N31260_000129
CHESAPEAKE_BEACH_NRL
SSIC 5000-33c

OFF-BASE DRINKING WATER SAMPLE RESULTS, LEVEL 2 LABORATORY REPORT, LEVEL 4 LABORATORY REPORT, ELECTRONIC DATA DELIVERABLE, DATA VALIDATION REPORT AND THE SAMPLE LOCATION FIGURE, SDG 1801929 NAVAL RESEARCH LABORATORY CHESAPEAKE BAY DETACHMENT NRL CHESAPEAKE BEACH MD

02/01/2019
NAVFAC

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Naval Facilities Engineering Command

Off-base Drinking Water Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG 1801929

Naval Research Laboratory – Chesapeake Bay Detachment

Chesapeake Beach, Maryland

February 2019

Approved for public release: distribution unlimited

July 31, 2018

Vista Work Order No. 1801929

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 24, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 NRL CBD PFAS DW Investigation'.

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,

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. 1801929
Case Narrative

Sample Condition on Receipt:

Four drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 537, Rev. 1.1

The samples were extracted and analyzed for a selected list of PFAS using EPA Method 537, Rev. 1.1.

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.

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

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801929-01	CBD-1RW38-0718	21-Jul-18 09:48	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-02	CBD-1FB38-0718	21-Jul-18 09:50	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-03	CBD-1RW39-0718	22-Jul-18 12:02	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-04	CBD-1FB39-0718	22-Jul-18 12:04	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Matrix: Aqueous
Project: CTO-08 NRL CBD PFAS DW Investigation

Laboratory Data

Lab Sample: B8G0184-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFUnA	2058-94-8	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFTrDA	72629-94-8	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	95.4	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
13C2-PFDA	SURR	96.8	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
d5-EtFOSAA	SURR	87.0	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LFBD

EPA Method 537

Name:	CH2M Hill	Lab Sample:	B8G0184-BS1/B8G0184-BSD1		
Project:	CTO-08 NRL CBD PFAS DW Investigation	QC Batch:	B8G0184	Date Extracted:	25-Jul-18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L	Column:	BEH C18

Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	15.5	17.7	87.7		16.0	17.7	90.4	2.99		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHxA	307-24-4	17.3	20.0	86.7		18.1	20.0	90.5	4.26		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHpA	375-85-9	17.0	20.0	85.0		17.6	20.0	88.0	3.40		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHxS	355-46-4	15.9	18.2	87.1		17.7	18.2	97.0	10.7		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFOA	335-67-1	16.7	20.0	83.4		19.7	20.0	98.6	16.8		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFNA	375-95-1	19.5	20.0	97.3		19.6	20.0	98.2	0.959		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFOS	1763-23-1	14.8	18.5	80.2		16.2	18.5	87.6	8.84		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFDA	335-76-2	18.3	20.0	91.7		20.3	20.0	102	10.3		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
MeFOSAA	2355-31-9	20.1	20.0	100		19.3	20.0	96.7	3.84		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
EtFOSAA	2991-50-6	20.2	20.0	101		17.6	20.0	88.0	13.9		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFUnA	2058-94-8	19.9	20.0	99.4		20.2	20.0	101	1.41		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFDoA	307-55-1	19.5	20.0	97.7		17.6	20.0	88.2	10.2		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFTrDA	72629-94-8	19.6	20.0	97.8		18.4	20.0	91.8	6.37		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFTeDA	376-06-7	19.2	20.0	96.1		19.0	20.0	95.2	1.04		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1

Labeled Standards	Type	LFB % Rec	LFB Quals	LFBD % Rec	LFBD Quals	Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA	SURR	97.8		97.8		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1
13C2-PFDA	SURR	103		95.2		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1
d5-EtFOSAA	SURR	97.3		94.7		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1

Sample ID: CBD-1RW38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:48

Laboratory Data

Lab Sample: 1801929-01
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxA	307-24-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHpA	375-85-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxS	355-46-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOA	335-67-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFNA	375-95-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOS	1763-23-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDA	335-76-2	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
MeFOSAA	2355-31-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
EtFOSAA	2991-50-6	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFUnA	2058-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDoA	307-55-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTrDA	72629-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTeDA	376-06-7	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
13C2-PFDA	SURR	102	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
d5-EtFOSAA	SURR	100	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1FB38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:40

Laboratory Data

Lab Sample: 1801929-02
Date Received: 25-Jul-18 09:40
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	6G4-G6-4	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHxA	60G-25-5	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHpA	6G4-84-9	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHxS	644-57-5	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFOA	664-7G-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFNA	6G4-94-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFOS	1G76-26-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFDA	664-G7-2	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
MeFOSAA	2644-61-9	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
EtFOSAA	2991-40-7	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFUnA	2048-95-8	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFDoA	60G-44-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFTrDA	G2729-95-8	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFTeDA	6G7-07-G	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
16C2-PFHxA	SURR	98.4	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
16C2-PFDA	SURR	106	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
d4-EtFOSAA	SURR	95.2	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW39-0718

EPA Method 537

Client Data

Name: Cu 2M u ill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: DrinJ ing Water
Date Collected: 22-4El-18 12:02

Laboratory Data

Lab Sample: 1801929-0H
Date Received: 25-4El-18 09:. 0
ColEmn: Bku C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	HG -GH-.	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu xA	H0G-25-5	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu pA	HG -8. -9	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu xS	H . -57-5	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFOA	HH -7G-1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFNA	HG -9. -1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFOS	1G7H-2H-1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFDA	HH -G7-2	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
MeFOSAA	2H . -H1-9	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
ktFOSAA	2991-. 0-7	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFUnA	20. 8-95-8	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFDoA	H0G-. . -1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFTrDA	G2729-95-8	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFTeDA	HG7-07-G	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1HC2-PFu xA	SURR	9. 68	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
1HC2-PFDA	SURR	100	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
d. -ktFOSAA	SURR	8561	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of qEantitation

ResEltS reported to the DL6

When reported, PFu xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers6 Only the linear isomer is reported for all other analytes6

Sample ID: CBD-1FB39-0718

EPA Method 537

Client Data

Name: Cu 2M u ill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: DrinJ ing Water
Date Collected: 22-4El-18 12:0H

Laboratory Data

Lab Sample: 1801929-0H
Date Received: 2H-4El-18 09:50
ColEmn: Bku C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu xA	307-2H-H	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu pA	375-85-9	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu xS	355-H6-H	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFOA	335-67-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFNA	375-95-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFOS	1763-23-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFDA	335-76-2	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
MeFOSAA	2355-31-9	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
k tFOSAA	2991-50-6	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFUnA	2058-9H-8	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFDoA	307-55-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFTrDA	72629-9H-8	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFTeDA	376-06-7	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFu xA	SURR	97.8	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
13C2-PFDA	SURR	99.9	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
d5-k tFOSAA	SURR	88.7	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of qEantitation

ResElts reported to the DL.

When reported, PFu xS, PFOA, PFOS, MeFOSAA and k tFOSAA inclEde 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**
Conc.	**Concentration**
D	**Dilution**
DL	**Detection limit**
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**
LOD	**Limits of Detection**
LOQ	**Limits of Quantitation**
M	**Estimated Maximum Possible Concentration (CA Region 2 projects only)**
NA	**Not applicable**
ND	**Not Detected**
Q	**Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)**
TEQ	**Toxic Equivalency**
U	**Not Detected (specific projects only)**
*****	**See Cover Letter**

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
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	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
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.

Rev. Date: 06/27/2017

CTO-08 679580.14.F1.FS

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1801929 Temp: 0.0 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: CTO-08 NRL CBD PFAS DW INVESTIGATION PO#: 101001982 Sampler: R. McElhinny (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2M	1100 NE Circle Blvd Ste 300	Corvallis	Oregon	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Mike Witmer	7/23/18	1630	Ashwini Prakash	07/24/18	1006
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Martha Maier

Method of Shipment: FEDEX

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below	EPA Method 537(DW only): PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
CBD-IRW38-0718	7/21/18	0948		2	P	DW								X	
CBD-IFB38-0718	7/21/18	0950		2	P	DW								X	
CBD-IRW39-0718	7/22/18	1202		2	P	DW								X	
CBD-IFB39-0718	7/22/18	1204		2	P	DW								X	

Special Instructions/Comments: 7 DAY TAT
Analysis of DW Samples for 14 PFAS Compounds in Method 537

SEND DOCUMENTATION AND RESULTS TO:
Name: Tiffany Hill
Company: CH2M HILL INC
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax:
Email: Tiffany.Hill@ch2m.com

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 #: 1801929 **TAT** 7

Samples Arrival:	**Date/Time** 07/24/18 0950	**Initials:** AP	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 07/24/18 1053	**Initials:** KE	**Location:** WR-2 **Shelf/Rack:** E-3

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

Temp °C: 6.0	**(uncorrected)**	**Time:** 1010	**Thermometer ID:** DT-3 ~~IR-4~~
Temp °C: 0.0	**(corrected)**	**Probe used: Yes☒ No☐**	

		YES	NO	NA
Adequate Sample Volume Received?		KE		
Holding Time Acceptable?		KE		
Shipping Container(s) Intact?		AP		
Shipping Custody Seals Intact?		AP		
Shipping Documentation Present?		AP		
Airbill	Trk # 7819 4930 1312	AP		
Sample Container Intact?		KE		
Sample Custody Seals Intact?				KE
Chain of Custody / Sample Documentation Present?		AP		
COC Anomaly/Sample Acceptance Form completed?			WWS	WWS

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

Comments:

July 31, 2018

Vista Work Order No. 1801929

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 24, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 NRL CBD PFAS DW Investigation'.

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,

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 Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

Vista Work Order No. 1801929
Case Narrative

Sample Condition on Receipt:

Four drinking water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 537, Rev. 1.1

The samples were extracted and analyzed for a selected list of PFAS using EPA Method 537, Rev. 1.1.

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.

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

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801929-01	CBD-1RW38-0718	21-Jul-18 09:48	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-02	CBD-1FB38-0718	21-Jul-18 09:50	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-03	CBD-1RW39-0718	22-Jul-18 12:02	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1801929-04	CBD-1FB39-0718	22-Jul-18 12:04	24-Jul-18 09:50	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Matrix: Aqueous
Project: CTO-08 NRL CBD PFAS DW Investigation

Laboratory Data

Lab Sample: B8G0184-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFUnA	2058-94-8	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFTrDA	72629-94-8	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	95.4	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
13C2-PFDA	SURR	96.8	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1
d5-EtFOSAA	SURR	87.0	70 - 130		B8G0184	25-Jul-18	0.250 L	30-Jul-18 14:16	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LFBD

EPA Method 537

Name:	CH2M Hill	Lab Sample:	B8G0184-BS1/B8G0184-BSD1		
Project:	CTO-08 NRL CBD PFAS DW Investigation	QC Batch:	B8G0184	Date Extracted:	25-Jul-18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L	Column:	BEH C18

Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	15.5	17.7	87.7		16.0	17.7	90.4	2.99		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHxA	307-24-4	17.3	20.0	86.7		18.1	20.0	90.5	4.26		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHpA	375-85-9	17.0	20.0	85.0		17.6	20.0	88.0	3.40		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFHxS	355-46-4	15.9	18.2	87.1		17.7	18.2	97.0	10.7		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFOA	335-67-1	16.7	20.0	83.4		19.7	20.0	98.6	16.8		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFNA	375-95-1	19.5	20.0	97.3		19.6	20.0	98.2	0.959		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFOS	1763-23-1	14.8	18.5	80.2		16.2	18.5	87.6	8.84		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFDA	335-76-2	18.3	20.0	91.7		20.3	20.0	102	10.3		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
MeFOSAA	2355-31-9	20.1	20.0	100		19.3	20.0	96.7	3.84		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
EtFOSAA	2991-50-6	20.2	20.0	101		17.6	20.0	88.0	13.9		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFUnA	2058-94-8	19.9	20.0	99.4		20.2	20.0	101	1.41		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFDoA	307-55-1	19.5	20.0	97.7		17.6	20.0	88.2	10.2		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFTrDA	72629-94-8	19.6	20.0	97.8		18.4	20.0	91.8	6.37		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1
PFTeDA	376-06-7	19.2	20.0	96.1		19.0	20.0	95.2	1.04		70-130		30-Jul-18 13:50	1	30-Jul-18 14:03	1

Labeled Standards	Type	LFB % Rec	LFB Quals	LFBD % Rec	LFBD Quals	Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA	SURR	97.8		97.8		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1
13C2-PFDA	SURR	103		95.2		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1
d5-EtFOSAA	SURR	97.3		94.7		70-130	30-Jul-18 13:50	1	30-Jul-18 14:03	1

Sample ID: CBD-1RW38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:48

Laboratory Data

Lab Sample: 1801929-01
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxA	307-24-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHpA	375-85-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxS	355-46-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOA	335-67-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFNA	375-95-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOS	1763-23-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDA	335-76-2	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
MeFOSAA	2355-31-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
EtFOSAA	2991-50-6	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFUnA	2058-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDoA	307-55-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTrDA	72629-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTeDA	376-06-7	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
13C2-PFDA	SURR	102	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
d5-EtFOSAA	SURR	100	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1FB38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:40

Laboratory Data

Lab Sample: 1801929-02
Date Received: 25-Jul-18 09:40
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	6G4-G6-4	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHxA	60G-25-5	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHpA	6G4-84-9	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFHxS	644-57-5	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFOA	664-7G-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFNA	6G4-94-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFOS	1G76-26-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFDA	664-G7-2	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
MeFOSAA	2644-61-9	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
EtFOSAA	2991-40-7	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFUnA	2048-95-8	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFDoA	60G-44-1	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFTrDA	G2729-95-8	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
PFTeDA	6G7-07-G	ND	2.95	5.86	9.77		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
16C2-PFHxA	SURR	98.4	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
16C2-PFDA	SURR	106	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1
d4-EtFOSAA	SURR	95.2	G0 - 160		B83 0185	24-Jul-18	0.249 L	60-Jul-18 15:51	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW39-0718

EPA Method 537

Client Data

Name: Cu 2M u ill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: DrinJ ing Water
Date Collected: 22-4El-18 12:02

Laboratory Data

Lab Sample: 1801929-0H
Date Received: 25-4El-18 09:. 0
ColEmn: Bku C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	HG -GH-.	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu xA	H0G-25-5	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu pA	HG -8. -9	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFu xS	H . -57-5	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFOA	HH -7G-1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFNA	HG -9. -1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFOS	1G7H-2H-1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFDA	HH -G7-2	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
MeFOSAA	2H . -H1-9	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
ktFOSAA	2991-. 0-7	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFUnA	20. 8-95-8	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFDoA	H0G-. . -1	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFTrDA	G2729-95-8	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
PFTeDA	HG7-07-G	ND	H602	5607	960H		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1HC2-PFu xA	SURR	9. 68	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
1HC2-PFDA	SURR	100	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1
d. -ktFOSAA	SURR	8561	G0 - 1H0		B83 0185	2. -4El-18	062. 2 L	H0-4El-18 15:. 5	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of qEantitation

ResEltS reported to the DL6

When reported, PFu xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers6 Only the linear isomer is reported for all other analytes6

Sample ID: CBD-1FB39-0718

EPA Method 537

Client Data

Name: Cu 2M u ill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: DrinJ ing Water
Date Collected: 22-4El-18 12:0H

Laboratory Data

Lab Sample: 1801929-0H
Date Received: 2H-4El-18 09:50
ColEmn: Bk u C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu xA	307-2H-H	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu pA	375-85-9	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFu xS	355-H6-H	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFOA	335-67-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFNA	375-95-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFOS	1763-23-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFDA	335-76-2	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
MeFOSAA	2355-31-9	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
k tFOSAA	2991-50-6	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFUnA	2058-9H-8	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFDoA	307-55-1	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFTrDA	72629-9H-8	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
PFTeDA	376-06-7	ND	2.95	H86	9.72		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFu xA	SURR	97.8	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
13C2-PFDA	SURR	99.9	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1
d5-k tFOSAA	SURR	88.7	70 - 130		B8G018H	25-4El-18	0.257 L	30-4El-18 15:07	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of qEantitation

ResEts reported to the DL.

When reported, PFu xS, PFOA, PFOS, MeFOSAA and k tFOSAA inclEde 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**
Conc.	**Concentration**
D	**Dilution**
DL	**Detection limit**
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**
LOD	**Limits of Detection**
LOQ	**Limits of Quantitation**
M	**Estimated Maximum Possible Concentration (CA Region 2 projects only)**
NA	**Not applicable**
ND	**Not Detected**
Q	**Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)**
TEQ	**Toxic Equivalency**
U	**Not Detected (specific projects only)**
*****	**See Cover Letter**

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
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	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
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.

Rev. Date: 06/27/2017

CTO-08 679580.14.F1.FS

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1801929 Temp: 0.0 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Project ID: CTO-08 NRL CBD PFAS DW INVESTIGATION PO#: 101001982 Sampler: R. McElhinny (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Tiffany Hill	CH2M	1100 NE Circle Blvd Ste 300	Corvallis	Oregon	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Mike Witmer	7/23/18	1630	Ashwini Prakash	07/24/18	1006
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

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

ATTN: Martha Maier

Method of Shipment: FEDEX

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/PFOS	UCMR3 PFAS List:6	537 List: 14	Full List of 26	Other: Please List Below	EPA Method 537(DW only): PFOA/PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
CBD-IRW38-0718	7/21/18	0948		2	P	DW								X	
CBD-IFB38-0718	7/21/18	0950		2	P	DW								X	
CBD-IRW39-0718	7/22/18	1202		2	P	DW								X	
CBD-IFB39-0718	7/22/18	1204		2	P	DW								X	

Special Instructions/Comments: 7 DAY TAT
Analysis of DW Samples for 14 PFAS Compounds in Method 537

SEND DOCUMENTATION AND RESULTS TO:
Name: Tiffany Hill
Company: CH2M HILL INC
Address: 1100 NE Circle Blvd Suite 300
City: Corvallis State: OR Zip: 97330
Phone: 541-768-3109 Fax:
Email: Tiffany.Hill@ch2m.com

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 #: 1801929 **TAT** 7

Samples Arrival:	**Date/Time** 07/24/18 0950	**Initials:** AP	**Location:** WR-2 **Shelf/Rack:** NA
Logged In:	**Date/Time** 07/24/18 1053	**Initials:** KE	**Location:** WR-2 **Shelf/Rack:** E-3

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

Temp °C: 6.0	**(uncorrected)**	**Time:** 1010	**Thermometer ID:** DT-3 ~~IR-4~~
Temp °C: 0.0	**(corrected)**	**Probe used: Yes☒ No☐**	

		YES	NO	NA
Adequate Sample Volume Received?		KE		
Holding Time Acceptable?		KE		
Shipping Container(s) Intact?		AP		
Shipping Custody Seals Intact?		AP		
Shipping Documentation Present?		AP		
Airbill	Trk # 7819 4930 1312	AP		
Sample Container Intact?		KE		
Sample Custody Seals Intact?				KE
Chain of Custody / Sample Documentation Present?		AP		
COC Anomaly/Sample Acceptance Form completed?			WWS	WWS

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

Comments:

EXTRACTION INFORMATION

RUSH

Process Sheet

Workorder: 1801929

7- DAY TAT

Prep Expiration: 2018-Aug-04
Client: CH2M Hill

Workorder Due: 31-Jul-18 00:00

TAT: 7

Method: **537 PFAS DW DoD Unmodified**
Matrix: **Aqueous**

Prep Batch: B8G0184

Prep Data Entered: my 7/26/18
Date and Initials

Version: 537 (14 Analytes)
DoD: DoD QSM 5.1

Initial Sequence: S8G0068~~8~~86

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1801929-01	"A"	☑	☑	CBD-1RW38-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801929-02	↓	☑	☑	CBD-1FB38-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801929-03	↓	☑	☑	CBD-1RW39-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801929-04	↓	☑	☑	CBD-1FB39-0718		WR-2 E-3	HDPE Bottle, 250 mL

Pre-Prep Check Out: KL 7/25/18
Pre-Prep Check In: NA

Prep Check Out: NA
Prep Check In: NA

Prep Reconciled Initals/Date: JB 7/25/18
Spike Reconciled Initals/Date: KL 7/25/18
VialBoxID: Sushi

Page 1 of 3

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DW DoD Unmodified
Method: 537 PFAS DW Unmodified MI So Sig Digs

B8G0184

Chemist: KC
Prep Date: 7/25/18
Prep Time: 1000

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-8

Cen	VISTA Sample ID	Bottle + Sample (g) JR 7/25/18	Bottle Only (g)	Sample Amt. (L) MJ 7/26/18	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B8G0184-BLK1 (A)	NA	NA	(0.250)	KC JR 7/25/18	JR KC 7/25/18	HN JR 7/26/18
☐	B8G0184-BS1	↓	↓	(0.250)	↓	↓	↓
☐	B8G0184-BSD1	↓	↓	(0.250)	↓	↓	↓
☐	1801929-01	293.80	37.06	0.25672 ✓	↓	↓	↓
☐	1801929-02	295.98	37.29	0.25869 ✓	↓	↓	↓
☐	1801929-03	288.85	37.14	0.25171 ✓	↓	↓	↓
☐	1801929-04	294.72	37.44	0.25728 ✓	↓	↓	↓
☐	1801934-01	294.88	37.67	0.25721 ✓	↓	↓	↓

SS/IS: 18G0301, 20µL (V2) 18F2207 KC 7/25/18
NS: ~~18F2206~~, 20µL (V2)
IS/RS: 18G0302, 20µL (V3)

SPE Chem: Strata-X-33µm 500mg/6mL
Lot#: S17-001946
Ele SOLV: MeOH
Lot#: 108977109731
Final Volume(s) 1mL

Notes: (A) Trizma added to QC samples. JR 7/25/18

Comments: Assume 1 g = 1 mL
Cen = Centrifuged

Batch: B8G0184

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1801929-01	0.25672✓	NA	NA	1000	25-Jul-18 10:00	KC			Drinking Water	537 PFAS DW DoD Unmoc
1801929-02	0.25869✓			1000	25-Jul-18 10:00	KC			Drinking Water	537 PFAS DW DoD Unmoc
1801929-03	0.25171✓			1000	25-Jul-18 10:00	KC			Drinking Water	537 PFAS DW DoD Unmoc
1801929-04	0.25728✓			1000	25-Jul-18 10:00	KC			Drinking Water	537 PFAS DW DoD Unmoc
1801934-01	0.25721✓			1000	25-Jul-18 10:00	KC			Drinking Water	537 PFAS DW Unmodified
B8G0184-BLK1	0.25✓			1000	25-Jul-18 10:00	KC				QC
B8G0184-BS1	0.25✓			1000	25-Jul-18 10:00	KC	18F2207✓	20✓		QC
B8G0184-BSD1	0.25✓			1000	25-Jul-18 10:00	KC	18F2207✓	20✓		QC

My 7/26/18

SAMPLE DATA –EPA METHOD 537

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-21.qld

Last Altered: Monday, July 30, 2018 15:09:30 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:46:43 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_21, Date: 30-Jul-2018, Time: 14:16:12, ID: B8G0184-BLK1 LRB 0.25, Description: LRB

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5		1.22e4	0.250		2.88				
2	2	PFHxA	312.7 > 268.8	3.24e1	7.77e3	0.250		3.23	3.24	0.0417	0.179	
3	3	PFHpA	362.7 > 318.8		7.77e3	0.250		3.77				
4	4	PFHxS	398.7 > 80.7		1.22e4	0.250		3.93				
5	5	PFOA	412.8 > 369.0	1.97e1	7.77e3	0.250		4.20	4.21	0.0253	0.114	
6	6	PFNA	462.9 > 419.1		7.77e3	0.250		4.53				
7	7	PFOS	498.8 >80.7		1.22e4	0.250		4.62				
8	8	PFDA	512.8 > 469.0	5.42e1	7.77e3	0.250		4.81	4.86	0.0698	0.295	
9	9	N-MeFOSAA	569.7 > 419.0		1.24e4	0.250		4.97				
10	10	N-EtFOSAA	583.6 >419.1		1.24e4	0.250		4.98				
11	11	PFUnA	562.7 > 518.9		7.77e3	0.250		5.08				
12	12	PFDoA	612.5 > 319.0		7.77e3	0.250		5.32				
13	13	PFTrDA	662.4 > 618.7		7.77e3	0.250		5.53				
14	14	PFTeDA	712.2>668.4		7.77e3	0.250		5.71				
15	15	13C2-PFHxA	314.8 > 269.9	6.04e3	7.77e3	0.250	0.814	3.36	3.24	7.77	38.2	95.4
16	16	13C2-PFDA	514.8 > 470.0	7.77e3	7.77e3	0.250	1.032	4.78	4.85	9.99	38.7	96.8
17	17	d5-N-EtFOSAA	588.7> 419.1	1.60e4	1.24e4	0.250	1.488	4.97	5.09	51.8	139	87.0
18	18	13C2-PFOA	414.8 > 370.1	7.77e3	7.77e3	0.250	1.000	4.21	4.19	10.0	40.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.22e4	1.22e4	0.250	1.000	4.61	4.62	28.7	115	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.24e4	1.24e4	0.250	1.000	4.96	4.97	40.0	160	100.0

CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

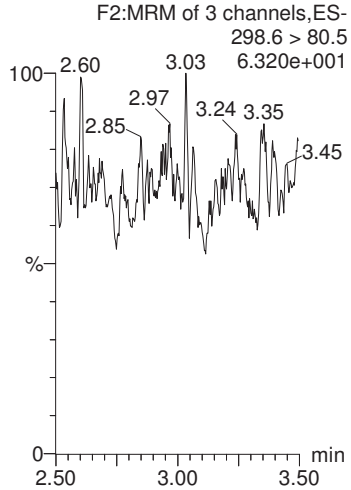
Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-21.qld

Last Altered: Monday, July 30, 2018 15:09:30 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:46:43 Pacific Daylight Time

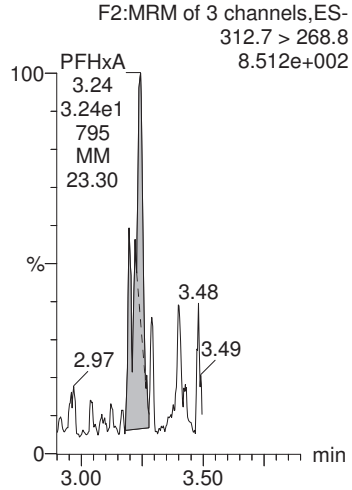
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_21, Date: 30-Jul-2018, Time: 14:16:12, ID: B8G0184-BLK1 LRB 0.25, Description: LRB

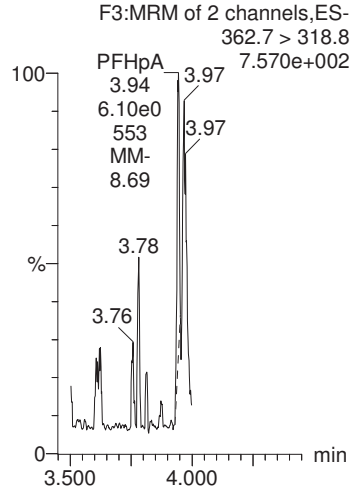
PFBS



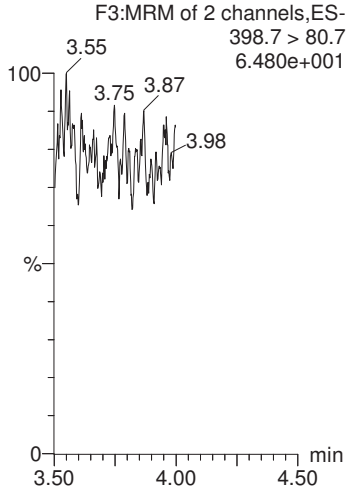
PFHxA



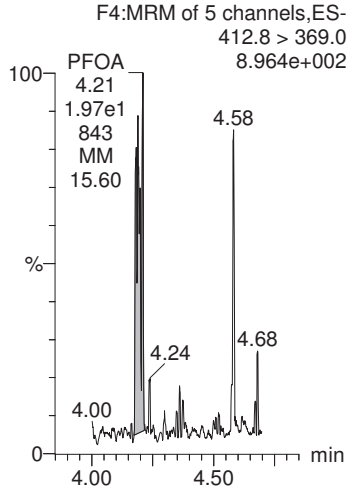
PFHpA



PFHxS



PFOA



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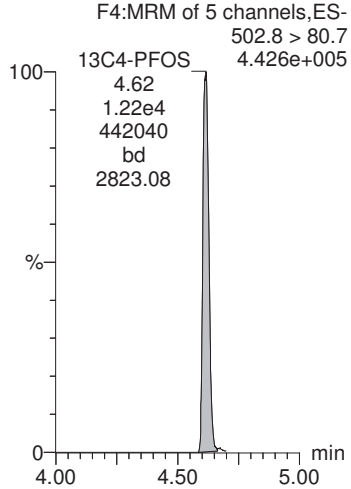

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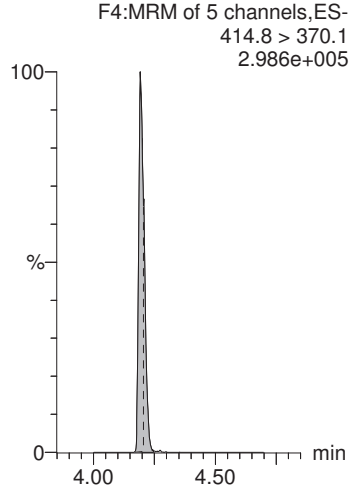

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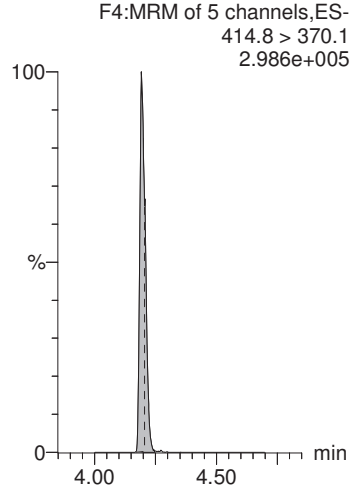

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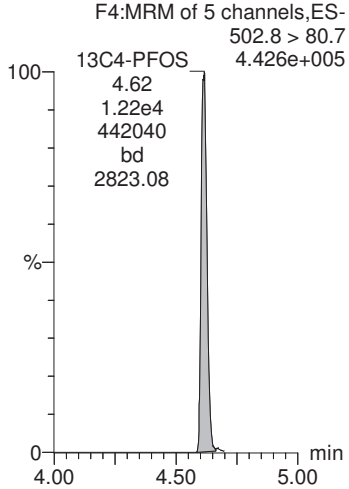

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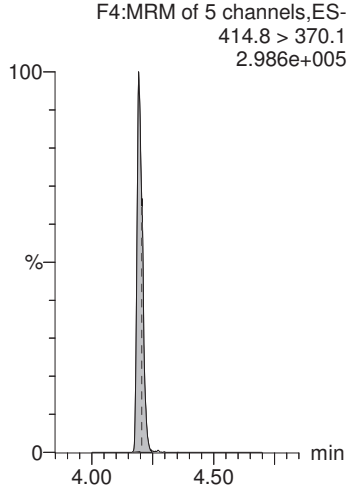


CGH 7/31/2018

Vista Analytical Laboratory

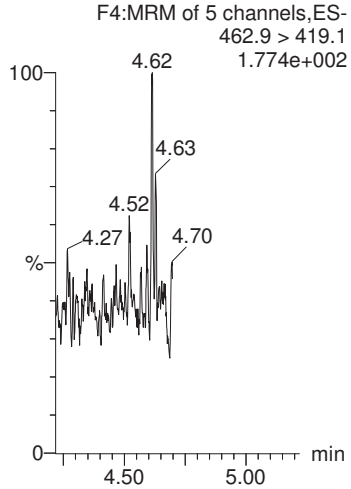
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-21.qld

Last Altered: Monday, July 30, 2018 15:09:30 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:46:43 Pacific Daylight Time

Name: 180730G1_21, Date: 30-Jul-2018, Time: 14:16:12, ID: B8G0184-BLK1 LRB 0.25, Description: LRB

PFNA



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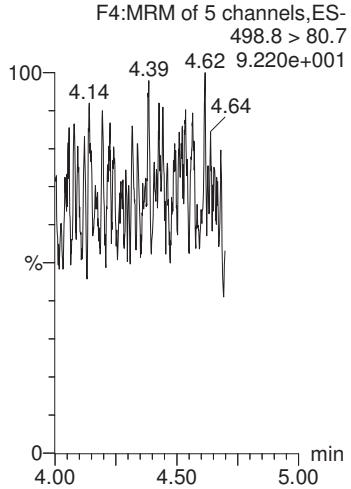

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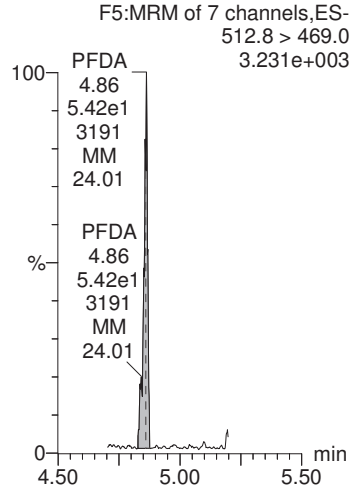

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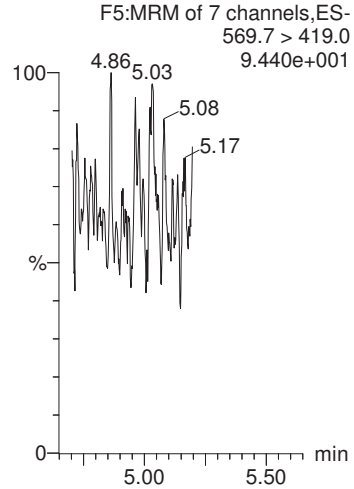

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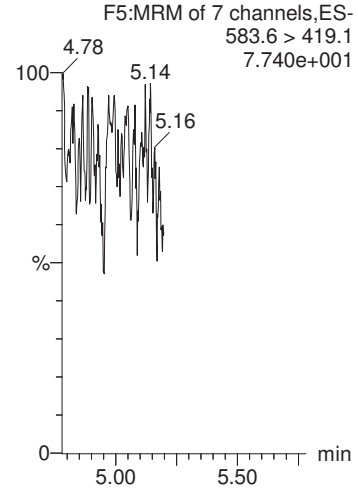

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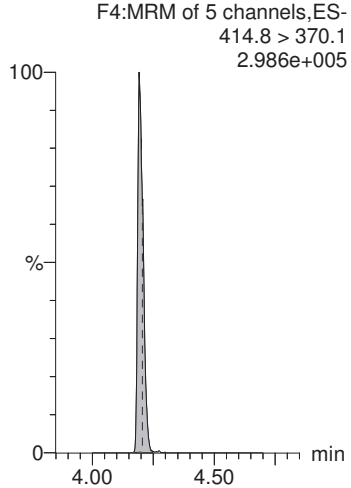

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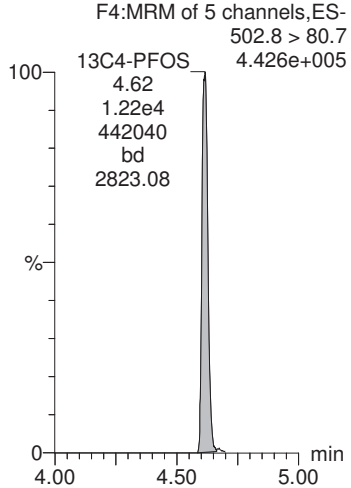

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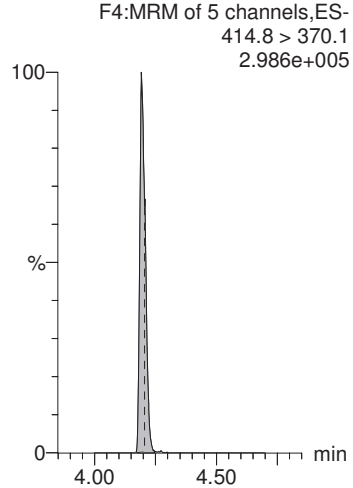

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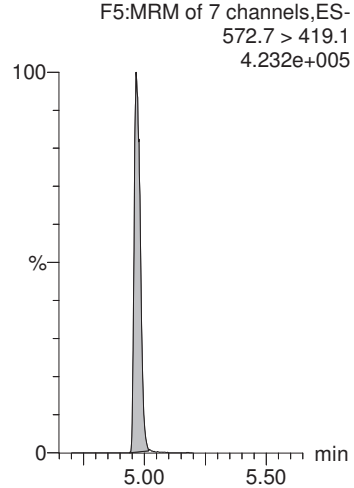

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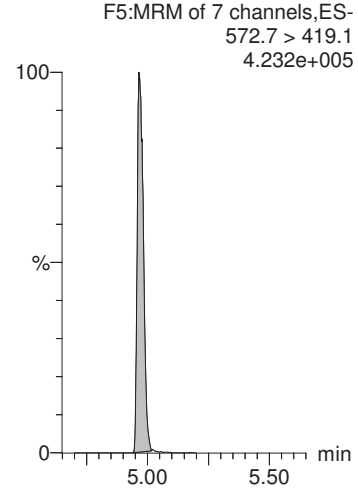

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MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-21.qld

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Printed: Tuesday, July 31, 2018 10:46:43 Pacific Daylight Time

Name: 180730G1_21, Date: 30-Jul-2018, Time: 14:16:12, ID: B8G0184-BLK1 LRB 0.25, Description: LRB

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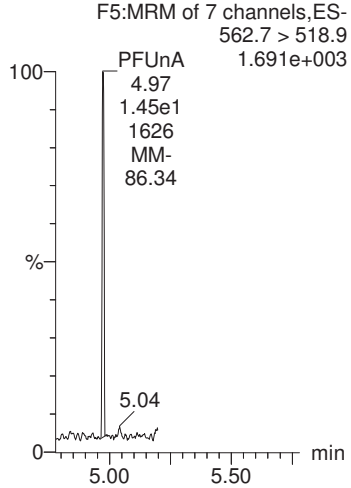

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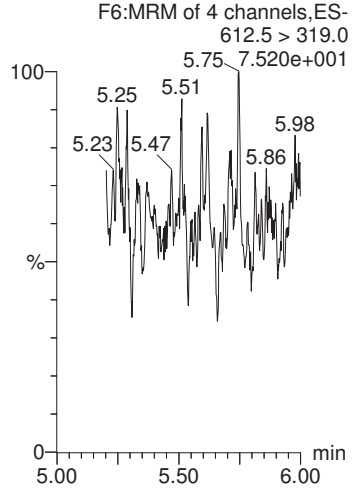

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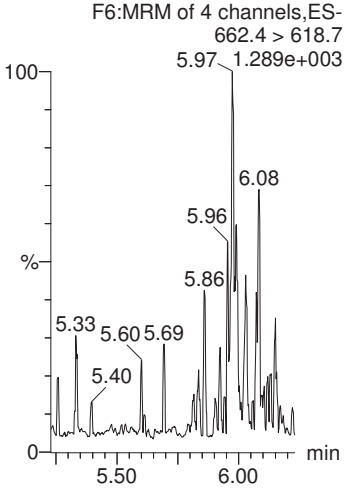

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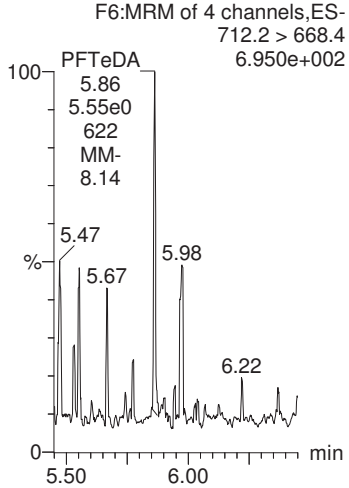

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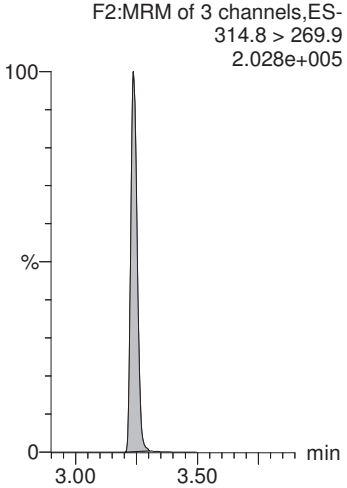

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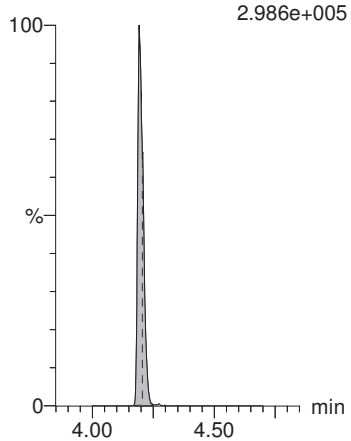

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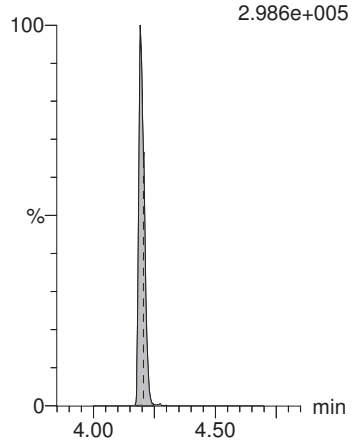

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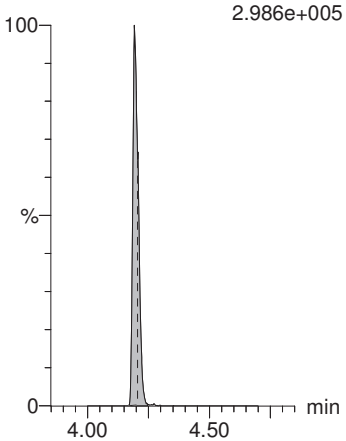

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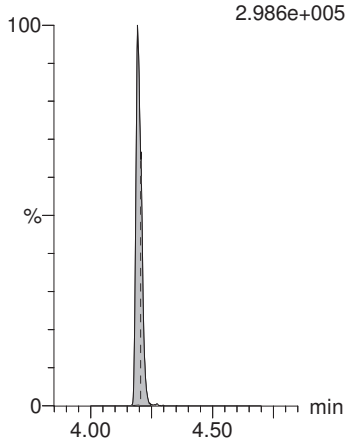

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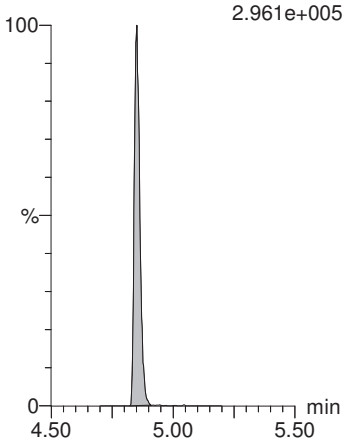

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Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-21.qld

Last Altered: Monday, July 30, 2018 15:09:30 Pacific Daylight Time
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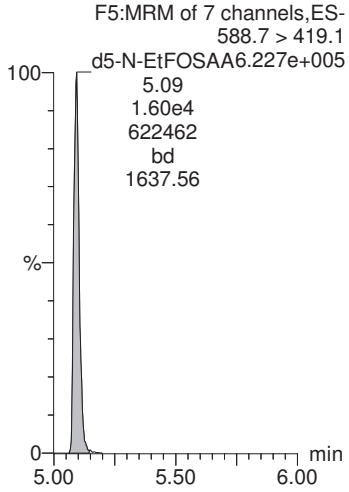
Name: 180730G1_21, Date: 30-Jul-2018, Time: 14:16:12, ID: B8G0184-BLK1 LRB 0.25, Description: LRB

d5-N-EtFOSAA



CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-19.qld

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Printed: Tuesday, July 31, 2018 10:43:12 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_19, Date: 30-Jul-2018, Time: 13:50:34, ID: B8G0184-BS1 LFB 0.25, Description: LFB

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5	1.68e3	1.35e4	0.250		2.88	2.88	3.56	15.5	87.3
2	2	PFHxA	312.7 > 268.8	3.28e3	8.10e3	0.250		3.24	3.24	4.05	17.3	86.7
3	3	PFHpA	362.7 > 318.8	3.49e3	8.10e3	0.250		3.77	3.77	4.31	17.0	85.0
4	4	PFHxS	398.7 > 80.7	1.92e3	1.35e4	0.250		3.92	3.90	4.07	15.9	87.1
5	5	PFOA	412.8 > 369.0	3.00e3	8.10e3	0.250		4.20	4.20	3.71	16.7	83.4
6	6	PFNA	462.9 > 419.1	3.41e3	8.10e3	0.250		4.54	4.55	4.21	19.5	97.3
7	7	PFOS	498.8 >80.7	7.22e2	1.35e4	0.250		4.61	4.62	1.53	14.8	79.8
8	8	PFDA	512.8 > 469.0	3.51e3	8.10e3	0.250		4.82	4.85	4.34	18.3	91.7
9	9	N-MeFOSAA	569.7 > 419.0	1.72e3	1.21e4	0.250		4.98	4.97	5.69	20.1	100.5
10	10	N-EtFOSAA	583.6 >419.1	1.91e3	1.21e4	0.250		4.98	5.09	6.32	20.2	101.1
11	11	PFUnA	562.7 > 518.9	3.86e3	8.10e3	0.250		5.08	5.10	4.76	19.9	99.4
12	12	PFDoA	612.5 > 319.0	6.16e2	8.10e3	0.250		5.32	5.34	0.761	19.5	97.7
13	13	PFTrDA	662.4 > 618.7	3.49e3	8.10e3	0.250		5.53	5.55	4.31	19.6	97.8
14	14	PFTeDA	712.2>668.4	3.47e3	8.10e3	0.250		5.71	5.72	4.28	19.2	96.1
15	15	13C2-PFHxA	314.8 > 269.9	6.45e3	8.10e3	0.250	0.814	3.37	3.24	7.96	39.1	97.8
16	16	13C2-PFDA	514.8 > 470.0	8.58e3	8.10e3	0.250	1.032	4.78	4.85	10.6	41.0	102.5
17	17	d5-N-EtFOSAA	588.7> 419.1	1.75e4	1.21e4	0.250	1.488	4.97	5.09	57.9	156	97.3
18	18	13C2-PFOA	414.8 > 370.1	8.10e3	8.10e3	0.250	1.000	4.21	4.20	10.0	40.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.35e4	1.35e4	0.250	1.000	4.61	4.61	28.7	115	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.21e4	1.21e4	0.250	1.000	4.96	4.97	40.0	160	100.0

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MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-19.qld

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Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_19, Date: 30-Jul-2018, Time: 13:50:34, ID: B8G0184-BS1 LFB 0.25, Description: LFB

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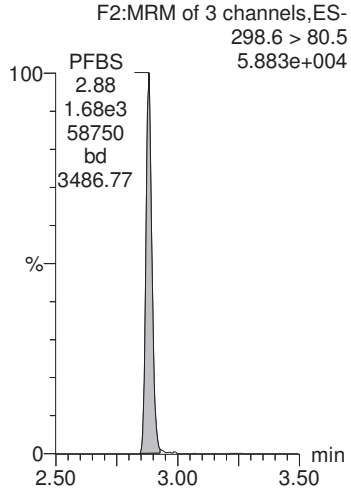

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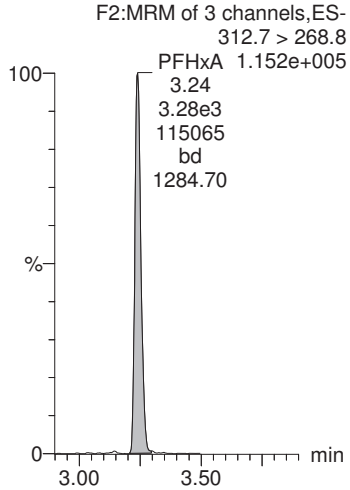

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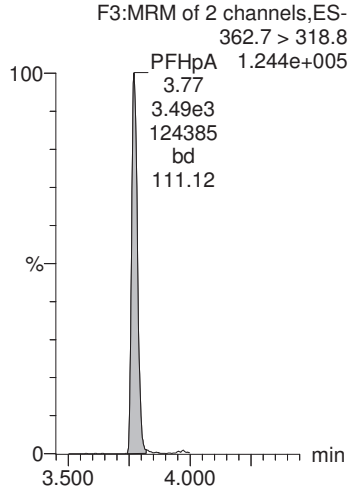

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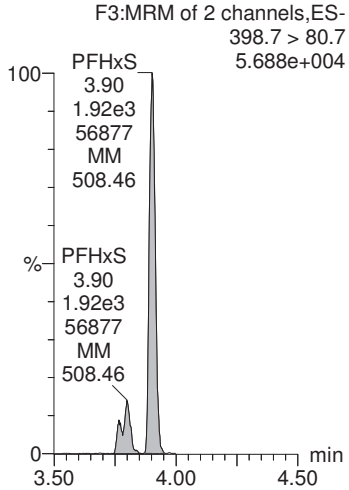

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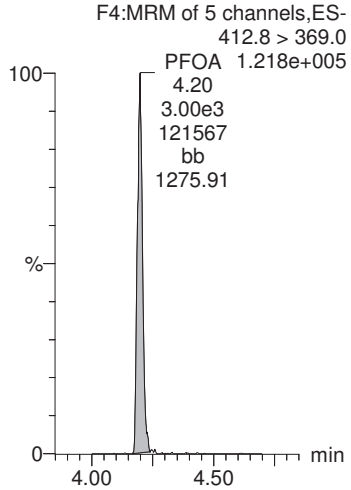

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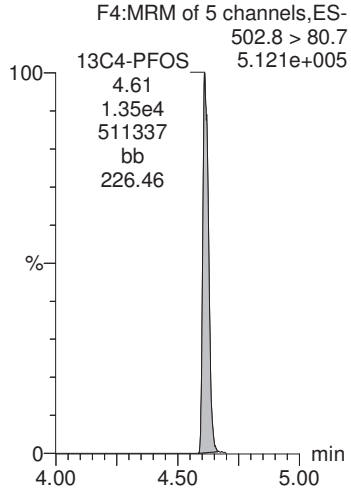

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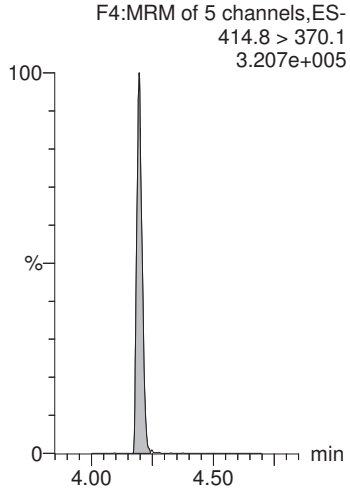

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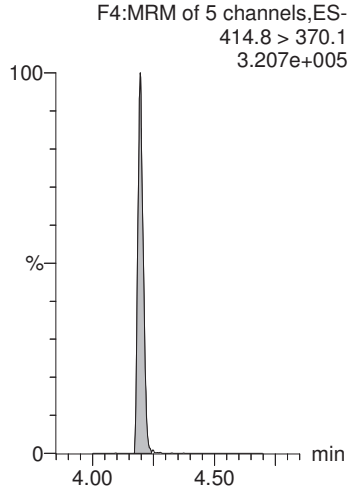

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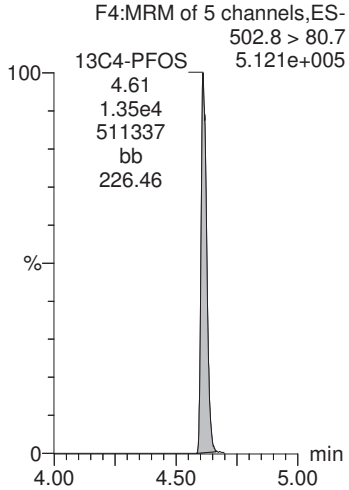

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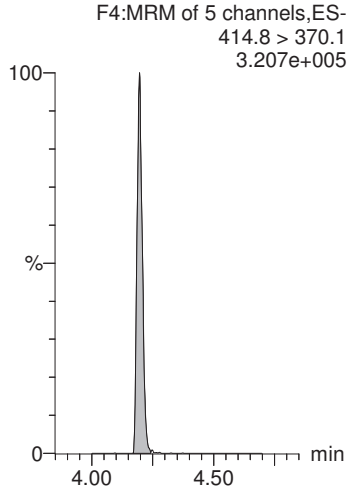

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Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-19.qld

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Name: 180730G1_19, Date: 30-Jul-2018, Time: 13:50:34, ID: B8G0184-BS1 LFB 0.25, Description: LFB

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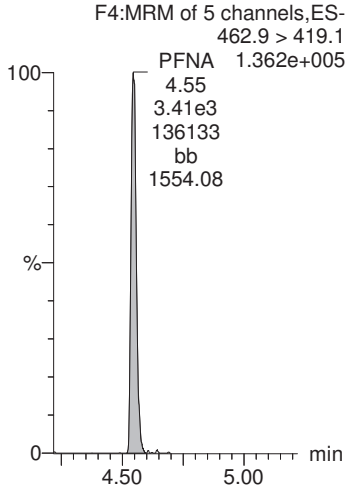

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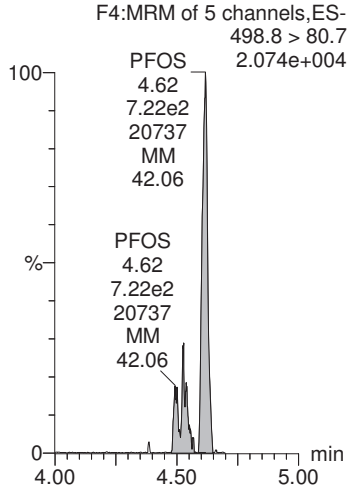

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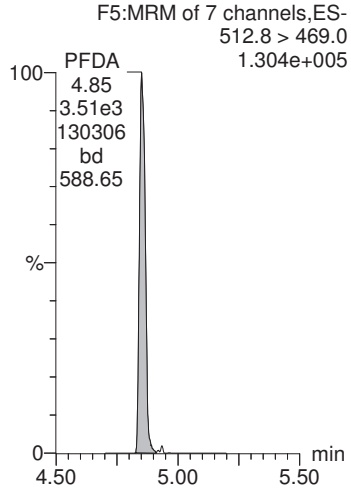

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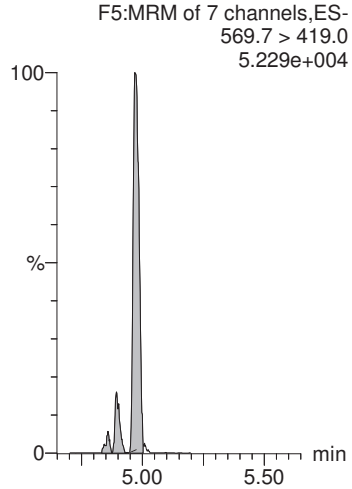

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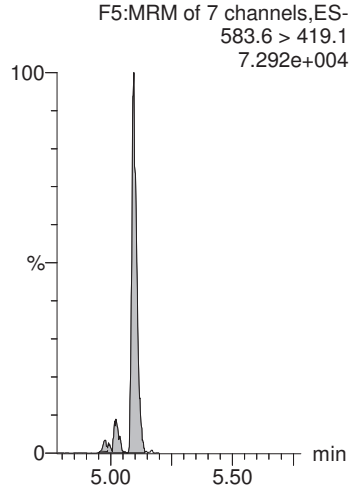

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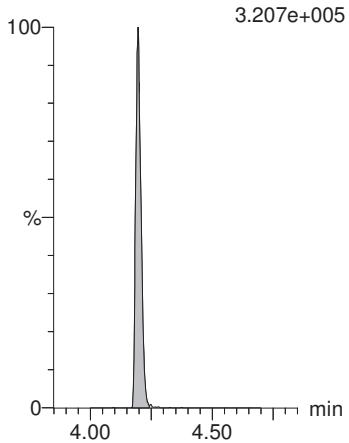

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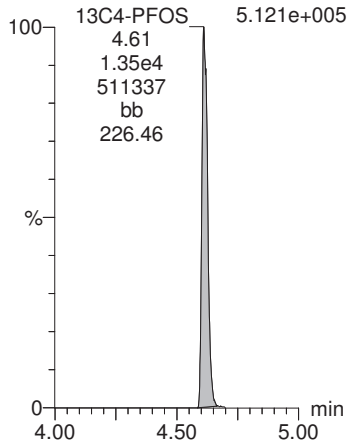

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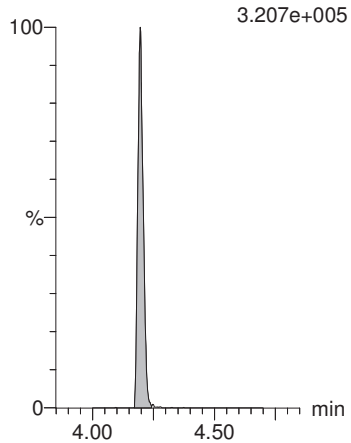

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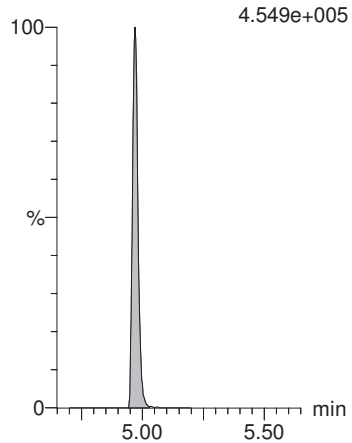

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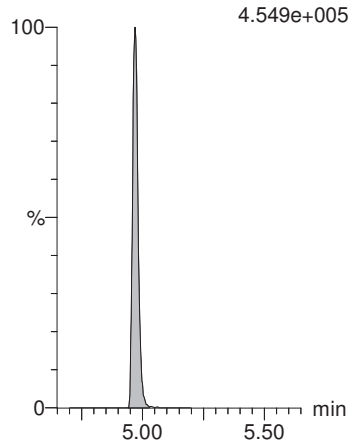

CGH 7/31/2018

MMM 7/31/2018

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Name: 180730G1_19, Date: 30-Jul-2018, Time: 13:50:34, ID: B8G0184-BS1 LFB 0.25, Description: LFB

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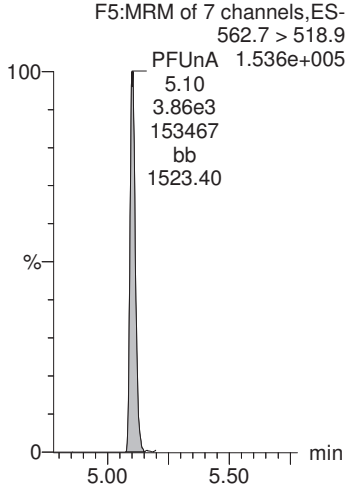

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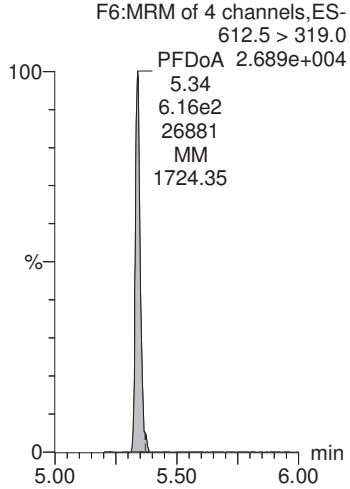
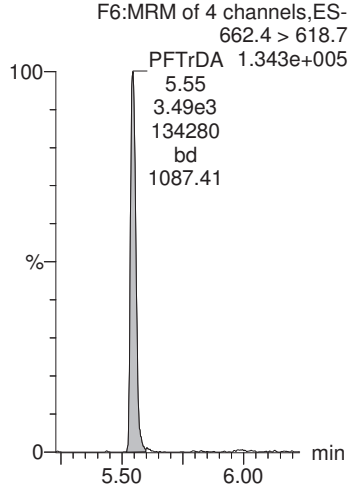
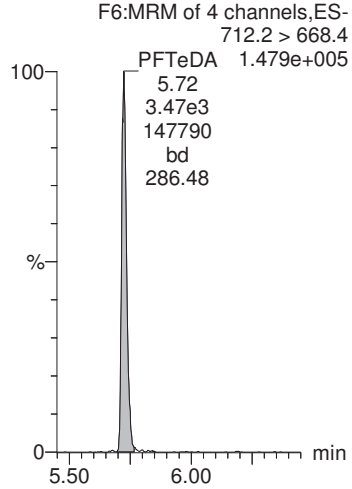


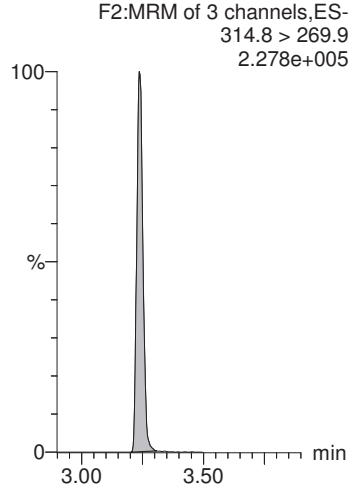
PFTrDA



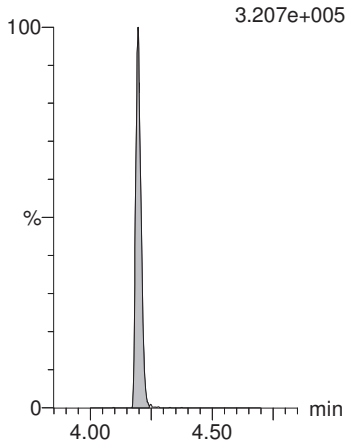
PFTeDA



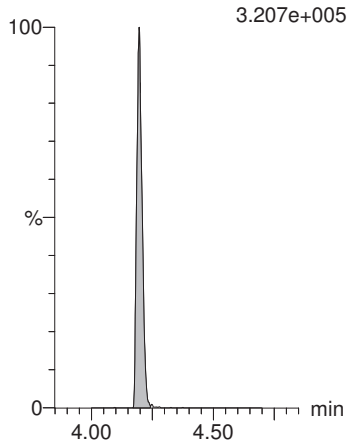
13C2-PFHxA



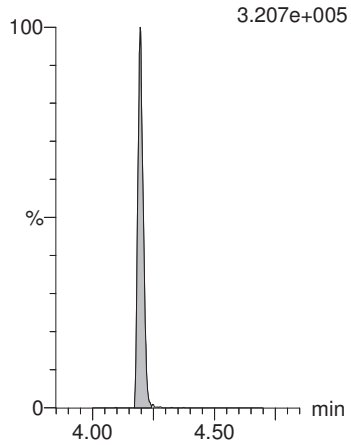
13C2-PFOA



13C2-PFOA



13C2-PFOA



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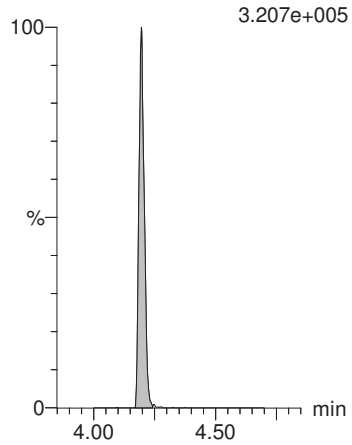
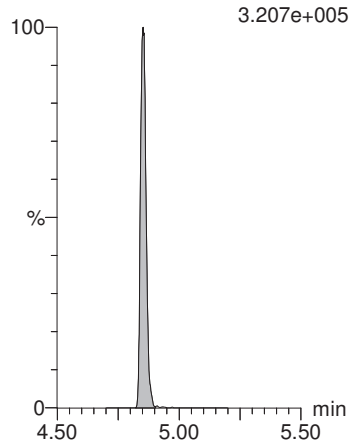


13C2-PFDA



CGH 7/31/2018

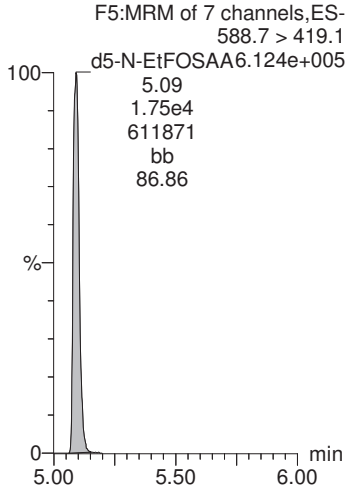
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-19.qld

Last Altered: Monday, July 30, 2018 15:02:01 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:43:12 Pacific Daylight Time

Name: 180730G1_19, Date: 30-Jul-2018, Time: 13:50:34, ID: B8G0184-BS1 LFB 0.25, Description: LFB

d5-N-EtFOSAA



CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-20.qld

Last Altered: Monday, July 30, 2018 15:04:57 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:45:29 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_20, Date: 30-Jul-2018, Time: 14:03:22, ID: B8G0184-BSD1 LFBD 0.25, Description: LFBD

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5	1.63e3	1.28e4	0.250		2.88	2.88	3.67	16.0	90.0
2	2	PFHxA	312.7 > 268.8	3.53e3	8.35e3	0.250		3.24	3.24	4.23	18.1	90.5
3	3	PFHpA	362.7 > 318.8	3.72e3	8.35e3	0.250		3.78	3.77	4.46	17.6	88.0
4	4	PFHxS	398.7 > 80.7	2.02e3	1.28e4	0.250		3.92	3.90	4.53	17.7	97.0
5	5	PFOA	412.8 > 369.0	3.66e3	8.35e3	0.250		4.20	4.19	4.39	19.7	98.6
6	6	PFNA	462.9 > 419.1	3.55e3	8.35e3	0.250		4.54	4.54	4.25	19.6	98.2
7	7	PFOS	498.8 >80.7	7.44e2	1.28e4	0.250		4.61	4.61	1.67	16.2	87.2
8	8	PFDA	512.8 > 469.0	4.01e3	8.35e3	0.250		4.82	4.85	4.81	20.3	101.7
9	9	N-MeFOSAA	569.7 > 419.0	1.68e3	1.23e4	0.250		4.97	4.97	5.47	19.3	96.7
10	10	N-EtFOSAA	583.6 >419.1	1.69e3	1.23e4	0.250		4.98	5.10	5.50	17.6	88.0
11	11	PFUnA	562.7 > 518.9	4.03e3	8.35e3	0.250		5.08	5.10	4.83	20.2	100.8
12	12	PFDoA	612.5 > 319.0	5.73e2	8.35e3	0.250		5.32	5.34	0.687	17.6	88.2
13	13	PFTrDA	662.4 > 618.7	3.37e3	8.35e3	0.250		5.53	5.55	4.04	18.4	91.8
14	14	PFTeDA	712.2>668.4	3.53e3	8.35e3	0.250		5.71	5.72	4.23	19.0	95.2
15	15	13C2-PFHxA	314.8 > 269.9	6.64e3	8.35e3	0.250	0.814	3.37	3.24	7.96	39.1	97.8
16	16	13C2-PFDA	514.8 > 470.0	8.20e3	8.35e3	0.250	1.032	4.78	4.85	9.83	38.1	95.2
17	17	d5-N-EtFOSAA	588.7> 419.1	1.73e4	1.23e4	0.250	1.488	4.97	5.09	56.3	152	94.7
18	18	13C2-PFOA	414.8 > 370.1	8.35e3	8.35e3	0.250	1.000	4.21	4.20	10.0	40.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.28e4	1.28e4	0.250	1.000	4.61	4.61	28.7	115	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.23e4	1.23e4	0.250	1.000	4.96	4.97	40.0	160	100.0

CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

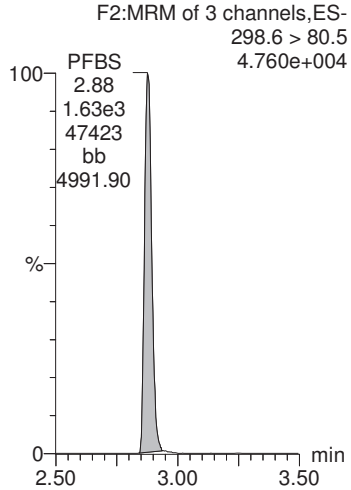
Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-20.qld

Last Altered: Monday, July 30, 2018 15:04:57 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:45:29 Pacific Daylight Time

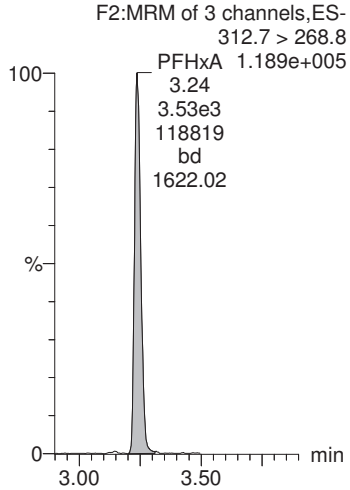
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_20, Date: 30-Jul-2018, Time: 14:03:22, ID: B8G0184-BSD1 LFBD 0.25, Description: LFBD

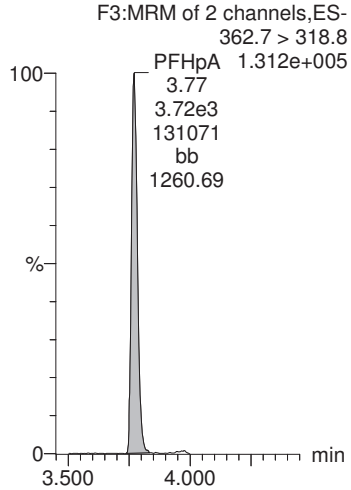
PFBS



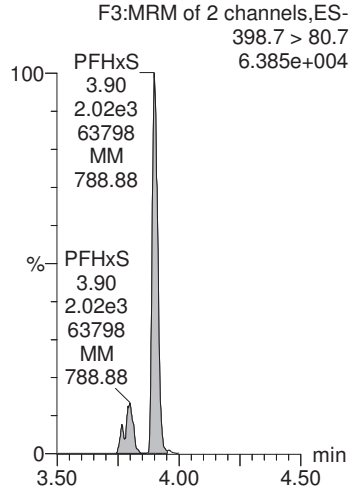
PFHxA



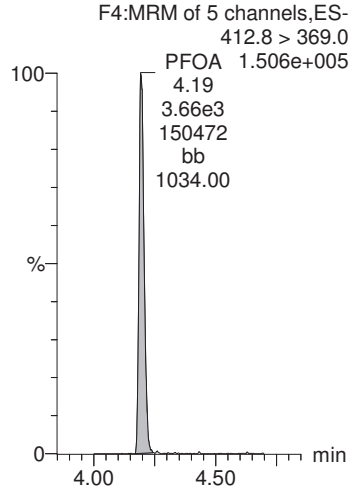
PFHpA



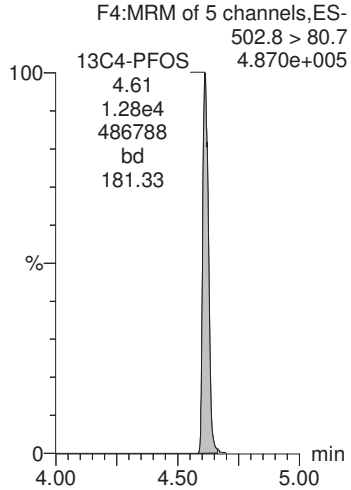
PFHxS



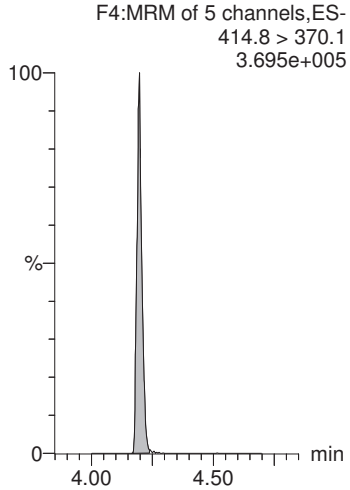
PFOA



13C4-PFOS



13C2-PFOA



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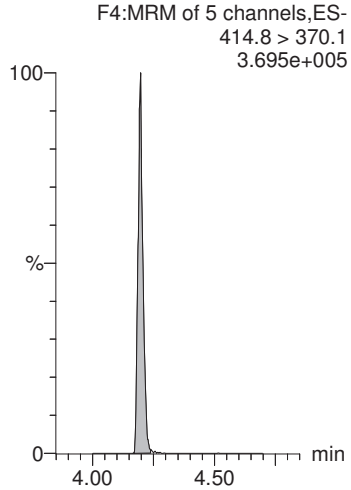

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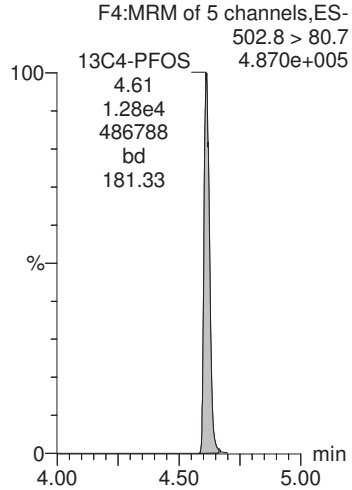

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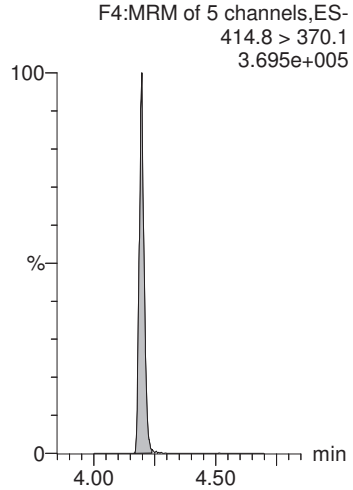


CGH 7/31/2018

Vista Analytical Laboratory

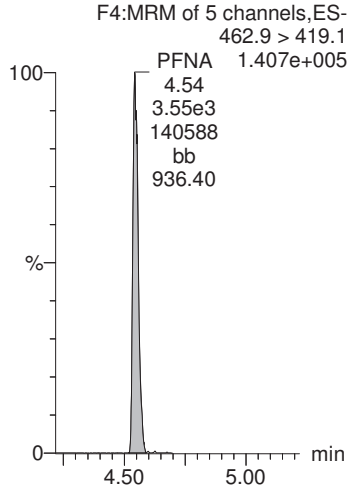
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-20.qld

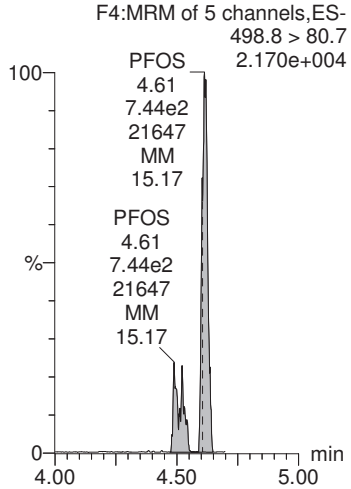
Last Altered: Monday, July 30, 2018 15:04:57 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:45:29 Pacific Daylight Time

Name: 180730G1_20, Date: 30-Jul-2018, Time: 14:03:22, ID: B8G0184-BSD1 LFBD 0.25, Description: LFBD

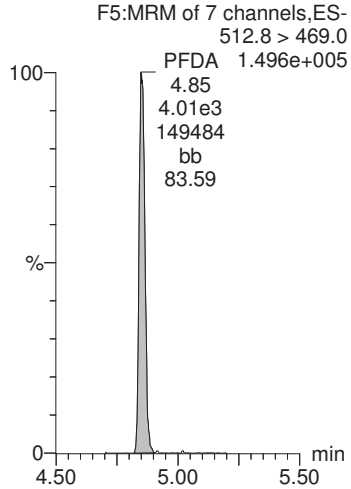
PFNA



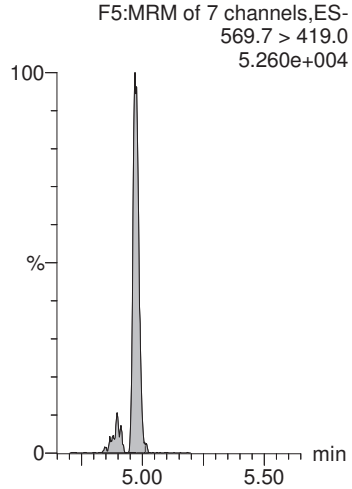
PFOS



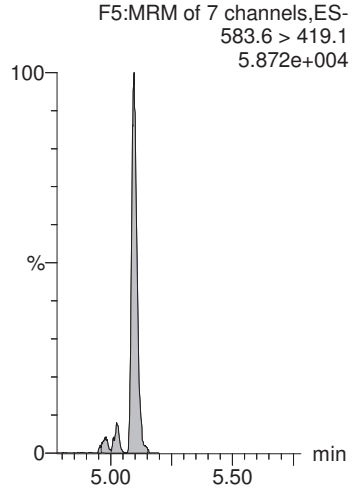
PFDA



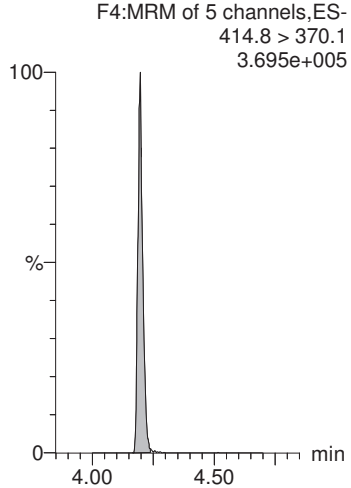
N-MeFOSAA



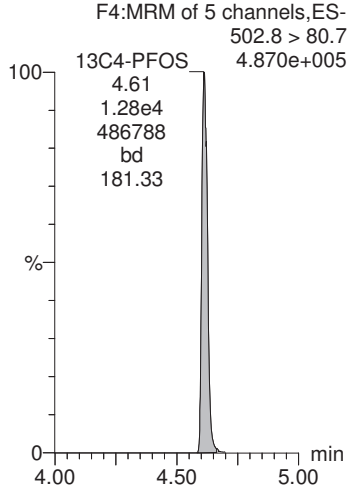
N-EtFOSAA



13C2-PFOA



13C4-PFOS



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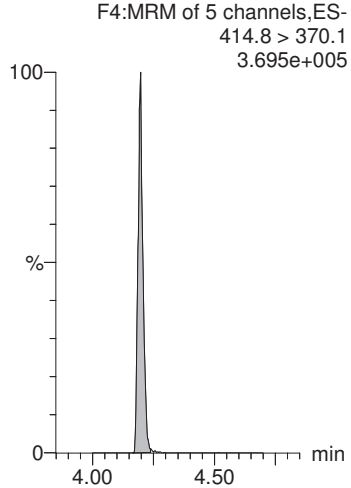
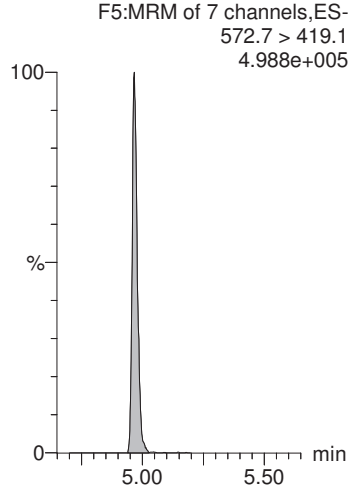
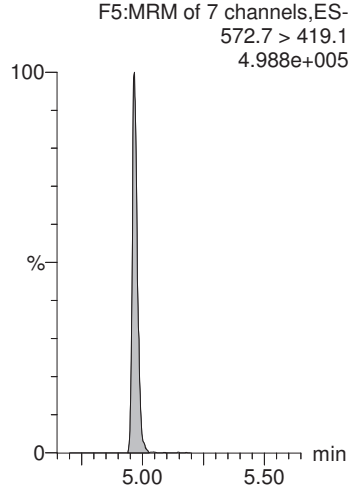


d3-N-MeFOSAA



d3-N-MeFOSAA



CGH 7/31/2018

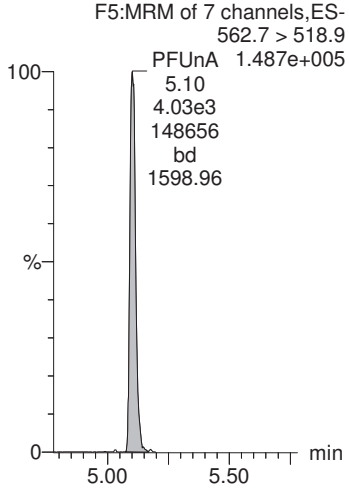
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-20.qld

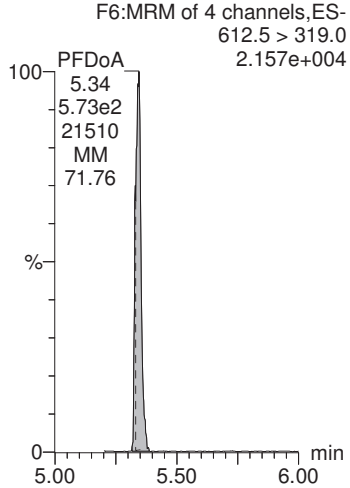
Last Altered: Monday, July 30, 2018 15:04:57 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:45:29 Pacific Daylight Time

Name: 180730G1_20, Date: 30-Jul-2018, Time: 14:03:22, ID: B8G0184-BSD1 LFBD 0.25, Description: LFBD

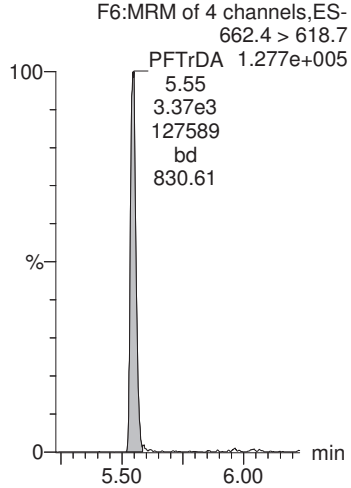
PFUnA



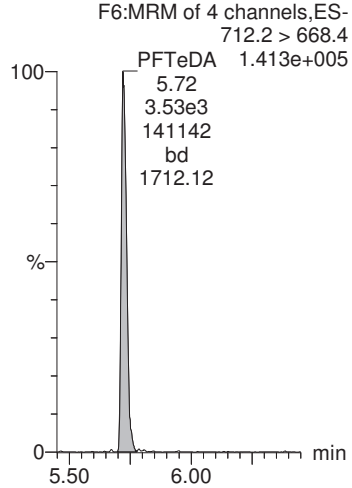
PFDoA



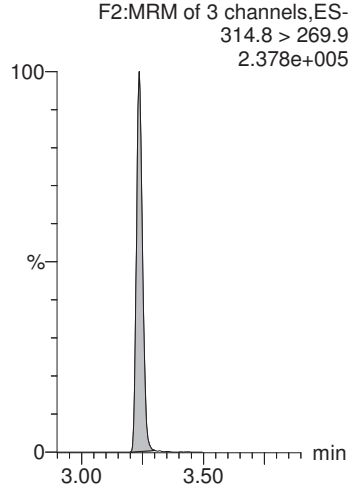
PFTrDA



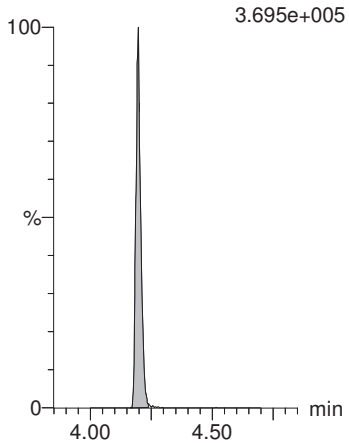
PFTeDA



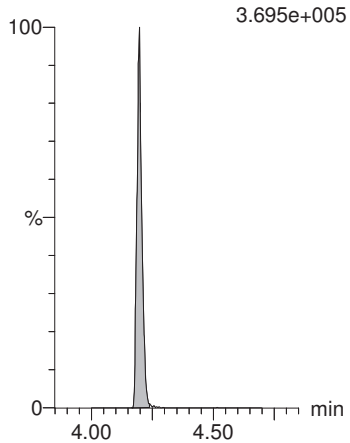
13C2-PFHxA



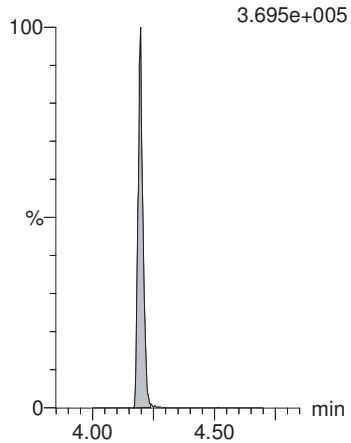
13C2-PFOA



13C2-PFOA



13C2-PFOA



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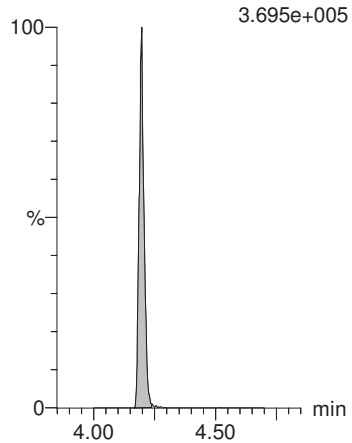
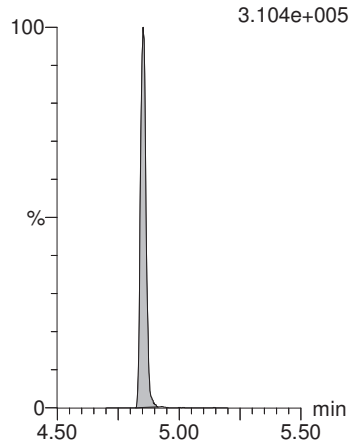


13C2-PFDA



CGH 7/31/2018

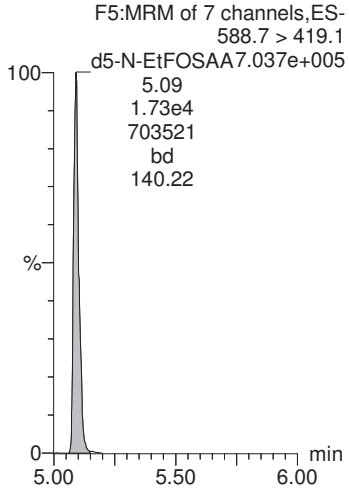
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-20.qld

Last Altered: Monday, July 30, 2018 15:04:57 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:45:29 Pacific Daylight Time

Name: 180730G1_20, Date: 30-Jul-2018, Time: 14:03:22, ID: B8G0184-BSD1 LFBD 0.25, Description: LFBD

d5-N-EtFOSAA



CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-22.qld

Last Altered: Monday, July 30, 2018 15:10:56 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:48:26 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_22, Date: 30-Jul-2018, Time: 14:29:02, ID: 1801929-01 CBD-1RW38-0718 0.25672, Description: CBD-1RW38-0718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5		1.20e4	0.257		2.88				
2	2	PFHxA	312.7 > 268.8		7.54e3	0.257		3.23				
3	3	PFHpA	362.7 > 318.8		7.54e3	0.257		3.77				
4	4	PFHxS	398.7 > 80.7		1.20e4	0.257		3.93				
5	5	PFOA	412.8 > 369.0	3.97e1	7.54e3	0.257		4.19	4.21	0.0527	0.231	
6	6	PFNA	462.9 > 419.1		7.54e3	0.257		4.53				
7	7	PFOS	498.8 >80.7		1.20e4	0.257		4.62				
8	8	PFDA	512.8 > 469.0	2.06e1	7.54e3	0.257		4.81	4.88	0.0274	0.113	
9	9	N-MeFOSAA	569.7 > 419.0		1.14e4	0.257		4.97				
10	10	N-EtFOSAA	583.6 >419.1		1.14e4	0.257		4.98				
11	11	PFUnA	562.7 > 518.9		7.54e3	0.257		5.07				
12	12	PFDoA	612.5 > 319.0		7.54e3	0.257		5.32				
13	13	PFTrDA	662.4 > 618.7		7.54e3	0.257		5.53				
14	14	PFTeDA	712.2>668.4		7.54e3	0.257		5.71				
15	15	13C2-PFHxA	314.8 > 269.9	6.03e3	7.54e3	0.257	0.814	3.36	3.24	8.00	38.3	98.3
16	16	13C2-PFDA	514.8 > 470.0	7.90e3	7.54e3	0.257	1.032	4.78	4.85	10.5	39.5	101.5
17	17	d5-N-EtFOSAA	588.7> 419.1	1.70e4	1.14e4	0.257	1.488	4.97	5.09	59.6	156	100.2
18	18	13C2-PFOA	414.8 > 370.1	7.54e3	7.54e3	0.257	1.000	4.21	4.19	10.0	39.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.20e4	1.20e4	0.257	1.000	4.61	4.62	28.7	112	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.14e4	1.14e4	0.257	1.000	4.96	4.97	40.0	156	100.0

CGH 7/31/2018

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MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-22.qld

Last Altered: Monday, July 30, 2018 15:10:56 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:48:26 Pacific Daylight Time

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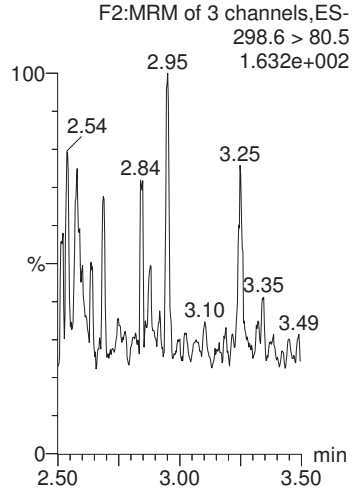
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_22, Date: 30-Jul-2018, Time: 14:29:02, ID: 1801929-01 CBD-1RW38-0718 0.25672, Description: CBD-1RW38-0718

PFBS



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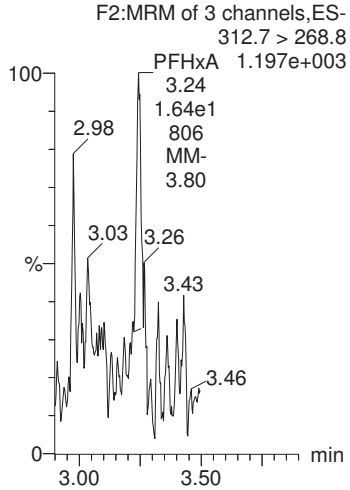

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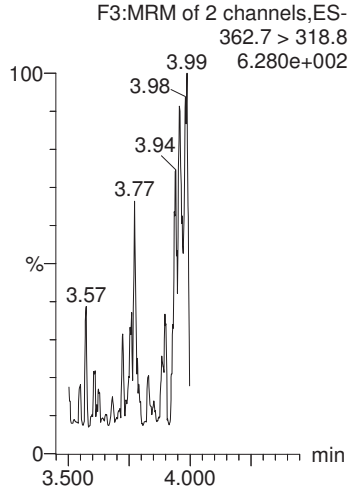

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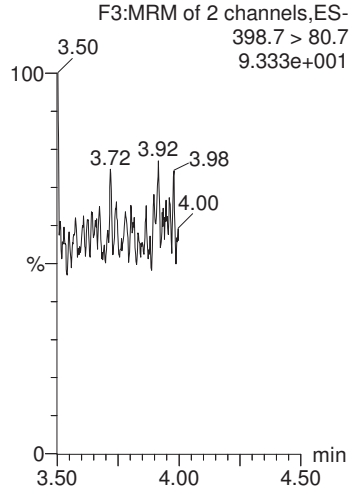
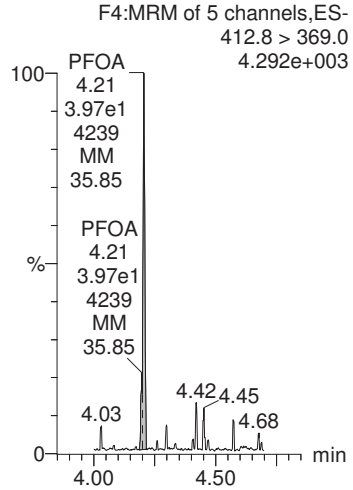


PFOA



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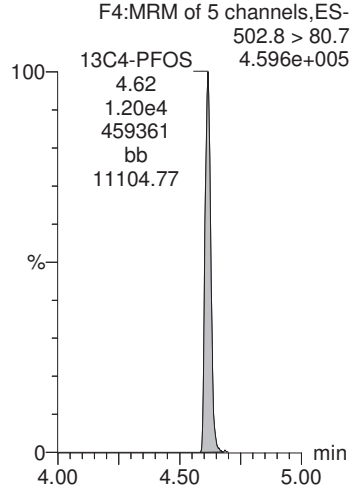

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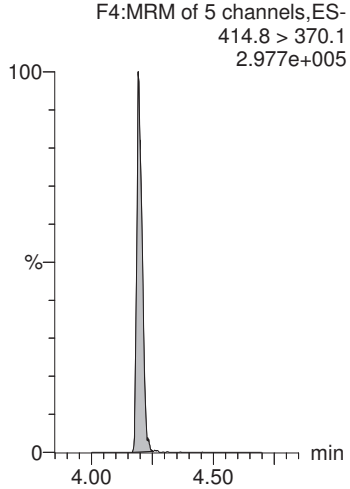

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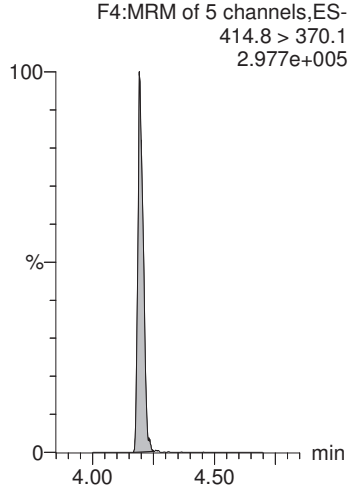

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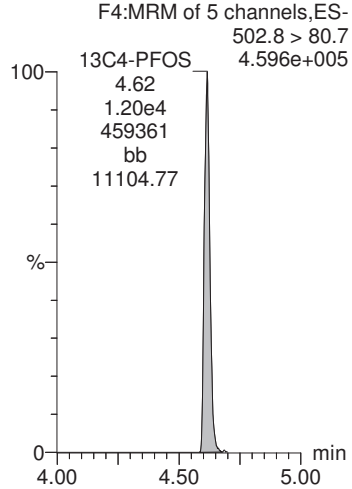

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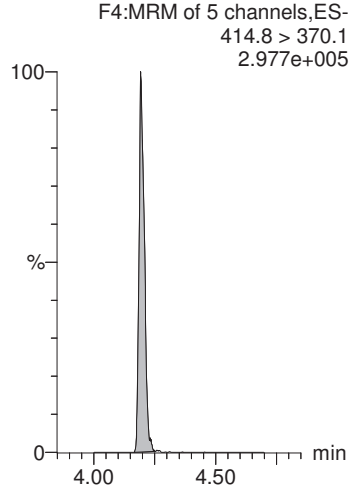

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MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-22.qld

Last Altered: Monday, July 30, 2018 15:10:56 Pacific Daylight Time
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Name: 180730G1_22, Date: 30-Jul-2018, Time: 14:29:02, ID: 1801929-01 CBD-1RW38-0718 0.25672, Description: CBD-1RW38-0718

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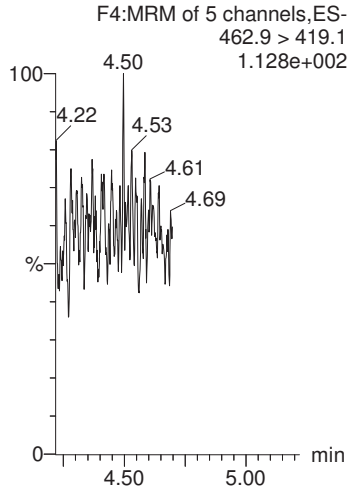

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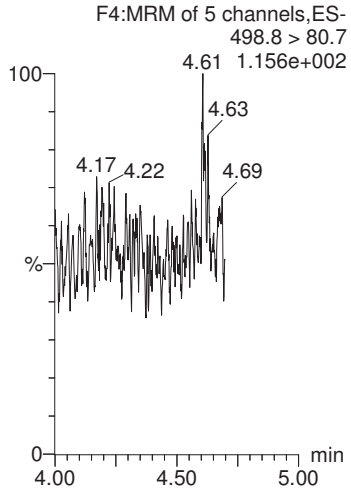

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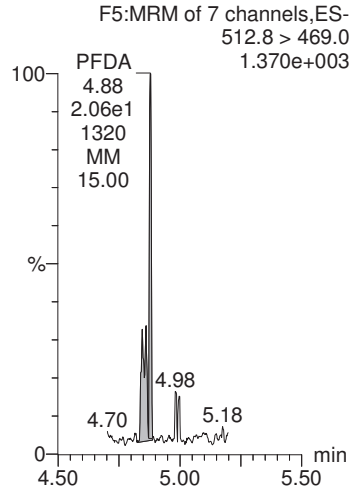

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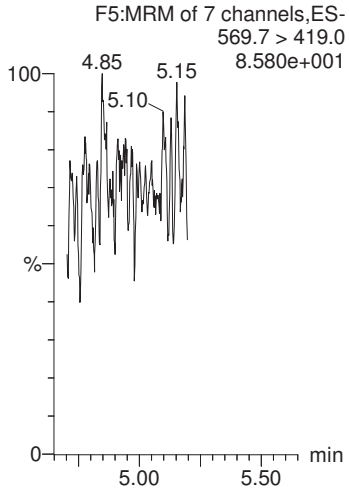

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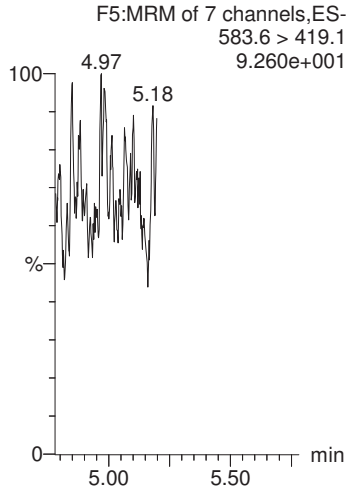

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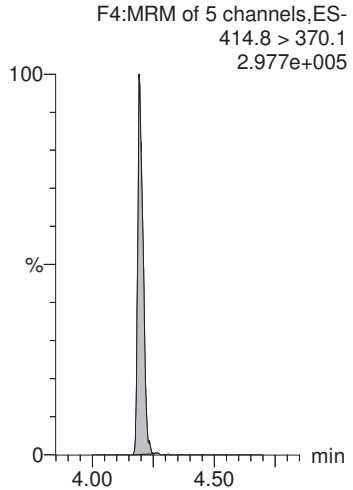

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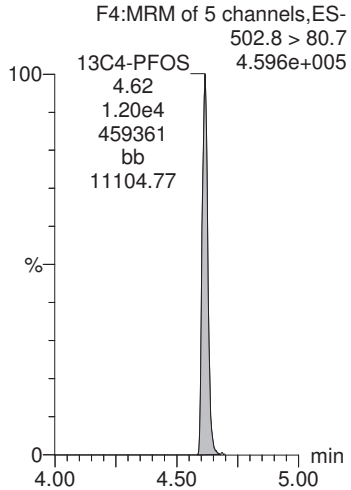

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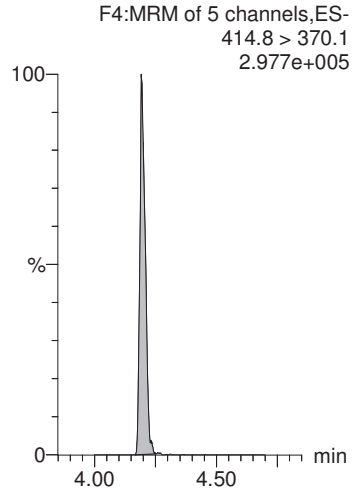

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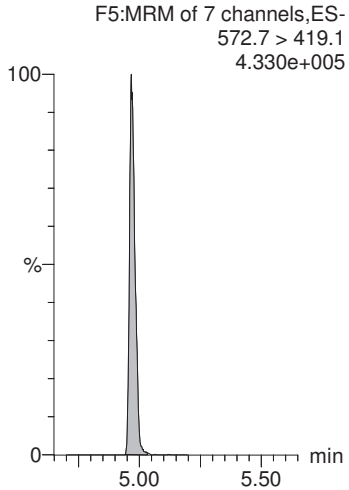

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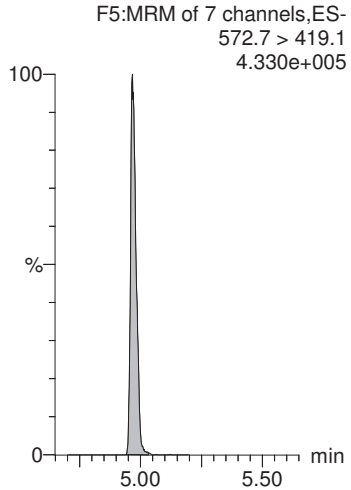

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Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-22.qld

Last Altered: Monday, July 30, 2018 15:10:56 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:48:26 Pacific Daylight Time

Name: 180730G1_22, Date: 30-Jul-2018, Time: 14:29:02, ID: 1801929-01 CBD-1RW38-0718 0.25672, Description: CBD-1RW38-0718

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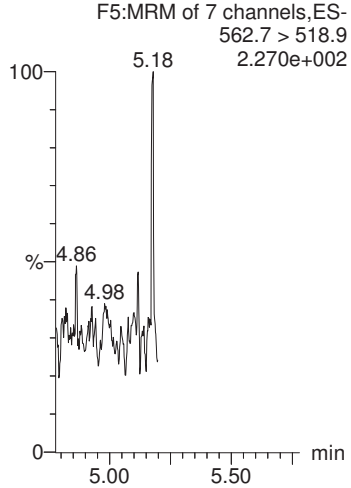

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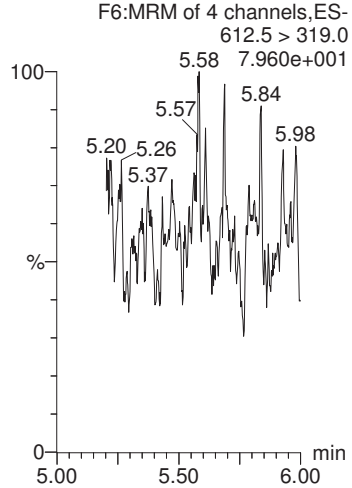

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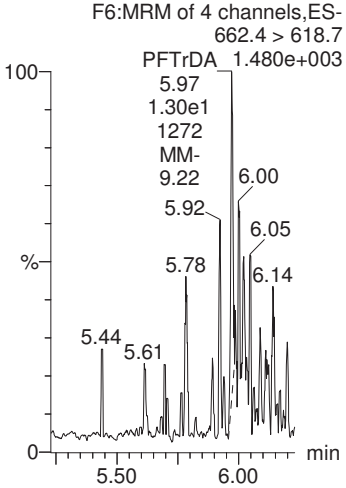

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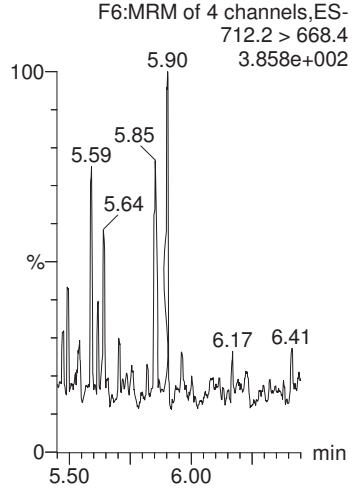

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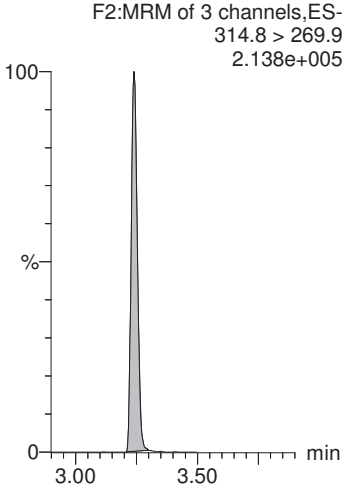

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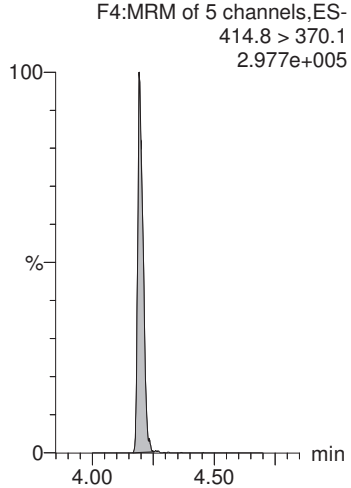

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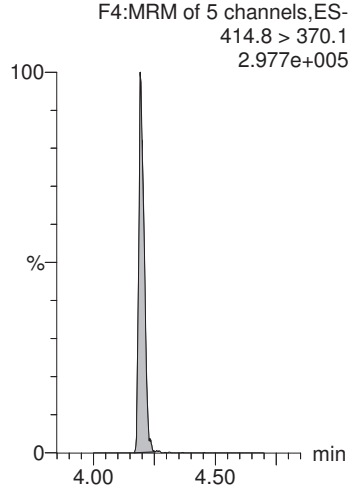

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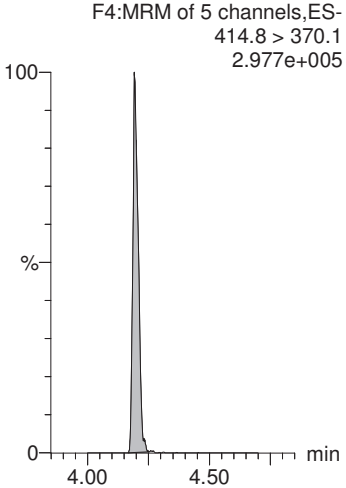

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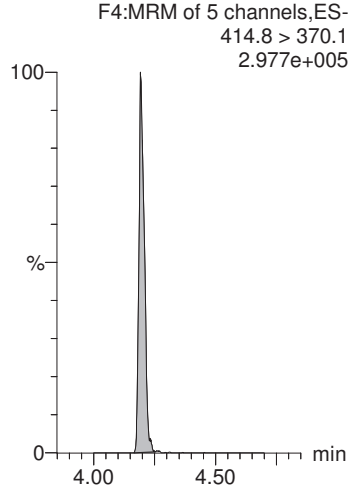

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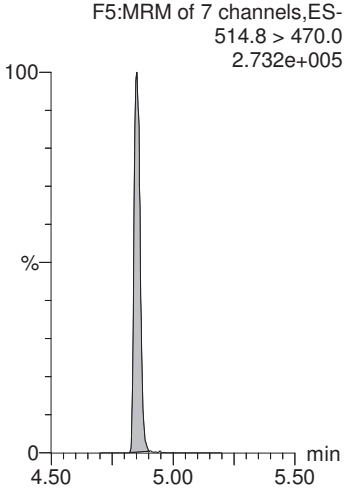

CGH 7/31/2018

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-22.qld

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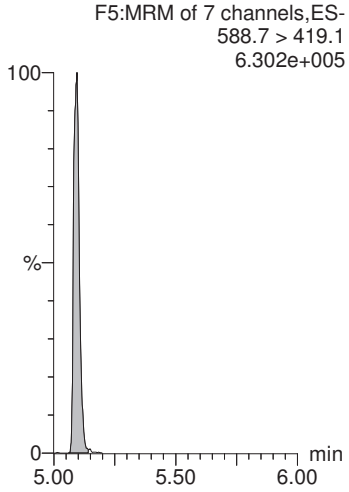
Name: 180730G1_22, Date: 30-Jul-2018, Time: 14:29:02, ID: 1801929-01 CBD-1RW38-0718 0.25672, Description: CBD-1RW38-0718

d5-N-EtFOSAA



CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-23.qld

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Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_23, Date: 30-Jul-2018, Time: 14:41:47, ID: 1801929-02 CBD-1FB38-0718 0.25869, Description: CBD-1FB38-0718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5		1.43e4	0.259		2.88				
2	2	PFHxA	312.7 > 268.8	3.23e1	8.39e3	0.259		3.24	3.25	0.0385	0.159	
3	3	PFHpA	362.7 > 318.8		8.39e3	0.259		3.77				
4	4	PFHxS	398.7 > 80.7		1.43e4	0.259		3.93				
5	5	PFOA	412.8 > 369.0	3.85e1	8.39e3	0.259		4.20	4.21	0.0459	0.200	
6	6	PFNA	462.9 > 419.1		8.39e3	0.259		4.54				
7	7	PFOS	498.8 >80.7		1.43e4	0.259		4.62				
8	8	PFDA	512.8 > 469.0	1.19e1	8.39e3	0.259		4.82	4.85	0.0142	0.0582	
9	9	N-MeFOSAA	569.7 > 419.0		1.31e4	0.259		4.97				
10	10	N-EtFOSAA	583.6 >419.1		1.31e4	0.259		4.98				
11	11	PFUnA	562.7 > 518.9		8.39e3	0.259		5.08				
12	12	PFDoA	612.5 > 319.0		8.39e3	0.259		5.32				
13	13	PFTrDA	662.4 > 618.7		8.39e3	0.259		5.53				
14	14	PFTeDA	712.2>668.4		8.39e3	0.259		5.71				
15	15	13C2-PFHxA	314.8 > 269.9	6.72e3	8.39e3	0.259	0.814	3.37	3.24	8.02	38.1	98.5
16	16	13C2-PFDA	514.8 > 470.0	8.90e3	8.39e3	0.259	1.032	4.78	4.85	10.6	39.7	102.8
17	17	d5-N-EtFOSAA	588.7> 419.1	1.84e4	1.31e4	0.259	1.488	4.97	5.09	56.0	146	94.2
18	18	13C2-PFOA	414.8 > 370.1	8.39e3	8.39e3	0.259	1.000	4.21	4.20	10.0	38.7	100.0
19	19	13C4-PFOS	502.8>80.7	1.43e4	1.43e4	0.259	1.000	4.61	4.62	28.7	111	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.31e4	1.31e4	0.259	1.000	4.96	4.97	40.0	155	100.0

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Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-23.qld

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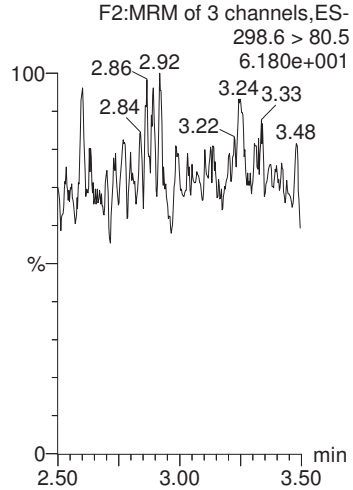
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_23, Date: 30-Jul-2018, Time: 14:41:47, ID: 1801929-02 CBD-1FB38-0718 0.25869, Description: CBD-1FB38-0718

PFBS



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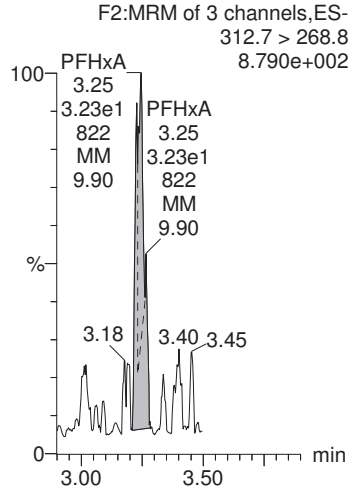

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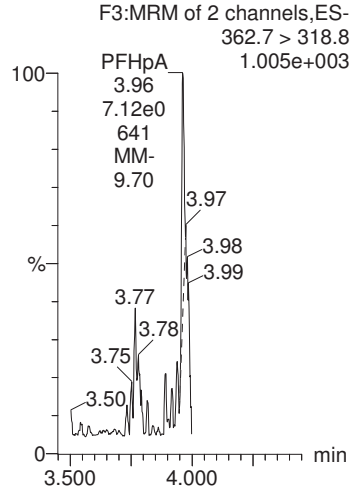

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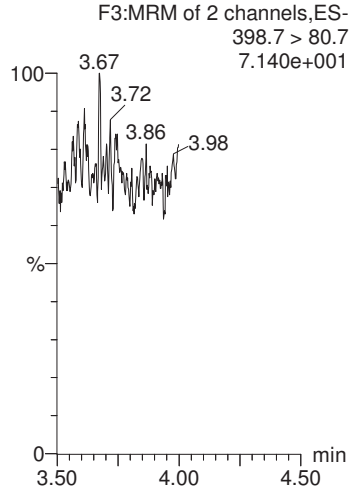

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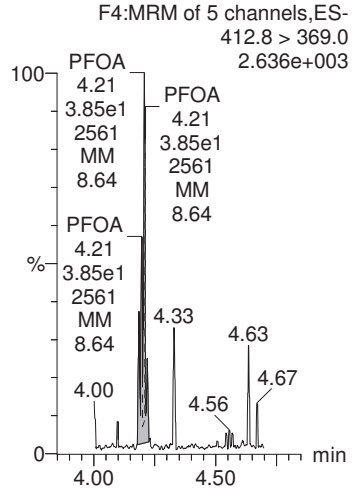

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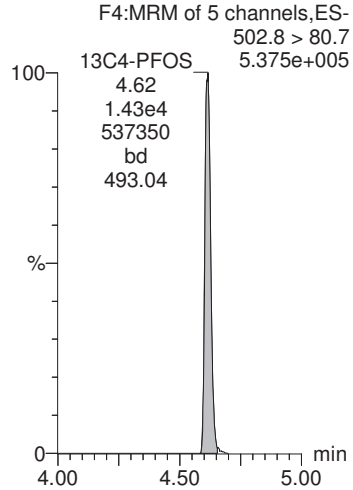

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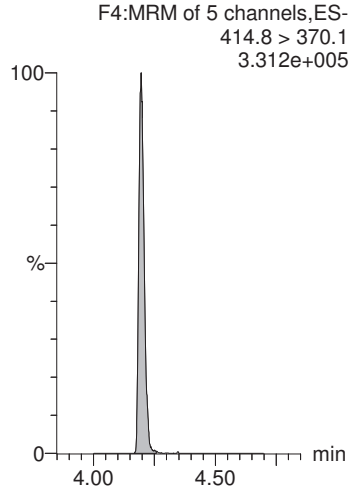
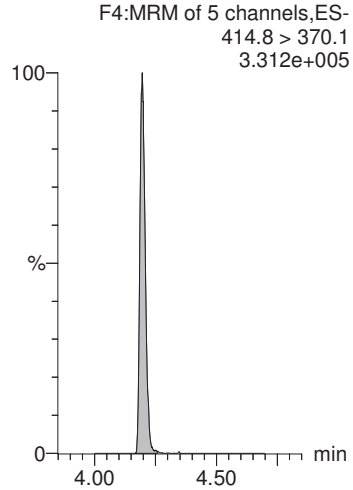
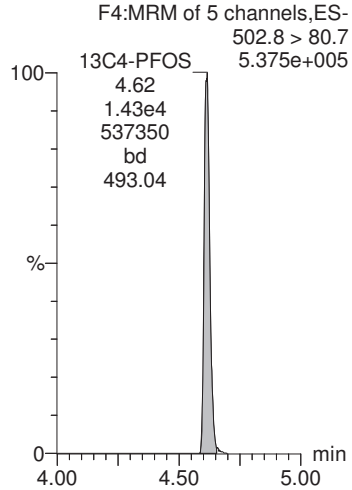


13C2-PFOA



13C4-PFOS



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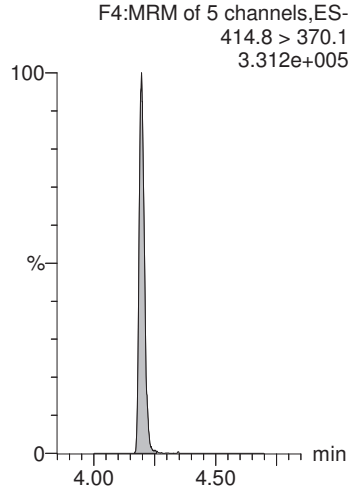

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Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-23.qld

Last Altered: Monday, July 30, 2018 15:12:41 Pacific Daylight Time
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Name: 180730G1_23, Date: 30-Jul-2018, Time: 14:41:47, ID: 1801929-02 CBD-1FB38-0718 0.25869, Description: CBD-1FB38-0718

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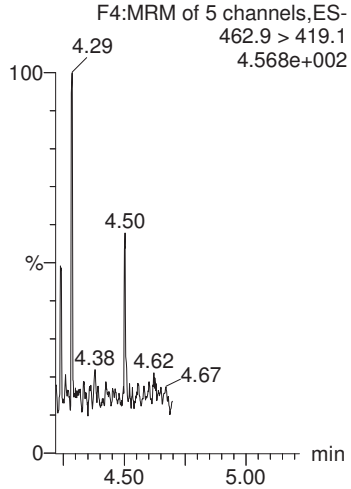

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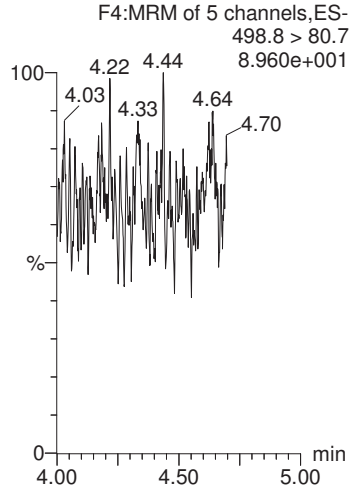

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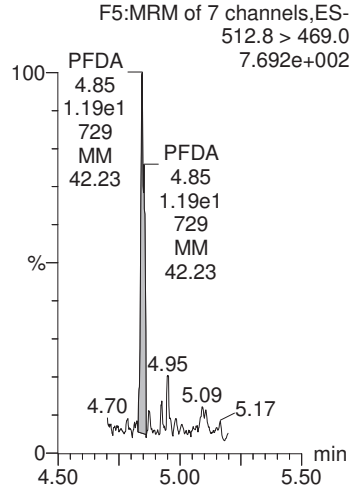

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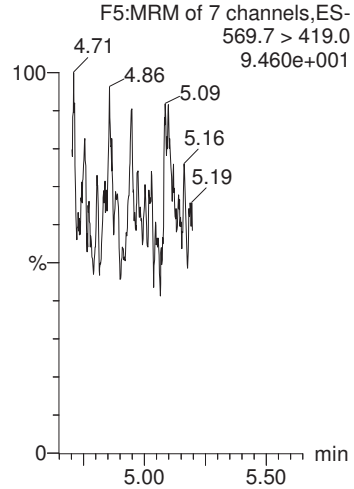

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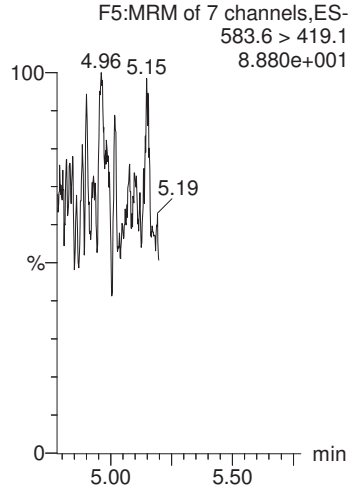

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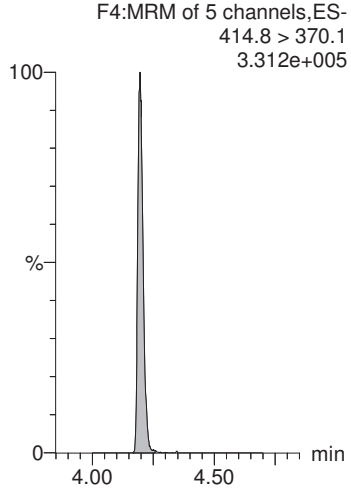

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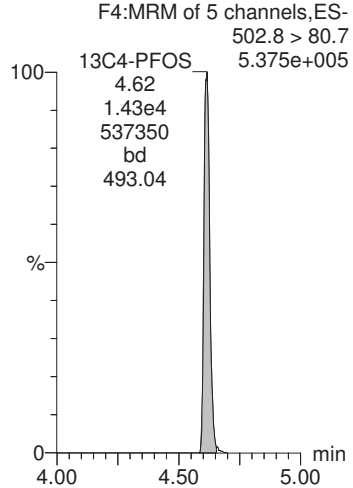

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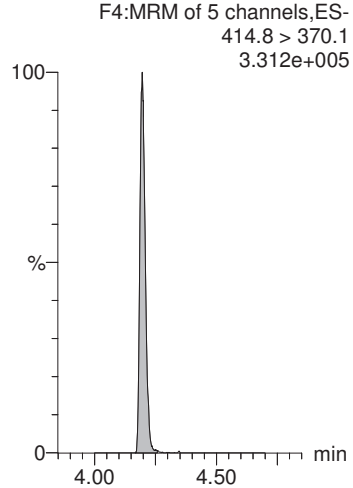

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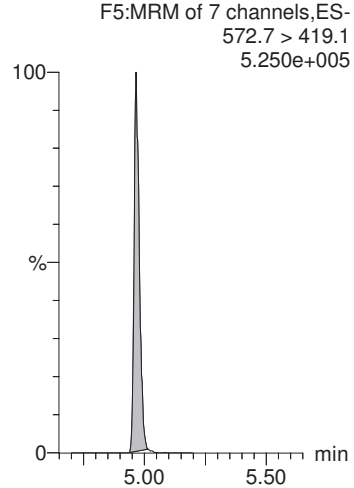

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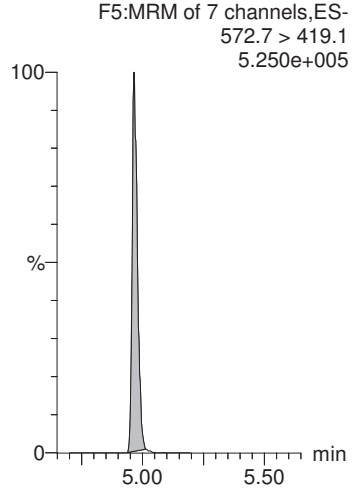

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Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-23.qld

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Name: 180730G1_23, Date: 30-Jul-2018, Time: 14:41:47, ID: 1801929-02 CBD-1FB38-0718 0.25869, Description: CBD-1FB38-0718

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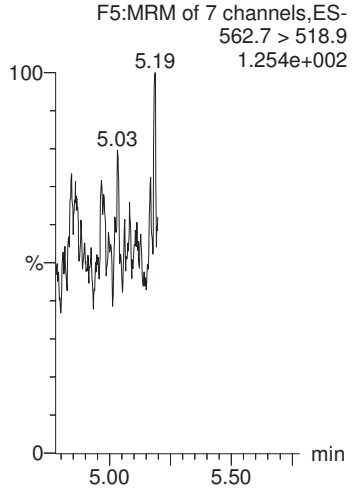

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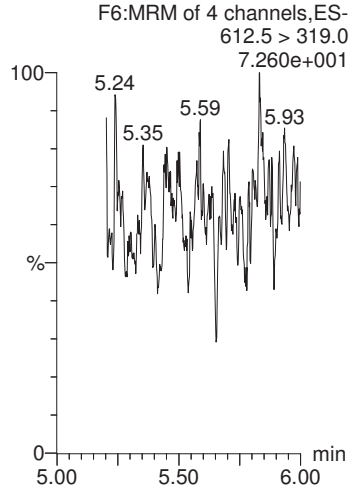

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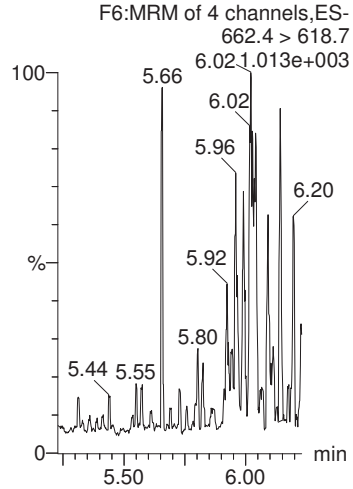

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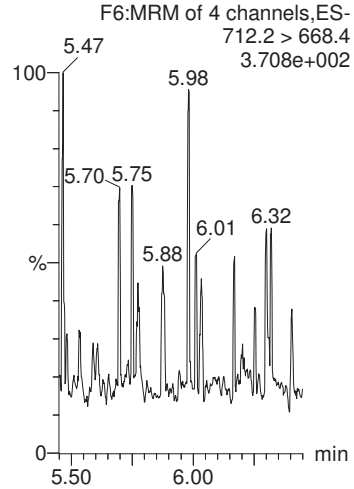

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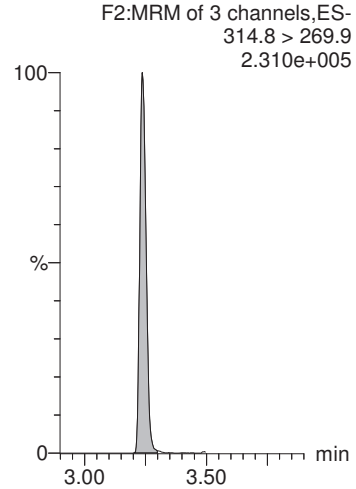

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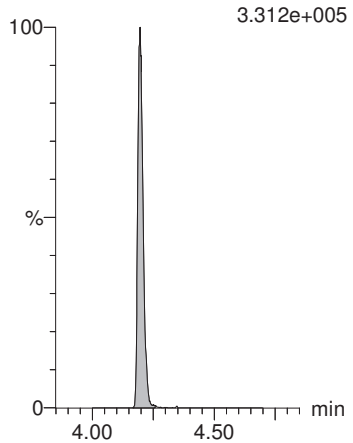

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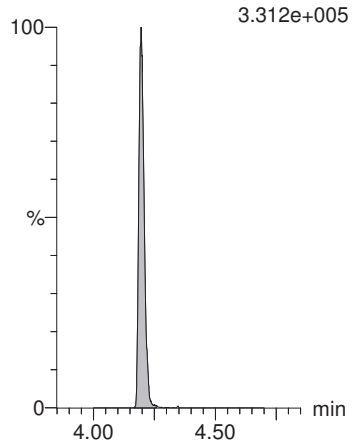

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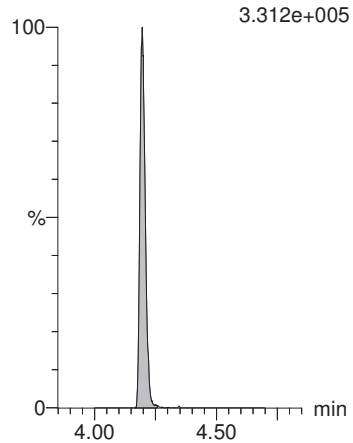

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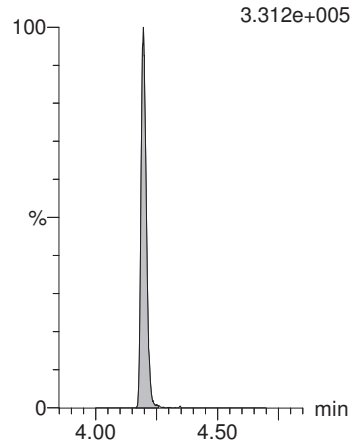

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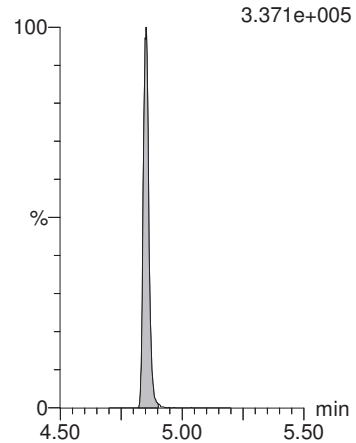

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Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-23.qld

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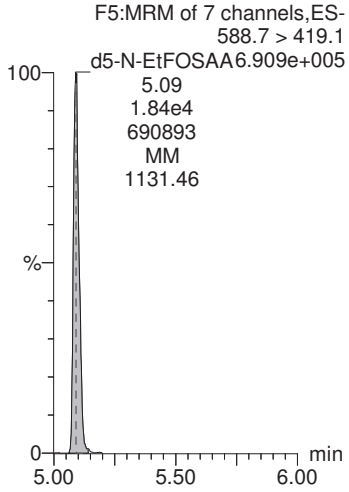
Name: 180730G1_23, Date: 30-Jul-2018, Time: 14:41:47, ID: 1801929-02 CBD-1FB38-0718 0.25869, Description: CBD-1FB38-0718

d5-N-EtFOSAA



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Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-24.qld

Last Altered: Monday, July 30, 2018 15:13:51 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:50:23 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_24, Date: 30-Jul-2018, Time: 14:54:36, ID: 1801929-03 CBD-1RW39-0718 0.25171, Description: CBD-1RW39-0718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5		1.20e4	0.252		2.88				
2	2	PFHxA	312.7 > 268.8		7.62e3	0.252		3.24				
3	3	PFHpA	362.7 > 318.8		7.62e3	0.252		3.78				
4	4	PFHxS	398.7 > 80.7		1.20e4	0.252		3.93				
5	5	PFOA	412.8 > 369.0	2.22e1	7.62e3	0.252		4.20	4.19	0.0291	0.130	
6	6	PFNA	462.9 > 419.1		7.62e3	0.252		4.54				
7	7	PFOS	498.8 >80.7		1.20e4	0.252		4.62				
8	8	PFDA	512.8 > 469.0	3.65e1	7.62e3	0.252		4.82	4.86	0.0479	0.201	
9	9	N-MeFOSAA	569.7 > 419.0		1.21e4	0.252		4.97				
10	10	N-EtFOSAA	583.6 >419.1		1.21e4	0.252		4.98				
11	11	PFUnA	562.7 > 518.9		7.62e3	0.252		5.08				
12	12	PFDoA	612.5 > 319.0		7.62e3	0.252		5.32				
13	13	PFTrDA	662.4 > 618.7		7.62e3	0.252		5.53				
14	14	PFTeDA	712.2>668.4		7.62e3	0.252		5.72				
15	15	13C2-PFHxA	314.8 > 269.9	5.94e3	7.62e3	0.252	0.814	3.37	3.24	7.79	38.0	95.8
16	16	13C2-PFDA	514.8 > 470.0	7.90e3	7.62e3	0.252	1.032	4.79	4.85	10.4	39.9	100.4
17	17	d5-N-EtFOSAA	588.7> 419.1	1.51e4	1.21e4	0.252	1.488	4.97	5.09	50.1	134	84.1
18	18	13C2-PFOA	414.8 > 370.1	7.62e3	7.62e3	0.252	1.000	4.21	4.20	10.0	39.7	100.0
19	19	13C4-PFOS	502.8>80.7	1.20e4	1.20e4	0.252	1.000	4.61	4.61	28.7	114	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.21e4	1.21e4	0.252	1.000	4.96	4.97	40.0	159	100.0

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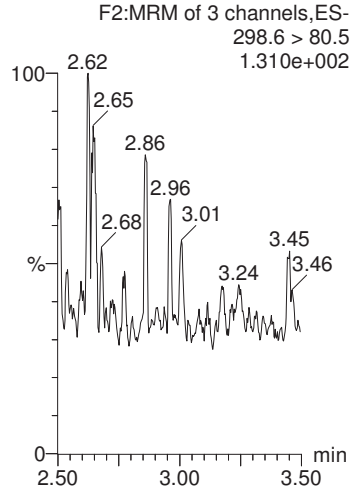
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_24, Date: 30-Jul-2018, Time: 14:54:36, ID: 1801929-03 CBD-1RW39-0718 0.25171, Description: CBD-1RW39-0718

PFBS



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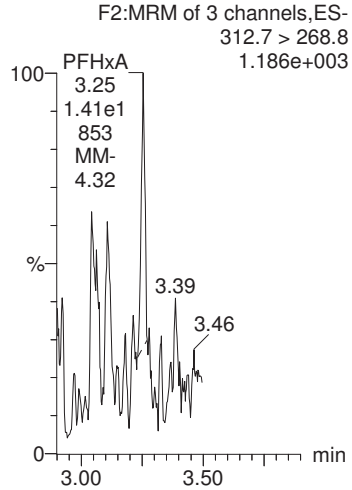

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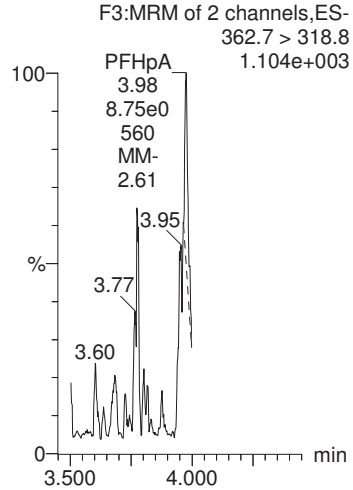

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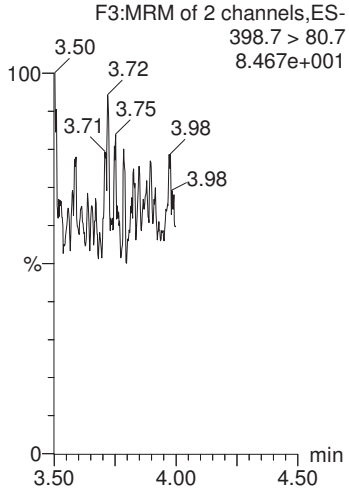
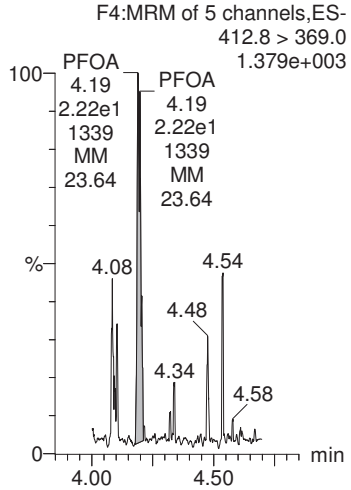


PFOA



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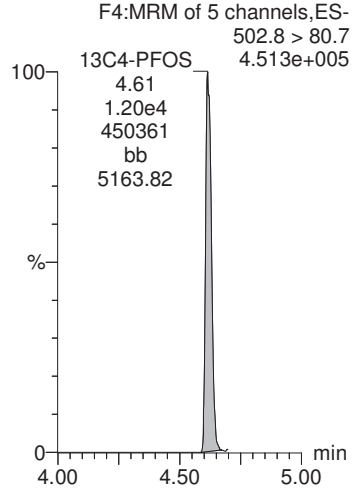

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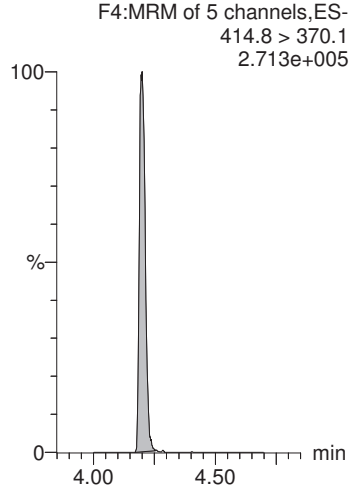

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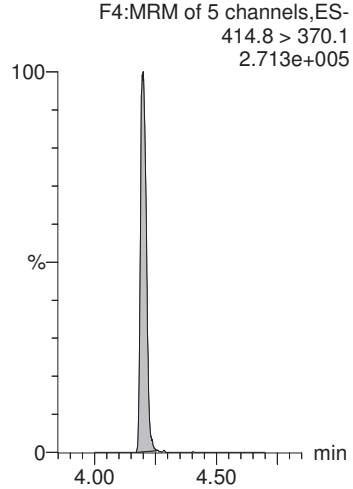

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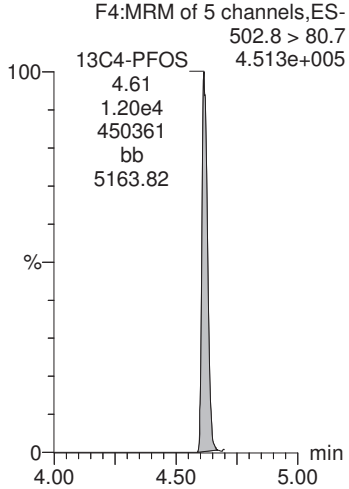

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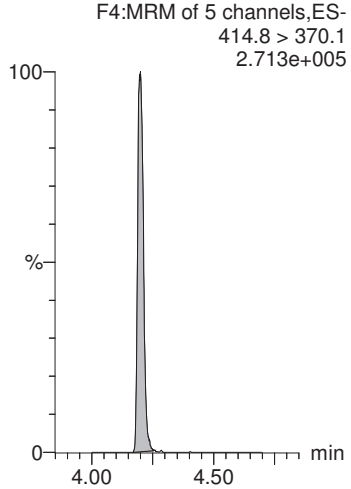

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MMM 7/31/2018

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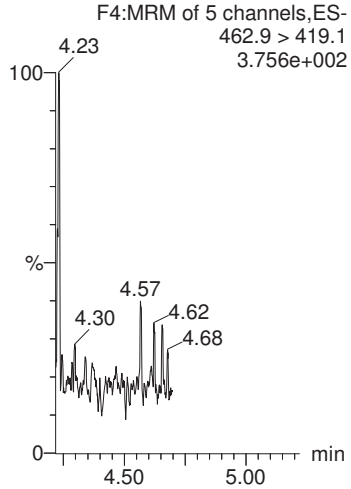
Name: 180730G1_24, Date: 30-Jul-2018, Time: 14:54:36, ID: 1801929-03 CBD-1RW39-0718 0.25171, Description: CBD-1RW39-0718

PFNA



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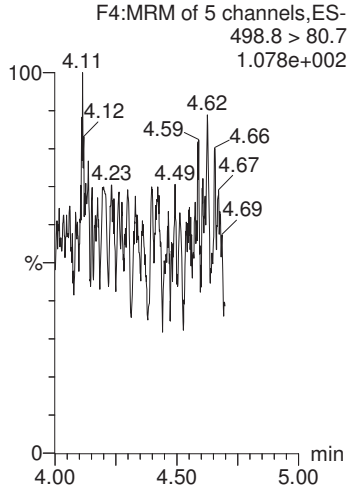

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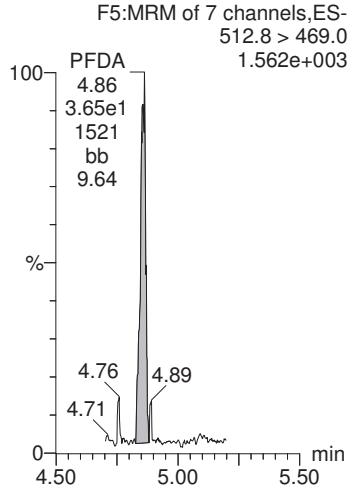

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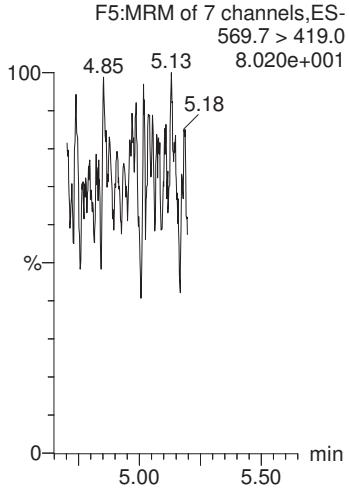

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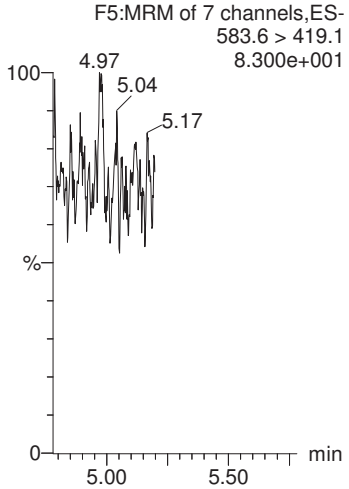

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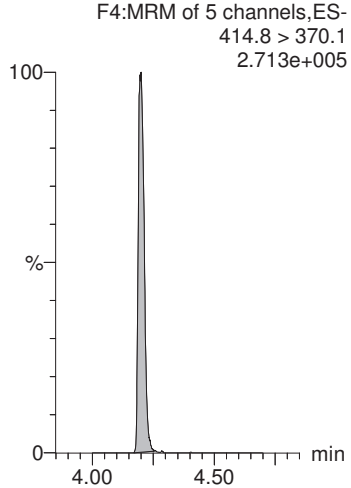

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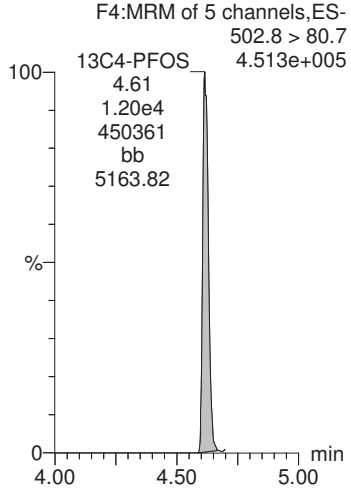

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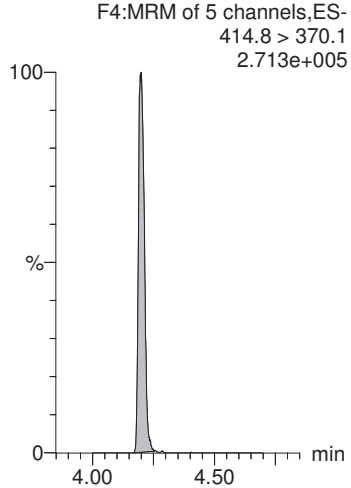

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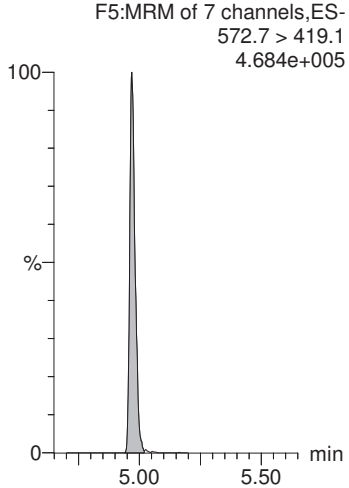

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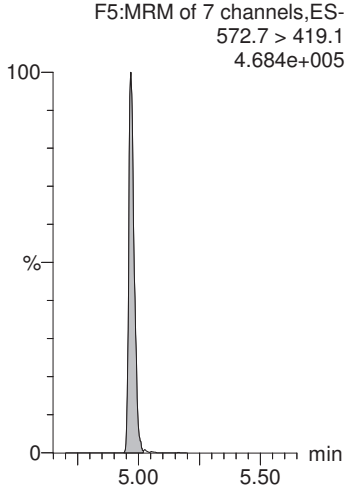

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Vista Analytical Laboratory

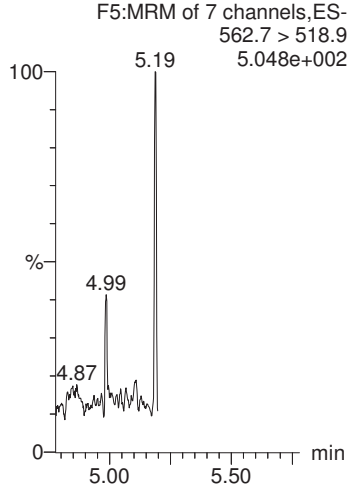
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-24.qld

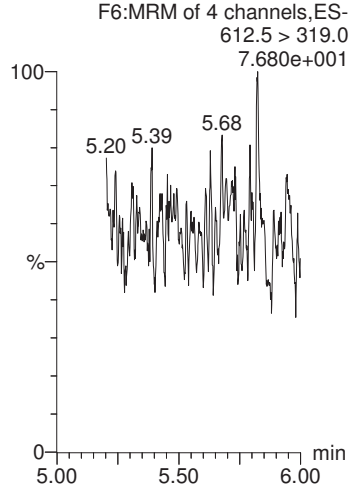
Last Altered: Monday, July 30, 2018 15:13:51 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:50:23 Pacific Daylight Time

Name: 180730G1_24, Date: 30-Jul-2018, Time: 14:54:36, ID: 1801929-03 CBD-1RW39-0718 0.25171, Description: CBD-1RW39-0718

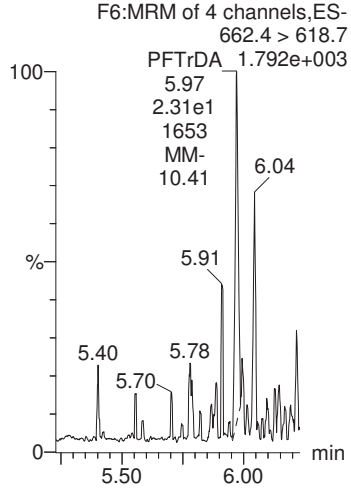
PFUnA



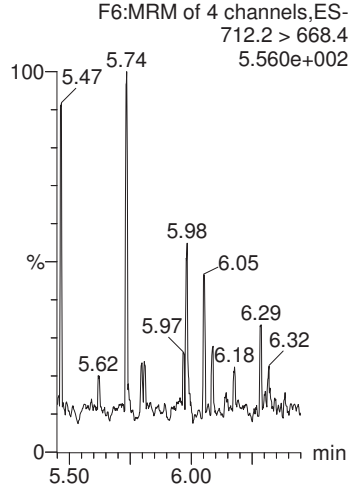
PFDoA



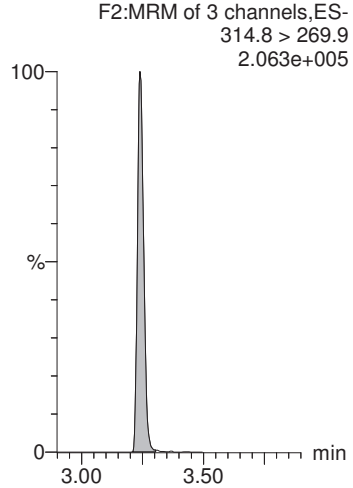
PFTrDA



PFTeDA



13C2-PFHxA



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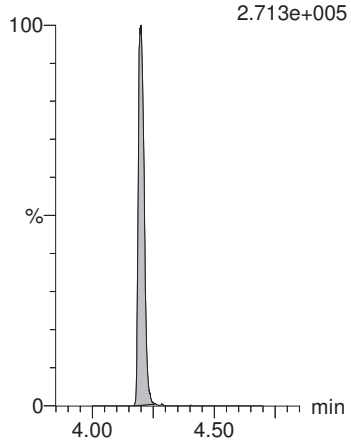

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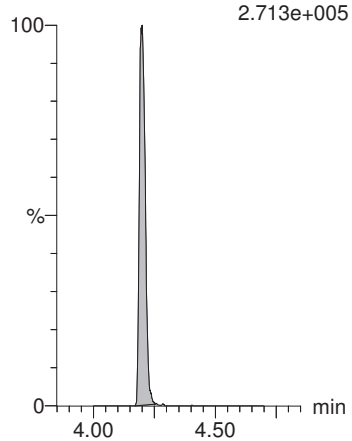

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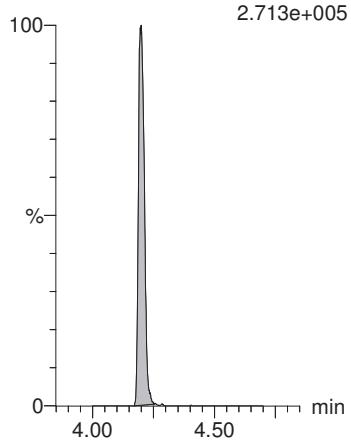

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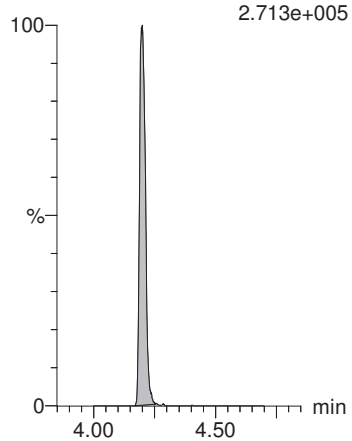

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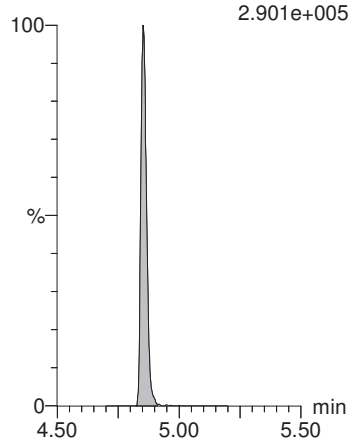


CGH 7/31/2018

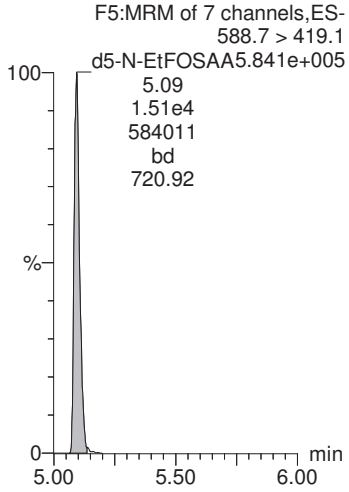
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-24.qld

Last Altered: Monday, July 30, 2018 15:13:51 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:50:23 Pacific Daylight Time

Name: 180730G1_24, Date: 30-Jul-2018, Time: 14:54:36, ID: 1801929-03 CBD-1RW39-0718 0.25171, Description: CBD-1RW39-0718

d5-N-EtFOSAA



CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-25.qld

Last Altered: Monday, July 30, 2018 15:30:41 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:51:15 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_25, Date: 30-Jul-2018, Time: 15:07:26, ID: 1801929-04 CBD-1FB39-0718 0.25728, Description: CBD-1FB39-0718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5		1.50e4	0.257		2.88				
2	2	PFHxA	312.7 > 268.8	3.85e1	9.19e3	0.257		3.24	3.24	0.0420	0.174	
3	3	PFHpA	362.7 > 318.8		9.19e3	0.257		3.78				
4	4	PFHxS	398.7 > 80.7		1.50e4	0.257		3.93				
5	5	PFOA	412.8 > 369.0	2.47e1	9.19e3	0.257		4.20	4.21	0.0269	0.117	
6	6	PFNA	462.9 > 419.1		9.19e3	0.257		4.54				
7	7	PFOS	498.8 >80.7	1.42e0	1.50e4	0.257		4.62	4.61	0.00271	0.0257	
8	8	PFDA	512.8 > 469.0	1.75e1	9.19e3	0.257		4.82	4.87	0.0191	0.0783	
9	9	N-MeFOSAA	569.7 > 419.0		1.40e4	0.257		4.97				
10	10	N-EtFOSAA	583.6 >419.1		1.40e4	0.257		4.98				
11	11	PFUnA	562.7 > 518.9		9.19e3	0.257		5.08				
12	12	PFDoA	612.5 > 319.0		9.19e3	0.257		5.32				
13	13	PFTrDA	662.4 > 618.7		9.19e3	0.257		5.53				
14	14	PFTeDA	712.2>668.4		9.19e3	0.257		5.71				
15	15	13C2-PFHxA	314.8 > 269.9	7.31e3	9.19e3	0.257	0.814	3.37	3.24	7.96	38.0	97.8
16	16	13C2-PFDA	514.8 > 470.0	9.47e3	9.19e3	0.257	1.032	4.78	4.85	10.3	38.8	99.9
17	17	d5-N-EtFOSAA	588.7> 419.1	1.85e4	1.40e4	0.257	1.488	4.97	5.09	52.8	138	88.7
18	18	13C2-PFOA	414.8 > 370.1	9.19e3	9.19e3	0.257	1.000	4.21	4.20	10.0	38.9	100.0
19	19	13C4-PFOS	502.8>80.7	1.50e4	1.50e4	0.257	1.000	4.61	4.62	28.7	112	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.40e4	1.40e4	0.257	1.000	4.96	4.97	40.0	155	100.0

CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

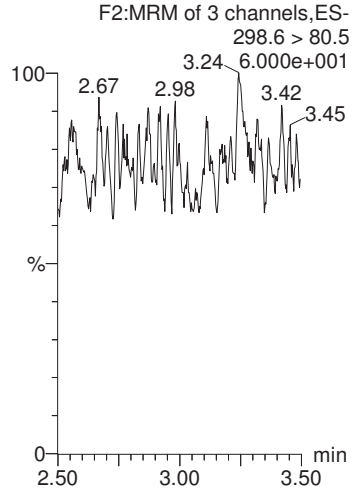
Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-25.qld

Last Altered: Monday, July 30, 2018 15:30:41 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:51:15 Pacific Daylight Time

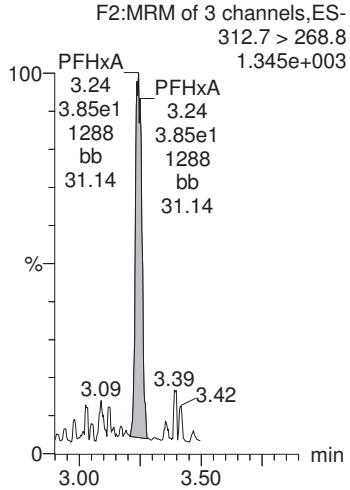
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_25, Date: 30-Jul-2018, Time: 15:07:26, ID: 1801929-04 CBD-1FB39-0718 0.25728, Description: CBD-1FB39-0718

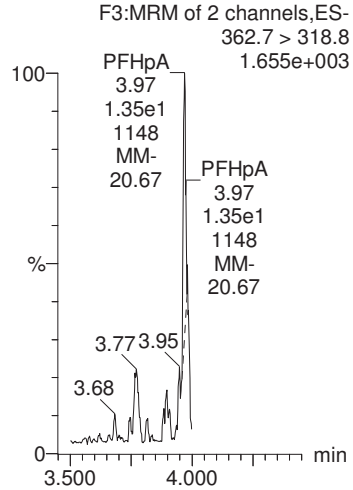
PFBS



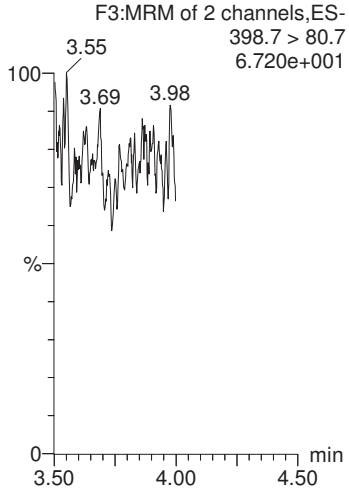
PFHxA



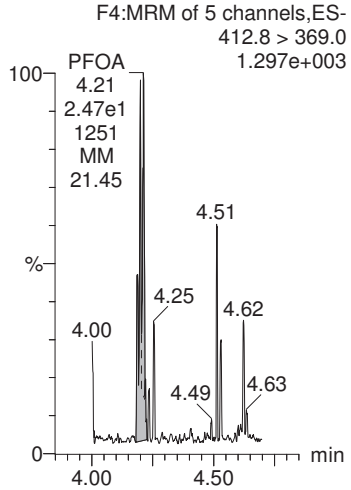
PFHpA



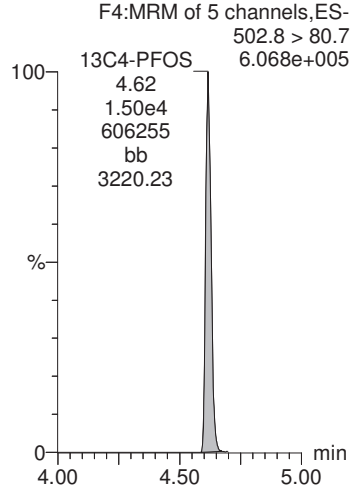
PFHxS



PFOA



13C4-PFOS



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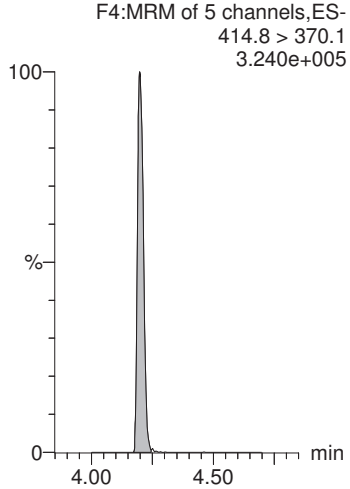

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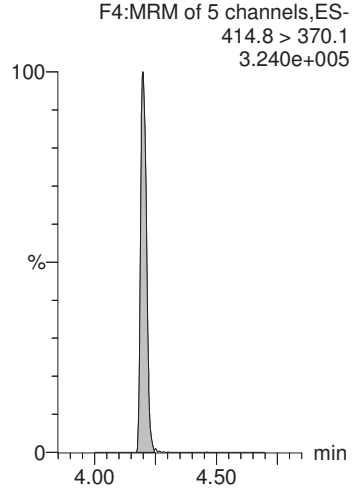

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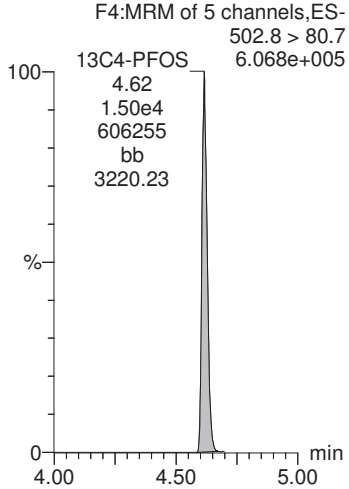

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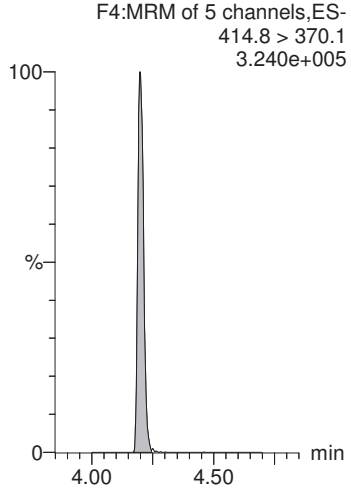


CGH 7/31/2018

Vista Analytical Laboratory

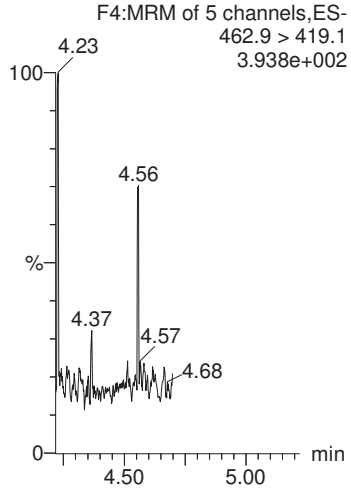
MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-25.qld

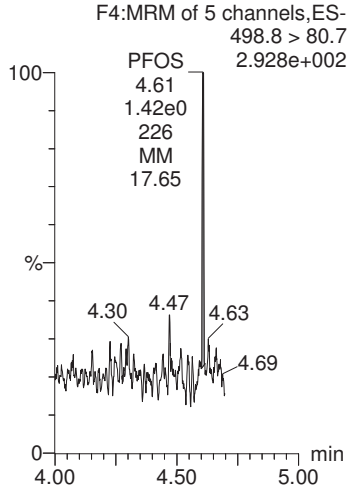
Last Altered: Monday, July 30, 2018 15:30:41 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 10:51:15 Pacific Daylight Time

Name: 180730G1_25, Date: 30-Jul-2018, Time: 15:07:26, ID: 1801929-04 CBD-1FB39-0718 0.25728, Description: CBD-1FB39-0718

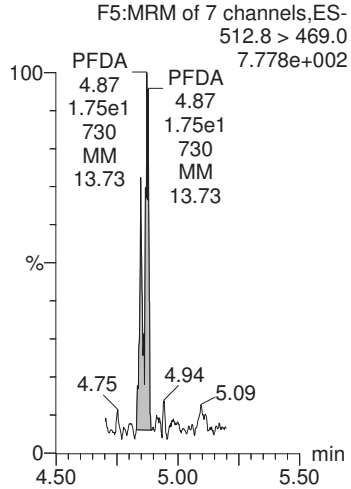
PFNA



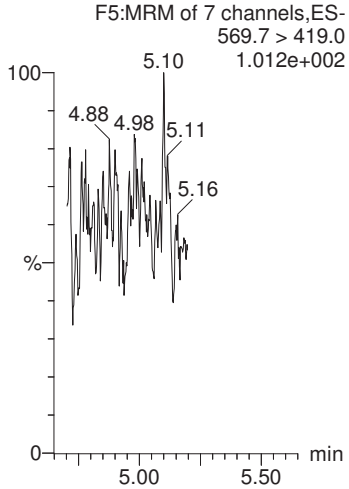
PFOS



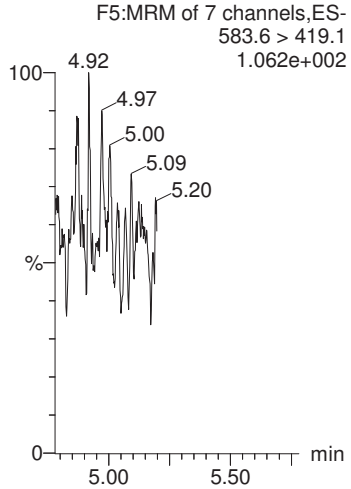
PFDA



N-MeFOSAA



N-EtFOSAA



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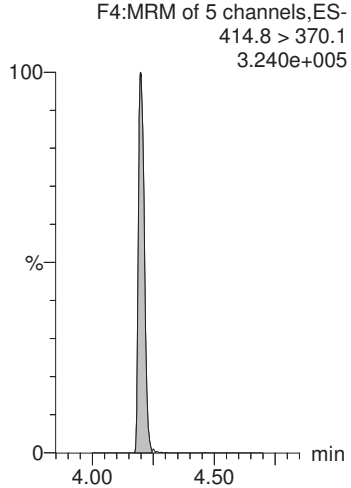

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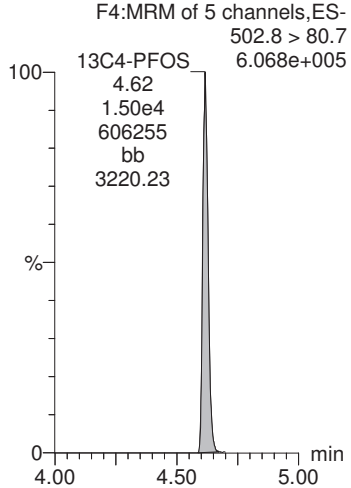

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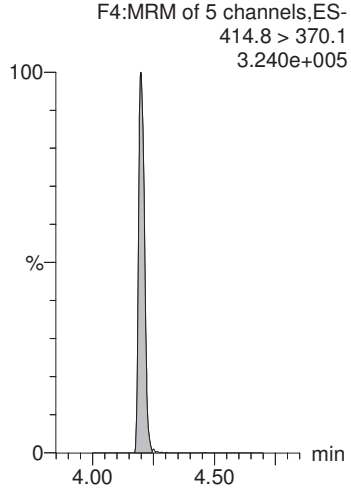
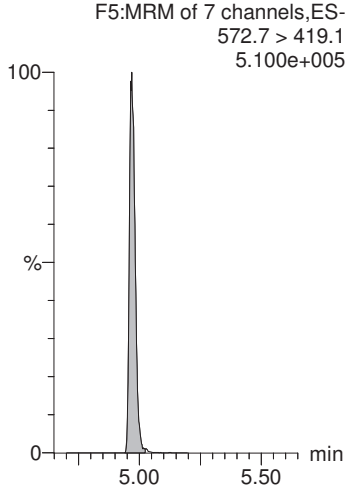


d3-N-MeFOSAA



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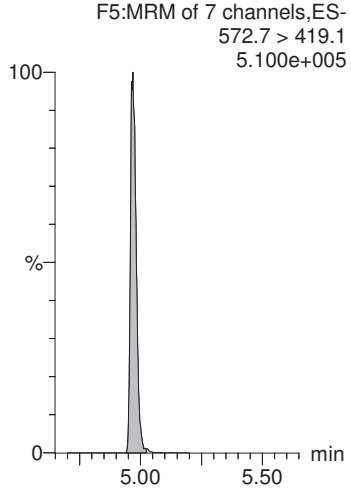

CGH 7/31/2018

Vista Analytical Laboratory

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-25.qld

Last Altered: Monday, July 30, 2018 15:30:41 Pacific Daylight Time
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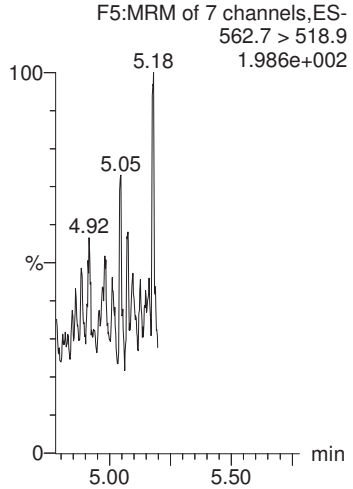
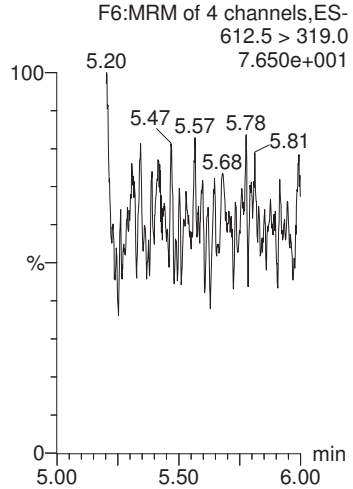
Name: 180730G1_25, Date: 30-Jul-2018, Time: 15:07:26, ID: 1801929-04 CBD-1FB39-0718 0.25728, Description: CBD-1FB39-0718

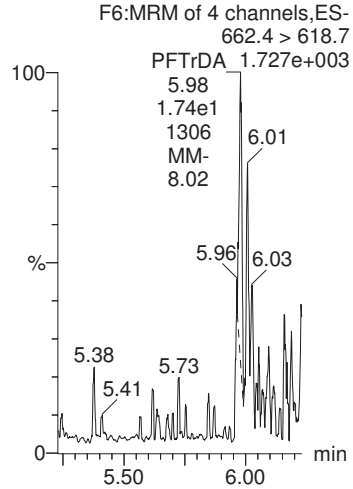
PFUnA



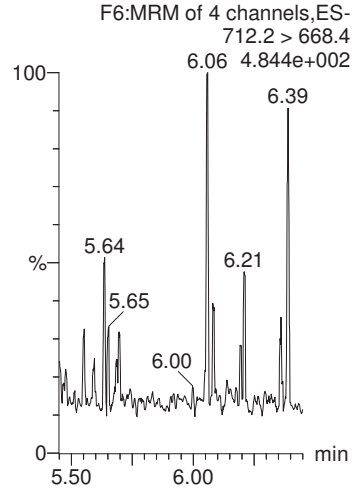
PFDoA



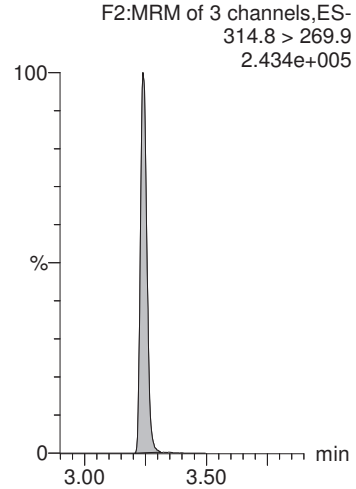
PFTrDA



PFTeDA



13C2-PFHxA



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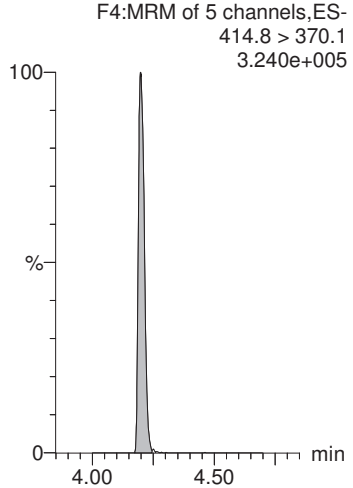

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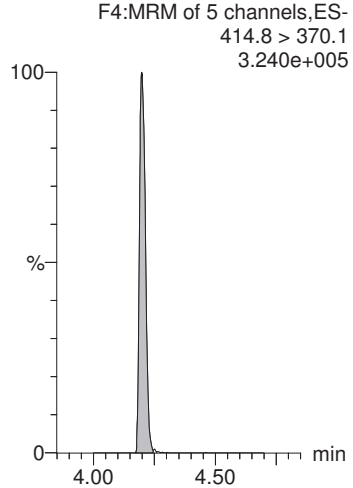

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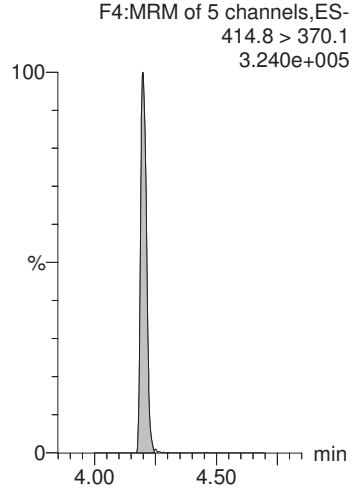

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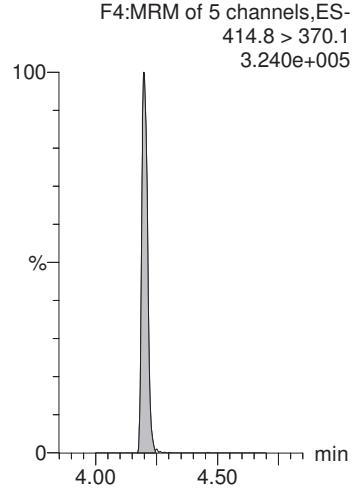

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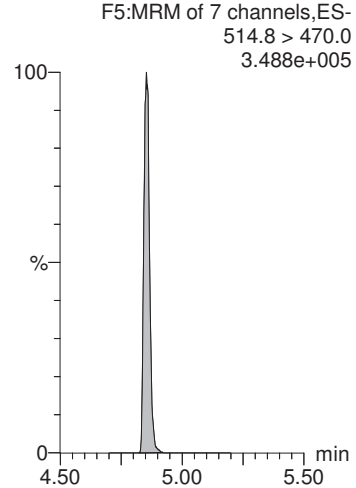

CGH 7/31/2018

MMM 7/31/2018

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-25.qld

Last Altered: Monday, July 30, 2018 15:30:41 Pacific Daylight Time
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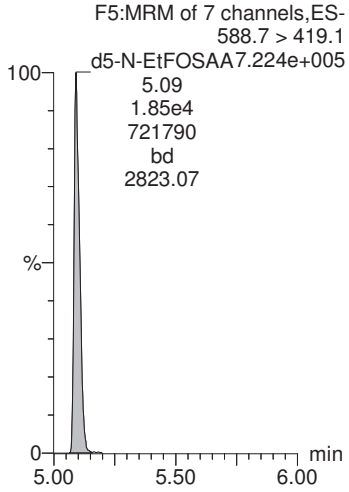
Name: 180730G1_25, Date: 30-Jul-2018, Time: 15:07:26, ID: 1801929-04 CBD-1FB39-0718 0.25728, Description: CBD-1FB39-0718

d5-N-EtFOSAA



CGH 7/31/2018

INJECTION INTERNAL STANDARD (IIS) AREAS,

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS CCV)

ICAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Con	RT	Area	ICAL Area	%AREA	
1	IPA	180730G1_1	Analyte	10.00					
2	ST180730G1-1 PFC CS-1 537 18G2704	180730G1_2	Analyte	10.00	4.20	8306.16	8072.67	102.89	
3	IPA	180730G1_3	Analyte	10.00			8072.67	0.00	
4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	10.00	4.20	8148.73	8072.67	100.94	
5	IPA	180730G1_5	Analyte	10.00			8072.67	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	10.00	4.20	1876.64	8072.67	23.25	DIL
7	IPA	180730G1_7	Analyte	10.00			8072.67	0.00	
8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	10.00	4.20	8587.36	8072.67	106.38	
9	IPA	180730G1_9	Analyte	10.00			8072.67	0.00	
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	10.00	4.20	10164.06	8072.67	125.91	
11	IPA	180730G1_11	Analyte	10.00			8072.67	0.00	
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	10.00	4.20	11243.08	8072.67	139.27	
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	10.00	4.20	8791.15	8072.67	108.90	
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	10.00	4.20	11044.09	8072.67	136.81	
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	10.00	4.20	9404.46	8072.67	116.50	
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	10.00	4.20	9854.29	8072.67	122.07	
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	10.00	4.20	8293.31	8072.67	102.73	
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	10.00	4.20	10510.77	8072.67	130.20	
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	10.00	4.20	8101.25	8072.67	100.35	
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	10.00	4.20	8345.19	8072.67	103.38	
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	10.00	4.19	7801.04	8072.67	96.64	
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	10.00	4.19	7538.43	8072.67	93.38	
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	10.00	4.20	8387.09	8072.67	103.89	
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	10.00	4.20	7619.44	8072.67	94.39	
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	10.00	4.20	9185.06	8072.67	113.78	
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	10.00	4.20	8046.30	8072.67	99.67	
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	10.00	4.20	7394.81	8072.67	91.60	
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	10.00	4.19	6935.17	8072.67	85.91	
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	10.00	4.20	8027.39	8072.67	99.44	
30	IPA	180730G1_30	Analyte	10.00			8072.67	0.00	

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31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	10.00	4.20	7742.67	8072.67	95.91
32	IPA	180730G1_32	Analyte	10.00			8072.67	0.00
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	10.00	4.20	7371.83	8072.67	91.32
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	10.00	4.20	7735.00	8072.67	95.82
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	10.00	4.20	7224.08	8072.67	89.49
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	10.00	4.20	9414.71	8072.67	116.62
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	10.00	4.20	7646.62	8072.67	94.72
38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	10.00	4.20	8118.03	8072.67	100.56
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	10.00	4.20	8364.83	8072.67	103.62
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	10.00	4.20	8188.67	8072.67	101.44
41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	10.00	4.20	7673.38	8072.67	95.05
42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	10.00	4.20	9105.33	8072.67	112.79
43	IPA	180730G1_43	Analyte	10.00			8072.67	0.00
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	10.00	4.20	8063.33	8072.67	99.88
45	IPA	180730G1_45	Analyte	10.00			8072.67	0.00
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	10.00	4.20	8029.18	8072.67	99.46
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	10.00	4.20	8464.60	8072.67	104.86
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	10.00	4.19	8146.91	8072.67	100.92
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	10.00	4.20	8096.88	8072.67	100.30
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	10.00	4.19	8107.89	8072.67	100.44
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	10.00	4.20	8114.73	8072.67	100.52
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	10.00	4.20	8353.40	8072.67	103.48
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	10.00	4.20	7632.39	8072.67	94.55
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	10.00	4.20	8571.99	8072.67	106.19
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	10.00	4.20	11143.22	8072.67	138.04
56	IPA	180730G1_56	Analyte	10.00			8072.67	0.00
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	10.00	4.20	8190.66	8072.67	101.46
58	IPA	180730G1_58	Analyte	10.00				

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Con	RT	Area	ICAL Area	%AREA
1	IPA	180730G1_1	Analyte	28.70				
2	ST180730G1-1 PFC CS-1 537 18G2704	180730G1_2	Analyte	28.70	4.61	13728.74	13016.35	105.47
3	IPA	180730G1_3	Analyte	28.70			13016.35	0.00

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4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	28.70	4.61	13976.32	13016.35	107.38	
5	IPA	180730G1_5	Analyte	28.70			13016.35	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	28.70	4.61	3019.38	13016.35	23.20	DIL
7	IPA	180730G1_7	Analyte	28.70			13016.35	0.00	
8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	28.70	4.62	15029.56	13016.35	115.47	
9	IPA	180730G1_9	Analyte	28.70			13016.35	0.00	
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	28.70	4.61	17043.35	13016.35	130.94	
11	IPA	180730G1_11	Analyte	28.70			13016.35	0.00	
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	28.70	4.62	21152.08	13016.35	162.50	
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	28.70	4.62	15904.64	13016.35	122.19	
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	28.70	4.61	18294.89	13016.35	140.55	
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	28.70	4.61	15613.01	13016.35	119.95	
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	28.70	4.61	15496.52	13016.35	119.05	
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	28.70	4.62	14546.27	13016.35	111.75	
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	28.70	4.62	15960.33	13016.35	122.62	
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	28.70	4.61	13548.45	13016.35	104.09	
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	28.70	4.61	12777.26	13016.35	98.16	
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	28.70	4.62	12162.66	13016.35	93.44	
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	28.70	4.62	12040.97	13016.35	92.51	
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	28.70	4.62	14348.39	13016.35	110.23	
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	28.70	4.61	12028.05	13016.35	92.41	
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	28.70	4.62	14991.61	13016.35	115.18	
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	28.70	4.61	12718.83	13016.35	97.71	
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	28.70	4.61	12310.18	13016.35	94.57	
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	28.70	4.62	12213.92	13016.35	93.84	
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	28.70	4.61	12346.44	13016.35	94.85	
30	IPA	180730G1_30	Analyte	28.70			13016.35	0.00	
31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	28.70	4.62	13004.94	13016.35	99.91	
32	IPA	180730G1_32	Analyte	28.70			13016.35	0.00	
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	28.70	4.61	12312.33	13016.35	94.59	
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	28.70	4.61	12190.52	13016.35	93.66	
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	28.70	4.62	10981.45	13016.35	84.37	
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	28.70	4.61	14978.60	13016.35	115.08	
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	28.70	4.61	11910.48	13016.35	91.50	

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38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	28.70	4.61	12651.28	13016.35	97.20
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	28.70	4.61	12691.74	13016.35	97.51
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	28.70	4.61	13111.33	13016.35	100.73
41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	28.70	4.61	12314.65	13016.35	94.61
42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	28.70	4.61	14249.08	13016.35	109.47
43	IPA	180730G1_43	Analyte	28.70			13016.35	0.00
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	28.70	4.61	13124.09	13016.35	100.83
45	IPA	180730G1_45	Analyte	28.70			13016.35	0.00
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	28.70	4.62	12133.03	13016.35	93.21
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	28.70	4.62	12427.85	13016.35	95.48
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	28.70	4.61	12644.90	13016.35	97.15
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	28.70	4.62	12881.09	13016.35	98.96
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	28.70	4.62	12334.64	13016.35	94.76
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	28.70	4.61	13177.08	13016.35	101.23
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	28.70	4.61	13429.58	13016.35	103.17
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	28.70	4.61	12306.39	13016.35	94.55
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	28.70	4.62	13861.49	13016.35	106.49
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	28.70	4.62	15935.44	13016.35	122.43
56	IPA	180730G1_56	Analyte	28.70			13016.35	0.00
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	28.70	4.62	13149.97	13016.35	101.03
58	IPA	180730G1_58	Analyte	28.70				

Compound 20: d3-N-MeFOSAA

	ID	Name	Type	Std. Con	RT	Area	ICAL Area	%AREA	
1	IPA	180730G1_1	Analyte	40.00					
2	ST180730G1-1 PFC CS-1 537 18G2704	180730G1_2	Analyte	40.00	4.97	13182.29	10670.69	123.54	
3	IPA	180730G1_3	Analyte	40.00			10670.69	0.00	
4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	40.00	4.96	14325.19	10670.69	134.25	
5	IPA	180730G1_5	Analyte	40.00			10670.69	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	40.00	4.96	2865.74	10670.69	26.86	DIL
7	IPA	180730G1_7	Analyte	40.00			10670.69	0.00	

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8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	40.00	4.97	13691.82	10670.69	128.31
9	IPA	180730G1_9	Analyte	40.00			10670.69	0.00
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	40.00	4.96	14931.65	10670.69	139.93
11	IPA	180730G1_11	Analyte	40.00			10670.69	0.00
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	40.00	4.97	17629.09	10670.69	165.21
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	40.00	4.97	14520.72	10670.69	136.08
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	40.00	4.97	16893.99	10670.69	158.32
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	40.00	4.97	14986.28	10670.69	140.44
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	40.00	4.97	14847.01	10670.69	139.14
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	40.00	4.98	14214.88	10670.69	133.21
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	40.00	4.97	13805.23	10670.69	129.38
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	40.00	4.97	12076.07	10670.69	113.17
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	40.00	4.97	12307.01	10670.69	115.33
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	40.00	4.97	12385.69	10670.69	116.07
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	40.00	4.97	11407.88	10670.69	106.91
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	40.00	4.97	13107.73	10670.69	122.84
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	40.00	4.97	12071.97	10670.69	113.13
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	40.00	4.97	14022.69	10670.69	131.41
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	40.00	4.97	12842.49	10670.69	120.35
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	40.00	4.96	11722.02	10670.69	109.85
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	40.00	4.96	10787.87	10670.69	101.10
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	40.00	4.97	12033.57	10670.69	112.77
30	IPA	180730G1_30	Analyte	40.00			10670.69	0.00
31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	40.00	4.97	12382.97	10670.69	116.05
32	IPA	180730G1_32	Analyte	40.00			10670.69	0.00
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	40.00	4.96	12316.24	10670.69	115.42
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	40.00	4.97	11530.55	10670.69	108.06
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	40.00	4.97	9702.85	10670.69	90.93
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	40.00	4.96	15113.14	10670.69	141.63
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	40.00	4.97	10422.57	10670.69	97.67
38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	40.00	4.97	12181.61	10670.69	114.16
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	40.00	4.96	12109.03	10670.69	113.48
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	40.00	4.96	12056.98	10670.69	112.99
41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	40.00	4.97	11149.24	10670.69	104.48

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42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	40.00	4.97	13233.79	10670.69	124.02	
43	IPA	180730G1_43	Analyte	40.00			10670.69	0.00	
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	40.00	4.96	13330.63	10670.69	124.93	
45	IPA	180730G1_45	Analyte	40.00			10670.69	0.00	
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	40.00	4.97	11172.90	10670.69	104.71	
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	40.00	4.97	12544.15	10670.69	117.56	
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	40.00	4.97	11746.55	10670.69	110.08	
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	40.00	4.97	12091.12	10670.69	113.31	
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	40.00	4.97	11350.57	10670.69	106.37	
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	40.00	4.97	12097.49	10670.69	113.37	
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	40.00	4.97	12359.92	10670.69	115.83	
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	40.00	4.97	11001.16	10670.69	103.10	
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	40.00	4.97	12505.40	10670.69	117.19	
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	40.00	4.97	15613.58	10670.69	146.32	
56	IPA	180730G1_56	Analyte	40.00			10670.69	0.00	
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	40.00	4.98	13348.92	10670.69	125.10	
58	IPA	180730G1_58	Analyte	40.00					

CCAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Con	RT	Area	CCAL Area	%AREA	
1	IPA	180730G1_1	Analyte	10.00					
2	**ST180730G1-1 PFC CS-1 537 18G2704**	**180730G1_2**	**Analyte**	**10.00**	**4.20**	**8306.16**	**8306.16**	**100.00**	
3	IPA	180730G1_3	Analyte	10.00			8306.16	0.00	
4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	10.00	4.20	8148.73	8306.16		
5	IPA	180730G1_5	Analyte	10.00			8306.16	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	10.00	4.20	1876.64	8306.16	22.59	DIL
7	IPA	180730G1_7	Analyte	10.00			8306.16	0.00	
8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	10.00	4.20	8587.36	8306.16	103.39	
9	IPA	180730G1_9	Analyte	10.00			8306.16	0.00	
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	10.00	4.20	10164.06	8306.16	122.37	

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10	**ST180730G1-2 PFC CS1 537 18G2706**	**180730G1_10**	**Analyte**	**10.00**	**4.20**	**10164.06**	**10164.06**	**100.00**
11	IPA	180730G1_11	Analyte	10.00			10164.06	0.00
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	10.00	4.20	11243.08	10164.06	110.62
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	10.00	4.20	8791.15	10164.06	86.49
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	10.00	4.20	11044.09	10164.06	108.66
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	10.00	4.20	9404.46	10164.06	92.53
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	10.00	4.20	9854.29	10164.06	96.95
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	10.00	4.20	8293.31	10164.06	81.59
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	10.00	4.20	10510.77	10164.06	103.41
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	10.00	4.20	8101.25	10164.06	79.70
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	10.00	4.20	8345.19	10164.06	82.10
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	10.00	4.19	7801.04	10164.06	76.75
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	10.00	4.19	7538.43	10164.06	74.17
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	10.00	4.20	8387.09	10164.06	82.52
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	10.00	4.20	7619.44	10164.06	74.96
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	10.00	4.20	9185.06	10164.06	90.37
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	10.00	4.20	8046.30	10164.06	79.16
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	10.00	4.20	7394.81	10164.06	72.75
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	10.00	4.19	6935.17	10164.06	68.23
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	10.00	4.20	8027.39	10164.06	78.98
30	IPA	180730G1_30	Analyte	10.00			10164.06	0.00
31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	10.00	4.20	7742.67	10164.06	76.18
31	**ST180730G1-3 PFC CS3 537 18G2708**	**180730G1_31**	**Analyte**	**10.00**	**4.20**	**7742.67**	**7742.67**	**100.00**
32	IPA	180730G1_32	Analyte	10.00			7742.67	0.00
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	10.00	4.20	7371.83	7742.67	95.21
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	10.00	4.20	7735.00	7742.67	99.90
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	10.00	4.20	7224.08	7742.67	93.30
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	10.00	4.20	9414.71	7742.67	121.60
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	10.00	4.20	7646.62	7742.67	98.76
38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	10.00	4.20	8118.03	7742.67	104.85
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	10.00	4.20	8364.83	7742.67	108.04
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	10.00	4.20	8188.67	7742.67	105.76
41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	10.00	4.20	7673.38	7742.67	99.11

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42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	10.00	4.20	9105.33	7742.67	117.60
43	IPA	180730G1_43	Analyte	10.00			7742.67	0.00
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	10.00	4.20	8063.33	7742.67	104.14
44	**ST180730G1-4 PFC CS-1 537 18G2704**	**180730G1_44**	**Analyte**	**10.00**	**4.20**	**8063.33**	**8063.33**	**100.00**
45	IPA	180730G1_45	Analyte	10.00			8063.33	0.00
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	10.00	4.20	8029.18	8063.33	99.58
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	10.00	4.20	8464.60	8063.33	104.98
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	10.00	4.19	8146.91	8063.33	101.04
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	10.00	4.20	8096.88	8063.33	100.42
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	10.00	4.19	8107.89	8063.33	100.55
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	10.00	4.20	8114.73	8063.33	100.64
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	10.00	4.20	8353.40	8063.33	103.60
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	10.00	4.20	7632.39	8063.33	94.66
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	10.00	4.20	8571.99	8063.33	106.31
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	10.00	4.20	11143.22	8063.33	138.20
56	IPA	180730G1_56	Analyte	10.00			8063.33	0.00
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	10.00	4.20	8190.66	8063.33	101.58
58	IPA	180730G1_58	Analyte	10.00				

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Con	RT	Area	CCAL Area	%AREA	
1	IPA	180730G1_1	Analyte	28.70					
2	**ST180730G1-1 PFC CS-1 537 18G2704**	**180730G1_2**	**Analyte**	**28.70**	**4.61**	**13728.74**	**13728.74**	**100.00**	
3	IPA	180730G1_3	Analyte	28.70			13728.74	0.00	
4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	28.70	4.61	13976.32	13728.74	101.80	
5	IPA	180730G1_5	Analyte	28.70			13728.74	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	28.70	4.61	3019.38	13728.74	21.99	DIL
7	IPA	180730G1_7	Analyte	28.70			13728.74	0.00	
8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	28.70	4.62	15029.56	13728.74	109.48	
9	IPA	180730G1_9	Analyte	28.70			13728.74	0.00	
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	28.70	4.61	17043.35	13728.74	124.14	

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10	**ST180730G1-2 PFC CS1 537 18G2706**	**180730G1_10**	**Analyte**	**28.70**	**4.61**	**17043.35**	**17043.35**	**100.00**
11	IPA	180730G1_11	Analyte	28.70			17043.35	0.00
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	28.70	4.62	21152.08	17043.35	124.11
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	28.70	4.62	15904.64	17043.35	93.32
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	28.70	4.61	18294.89	17043.35	107.34
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	28.70	4.61	15613.01	17043.35	91.61
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	28.70	4.61	15496.52	17043.35	90.92
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	28.70	4.62	14546.27	17043.35	85.35
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	28.70	4.62	15960.33	17043.35	93.65
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	28.70	4.61	13548.45	17043.35	79.49
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	28.70	4.61	12777.26	17043.35	74.97
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	28.70	4.62	12162.66	17043.35	71.36
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	28.70	4.62	12040.97	17043.35	70.65
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	28.70	4.62	14348.39	17043.35	84.19
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	28.70	4.61	12028.05	17043.35	70.57
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	28.70	4.62	14991.61	17043.35	87.96
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	28.70	4.61	12718.83	17043.35	74.63
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	28.70	4.61	12310.18	17043.35	72.23
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	28.70	4.62	12213.92	17043.35	71.66
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	28.70	4.61	12346.44	17043.35	72.44
30	IPA	180730G1_30	Analyte	28.70			17043.35	0.00
31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	28.70	4.62	13004.94	17043.35	76.31
31	**ST180730G1-3 PFC CS3 537 18G2708**	**180730G1_31**	**Analyte**	**28.70**	**4.62**	**13004.94**	**13004.94**	**100.00**
32	IPA	180730G1_32	Analyte	28.70			13004.94	0.00
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	28.70	4.61	12312.33	13004.94	94.67
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	28.70	4.61	12190.52	13004.94	93.74
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	28.70	4.62	10981.45	13004.94	84.44
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	28.70	4.61	14978.60	13004.94	115.18
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	28.70	4.61	11910.48	13004.94	91.58
38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	28.70	4.61	12651.28	13004.94	97.28
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	28.70	4.61	12691.74	13004.94	97.59
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	28.70	4.61	13111.33	13004.94	100.82
41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	28.70	4.61	12314.65	13004.94	94.69

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42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	28.70	4.61	14249.08	13004.94	109.57
43	IPA	180730G1_43	Analyte	28.70			13004.94	0.00
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	28.70	4.61	13124.09	13004.94	100.92
44	**ST180730G1-4 PFC CS-1 537 18G2704**	**180730G1_44**	**Analyte**	**28.70**	**4.61**	**13124.09**	**13124.09**	**100.00**
45	IPA	180730G1_45	Analyte	28.70			13124.09	0.00
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	28.70	4.62	12133.03	13124.09	92.45
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	28.70	4.62	12427.85	13124.09	94.69
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	28.70	4.61	12644.90	13124.09	96.35
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	28.70	4.62	12881.09	13124.09	98.15
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	28.70	4.62	12334.64	13124.09	93.98
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	28.70	4.61	13177.08	13124.09	100.40
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	28.70	4.61	13429.58	13124.09	102.33
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	28.70	4.61	12306.39	13124.09	93.77
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	28.70	4.62	13861.49	13124.09	105.62
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	28.70	4.62	15935.44	13124.09	121.42
56	IPA	180730G1_56	Analyte	28.70			13124.09	0.00
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	28.70	4.62	13149.97	13124.09	100.20
58	IPA	180730G1_58	Analyte	28.70				

Compound 20: d3-N-MeFOSAA

	ID	Name	Type	Std. Con	RT	Area	CCAL Area	%AREA	
1	IPA	180730G1_1	Analyte	40.00					
2	**ST180730G1-1 PFC CS-1 537 18G2704**	**180730G1_2**	**Analyte**	**40.00**	**4.97**	**13182.29**	**13182.29**	**100.00**	
3	IPA	180730G1_3	Analyte	40.00			13182.29	0.00	
4	1802006-04 GWIN1807261730GGA 0.25608	180730G1_4	Analyte	40.00	4.96	14325.19	13182.29	108.67	
5	IPA	180730G1_5	Analyte	40.00			13182.29	0.00	
6	1802006-03@5X GWIN1807261720GGA 0.25045	180730G1_6	Analyte	40.00	4.96	2865.74	13182.29	21.74	DIL
7	IPA	180730G1_7	Analyte	40.00			13182.29	0.00	
8	1802006-04 GWIN1807261730GGA 0.25608	180730G1_8	Analyte	40.00	4.97	13691.82	13182.29	103.87	
9	IPA	180730G1_9	Analyte	40.00			13182.29	0.00	
10	ST180730G1-2 PFC CS1 537 18G2706	180730G1_10	Analyte	40.00	4.96	14931.65	13182.29	113.27	

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10	**ST180730G1-2 PFC CS1 537 18G2706**	**180730G1_10**	**Analyte**	**40.00**	**4.96**	**14931.65**	**14931.65**	**100.00**
11	IPA	180730G1_11	Analyte	40.00			14931.65	0.00
12	1801726-01 GWEF1807120830GSC 0.23225	180730G1_12	Analyte	40.00	4.97	17629.09	14931.65	118.07
13	1801727-01 GWEF1807120840GSC 0.24324	180730G1_13	Analyte	40.00	4.97	14520.72	14931.65	97.25
14	1801729-01 GWNT1807120945GSC 0.22288	180730G1_14	Analyte	40.00	4.97	16893.99	14931.65	113.14
15	1801730-01 GWNT1807121130GSC 0.25375	180730G1_15	Analyte	40.00	4.97	14986.28	14931.65	100.37
16	1801740-01 GWNT1807121120GA 0.23342	180730G1_16	Analyte	40.00	4.97	14847.01	14931.65	99.43
17	1801741-01 GWNT1807121200GGA 0.24968	180730G1_17	Analyte	40.00	4.98	14214.88	14931.65	95.20
18	1801747-01 GWNT1807100955GGA 0.25433	180730G1_18	Analyte	40.00	4.97	13805.23	14931.65	92.46
19	B8G0184-BS1 LFB 0.25	180730G1_19	Analyte	40.00	4.97	12076.07	14931.65	80.88
20	B8G0184-BSD1 LFBD 0.25	180730G1_20	Analyte	40.00	4.97	12307.01	14931.65	82.42
21	B8G0184-BLK1 LRB 0.25	180730G1_21	Analyte	40.00	4.97	12385.69	14931.65	82.95
22	1801929-01 CBD-1RW38-0718 0.25672	180730G1_22	Analyte	40.00	4.97	11407.88	14931.65	76.40
23	1801929-02 CBD-1FB38-0718 0.25869	180730G1_23	Analyte	40.00	4.97	13107.73	14931.65	87.78
24	1801929-03 CBD-1RW39-0718 0.25171	180730G1_24	Analyte	40.00	4.97	12071.97	14931.65	80.85
25	1801929-04 CBD-1FB39-0718 0.25728	180730G1_25	Analyte	40.00	4.97	14022.69	14931.65	93.91
26	1801934-01 WSOFT180711140MK 0.25721	180730G1_26	Analyte	40.00	4.97	12842.49	14931.65	86.01
27	B8G0103-BLK1 LRB 0.25	180730G1_27	Analyte	40.00	4.96	11722.02	14931.65	78.50
28	B8G0103-BS1 LFB 0.25	180730G1_28	Analyte	40.00	4.96	10787.87	14931.65	72.25
29	B8G0103-BSD1 LFBD 0.25	180730G1_29	Analyte	40.00	4.97	12033.57	14931.65	80.59
30	IPA	180730G1_30	Analyte	40.00			14931.65	0.00
31	ST180730G1-3 PFC CS3 537 18G2708	180730G1_31	Analyte	40.00	4.97	12382.97	14931.65	82.93
31	**ST180730G1-3 PFC CS3 537 18G2708**	**180730G1_31**	**Analyte**	**40.00**	**4.97**	**12382.97**	**12382.97**	**100.00**
32	IPA	180730G1_32	Analyte	40.00			12382.97	0.00
33	1801660-01 GWEF1807101105GSC 0.2394	180730G1_33	Analyte	40.00	4.96	12316.24	12382.97	99.46
34	1801660-02 GWEF1807101120GSC 0.24264	180730G1_34	Analyte	40.00	4.97	11530.55	12382.97	93.12
35	1801660-03 GWEF1807101140GSC 0.2393	180730G1_35	Analyte	40.00	4.97	9702.85	12382.97	78.36
36	1801660-04 GWEF1807101150GSC 0.23575	180730G1_36	Analyte	40.00	4.96	15113.14	12382.97	122.05
37	1801660-05 GWEF1807101210GSC 0.24142	180730G1_37	Analyte	40.00	4.97	10422.57	12382.97	84.17
38	1801660-06 GWEF1807101220GSC 0.24218	180730G1_38	Analyte	40.00	4.97	12181.61	12382.97	98.37
39	1801660-07 GWEF1807101235GSC 0.23762	180730G1_39	Analyte	40.00	4.96	12109.03	12382.97	97.79
40	1801661-01 GWEF1807101330GSC 0.25381	180730G1_40	Analyte	40.00	4.96	12056.98	12382.97	97.37

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41	1801661-02 GWEF1807101310GSC 0.24618	180730G1_41	Analyte	40.00	4.97	11149.24	12382.97	90.04
42	1801662-01 GWIN1807090920GSC 0.24934	180730G1_42	Analyte	40.00	4.97	13233.79	12382.97	106.87
43	IPA	180730G1_43	Analyte	40.00			12382.97	0.00
44	ST180730G1-4 PFC CS-1 537 18G2704	180730G1_44	Analyte	40.00	4.96	13330.63	12382.97	107.65
44	**ST180730G1-4 PFC CS-1 537 18G2704**	**180730G1_44**	**Analyte**	**40.00**	**4.96**	**13330.63**	**13330.63**	**100.00**
45	IPA	180730G1_45	Analyte	40.00			13330.63	0.00
46	1801663-01 GWNT1807091005GSC 0.23417	180730G1_46	Analyte	40.00	4.97	11172.90	13330.63	83.81
47	1801664-01 SWEF1807091310GSC 0.24233	180730G1_47	Analyte	40.00	4.97	12544.15	13330.63	94.10
48	1801664-03 SWEF1807091140GSC 0.24139	180730G1_48	Analyte	40.00	4.97	11746.55	13330.63	88.12
49	1801664-05 SWEF1807091410GSC 0.23974	180730G1_49	Analyte	40.00	4.97	12091.12	13330.63	90.70
50	1801664-07 SWEF1807091550GSC 0.24253	180730G1_50	Analyte	40.00	4.97	11350.57	13330.63	85.15
51	1801665-01 GWEF1807100915GSC 0.24507	180730G1_51	Analyte	40.00	4.97	12097.49	13330.63	90.75
52	1801666-01 GWEF1807100950GSC 0.25011	180730G1_52	Analyte	40.00	4.97	12359.92	13330.63	92.72
53	1801667-01 GWEF1807101000GSC 0.24937	180730G1_53	Analyte	40.00	4.97	11001.16	13330.63	82.53
54	1801668-01 GWNT1807101040GSC 0.23971	180730G1_54	Analyte	40.00	4.97	12505.40	13330.63	93.81
55	1801728-01 GWEF1807120930GSC 0.24377	180730G1_55	Analyte	40.00	4.97	15613.58	13330.63	117.13
56	IPA	180730G1_56	Analyte	40.00			13330.63	0.00
57	ST180730G1-5 PFC CS1 537 18G2706	180730G1_57	Analyte	40.00	4.98	13348.92	13330.63	100.14
58	IPA	180730G1_58	Analyte	40.00				

CGH 7/31/2018

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
		NA						
Calibration ID: ST180730G1-1	Q M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID: ↓ -2	L Q 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: 7/16/18

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☐ N/A

IIS Area Saved ☑

Reviewed By: UJT 7/30/18
Initials/Date

Comments:

DW-L14

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 30, 2018 13:00:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 13:02:43 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

MJT 7/30/18

Name: 180730G1_2, Date: 30-Jul-2018, Time: 08:42:06, ID: ST180730G1-1 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5	7.13e2	1.37e4	1.00		2.88	2.88	1.49	1.62	91.1
2	2	PFHxA	312.7 > 268.8	1.53e3	8.31e3	1.00		3.24	3.24	1.85	1.98	98.8
3	3	PFHpA	362.7 > 318.8	1.56e3	8.31e3	1.00		3.78	3.78	1.88	1.86	92.9
4	4	PFHxS	398.7 > 80.7	9.09e2	1.37e4	1.00		3.93	3.91	1.90	1.86	102.0
5	5	PFOA	412.8 > 369.0	1.39e3	8.31e3	1.00		4.20	4.21	1.68	1.88	94.2
6	6	PFNA	462.9 > 419.1	1.53e3	8.31e3	1.00		4.54	4.55	1.84	2.12	106.1
7	7	PFOS	498.8 >80.7	3.00e2	1.37e4	1.00		4.62	4.62	0.626	1.52	81.8
8	8	PFDA	512.8 > 469.0	1.57e3	8.31e3	1.00		4.82	4.85	1.89	2.00	99.9
9	9	N-MeFOSAA	569.7 > 419.0	7.95e2	1.32e4	1.00		4.97	4.97	2.41	2.17	108.6
10	10	N-EtFOSAA	583.6 >419.1	6.30e2	1.32e4	1.00		4.98	5.10	1.91	1.53	76.5
11	11	PFUnA	562.7 > 518.9	1.93e3	8.31e3	1.00		5.08	5.11	2.32	2.42	121.1
12	12	PFDoA	612.5 > 319.0	2.40e2	8.31e3	1.00		5.33	5.35	0.289	1.86	93.0
13	13	PFTrDA	662.4 > 618.7	1.55e3	8.31e3	1.00		5.54	5.56	1.87	2.12	106.2
14	14	PFTeDA	712.2>668.4	1.49e3	8.31e3	1.00		5.72	5.74	1.80	2.02	101.1
15	15	13C2-PFHxA	314.8 > 269.9	7.05e3	8.31e3	1.00	0.814	3.37	3.24	8.49	10.4	104.3
16	16	13C2-PFDA	514.8 > 470.0	9.45e3	8.31e3	1.00	1.032	4.79	4.85	11.4	11.0	110.2
17	17	d5-N-EtFOSAA	588.7> 419.1	1.89e4	1.32e4	1.00	1.488	4.97	5.09	57.4	38.6	96.4
18	18	13C2-PFOA	414.8 > 370.1	8.31e3	8.31e3	1.00	1.000	4.21	4.20	10.0	10.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.37e4	1.37e4	1.00	1.000	4.61	4.61	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.32e4	1.32e4	1.00	1.000	4.96	4.97	40.0	40.0	100.0

CAH 7/30/18

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 30, 2018 10:52:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 10:52:36 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS

	#	Name	ID	Acq.Date	Acq.Time
1	1	180730G1_1	IPA	30-Jul-18	08:30:00
2	2	180730G1_2	ST180730G1-1 PFC CS-1 537 18G2705	30-Jul-18	08:42:06
3	3	180730G1_3	IPA	30-Jul-18	08:55:00
4	4	180730G1_4	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	09:08:44
5	5	180730G1_5	IPA	30-Jul-18	09:20:46
6	6	180730G1_6	1802006-03@5X GWIN1807261720GG...	30-Jul-18	09:33:34
7	7	180730G1_7	IPA	30-Jul-18	09:46:20
8	8	180730G1_8	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	10:02:12
9	9	180730G1_9	IPA	30-Jul-18	10:14:14
10	10	180730G1_10	ST180728G1-2 PFC CS1 537 18G2706	30-Jul-18	10:27:08
11	11	180730G1_11	IPA	30-Jul-18	10:39:59

Quantify Sample Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

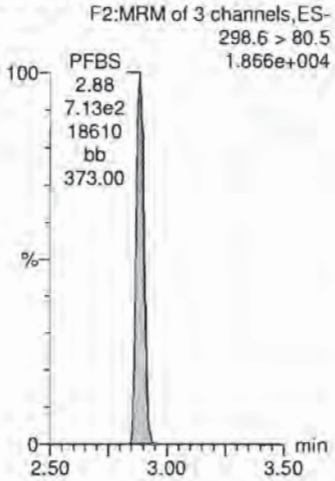
Dataset: Untitled

Last Altered: Monday, July 30, 2018 13:00:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 13:02:43 Pacific Daylight Time

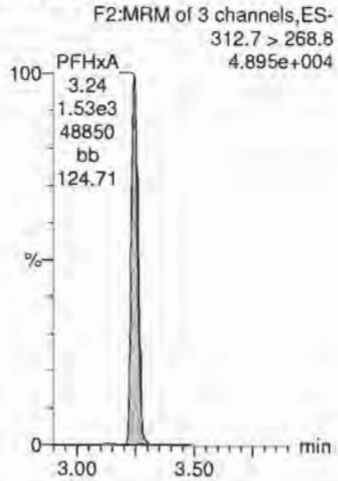
Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_2, Date: 30-Jul-2018, Time: 08:42:06, ID: ST180730G1-1 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

PFBS



PFHxA



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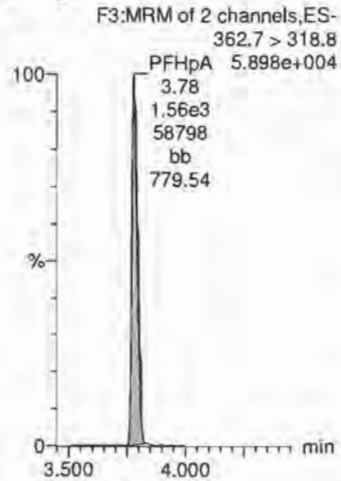

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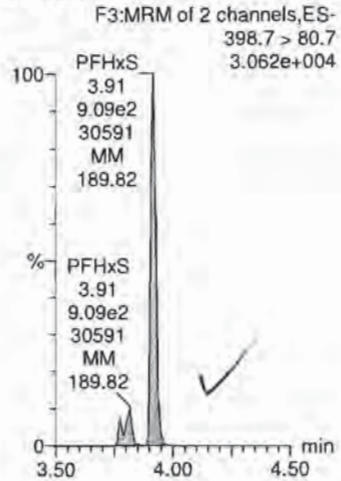

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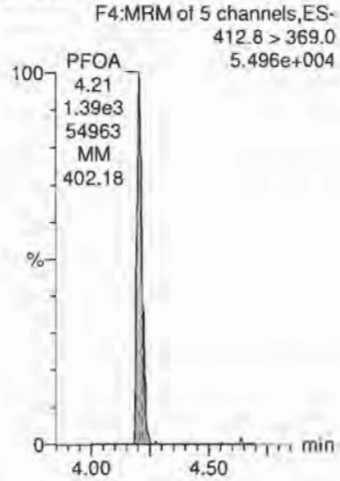

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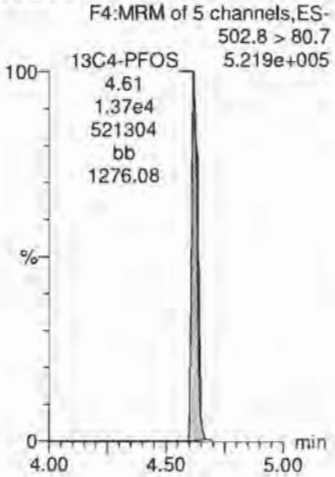

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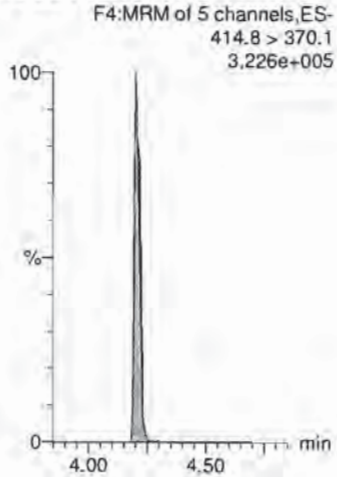

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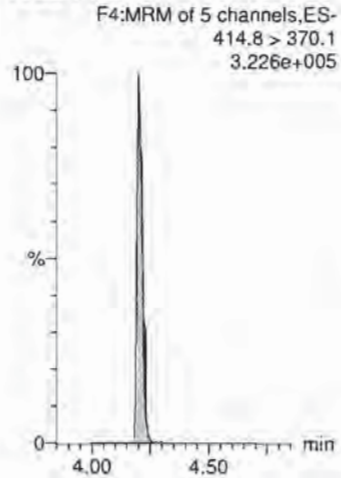

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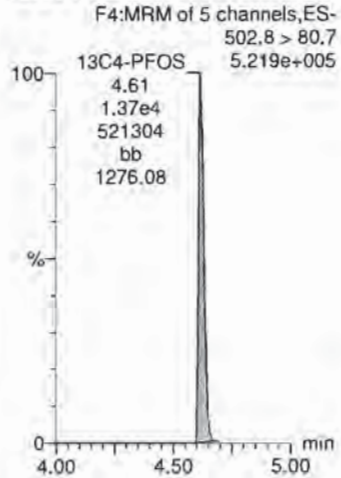

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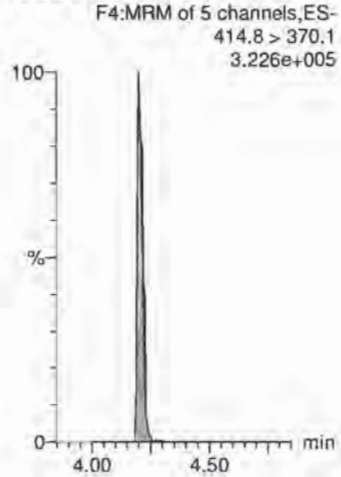
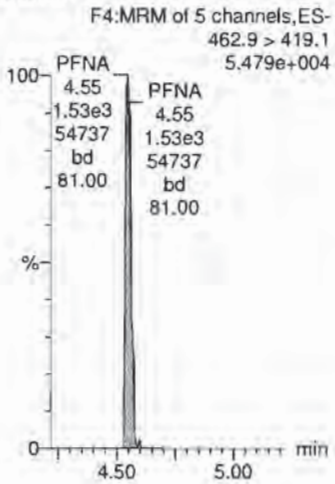


Dataset: Untitled

Last Altered: Monday, July 30, 2018 13:00:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 13:02:43 Pacific Daylight Time

Name: 180730G1_2, Date: 30-Jul-2018, Time: 08:42:06, ID: ST180730G1-1 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

PFNA



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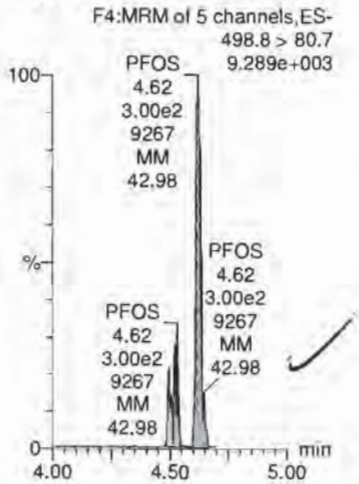

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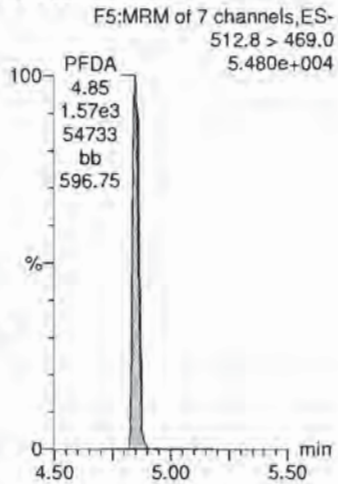

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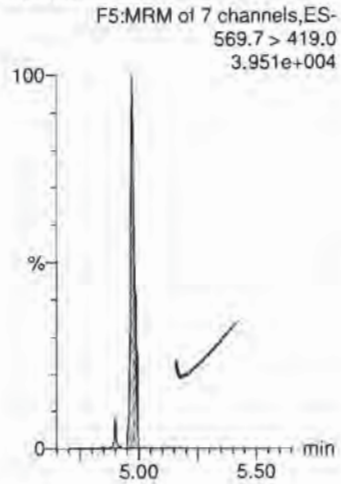

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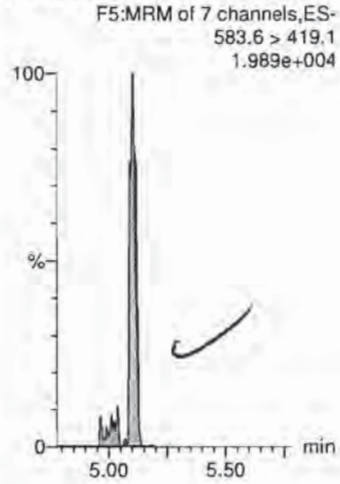

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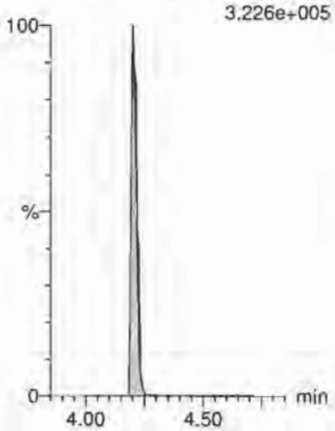

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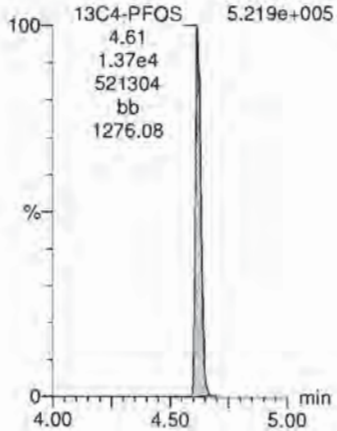

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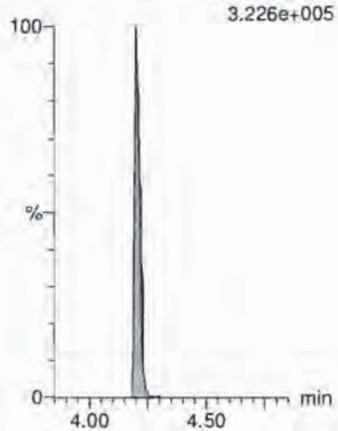

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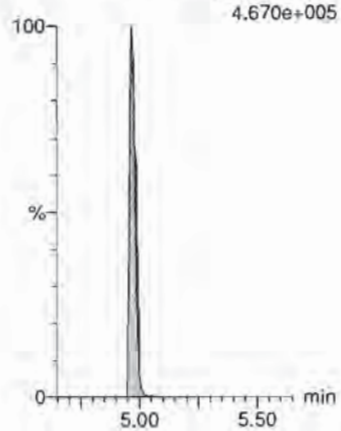

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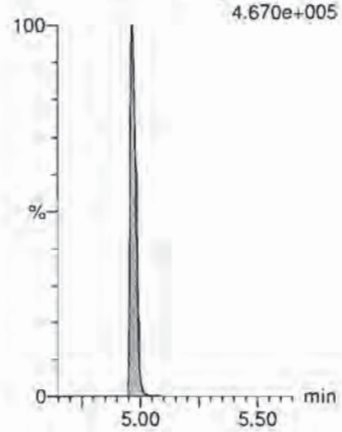

Dataset: Untitled

Last Altered: Monday, July 30, 2018 13:00:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 13:02:43 Pacific Daylight Time

Name: 180730G1_2, Date: 30-Jul-2018, Time: 08:42:06, ID: ST180730G1-1 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

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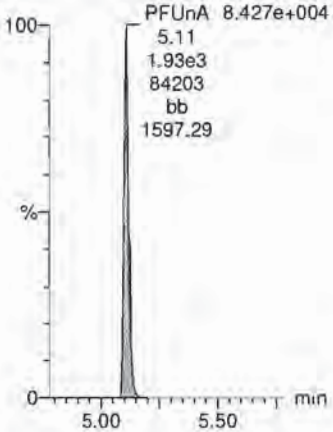

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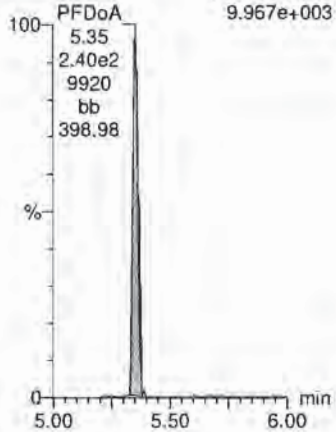

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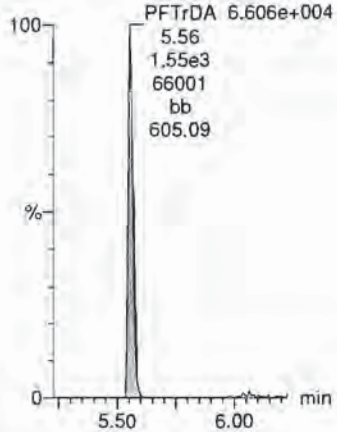

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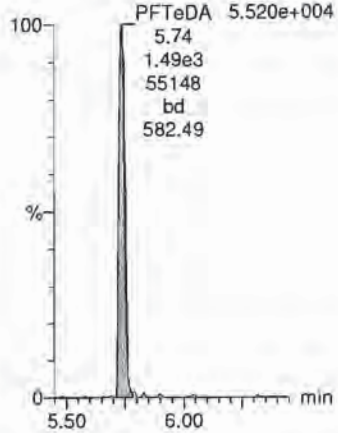
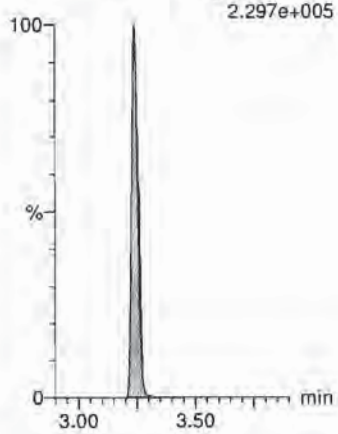
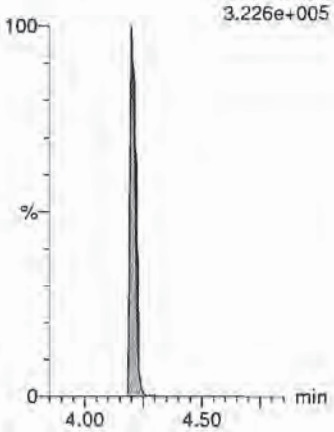


13C2-PFHxA



13C2-PFOA



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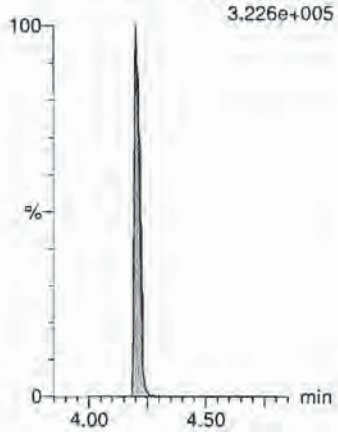

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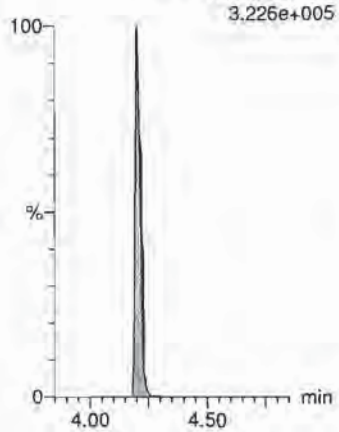

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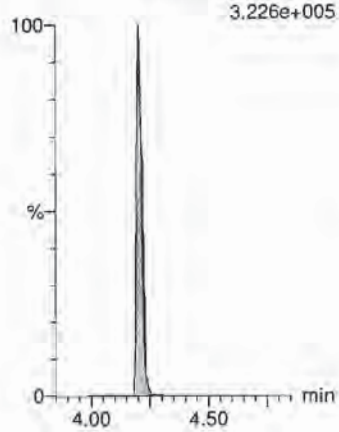

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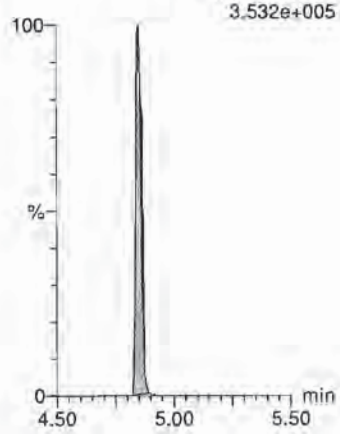
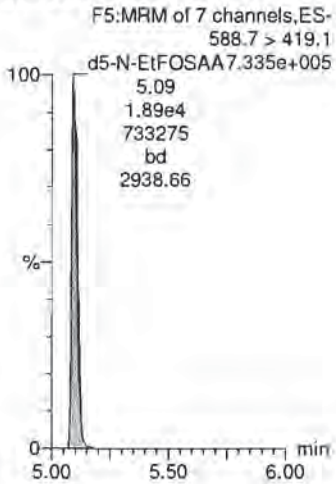


Dataset: Untitled

Last Altered: Monday, July 30, 2018 13:00:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 13:02:43 Pacific Daylight Time

Name: 180730G1_2, Date: 30-Jul-2018, Time: 08:42:06, ID: ST180730G1-1 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

d5-N-EtFOSAA



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-10.qld

Last Altered: Monday, July 30, 2018 11:02:35 Pacific Daylight Time
Printed: Monday, July 30, 2018 11:03:02 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

MJT 7/30/18

Name: 180730G1_10, Date: 30-Jul-2018, Time: 10:27:08, ID: ST180730G1-2 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5	4.00e3	1.70e4	1.00		2.88	2.88	6.73	7.33	82.9
2	2	PFHxA	312.7 > 268.8	8.46e3	1.02e4	1.00		3.24	3.24	8.32	8.90	89.0
3	3	PFHpA	362.7 > 318.8	8.79e3	1.02e4	1.00		3.78	3.78	8.65	8.53	85.3
4	4	PFHxS	398.7 > 80.7	5.08e3	1.70e4	1.00		3.93	3.91	8.55	8.35	91.5
5	5	PFOA	412.8 > 369.0	8.22e3	1.02e4	1.00		4.20	4.20	8.08	9.09	90.9
6	6	PFNA	462.9 > 419.1	8.98e3	1.02e4	1.00		4.54	4.55	8.83	10.2	102.0
7	7	PFOS	498.8 >80.7	2.00e3	1.70e4	1.00		4.62	4.62	3.36	8.09	87.6
8	8	PFDA	512.8 > 469.0	1.01e4	1.02e4	1.00		4.82	4.85	9.97	10.5	105.4
9	9	N-MeFOSAA	569.7 > 419.0	4.76e3	1.49e4	1.00		4.97	4.96	12.7	10.8	108.3
10	10	N-EtFOSAA	583.6 >419.1	4.84e3	1.49e4	1.00		4.97	5.10	13.0	10.4	103.9
11	11	PFUnA	562.7 > 518.9	9.97e3	1.02e4	1.00		5.08	5.11	9.81	10.2	102.4
12	12	PFDoA	612.5 > 319.0	1.62e3	1.02e4	1.00		5.32	5.35	1.59	10.2	102.4
13	13	PFTrDA	662.4 > 618.7	9.34e3	1.02e4	1.00		5.53	5.55	9.19	10.4	104.3
14	14	PFTeDA	712.2>668.4	9.73e3	1.02e4	1.00		5.71	5.73	9.58	10.8	107.6
15	15	13C2-PFHxA	314.8 > 269.9	8.03e3	1.02e4	1.00	0.814	3.37	3.24	7.90	9.70	97.0
16	16	13C2-PFDA	514.8 > 470.0	1.15e4	1.02e4	1.00	1.032	4.78	4.84	11.3	10.9	109.5
17	17	d5-N-EtFOSAA	588.7> 419.1	2.37e4	1.49e4	1.00	1.488	4.96	5.09	63.5	42.7	106.7
18	18	13C2-PFOA	414.8 > 370.1	1.02e4	1.02e4	1.00	1.000	4.21	4.20	10.0	10.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.70e4	1.70e4	1.00	1.000	4.61	4.61	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	1.49e4	1.49e4	1.00	1.000	4.96	4.96	40.0	40.0	100.0

CCH 7/30/18

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 30, 2018 10:52:31 Pacific Daylight Time
Printed: Monday, July 30, 2018 10:52:36 Pacific Daylight Time

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Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS

	#	Name	ID	Acq.Date	Acq.Time
1	1	180730G1_1	IPA	30-Jul-18	08:30:00
2	2	180730G1_2	ST180730G1-1 PFC CS-1 537 18G2703	30-Jul-18	08:42:06
3	3	180730G1_3	IPA	30-Jul-18	08:55:00
4	4	180730G1_4	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	09:08:44
5	5	180730G1_5	IPA	30-Jul-18	09:20:46
6	6	180730G1_6	1802006-03@5X GWIN1807261720GG...	30-Jul-18	09:33:34
7	7	180730G1_7	IPA	30-Jul-18	09:46:20
8	8	180730G1_8	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	10:02:12
9	9	180730G1_9	IPA	30-Jul-18	10:14:14
10	10	180730G1_10	ST180728G1-2 PFC CS1 537 18G2706	30-Jul-18	10:27:08
11	11	180730G1_11	IPA	30-Jul-18	10:39:59

Quantify Sample Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

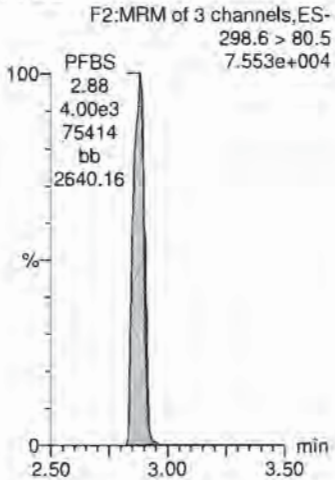
Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-10.qld

Last Altered: Monday, July 30, 2018 11:02:35 Pacific Daylight Time
Printed: Monday, July 30, 2018 11:03:02 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_10, Date: 30-Jul-2018, Time: 10:27:08, ID: ST180730G1-2 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

PFBS



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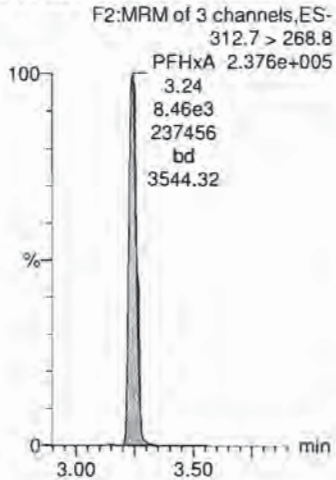
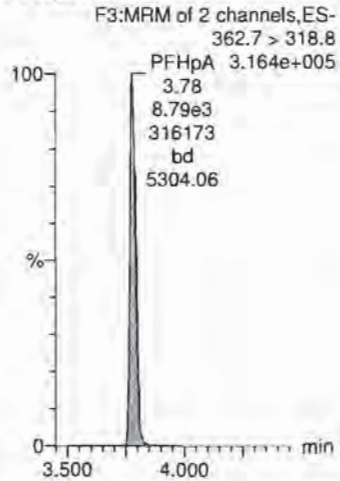
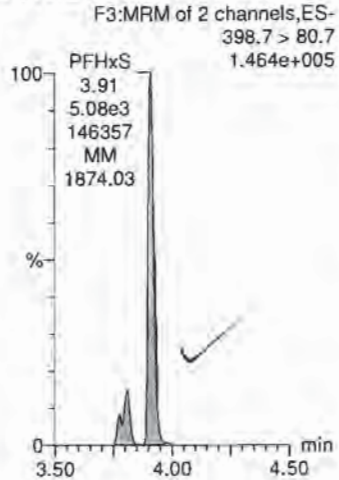


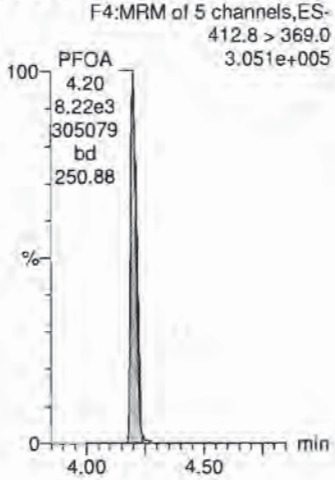
PFHpA



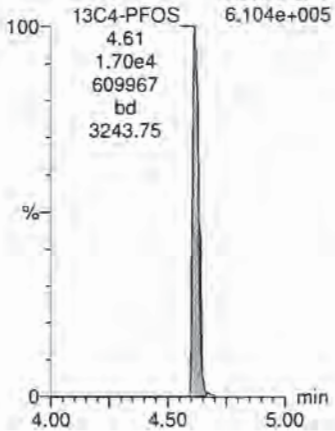
PFHxS



PFOA



13C4-PFOS



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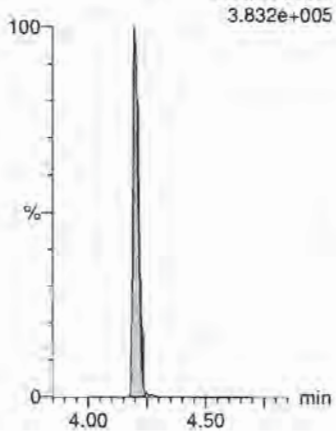

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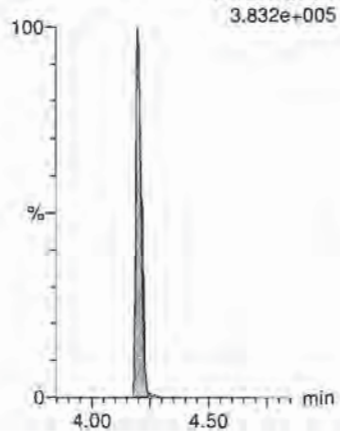

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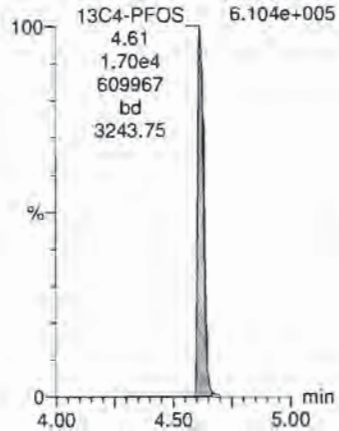

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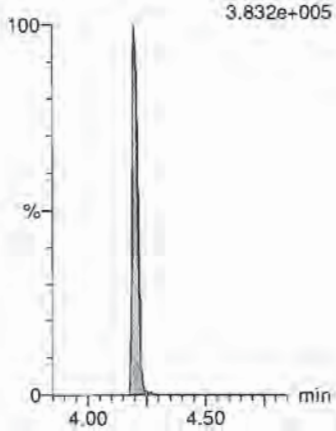

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-10.qld

Last Altered: Monday, July 30, 2018 11:02:35 Pacific Daylight Time
Printed: Monday, July 30, 2018 11:03:02 Pacific Daylight Time

Name: 180730G1_10, Date: 30-Jul-2018, Time: 10:27:08, ID: ST180730G1-2 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

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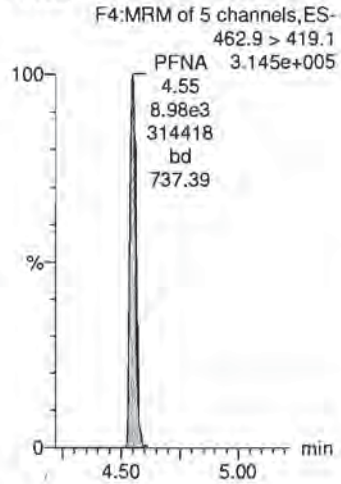
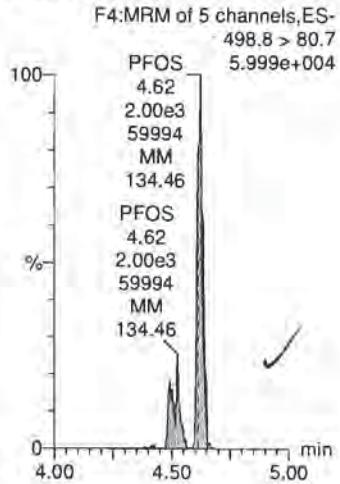
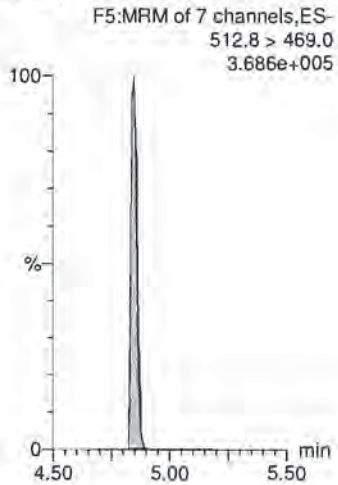


PFOS



PFDA



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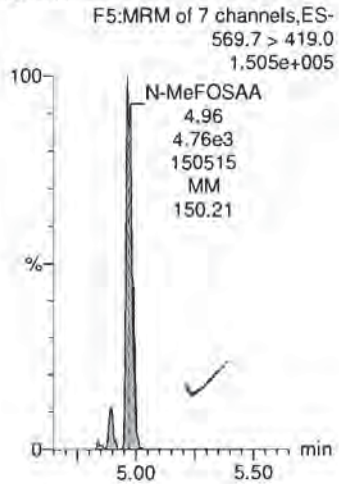

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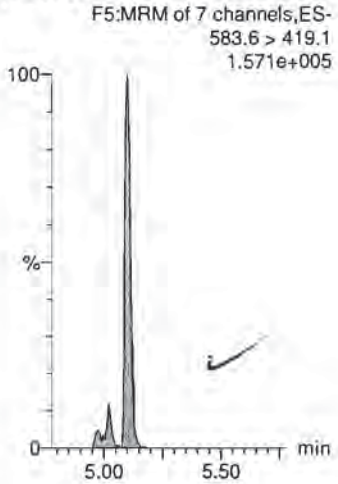

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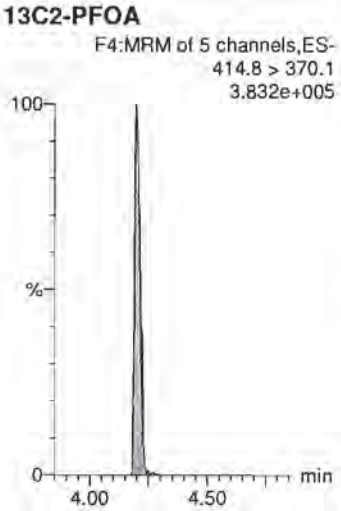
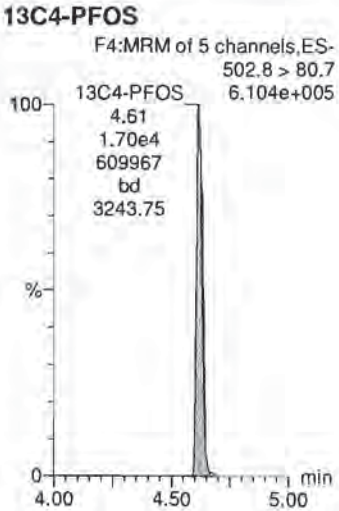


13C4-PFOS



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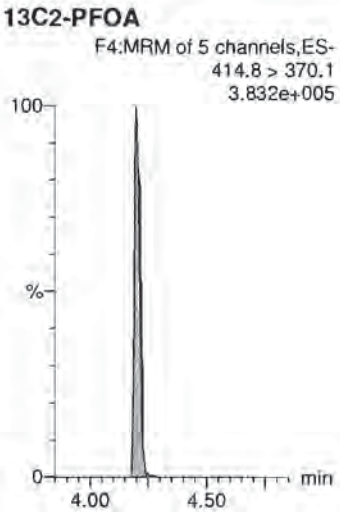
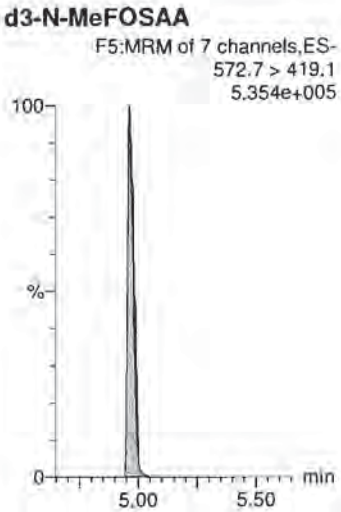


d3-N-MeFOSAA



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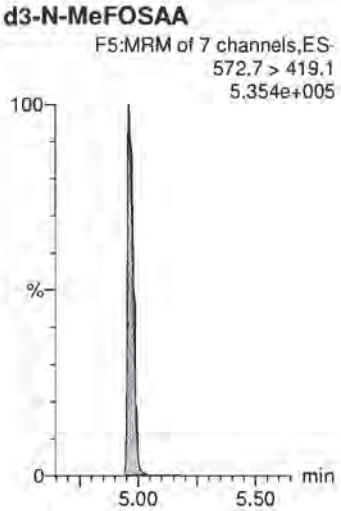
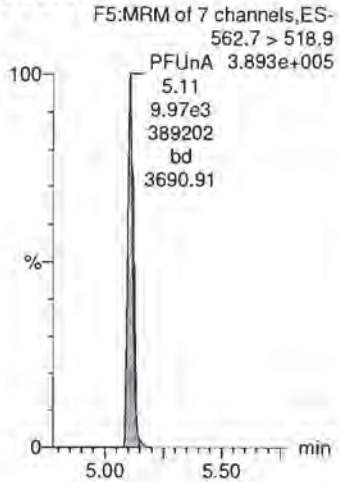


Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-10.qld

Last Altered: Monday, July 30, 2018 11:02:35 Pacific Daylight Time
Printed: Monday, July 30, 2018 11:03:02 Pacific Daylight Time

Name: 180730G1_10, Date: 30-Jul-2018, Time: 10:27:08, ID: ST180730G1-2 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

PFUnA



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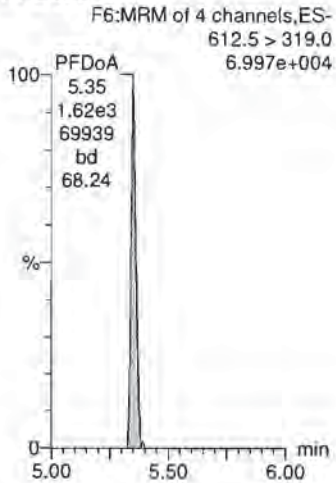

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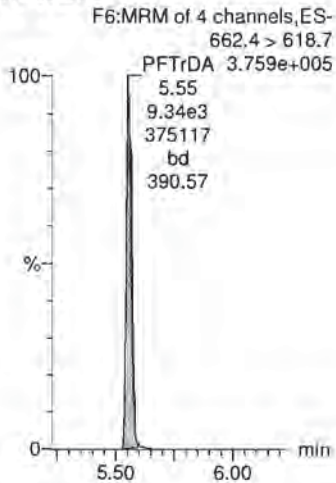

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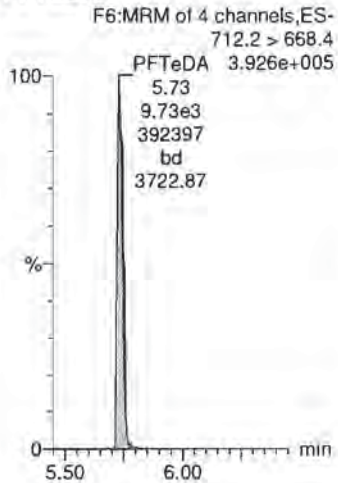

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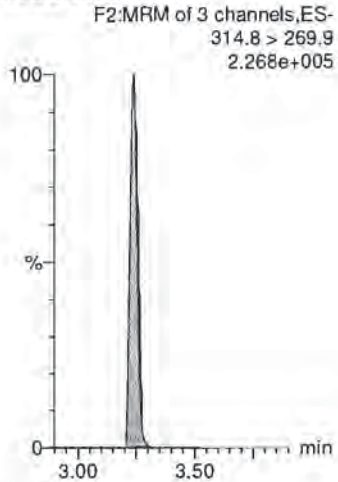

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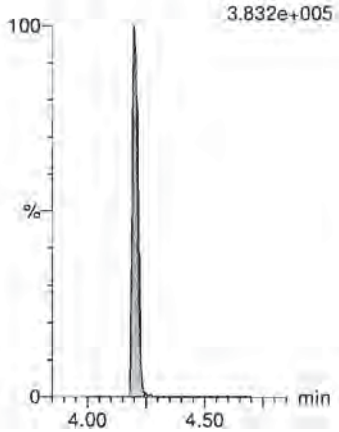

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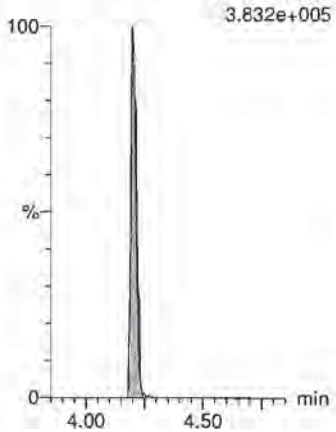

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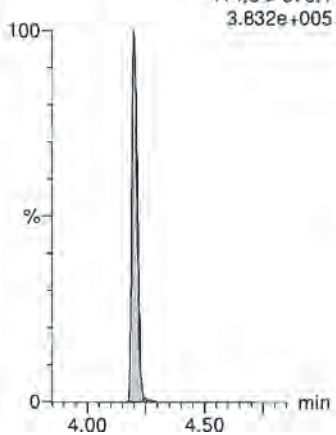

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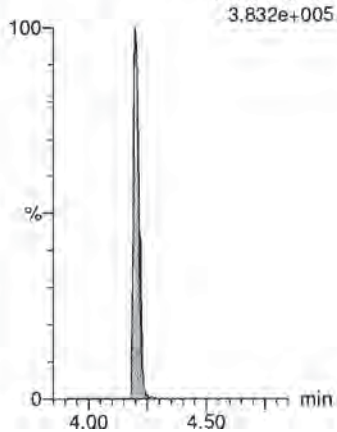

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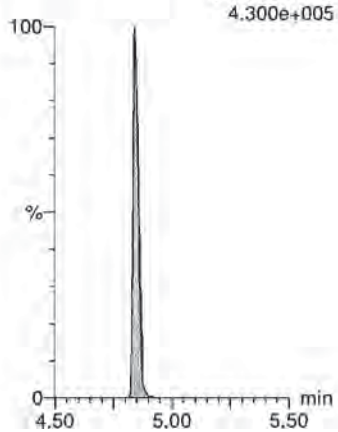
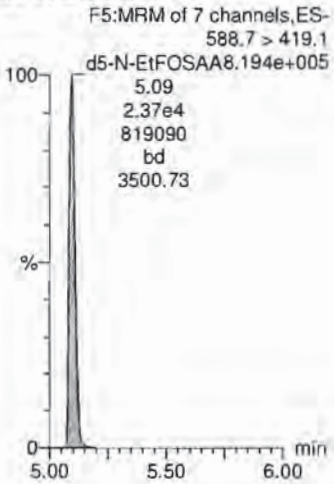


Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-10.qld

Last Altered: Monday, July 30, 2018 11:02:35 Pacific Daylight Time
Printed: Monday, July 30, 2018 11:03:02 Pacific Daylight Time

Name: 180730G1_10, Date: 30-Jul-2018, Time: 10:27:08, ID: ST180730G1-2 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

d5-N-EtFOSAA



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-44.qld

Last Altered: Tuesday, July 31, 2018 09:41:17 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 09:41:23 Pacific Daylight Time

JAD 7/31/18

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_44, Date: 30-Jul-2018, Time: 19:10:59, ID: ST180730G1-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6> 80.5	7.46e2	1.31e4	1.00		2.88	2.88	1.63	1.78	99.8
2	2 PFHxA	312.7 > 268.8	1.54e3	8.06e3	1.00		3.24	3.24	1.91	2.04	102.1
3	3 PFHpA	362.7 > 318.8	1.56e3	8.06e3	1.00		3.78	3.77	1.94	1.91	95.4
4	4 PFHxS	398.7 > 80.7	8.34e2	1.31e4	1.00		3.92	3.90	1.82	1.78	97.8
5	5 PFOA	412.8 > 369.0	1.39e3	8.06e3	1.00		4.20	4.20	1.73	1.94	97.1
6	6 PFNA	462.9 > 419.1	1.43e3	8.06e3	1.00		4.54	4.55	1.77	2.05	102.3
7	7 PFOS	498.8 >80.7	2.78e2	1.31e4	1.00		4.61	4.62	0.607	1.48	79.3
8	8 PFDA	512.8 > 469.0	1.74e3	8.06e3	1.00		4.82	4.84	2.16	2.29	114.4
9	9 N-MeFOSAA	569.7 > 419.0	6.99e2	1.33e4	1.00		4.97	4.97	2.10	1.89	94.6
10	10 N-EtFOSAA	583.6 >419.1	6.00e2	1.33e4	1.00		4.97	5.10	1.80	1.44	72.0
11	11 PFUnA	562.7 > 518.9	1.66e3	8.06e3	1.00		5.08	5.11	2.06	2.15	107.6
12	12 PFDoA	612.5 > 319.0	3.12e2	8.06e3	1.00		5.32	5.34	0.387	2.49	124.3
13	13 PFTrDA	662.4 > 618.7	1.51e3	8.06e3	1.00		5.53	5.55	1.87	2.13	106.4
14	14 PFTeDA	712.2>668.4	1.53e3	8.06e3	1.00		5.72	5.73	1.90	2.13	106.7
15	15 13C2-PFHxA	314.8 > 269.9	6.98e3	8.06e3	1.00	0.814	3.37	3.24	8.65	10.6	106.3
16	16 13C2-PFDA	514.8 > 470.0	9.52e3	8.06e3	1.00	1.032	4.79	4.85	11.8	11.4	114.4
17	17 d5-N-EtFOSAA	588.7> 419.1	1.78e4	1.33e4	1.00	1.488	4.96	5.09	53.5	36.0	90.0
18	18 13C2-PFOA	414.8 > 370.1	8.06e3	8.06e3	1.00	1.000	4.21	4.20	10.0	10.0	100.0
19	19 13C4-PFOS	502.8>80.7	1.31e4	1.31e4	1.00	1.000	4.61	4.61	28.7	28.7	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.33e4	1.33e4	1.00	1.000	4.96	4.96	40.0	40.0	100.0

CGH 7/30/18

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 31, 2018 11:47:10 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 11:48:46 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0726.mdb 27 Jul 2018 12:08:34
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS

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1	1	180730G1_1	IPA	30-Jul-18	08:30:00
2	2	180730G1_2	ST180730G1-1 PFC CS-1 537 18G2704	30-Jul-18	08:42:06
3	3	180730G1_3	IPA	30-Jul-18	08:55:00
4	4	180730G1_4	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	09:08:44
5	5	180730G1_5	IPA	30-Jul-18	09:20:46
6	6	180730G1_6	1802006-03@5X GWIN1807261720GG...	30-Jul-18	09:33:34
7	7	180730G1_7	IPA	30-Jul-18	09:46:20
8	8	180730G1_8	1802006-04 GWIN1807261730GGA 0....	30-Jul-18	10:02:12
9	9	180730G1_9	IPA	30-Jul-18	10:14:14
10	10	180730G1_10	ST180730G1-2 PFC CS1 537 18G2706	30-Jul-18	10:27:08
11	11	180730G1_11	IPA	30-Jul-18	10:39:59
12	12	180730G1_12	1801726-01 GWEF1807120830GSC 0....	30-Jul-18	12:11:50
13	13	180730G1_13	1801727-01 GWEF1807120840GSC 0....	30-Jul-18	12:23:53
14	14	180730G1_14	1801729-01 GWNT1807120945GSC 0....	30-Jul-18	12:42:57
15	15	180730G1_15	1801730-01 GWNT1807121130GSC 0....	30-Jul-18	12:55:00
16	16	180730G1_16	1801740-01 GWNT1807121120GA 0.2...	30-Jul-18	13:07:48
17	17	180730G1_17	1801741-01 GWNT1807121200GGA 0....	30-Jul-18	13:25:41
18	18	180730G1_18	1801747-01 GWNT1807100955GGA 0....	30-Jul-18	13:37:45
19	19	180730G1_19	B8G0184-BS1 LFB 0.25	30-Jul-18	13:50:34
20	20	180730G1_20	B8G0184-BSD1 LFBD 0.25	30-Jul-18	14:03:22
21	21	180730G1_21	B8G0184-BLK1 LRB 0.25	30-Jul-18	14:16:12
22	22	180730G1_22	1801929-01 CBD-1RW38-0718 0.25672	30-Jul-18	14:29:02
23	23	180730G1_23	1801929-02 CBD-1FB38-0718 0.25869	30-Jul-18	14:41:47
24	24	180730G1_24	1801929-03 CBD-1RW39-0718 0.25171	30-Jul-18	14:54:36
25	25	180730G1_25	1801929-04 CBD-1FB39-0718 0.25728	30-Jul-18	15:07:26
26	26	180730G1_26	1801934-01 WSOFT180711140MK 0.2...	30-Jul-18	15:20:15
27	27	180730G1_27	B8G0103-BLK1 LRB 0.25	30-Jul-18	15:33:05
28	28	180730G1_28	B8G0103-BS1 LFB 0.25	30-Jul-18	15:45:56
29	29	180730G1_29	B8G0103-BSD1 LFBD 0.25	30-Jul-18	15:58:41
30	30	180730G1_30	IPA	30-Jul-18	16:11:31
31	31	180730G1_31	ST180730G1-3 PFC CS3 537 18G2708	30-Jul-18	16:24:22
32	32	180730G1_32	IPA	30-Jul-18	16:37:11

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 31, 2018 11:47:10 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 11:48:46 Pacific Daylight Time

Compound name: PFBS

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34	34 180730G1_34	1801660-02 GWEF1807101120GSC 0....	30-Jul-18	17:02:48
35	35 180730G1_35	1801660-03 GWEF1807101140GSC 0....	30-Jul-18	17:15:36
36	36 180730G1_36	1801660-04 GWEF1807101150GSC 0....	30-Jul-18	17:28:25
37	37 180730G1_37	1801660-05 GWEF1807101210GSC 0....	30-Jul-18	17:41:15
38	38 180730G1_38	1801660-06 GWEF1807101220GSC 0....	30-Jul-18	17:54:04
39	39 180730G1_39	1801660-07 GWEF1807101235GSC 0....	30-Jul-18	18:06:54
40	40 180730G1_40	1801661-01 GWEF1807101330GSC 0....	30-Jul-18	18:19:39
41	41 180730G1_41	1801661-02 GWEF1807101310GSC 0....	30-Jul-18	18:32:29
42	42 180730G1_42	1801662-01 GWIN1807090920GSC 0....	30-Jul-18	18:45:18
43	43 180730G1_43	IPA	30-Jul-18	18:58:07
44	44 180730G1_44	ST180730G1-4 PFC CS-1 537 18G2704	30-Jul-18	19:10:59
45	45 180730G1_45	IPA	30-Jul-18	19:23:45
46	46 180730G1_46	1801663-01 GWNT1807091005GSC 0....	30-Jul-18	19:36:35
47	47 180730G1_47	1801664-01 SWEF1807091310GSC 0....	30-Jul-18	19:49:24
48	48 180730G1_48	1801664-03 SWEF1807091140GSC 0....	30-Jul-18	20:02:13
49	49 180730G1_49	1801664-05 SWEF1807091410GSC 0....	30-Jul-18	20:15:02
50	50 180730G1_50	1801664-07 SWEF1807091550GSC 0....	30-Jul-18	20:27:51
51	51 180730G1_51	1801665-01 GWEF1807100915GSC 0....	30-Jul-18	20:40:36
52	52 180730G1_52	1801666-01 GWEF1807100950GSC 0....	30-Jul-18	20:53:26
53	53 180730G1_53	1801667-01 GWEF1807101000GSC 0....	30-Jul-18	21:06:15
54	54 180730G1_54	1801668-01 GWNT1807101040GSC 0....	30-Jul-18	21:19:05
55	55 180730G1_55	1801728-01 GWEF1807120930GSC 0....	30-Jul-18	21:31:54
56	56 180730G1_56	IPA	30-Jul-18	21:44:44
57	57 180730G1_57	ST180730G1-5 PFC CS1 537 18G2706	30-Jul-18	21:57:33
58	58 180730G1_58	IPA	30-Jul-18	22:10:21

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-44.qld

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Printed: Tuesday, July 31, 2018 09:41:23 Pacific Daylight Time

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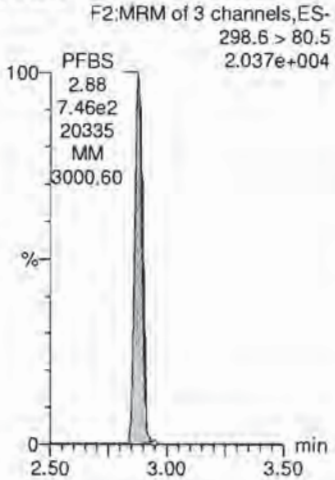
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180730G1_44, Date: 30-Jul-2018, Time: 19:10:59, ID: ST180730G1-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

PFBS



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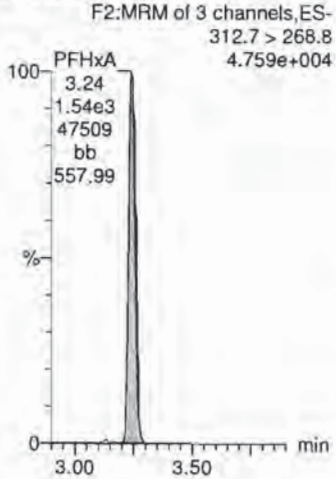

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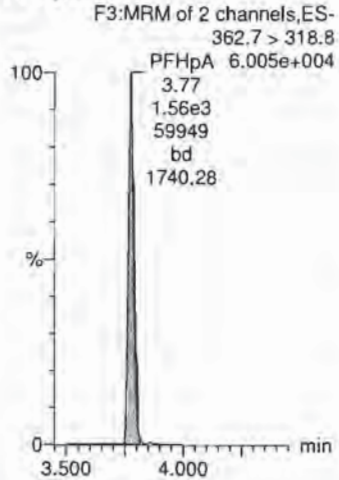

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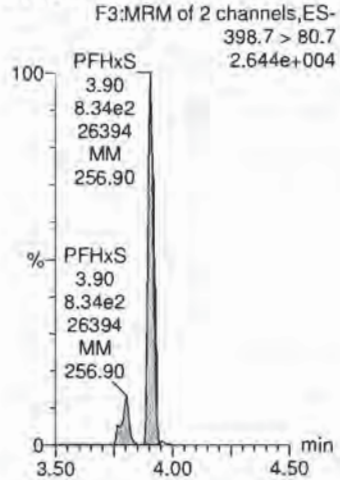
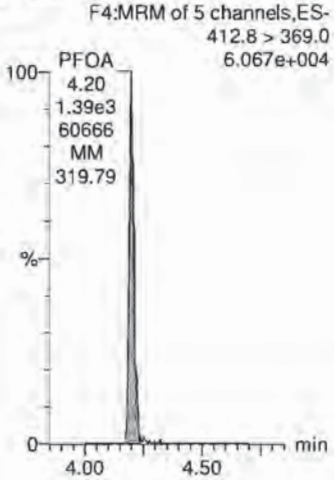


PFOA



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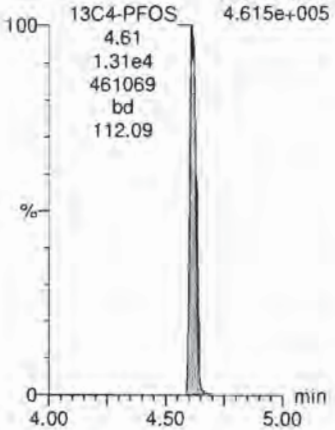

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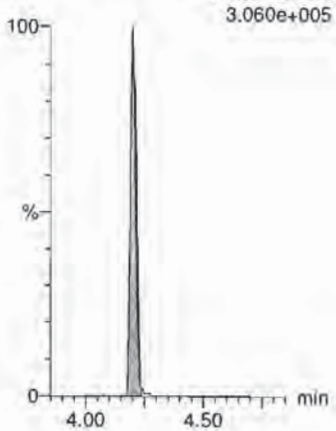

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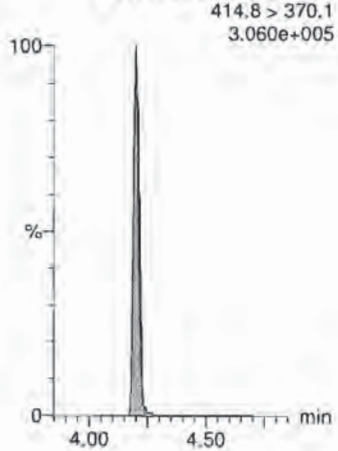

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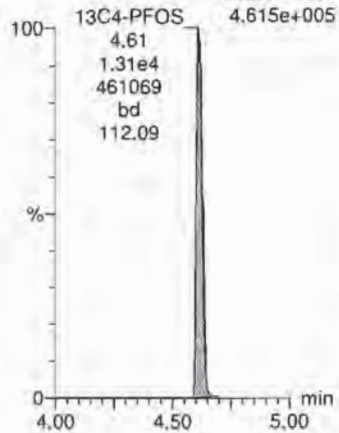

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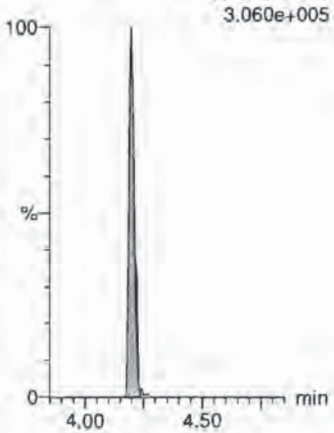

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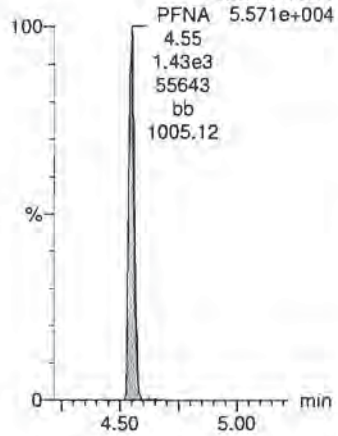
Last Altered: Tuesday, July 31, 2018 09:41:17 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 09:41:23 Pacific Daylight Time

Name: 180730G1_44, Date: 30-Jul-2018, Time: 19:10:59, ID: ST180730G1-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

PFNA



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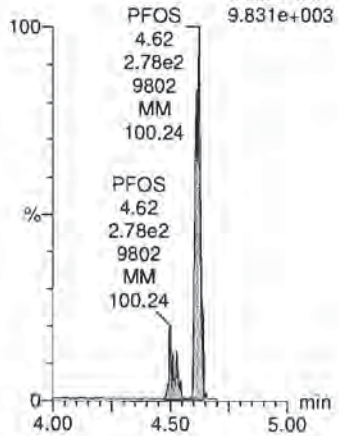

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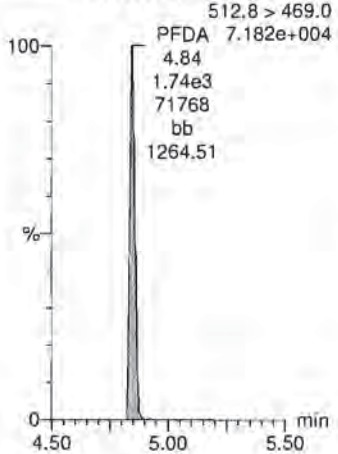

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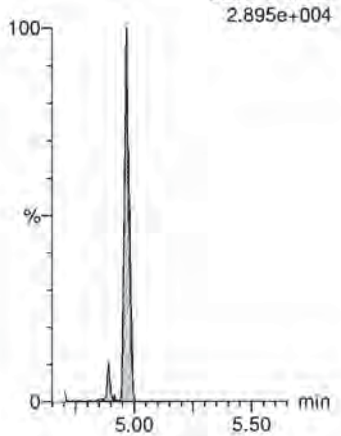

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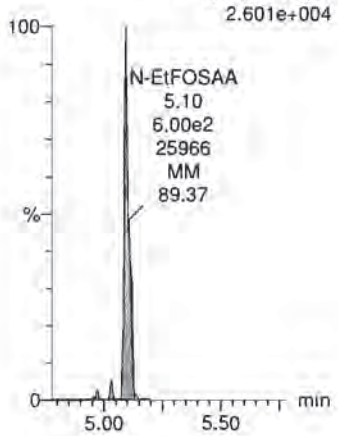

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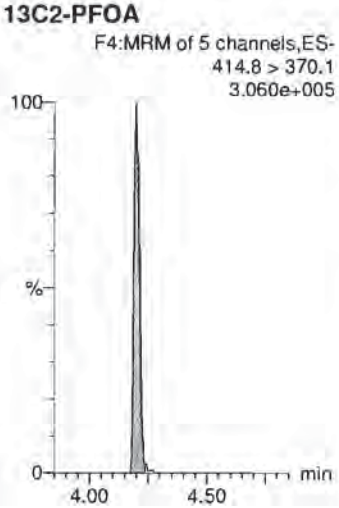

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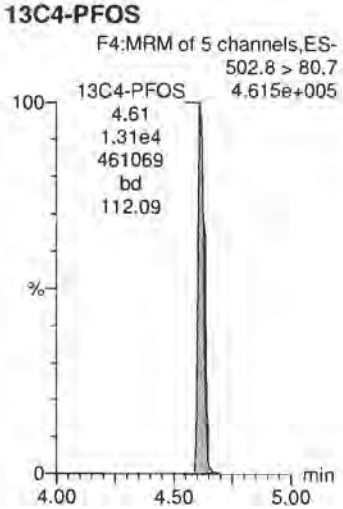

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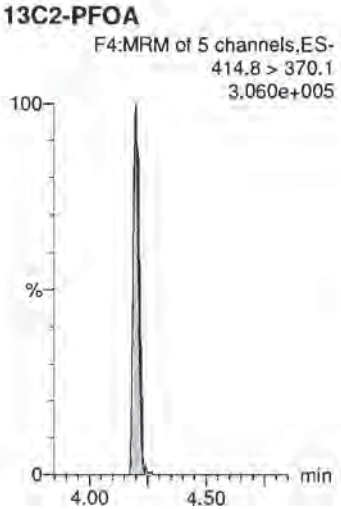

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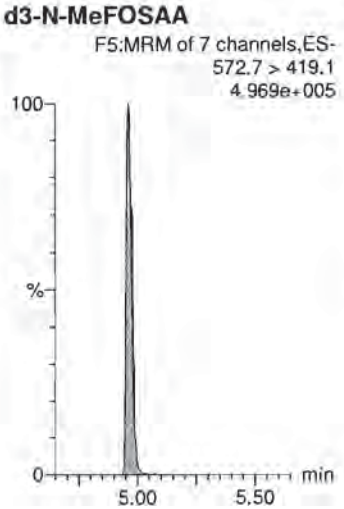

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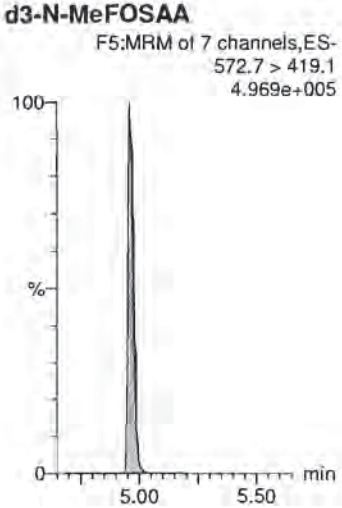

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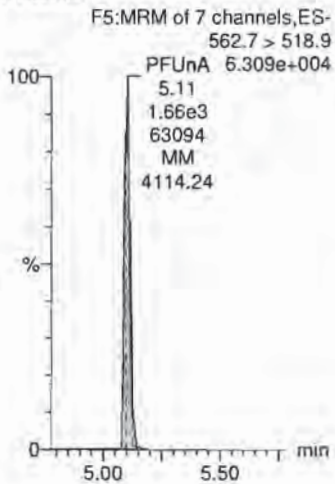
Last Altered: Tuesday, July 31, 2018 09:41:17 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 09:41:23 Pacific Daylight Time

Name: 180730G1_44, Date: 30-Jul-2018, Time: 19:10:59, ID: ST180730G1-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

PFUnA



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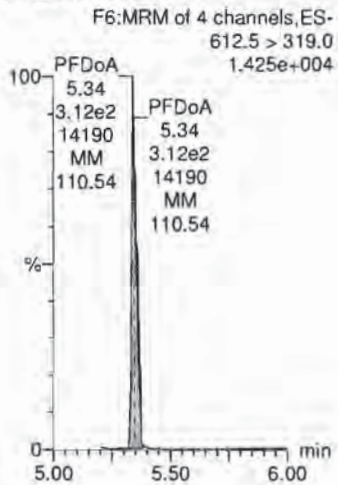

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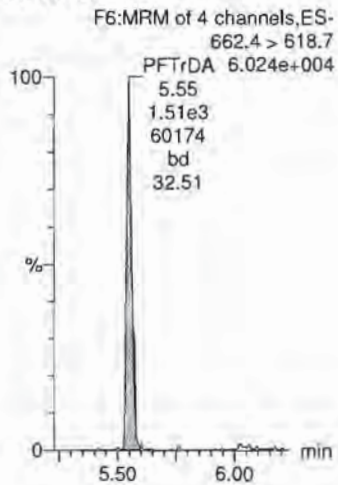
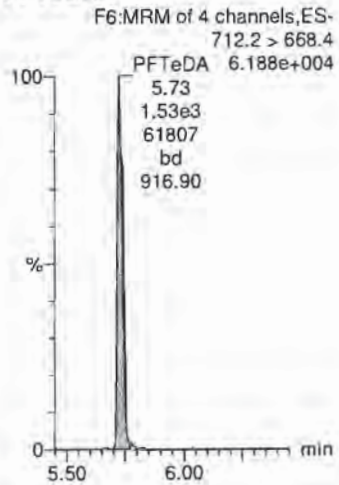


PFTeDA



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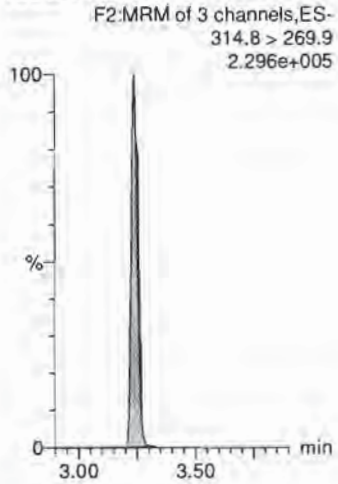

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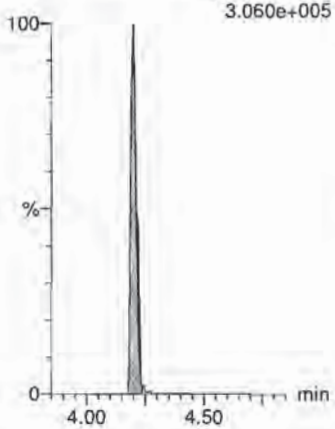

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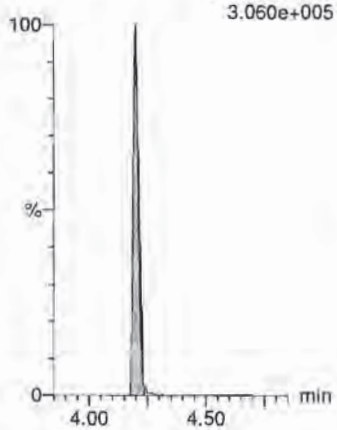

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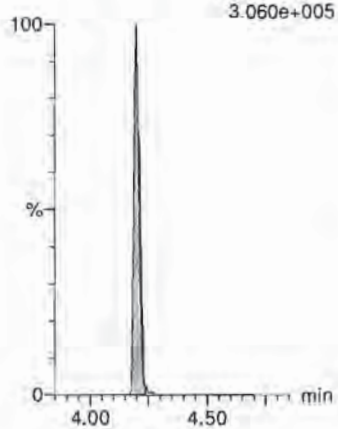
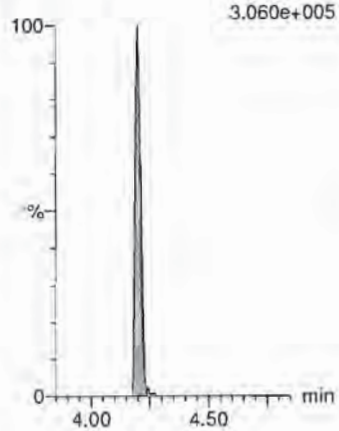
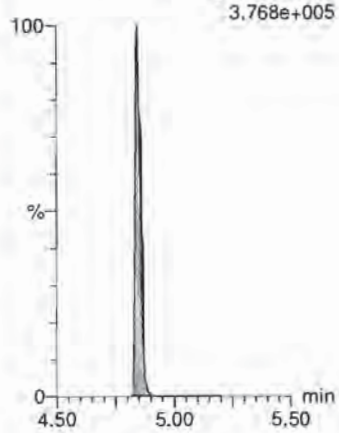


13C2-PFOA



13C2-PFDA

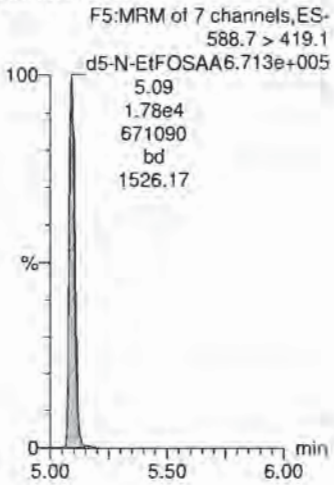


Dataset: X:\G1.PRO\Results\2018\180730G1\180730G1-44.qld

Last Altered: Tuesday, July 31, 2018 09:41:17 Pacific Daylight Time
Printed: Tuesday, July 31, 2018 09:41:23 Pacific Daylight Time

Name: 180730G1_44, Date: 30-Jul-2018, Time: 19:10:59, ID: ST180730G1-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

d5-N-EtFOSAA



INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

Low Pt
MeFOSAA = 0.5
EtFOSAA
PFDoA

High Pt
MeFOSAA = 50

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 13:56:48 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS
Coefficient of Determination: R^2 = 0.997792
Calibration curve: 0.918574 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.222	2.88	96.105	13552.397	0.204	0.2	-0.2	NO	0.998	NO	MM
2	2	180727G3_3	Standard	0.444	2.89	200.974	13209.018	0.437	0.5	7.1	NO	0.998	NO	MM
3	3	180727G3_4	Standard	0.888	2.89	348.164	13533.650	0.738	0.8	-9.5	NO	0.998	NO	MM
4	4	180727G3_5	Standard	1.780	2.88	694.271	13439.335	1.483	1.6	-9.3	NO	0.998	NO	MM
5	5	180727G3_6	Standard	4.440	2.89	1789.820	13687.563	3.753	4.1	-8.0	NO	0.998	NO	bb
6	6	180727G3_7	Standard	8.840	2.88	3425.279	13595.414	7.231	7.9	-11.0	NO	0.998	NO	MM
7	7	180727G3_8	Standard	22.100	2.89	8854.878	13564.530	18.735	20.4	-7.7	NO	0.998	NO	bd
8	8	180727G3_9	Standard	44.200	2.89	16881.348	12348.113	39.236	42.7	-3.4	NO	0.998	NO	MM
9	9	180727G3_10	Standard	66.400	2.89	24906.031	11508.040	62.113	67.6	1.8	NO	0.998	NO	bd
10	10	180727G3_11	Standard	88.500	2.89	34530.621	11725.390	84.520	92.0	4.0	NO	0.998	NO	bd

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.997313
Calibration curve: 0.93486 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	3.25	205.165	8241.926	0.249	0.3	6.5	NO	0.997	NO	bb
2	2	180727G3_3	Standard	0.500	3.26	390.551	8360.109	0.467	0.5	-0.1	NO	0.997	NO	MM
3	3	180727G3_4	Standard	1.000	3.25	740.381	8594.623	0.861	0.9	-7.9	NO	0.997	NO	MM
4	4	180727G3_5	Standard	2.000	3.26	1450.211	8018.335	1.809	1.9	-3.3	NO	0.997	NO	MM
5	5	180727G3_6	Standard	5.000	3.26	3791.149	8193.556	4.627	4.9	-1.0	NO	0.997	NO	bd
6	6	180727G3_7	Standard	10.000	3.26	7251.203	8594.496	8.437	9.0	-9.8	NO	0.997	NO	MM
7	7	180727G3_8	Standard	25.000	3.26	17934.260	8480.427	21.148	22.6	-9.5	NO	0.997	NO	bd
8	8	180727G3_9	Standard	50.000	3.26	36043.793	7465.221	48.282	51.6	3.3	NO	0.997	NO	MM
9	9	180727G3_10	Standard	75.000	3.26	51426.195	7607.421	67.600	72.3	-3.6	NO	0.997	NO	MM
10	10	180727G3_11	Standard	100.000	3.26	70101.578	7170.543	97.763	104.6	4.6	NO	0.997	NO	bd

√ VBF 7/28/18
CGH 7/28/18

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 13:56:48 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.997339
Calibration curve: 1.01385 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	3.79	200.134	8241.926	0.243	0.2	-4.2	NO	0.997	NO	MM
2	2	180727G3_3	Standard	0.500	3.80	382.623	8360.109	0.458	0.5	-9.7	NO	0.997	NO	MM
3	3	180727G3_4	Standard	1.000	3.79	795.272	8594.623	0.925	0.9	-8.7	NO	0.997	NO	bb
4	4	180727G3_5	Standard	2.000	3.80	1592.972	8018.335	1.987	2.0	-2.0	NO	0.997	NO	MM
5	5	180727G3_6	Standard	5.000	3.80	3890.216	8193.556	4.748	4.7	-6.3	NO	0.997	NO	bb
6	6	180727G3_7	Standard	10.000	3.79	7731.014	8594.496	8.995	8.9	-11.3	NO	0.997	NO	bb
7	7	180727G3_8	Standard	25.000	3.79	19281.563	8480.427	22.737	22.4	-10.3	NO	0.997	NO	bb
8	8	180727G3_9	Standard	50.000	3.79	38828.676	7465.221	52.013	51.3	2.6	NO	0.997	NO	bb
9	9	180727G3_10	Standard	75.000	3.79	56672.934	7607.421	74.497	73.5	-2.0	NO	0.997	NO	bb
10	10	180727G3_11	Standard	100.000	3.79	75914.023	7170.543	105.869	104.4	4.4	NO	0.997	NO	bb

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.998531
Calibration curve: 1.02362 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.228	3.93	103.516	13552.397	0.219	0.2	-6.1	NO	0.999	NO	MM
2	2	180727G3_3	Standard	0.456	3.92	187.452	13209.018	0.407	0.4	-12.7	NO	0.999	NO	MM
3	3	180727G3_4	Standard	0.912	3.92	391.243	13533.650	0.830	0.8	-11.1	NO	0.999	NO	MM
4	4	180727G3_5	Standard	1.820	3.92	833.587	13439.335	1.780	1.7	-4.4	NO	0.999	NO	MM
5	5	180727G3_6	Standard	4.560	3.93	2008.641	13687.563	4.212	4.1	-9.8	NO	0.999	NO	MM
6	6	180727G3_7	Standard	9.120	3.93	3992.145	13595.414	8.427	8.2	-9.7	NO	0.999	NO	MM
7	7	180727G3_8	Standard	22.800	3.92	10288.482	13564.530	21.768	21.3	-6.7	NO	0.999	NO	MM
8	8	180727G3_9	Standard	45.500	3.93	20477.166	12348.113	47.594	46.5	2.2	NO	0.999	NO	MM
9	9	180727G3_10	Standard	68.200	3.93	28868.348	11508.040	71.995	70.3	3.1	NO	0.999	NO	MM
10	10	180727G3_11	Standard	91.000	3.93	38052.820	11725.390	93.141	91.0	-0.0	NO	0.999	NO	MM

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Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

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Compound name: PFOA
Coefficient of Determination: R^2 = 0.998307
Calibration curve: 0.889698 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	4.21	156.589	8241.926	0.190	0.2	-14.6	NO	0.998	NO	MM
2	2	180727G3_3	Standard	0.500	4.22	322.420	8360.109	0.386	0.4	-13.3	NO	0.998	NO	MM
3	3	180727G3_4	Standard	1.000	4.22	684.805	8594.623	0.797	0.9	-10.4	NO	0.998	NO	MM
4	4	180727G3_5	Standard	2.000	4.22	1485.150	8018.335	1.852	2.1	4.1	NO	0.998	NO	MM
5	5	180727G3_6	Standard	5.000	4.22	3510.039	8193.556	4.284	4.8	-3.7	NO	0.998	NO	bd
6	6	180727G3_7	Standard	10.000	4.21	7245.506	8594.496	8.430	9.5	-5.2	NO	0.998	NO	bb
7	7	180727G3_8	Standard	25.000	4.21	17421.123	8480.427	20.543	23.1	-7.6	NO	0.998	NO	bd
8	8	180727G3_9	Standard	50.000	4.22	35432.551	7465.221	47.463	53.3	6.7	NO	0.998	NO	bb
9	9	180727G3_10	Standard	75.000	4.22	50432.977	7607.421	66.294	74.5	-0.6	NO	0.998	NO	bb
10	10	180727G3_11	Standard	100.000	4.21	63722.199	7170.543	88.867	99.9	-0.1	NO	0.998	NO	bb

Compound name: PFNA
Coefficient of Determination: R^2 = 0.997701
Calibration curve: 0.865784 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	4.55	204.726	8241.926	0.248	0.3	14.8	NO	0.998	NO	MM
2	2	180727G3_3	Standard	0.500	4.56	354.806	8360.109	0.424	0.5	-2.0	NO	0.998	NO	MM
3	3	180727G3_4	Standard	1.000	4.55	650.974	8594.623	0.757	0.9	-12.5	NO	0.998	NO	MM
4	4	180727G3_5	Standard	2.000	4.55	1300.801	8018.335	1.622	1.9	-6.3	NO	0.998	NO	MM
5	5	180727G3_6	Standard	5.000	4.55	3632.643	8193.556	4.434	5.1	2.4	NO	0.998	NO	bb
6	6	180727G3_7	Standard	10.000	4.55	6944.232	8594.496	8.080	9.3	-6.7	NO	0.998	NO	MM
7	7	180727G3_8	Standard	25.000	4.54	16893.297	8480.427	19.920	23.0	-8.0	NO	0.998	NO	bd
8	8	180727G3_9	Standard	50.000	4.55	34998.008	7465.221	46.881	54.1	8.3	NO	0.998	NO	bd
9	9	180727G3_10	Standard	75.000	4.56	49003.105	7607.421	64.415	74.4	-0.8	NO	0.998	NO	bd
10	10	180727G3_11	Standard	100.000	4.56	61592.840	7170.543	85.897	99.2	-0.8	NO	0.998	NO	bb

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

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Compound name: PFOS
Coefficient of Determination: R^2 = 0.998625
Calibration curve: 0.000616304 * x^2 + 0.410519 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.232	4.62	27.708	13552.397	0.059	0.1	-38.4	NO	0.999	NO	MM
2	2	180727G3_3	Standard	0.464	4.61	75.592	13209.018	0.164	0.4	-13.8	NO	0.999	NO	MM
3	3	180727G3_4	Standard	0.928	4.61	130.310	13533.650	0.276	0.7	-27.5	NO	0.999	NO	MM
4	4	180727G3_5	Standard	1.860	4.61	357.105	13439.335	0.763	1.9	-0.4	NO	0.999	NO	MM
5	5	180727G3_6	Standard	4.640	4.61	883.760	13687.563	1.853	4.5	-3.4	NO	0.999	NO	MM
6	6	180727G3_7	Standard	9.240	4.61	1696.163	13595.414	3.581	8.6	-6.8	NO	0.999	NO	MM
7	7	180727G3_8	Standard	23.100	4.61	4564.918	13564.530	9.659	22.8	-1.5	NO	0.999	NO	MM
8	8	180727G3_9	Standard	46.200	4.61	8990.870	12348.113	20.897	47.5	2.8	NO	0.999	NO	MM
9	9	180727G3_10	Standard	69.400	4.62	13059.347	11508.040	32.569	71.6	3.2	NO	0.999	NO	MM
10	10	180727G3_11	Standard	92.500	4.62	17230.654	11725.390	42.175	90.5	-2.2	NO	0.999	NO	MM

Compound name: PFDA
Coefficient of Determination: R^2 = 0.999198
Calibration curve: 0.945644 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	4.83	188.394	8241.926	0.229	0.2	-3.3	NO	0.999	NO	MM
2	2	180727G3_3	Standard	0.500	4.83	421.849	8360.109	0.505	0.5	6.7	NO	0.999	NO	MM
3	3	180727G3_4	Standard	1.000	4.83	782.895	8594.623	0.911	1.0	-3.7	NO	0.999	NO	MM
4	4	180727G3_5	Standard	2.000	4.83	1508.098	8018.335	1.881	2.0	-0.6	NO	0.999	NO	bb
5	5	180727G3_6	Standard	5.000	4.84	3756.115	8193.556	4.584	4.8	-3.0	NO	0.999	NO	MM
6	6	180727G3_7	Standard	10.000	4.84	7444.267	8594.496	8.662	9.2	-8.4	NO	0.999	NO	bd
7	7	180727G3_8	Standard	25.000	4.83	19287.389	8480.427	22.743	24.1	-3.8	NO	0.999	NO	bd
8	8	180727G3_9	Standard	50.000	4.83	35781.758	7465.221	47.931	50.7	1.4	NO	0.999	NO	bd
9	9	180727G3_10	Standard	75.000	4.84	53086.145	7607.421	69.782	73.8	-1.6	NO	0.999	NO	bb
10	10	180727G3_11	Standard	100.000	4.84	69492.773	7170.543	96.914	102.5	2.5	NO	0.999	NO	bb

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Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

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Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.996973
Calibration curve: 0.00770678 * x^2 + 1.09336 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: Null, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	4.96	69.433	11446.964	0.243	0.2	-11.4	NO	0.997	NO	MMX
2	2	180727G3_3	Standard	0.500	4.96	72.637	10549.234	0.275	0.3	-49.7	NO	0.997	NO	MM
3	3	180727G3_4	Standard	1.000	4.97	332.561	11017.889	1.207	1.1	9.6	NO	0.997	NO	MM
4	4	180727G3_5	Standard	2.000	4.96	609.179	10497.476	2.321	2.1	4.6	NO	0.997	NO	MM
5	5	180727G3_6	Standard	5.000	4.96	1724.264	11273.696	6.118	5.4	7.8	NO	0.997	NO	MM
6	6	180727G3_7	Standard	10.000	4.96	3706.642	10148.330	14.610	12.3	23.0	NO	0.997	NO	MM
7	7	180727G3_8	Standard	25.000	4.96	8418.020	11182.046	30.113	23.6	-5.6	NO	0.997	NO	MM
8	8	180727G3_9	Standard	50.000	4.96	18055.535	9717.289	74.323	50.2	0.4	NO	0.997	NO	MM
9	9	180727G3_10	Standard	75.000	4.97	25882.531	10855.422	95.372	61.0	-18.7	NO	0.997	NO	MMX
10	10	180727G3_11	Standard	100.000	4.97	35989.883	10018.563	143.693	82.9	-17.1	NO	0.997	NO	MMX

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.995889
Calibration curve: 1.24906 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	4.97	21.928	11446.964	0.077	0.1	-75.5	NO	0.996	NO	MMX
2	2	180727G3_3	Standard	0.500	5.09	113.261	10549.234	0.429	0.3	-31.2	NO	0.996	NO	MM
3	3	180727G3_4	Standard	1.000	5.09	273.643	11017.889	0.993	0.8	-20.5	NO	0.996	NO	MM
4	4	180727G3_5	Standard	2.000	5.10	613.336	10497.476	2.337	1.9	-6.4	NO	0.996	NO	MM
5	5	180727G3_6	Standard	5.000	5.10	1733.940	11273.696	6.152	4.9	-1.5	NO	0.996	NO	MM
6	6	180727G3_7	Standard	10.000	5.09	3157.523	10148.330	12.445	10.0	-0.4	NO	0.996	NO	MM
7	7	180727G3_8	Standard	25.000	5.09	8489.023	11182.046	30.367	24.3	-2.8	NO	0.996	NO	MM
8	8	180727G3_9	Standard	50.000	5.09	17020.502	9717.289	70.063	56.1	12.2	NO	0.996	NO	MM
9	9	180727G3_10	Standard	75.000	5.09	24285.303	10855.422	89.486	71.6	-4.5	NO	0.996	NO	MM
10	10	180727G3_11	Standard	100.000	5.09	30831.871	10018.563	123.099	98.6	-1.4	NO	0.996	NO	MM

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

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Compound name: PFUnA
Coefficient of Determination: R^2 = 0.997769
Calibration curve: 0.957178 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	5.10	204.429	8241.926	0.248	0.3	3.7	NO	0.998	NO	MM
2	2	180727G3_3	Standard	0.500	5.10	389.188	8360.109	0.466	0.5	-2.7	NO	0.998	NO	MM
3	3	180727G3_4	Standard	1.000	5.10	763.535	8594.623	0.888	0.9	-7.2	NO	0.998	NO	MM
4	4	180727G3_5	Standard	2.000	5.10	1540.376	8018.335	1.921	2.0	0.4	NO	0.998	NO	MM
5	5	180727G3_6	Standard	5.000	5.10	4015.527	8193.556	4.901	5.1	2.4	NO	0.998	NO	MM
6	6	180727G3_7	Standard	10.000	5.10	7539.182	8594.496	8.772	9.2	-8.4	NO	0.998	NO	bb
7	7	180727G3_8	Standard	25.000	5.10	19218.686	8480.427	22.662	23.7	-5.3	NO	0.998	NO	bd
8	8	180727G3_9	Standard	50.000	5.10	37191.602	7465.221	49.820	52.0	4.1	NO	0.998	NO	bd
9	9	180727G3_10	Standard	75.000	5.10	51848.984	7607.421	68.156	71.2	-5.1	NO	0.998	NO	bd
10	10	180727G3_11	Standard	100.000	5.10	71280.641	7170.543	99.408	103.9	3.9	NO	0.998	NO	bd

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995016
Calibration curve: 0.155673 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	5.34	25.495	8241.926	0.031	0.2	-20.5	NO	0.995	NO	MMX
2	2	180727G3_3	Standard	0.500	5.34	40.319	8360.109	0.048	0.3	-38.0	NO	0.995	NO	MM
3	3	180727G3_4	Standard	1.000	5.34	127.374	8594.623	0.148	1.0	-4.8	NO	0.995	NO	MM
4	4	180727G3_5	Standard	2.000	5.35	226.853	8018.335	0.283	1.8	-9.1	NO	0.995	NO	MM
5	5	180727G3_6	Standard	5.000	5.34	596.366	8193.556	0.728	4.7	-6.5	NO	0.995	NO	MM
6	6	180727G3_7	Standard	10.000	5.34	1175.103	8594.496	1.367	8.8	-12.2	NO	0.995	NO	bd
7	7	180727G3_8	Standard	25.000	5.34	3036.062	8480.427	3.580	23.0	-8.0	NO	0.995	NO	MM
8	8	180727G3_9	Standard	50.000	5.34	6155.058	7465.221	8.245	53.0	5.9	NO	0.995	NO	bd
9	9	180727G3_10	Standard	75.000	5.34	8305.741	7607.421	10.918	70.1	-6.5	NO	0.995	NO	bd
10	10	180727G3_11	Standard	100.000	5.34	11817.669	7170.543	16.481	105.9	5.9	NO	0.995	NO	bd

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Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.997294
Calibration curve: 0.880973 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	5.55	193.861	8241.926	0.235	0.3	6.8	NO	0.997	NO	MM
2	2	180727G3_3	Standard	0.500	5.55	380.459	8360.109	0.455	0.5	3.3	NO	0.997	NO	bb
3	3	180727G3_4	Standard	1.000	5.55	680.784	8594.623	0.792	0.9	-10.1	NO	0.997	NO	MM
4	4	180727G3_5	Standard	2.000	5.55	1412.678	8018.335	1.762	2.0	-0.0	NO	0.997	NO	bd
5	5	180727G3_6	Standard	5.000	5.55	3363.040	8193.556	4.104	4.7	-6.8	NO	0.997	NO	bb
6	6	180727G3_7	Standard	10.000	5.55	6991.259	8594.496	8.135	9.2	-7.7	NO	0.997	NO	bd
7	7	180727G3_8	Standard	25.000	5.55	16541.254	8480.427	19.505	22.1	-11.4	NO	0.997	NO	bd
8	8	180727G3_9	Standard	50.000	5.55	34341.363	7465.221	46.002	52.2	4.4	NO	0.997	NO	bd
9	9	180727G3_10	Standard	75.000	5.55	49041.766	7607.421	64.466	73.2	-2.4	NO	0.997	NO	bb
10	10	180727G3_11	Standard	100.000	5.55	65471.082	7170.543	91.306	103.6	3.6	NO	0.997	NO	bd

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.998960
Calibration curve: 0.890132 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	0.250	5.73	187.407	8241.926	0.227	0.3	2.2	NO	0.999	NO	MM
2	2	180727G3_3	Standard	0.500	5.74	308.179	8360.109	0.369	0.4	-17.2	NO	0.999	NO	bb
3	3	180727G3_4	Standard	1.000	5.73	733.874	8594.623	0.854	1.0	-4.1	NO	0.999	NO	bb
4	4	180727G3_5	Standard	2.000	5.73	1265.705	8018.335	1.579	1.8	-11.3	NO	0.999	NO	bd
5	5	180727G3_6	Standard	5.000	5.73	3651.478	8193.556	4.457	5.0	0.1	NO	0.999	NO	bb
6	6	180727G3_7	Standard	10.000	5.73	6959.118	8594.496	8.097	9.1	-9.0	NO	0.999	NO	bd
7	7	180727G3_8	Standard	25.000	5.73	18356.699	8480.427	21.646	24.3	-2.7	NO	0.999	NO	bd
8	8	180727G3_9	Standard	50.000	5.73	34151.090	7465.221	45.747	51.4	2.8	NO	0.999	NO	bb
9	9	180727G3_10	Standard	75.000	5.73	49652.453	7607.421	65.268	73.3	-2.2	NO	0.999	NO	bb
10	10	180727G3_11	Standard	100.000	5.73	65237.176	7170.543	90.979	102.2	2.2	NO	0.999	NO	bd

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Compound name: 13C2-PFHxA
Response Factor: 0.813918
RRF SD: 0.0301017, Relative SD: 3.69837
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	10.000	3.25	6947.393	8241.926	8.429	10.4	3.6	NO		NO	bd
2	2	180727G3_3	Standard	10.000	3.25	6695.537	8360.109	8.009	9.8	-1.6	NO		NO	MM
3	3	180727G3_4	Standard	10.000	3.25	6556.093	8594.623	7.628	9.4	-6.3	NO		NO	bd
4	4	180727G3_5	Standard	10.000	3.26	6712.059	8018.335	8.371	10.3	2.8	NO		NO	bd
5	5	180727G3_6	Standard	10.000	3.26	6532.966	8193.556	7.973	9.8	-2.0	NO		NO	MM
6	6	180727G3_7	Standard	10.000	3.26	6863.679	8594.496	7.986	9.8	-1.9	NO		NO	bb
7	7	180727G3_8	Standard	10.000	3.26	6628.585	8480.427	7.816	9.6	-4.0	NO		NO	bb
8	8	180727G3_9	Standard	10.000	3.26	6400.659	7465.221	8.574	10.5	5.3	NO		NO	MM
9	9	180727G3_10	Standard	10.000	3.26	6291.934	7607.421	8.271	10.2	1.6	NO		NO	bd
10	10	180727G3_11	Standard	10.000	3.26	5975.927	7170.543	8.334	10.2	2.4	NO		NO	bd

Compound name: 13C2-PFDA
Response Factor: 1.03239
RRF SD: 0.0398369, Relative SD: 3.8587
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	10.000	4.83	8861.654	8241.926	10.752	10.4	4.1	NO		NO	bb
2	2	180727G3_3	Standard	10.000	4.83	8677.056	8360.109	10.379	10.1	0.5	NO		NO	MM
3	3	180727G3_4	Standard	10.000	4.84	8726.136	8594.623	10.153	9.8	-1.7	NO		NO	bd
4	4	180727G3_5	Standard	10.000	4.84	8064.261	8018.335	10.057	9.7	-2.6	NO		NO	bd
5	5	180727G3_6	Standard	10.000	4.84	7983.151	8193.556	9.743	9.4	-5.6	NO		NO	bd
6	6	180727G3_7	Standard	10.000	4.83	9111.349	8594.496	10.601	10.3	2.7	NO		NO	MM
7	7	180727G3_8	Standard	10.000	4.83	8503.217	8480.427	10.027	9.7	-2.9	NO		NO	bd
8	8	180727G3_9	Standard	10.000	4.84	8237.825	7465.221	11.035	10.7	6.9	NO		NO	bd
9	9	180727G3_10	Standard	10.000	4.84	7606.816	7607.421	9.999	9.7	-3.1	NO		NO	bb
10	10	180727G3_11	Standard	10.000	4.84	7523.452	7170.543	10.492	10.2	1.6	NO		NO	bd

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Compound name: d5-N-EtFOSAA
Response Factor: 1.48751
RRF SD: 0.0882154, Relative SD: 5.93041
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	40.000	5.08	18284.959	11446.964	63.895	43.0	7.4	NO		NO	bd
2	2	180727G3_3	Standard	40.000	5.09	16401.352	10549.234	62.190	41.8	4.5	NO		NO	bd
3	3	180727G3_4	Standard	40.000	5.09	17485.752	11017.889	63.481	42.7	6.7	NO		NO	bd
4	4	180727G3_5	Standard	40.000	5.09	15533.792	10497.476	59.191	39.8	-0.5	NO		NO	bb
5	5	180727G3_6	Standard	40.000	5.09	17326.795	11273.696	61.477	41.3	3.3	NO		NO	bd
6	6	180727G3_7	Standard	40.000	5.09	14557.429	10148.330	57.379	38.6	-3.6	NO		NO	MM
7	7	180727G3_8	Standard	40.000	5.08	16133.226	11182.046	57.711	38.8	-3.0	NO		NO	bd
8	8	180727G3_9	Standard	40.000	5.08	14836.749	9717.289	61.074	41.1	2.6	NO		NO	bd
9	9	180727G3_10	Standard	40.000	5.09	14503.742	10855.422	53.443	35.9	-10.2	NO		NO	bd
10	10	180727G3_11	Standard	40.000	5.09	13816.652	10018.563	55.164	37.1	-7.3	NO		NO	bb

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	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	10.000	4.21	8241.926	8241.926	10.000	10.0	0.0	NO		NO	MM
2	2	180727G3_3	Standard	10.000	4.21	8360.109	8360.109	10.000	10.0	0.0	NO		NO	bd
3	3	180727G3_4	Standard	10.000	4.21	8594.623	8594.623	10.000	10.0	0.0	NO		NO	MM
4	4	180727G3_5	Standard	10.000	4.21	8018.335	8018.335	10.000	10.0	0.0	NO		NO	bd
5	5	180727G3_6	Standard	10.000	4.22	8193.556	8193.556	10.000	10.0	0.0	NO		NO	MM
6	6	180727G3_7	Standard	10.000	4.21	8594.496	8594.496	10.000	10.0	0.0	NO		NO	bd
7	7	180727G3_8	Standard	10.000	4.21	8480.427	8480.427	10.000	10.0	0.0	NO		NO	bd
8	8	180727G3_9	Standard	10.000	4.22	7465.221	7465.221	10.000	10.0	0.0	NO		NO	bd
9	9	180727G3_10	Standard	10.000	4.21	7607.421	7607.421	10.000	10.0	0.0	NO		NO	MM
10	10	180727G3_11	Standard	10.000	4.21	7170.543	7170.543	10.000	10.0	0.0	NO		NO	bd

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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	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	28.700	4.61	13552.397	13552.397	28.700	28.7	0.0	NO		NO	bb
2	2	180727G3_3	Standard	28.700	4.61	13209.018	13209.018	28.700	28.7	0.0	NO		NO	bb
3	3	180727G3_4	Standard	28.700	4.61	13533.650	13533.650	28.700	28.7	0.0	NO		NO	bd
4	4	180727G3_5	Standard	28.700	4.61	13439.335	13439.335	28.700	28.7	0.0	NO		NO	bb
5	5	180727G3_6	Standard	28.700	4.61	13687.563	13687.563	28.700	28.7	0.0	NO		NO	bb
6	6	180727G3_7	Standard	28.700	4.61	13595.414	13595.414	28.700	28.7	0.0	NO		NO	bb
7	7	180727G3_8	Standard	28.700	4.61	13564.530	13564.530	28.700	28.7	0.0	NO		NO	bd
8	8	180727G3_9	Standard	28.700	4.61	12348.113	12348.113	28.700	28.7	0.0	NO		NO	bb
9	9	180727G3_10	Standard	28.700	4.62	11508.040	11508.040	28.700	28.7	0.0	NO		NO	bb
10	10	180727G3_11	Standard	28.700	4.62	11725.390	11725.390	28.700	28.7	0.0	NO		NO	bd

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

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180727G3_2	Standard	40.000	4.96	11446.964	11446.964	40.000	40.0	0.0	NO		NO	bd
2	2	180727G3_3	Standard	40.000	4.96	10549.234	10549.234	40.000	40.0	0.0	NO		NO	bb
3	3	180727G3_4	Standard	40.000	4.96	11017.889	11017.889	40.000	40.0	0.0	NO		NO	bd
4	4	180727G3_5	Standard	40.000	4.96	10497.476	10497.476	40.000	40.0	0.0	NO		NO	bd
5	5	180727G3_6	Standard	40.000	4.96	11273.696	11273.696	40.000	40.0	0.0	NO		NO	bd
6	6	180727G3_7	Standard	40.000	4.96	10148.330	10148.330	40.000	40.0	0.0	NO		NO	bd
7	7	180727G3_8	Standard	40.000	4.96	11182.046	11182.046	40.000	40.0	0.0	NO		NO	bd
8	8	180727G3_9	Standard	40.000	4.96	9717.289	9717.289	40.000	40.0	0.0	NO		NO	bd
9	9	180727G3_10	Standard	40.000	4.96	10855.422	10855.422	40.000	40.0	0.0	NO		NO	bd
10	10	180727G3_11	Standard	40.000	4.96	10018.563	10018.563	40.000	40.0	0.0	NO		NO	MM

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Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180727G3_2, Date: 27-Jul-2018, Time: 15:05:49, ID: ST180727G3-1 PFC CS-4 537 18G2701, Description: PFC CS-4 537 18G2701

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBS	19	0.9978	NO	
2	2	PFHxA	18	0.9973	NO	
3	3	PFHpA	18	0.9973	NO	
4	4	PFHxS	19	0.9985	NO	
5	5	PFOA	18	0.9983	NO	
6	6	PFNA	18	0.9977	NO	
7	7	PFOS	19	0.9986	NO	
8	8	PFDA	18	0.9992	NO	
9	9	N-MeFOSAA	20	0.9970	NO	
10	10	N-EtFOSAA	20	0.9959	NO	
11	11	PFUnA	18	0.9978	NO	
12	12	PFDoA	18	0.9950	NO	
13	13	PFTrDA	18	0.9973	NO	
14	14	PFTeDA	18	0.9990	NO	
15	15	13C2-PFHxA	18		NO	3.698
16	16	13C2-PFDA	18		NO	3.859
17	17	d5-N-EtFOSAA	20		NO	5.930
18	18	13C2-PFOA	18		NO	0.000
19	19	13C4-PFOS	19		NO	0.000
20	20	d3-N-MeFOSAA	20		NO	0.000

Quantify Compound Summary Report **MassLynx MassLynx V4.1 SCN 945**
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Dataset: Untitled

Last Altered: Saturday, July 28, 2018 14:06:31 Pacific Daylight Time
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Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS

	#	Name	ID	Acq.Date	Acq.Time
1	1	180727G3_1	IPA	27-Jul-18	14:53:43
2	2	180727G3_2	ST180727G3-1 PFC CS-4 537 18G2701	27-Jul-18	15:05:49
3	3	180727G3_3	ST180727G3-2 PFC CS-3 537 18G2702	27-Jul-18	15:18:40
4	4	180727G3_4	ST180727G3-3 PFC CS-2 537 18G2703	27-Jul-18	15:31:30
5	5	180727G3_5	ST180727G3-4 PFC CS-1 537 18G2704	27-Jul-18	15:44:20
6	6	180727G3_6	ST180727G3-5 PFC CS0 537 18G2705	27-Jul-18	15:57:09
7	7	180727G3_7	ST180727G3-6 PFC CS1 537 18G2706	27-Jul-18	16:09:59
8	8	180727G3_8	ST180727G3-7 PFC CS2 537 18G2707	27-Jul-18	16:22:49
9	9	180727G3_9	ST180727G3-8 PFC CS3 537 18G2708	27-Jul-18	16:35:39
10	10	180727G3_10	ST180727G3-9 PFC CS4 537 18G2709	27-Jul-18	16:48:28
11	11	180727G3_11	ST180727G3-10 PFC CS5 537 18G2710	27-Jul-18	17:01:12
12	12	180727G3_12	IPA	27-Jul-18	17:14:01
13	13	180727G3_13	ST180727G3-11 PFC ICV 537 18G2711	27-Jul-18	17:26:53
14	14	180727G3_14	IPA	27-Jul-18	17:39:40

ICAL

Compound 18: 13C2-PFOA

high	8594.62	RPD
low	7170.54	18.07

	ID	Name	Type	Std. Cor RT		Area	IS Area	Response	Primary Flags
1	ST180727G3-1 PFC CS-4 537 18G2701	180727G3_2	Standard	10	4.21	8241.93	8241.93	10	MM
2	ST180727G3-2 PFC CS-3 537 18G2702	180727G3_3	Standard	10	4.21	8360.11	8360.11	10	bd
3	ST180727G3-3 PFC CS-2 537 18G2703	180727G3_4	Standard	10	4.21	8594.62	8594.62	10	MM
4	ST180727G3-4 PFC CS-1 537 18G2704	180727G3_5	Standard	10	4.21	8018.34	8018.34	10	bd
5	ST180727G3-5 PFC CS0 537 18G2705	180727G3_6	Standard	10	4.22	8193.56	8193.56	10	MM
6	ST180727G3-6 PFC CS1 537 18G2706	180727G3_7	Standard	10	4.21	8594.5	8594.50	10	bd
7	ST180727G3-7 PFC CS2 537 18G2707	180727G3_8	Standard	10	4.21	8480.43	8480.43	10	bd
8	ST180727G3-8 PFC CS3 537 18G2708	180727G3_9	Standard	10	4.22	7465.22	7465.22	10	bd
9	ST180727G3-9 PFC CS4 537 18G2709	180727G3_10	Standard	10	4.21	7607.42	7607.42	10	MM
10	ST180727G3-10 PFC CS5 537 18G2710	180727G3_11	Standard	10	4.21	7170.54	7170.54	10	bd
							average		
							8072.67		

Compound 19: 13C4-PFOS

high	13687.56	RPD
low	11508.04	17.30

	ID	Name	Type	Std. Cor RT		Area	IS Area	Response	Primary Flags
1	ST180727G3-1 PFC CS-4 537 18G2701	180727G3_2	Standard	28.7	4.61	13552.4	13552.40	28.7	bb
2	ST180727G3-2 PFC CS-3 537 18G2702	180727G3_3	Standard	28.7	4.61	13209	13209.02	28.7	bb
3	ST180727G3-3 PFC CS-2 537 18G2703	180727G3_4	Standard	28.7	4.61	13533.7	13533.65	28.7	bd
4	ST180727G3-4 PFC CS-1 537 18G2704	180727G3_5	Standard	28.7	4.61	13439.3	13439.34	28.7	bb
5	ST180727G3-5 PFC CS0 537 18G2705	180727G3_6	Standard	28.7	4.61	13687.6	13687.56	28.7	bb
6	ST180727G3-6 PFC CS1 537 18G2706	180727G3_7	Standard	28.7	4.61	13595.4	13595.41	28.7	bb
7	ST180727G3-7 PFC CS2 537 18G2707	180727G3_8	Standard	28.7	4.61	13564.5	13564.53	28.7	bd
8	ST180727G3-8 PFC CS3 537 18G2708	180727G3_9	Standard	28.7	4.61	12348.1	12348.11	28.7	bb
9	ST180727G3-9 PFC CS4 537 18G2709	180727G3_10	Standard	28.7	4.62	11508	11508.04	28.7	bb
10	ST180727G3-10 PFC CS5 537 18G2710	180727G3_11	Standard	28.7	4.62	11725.4	11725.39	28.7	bd
							average		
							13016.35		

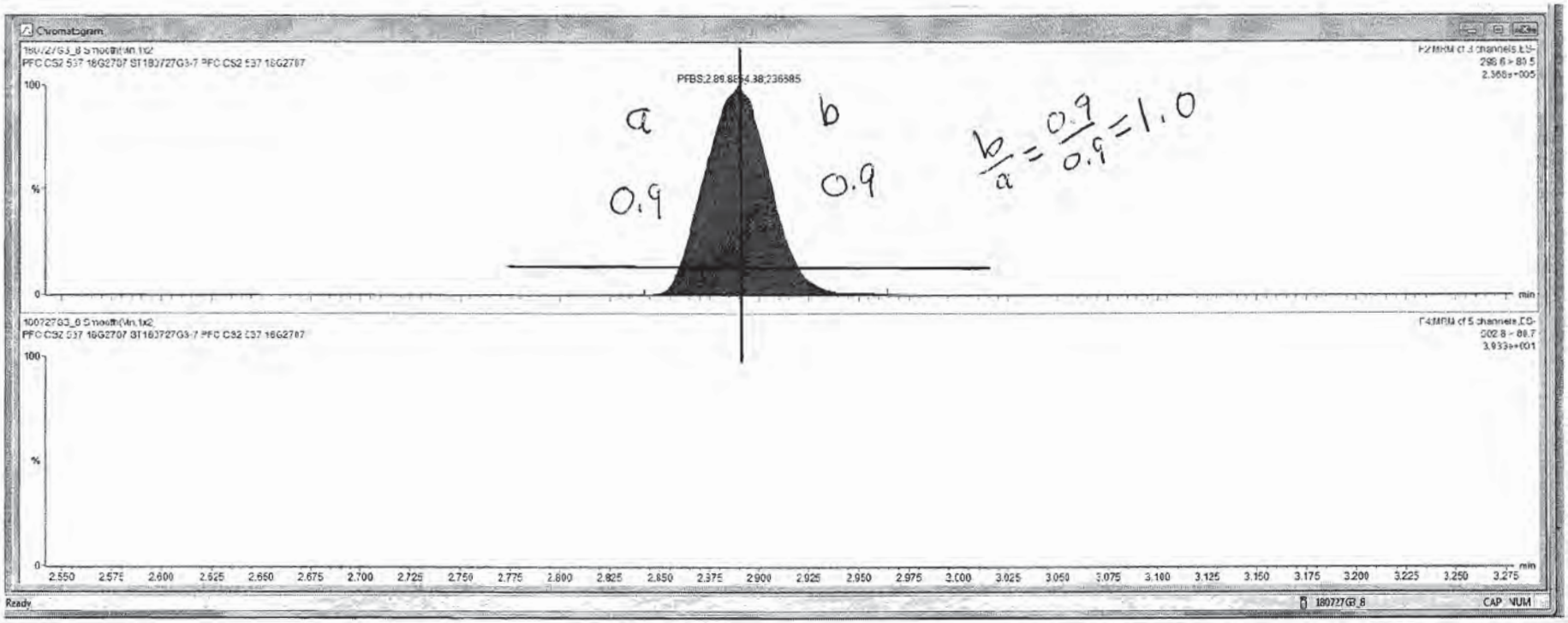
CGH 7/28/2018

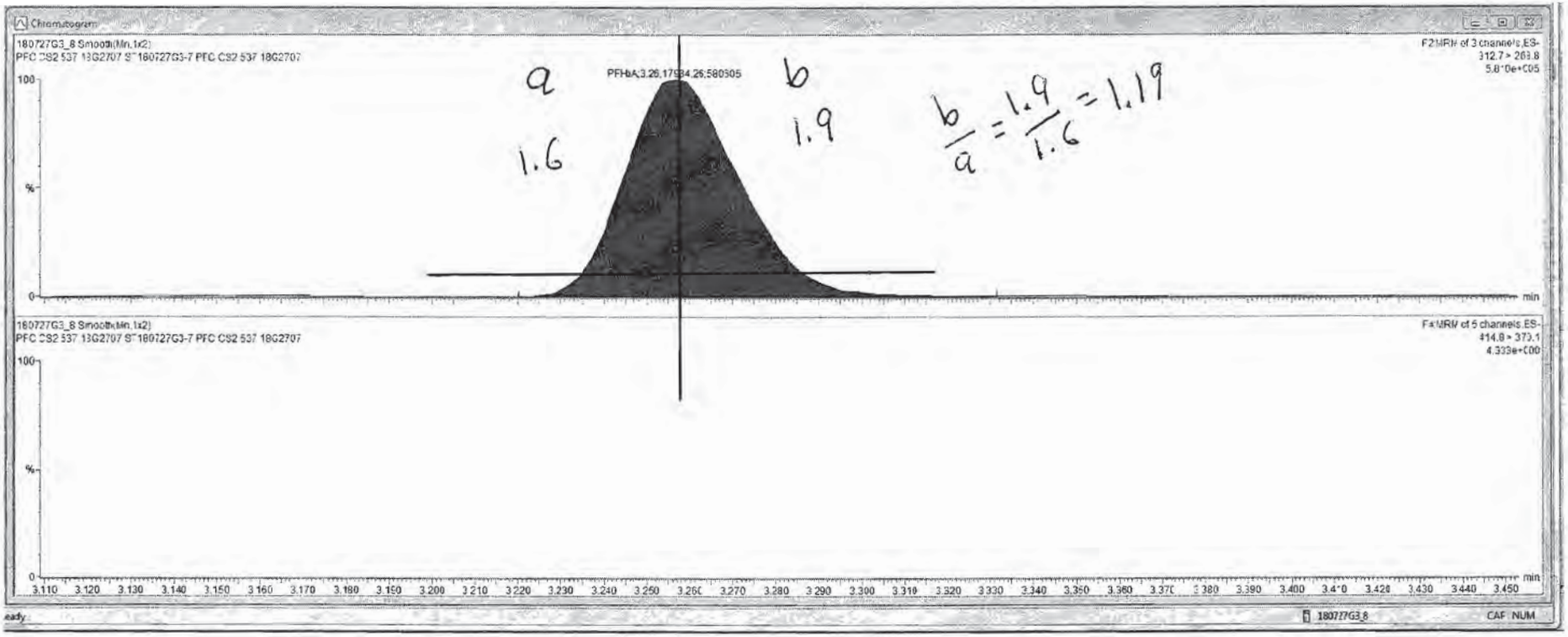
Compound 20: d3-N-MeFOSAA

high	11446.96	RPD
low	9717.29	16.35

	ID	Name	Type	Std. Cor RT		Area	IS Area	Response	Primary Flags
1	ST180727G3-1 PFC CS-4 537 18G2701	180727G3_2	Standard	40	4.96	11447	11446.96	40	bd
2	ST180727G3-2 PFC CS-3 537 18G2702	180727G3_3	Standard	40	4.96	10549.2	10549.23	40	bb
3	ST180727G3-3 PFC CS-2 537 18G2703	180727G3_4	Standard	40	4.96	11017.9	11017.89	40	bd
4	ST180727G3-4 PFC CS-1 537 18G2704	180727G3_5	Standard	40	4.96	10497.5	10497.48	40	bd
5	ST180727G3-5 PFC CS0 537 18G2705	180727G3_6	Standard	40	4.96	11273.7	11273.70	40	bd
6	ST180727G3-6 PFC CS1 537 18G2706	180727G3_7	Standard	40	4.96	10148.3	10148.33	40	bd
7	ST180727G3-7 PFC CS2 537 18G2707	180727G3_8	Standard	40	4.96	11182	11182.05	40	bd
8	ST180727G3-8 PFC CS3 537 18G2708	180727G3_9	Standard	40	4.96	9717.29	9717.29	40	bd
9	ST180727G3-9 PFC CS4 537 18G2709	180727G3_10	Standard	40	4.96	10855.4	10855.42	40	bd
10	ST180727G3-10 PFC CS5 537 18G2710	180727G3_11	Standard	40	4.96	10018.6	10018.56	40	MM
							average		
							10670.69		

CGH 7/28/2018


Chromatogram
PFBS:2.89,8854.38;236585
a
b
0.9
0.9
b/a = 0.9/0.9 = 1.0
100
%
0
min
2.550
2.575
2.600
2.625
2.650
2.675
2.700
2.725
2.750
2.775
2.800
2.825
2.850
2.875
2.900
2.925
2.950
2.975
3.000
3.025
3.050
3.075
3.100
3.125
3.150
3.175
3.200
3.225
3.250
3.275
Ready
180727G_8
CAP NUM


Chromatogram
180727G3_8 Smooth(Mn,1x2)
PFC CS2 537 18G2707 S 180727G3-7 PFC CS2 537 18G2707
F2MRM of 3 channels,ES-
312.7 > 269.8
5.80e+C05
PFHxA,3.26,17934,26,580505
a
1.6
b
1.9
b/a = 1.9/1.6 = 1.19
100
%
0
min
180727G3_8 Smooth(Mn,1x2)
PFC CS2 537 18G2707 S 180727G3-7 PFC CS2 537 18G2707
F4MRM of 5 channels,ES-
414.8 > 373.1
4.333e+C00
100
%
0
min
3.110 3.120 3.130 3.140 3.150 3.160 3.170 3.180 3.190 3.200 3.210 3.220 3.230 3.240 3.250 3.260 3.270 3.280 3.290 3.300 3.310 3.320 3.330 3.340 3.350 3.360 3.370 3.380 3.390 3.400 3.410 3.420 3.430 3.440 3.450
ady
180727G3_8
CAP NUM

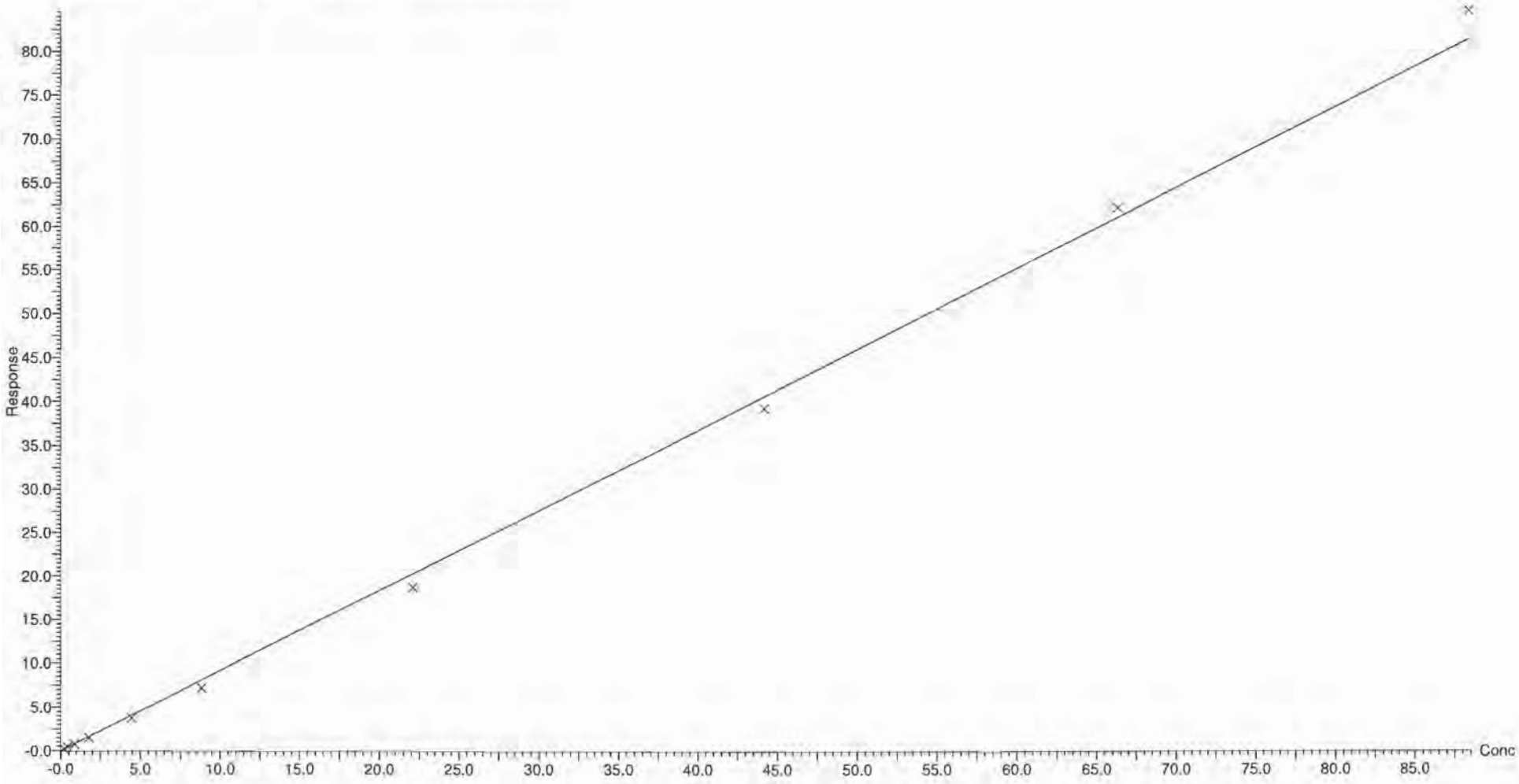
Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Compound name: PFBS
Coefficient of Determination: R^2 = 0.997792
Calibration curve: 0.918574 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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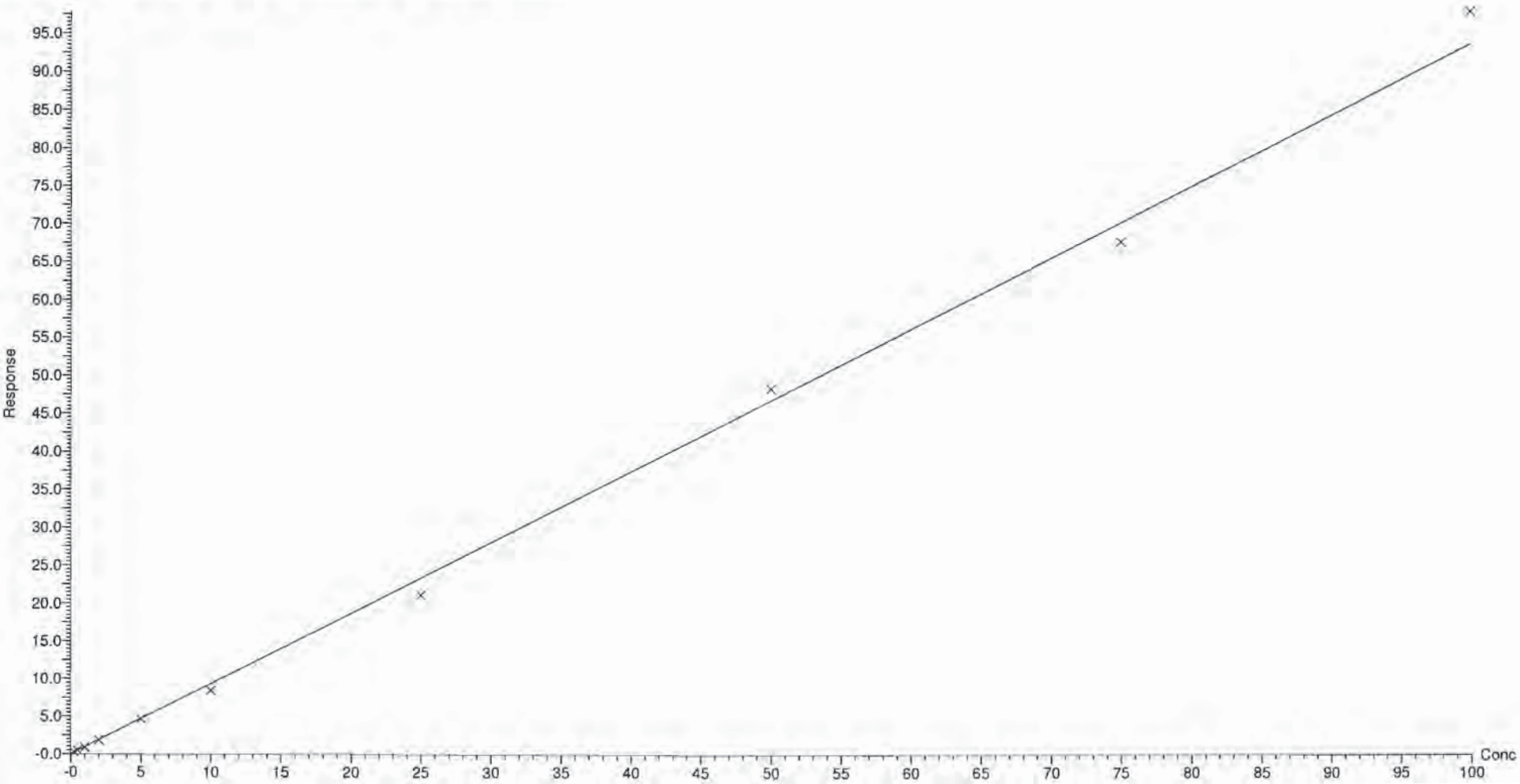
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.997313
Calibration curve: 0.93486 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

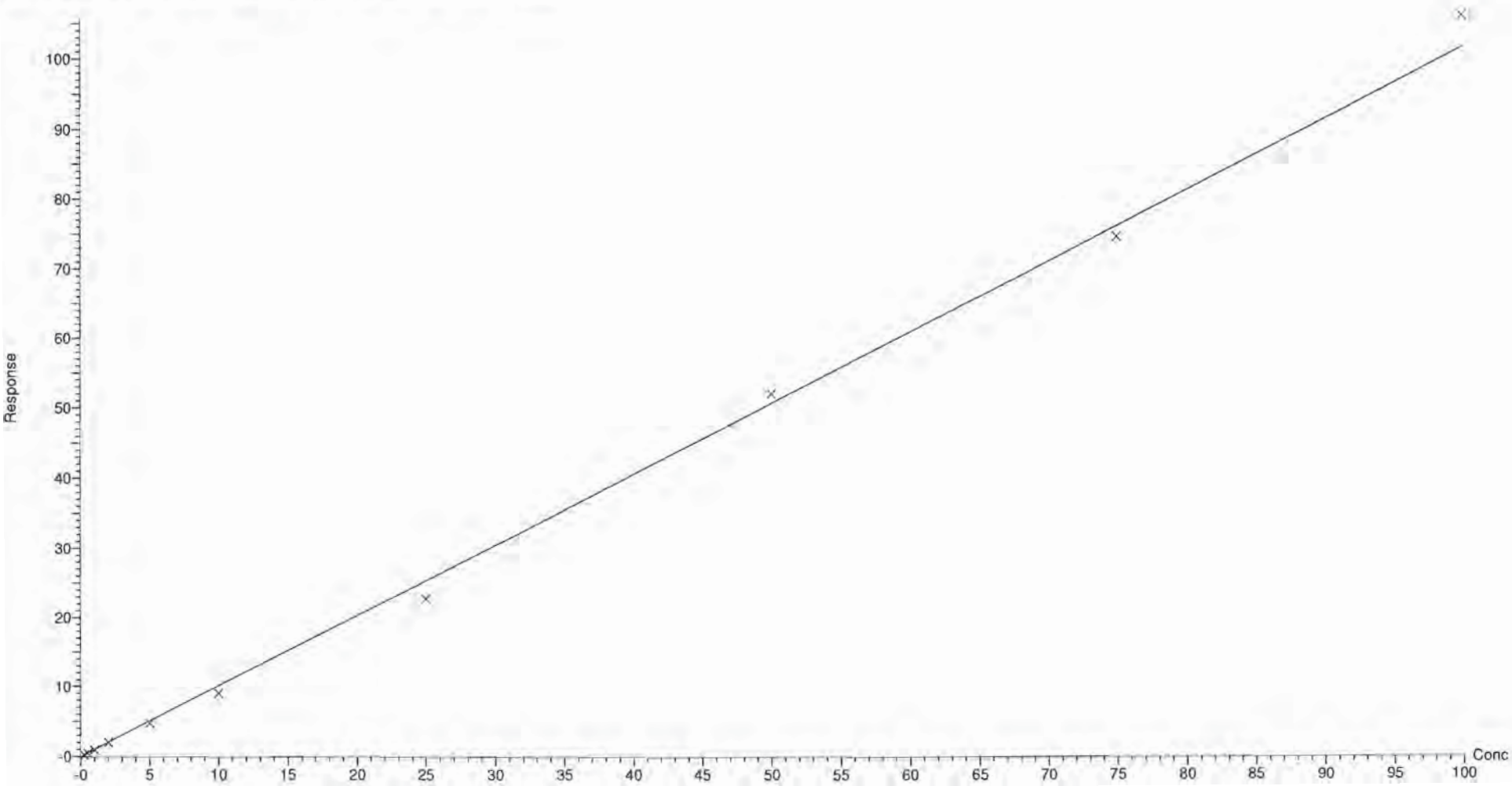


Quantify Calibration Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.997339
Calibration curve: 1.01385 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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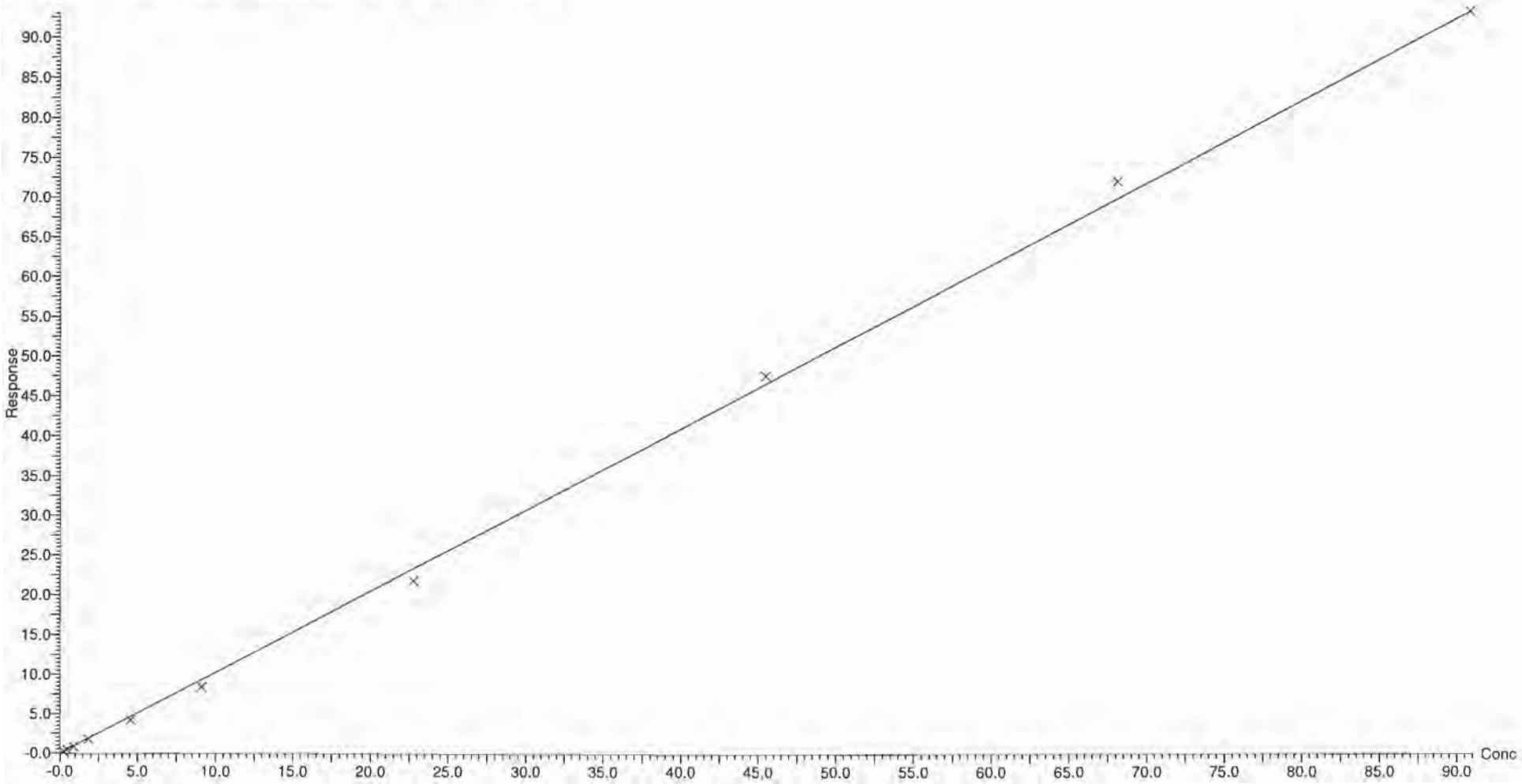
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.998531
Calibration curve: 1.02362 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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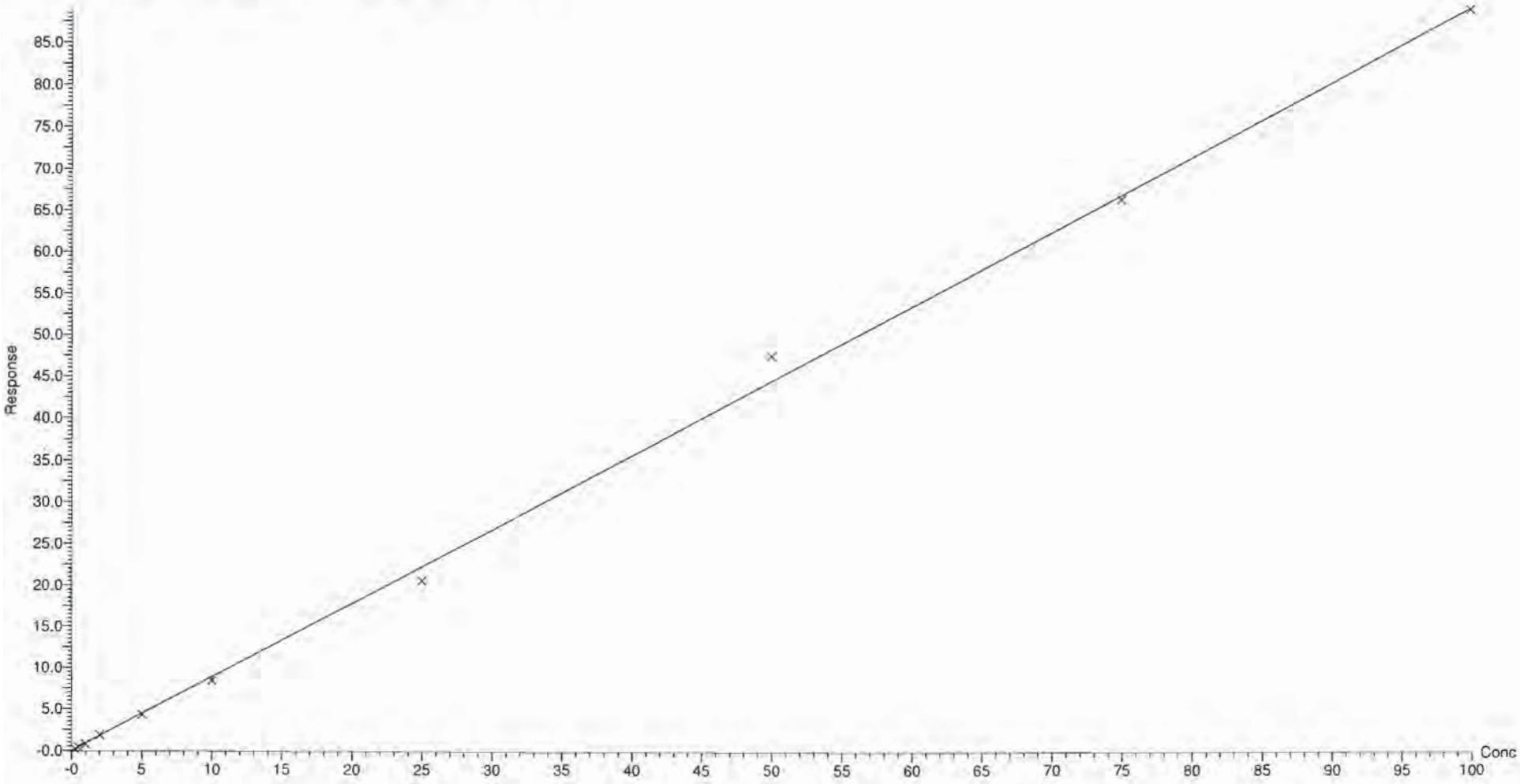
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFOA
Coefficient of Determination: R^2 = 0.998307
Calibration curve: 0.889698 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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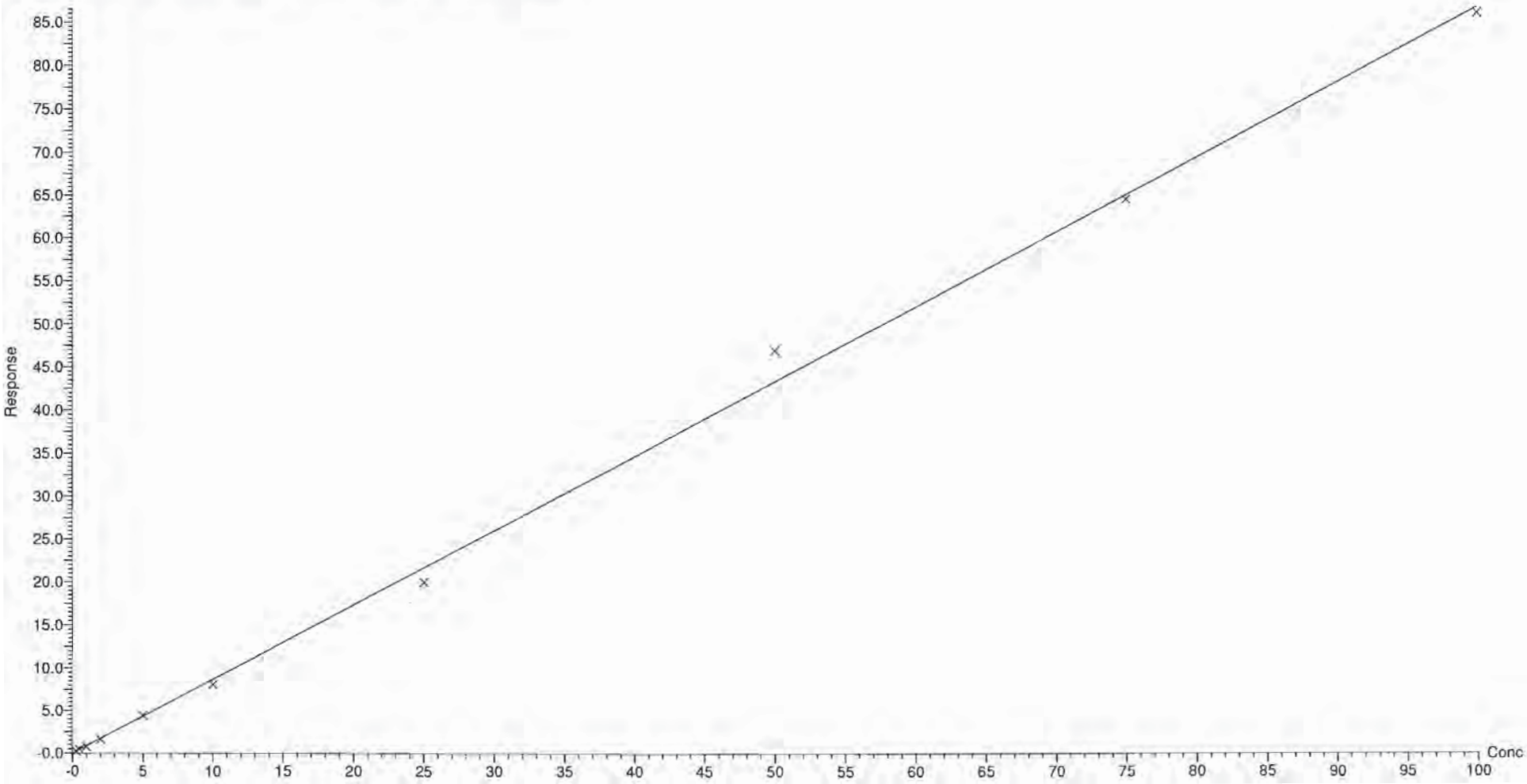
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.997701
Calibration curve: 0.865784 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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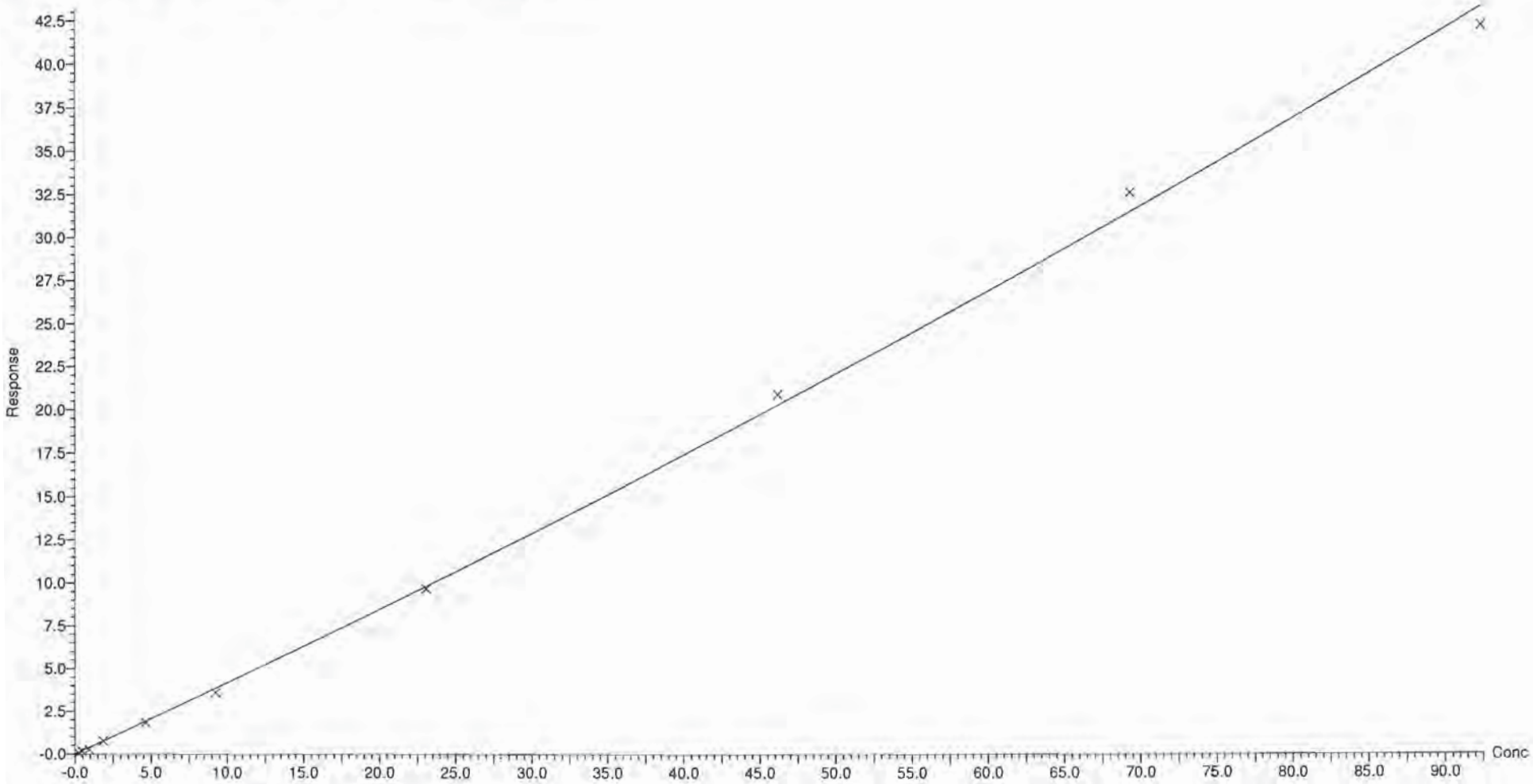
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.998625
Calibration curve: 0.000616304 * x^2 + 0.410519 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: 1/x, Axis trans: None



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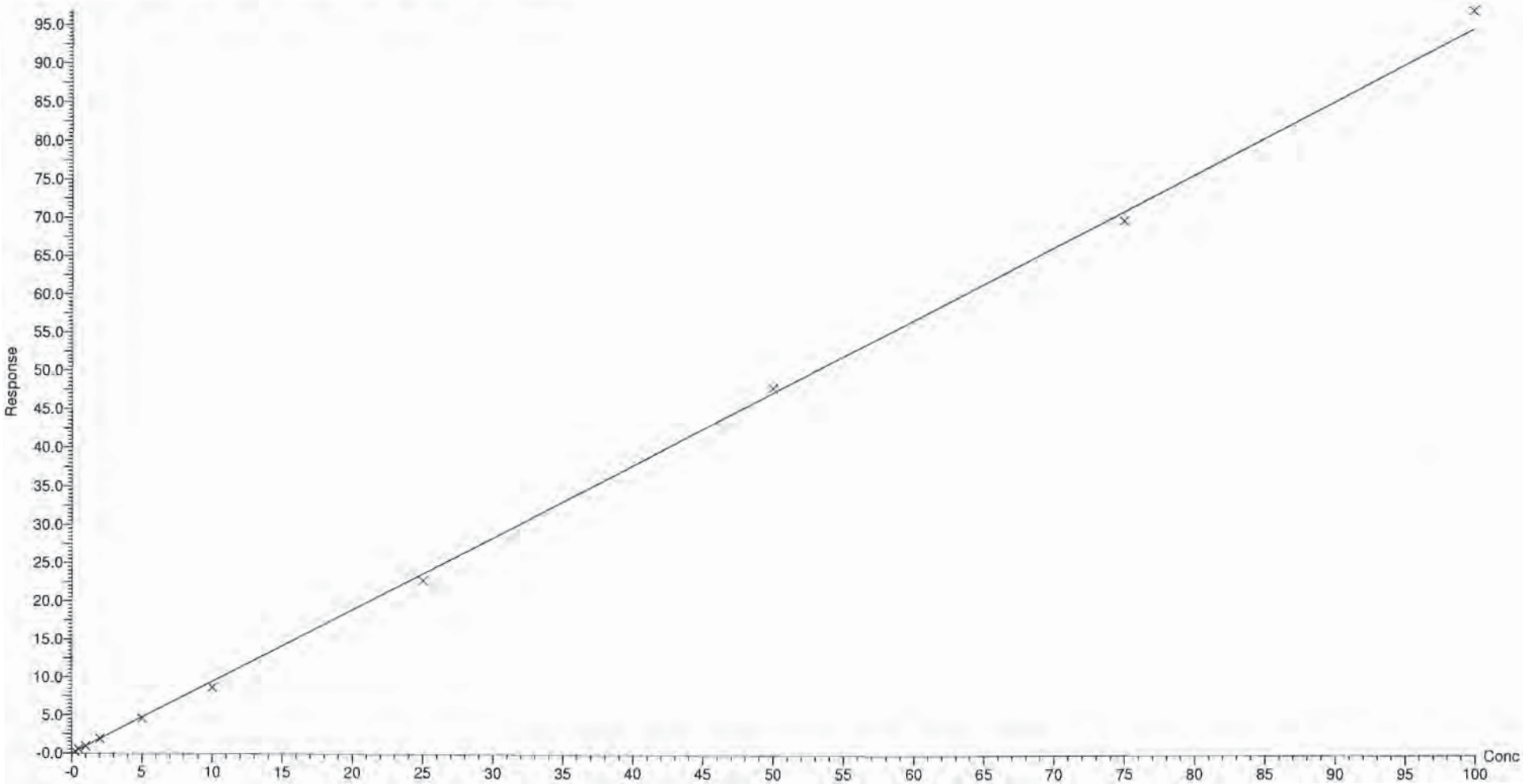
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.999198
Calibration curve: 0.945644 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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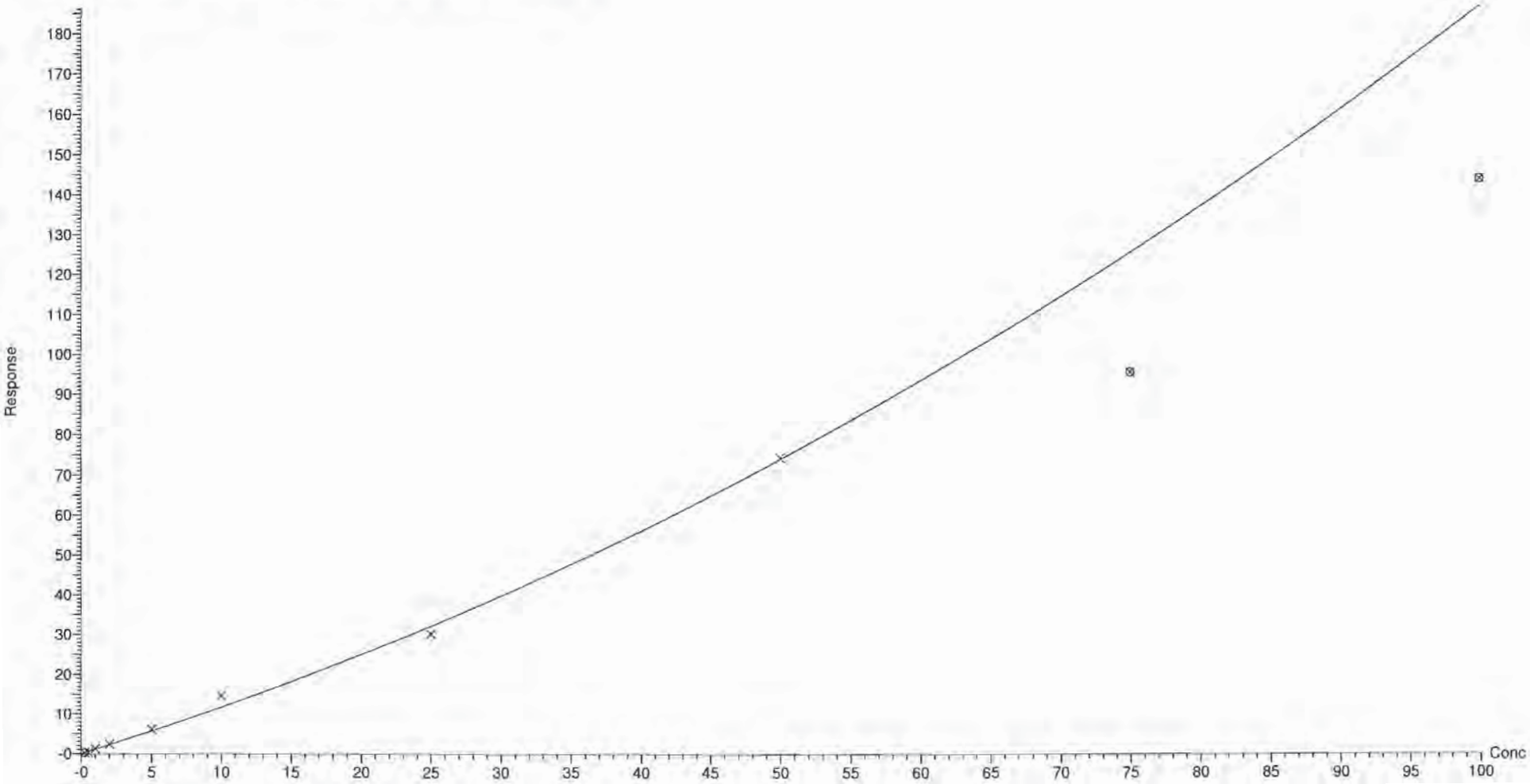
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.996973
Calibration curve: 0.00770678 * x^2 + 1.09336 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Force, Weighting: Null, Axis trans: None



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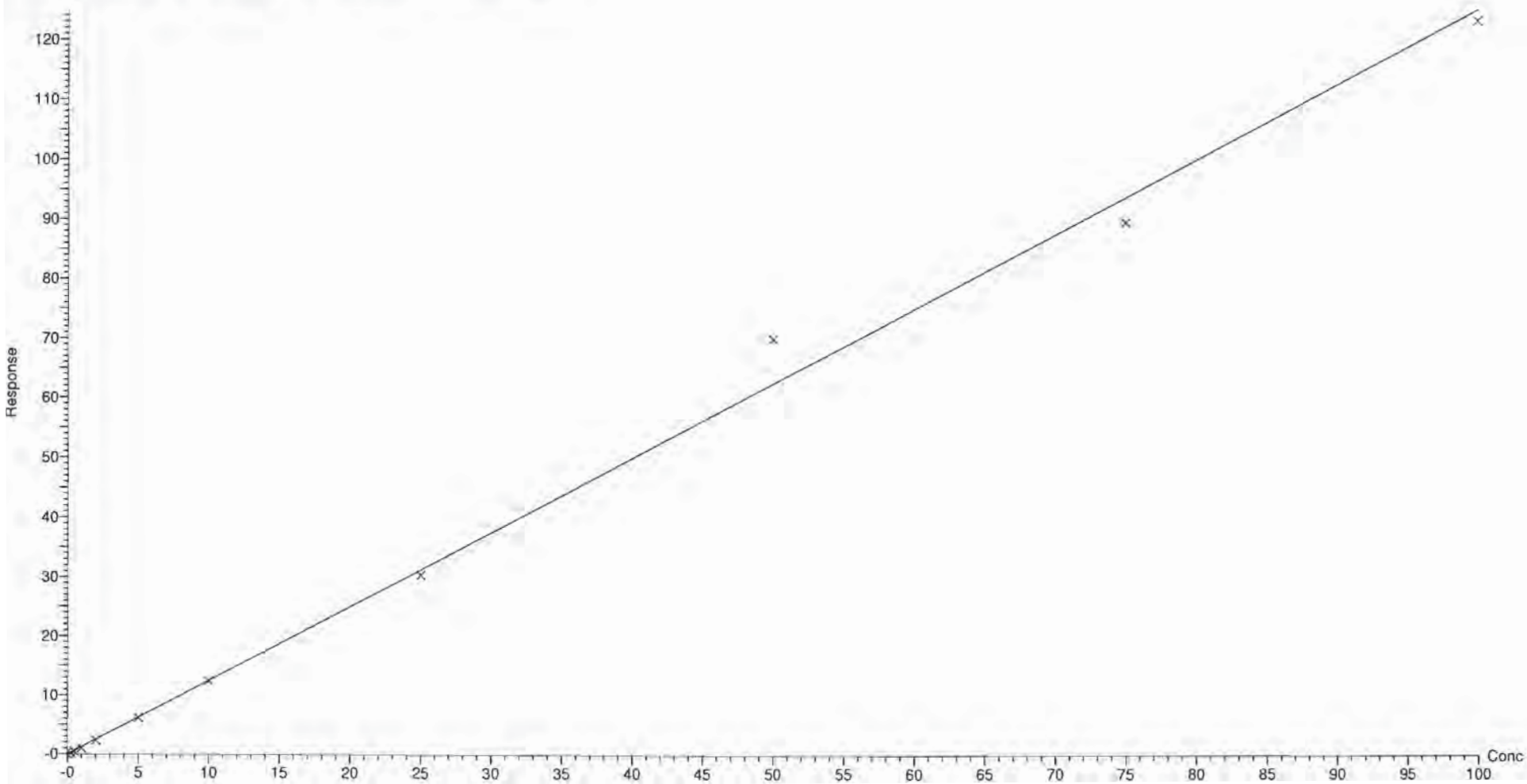
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.995889
Calibration curve: 1.24906 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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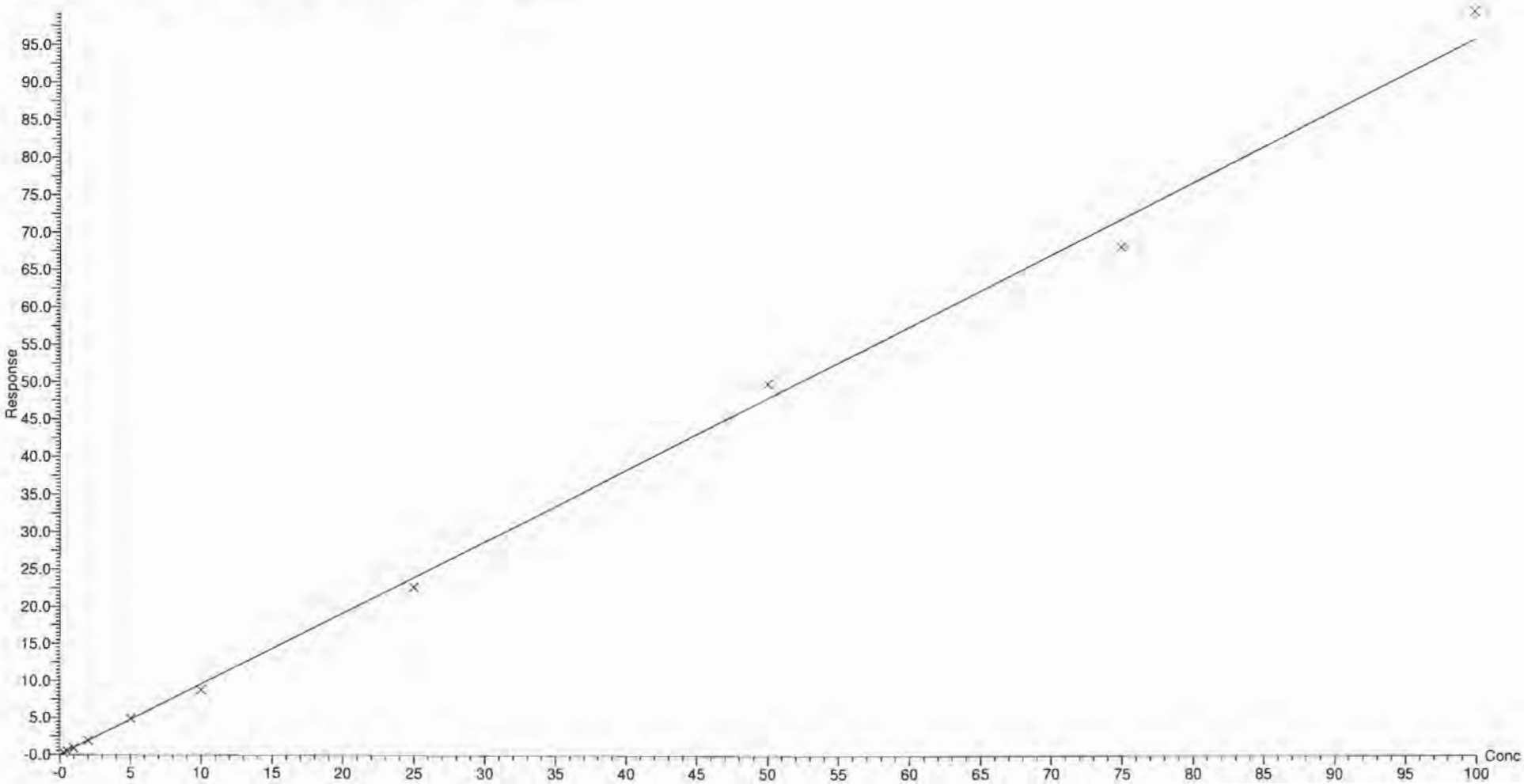
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.997769
Calibration curve: 0.957178 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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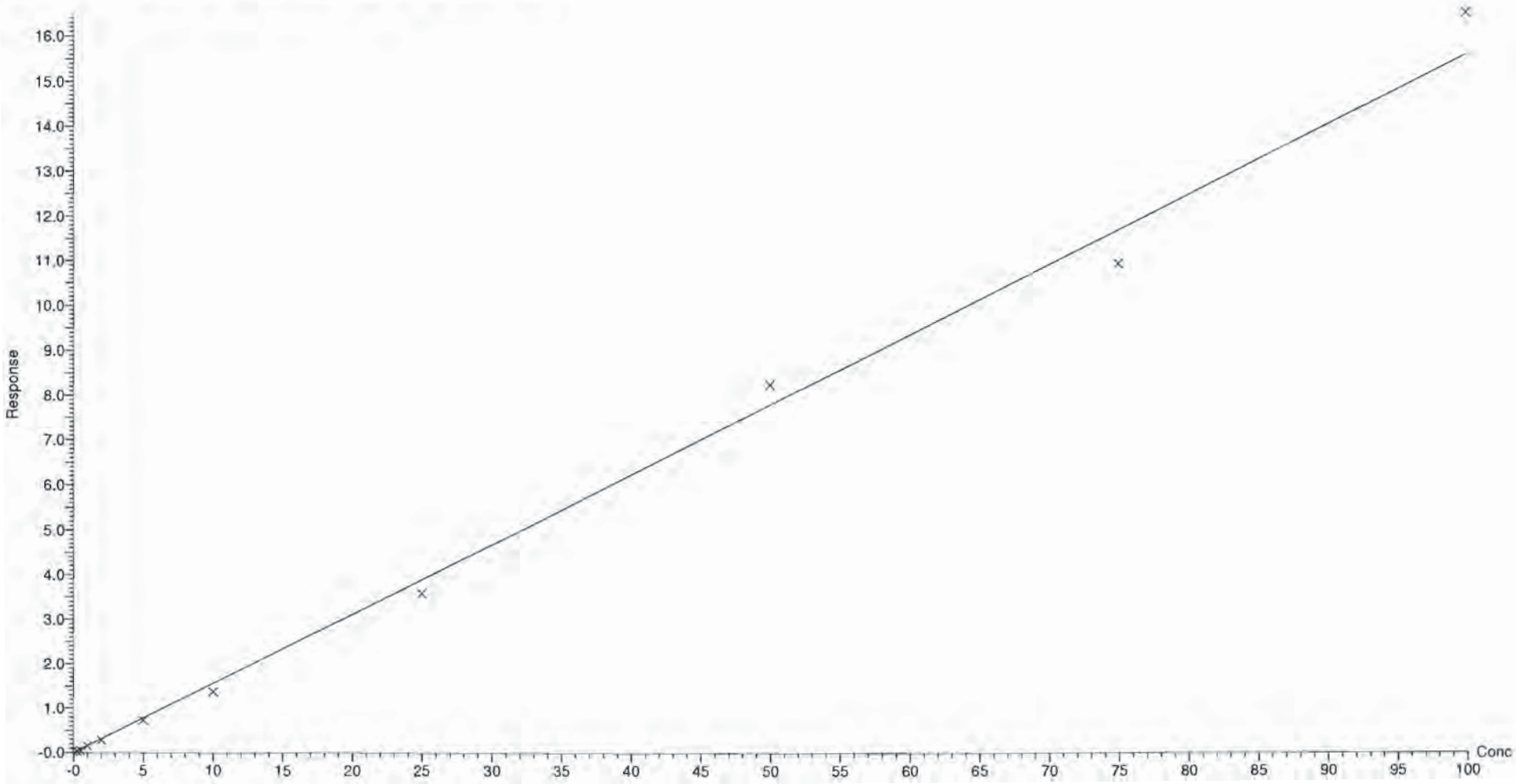
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995016
Calibration curve: 0.155673 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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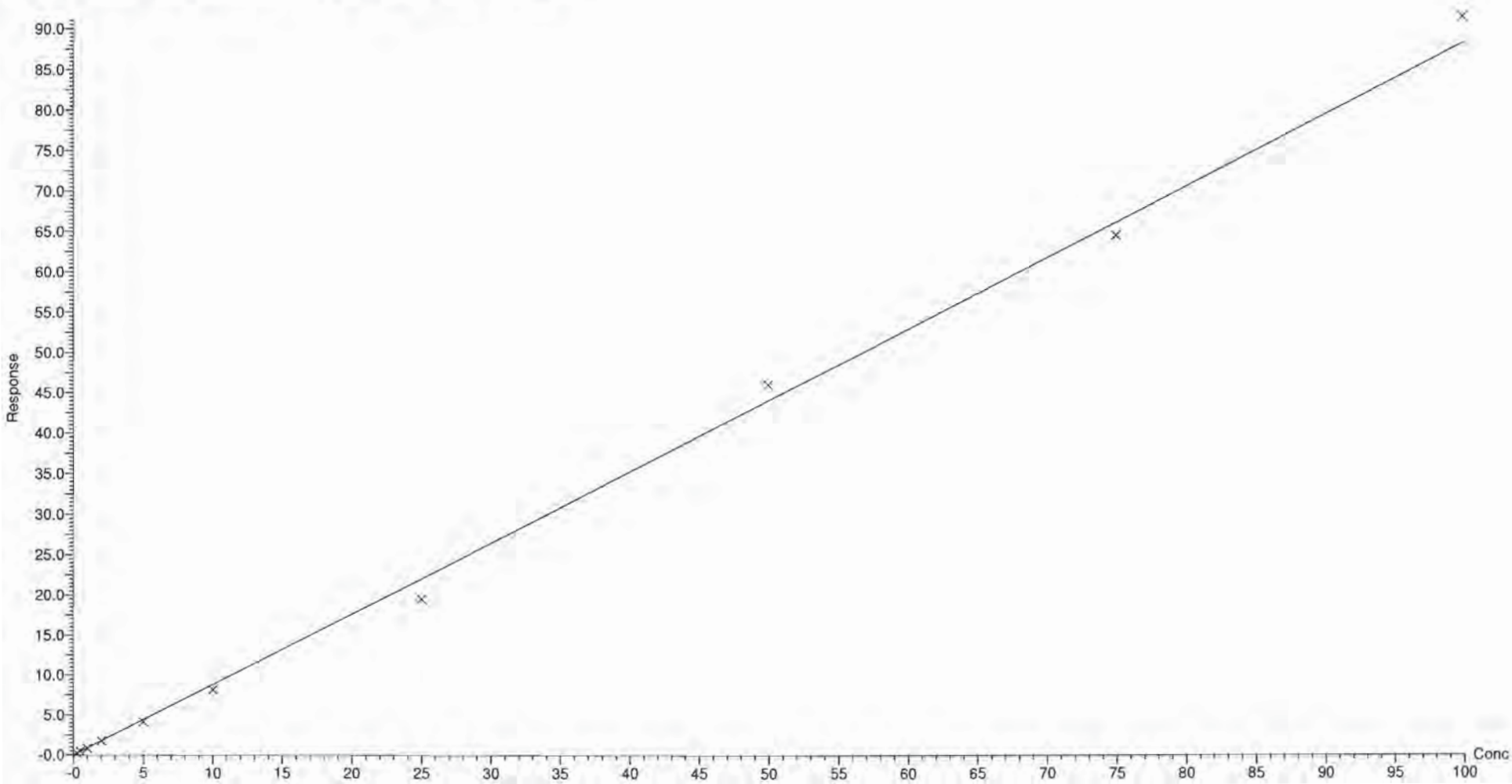
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.997294
Calibration curve: 0.880973 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



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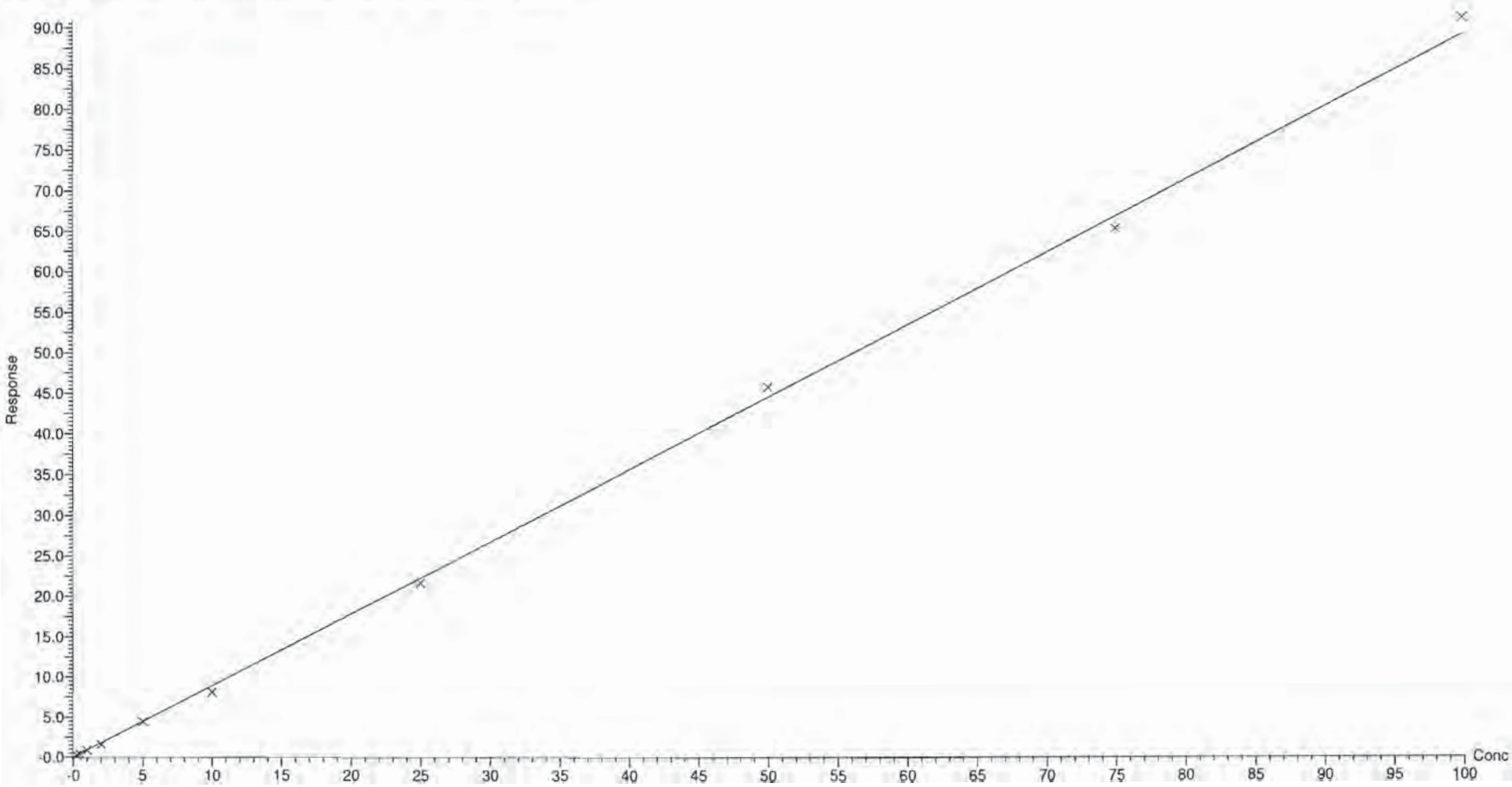
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:03:39 Pacific Daylight Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.998960
Calibration curve: 0.890132 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Quantify Sample Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

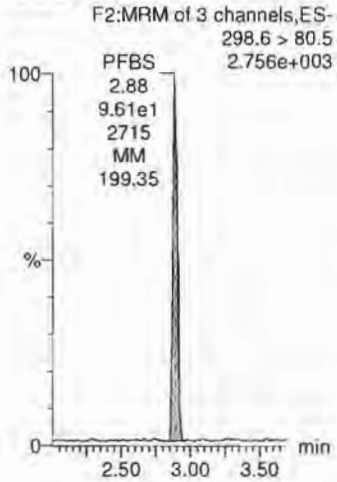
Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

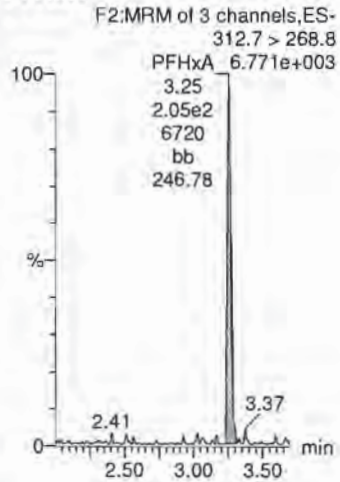
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180727G3_2, Date: 27-Jul-2018, Time: 15:05:49, ID: ST180727G3-1 PFC CS-4 537 18G2701, Description: PFC CS-4 537 18G2701

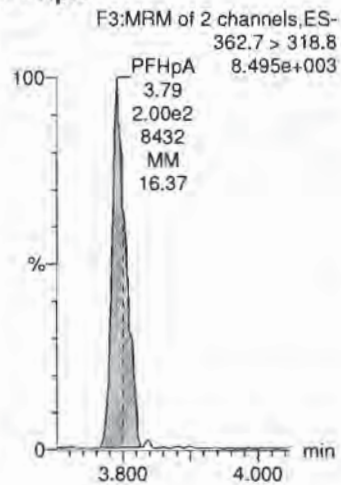
PFBS



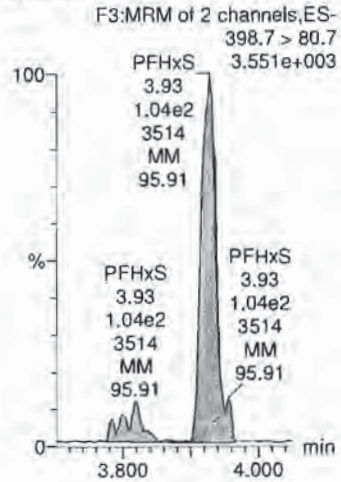
PFHxA



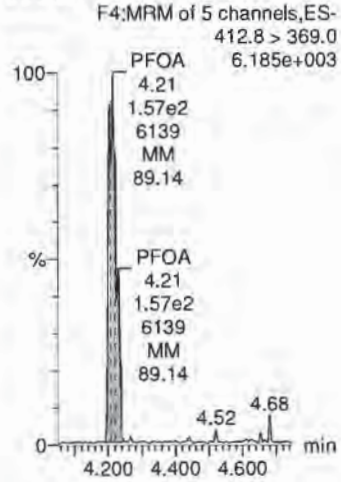
PFHpA



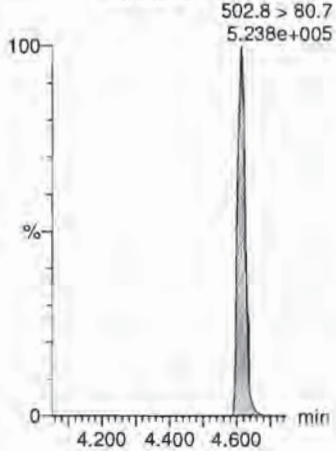
PFHxS



PFOA



13C4-PFOS



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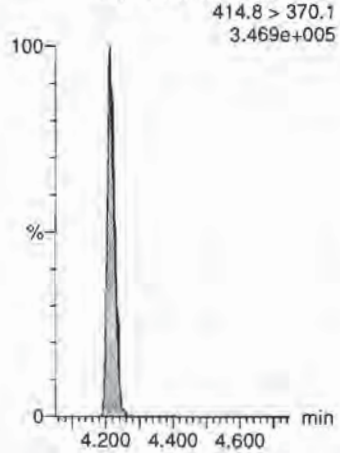

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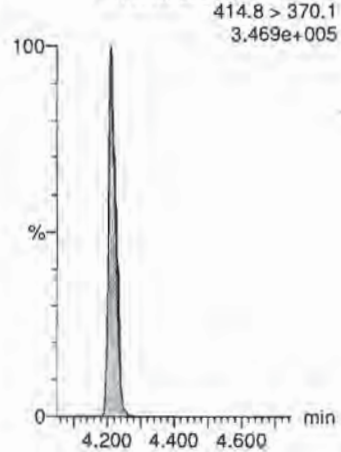

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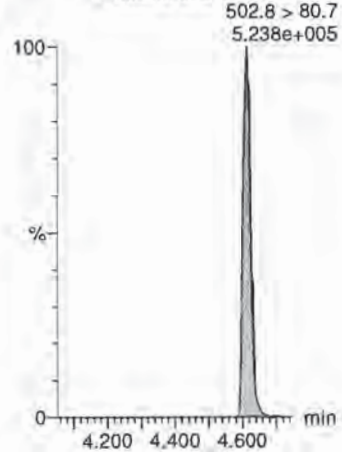

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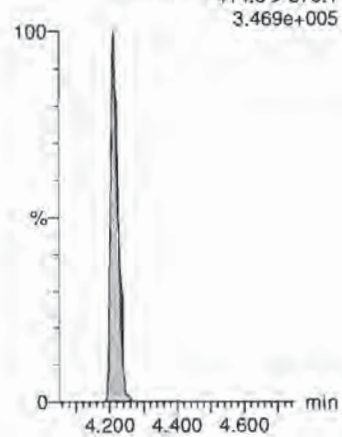

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_2, Date: 27-Jul-2018, Time: 15:05:49, ID: ST180727G3-1 PFC CS-4 537 18G2701, Description: PFC CS-4 537 18G2701

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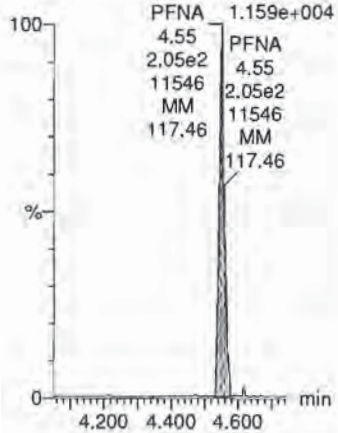

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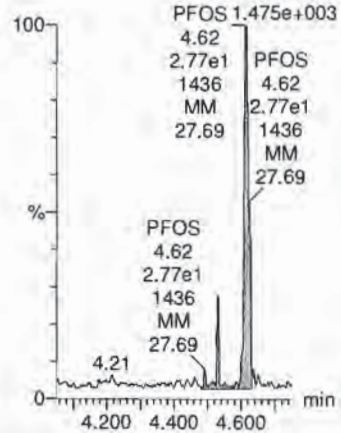

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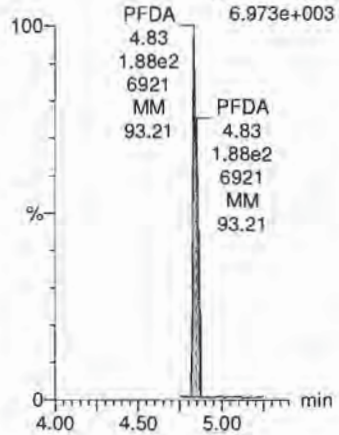

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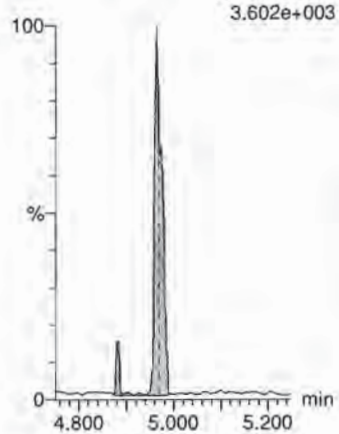

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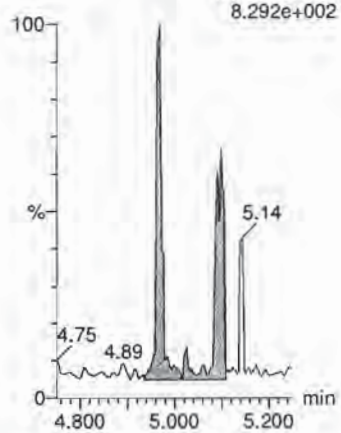

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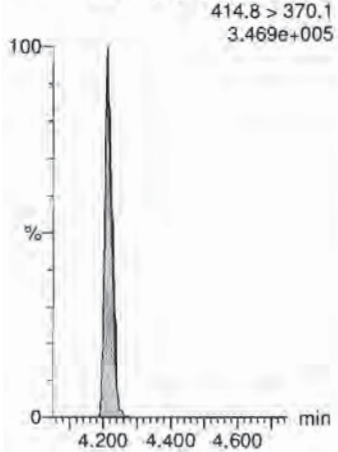

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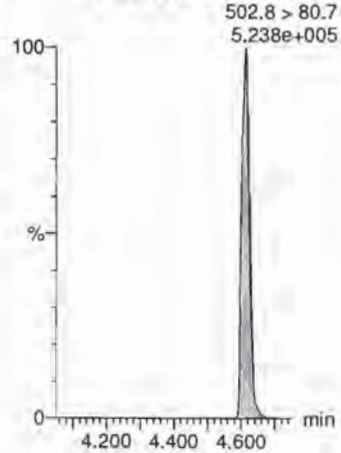

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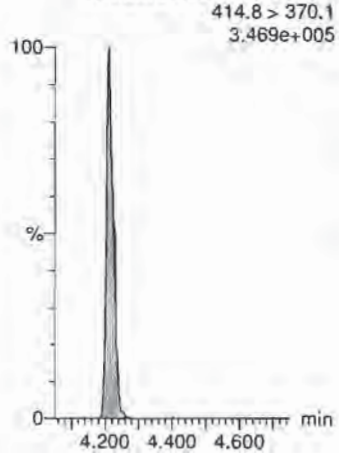

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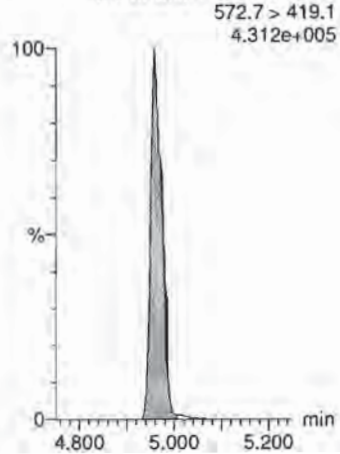

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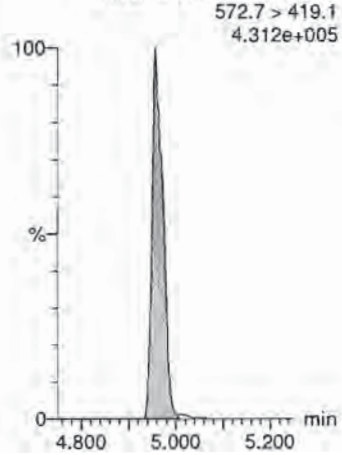

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_2, Date: 27-Jul-2018, Time: 15:05:49, ID: ST180727G3-1 PFC CS-4 537 18G2701, Description: PFC CS-4 537 18G2701

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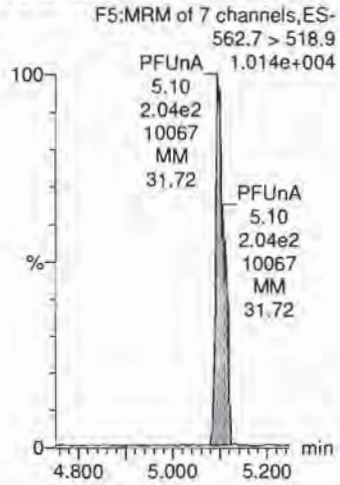

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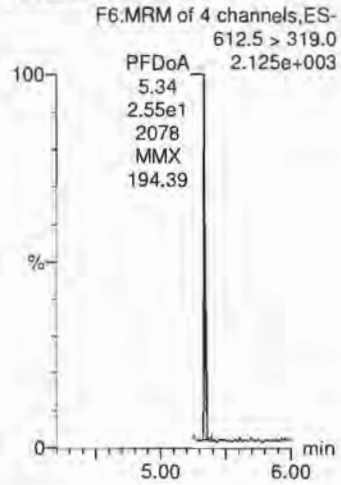

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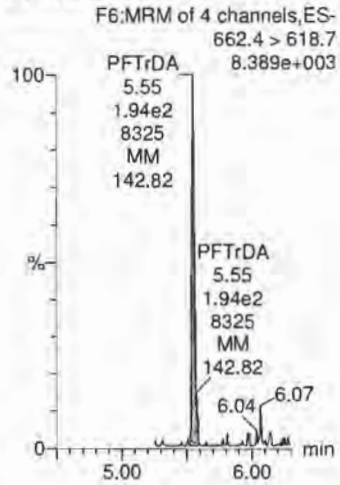

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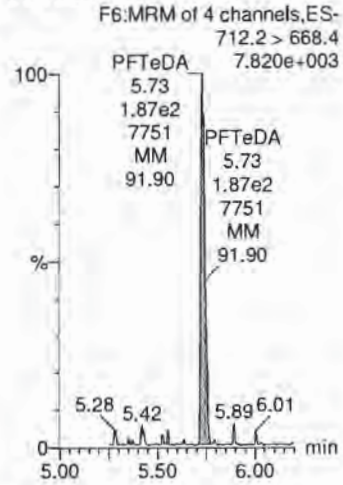

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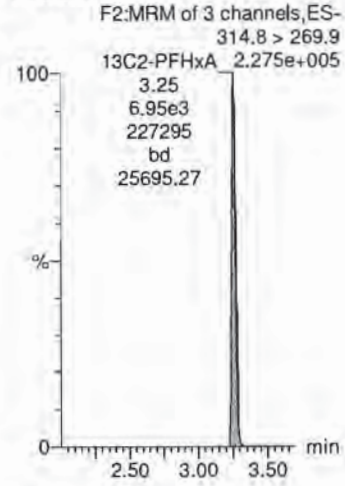

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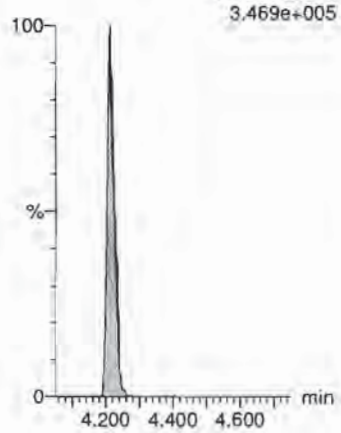

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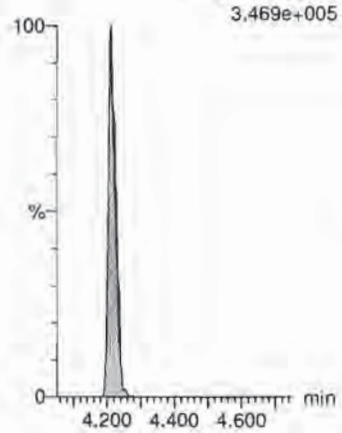

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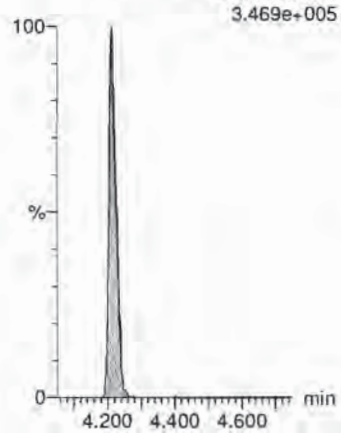

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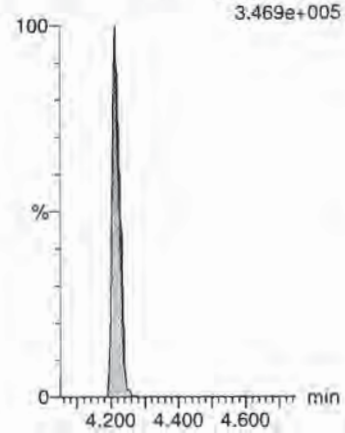

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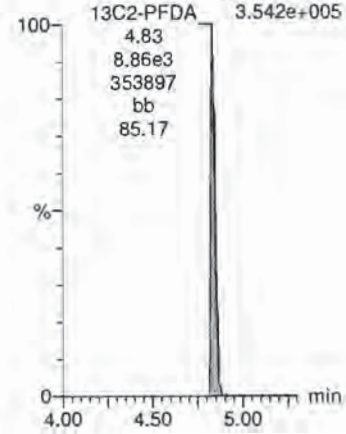

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_2, Date: 27-Jul-2018, Time: 15:05:49, ID: ST180727G3-1 PFC CS-4 537 18G2701, Description: PFC CS-4 537 18G2701

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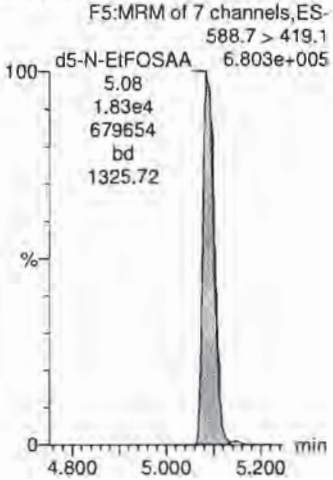

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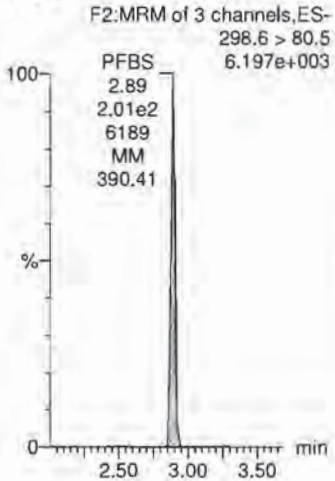

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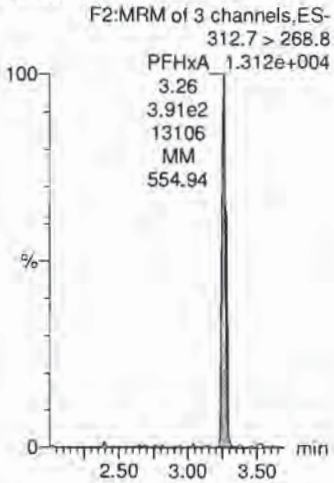

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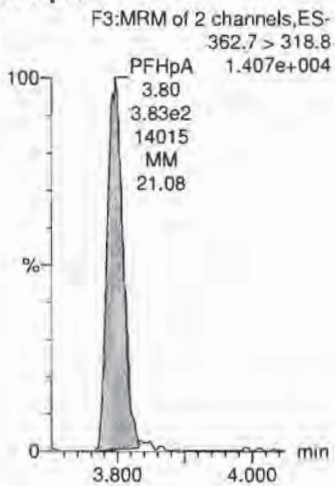

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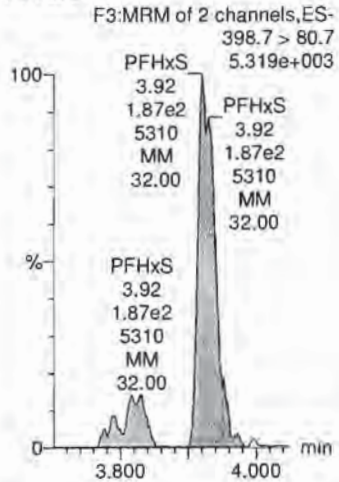

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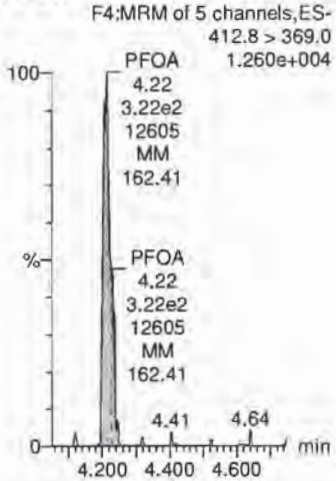

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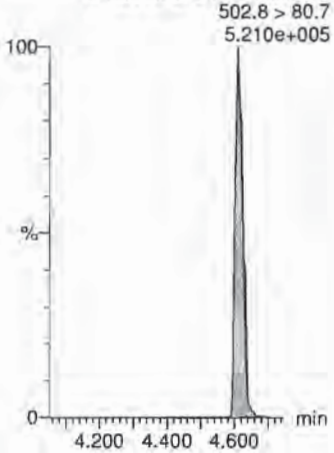

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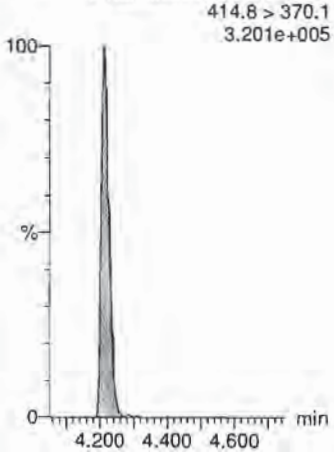

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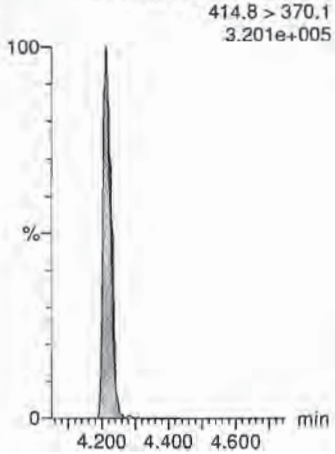

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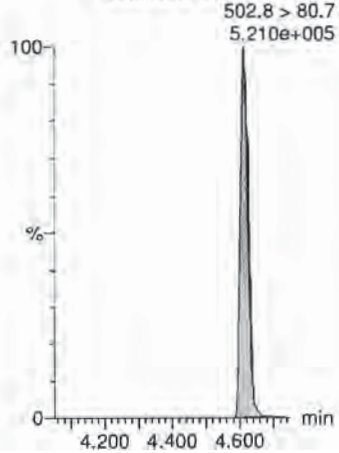

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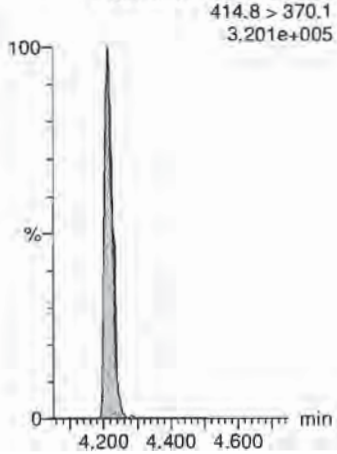

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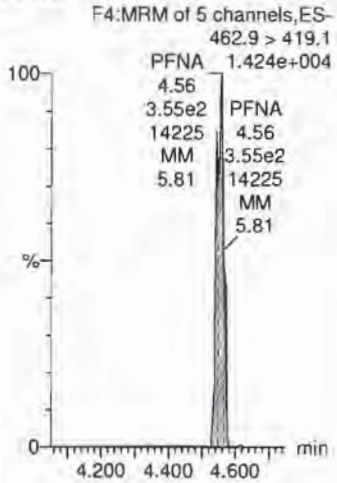

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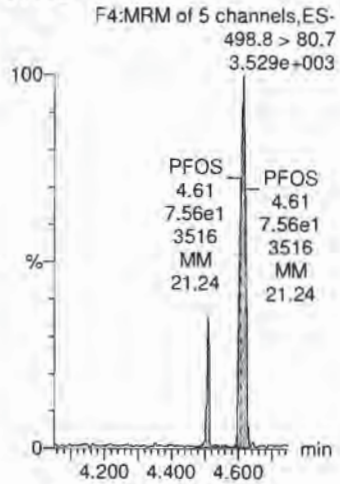

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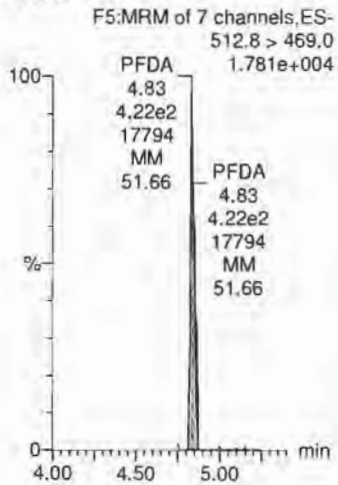

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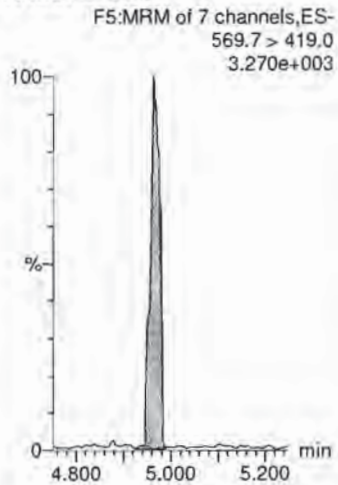

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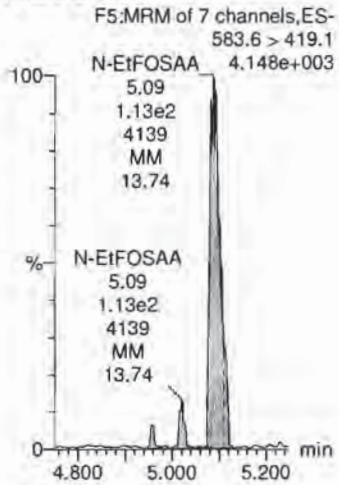

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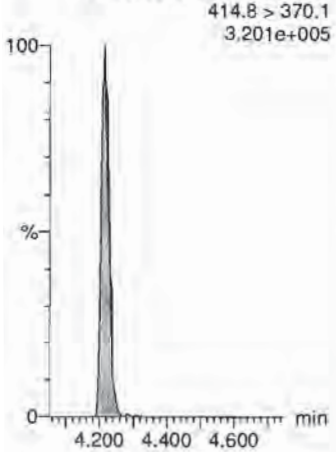

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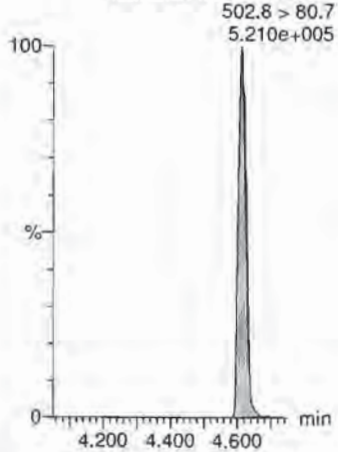

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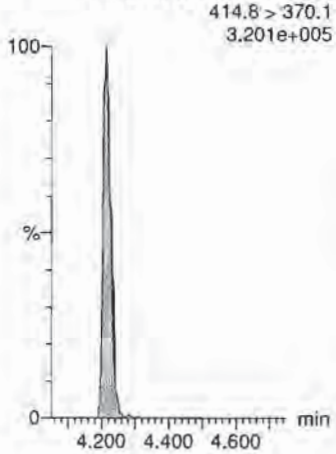

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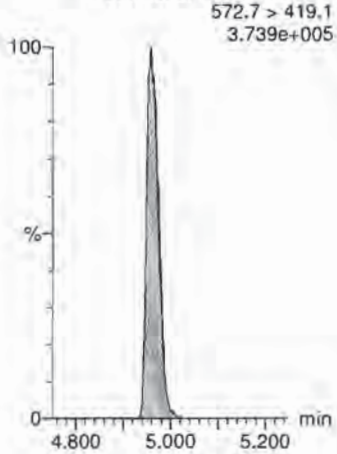

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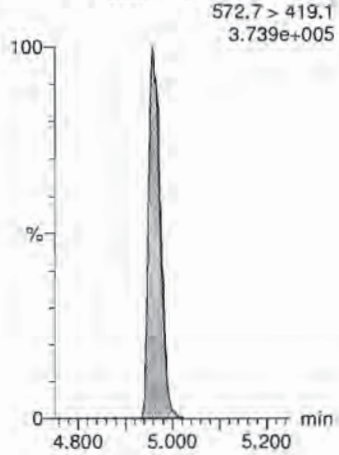

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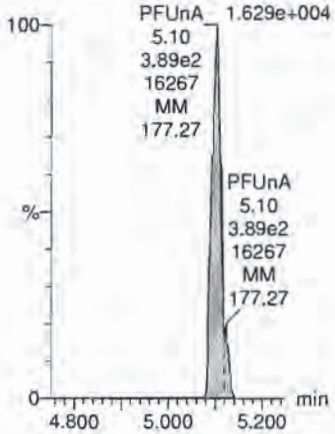

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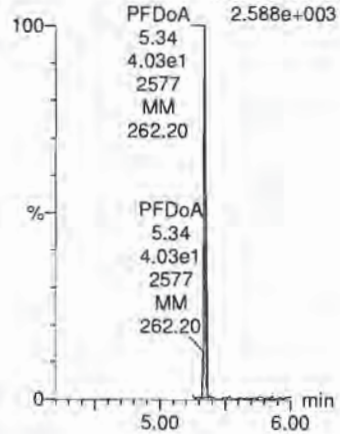

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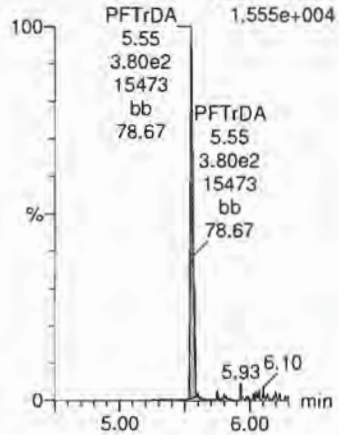

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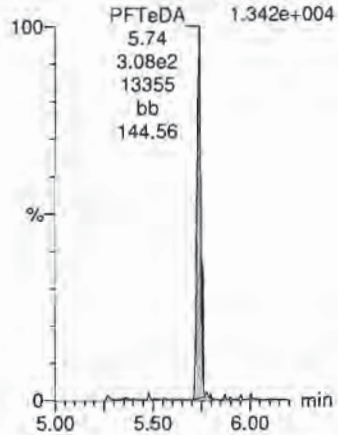

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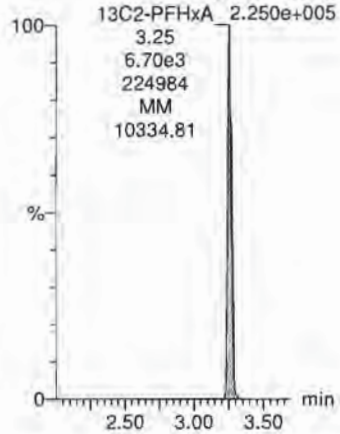

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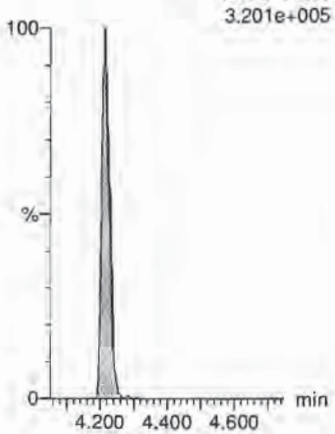

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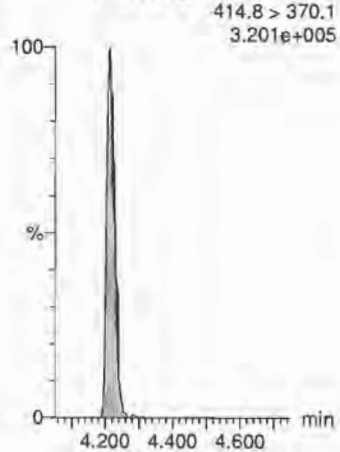
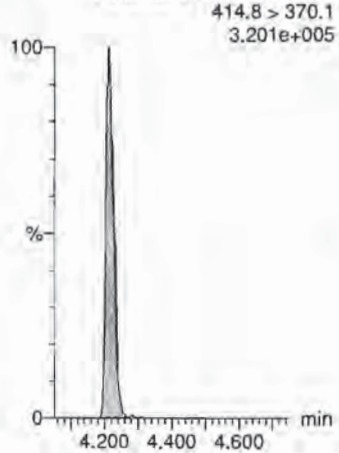


13C2-PFOA



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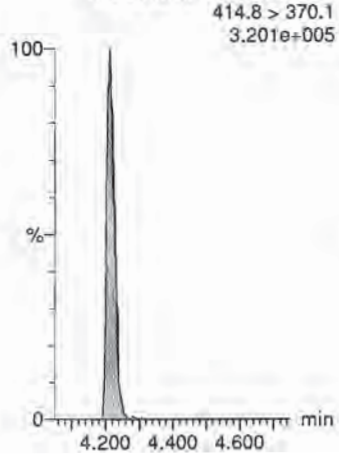

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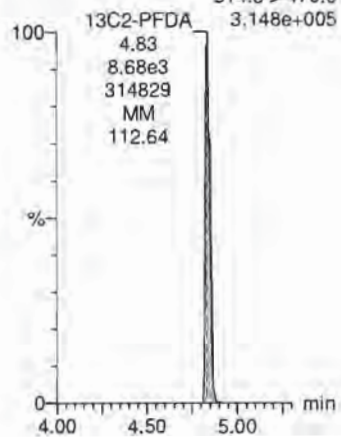

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_3, Date: 27-Jul-2018, Time: 15:18:40, ID: ST180727G3-2 PFC CS-3 537 18G2702, Description: PFC CS-3 537 18G2702

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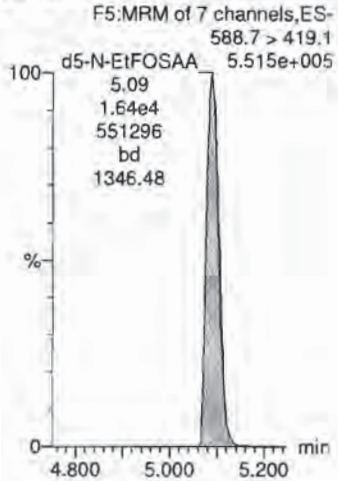

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Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_4, Date: 27-Jul-2018, Time: 15:31:30, ID: ST180727G3-3 PFC CS-2 537 18G2703, Description: PFC CS-2 537 18G2703

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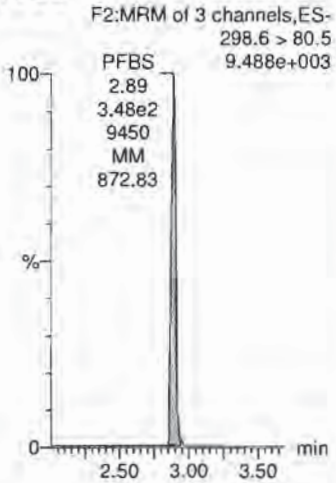

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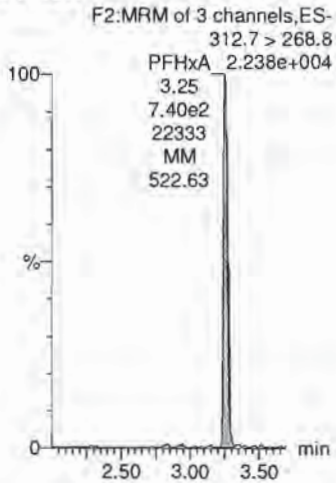

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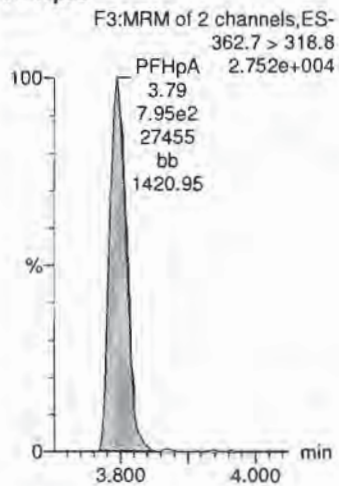

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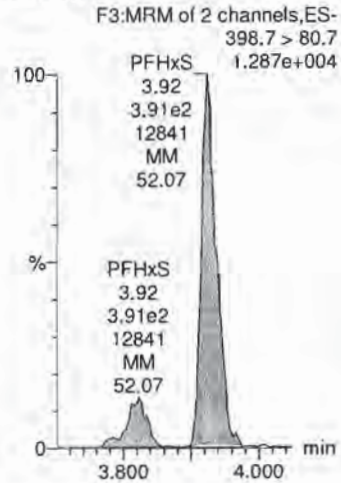

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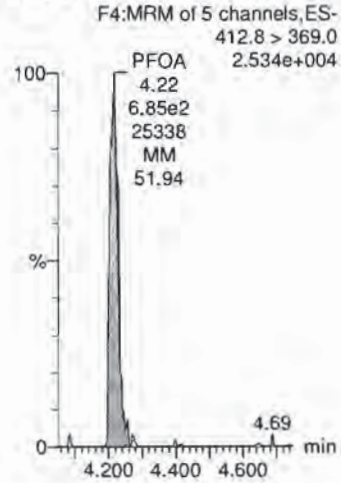

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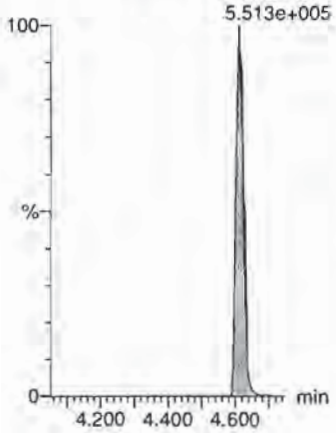

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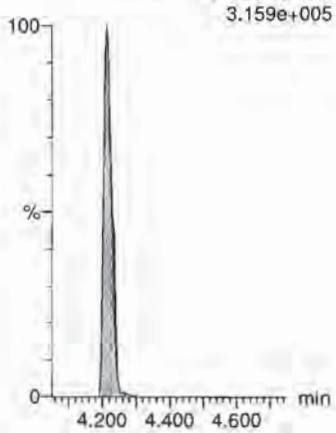

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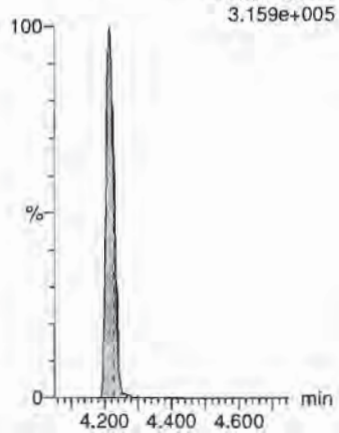

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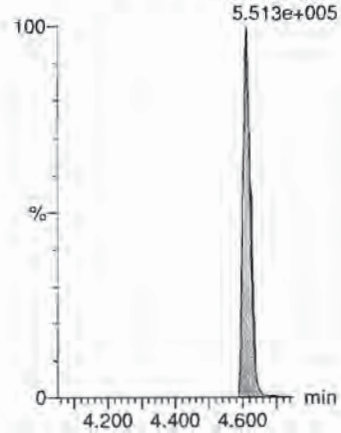

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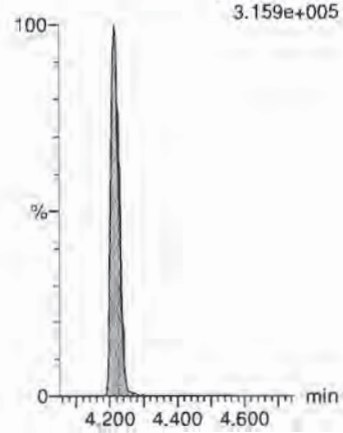

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Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_4, Date: 27-Jul-2018, Time: 15:31:30, ID: ST180727G3-3 PFC CS-2 537 18G2703, Description: PFC CS-2 537 18G2703

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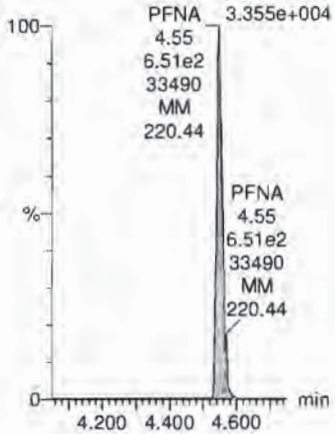

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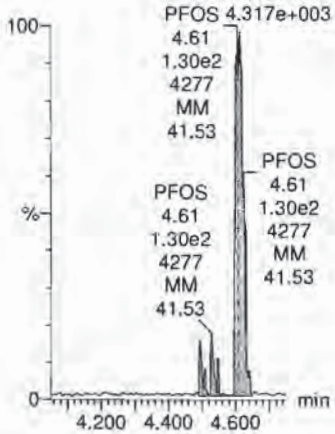

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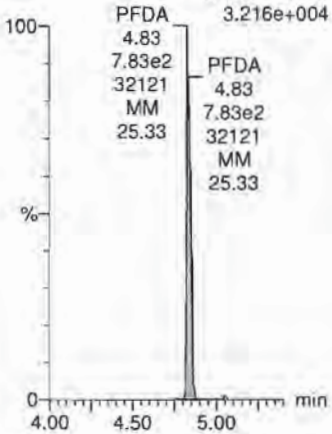

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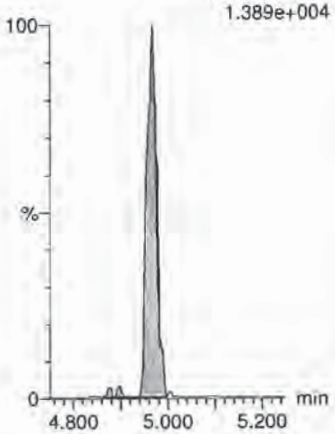

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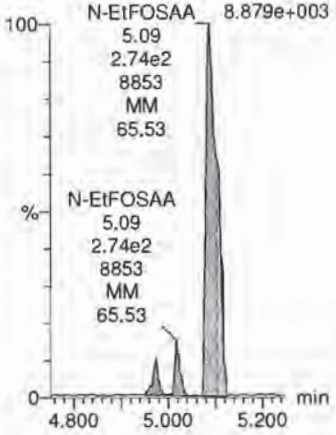

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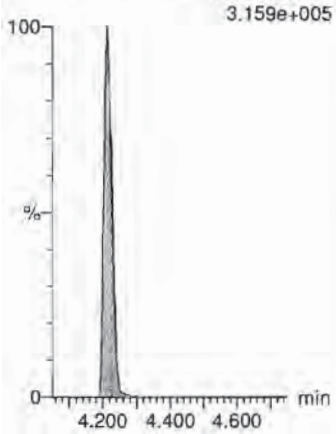

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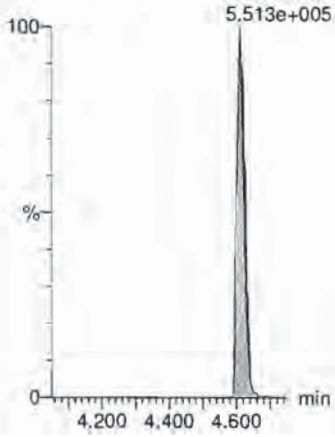

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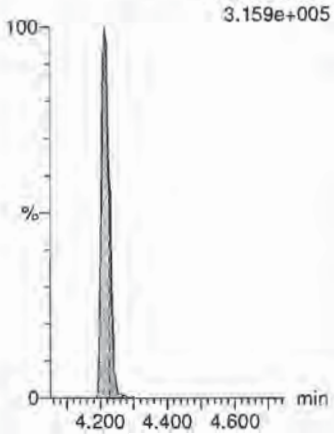

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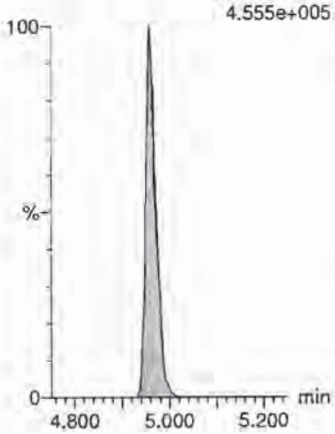

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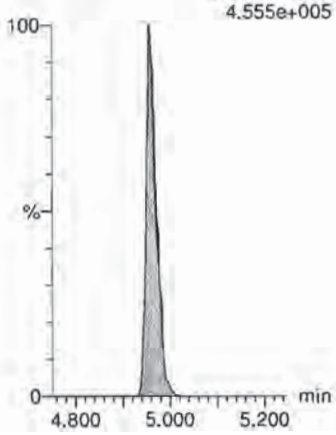

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Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_4, Date: 27-Jul-2018, Time: 15:31:30, ID: ST180727G3-3 PFC CS-2 537 18G2703, Description: PFC CS-2 537 18G2703

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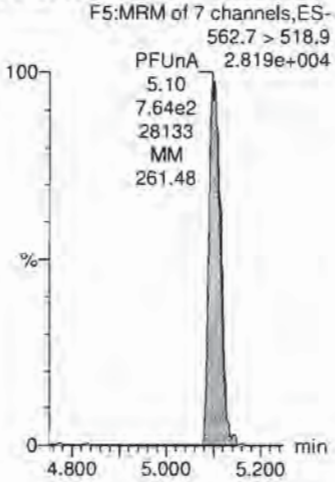

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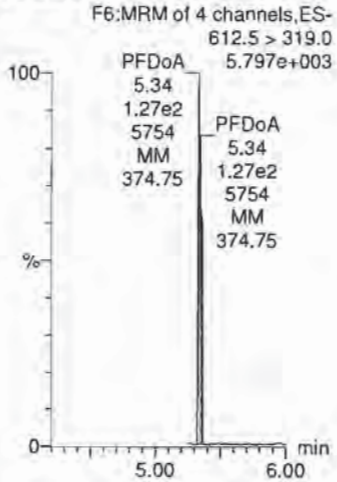

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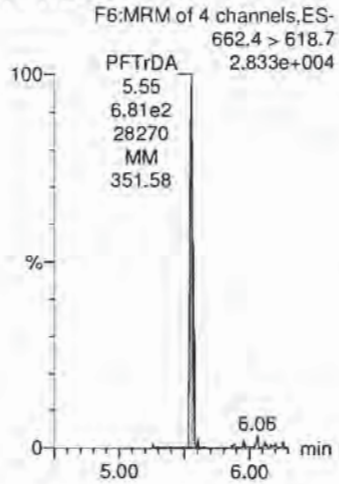

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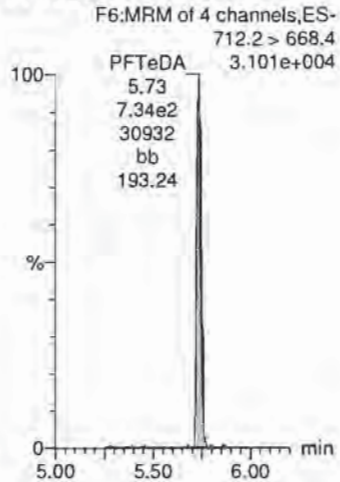

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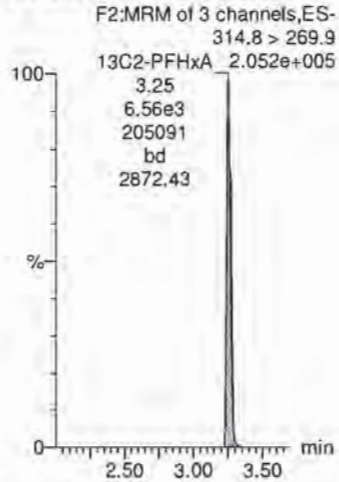

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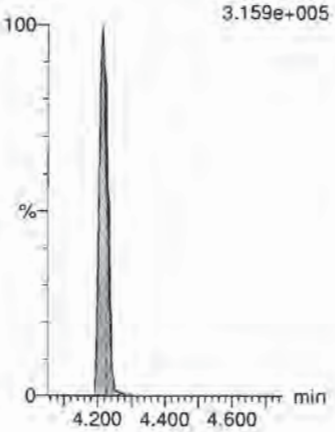

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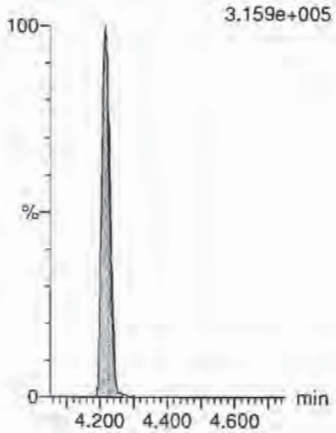

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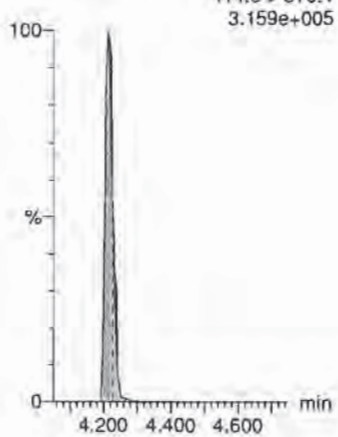

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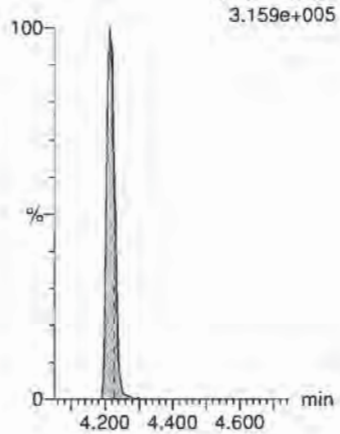

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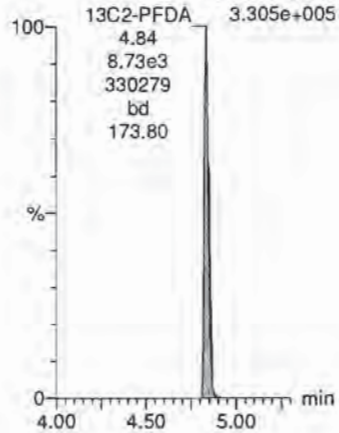

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Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_4, Date: 27-Jul-2018, Time: 15:31:30, ID: ST180727G3-3 PFC CS-2 537 18G2703, Description: PFC CS-2 537 18G2703

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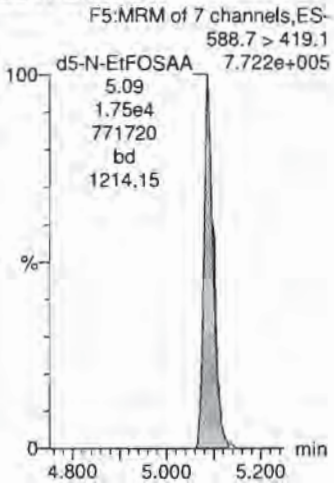

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Name: 180727G3_5, Date: 27-Jul-2018, Time: 15:44:20, ID: ST180727G3-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

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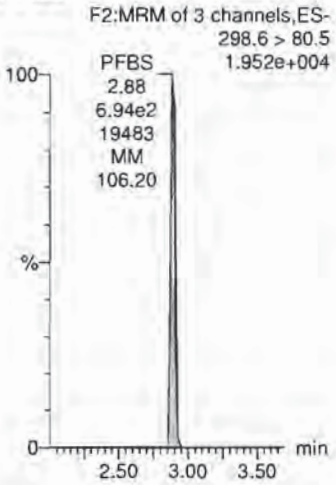

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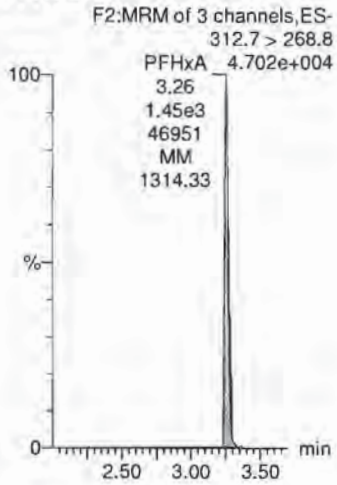

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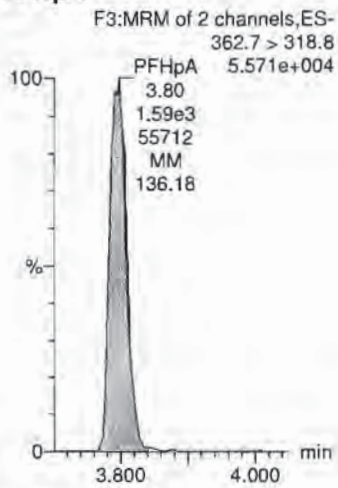

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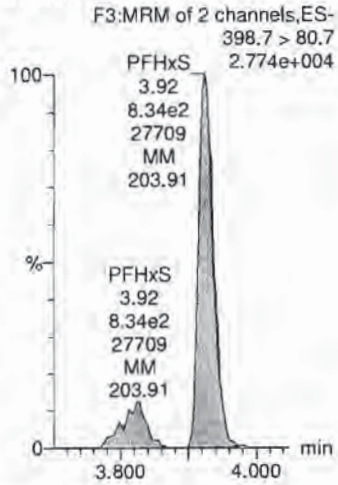

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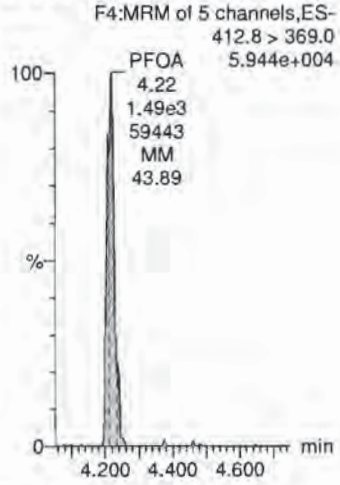

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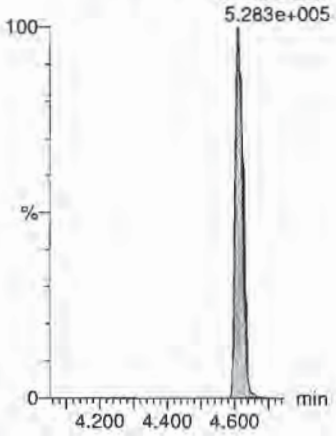

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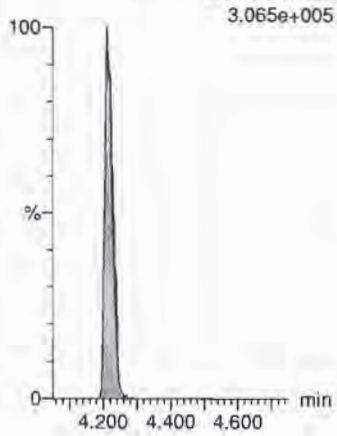

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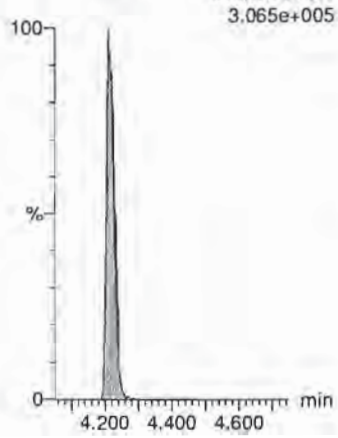

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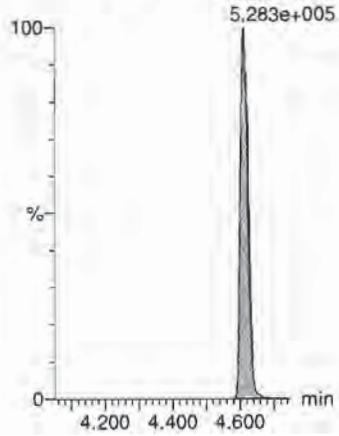

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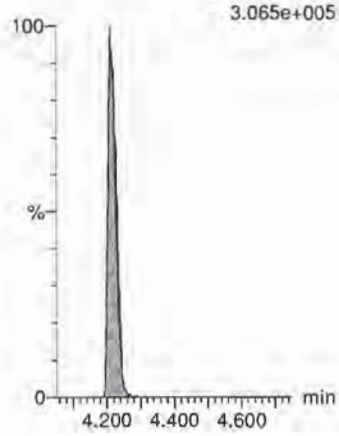

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Name: 180727G3_5, Date: 27-Jul-2018, Time: 15:44:20, ID: ST180727G3-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

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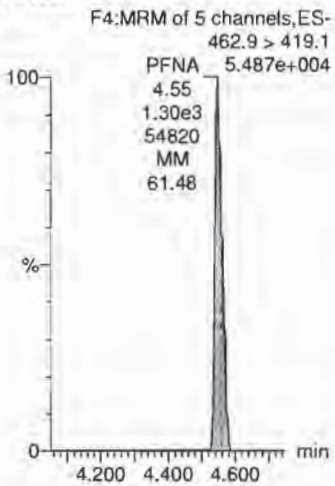

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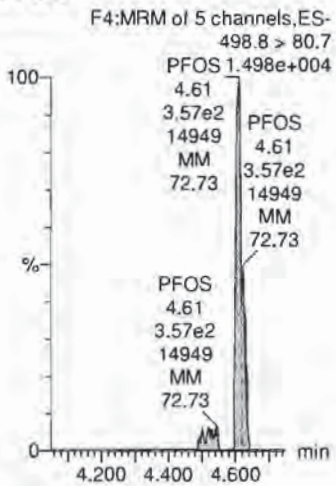

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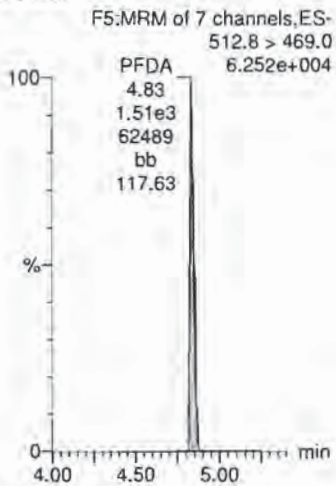

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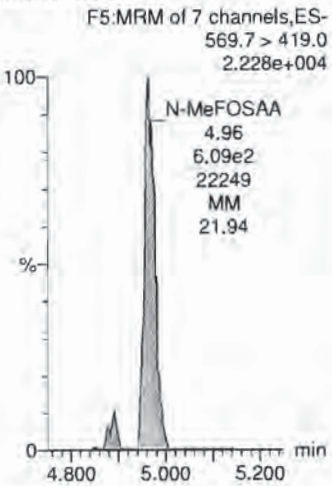

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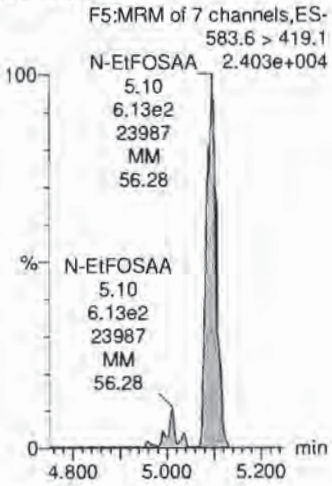

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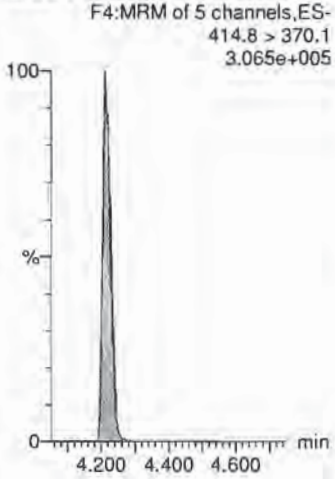

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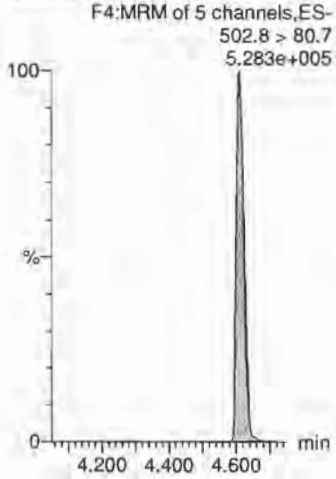
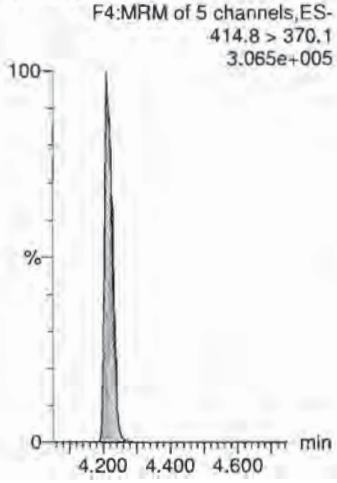


13C2-PFOA



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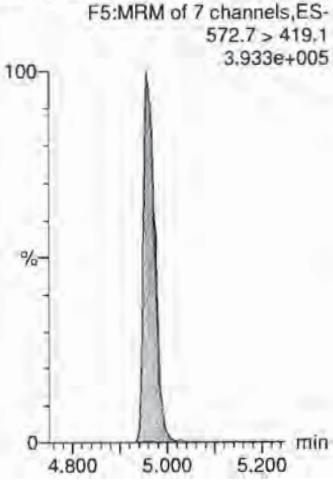

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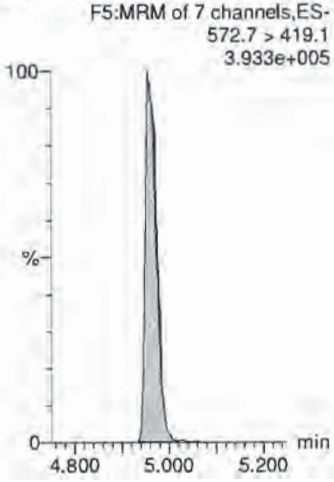

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_5, Date: 27-Jul-2018, Time: 15:44:20, ID: ST180727G3-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

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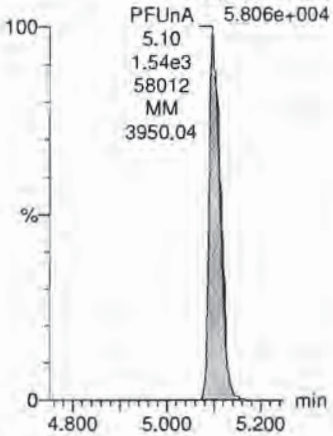

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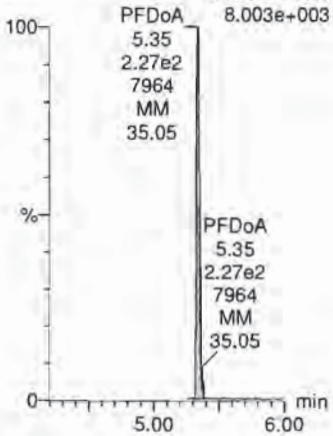

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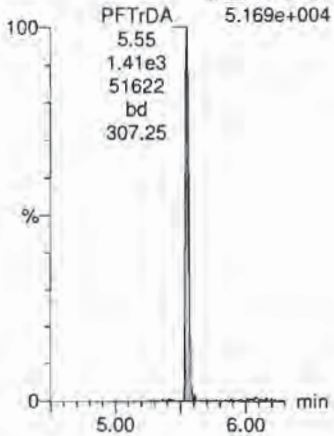

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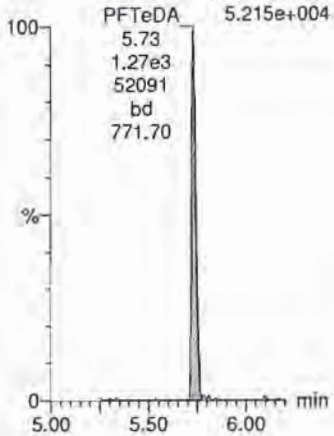

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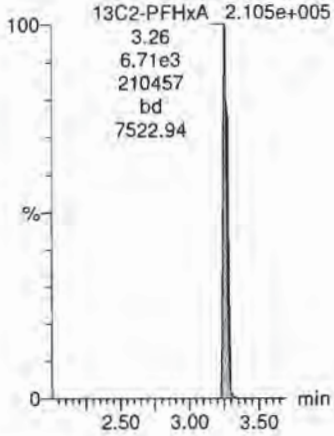

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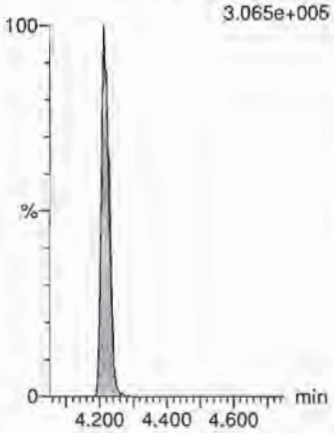

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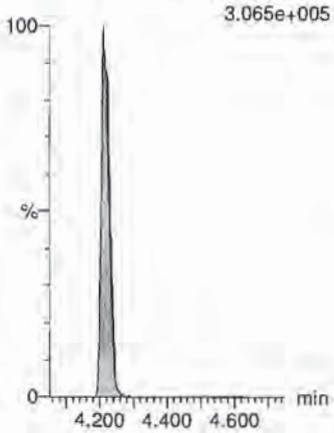

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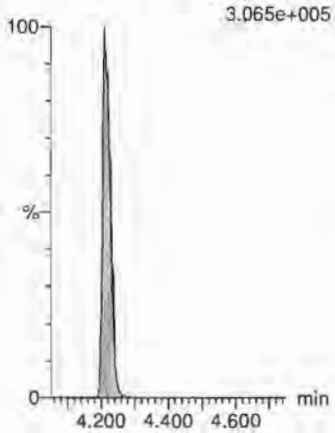

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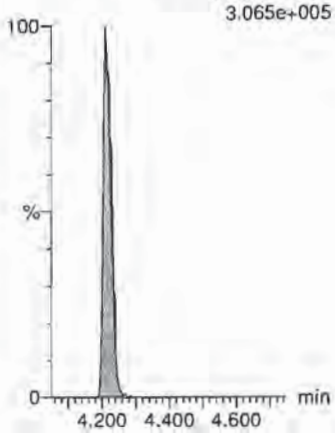

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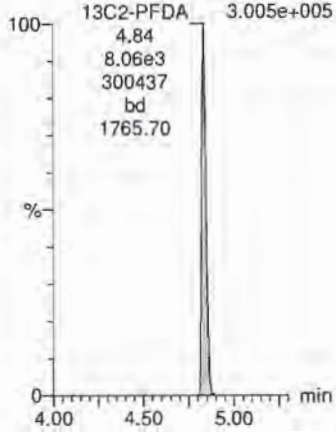

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_5, Date: 27-Jul-2018, Time: 15:44:20, ID: ST180727G3-4 PFC CS-1 537 18G2704, Description: PFC CS-1 537 18G2704

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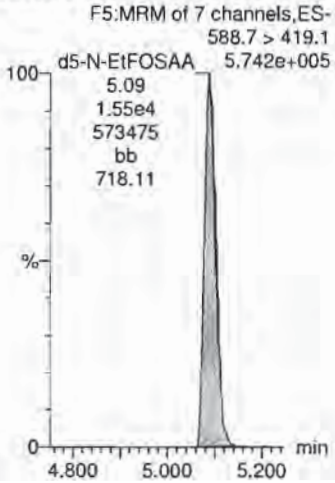

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_6, Date: 27-Jul-2018, Time: 15:57:09, ID: ST180727G3-5 PFC CS0 537 18G2705, Description: PFC CS0 537 18G2705

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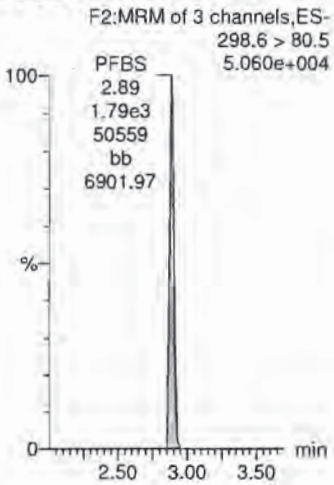

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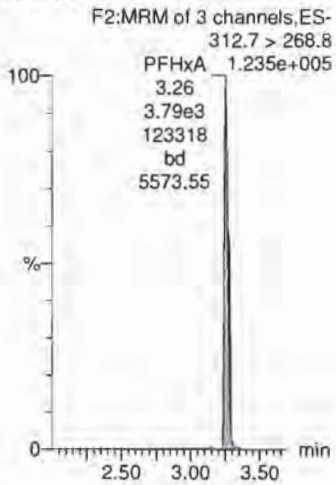

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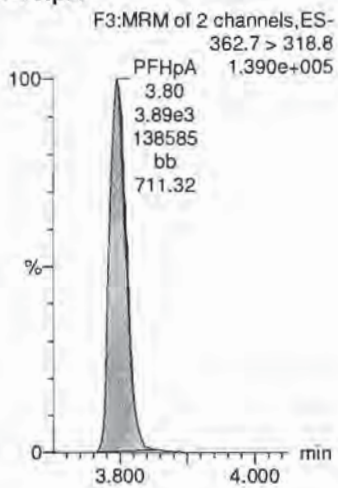

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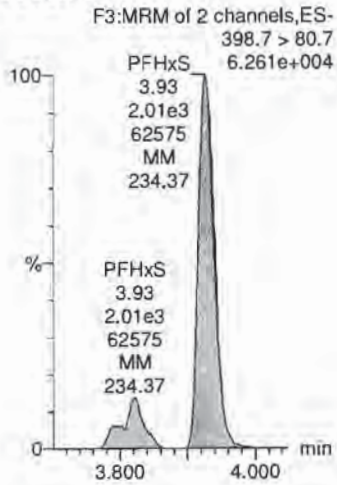

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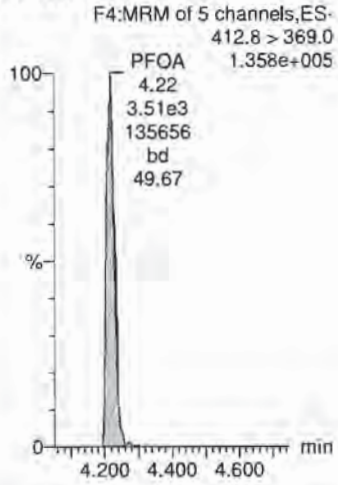

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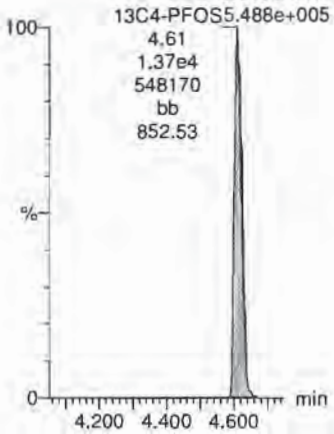

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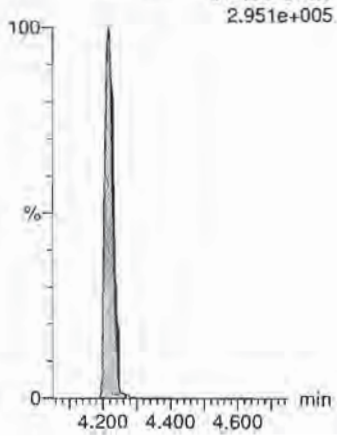

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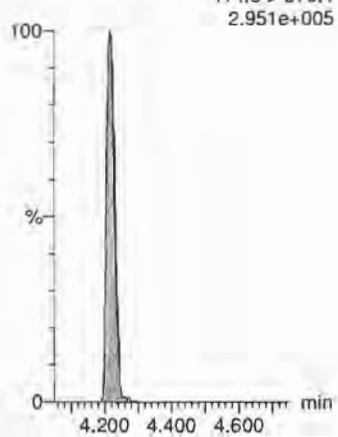

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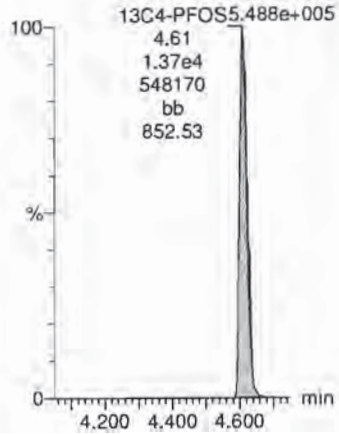

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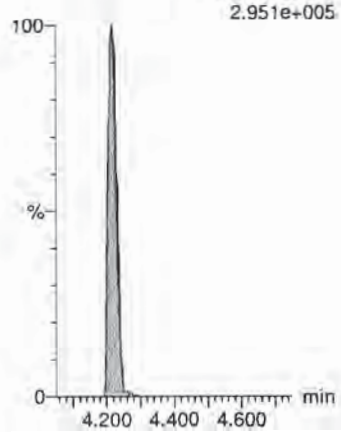

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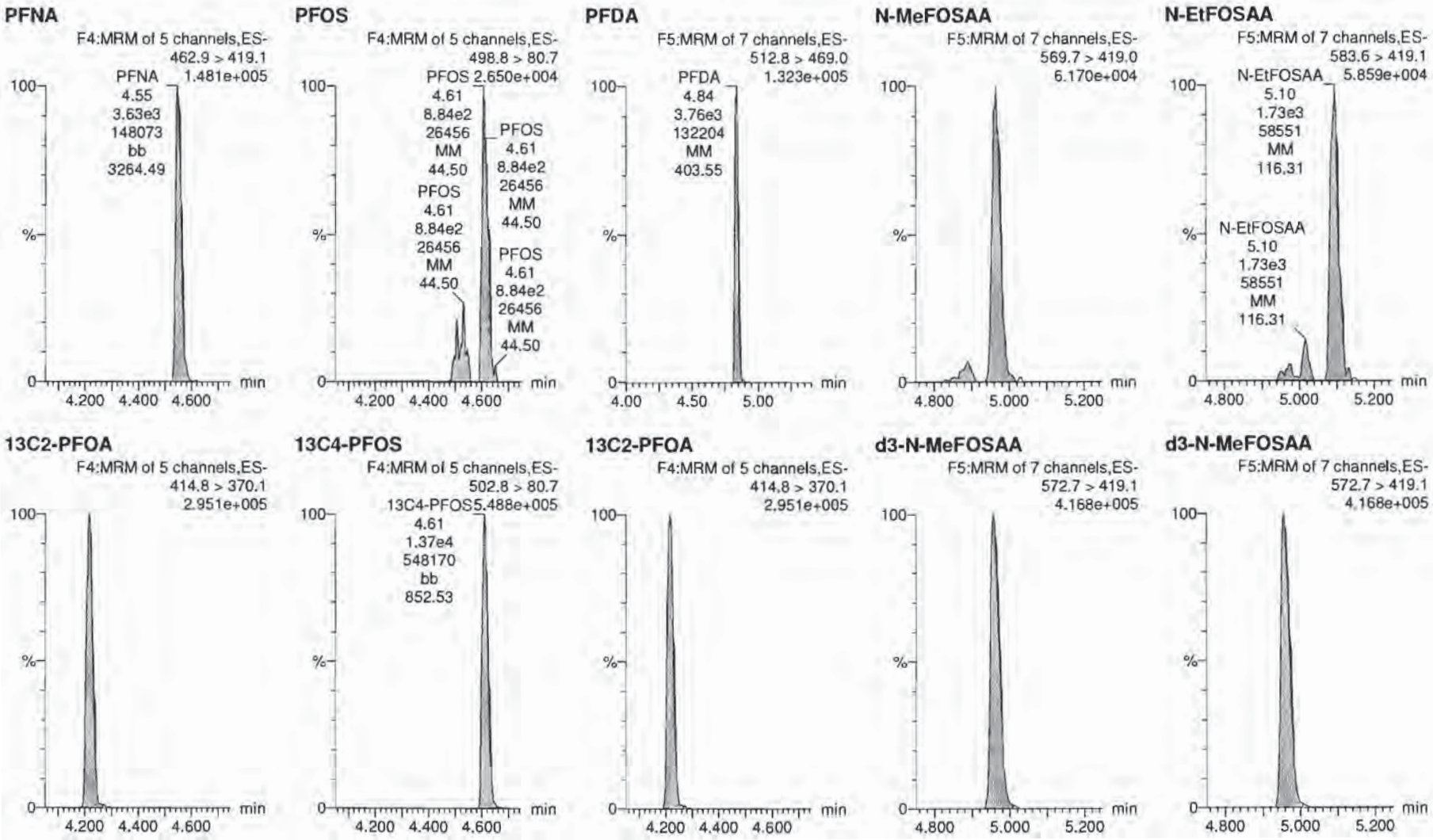
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_6, Date: 27-Jul-2018, Time: 15:57:09, ID: ST180727G3-5 PFC CS0 537 18G2705, Description: PFC CS0 537 18G2705



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Name: 180727G3_6, Date: 27-Jul-2018, Time: 15:57:09, ID: ST180727G3-5 PFC CS0 537 18G2705, Description: PFC CS0 537 18G2705

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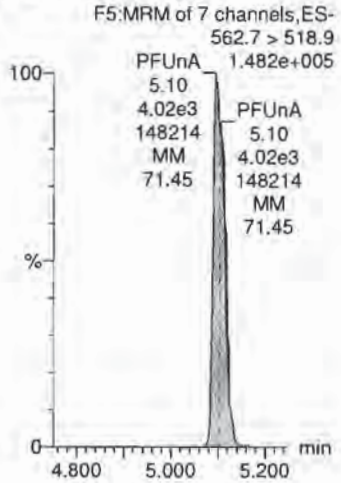

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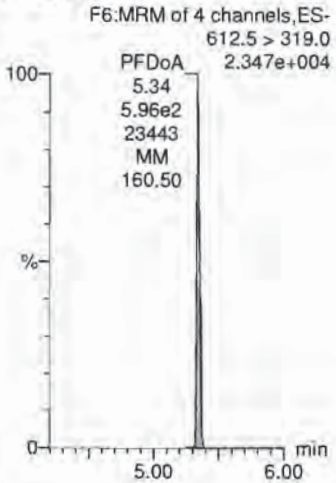

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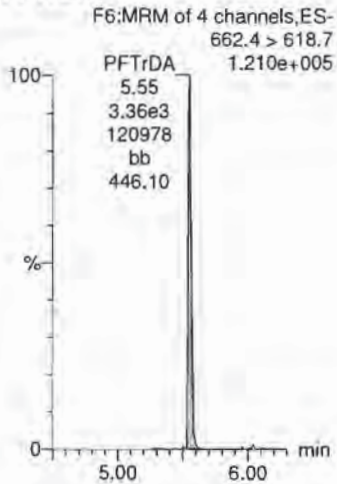

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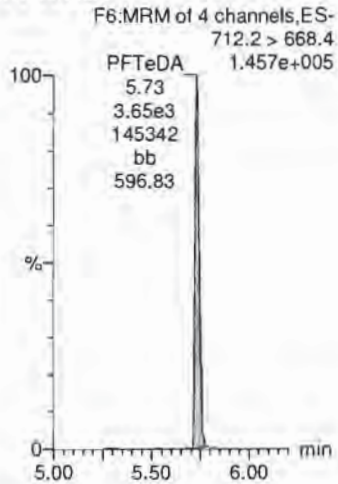

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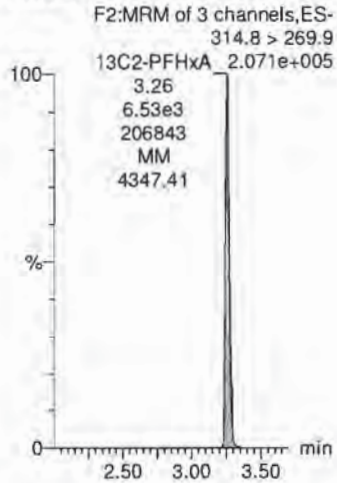

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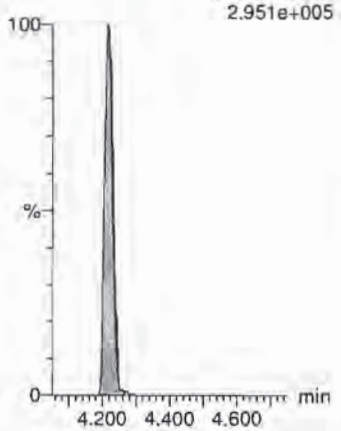

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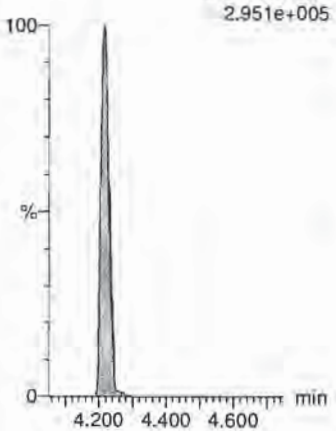

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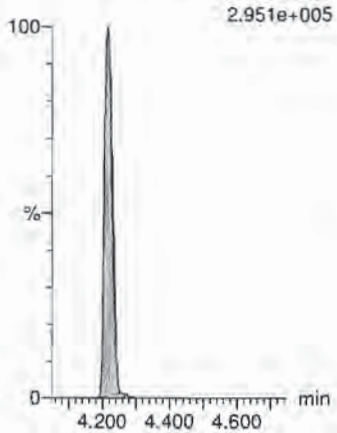

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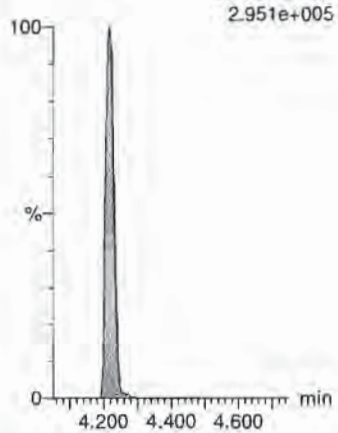

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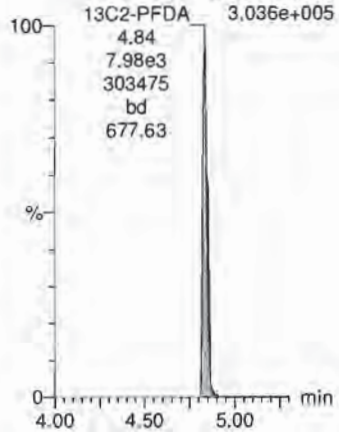

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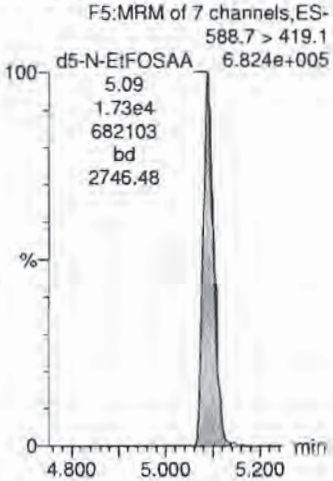
Name: 180727G3_6, Date: 27-Jul-2018, Time: 15:57:09, ID: ST180727G3-5 PFC CS0 537 18G2705, Description: PFC CS0 537 18G2705

d5-N-EtFOSAA



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Name: 180727G3_7, Date: 27-Jul-2018, Time: 16:09:59, ID: ST180727G3-6 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

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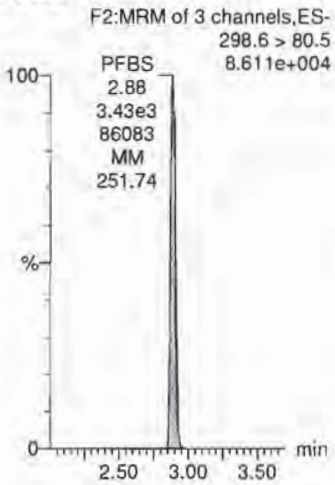

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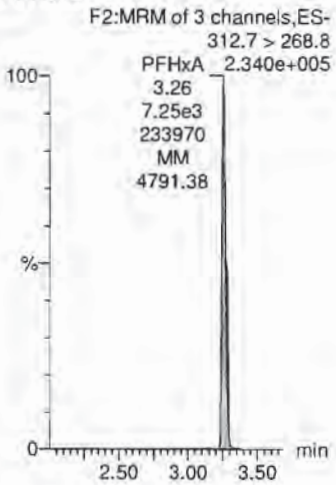

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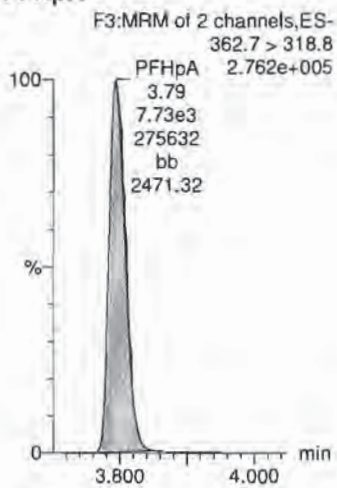

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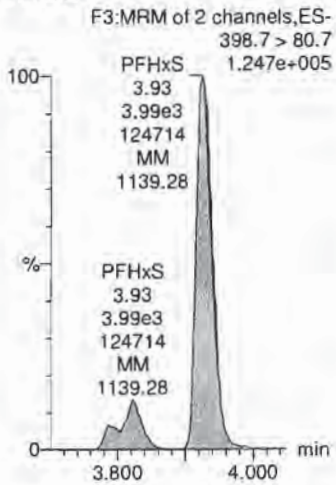

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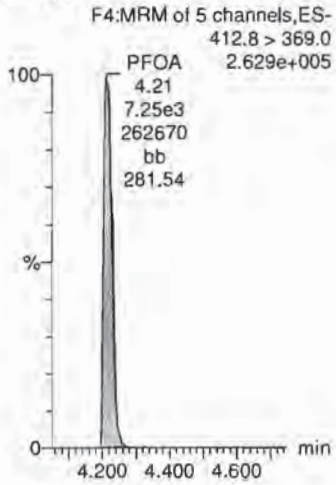

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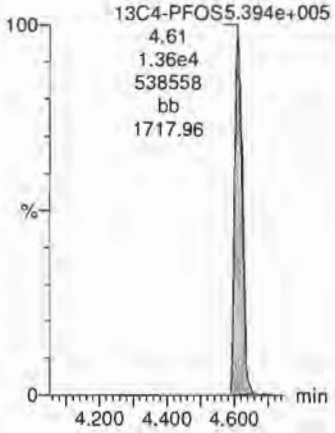

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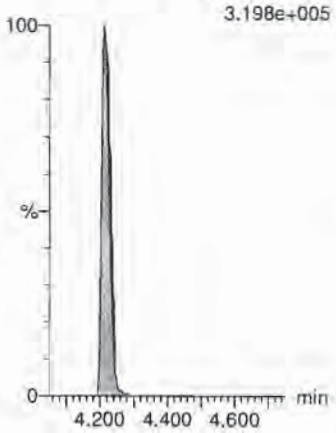

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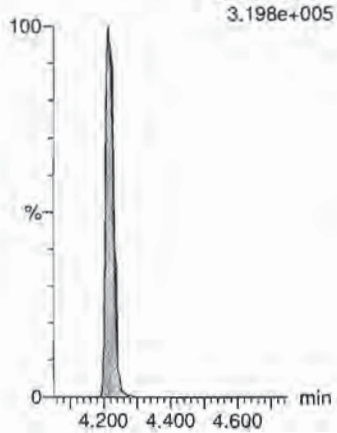

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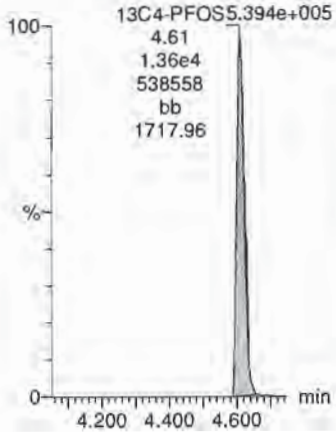

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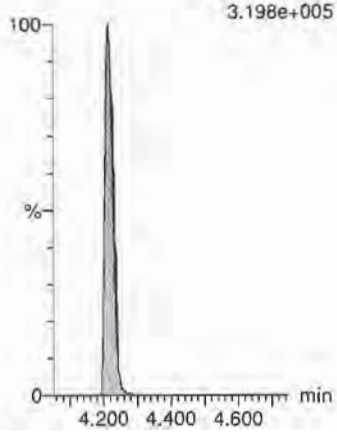

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Name: 180727G3_7, Date: 27-Jul-2018, Time: 16:09:59, ID: ST180727G3-6 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

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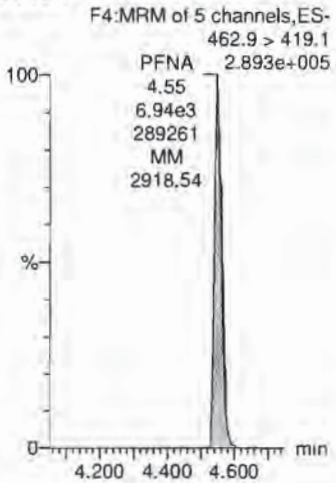

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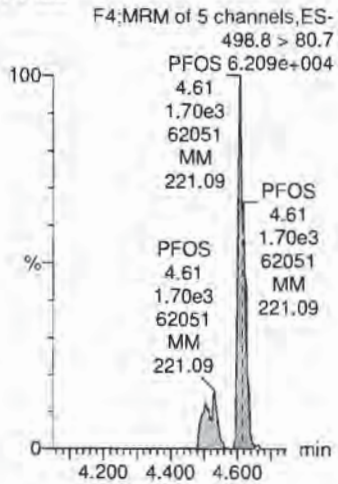

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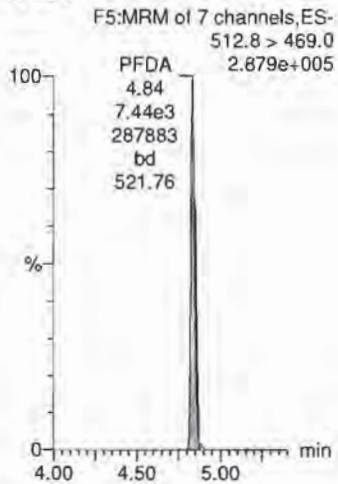

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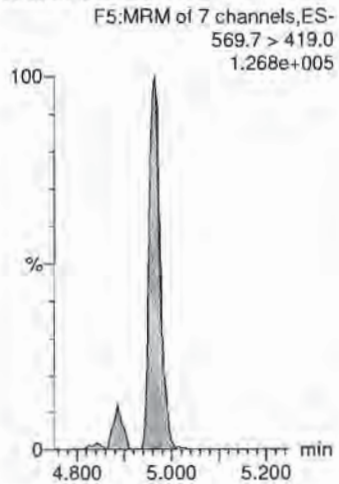

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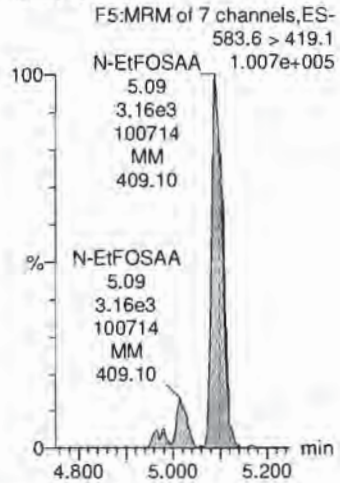
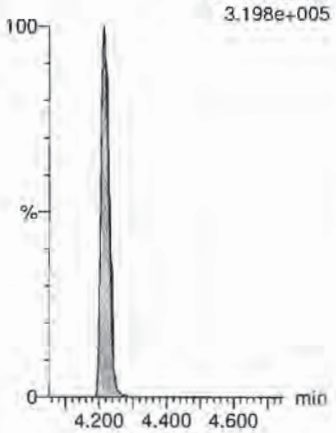
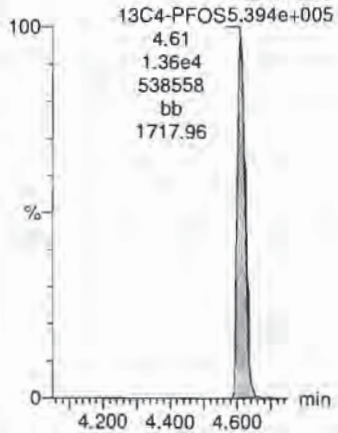


13C2-PFOA



13C4-PFOS



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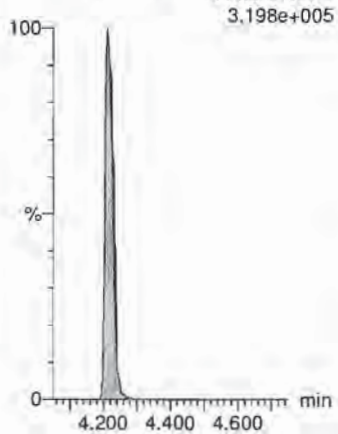

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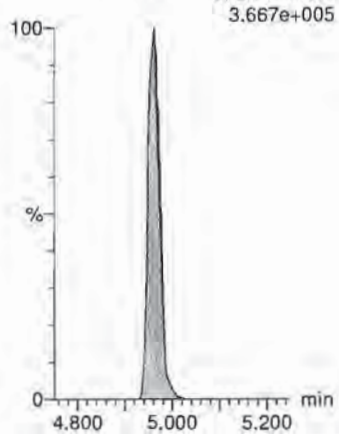

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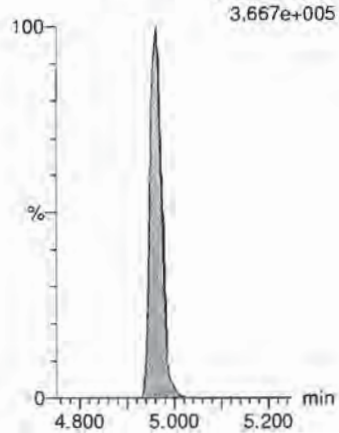

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_7, Date: 27-Jul-2018, Time: 16:09:59, ID: ST180727G3-6 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

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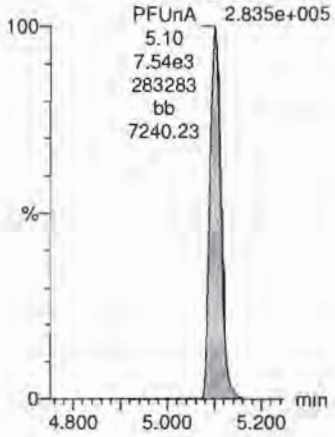

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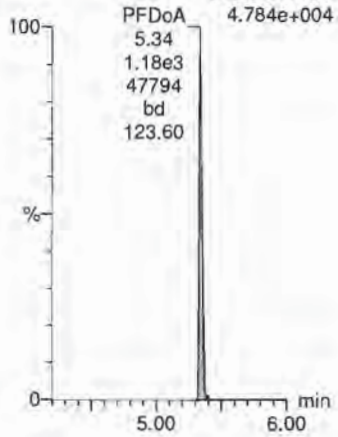

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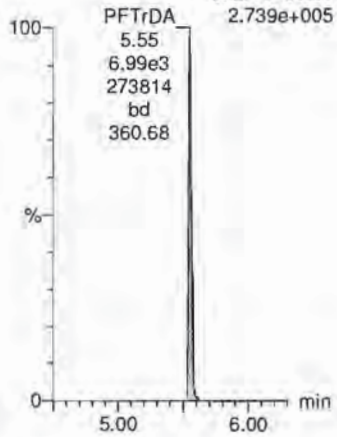

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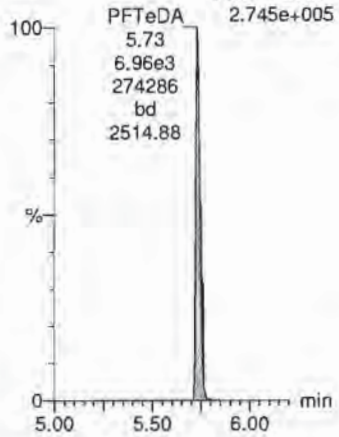

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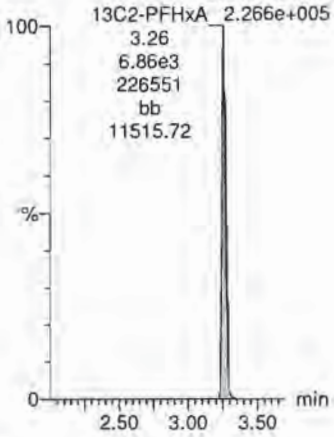

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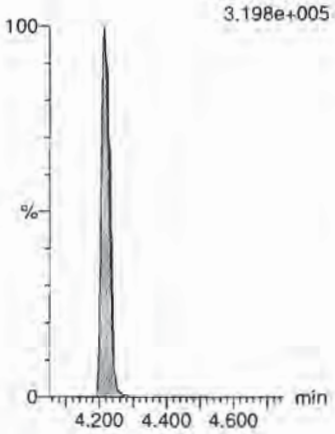

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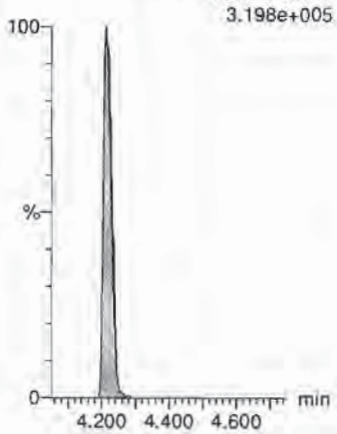

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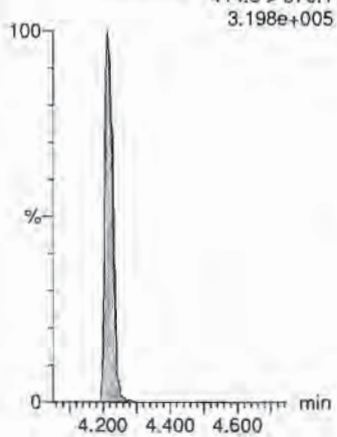

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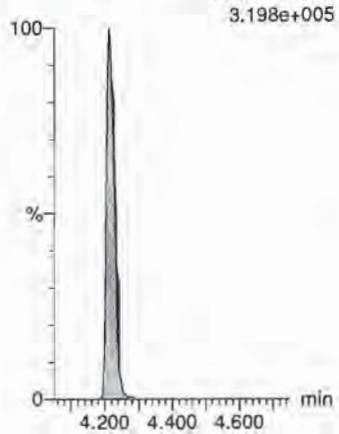

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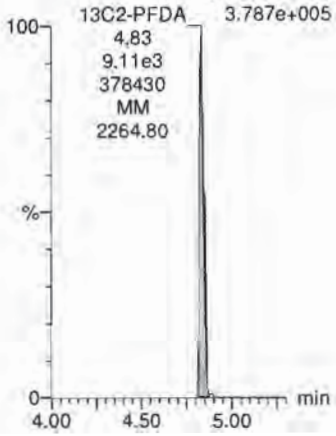

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_7, Date: 27-Jul-2018, Time: 16:09:59, ID: ST180727G3-6 PFC CS1 537 18G2706, Description: PFC CS1 537 18G2706

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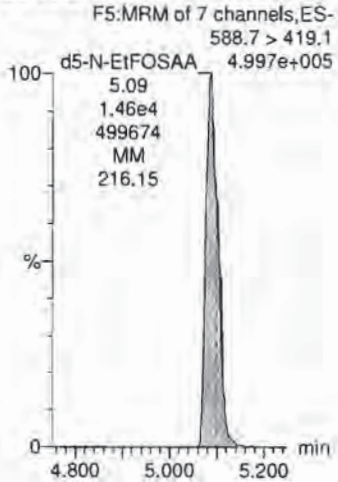

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Name: 180727G3_8, Date: 27-Jul-2018, Time: 16:22:49, ID: ST180727G3-7 PFC CS2 537 18G2707, Description: PFC CS2 537 18G2707

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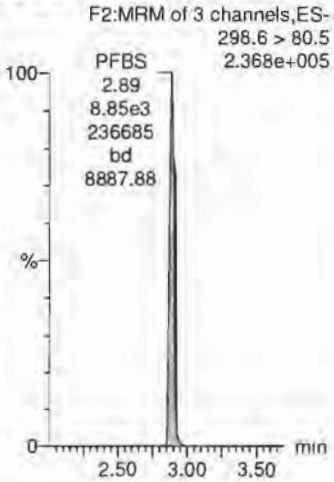

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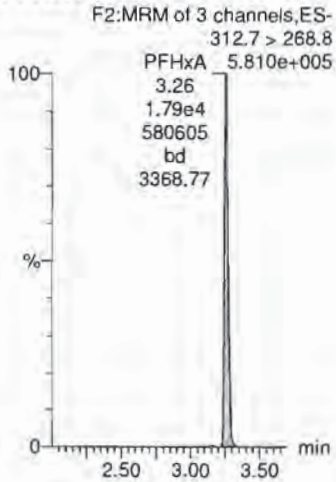

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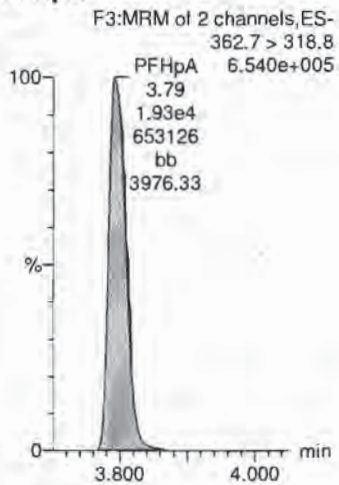

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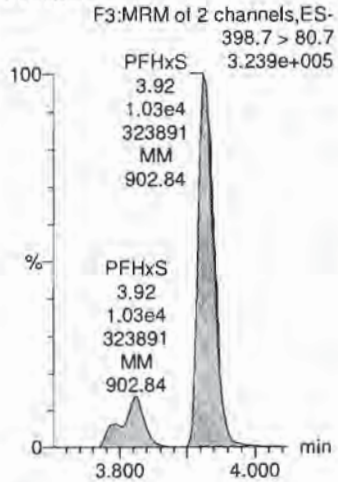

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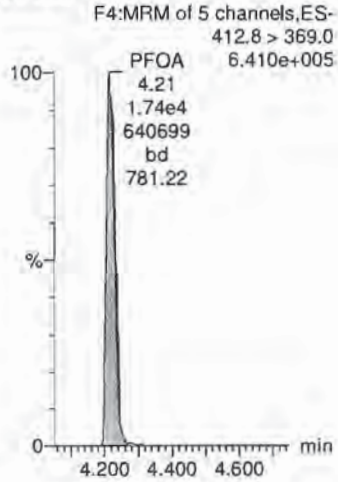

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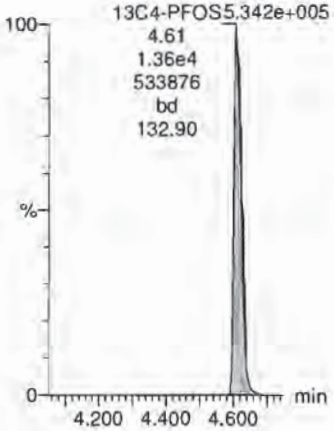

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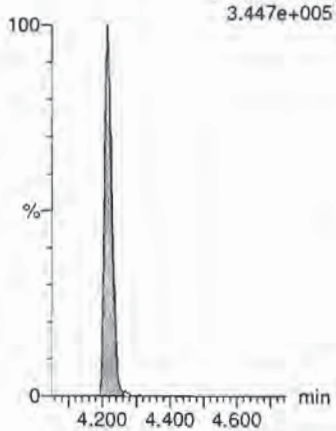

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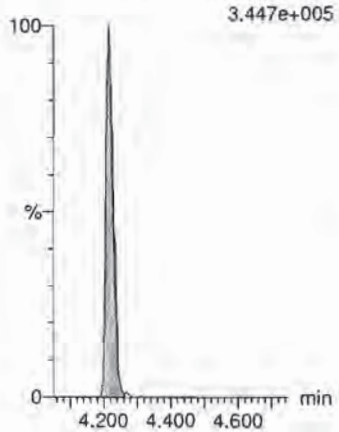

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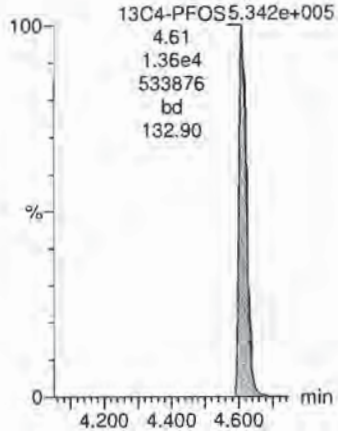

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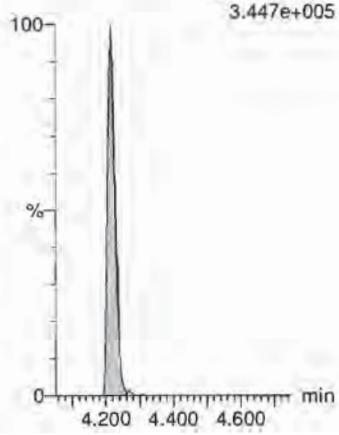

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_8, Date: 27-Jul-2018, Time: 16:22:49, ID: ST180727G3-7 PFC CS2 537 18G2707, Description: PFC CS2 537 18G2707

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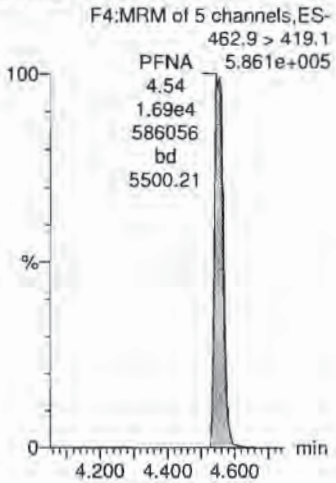

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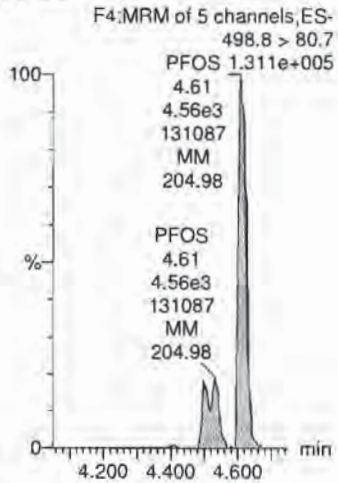

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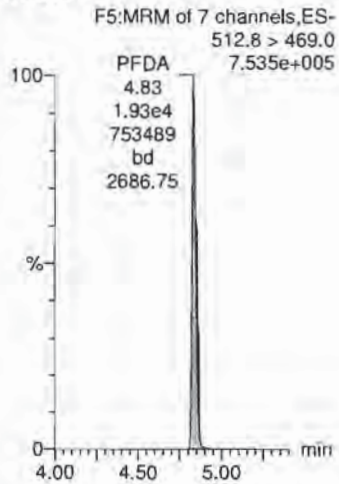

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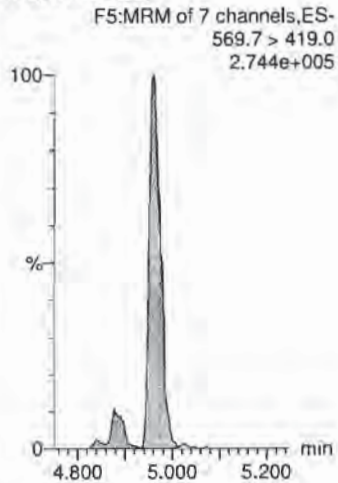

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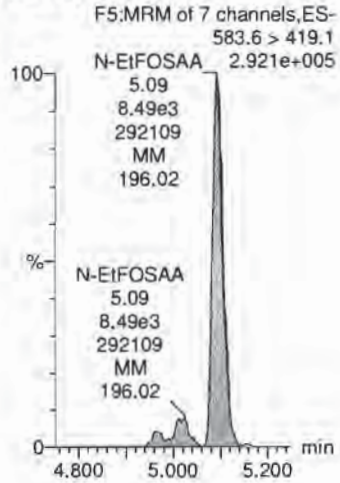

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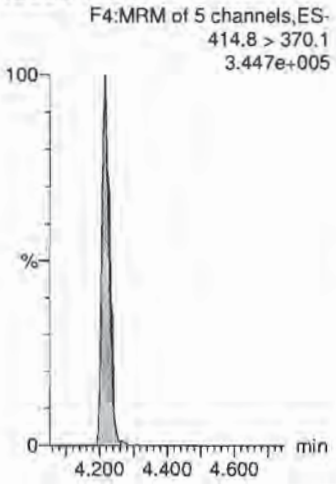

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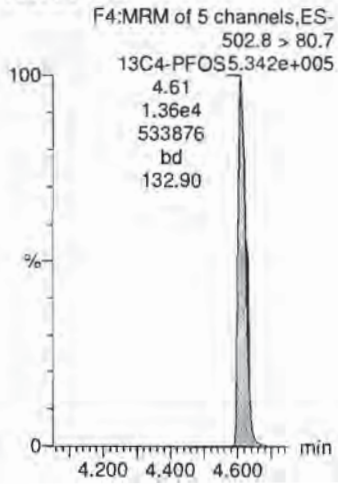

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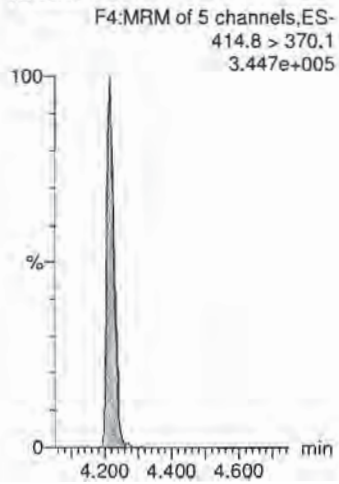

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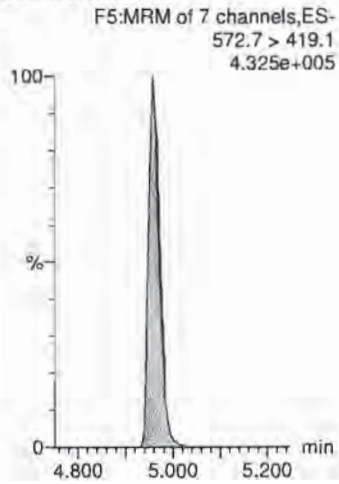

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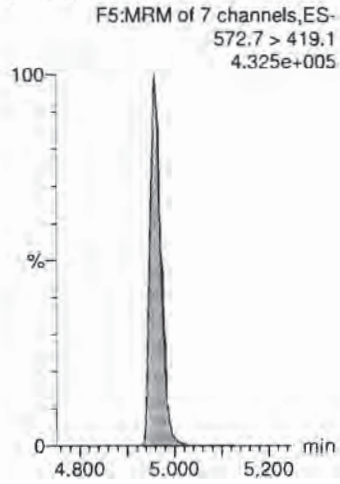

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_8, Date: 27-Jul-2018, Time: 16:22:49, ID: ST180727G3-7 PFC CS2 537 18G2707, Description: PFC CS2 537 18G2707

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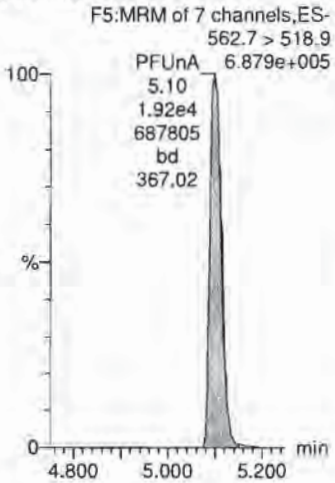

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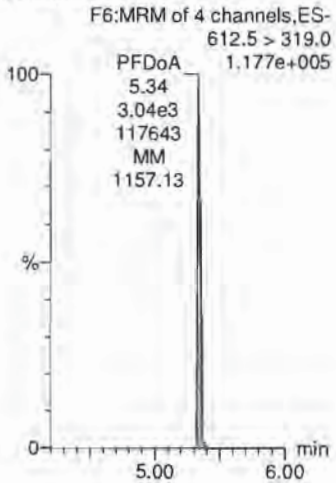

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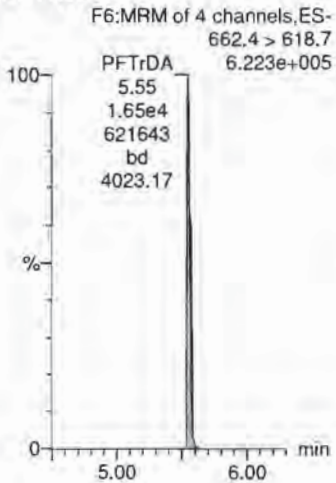

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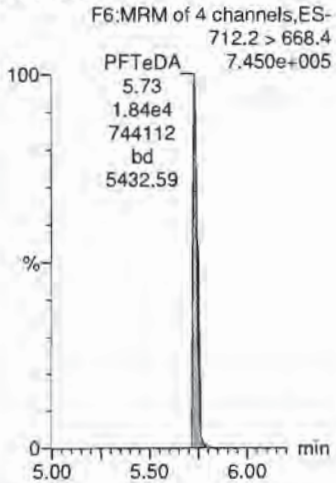

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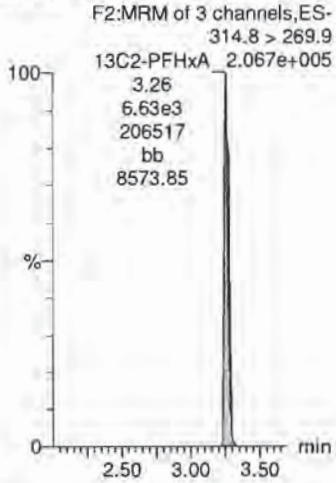

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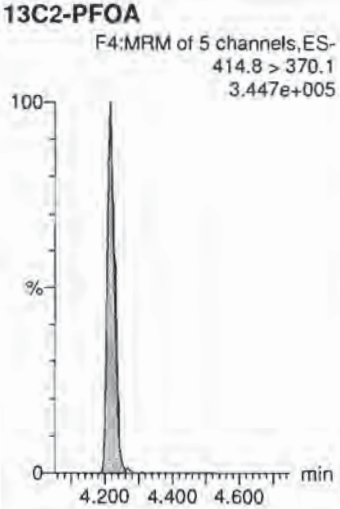

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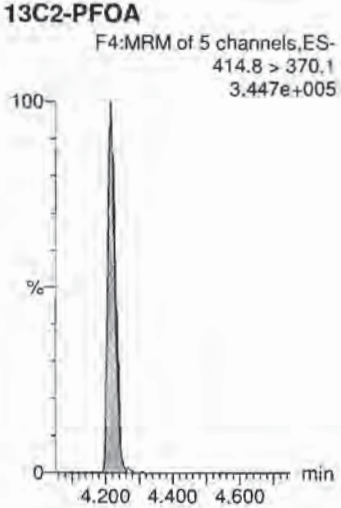

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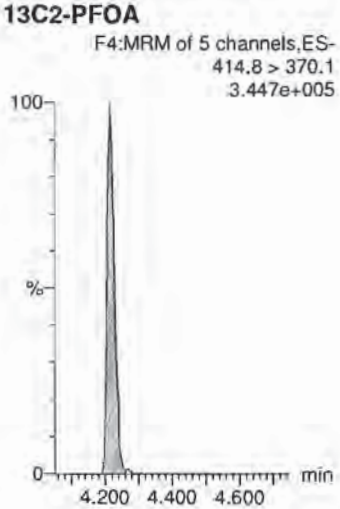

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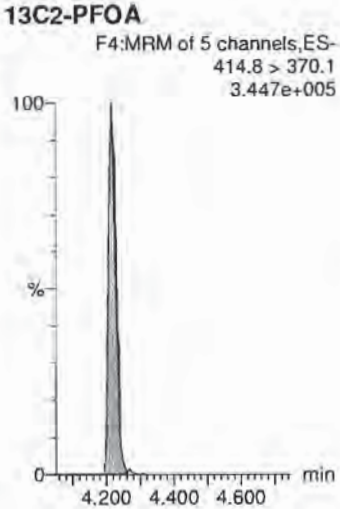

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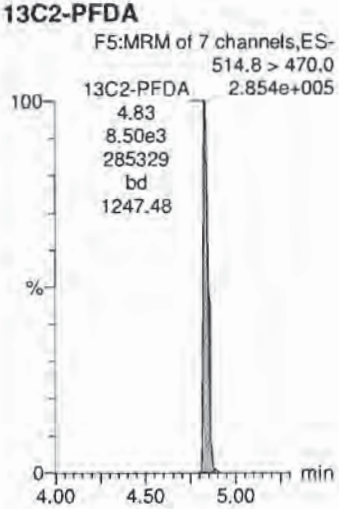

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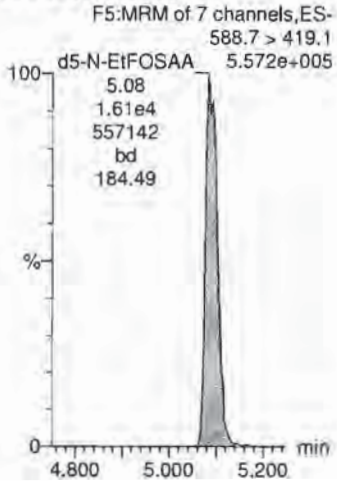
Name: 180727G3_8, Date: 27-Jul-2018, Time: 16:22:49, ID: ST180727G3-7 PFC CS2 537 18G2707, Description: PFC CS2 537 18G2707

d5-N-EtFOSAA



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Name: 180727G3_9, Date: 27-Jul-2018, Time: 16:35:39, ID: ST180727G3-8 PFC CS3 537 18G2708, Description: PFC CS3 537 18G2708

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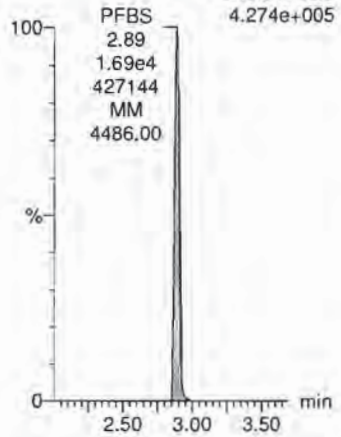

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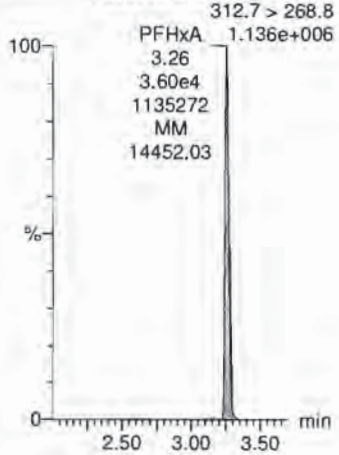

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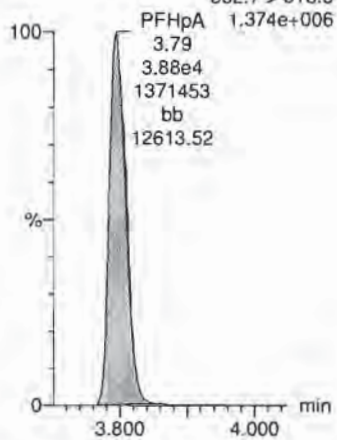

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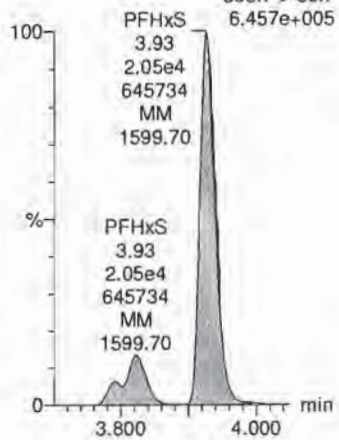

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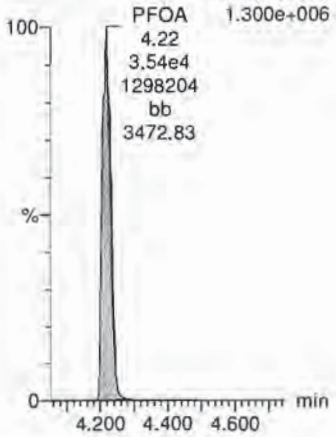

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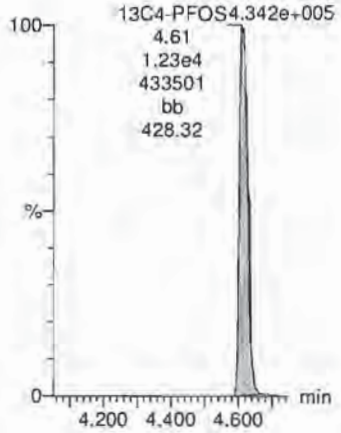

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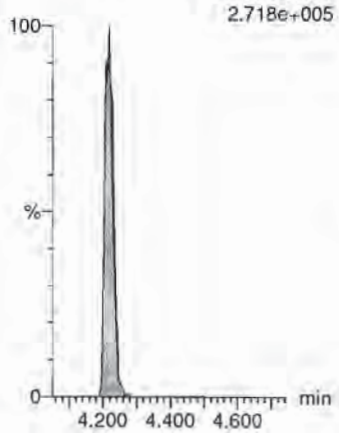

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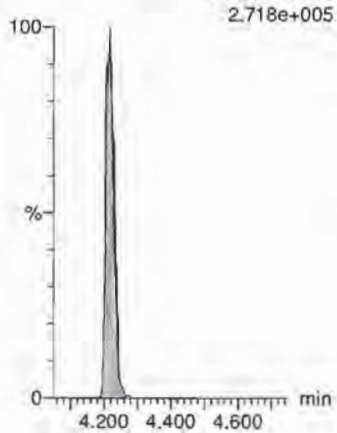

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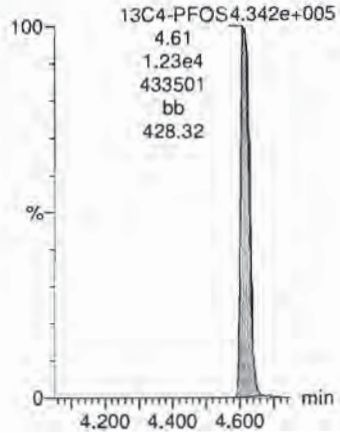

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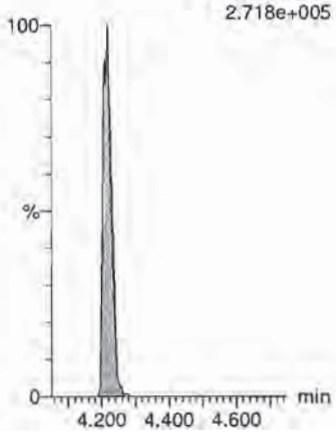

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Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

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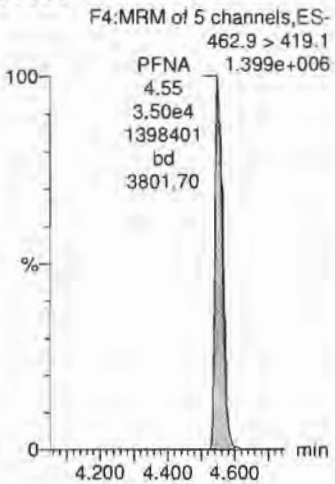

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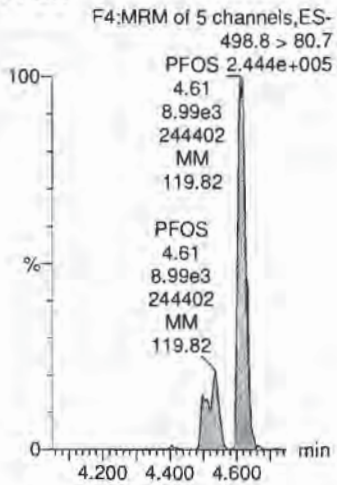

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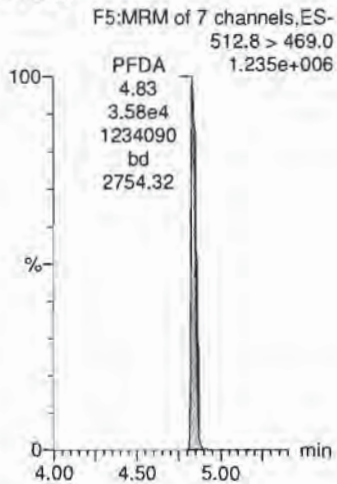

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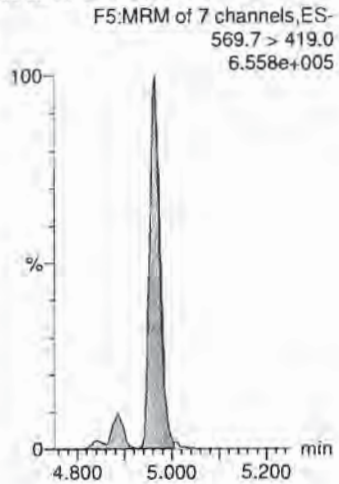

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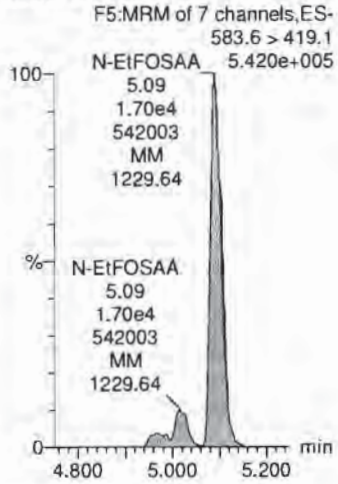

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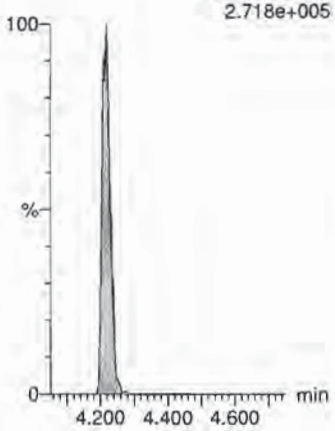

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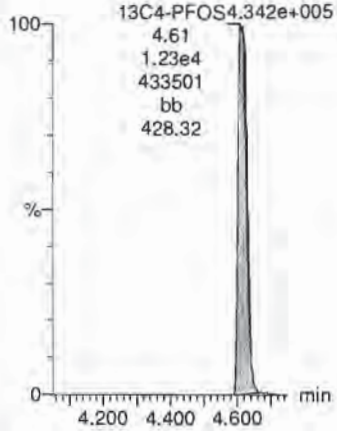

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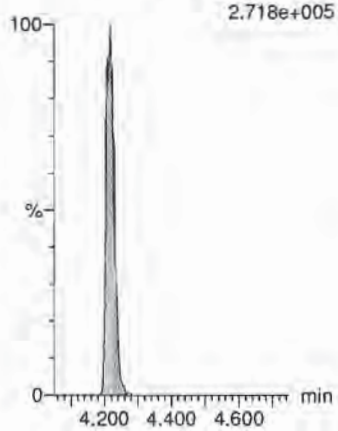

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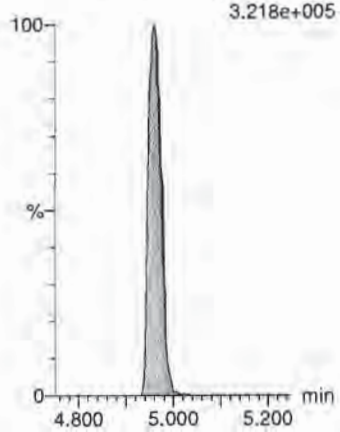

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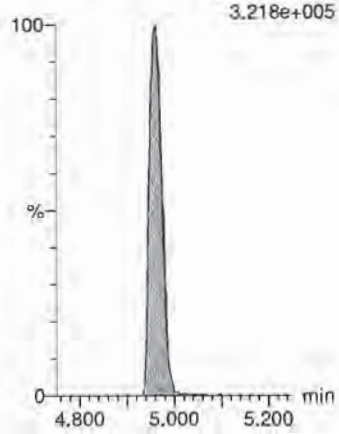

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Name: 180727G3_9, Date: 27-Jul-2018, Time: 16:35:39, ID: ST180727G3-8 PFC CS3 537 18G2708, Description: PFC CS3 537 18G2708

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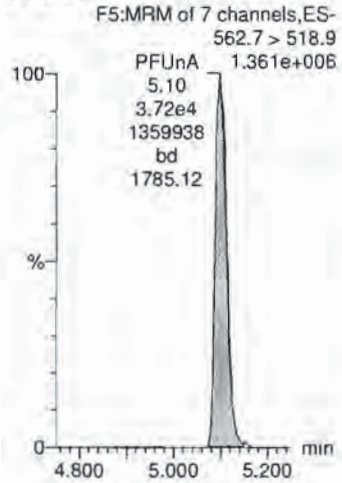

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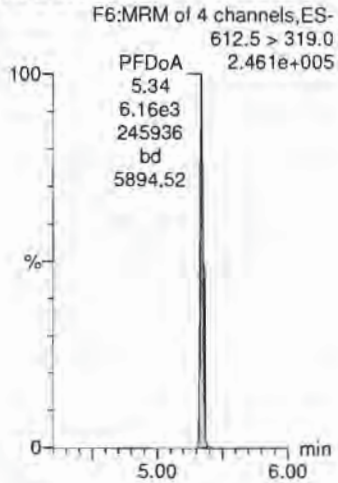

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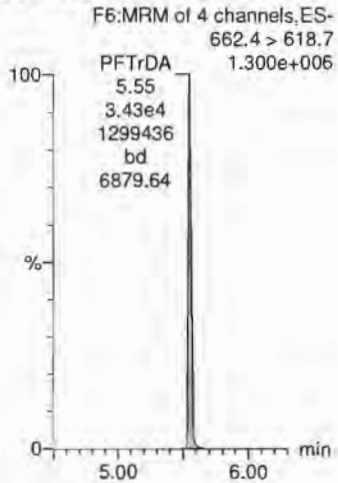

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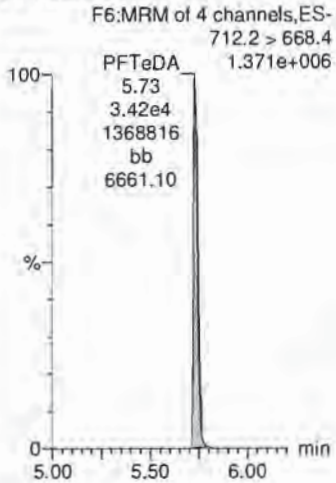

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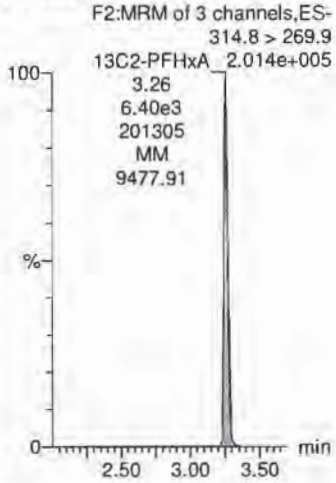

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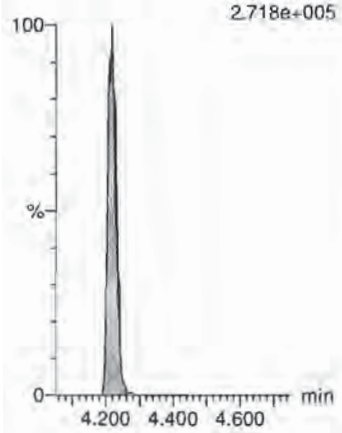

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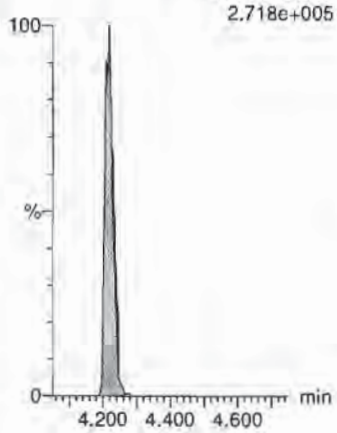

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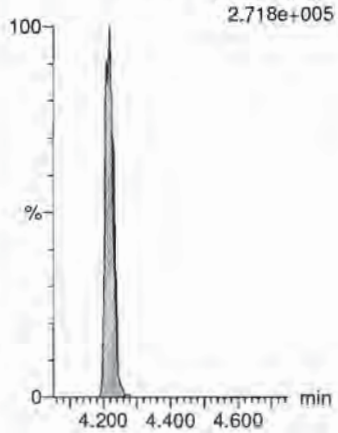

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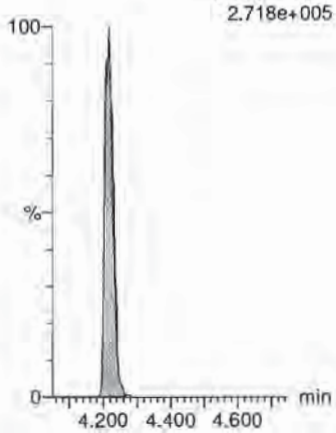

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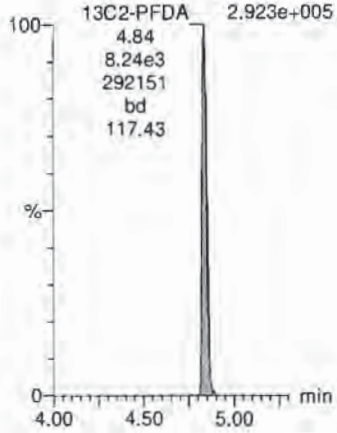

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Name: 180727G3_9, Date: 27-Jul-2018, Time: 16:35:39, ID: ST180727G3-8 PFC CS3 537 18G2708, Description: PFC CS3 537 18G2708

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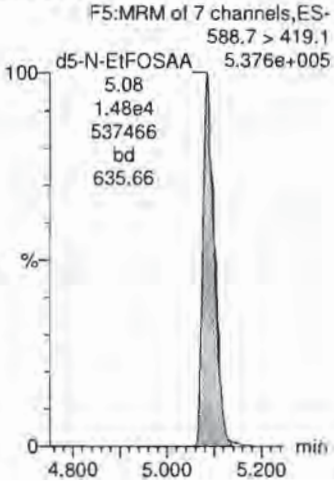

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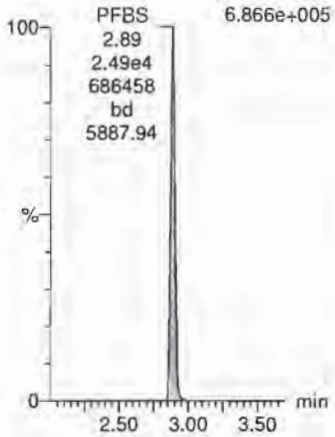

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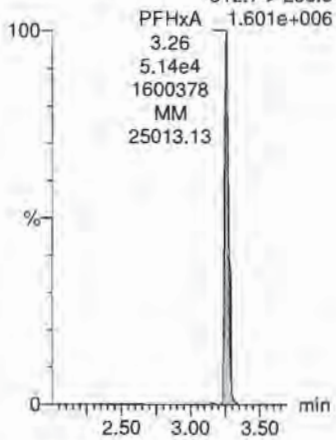

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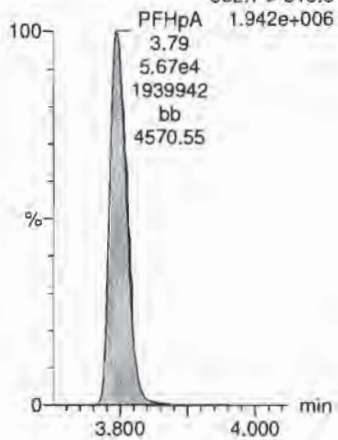

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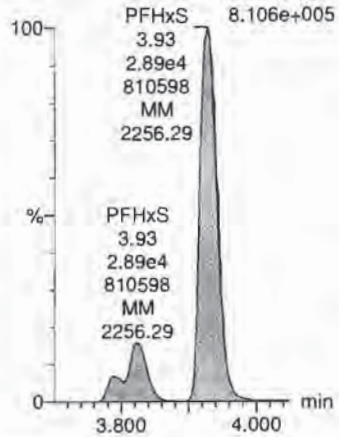

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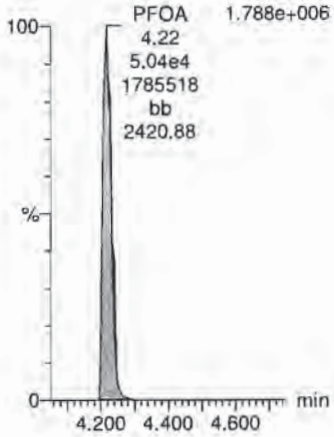

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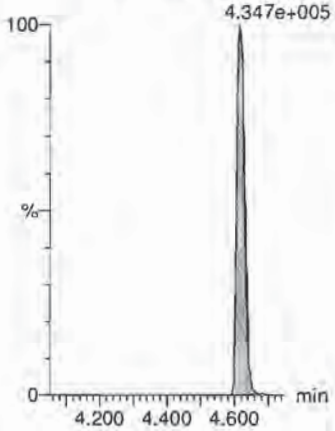

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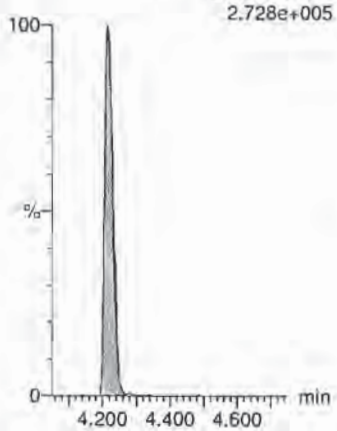

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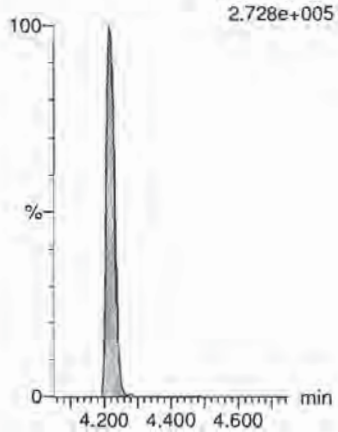

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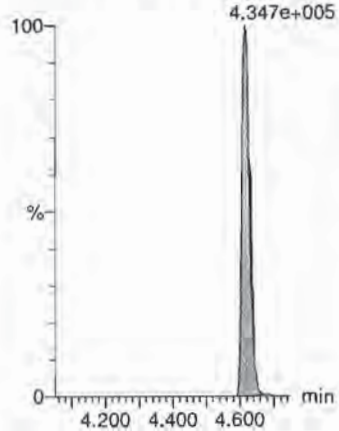

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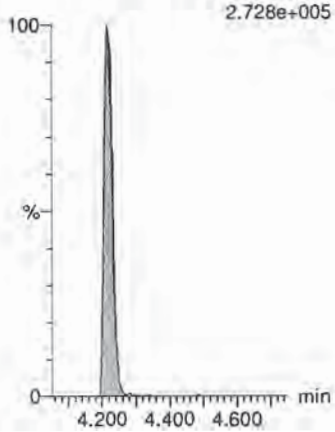

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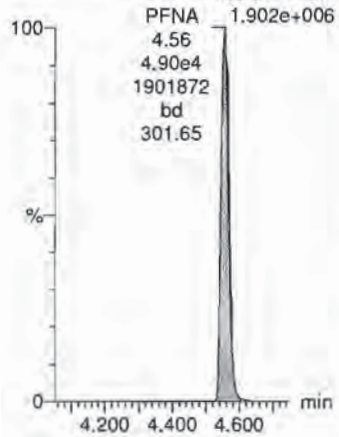

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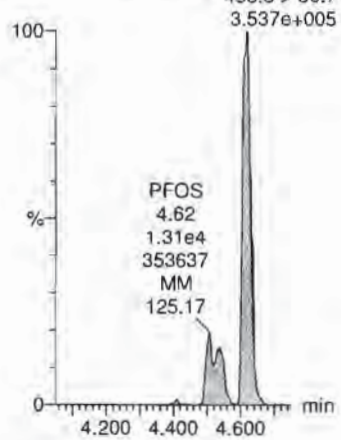

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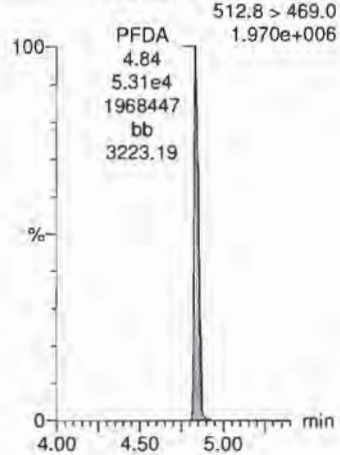

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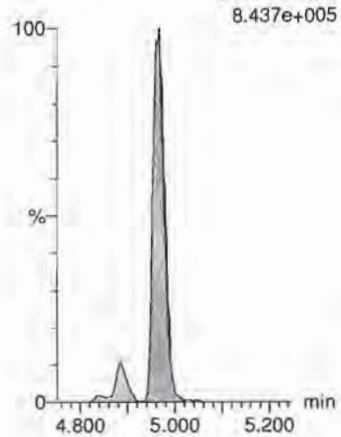

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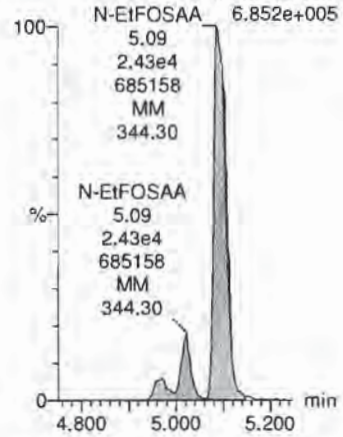

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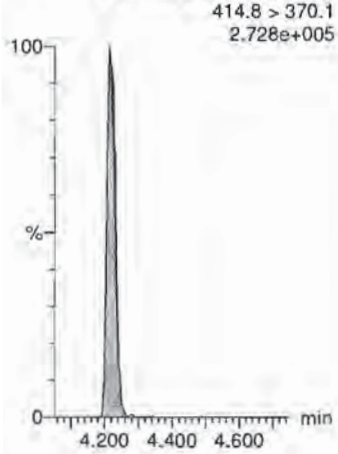

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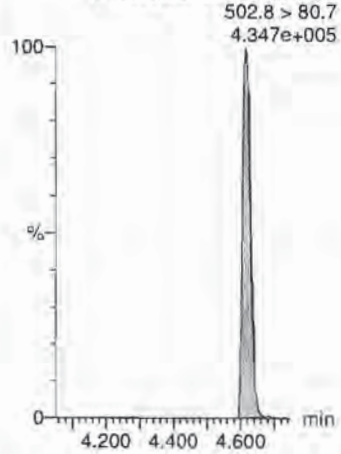

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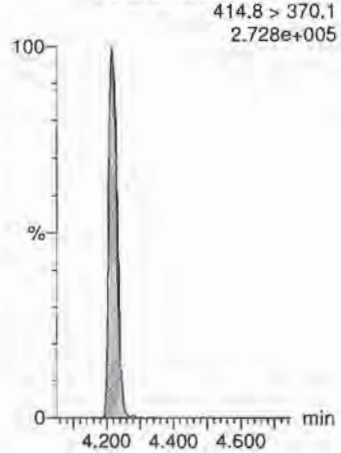

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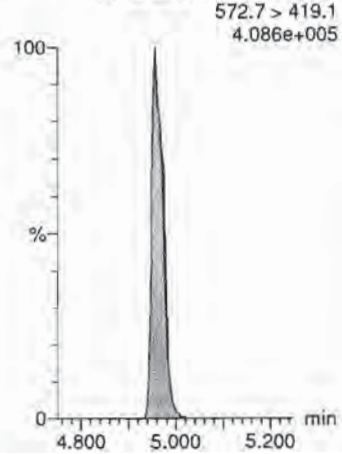

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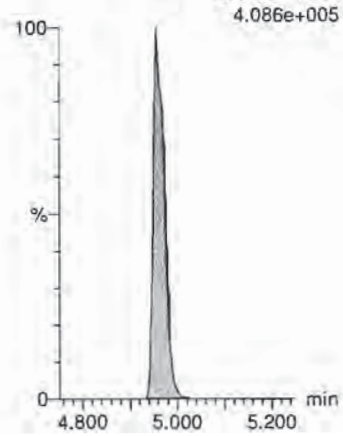

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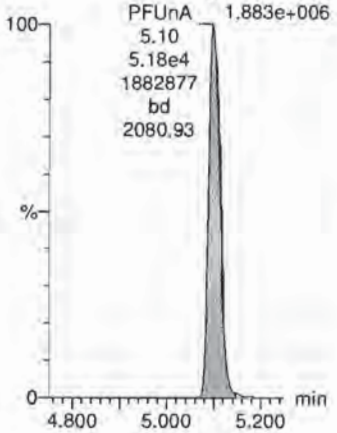

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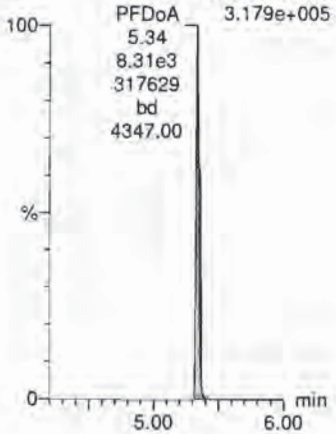

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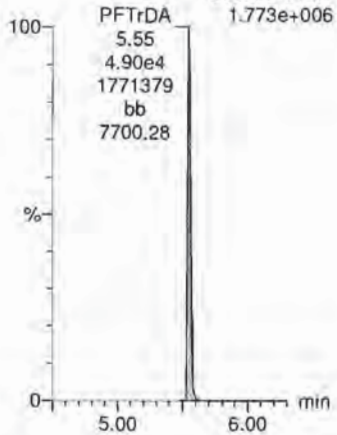

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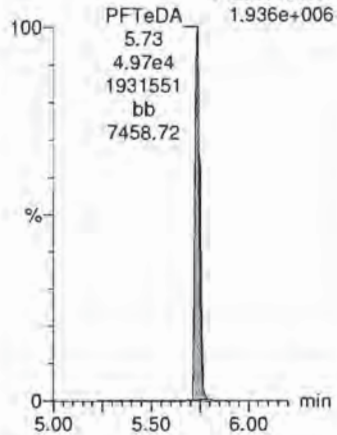

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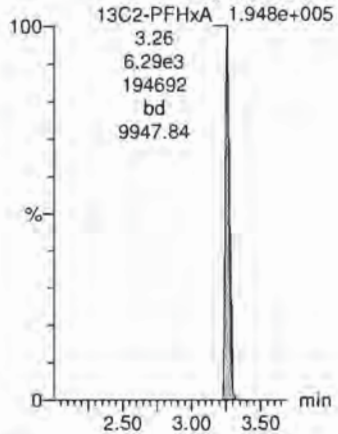

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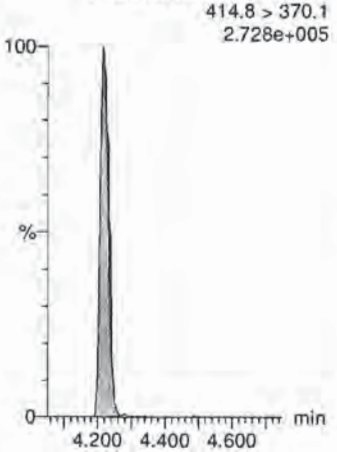

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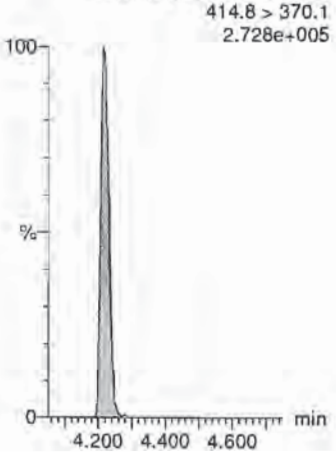
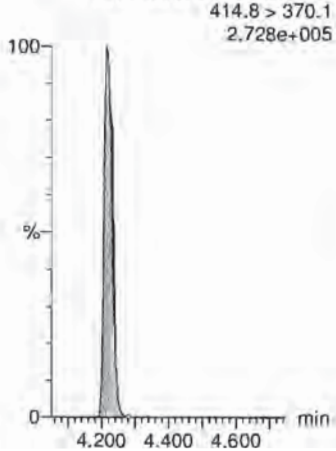
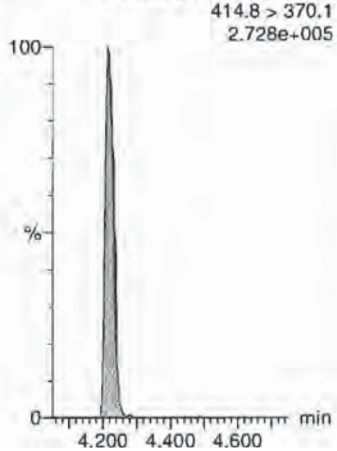


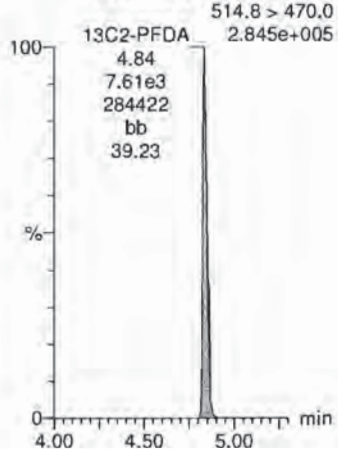
13C2-PFOA



13C2-PFOA



13C2-PFDA



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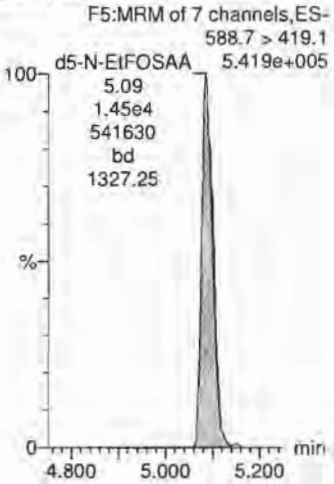
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_10, Date: 27-Jul-2018, Time: 16:48:28, ID: ST180727G3-9 PFC CS4 537 18G2709, Description: PFC CS4 537 18G2709

d5-N-EtFOSAA



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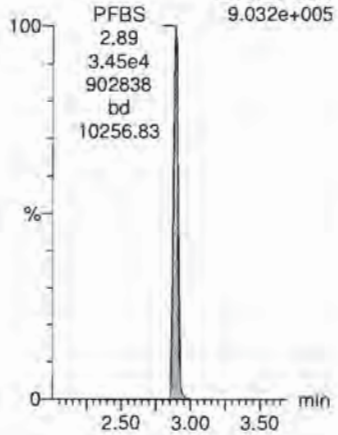
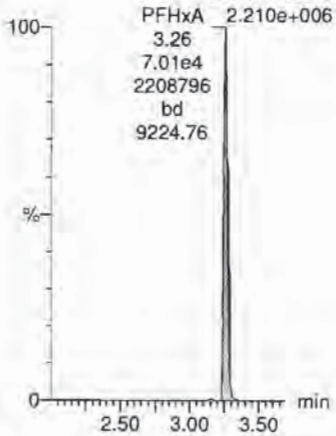
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_11, Date: 27-Jul-2018, Time: 17:01:12, ID: ST180727G3-10 PFC CS5 537 18G2710, Description: PFC CS5 537 18G2710

PFBS



PFHxA



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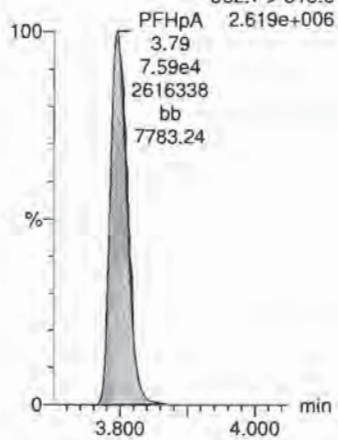
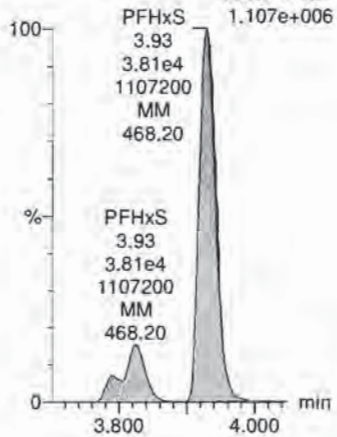
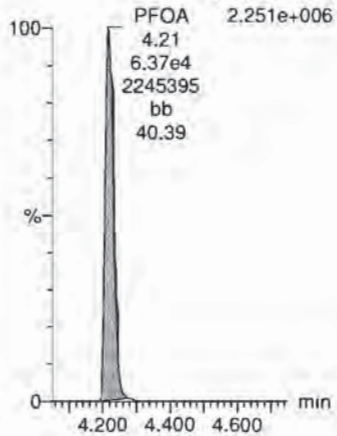


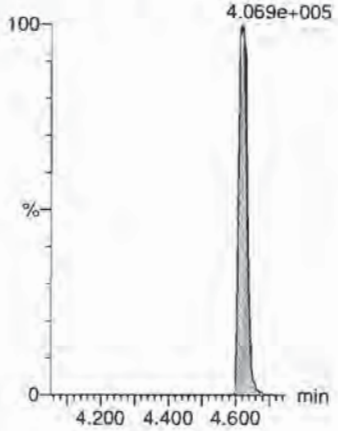
PFHxS



PFOA



13C4-PFOS



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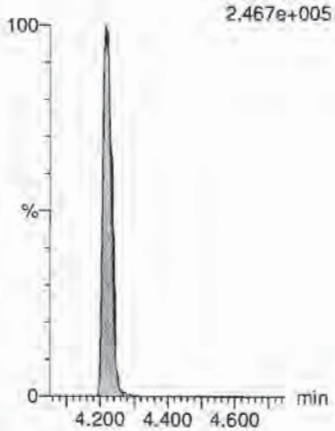
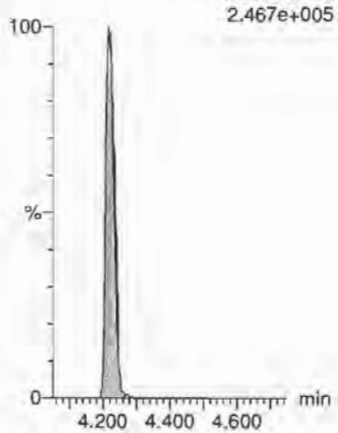
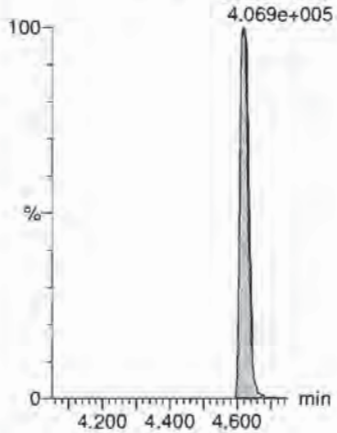


13C2-PFOA



13C4-PFOS



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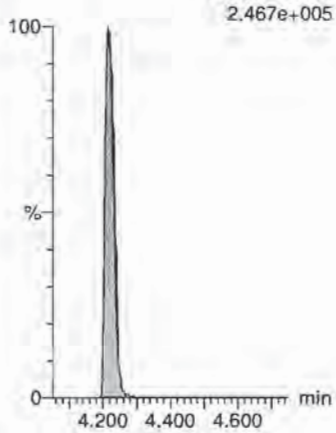

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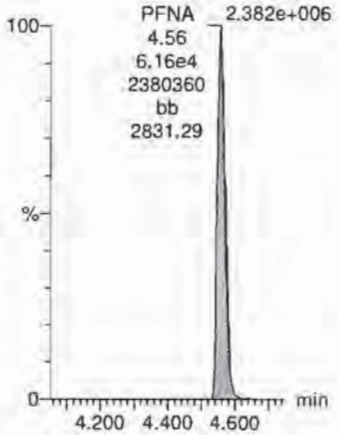
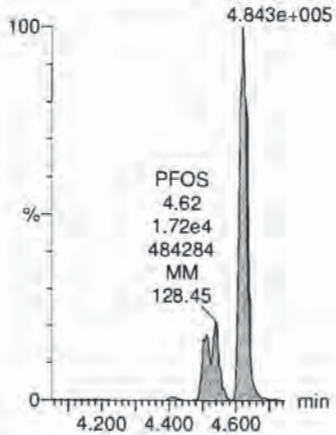
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_11, Date: 27-Jul-2018, Time: 17:01:12, ID: ST180727G3-10 PFC CS5 537 18G2710, Description: PFC CS5 537 18G2710

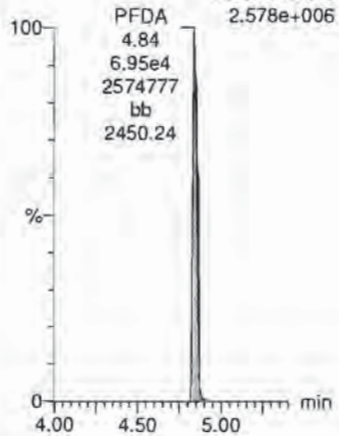
PFNA



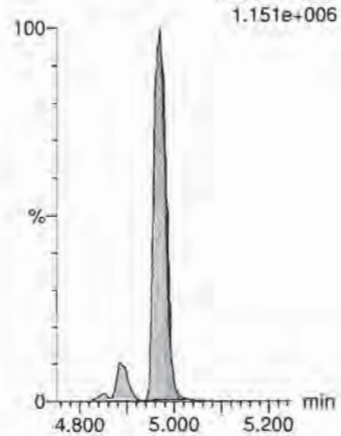
PFOS



PFDA



N-MeFOSAA



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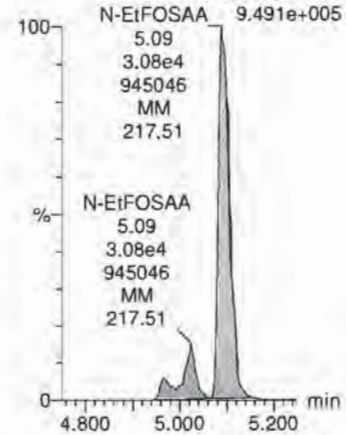

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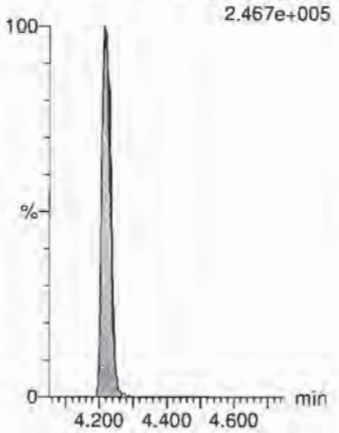
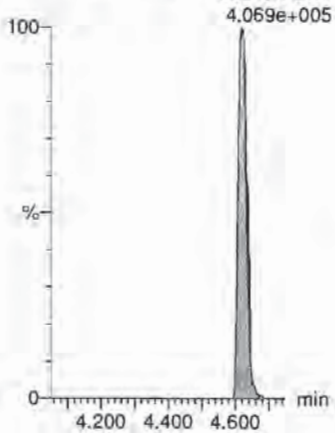


13C4-PFOS



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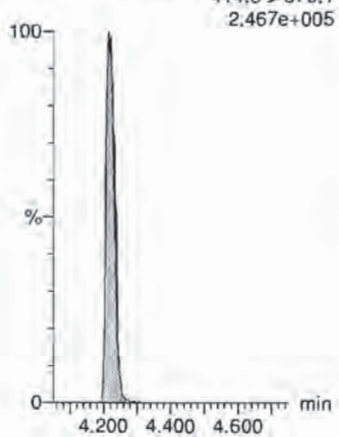

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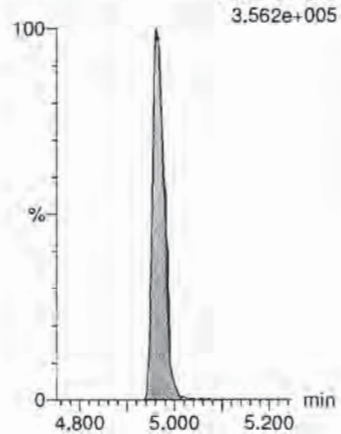

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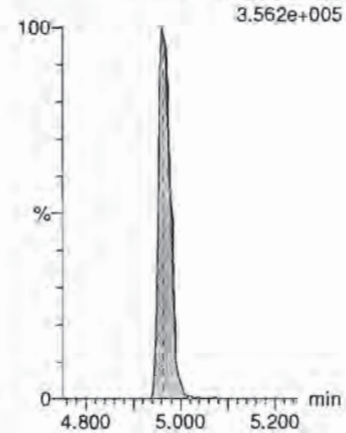
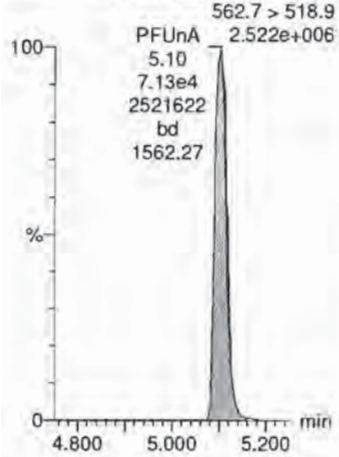


Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-CRV.qld

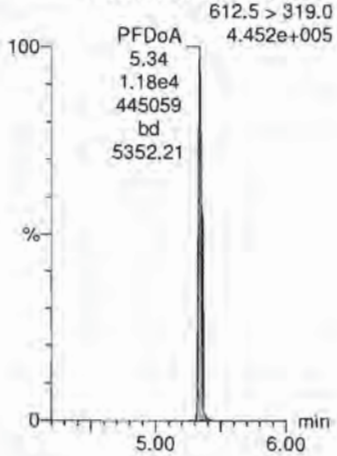
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_11, Date: 27-Jul-2018, Time: 17:01:12, ID: ST180727G3-10 PFC CS5 537 18G2710, Description: PFC CS5 537 18G2710

PFUnA



PFDoA



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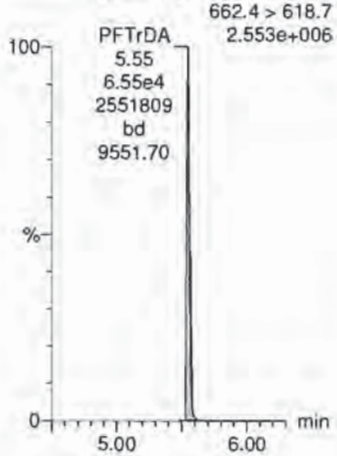
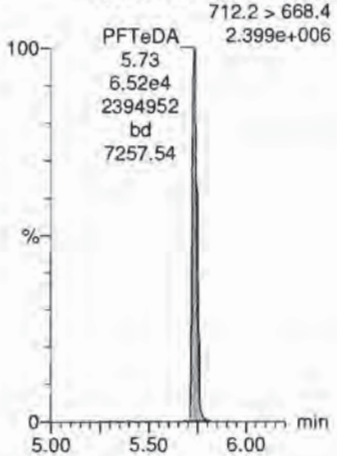


PFTeDA



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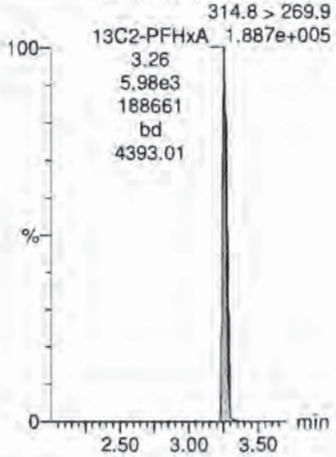
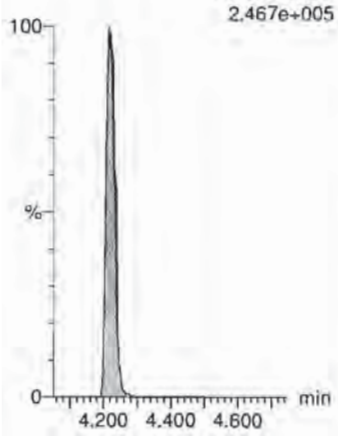
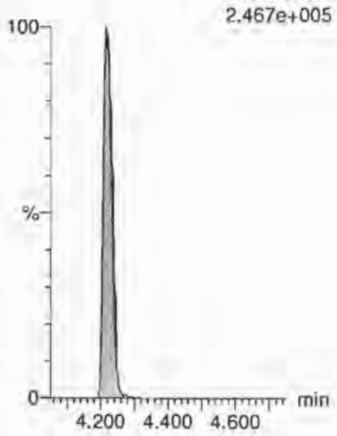


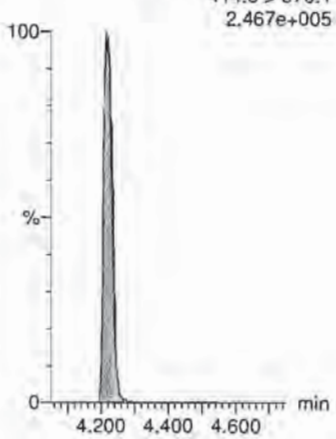
13C2-PFOA



13C2-PFOA



13C2-PFOA



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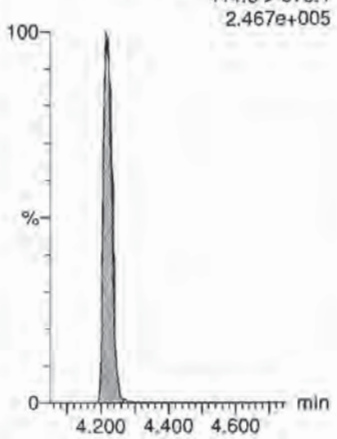

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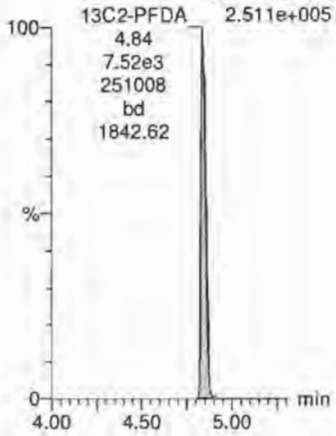

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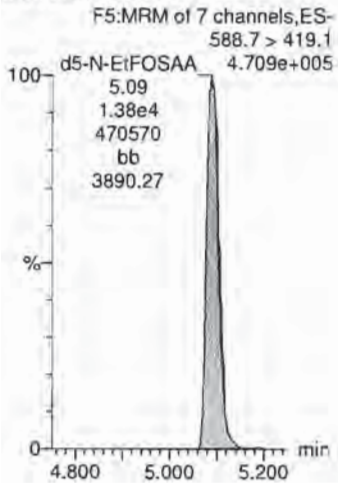
Last Altered: Saturday, July 28, 2018 13:56:44 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:00:43 Pacific Daylight Time

Name: 180727G3_11, Date: 27-Jul-2018, Time: 17:01:12, ID: ST180727G3-10 PFC CS5 537 18G2710, Description: PFC CS5 537 18G2710

d5-N-EtFOSAA



Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-ICV.qld

Last Altered: Saturday, July 28, 2018 14:14:03 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:15:13 Pacific Daylight Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180727G3_13, Date: 27-Jul-2018, Time: 17:26:53, ID: ST180727G3-11 PFC ICV 537 18G2711, Description: PFC ICV 537 18G2711

	#	Name	Trace	Area	IS Area	WL/Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	298.6> 80.5	4.04e3	1.28e4	1.00		2.89	2.89	9.08	9.88	98.8
2	2	PFHxA	312.7 > 268.8	7.08e3	7.87e3	1.00		3.26	3.25	9.00	9.63	96.3
3	3	PFHpA	362.7 > 318.8	7.95e3	7.87e3	1.00		3.79	3.79	10.1	9.97	99.7
4	4	PFHxS	398.7 > 80.7	4.27e3	1.28e4	1.00		3.93	3.93	9.59	9.37	93.7
5	5	PFOA	412.8 > 369.0	7.17e3	7.87e3	1.00		4.22	4.21	9.12	10.3	102.5
6	6	PFNA	462.9 > 419.1	6.83e3	7.87e3	1.00		4.56	4.55	8.68	10.0	100.3
7	7	PFOS	498.8 >80.7	1.75e3	1.28e4	1.00		4.62	4.62	3.92	9.42	94.2
8	8	PFDA	512.8 > 469.0	7.54e3	7.87e3	1.00		4.84	4.84	9.59	10.1	101.4
9	9	N-MeFOSAA	569.7 > 419.0	3.39e3	9.23e3	1.00		4.97	4.96	14.7	12.4	123.8
10	10	N-EtFOSAA	583.6 >419.1	3.10e3	9.23e3	1.00		4.98	5.09	13.4	10.8	107.6
11	11	PFUnA	562.7 > 518.9	7.33e3	7.87e3	1.00		5.10	5.10	9.32	9.74	97.4
12	12	PFDoA	612.5 > 319.0	1.15e3	7.87e3	1.00		5.34	5.34	1.46	9.40	94.0
13	13	PFTrDA	662.4 > 618.7	7.11e3	7.87e3	1.00		5.55	5.55	9.04	10.3	102.6
14	14	PFTeDA	712.2>668.4	6.51e3	7.87e3	1.00		5.73	5.73	8.28	9.30	93.0
15	15	13C2-PFHxA	314.8 > 269.9	6.33e3	7.87e3	1.00	0.814	3.38	3.25	8.05	9.89	98.9
16	16	13C2-PFDA	514.8 > 470.0	8.54e3	7.87e3	1.00	1.032	4.81	4.84	10.9	10.5	105.2
17	17	d5-N-EtFOSAA	588.7> 419.1	1.32e4	9.23e3	1.00	1.488	4.97	5.09	57.4	38.6	96.5
18	18	13C2-PFOA	414.8 > 370.1	7.87e3	7.87e3	1.00	1.000	4.21	4.22	10.0	10.0	100.0
19	19	13C4-PFOS	502.8>80.7	1.28e4	1.28e4	1.00	1.000	4.61	4.62	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	572.7 > 419.1	9.23e3	9.23e3	1.00	1.000	4.96	4.97	40.0	40.0	100.0

VBF 7/28/18
CGH 7/28/18

Quantify Sample Report **MassLynx MassLynx V4.1 SCN 945**
Vista Analytical Laboratory

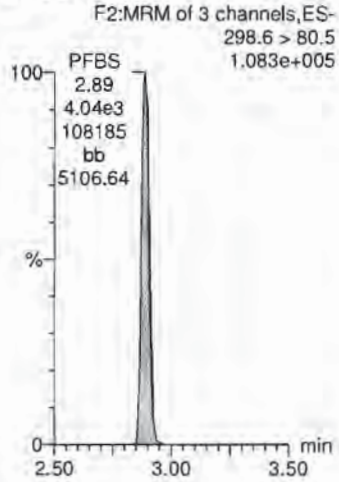
Dataset: X:\G1.PRO\Results\2018\180727G3\180727G3-ICV.qld

Last Altered: Saturday, July 28, 2018 14:14:03 Pacific Daylight Time
Printed: Saturday, July 28, 2018 14:15:13 Pacific Daylight Time

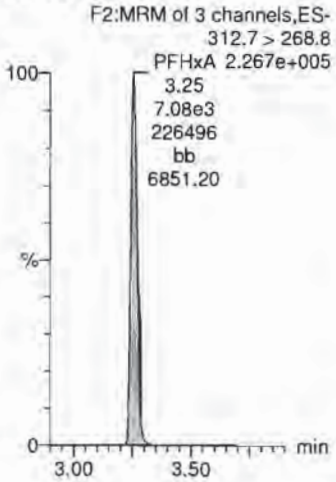
Method: X:\G1.pro\MethDB\PFAS_DW_L14_0727.mdb 28 Jul 2018 13:20:43
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_07-27-18_L14.cdb 28 Jul 2018 13:56:16

Name: 180727G3_13, Date: 27-Jul-2018, Time: 17:26:53, ID: ST180727G3-11 PFC ICV 537 18G2711, Description: PFC ICV 537 18G2711

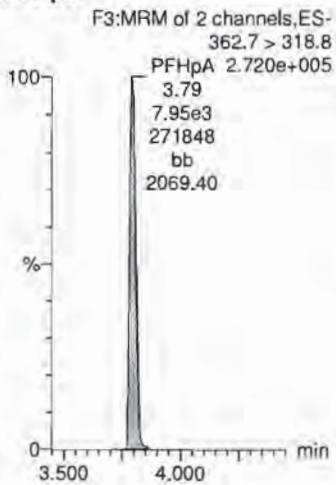
PFBS



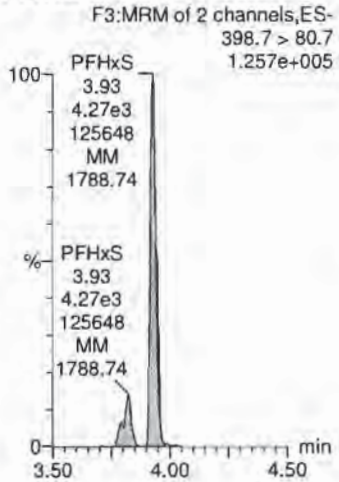
PFHxA



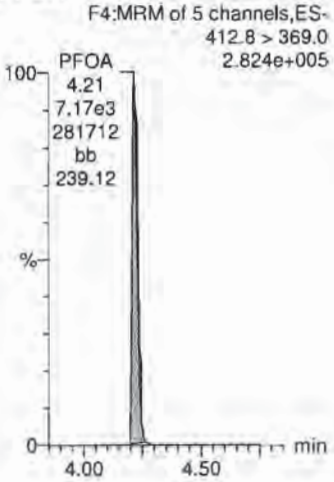
PFHpA



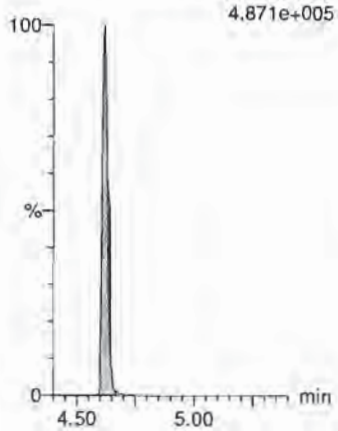
PFHxS



PFOA



13C4-PFOS



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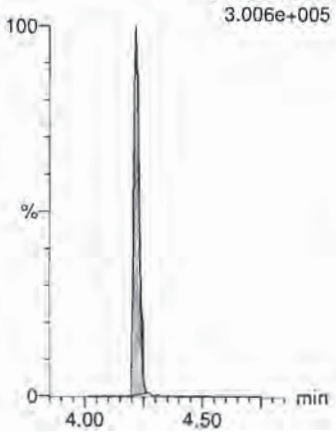

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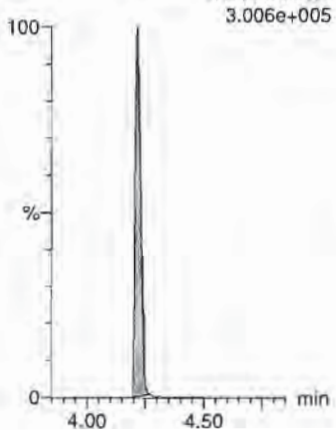

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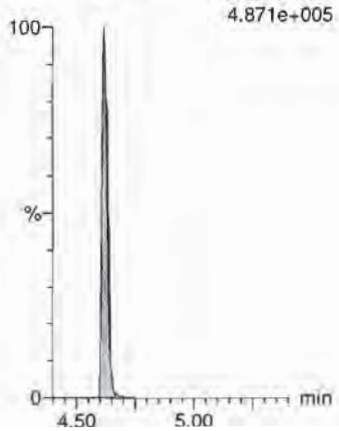

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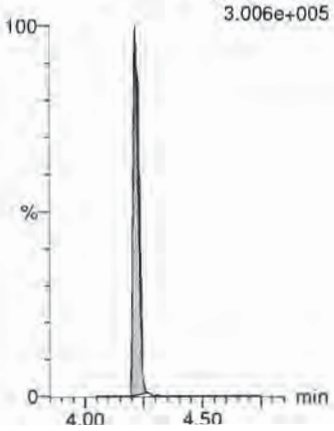

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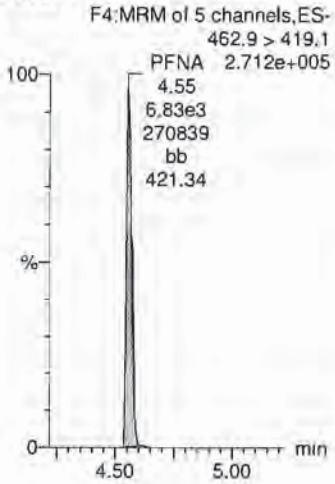

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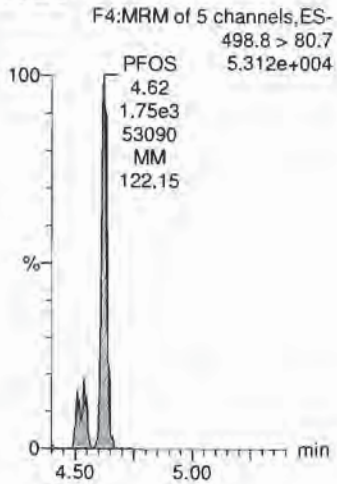

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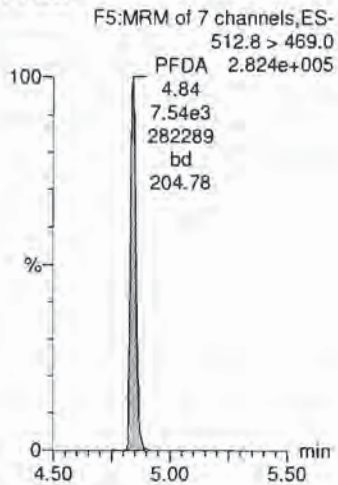

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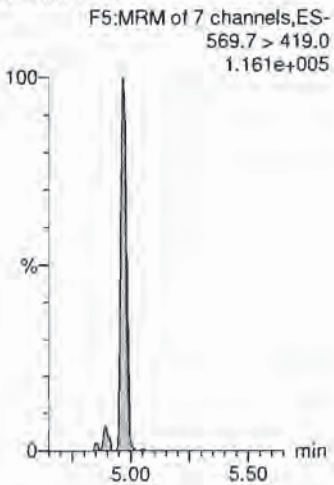

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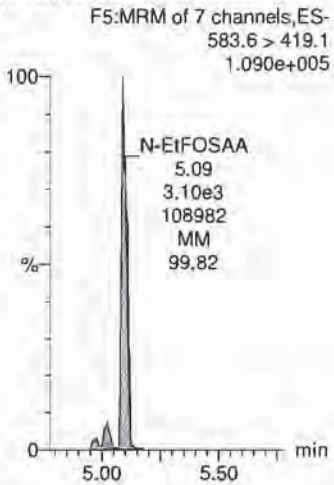

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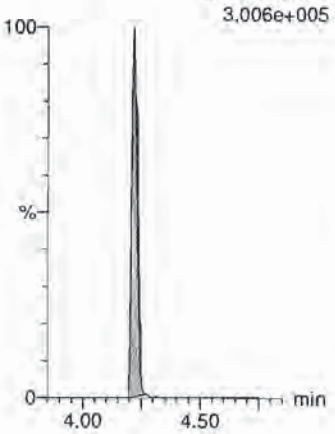

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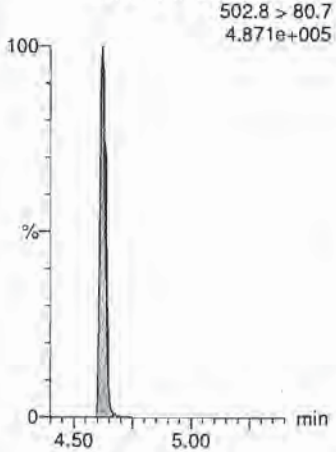

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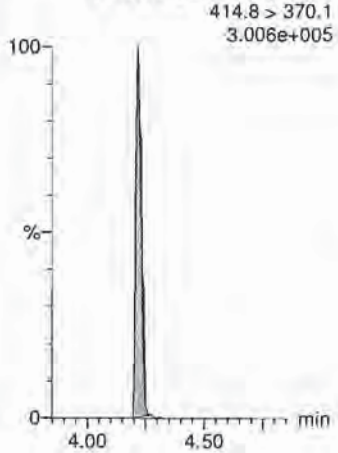

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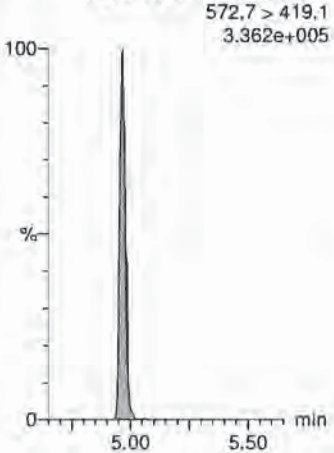

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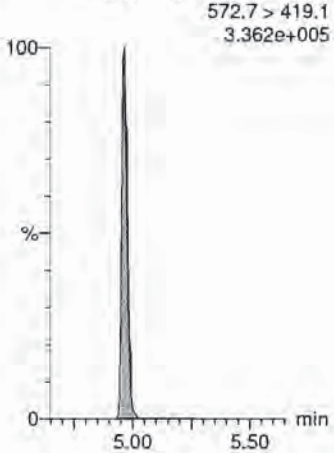

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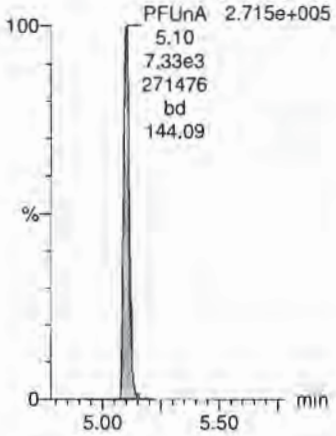

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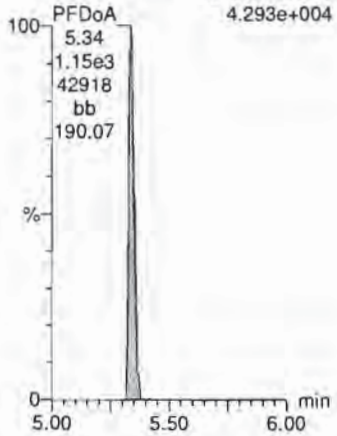

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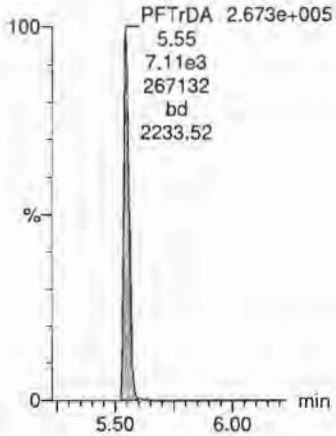

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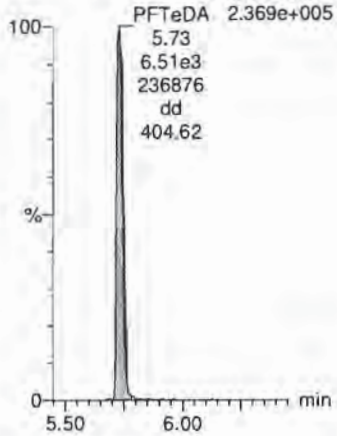

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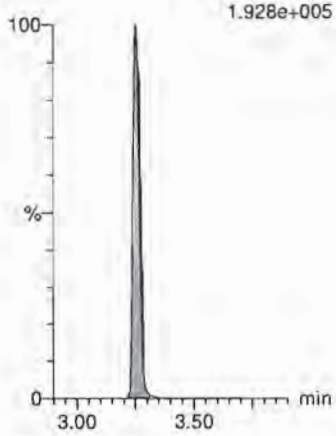

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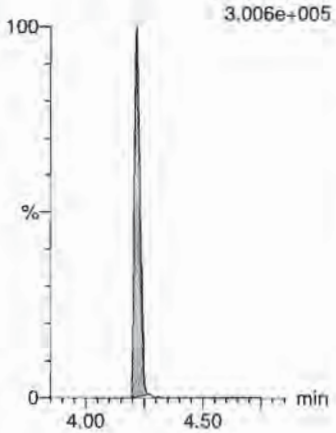

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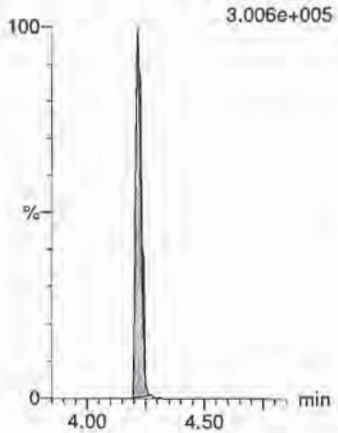

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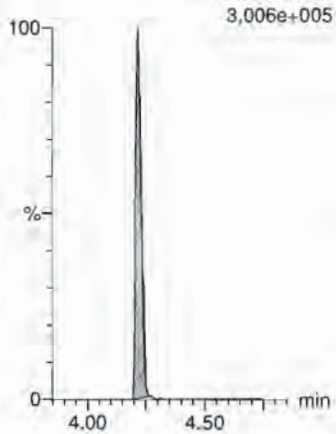

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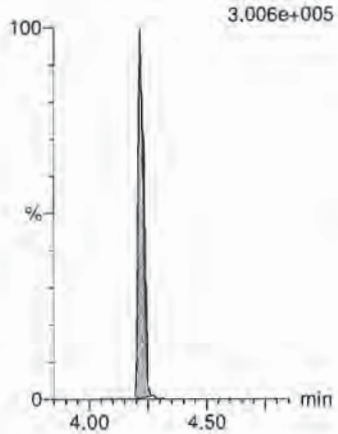

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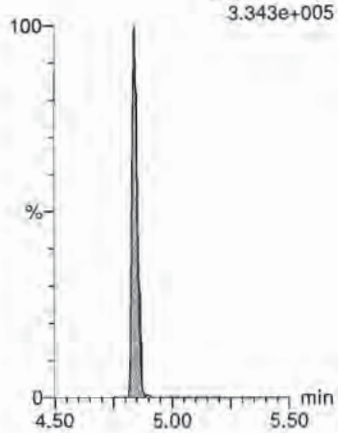

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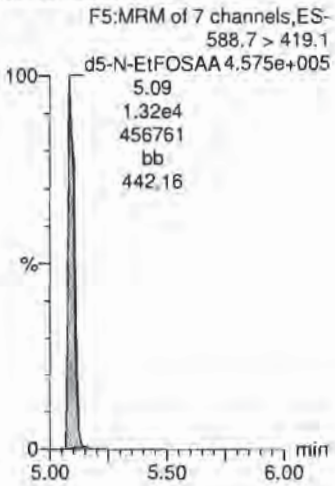

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N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	07/22/2018 12:04	07/24/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	CH2M_ Code	Analysis_ Group	Analytical_ Method	PRC_Code	Lab_Code	Lab_Name	Leachate_ Method	Sample_ Basis	Extraction_ Method	Result_ Type	Lab_QC_ Type	Sample_ Medium	QC_ Level	DateTime_Collected	Date_ Received	Leachate_ Date	Leachate_ Time
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	07/25/2018 10:00	07/25/2018		

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	Extraction_ Date	Extraction_ Time	Analysis_Date	Analysis_ Time	Lab_Sample_ ID	Dilution	Run_ Number	Percent_ Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original_ Analyte_ Value	Result_ Units	Lab_ Qualifier	Validator_ Qualifier
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			13C2-PFHxA	13C2-PFHxA		98.3	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			13C2-PFDA	13C2-PFDA		102	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	20180725	10:00:00	20180730	14:29:00	1801929-01	1	-999			d5-EtFOSAA	d5-EtFOSAA		100	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		4.83	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			13C2-PFHxA	13C2-PFHxA		98.5	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			13C2-PFDA	13C2-PFDA		103	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	20180725	10:00:00	20180730	14:41:00	1801929-02	1	-999			d5-EtFOSAA	d5-EtFOSAA		94.2	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		4.96	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			13C2-PFHxA	13C2-PFHxA		95.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			13C2-PFDA	13C2-PFDA		100	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	20180725	10:00:00	20180730	14:54:00	1801929-03	1	-999			d5-EtFOSAA	d5-EtFOSAA		84.1	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		4.86	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			13C2-PFHxA	13C2-PFHxA		97.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			13C2-PFDA	13C2-PFDA		99.9	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	20180725	10:00:00	20180730	15:07:00	1801929-04	1	-999			d5-EtFOSAA	d5-EtFOSAA		88.7	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		5.00	NG_L	U	

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	Extraction_ Date	Extraction_ Time	Analysis_Date	Analysis_ Time	Lab_Sample_ ID	Dilution	Run_ Number	Percent_ Moisture	Percent_ Lipid	Chem_Name	Analyte_ID	Analyte_ Value	Original_ Analyte_ Value	Result_ Units	Lab_ Qualifier	Validator_ Qualifier
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			13C2-PFHxA	13C2-PFHxA		95.4	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			13C2-PFDA	13C2-PFDA		96.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180725	10:00:00	20180730	14:16:00	B8G0184-BLK1	1	-999			d5-EtFOSAA	d5-EtFOSAA		87.0	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		15.5	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		17.3	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		17.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		15.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		16.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		19.5	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		14.8	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		18.3	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		20.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		20.2	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		19.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		19.5	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		19.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		19.2	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			13C2-PFHxA	13C2-PFHxA		97.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			13C2-PFDA	13C2-PFDA		103	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180725	10:00:00	20180730	13:50:00	B8G0184-BS1	1	-999			d5-EtFOSAA	d5-EtFOSAA		97.3	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		16.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		18.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		17.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		17.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		19.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		19.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		16.2	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		20.3	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		19.3	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		17.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		20.2	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		17.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		18.4	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		19.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			13C2-PFHxA	13C2-PFHxA		97.8	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			13C2-PFDA	13C2-PFDA		95.2	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180725	10:00:00	20180730	14:03:00	B8G0184-BSD1	1	-999			d5-EtFOSAA	d5-EtFOSAA		94.7	PCT_REC		

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	GC_Column_ Type	Analysis_ Result_ Type	Result_ Narrative	QC_Control_ Limit_Code	QC_Accuracy_ Upper	QC_Accuracy_ Lower	Control_Limit_ Date	QC_ Narrative	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch	Validator_ Name	Val_Date
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	TRG									5.1	2.96	4.86	9.74	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	TRG									5.1	2.94	4.83	9.66	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	TRG									5.1	2.94	4.83	9.66	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	TRG									5.1	2.94	4.83	9.66	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	TRG									5.1	2.94	4.83	9.66	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	TRG									5.1	2.94	4.83	9.66	1801929	S8G0086		
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N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB38-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	TRG									5.1	3.02	4.96	9.93	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	TRG									5.1	3.02	4.96	9.93	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	TRG									5.1	3.02	4.96	9.93	1801929	S8G0086		
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N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1RW39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	TRG									5.1	2.95	4.86	9.72	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	TRG									5.1	2.95	4.86	9.72	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	TRG									5.1	2.95	4.86	9.72	1801929	S8G0086		
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N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	TRG									5.1	2.95	4.86	9.72	1801929	S8G0086		
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N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	CBD-1FB39-0718	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		

Contract_ID	DO_CTO_ Number	Phase	Installation_ID	Sample_Name	GC_Column_ Type	Analysis_ Result_ Type	Result_ Narrative	QC_Control_ Limit_Code	QC_Accuracy_ Upper	QC_Accuracy_ Lower	Control_Limit_ Date	QC_ Narrative	MDL	Detection_ Limit	QSM_ Version	DL	LOD	LOQ	SDG	Analysis_ Batch	Validator_ Name	Val_Date
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	TRG									5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	PR	SURR		SLSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	TRG		LSA	130	70					5.1	3.04	5.00	10.0	1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	PR	SURR		LSA	130	70					5.1				1801929	S8G0086		

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
NRL-CBD, MARYLAND

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1801929
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: NRL-CBD, CTO-0008, Maryland
Date: August 13, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CBD-1RW38-0718	1801929-01	Water
2	CBD-1FB38-0718	1801929-02	Water
3	CBD-1RW39-0718	1801929-03	Water
4	CBD-1FB39-0718	1801929-04	Water

A full data validation was performed on the analytical data for two water samples and two aqueous field blank samples collected on July 21-22, 2018 by CH2M HILL at the NRL-CBD site in Maryland. The samples were analyzed under the EPA Method "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)".

Specific method references are as follows:

Analysis	*Method References*
PFCs	USEPA Method 537, Rev 1.1

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM), Version 5.1 (2017) and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning

- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

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

Data Usability Assessment

There were no rejections of data.

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

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

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

Holding Times

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

LC/MS Tuning

- All criteria were met.

Initial Calibration

- All relative standard deviation (%RSD) and/or correlation coefficients criteria were met.

Continuing Calibration

- All percent recovery (%R) and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-1FB38-0718	None - ND	-	-	-
CBD-1FB39-0718	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- MS/MSD samples were not analyzed.

Laboratory Control Samples/Laboratory Control Sample Duplicates

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

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

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

Signed: Nancy Weaver Dated: 8/13/18

Nancy Weaver
Senior Chemist

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

Vista Analytical Laboratory

1

Sample ID: CBD-1RW38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:48

Laboratory Data

Lab Sample: 1801929-01
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxA	307-24-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHpA	375-85-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFHxS	355-46-4	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOA	335-67-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFNA	375-95-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFOS	1763-23-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDA	335-76-2	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
MeFOSAA	2355-31-9	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
EtFOSAA	2991-50-6	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFUnA	2058-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFDoA	307-55-1	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTrDA	72629-94-8	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
PFTeDA	376-06-7	ND	2.96	4.86	9.74		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
13C2-PFDA	SURR	102	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1
d5-EtFOSAA	SURR	100	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 14:29	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
Results reported to the DL

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

NW 8/13/18

Vista Analytical Laboratory 2

Sample ID: CBD-1FB38-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 21-Jul-18 09:50

Laboratory Data

Lab Sample: 1801929-02
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFHxA	307-24-4	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFHpA	375-85-9	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFHxS	355-46-4	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFOA	335-67-1	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFNA	375-95-1	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFOS	1763-23-1	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFDA	335-76-2	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
MeFOSAA	2355-31-9	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
EtFOSAA	2991-50-6	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFUnA	2058-94-8	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFDoA	307-55-1	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFTrDA	72629-94-8	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
PFTeDA	376-06-7	ND	2.94	4.83	9.66		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.5	70 - 130		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
13C2-PFDA	SURR	103	70 - 130		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1
d5-EtFOSAA	SURR	94.2	70 - 130		B8G0184	25-Jul-18	0.259 L	30-Jul-18 14:41	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
Results reported to the DL.
When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

NW 8/13/18

Vista Analytical Laboratory 3

Sample ID: CBD-1RW39-0718 **EPA Method 537**

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 22-Jul-18 12:02

Laboratory Data

Lab Sample: 1801929-03
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFHxA	307-24-4	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFHpA	375-85-9	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFHxS	355-46-4	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFOA	335-67-1	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFNA	375-95-1	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFOS	1763-23-1	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFDA	335-76-2	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
MeFOSAA	2355-31-9	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
EtFOSAA	2991-50-6	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFUnA	2058-94-8	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFDoA	307-55-1	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFTrDA	72629-94-8	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
PFTeDA	376-06-7	ND	3.02	4.96	9.93		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	95.8	70 - 130		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
13C2-PFDA	SURR	100	70 - 130		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1
d5-EtFOSAA	SURR	84.1	70 - 130		B8G0184	25-Jul-18	0.252 L	30-Jul-18 14:54	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
Results reported to the DL
When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes

MW 8/13/18

Vista 4 Analytical Laboratory

Sample ID: CBD-1FB39-0718

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08 NRL CBD PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 22-Jul-18 12:04

Laboratory Data

Lab Sample: 1801929-04
Date Received: 24-Jul-18 09:50
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFHxA	307-24-4	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFHpA	375-85-9	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFHxS	355-46-4	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFOA	335-67-1	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFNA	375-95-1	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFOS	1763-23-1	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFDA	335-76-2	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
MeFOSAA	2355-31-9	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
EtFOSAA	2991-50-6	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFUnA	2058-94-8	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFDoA	307-55-1	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFTrDA	72629-94-8	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
PFTeDA	376-06-7	ND	2.95	4.86	9.72		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	97.8	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
13C2-PFDA	SURR	99.9	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1
d5-EtFOSAA	SURR	88.7	70 - 130		B8G0184	25-Jul-18	0.257 L	30-Jul-18 15:07	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
Results reported to the DL

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes

MW 8/13/18

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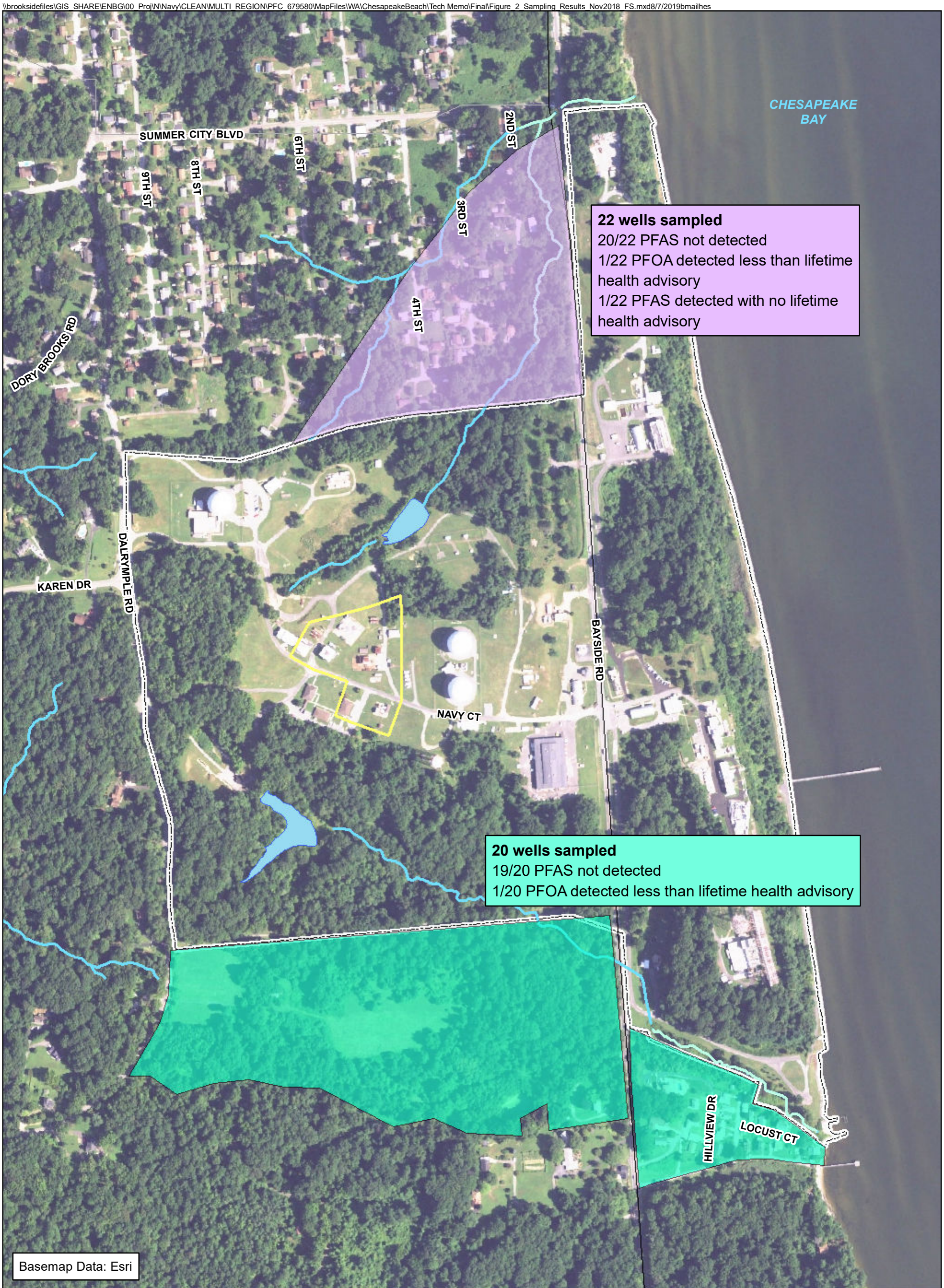

Legend

- Sampling Area
- Sampling Area
- Fire Testing Area (suspected source)
- Base Boundary
- Surface Water
- Assumed Stream Channel
- Stream

N

0 200 400 Feet

1 inch equals 400 feet

Figure 2
Off-Base Drinking Water Sampling Results through November 2018
NRL-Chesapeake Bay Detachment
Chesapeake Beach, Maryland