sample Text	RT	Area	IS Area	Response	Primary Fla	Conc.	%Dev	Acq.Date	Acq.Time	Cal.Date					
1	170628G4_2	ST170628G4-1 PFC CS-3 17F1604	PFC CS-3 17F1604	#########	5952.844	5952.844	10	bd	10	0-Jan-00	28-Jun-17	18:33:13	10-Jul-17					
2	170628G4_3	ST170628G4-2 PFC CS-2 17F1605	PFC CS-2 17F1605	#########	6264.282	6264.282	10	bd	10	0-Jan-00	28-Jun-17	18:45:35	10-Jul-17					
3	170628G4_4	ST170628G4-3 PFC CS-1 17F1607	PFC CS-1 17F1607	#########	5861.431	5861.431	10	bb	10	0-Jan-00	28-Jun-17	18:58:38	10-Jul-17					
4	170628G4_5	ST170628G4-4 PFC CS0 17F1608	PFC CS 0 17F1608	4.36	5946.975	5946.975	10	bb	10	0	28-Jun-17	19:11:31	10-Jul-17					
5	170628G4_6	ST170628G4-5 PFC CS1 17F1609	PFC CS1 17F1609	4.36	6239.089	6239.089	10	bd	10	0	28-Jun-17	19:23:55	10-Jul-17					
6	170628G4_7	ST170628G4-6 PFC CS2 17F1610	PFC CS2 17F1610	4.36	6121.134	6121.134	10	bb	10	0	28-Jun-17	19:36:18	10-Jul-17					
7	170628G4_8	ST170628G4-7 PFC CS3 17F501	PFC CS3 17F1501	4.36	6282.359	6282.359	10	bd	10	0	28-Jun-17	19:48:43	10-Jul-17					
8	170628G4_9	ST170628G4-8 PFC CS4 17F1611	PFC CS4 17F1611	4.36	6044.926	6044.926	10	bd	10	0	28-Jun-17	20:01:36	10-Jul-17					
9	170628G4_1	ST170628G4-9 PFC CS5 17F1612	PFC CS5 17F1612	4.36	6238.752	6238.752	10	bb	10	0	28-Jun-17	20:13:58	10-Jul-17					

Compound 18: 13C2-PFOA

RPD

HIGH AREA	6282.359
LOW AREA	5861.431
RPD %	6.9

INSTRUCTIONS: IN TARGETLYNX, VERIFY YOU ARE USING THE LIST14 DW LAYOUT. RIGHT CLICK ON THE SUMMARY BOX AND SELECT "LIST BY COMPOUND". SELECT 13C2-PFOA, 13C4-PFOS OR D3-NMEFOSAA. CLICK ON EDIT. SELECT COPY CURRENT SUMMARY. PASTE IN CELL A1.

Quantify Compound Summary Report

Printed Mon Jul 10 11:34:28 2017

Compound 19: 13C4-PFOS

	Name	ID	Sample Text	RT	Area	IS Area	Response	Primary Fla	Conc.	%Dev	Acq.Date	Acq.Time	Cal.Date
1	170628G4_2	ST170628G4-1 PFC CS-3 17F1604	PFC CS-3 17F1604	#########	7293.843	7293.843	28.7	bd	28.7	0-Jan-00	28-Jun-17	18:33:13	10-Jul-17
2	170628G4_3	ST170628G4-2 PFC CS-2 17F1605	PFC CS-2 17F1605	#########	6691.318	6691.318	28.7	bb	28.7	0-Jan-00	28-Jun-17	18:45:35	10-Jul-17
3	170628G4_4	ST170628G4-3 PFC CS-1 17F1607	PFC CS-1 17F1607	#########	7065.085	7065.085	28.7	bd	28.7	0-Jan-00	28-Jun-17	18:58:38	10-Jul-17
4	170628G4_5	ST170628G4-4 PFC CS0 17F1608	PFC CS 0 17F1608	4.75	6885.612	6885.612	28.7	bb	28.7	0	28-Jun-17	19:11:31	10-Jul-17
5	170628G4_6	ST170628G4-5 PFC CS1 17F1609	PFC CS1 17F1609	4.75	6841.927	6841.927	28.7	bd	28.7	0	28-Jun-17	19:23:55	10-Jul-17
6	170628G4_7	ST170628G4-6 PFC CS2 17F1610	PFC CS2 17F1610	4.75	6677.293	6677.293	28.7	bb	28.7	0	28-Jun-17	19:36:18	10-Jul-17
7	170628G4_8	ST170628G4-7 PFC CS3 17F501	PFC CS3 17F1501	4.75	6954.679	6954.679	28.7	bd	28.7	0	28-Jun-17	19:48:43	10-Jul-17
8	170628G4_9	ST170628G4-8 PFC CS4 17F1611	PFC CS4 17F1611	4.75	6918.917	6918.917	28.7	bb	28.7	0	28-Jun-17	20:01:36	10-Jul-17
9	170628G4_1	ST170628G4-9 PFC CS5 17F1612	PFC CS5 17F1612	4.75	6406.168	6406.168	28.7	bb	28.7	0	28-Jun-17	20:13:58	10-Jul-17

Compound 19: 13C4-PFOS

RPD

HIGH AREA	7293.843
LOW AREA	6406.168
RPD %	13.0

INSTRUCTIONS: IN TARGETLYNX, VERIFY YOU ARE USING THE LIST14 DW LAYOUT. RIGHT CLICK ON THE SUMMARY BOX AND SELECT "LIST BY COMPOUND". SELECT 13C2-PFOA, 13C4-PFOS OR D3-NMEFOSAA. CLICK ON EDIT. SELECT COPY CURRENT SUMMARY. PASTE IN CELL A1.

Quantify Compound Summary Report

Printed Mon Jul 10 11:29:46 2017

Compound 20: d3-N-MeFOSAA

	Name	ID	Sample Text	RT	Area	IS Area	Response	Primary Fla	Conc.	%Dev	Acq.Date	Acq.Time	Cal.Date					
4	170628G4_5	ST170628G4-4 PFC CS0 17F1608	PFC CS 0 17F1608	#########	4171.433	4171.433	40	bd	40	0-Jan-00	28-Jun-17	19:11:31	10-Jul-17					
5	170628G4_6	ST170628G4-5 PFC CS1 17F1609	PFC CS1 17F1609	#########	3608.771	3608.771	40	bb	40	0-Jan-00	28-Jun-17	19:23:55	10-Jul-17					
6	170628G4_7	ST170628G4-6 PFC CS2 17F1610	PFC CS2 17F1610	#########	3837.503	3837.503	40	bd	40	0-Jan-00	28-Jun-17	19:36:18	10-Jul-17					
7	170628G4_8	ST170628G4-7 PFC CS3 17F501	PFC CS3 17F1501	5.1	4027.051	4027.051	40	bd	40	0	28-Jun-17	19:48:43	10-Jul-17					
8	170628G4_9	ST170628G4-8 PFC CS4 17F1611	PFC CS4 17F1611	5.1	4270.844	4270.844	40	bb	40	0	28-Jun-17	20:01:36	10-Jul-17					
9	170628G4_1	ST170628G4-9 PFC CS5 17F1612	PFC CS5 17F1612	5.1	3552.319	3552.319	40	bb	40	0	28-Jun-17	20:13:58	10-Jul-17					

Compound 20: d3-N-MeFOSAA

RPD

HIGH AREA	4270.844
LOW AREA	3552.319
RPD %	18.4

INSTRUCTIONS: IN TARGETLYNX, VERIFY YOU ARE USING THE LIST14 DW LAYOUT. RIGHT CLICK ON THE SUMMARY BOX AND SELECT "LIST BY COMPOUND". SELECT 13C2-PFOA, 13C4-PFOS OR D3-NMEFOSAA. CLICK ON EDIT. SELECT COPY CURRENT SUMMARY. PASTE IN CELL A1.

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-CRV.qld

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

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Calibration: 10 Jul 2017 11:10:21

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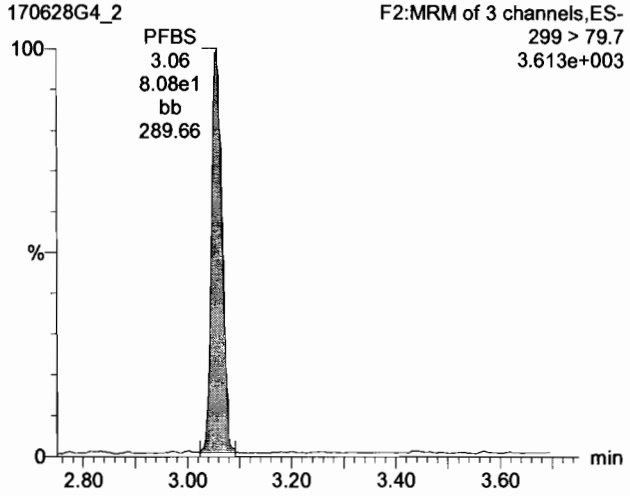
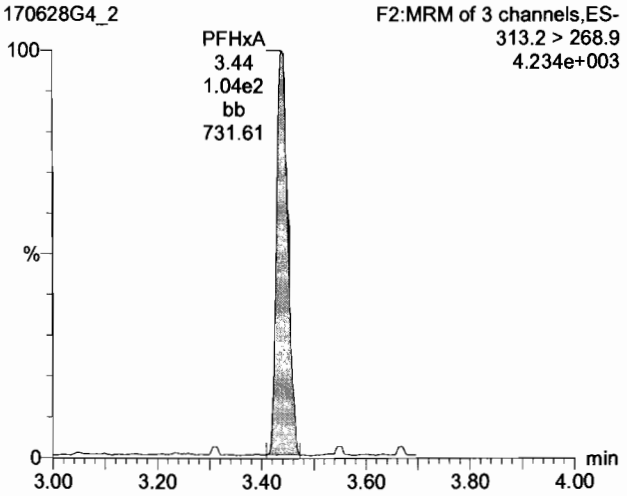
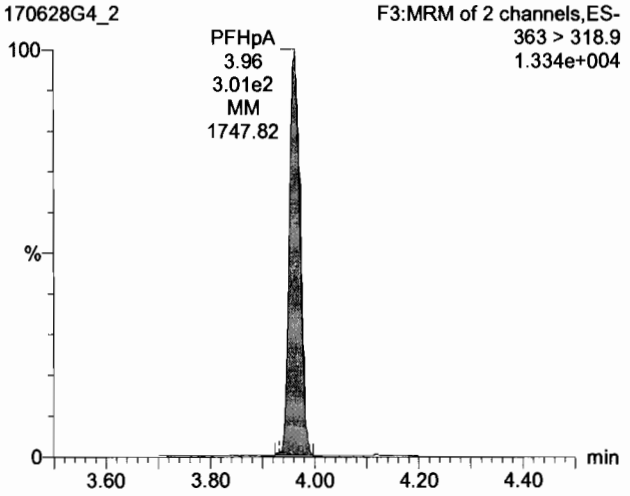
PFBS



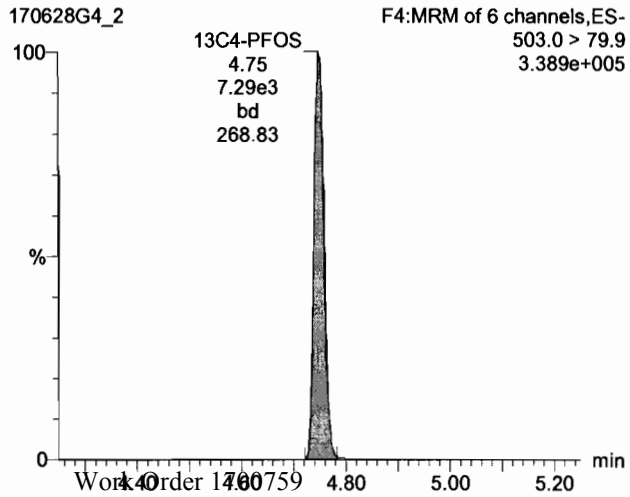
PFHxA



PFHpA



13C4-PFOS



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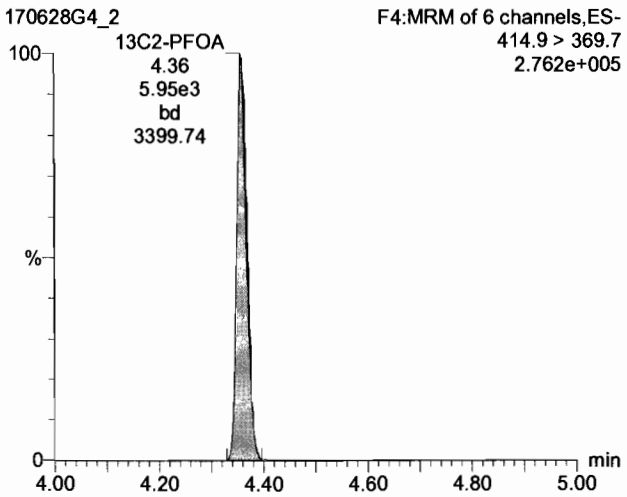

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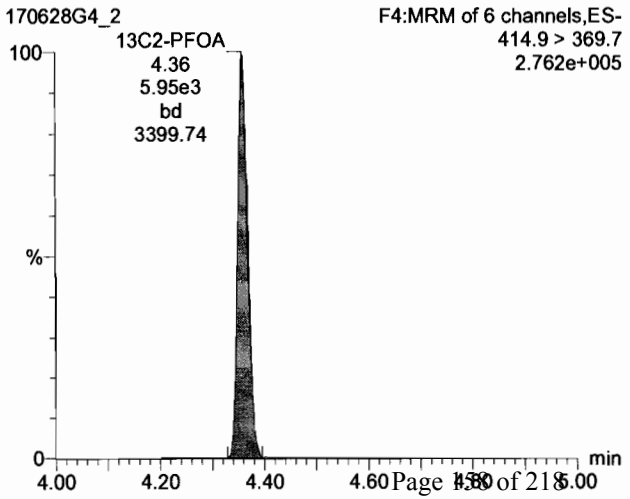

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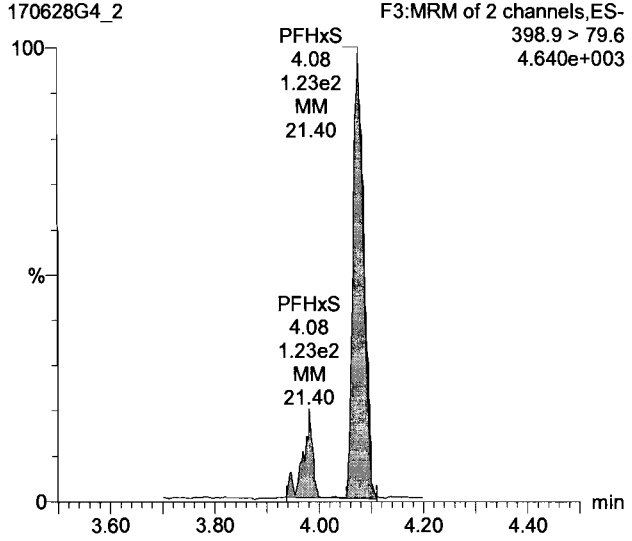
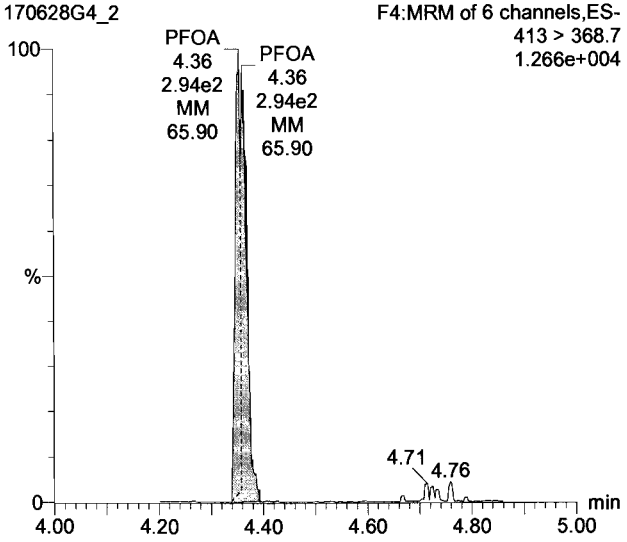
Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-1 PFC CS-3 17F1604, Description: PFC CS-3 17F1604, Name: 170628G4_2, Date: 28-Jun-2017, Time: 18:33:13, Instrument: , Lab: , User:

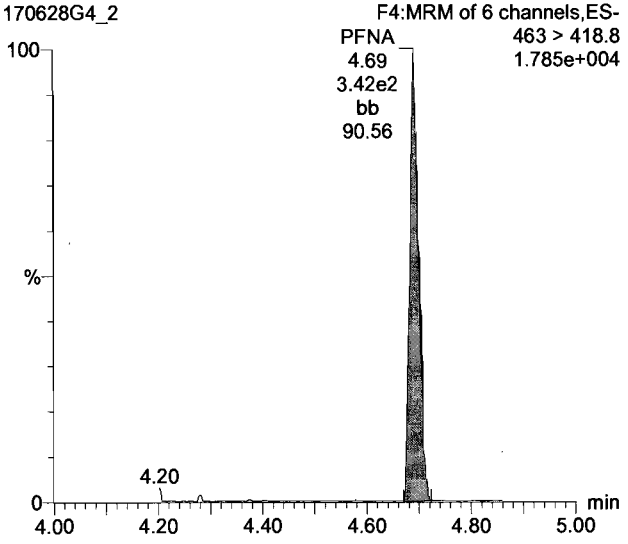
PFHxS



PFOA



PFNA



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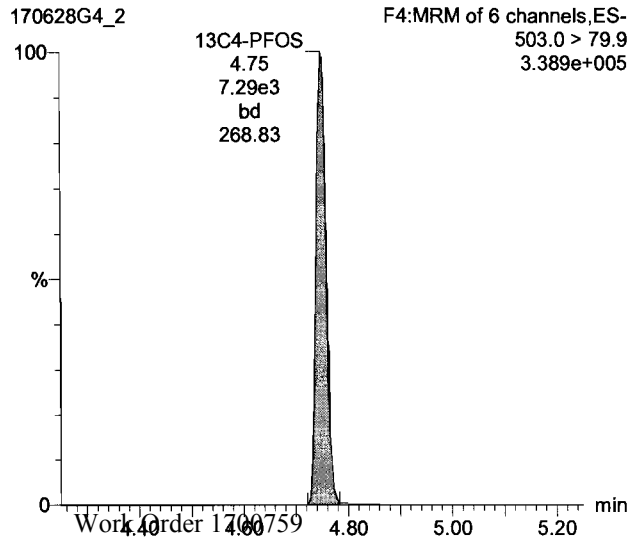

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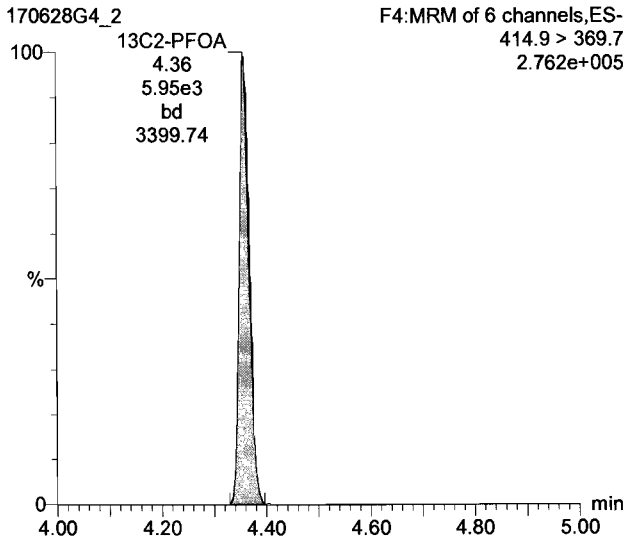

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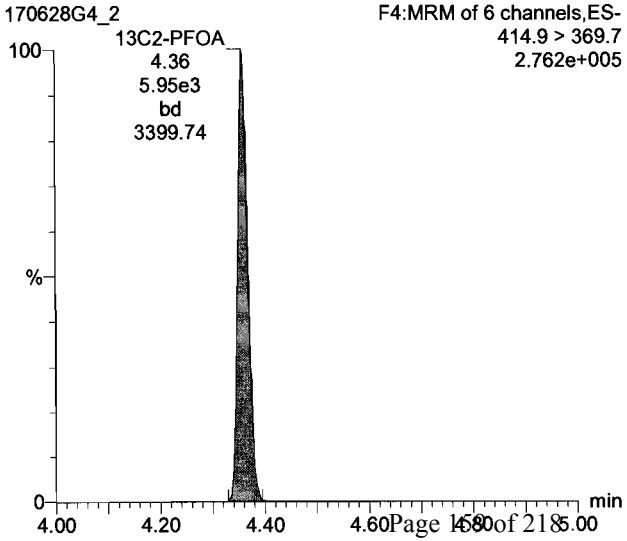

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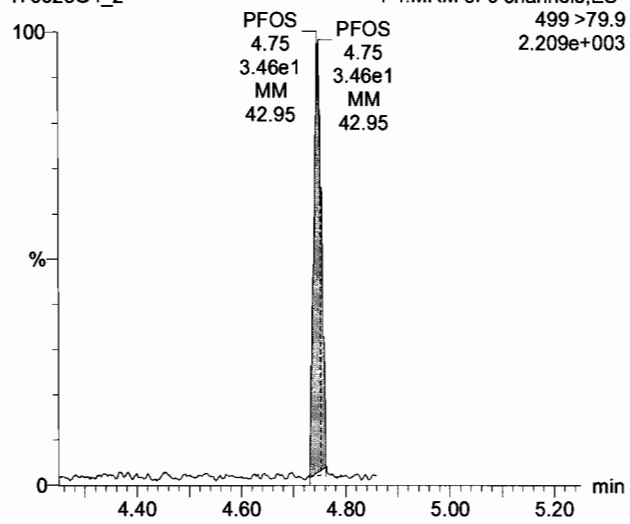
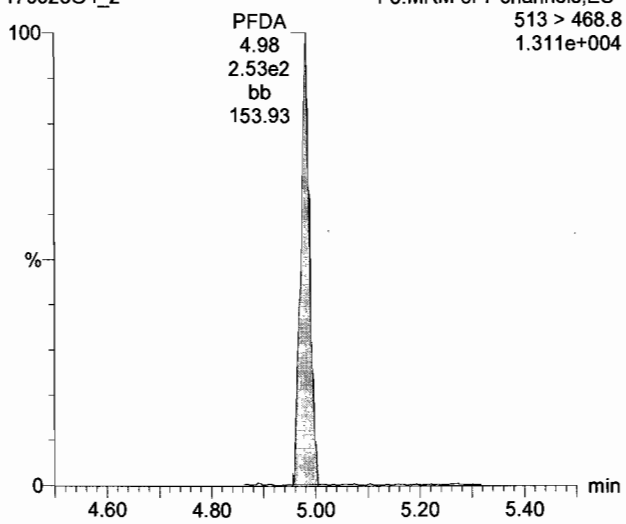
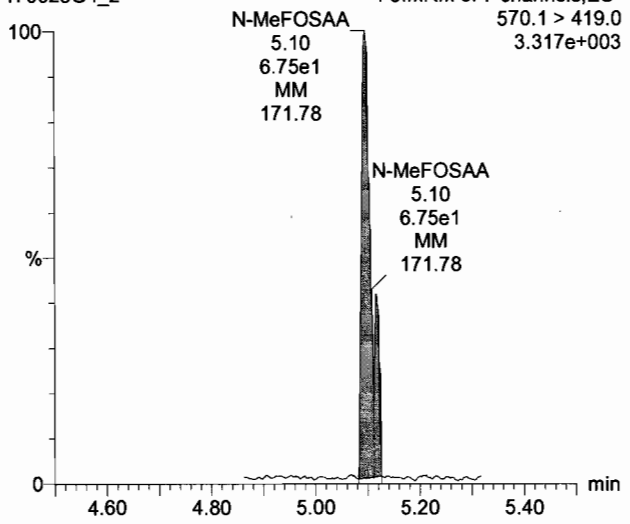
PFOS



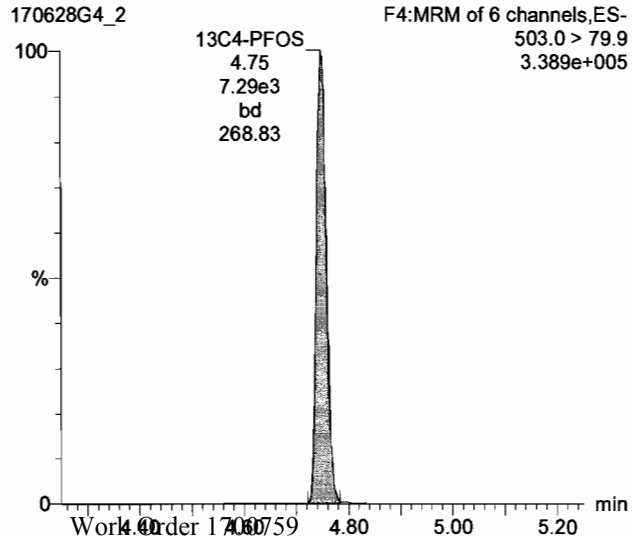
PFDA



N-MeFOSAA



13C4-PFOS



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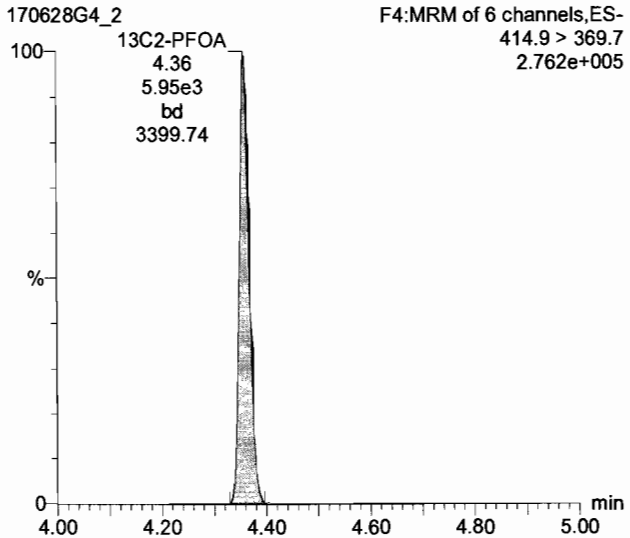
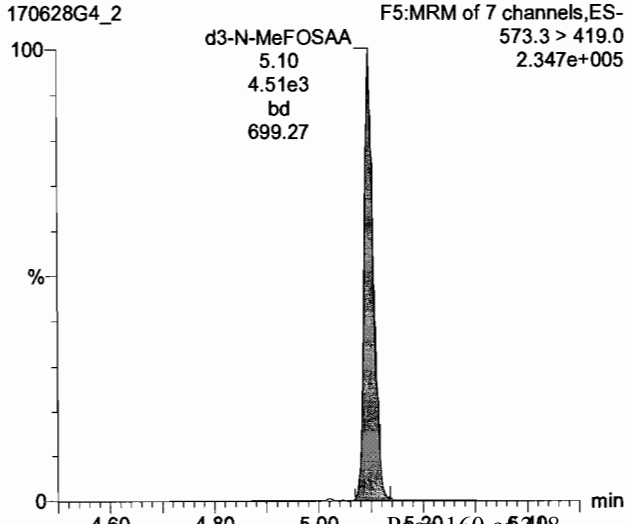


d3-N-MeFOSAA



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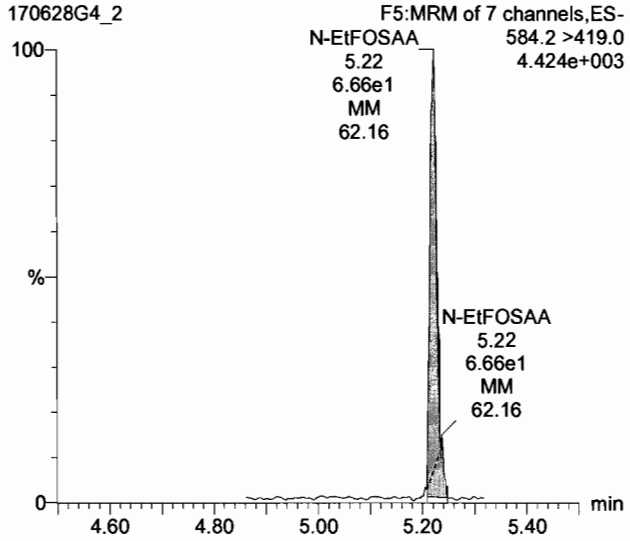
ID: ST170628G4-1 PFC CS-3 17F1604, Description: PFC CS-3 17F1604, Name: 170628G4_2, Date: 28-Jun-2017, Time: 18:33:13, Instrument: , Lab: , User:

N-EtFOSAA



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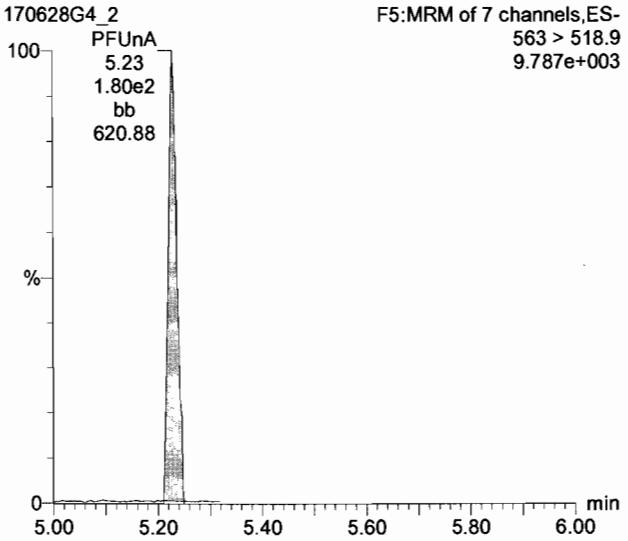
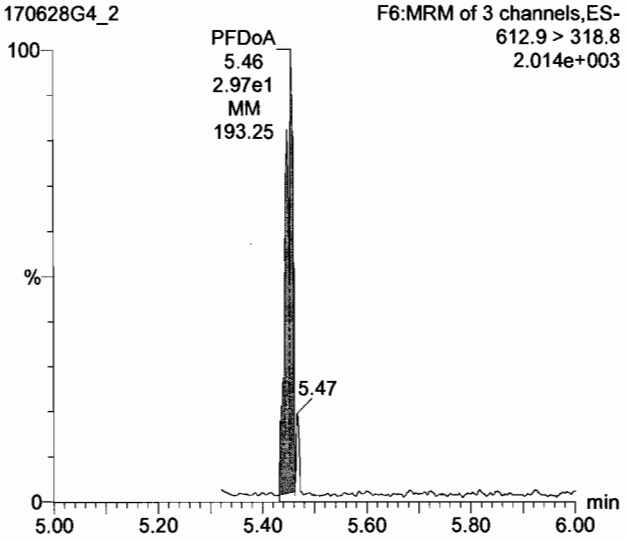
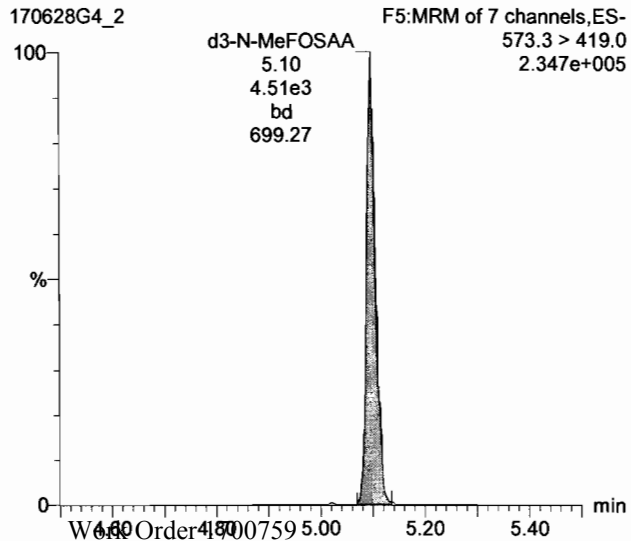


PFDoA



d3-N-MeFOSAA



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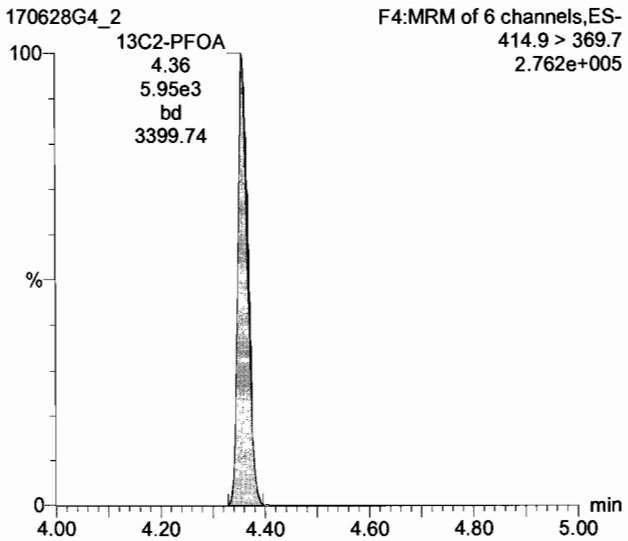

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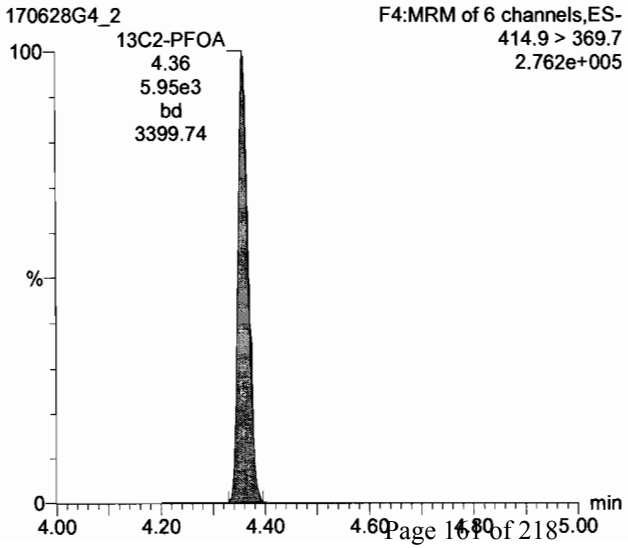

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

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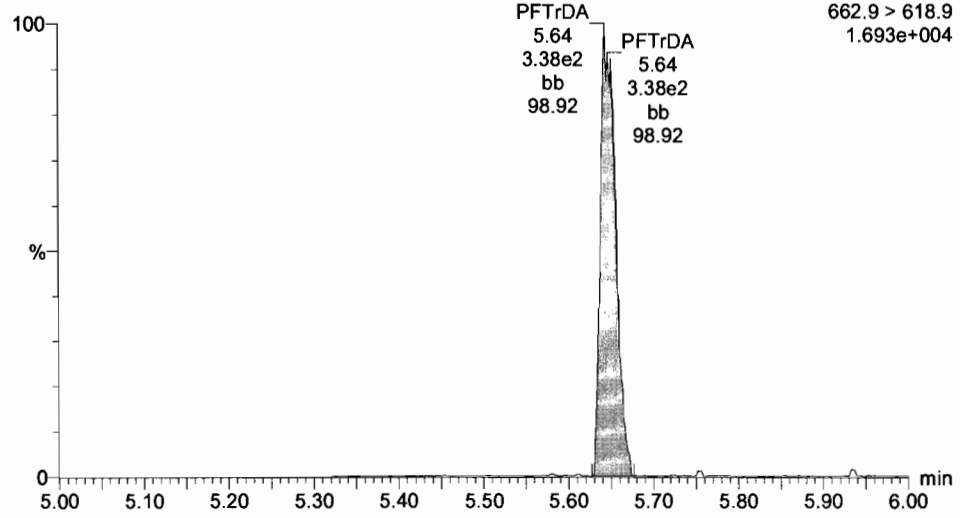
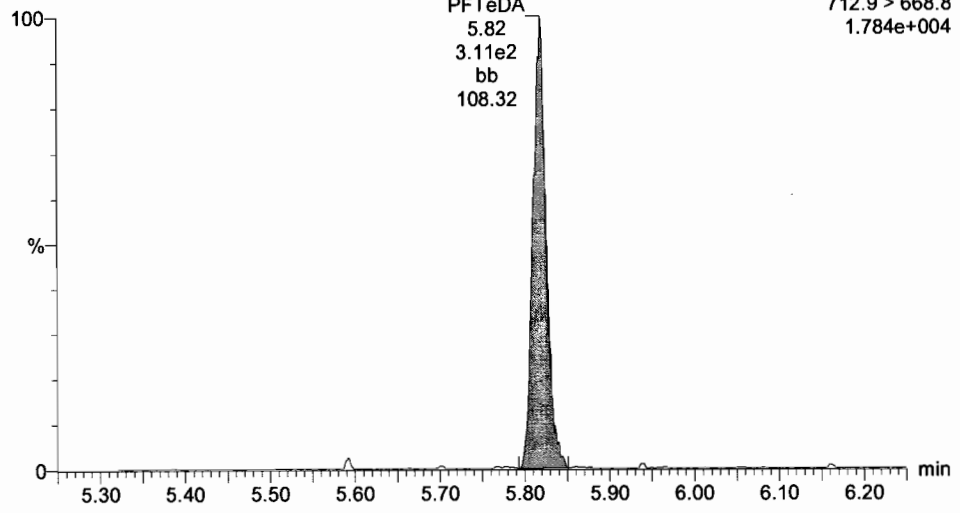
PFTrDA



PFTeDA



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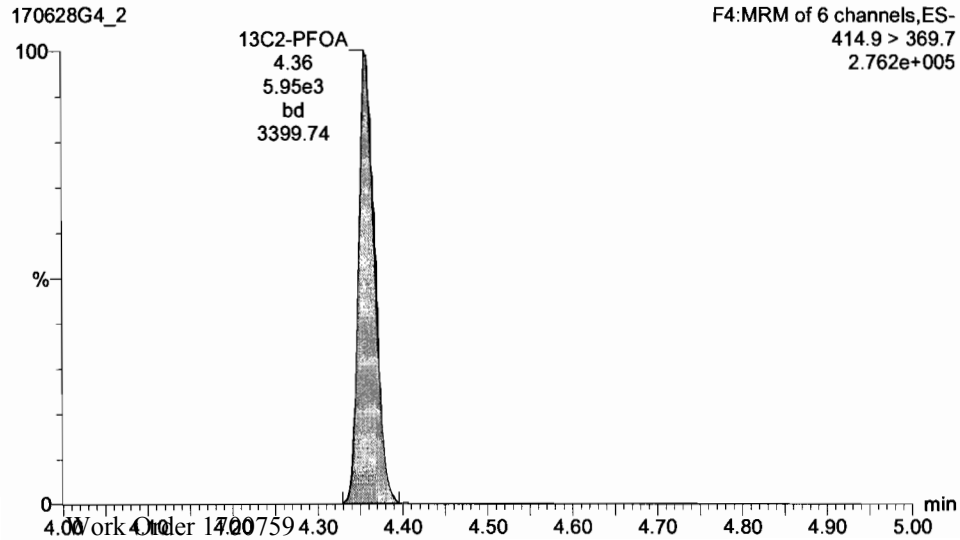

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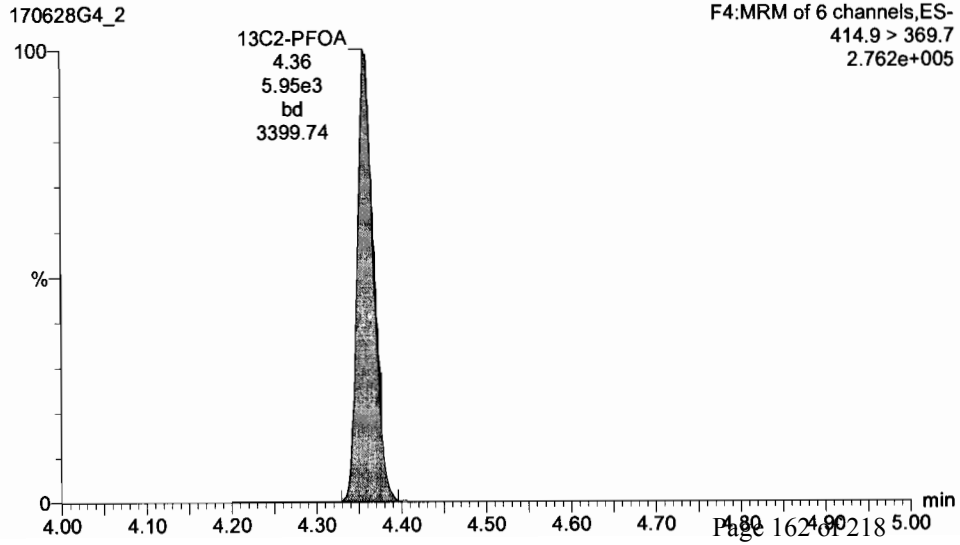

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-1 PFC CS-3 17F1604, Description: PFC CS-3 17F1604, Name: 170628G4_2, Date: 28-Jun-2017, Time: 18:33:13, Instrument: , Lab: , User:

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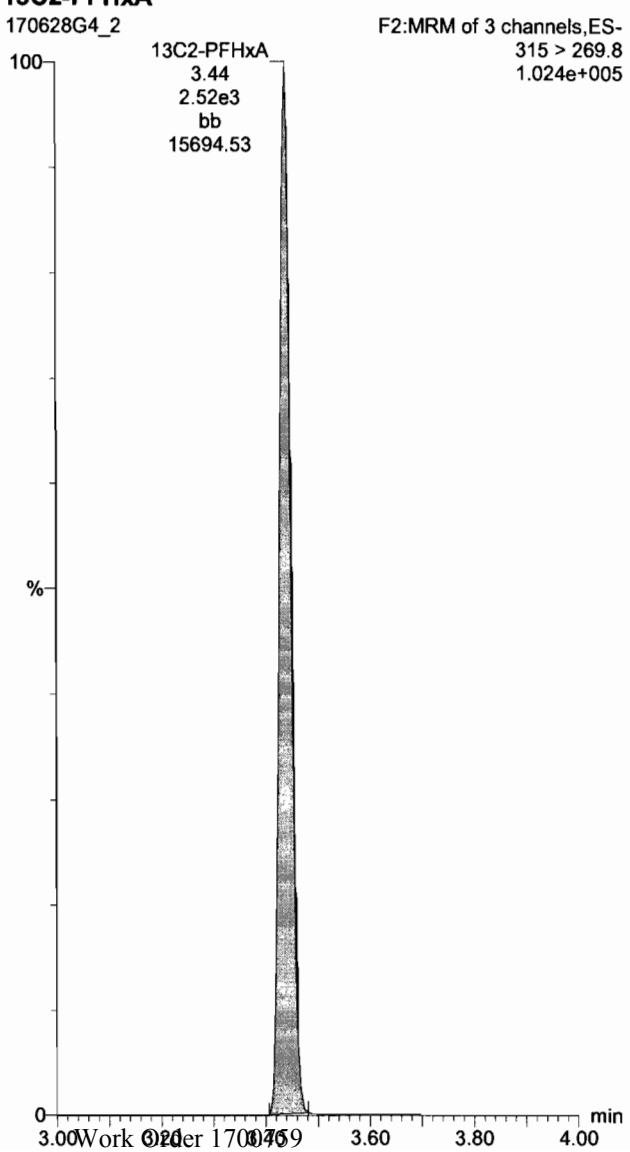

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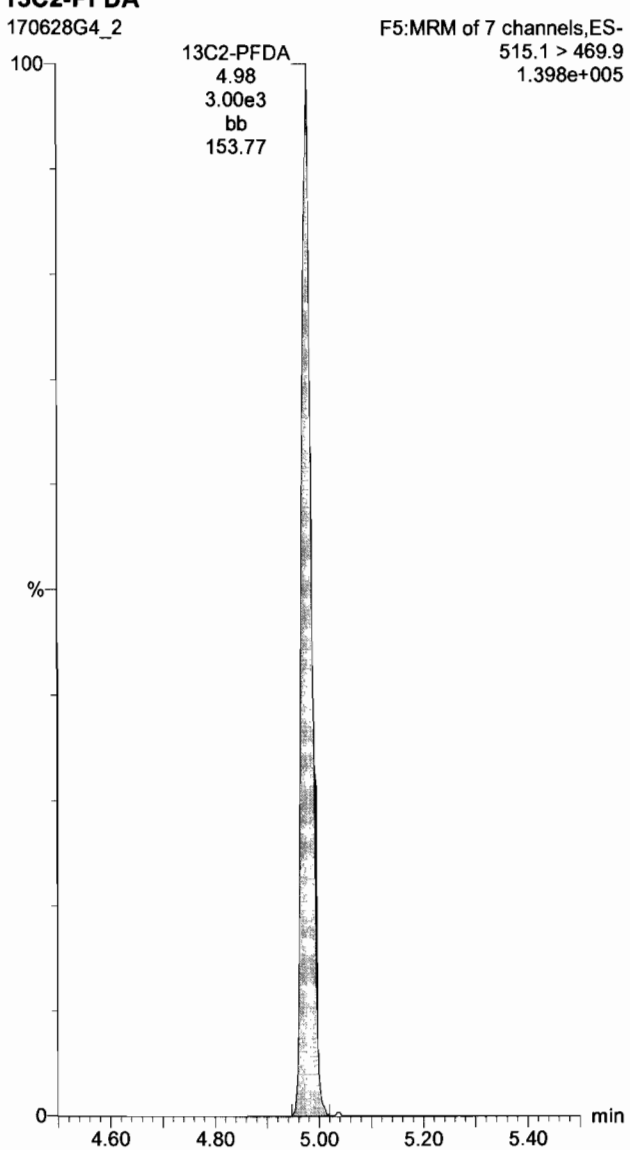

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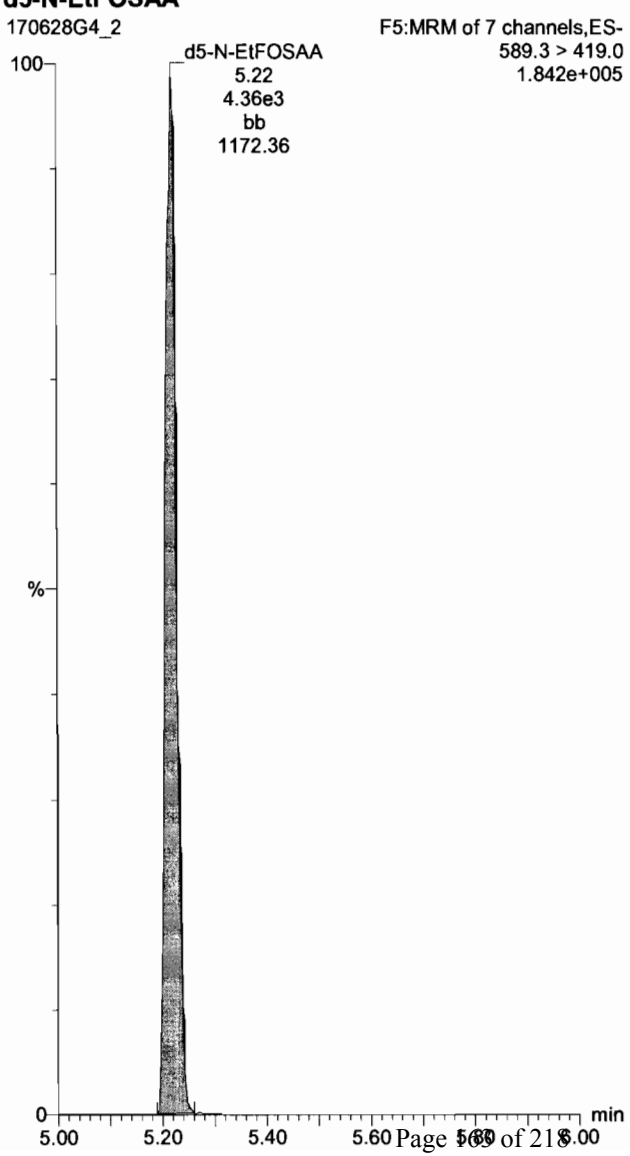

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ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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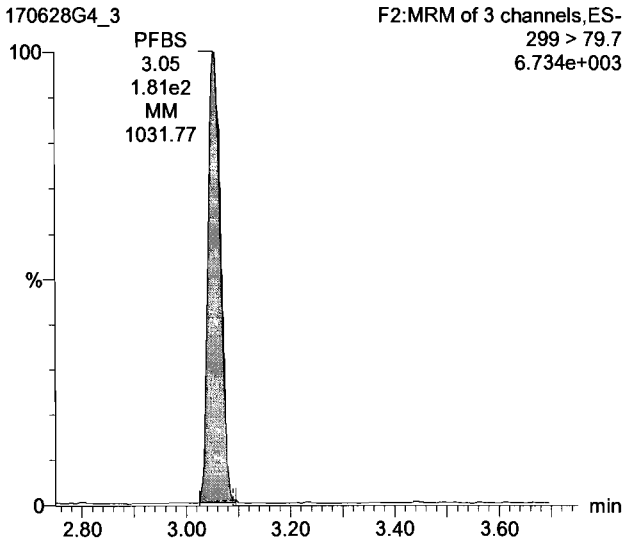

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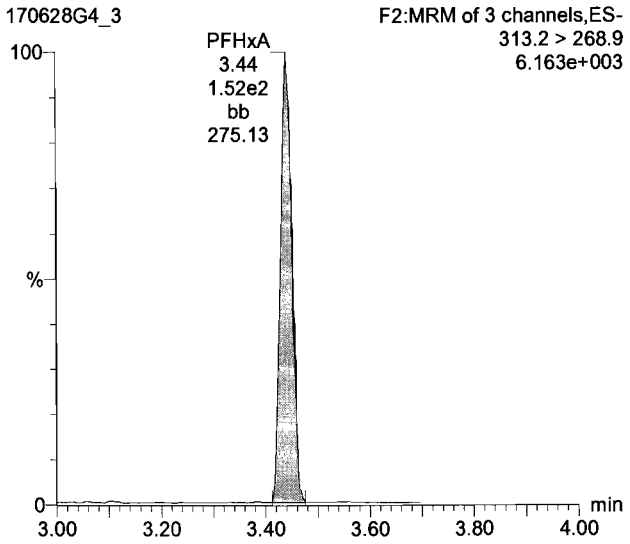

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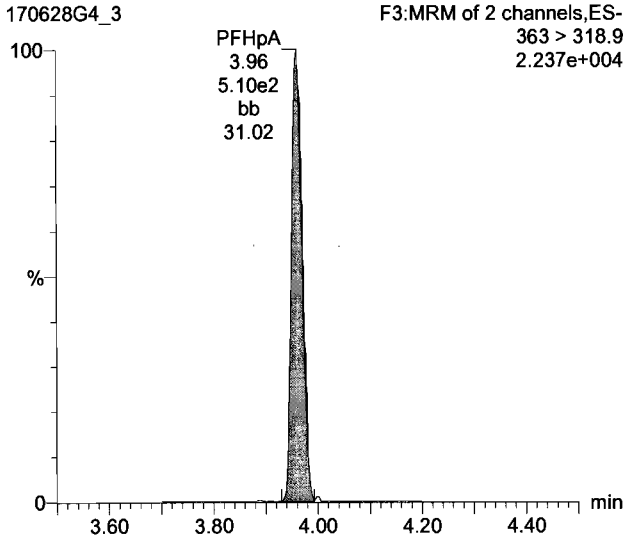

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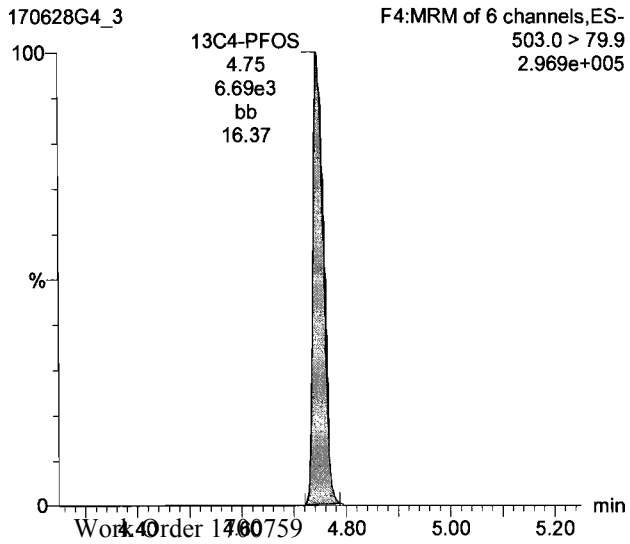

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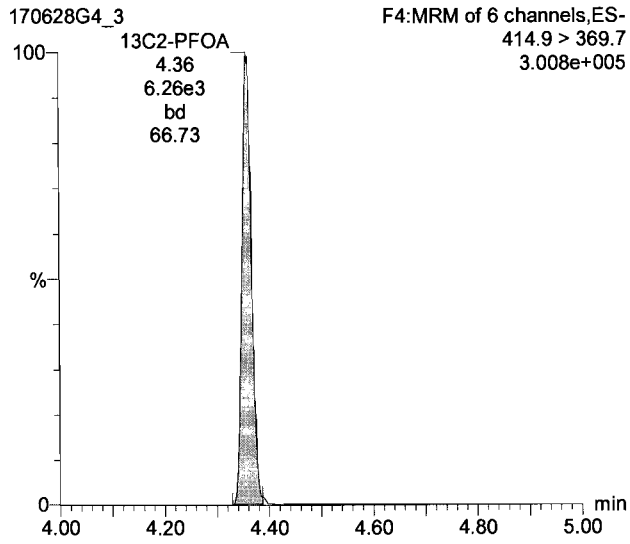

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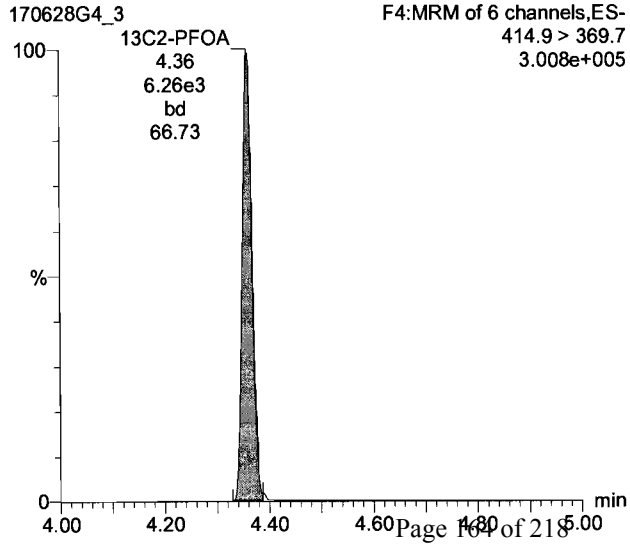

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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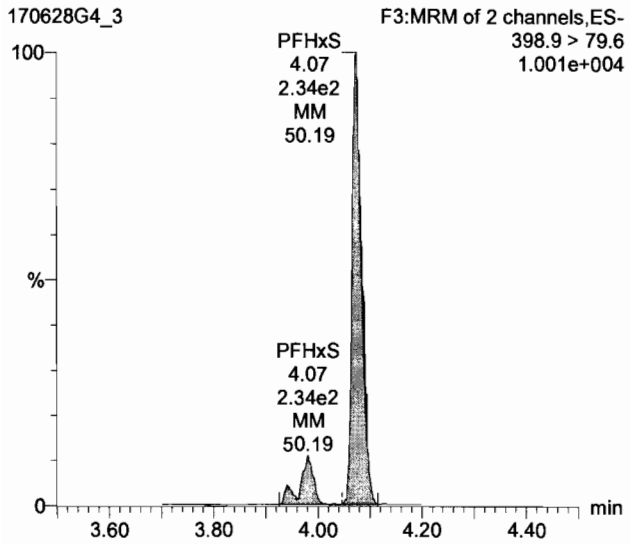

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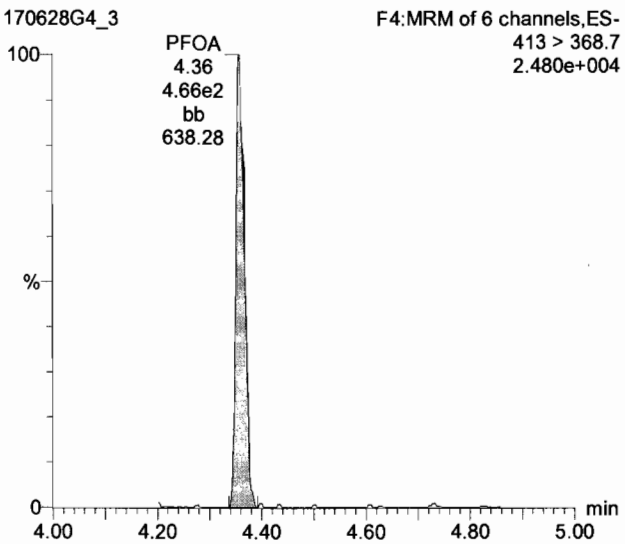

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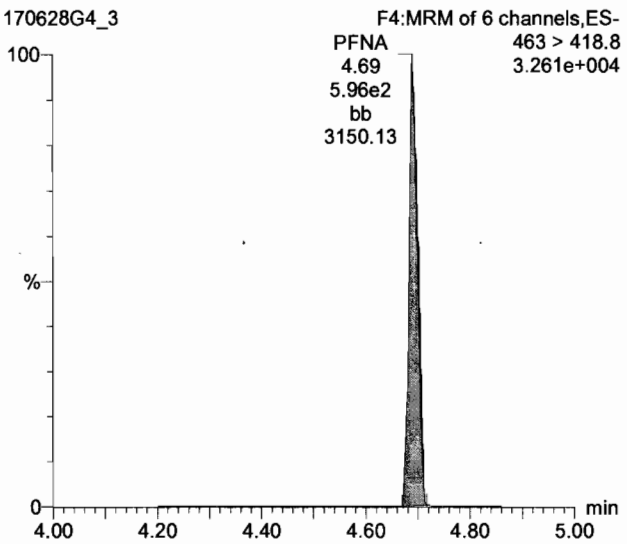

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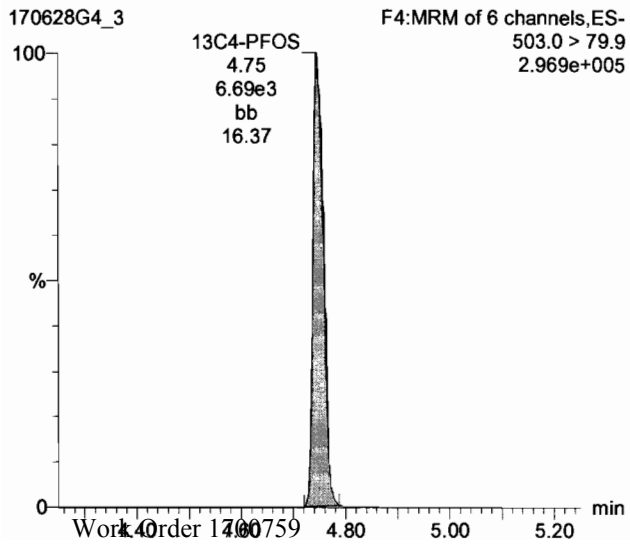

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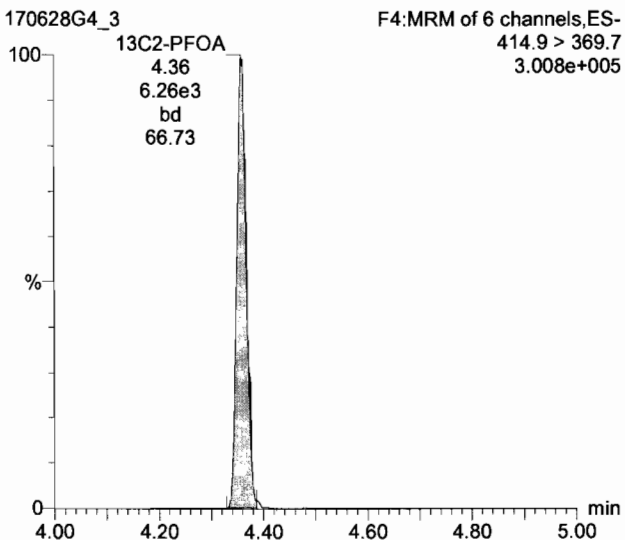

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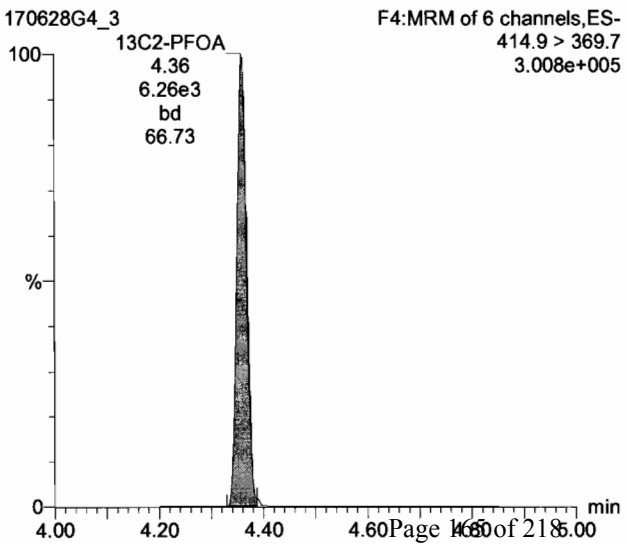

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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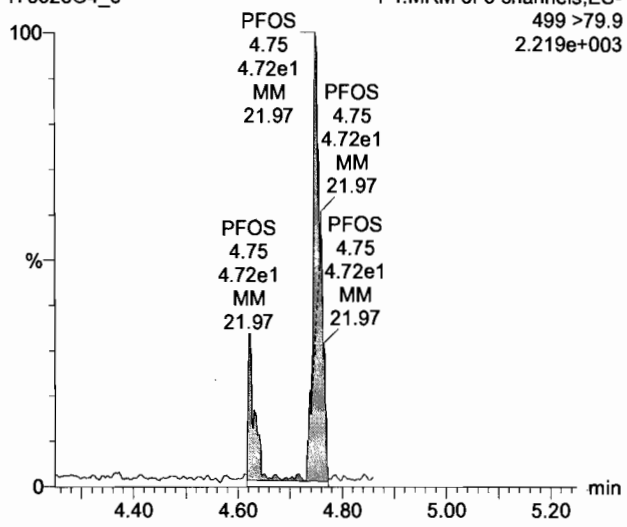

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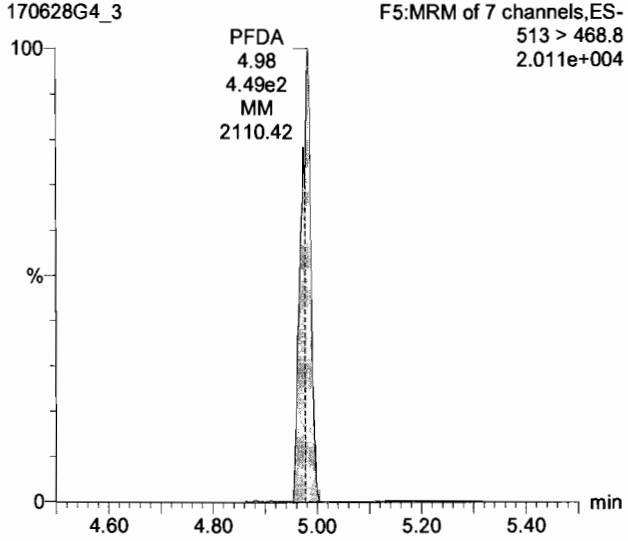

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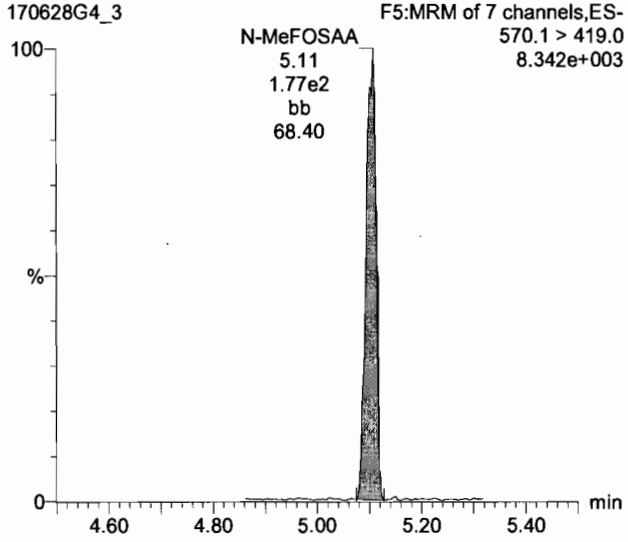

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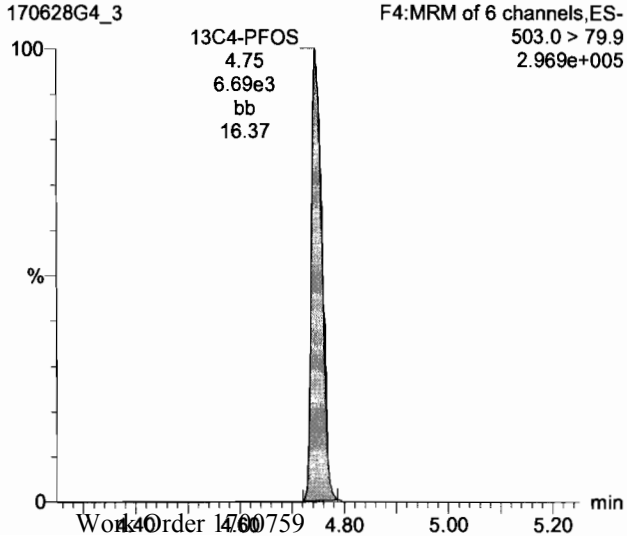

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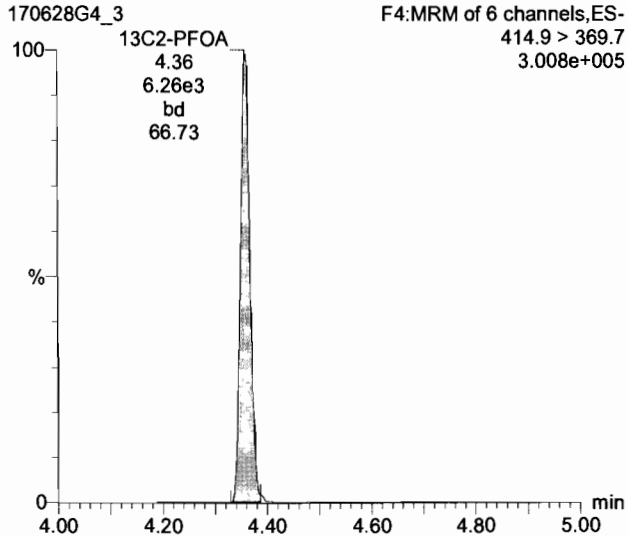

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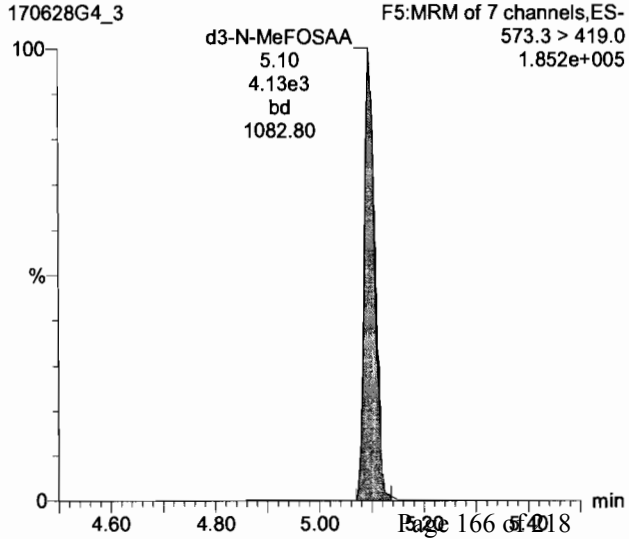

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ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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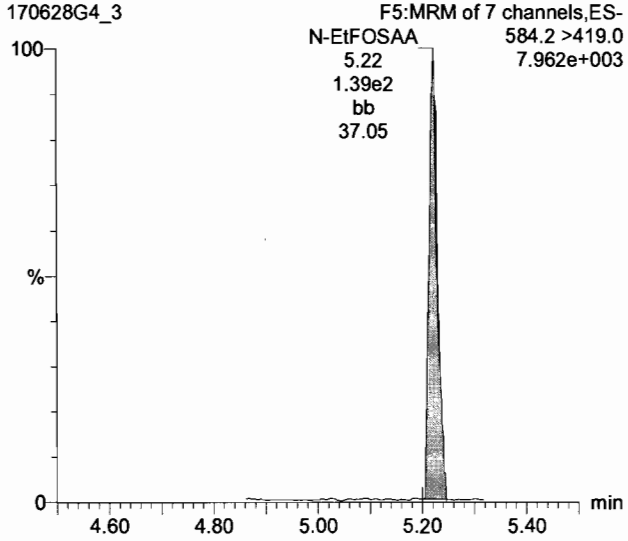

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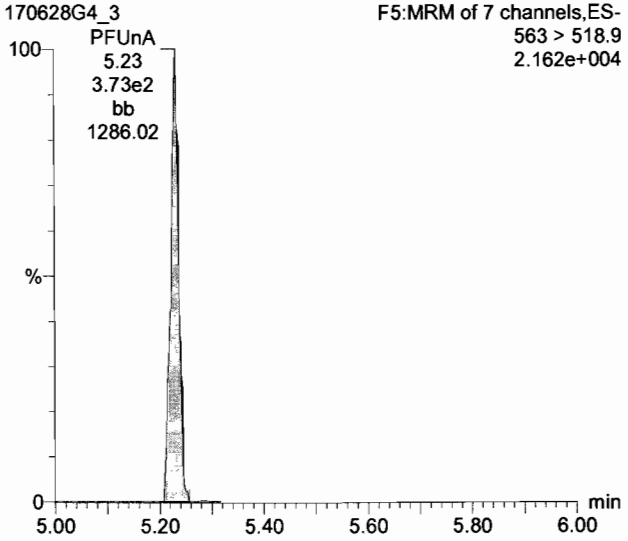

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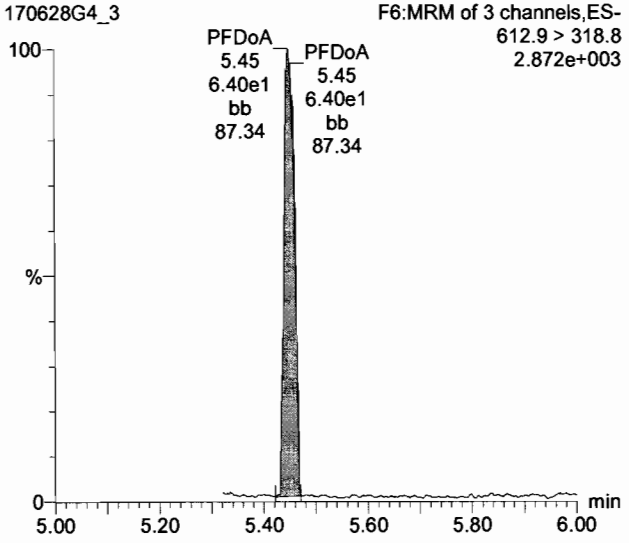

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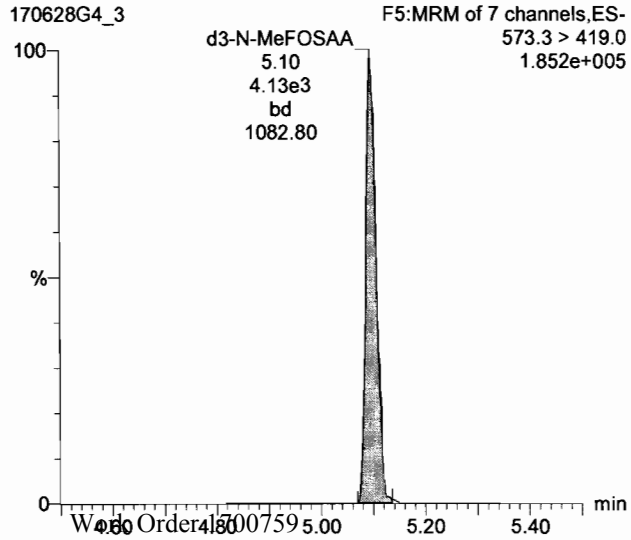

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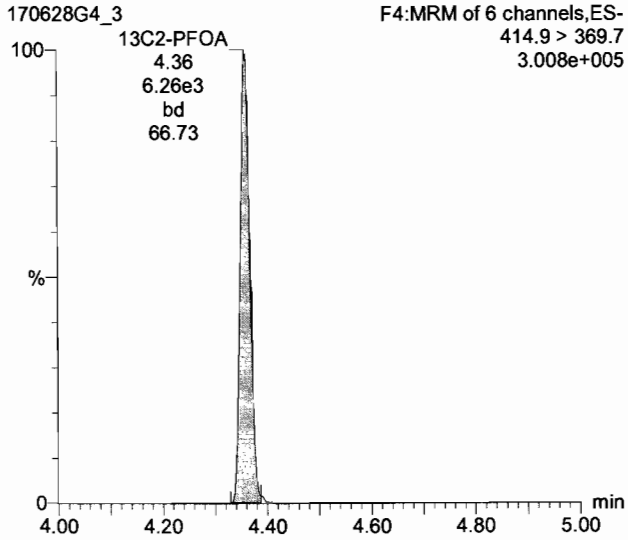

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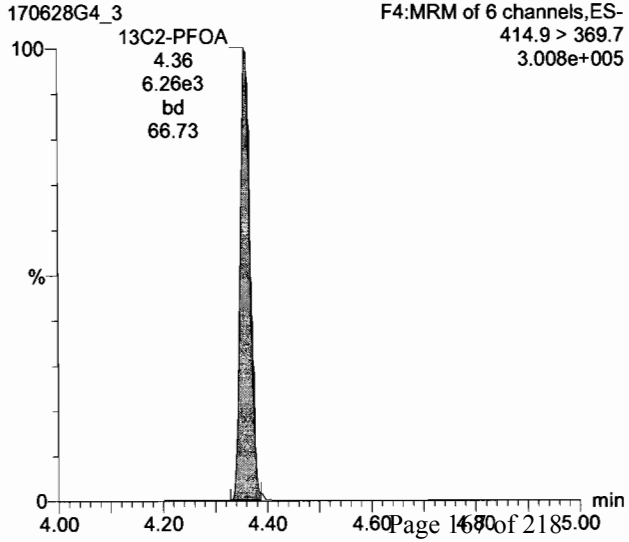

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ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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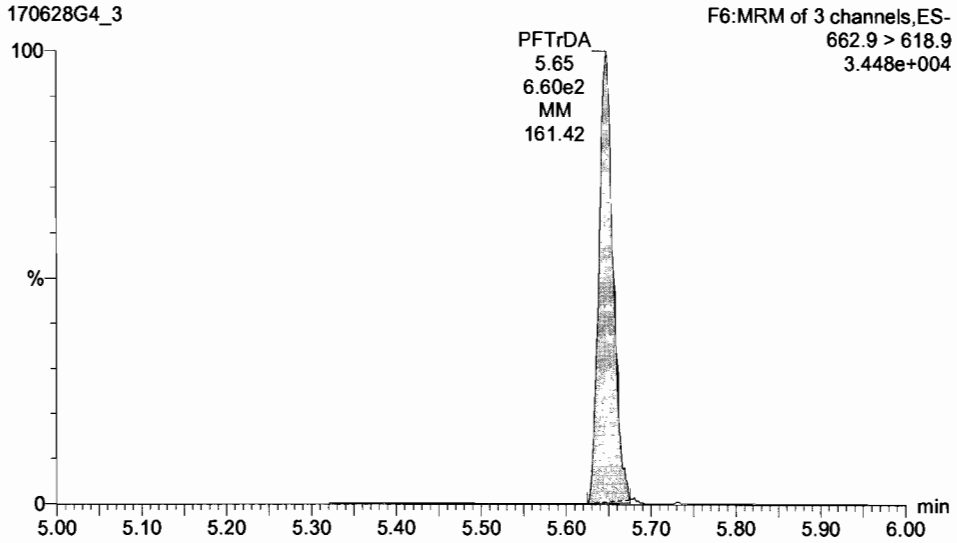

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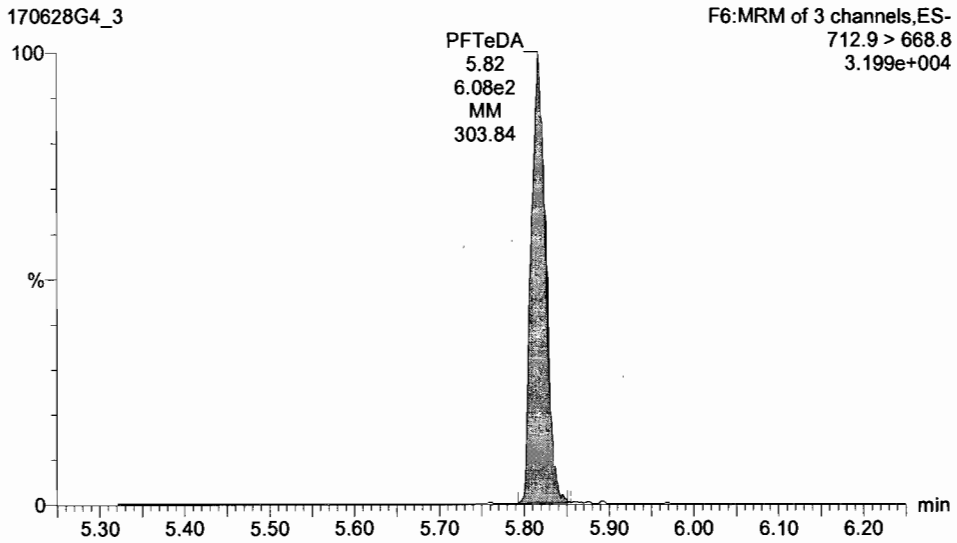

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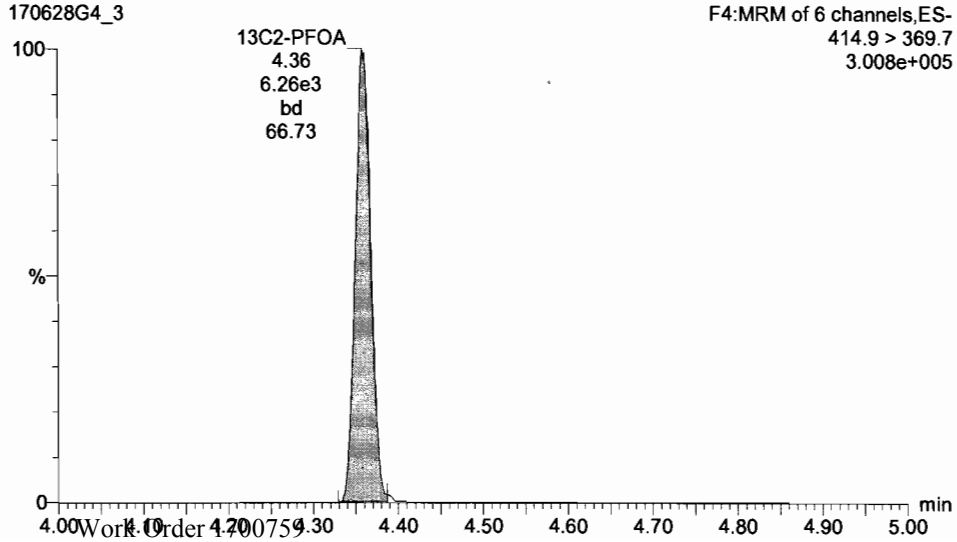

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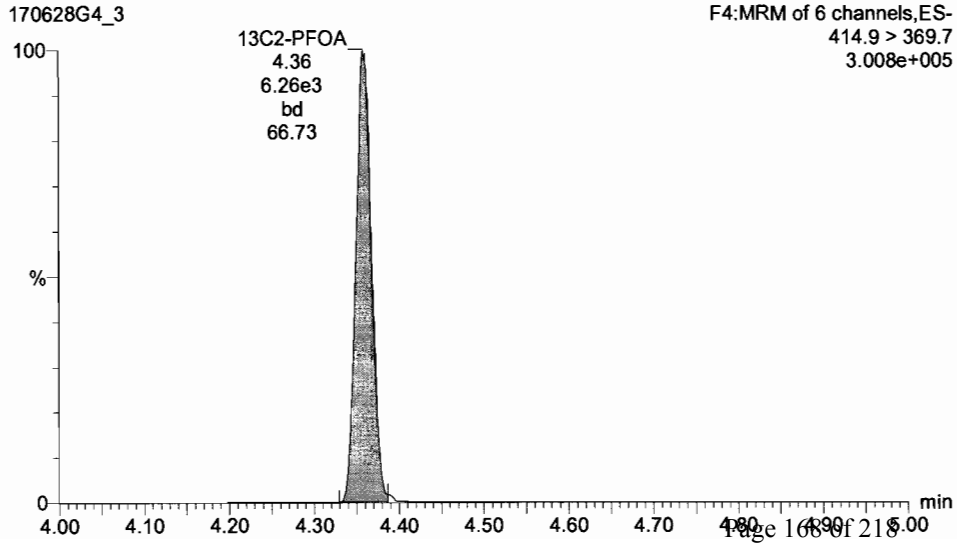

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ID: ST170628G4-2 PFC CS-2 17F1605, Description: PFC CS-2 17F1605, Name: 170628G4_3, Date: 28-Jun-2017, Time: 18:45:35, Instrument: , Lab: , User:

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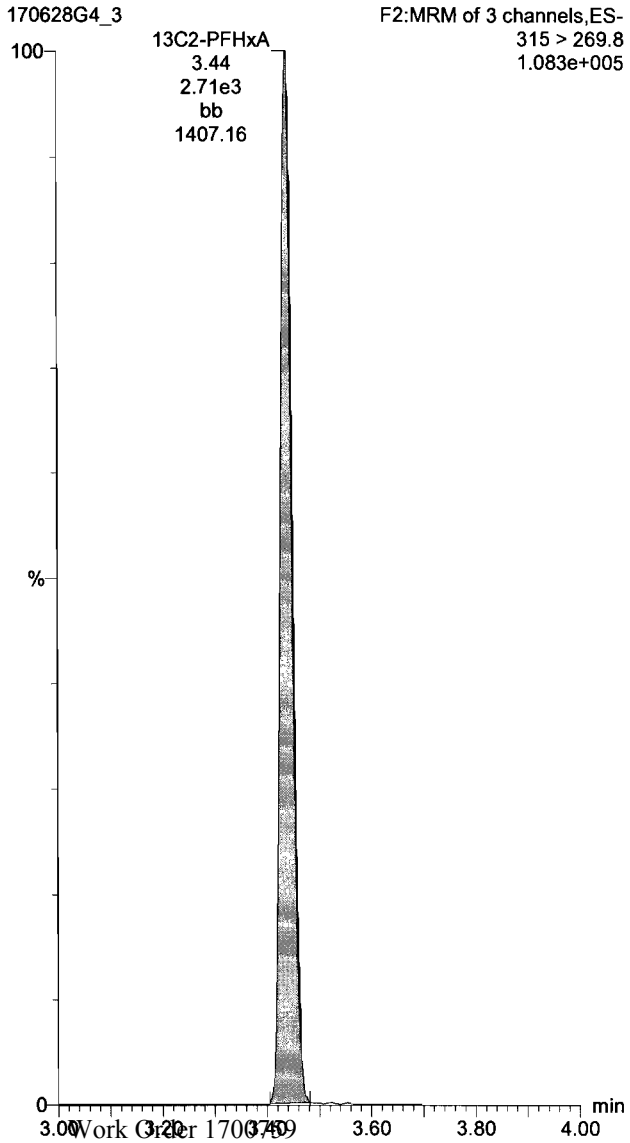

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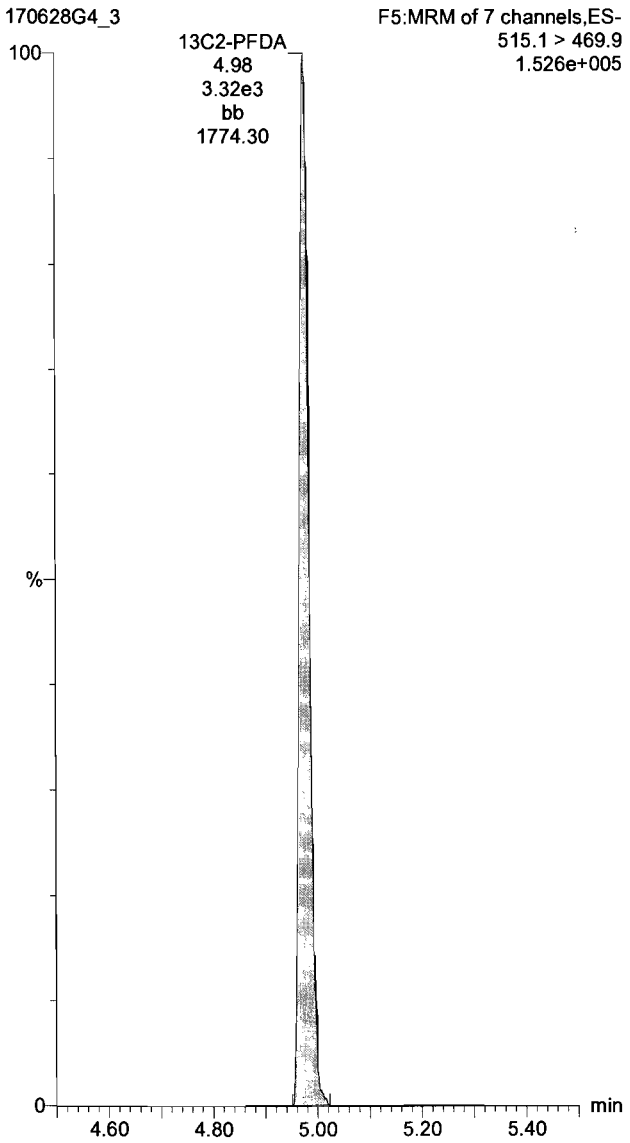

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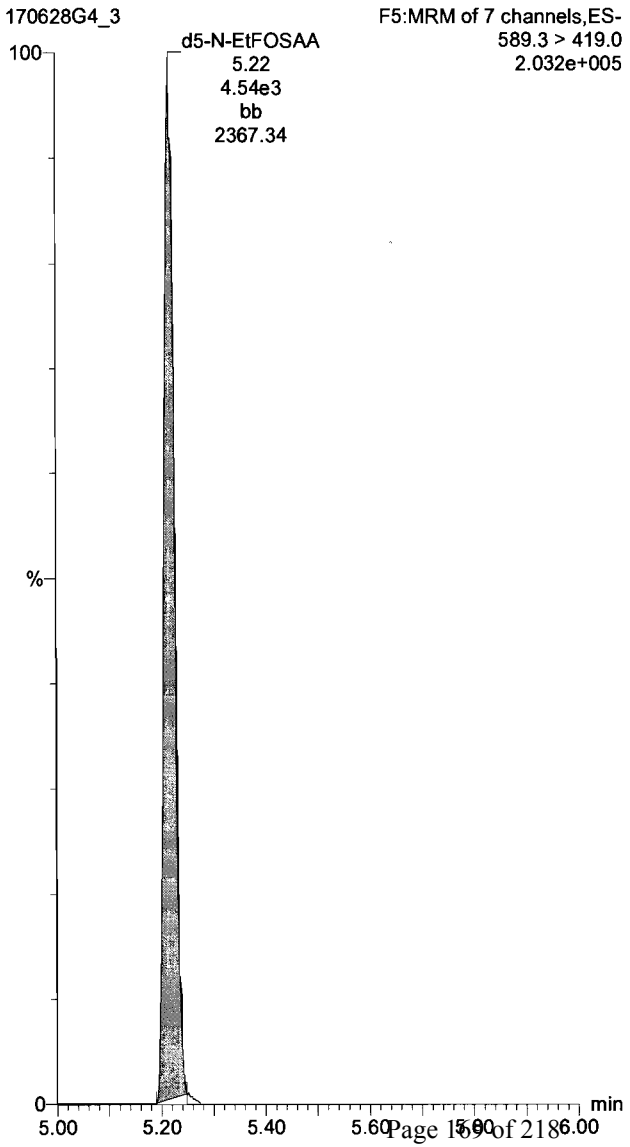

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ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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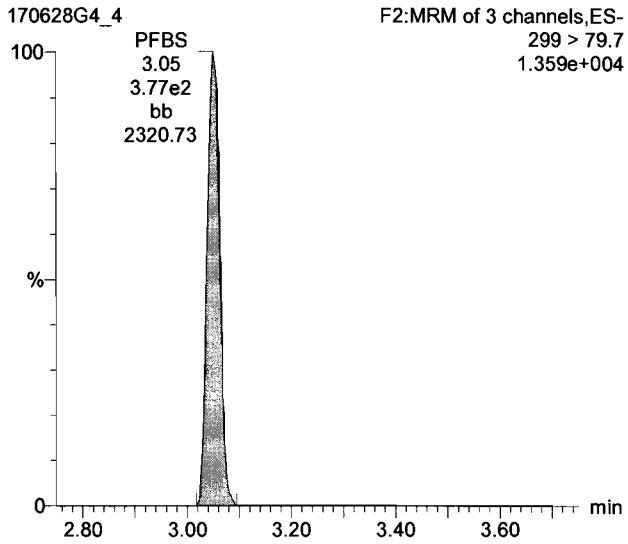

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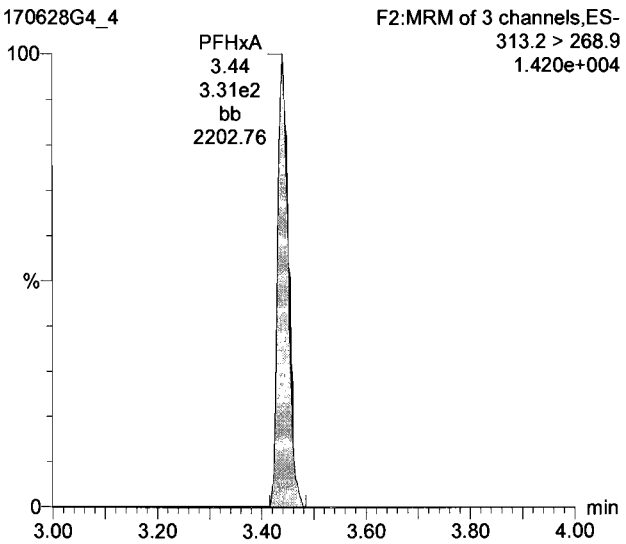

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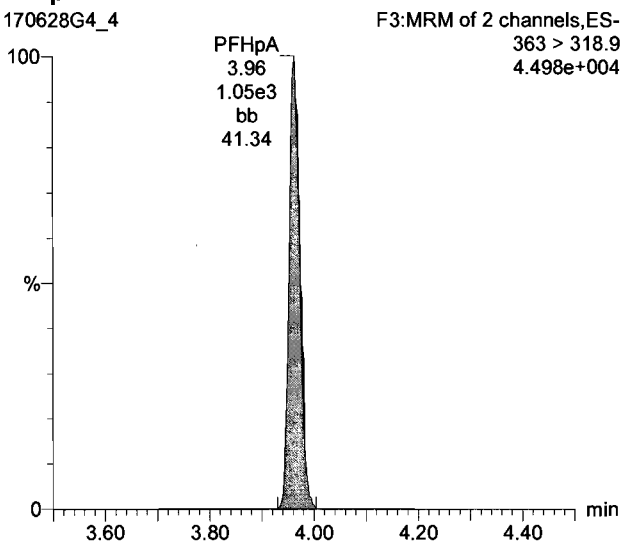

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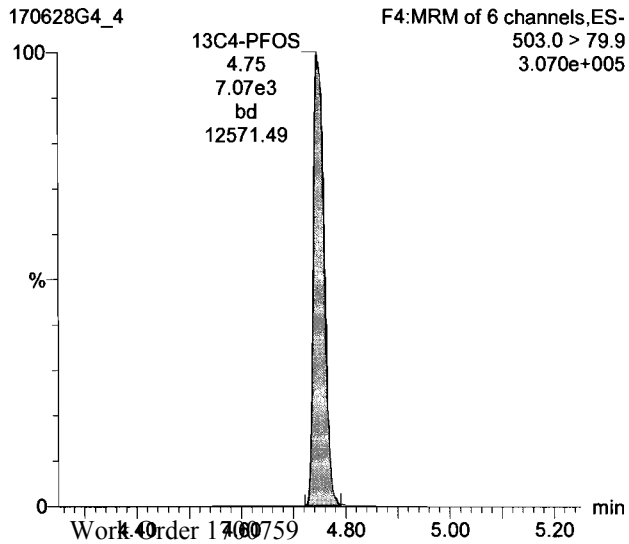

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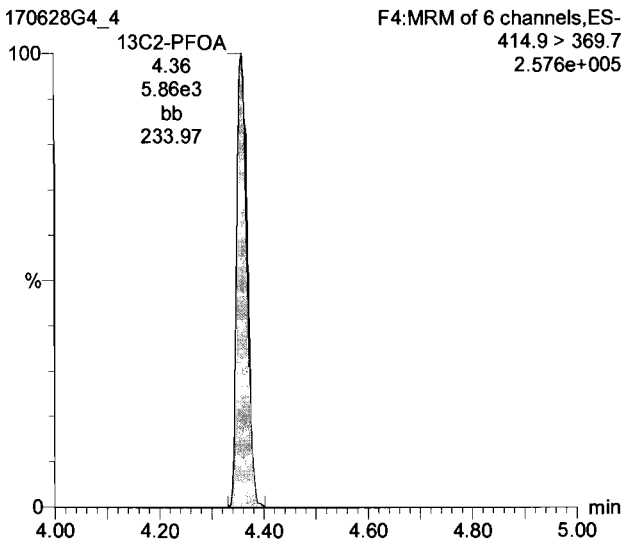

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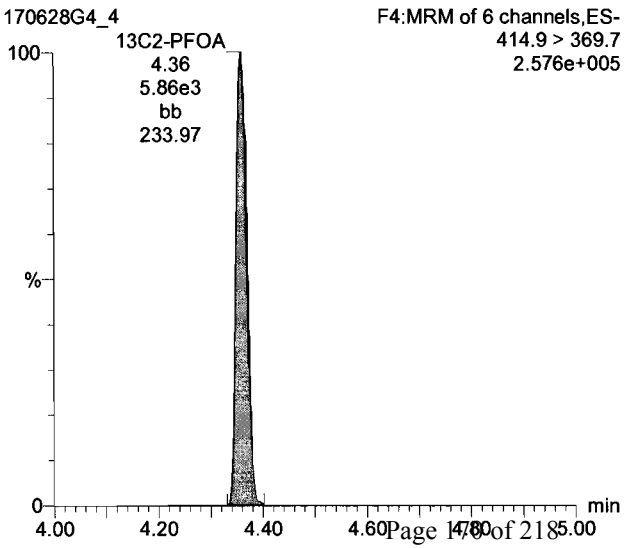

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ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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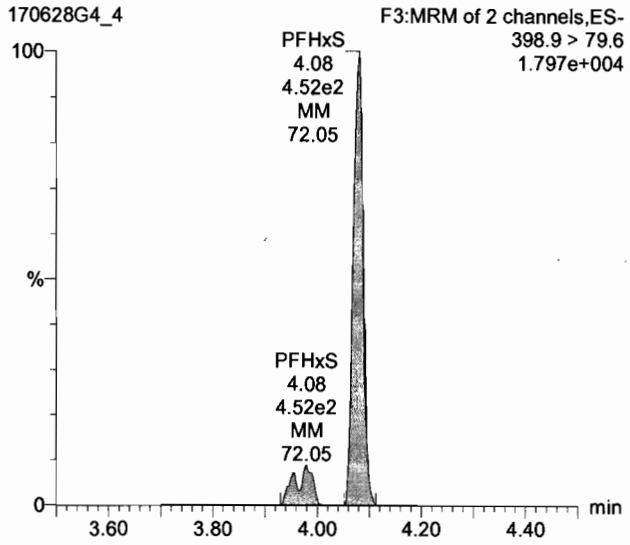

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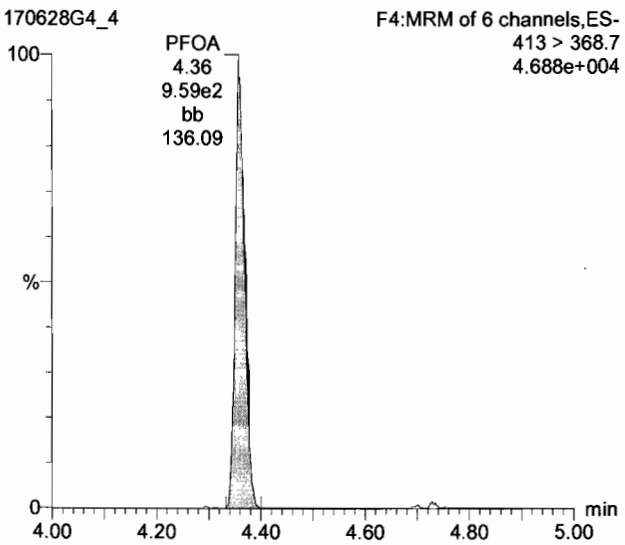

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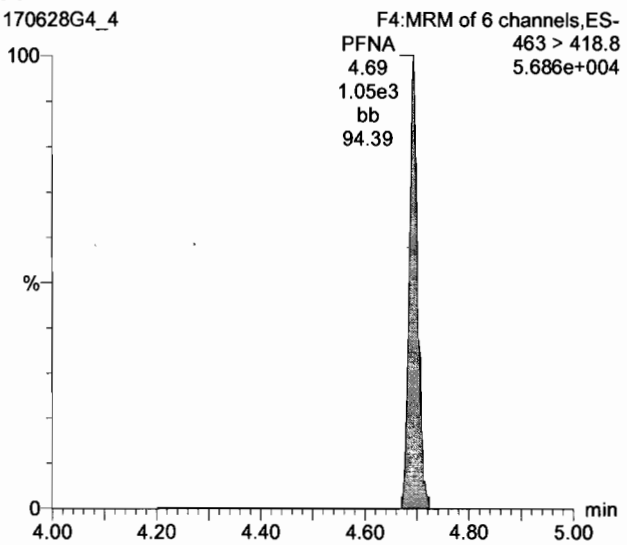

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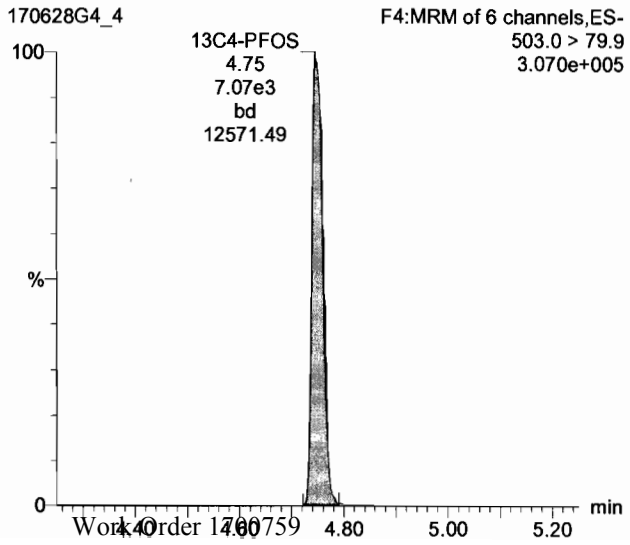

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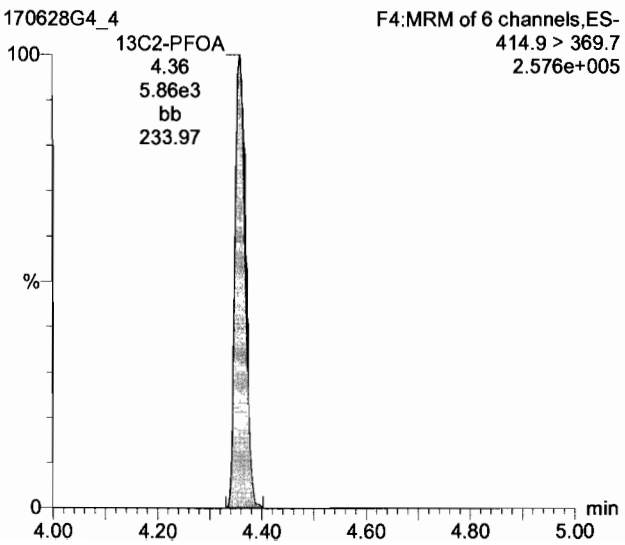

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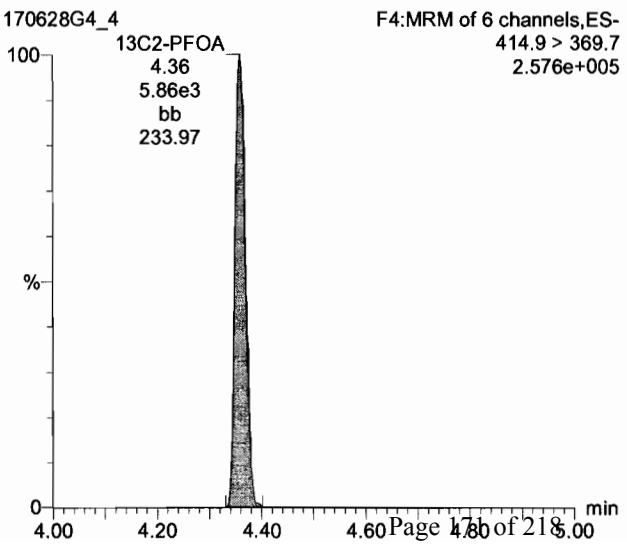

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ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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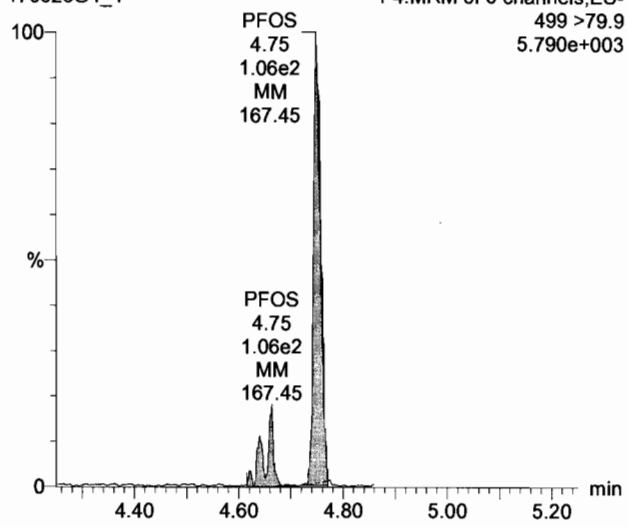

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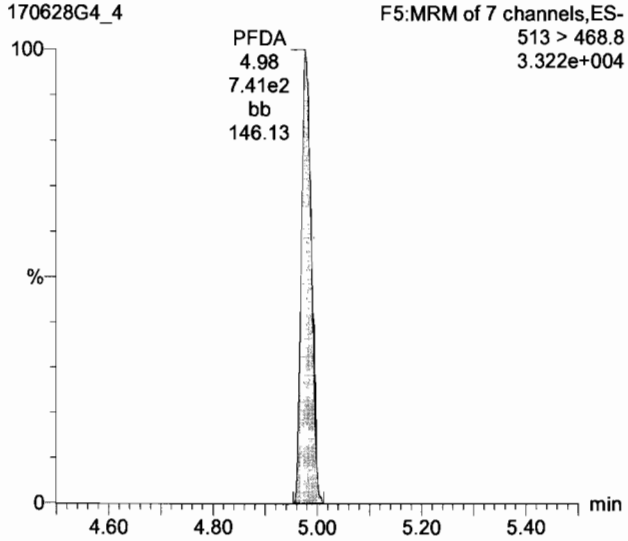

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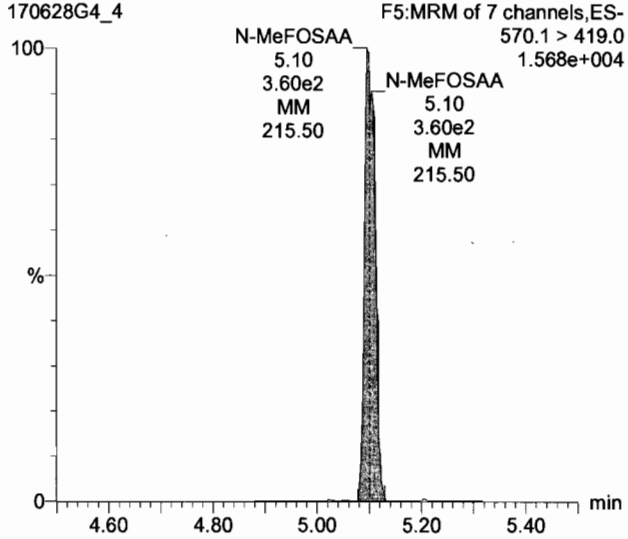

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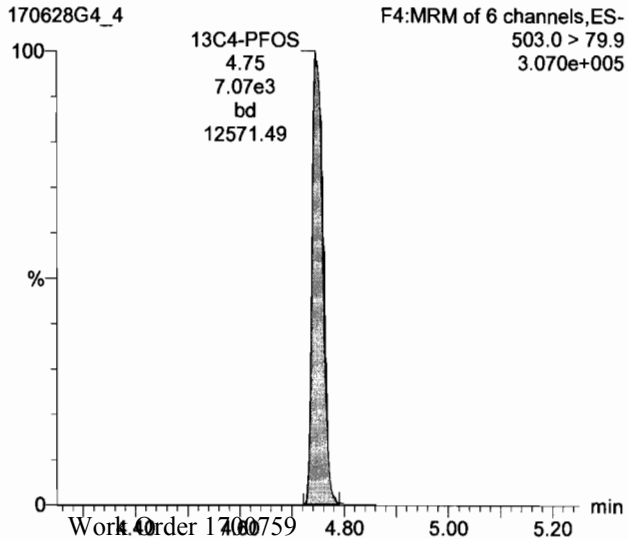

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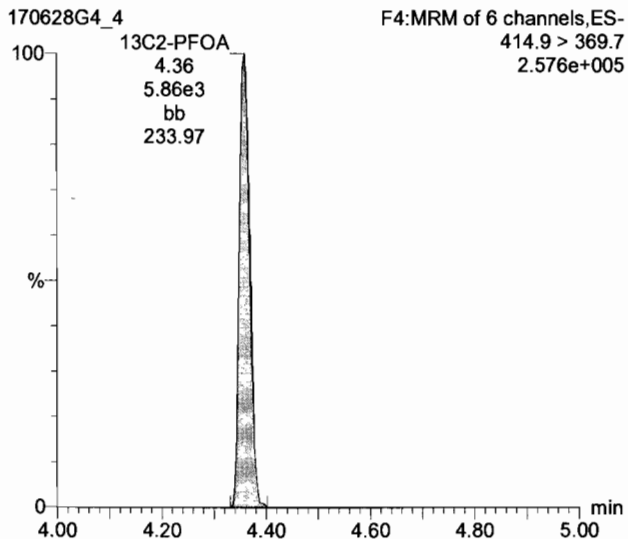

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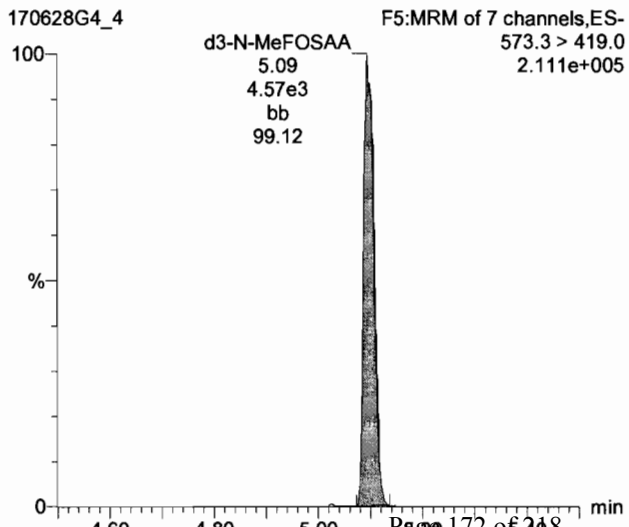

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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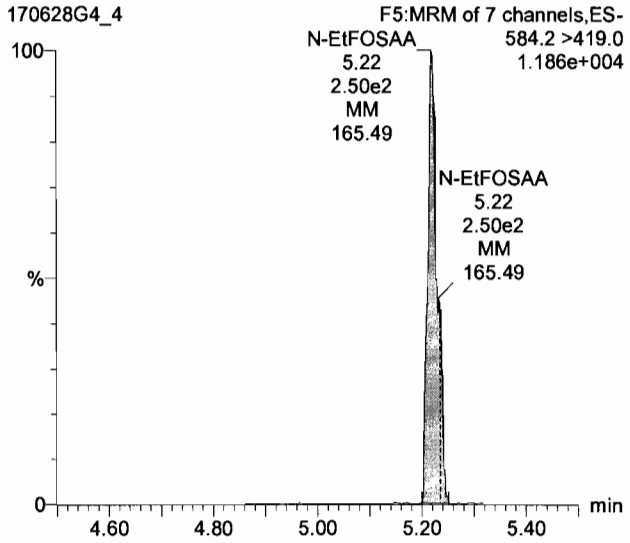

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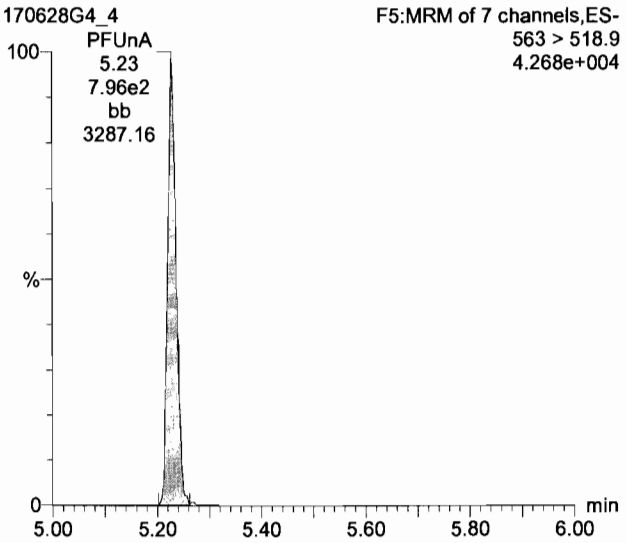

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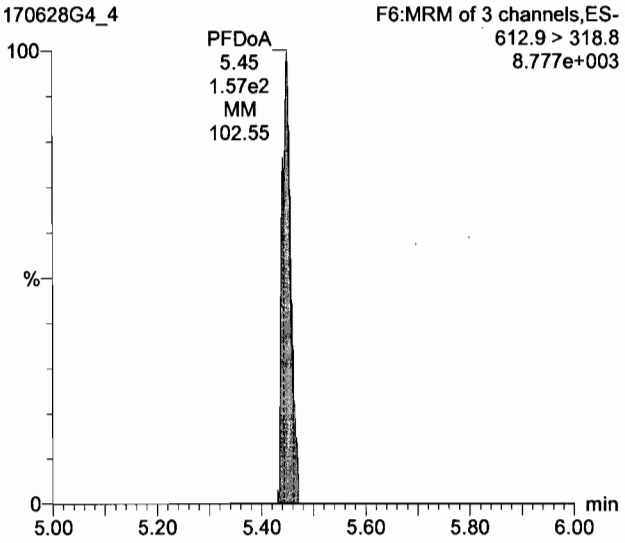

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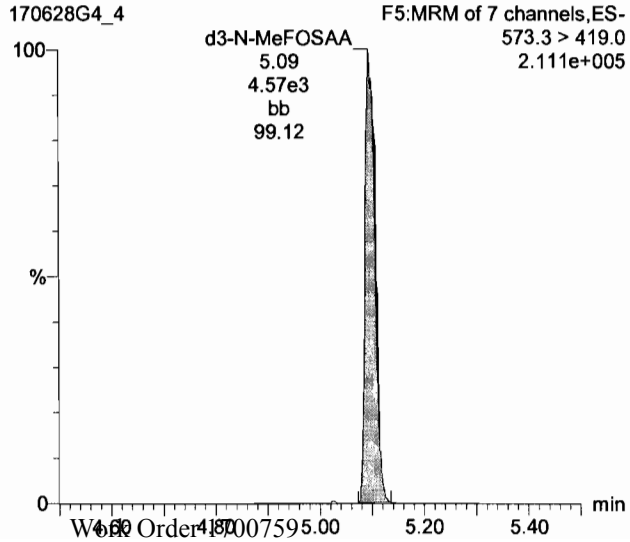

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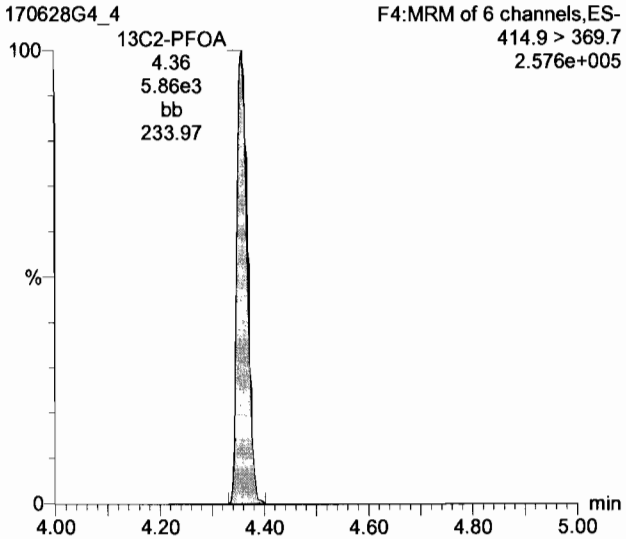

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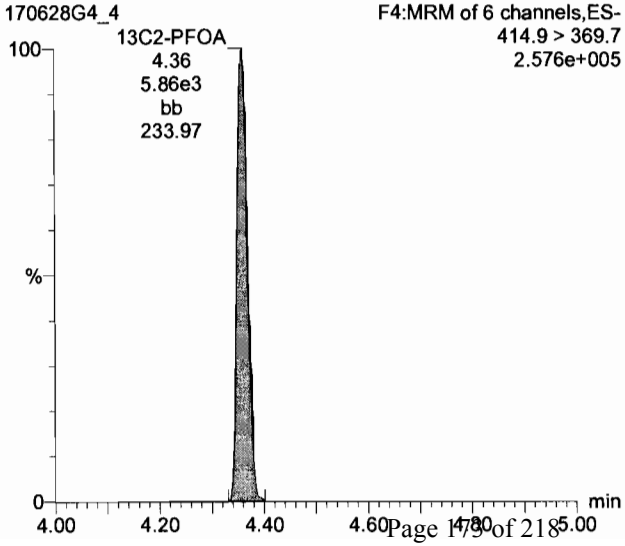

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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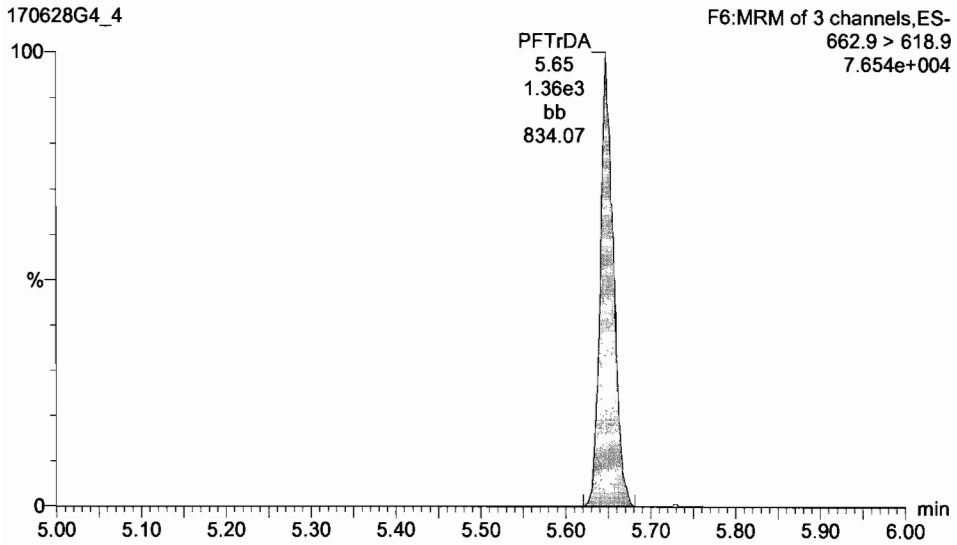

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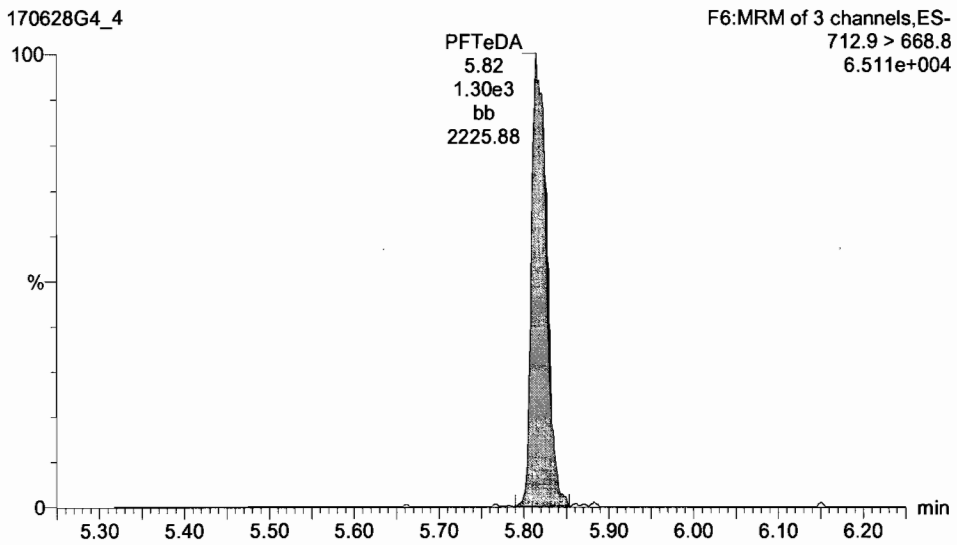

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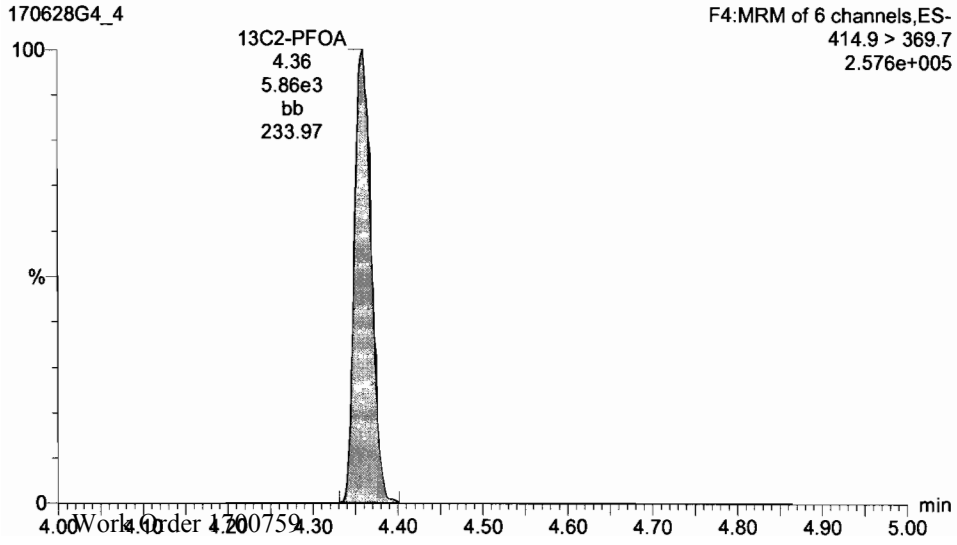

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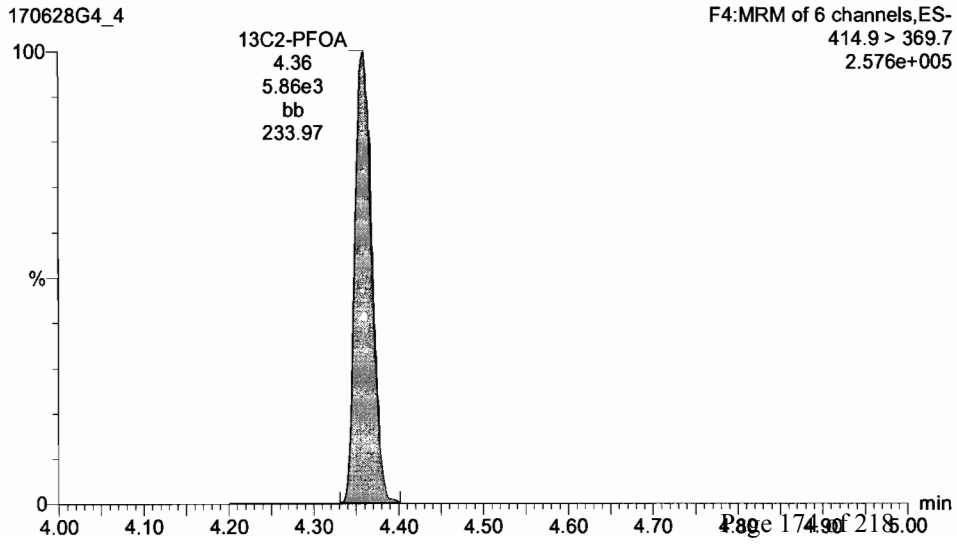

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-3 PFC CS-1 17F1607, Description: PFC CS-1 17F1607, Name: 170628G4_4, Date: 28-Jun-2017, Time: 18:58:38, Instrument: , Lab: , User:

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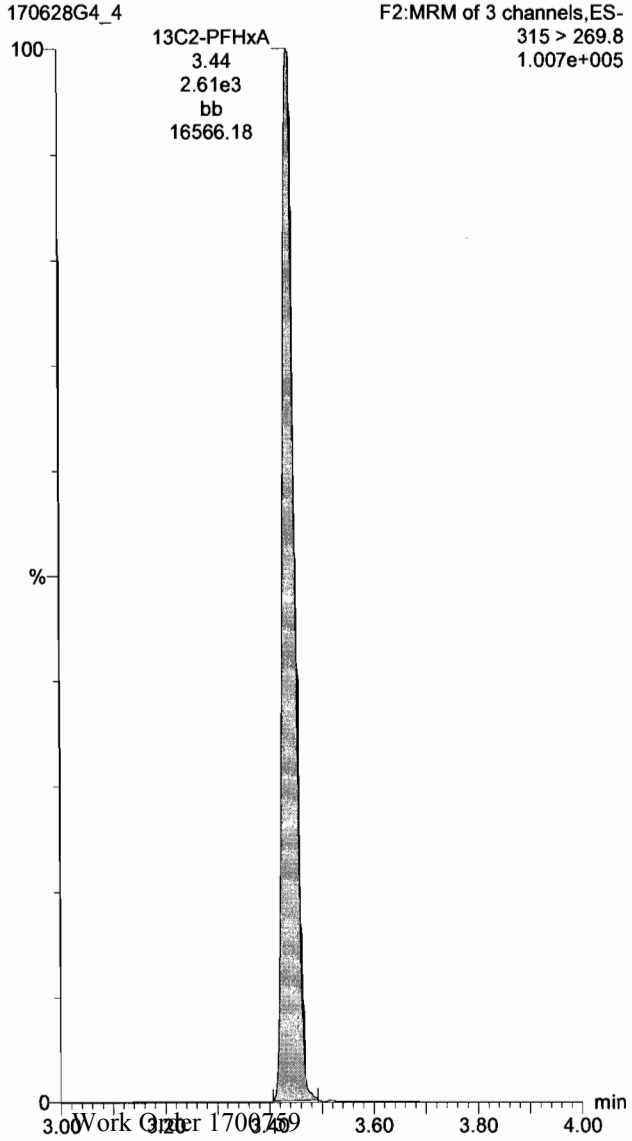

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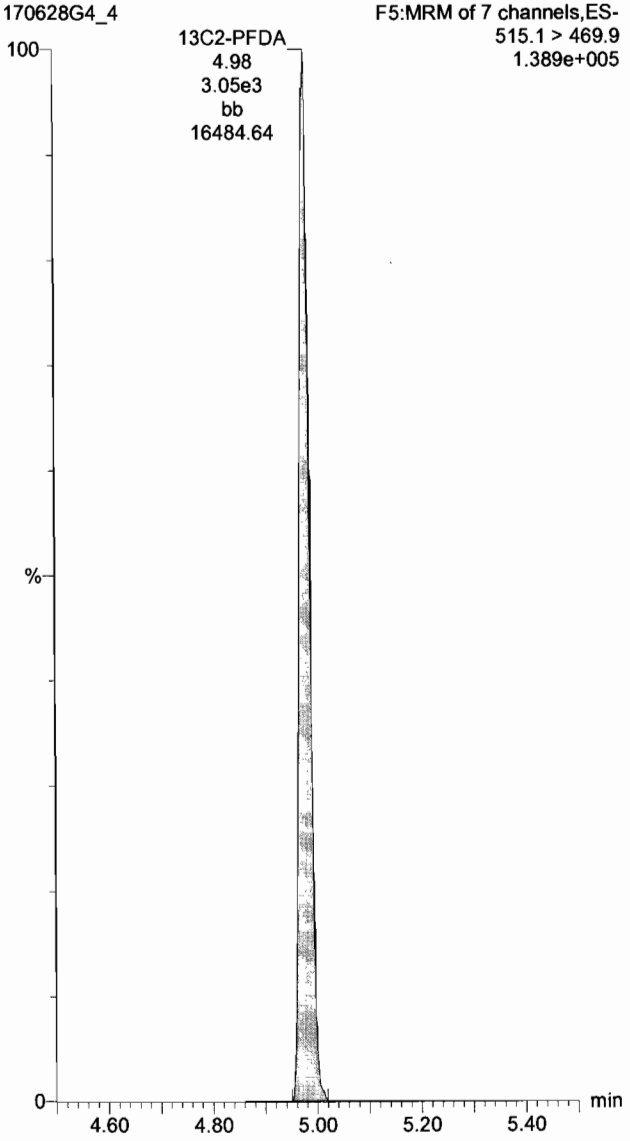

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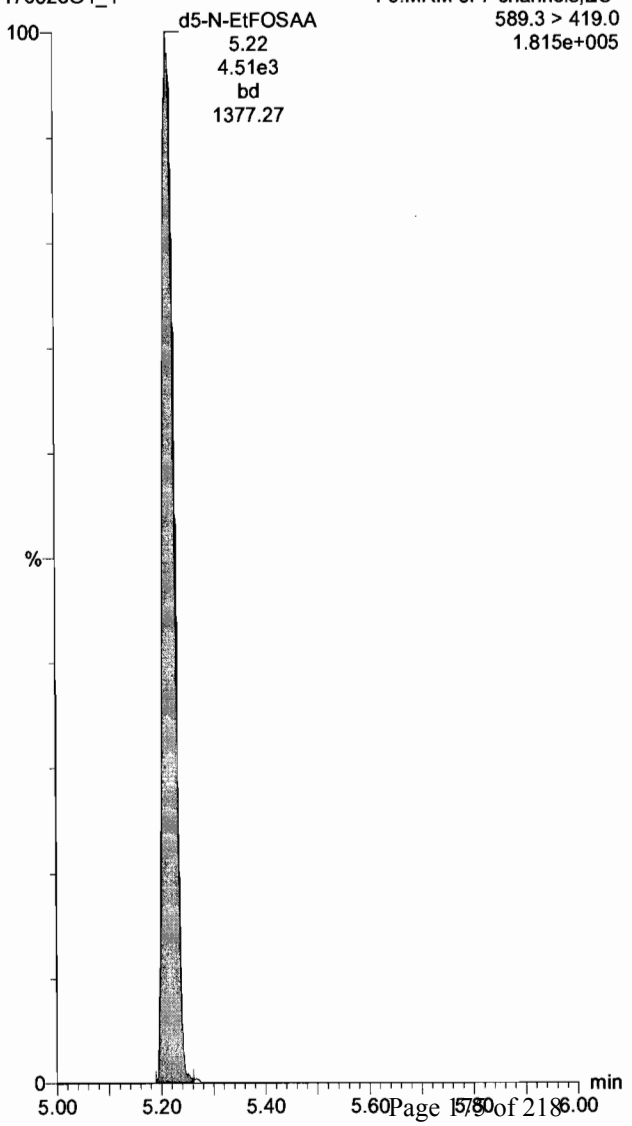

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ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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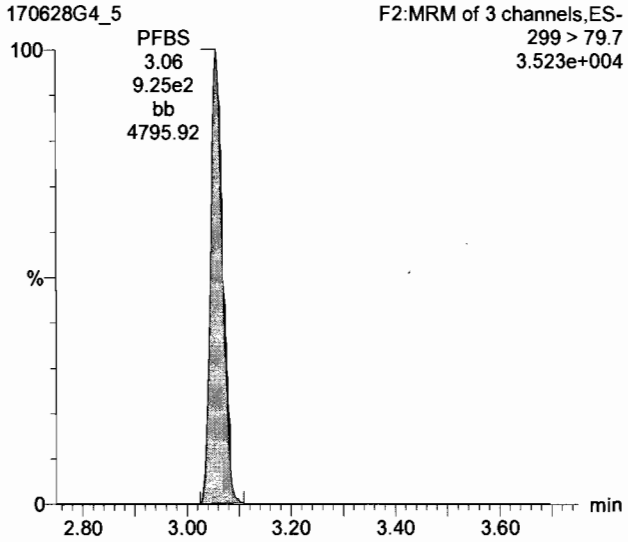

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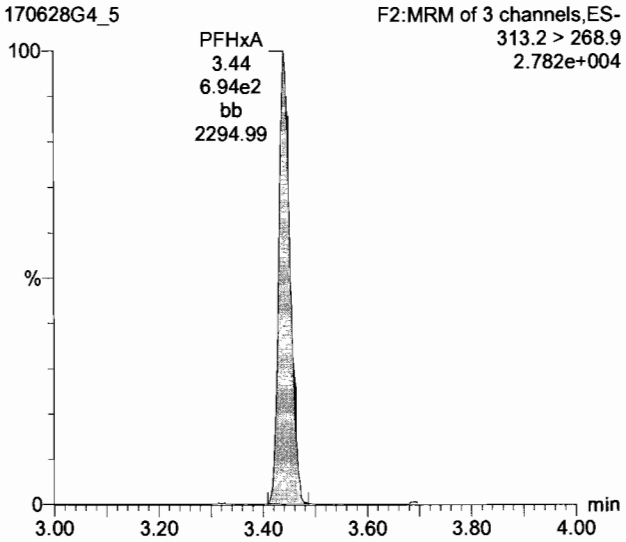

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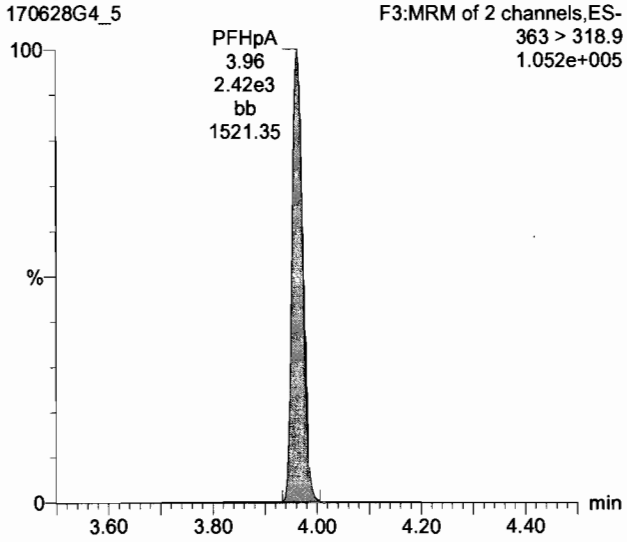

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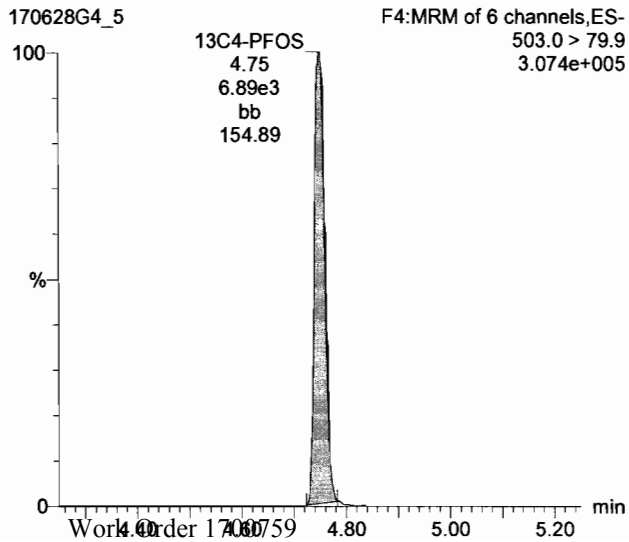

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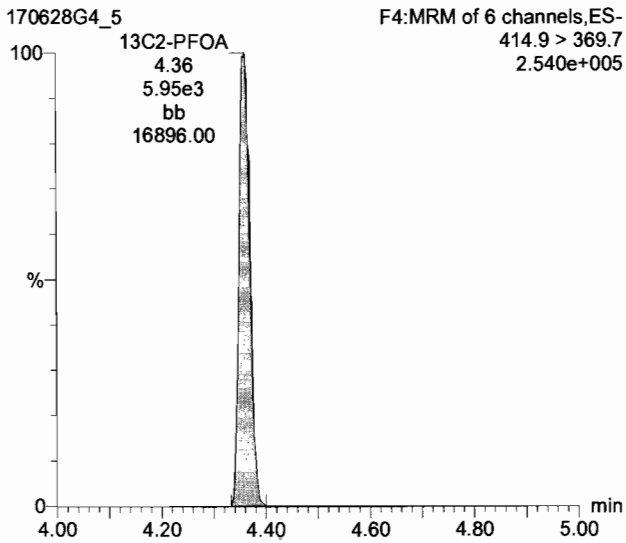

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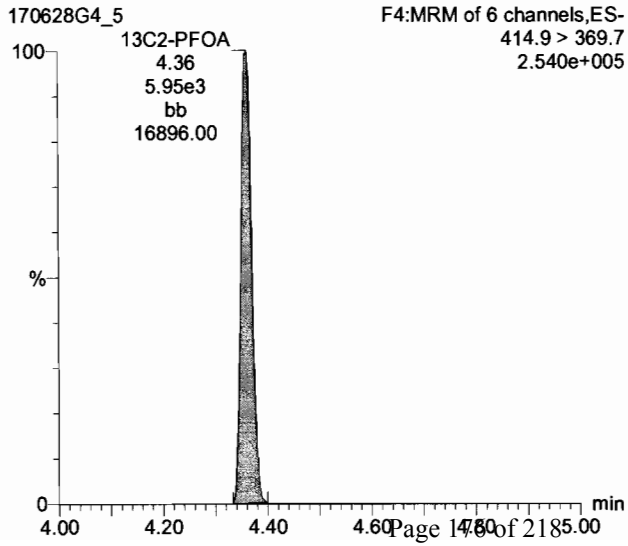

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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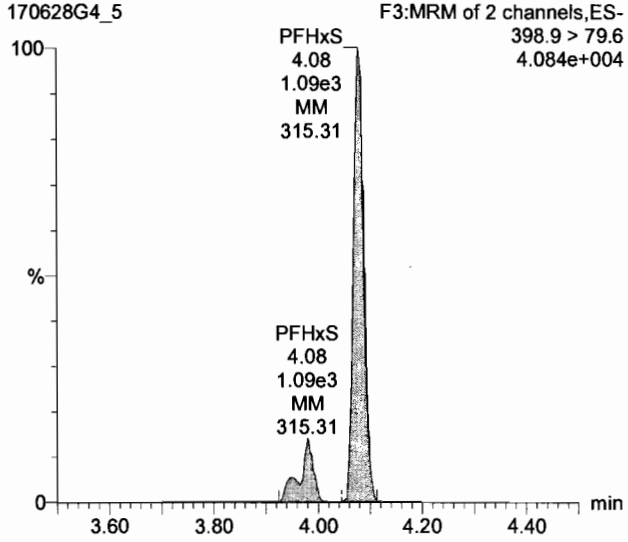

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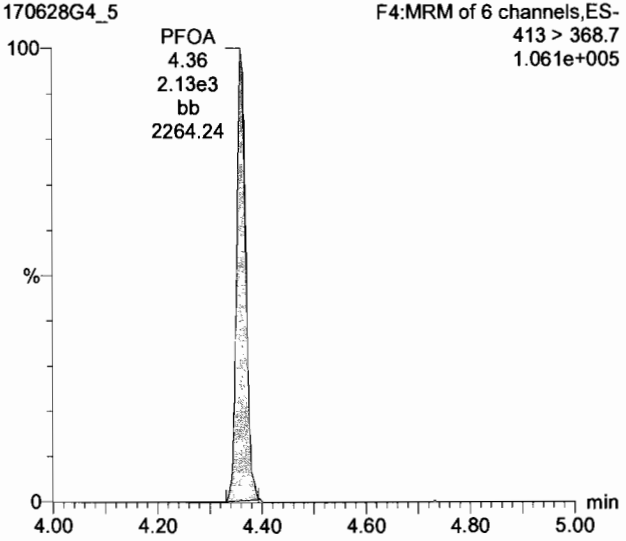

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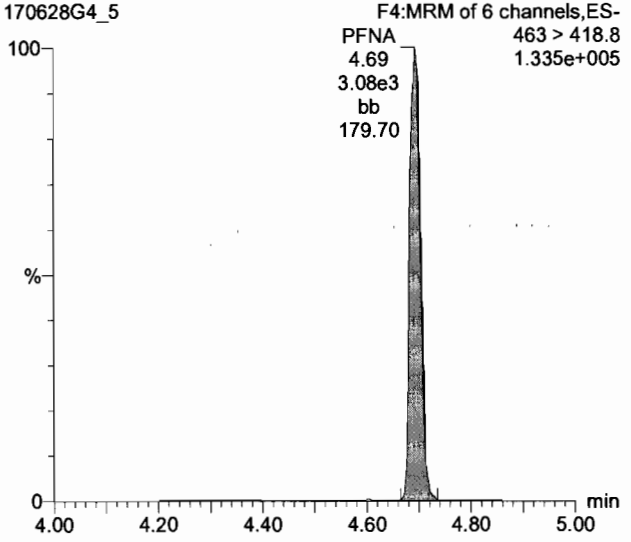

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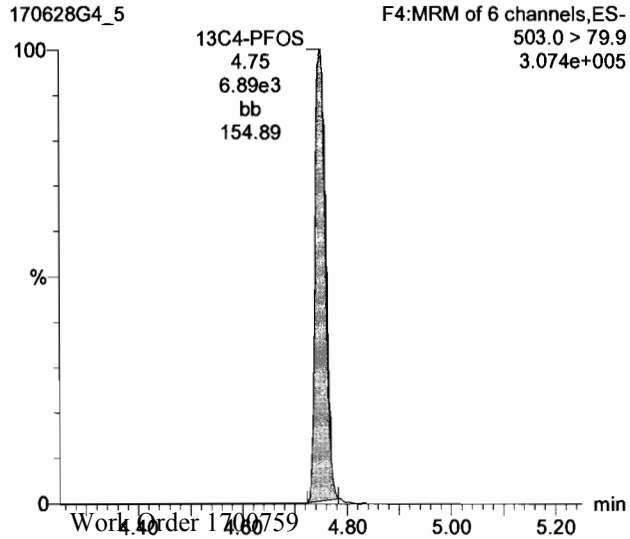

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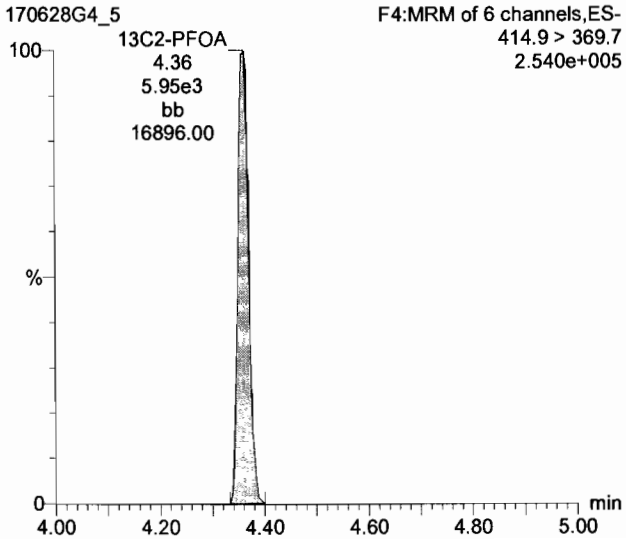

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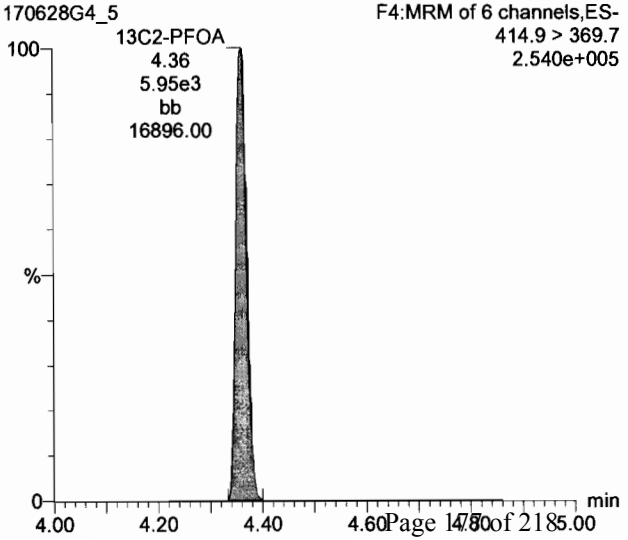

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ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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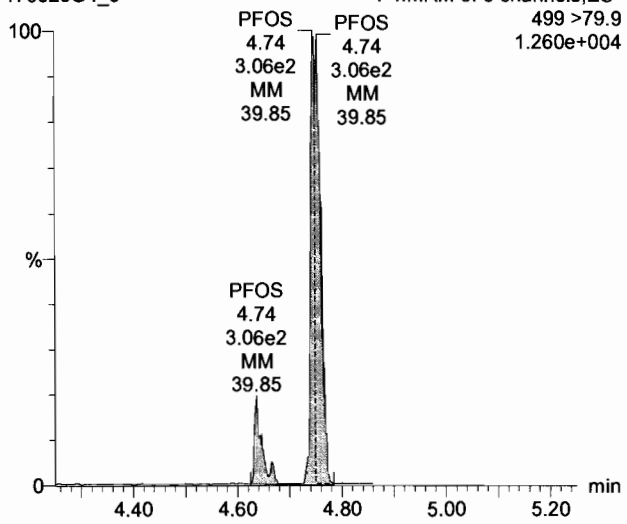

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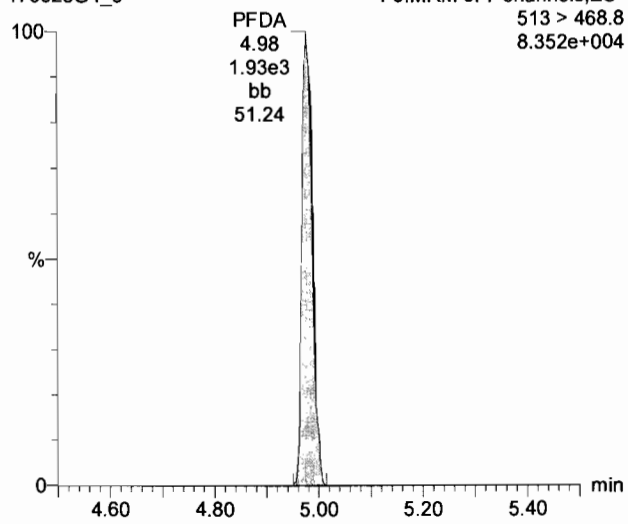

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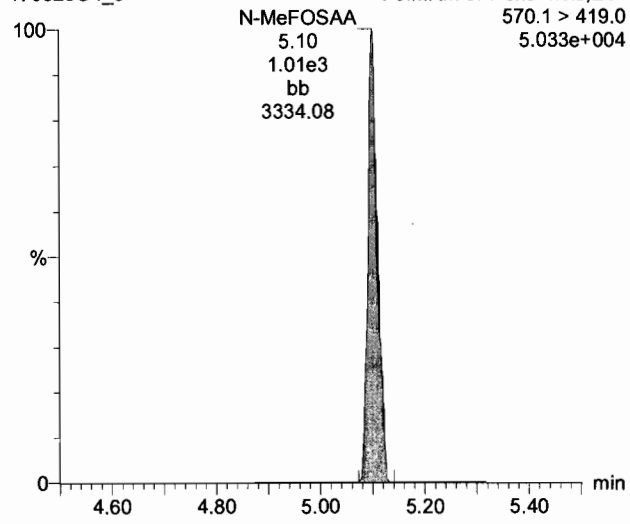

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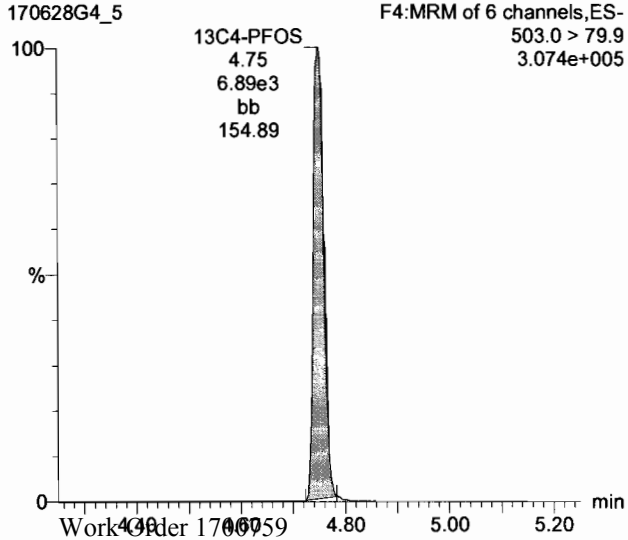

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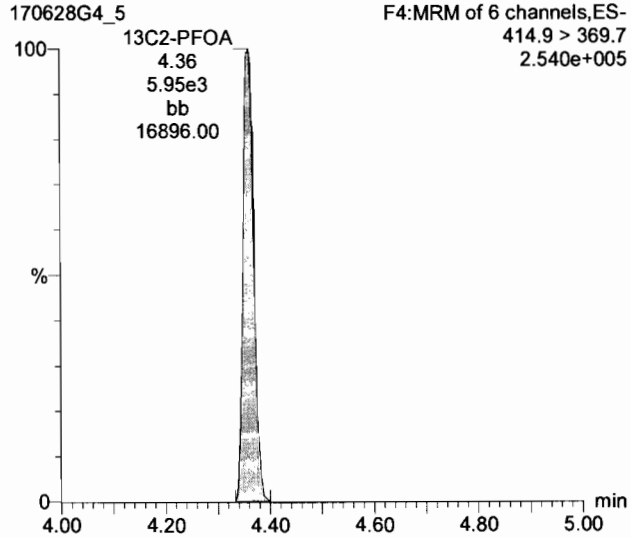

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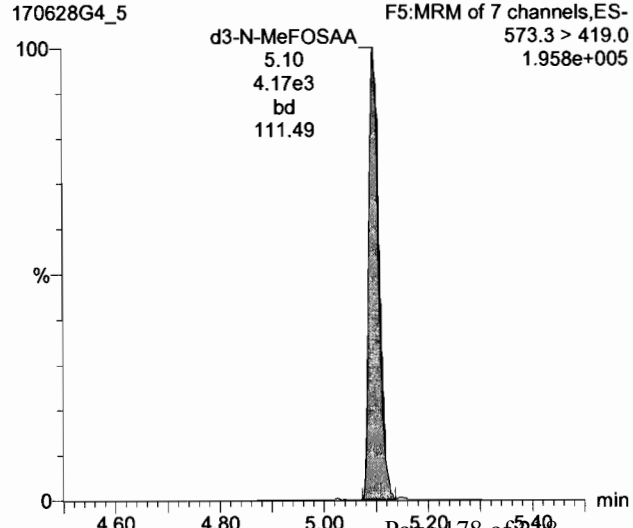

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ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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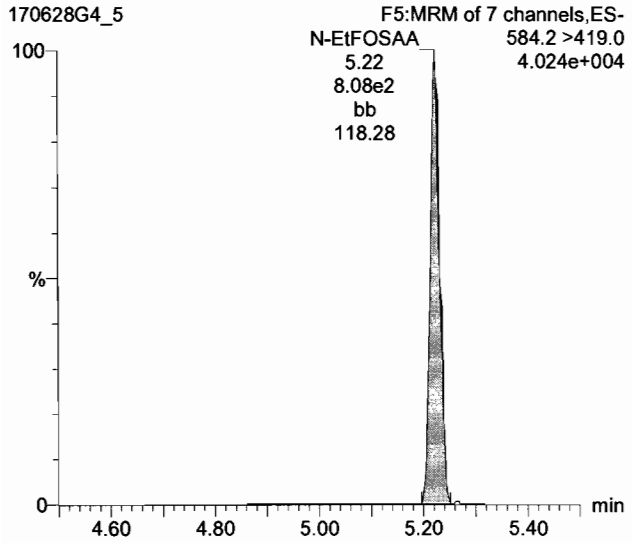

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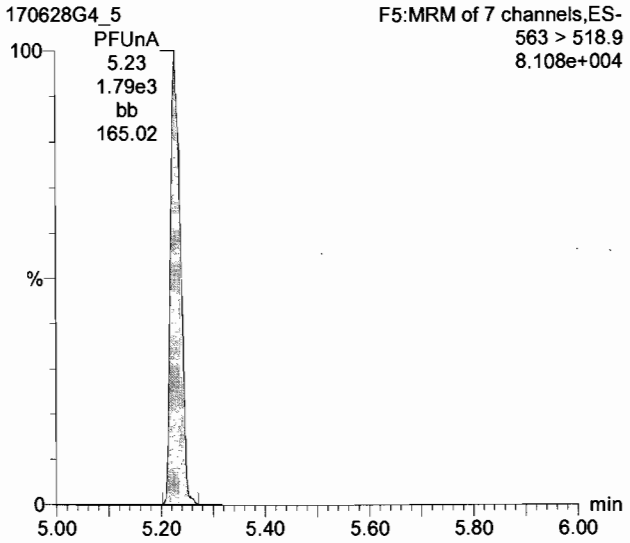

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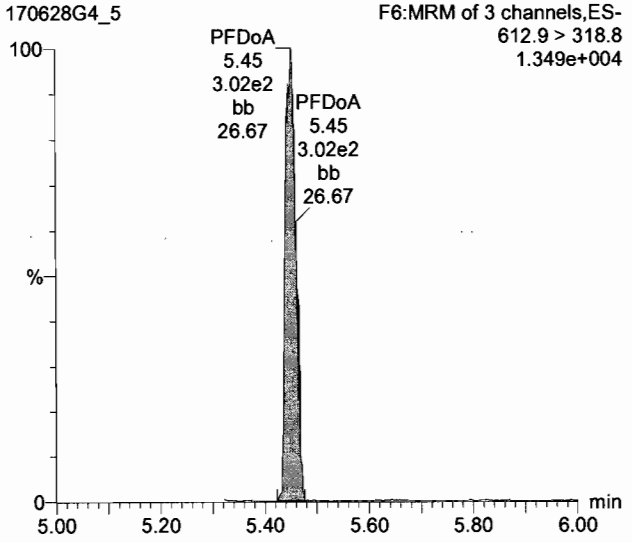

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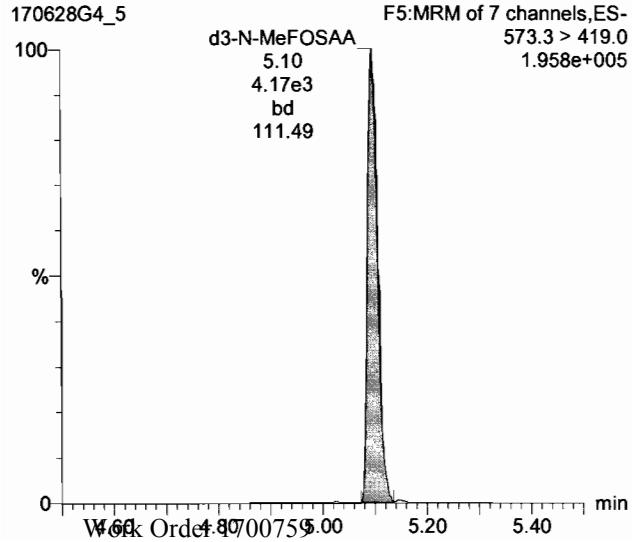

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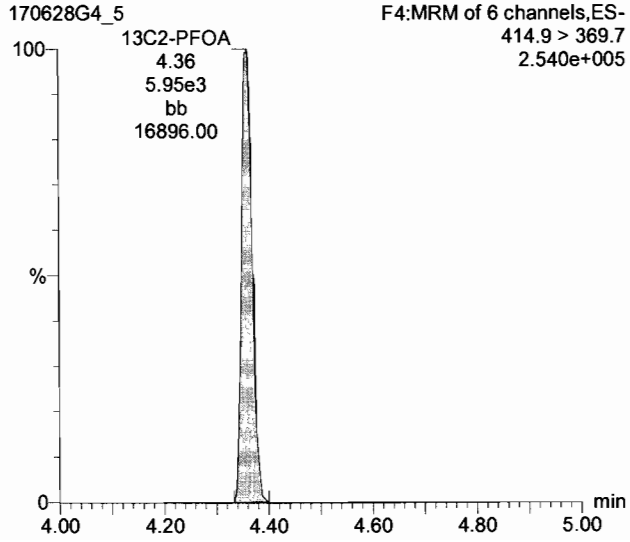

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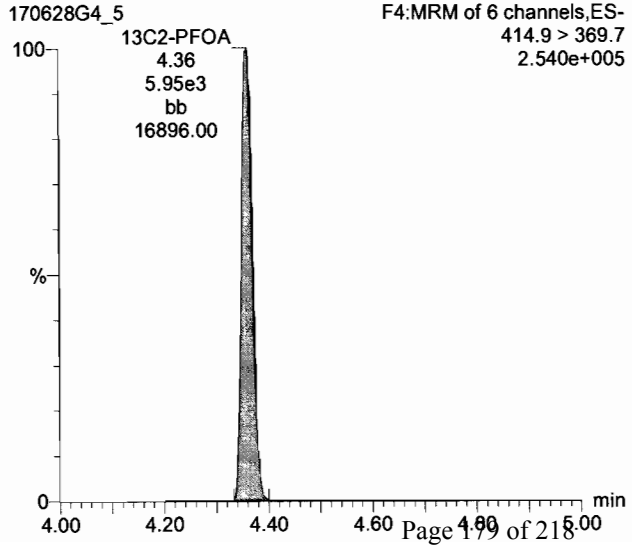

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ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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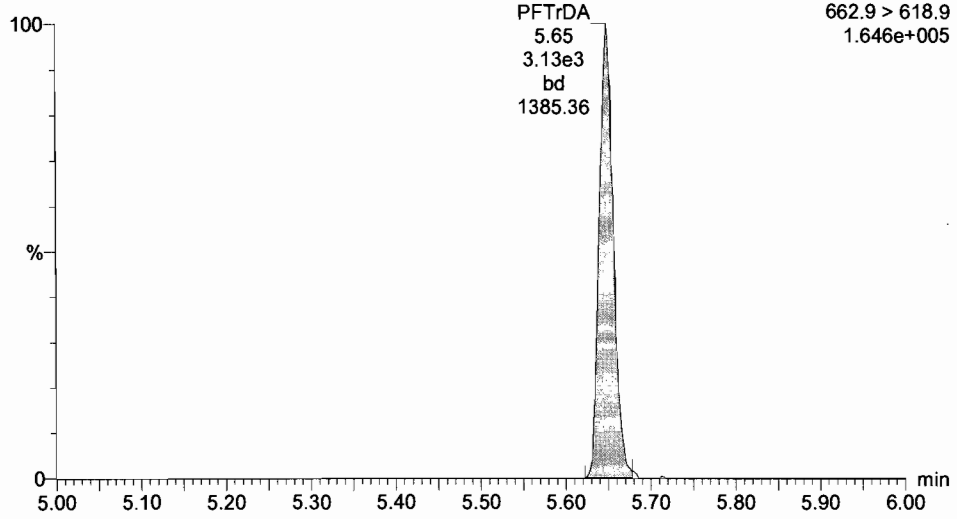

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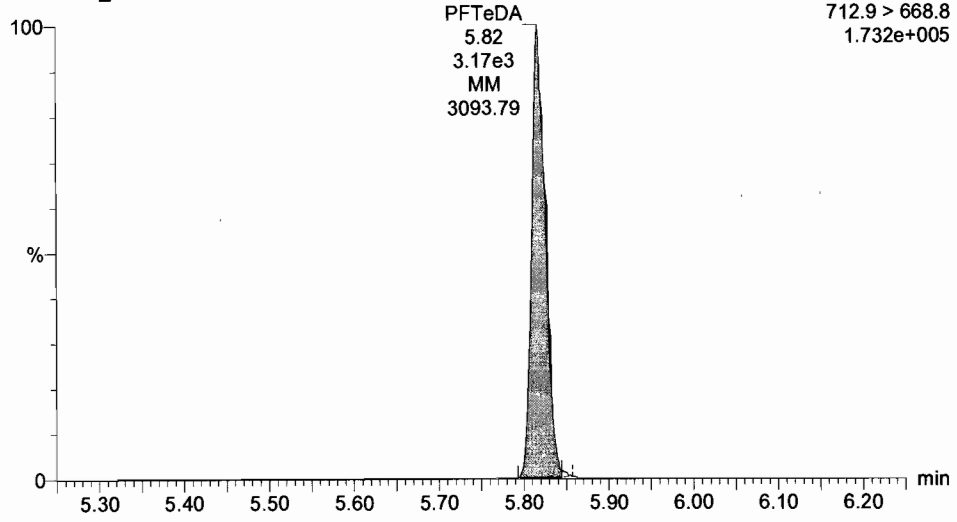

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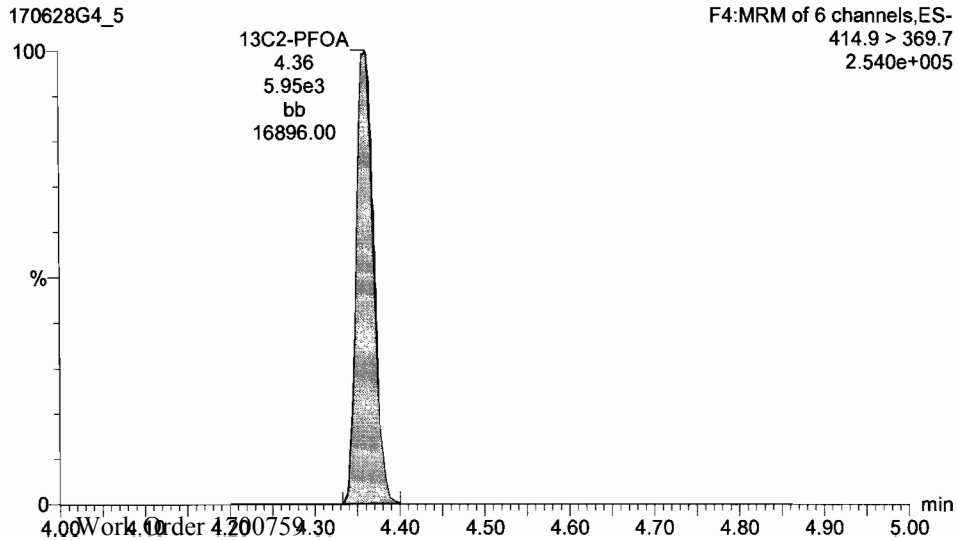

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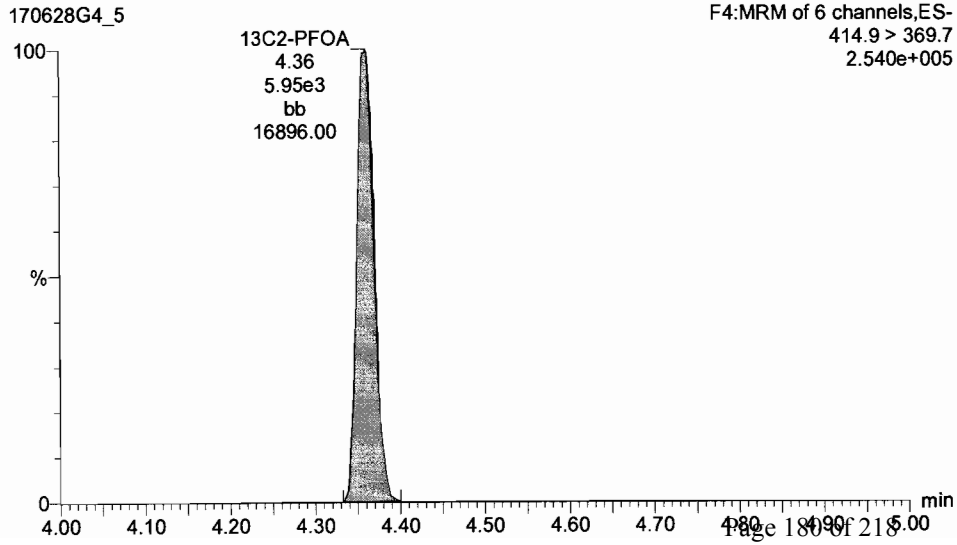

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ID: ST170628G4-4 PFC CS0 17F1608, Description: PFC CS 0 17F1608, Name: 170628G4_5, Date: 28-Jun-2017, Time: 19:11:31, Instrument: , Lab: , User:

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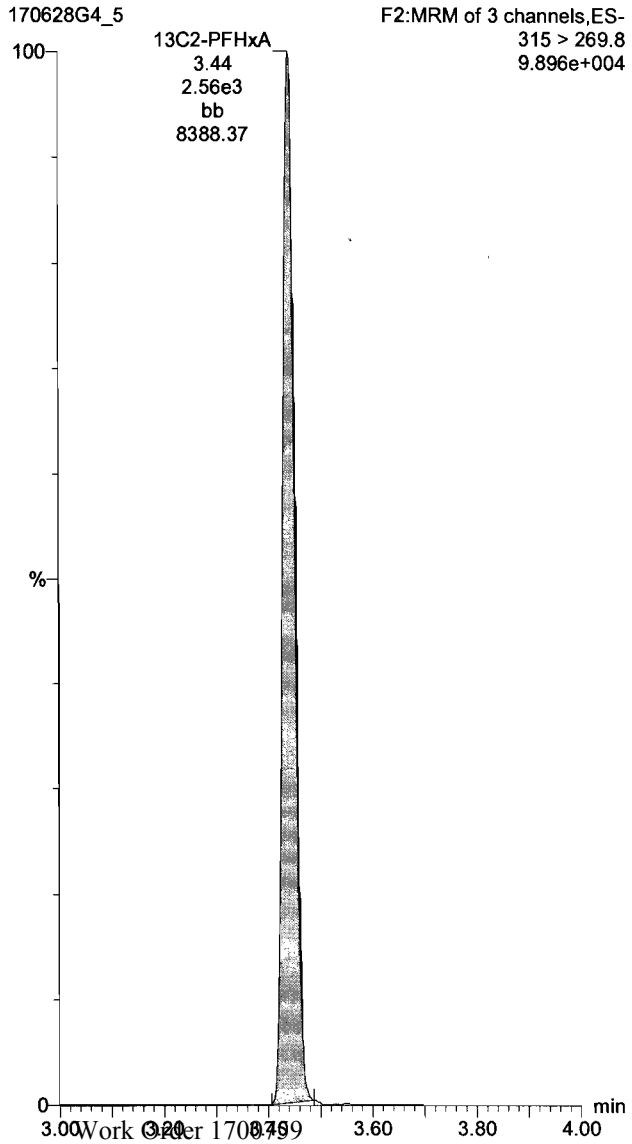

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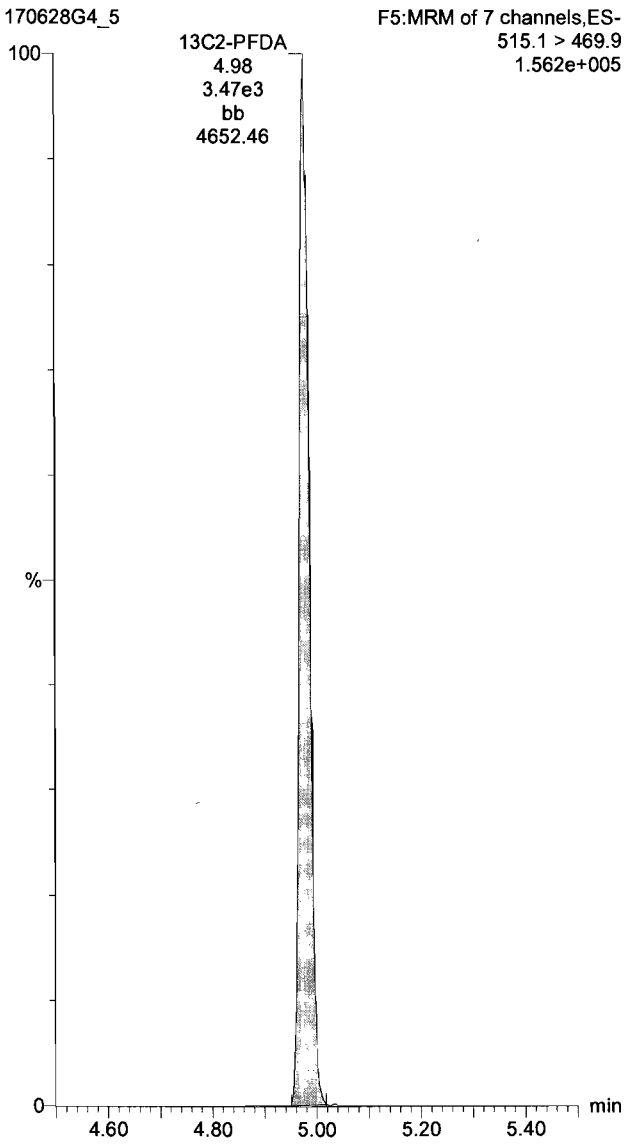
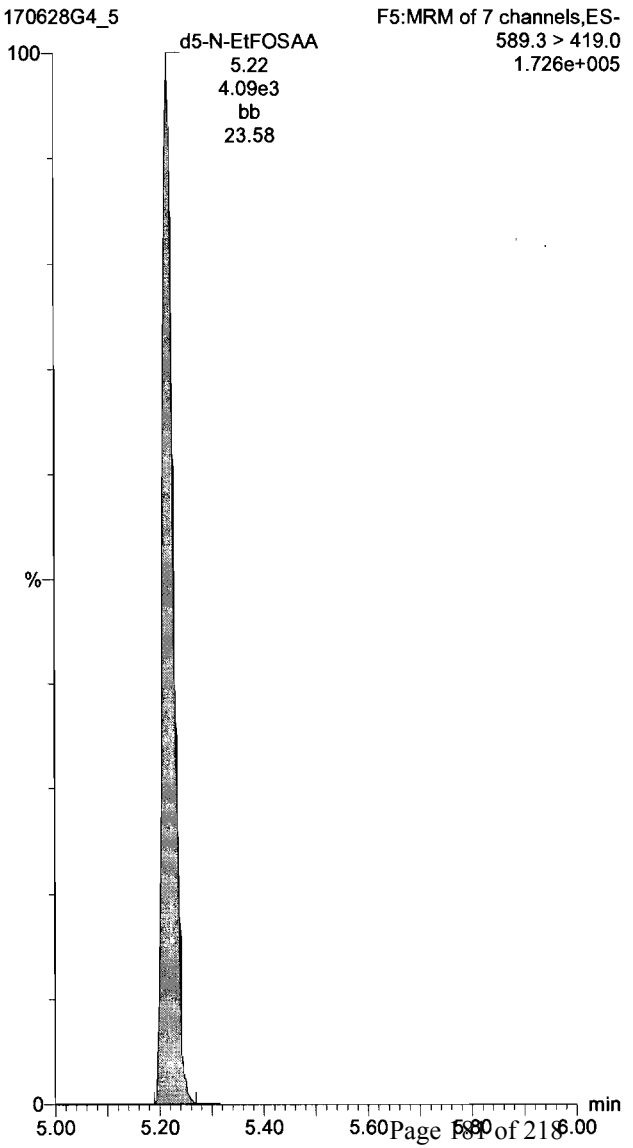


d5-N-EtFOSAA



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ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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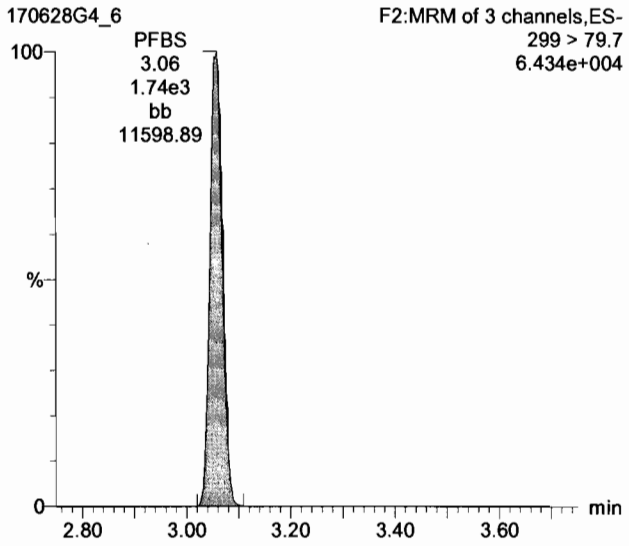

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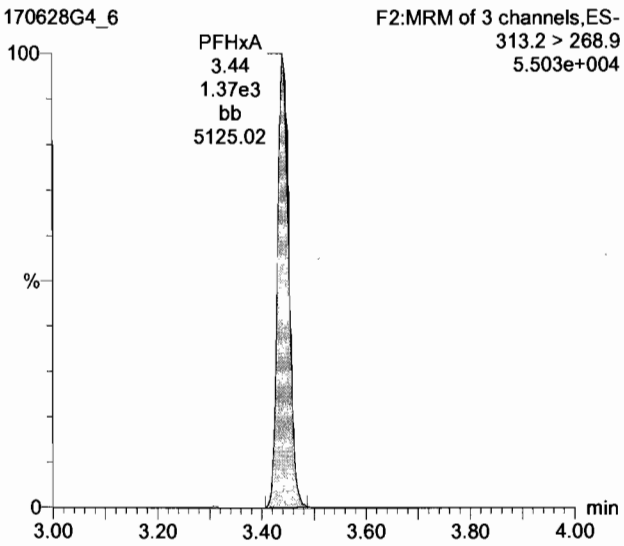

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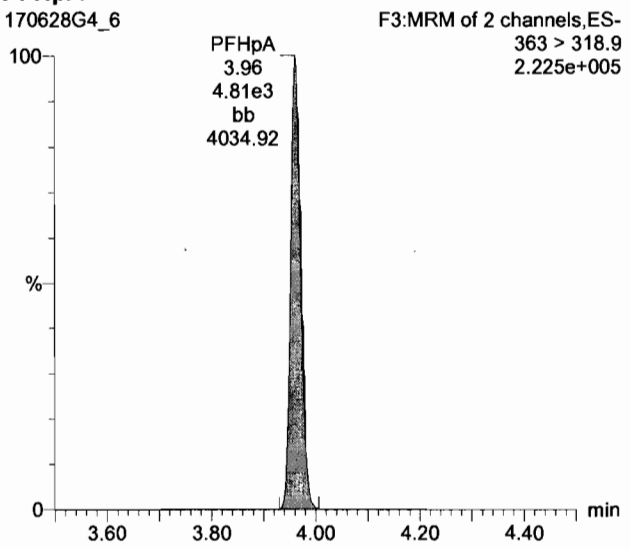

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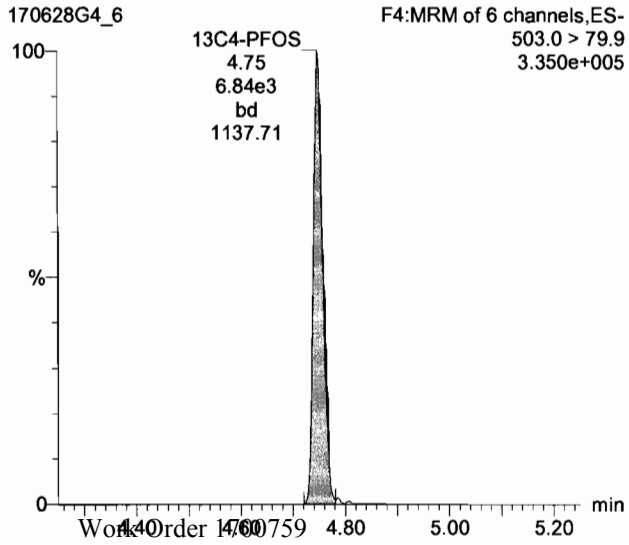

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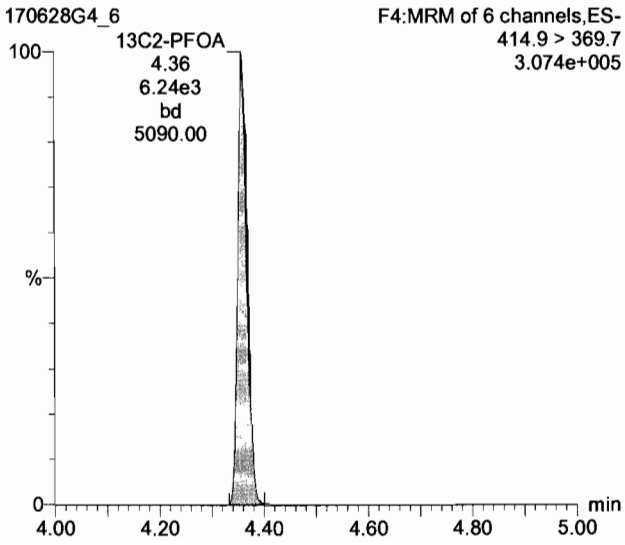

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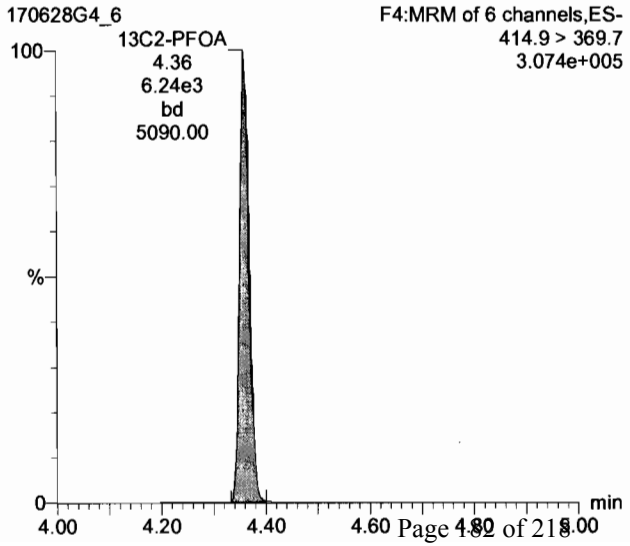

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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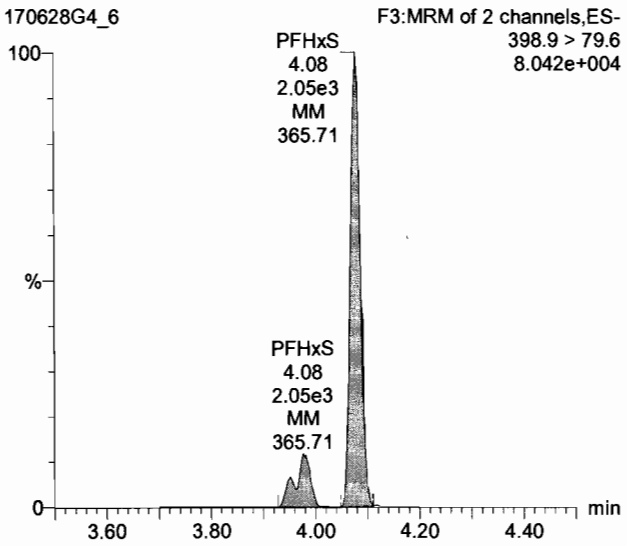

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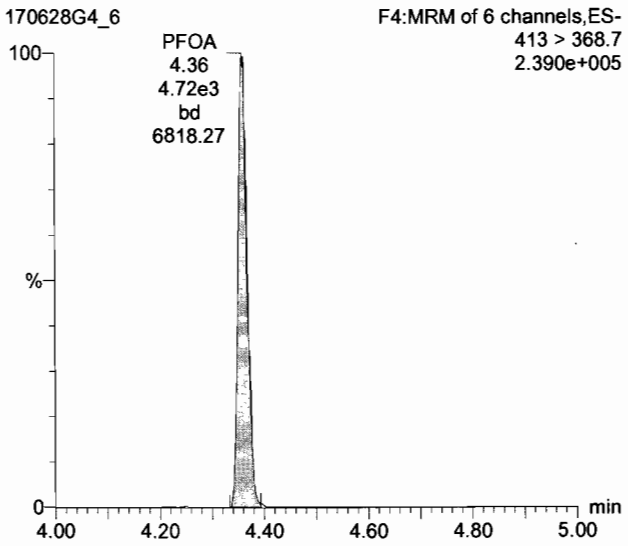

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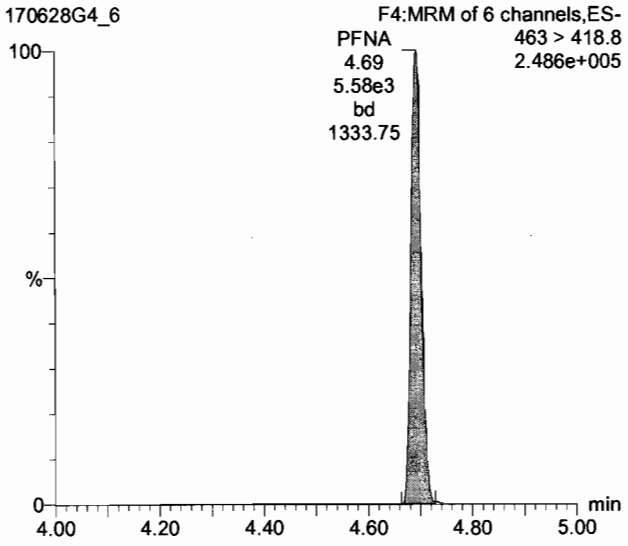

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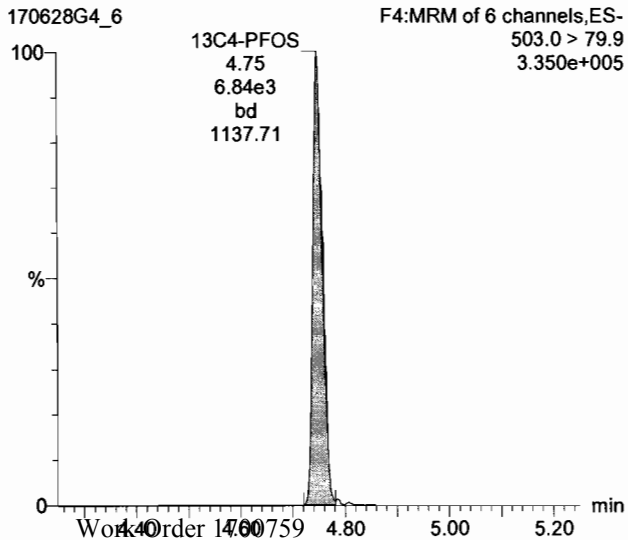

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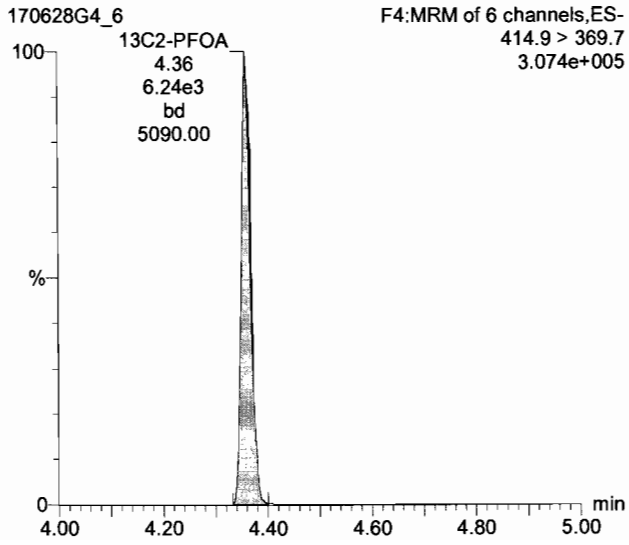

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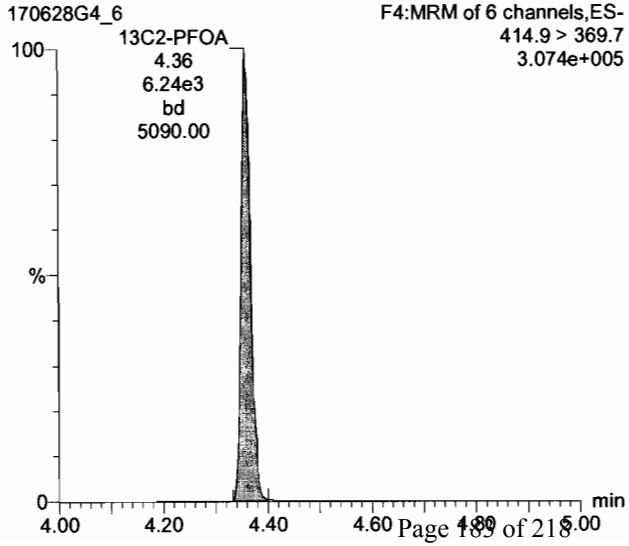

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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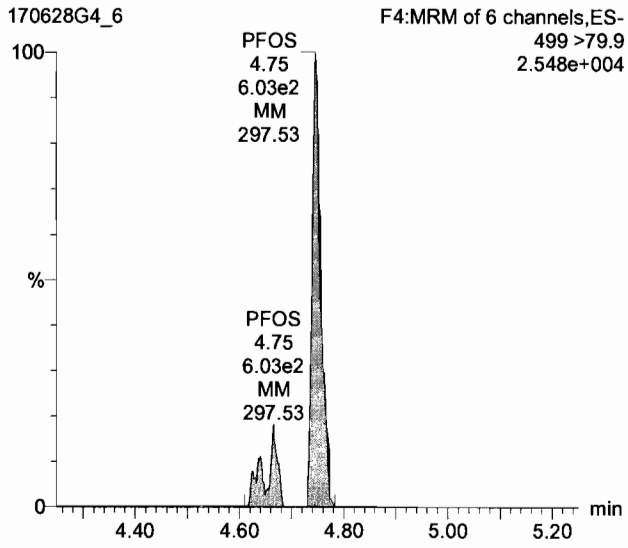

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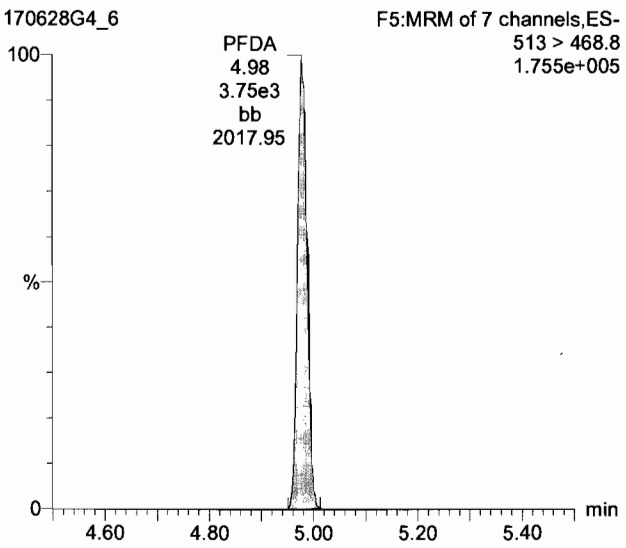

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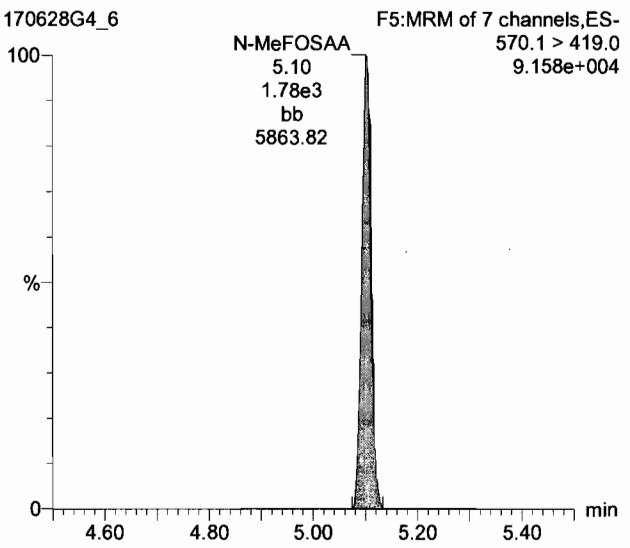

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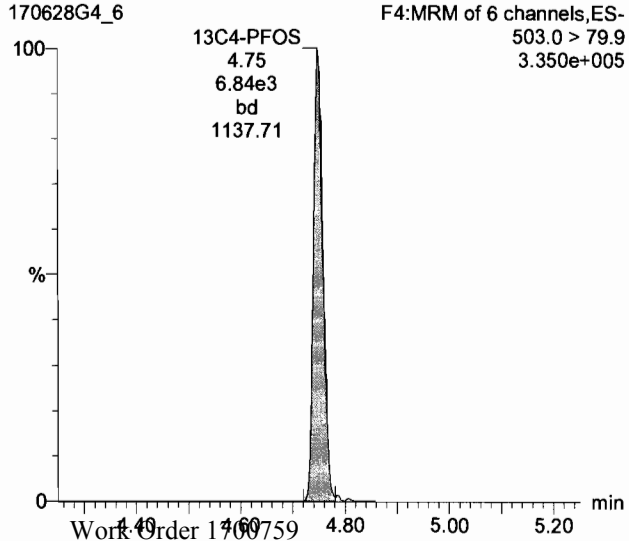

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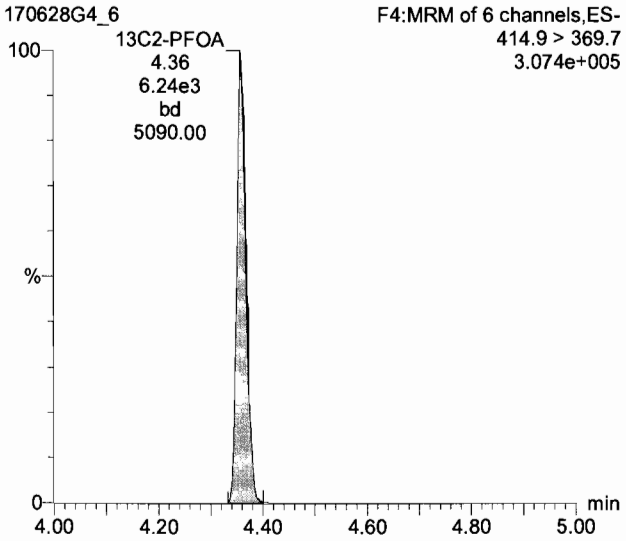

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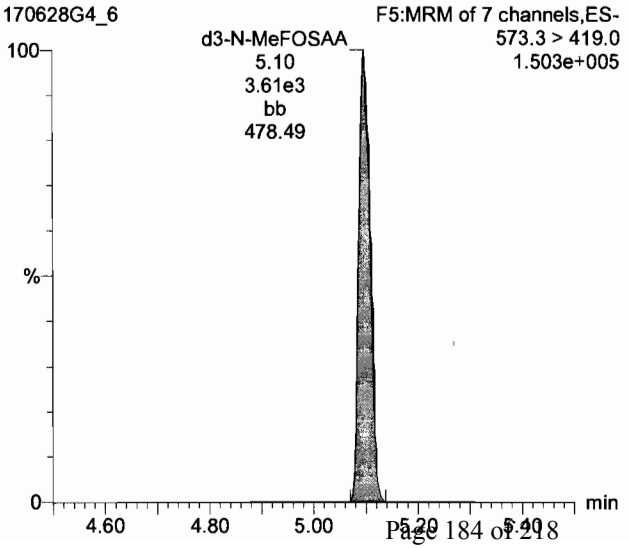

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ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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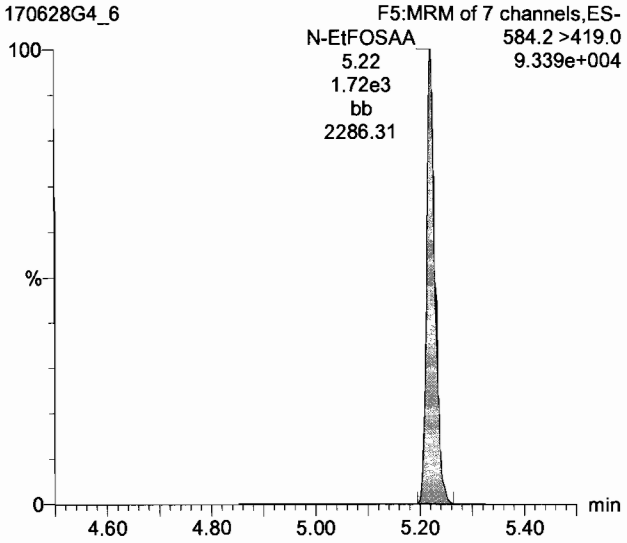

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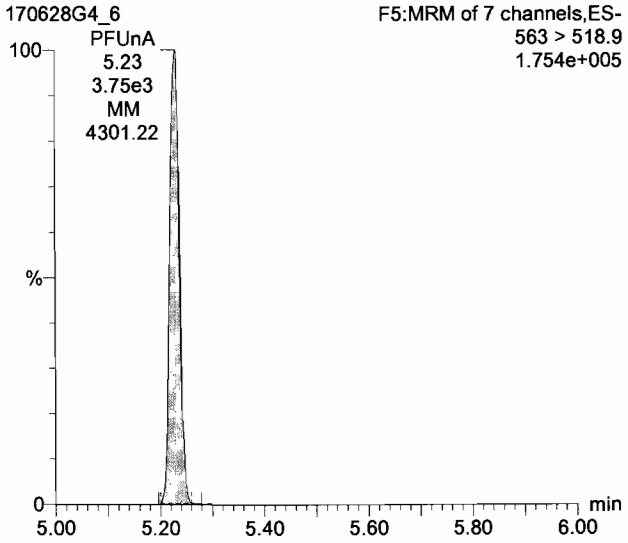

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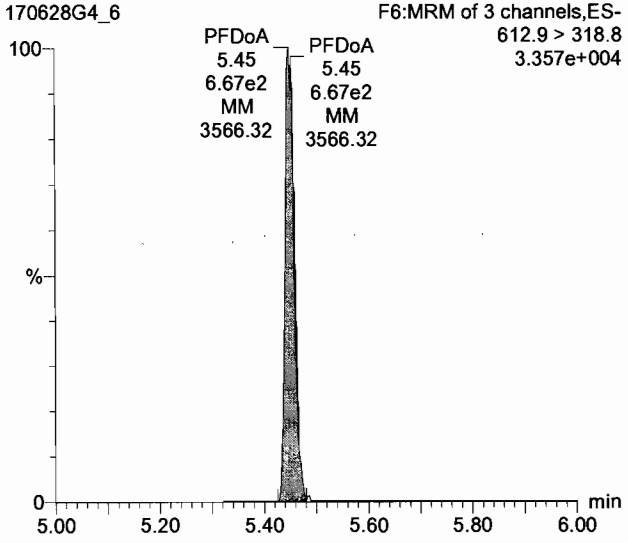

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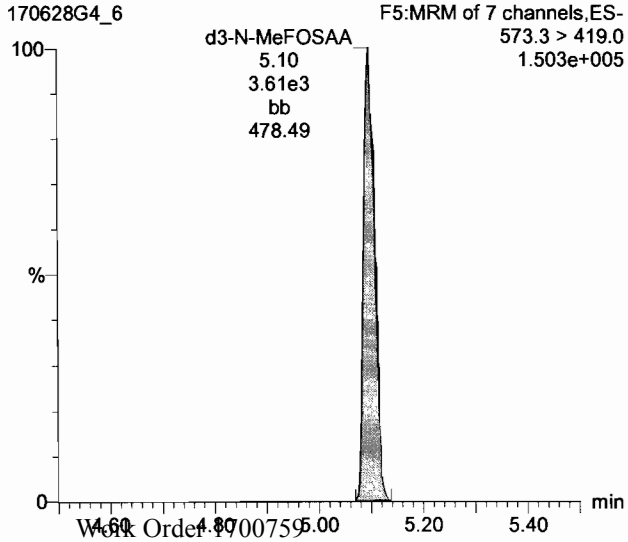

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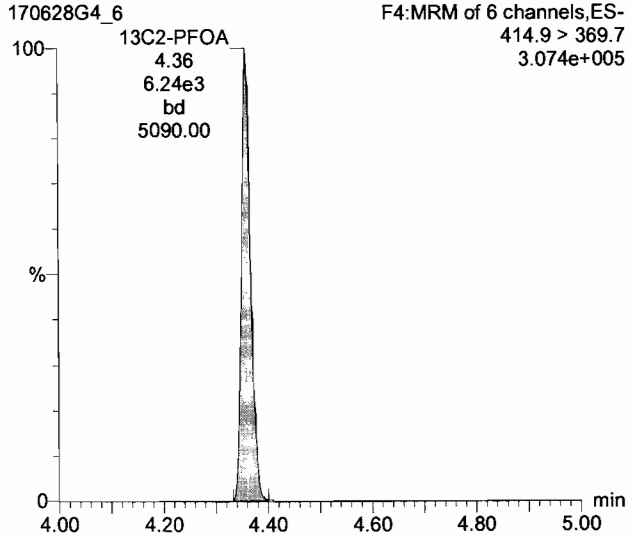

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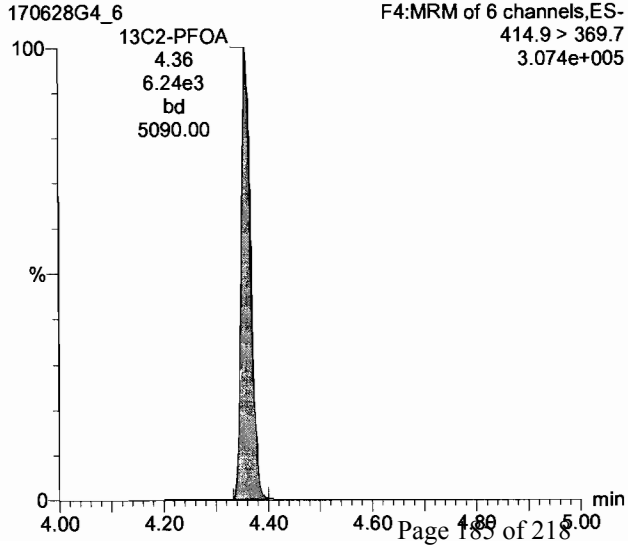

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ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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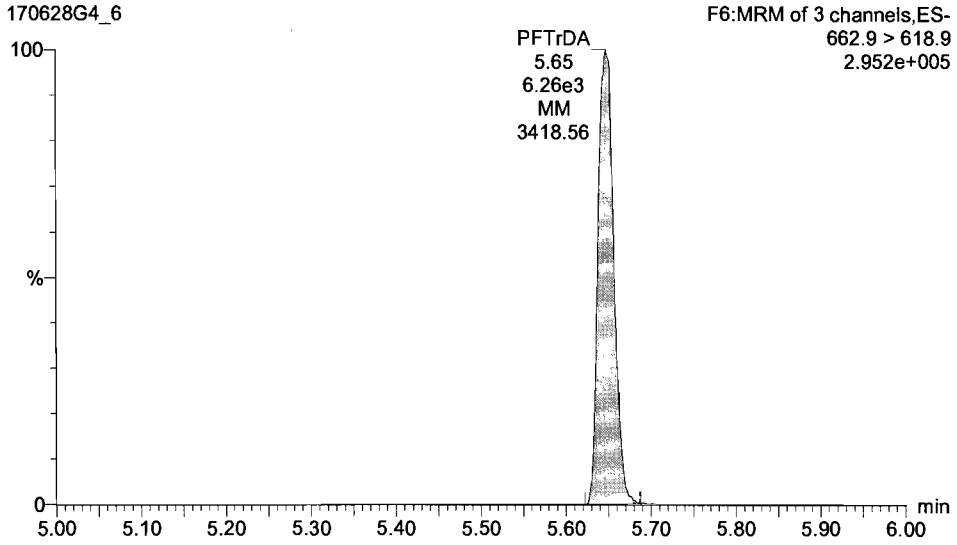

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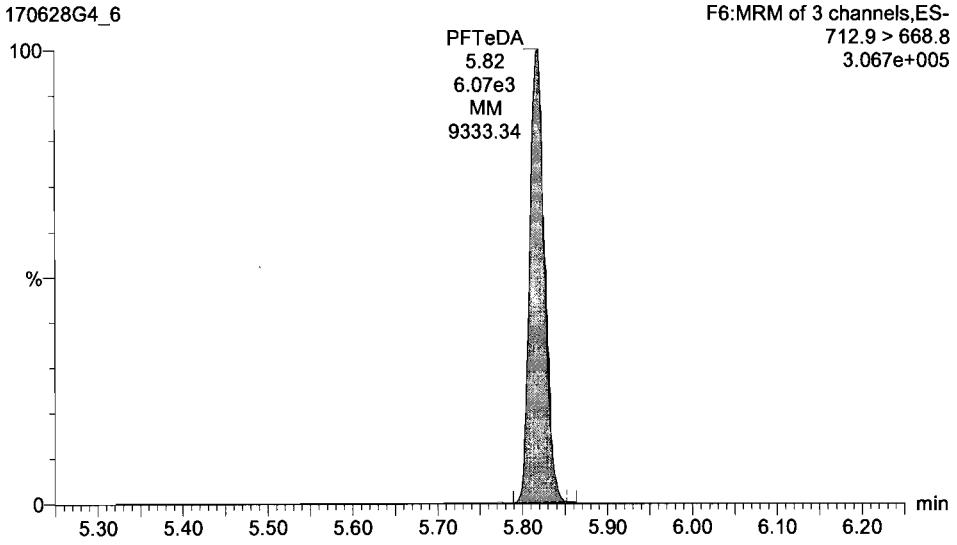

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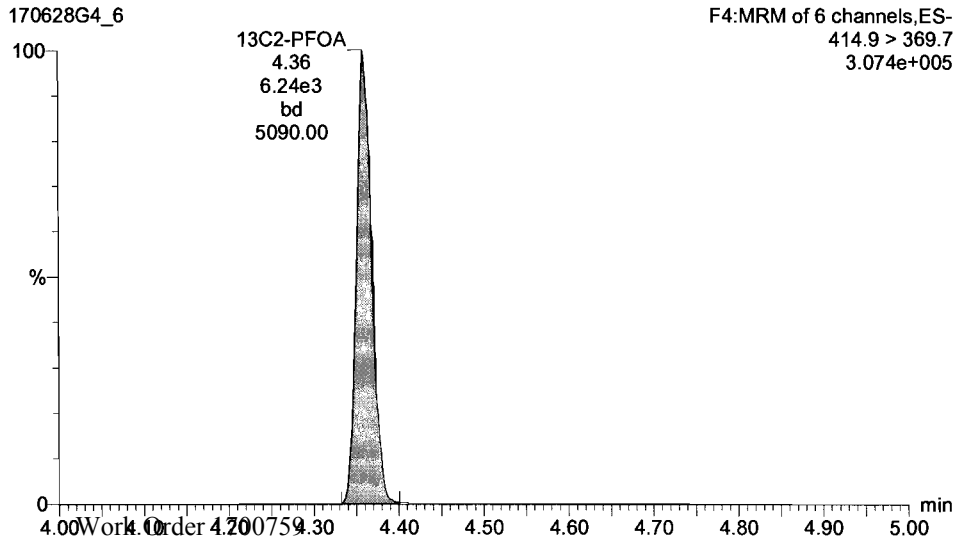

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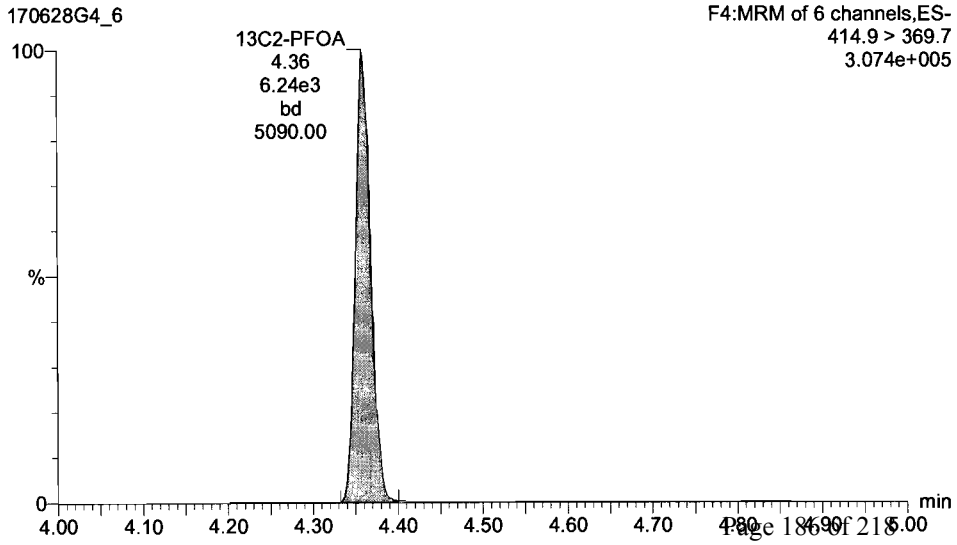

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ID: ST170628G4-5 PFC CS1 17F1609, Description: PFC CS1 17F1609, Name: 170628G4_6, Date: 28-Jun-2017, Time: 19:23:55, Instrument: , Lab: , User:

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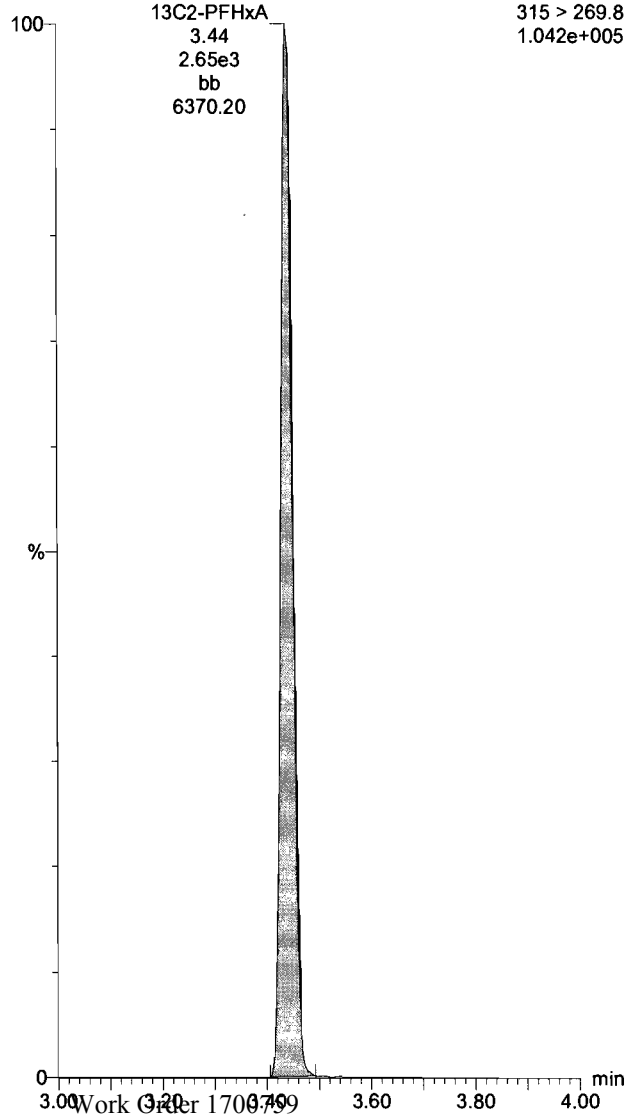

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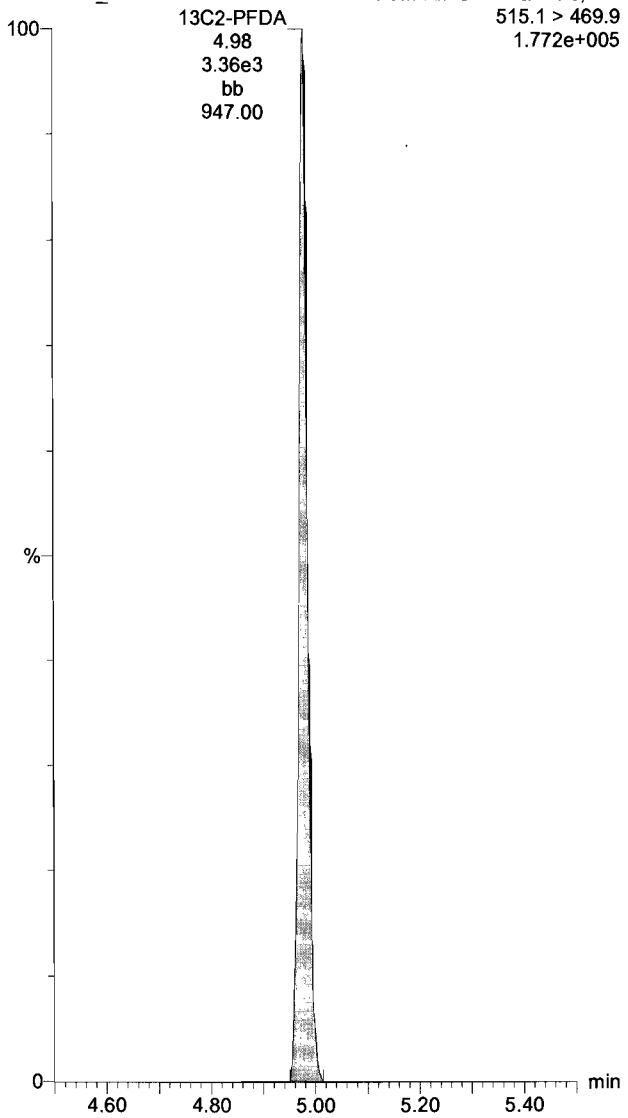

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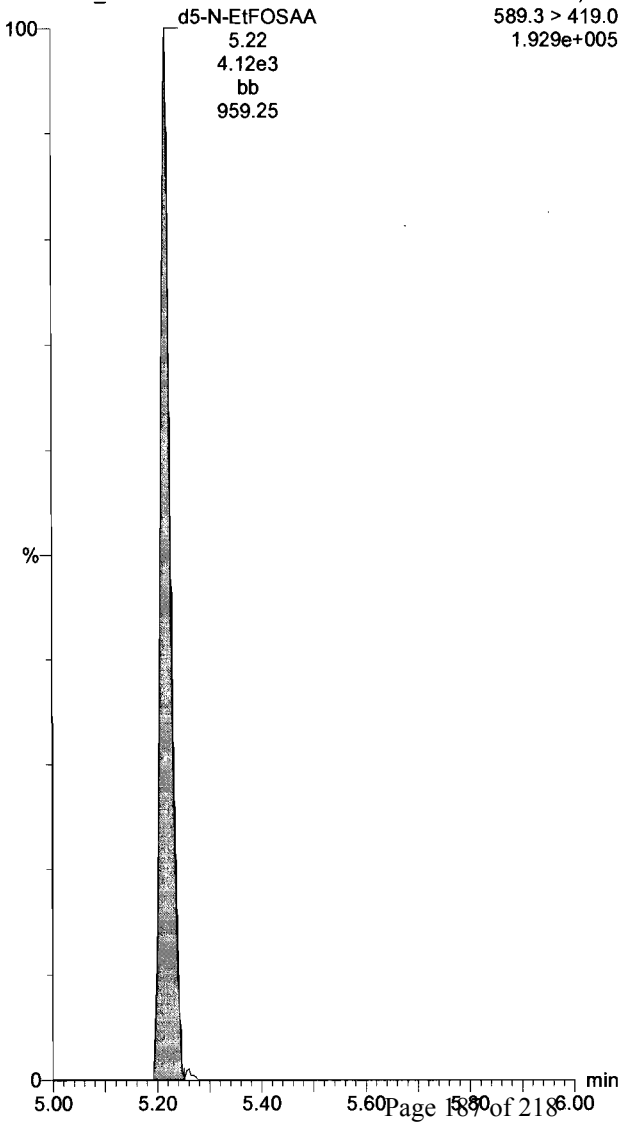

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ID: ST170628G4-6 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_7, Date: 28-Jun-2017, Time: 19:36:18, Instrument: , Lab: , User:

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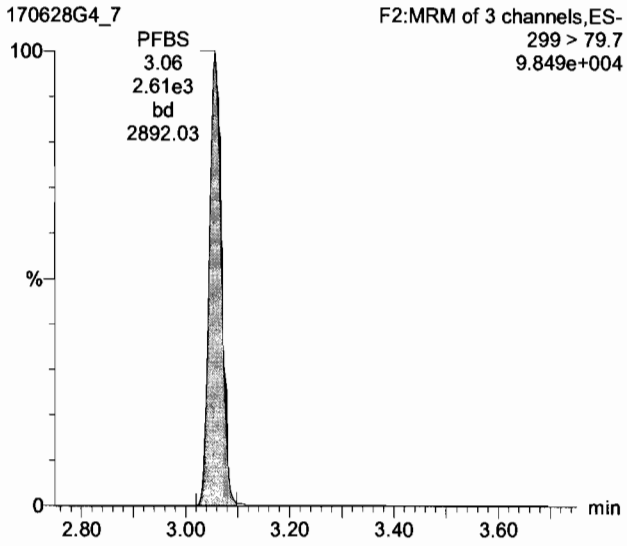

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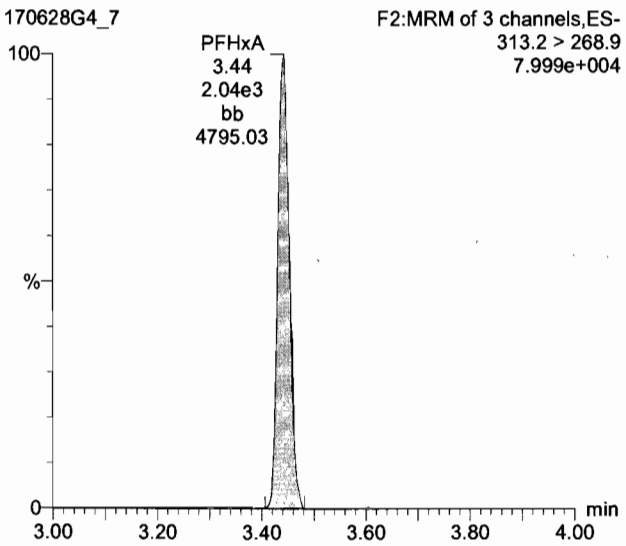

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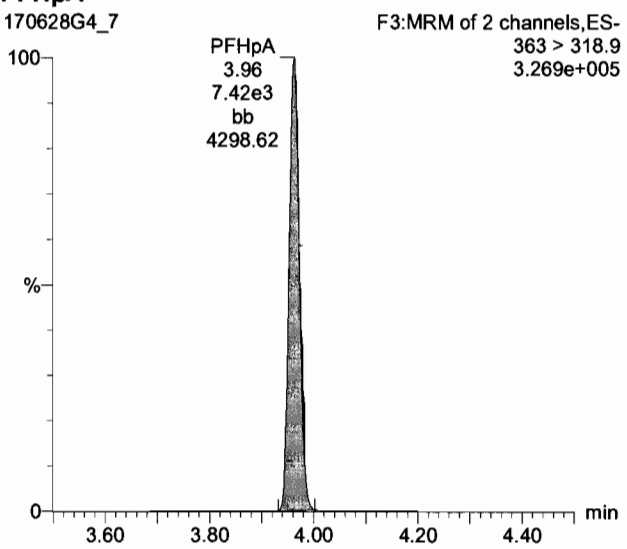

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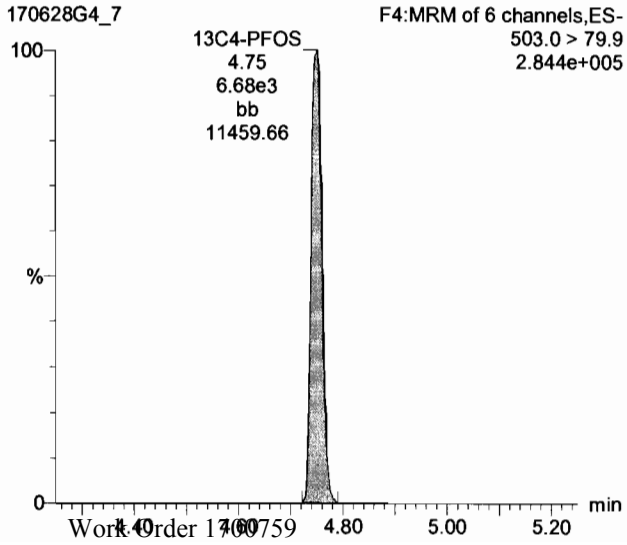

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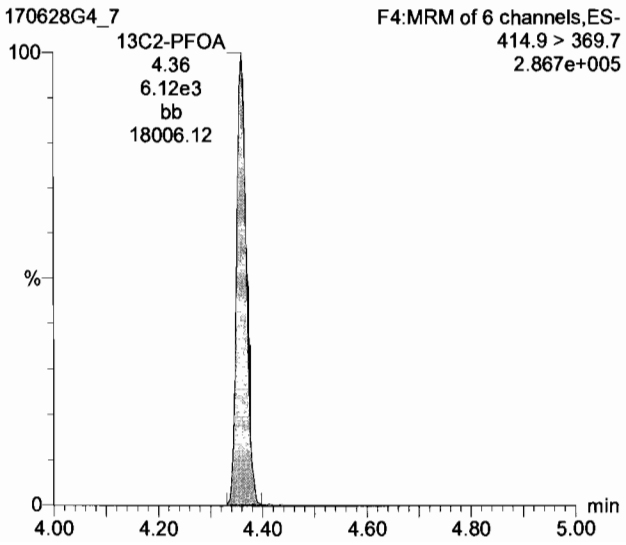

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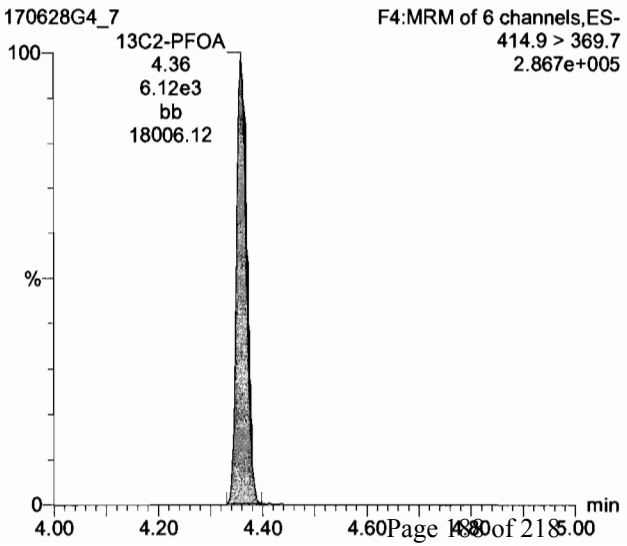

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ID: ST170628G4-6 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_7, Date: 28-Jun-2017, Time: 19:36:18, Instrument: , Lab: , User:

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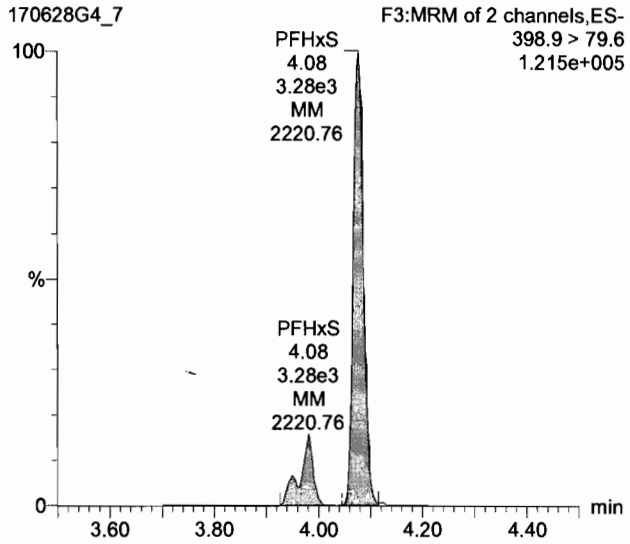

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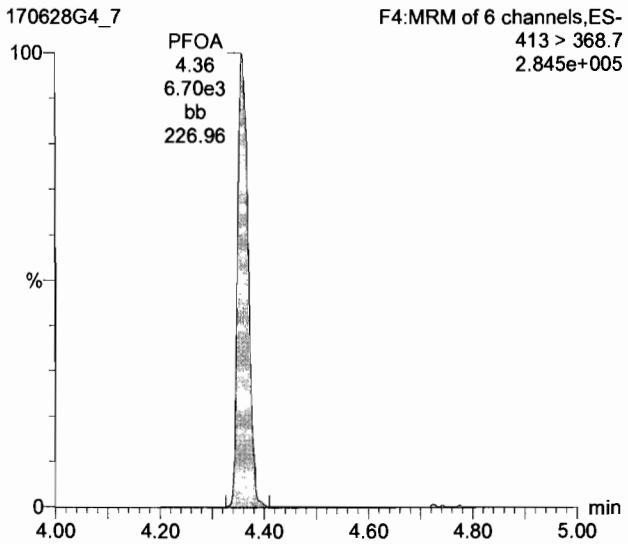

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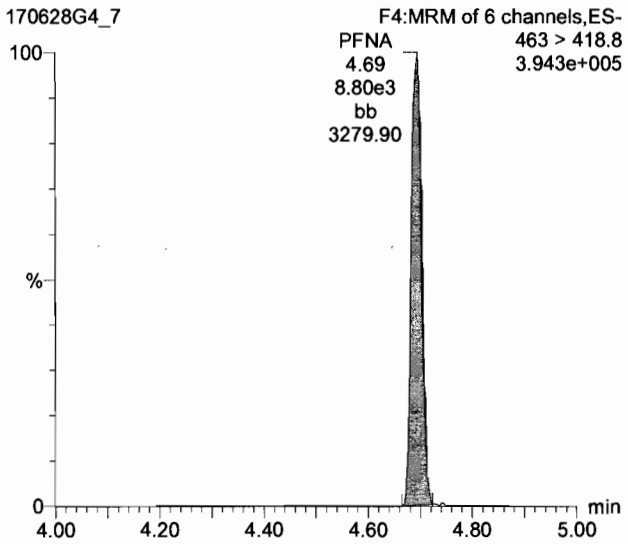

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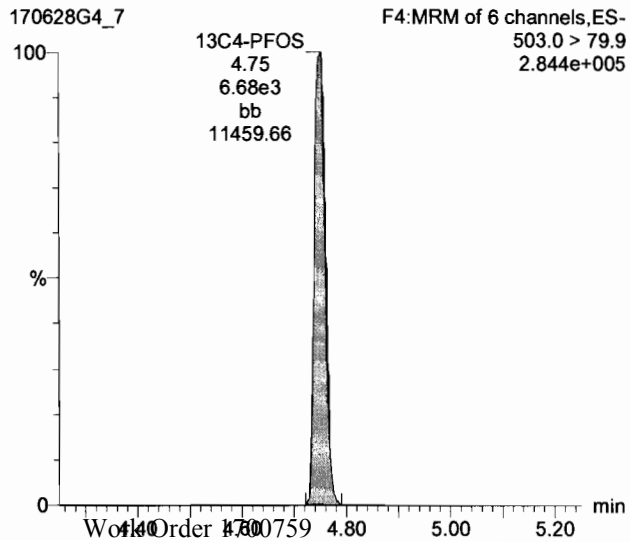

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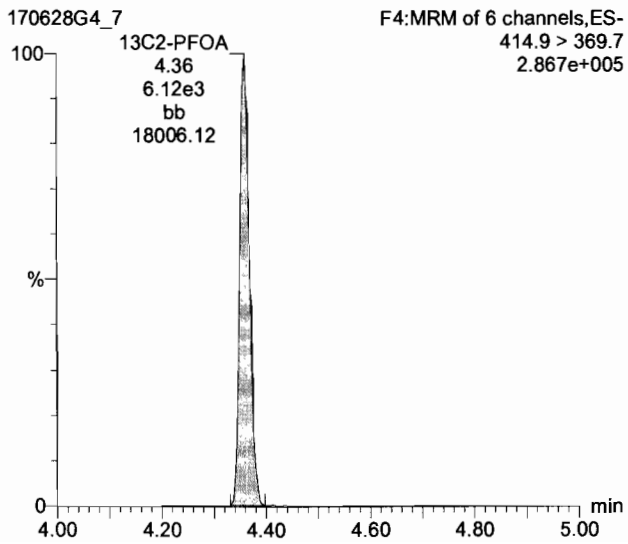

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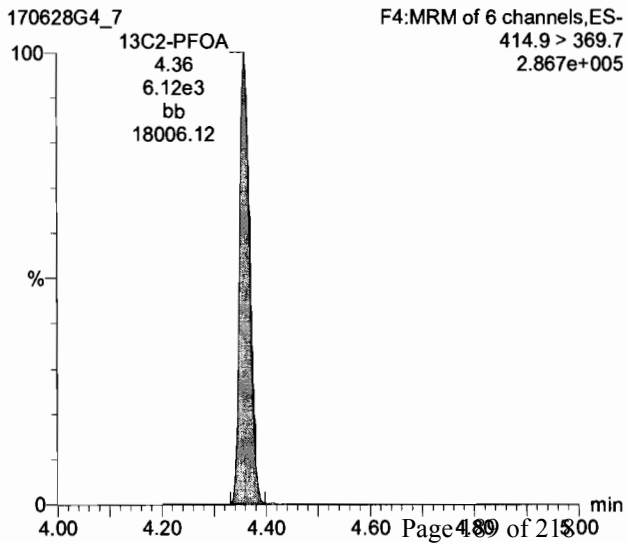

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ID: ST170628G4-6 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_7, Date: 28-Jun-2017, Time: 19:36:18, Instrument: , Lab: , User:

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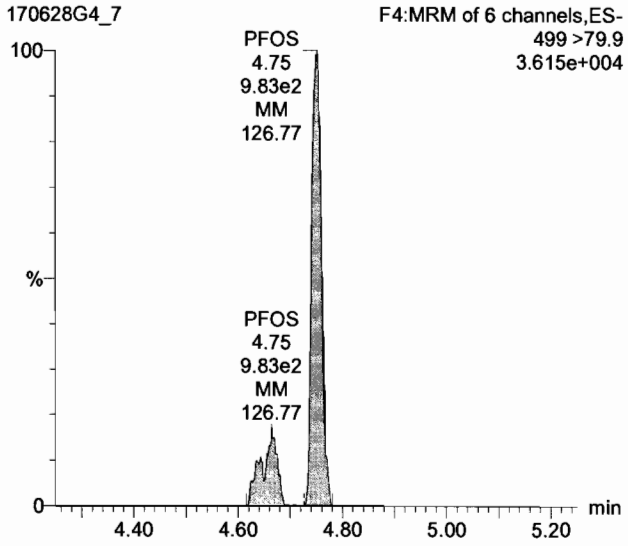

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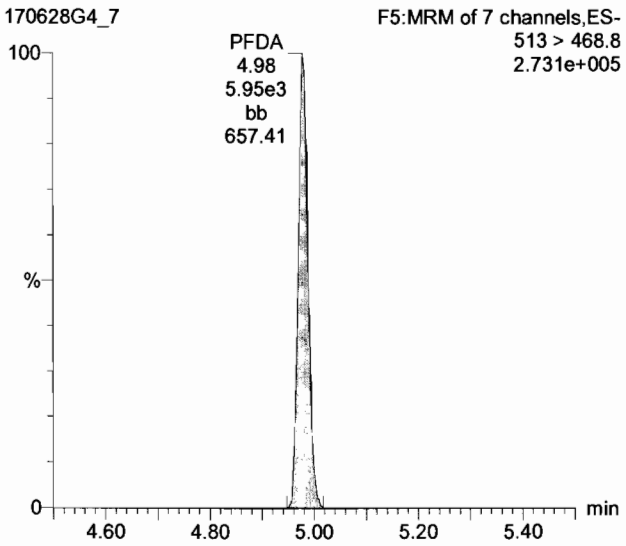

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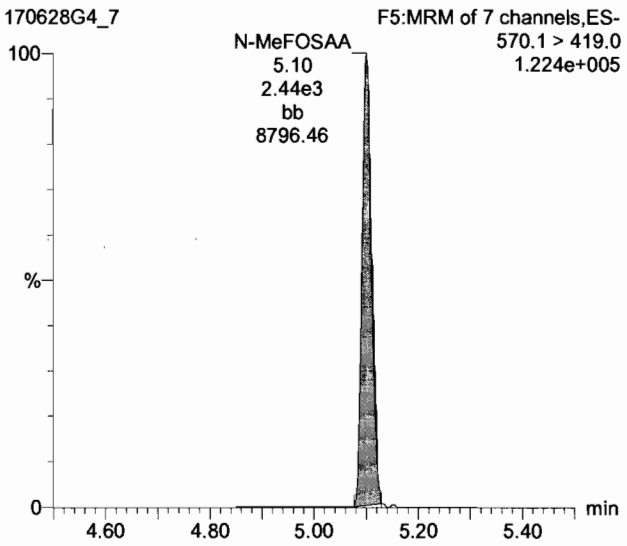

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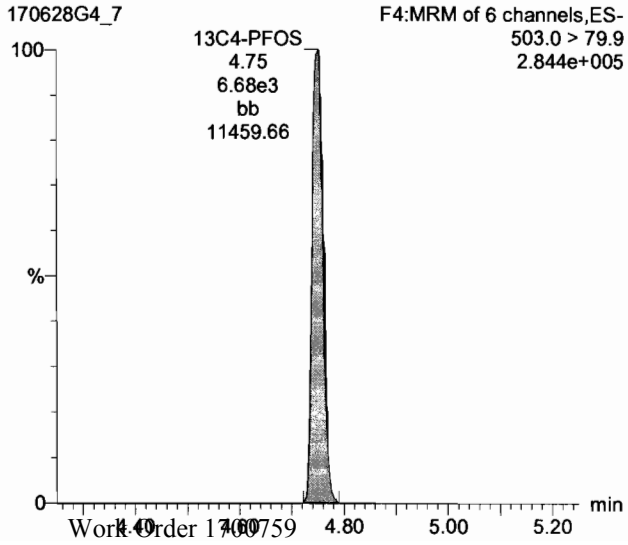

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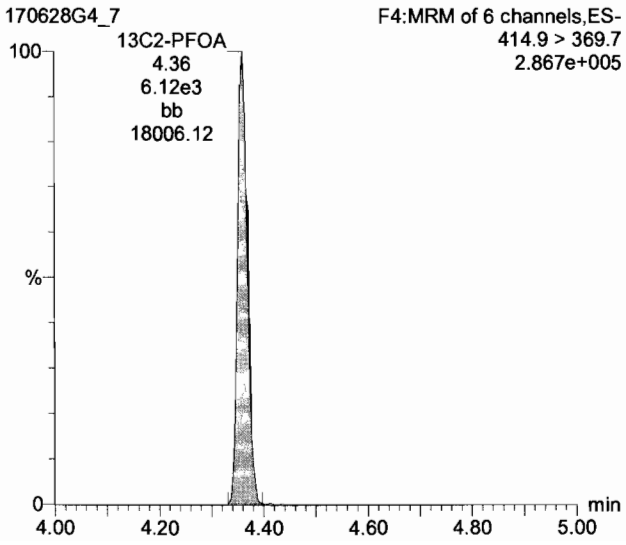

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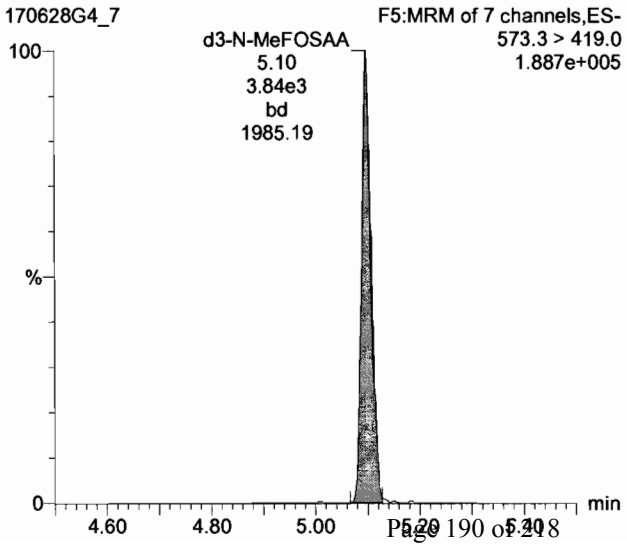

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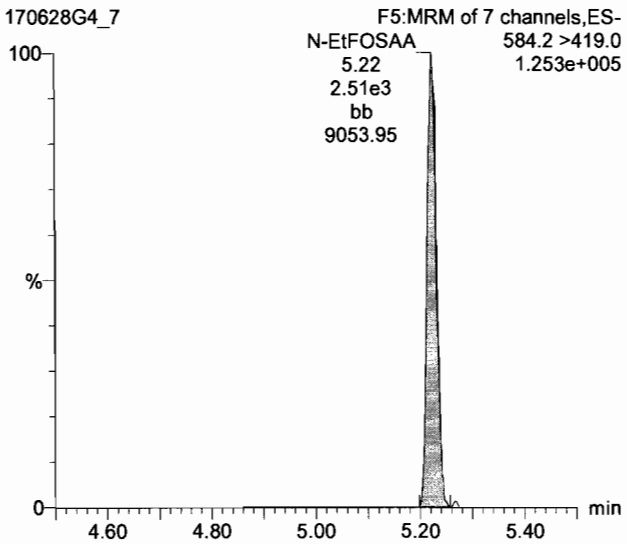

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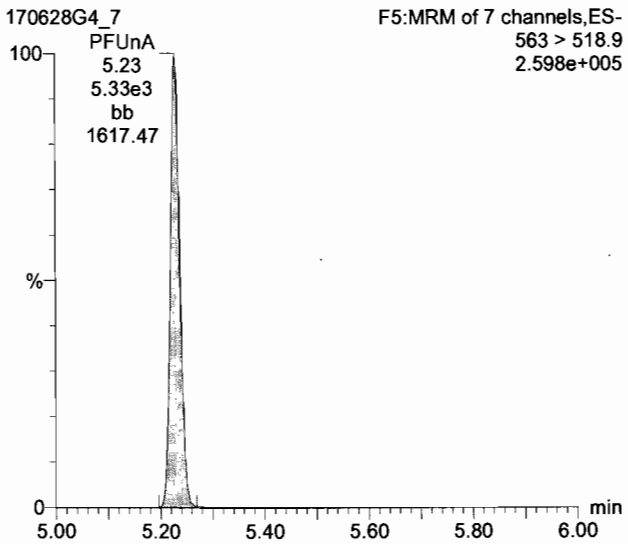

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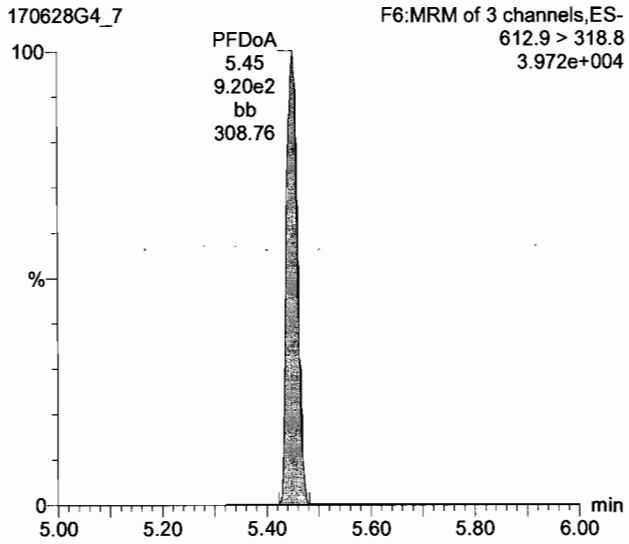

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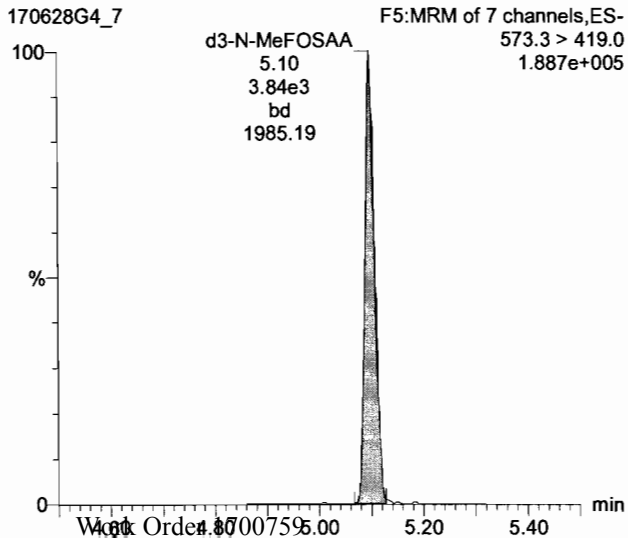

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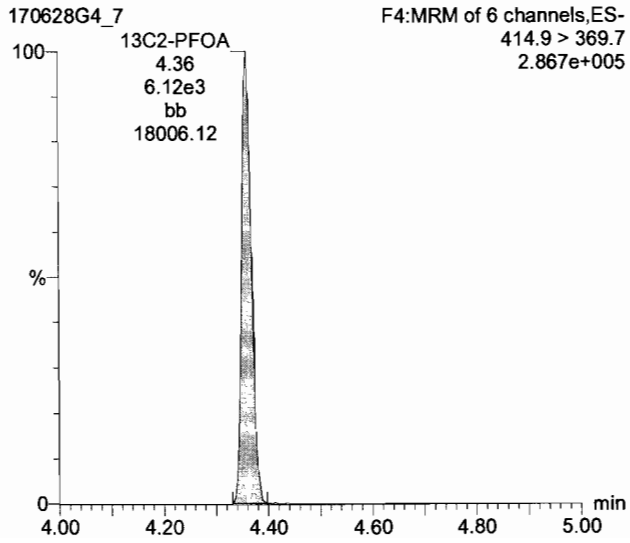

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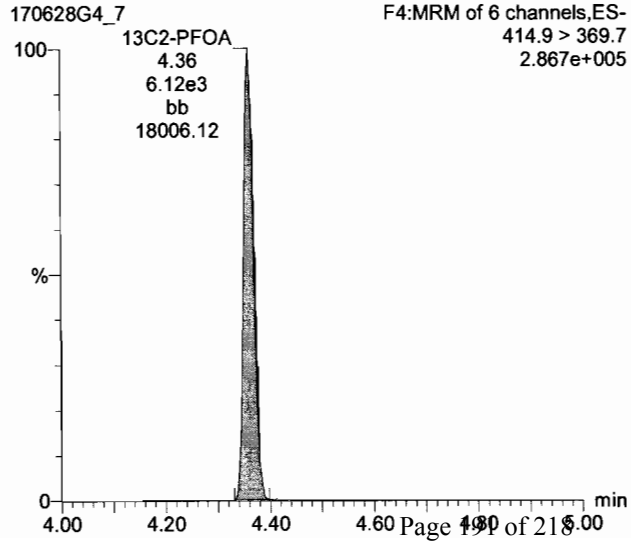

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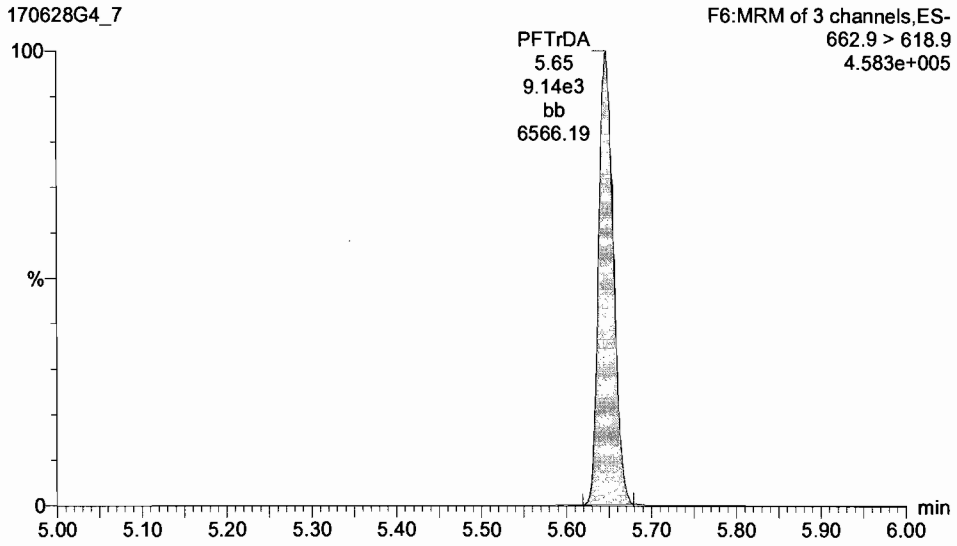
Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-6 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_7, Date: 28-Jun-2017, Time: 19:36:18, Instrument: , Lab: , User:

PFTrDA



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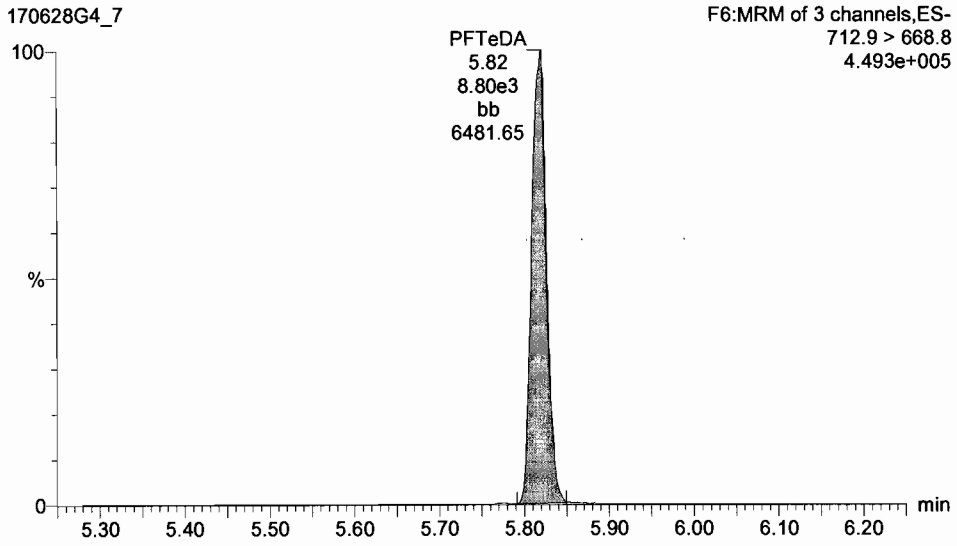
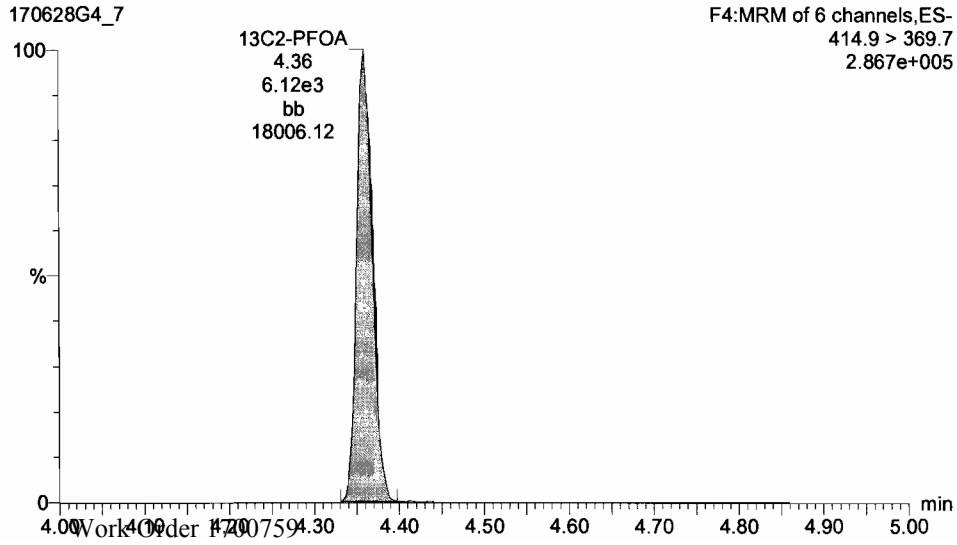


13C2-PFOA



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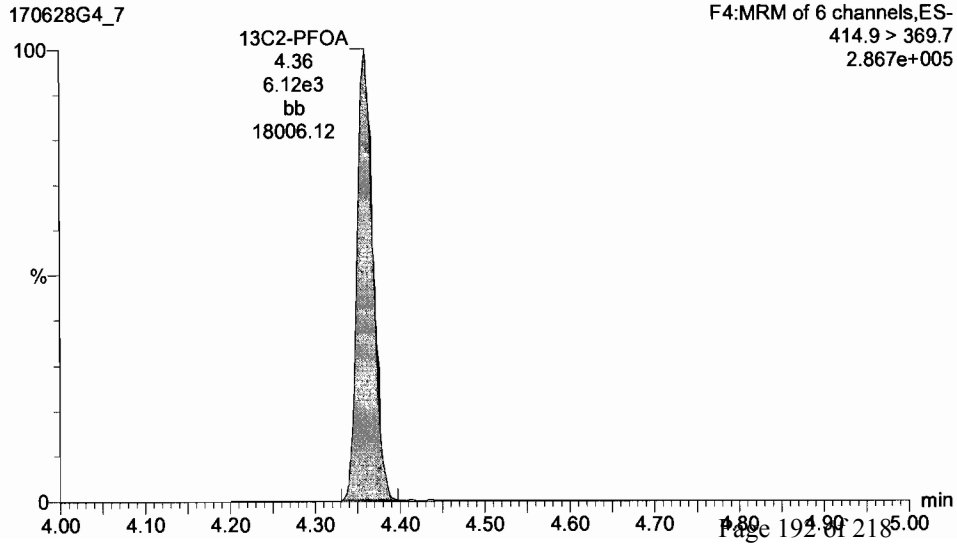

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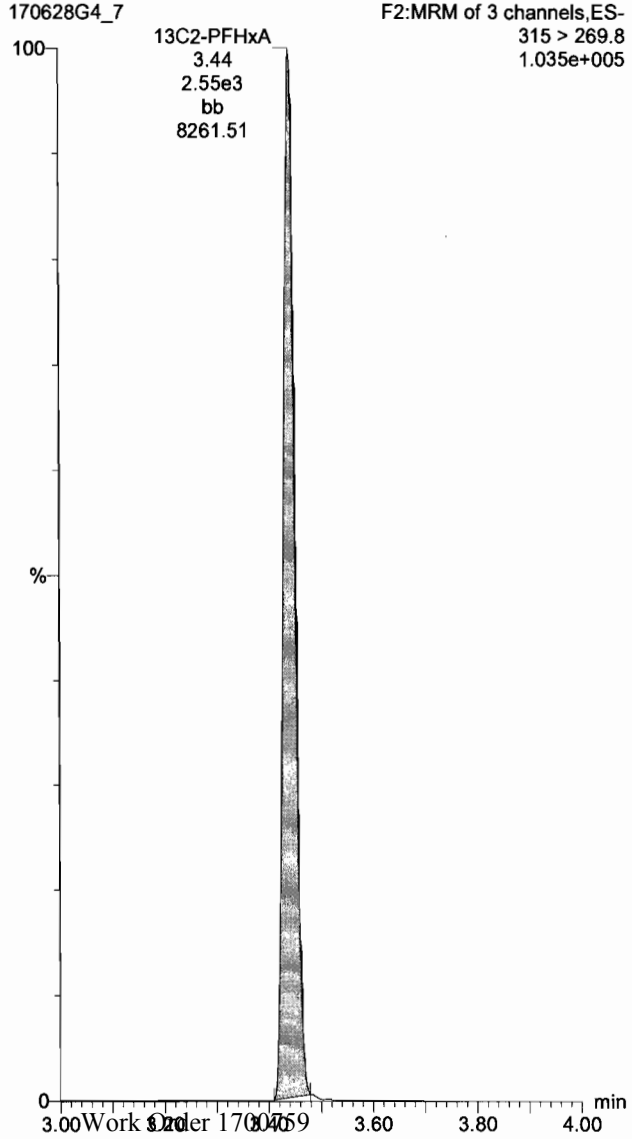
Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-6 PFC CS2 17F1610, Description: PFC CS2 17F1610, Name: 170628G4_7, Date: 28-Jun-2017, Time: 19:36:18, Instrument: , Lab: , User:

13C2-PFHxA



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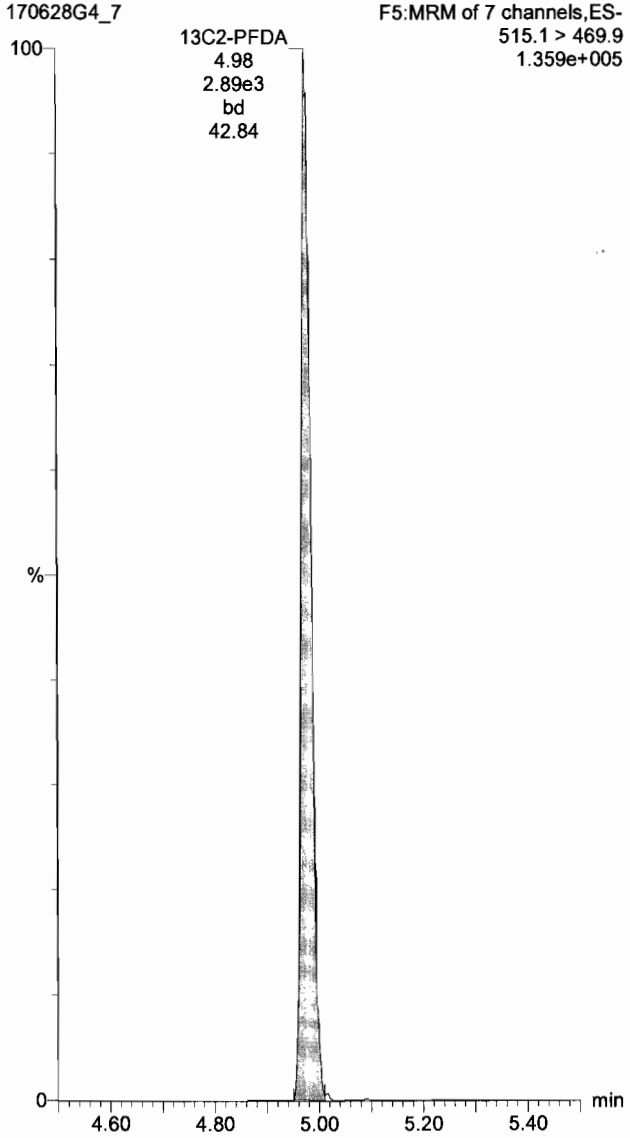

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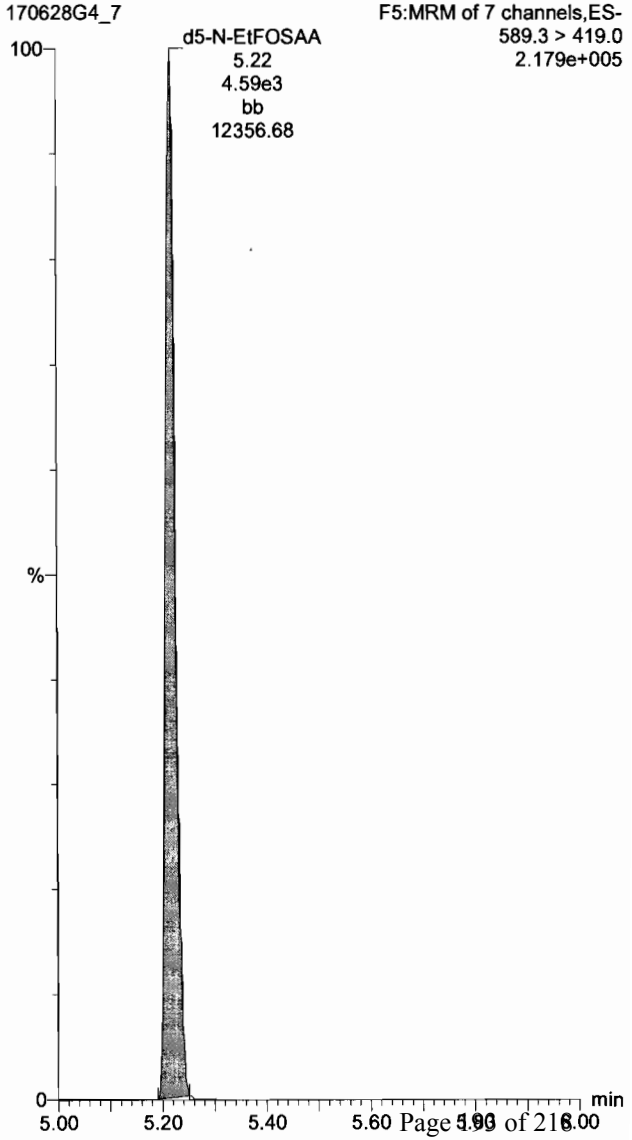

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Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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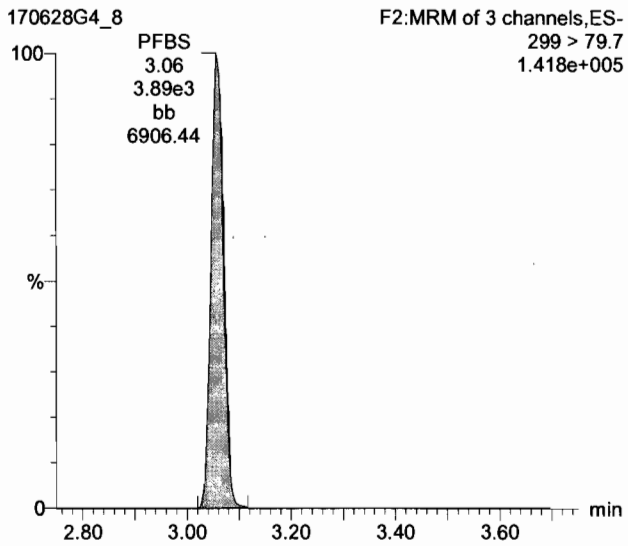

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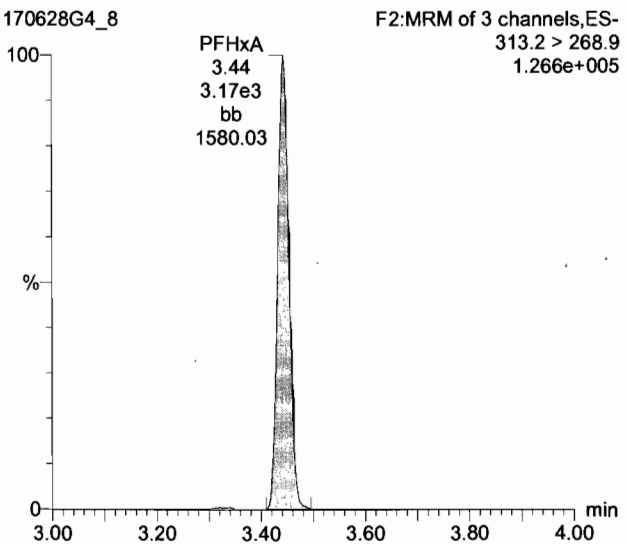

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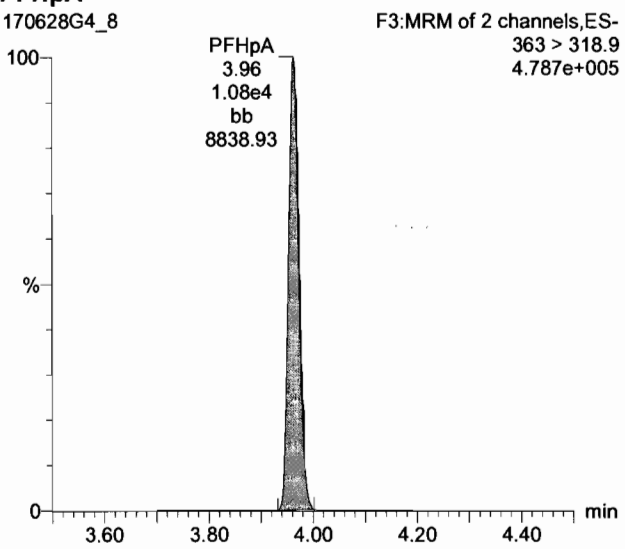

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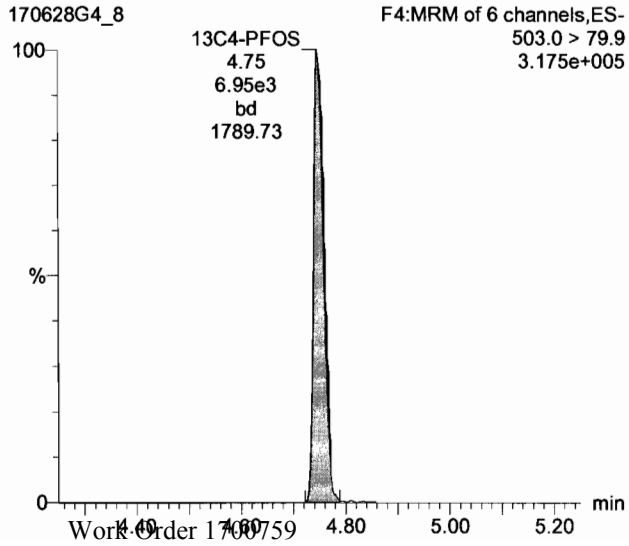

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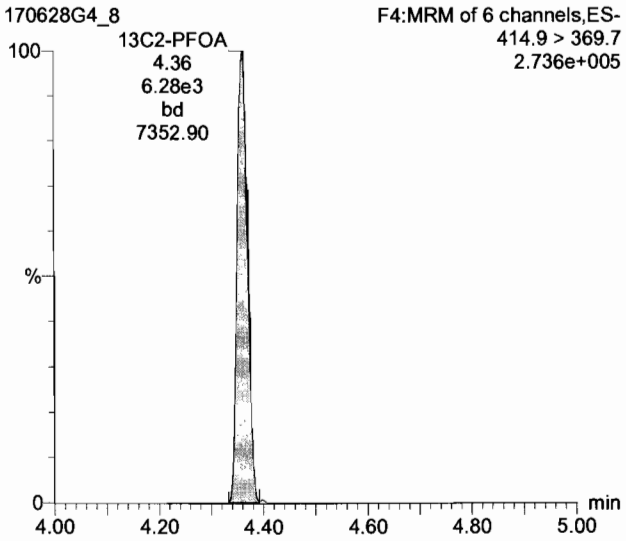

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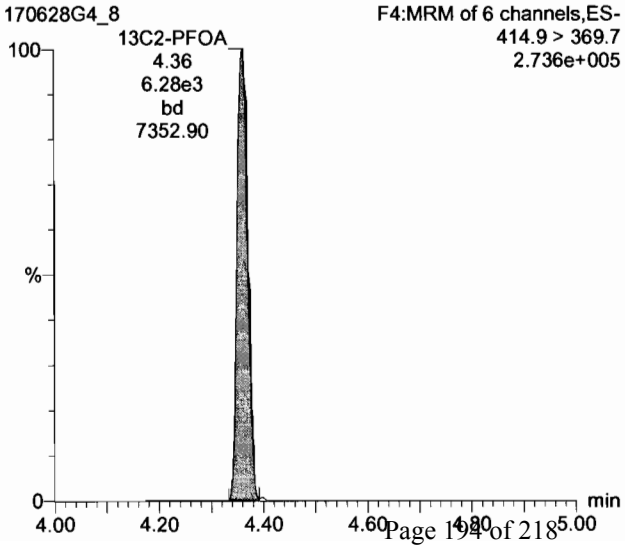

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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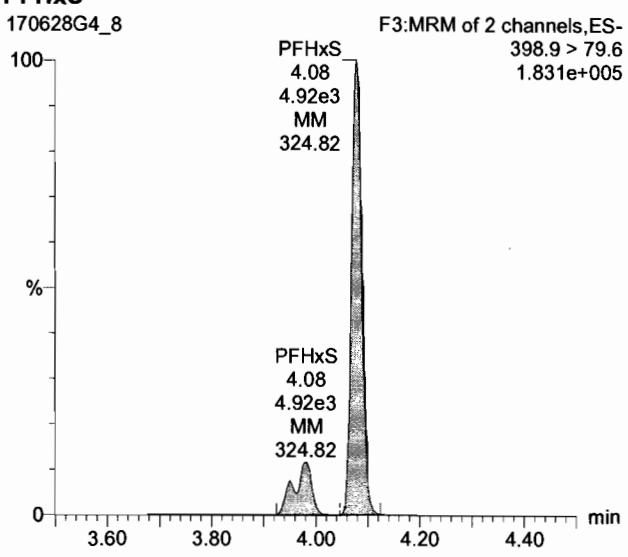

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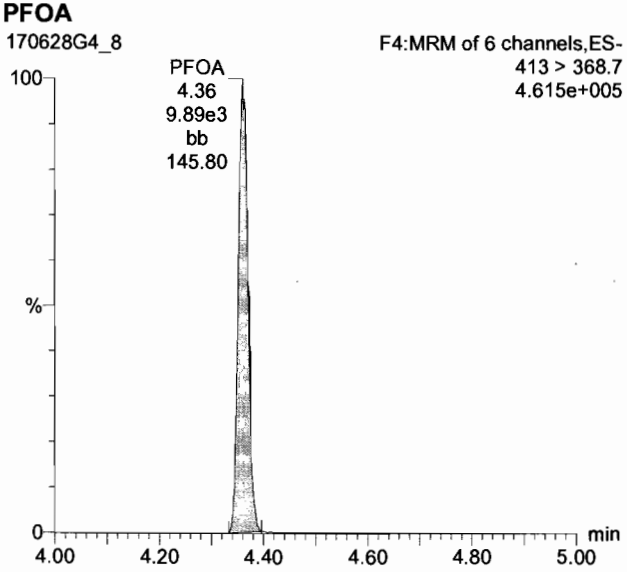

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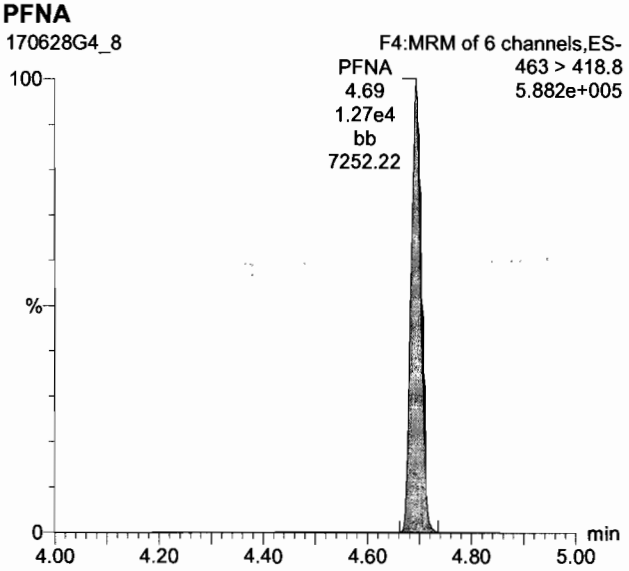

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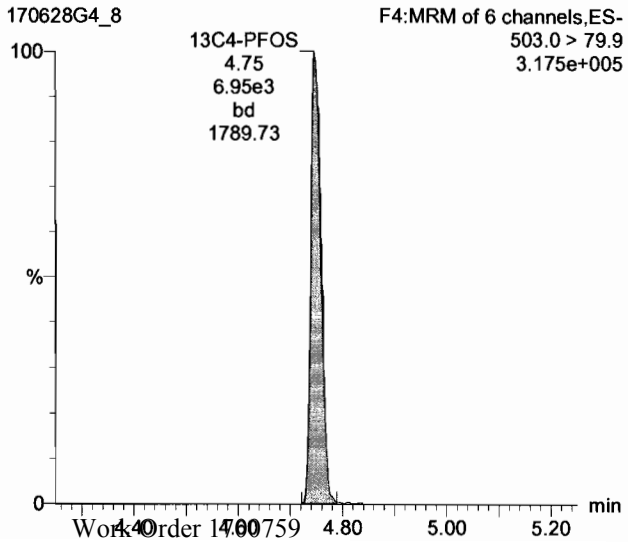

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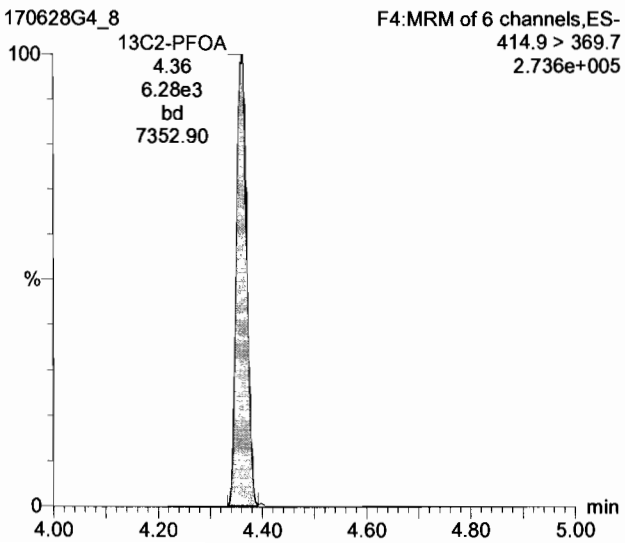

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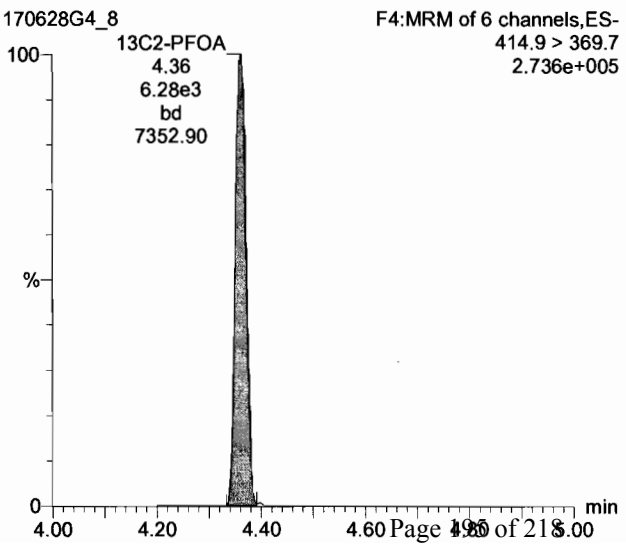

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Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
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ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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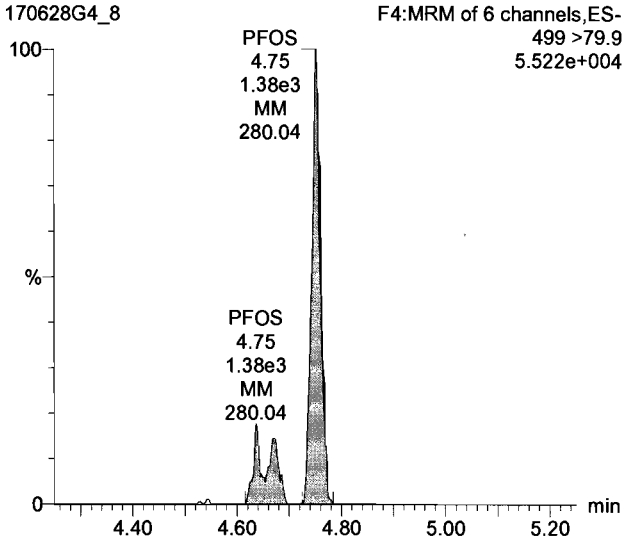

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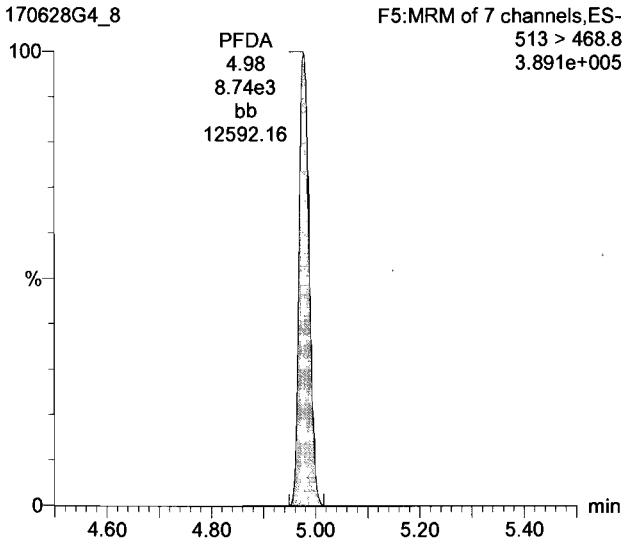

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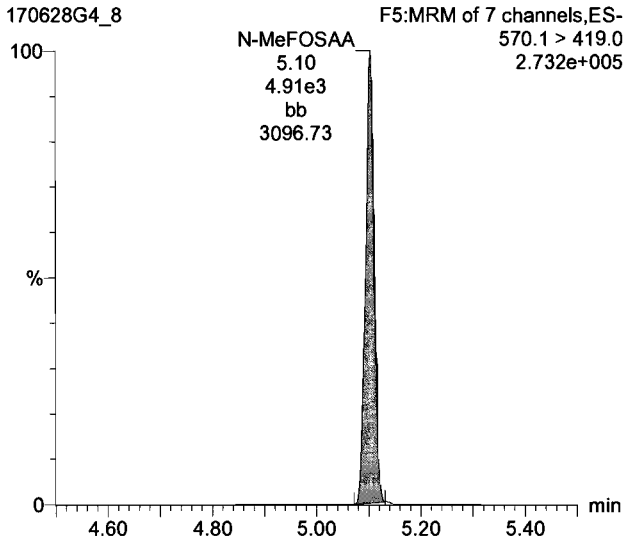

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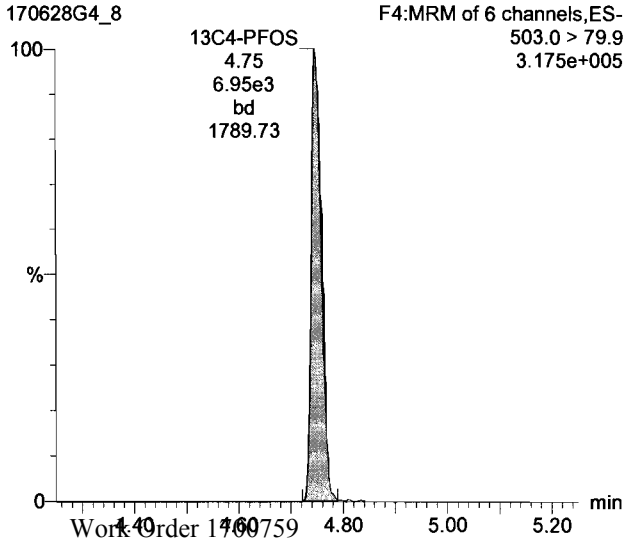

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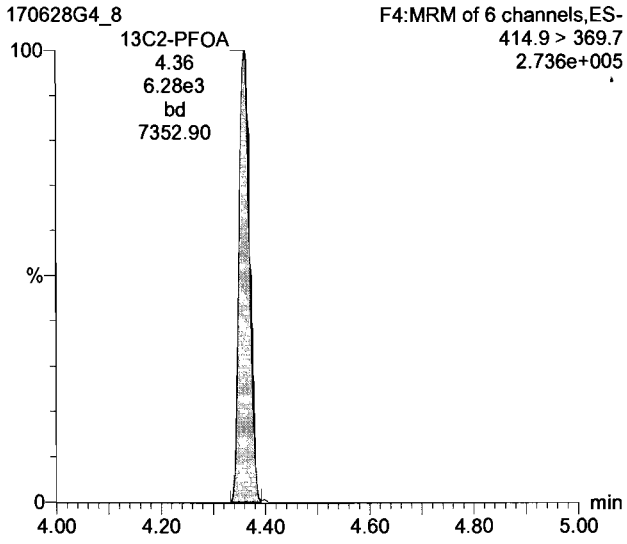

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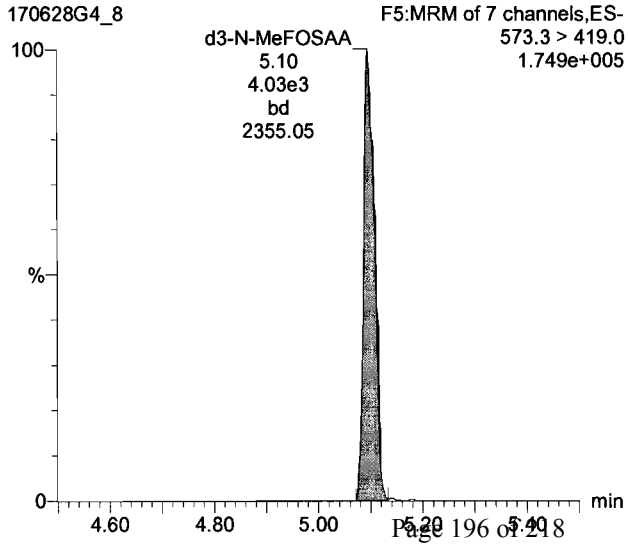

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ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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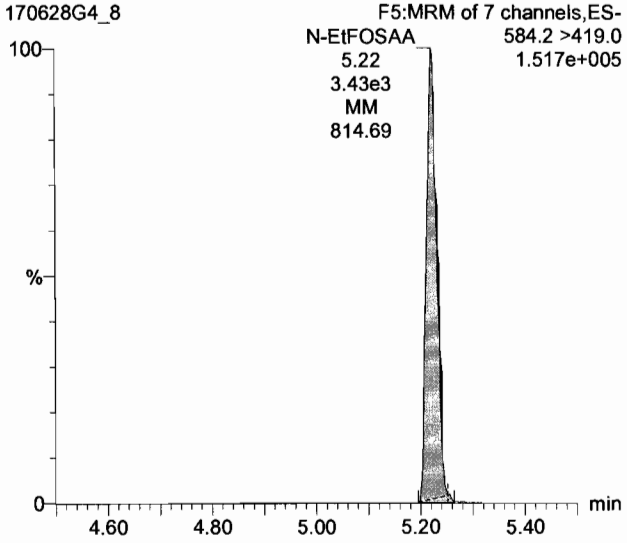

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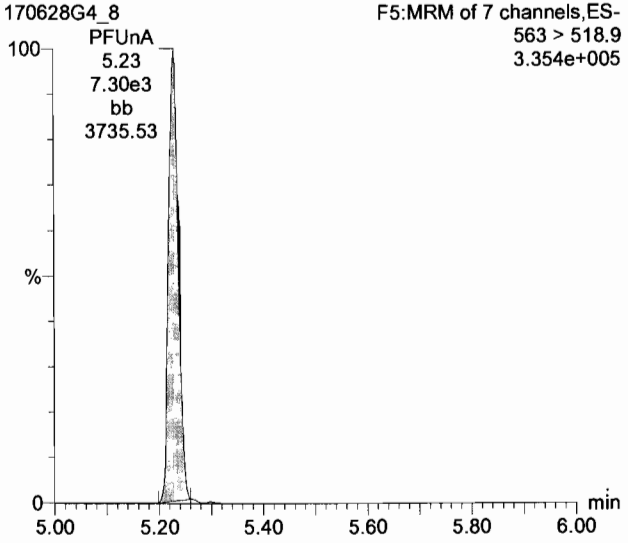

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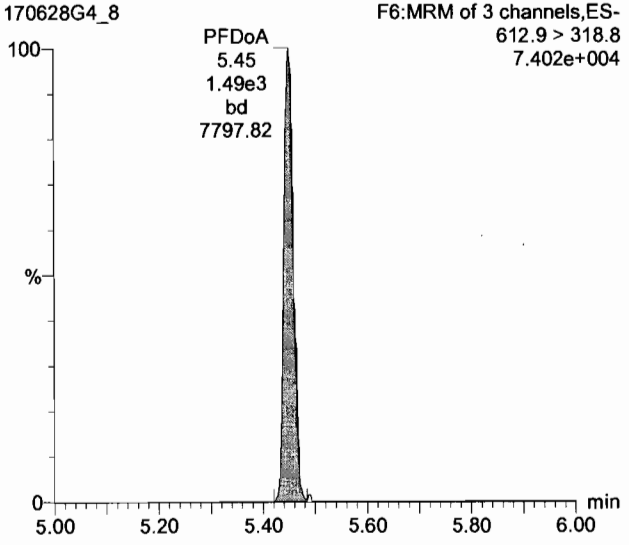

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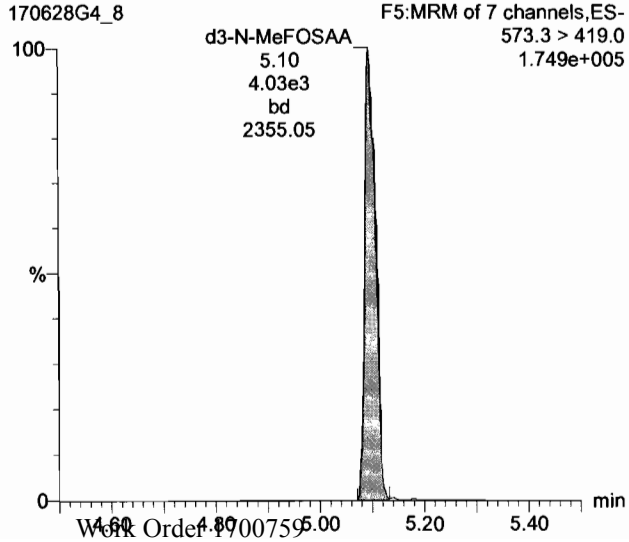

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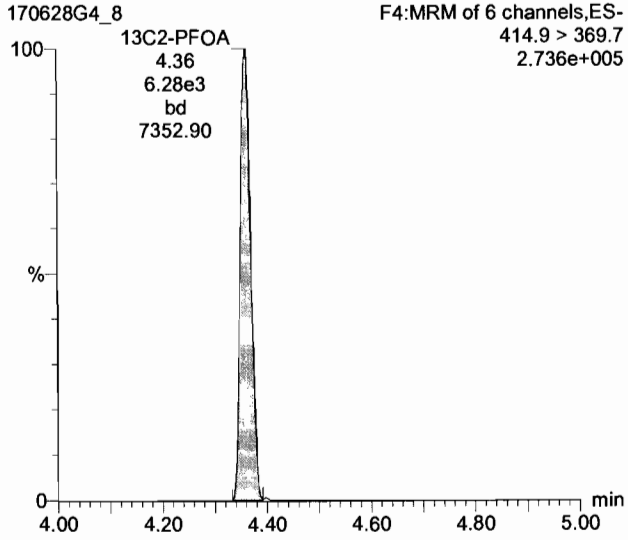

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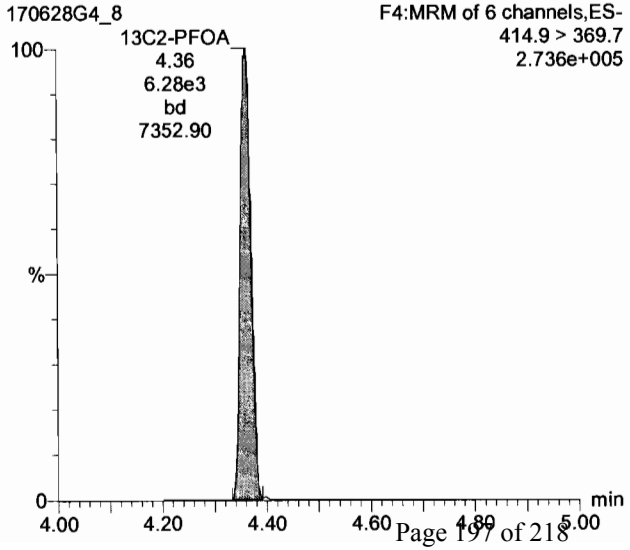

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ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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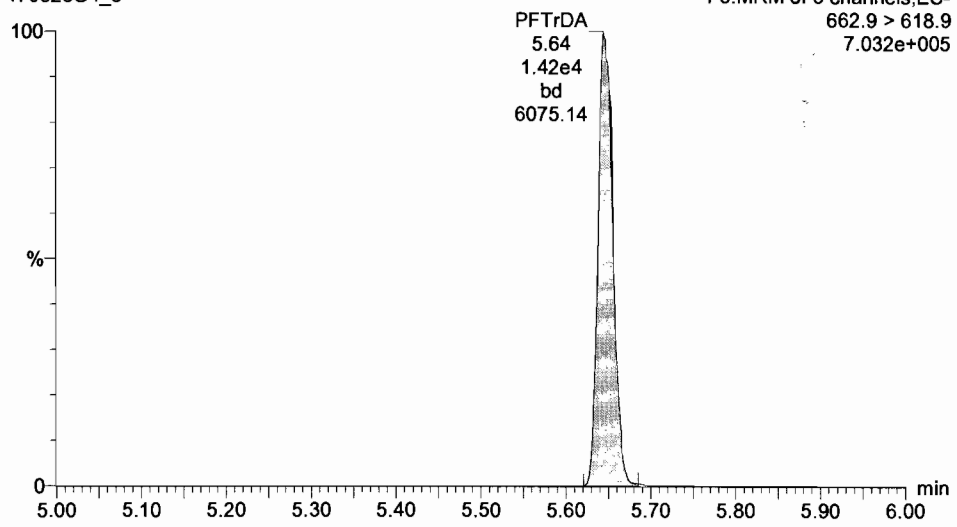

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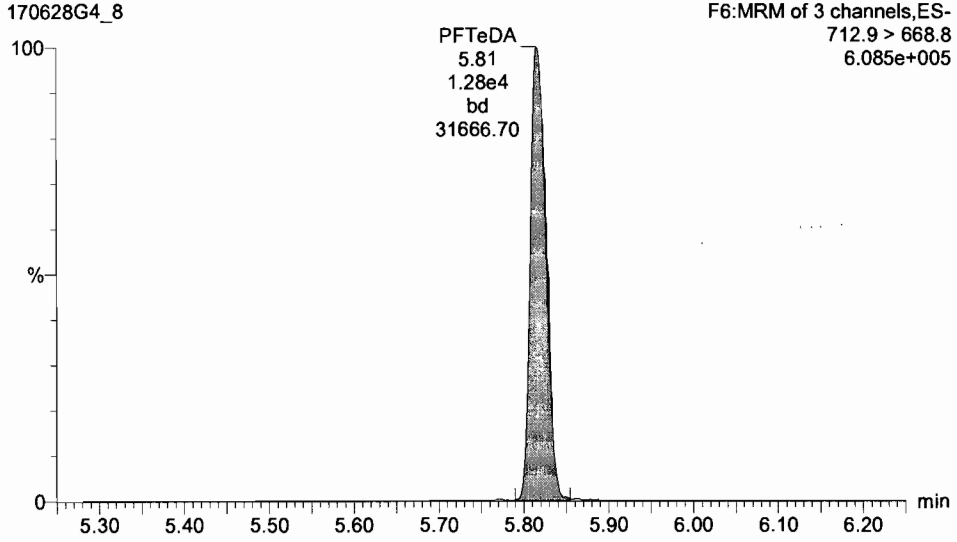

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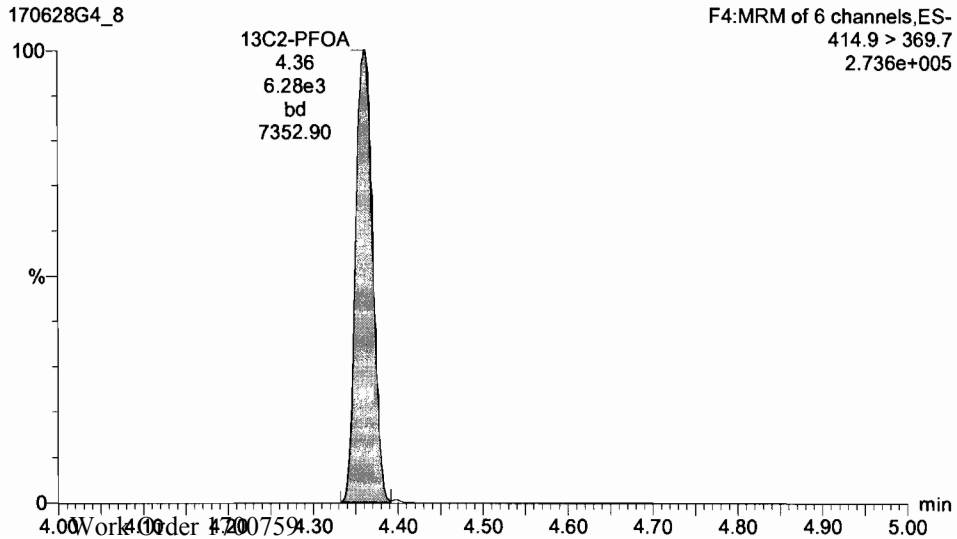

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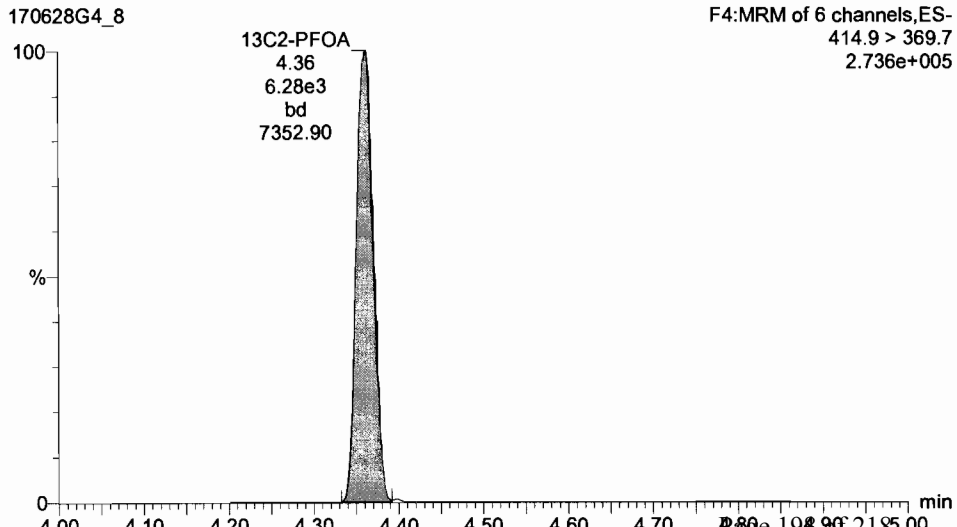

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ID: ST170628G4-7 PFC CS3 17F501, Description: PFC CS3 17F1501, Name: 170628G4_8, Date: 28-Jun-2017, Time: 19:48:43, Instrument: , Lab: , User:

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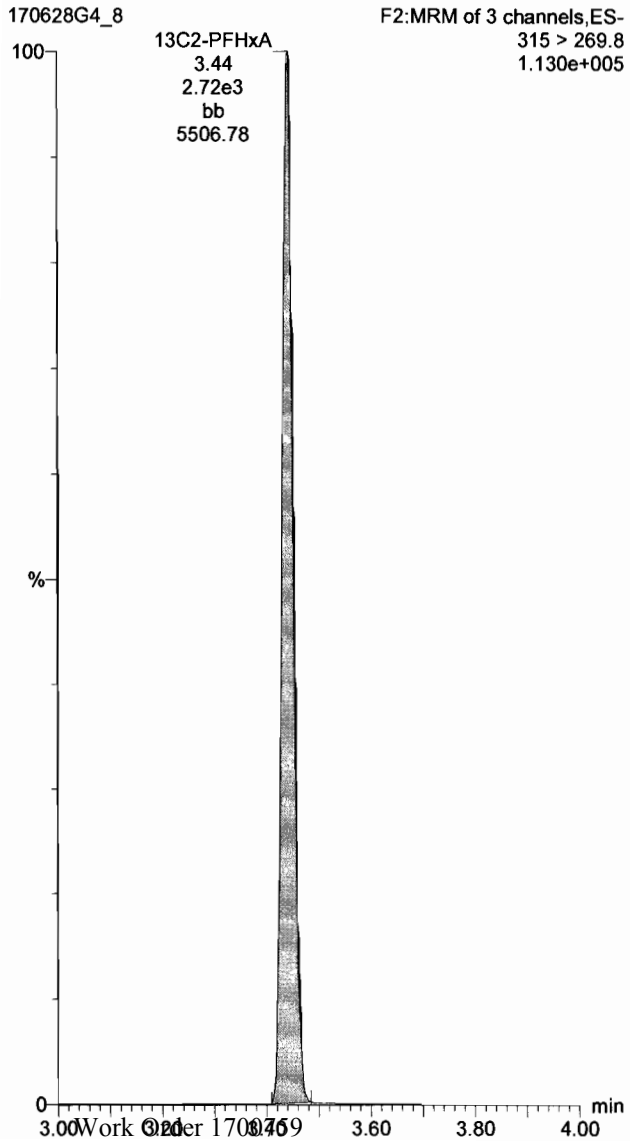

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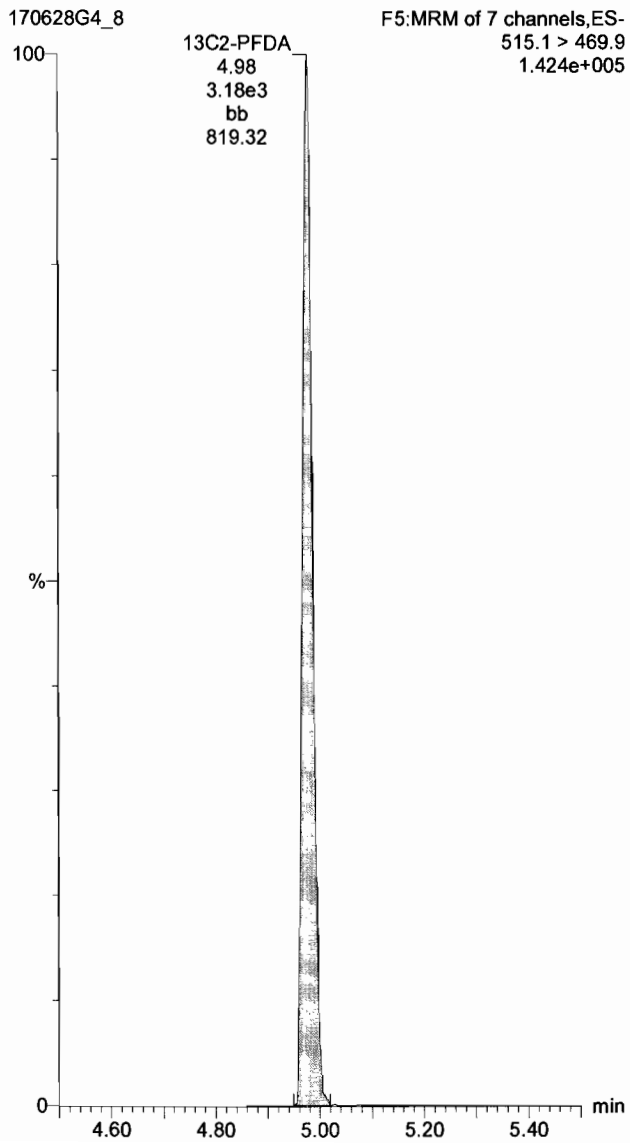
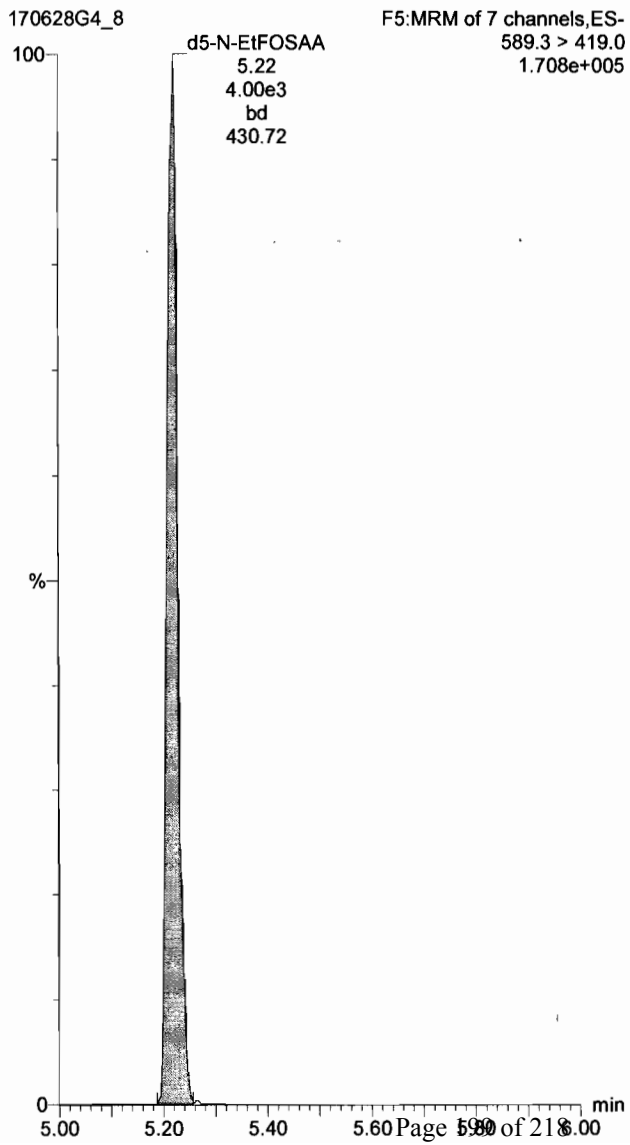


d5-N-EtFOSAA



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ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

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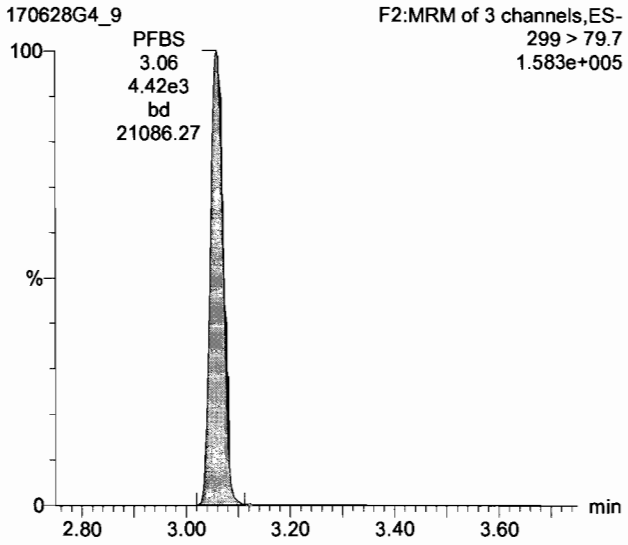

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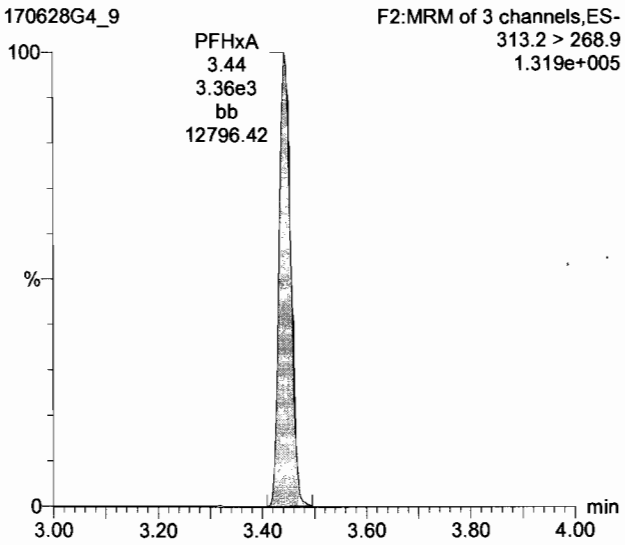

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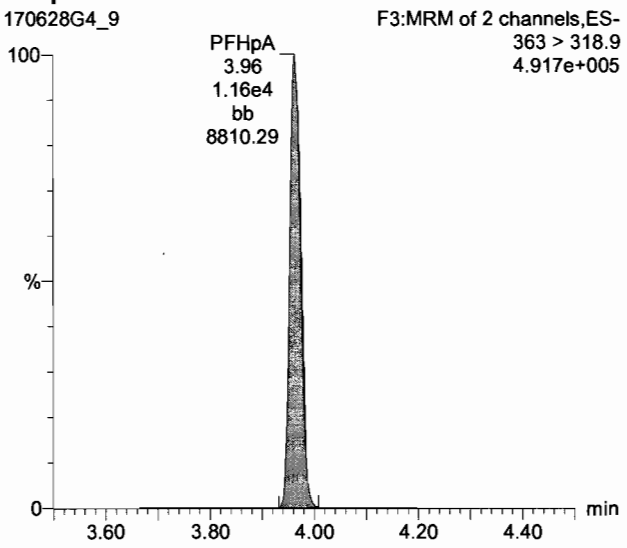

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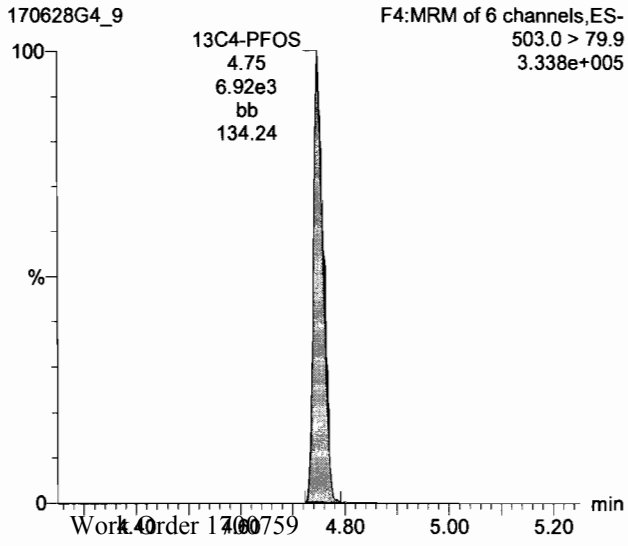

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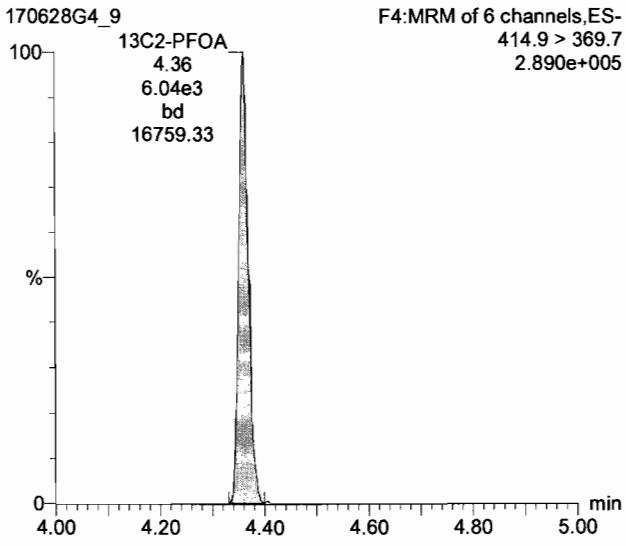

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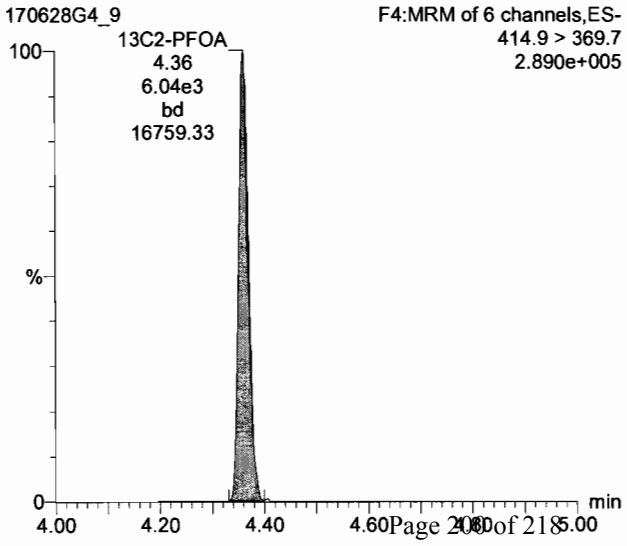

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ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

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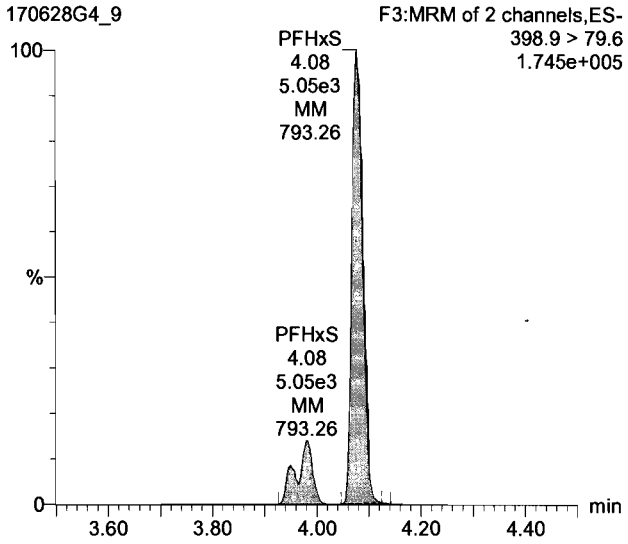

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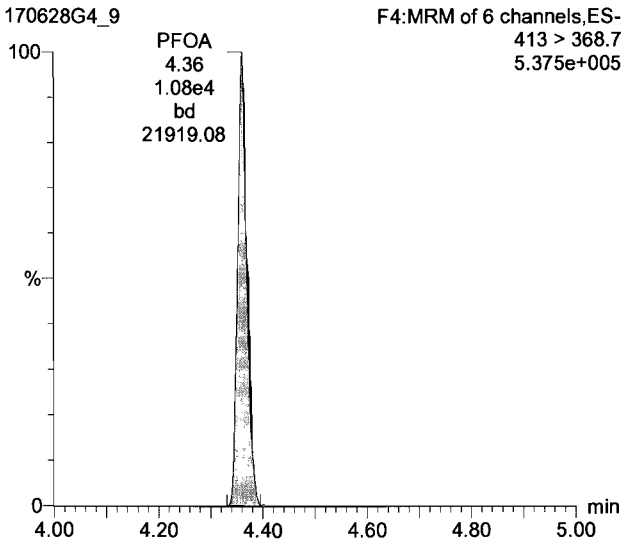

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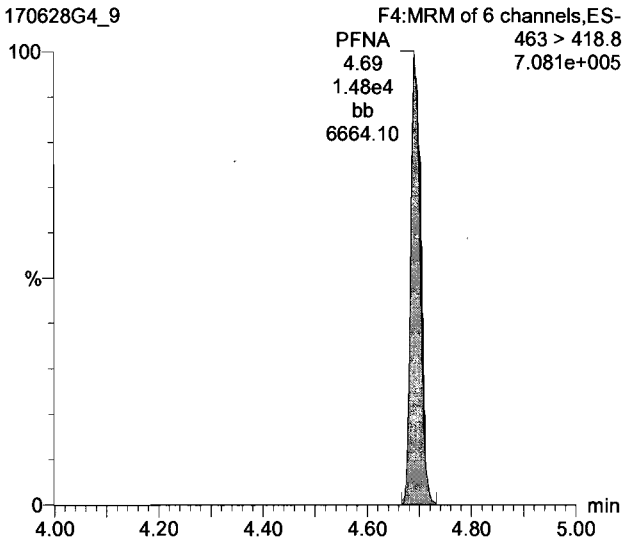

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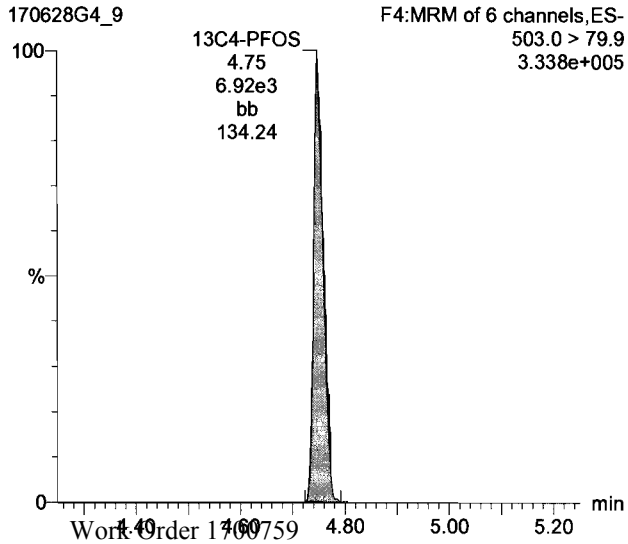

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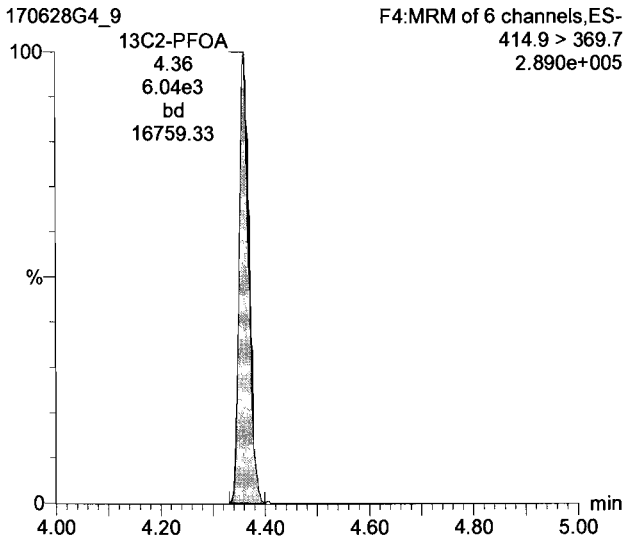

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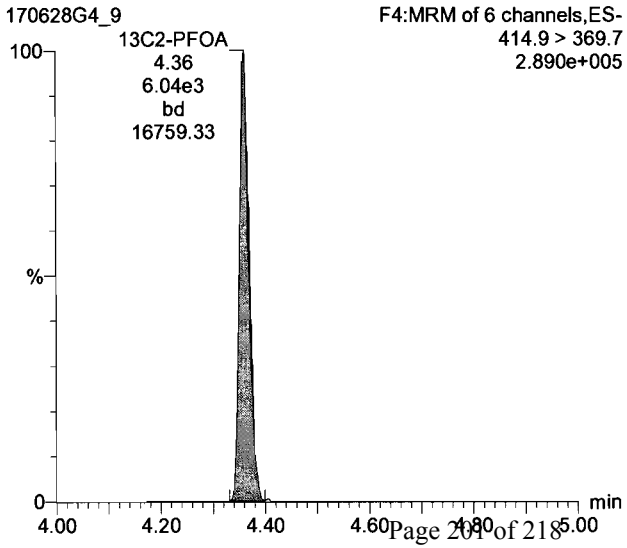

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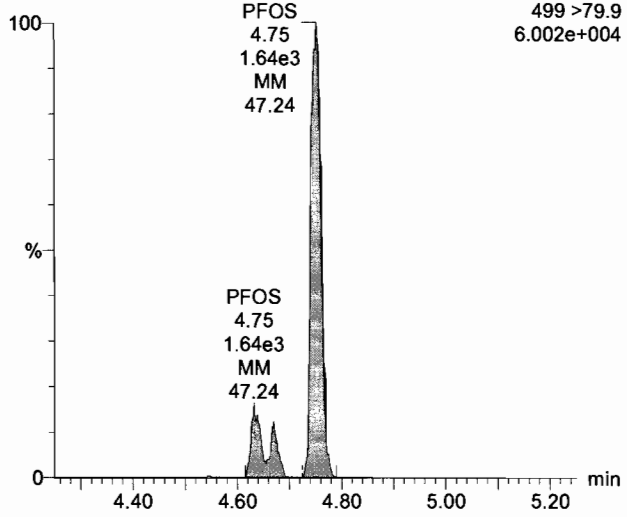
ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

PFOS



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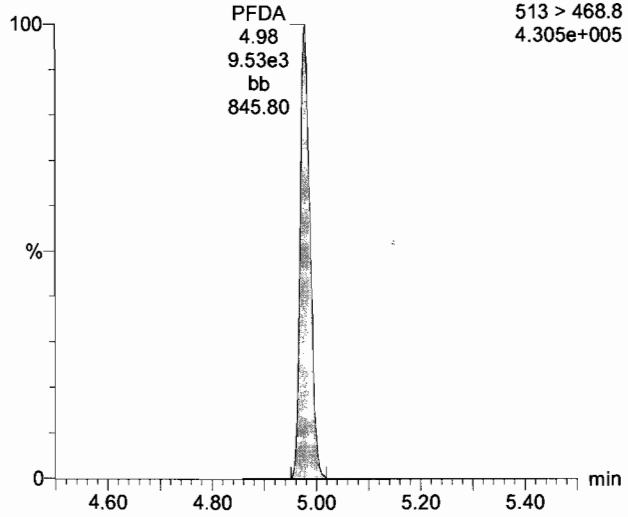

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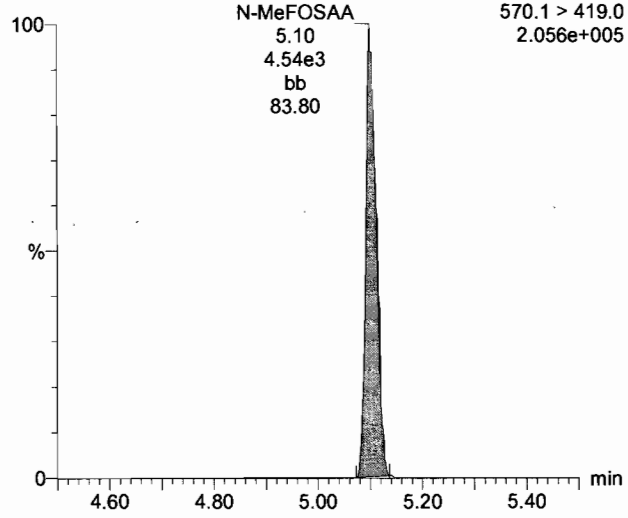
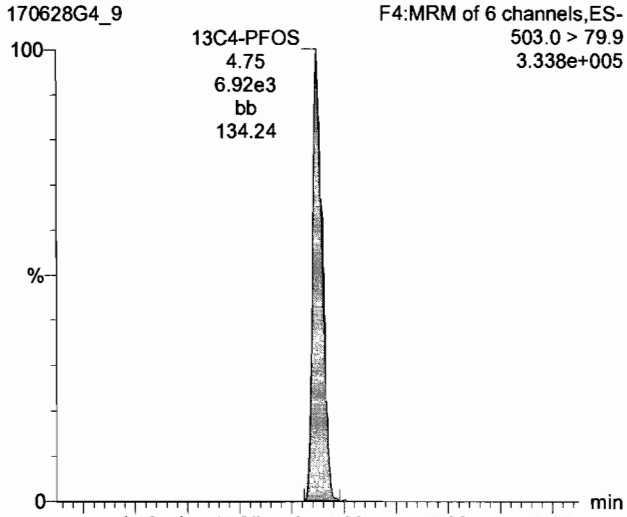


13C4-PFOS



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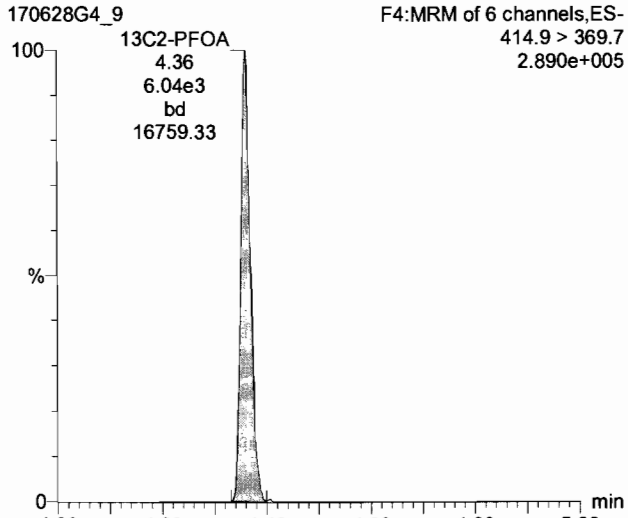

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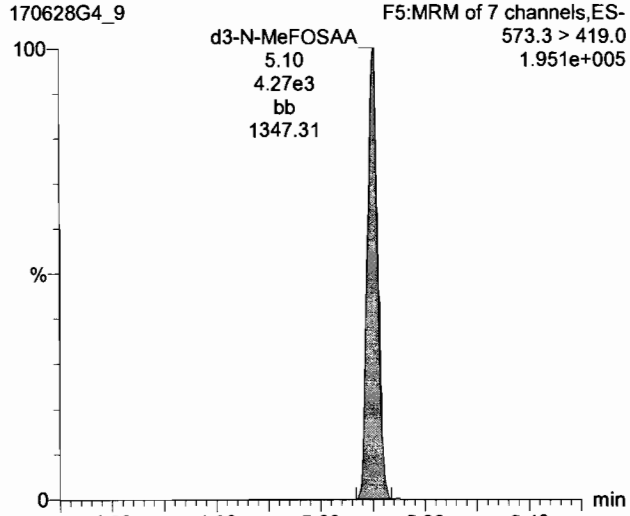

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Printed: Monday, July 10, 2017 11:13:20 Pacific Daylight Time

ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

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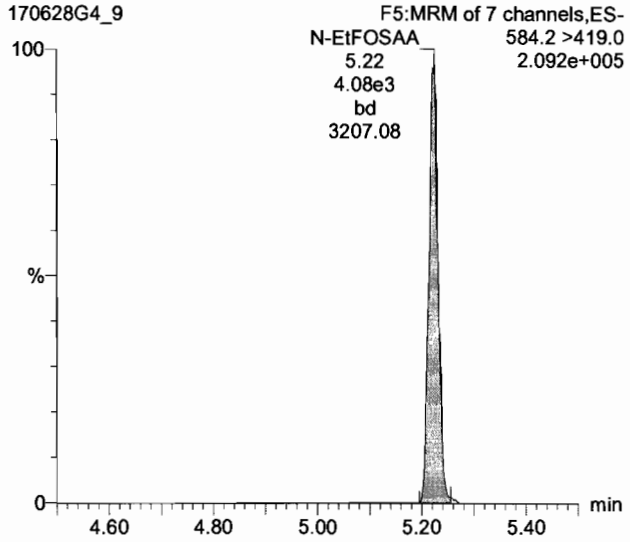

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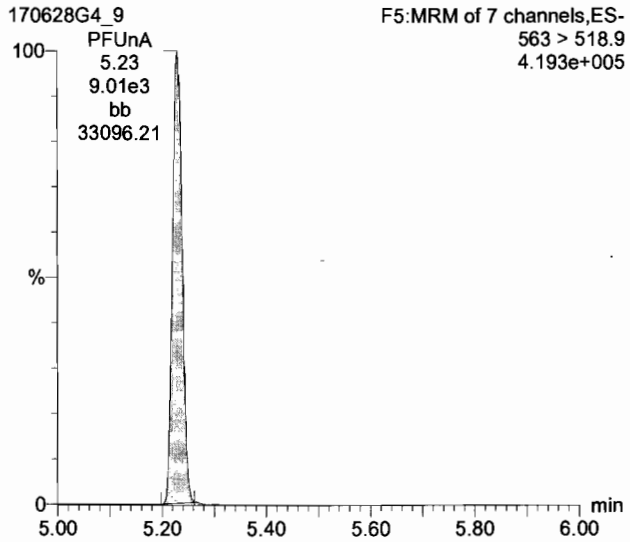

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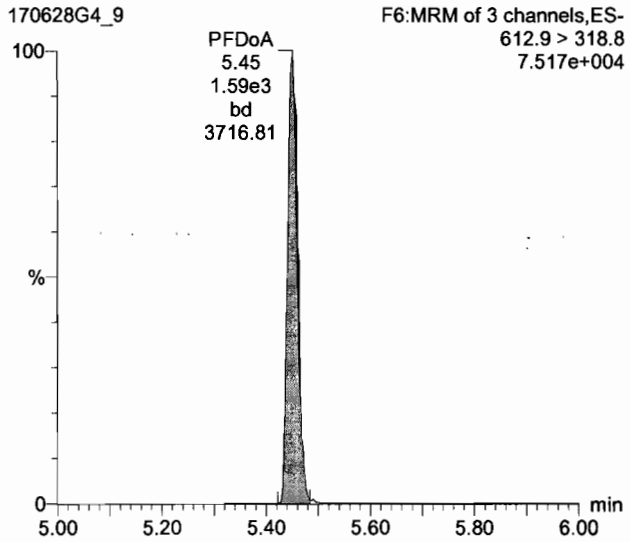

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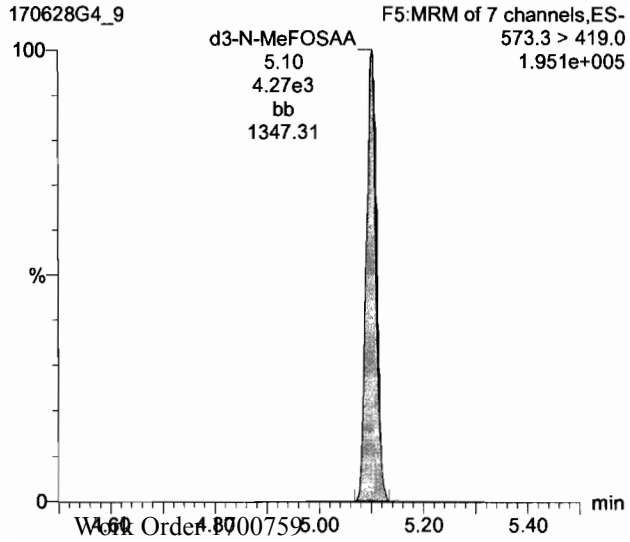

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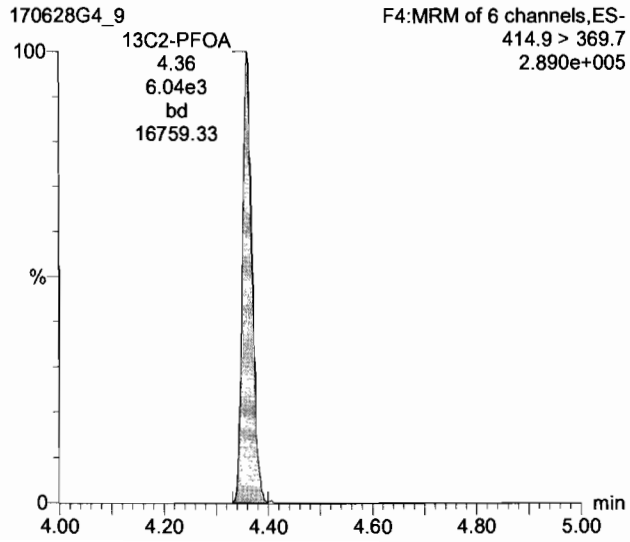

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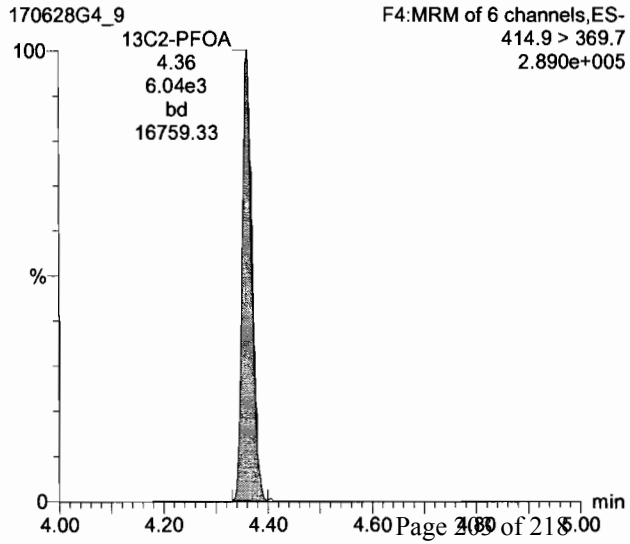

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ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

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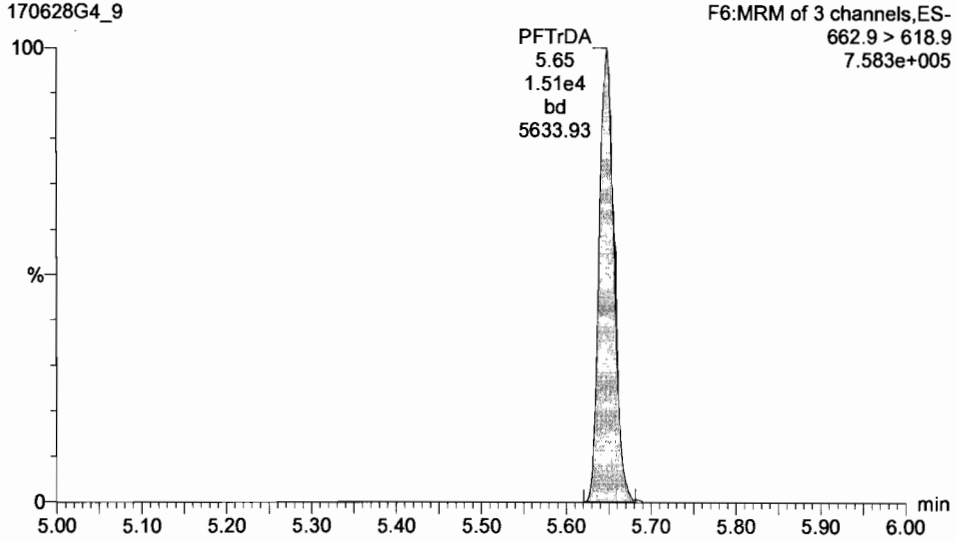

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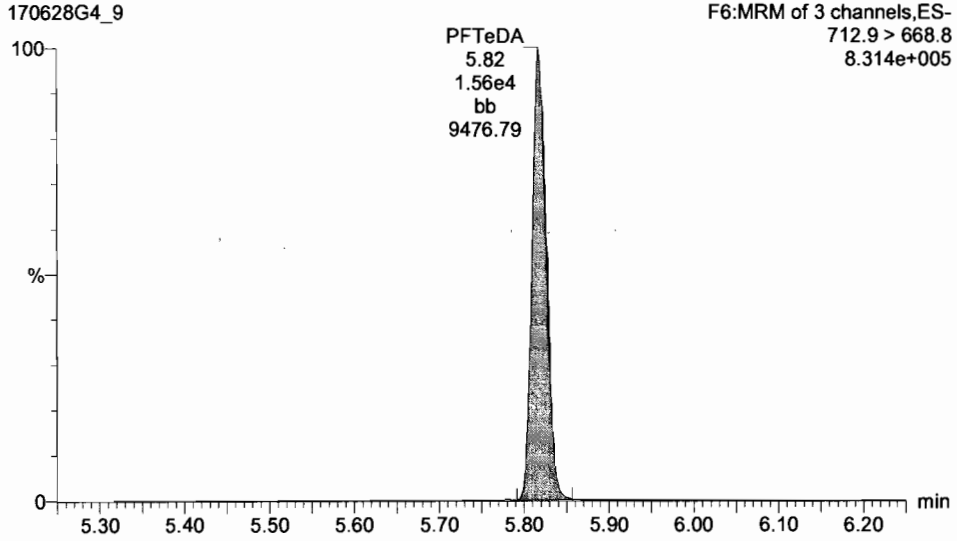

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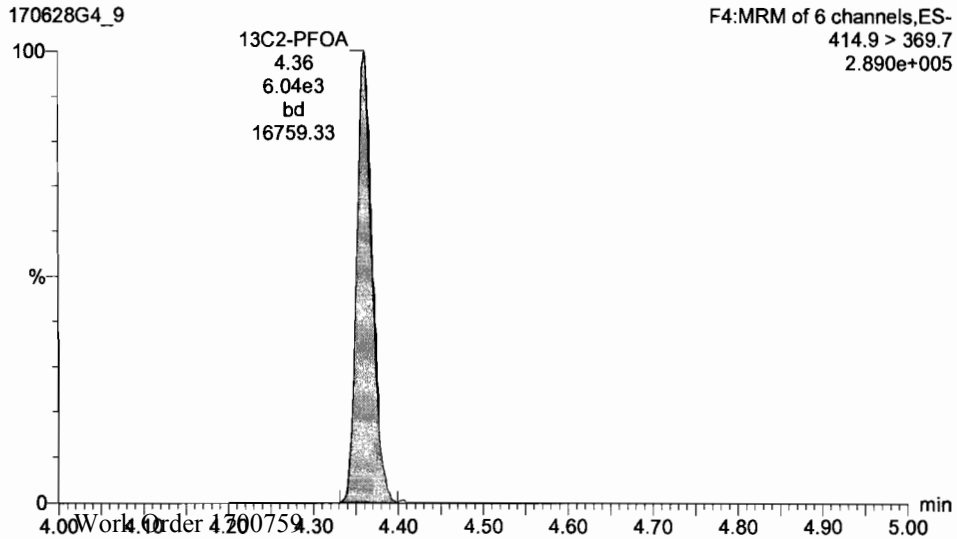

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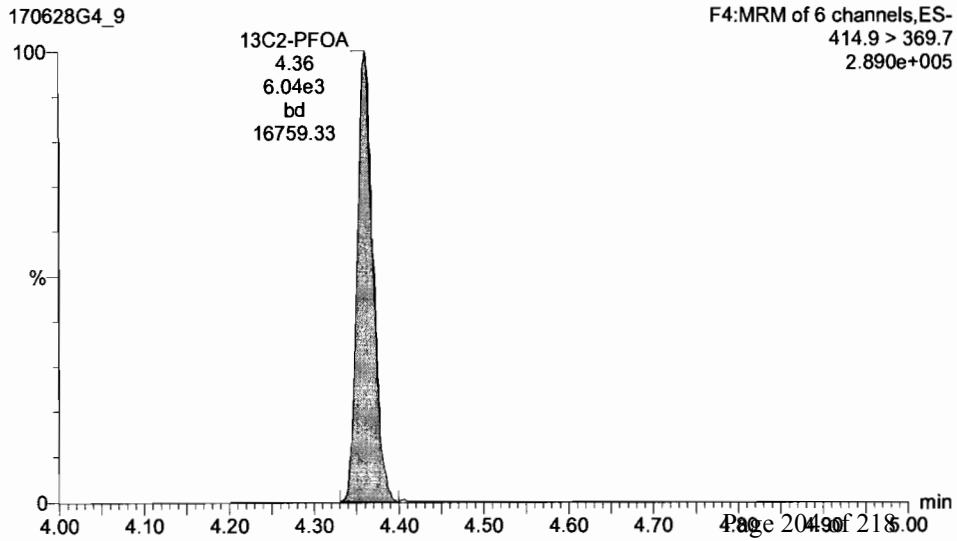

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ID: ST170628G4-8 PFC CS4 17F1611, Description: PFC CS4 17F1611, Name: 170628G4_9, Date: 28-Jun-2017, Time: 20:01:36, Instrument: , Lab: , User:

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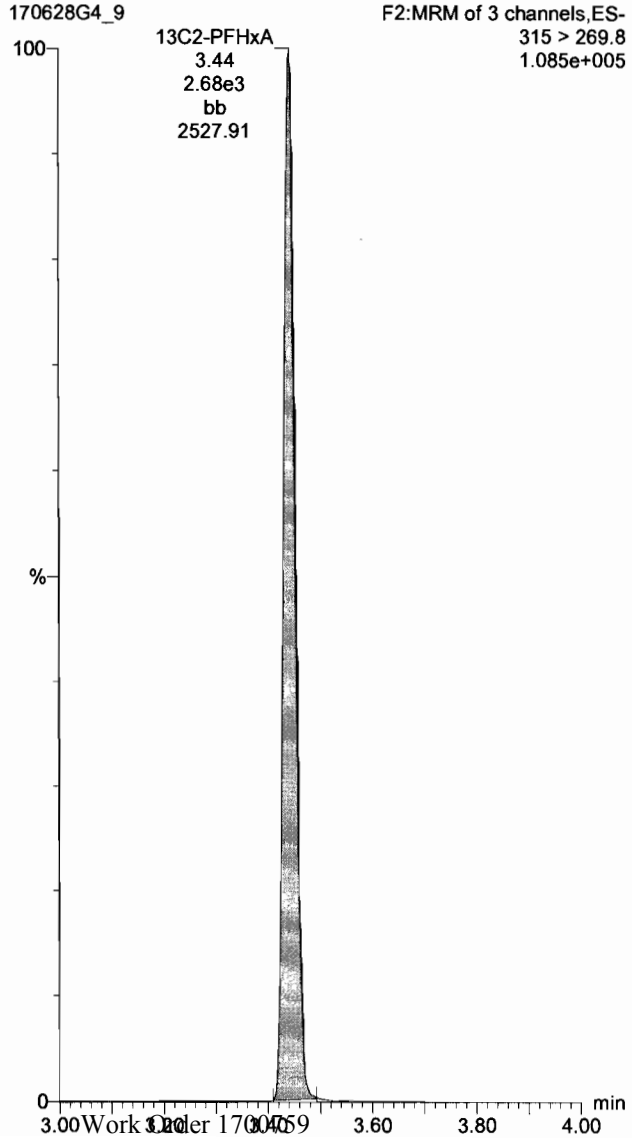

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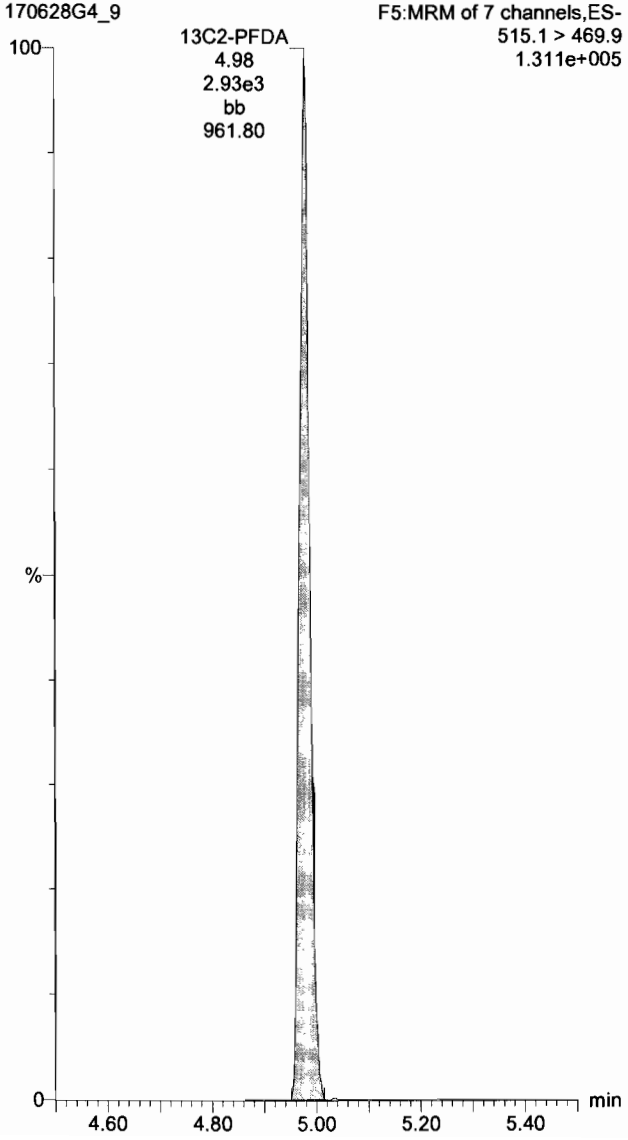

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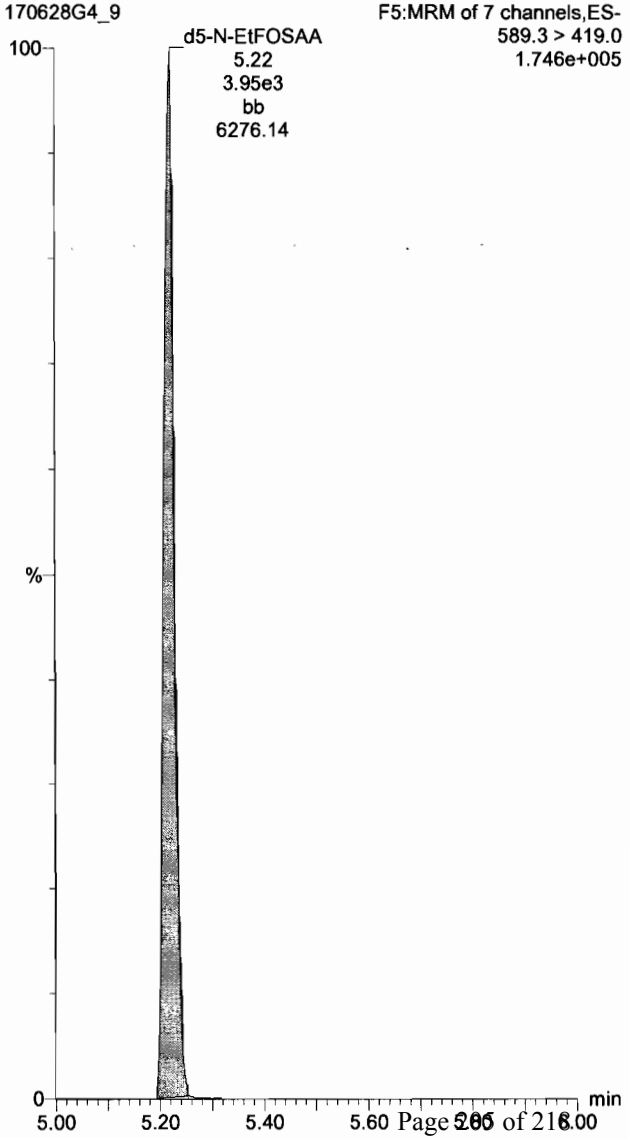

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Last Altered: Monday, July 10, 2017 11:10:21 Pacific Daylight Time
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ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

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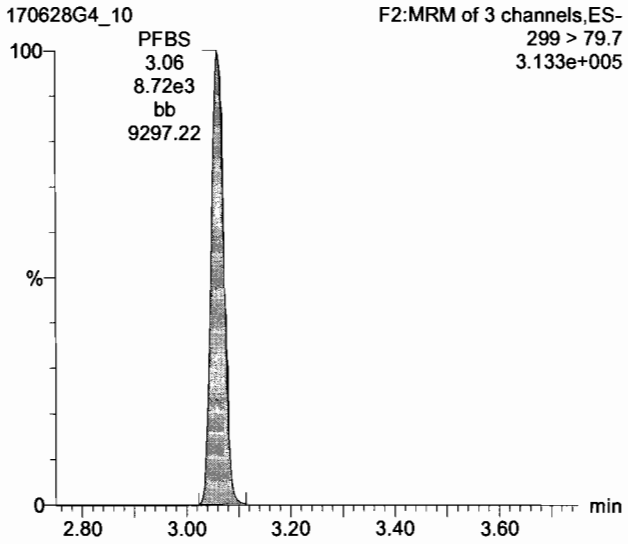

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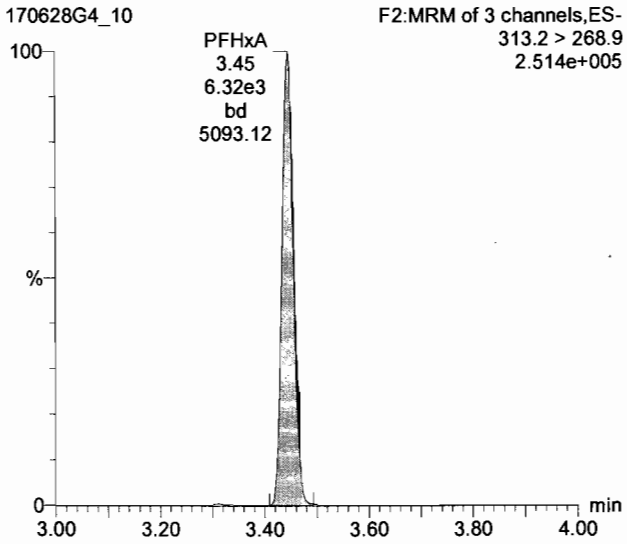

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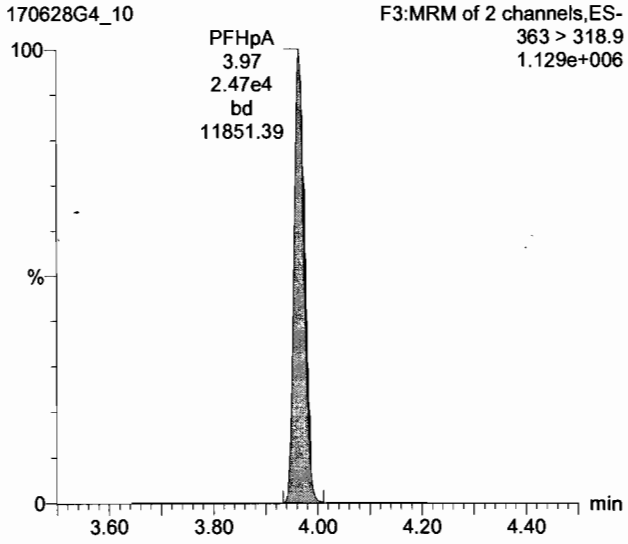

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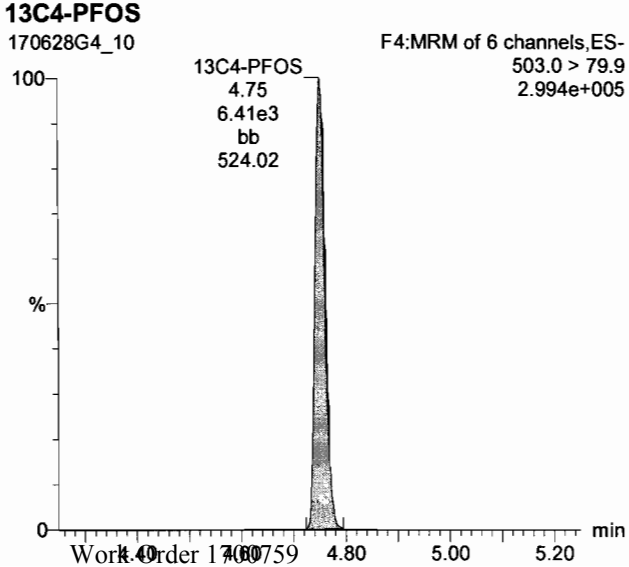

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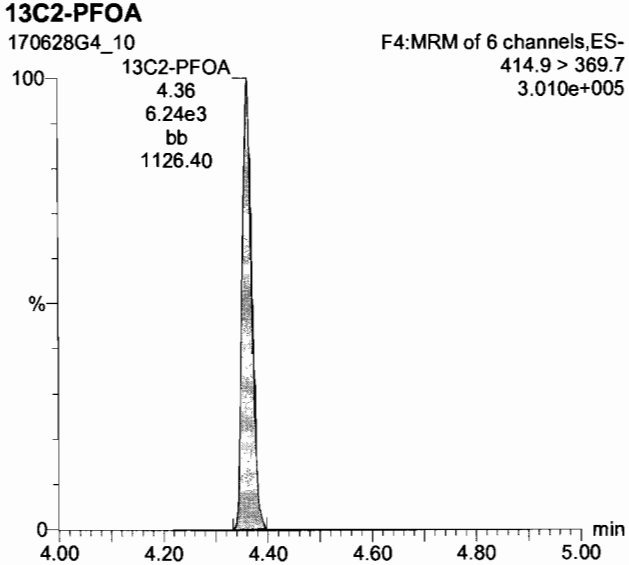

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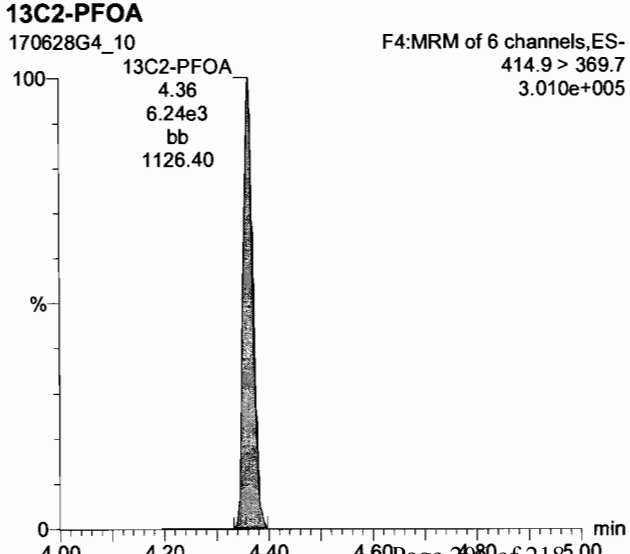

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ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

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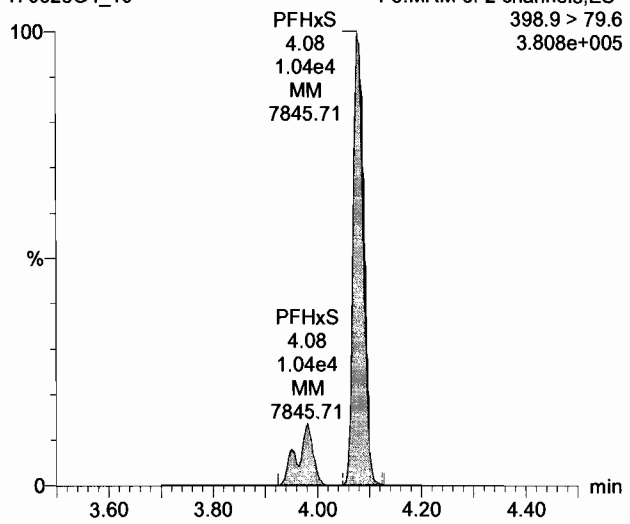

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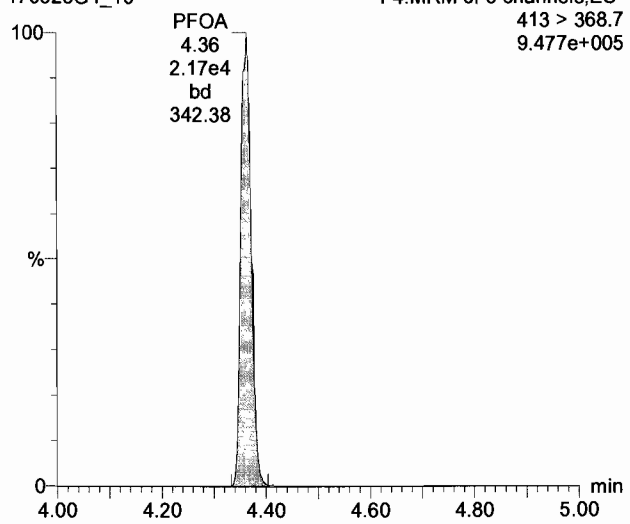

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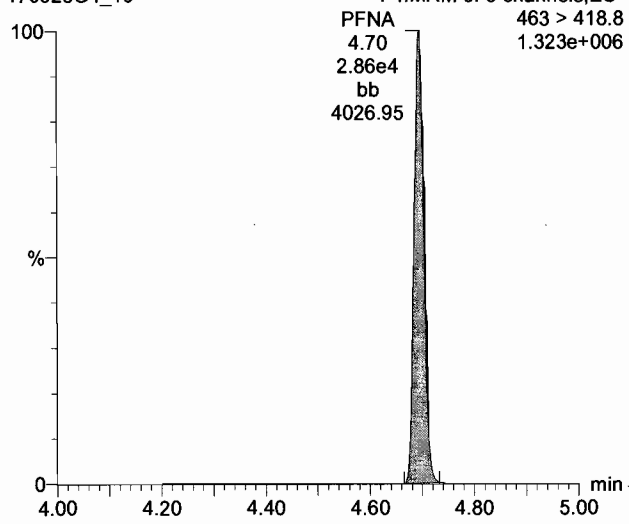

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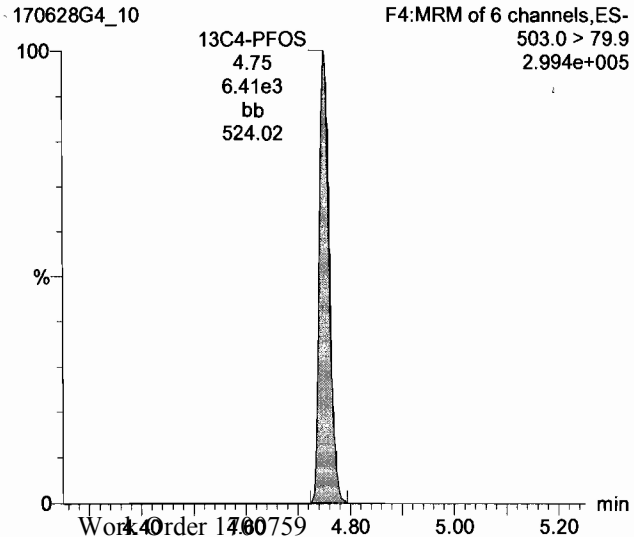

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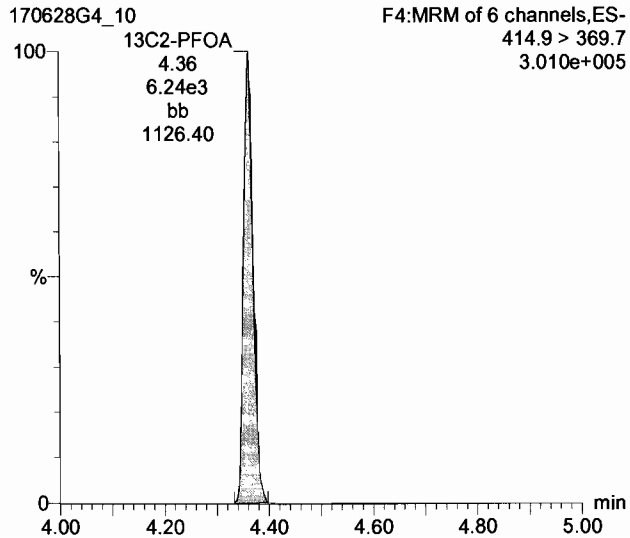

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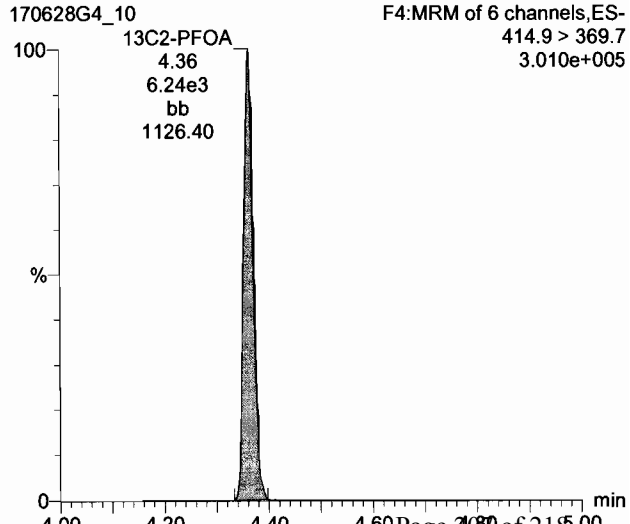

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ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

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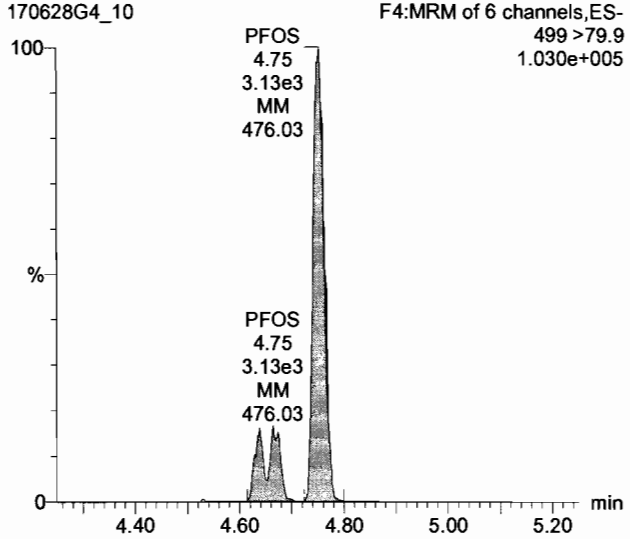

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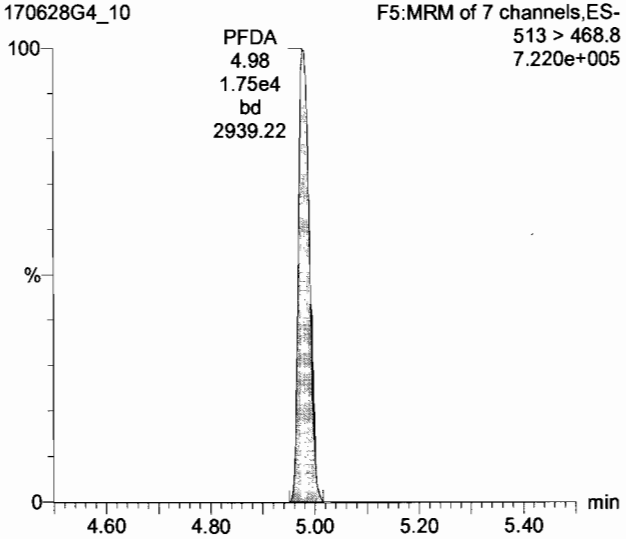

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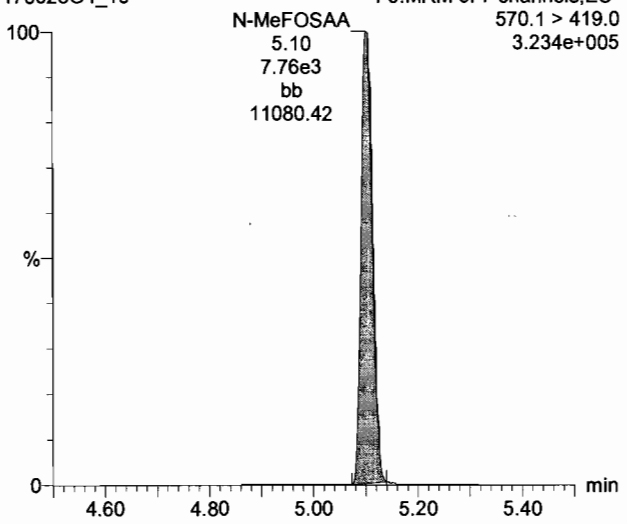

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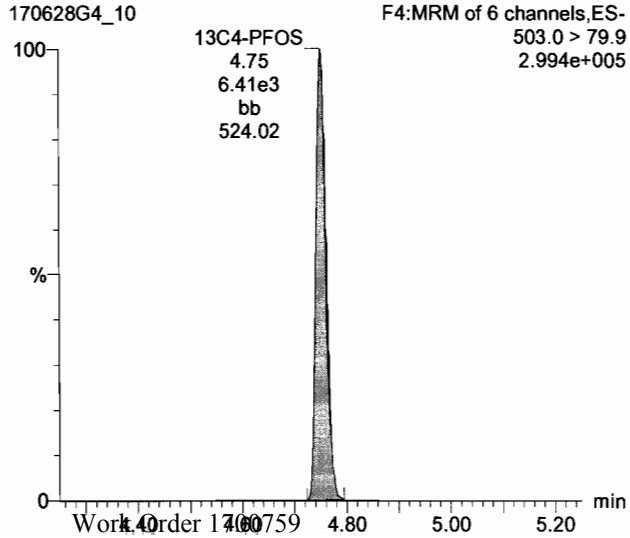

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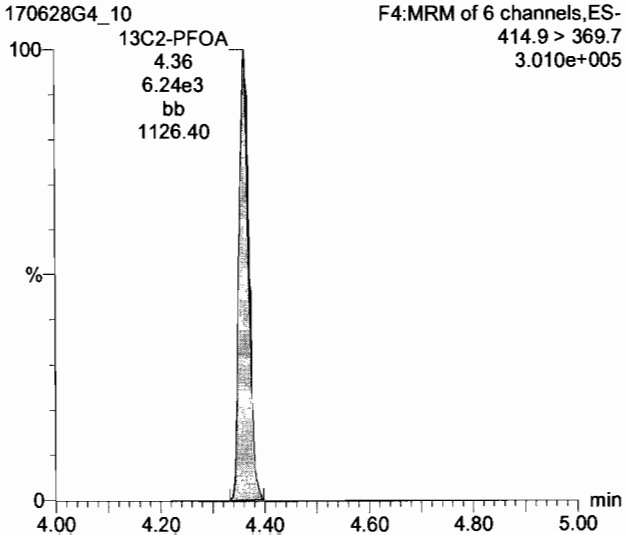

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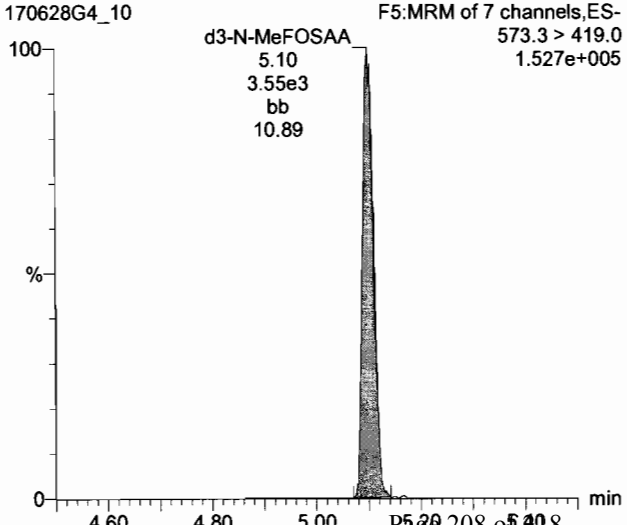

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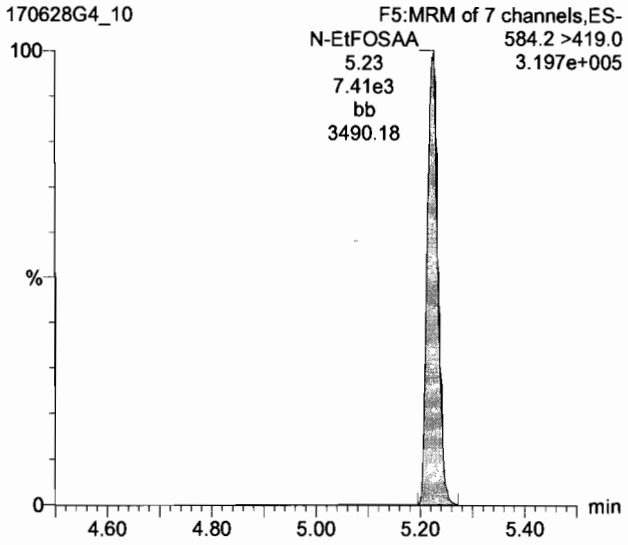
ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

N-EtFOSAA



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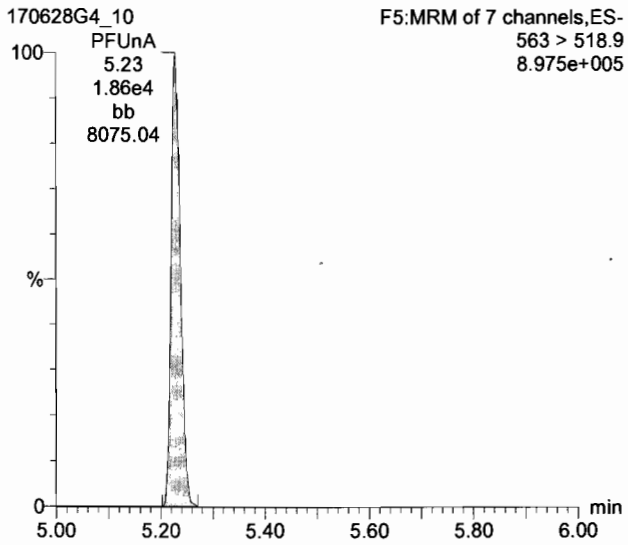

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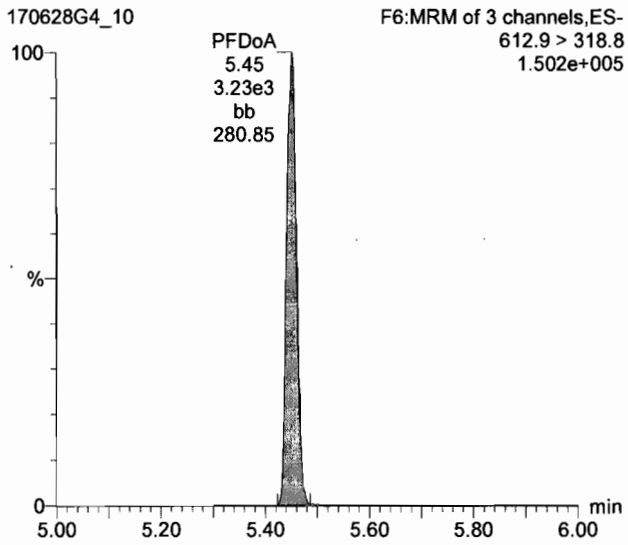

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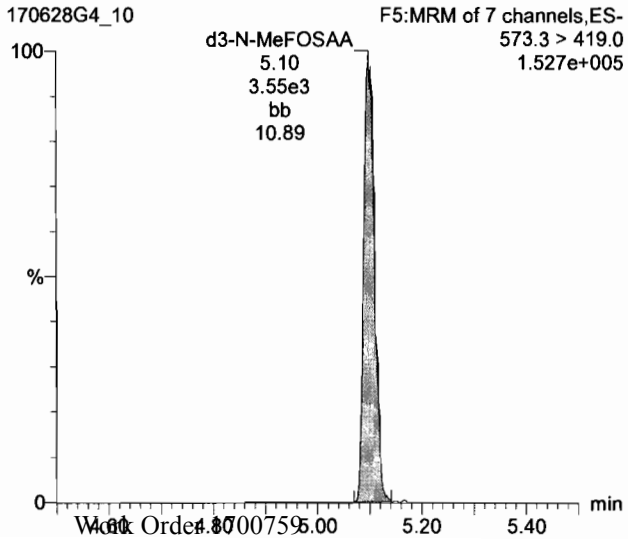

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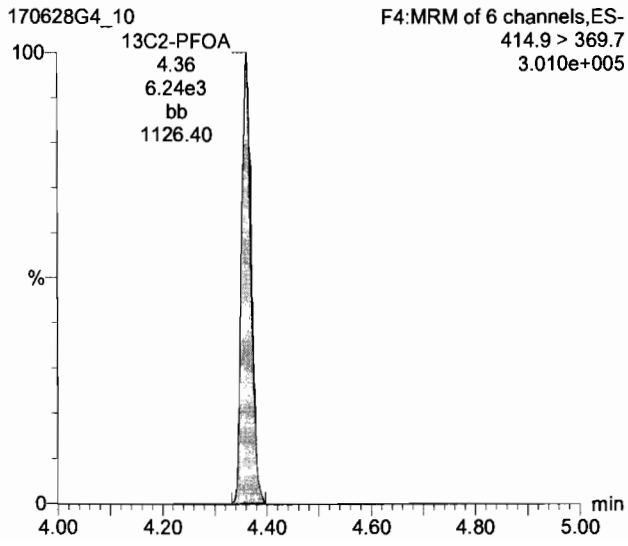

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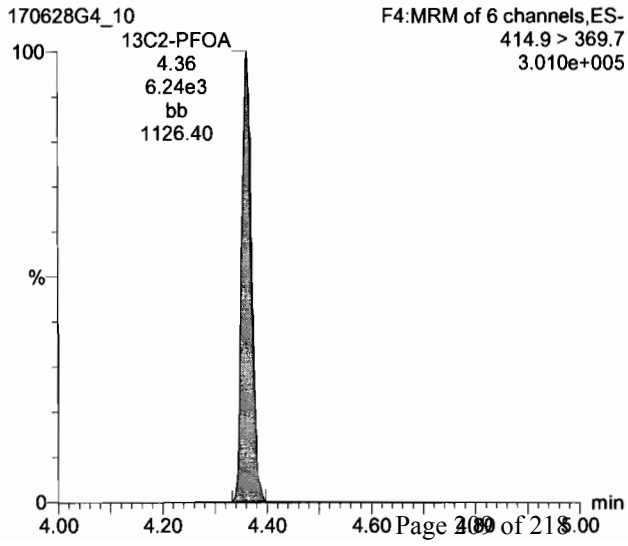

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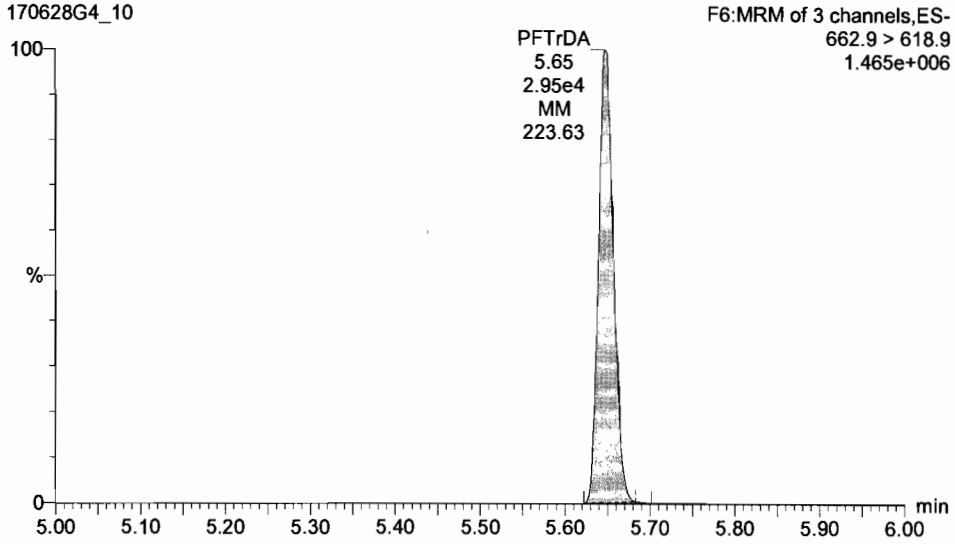
ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

PFTrDA



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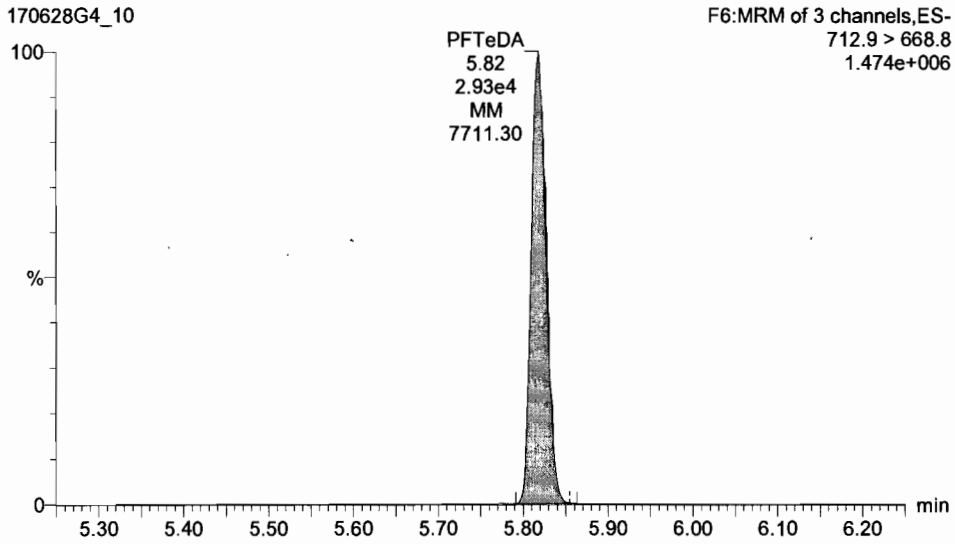

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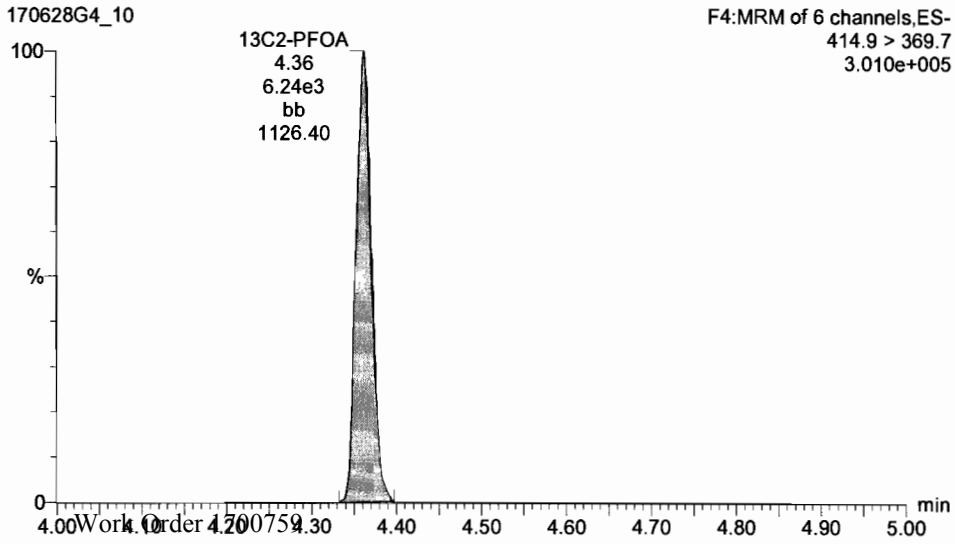

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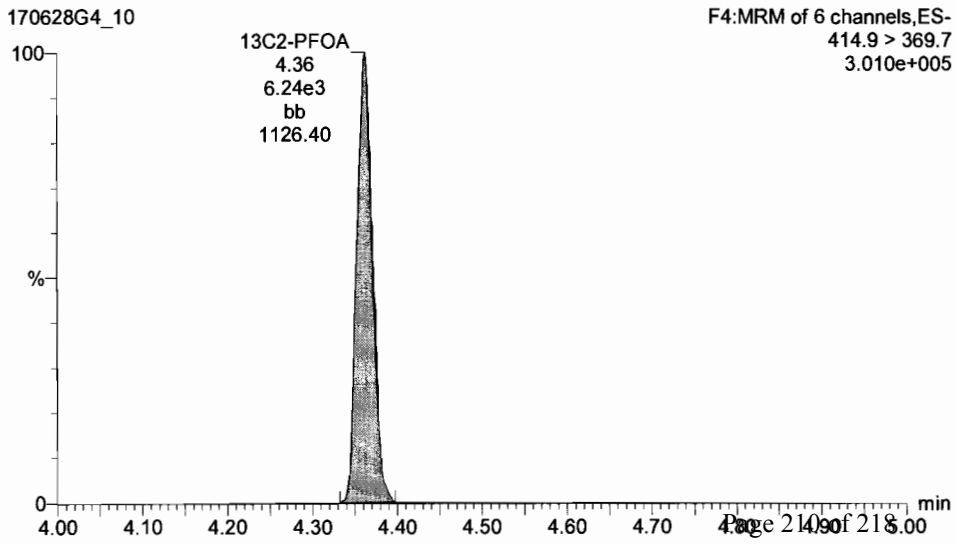

Vista Analytical Laboratory

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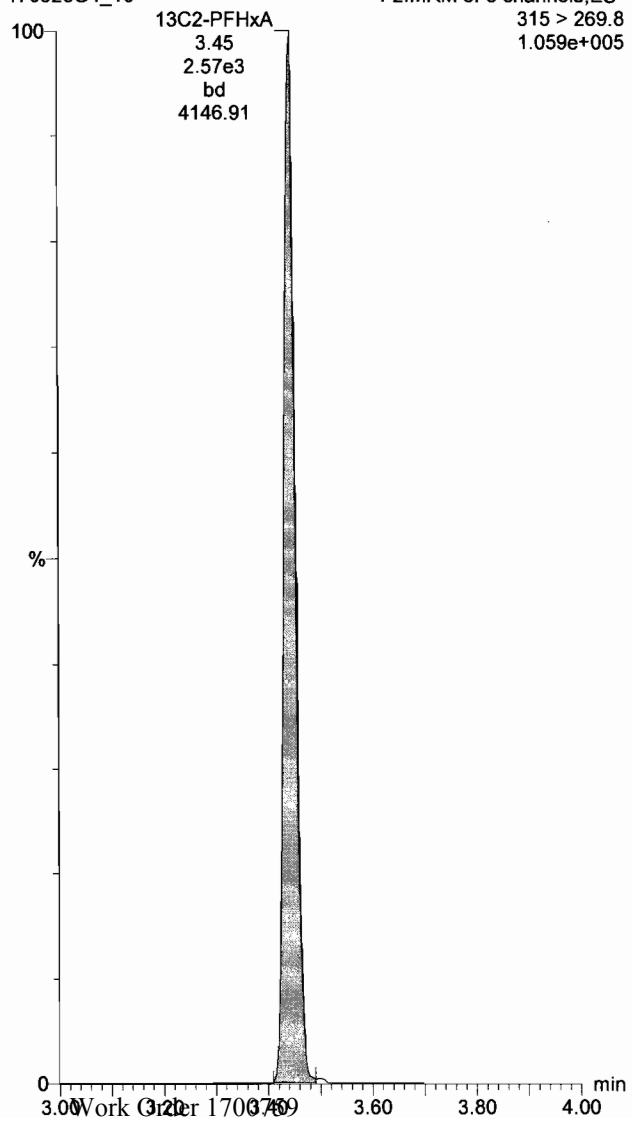
ID: ST170628G4-9 PFC CS5 17F1612, Description: PFC CS5 17F1612, Name: 170628G4_10, Date: 28-Jun-2017, Time: 20:13:58, Instrument: , Lab: , User:

13C2-PFHxA



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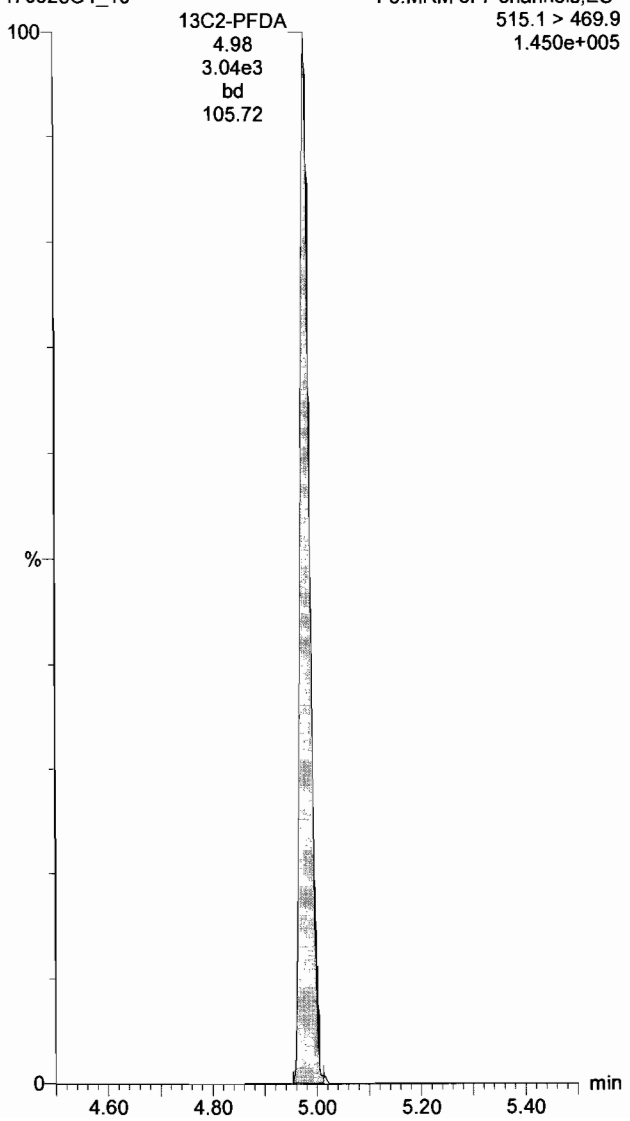

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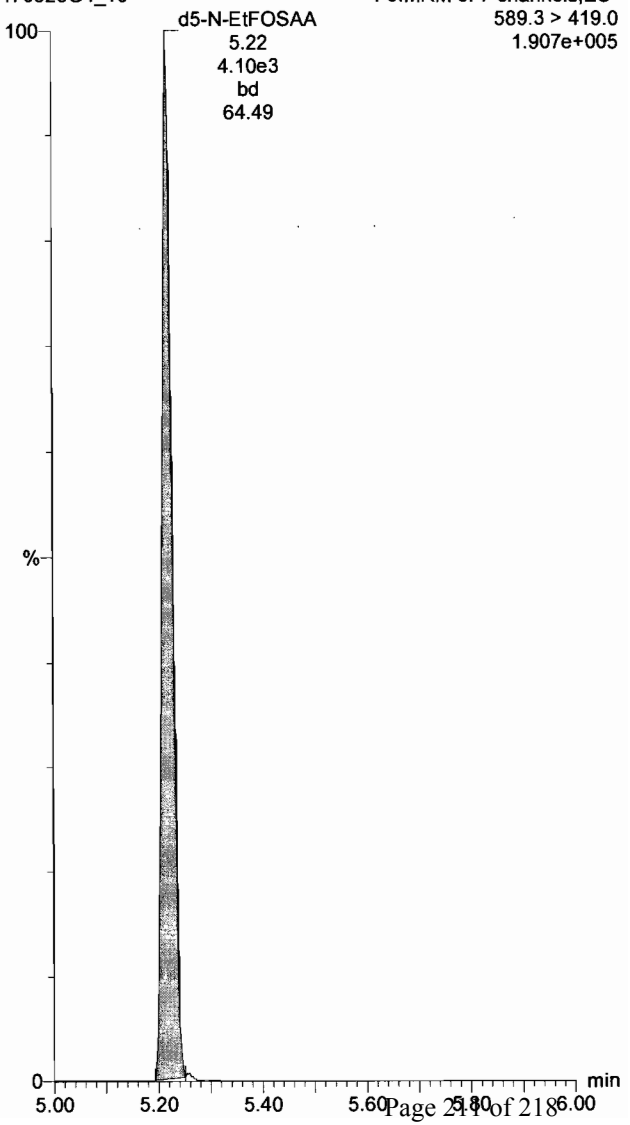

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-12.qld

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Name: 170628G4_12, Date: 28-Jun-2017, Time: 20:38:45, ID: SS170628G4-1 PFC SSS 17F1613, Description: PFC SSS 17F1613

	#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1	PFBS	299 > 79.7	2.51e3	6.82e3		1.000	3.06	12.2	121.9
2	2	PFHxA	313.2 > 268.9	1.59e3	6.06e3		1.000	3.44	11.9	118.8
3	3	PFHpA	363 > 318.9	5.90e3	6.06e3		1.000	3.96	12.1	121.5
4	4	PFHxS	398.9 > 79.6	2.83e3	6.82e3		1.000	4.08	11.8	117.9
5	5	PFOA	413 > 368.7	5.51e3	6.06e3		1.000	4.36	12.5	125.0
6	6	PFNA	463 > 418.8	7.10e3	6.06e3		1.000	4.70	12.3	122.9
7	7	PFOS	499 >79.9	8.56e2	6.82e3		1.000	4.76	12.1	121.2
8	8	PFDA	513 > 468.8	4.48e3	6.06e3		1.000	4.98	11.2	111.6
9	9	N-MeFOSAA	570.1 > 419.0	2.06e3	4.08e3		1.000	5.10	10.1	100.9
10	10	N-EtFOSAA	584.2 >419.0	1.72e3	4.08e3		1.000	5.22	10.1	101.0
11	11	PFUnA	563 > 518.9	3.84e3	6.06e3		1.000	5.23	10.7	106.6
12	12	PFDoA	612.9 > 318.8	8.06e2	6.06e3		1.000	5.45	12.5	125.0
13	13	PFTrDA	662.9 > 618.9	7.37e3	6.06e3		1.000	5.64	12.1	121.2
14	14	PFTeDA	712.9 > 668.8	7.33e3	6.06e3		1.000	5.82	12.3	123.3
15	15	13C2-PFHxA	315 > 269.8	2.58e3	6.06e3	0.429	1.000	3.44	9.91	99.1
16	16	13C2-PFDA	515.1 > 469.9	3.06e3	6.06e3	0.514	1.000	4.98	9.82	98.2
17	17	d5-N-EtFOSAA	589.3 > 419.0	4.27e3	4.08e3	1.065	1.000	5.22	39.3	98.2
18	18	13C2-PFOA	414.9 > 369.7	6.06e3	6.06e3	1.000	1.000	4.36	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	6.82e3	6.82e3	1.000	1.000	4.75	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	4.08e3	4.08e3	1.000	1.000	5.10	40.0	100.0

70-130

OM 7/10/17

✓ AC 7/10/17

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Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-12.qld

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Printed: Monday, July 10, 2017 11:39:42 Pacific Daylight Time

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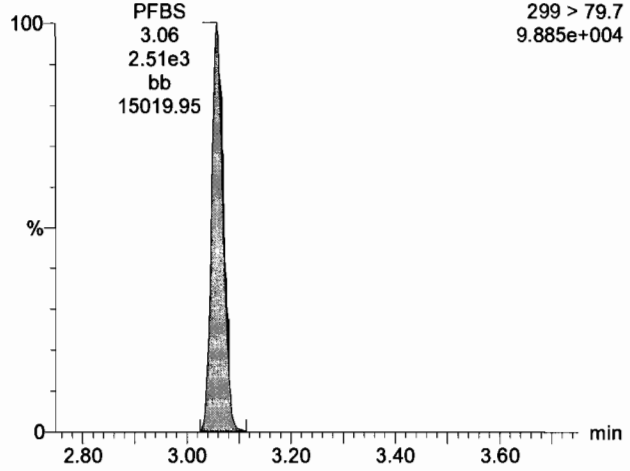
ID: SS170628G4-1 PFC SSS 17F1613, Description: PFC SSS 17F1613, Name: 170628G4_12, Date: 28-Jun-2017, Time: 20:38:45, Instrument: , Lab: , User:

PFBS



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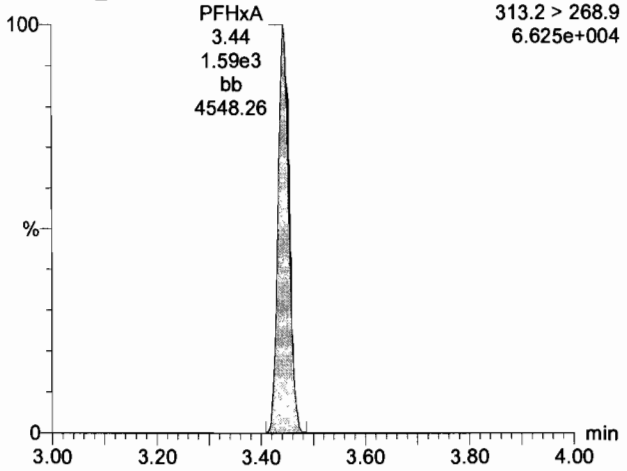

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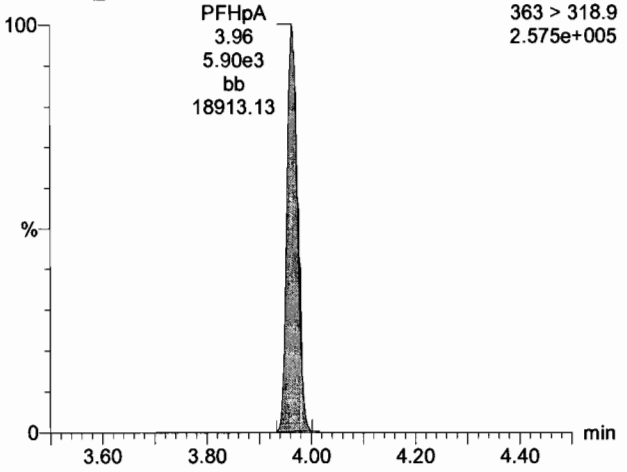
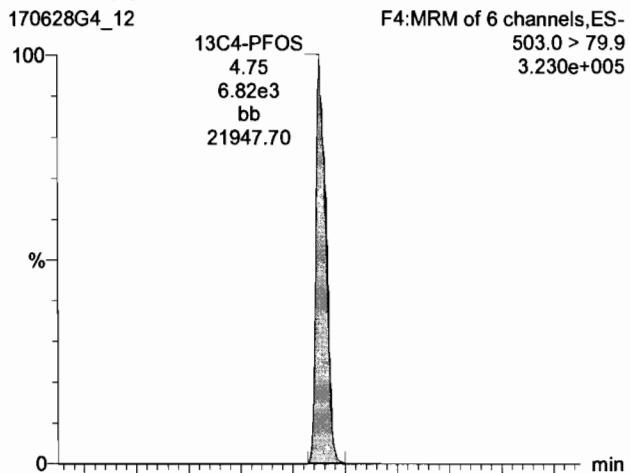


13C4-PFOS



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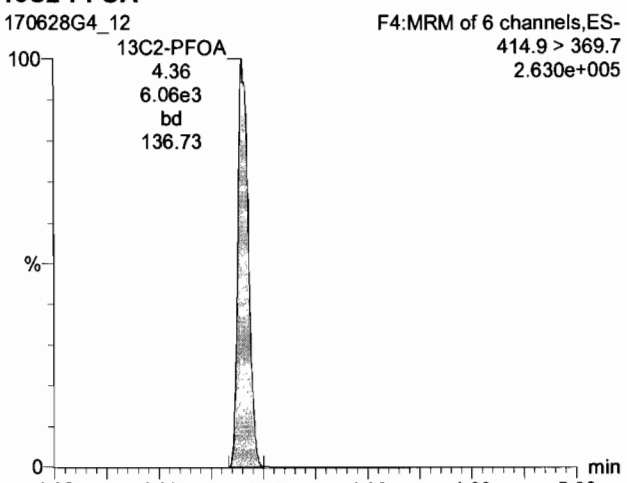

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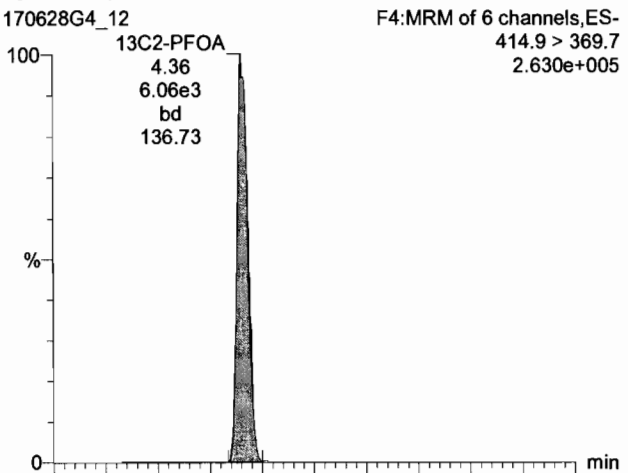

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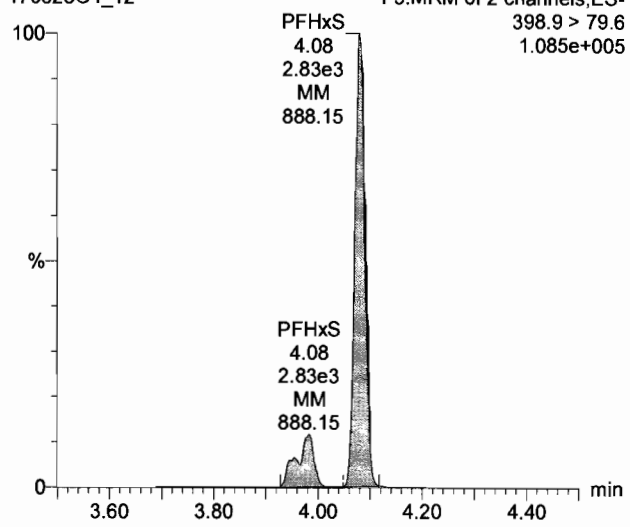
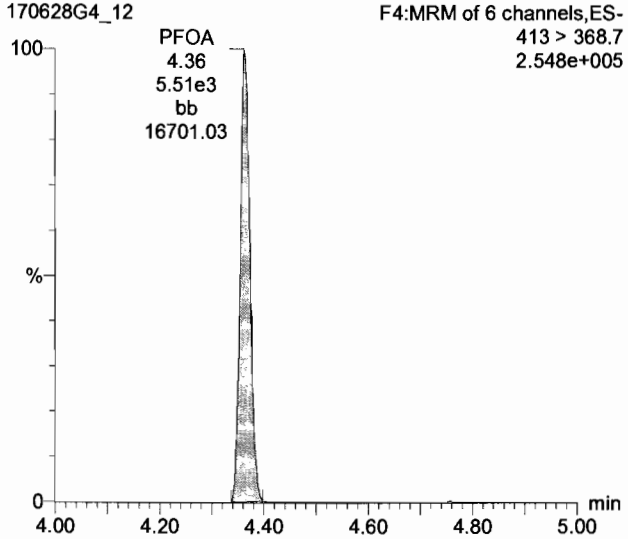
ID: SS170628G4-1 PFC SSS 17F1613, Description: PFC SSS 17F1613, Name: 170628G4_12, Date: 28-Jun-2017, Time: 20:38:45, Instrument: , Lab: , User:

PFHxS



PFOA



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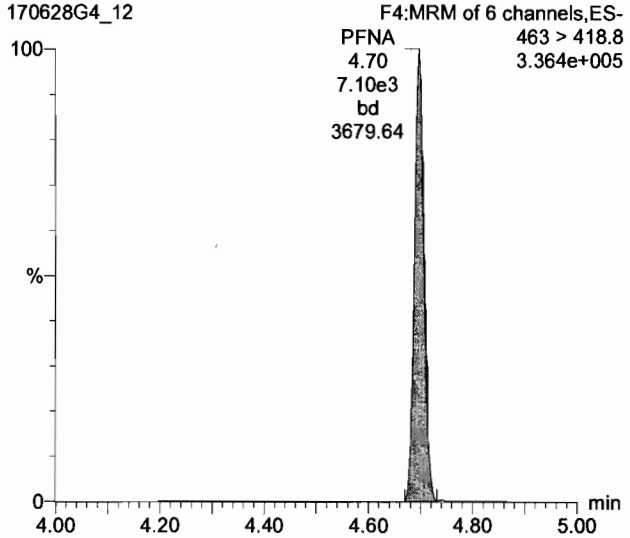

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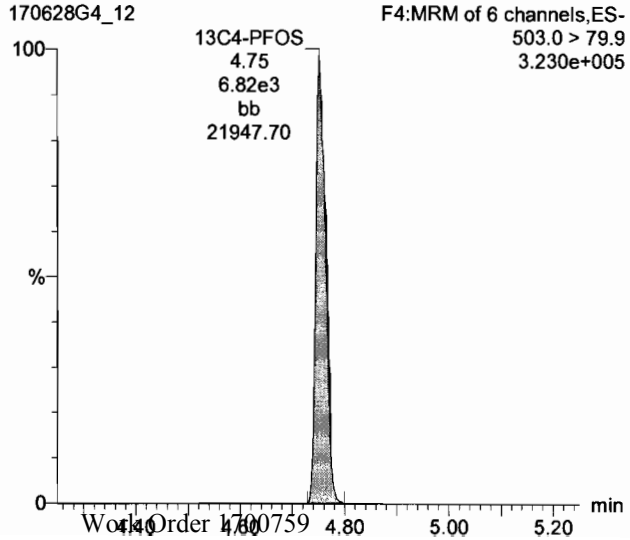

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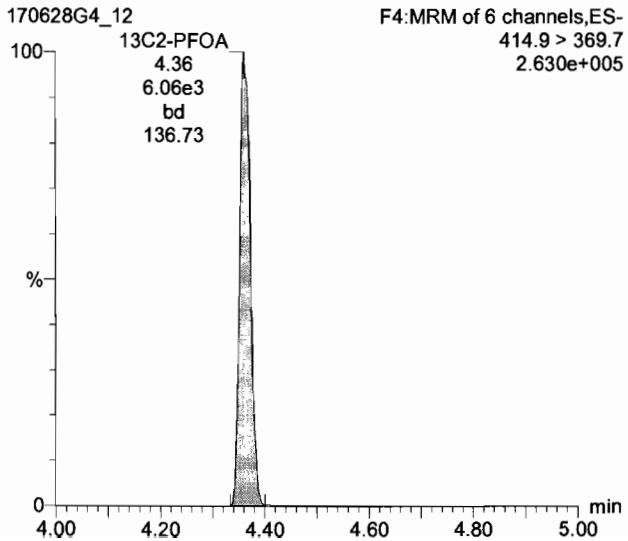

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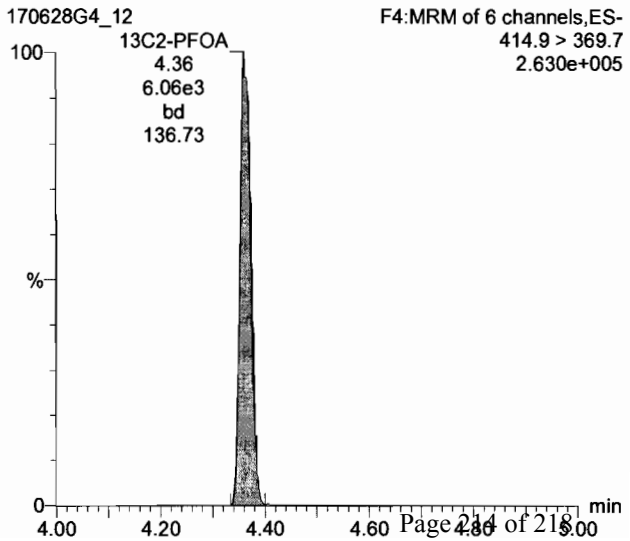

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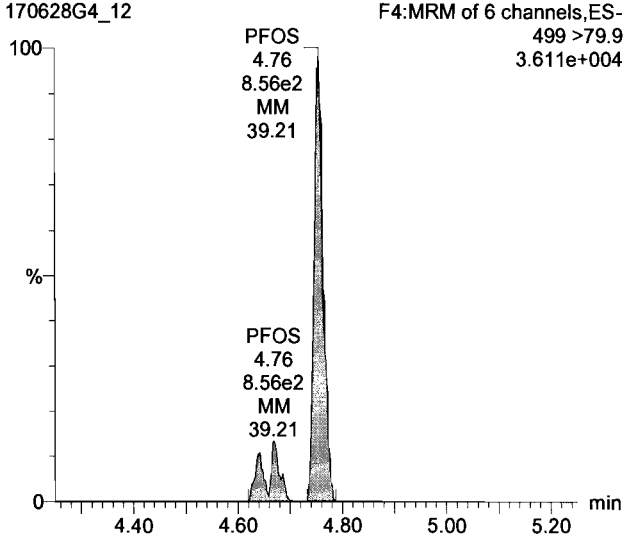
PFOS



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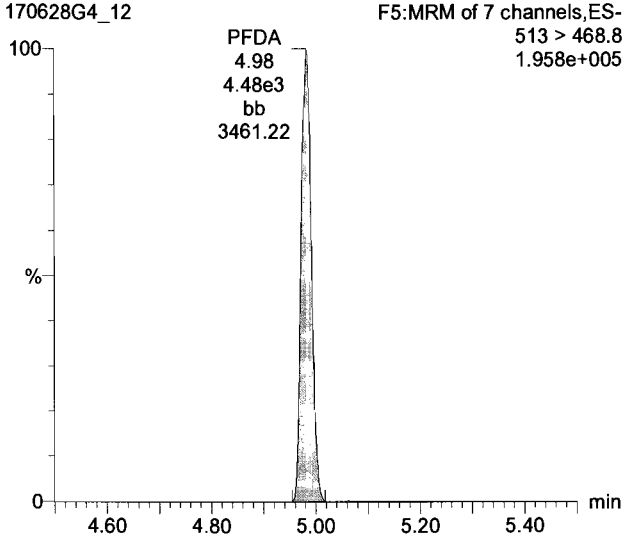

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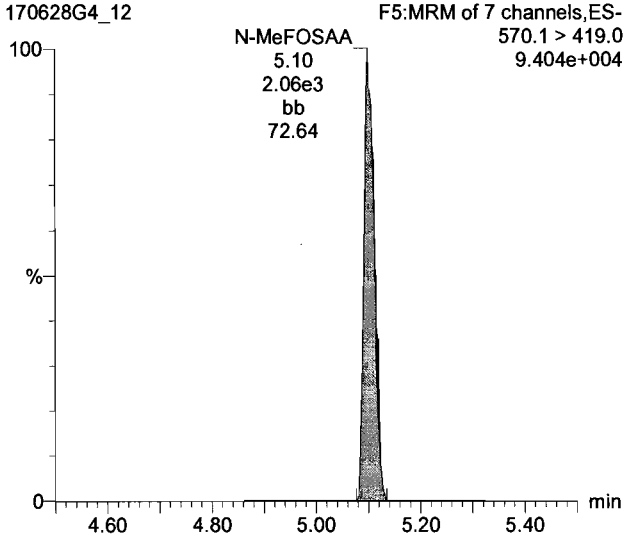

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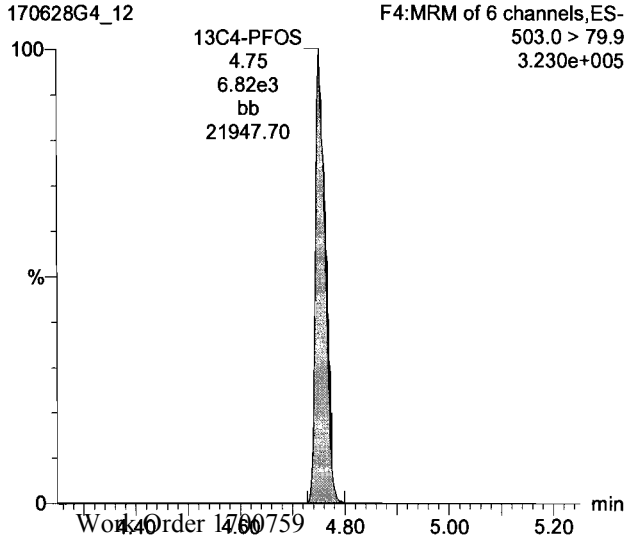

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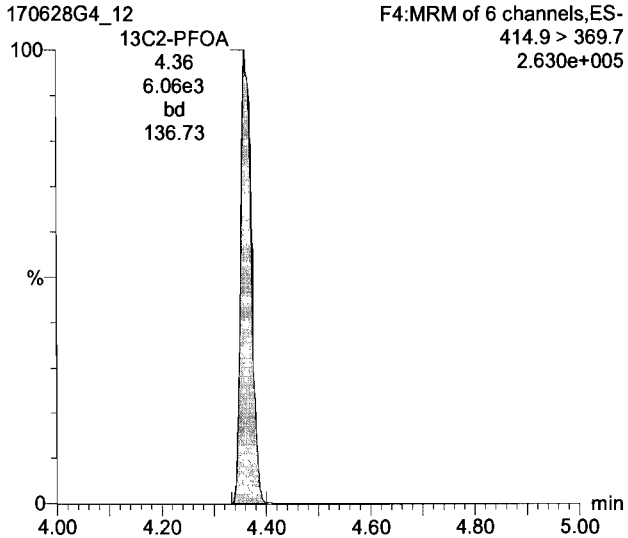

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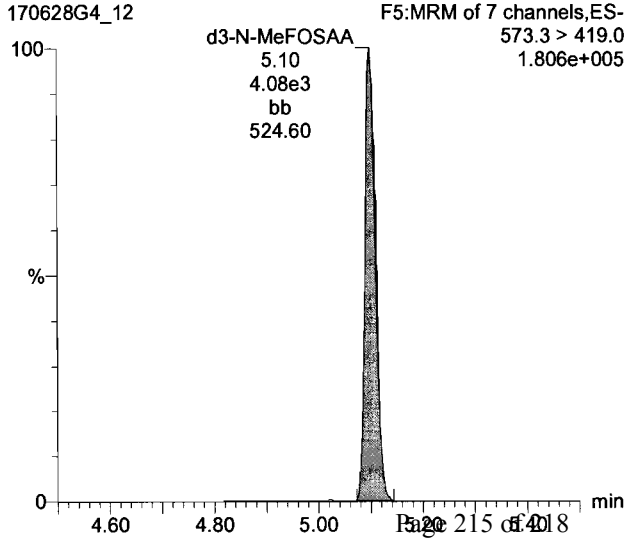

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Printed: Monday, July 10, 2017 11:39:42 Pacific Daylight Time

ID: SS170628G4-1 PFC SSS 17F1613, Description: PFC SSS 17F1613, Name: 170628G4_12, Date: 28-Jun-2017, Time: 20:38:45, Instrument: , Lab: , User:

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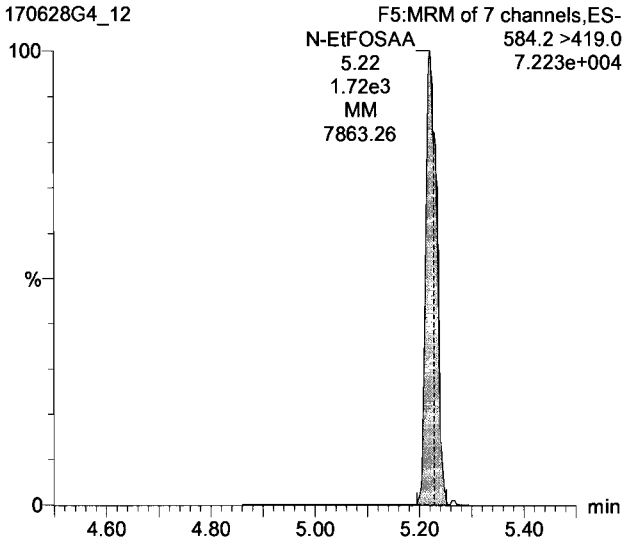

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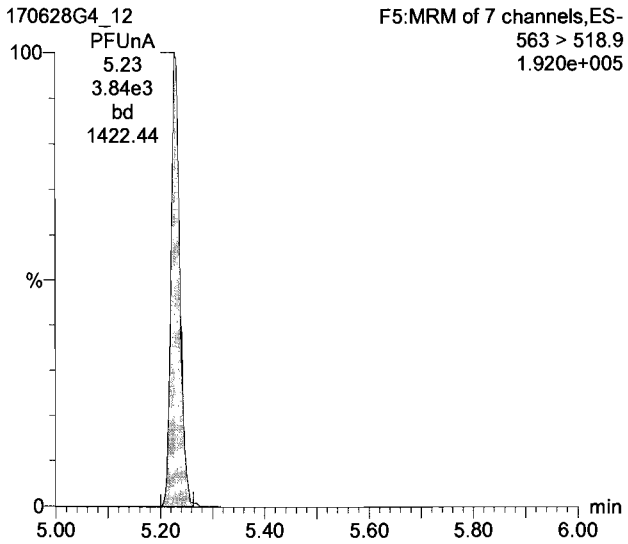

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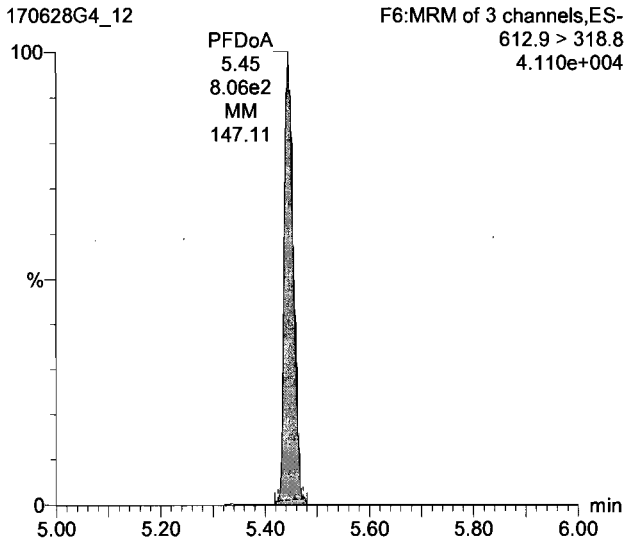

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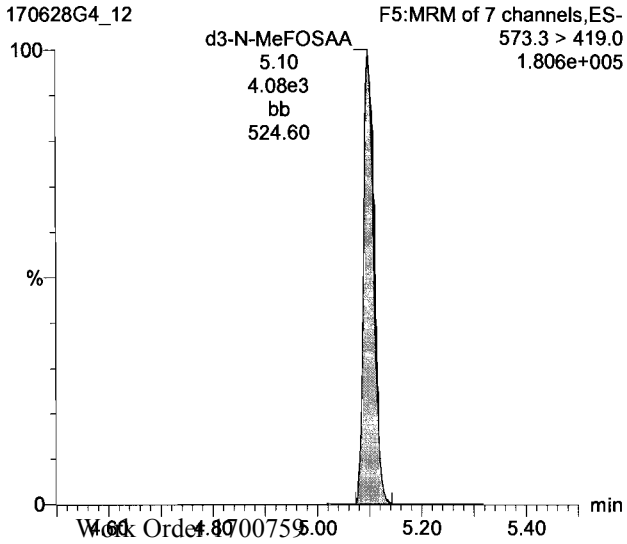

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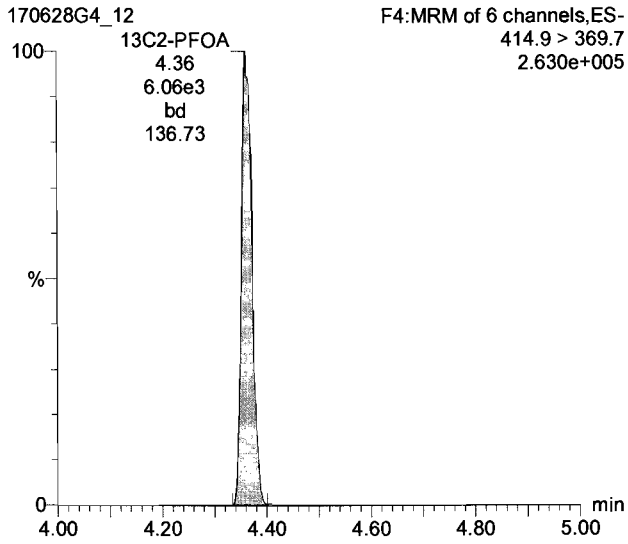

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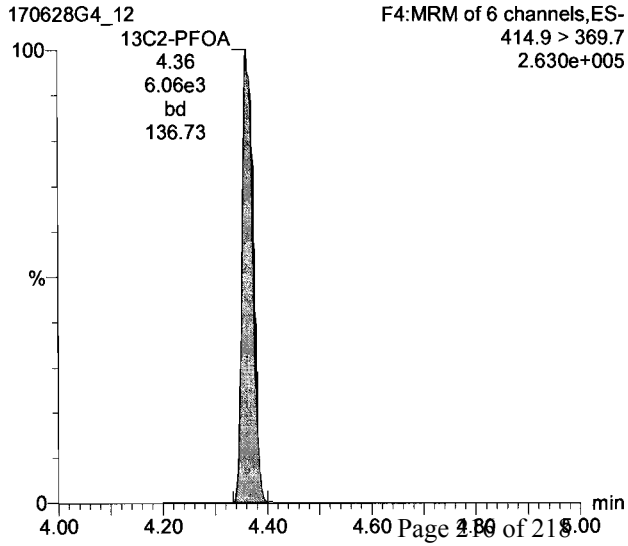

Vista Analytical Laboratory

Dataset: U:\G1.PRO\Results\2017\170628G4\170628G4-12.qld

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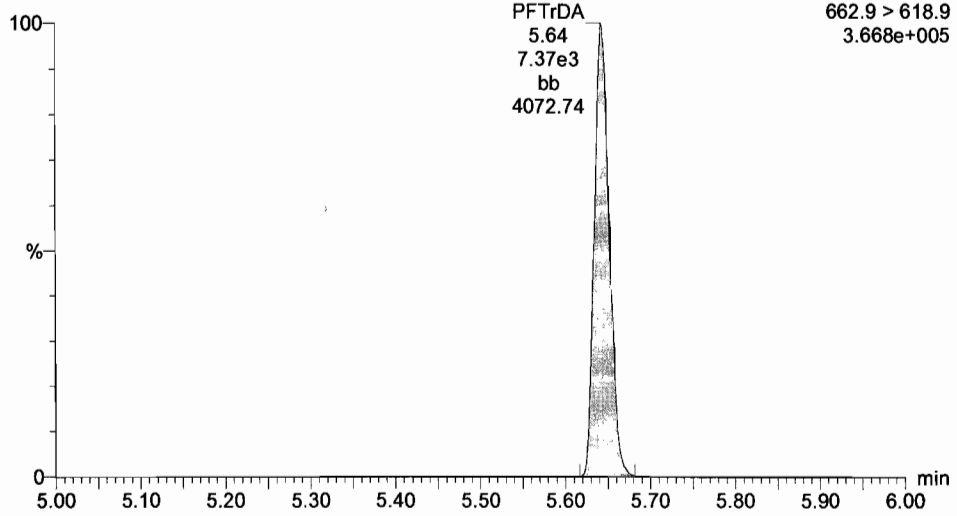
PFTrDA



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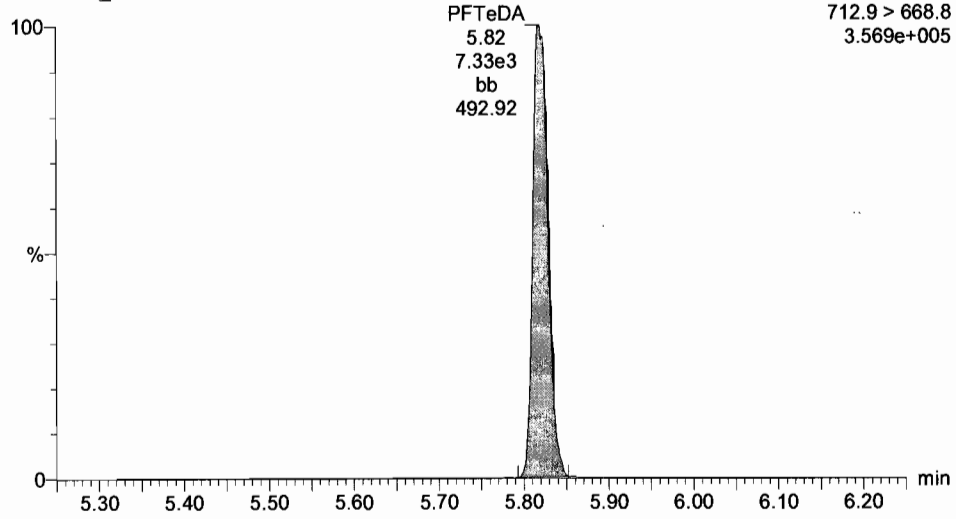

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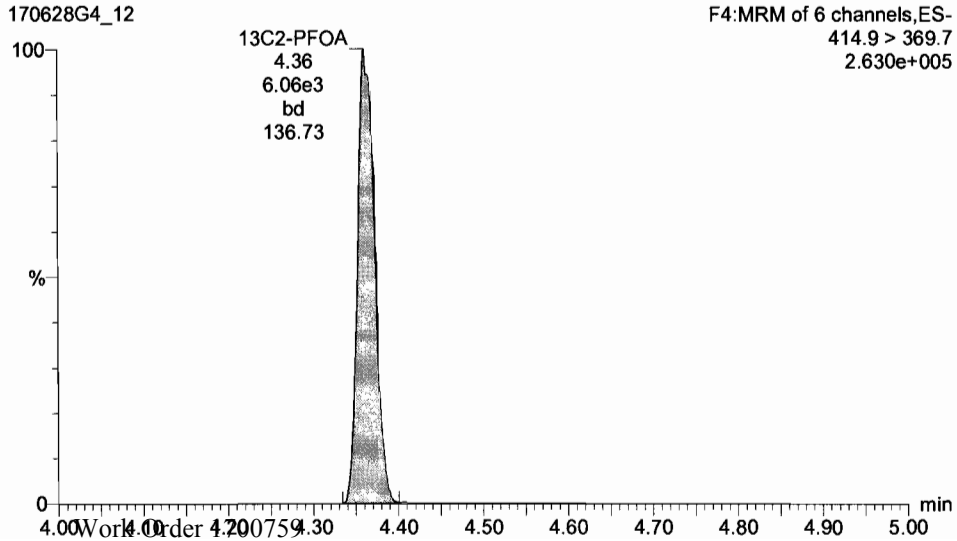

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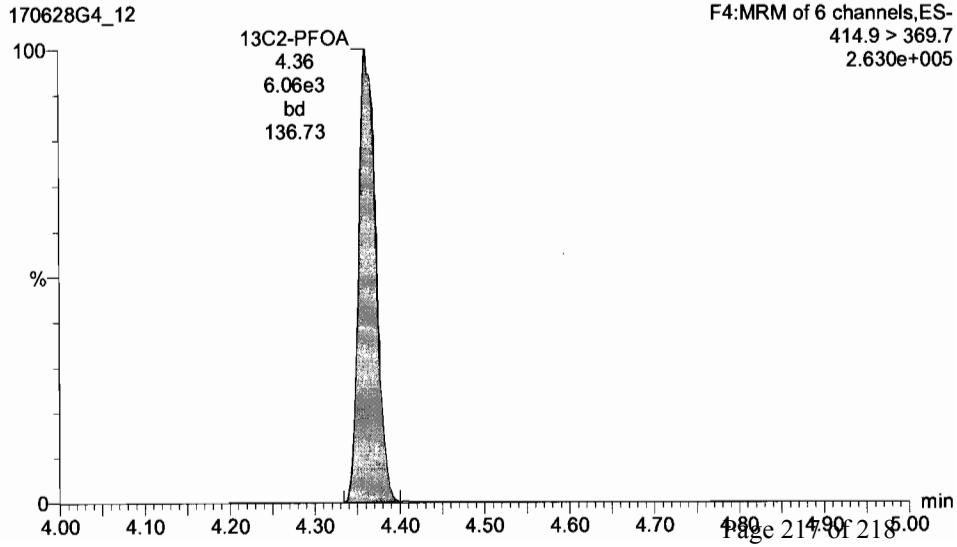

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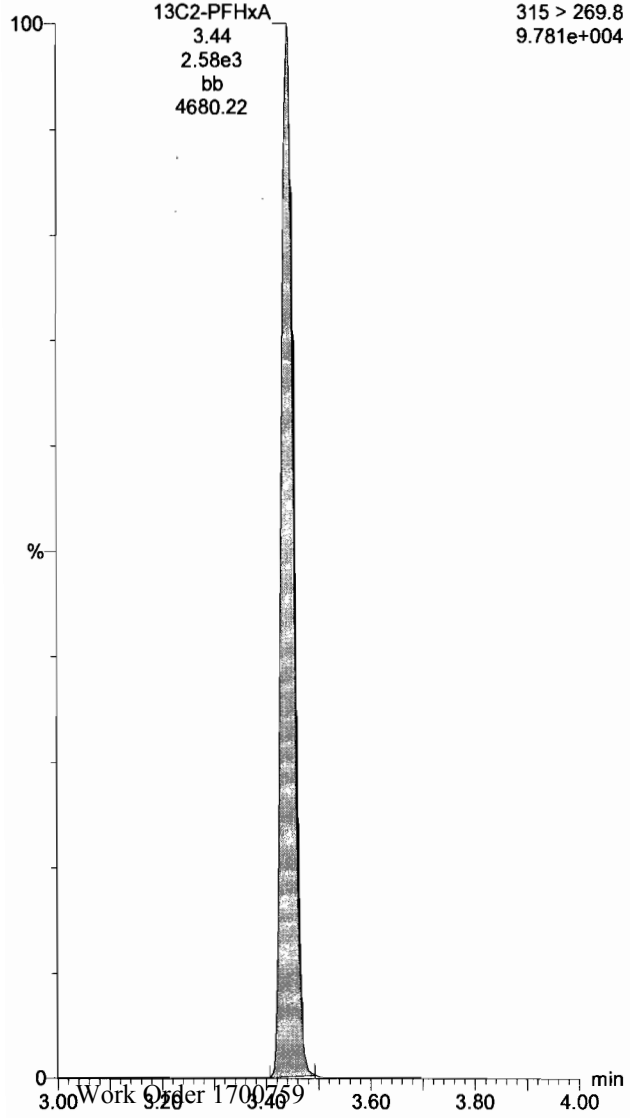

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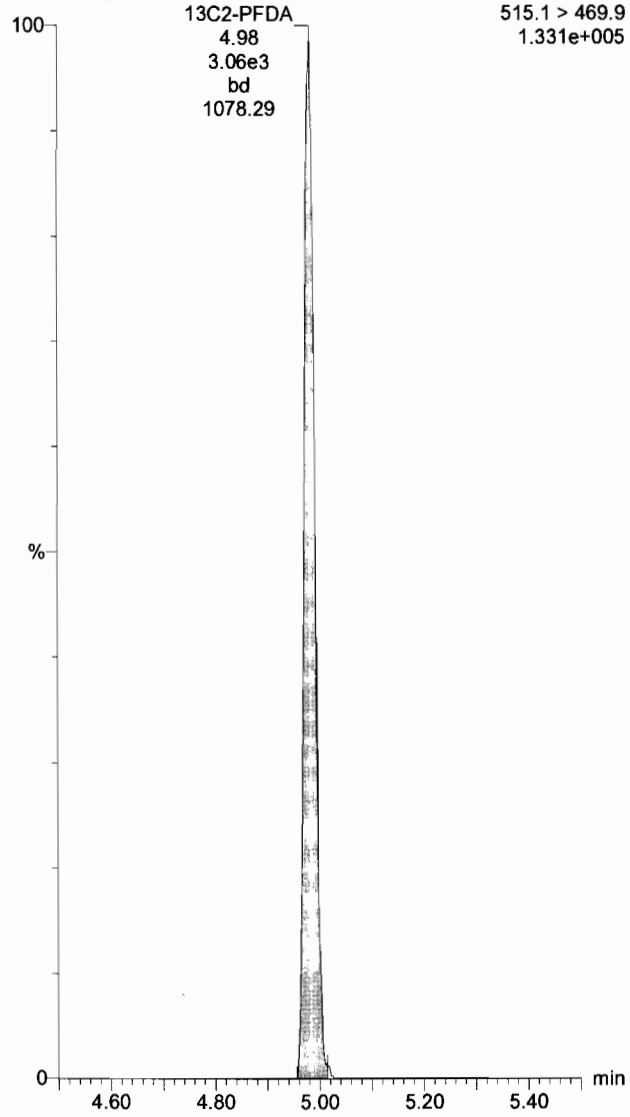

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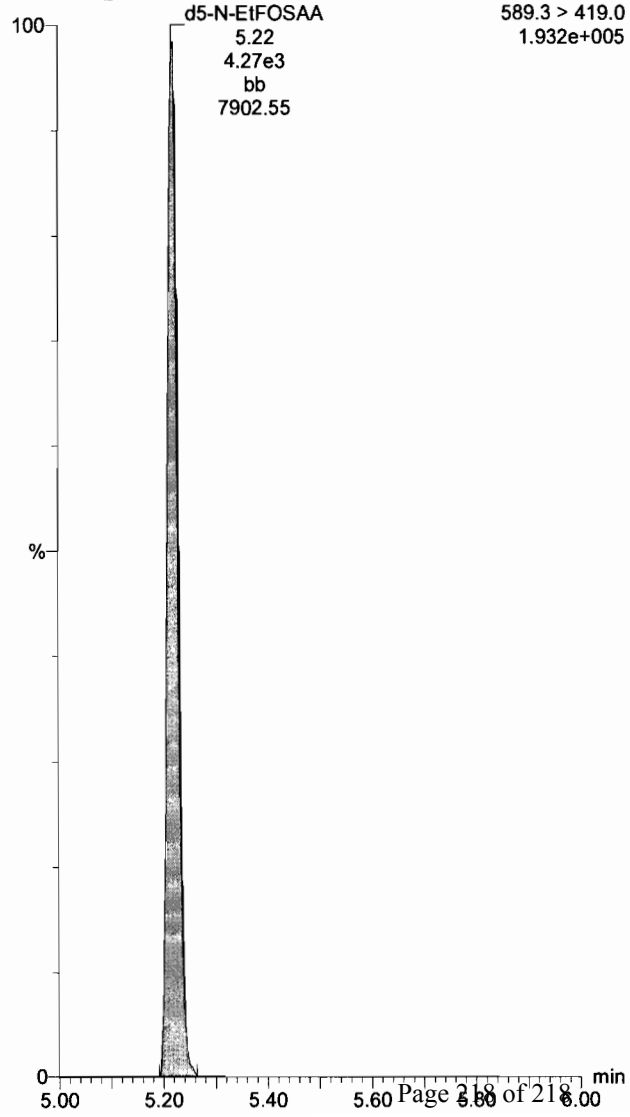

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"Well2-G0130002-DW-20170622","537","06/28/17","21:28","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","81.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","81.3","81.3","","","","","","70","130
","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000406","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","307-24-4","PERFLUOROHEXANOIC
ACID
(PFHXA)","","","TRG","Yes","N","U","Y","0.000608","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","375-85-
9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000489","0.00459","0.00917","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000381","0.00459","0.00917","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","335-67-1","PERFLUOROOCTANOIC
ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000991","0.00459","0.00917","UG_L","UG_L","","","","","","","","",""
,"","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","375-95-
1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00132","0.00459","0.00917","UG_L","UG_L","","","","","","","","","",
"","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000954","0.00459","0.00917","UG_L","UG_L","","","","","","","","","","","",""
,"","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","335-76-2","PERFLUORODECANOIC
ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00117","0.00459","0.00917","UG_L","UG_L","","","","","","","","","",
"","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00279","0.00459","0.00917","UG_L","UG_L","","","","","","",","
","","","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00177","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","2058-94-
8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000234","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","",""

"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","307-55-
1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000873","0.00459","0.00917","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000865","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000713","0.00459","0.00917","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","13C2-PFHxA","13C2-
PFHxA","97.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","97.5","97.5","","","","","","70","130","
","","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","13C2-PFDA","13C2-
PFDA","98.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","98.0","98.0","","","","","","70","130",""
,"","",""
"Well2-G0130002-FRB-20170622","537","06/28/17","21:40","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130",
"","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000389","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","307-24-4","PERFLUOROHEXANOIC
ACID (PFHXA)","0.000882","","TRG","Yes","Y","J,
B","Y","0.000583","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","375-85-
9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000468","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000365","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","335-67-1","PERFLUOROOCTANOIC
ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000949","0.00439","0.00879","UG_L","UG_L","","","","","","","","",""
,"","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","375-95-1","PERFLUORONONANOIC
ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00127","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000914","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","","",""
,"","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","335-76-2","PERFLUORODECANOIC
ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00112","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00267","0.00439","0.00879","UG_L","UG_L","","","","","","","","
","","","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00170","0.00439","0.00879","UG_L","UG_L","","","","","","","","",

"","","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","2058-94-
8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000224","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","307-55-
1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000836","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000829","0.00439","0.00879","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000683","0.00439","0.00879","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","13C2-PFHxA","13C2-
PFHxA","102","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","102","102","","","","","","70","130","",
"","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","13C2-PFDA","13C2-
PFDA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","","
","",""
"Well5-G0130002-DW-20170622","537","06/28/17","21:53","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130",
"","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000374","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","307-24-4","PERFLUOROHEXANOIC
ACID (PFHXA)","0.000685","","TRG","Yes","Y","J,
B","Y","0.000560","0.00422","0.00844","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","375-85-
9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000450","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000350","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","335-67-1","PERFLUOROOCTANOIC
ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000912","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",""
,"","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","375-95-
1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00122","0.00422","0.00844","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000878","0.00422","0.00844","UG_L","UG_L","","","","","","","","","","","",""
,"","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","335-76-2","PERFLUORODECANOIC
ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00108","0.00422","0.00844","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""

"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00257","0.00422","0.00844","UG_L","UG_L","","","","","","","","
","","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00163","0.00422","0.00844","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","2058-94-
8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000215","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",
"","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","307-55-
1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000804","0.00422","0.00844","UG_L","UG_L","","","","","","","","","",
"","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000796","0.00422","0.00844","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000656","0.00422","0.00844","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","13C2-PFHxA","13C2-
PFHxA","95.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","95.6","95.6","","","","","","70","130","
","","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","13C2-PFDA","13C2-
PFDA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","","
","",""
"Well5-G0130002-FRB-20170622","537","06/28/17","22:05","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","96.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","96.4","96.4","","","","","","70","130
","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000401","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","307-24-4","PERFLUOROHEXANOIC
ACID (PFHXA)","0.000929","","TRG","Yes","Y","J,
B","Y","0.000600","0.00452","0.00905","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","375-85-
9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000482","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000375","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","335-67-1","PERFLUOROOCTANOIC
ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000977","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",""
,"","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","375-95-1","PERFLUORONONANOIC
ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00130","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000941","0.00452","0.00905","UG_L","UG_L","","","","","","","","","","","",""

,"","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00116","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00275","0.00452","0.00905","UG_L","UG_L","","","","","","","","
","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00175","0.00452","0.00905","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","2058-94-
8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000231","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","307-55-
1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000861","0.00452","0.00905","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000853","0.00452","0.00905","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000703","0.00452","0.00905","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","13C2-PFHxA","13C2-
PFHxA","102","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","102","102","","","","","","70","130","",
"","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","13C2-PFDA","13C2-
PFDA","99.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","99.0","99.0","","","","","","70","130",""
,"","",""
"Well6-G0130002-DW-20170622","537","06/28/17","22:19","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","96.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","96.9","96.9","","","","","","70","130
","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000400","0.00451","0.00903","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.000715","","TRG","Yes","Y","J,
B","Y","0.000599","0.00451","0.00903","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","375-85-
9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000481","0.00451","0.00903","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000375","0.00451","0.00903","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000975","0.00451","0.00903","UG_L","UG_L","","","","","","","","",""
,"","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","375-95-
1","PERFLUORONONANOIC ACID

(PFNA)","","","TRG","Yes","N","U","Y","0.00130","0.00451","0.00903","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000939","0.00451","0.00903","UG_L","UG_L","","","","","","","","","","","","",""
,"","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","335-76-2","PERFLUORODECANOIC
ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00116","0.00451","0.00903","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00274","0.00451","0.00903","UG_L","UG_L","","","","","","","","
","","","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00174","0.00451","0.00903","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","2058-94-
8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000230","0.00451","0.00903","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","307-55-
1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000859","0.00451","0.00903","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000851","0.00451","0.00903","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000701","0.00451","0.00903","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","13C2-PFHxA","13C2-
PFHxA","96.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","96.1","96.1","","","","","","70","130","
","","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","13C2-PFDA","13C2-
PFDA","109","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","109","109","","","","","","70","130","","
","",""
"Well6-G0130002-FRB-20170622","537","06/28/17","22:32","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","91.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","91.4","91.4","","","","","","70","130
","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000392","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.000810","","TRG","Yes","Y","J,
B","Y","0.000587","0.00443","0.00886","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000472","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC
ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000368","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000957","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",""

,"","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","","","TRG","Yes","N","U","Y","0.00128","0.00443","0.00886","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000921","0.00443","0.00886","UG_L","UG_L","","","","","","","","","","","","",""
,"","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","","","TRG","Yes","N","U","Y","0.00113","0.00443","0.00886","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00269","0.00443","0.00886","UG_L","UG_L","","","","","","","","
","","","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00171","0.00443","0.00886","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000226","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","","","TRG","Yes","N","U","Y","0.000843","0.00443","0.00886","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000835","0.00443","0.00886","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000688","0.00443","0.00886","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","13C2-PFHxA","13C2-
PFHxA","105","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","105","105","","","","","","70","130","",
"","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","13C2-PFDA","13C2-
PFDA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","","
","",""
"Tower2-DW-20170622","537","06/28/17","22:45","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","74.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","74.3","74.3","","","","","","70","130
","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000390","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.000616","","TRG","Yes","Y","J,
B","Y","0.000584","0.00441","0.00881","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","","","TRG","Yes","N","U","Y","0.000470","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000366","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","","","TRG","Yes","N","U","Y","0.000952","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",""

,"","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","","","TRG","Yes","N","U","Y","0.00127","0.00441","0.00881","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000916","0.00441","0.00881","UG_L","UG_L","","","","","","","","","","","","",""
,"","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","","","TRG","Yes","N","U","Y","0.00113","0.00441","0.00881","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00268","0.00441","0.00881","UG_L","UG_L","","","","","","","","
","","","","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00170","0.00441","0.00881","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000225","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000839","0.00441","0.00881","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000831","0.00441","0.00881","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000685","0.00441","0.00881","UG_L","UG_L","","","","","","","","",
"","","","","","","","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","13C2-PFHxA","13C2-
PFHxA","92.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","92.0","92.0","","","","","","70","130","
","","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","13C2-PFDA","13C2-
PFDA","99.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","99.1","99.1","","","","","","70","130",""
,"","",""
"Tower2-FRB-20170622","537","06/28/17","22:57","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","95.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","95.1","95.1","","","","","","70","130
","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000388","0.00438","0.00875","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.000890","","TRG","Yes","Y","J,
B","Y","0.000580","0.00438","0.00875","UG_L","UG_L","","","","","","","","","","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","","","TRG","Yes","N","U","Y","0.000466","0.00438","0.00875","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000363","0.00438","0.00875","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID

(PFOA)","","","TRG","Yes","N","U","Y","0.000945","0.00438","0.00875","UG_L","UG_L","","","","","","","","",""
,"","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00126","0.00438","0.00875","UG_L","UG_L","","","","","","","","","",
"","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000910","0.00438","0.00875","UG_L","UG_L","","","","","","","","","","","",""
,"","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00112","0.00438","0.00875","UG_L","UG_L","","","","","","","","","",
"","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00266","0.00438","0.00875","UG_L","UG_L","","","","","","","","
","","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00169","0.00438","0.00875","UG_L","UG_L","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000223","0.00438","0.00875","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000833","0.00438","0.00875","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000825","0.00438","0.00875","UG_L","UG_L","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000680","0.00438","0.00875","UG_L","UG_L","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","13C2-PFHxA","13C2-
PFHxA","93.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","93.3","93.3","","","","","","70","130","
","","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","13C2-PFDA","13C2-
PFDA","91.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","91.4","91.4","","","","","","70","130",""
,"","",""
"Tower1-DW-20170622","537","06/28/17","23:10","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","121","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","121","121","","","","","","70","130",
"","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000402","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.000959","","TRG","Yes","Y","J,
B","Y","0.000602","0.00454","0.00909","UG_L","UG_L","","","","","","","","","","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","375-85-9","PERFLUOROHEPTANOIC
ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000484","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","355-46-
4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000377","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","",""

"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000981","0.00454","0.00909","UG_L","UG_L","","","","","","","","","",""
,"","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00131","0.00454","0.00909","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000945","0.00454","0.00909","UG_L","UG_L","","","","","","","","","","","","",""
,"","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00116","0.00454","0.00909","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00276","0.00454","0.00909","UG_L","UG_L","","","","","","","
","","","","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00175","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000232","0.00454","0.00909","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","307-55-1","PERFLUORODODECANOIC
ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000865","0.00454","0.00909","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000857","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000706","0.00454","0.00909","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","13C2-PFHxA","13C2-
PFHxA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","",
"","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","13C2-PFDA","13C2-
PFDA","109","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","109","109","","","","","","70","130","","
","",""
"Tower1-DW-20170622FD","537","06/28/17","23:47","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","85.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","85.4","85.4","","","","","","70","130
","","","",""
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000401","0.00452","0.00904","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.000697","","TRG","Yes","Y","J,
B","Y","0.000600","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","","","","","","",""
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000482","0.00452","0.00904","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC
ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000375","0.00452","0.00904","UG_L","UG_L","","","","","","","","","",

"","","","","","","","","
","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000977","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","
","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00130","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","","
","","","","","","","","
","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000941","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","","","
","","","","","","","","
","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00116","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","","
","","","","","","","","
","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00275","0.00452","0.00904","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","
","","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00175","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","","
","","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000231","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","307-55-1","PERFLUORODODECANOIC
ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000861","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000853","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","","
","","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000703","0.00452","0.00904","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","","
","","","","","","","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","13C2-PFHxA","13C2-
PFHxA","94.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","94.7","94.7","","","","","","70","130","
","","","","
","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","13C2-PFDA","13C2-
PFDA","97.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","97.1","97.1","","","","","","70","130","
","","","","
","","","","
"Tower1-FRB-20170622","537","06/29/17","00:37","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","110","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","110","110","","","","","","70","130",
"","","","","
","","","","
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000389","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
","","","","","","","","","
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","307-24-4","PERFLUOROHEXANOIC
ACID (PFHXA)","0.000627","","TRG","Yes","Y","J,
B","Y","0.000583","0.00439","0.00879","UG_L","UG_L","
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","375-85-9","PERFLUOROHEPTANOIC
ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000468","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
","","","","","","","","","
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","355-46-

4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000365","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","335-67-1","PERFLUOROOCTANOIC
ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.000949","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",""
,"","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","375-95-1","PERFLUORONONANOIC
ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00127","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.000914","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","","","",""
,"","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","335-76-2","PERFLUORODECANOIC
ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00112","0.00439","0.00879","UG_L","UG_L","","","","","","","","","","",
"","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00267","0.00439","0.00879","UG_L","UG_L","","","","","","","
","","","","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00170","0.00439","0.00879","UG_L","UG_L","","","","","","","",
"","","","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000224","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","307-55-1","PERFLUORODODECANOIC
ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000837","0.00439","0.00879","UG_L","UG_L","","","","","","","","","",
"","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000829","0.00439","0.00879","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000683","0.00439","0.00879","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","13C2-PFHxA","13C2-
PFHxA","107","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","107","107","","","","","","70","130","",
"","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","13C2-PFDA","13C2-
PFDA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","","
","",""
"Tower1 - FRB-20170622FD","537","06/29/17","00:50","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","95.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","95.5","95.5","","","","","","70","130
","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.000443","0.00500","0.0100","UG_L","UG_L","","","","","","","","","","
","","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.00103","","TRG","Yes","Y","J","Y","0.000663","0.00500","0.0100","UG_L","UG_L","","","","","","",""
,"","","","","","","","","",""

"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.000533","0.00500","0.0100","UG_L","UG_L","","","","","","","","","",""
,"","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.000415","0.00500","0.0100","UG_L","UG_L","","","","","","","","","",""
,"","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.00108","0.00500","0.0100","UG_L","UG_L","","","","","","","","","",""
,"","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00144","0.00500","0.0100","UG_L","UG_L","","","","","","","","","",""
,"","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.00104","0.00500","0.0100","UG_L","UG_L","","","","","","","","","","","","","",""
,"","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00128","0.00500","0.0100","UG_L","UG_L","","","","","","","","","",""
,"","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00304","0.00500","0.0100","UG_L","UG_L","","","","","","","","",
"","","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00193","0.00500","0.0100","UG_L","UG_L","","","","","","","","","
","","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.000255","0.00500","0.0100","UG_L","UG_L","","","","","","","","","
","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.000952","0.00500","0.0100","UG_L","UG_L","","","","","","","","","
","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.000943","0.00500","0.0100","UG_L","UG_L","","","","","","","","","
","","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.000777","0.00500","0.0100","UG_L","UG_L","","","","","","","","","
","","","","","","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","13C2-PFHxA","13C2-
PFHxA","98.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","98.9","98.9","","","","","","70","130","
","","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","13C2-PFDA","13C2-
PFDA","95.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","95.0","95.0","","","","","","70","130",""
,"","",""
"B7F0113-BLK1","537","06/28/17","21:03","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","92.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","92.6","92.6","","","","","","70","130
","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","375-73-
5","PFBS","0.0679","","TRG","Yes","Y","","Y","0.000443","0.00500","0.0100","UG_L","UG_L","","","","0.0708","0.
0679","95.9","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.0731","","TRG","Yes","Y","B","Y","0.000663","0.00500","0.0100","UG_L","UG_L","","","","0.0800","
0.0731","91.3","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","0.0705","","TRG","Yes","Y","","Y","0.000533","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.

0705","88.1","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.0722","","TRG","Yes","Y","","Y","0.000415","0.00500","0.0100","UG_L","UG_L","","","","0.0728","0.0722","99.2","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.0685","","TRG","Yes","Y","","Y","0.00108","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0685","85.7","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.0716","","TRG","Yes","Y","","Y","0.00144","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0716","89.5","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.0618","","TRG","Yes","Y","","Y","0.00104","0.00500","0.0100","UG_L","UG_L","","","","0.0740","0.0618","83.6","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.0739","","TRG","Yes","Y","","Y","0.00128","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0739","92.4","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","2355-31-9","MeFOSAA","0.0731","","TRG","Yes","Y","","Y","0.00304","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0731","91.3","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","2991-50-6","EtFOSAA","0.0749","","TRG","Yes","Y","","Y","0.00193","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0749","93.6","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","0.0607","","TRG","Yes","Y","","Y","0.000255","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0607","75.8","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","0.0728","","TRG","Yes","Y","","Y","0.000952","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0728","91.0","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","72629-94-8","PFTrDA","0.0698","","TRG","Yes","Y","","Y","0.000943","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0698","87.3","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","376-06-7","PFTeDA","0.0659","","TRG","Yes","Y","","Y","0.000777","0.00500","0.0100","UG_L","UG_L","","","","0.0800","0.0659","82.3","","","","","","","70","130","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","13C2-PFHxA","13C2-PFHxA","90.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","90.9","90.9","","","","","","70","130","","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","13C2-PFDA","13C2-PFDA","87.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","87.1","87.1","","","","","","70","130","","","","",""
"B7F0113-BS1","537","06/28/17","21:15","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","103","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","103","103","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","375-73-5","PFBS","0.0481","","TRG","Yes","Y","","Y","0.000398","0.00449","0.00898","UG_L","UG_L","","","","0.0636","0.0481","75.7","","","","","","","70","130","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.0627","","TRG","Yes","Y","B","Y","0.000596","0.00449","0.00898","UG_L","UG_L","","","0.000890","0.0719","0.0627","86.0","","","","","","","70","130","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.0620","","TRG","Yes","Y","","Y","0.000479","0.00449","0.00898","UG_L","UG_L","","","","0.0719","0.0620","86.3","","","","","","","70","130","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID

(PFHXS)","0.0520","","TRG","Yes","Y","","Y","0.000373","0.00449","0.00898","UG_L","UG_L","","","","0.0654","0
.0520","79.5","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","0.0635","","TRG","Yes","Y","","Y","0.000970","0.00449","0.00898","UG_L","UG_L","","","","0.0719","0.
0635","88.1","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","0.0654","","TRG","Yes","Y","","Y","0.00129","0.00449","0.00898","UG_L","UG_L","","","","0.0719","0.0
654","91.0","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","0.0503","","TRG","Yes","Y","","Y","0.000934","0.00449","0.00898","UG_L","UG_L","","","","0.0665","0.0503","7
5.6","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","0.0637","","TRG","Yes","Y","","Y","0.00115","0.00449","0.00898","UG_L","UG_L","","","","0.0719","0.0
637","88.3","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","2355-31-
9","MeFOSAA","0.0618","","TRG","Yes","Y","","Y","0.00273","0.00449","0.00898","UG_L","UG_L","","","","0.071
9","0.0618","86.0","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","2991-50-
6","EtFOSAA","0.0604","","TRG","Yes","Y","","Y","0.00173","0.00449","0.00898","UG_L","UG_L","","","","0.0719
","0.0604","84.0","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID
(PFUNA)","0.0598","","TRG","Yes","Y","","Y","0.000229","0.00449","0.00898","UG_L","UG_L","","","","0.0719","
0.0598","83.1","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","0.0631","","TRG","Yes","Y","","Y","0.000855","0.00449","0.00898","UG_L","UG_L","","","","0.0719","
0.0631","87.7","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","72629-94-
8","PFTrDA","0.0602","","TRG","Yes","Y","","Y","0.000847","0.00449","0.00898","UG_L","UG_L","","","","0.0719
","0.0602","83.7","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","376-06-
7","PFTeDA","0.0632","","TRG","Yes","Y","","Y","0.000698","0.00449","0.00898","UG_L","UG_L","","","","0.0719
","0.0632","87.9","","","","","","","70","130","","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","13C2-PFHxA","13C2-
PFHxA","98.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","98.5","98.5","","","","","","70","130","
","","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","13C2-PFDA","13C2-
PFDA","85.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","85.6","85.6","","","","","","70","130","",
"","","",""
"B7F0113-MS1","537","06/28/17","23:22","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","96.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","96.9","96.9","","","","","","70","130
","","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","375-73-
5","PFBS","0.0525","","TRG","Yes","Y","","Y","0.000395","0.00446","0.00892","UG_L","UG_L","","","","0.0631","
0.0525","83.3","0.0481","0.0631","0.0525","83.3","9.56","70","130","30","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","0.0629","","TRG","Yes","Y","B","Y","0.000591","0.00446","0.00892","UG_L","UG_L","","","0.000890","
0.0714","0.0629","86.8","0.0627","0.0714","0.0629","86.8","0.926","70","130","30","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","0.0629","","TRG","Yes","Y","","Y","0.000475","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0
.0629","88.1","0.0620","0.0714","0.0629","88.1","2.06","70","130","30","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","0.0578","","TRG","Yes","Y","","Y","0.000370","0.00446","0.00892","UG_L","UG_L","","","","0.0649","0
.0578","89.1","0.0520","0.0649","0.0578","89.1","11.4","70","130","30","","","",""

"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.0626","","TRG","Yes","Y","","Y","0.000963","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0626","87.5","0.0635","0.0714","0.0626","87.5","0.683","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.0646","","TRG","Yes","Y","","Y","0.00128","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0646","90.5","0.0654","0.0714","0.0646","90.5","0.551","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.0563","","TRG","Yes","Y","","Y","0.000928","0.00446","0.00892","UG_L","UG_L","","","","0.0660","0.0563","85.3","0.0503","0.0660","0.0563","85.3","12.1","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.0537","","TRG","Yes","Y","","Y","0.00114","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0537","74.9","0.0637","0.0714","0.0537","74.9","16.4","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","2355-31-9","MeFOSAA","0.0536","","TRG","Yes","Y","","Y","0.00271","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0536","75.1","0.0618","0.0714","0.0536","75.1","13.5","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","2991-50-6","EtFOSAA","0.0546","","TRG","Yes","Y","","Y","0.00172","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0546","76.4","0.0604","0.0714","0.0546","76.4","9.48","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","0.0614","","TRG","Yes","Y","","Y","0.000227","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0614","86.0","0.0598","0.0714","0.0614","86.0","3.43","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","0.0572","","TRG","Yes","Y","","Y","0.000849","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0572","80.1","0.0631","0.0714","0.0572","80.1","9.06","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","72629-94-8","PFTrDA","0.0529","","TRG","Yes","Y","","Y","0.000841","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0529","74.1","0.0602","0.0714","0.0529","74.1","12.2","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","376-06-7","PFTeDA","0.0560","","TRG","Yes","Y","","Y","0.000693","0.00446","0.00892","UG_L","UG_L","","","","0.0714","0.0560","78.5","0.0632","0.0714","0.0560","78.5","11.3","70","130","30","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","13C2-PFHxA","13C2-PFHxA","94.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","94.2","94.2","","","","","","70","130","","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","13C2-PFDA","13C2-PFDA","78.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","78.7","78.7","","","","","","70","130","","","","",""
"B7F0113-MSD1","537","06/28/17","23:34","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","98.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","98.8","98.8","","","","","","70","130","","","","","",""

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AMEC Foster Wheeler, Inc.
7376 SW Durham Road
Portland, OR 97224
Attn: Ms. Marina Mitchell

August 21, 2017

SUBJECT: Former Chase Field, Data Validation

Dear Ms. Mitchell,

Enclosed is the final validation report for the fraction listed below. This SDG was received on August 15, 2017. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #39261:

SDG #	Fraction
1700759	Perfluorinated Alkyl Acids

The data validation was performed under Stage 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling and Analysis Plan for Initial Assessment of Perfluorinated Compounds or Per- and Polyfluoroalkyl Substances Sites at Various Base Realignment and Closure Installations, June 2017
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1, 2017
- USEPA, National Functional Guidelines for Organic Superfund Methods Data Review, January 2017

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

218 pages-SF one week rush EDD

Attachment 1

90/10 GW, Stage 4 DW

LDC #39261 (AMEC Foster Wheeler-Portland, OR / Former Chase Field)

LDC	SDG#	DATE REC'D	(1) DATE DUE	PFAs (537)																																			
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	1700759	08/15/17	08/22/17	7	0																																		
Total	T/PG			7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B review). These sample counts do not include DL, RE, MS, MSD, or DUP's.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Former Chase Field

LDC Report Date: August 17, 2017

Parameters: Perfluorinated Alkyl Acids

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1700759

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
Well2-G0130002-DW-20170622	1700759-01	Water	06/22/17
Well5-G0130002-DW-20170622	1700759-03	Water	06/22/17
Well6-G0130002-DW-20170622	1700759-05	Water	06/22/17
Tower2-DW-20170622	1700759-07	Water	06/22/17
Tower1-DW-20170622	1700759-09	Water	06/22/17
Tower1-DW-20170622FD	1700759-10	Water	06/22/17
Tower1-FRB-20170622FD	1700759-12	Water	06/22/17
Tower1-DW-20170622MS	1700759-09MS	Water	06/22/17
Tower1-DW-20170622MSD	1700759-09MSD	Water	06/22/17
WELL2-G0130002-FRB-20170622	1700759-02	Water	06/22/17
WELL5-G0130002-FRB-20170622	1700759-04	Water	06/22/17
WELL6-G0130002-FRB-20170622	1700759-06	Water	06/22/17
TOWER2-FRB-20170622	1700759-08	Water	06/22/17
TOWER1-FRB-20170622	1700759-11	Water	06/22/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Initial Assessment of Per-fluorinated Compounds (PFCS) or Per- and Polyfluoroalkyl Substances (PFAS) Sites at Various Base Realignment and Closure (BRAC) Installations (June 2017), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluorinated Alkyl Acids by Environmental Protection Agency (EPA) Method 537

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance check was performed prior to initial calibration.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990 with the following exceptions:

Date	Compound	r^2	Associated Samples	Flag	A or P
06/28/17	MeFOSAA	0.956964	All samples in SDG 1700759	UJ (all non-detects)	P

For each calibration point, the percent differences (%D) of its true value were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
B7F0113-BLK1	06/27/17	PFHxA	0.00103 ug/L	All samples in SDG 1700759

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater >5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
Well2-G0130002-DW-20170622	PFHxA	0.00110 ug/L	0.00450U ug/L
Well5-G0130002-DW-20170622	PFHxA	0.000882 ug/L	0.00439U ug/L
Well6-G0130002-DW-20170622	PFHxA	0.000929 ug/L	0.00452U ug/L
Tower2-DW-20170622	PFHxA	0.000810 ug/L	0.00443U ug/L
Tower1-DW-20170622	PFHxA	0.000890 ug/L	0.00438U ug/L
Tower1-DW-20170622FD	PFHxA	0.000959 ug/L	0.00454U ug/L
Tower1-FRB-20170622FD	PFHxA	0.000627 ug/L	0.0439U ug/L
WELL5-G0130002-FRB-20170622	PFHxA	0.000685 ug/L	0.00422U ug/L
WELL6-G0130002-FRB-20170622	PFHxA	0.000715 ug/L	0.00451U ug/L
TOWER2-FRB-20170622	PFHxA	0.000616 ug/L	0.00441U ug/L
TOWER1-FRB-20170622	PFHxA	0.000697 ug/L	0.00452U ug/L

VI. Field Blanks

Samples Tower1-FRB-20170622FD, WELL2-G0130002-FRB-20170622, WELL5-G0130002-FRB-20170622, WELL6-G0130002-FRB-20170622, TOWER2-FRB-20170622, and TOWER1-FRB-20170622 were identified as field rinsate blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
WELL5-G0130002-FRB-20170622	06/22/17	PFHxA	0.000685 ug/L	Well5-G0130002-DW-20170622

Blank ID	Collection Date	Compound	Concentration	Associated Samples
WELL6-G0130002-FRB-20170622	06/22/17	PFHxA	0.000715 ug/L	Well6-G0130002-DW-20170622
TOWER2-FRB-20170622	06/22/17	PFHxA	0.000616 ug/L	Tower2-DW-20170622
TOWER1-FRB-20170622	06/22/17	PFHxA	0.000697 ug/L	Tower1-DW-20170622
Tower1-FRB-20170622FD	06/22/17	PFHxA	0.000627 ug/L	Tower1-DW-20170622FD

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
Well5-G0130002-DW-20170622	PFHxA	0.000882 ug/L	0.00439U ug/L
Well6-G0130002-DW-20170622	PFHxA	0.000929 ug/L	0.00452U ug/L
Tower2-DW-20170622	PFHxA	0.000810 ug/L	0.00443U ug/L
Tower1-DW-20170622	PFHxA	0.000890 ug/L	0.00438U ug/L
Tower1-DW-20170622FD	PFHxA	0.000959 ug/L	0.00454U ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples Tower1-DW-20170622 and Tower1-DW-20170622FD and samples Tower1-FRB-20170622FD and TOWER1 FRB 20170622 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	Tower1-DW-20170622	Tower1-DW-20170622FD				
PFHxA	0.000890	0.000959	-	0.000069 (≤0.00909)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	Tower1-FRB-20170622FD	TOWER1 FRB 20170622				
PFHxA	0.000627	0.000697	-	0.0001 (≤0.00904)	-	-

XI. Internal Standards

All internal standard recoveries (%R) were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria.

The laboratory limit of quantitation (LOQ), limit of detection (LOD), and detection limit (DL) are higher than the QAPP LOQ, LOD, and DL.

XIII. Target Compound Identifications

All target compound identifications met validation criteria.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to initial calibration r^2, data were qualified as estimated in twelve samples.

Due to laboratory blank contamination, data were qualified as not detected in twelve samples.

Due to laboratory blank contamination, data were qualified as not detected in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Former Chase Field
Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 1700759

Sample	Compound	Flag	A or P	Reason
Well2-G0130002-DW-20170622 Well5-G0130002-DW-20170622 Well6-G0130002-DW-20170622 Tower2-DW-20170622 Tower1-DW-20170622 Tower1-DW-20170622FD Tower1-FRB-20170622FD WELL2 G0130002 FRB 20170622 WELL5 G0130002 FRB 20170622 WELL6 G0130002 FRB 20170622 TOWER2 FRB 20170622 TOWER1 FRB 20170622	MeFOSAA	UJ (all non-detects)	P	Initial calibration (r^2)

Former Chase Field
Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG 1700759

Sample	Compound	Modified Final Concentration	A or P
Well2-G0130002-DW-20170622	PFHxA	0.00450U ug/L	A
Well5-G0130002-DW-20170622	PFHxA	0.00439U ug/L	A
Well6-G0130002-DW-20170622	PFHxA	0.00452U ug/L	A
Tower2-DW-20170622	PFHxA	0.00443U ug/L	A
Tower1-DW-20170622	PFHxA	0.00438U ug/L	A
Tower1-DW-20170622FD	PFHxA	0.00454U ug/L	A
Tower1-FRB-20170622FD	PFHxA	0.0439U ug/L	A
WELL5-G0130002-FRB-20170622	PFHxA	0.00422U ug/L	A
WELL6-G0130002-FRB-20170622	PFHxA	0.00451U ug/L	A
TOWER2-FRB-20170622	PFHxA	0.00441U ug/L	A
TOWER1-FRB-20170622	PFHxA	0.00452U ug/L	A

Former Chase Field
Perfluorinated Alkyl Acids - Field Blank Data Qualification Summary - SDG 1700759

Sample	Compound	Modified Final Concentration	A or P
Well5-G0130002-DW-20170622	PFHxA	0.00439U ug/L	A
Well6-G0130002-DW-20170622	PFHxA	0.00452U ug/L	A
Tower2-DW-20170622	PFHxA	0.00443U ug/L	A
Tower1-DW-20170622	PFHxA	0.00438U ug/L	A
Tower1-DW-20170622FD	PFHxA	0.00454U ug/L	A

LDC #: 39261A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/16/17
SDG #: 1700759 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: CV
2nd Reviewer: JVC

METHOD: LC/MS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	~~SW~~ A	~~RSD≤20% . r²≥0.990 %CV≤30% ICV≤30%~~
IV.	Continuing calibration	A	CCV≤30%
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW	FRB=7, 10-14
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	~~LBR~~ LRB LCS
X.	Field duplicates	SW	D=5+6 . 7+14
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	SW	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	Well2-G0130002-DW-20170622	1700759-01	Water	06/22/17
2	Well5-G0130002-DW-20170622	1700759-03	Water	06/22/17
3	Well6-G0130002-DW-20170622	1700759-05	Water	06/22/17
4	Tower2-DW-20170622	1700759-07	Water	06/22/17
5	Tower1-DW-20170622	1700759-09	Water	06/22/17
6	Tower1-DW-20170622FD	1700759-10	Water	06/22/17
7	Tower1-FRB-20170622FD	1700759-12	Water	06/22/17
8	Tower1-DW-20170622MS	1700759-09MS	Water	06/22/17
9	Tower1-DW-20170622MSD	1700759-09MSD	Water	06/22/17
10	WELL2-G0130002-FRB-20170622	1700759-02	Water	06/22/17
11	WELL5-G0130002-FRB-20170622	1700759-04	Water	06/22/17
12	WELL6-G0130002-FRB-20170622	1700759-06	Water	06/22/17
13	TOWER2-FRB-20170622	1700759-08	Water	06/22/17
14	TOWER1-FRB-20170622	1700759-11	Water	06/22/17

LDC #: 39261A96

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: JR

Method: LCMS (EPA Method 537)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the specified criteria?	✓		✓	
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of ≥ 0.990?	✓	✓		
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 39261A9B

VALIDATION FINDINGS CHECKLIST

Reviewer: Q
2nd Reviewer: JN6

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?.	✓			
XI. Internal standards				
Were internal standard area counts within ~~± 50%~~ 70-130 of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 39241A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: Q
2nd Reviewer: JVG

METHOD: LCMS PFCs

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?
Y N N/A Were all percent relative standard deviations (%RSD) ≤ 20%?
Y N N/A Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?

#	Date	Standard ID	Compound	Finding %RSD/r^2	Finding %D	Associated Samples	Qualifications
	6/8/17	ICAL2	MeFOSAA	r^2=0.956964		All (ND)	J/UH/P

LDC #: 39261A96

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: A
2nd Reviewer: JVC

METHOD: __ GC ✓ HPLC / MS

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all samples associated with a given method blank?
Y N N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
Y N N/A Was a method blank performed with each extraction batch?
Y N N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Level ~~IV/B~~ Only

Y N (N/A) (Gasoline and aromatics only)Was a method blank analyzed with each 24 hour batch?
Y N N/A Was a method blank analyzed for each analytical / extraction batch of ≤20 samples?

Blank extraction date: 6/27/17 **Blank analysis date:** 6/28/17 **Associated samples:** All

Conc. units: ng/L

Compound	Blank ID	Sample Identification						
	~~BT~~ BTF0113-BK1	1	2	3	4	5	6	7
PFHxA	0.00103	0.00110 / 0.00454	0.000882 / 0.00439	0.000929 / 0.00452	0.000810 / 0.00443	0.000890 / 0.00438	0.000959 / 0.00454	0.000627 / 0.00439
		11	12	13	14			
PFHxA	0.00103	0.000685 / 0.00422	0.000715 / 0.00451	0.000616 / 0.00441	0.000697 / 0.00452			

Blank extraction date: _____ **Blank analysis date:** _____ **Associated samples:** _____

Conc. units: _____

Compound	Blank ID	Sample Identification						

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 39261A96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: 9
2nd Reviewer: JM

METHOD: LC/MS

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 2

Compound	Blank ID	Sample Identification								
	11		2							
PFHxA	0.000685		0.000887							
			/0.00439							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 3

Compound	Blank ID	Sample Identification								
	12		3							
PFHxA	0.000715		0.000929							
			/0.00452							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 4

Compound	Blank ID	Sample Identification								
	13		4							
PFHxA	0.000616		0.000810							
			/0.00443							

LDC #: 39261A96

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: AR
2nd Reviewer: JVG

METHOD: LC/MS

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 5

Compound	Blank ID	Sample Identification								
	14		5							
PFHxA	0.000697		0.000396							
			/0.00438							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples: 6

Compound	Blank ID	Sample Identification								
	7		6							
PFHxA	0.000627		0.000959							
			/0.00454							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

LDC#: 39464A6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: Q
2nd Reviewer: NB

METHOD: PFCs (Method 537 mod)

Compound	Concentration (ug/L)		(≤30) RPD	Difference	Limits	Qual
	5	6				
PFHxA	0.000890	0.000959		0.000069	≤0.00909	

Compound	Concentration (ug/L)		(≤30) RPD	Difference	Limits	Qual
	7	14				
PFHxA	0.000627	0.000697		0.0001	≤0.00904	

LDC #: 39261A96

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

Reviewer: PG
2nd Reviewer: JM

METHOD: ___ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N N/A Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

#	Compound Name	Finding	Associated Samples	Qualifications
	All	The laboratory limit of quantitation (LOQ), limit of detection (LOD) and detection limit (DL) are higher than the QAPP LOQ, LOD and		Text
		DL		

Comments: See sample calculation verification worksheet for recalculations

Method: LC/MS PFCs

Calibration Date	Analyte	Standard	(X) Concentration	(Y) Area
6/28/2017	PFHxA Q2	1	0.100	0.0242811
		2	0.200	0.0564846
		3	0.500	0.1166386
		4	1.000	0.2195512
		5	1.500	0.3333333
		6	2.000	0.504777
		7	2.500	0.5562913
		8	5.000	1.0128205

Linear through the origin

	calculated	***Reported***
Constant	*0.000000*	0.0000
X Coefficient(s)	*2.127830E-01*	2.20495E-01
Correlation Coefficient	*0.997157*	
Coefficient of Determination (r^2)	*0.994322*	0.9900

LDC #: 39624A96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JVL

METHOD: GC ____ √ HPLC /MS

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	170629L29	6/29/17	PFHxA	16.0	14.7	14.7	2.6	1.8
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 39618A96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: 9
2nd Reviewer: JM

METHOD: ___ GC V HPLC/MS

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA Where SSC = Spiked sample concentration SC = Sample concentration
SA = Spike added
RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100 MS = Matrix spike MSD = Matrix spike duplicate

MS/MSD samples: 8/9

Compound	Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											
PFHxA	0.0719	0.0714	0.000890	0.0627	0.0629	86.0	86.0	86.8	86.8	0.926	0.954

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 39664A96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: NG

METHOD: __ GC ✓ HPLC / MS

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA

RPD = I SSCLCS - SSCLCSD I * 2/(SSCLCS + SSCLCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: BTF0113-BS1

Compound	Spike Added (MG/L)		Spiked Sample Concentration (MG/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
PFHxA	0.0800	NA	0.0731	NA	91.3	91.4				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 39264A96

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 9
2nd Reviewer: JVD

METHOD: __ GC ✓ HPLC / MS

(Y) N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 1 Compound Name PFHxA

Concentration = $\frac{(35.83 \times 10)}{(5332)(0.278)(0.320495)}$

= 1.096 ng/L

= 0.0011 µg/L

#	Sample ID	Compound	Reported Concentrations (µg/L)	Recalculated Results Concentrations ( )	Qualifications
	1	PFHxA	0.0011		

Comments: _____

SAMPCALew.wpd

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. Perfluorohexanoic acid (PFHxA)				
B. Perfluoroheptanoic acid (PFHpA)				
C. Perfluorooctanoic acid (PFOA)				
D. Perfluorononanoic acid (PFNA)				
E. Perfluorodecanoic acid (PFDA)				
F. Perfluoroundecanoic acid (PFUnA)				
G. Perfluorododecanoic acid (PFDoA)				
H. Perfluorotridecanoic acid (PFTriA)				
I. Perfluorotetradecanoic acid (PFTeA)				
J. Perfluorobutanesulfonic acid (PFBS)				
K. Perfluorohexanesulfonic acid (PFHxS)				
L. Perfluoroheptanesulfonic acid (PFHpS)				
M. Perfluorooctanesulfonic acid (PFOS)				
N.Perfluorodecanesulfonic acid (PFDS)				
O. Perfluorooctane Sulfonamide (FOSA)				
P. Perfluorobutanoic acid (PFBA)				
Q. Perfluoropentanoic acis (PFPeA)				
R. 6:2FTS				
S. 8:2FTS				

LDC #: 39261

EDD POPULATION COMPLETENESS WORKSHEET

Date: 8/21
Page: 1 of 1
2nd Reviewer

The LDC job number listed above was entered by SL.

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	—	
IIb.	- Reason Codes used? If so, note which codes.	Y	client
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	Y	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	Y/Y	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	Y	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	-Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE	LOCATION_TYPE_DESC	COORD_X*	COORD_Y*	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
CHASE_FIELD_NAS	TBC	Tower 1	DW	Domestic Well	-97.661230	28.371980	TOWER1-DW-20170622	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759
CHASE_FIELD_NAS	TBC	Tower 1	DW	Domestic Well	-97.661230	28.371980	TOWER1-DW-20170622FD	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759
CHASE_FIELD_NAS	TBC	Tower 2	DW	Domestic Well	-97.663870	28.374980	TOWER2-DW-20170622	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759
CHASE_FIELD_NAS	TBC	Well 2	DW	Domestic Well	-97.662501	28.371667	WELL2-G0130002-DW-20170622	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759
CHASE_FIELD_NAS	TBC	Well 5	DW	Domestic Well	-97.658410	28.375000	WELL5-G0130002-DW-20170622	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759
CHASE_FIELD_NAS	TBC	Well 6	DW	Domestic Well	-97.664510	28.373770	WELL6-G0130002-DW-20170622	WP	Drinking Water	22-Jun-17	Perfluoroalkyl Compounds	1700759