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 1800366

Marine Corps Outlying Landing Field Atlantic
MCAS Cherry Point NC

February 2019

March 07, 2018

Vista Work Order No. 1800366

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 February 27, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08, MCOLF Atlantic 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. 1800366
Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 537

Sample "CH-AT-1RW167-0218" contained particulate and was centrifuged prior to extraction.

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

Holding Times

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

Quality Control

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

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

The samples were re-extracted for PFOS and PFBS due to low recovery of 13C2-PFDA in the original extraction.

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

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800366-01	CH-AT-1RW165-0218	24-Feb-18 09:09	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-02	CH-AT-1FB165-0218	24-Feb-18 09:10	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-03	CH-AT-1RW166-0218	24-Feb-18 09:59	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-04	CH-AT-1FB166-0218	24-Feb-18 10:00	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-05	CH-AT-1RW167-0218	24-Feb-18 11:34	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-06	CH-AT-1FB167-0218	24-Feb-18 11:35	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-07	CH-AT-1RW168-0218	24-Feb-18 12:39	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-08	CH-AT-1FB168-0218	24-Feb-18 12:40	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-09	CH-AT-1RW169-0218	25-Feb-18 13:05	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-10	CH-AT-1FB169-0218	25-Feb-18 13:06	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-11	CH-AT-1RW170-0218	26-Feb-18 13:11	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-12	CH-AT-1FB170-0218	26-Feb-18 13:12	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Aqueous

Laboratory Data

Lab Sample: B8B0169-BLK1
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFOA	ND	1.08	5.00	10.0		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.3	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1
13C2-PFDA	SURR	76.9	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1

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

LCS Results

EPA Method 537

Matrix:	Aqueous	QC Batch:	B8B0169
		Date Extracted:	01-Mar-2018 9:40
Lab Sample:	B8B0169-BS1/B8B0169-BSD1		
Date Analyzed:	02-Mar-18 19:38 Column: BEH C18		
	02-Mar-18 19:51 Column: BEH C18		

Analyte	LCS %R	LCSD %R	RPD
PFOA	123	100	20.5

Labeled Standard	LCS %R	LCSD %R
SUR 13C2-PFHxA	119	103
SUR 13C2-PFDA	88.5	88.0

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Aqueous

Laboratory Data

Lab Sample: B8C0015-BLK1
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.443	5.00	10.0		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1
PFOS	ND	1.04	5.00	10.0		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.8	70 - 130		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1
13C2-PFDA	SURR	105	70 - 130		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1

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

LCS Results

EPA Method 537

Matrix:	Aqueous	QC Batch:	B8C0015
		Date Extracted:	02-Mar-2018 9:30
Lab Sample:	B8C0015-BS1/B8C0015-BSD1		
Date Analyzed:	05-Mar-18 16:05 Column: BEH C18		
	05-Mar-18 16:17 Column: BEH C18		

Analyte	LCS %R	LCSD %R	RPD	Labeled Standard	LCS %R	LCSD %R
PFBS	117	118	0.986	SUR 13C2-PFHxA	88.3	92.4
PFOS	109	109	0.208	SUR 13C2-PFDA	95.9	108

Sample ID: CH-AT-1RW165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:09

Laboratory Data

Lab Sample: 1800366-01
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
PFOS	ND	1.02	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	105	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
13C2-PFDA	SURR	93.0	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

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

Sample ID: CH-AT-1FB165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:10

Laboratory Data

Lab Sample: 1800366-02
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1
PFOA	ND	1.06	4.92	9.84		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
PFOS	ND	1.02	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

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

Sample ID: CH-AT-1RW166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:59

Laboratory Data

Lab Sample: 1800366-03
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
13C2-PFDA	SURR	84.0	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

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

Sample ID: CH-AT-1FB166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 10:00

Laboratory Data

Lab Sample: 1800366-04
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.441	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1
PFOA	ND	1.06	4.90	9.82		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
PFOS	ND	1.04	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
13C2-PFDA	SURR	102	70 - 130		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

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

Sample ID: CH-AT-1RW167-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 11:34

Laboratory Data

Lab Sample: 1800366-05
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.440	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1
PFOA	ND	1.09	5.04	10.1		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
PFOS	ND	1.03	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.8	70 - 130		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
13C2-PFDA	SURR	84.1	70 - 130		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

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

Sample ID: CH-AT-1FB167-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 11:35

Laboratory Data

Lab Sample: 1800366-06
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1
PFOA	ND	1.15	5.34	10.7		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	86.7	70 - 130		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
13C2-PFDA	SURR	97.1	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

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

Sample ID: CH-AT-1RW168-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 12:39

Laboratory Data

Lab Sample: 1800366-07
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1
PFOA	ND	1.09	5.06	10.1		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
13C2-PFDA	SURR	87.9	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

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

Sample ID: CH-AT-1FB168-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 12:40

Laboratory Data

Lab Sample: 1800366-08
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.465	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1
PFOA	ND	1.08	4.98	9.98		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
PFOS	ND	1.09	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.5	70 - 130		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
13C2-PFDA	SURR	88.9	70 - 130		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

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

Sample ID: CH-AT-1RW169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:05

Laboratory Data

Lab Sample: 1800366-09
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1
PFOA	ND	1.08	5.00	9.99		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
13C2-PFDA	SURR	76.0	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

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

Sample ID: CH-AT-1FB169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:06

Laboratory Data

Lab Sample: 1800366-10
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.450	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1
PFOA	ND	1.08	5.02	10.0		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
PFOS	ND	1.06	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	81.2	70 - 130		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
13C2-PFDA	SURR	92.7	70 - 130		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

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

Sample ID: CH-AT-1RW170-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 26-Feb-18 13:11

Laboratory Data

Lab Sample: 1800366-11
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.470	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1
PFOA	ND	1.08	5.00	10.0		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
PFOS	ND	1.10	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

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

Sample ID: CH-AT-1FB170-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 26-Feb-18 13:12

Laboratory Data

Lab Sample: 1800366-12
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1
PFOA	ND	1.07	4.96	9.90		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	88.9	70 - 130		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
13C2-PFDA	SURR	85.1	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

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

DATA QUALIFIERS & ABBREVIATIONS

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

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.

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1800366 Temp 0.9 °C
Storage ID: WR-2 Storage Secured: Yes ☒ No ☐

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation
PO#: 10006-7-106051
Sampler: MIKE WITMER (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 Suite #300	Corvallis	Oregon	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MIKE WITMER	2/26/18	1500	Marissa Sparks	02/27/18	0955
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: 771574281761

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/PFBS	UCMR3 PFAS List 6	PFAS List: 14	Comments
CH-AT-IRW165-0218	2/24/18	0909		2	P	DW						TZ			
CH-AT-IFB165-0218	2/24/18	0910		2	P	DW						TZ			
CH-AT-IRW166-0218	2/24/18	0959		2	P	DW						TZ			
CH-AT-IFB166-0218	2/24/18	1000		2	P	DW						TZ			
CH-AT-IRW167-0218	2/24/18	1134		2	P	DW						TZ			
CH-AT-IFB167-0218	2/24/18	1135		2	P	DW						TZ			
CH-AT-IRW168-0218	2/24/18	1239		2	P	DW						TZ			
CH-AT-IFB168-0218	2/24/18	1240		2	P	DW						TZ			
CH-AT-IRW169-0218	2/25/18	1305		2	P	DW						TZ			
CH-AT-IFB169-0218	2/25/18	1306		2	P	DW						TZ			

Special Instructions/Comments: 7 DAY TAT
Analysis of Drinking Water samples for PFOA/PFOS/PFBS

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: P

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

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:

Page: 1 of 1

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1800366 Temp 0.9 °C
Storage ID WR-2 Storage Secured Yes [X] No [ ]

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation PO#: 10006-7-106051 Sampler: MIKE WITMER (name)

TAT (check one): Standard [ ] 21 days; Rush (surcharge may apply) [ ] 14 days [X] 7 days Specify:

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

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MIKE WITMER MF	2/26/18	1500	Marissa Sparks MSparks	02/27/18	0955
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: 771574281761

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Container(s) Type	Matrix	Add Analysis(es) Requested: Mod EPA Method 537 PFOA/PFOS	Mod EPA Method 537 UCMR3 PFAS List 6	Mod EPA Method 537 537 List: 14	Mod EPA Method 537 Full List of 26	Mod EPA Method 537 Other: Please List Below	EPA Method 537(DW only) PFOA/PFOS/PFBS	EPA Method 537(DW only) UCMR3 PFAS List 6	EPA Method 537(DW only) PFAS List: 14	Comments
CH-AT-IRW170-020218	2/26/17	1311		2	P	DW						TZ			
CH-AT-IFB170-020218	2/26/17	1312		2	P	DW						TZ			
~~CH-AT-IRW171-020218~~				2	P	DW						TZ			
~~CH-AT-IFB171-020218~~				2	P	DW						TZ			

Special Instructions/Comments: 7 DAY TAT
Analysis of Drinking Water samples for PFOA/PFOS/PFBS

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:

Page: 1 of 1

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1800366 **TAT** 7 day

Samples Arrival:	**Date/Time** 02/27/18 0940	**Initials:** WNS	**Location:** WR-2 **Shelf/Rack:** N/a
Logged In:	**Date/Time** 02/27/18 1012	**Initials:** WNS	**Location:** WR-2 **Shelf/Rack:** B-6

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

Temp °C: 1.0	(uncorrected)	**Time:** 0951	**Thermometer ID:** IR-4
Temp °C: 0.9	(corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill / Trk # 7715 7428 1761	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	✓

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

Comments:

March 07, 2018

Vista Work Order No. 1800366

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 February 27, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08, MCOLF Atlantic 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. 1800366
Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 537

Sample "CH-AT-1RW167-0218" contained particulate and was centrifuged prior to extraction.

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

Holding Times

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

Quality Control

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

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

The samples were re-extracted for PFOS and PFBS due to low recovery of 13C2-PFDA in the original extraction.

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

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1800366-01	CH-AT-1RW165-0218	24-Feb-18 09:09	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-02	CH-AT-1FB165-0218	24-Feb-18 09:10	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-03	CH-AT-1RW166-0218	24-Feb-18 09:59	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-04	CH-AT-1FB166-0218	24-Feb-18 10:00	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-05	CH-AT-1RW167-0218	24-Feb-18 11:34	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-06	CH-AT-1FB167-0218	24-Feb-18 11:35	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-07	CH-AT-1RW168-0218	24-Feb-18 12:39	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-08	CH-AT-1FB168-0218	24-Feb-18 12:40	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-09	CH-AT-1RW169-0218	25-Feb-18 13:05	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-10	CH-AT-1FB169-0218	25-Feb-18 13:06	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-11	CH-AT-1RW170-0218	26-Feb-18 13:11	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1800366-12	CH-AT-1FB170-0218	26-Feb-18 13:12	27-Feb-18 09:40	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Aqueous

Laboratory Data

Lab Sample: B8B0169-BLK1
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFOA	ND	1.08	5.00	10.0		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.3	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1
13C2-PFDA	SURR	76.9	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 20:03	1

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

LCS Results

EPA Method 537

Matrix:	Aqueous	QC Batch:	B8B0169
		Date Extracted:	01-Mar-2018 9:40
Lab Sample:	B8B0169-BS1/B8B0169-BSD1		
Date Analyzed:	02-Mar-18 19:38 Column: BEH C18		
	02-Mar-18 19:51 Column: BEH C18		

Analyte	LCS %R	LCSD %R	RPD
PFOA	123	100	20.5

Labeled Standard	LCS %R	LCSD %R
SUR 13C2-PFHxA	119	103
SUR 13C2-PFDA	88.5	88.0

Sample ID: LRB

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Aqueous

Laboratory Data

Lab Sample: B8C0015-BLK1
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.443	5.00	10.0		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1
PFOS	ND	1.04	5.00	10.0		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.8	70 - 130		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1
13C2-PFDA	SURR	105	70 - 130		B8C0015	02-Mar-18	0.250 L	05-Mar-18 15:53	1

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

LCS Results

EPA Method 537

Matrix:	Aqueous	QC Batch:	B8C0015
		Date Extracted:	02-Mar-2018 9:30
Lab Sample:	B8C0015-BS1/B8C0015-BSD1		
Date Analyzed:	05-Mar-18 16:05 Column: BEH C18		
	05-Mar-18 16:17 Column: BEH C18		

Analyte	LCS %R	LCSD %R	RPD	Labeled Standard	LCS %R	LCSD %R
PFBS	117	118	0.986	SUR 13C2-PFHxA	88.3	92.4
PFOS	109	109	0.208	SUR 13C2-PFDA	95.9	108

Sample ID: CH-AT-1RW165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:09

Laboratory Data

Lab Sample: 1800366-01
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
PFOS	ND	1.02	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	105	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
13C2-PFDA	SURR	93.0	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

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

Sample ID: CH-AT-1FB165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:10

Laboratory Data

Lab Sample: 1800366-02
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1
PFOA	ND	1.06	4.92	9.84		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
PFOS	ND	1.02	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

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

Sample ID: CH-AT-1RW166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:59

Laboratory Data

Lab Sample: 1800366-03
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
13C2-PFDA	SURR	84.0	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

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

Sample ID: CH-AT-1FB166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 10:00

Laboratory Data

Lab Sample: 1800366-04
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.441	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1
PFOA	ND	1.06	4.90	9.82		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
PFOS	ND	1.04	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
13C2-PFDA	SURR	102	70 - 130		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

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

Sample ID: CH-AT-1RW167-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 11:34

Laboratory Data

Lab Sample: 1800366-05
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.440	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1
PFOA	ND	1.09	5.04	10.1		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
PFOS	ND	1.03	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.8	70 - 130		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
13C2-PFDA	SURR	84.1	70 - 130		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

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

Sample ID: CH-AT-1FB167-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 11:35

Laboratory Data

Lab Sample: 1800366-06
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1
PFOA	ND	1.15	5.34	10.7		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	86.7	70 - 130		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
13C2-PFDA	SURR	97.1	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

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

Sample ID: CH-AT-1RW168-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 12:39

Laboratory Data

Lab Sample: 1800366-07
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1
PFOA	ND	1.09	5.06	10.1		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
13C2-PFDA	SURR	87.9	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

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

Sample ID: CH-AT-1FB168-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 12:40

Laboratory Data

Lab Sample: 1800366-08
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.465	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1
PFOA	ND	1.08	4.98	9.98		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
PFOS	ND	1.09	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.5	70 - 130		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
13C2-PFDA	SURR	88.9	70 - 130		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

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

Sample ID: CH-AT-1RW169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:05

Laboratory Data

Lab Sample: 1800366-09
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1
PFOA	ND	1.08	5.00	9.99		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
13C2-PFDA	SURR	76.0	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

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

Sample ID: CH-AT-1FB169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:06

Laboratory Data

Lab Sample: 1800366-10
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.450	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1
PFOA	ND	1.08	5.02	10.0		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
PFOS	ND	1.06	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	81.2	70 - 130		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
13C2-PFDA	SURR	92.7	70 - 130		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

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

Sample ID: CH-AT-1RW170-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 26-Feb-18 13:11

Laboratory Data

Lab Sample: 1800366-11
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.470	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1
PFOA	ND	1.08	5.00	10.0		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
PFOS	ND	1.10	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

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

Sample ID: CH-AT-1FB170-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 26-Feb-18 13:12

Laboratory Data

Lab Sample: 1800366-12
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1
PFOA	ND	1.07	4.96	9.90		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	88.9	70 - 130		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
13C2-PFDA	SURR	85.1	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

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

DATA QUALIFIERS & ABBREVIATIONS

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

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.

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1800366 Temp 0.9 °C
Storage ID: WR-2 Storage Secured: Yes ☒ No ☐

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation
PO#: 10006-7-106051
Sampler: MIKE WITMER (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 Suite #300	Corvallis	Oregon	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MIKE WITMER	2/26/18	1500	Marissa Sparks	02/27/18	0955
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: 771574281761

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/PFBS	UCMR3 PFAS List 6	PFAS List: 14	Comments
CH-AT-IRW165-0218	2/24/18	0909		2	P	DW						TZ			
CH-AT-IFB165-0218	2/24/18	0910		2	P	DW						TZ			
CH-AT-IRW166-0218	2/24/18	0959		2	P	DW						TZ			
CH-AT-IFB166-0218	2/24/18	1000		2	P	DW						TZ			
CH-AT-IRW167-0218	2/24/18	1134		2	P	DW						TZ			
CH-AT-IFB167-0218	2/24/18	1135		2	P	DW						TZ			
CH-AT-IRW168-0218	2/24/18	1239		2	P	DW						TZ			
CH-AT-IFB168-0218	2/24/18	1240		2	P	DW						TZ			
CH-AT-IRW169-0218	2/25/18	1305		2	P	DW						TZ			
CH-AT-IFB169-0218	2/25/18	1306		2	P	DW						TZ			

Special Instructions/Comments: 7 DAY TAT
Analysis of Drinking Water samples for PFOA/PFOS/PFBS

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: P

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

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:

Page: 1 of 1

Rev. No.: 0
Rev. Date: 05/27/2017

CTO-08 679580.15.FI.FS

ID: LR - 537COC

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1800366 Temp 0.9 °C
Storage ID WR-2 Storage Secured Yes ☑ No ☐

Project ID: CTO-08, MCOLF Atlantic PFAS DW Investigation
PO#: 10006-7-106051
Sampler: MIKE WITMER (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 Suite #300	Corvallis	Oregon	541-768-3109	

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
MIKE WITMER MF	2/26/18	1500	Marissa Sparks MSparks	02/27/18	0955
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: 771574281761

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/PFBS	UCMR3 PFAS List 6	PFAS List: 14	Comments
CH-AT-IRW170-0218	2/26/17	1311		2	P	DW						TZ			
CH-AT-IFB170-0218	2/26/17	1312		2	P	DW						TZ			
~~CH-AT-IRW171-0218~~				2	P	DW						TZ			
~~CH-AT-IFB171-0218~~				2	P	DW						TZ			

Special Instructions/Comments: 7 DAY TAT
Analysis of Drinking Water samples for PFOA/PFOS/PFBS

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:

Page: 1 of 1

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1800366 **TAT** 7 day

Samples Arrival:	**Date/Time** 02/27/18 0940	**Initials:** WNS	**Location:** WR-2 **Shelf/Rack:** N/a
Logged In:	**Date/Time** 02/27/18 1012	**Initials:** WNS	**Location:** WR-2 **Shelf/Rack:** B-6

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

Temp °C: 1.0	(uncorrected)	**Time:** 0951	**Thermometer ID:** IR-4
Temp °C: 0.9	(corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill / Trk # 7715 7428 1761	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	✓

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

Comments:

EXTRACTION INFORMATION

Process Sheet

Workorder: 1800366

RUSH

Prep Expiration: 2018-Mar-10
Client: CH2M Hill

Workorder Due: 06-Mar-18 00:00

TAT: 7

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

Prep Batch: B8B0169

Prep Data Entered: 3.2.18 JR
Date and Initials

Version: PFOA, PFOS, PFBS
DoD: DoD QSM 5.1

Initial Sequence: _____

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1800366-01	A	☑	☑	CH-AT-1RW165-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-02		☑	☑	CH-AT-1FB165-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-03		☑	☑	CH-AT-1RW166-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-04		☑	☑	CH-AT-1FB166-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-05		☑	☑	CH-AT-1RW167-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-06		☑	☑	CH-AT-1FB167-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-07		☑	☑	CH-AT-1RW168-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-08		☑	☑	CH-AT-1FB168-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-09		☑	☑	CH-AT-1RW169-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-10		☑	☑	CH-AT-1FB169-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-11		☑	☑	CH-AT-1RW170-0218		WR-2 B-6	HDPE Bottle, 250 mL
1800366-12		☑	☑	CH-AT-1FB170-0218		WR-2 B-6	HDPE Bottle, 250 mL

Pre-Prep Check Out: HN 2/28/18
Pre-Prep Check In: HN 2/28/18

Prep Check Out: KC 3/1/18
Prep Check In: NA

Prep Reconciled Initals/Date: HN 2/28/18
Spike Reconciled Initals/Date: KC 3/1/18
VialBoxID: D16

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DW DoD Unmodified

B8B0169

Chemist: KC

Prep Date/Time: ~~28-Feb-18 14:18~~ 3/1/18 9:40 KC

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-8

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B8B0169-BLK1 (A)	NA	NA	(0.250)	KC 3/1/18	KC 3/1/18	KC DF 3/2/18
☐	B8B0169-BS1	↓	↓	(0.250)	↓	↓	↓
☐	B8B0169-BSD1	↓	↓	(0.250)	↓	↓	↓
☐	1800366-01 (B)	273.82	28.34	0.24548	↓	↓	↓
☐	1800366-02	281.63	27.59	0.25404	↓	↓	↓
☐	1800366-03 (B)	273.22	28.31	0.24491	↓	↓	↓
☐	1800366-04	281.95	27.41	0.25454	↓	↓	↓
☒	1800366-05 (B)	275.41	27.59	0.24782	↓	↓	↓
☐	1800366-06	261.62	27.62	0.23400	↓	↓	↓
☐	1800366-07 (B)	275.57	28.10	0.24747	↓	↓	↓
☐	1800366-08	277.52	26.92	0.25060	↓	↓	↓
☐	1800366-09 (B)	278.51	28.20	0.25031	↓	↓	↓
☐	1800366-10	276.79	27.68	0.24911	↓	↓	↓
☐	1800366-11 (B)	277.79	27.91	0.24488	↓	↓	↓
☐	1800366-12	279.97	27.51	0.25246	↓	↓	↓

SS/IS: 18B0501, 20µL (V2)

NS: 17L2815, 20µL

IS/RS: ~~18B0502~~, 20µL 18C0104 KC 3/2/18

SPE Chem: Strata-X 33µm 500mg/6mL Lot#: 517-005658

Ele SOLV: MeOH Lot#: JB064809

Final Volume(s): 1mL

Notes: (A) 1.25g Trizma added HN 2/28/18

(B) Sample discolored after extraction KC 3/6/18

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

Batch: B8B0169

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1800366-01	0.24548	NA	NA	1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-02	0.25404			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-03	0.24491			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-04	0.25454			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-05	0.24782			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-06	0.234			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-07	0.24747			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-08	0.2506			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-09	0.25031			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-10	0.24911			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-11	0.24988			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
1800366-12	0.25246			1000	01-Mar-18 09:40	KC			Drinking Water	537 PFAS DW DoD Unmo
B8B0169-BLK1	0.25			1000	01-Mar-18 09:40	KC				QC
B8B0169-BS1	0.25			1000	01-Mar-18 09:40	KC	17L2815	20		QC
B8B0169-BSD1	0.25			1000	01-Mar-18 09:40	KC	17L2815	20		QC

ZR 3.2.18

Process Sheet

Workorder: 1800366

RX

Prep Expiration: 2018-Mar-10
Client: CH2M Hill

Workorder Due: 06-Mar-18 00:00

TAT: 7

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

Prep Batch: B8C0015

Prep Data Entered: HN 3/6/18
Date and Initials

Version: PFOA, PFOS, PFBS
DoD: DoD QSM 5.1

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1800366-01	☑	CH-AT-1RW165-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-02	☑	CH-AT-1FB165-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-03	☑	CH-AT-1RW166-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-04	☑	CH-AT-1FB166-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-05	☑	CH-AT-1RW167-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-06	☑	CH-AT-1FB167-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-07	☑	CH-AT-1RW168-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-08	☑	CH-AT-1FB168-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-09	☑	CH-AT-1RW169-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-10	☑	CH-AT-1FB169-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-11	☑	CH-AT-1RW170-0218	27-Feb-18 09:40	WR-2 B-6	
1800366-12	☑	CH-AT-1FB170-0218	27-Feb-18 09:40	WR-2 B-6	

Vista PM: Martha Maier

Vial Box ID: The Shire

Sample Reconciled By: _____ HN 3/2/18

PREPARATION BENCH SHEET

Matrix: Aqueous

B8C0015

Method: 537 PFAS DW DoD Unmodified

Chemist: KC

Prep Date/Time: ~~02~~-Mar-18 ~~08:11~~ 2 9:30 KC 3/2/18

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-8

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
☐	B8C0015-BLK1 (A)	NA	NA	(0.250)	KC HN 3/2/18	HN 7R 3/2/18	7R HN 3-5-18
☐	B8C0015-BS1	↓	↓	(0.250)	↓	↓	↓
☐	B8C0015-BSD1	↓	↓	(0.250)	↓	↓	↓
☐	1800366-01RE1 (B) (C) KC 3/6/18	282.76	27.65	0.25511	↓	↓	↓
☐	1800366-02RE1	282.83	27.54	0.2552~~8~~9 HN 3/6/18	↓	↓	↓
☐	1800366-03RE1 (B) (C) KC 3/6/18	275.70	28.03	0.24767	↓	↓	↓
☐	1800366-04RE1	279.20	28.04	0.25116	↓	↓	↓
☐	1800366-05RE1 (B) (C) KC 3/6/18	279.36	27.65	0.25171	↓	↓	↓
☐	1800366-06RE1	275.05	27.77	0.24728	↓	↓	↓
☐	1800366-07RE1 (B) (C) KC 3/6/18	275.35	27.51	0.24784	↓	↓	↓
☐	1800366-08RE1	266.11	27.72	0.23839	↓	↓	↓
☐	1800366-09RE1 (B)	275.01	28.02	0.24699	↓	↓	↓
☐	1800366-10RE1	273.66	27.65	0.24601	↓	↓	↓
☐	1800366-11RE1 (B)	263.70	28.05	0.23565	↓	↓	↓
☐	1800366-12RE1	274.55	26.95	0.24760	↓	↓	↓

SS/IS: ~~1712901 1880501, 20mL~~ HN 3/2/18 HN 3/2/18 18C0103, 20mL NS: 1712901, 10µL (V2) IS/RS: 18C0104, 20µL ✓	SPE Chem: Strata-X 33µm 500mg 6mL Lot#: S17-~~00569~~ 005658 HN 3/2/18 Ele SOLV: MeOH Lot#: JB064809 Final Volume(s) 1mL	Notes: (A) 1.25g Trizma added HN 3/2/18 (B) Extracted sample had brownish-yellow tint HN 3/5/18

Comments: Assume 1 g = 1 mL

Cen = Centrifuged

Batch: B8C0015

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1800366-01RE1	0.25511	NA	NA	1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-02RE1	0.25529			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-03RE1	0.24767			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-04RE1	0.25116			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-05RE1	0.25171			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-06RE1	0.24728			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-07RE1	0.24784			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-08RE1	0.23839			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-09RE1	0.24699			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-10RE1	0.24601			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-11RE1	0.23565			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
1800366-12RE1	0.2476			1000	02-Mar-18 09:30	KC			Drinking Water	537 PFAS DW DoD Unmoc
B8C0015-BLK1	0.25			1000	02-Mar-18 09:30	KC				QC
B8C0015-BS1	0.25			1000	02-Mar-18 09:30	KC	17L2901	10		QC
B8C0015-BSD1	0.25			1000	02-Mar-18 09:30	KC	17L2901	10		QC

HN 3/6/18

Printed: 3/6/2018 8:18:44AM

SAMPLE DATA –EPA METHOD 537

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-28.qld

Last Altered: Tuesday, March 06, 2018 16:27:30 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:28:24 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-28, Date: 02-Mar-2018, Time: 20:03:46, ID: B8B0169-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	299 > 79.7	9.31e0	1.43e4	0.2500		3.02	3.00	0.0186	0.102		SEE RX
2	5	PFOA	413 > 368.7	7.48e1	1.19e4	0.2500		4.30	4.30	0.0629	0.300		
3	7	PFOS	499 >79.9		1.43e4	0.2500		4.71					SEE RX
4	15	13C2-PFHxA	315 > 269.8	8.20e3	1.19e4	0.2500	0.731	3.45	3.37	6.90	37.7	94.3	
5	16	13C2-PFDA	515.1 > 469.9	8.32e3	1.19e4	0.2500	0.910	4.90	4.95	7.00	30.8	76.9	
6	18	13C2-PFOA	414.9 > 369.7	1.19e4	1.19e4	0.2500	1.000	4.41	4.30	10.0	40.0	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.43e4	1.43e4	0.2500	1.000	4.81	4.71	28.7	115	100.0	

MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

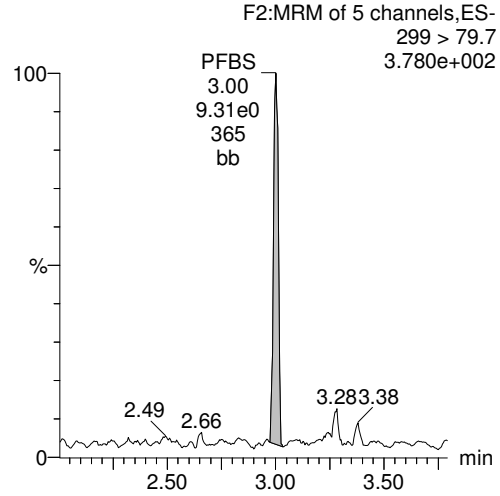
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-28.qld

Last Altered: Tuesday, March 06, 2018 16:27:30 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:28:24 Pacific Standard Time

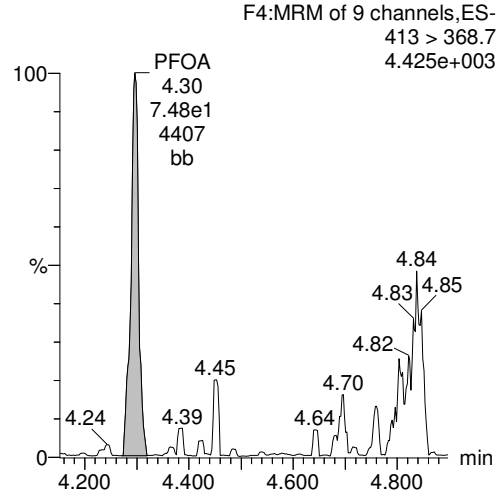
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-28, Date: 02-Mar-2018, Time: 20:03:46, ID: B8B0169-BLK1 LRB 0.25, Description: LRB

PFBS



PFOA



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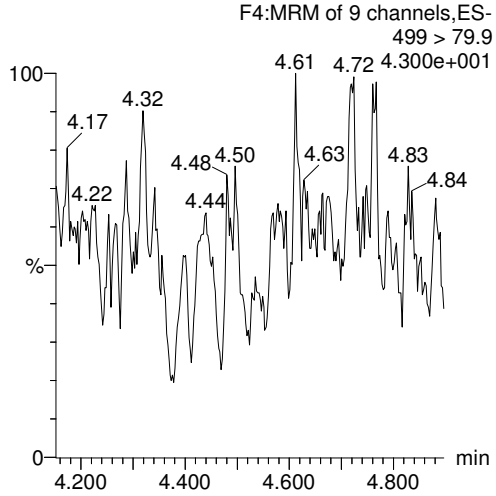

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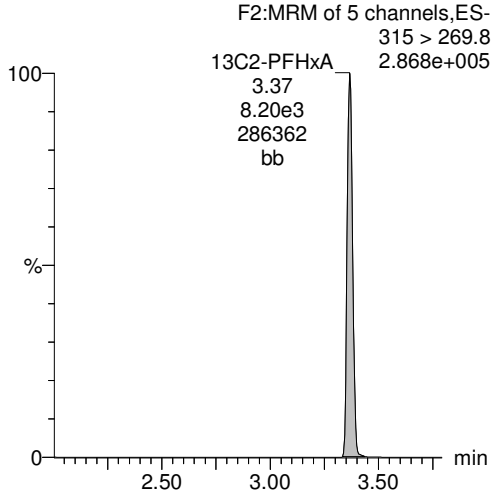

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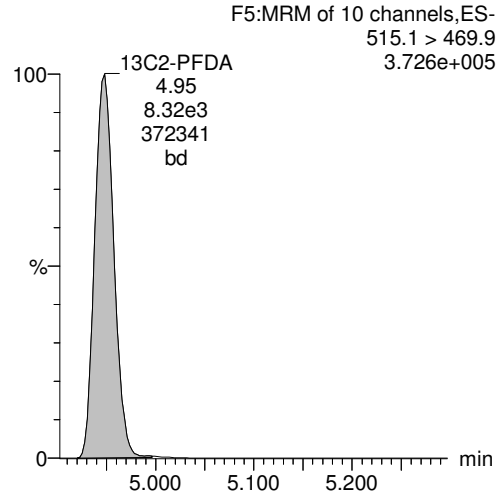

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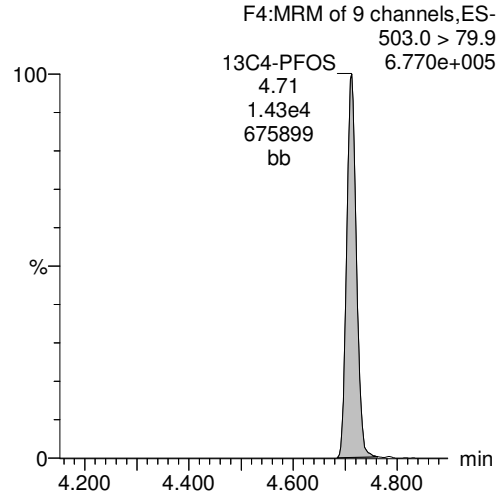

MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-26.qld

Last Altered: Tuesday, March 06, 2018 16:10:24 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:13:07 Pacific Standard Time

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Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-26, Date: 02-Mar-2018, Time: 19:38:52, ID: B8B0169-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	299 > 79.7	1.85e3	1.33e4	0.2500		3.01	3.00	3.99	~~21.8~~	~~123.4~~	SEE RX
2	5	PFOA	413 > 368.7	4.51e3	8.76e3	0.2500		4.29	4.29	5.15	24.6	123.0	
3	7	PFOS	499 >79.9	2.05e3	1.33e4	0.2500		4.71	4.71	4.41	~~18.4~~	~~99.2~~	SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.62e3	8.76e3	0.2500	0.731	3.44	3.37	8.70	47.6	118.9	
5	16	13C2-PFDA	515.1 > 469.9	7.06e3	8.76e3	0.2500	0.910	4.89	4.95	8.05	35.4	88.5	
6	18	13C2-PFOA	414.9 > 369.7	8.76e3	8.76e3	0.2500	1.000	4.41	4.29	10.0	40.0	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.33e4	1.33e4	0.2500	1.000	4.81	4.71	28.7	115	100.0	

MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

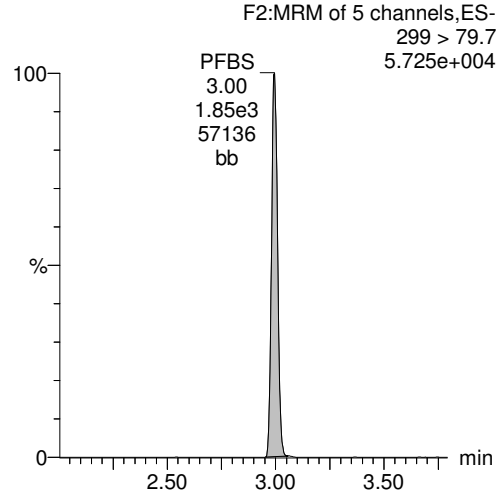
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-26.qld

Last Altered: Tuesday, March 06, 2018 16:10:24 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:13:07 Pacific Standard Time

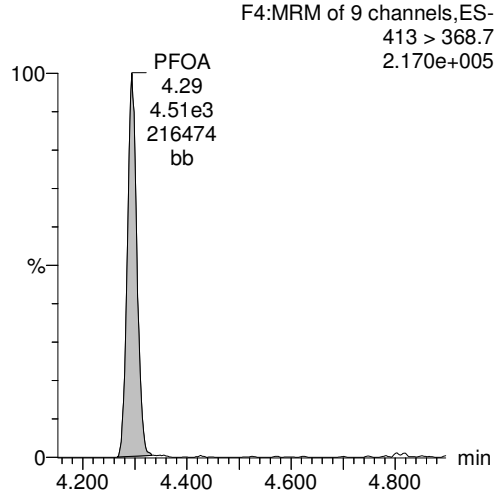
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-26, Date: 02-Mar-2018, Time: 19:38:52, ID: B8B0169-BS1 LFB 0.25, Description: LFB

PFBS



PFOA



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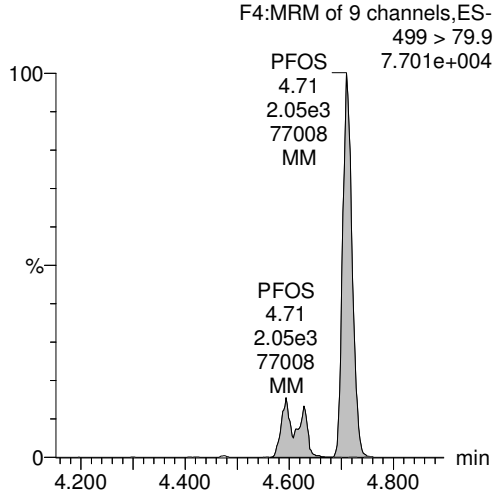

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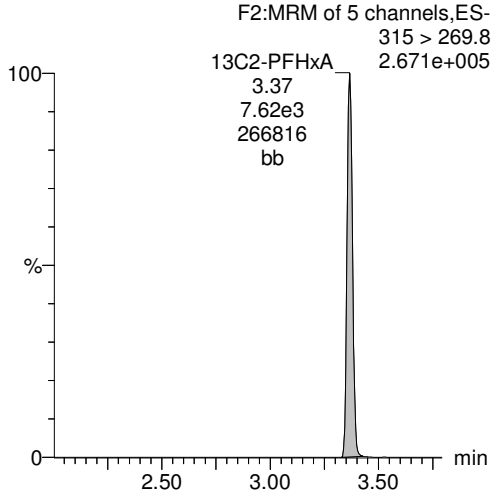

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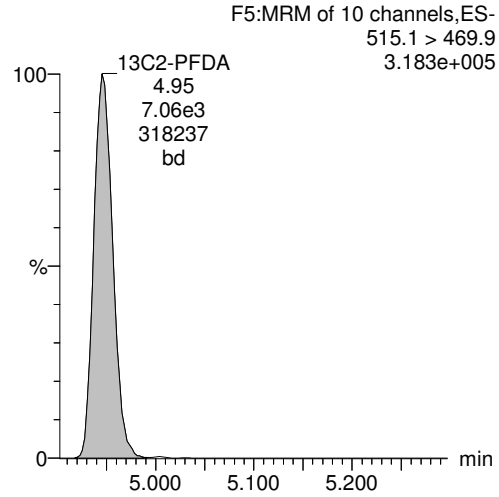

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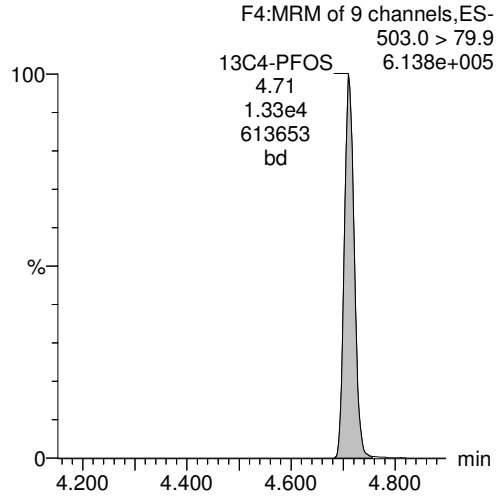

MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-27.qld

Last Altered: Tuesday, March 06, 2018 16:30:11 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:30:36 Pacific Standard Time

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Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-27, Date: 02-Mar-2018, Time: 19:51:16, ID: B8B0169-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	299 > 79.7	1.97e3	1.39e4	0.2500		3.02	3.00	4.07	22.2	125.8	SEE RX
2	5	PFOA	413 > 368.7	4.40e3	1.05e4	0.2500		4.29	4.30	4.19	20.0	100.1	
3	7	PFOS	499 >79.9	2.27e3	1.39e4	0.2500		4.71	4.71	4.68	19.5	105.4	SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.89e3	1.05e4	0.2500	0.731	3.44	3.37	7.52	41.1	102.9	
5	16	13C2-PFDA	515.1 > 469.9	8.39e3	1.05e4	0.2500	0.910	4.89	4.95	8.00	35.2	88.0	
6	18	13C2-PFOA	414.9 > 369.7	1.05e4	1.05e4	0.2500	1.000	4.41	4.29	10.0	40.0	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.39e4	1.39e4	0.2500	1.000	4.81	4.71	28.7	115	100.0	

MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

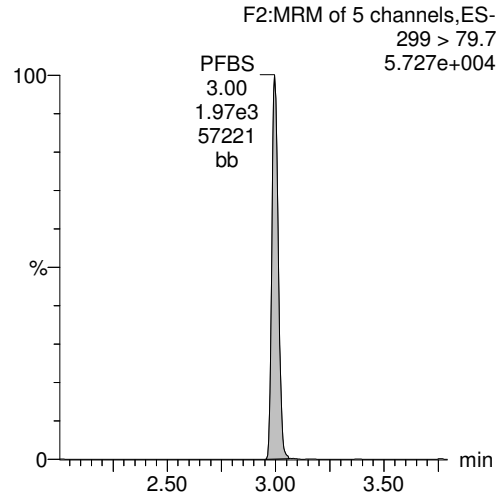
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-27.qld

Last Altered: Tuesday, March 06, 2018 16:30:11 Pacific Standard Time
Printed: Tuesday, March 06, 2018 16:30:36 Pacific Standard Time

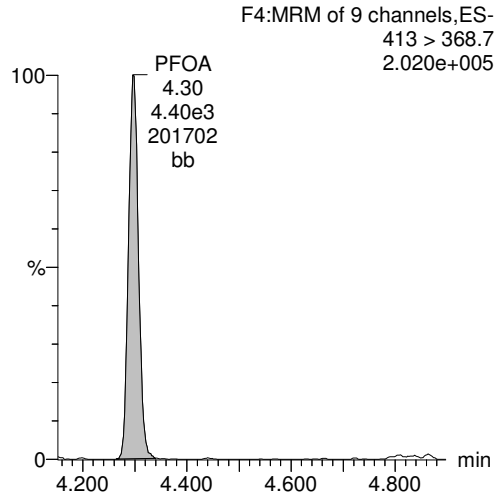
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-27, Date: 02-Mar-2018, Time: 19:51:16, ID: B8B0169-BSD1 LFBD 0.25, Description: LFBD

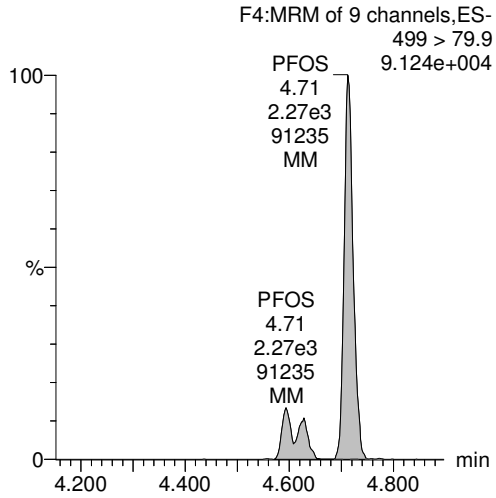
PFBS



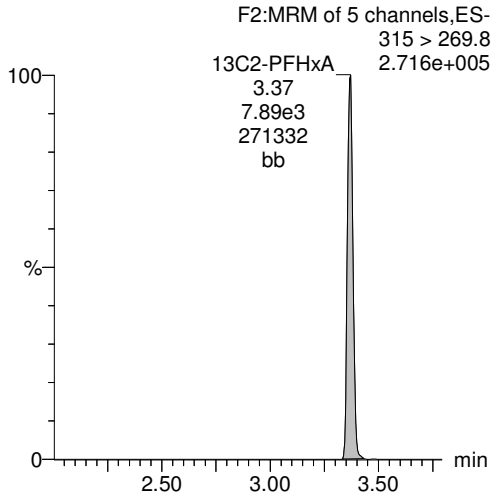
PFOA



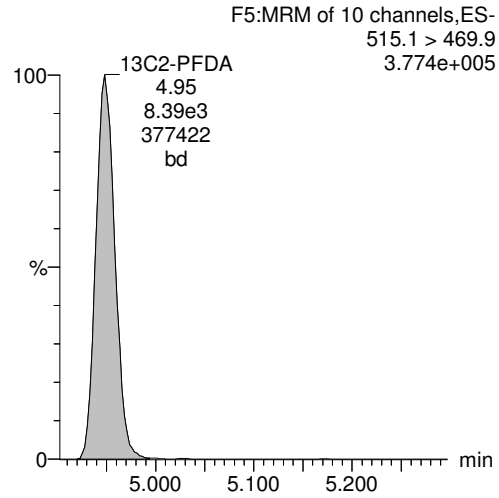
PFOS



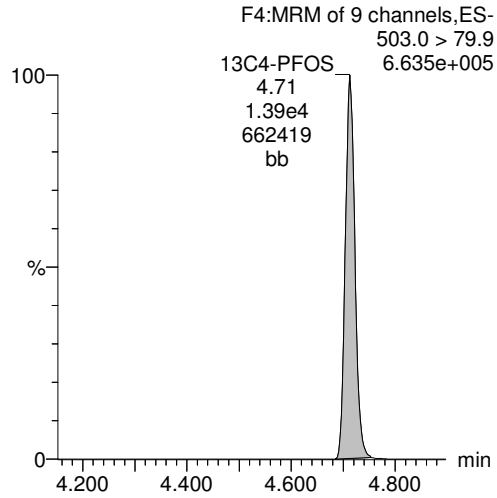
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-4.qld

Last Altered: Tuesday, March 06, 2018 09:22:28 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:50:27 Pacific Standard Time

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Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_4, Date: 05-Mar-2018, Time: 15:53:07, ID: B8C0015-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	299 > 79.7	1.60e1	1.36e4	0.2500		3.01	2.97	0.0338	0.185	
2	7	PFOS	499 >79.9	2.67e1	1.36e4	0.2500		4.70	4.70	0.0563	0.234	
3	15	13C2-PFHxA	315 > 269.8	5.41e3	7.48e3	0.2500	0.731	3.43	3.34	7.22	39.5	98.8
4	16	13C2-PFDA	515.1 > 469.9	7.12e3	7.48e3	0.2500	0.910	4.87	4.93	9.52	41.8	104.6
5	18	13C2-PFOA	414.9 > 369.7	7.48e3	7.48e3	0.2500	1.000	4.41	4.27	10.0	40.0	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.36e4	1.36e4	0.2500	1.000	4.81	4.70	28.7	115	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

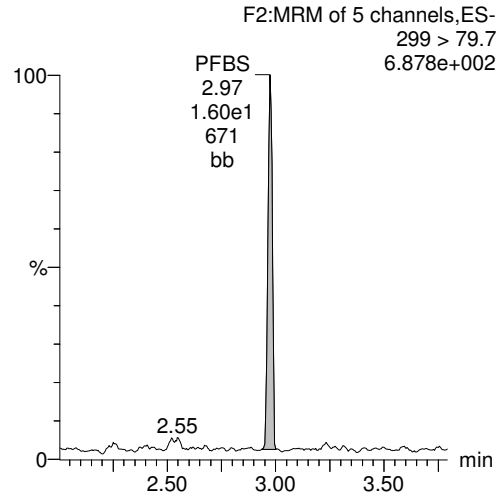
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-4.qld

Last Altered: Tuesday, March 06, 2018 09:22:28 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:50:27 Pacific Standard Time

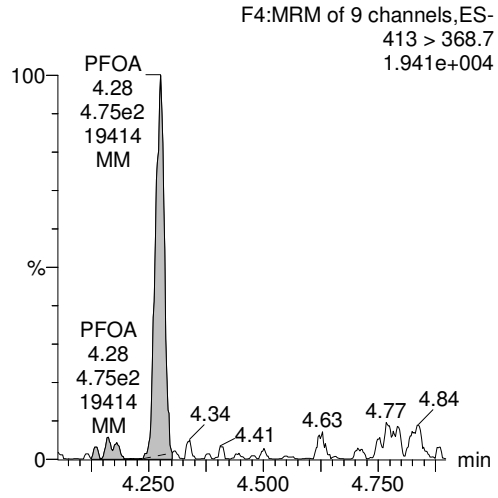
Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_4, Date: 05-Mar-2018, Time: 15:53:07, ID: B8C0015-BLK1 LRB 0.25, Description: LRB

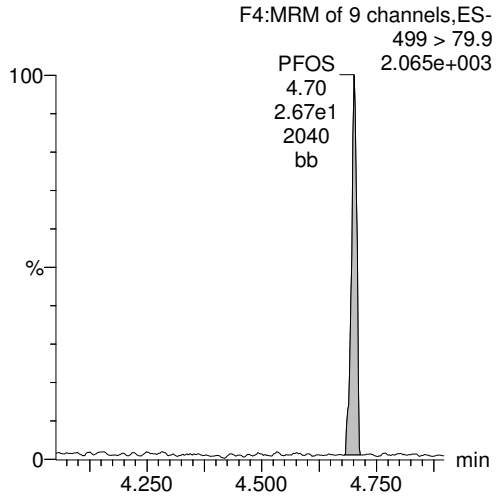
PFBS



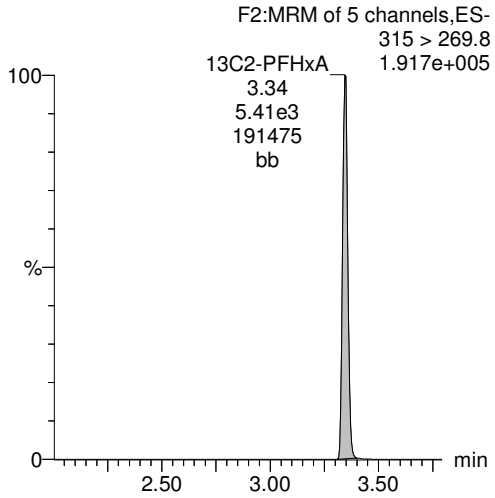
PFOA



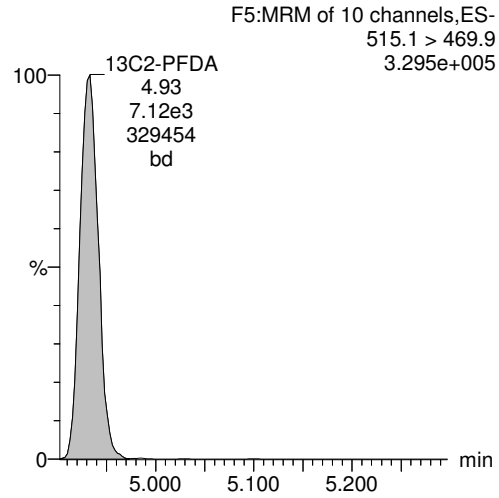
PFOS



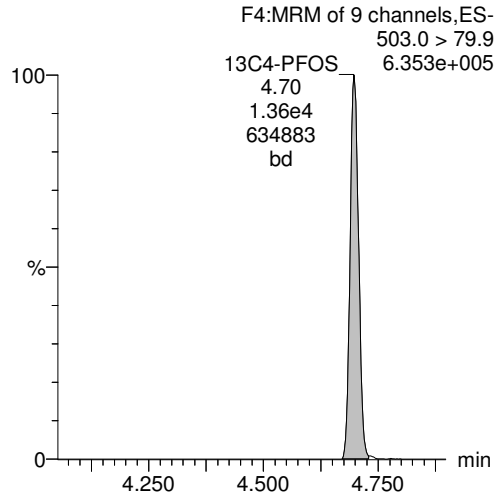
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-5.qld

Last Altered: Tuesday, March 06, 2018 09:04:35 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:50:49 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_5, Date: 05-Mar-2018, Time: 16:05:28, ID: B8C0015-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	299 > 79.7	3.43e3	1.30e4	0.2500		3.01	2.98	7.55	41.3	116.7
2	7	PFOS	499 >79.9	4.39e3	1.30e4	0.2500		4.70	4.70	9.68	40.3	109.0
3	15	13C2-PFHxA	315 > 269.8	5.24e3	8.11e3	0.2500	0.731	3.43	3.35	6.46	35.3	88.3
4	16	13C2-PFDA	515.1 > 469.9	7.08e3	8.11e3	0.2500	0.910	4.88	4.93	8.73	38.4	95.9
5	18	13C2-PFOA	414.9 > 369.7	8.11e3	8.11e3	0.2500	1.000	4.41	4.28	10.0	40.0	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.30e4	1.30e4	0.2500	1.000	4.81	4.70	28.7	115	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

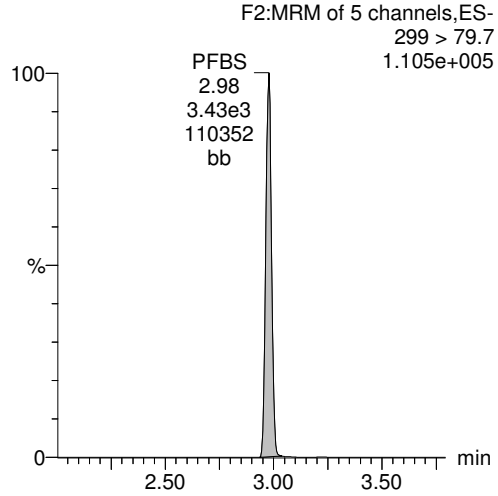
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-5.qld

Last Altered: Tuesday, March 06, 2018 09:04:35 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:50:49 Pacific Standard Time

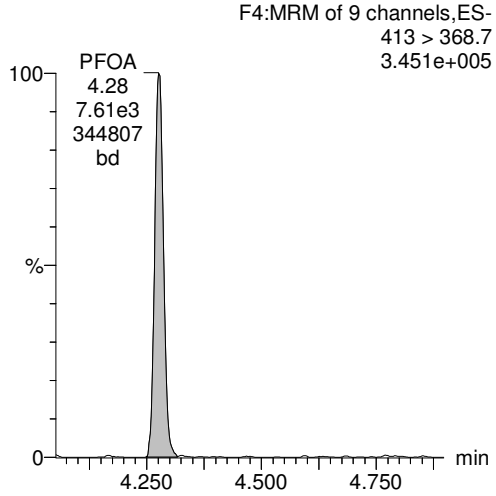
Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_5, Date: 05-Mar-2018, Time: 16:05:28, ID: B8C0015-BS1 LFB 0.25, Description: LFB

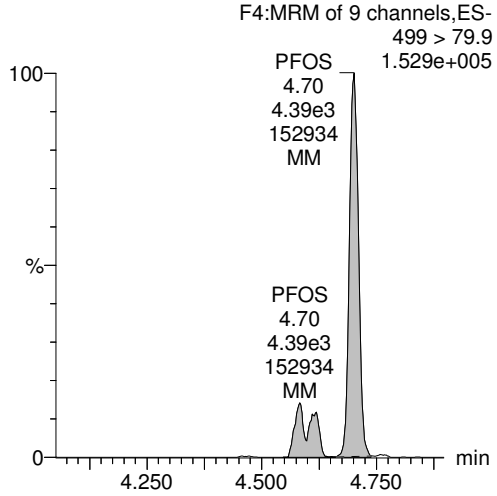
PFBS



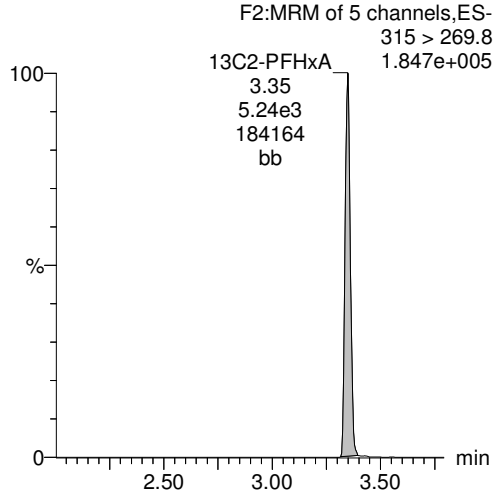
PFOA



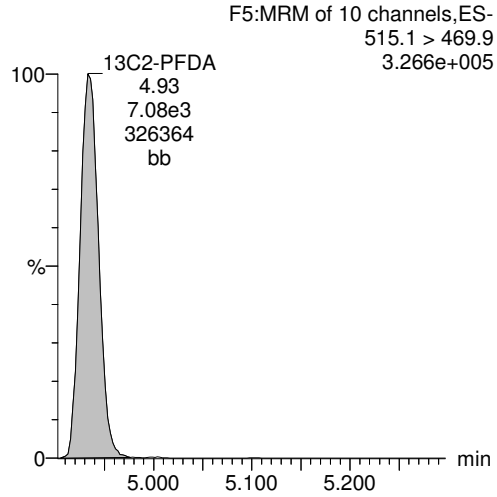
PFOS



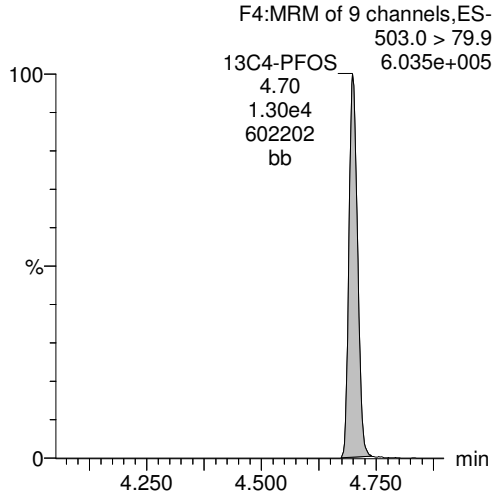
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-6.qld

Last Altered: Tuesday, March 06, 2018 09:11:37 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:51:21 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_6, Date: 05-Mar-2018, Time: 16:17:53, ID: B8C0015-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	299 > 79.7	3.33e3	1.25e4	0.2500		3.01	2.98	7.63	41.7	117.9
2	7	PFOS	499 >79.9	4.21e3	1.25e4	0.2500		4.70	4.70	9.66	40.2	108.8
3	15	13C2-PFHxA	315 > 269.8	4.94e3	7.31e3	0.2500	0.731	3.43	3.35	6.76	37.0	92.4
4	16	13C2-PFDA	515.1 > 469.9	7.21e3	7.31e3	0.2500	0.910	4.87	4.93	9.86	43.4	108.4
5	18	13C2-PFOA	414.9 > 369.7	7.31e3	7.31e3	0.2500	1.000	4.41	4.28	10.0	40.0	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.25e4	1.25e4	0.2500	1.000	4.81	4.70	28.7	115	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

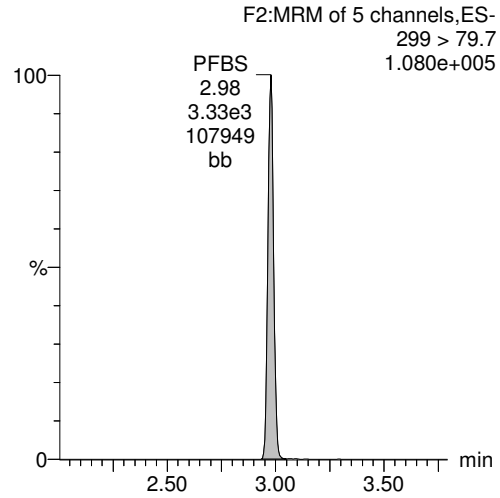
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-6.qld

Last Altered: Tuesday, March 06, 2018 09:11:37 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:51:21 Pacific Standard Time

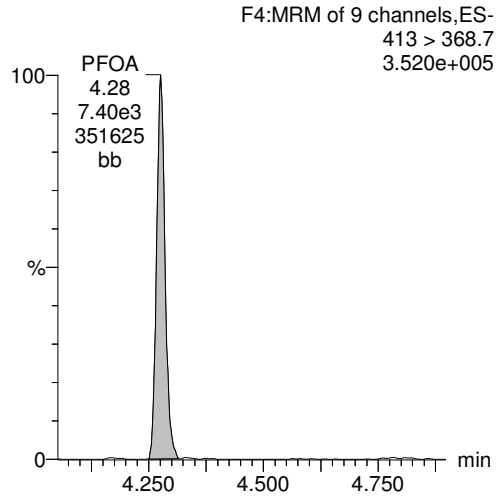
Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_6, Date: 05-Mar-2018, Time: 16:17:53, ID: B8C0015-BSD1 LFBD 0.25, Description: LFBD

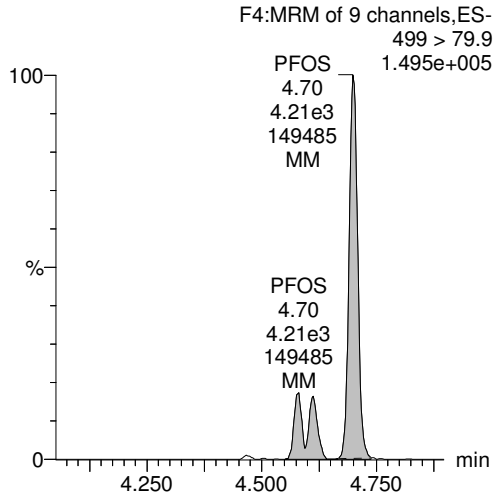
PFBS



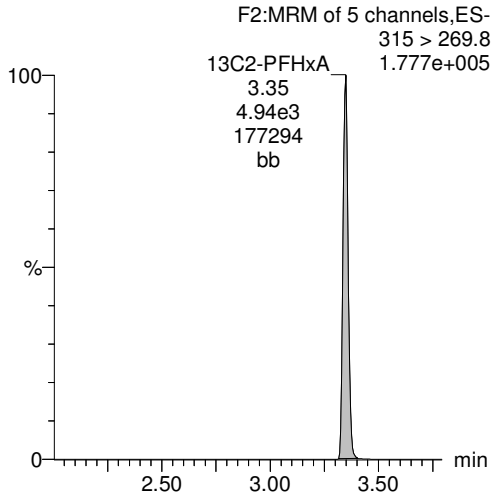
PFOA



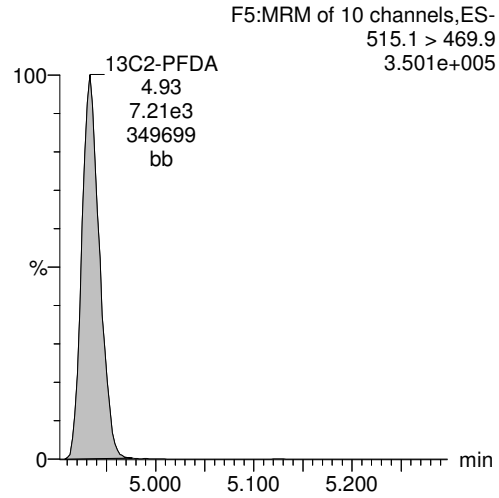
PFOS



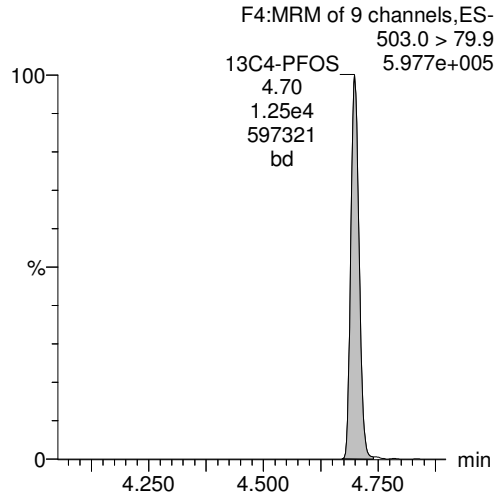
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-29.qld

Last Altered: Tuesday, March 06, 2018 17:50:51 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:51:50 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-29, Date: 02-Mar-2018, Time: 20:16:07, ID: 1800366-01 CH-AT-1RW165-0218 0.24548, Description: CH-AT-1RW165-0218

	#	Name	Trace	Area	IS Area	RRF	wt/vol	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.51e4		0.2455	3.02			----------		SEE RX
2	5	PFOA	413 > 368.7	6.09e1	1.06e4		0.2455	4.29	4.30	0.0575	0.279		
3	7	PFOS	499 >79.9	1.55e0	1.51e4		0.2455	4.71	4.72	0.00296	0.0126	----------	SEE RX
4	15	13C2-PFHxA	315 > 269.8	8.15e3	1.06e4	0.731	0.2455	3.44	3.37	7.68	42.8	105.0	
5	16	13C2-PFDA	515.1 > 469.9	5.50e3	1.06e4	0.910	0.2455	4.89	4.95	5.18	23.2	57.0	H
6	18	13C2-PFOA	414.9 > 369.7	1.06e4	1.06e4	1.000	0.2455	4.41	4.29	10.0	40.7	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.51e4	1.51e4	1.000	0.2455	4.81	4.71	28.7	117	100.0	

GM for MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

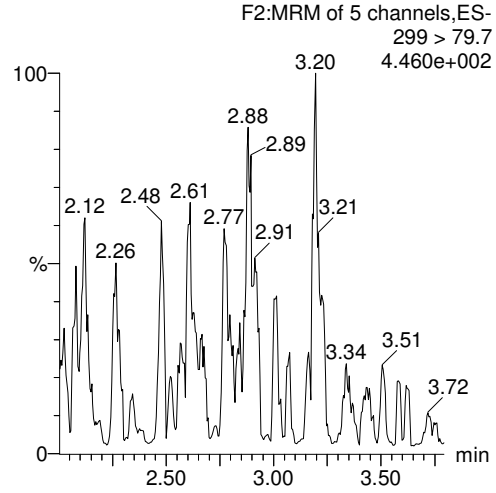
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-29.qld

Last Altered: Tuesday, March 06, 2018 17:50:51 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:51:50 Pacific Standard Time

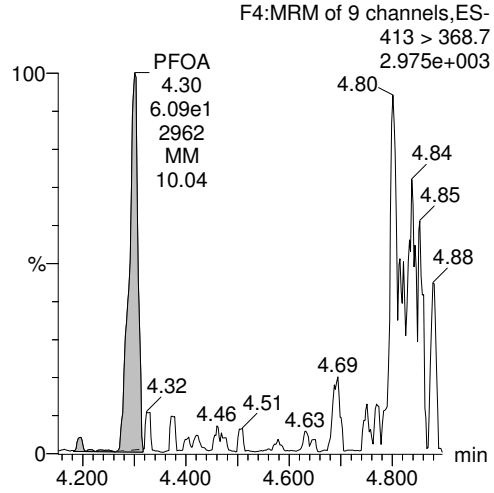
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-29, Date: 02-Mar-2018, Time: 20:16:07, ID: 1800366-01 CH-AT-1RW165-0218 0.24548, Description: CH-AT-1RW165-0218

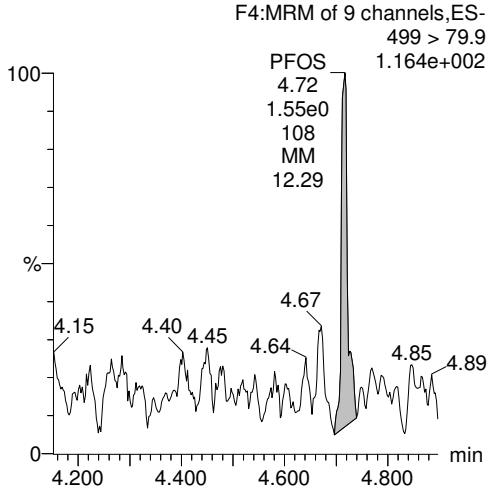
PFBS



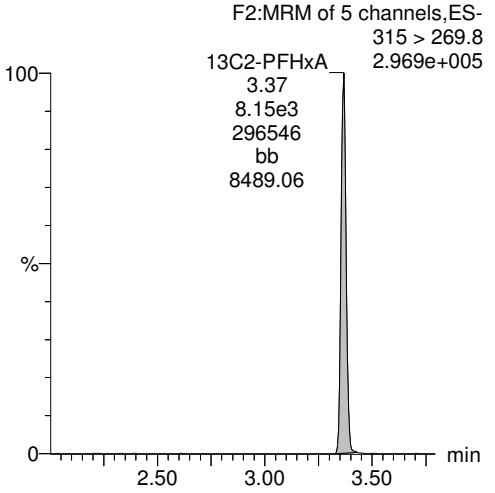
PFOA



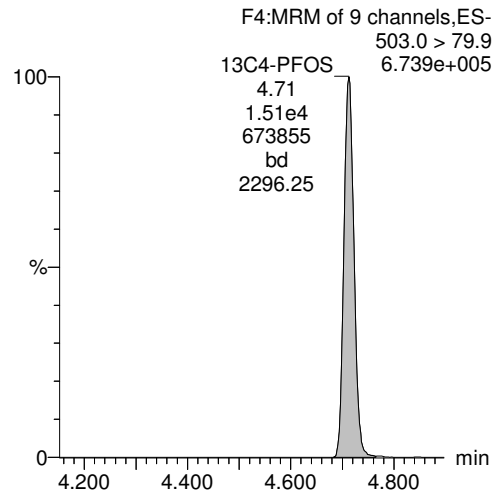
PFOS



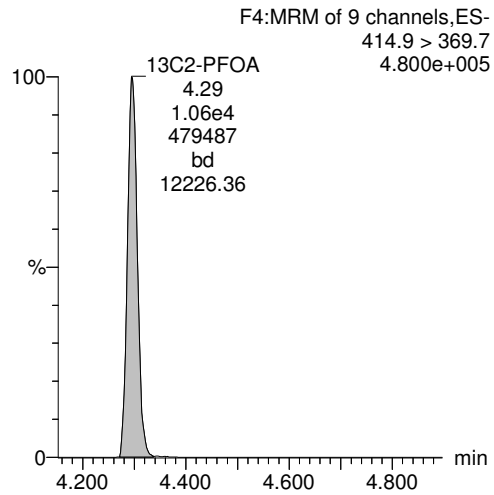
13C2-PFHxA



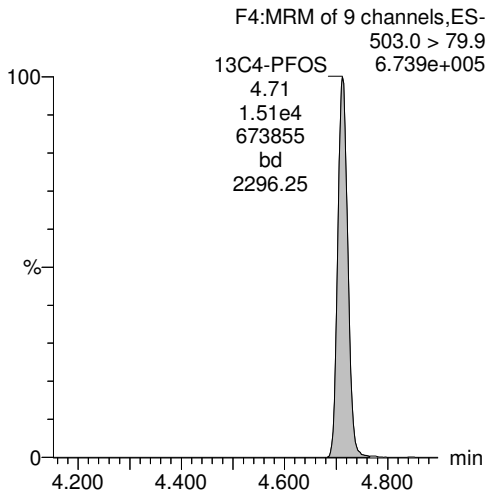
13C4-PFOS



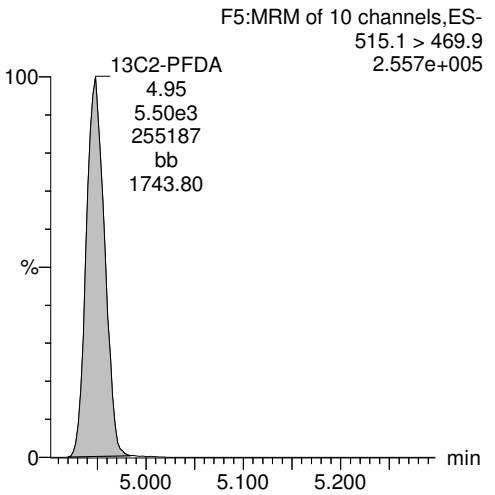
13C2-PFOA



13C4-PFOS



13C2-PFDA



GM for MJT 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-7.qld

Last Altered: Wednesday, March 07, 2018 13:11:39 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:49:46 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_7, Date: 05-Mar-2018, Time: 16:30:18, ID: 1800366-01RE1 CH-AT-1RW165-0218 0.25, Description: CH-AT-1RW165-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.42e4	0.2511		3.01				
2	7	PFOS	499 >79.9		1.42e4	0.2511		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.65e3	8.39e3	0.2511	0.731	3.43	3.35	6.73	36.7	92.1
4	16	13C2-PFDA	515.1 > 469.9	7.10e3	8.39e3	0.2511	0.910	4.87	4.93	8.47	37.1	93.0
5	18	13C2-PFOA	414.9 > 369.7	8.39e3	8.39e3	0.2511	1.000	4.41	4.27	10.0	39.8	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.42e4	1.42e4	0.2511	1.000	4.81	4.70	28.7	114	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

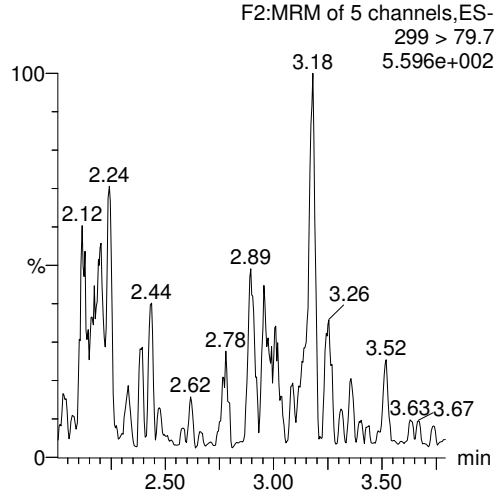
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-7.qld

Last Altered: Wednesday, March 07, 2018 13:11:39 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:49:46 Pacific Standard Time

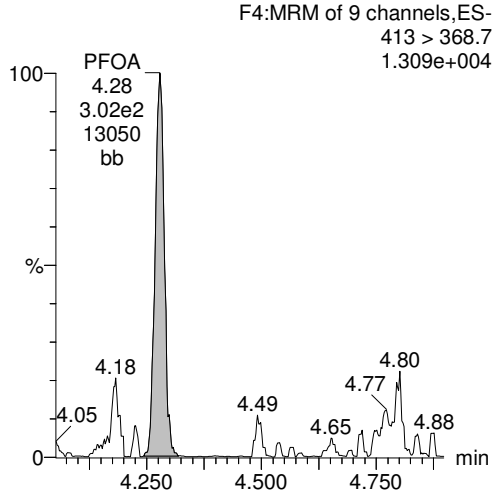
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_7, Date: 05-Mar-2018, Time: 16:30:18, ID: 1800366-01RE1 CH-AT-1RW165-0218 0.25, Description: CH-AT-1RW165-0218

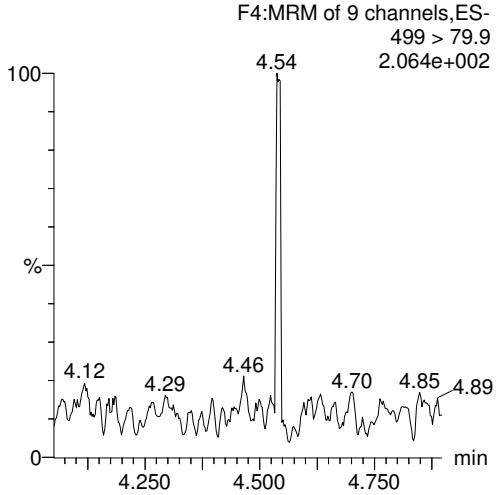
PFBS



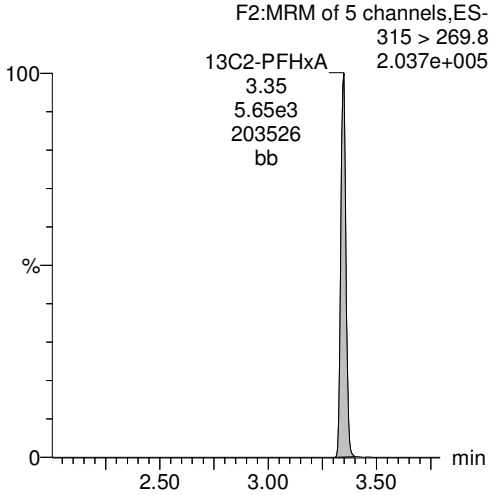
PFOA



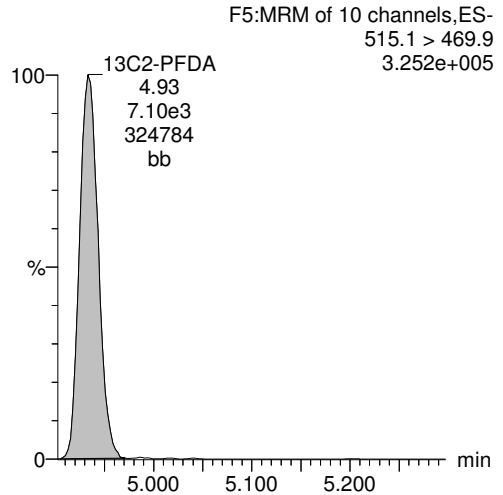
PFOS



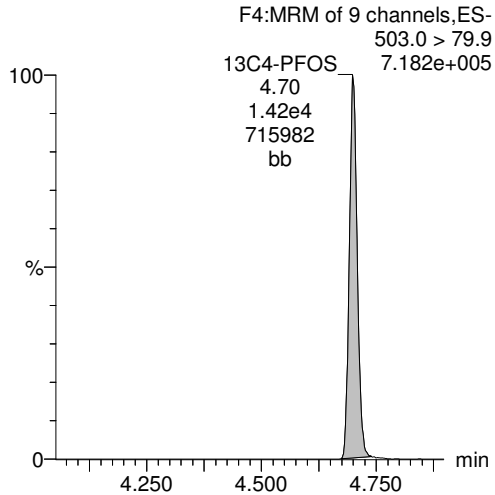
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-30.qld

Last Altered: Tuesday, March 06, 2018 18:10:24 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:11:03 Pacific Standard Time

Reviewed: CT 3/7/2018

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-30, Date: 02-Mar-2018, Time: 20:28:30, ID: 1800366-02 CH-AT-1FB165-0218 0.25404, Description: CH-AT-1FB165-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.58e4	0.2540		3.01			-----------		---SEE RX
2	5	PFOA	413 > 368.7	8.10e1	1.13e4	0.2540		4.29	4.29	0.0718	0.337		
3	7	PFOS	499 >79.9		1.58e4	0.2540		4.71			-----------		-----SEE RX
4	15	13C2-PFHxA	315 > 269.8	8.11e3	1.13e4	0.2540	0.731	3.44	3.37	7.19	38.7	98.3	
5	16	13C2-PFDA	515.1 > 469.9	7.06e3	1.13e4	0.2540	0.910	4.89	4.95	6.26	27.1	68.8	H
6	18	13C2-PFOA	414.9 > 369.7	1.13e4	1.13e4	0.2540	1.000	4.41	4.29	10.0	39.4	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.58e4	1.58e4	0.2540	1.000	4.81	4.71	28.7	113	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-30.qld

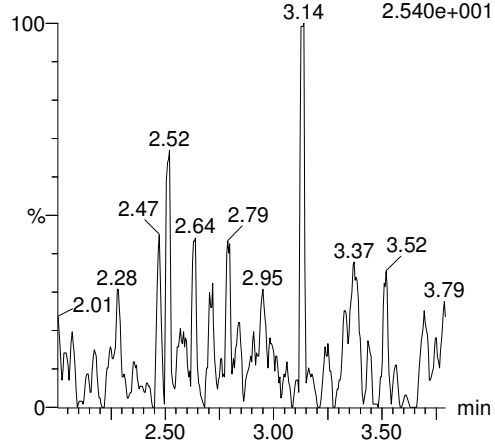
Last Altered: Tuesday, March 06, 2018 18:10:24 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:11:03 Pacific Standard Time

Reviewed: CT 3/7/2018

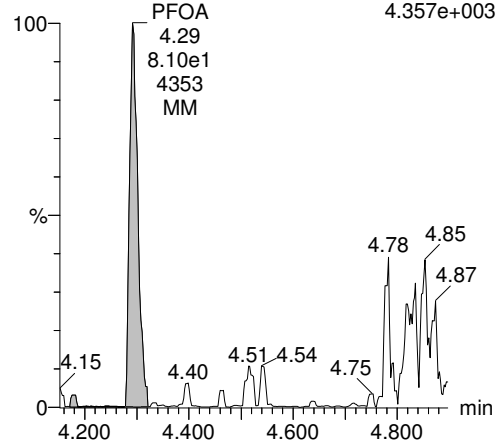
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-30, Date: 02-Mar-2018, Time: 20:28:30, ID: 1800366-02 CH-AT-1FB165-0218 0.25404, Description: CH-AT-1FB165-0218

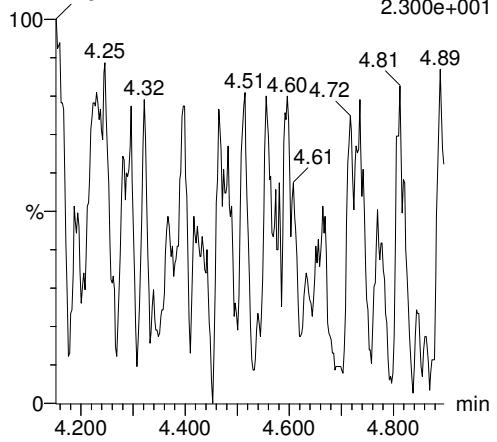
PFBS



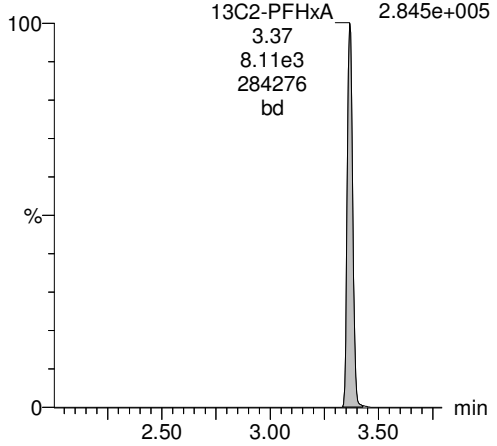
PFOA



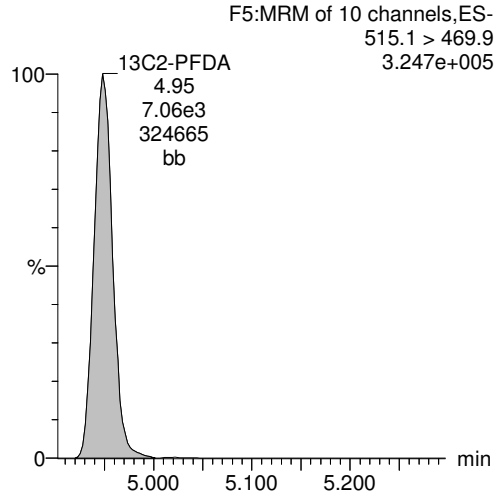
PFOS



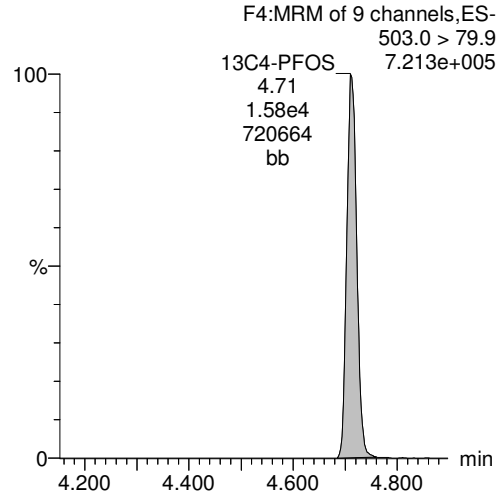
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-8.qld

Last Altered: Wednesday, March 07, 2018 13:09:06 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:48:52 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_8, Date: 05-Mar-2018, Time: 16:42:43, ID: 1800366-02RE1 CH-AT-1FB165-0218 0.25, Description: CH-AT-1FB165-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.33e4	0.2553		3.01				
2	7	PFOS	499 >79.9		1.33e4	0.2553		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.48e3	8.27e3	0.2553	0.731	3.43	3.35	6.63	35.5	90.6
4	16	13C2-PFDA	515.1 > 469.9	6.88e3	8.27e3	0.2553	0.910	4.87	4.93	8.31	35.8	91.4
5	18	13C2-PFOA	414.9 > 369.7	8.27e3	8.27e3	0.2553	1.000	4.41	4.28	10.0	39.2	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.33e4	1.33e4	0.2553	1.000	4.81	4.70	28.7	112	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

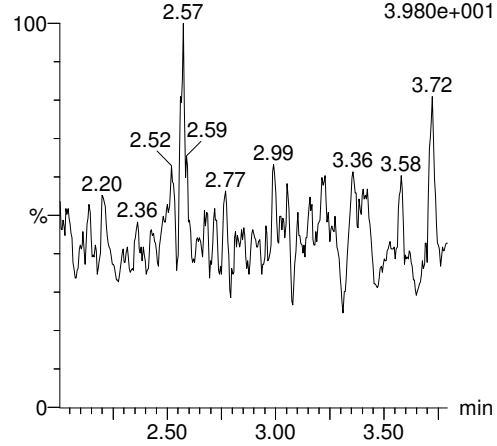
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-8.qld

Last Altered: Wednesday, March 07, 2018 13:09:06 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:48:52 Pacific Standard Time

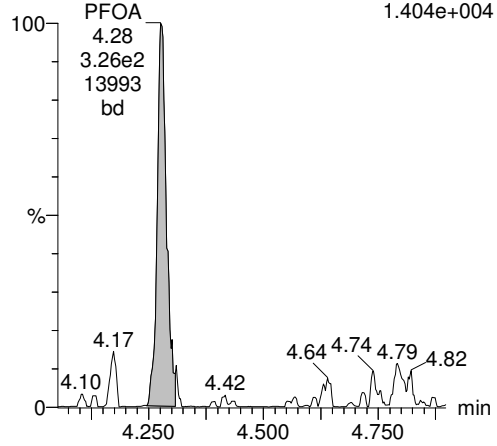
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_8, Date: 05-Mar-2018, Time: 16:42:43, ID: 1800366-02RE1 CH-AT-1FB165-0218 0.25, Description: CH-AT-1FB165-0218

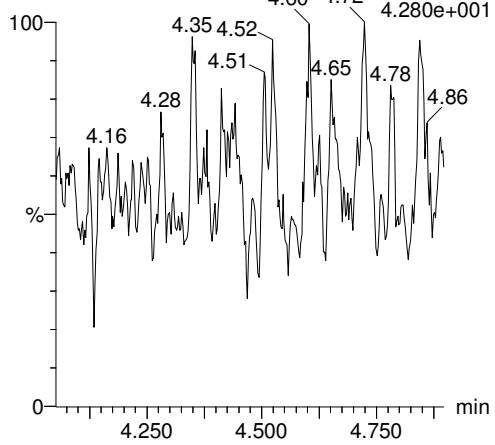
PFBS



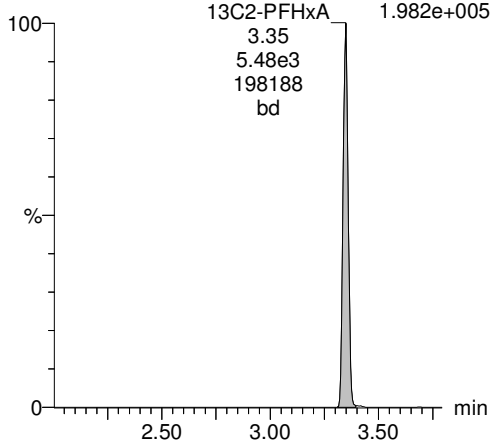
PFOA



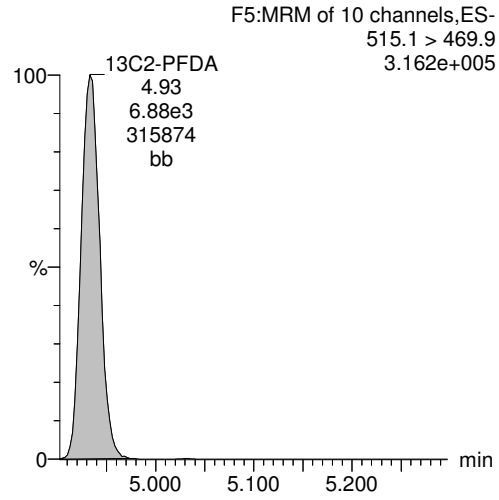
PFOS



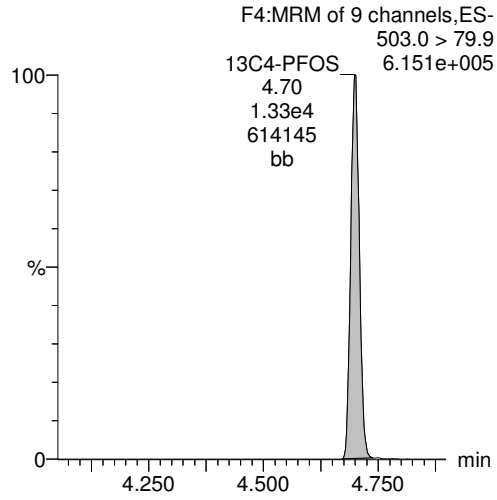
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-31.qld

Last Altered: Tuesday, March 06, 2018 18:08:10 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:09:00 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-31, Date: 02-Mar-2018, Time: 20:40:56, ID: 1800366-03 CH-AT-1RW166-0218 0.24491, Description: CH-AT-1RW166-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.46e4	0.2449		3.02			-----------		SEE RX
2	5	PFOA	413 > 368.7	6.09e1	1.06e4	0.2449		4.29	4.30	0.0576	0.281		
3	7	PFOS	499 >79.9		1.46e4	0.2449		4.71			-----------		SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.84e3	1.06e4	0.2449	0.731	3.44	3.37	7.41	41.4	101.3	
5	16	13C2-PFDA	515.1 > 469.9	6.02e3	1.06e4	0.2449	0.910	4.89	4.95	5.69	25.5	62.6	H
6	18	13C2-PFOA	414.9 > 369.7	1.06e4	1.06e4	0.2449	1.000	4.41	4.29	10.0	40.8	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.46e4	1.46e4	0.2449	1.000	4.81	4.71	28.7	117	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

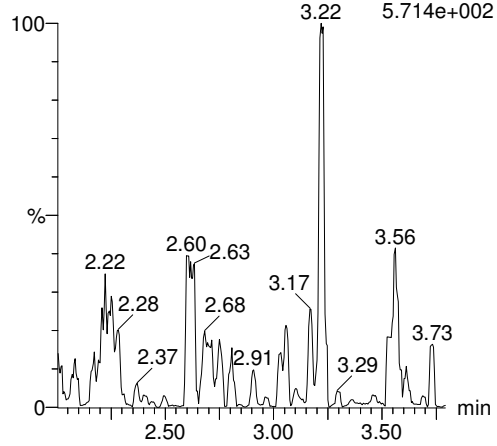
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-31.qld

Last Altered: Tuesday, March 06, 2018 18:08:10 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:09:00 Pacific Standard Time

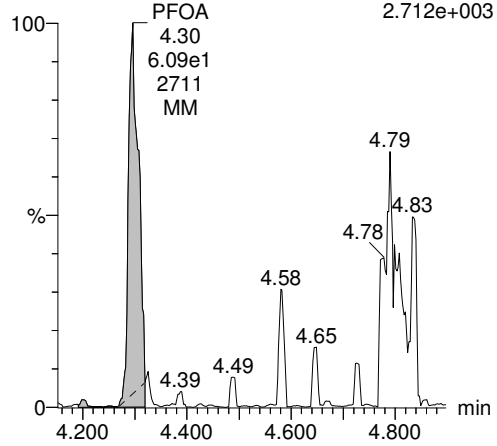
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-31, Date: 02-Mar-2018, Time: 20:40:56, ID: 1800366-03 CH-AT-1RW166-0218 0.24491, Description: CH-AT-1RW166-0218

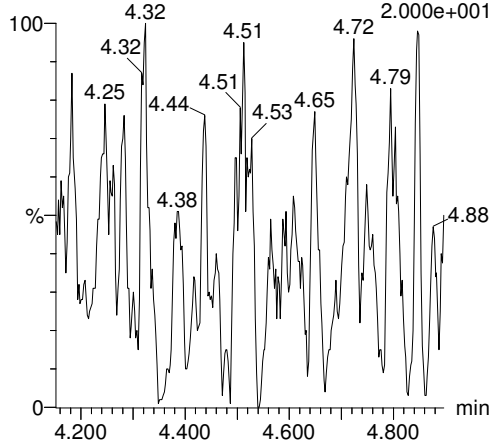
PFBS



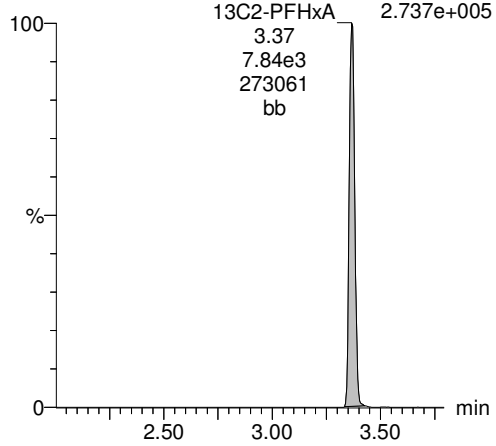
PFOA



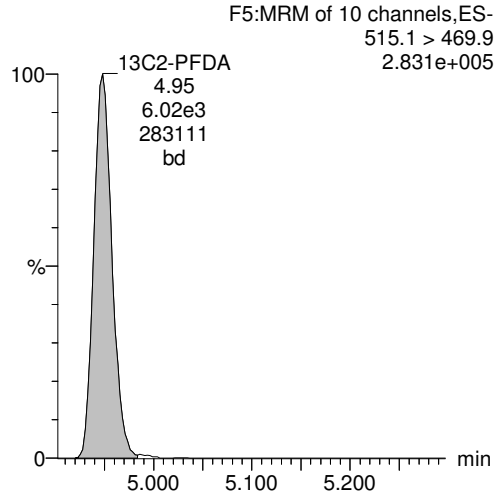
PFOS



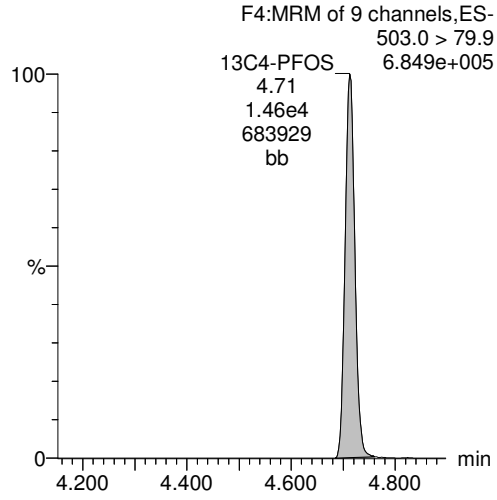
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-9.qld

Last Altered: Wednesday, March 07, 2018 13:12:31 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:48:24 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_9, Date: 05-Mar-2018, Time: 16:55:08, ID: 1800366-03RE1 CH-AT-1RW166-0218 0.25, Description: CH-AT-1RW166-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.37e4	0.2477		3.01				
2	7	PFOS	499 >79.9		1.37e4	0.2477		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.64e3	8.52e3	0.2477	0.731	3.43	3.35	6.62	36.6	90.6
4	16	13C2-PFDA	515.1 > 469.9	6.52e3	8.52e3	0.2477	0.910	4.87	4.93	7.65	33.9	84.0
5	18	13C2-PFOA	414.9 > 369.7	8.52e3	8.52e3	0.2477	1.000	4.41	4.27	10.0	40.4	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.37e4	1.37e4	0.2477	1.000	4.81	4.70	28.7	116	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

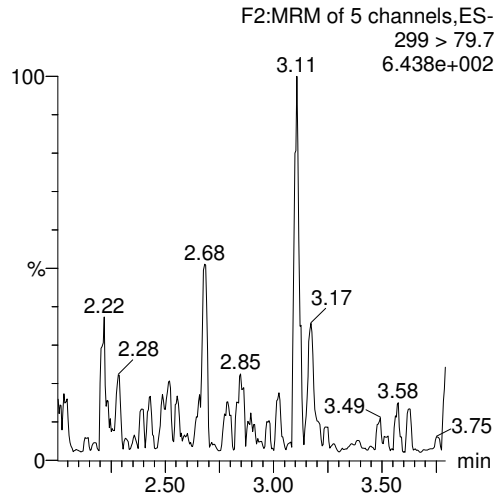
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-9.qld

Last Altered: Wednesday, March 07, 2018 13:12:31 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:48:24 Pacific Standard Time

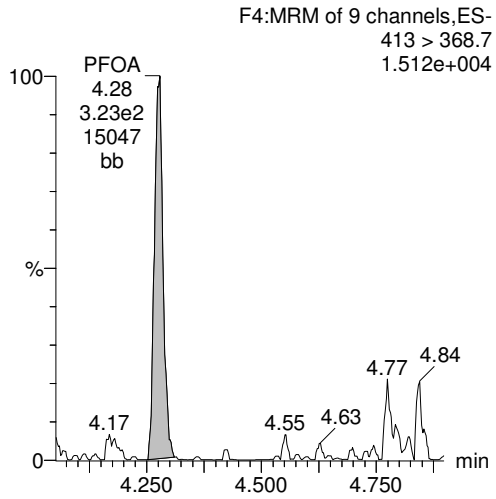
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_9, Date: 05-Mar-2018, Time: 16:55:08, ID: 1800366-03RE1 CH-AT-1RW166-0218 0.25, Description: CH-AT-1RW166-0218

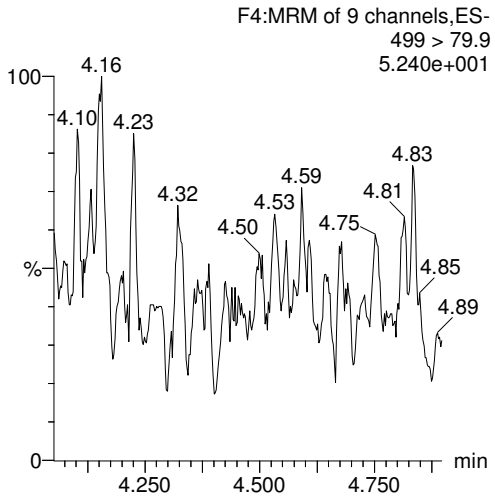
PFBS



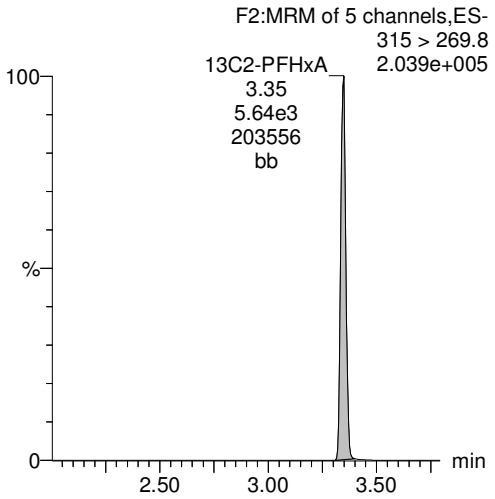
PFOA



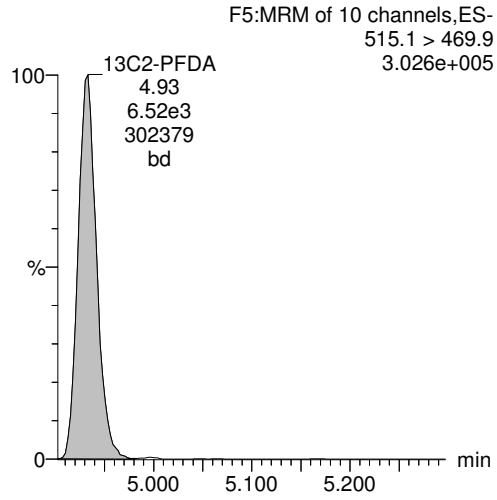
PFOS



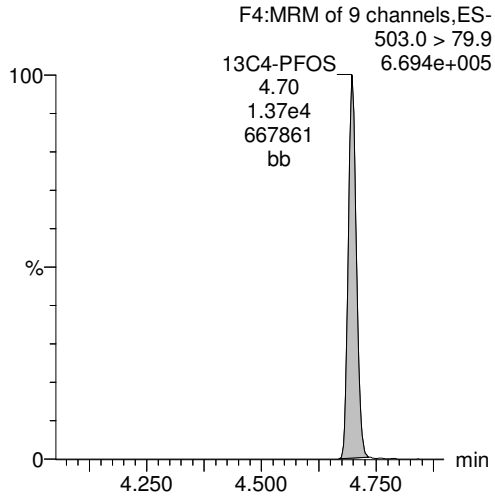
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-32.qld

Last Altered: Tuesday, March 06, 2018 18:04:08 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:05:37 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-32, Date: 02-Mar-2018, Time: 20:53:17, ID: 1800366-04 CH-AT-1FB166-0218 0.25454, Description: CH-AT-1FB166-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.22e4	0.2545		3.01		----------SEE RX		
2	5	PFOA	413 > 368.7	1.33e2	1.05e4	0.2545		4.29	4.29	0.126	0.593	
3	7	PFOS	499 >79.9		1.22e4	0.2545		4.71		----------SEE RX		
4	15	13C2-PFHxA	315 > 269.8	7.82e3	1.05e4	0.2545	0.731	3.44	3.37	7.44	39.9	101.7
5	16	13C2-PFDA	515.1 > 469.9	7.12e3	1.05e4	0.2545	0.910	4.89	4.95	6.77	29.2	74.4
6	18	13C2-PFOA	414.9 > 369.7	1.05e4	1.05e4	0.2545	1.000	4.41	4.29	10.0	39.3	100.0
7	19	13C4-PFOS	503.0 > 79.9	1.22e4	1.22e4	0.2545	1.000	4.81	4.71	28.7	113	100.0

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

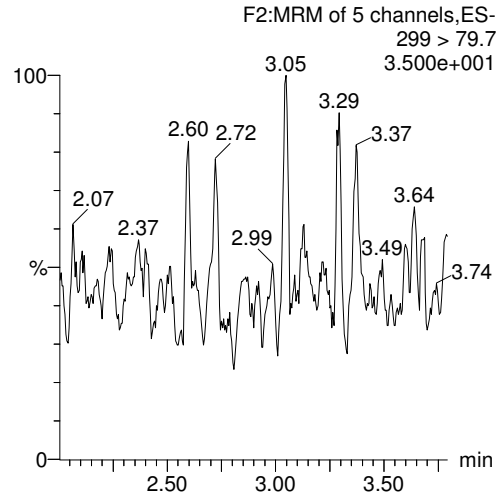
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-32.qld

Last Altered: Tuesday, March 06, 2018 18:04:08 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:05:37 Pacific Standard Time

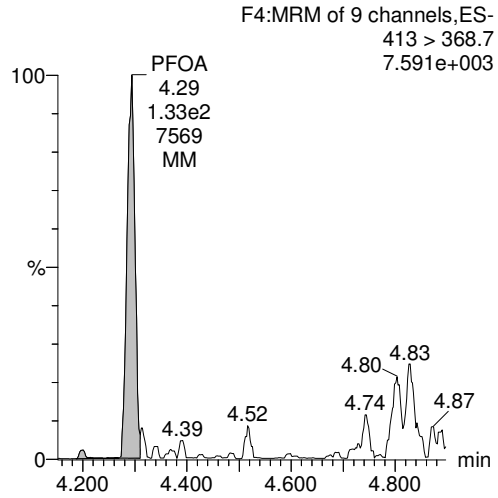
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-32, Date: 02-Mar-2018, Time: 20:53:17, ID: 1800366-04 CH-AT-1FB166-0218 0.25454, Description: CH-AT-1FB166-0218

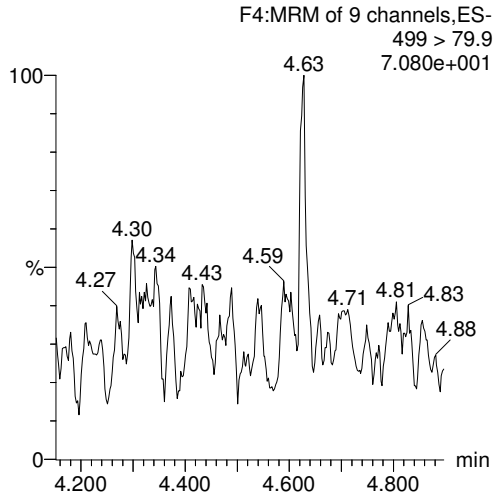
PFBS



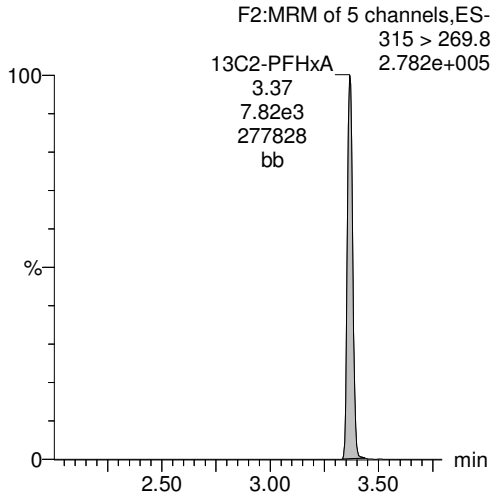
PFOA



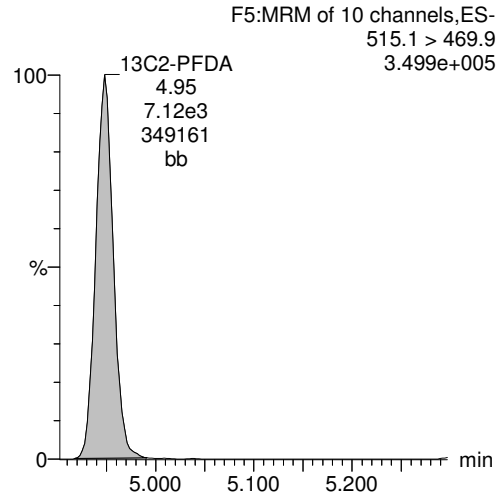
PFOS



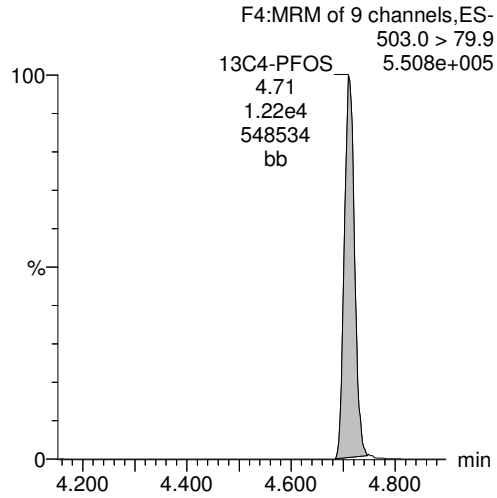
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-10.qld

Last Altered: Wednesday, March 07, 2018 13:14:44 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:55 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_10, Date: 05-Mar-2018, Time: 17:07:34, ID: 1800366-04RE1 CH-AT-1FB166-0218 0.25, Description: CH-AT-1FB166-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.35e4	0.2512		3.01				
2	7	PFOS	499 >79.9		1.35e4	0.2512		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.56e3	8.07e3	0.2512	0.731	3.43	3.35	6.89	37.5	94.2
4	16	13C2-PFDA	515.1 > 469.9	7.47e3	8.07e3	0.2512	0.910	4.87	4.93	9.26	40.5	101.8
5	18	13C2-PFOA	414.9 > 369.7	8.07e3	8.07e3	0.2512	1.000	4.41	4.27	10.0	39.8	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.35e4	1.35e4	0.2512	1.000	4.81	4.70	28.7	114	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

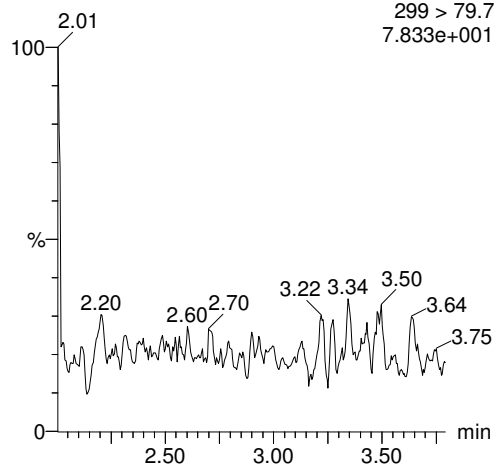
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-10.qld

Last Altered: Wednesday, March 07, 2018 13:14:44 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:55 Pacific Standard Time

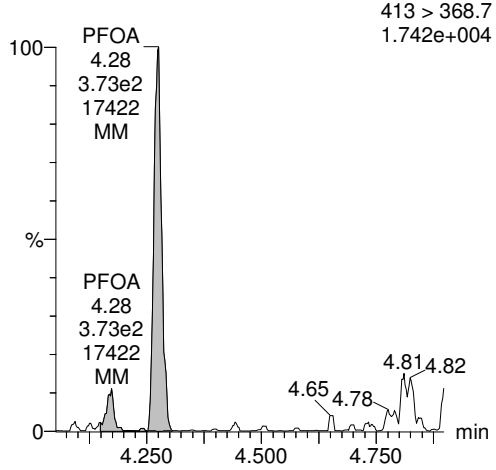
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_10, Date: 05-Mar-2018, Time: 17:07:34, ID: 1800366-04RE1 CH-AT-1FB166-0218 0.25, Description: CH-AT-1FB166-0218

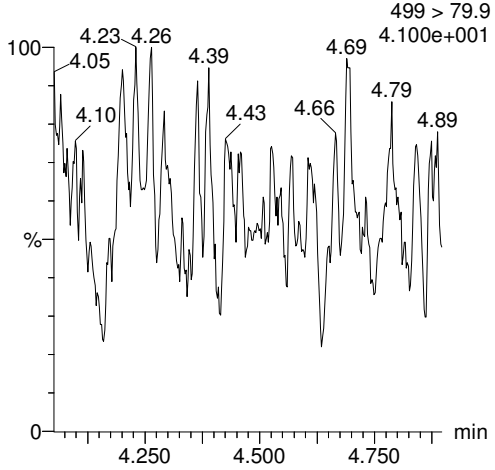
PFBS



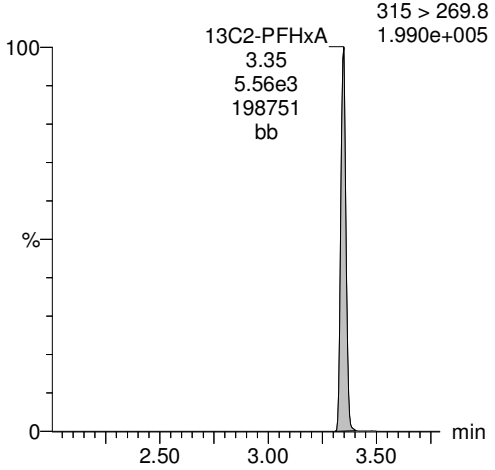
PFOA



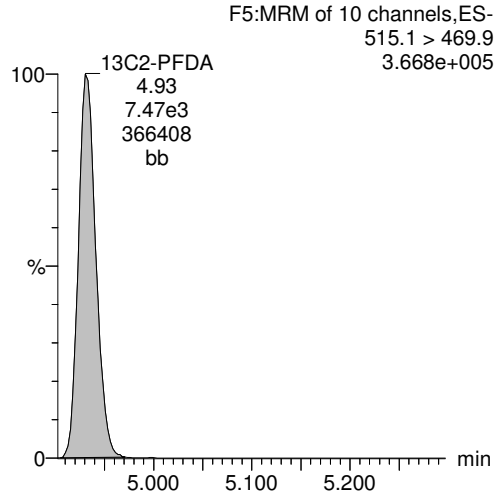
PFOS



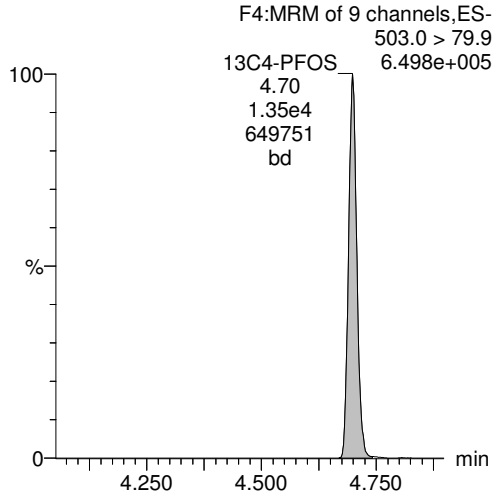
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-33.qld

Last Altered: Tuesday, March 06, 2018 18:01:07 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:02:23 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-33, Date: 02-Mar-2018, Time: 21:05:34, ID: 1800366-05 CH-AT-1RW167-0218 0.24782, Description: CH-AT-1RW167-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.34e4	0.2478		3.02			----------		SEE RX
2	5	PFOA	413 > 368.7	5.53e1	1.06e4	0.2478		4.29	4.30	0.0522	0.251		
3	7	PFOS	499 >79.9	1.16e0	1.34e4	0.2478		4.71	4.70	0.00249	~~0.0105~~ -------		SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.66e3	1.06e4	0.2478	0.731	3.44	3.37	7.23	39.9	98.8	
5	16	13C2-PFDA	515.1 > 469.9	5.17e3	1.06e4	0.2478	0.910	4.89	4.95	4.88	21.6	53.6	H
6	18	13C2-PFOA	414.9 > 369.7	1.06e4	1.06e4	0.2478	1.000	4.41	4.29	10.0	40.4	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.34e4	1.34e4	0.2478	1.000	4.81	4.71	28.7	116	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

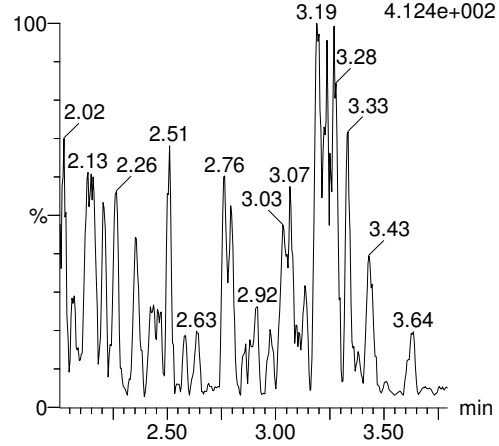
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-33.qld

Last Altered: Tuesday, March 06, 2018 18:01:07 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:02:23 Pacific Standard Time

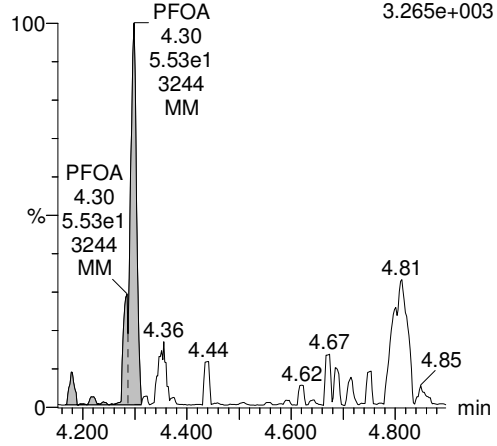
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-33, Date: 02-Mar-2018, Time: 21:05:34, ID: 1800366-05 CH-AT-1RW167-0218 0.24782, Description: CH-AT-1RW167-0218

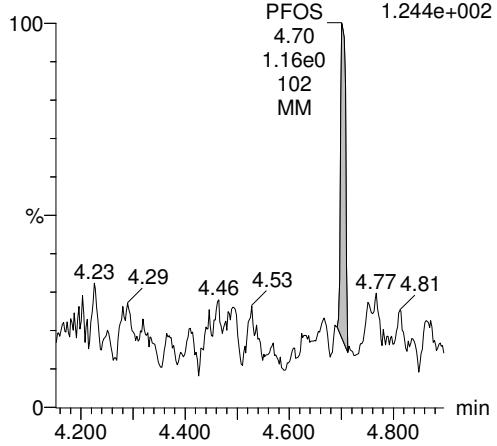
PFBS



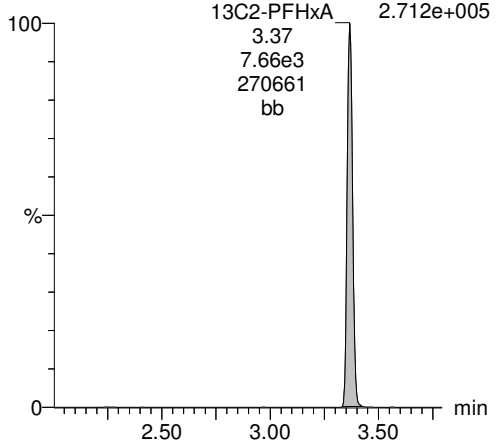
PFOA



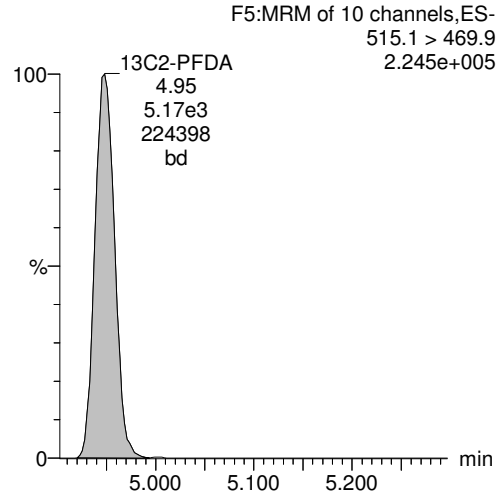
PFOS



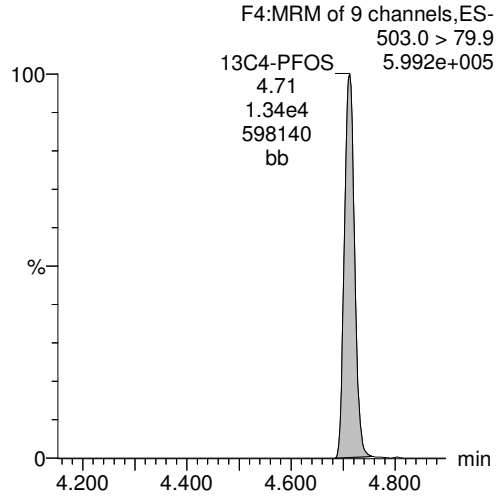
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-11.qld

Last Altered: Wednesday, March 07, 2018 13:17:37 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:30 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_11, Date: 05-Mar-2018, Time: 17:19:59, ID: 1800366-05RE1 CH-AT-1RW167-0218 0.25, Description: CH-AT-1RW167-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.33e4	0.2517		3.01				
2	7	PFOS	499 >79.9	3.74e0	1.33e4	0.2517		4.70	4.70	0.00805	0.0333	
3	15	13C2-PFHxA	315 > 269.8	5.73e3	8.70e3	0.2517	0.731	3.43	3.34	6.59	35.8	90.0
4	16	13C2-PFDA	515.1 > 469.9	6.66e3	8.70e3	0.2517	0.910	4.87	4.93	7.66	33.4	84.1
5	18	13C2-PFOA	414.9 > 369.7	8.70e3	8.70e3	0.2517	1.000	4.41	4.27	10.0	39.7	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.33e4	1.33e4	0.2517	1.000	4.81	4.70	28.7	114	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

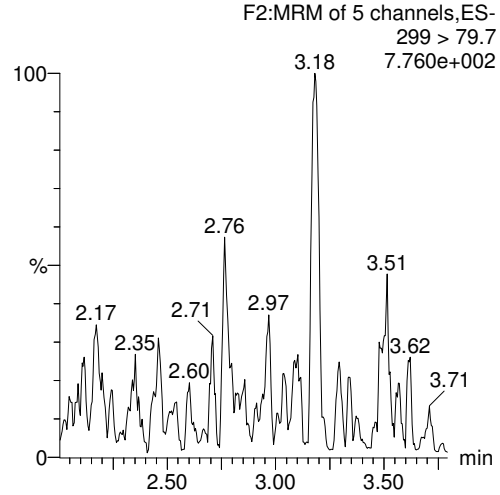
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-11.qld

Last Altered: Wednesday, March 07, 2018 13:17:37 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:30 Pacific Standard Time

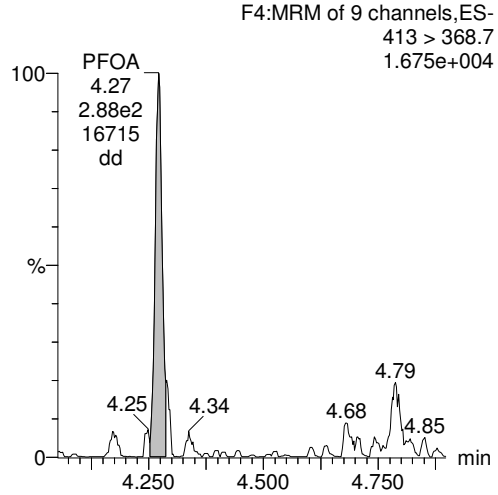
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_11, Date: 05-Mar-2018, Time: 17:19:59, ID: 1800366-05RE1 CH-AT-1RW167-0218 0.25, Description: CH-AT-1RW167-0218

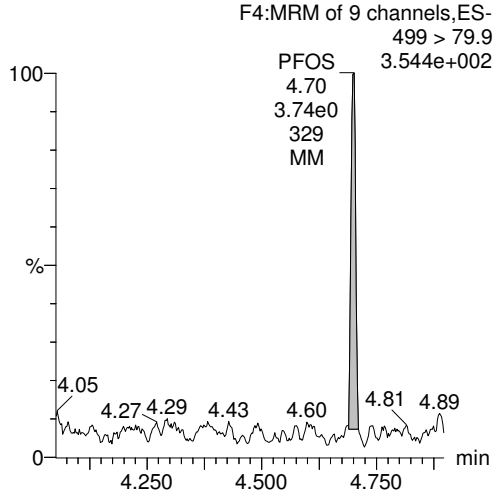
PFBS



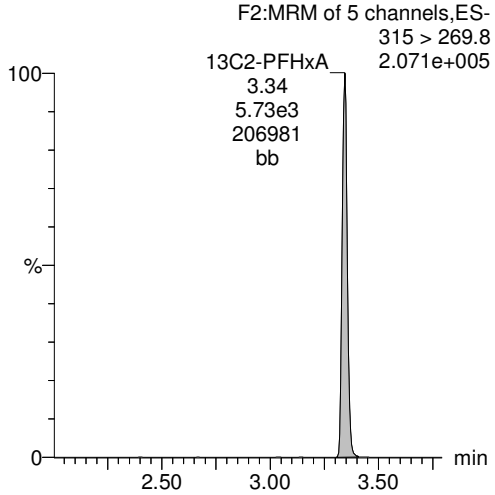
PFOA



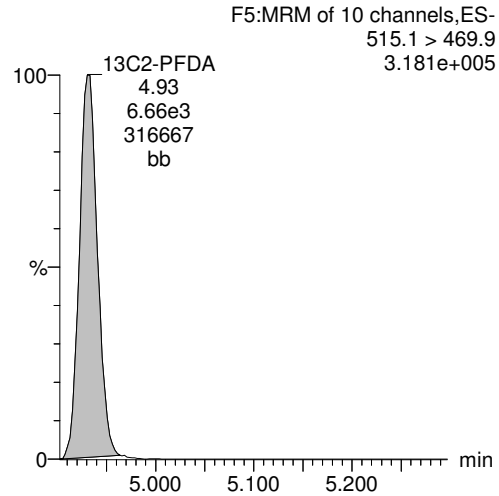
PFOS



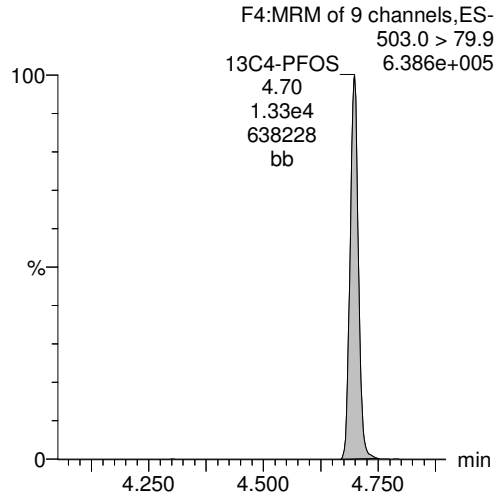
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-34.qld

Last Altered: Tuesday, March 06, 2018 17:54:22 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:54:58 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-34, Date: 02-Mar-2018, Time: 21:17:51, ID: 1800366-06 CH-AT-1FB167-0218 0.234, Description: CH-AT-1FB167-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	8.07e-1	1.40e4	0.2340		3.02	2.99	0.00166	~~0.00970~~	-------	SEE RX
2	5	PFOA	413 > 368.7	1.54e2	1.08e4	0.2340		4.17	4.29	0.143	0.732		
3	7	PFOS	499 >79.9	2.00e0	1.40e4	0.2340		4.71	4.71	0.00412	~~0.0184~~	-------	SEE RX
4	15	13C2-PFHxA	315 > 269.8	6.82e3	1.08e4	0.2340	0.731	3.44	3.37	6.34	37.0	86.7	
5	16	13C2-PFDA	515.1 > 469.9	5.26e3	1.08e4	0.2340	0.910	4.89	4.95	4.89	22.9	53.7	H
6	18	13C2-PFOA	414.9 > 369.7	1.08e4	1.08e4	0.2340	1.000	4.41	4.29	10.0	42.7	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.40e4	1.40e4	0.2340	1.000	4.81	4.71	28.7	123	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

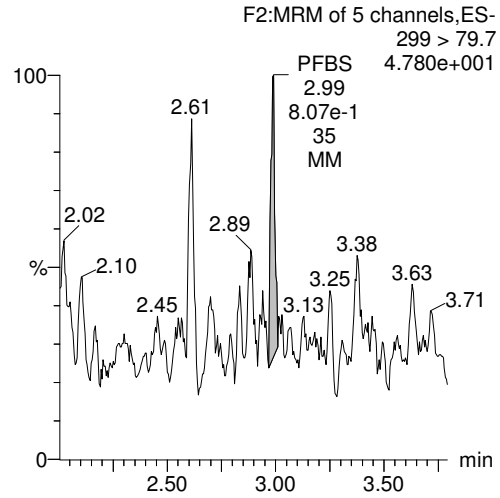
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-34.qld

Last Altered: Tuesday, March 06, 2018 17:54:22 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:54:58 Pacific Standard Time

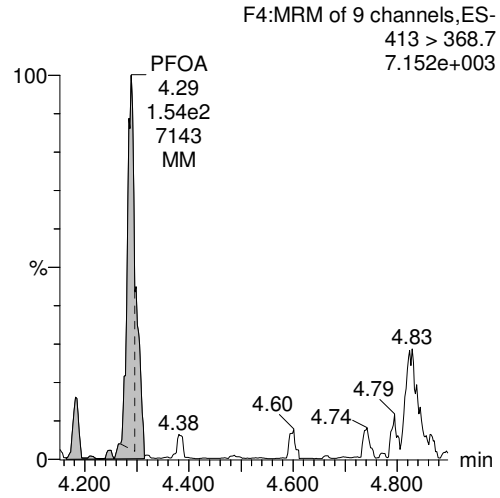
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-34, Date: 02-Mar-2018, Time: 21:17:51, ID: 1800366-06 CH-AT-1FB167-0218 0.234, Description: CH-AT-1FB167-0218

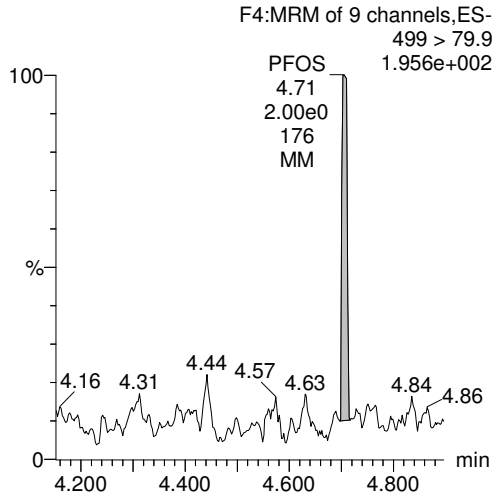
PFBS



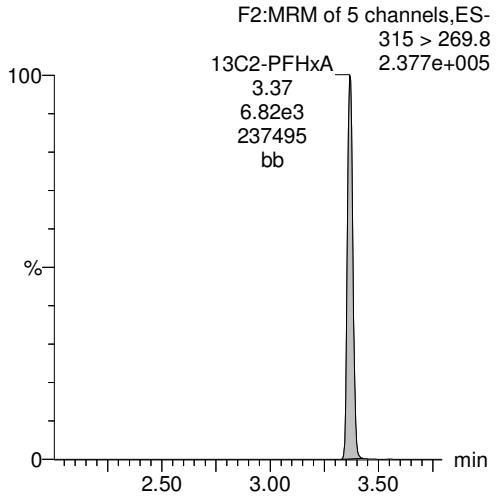
PFOA



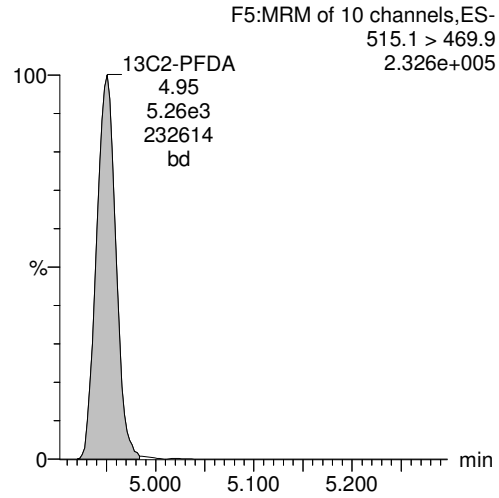
PFOS



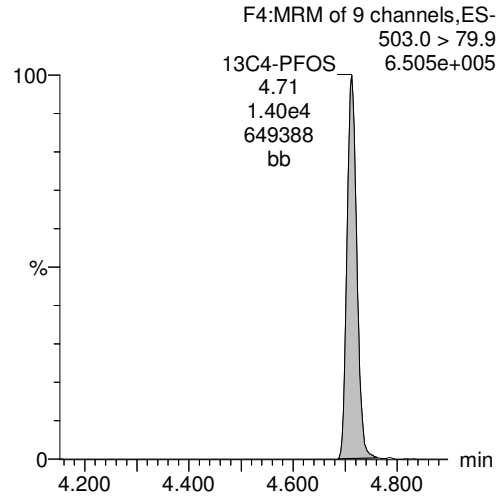
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-12.qld

Last Altered: Wednesday, March 07, 2018 13:18:43 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:02 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_12, Date: 05-Mar-2018, Time: 17:32:24, ID: 1800366-06RE1 CH-AT-1FB167-0218 0.25, Description: CH-AT-1FB167-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.29e4	0.2473		3.01				
2	7	PFOS	499 >79.9		1.29e4	0.2473		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.69e3	7.66e3	0.2473	0.731	3.43	3.34	7.42	41.0	101.5
4	16	13C2-PFDA	515.1 > 469.9	6.77e3	7.66e3	0.2473	0.910	4.87	4.93	8.84	39.3	97.1
5	18	13C2-PFOA	414.9 > 369.7	7.66e3	7.66e3	0.2473	1.000	4.41	4.27	10.0	40.4	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.29e4	1.29e4	0.2473	1.000	4.81	4.70	28.7	116	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

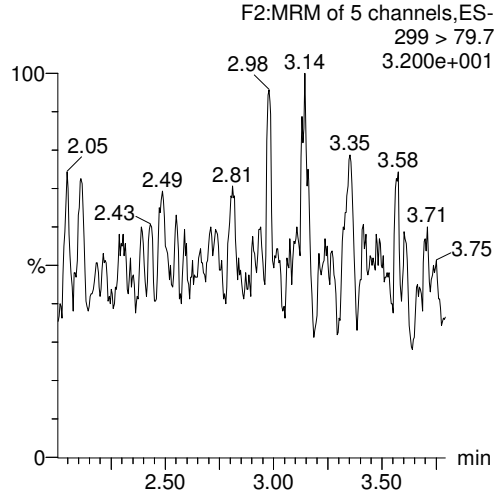
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-12.qld

Last Altered: Wednesday, March 07, 2018 13:18:43 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:47:02 Pacific Standard Time

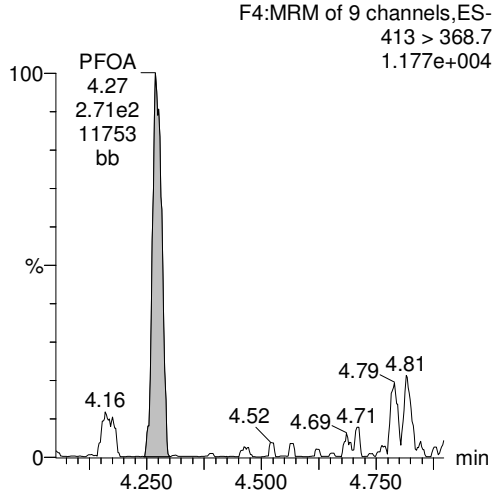
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_12, Date: 05-Mar-2018, Time: 17:32:24, ID: 1800366-06RE1 CH-AT-1FB167-0218 0.25, Description: CH-AT-1FB167-0218

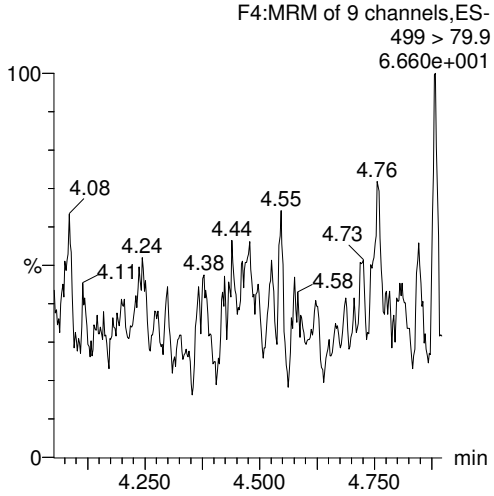
PFBS



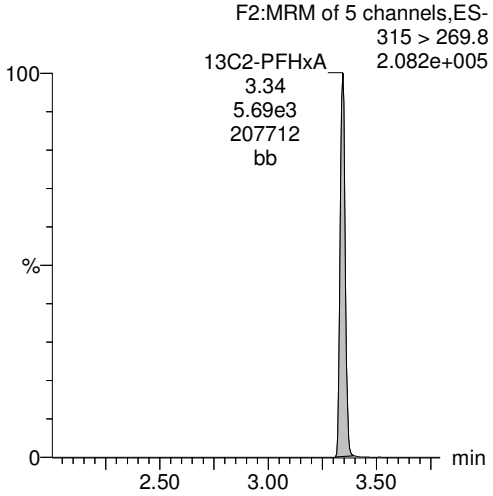
PFOA



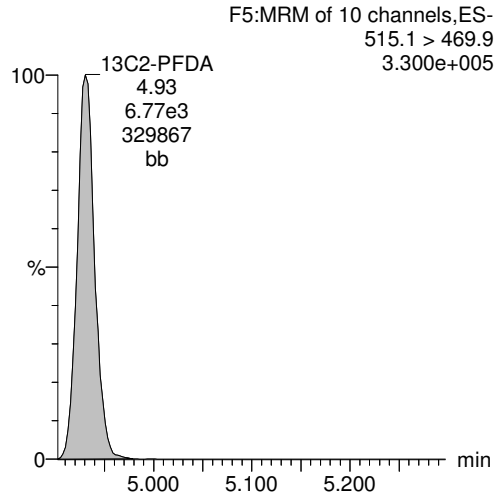
PFOS



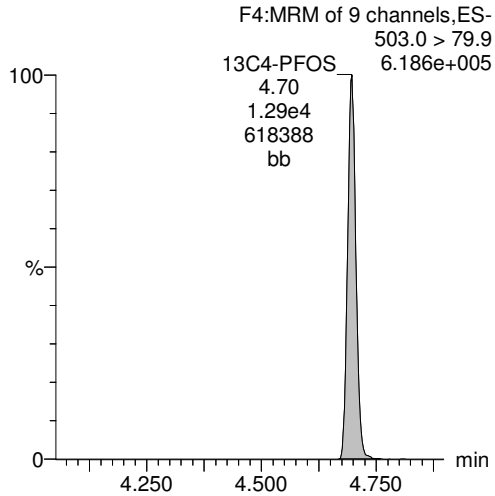
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-35.qld

Last Altered: Tuesday, March 06, 2018 17:58:52 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:59:10 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-35, Date: 02-Mar-2018, Time: 21:30:16, ID: 1800366-07 CH-AT-1RW168-0218 0.24747, Description: CH-AT-1RW168-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.43e4	0.2475		3.02			-----------		-SEE RX
2	5	PFOA	413 > 368.7	6.37e1	1.10e4	0.2475		4.29	4.29	0.0579	0.279		
3	7	PFOS	499 >79.9	1.21e0	1.43e4	0.2475		4.71	4.72	0.00242	~~0.0102~~	-------	-SEE RX
4	15	13C2-PFHxA	315 > 269.8	8.09e3	1.10e4	0.2475	0.731	3.44	3.37	7.36	40.6	100.6	
5	16	13C2-PFDA	515.1 > 469.9	3.15e3	1.10e4	0.2475	0.910	4.89	4.95	2.87	12.7	31.5	H
6	18	13C2-PFOA	414.9 > 369.7	1.10e4	1.10e4	0.2475	1.000	4.41	4.29	10.0	40.4	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.43e4	1.43e4	0.2475	1.000	4.81	4.71	28.7	116	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

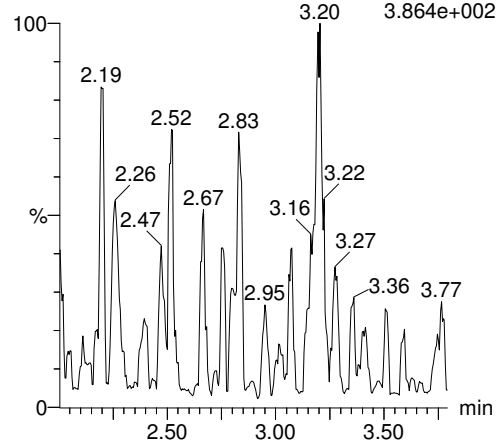
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-35.qld

Last Altered: Tuesday, March 06, 2018 17:58:52 Pacific Standard Time
Printed: Tuesday, March 06, 2018 17:59:10 Pacific Standard Time

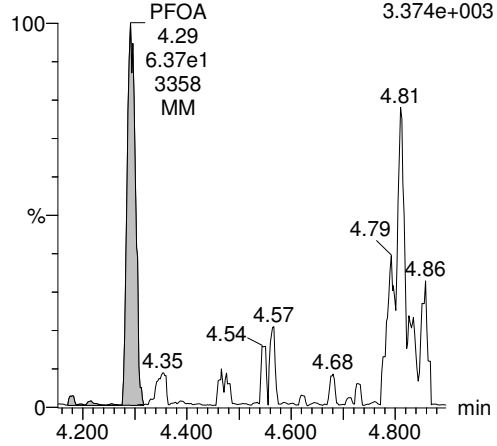
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-35, Date: 02-Mar-2018, Time: 21:30:16, ID: 1800366-07 CH-AT-1RW168-0218 0.24747, Description: CH-AT-1RW168-0218

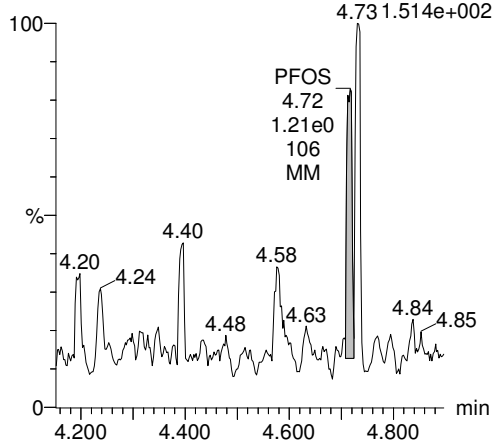
PFBS



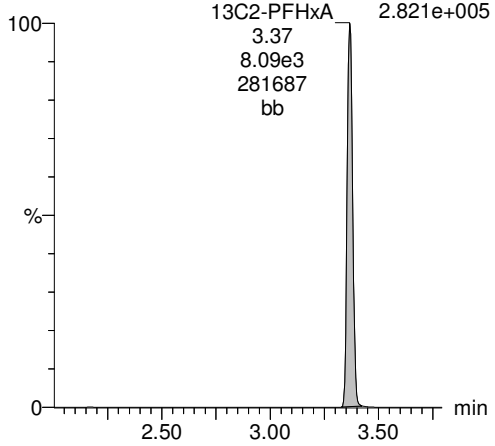
PFOA



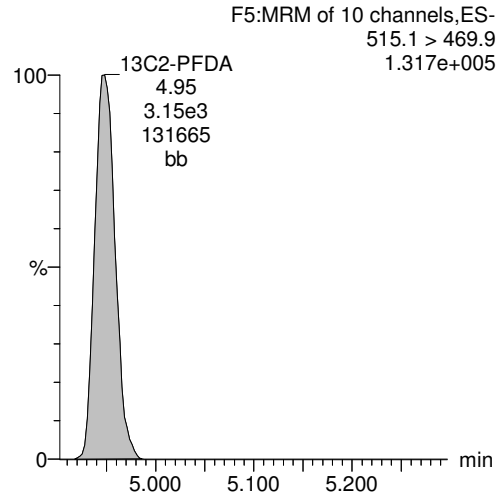
PFOS



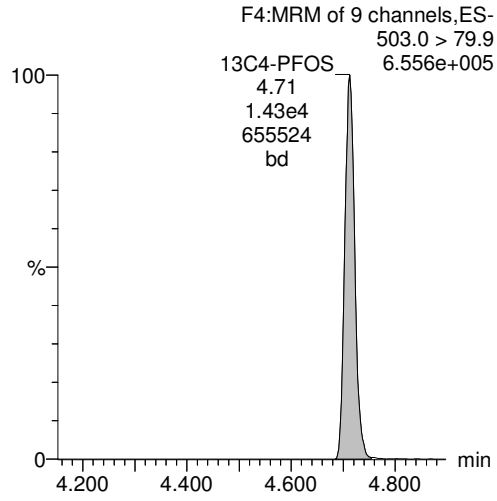
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-13.qld

Last Altered: Wednesday, March 07, 2018 13:20:10 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:45:50 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_13, Date: 05-Mar-2018, Time: 17:44:44, ID: 1800366-07RE1 CH-AT-1RW168-0218 0.25, Description: CH-AT-1RW168-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.20e4	0.2478		3.01				
2	7	PFOS	499 >79.9		1.20e4	0.2478		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.33e3	8.08e3	0.2478	0.731	3.43	3.34	6.60	36.4	90.2
4	16	13C2-PFDA	515.1 > 469.9	6.46e3	8.08e3	0.2478	0.910	4.87	4.93	8.00	35.5	87.9
5	18	13C2-PFOA	414.9 > 369.7	8.08e3	8.08e3	0.2478	1.000	4.41	4.27	10.0	40.3	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.20e4	1.20e4	0.2478	1.000	4.81	4.70	28.7	116	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

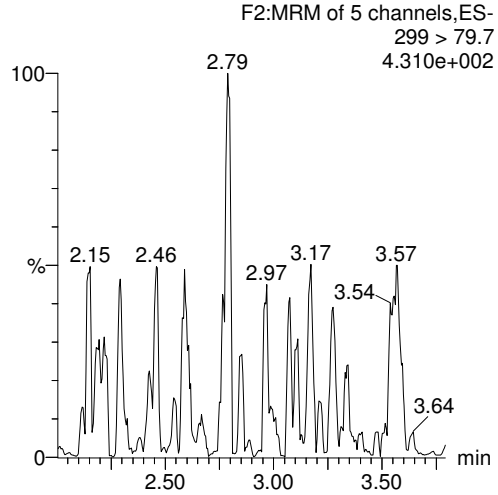
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-13.qld

Last Altered: Wednesday, March 07, 2018 13:20:10 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:45:50 Pacific Standard Time

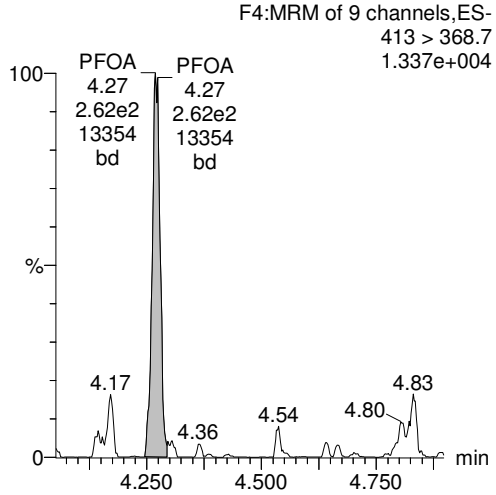
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_13, Date: 05-Mar-2018, Time: 17:44:44, ID: 1800366-07RE1 CH-AT-1RW168-0218 0.25, Description: CH-AT-1RW168-0218

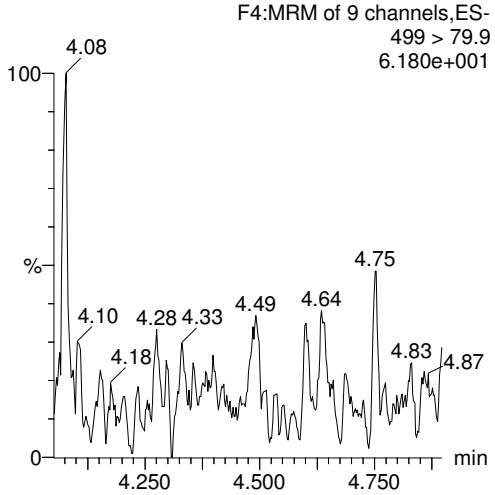
PFBS



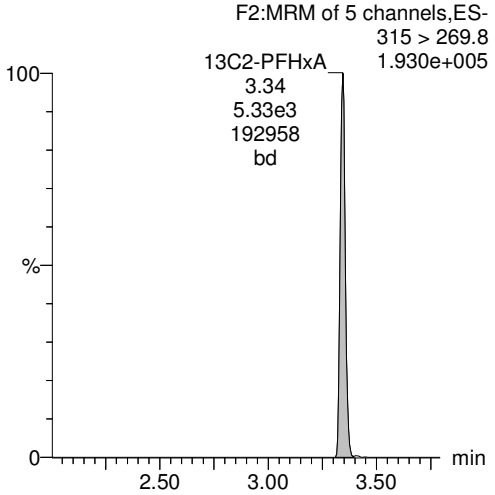
PFOA



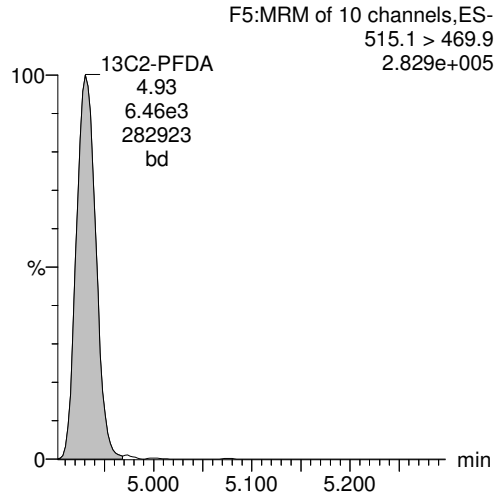
PFOS



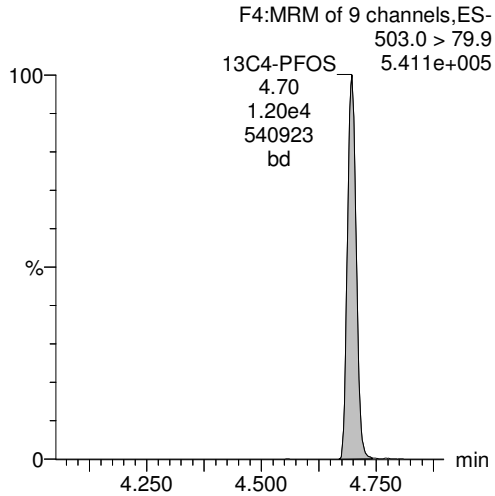
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-36.qld

Last Altered: Tuesday, March 06, 2018 18:13:32 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:14:12 Pacific Standard Time

Reviewed: CT 3/7/2018

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-36, Date: 02-Mar-2018, Time: 21:42:41, ID: 1800366-08 CH-AT-1FB168-0218 0.2506, Description: CH-AT-1FB168-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.46e4	0.2506		3.01			----------		SEE RX
2	5	PFOA	413 > 368.7	6.43e1	1.09e4	0.2506		4.29	4.29	0.0591	0.281		
3	7	PFOS	499 >79.9		1.46e4	0.2506		4.71			----------		SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.53e3	1.09e4	0.2506	0.731	3.44	3.37	6.91	37.7	94.5	
5	16	13C2-PFDA	515.1 > 469.9	7.76e3	1.09e4	0.2506	0.910	4.89	4.95	7.13	31.3	78.4	
6	18	13C2-PFOA	414.9 > 369.7	1.09e4	1.09e4	0.2506	1.000	4.41	4.29	10.0	39.9	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.46e4	1.46e4	0.2506	1.000	4.81	4.71	28.7	115	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-36.qld

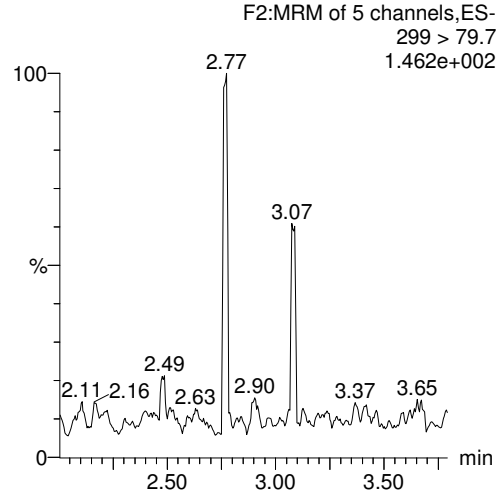
Last Altered: Tuesday, March 06, 2018 18:13:32 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:14:12 Pacific Standard Time

Reviewed: CT 3/7/2018

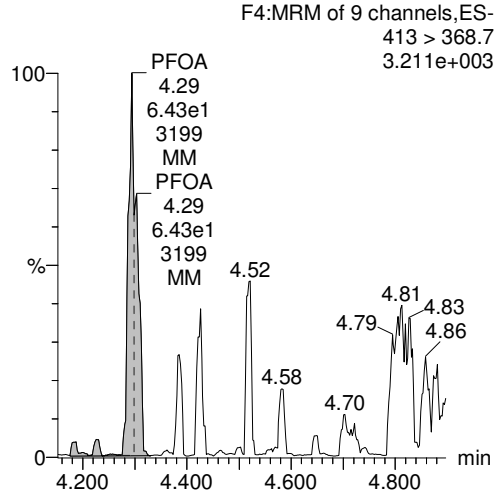
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-36, Date: 02-Mar-2018, Time: 21:42:41, ID: 1800366-08 CH-AT-1FB168-0218 0.2506, Description: CH-AT-1FB168-0218

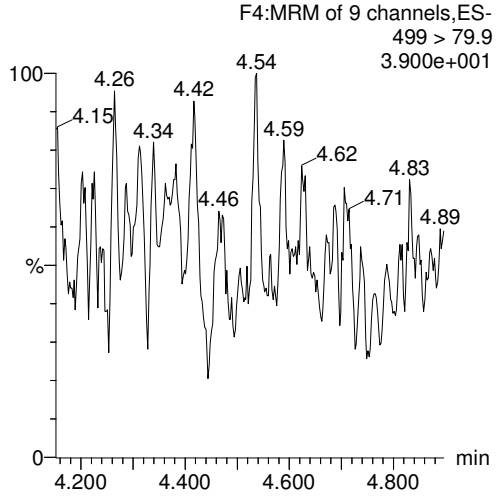
PFBS



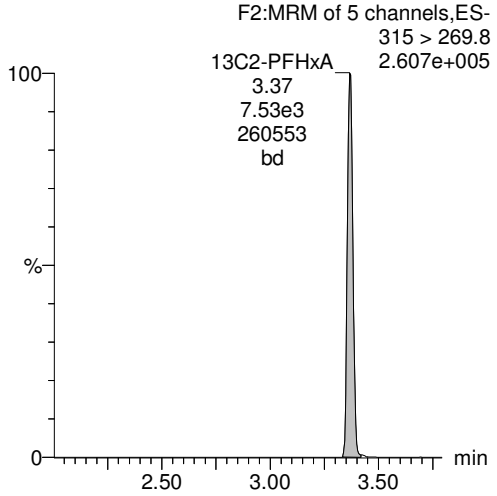
PFOA



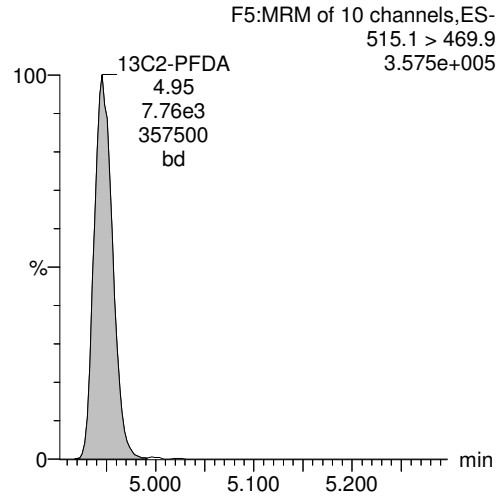
PFOS



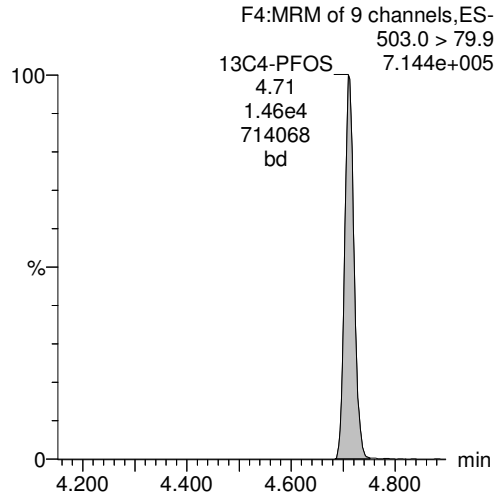
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-14.qld

Last Altered: Wednesday, March 07, 2018 13:29:04 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:45:23 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_14, Date: 05-Mar-2018, Time: 17:57:01, ID: 1800366-08RE1 CH-AT-1FB168-0218 0.25, Description: CH-AT-1FB168-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.27e4	0.2384		3.01				
2	7	PFOS	499 >79.9		1.27e4	0.2384		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.82e3	8.91e3	0.2384	0.731	3.43	3.35	6.54	37.5	89.4
4	16	13C2-PFDA	515.1 > 469.9	7.21e3	8.91e3	0.2384	0.910	4.87	4.93	8.09	37.3	88.9
5	18	13C2-PFOA	414.9 > 369.7	8.91e3	8.91e3	0.2384	1.000	4.41	4.28	10.0	41.9	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.27e4	1.27e4	0.2384	1.000	4.81	4.70	28.7	120	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

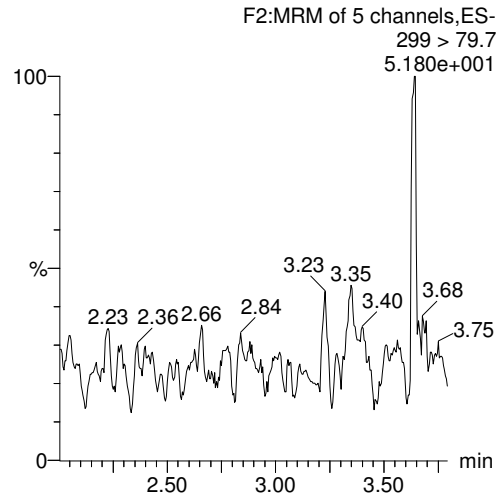
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-14.qld

Last Altered: Wednesday, March 07, 2018 13:29:04 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:45:23 Pacific Standard Time

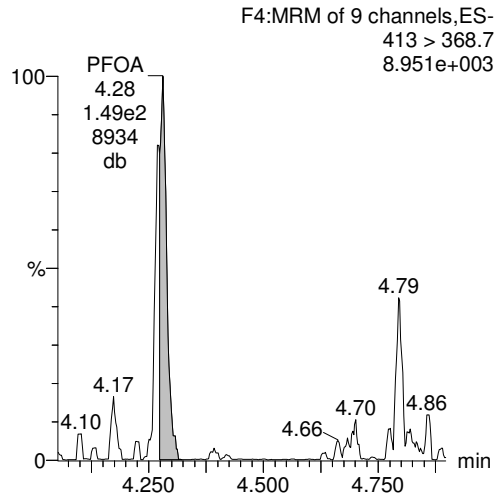
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_14, Date: 05-Mar-2018, Time: 17:57:01, ID: 1800366-08RE1 CH-AT-1FB168-0218 0.25, Description: CH-AT-1FB168-0218

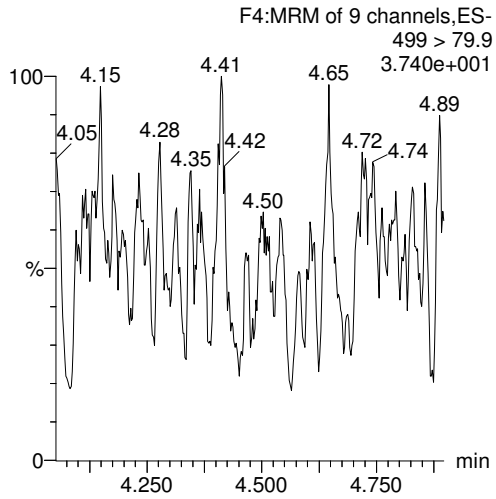
PFBS



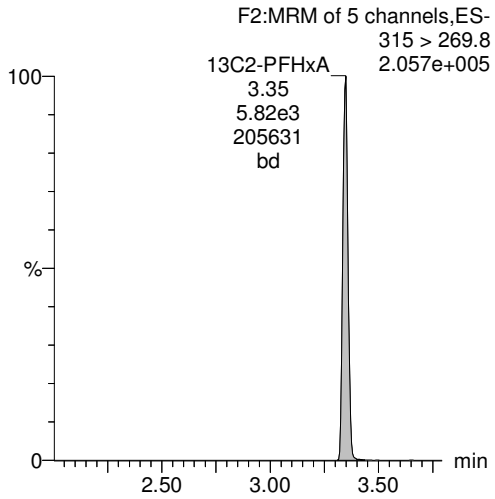
PFOA



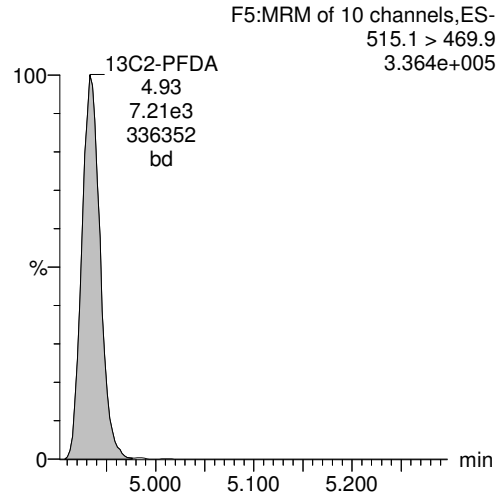
PFOS



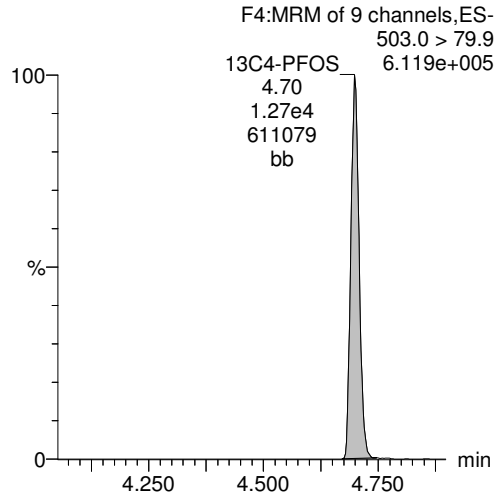
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-37.qld

Last Altered: Tuesday, March 06, 2018 18:15:38 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:16:13 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-37, Date: 02-Mar-2018, Time: 21:55:07, ID: 1800366-09 CH-AT-1RW169-0218 0.25031, Description: CH-AT-1RW169-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7	6.78e0	1.40e4	0.2503		3.02	2.99	0.0139	0.0760	--------	SEE RX
2	5	PFOA	413 > 368.7	1.19e2	9.40e3	0.2503		4.30	4.30	0.126	0.602		
3	7	PFOS	499 >79.9		1.40e4	0.2503		4.71			----------	--	SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.04e3	9.40e3	0.2503	0.731	3.45	3.37	7.49	40.9	102.5	
5	16	13C2-PFDA	515.1 > 469.9	5.12e3	9.40e3	0.2503	0.910	4.90	4.95	5.44	23.9	59.8	H
6	18	13C2-PFOA	414.9 > 369.7	9.40e3	9.40e3	0.2503	1.000	4.41	4.30	10.0	40.0	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.40e4	1.40e4	0.2503	1.000	4.81	4.71	28.7	115	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

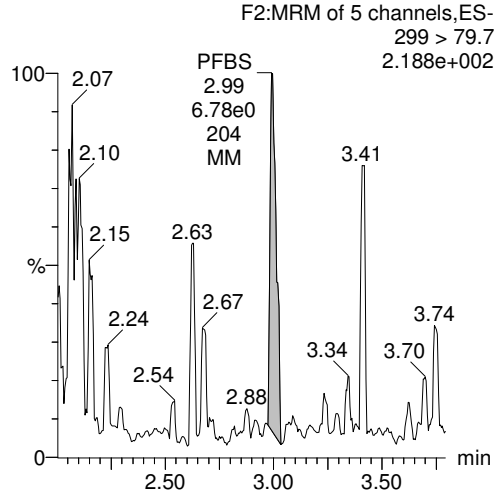
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-37.qld

Last Altered: Tuesday, March 06, 2018 18:15:38 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:16:13 Pacific Standard Time

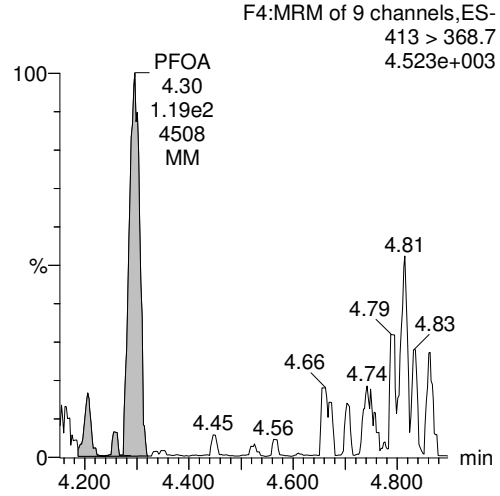
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-37, Date: 02-Mar-2018, Time: 21:55:07, ID: 1800366-09 CH-AT-1RW169-0218 0.25031, Description: CH-AT-1RW169-0218

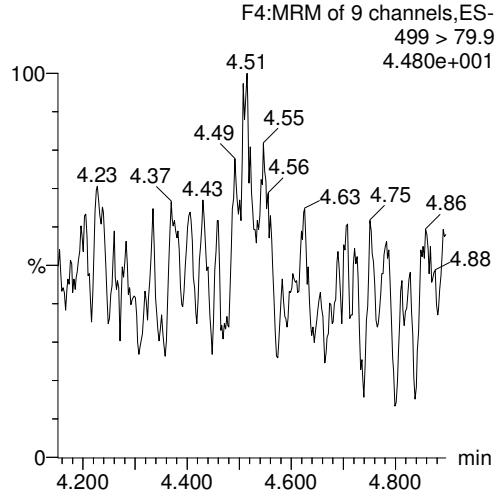
PFBS



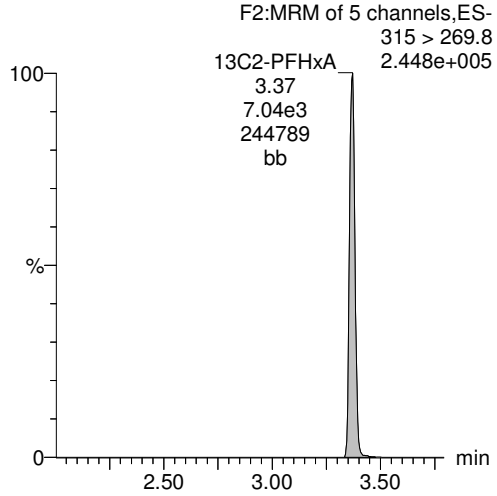
PFOA



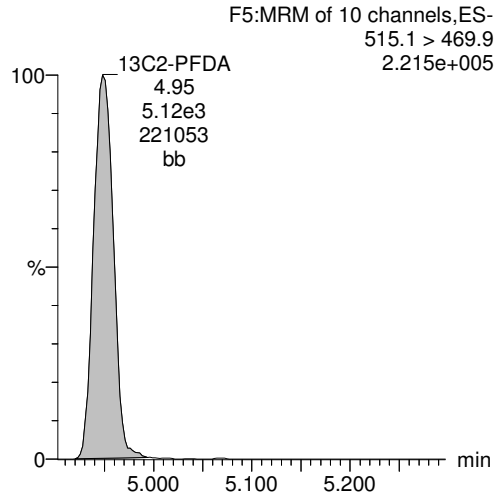
PFOS



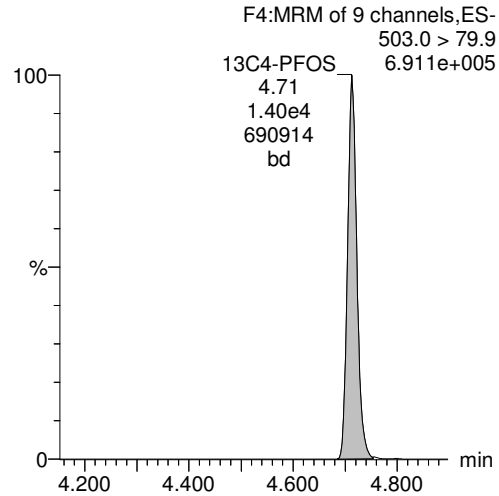
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-15.qld

Last Altered: Wednesday, March 07, 2018 13:30:49 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:52 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_15, Date: 05-Mar-2018, Time: 18:09:27, ID: 1800366-09RE1 CH-AT-1RW169-0218 0.25, Description: CH-AT-1RW169-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	6.30e0	1.37e4	0.2470		3.01	2.96	0.0132	0.0731	
2	7	PFOS	499 >79.9		1.37e4	0.2470		4.70				
3	15	13C2-PFHxA	315 > 269.8	6.36e3	9.49e3	0.2470	0.731	3.42	3.34	6.70	37.1	91.5
4	16	13C2-PFDA	515.1 > 469.9	6.56e3	9.49e3	0.2470	0.910	4.87	4.93	6.91	30.8	76.0
5	18	13C2-PFOA	414.9 > 369.7	9.49e3	9.49e3	0.2470	1.000	4.41	4.27	10.0	40.5	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.37e4	1.37e4	0.2470	1.000	4.81	4.70	28.7	116	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

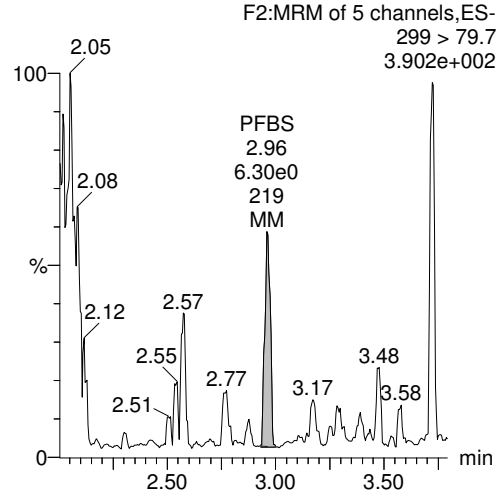
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-15.qld

Last Altered: Wednesday, March 07, 2018 13:30:49 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:52 Pacific Standard Time

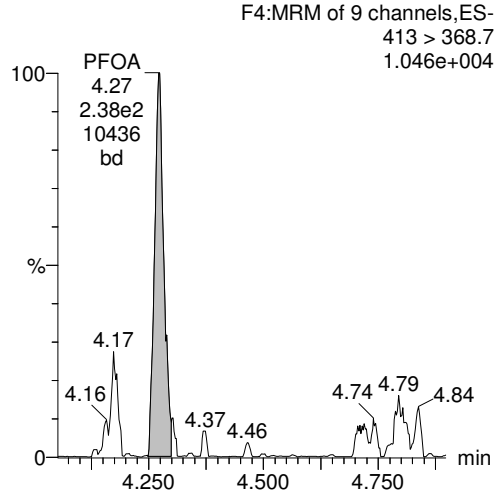
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_15, Date: 05-Mar-2018, Time: 18:09:27, ID: 1800366-09RE1 CH-AT-1RW169-0218 0.25, Description: CH-AT-1RW169-0218

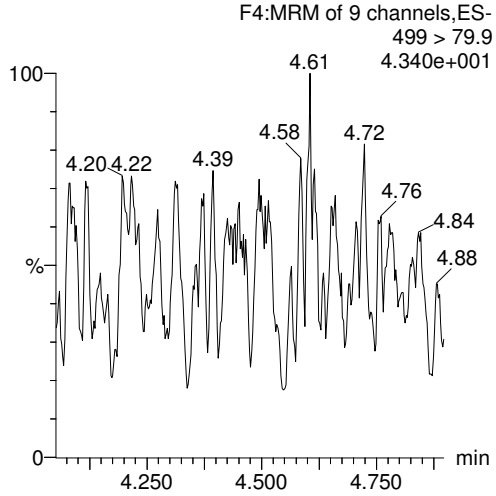
PFBS



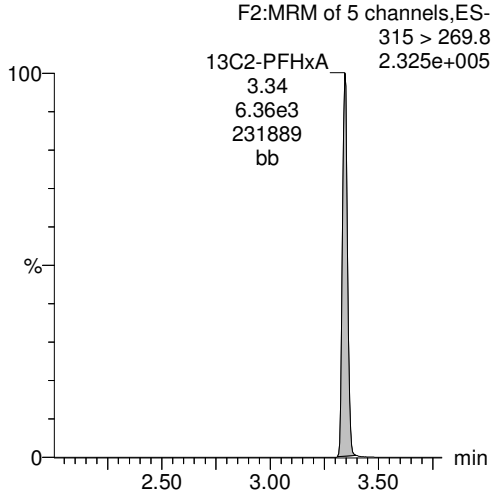
PFOA



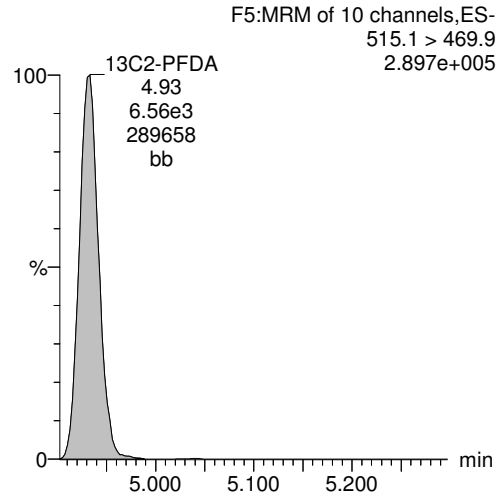
PFOS



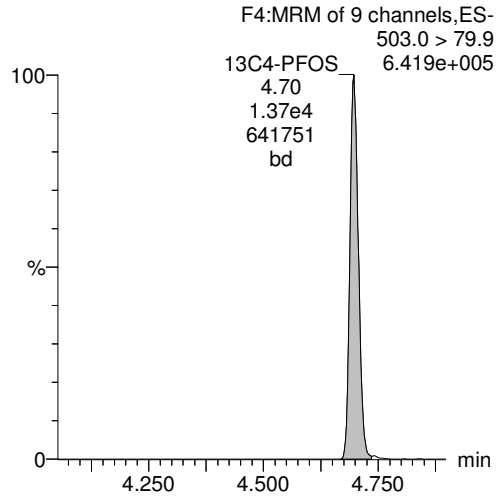
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-38.qld

Last Altered: Tuesday, March 06, 2018 18:18:22 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:18:59 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-38, Date: 02-Mar-2018, Time: 22:07:31, ID: 1800366-10 CH-AT-1FB169-0218 0.24911, Description: CH-AT-1FB169-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.36e4	0.2491		3.01			----------SEE RX		
2	5	PFOA	413 > 368.7	9.09e1	1.09e4	0.2491		4.29	4.30	0.0837	0.401		
3	7	PFOS	499 >79.9		1.36e4	0.2491		4.71			----------SEE RX		
4	15	13C2-PFHxA	315 > 269.8	6.45e3	1.09e4	0.2491	0.731	3.44	3.37	5.94	32.6	81.2	
5	16	13C2-PFDA	515.1 > 469.9	6.34e3	1.09e4	0.2491	0.910	4.89	4.95	5.83	25.7	64.1	H
6	18	13C2-PFOA	414.9 > 369.7	1.09e4	1.09e4	0.2491	1.000	4.41	4.29	10.0	40.1	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.36e4	1.36e4	0.2491	1.000	4.81	4.71	28.7	115	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

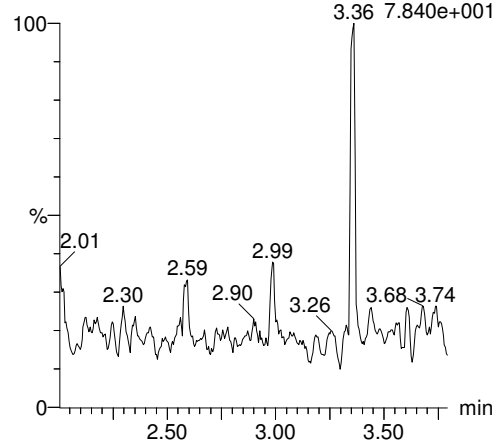
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-38.qld

Last Altered: Tuesday, March 06, 2018 18:18:22 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:18:59 Pacific Standard Time

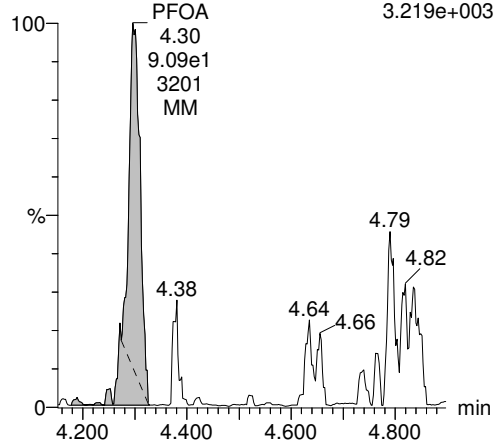
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-38, Date: 02-Mar-2018, Time: 22:07:31, ID: 1800366-10 CH-AT-1FB169-0218 0.24911, Description: CH-AT-1FB169-0218

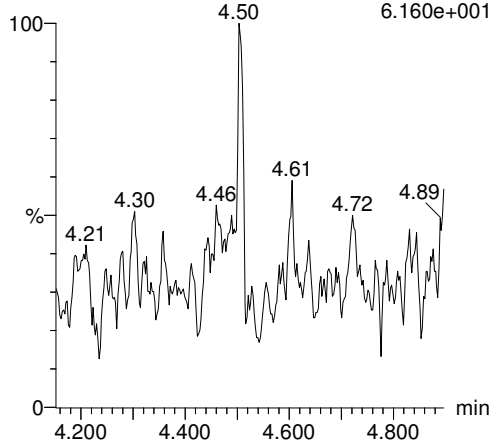
PFBS



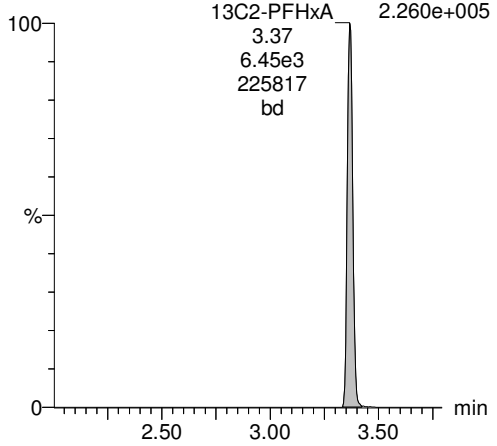
PFOA



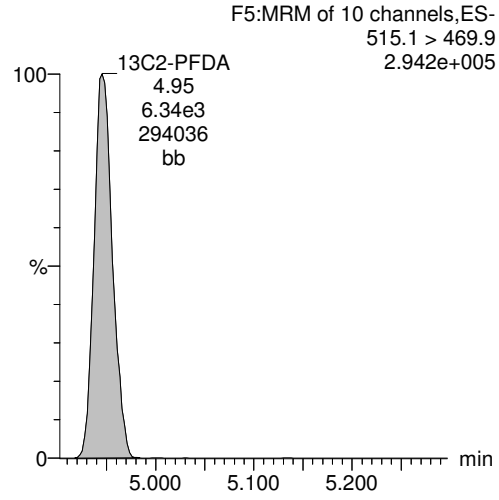
PFOS



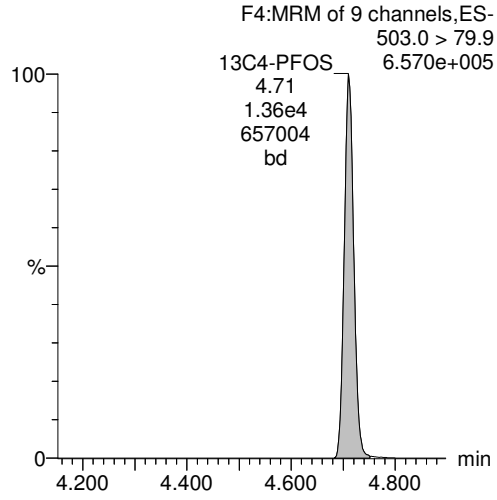
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-16.qld

Last Altered: Wednesday, March 07, 2018 13:32:21 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:29 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_16, Date: 05-Mar-2018, Time: 18:21:52, ID: 1800366-10RE1 CH-AT-1FB169-0218 0.25, Description: CH-AT-1FB169-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.28e4	0.2460		3.01				
2	7	PFOS	499 >79.9		1.28e4	0.2460		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.89e3	8.43e3	0.2460	0.731	3.43	3.34	6.98	38.8	95.5
4	16	13C2-PFDA	515.1 > 469.9	7.11e3	8.43e3	0.2460	0.910	4.87	4.93	8.44	37.7	92.7
5	18	13C2-PFOA	414.9 > 369.7	8.43e3	8.43e3	0.2460	1.000	4.41	4.27	10.0	40.6	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.28e4	1.28e4	0.2460	1.000	4.81	4.70	28.7	117	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

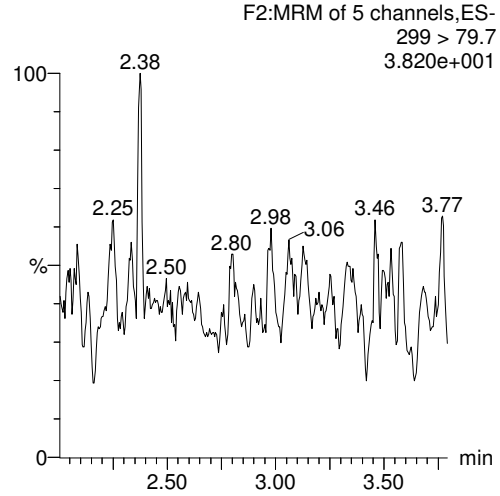
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-16.qld

Last Altered: Wednesday, March 07, 2018 13:32:21 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:29 Pacific Standard Time

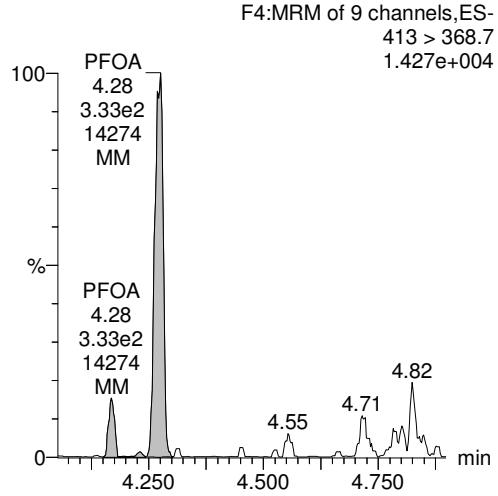
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_16, Date: 05-Mar-2018, Time: 18:21:52, ID: 1800366-10RE1 CH-AT-1FB169-0218 0.25, Description: CH-AT-1FB169-0218

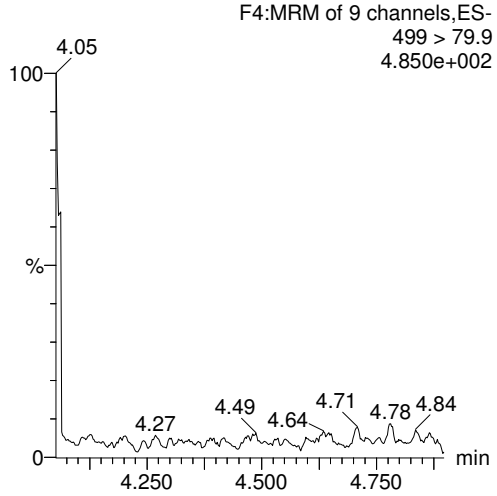
PFBS



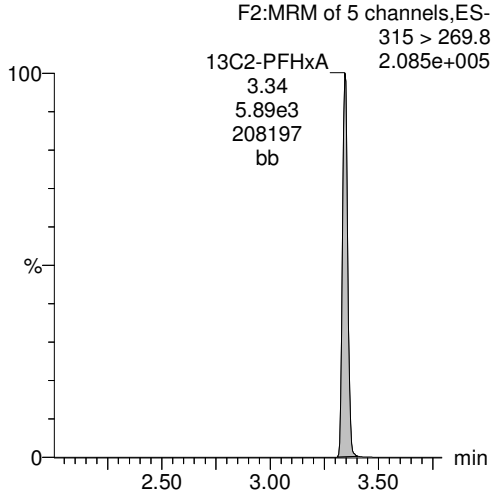
PFOA



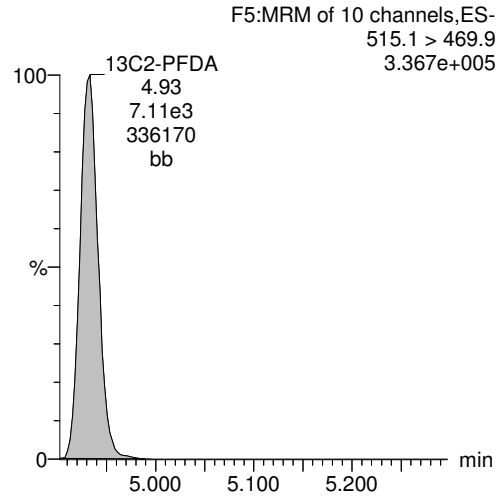
PFOS



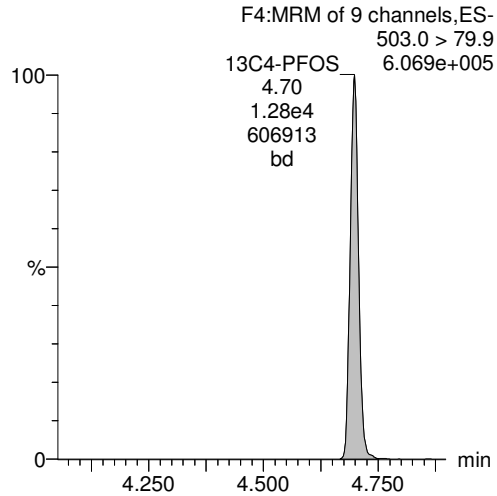
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-39.qld

Last Altered: Tuesday, March 06, 2018 18:21:04 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:22:08 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-39, Date: 02-Mar-2018, Time: 22:19:57, ID: 1800366-11 CH-AT-1RW170-0218 0.24988, Description: CH-AT-1RW170-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.42e4	0.2499		3.01			----------		SEE RX
2	5	PFOA	413 > 368.7	6.51e1	1.02e4	0.2499		4.29	4.29	0.0637	0.304		
3	7	PFOS	499 >79.9		1.42e4	0.2499		4.71			----------		SEE RX
4	15	13C2-PFHxA	315 > 269.8	7.59e3	1.02e4	0.2499	0.731	3.44	3.37	7.43	40.6	101.5	
5	16	13C2-PFDA	515.1 > 469.9	6.03e3	1.02e4	0.2499	0.910	4.89	4.95	5.91	26.0	64.9	H
6	18	13C2-PFOA	414.9 > 369.7	1.02e4	1.02e4	0.2499	1.000	4.41	4.29	10.0	40.0	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.42e4	1.42e4	0.2499	1.000	4.81	4.71	28.7	115	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

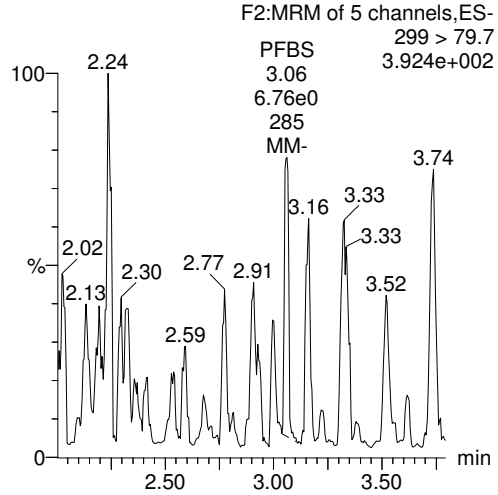
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-39.qld

Last Altered: Tuesday, March 06, 2018 18:21:04 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:22:08 Pacific Standard Time

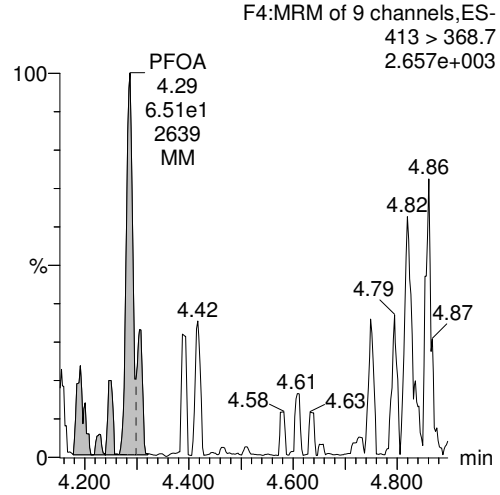
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-39, Date: 02-Mar-2018, Time: 22:19:57, ID: 1800366-11 CH-AT-1RW170-0218 0.24988, Description: CH-AT-1RW170-0218

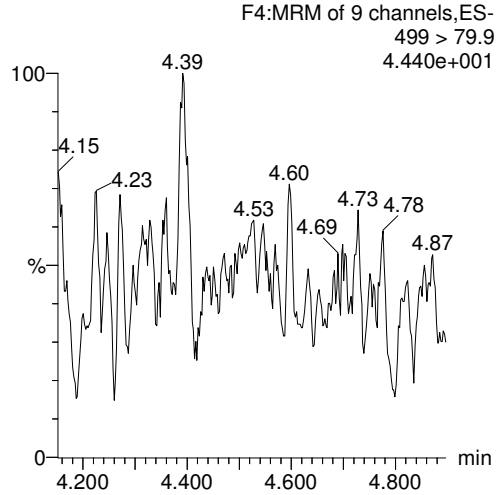
PFBS



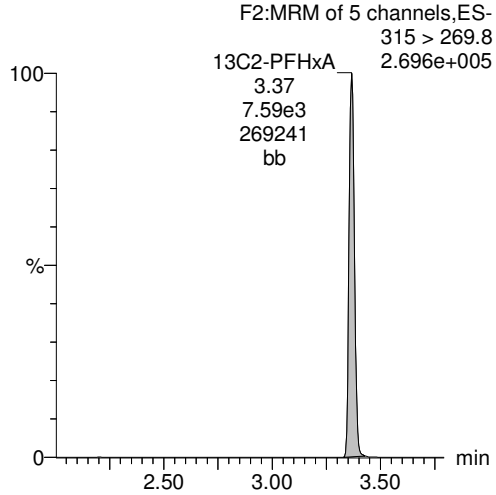
PFOA



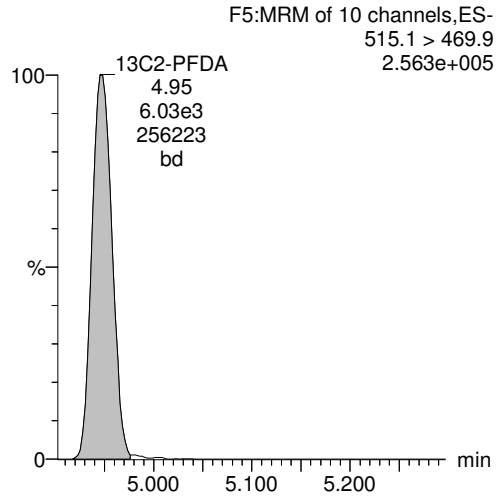
PFOS



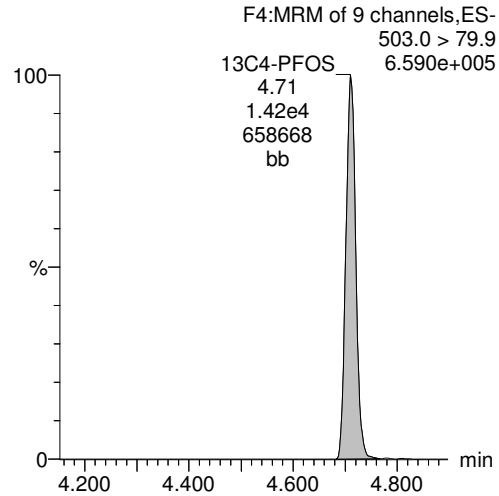
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-17.qld

Last Altered: Wednesday, March 07, 2018 13:33:21 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:01 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_17, Date: 05-Mar-2018, Time: 18:34:16, ID: 1800366-11RE1 CH-AT-1RW170-0218 0.25, Description: CH-AT-1RW170-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.24e4	0.2357		3.01				
2	7	PFOS	499 >79.9		1.24e4	0.2357		4.70				
3	15	13C2-PFHxA	315 > 269.8	5.81e3	8.76e3	0.2357	0.731	3.43	3.34	6.64	38.5	90.7
4	16	13C2-PFDA	515.1 > 469.9	7.29e3	8.76e3	0.2357	0.910	4.87	4.93	8.32	38.8	91.4
5	18	13C2-PFOA	414.9 > 369.7	8.76e3	8.76e3	0.2357	1.000	4.41	4.27	10.0	42.4	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.24e4	1.24e4	0.2357	1.000	4.81	4.70	28.7	122	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

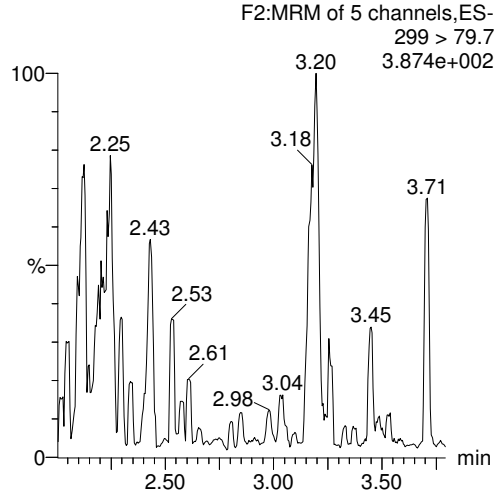
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-17.qld

Last Altered: Wednesday, March 07, 2018 13:33:21 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:44:01 Pacific Standard Time

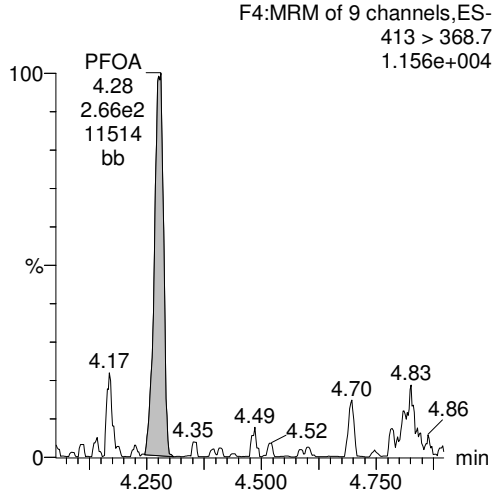
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_17, Date: 05-Mar-2018, Time: 18:34:16, ID: 1800366-11RE1 CH-AT-1RW170-0218 0.25, Description: CH-AT-1RW170-0218

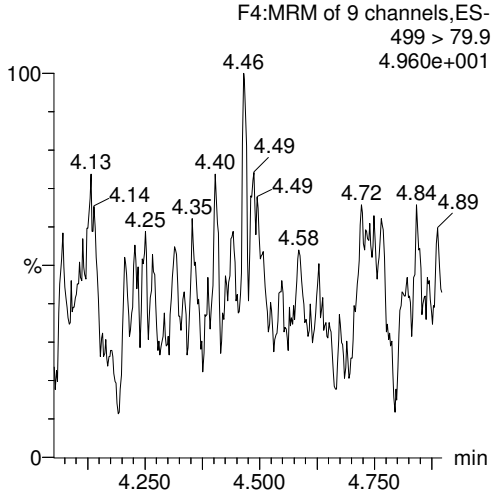
PFBS



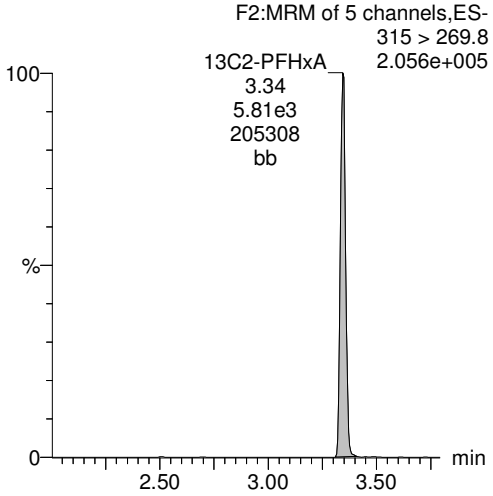
PFOA



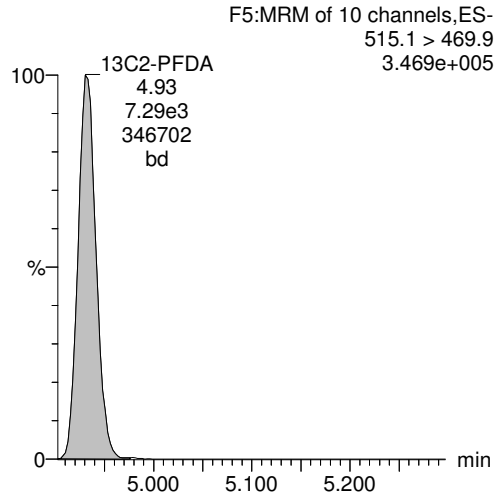
PFOS



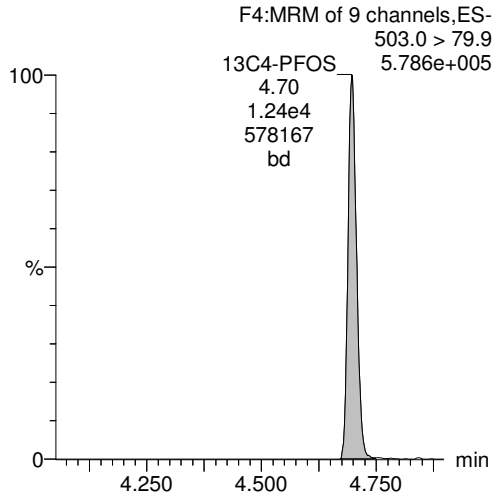
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-40.qld

Last Altered: Tuesday, March 06, 2018 18:24:07 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:24:47 Pacific Standard Time

Reviewed: CT 3/7/2018

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-40, Date: 02-Mar-2018, Time: 22:32:17, ID: 1800366-12 CH-AT-1FB170-0218 0.25246, Description: CH-AT-1FB170-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec	
1	1	PFBS	299 > 79.7		1.38e4	0.2525		3.02			----------		--SEE RX
2	5	PFOA	413 > 368.7	7.30e1	9.95e3	0.2525		4.30	4.30	0.0734	0.347		
3	7	PFOS	499 >79.9		1.38e4	0.2525		4.71			----------		--SEE RX
4	15	13C2-PFHxA	315 > 269.8	6.47e3	9.95e3	0.2525	0.731	3.45	3.37	6.50	35.2	88.9	
5	16	13C2-PFDA	515.1 > 469.9	6.04e3	9.95e3	0.2525	0.910	4.90	4.95	6.07	26.4	66.7	H
6	18	13C2-PFOA	414.9 > 369.7	9.95e3	9.95e3	0.2525	1.000	4.41	4.30	10.0	39.6	100.0	
7	19	13C4-PFOS	503.0 > 79.9	1.38e4	1.38e4	0.2525	1.000	4.81	4.71	28.7	114	100.0	

KBF 3/6/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-40.qld

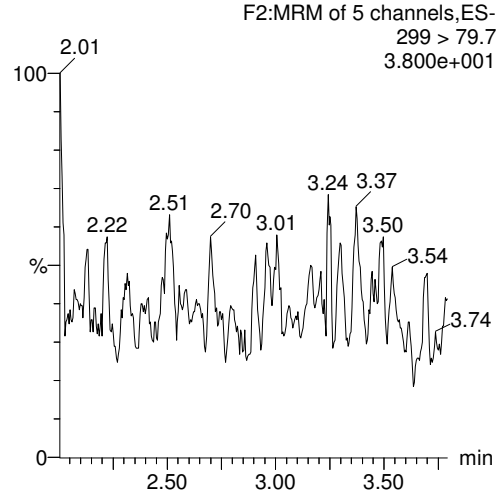
Last Altered: Tuesday, March 06, 2018 18:24:07 Pacific Standard Time
Printed: Tuesday, March 06, 2018 18:24:47 Pacific Standard Time

Reviewed: CT 3/7/2018

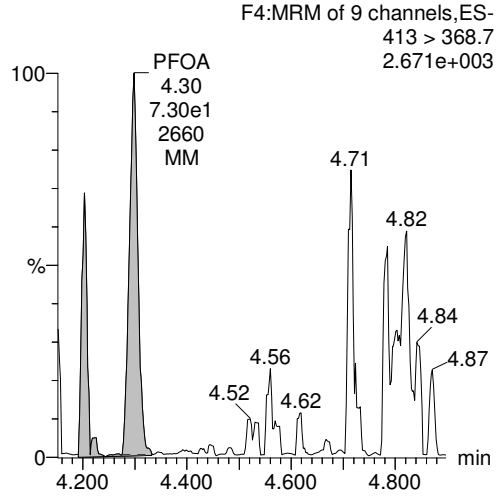
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-40, Date: 02-Mar-2018, Time: 22:32:17, ID: 1800366-12 CH-AT-1FB170-0218 0.25246, Description: CH-AT-1FB170-0218

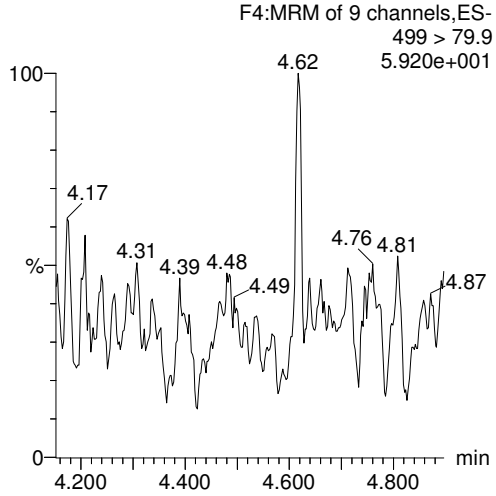
PFBS



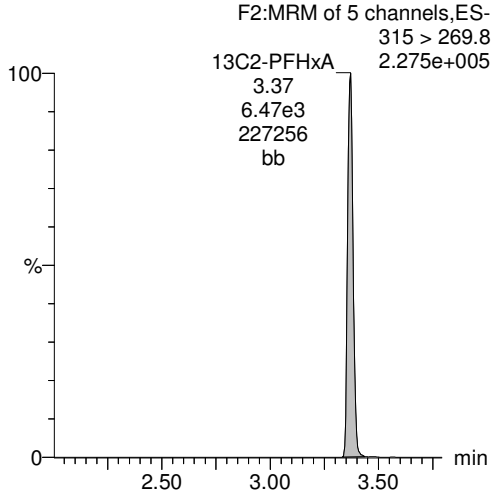
PFOA



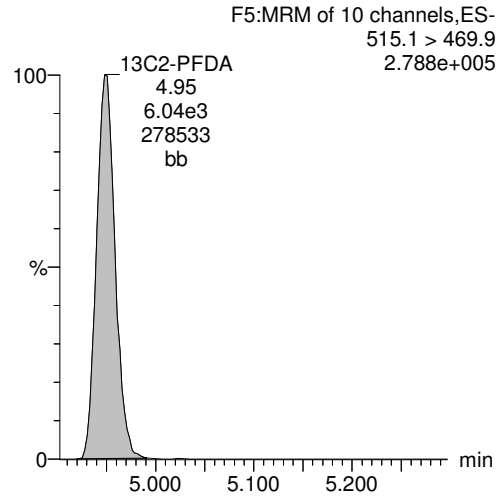
PFOS



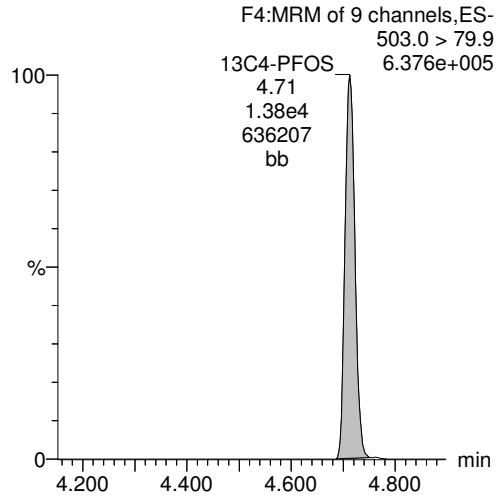
13C2-PFHxA



13C2-PFDA



13C4-PFOS



KBF 3/6/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-18.qld

Last Altered: Wednesday, March 07, 2018 13:34:27 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:43:26 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_18, Date: 05-Mar-2018, Time: 18:46:43, ID: 1800366-12RE1 CH-AT-1FB170-0218 0.25, Description: CH-AT-1FB170-0218

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7		1.30e4	0.2476		3.01				
2	7	PFOS	499 >79.9		1.30e4	0.2476		4.70				
3	15	13C2-PFHxA	315 > 269.8	6.30e3	9.38e3	0.2476	0.731	3.43	3.34	6.71	37.1	91.8
4	16	13C2-PFDA	515.1 > 469.9	7.27e3	9.38e3	0.2476	0.910	4.87	4.93	7.75	34.4	85.1
5	18	13C2-PFOA	414.9 > 369.7	9.38e3	9.38e3	0.2476	1.000	4.41	4.27	10.0	40.4	100.0
6	19	13C4-PFOS	503.0 > 79.9	1.30e4	1.30e4	0.2476	1.000	4.81	4.70	28.7	116	100.0

MJT 3/7/2018

Vista Analytical Laboratory

rev: ANP 3/7/2018

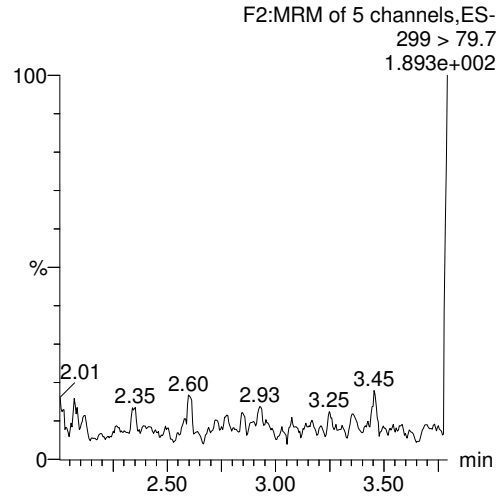
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-18.qld

Last Altered: Wednesday, March 07, 2018 13:34:27 Pacific Standard Time
Printed: Wednesday, March 07, 2018 13:43:26 Pacific Standard Time

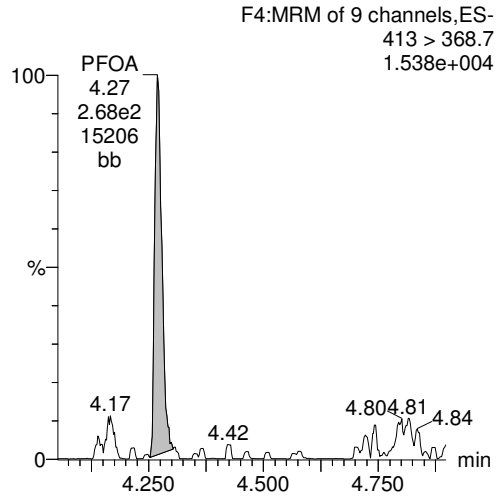
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_18, Date: 05-Mar-2018, Time: 18:46:43, ID: 1800366-12RE1 CH-AT-1FB170-0218 0.25, Description: CH-AT-1FB170-0218

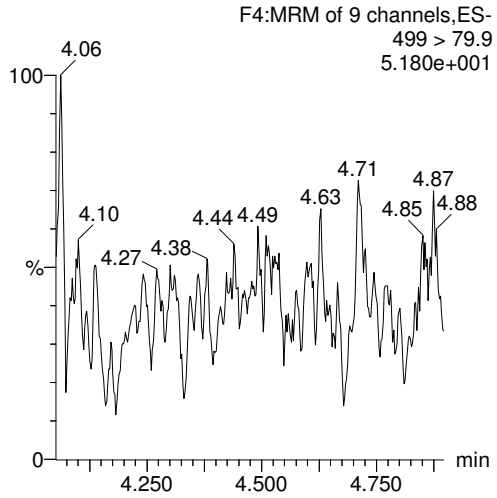
PFBS



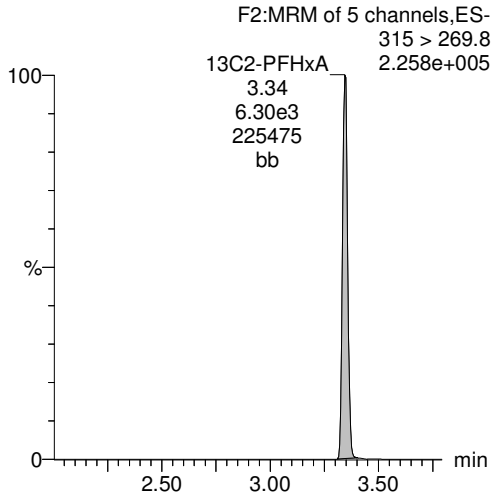
PFOA



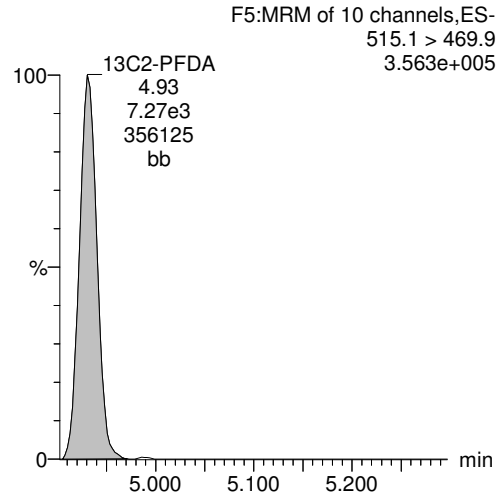
PFOS



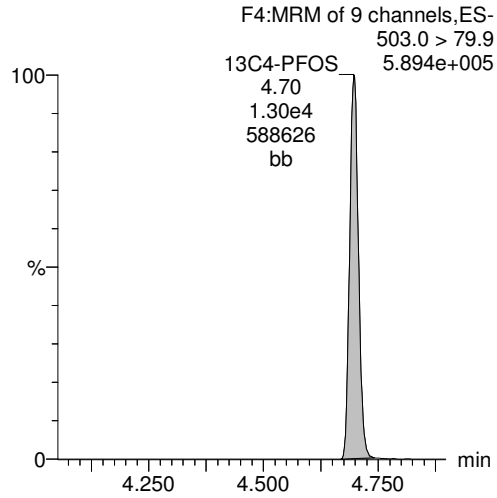
13C2-PFHxA



13C2-PFDA



13C4-PFOS



MJT 3/7/2018

INJECTION INTERNAL STANDARD (IIS) AREAS,

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS CCV)

ICAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Conc	RT	Area	Ical Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	10	4.30	12486.88	8974.47	139.14
2	IPA	180302G2-3	Analyte	10			8974.47	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	10	4.29	10545.81	8974.47	117.51
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	10	4.29	11190.04	8974.47	124.69
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	10	4.29	11649.22	8974.47	129.80
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	10	4.29	11427.65	8974.47	127.34
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	10	4.29	11472.5	8974.47	127.83
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	10	4.30	12019.47	8974.47	133.93
9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	10	4.29	12013.48	8974.47	133.86
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	10	4.29	11747.86	8974.47	130.90
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	10	4.29	11580.55	8974.47	129.04
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	10	4.30	11714.47	8974.47	130.53
13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	10	4.29	10405.79	8974.47	115.95
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	10	4.30	11889.96	8974.47	132.49
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	10	4.30	11544.01	8974.47	128.63
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	10	4.30	12957.85	8974.47	144.39
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	10	4.29	12610.74	8974.47	140.52
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	10	4.29	11764.75	8974.47	131.09
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	10	4.29	12315.24	8974.47	137.23
20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	10	4.30	11981.04	8974.47	133.50
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	10	4.29	12362.34	8974.47	137.75
22	IPA	180302G2-23	Analyte	10			8974.47	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	10	4.3	12266.96	8974.47	136.69
24	IPA	180302G2-25	Analyte	10			8974.47	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	10	4.29	8764.813	8974.47	97.66
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	10	4.29	10486.42	8974.47	116.85
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	10	4.30	11889.89	8974.47	132.49
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	10	4.29	10606.87	8974.47	118.19
29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	10	4.29	11280.31	8974.47	125.69
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	10	4.29	10578.57	8974.47	117.87

MJT 3/5/2018

31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	10	4.29	10521.43	8974.47	117.24
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	10	4.29	10590.93	8974.47	118.01
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	10	4.29	10760.6	8974.47	119.90
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	10	4.29	10995.66	8974.47	122.52
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	10	4.29	10888.61	8974.47	121.33
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	10	4.30	9400.12	8974.47	104.74
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	10	4.29	10868.15	8974.47	121.10
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	10	4.29	10216.5	8974.47	113.84
39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	10	4.30	9952.392	8974.47	110.90
40	IPA	180302G2-41	Analyte	10			8974.47	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	10	4.30	11117.88	8974.47	123.88
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	10	4.29	10612.19	8974.47	118.25
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	10	4.29	10859.7	8974.47	121.01
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	10	4.30	11067.61	8974.47	123.32
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	10	4.29	9732.047	8974.47	108.44
46	IPA	180302G2-47	Analyte	10			8974.47	0.00
47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	10	4.30	11971.58	8974.47	133.40
48	IPA	180302G2-49	Analyte	10			8974.47	0.00

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Conc	RT	Area	Ical Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	28.7	4.71	18744.89	17934.74	104.52
2	IPA	180302G2-3	Analyte	28.7			17934.74	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	28.7	4.71	16923.13	17934.74	94.36
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	28.7	4.71	17867.06	17934.74	99.62
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	28.7	4.71	16860.16	17934.74	94.01
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	28.7	4.71	16885.04	17934.74	94.15
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	28.7	4.71	17847.62	17934.74	99.51
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	28.7	4.71	17534.41	17934.74	97.77
9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	28.7	4.71	17672.9	17934.74	98.54
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	28.7	4.71	16622.71	17934.74	92.68
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	28.7	4.71	16101.56	17934.74	89.78
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	28.7	4.71	17046.99	17934.74	95.05

MJT 3/5/2018

13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	28.7	4.71	13908.9	17934.74	77.55
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	28.7	4.71	16926.54	17934.74	94.38
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	28.7	4.71	16902.65	17934.74	94.25
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	28.7	4.71	16369.4	17934.74	91.27
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	28.7	4.71	16675.03	17934.74	92.98
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	28.7	4.71	15567.54	17934.74	86.80
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	28.7	4.71	17079.22	17934.74	95.23
20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	28.7	4.71	15107.26	17934.74	84.23
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	28.7	4.71	16806.69	17934.74	93.71
22	IPA	180302G2-23	Analyte	28.7			17934.74	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	28.7	4.71	16902.92	17934.74	94.25
24	IPA	180302G2-25	Analyte	28.7			17934.74	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	28.7	4.71	13329.08	17934.74	74.32
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	28.7	4.71	13927.74	17934.74	77.66
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	28.7	4.71	14337.06	17934.74	79.94
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	28.7	4.71	15084.44	17934.74	84.11
29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	28.7	4.71	15782.42	17934.74	88.00
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	28.7	4.71	14576.8	17934.74	81.28
31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	28.7	4.71	12239.9	17934.74	68.25
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	28.7	4.71	13369.16	17934.74	74.54
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	28.7	4.71	13950.19	17934.74	77.78
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	28.7	4.71	14308.82	17934.74	79.78
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	28.7	4.71	14636.89	17934.74	81.61
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	28.7	4.71	13998.33	17934.74	78.05
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	28.7	4.71	13627.19	17934.74	75.98
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	28.7	4.71	14176.43	17934.74	79.04
39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	28.7	4.71	13821.17	17934.74	77.06
40	IPA	180302G2-41	Analyte	28.7			17934.74	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	28.7	4.71	13980.97	17934.74	77.95
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	28.7	4.71	14767.61	17934.74	82.34
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	28.7	4.71	14495.92	17934.74	80.83
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	28.7	4.71	13453.84	17934.74	75.02
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	28.7	4.71	13384.31	17934.74	74.63
46	IPA	180302G2-47	Analyte	28.7			17934.74	0.00

MJT 3/5/2018

47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	28.7	4.71	16492.11	17934.74	91.96
48	IPA	180302G2-49	Analyte	28.7			17934.74	0.00

Compound 20: d3-N-MeFOSAA

	ID	Name	Type	Std. Conc	RT	Area	Ical Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	40	5.07	14953.63	12825.49	116.59
2	IPA	180302G2-3	Analyte	40			12825.49	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	40	5.07	15861.02	12825.49	123.67
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	40	5.07	14971.25	12825.49	116.73
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	40	5.07	14739.24	12825.49	114.92
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	40	5.07	15424.69	12825.49	120.27
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	40	5.07	13981.58	12825.49	109.01
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	40	5.07	15416.9	12825.49	120.21
9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	40	5.07	15721.2	12825.49	122.58
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	40	5.07	15673.21	12825.49	122.20
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	40	5.08	14514.21	12825.49	113.17
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	40	5.07	13117.01	12825.49	102.27
13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	40	5.07	14154.02	12825.49	110.36
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	40	5.07	15148.97	12825.49	118.12
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	40	5.07	14185.12	12825.49	110.60
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	40	5.07	14781.17	12825.49	115.25
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	40	5.07	14021.28	12825.49	109.32
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	40	5.07	12766.54	12825.49	99.54
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	40	5.07	14369.73	12825.49	112.04
20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	40	5.07	12570.03	12825.49	98.01
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	40	5.07	13290.51	12825.49	103.63
22	IPA	180302G2-23	Analyte	40			12825.49	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	40	5.07	14516.36	12825.49	113.18
24	IPA	180302G2-25	Analyte	40			12825.49	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	40	5.07	11945.61	12825.49	93.14
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	40	5.07	13123.7	12825.49	102.33
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	40	5.07	13139.3	12825.49	102.45
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	40	5.07	12708.07	12825.49	99.08

MJT 3/5/2018

29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	40	5.07	13664.89	12825.49	106.54
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	40	5.07	13514.17	12825.49	105.37
31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	40	5.07	13415.83	12825.49	104.60
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	40	5.07	12801.33	12825.49	99.81
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	40	5.07	12758.2	12825.49	99.48
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	40	5.07	13404.27	12825.49	104.51
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	40	5.07	12938.25	12825.49	100.88
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	40	5.07	14188.84	12825.49	110.63
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	40	5.07	13394.21	12825.49	104.43
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	40	5.07	13350.42	12825.49	104.09
39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	40	5.07	12796.13	12825.49	99.77
40	IPA	180302G2-41	Analyte	40			12825.49	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	40	5.07	11508.95	12825.49	89.73
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	40	5.07	14073.01	12825.49	109.73
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	40	5.07	13311.78	12825.49	103.79
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	40	5.07	11945.35	12825.49	93.14
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	40	5.07	10884.66	12825.49	84.87
46	IPA	180302G2-47	Analyte	40			12825.49	0.00
47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	40	5.07	14601.4	12825.49	113.85
48	IPA	180302G2-49	Analyte	40	5.07	17.134	12825.49	0.13

CCAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Conc	RT	Area	Ccal Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	10	4.3	12486.88	12486.88	100.00
2	IPA	180302G2-3	Analyte	10			12486.88	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	10	4.29	10545.81	12486.88	84.46
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	10	4.29	11190.04	12486.88	89.61
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	10	4.29	11649.22	12486.88	93.29
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	10	4.29	11427.65	12486.88	91.52
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	10	4.29	11472.5	12486.88	91.88
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	10	4.3	12019.47	12486.88	96.26

MJT 3/5/2018

9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	10	4.29	12013.48	12486.88	96.21
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	10	4.29	11747.86	12486.88	94.08
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	10	4.29	11580.55	12486.88	92.74
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	10	4.30	11714.47	12486.88	93.81
13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	10	4.29	10405.79	12486.88	83.33
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	10	4.30	11889.96	12486.88	95.22
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	10	4.30	11544.01	12486.88	92.45
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	10	4.30	12957.85	12486.88	103.77
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	10	4.29	12610.74	12486.88	100.99
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	10	4.29	11764.75	12486.88	94.22
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	10	4.29	12315.24	12486.88	98.63
20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	10	4.30	11981.04	12486.88	95.95
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	10	4.29	12362.34	12486.88	99.00
22	IPA	180302G2-23	Analyte	10			12486.88	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	10	4.30	12266.96	12486.88	98.24

							Ccal Area	Area %
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	10	4.30	12266.96	12266.96	100.00
24	IPA	180302G2-25	Analyte	10			12266.96	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	10	4.29	8764.813	12266.96	71.45
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	10	4.29	10486.42	12266.96	85.49
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	10	4.3	11889.89	12266.96	96.93
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	10	4.29	10606.87	12266.96	86.47
29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	10	4.29	11280.31	12266.96	91.96
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	10	4.29	10578.57	12266.96	86.24
31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	10	4.29	10521.43	12266.96	85.77
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	10	4.29	10590.93	12266.96	86.34
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	10	4.29	10760.6	12266.96	87.72
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	10	4.29	10995.66	12266.96	89.64
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	10	4.29	10888.61	12266.96	88.76
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	10	4.30	9400.12	12266.96	76.63
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	10	4.29	10868.15	12266.96	88.60
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	10	4.29	10216.5	12266.96	83.28

39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	10	4.30	9952.392	12266.96	81.13
40	IPA	180302G2-41	Analyte	10			12266.96	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	10	4.30	11117.88	12266.96	90.63
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	10	4.29	10612.19	12266.96	86.51
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	10	4.29	10859.7	12266.96	88.53
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	10	4.30	11067.61	12266.96	90.22
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	10	4.29	9732.047	12266.96	79.34
46	IPA	180302G2-47	Analyte	10			12266.96	0.00
47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	10	4.30	11971.58	12266.96	97.59
48	IPA	180302G2-49	Analyte	10			12266.96	0.00

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Conc	RT	Area	Ccal Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	28.7	4.71	18744.89	18744.89	100.00
2	IPA	180302G2-3	Analyte	28.7			18744.89	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	28.7	4.71	16923.13	18744.89	90.28
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	28.7	4.71	17867.06	18744.89	95.32
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	28.7	4.71	16860.16	18744.89	89.95
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	28.7	4.71	16885.04	18744.89	90.08
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	28.7	4.71	17847.62	18744.89	95.21
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	28.7	4.71	17534.41	18744.89	93.54
9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	28.7	4.71	17672.9	18744.89	94.28
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	28.7	4.71	16622.71	18744.89	88.68
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	28.7	4.71	16101.56	18744.89	85.90
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	28.7	4.71	17046.99	18744.89	90.94
13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	28.7	4.71	13908.9	18744.89	74.20
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	28.7	4.71	16926.54	18744.89	90.30
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	28.7	4.71	16902.65	18744.89	90.17
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	28.7	4.71	16369.4	18744.89	87.33
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	28.7	4.71	16675.03	18744.89	88.96
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	28.7	4.71	15567.54	18744.89	83.05
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	28.7	4.71	17079.22	18744.89	91.11

MJT 3/5/2018

20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	28.7	4.71	15107.26	18744.89	80.59
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	28.7	4.71	16806.69	18744.89	89.66
22	IPA	180302G2-23	Analyte	28.7			18744.89	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	28.7	4.71	16902.92	18744.89	90.17

							Ccal Area	Area %
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	28.7	4.71	16902.92	16902.92	100.00
24	IPA	180302G2-25	Analyte	28.7			16902.92	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	28.7	4.71	13329.08	16902.92	78.86
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	28.7	4.71	13927.74	16902.92	82.40
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	28.7	4.71	14337.06	16902.92	84.82
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	28.7	4.71	15084.44	16902.92	89.24
29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	28.7	4.71	15782.42	16902.92	93.37
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	28.7	4.71	14576.8	16902.92	86.24
31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	28.7	4.71	12239.9	16902.92	72.41
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	28.7	4.71	13369.16	16902.92	79.09
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	28.7	4.71	13950.19	16902.92	82.53
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	28.7	4.71	14308.82	16902.92	84.65
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	28.7	4.71	14636.89	16902.92	86.59
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	28.7	4.71	13998.33	16902.92	82.82
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	28.7	4.71	13627.19	16902.92	80.62
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	28.7	4.71	14176.43	16902.92	83.87
39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	28.7	4.71	13821.17	16902.92	81.77
40	IPA	180302G2-41	Analyte	28.7			16902.92	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	28.7	4.71	13980.97	16902.92	82.71
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	28.7	4.71	14767.61	16902.92	87.37
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	28.7	4.71	14495.92	16902.92	85.76
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	28.7	4.71	13453.84	16902.92	79.59
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	28.7	4.71	13384.31	16902.92	79.18
46	IPA	180302G2-47	Analyte	28.7			16902.92	0.00
47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	28.7	4.71	16492.11	16902.92	97.57
48	IPA	180302G2-49	Analyte	28.7			16902.92	0.00

MJT 3/5/2018

Compound 20: d3-N-MeFOSAA

	ID	Name	Type	Std. Conc	RT	Area	Ccal Area	Area %
1	ST180302G2-1 PFC CS-1 537 18B2310	180302G2-2	Analyte	40	5.07	14953.63	14953.63	100.00
2	IPA	180302G2-3	Analyte	40			14953.63	0.00
3	B8B0160-BS1 LFB 0.25	180302G2-4	Analyte	40	5.07	15861.02	14953.63	106.07
4	B8B0160-MS1 LFSM 0.28371	180302G2-5	Analyte	40	5.07	14971.25	14953.63	100.12
5	B8B0160-MSD1 LFSMD 0.28333	180302G2-6	Analyte	40	5.07	14739.24	14953.63	98.57
6	B8B0160-BLK1 LRB 0.25	180302G2-7	Analyte	40	5.07	15424.69	14953.63	103.15
7	1800362-01 WI-A06-RW17-0218 0.27803	180302G2-8	Analyte	40	5.07	13981.58	14953.63	93.50
8	1800362-02 WI-A06-RW17P-0218 0.27707	180302G2-9	Analyte	40	5.07	15416.9	14953.63	103.10
9	1800362-03 WI-A06-FB02-022018 0.26676	180302G2-10	Analyte	40	5.07	15721.2	14953.63	105.13
10	1800363-11 CH-AT-2FB58-0218 0.27863	180302G2-11	Analyte	40	5.07	15673.21	14953.63	104.81
11	1800363-12 CH-AT-2FB58B-0218 0.26068	180302G2-12	Analyte	40	5.08	14514.21	14953.63	97.06
12	1800363-13 CH-AT-2FB58C-0218 0.25509	180302G2-13	Analyte	40	5.07	13117.01	14953.63	87.72
13	1800363-14 CH-AT-2FB58D-0218 0.25314	180302G2-14	Analyte	40	5.07	14154.02	14953.63	94.65
14	1800363-15 CH-AT-1RW161-0218 0.27602	180302G2-15	Analyte	40	5.07	15148.97	14953.63	101.31
15	1800363-16 CH-AT-1FB161-0218 0.28108	180302G2-16	Analyte	40	5.07	14185.12	14953.63	94.86
16	1800363-17 CH-AT-1RW162-0218 0.25552	180302G2-17	Analyte	40	5.07	14781.17	14953.63	98.85
17	1800363-18 CH-AT-1FB162-0218 0.26573	180302G2-18	Analyte	40	5.07	14021.28	14953.63	93.77
18	1800363-19 CH-AT-1RW163-0218 0.28567	180302G2-19	Analyte	40	5.07	12766.54	14953.63	85.37
19	1800363-20 CH-AT-1FB163-0218 0.25694	180302G2-20	Analyte	40	5.07	14369.73	14953.63	96.10
20	1800363-21 CH-AT-1RW164-0218 0.28409	180302G2-21	Analyte	40	5.07	12570.03	14953.63	84.06
21	1800363-22 CH-AT-1FB164-0218 0.25556	180302G2-22	Analyte	40	5.07	13290.51	14953.63	88.88
22	IPA	180302G2-23	Analyte	40			14953.63	0.00
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	40	5.07	14516.36	14953.63	97.08
							Ccal Area	Area %
23	ST180302G2-2 PFC CS1 537 18B2304	180302G2-24	Analyte	40	5.07	14516.36	14516.36	100.00
24	IPA	180302G2-25	Analyte	40			14516.36	0.00
25	B8B0169-BS1 LFB 0.25	180302G2-26	Analyte	40	5.07	11945.61	14516.36	82.29
26	B8B0169-BSD1 LFBD 0.25	180302G2-27	Analyte	40	5.07	13123.7	14516.36	90.41
27	B8B0169-BLK1 LRB 0.25	180302G2-28	Analyte	40	5.07	13139.3	14516.36	90.51
28	1800366-01 CH-AT-1RW165-0218 0.24548	180302G2-29	Analyte	40	5.07	12708.07	14516.36	87.54

MJT 3/5/2018

29	1800366-02 CH-AT-1FB165-0218 0.25404	180302G2-30	Analyte	40	5.07	13664.89	14516.36	94.13
30	1800366-03 CH-AT-1RW166-0218 0.24491	180302G2-31	Analyte	40	5.07	13514.17	14516.36	93.10
31	1800366-04 CH-AT-1FB166-0218 0.25454	180302G2-32	Analyte	40	5.07	13415.83	14516.36	92.42
32	1800366-05 CH-AT-1RW167-0218 0.24782	180302G2-33	Analyte	40	5.07	12801.33	14516.36	88.19
33	1800366-06 CH-AT-1FB167-0218 0.234	180302G2-34	Analyte	40	5.07	12758.2	14516.36	87.89
34	1800366-07 CH-AT-1RW168-0218 0.24747	180302G2-35	Analyte	40	5.07	13404.27	14516.36	92.34
35	1800366-08 CH-AT-1FB168-0218 0.2506	180302G2-36	Analyte	40	5.07	12938.25	14516.36	89.13
36	1800366-09 CH-AT-1RW169-0218 0.25031	180302G2-37	Analyte	40	5.07	14188.84	14516.36	97.74
37	1800366-10 CH-AT-1FB169-0218 0.24911	180302G2-38	Analyte	40	5.07	13394.21	14516.36	92.27
38	1800366-11 CH-AT-1RW170-0218 0.24988	180302G2-39	Analyte	40	5.07	13350.42	14516.36	91.97
39	1800366-12 CH-AT-1FB170-0218 0.25246	180302G2-40	Analyte	40	5.07	12796.13	14516.36	88.15
40	1800359-01 IPR F. Rivera 0.25	180302G2-41	Analyte	40			14516.36	0.00
41	B8B0148-BS1 LFB 0.25	180302G2-42	Analyte	40	5.07	11508.95	14516.36	79.28
42	B8B0148-BS2 LFB 0.25	180302G2-43	Analyte	40	5.07	14073.01	14516.36	96.95
43	B8B0148-BS3 LFB 0.25	180302G2-44	Analyte	40	5.07	13311.78	14516.36	91.70
44	B8B0148-BS4 LFB 0.25	180302G2-45	Analyte	40	5.07	11945.35	14516.36	82.29
45	B8B0148-BLK1 LRB 0.25	180302G2-46	Analyte	40	5.07	10884.66	14516.36	74.98
46	IPA	180302G2-47	Analyte	40			14516.36	0.00
47	ST180223G2-6 PFC CS2 537 18B2305	180302G2-48	Analyte	40	5.07	14601.4	14516.36	100.59
48	IPA	180302G2-49	Analyte	40	5.07	17.134	14516.36	0.12

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID: ST180302G2-1	(L) M H	NA ☐	☑	☑	☑	☑	☑	☐
Calibration ID: -2	L (M) H	☐	☑	☑	☑	☑	☑	☐
Calibration ID: -3	L M (H)	☑	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: ~~4.15.18 17~~ 4.15.17 MJT 3/5/18

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☐ NA DW

IIS Area Saved ☑

Reviewed By: Olm 3/5/18
Initials/Date

Comments:

L14
DW

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

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-2.qld

Last Altered: Monday, March 05, 2018 13:26:15 Pacific Standard Time
Printed: Monday, March 05, 2018 13:26:37 Pacific Standard Time

lbm 3/6/18

MJT 3/5/18

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-2, Date: 02-Mar-2018, Time: 14:41:11, ID: ST180302G2-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	9.87e2	1.87e4	1.0000		3.02	3.00	1.51	2.07	116.8
2	2	PFHxA	313.2 > 268.9	1.45e3	1.25e4	1.0000		3.35	3.37	1.16	2.10	105.2
3	3	PFHpA	363 > 318.9	2.57e3	1.25e4	1.0000		3.87	3.87	2.06	2.19	109.6
4	4	PFHxS	398.9 > 79.6	1.03e3	1.87e4	1.0000		4.00	3.99	1.58	2.26	124.1
5	5	PFOA	413 > 368.7	2.23e3	1.25e4	1.0000		4.30	4.30	1.79	2.13	106.6
6	6	PFNA	463 > 418.8	2.81e3	1.25e4	1.0000		4.64	4.65	2.25	2.22	110.8
7	7	PFOS	499 >79.9	1.26e3	1.87e4	1.0000		4.71	4.71	1.94	2.02	109.0
8	8	PFDA	513 > 468.8	2.88e3	1.25e4	1.0000		4.87	4.95	2.31	2.08	104.1
9	9	N-MeFOSAA	570.1 > 419.0	1.12e3	1.50e4	1.0000		5.01	5.08	2.99	2.27	113.6
10	10	N-EtFOSAA	584.2 >419.0	7.86e2	1.50e4	1.0000		5.19	5.20	2.10	1.98	99.2
11	11	PFUnA	563 > 518.9	2.68e3	1.25e4	1.0000		5.13	5.21	2.15	2.14	106.8
12	12	PFDoA	612.9 > 318.8	3.48e2	1.25e4	1.0000		5.33	5.43	0.279	1.76	88.0
13	13	PFTrDA	662.9 > 618.9	3.72e3	1.25e4	1.0000		5.56	5.62	2.98	2.17	108.5
14	14	PFTeDA	712.9 > 668.8	3.45e3	1.25e4	1.0000		5.73	5.78	2.76	2.21	110.6
15	15	13C2-PFHxA	315 > 269.8	9.03e3	1.25e4	1.0000	0.731	3.45	3.37	7.23	9.89	98.9
16	16	13C2-PFDA	515.1 > 469.9	9.63e3	1.25e4	1.0000	0.910	4.90	4.95	7.71	8.47	84.7
17	17	d5-N-EtFOSAA	589.3 > 419.0	1.68e4	1.50e4	1.0000	1.049	5.07	5.19	45.0	42.9	107.2
18	18	13C2-PFOA	414.9 > 369.7	1.25e4	1.25e4	1.0000	1.000	4.41	4.30	10.0	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	1.87e4	1.87e4	1.0000	1.000	4.81	4.71	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	1.50e4	1.50e4	1.0000	1.000	5.16	5.07	40.0	40.0	100.0

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

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1214.mdb 11 Jan 2018 11:50:37
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	180302G2-1	IPA	02-Mar-18	14:29:09
2	180302G2-2	ST180302G2-1 PFC CS-1 537 18B2310	02-Mar-18	14:41:11
3	180302G2-3	IPA	02-Mar-18	14:53:32
4	180302G2-4	B8B0160-BS1 LFB 0.25	02-Mar-18	15:05:59
5	180302G2-5	B8B0160-MS1 LFSM 0.28371	02-Mar-18	15:18:21
6	180302G2-6	B8B0160-MSD1 LFSMD 0.28333	02-Mar-18	15:30:45
7	180302G2-7	B8B0160-BLK1 LRB 0.25	02-Mar-18	15:43:11
8	180302G2-8	1800362-01 WI-A06-RW17-0218 0.27803	02-Mar-18	15:55:37
9	180302G2-9	1800362-02 WI-A06-RW17P-0218 0.27707	02-Mar-18	16:08:01
10	180302G2-10	1800362-03 WI-A06-FB02-022018 0.26676	02-Mar-18	16:20:27
11	180302G2-11	1800363-11 CH-AT-2FB58-0218 0.27863	02-Mar-18	16:32:51
12	180302G2-12	1800363-12 CH-AT-2FB58B-0218 0.26068	02-Mar-18	16:45:17
13	180302G2-13	1800363-13 CH-AT-2FB58C-0218 0.25509	02-Mar-18	16:57:37
14	180302G2-14	1800363-14 CH-AT-2FB58D-0218 0.25314	02-Mar-18	17:10:02
15	180302G2-15	1800363-15 CH-AT-1RW161-0218 0.27602	02-Mar-18	17:22:20
16	180302G2-16	1800363-16 CH-AT-1FB161-0218 0.28108	02-Mar-18	17:34:45
17	180302G2-17	1800363-17 CH-AT-1RW162-0218 0.25552	02-Mar-18	17:47:10
18	180302G2-18	1800363-18 CH-AT-1FB162-0218 0.26573	02-Mar-18	17:59:35
19	180302G2-19	1800363-19 CH-AT-1RW163-0218 0.28567	02-Mar-18	18:12:00
20	180302G2-20	1800363-20 CH-AT-1FB163-0218 0.25694	02-Mar-18	18:24:27
21	180302G2-21	1800363-21 CH-AT-1RW164-0218 0.28409	02-Mar-18	18:36:48
22	180302G2-22	1800363-22 CH-AT-1FB164-0218 0.25556	02-Mar-18	18:49:11
23	180302G2-23	IPA	02-Mar-18	19:01:36
24	180302G2-24	ST180302G2-2 PFC CS1 537 18B2304	02-Mar-18	19:14:04
25	180302G2-25	IPA	02-Mar-18	19:26:27
26	180302G2-26	B8B0169-BS1 LFB 0.25	02-Mar-18	19:38:52
27	180302G2-27	B8B0169-BSD1 LFBD 0.25	02-Mar-18	19:51:16
28	180302G2-28	B8B0169-BLK1 LRB 0.25	02-Mar-18	20:03:46
29	180302G2-29	1800366-01 CH-AT-1RW165-0218 0.24548	02-Mar-18	20:16:07
30	180302G2-30	1800366-02 CH-AT-1FB165-0218 0.25404	02-Mar-18	20:28:30
31	180302G2-31	1800366-03 CH-AT-1RW166-0218 0.24491	02-Mar-18	20:40:56
32	180302G2-32	1800366-04 CH-AT-1FB166-0218 0.25454	02-Mar-18	20:53:17

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
33	180302G2-33	1800366-05 CH-AT-1RW167-0218 0.24782	02-Mar-18	21:05:34
34	180302G2-34	1800366-06 CH-AT-1FB167-0218 0.234	02-Mar-18	21:17:51
35	180302G2-35	1800366-07 CH-AT-1RW168-0218 0.24747	02-Mar-18	21:30:16
36	180302G2-36	1800366-08 CH-AT-1FB168-0218 0.2506	02-Mar-18	21:42:41
37	180302G2-37	1800366-09 CH-AT-1RW169-0218 0.25031	02-Mar-18	21:55:07
38	180302G2-38	1800366-10 CH-AT-1FB169-0218 0.24911	02-Mar-18	22:07:31
39	180302G2-39	1800366-11 CH-AT-1RW170-0218 0.24988	02-Mar-18	22:19:57
40	180302G2-40	1800366-12 CH-AT-1FB170-0218 0.25246	02-Mar-18	22:32:17
41	180302G2-41	1800359-01 IPR F. Rivera 0.25	02-Mar-18	22:44:35
42	180302G2-42	B8B0148-BS1 LFB 0.25	02-Mar-18	22:57:01
43	180302G2-43	B8B0148-BS2 LFB 0.25	02-Mar-18	23:09:25
44	180302G2-44	B8B0148-BS3 LFB 0.25	02-Mar-18	23:21:50
45	180302G2-45	B8B0148-BS4 LFB 0.25	02-Mar-18	23:34:15
46	180302G2-46	B8B0148-BLK1 LRB 0.25	02-Mar-18	23:46:40
47	180302G2-47	IPA	02-Mar-18	23:59:06
48	180302G2-48	ST180302G2-3 PFC CS2 537 18B2305	03-Mar-18	00:11:30
49	180302G2-49	IPA	03-Mar-18	00:23:54

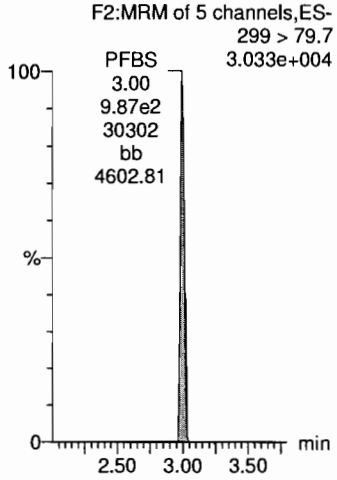
Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-2.qld

Last Altered: Monday, March 05, 2018 13:26:15 Pacific Standard Time
Printed: Monday, March 05, 2018 13:26:37 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-2, Date: 02-Mar-2018, Time: 14:41:11, ID: ST180302G2-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

PFBS



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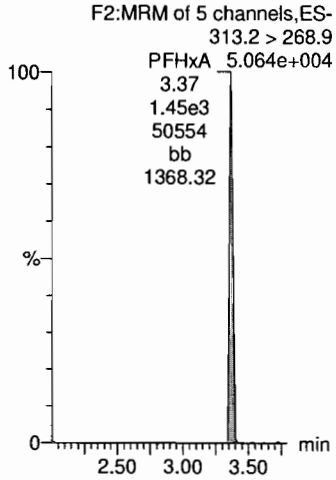

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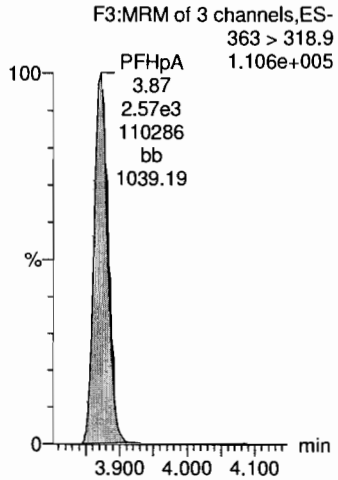

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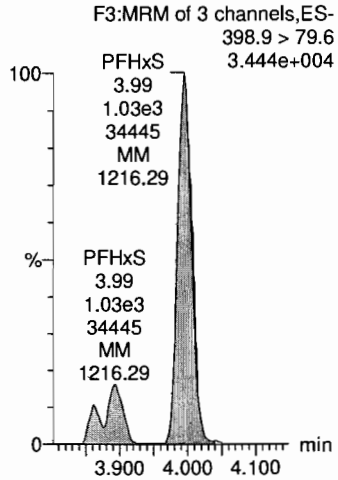

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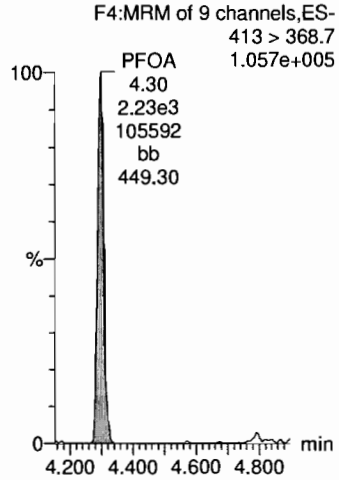

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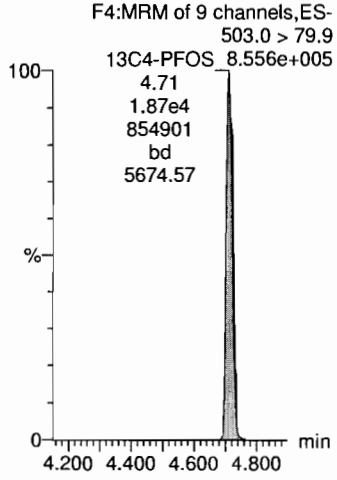

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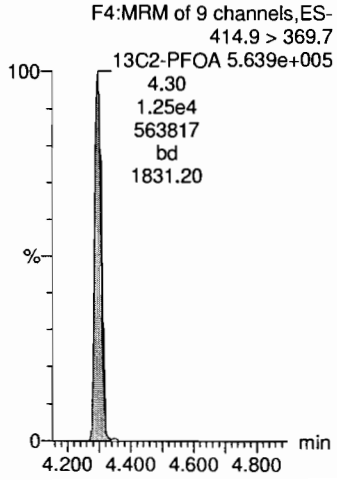
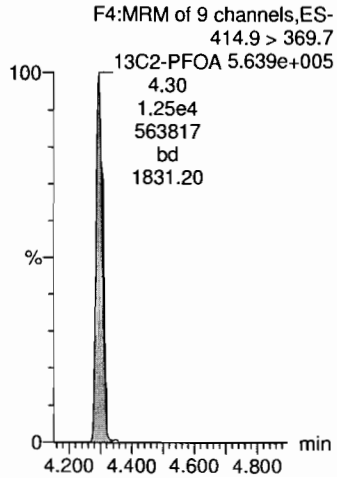


13C2-PFOA



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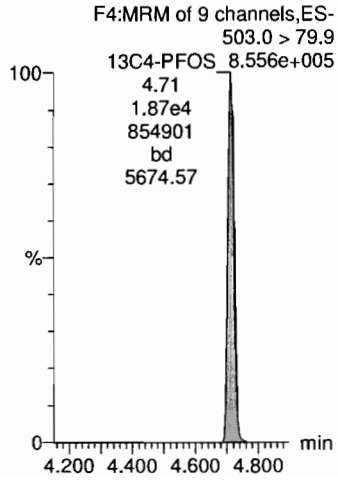

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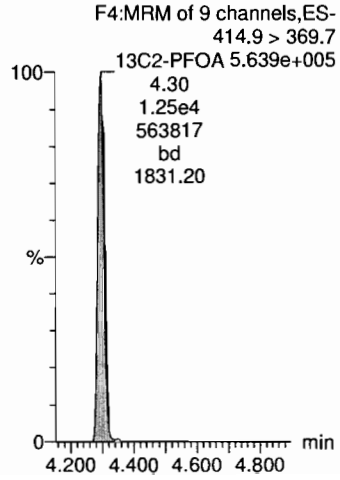

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Last Altered: Monday, March 05, 2018 13:26:15 Pacific Standard Time
Printed: Monday, March 05, 2018 13:26:37 Pacific Standard Time

Name: 180302G2-2, Date: 02-Mar-2018, Time: 14:41:11, ID: ST180302G2-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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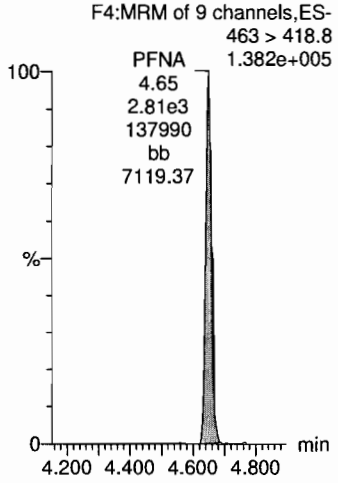

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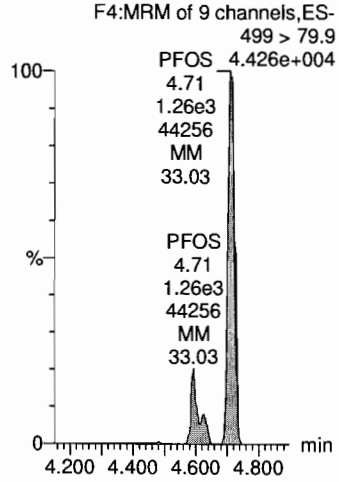

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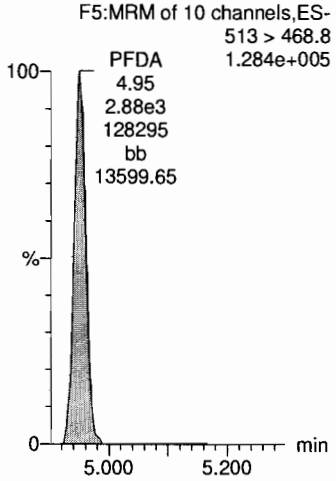

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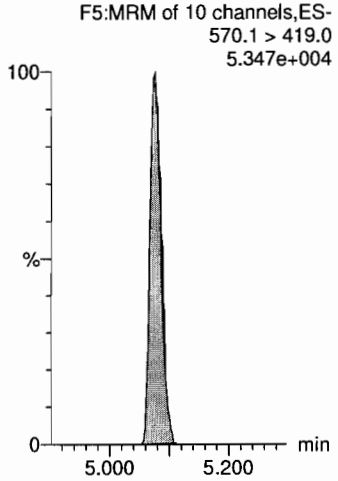

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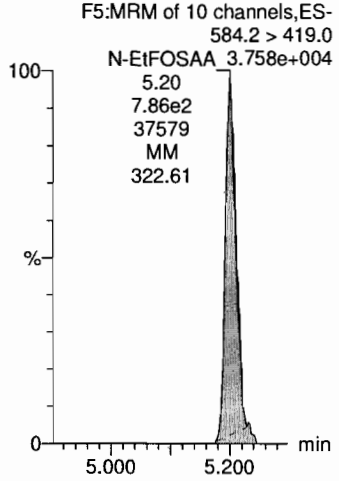

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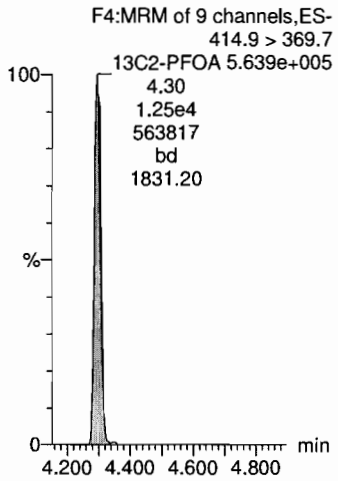

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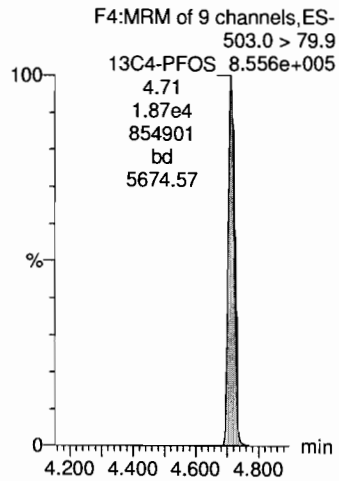

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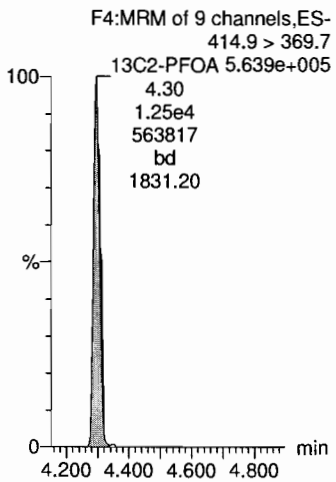

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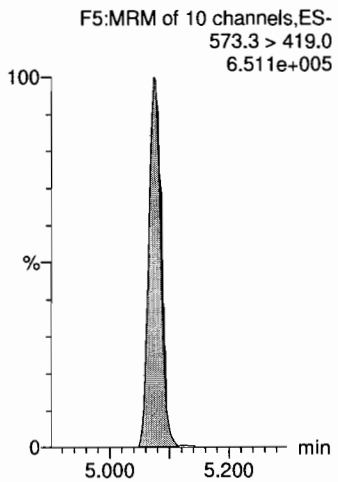

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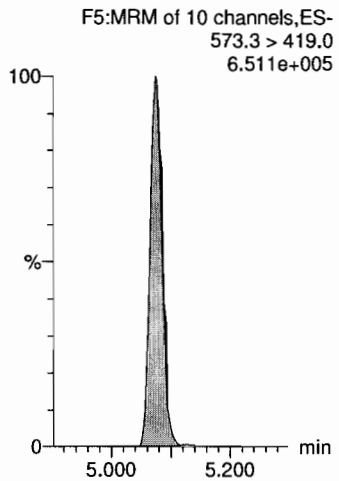

Vista Analytical Laboratory

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Last Altered: Monday, March 05, 2018 13:26:15 Pacific Standard Time
Printed: Monday, March 05, 2018 13:26:37 Pacific Standard Time

Name: 180302G2-2, Date: 02-Mar-2018, Time: 14:41:11, ID: ST180302G2-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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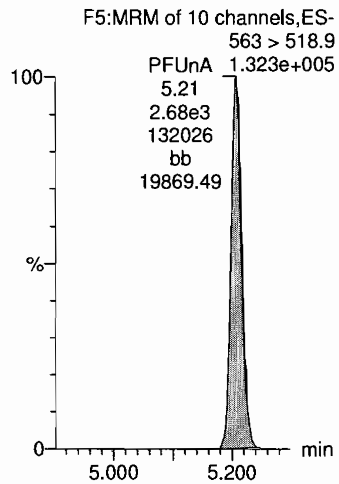

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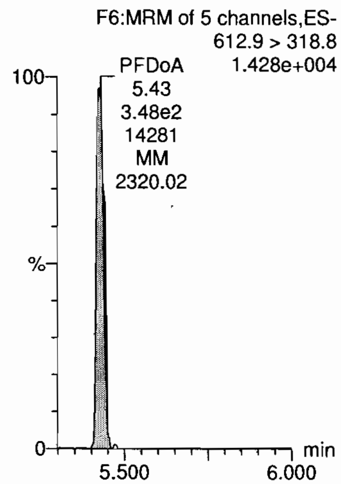

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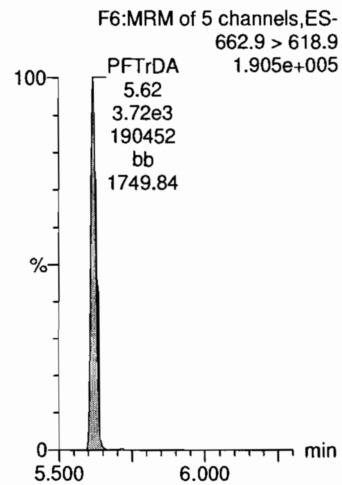

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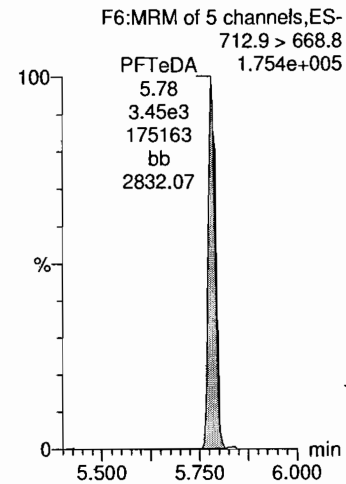

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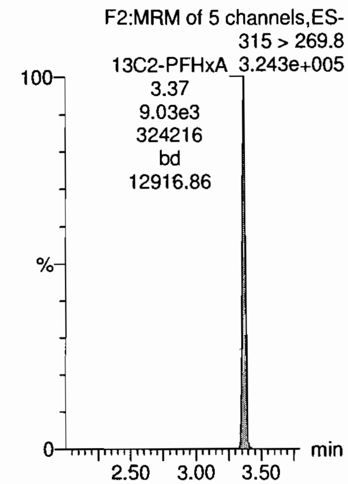

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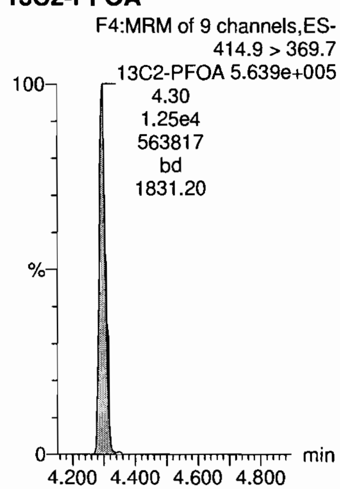

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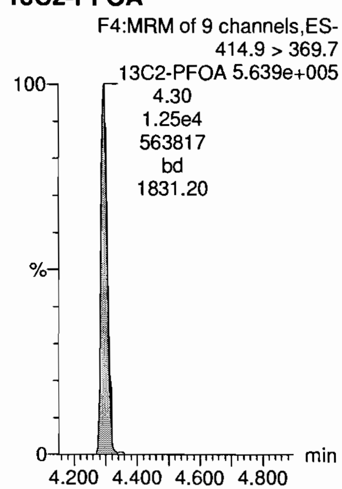

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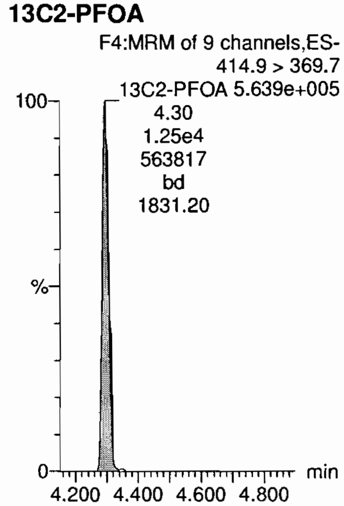

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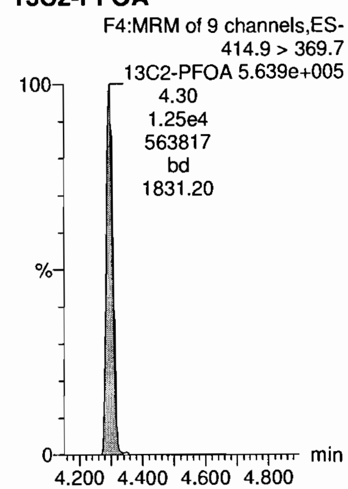

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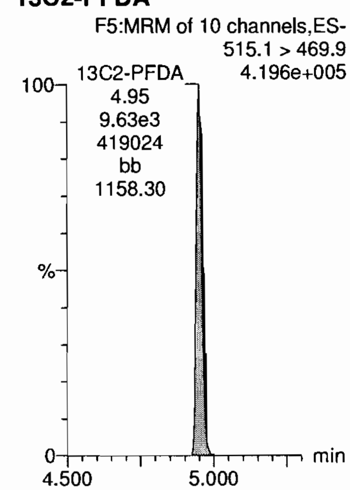

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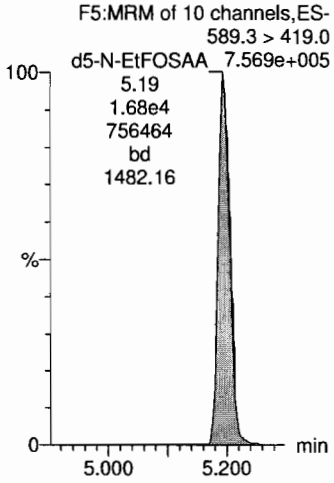
Printed: Monday, March 05, 2018 13:26:37 Pacific Standard Time

Name: 180302G2-2, Date: 02-Mar-2018, Time: 14:41:11, ID: ST180302G2-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

d5-N-EtFOSAA



Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-24.qld

Last Altered: Saturday, March 03, 2018 11:44:00 Pacific Standard Time
Printed: Monday, March 05, 2018 11:00:19 Pacific Standard Time

lem 3/6/18

MJT 3/5/18

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-24, Date: 02-Mar-2018, Time: 19:14:04, ID: ST180302G2-2 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.05e3	1.69e4	1.0000		3.02	3.00	6.88	9.41	106.3
2	2	PFHxA	313.2 > 268.9	5.70e3	1.23e4	1.0000		3.35	3.37	4.65	8.40	84.0
3	3	PFHpA	363 > 318.9	1.06e4	1.23e4	1.0000		3.87	3.88	8.61	9.16	91.6
4	4	PFHxS	398.9 > 79.6	4.60e3	1.69e4	1.0000		4.00	4.00	7.81	11.2	122.3
5	5	PFOA	413 > 368.7	9.81e3	1.23e4	1.0000		4.30	4.30	8.00	9.55	95.5
6	6	PFNA	463 > 418.8	1.21e4	1.23e4	1.0000		4.64	4.65	9.83	9.67	96.7
7	7	PFOS	499 >79.9	5.00e3	1.69e4	1.0000		4.71	4.71	8.49	8.84	95.6
8	8	PFDA	513 > 468.8	1.09e4	1.23e4	1.0000		4.87	4.95	8.91	8.12	81.2
9	9	N-MeFOSAA	570.1 > 419.0	5.18e3	1.45e4	1.0000		5.01	5.08	14.3	10.7	106.6
10	10	N-EtFOSAA	584.2 >419.0	4.14e3	1.45e4	1.0000		5.19	5.20	11.4	10.8	107.6
11	11	PFUnA	563 > 518.9	1.05e4	1.23e4	1.0000		5.13	5.21	8.53	8.49	84.9
12	12	PFDoA	612.9 > 318.8	1.87e3	1.23e4	1.0000		5.33	5.42	1.52	9.62	96.2
13	13	PFTrDA	662.9 > 618.9	1.42e4	1.23e4	1.0000		5.56	5.62	11.6	8.44	84.4
14	14	PFTeDA	712.9 > 668.8	1.28e4	1.23e4	1.0000		5.73	5.78	10.4	8.36	83.6
15	15	13C2-PFHxA	315 > 269.8	8.41e3	1.23e4	1.0000	0.731	3.45	3.37	6.86	9.37	93.7
16	16	13C2-PFDA	515.1 > 469.9	9.90e3	1.23e4	1.0000	0.910	4.90	4.95	8.07	8.87	88.7
17	17	d5-N-EtFOSAA	589.3 > 419.0	1.35e4	1.45e4	1.0000	1.049	5.07	5.20	37.2	35.5	88.7
18	18	13C2-PFOA	414.9 > 369.7	1.23e4	1.23e4	1.0000	1.000	4.41	4.30	10.0	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	1.69e4	1.69e4	1.0000	1.000	4.81	4.71	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	1.45e4	1.45e4	1.0000	1.000	5.16	5.07	40.0	40.0	100.0

MJT 3/5/2018

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1214.mdb 11 Jan 2018 11:50:37
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

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2	180302G2-2	ST180302G2-1 PFC CS-1 537 18B2310	02-Mar-18	14:41:11
3	180302G2-3	IPA	02-Mar-18	14:53:32
4	180302G2-4	B8B0160-BS1 LFB 0.25	02-Mar-18	15:05:59
5	180302G2-5	B8B0160-MS1 LFSM 0.28371	02-Mar-18	15:18:21
6	180302G2-6	B8B0160-MSD1 LFSMD 0.28333	02-Mar-18	15:30:45
7	180302G2-7	B8B0160-BLK1 LRB 0.25	02-Mar-18	15:43:11
8	180302G2-8	1800362-01 WI-A06-RW17-0218 0.27803	02-Mar-18	15:55:37
9	180302G2-9	1800362-02 WI-A06-RW17P-0218 0.27707	02-Mar-18	16:08:01
10	180302G2-10	1800362-03 WI-A06-FB02-022018 0.26676	02-Mar-18	16:20:27
11	180302G2-11	1800363-11 CH-AT-2FB58-0218 0.27863	02-Mar-18	16:32:51
12	180302G2-12	1800363-12 CH-AT-2FB58B-0218 0.26068	02-Mar-18	16:45:17
13	180302G2-13	1800363-13 CH-AT-2FB58C-0218 0.25509	02-Mar-18	16:57:37
14	180302G2-14	1800363-14 CH-AT-2FB58D-0218 0.25314	02-Mar-18	17:10:02
15	180302G2-15	1800363-15 CH-AT-1RW161-0218 0.27602	02-Mar-18	17:22:20
16	180302G2-16	1800363-16 CH-AT-1FB161-0218 0.28108	02-Mar-18	17:34:45
17	180302G2-17	1800363-17 CH-AT-1RW162-0218 0.25552	02-Mar-18	17:47:10
18	180302G2-18	1800363-18 CH-AT-1FB162-0218 0.26573	02-Mar-18	17:59:35
19	180302G2-19	1800363-19 CH-AT-1RW163-0218 0.28567	02-Mar-18	18:12:00
20	180302G2-20	1800363-20 CH-AT-1FB163-0218 0.25694	02-Mar-18	18:24:27
21	180302G2-21	1800363-21 CH-AT-1RW164-0218 0.28409	02-Mar-18	18:36:48
22	180302G2-22	1800363-22 CH-AT-1FB164-0218 0.25556	02-Mar-18	18:49:11
23	180302G2-23	IPA	02-Mar-18	19:01:36
24	180302G2-24	ST180302G2-2 PFC CS1 537 18B2304	02-Mar-18	19:14:04
25	180302G2-25	IPA	02-Mar-18	19:26:27
26	180302G2-26	B8B0169-BS1 LFB 0.25	02-Mar-18	19:38:52
27	180302G2-27	B8B0169-BSD1 LFBD 0.25	02-Mar-18	19:51:16
28	180302G2-28	B8B0169-BLK1 LRB 0.25	02-Mar-18	20:03:46
29	180302G2-29	1800366-01 CH-AT-1RW165-0218 0.24548	02-Mar-18	20:16:07
30	180302G2-30	1800366-02 CH-AT-1FB165-0218 0.25404	02-Mar-18	20:28:30
31	180302G2-31	1800366-03 CH-AT-1RW166-0218 0.24491	02-Mar-18	20:40:56
32	180302G2-32	1800366-04 CH-AT-1FB166-0218 0.25454	02-Mar-18	20:53:17

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Compound name: PFBS

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34	180302G2-34	1800366-06 CH-AT-1FB167-0218 0.234	02-Mar-18	21:17:51
35	180302G2-35	1800366-07 CH-AT-1RW168-0218 0.24747	02-Mar-18	21:30:16
36	180302G2-36	1800366-08 CH-AT-1FB168-0218 0.2506	02-Mar-18	21:42:41
37	180302G2-37	1800366-09 CH-AT-1RW169-0218 0.25031	02-Mar-18	21:55:07
38	180302G2-38	1800366-10 CH-AT-1FB169-0218 0.24911	02-Mar-18	22:07:31
39	180302G2-39	1800366-11 CH-AT-1RW170-0218 0.24988	02-Mar-18	22:19:57
40	180302G2-40	1800366-12 CH-AT-1FB170-0218 0.25246	02-Mar-18	22:32:17
41	180302G2-41	1800359-01 IPR F. Rivera 0.25	02-Mar-18	22:44:35
42	180302G2-42	B8B0148-BS1 LFB 0.25	02-Mar-18	22:57:01
43	180302G2-43	B8B0148-BS2 LFB 0.25	02-Mar-18	23:09:25
44	180302G2-44	B8B0148-BS3 LFB 0.25	02-Mar-18	23:21:50
45	180302G2-45	B8B0148-BS4 LFB 0.25	02-Mar-18	23:34:15
46	180302G2-46	B8B0148-BLK1 LRB 0.25	02-Mar-18	23:46:40
47	180302G2-47	IPA	02-Mar-18	23:59:06
48	180302G2-48	ST180302G2-3 PFC CS2 537 18B2305	03-Mar-18	00:11:30
49	180302G2-49	IPA	03-Mar-18	00:23:54

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-24.qld

Last Altered: Saturday, March 03, 2018 11:44:00 Pacific Standard Time
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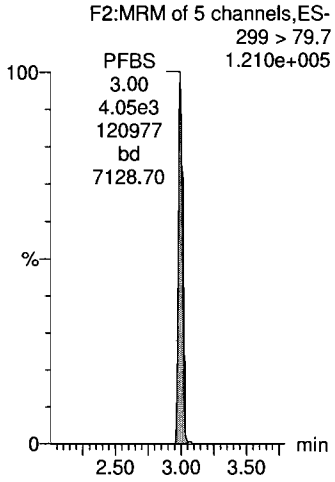
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-24, Date: 02-Mar-2018, Time: 19:14:04, ID: ST180302G2-2 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

PFBS



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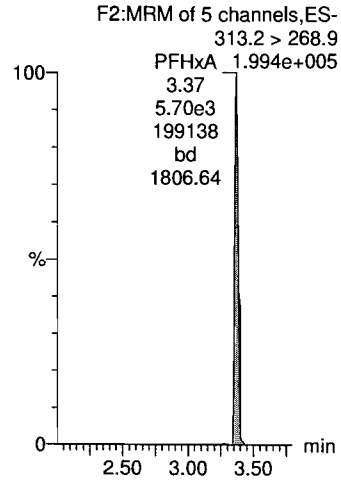

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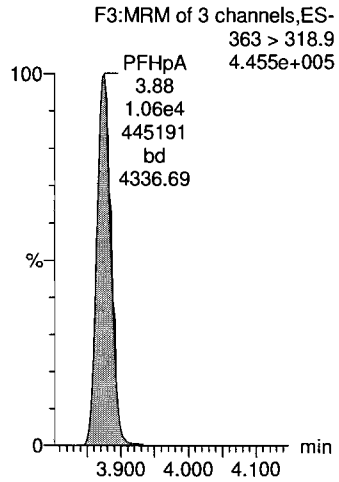

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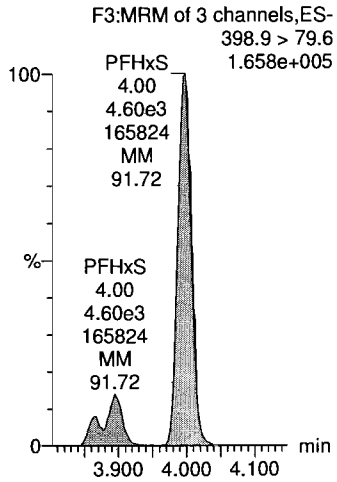

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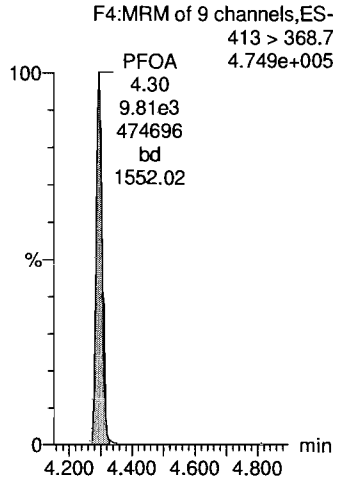
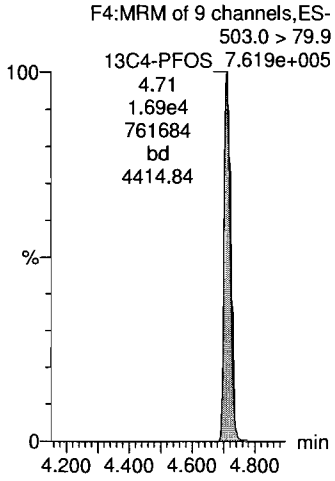


13C4-PFOS



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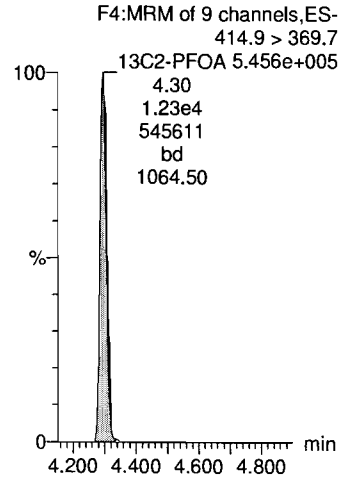
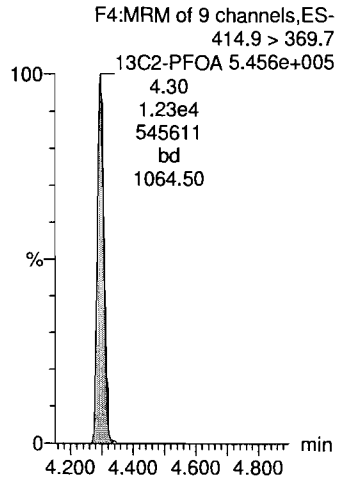
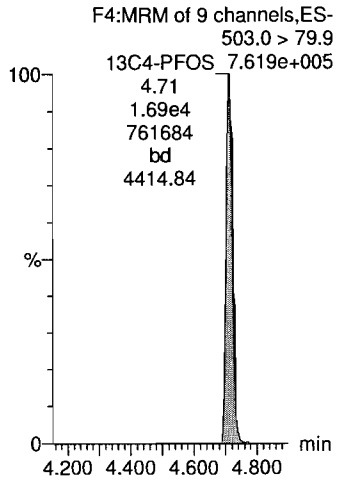


13C2-PFOA



13C4-PFOS



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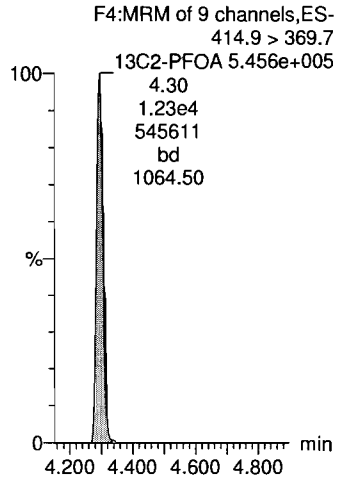

MJT 3/5/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-24.qld

Last Altered: Saturday, March 03, 2018 11:44:00 Pacific Standard Time
Printed: Monday, March 05, 2018 11:00:19 Pacific Standard Time

Name: 180302G2-24, Date: 02-Mar-2018, Time: 19:14:04, ID: ST180302G2-2 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

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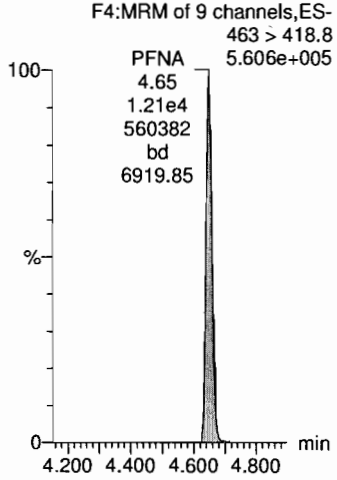

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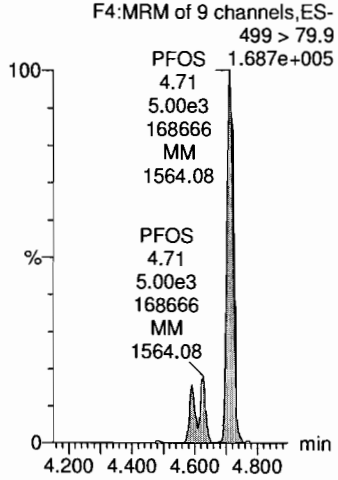

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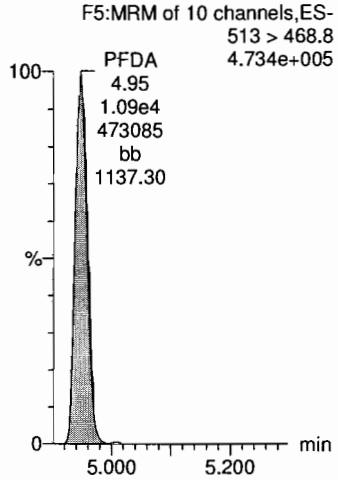

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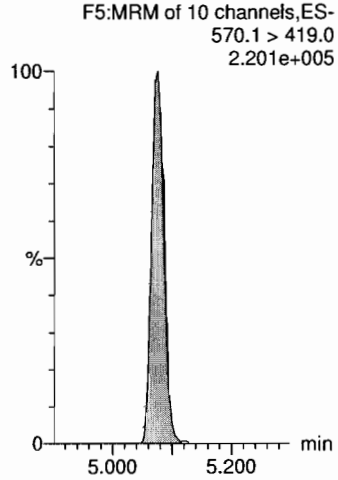

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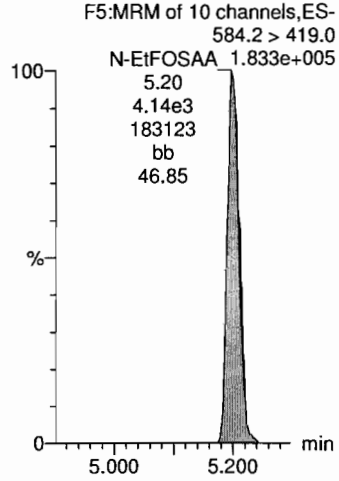

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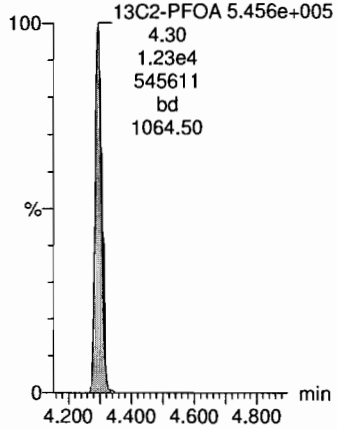

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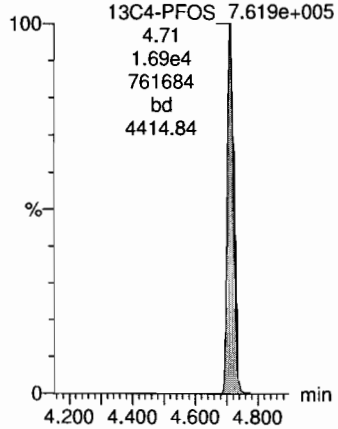

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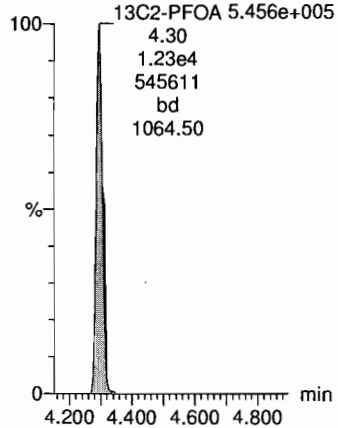

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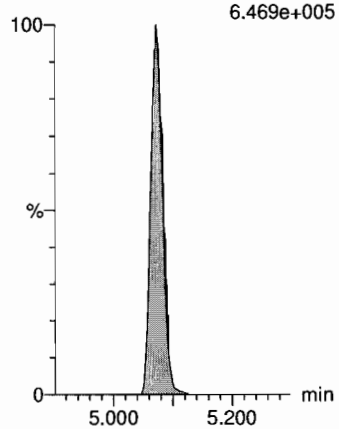

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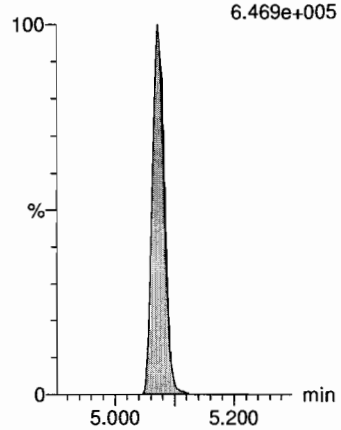

MJT 3/5/2018

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-24.qld

Last Altered: Saturday, March 03, 2018 11:44:00 Pacific Standard Time
Printed: Monday, March 05, 2018 11:00:19 Pacific Standard Time

Name: 180302G2-24, Date: 02-Mar-2018, Time: 19:14:04, ID: ST180302G2-2 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

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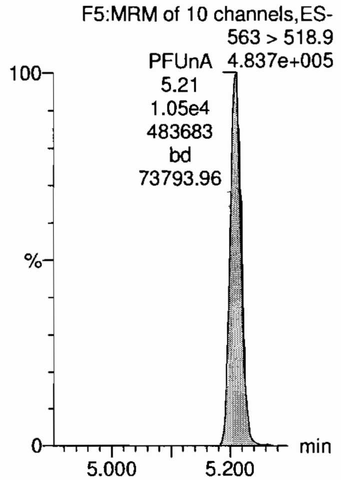

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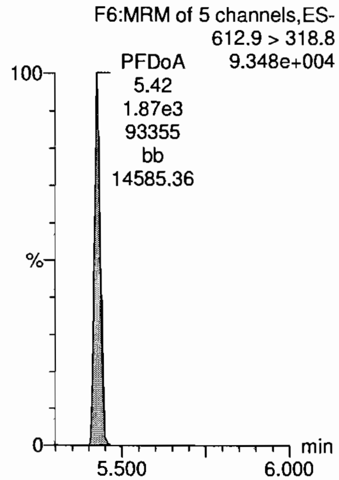

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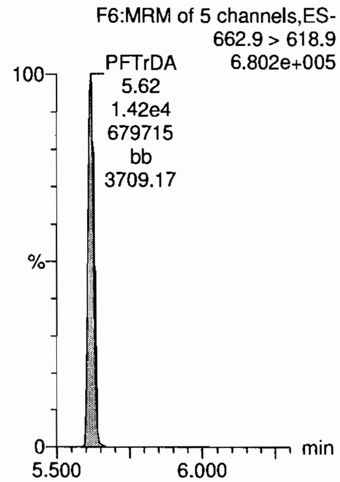

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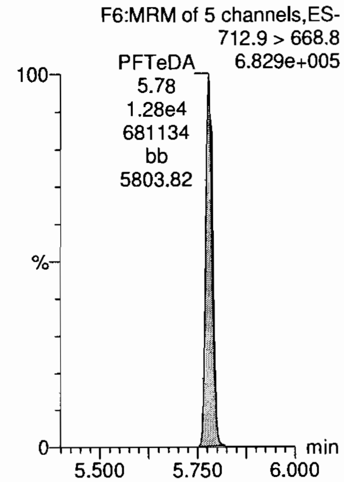

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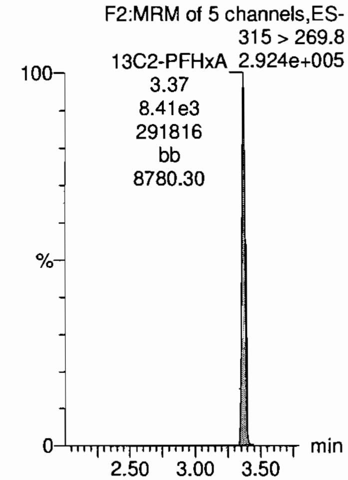

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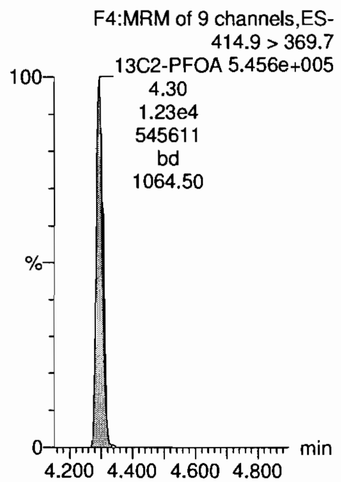

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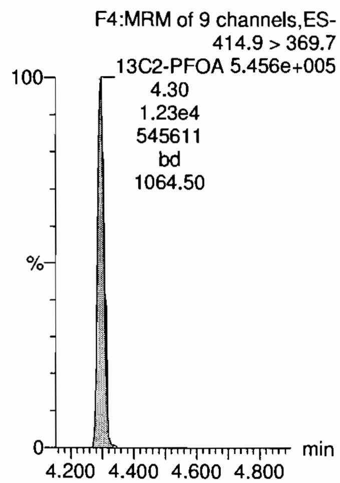

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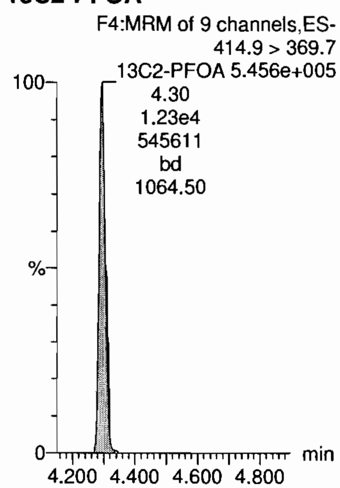

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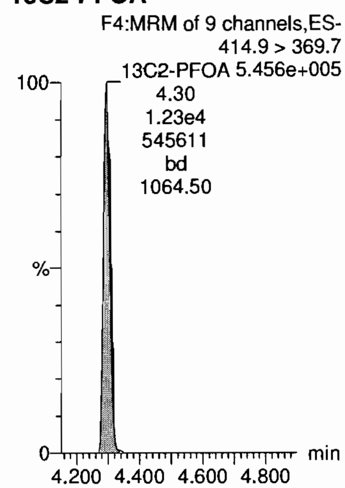

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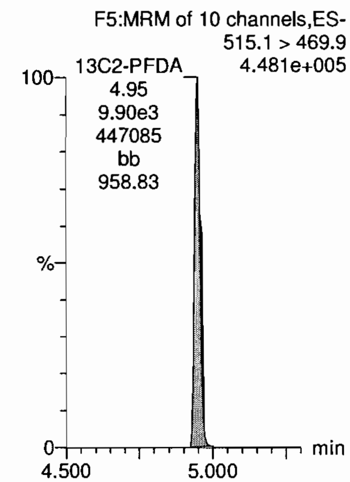

MJT 3/5/2018

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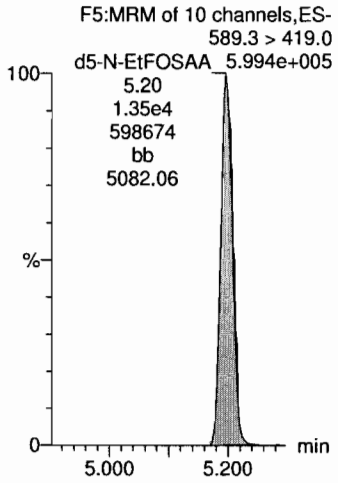
Last Altered: Saturday, March 03, 2018 11:44:00 Pacific Standard Time
Printed: Monday, March 05, 2018 11:00:19 Pacific Standard Time

Name: 180302G2-24, Date: 02-Mar-2018, Time: 19:14:04, ID: ST180302G2-2 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

d5-N-EtFOSAA



MJT 3/5/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-48.qld

Last Altered: Monday, March 05, 2018 11:05:26 Pacific Standard Time
Printed: Monday, March 05, 2018 11:05:45 Pacific Standard Time

DM 3/6/18

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1214.mdb 11 Jan 2018 11:50:37
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

MJT 3/5/18

Name: 180302G2-48, Date: 03-Mar-2018, Time: 00:11:30, ID: ST180302G2-3 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	9.98e3	1.65e4	1.0000		3.02	3.00	17.4	23.7	107.5
2	2	PFHxA	313.2 > 268.9	1.30e4	1.20e4	1.0000		3.35	3.37	10.9	19.6	78.4
3	3	PFHpA	363 > 318.9	2.54e4	1.20e4	1.0000		3.87	3.87	21.3	22.6	90.4
4	4	PFHxS	398.9 > 79.6	1.02e4	1.65e4	1.0000		4.00	4.00	17.7	25.3	110.7
5	5	PFOA	413 > 368.7	2.40e4	1.20e4	1.0000		4.30	4.30	20.0	23.9	95.6
6	6	PFNA	463 > 418.8	2.55e4	1.20e4	1.0000		4.64	4.65	21.3	20.9	83.7
7	7	PFOS	499 >79.9	1.15e4	1.65e4	1.0000		4.71	4.71	20.1	20.9	90.4
8	8	PFDA	513 > 468.8	2.46e4	1.20e4	1.0000		4.87	4.95	20.5	19.0	76.1
9	9	N-MeFOSAA	570.1 > 419.0	1.31e4	1.46e4	1.0000		5.01	5.08	36.0	26.2	104.7
10	10	N-EtFOSAA	584.2 >419.0	9.51e3	1.46e4	1.0000		5.19	5.20	26.1	24.6	98.4
11	11	PFUnA	563 > 518.9	2.27e4	1.20e4	1.0000		5.13	5.21	19.0	18.9	75.5
12	12	PFDoA	612.9 > 318.8	4.50e3	1.20e4	1.0000		5.33	5.42	3.76	23.7	95.0
13	13	PFTrDA	662.9 > 618.9	3.59e4	1.20e4	1.0000		5.56	5.62	30.0	21.8	87.3
14	14	PFTeDA	712.9 > 668.8	2.99e4	1.20e4	1.0000		5.73	5.78	25.0	20.0	80.0
15	15	13C2-PFHxA	315 > 269.8	8.11e3	1.20e4	1.0000	0.731	3.45	3.37	6.77	9.26	92.6
16	16	13C2-PFDA	515.1 > 469.9	8.47e3	1.20e4	1.0000	0.910	4.90	4.95	7.07	7.77	77.7
17	17	d5-N-EtFOSAA	589.3 > 419.0	1.40e4	1.46e4	1.0000	1.049	5.07	5.19	38.3	36.5	91.3
18	18	13C2-PFOA	414.9 > 369.7	1.20e4	1.20e4	1.0000	1.000	4.41	4.30	10.0	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	1.65e4	1.65e4	1.0000	1.000	4.81	4.71	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	1.46e4	1.46e4	1.0000	1.000	5.16	5.07	40.0	40.0	100.0

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

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1214.mdb 11 Jan 2018 11:50:37
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

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1	180302G2-1	IPA	02-Mar-18	14:29:09
2	180302G2-2	ST180302G2-1 PFC CS-1 537 18B2310	02-Mar-18	14:41:11
3	180302G2-3	IPA	02-Mar-18	14:53:32
4	180302G2-4	B8B0160-BS1 LFB 0.25	02-Mar-18	15:05:59
5	180302G2-5	B8B0160-MS1 LFSM 0.28371	02-Mar-18	15:18:21
6	180302G2-6	B8B0160-MSD1 LFSMD 0.28333	02-Mar-18	15:30:45
7	180302G2-7	B8B0160-BLK1 LRB 0.25	02-Mar-18	15:43:11
8	180302G2-8	1800362-01 WI-A06-RW17-0218 0.27803	02-Mar-18	15:55:37
9	180302G2-9	1800362-02 WI-A06-RW17P-0218 0.27707	02-Mar-18	16:08:01
10	180302G2-10	1800362-03 WI-A06-FB02-022018 0.26676	02-Mar-18	16:20:27
11	180302G2-11	1800363-11 CH-AT-2FB58-0218 0.27863	02-Mar-18	16:32:51
12	180302G2-12	1800363-12 CH-AT-2FB58B-0218 0.26068	02-Mar-18	16:45:17
13	180302G2-13	1800363-13 CH-AT-2FB58C-0218 0.25509	02-Mar-18	16:57:37
14	180302G2-14	1800363-14 CH-AT-2FB58D-0218 0.25314	02-Mar-18	17:10:02
15	180302G2-15	1800363-15 CH-AT-1RW161-0218 0.27602	02-Mar-18	17:22:20
16	180302G2-16	1800363-16 CH-AT-1FB161-0218 0.28108	02-Mar-18	17:34:45
17	180302G2-17	1800363-17 CH-AT-1RW162-0218 0.25552	02-Mar-18	17:47:10
18	180302G2-18	1800363-18 CH-AT-1FB162-0218 0.26573	02-Mar-18	17:59:35
19	180302G2-19	1800363-19 CH-AT-1RW163-0218 0.28567	02-Mar-18	18:12:00
20	180302G2-20	1800363-20 CH-AT-1FB163-0218 0.25694	02-Mar-18	18:24:27
21	180302G2-21	1800363-21 CH-AT-1RW164-0218 0.28409	02-Mar-18	18:36:48
22	180302G2-22	1800363-22 CH-AT-1FB164-0218 0.25556	02-Mar-18	18:49:11
23	180302G2-23	IPA	02-Mar-18	19:01:36
24	180302G2-24	ST180302G2-2 PFC CS1 537 18B2304	02-Mar-18	19:14:04
25	180302G2-25	IPA	02-Mar-18	19:26:27
26	180302G2-26	B8B0169-BS1 LFB 0.25	02-Mar-18	19:38:52
27	180302G2-27	B8B0169-BSD1 LFBD 0.25	02-Mar-18	19:51:16
28	180302G2-28	B8B0169-BLK1 LRB 0.25	02-Mar-18	20:03:46
29	180302G2-29	1800366-01 CH-AT-1RW165-0218 0.24548	02-Mar-18	20:16:07
30	180302G2-30	1800366-02 CH-AT-1FB165-0218 0.25404	02-Mar-18	20:28:30
31	180302G2-31	1800366-03 CH-AT-1RW166-0218 0.24491	02-Mar-18	20:40:56
32	180302G2-32	1800366-04 CH-AT-1FB166-0218 0.25454	02-Mar-18	20:53:17

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, March 05, 2018 11:08:39 Pacific Standard Time
Printed: Monday, March 05, 2018 11:09:52 Pacific Standard Time

Compound name: PFBS

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34	180302G2-34	1800366-06 CH-AT-1FB167-0218 0.234	02-Mar-18	21:17:51
35	180302G2-35	1800366-07 CH-AT-1RW168-0218 0.24747	02-Mar-18	21:30:16
36	180302G2-36	1800366-08 CH-AT-1FB168-0218 0.2506	02-Mar-18	21:42:41
37	180302G2-37	1800366-09 CH-AT-1RW169-0218 0.25031	02-Mar-18	21:55:07
38	180302G2-38	1800366-10 CH-AT-1FB169-0218 0.24911	02-Mar-18	22:07:31
39	180302G2-39	1800366-11 CH-AT-1RW170-0218 0.24988	02-Mar-18	22:19:57
40	180302G2-40	1800366-12 CH-AT-1FB170-0218 0.25246	02-Mar-18	22:32:17
41	180302G2-41	1800359-01 IPR F. Rivera 0.25	02-Mar-18	22:44:35
42	180302G2-42	B8B0148-BS1 LFB 0.25	02-Mar-18	22:57:01
43	180302G2-43	B8B0148-BS2 LFB 0.25	02-Mar-18	23:09:25
44	180302G2-44	B8B0148-BS3 LFB 0.25	02-Mar-18	23:21:50
45	180302G2-45	B8B0148-BS4 LFB 0.25	02-Mar-18	23:34:15
46	180302G2-46	B8B0148-BLK1 LRB 0.25	02-Mar-18	23:46:40
47	180302G2-47	IPA	02-Mar-18	23:59:06
48	180302G2-48	ST180302G2-3 PFC CS2 537 18B2305	03-Mar-18	00:11:30
49	180302G2-49	IPA	03-Mar-18	00:23:54

Dataset: X:\G1.PRO\Results\2018\180302G2\180302G2-48.qld

Last Altered: Monday, March 05, 2018 11:05:26 Pacific Standard Time
Printed: Monday, March 05, 2018 11:05:45 Pacific Standard Time

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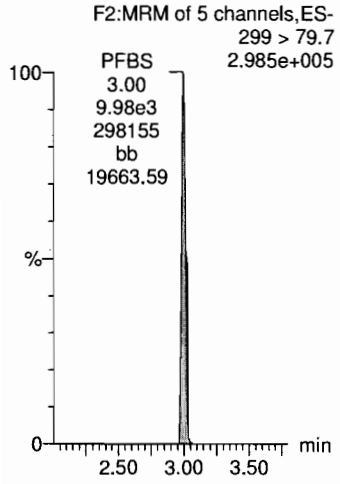
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180302G2-48, Date: 03-Mar-2018, Time: 00:11:30, ID: ST180302G2-3 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

PFBS



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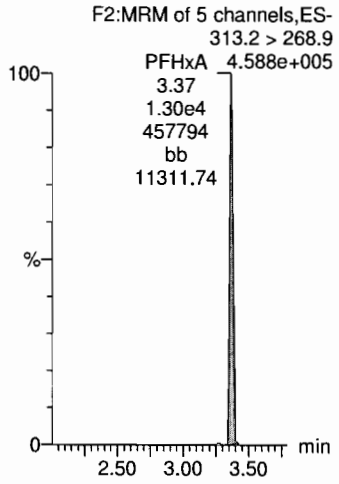

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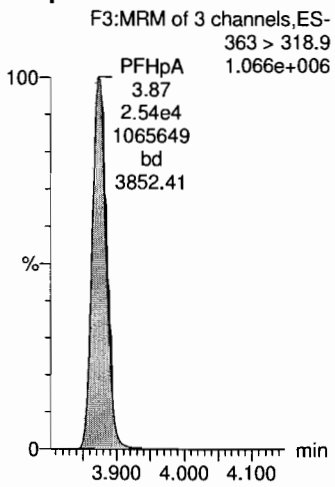

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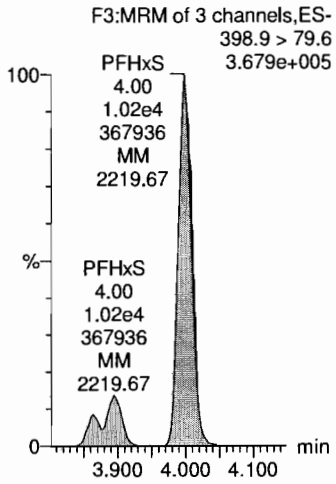

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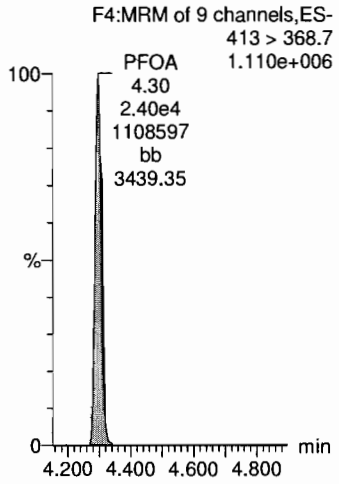
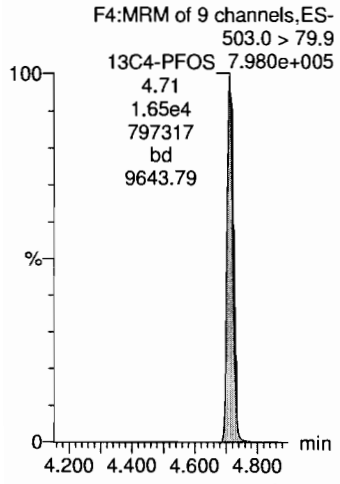
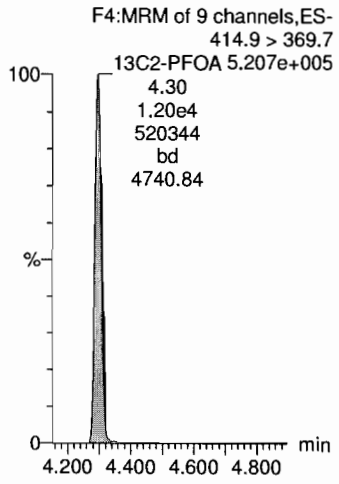


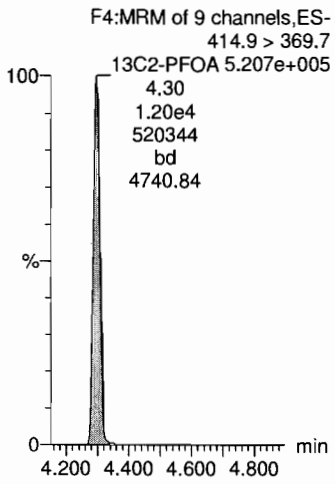
13C4-PFOS



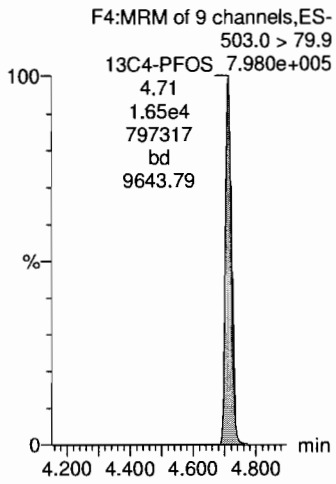
13C2-PFOA



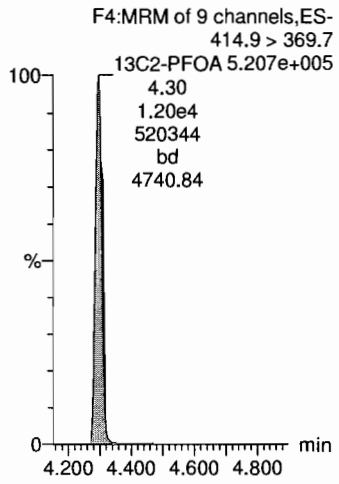
13C2-PFOA



13C4-PFOS



13C2-PFOA



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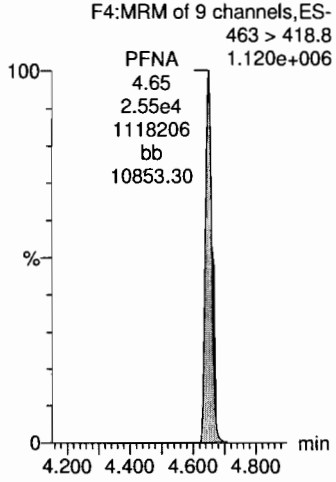
Printed: Monday, March 05, 2018 11:05:45 Pacific Standard Time

Name: 180302G2-48, Date: 03-Mar-2018, Time: 00:11:30, ID: ST180302G2-3 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

PFNA



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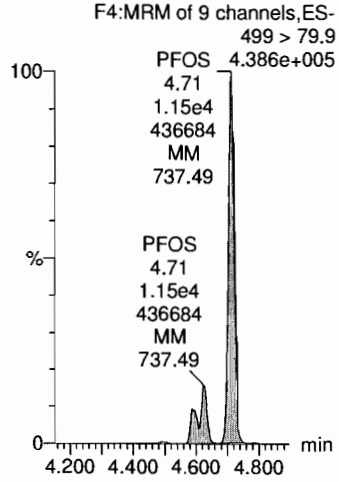

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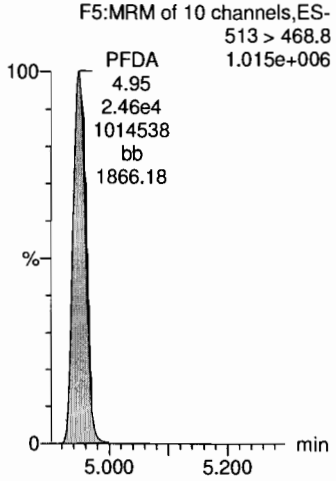

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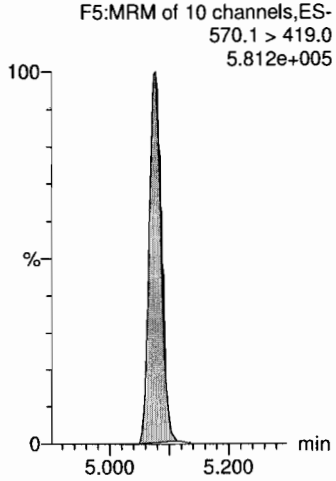

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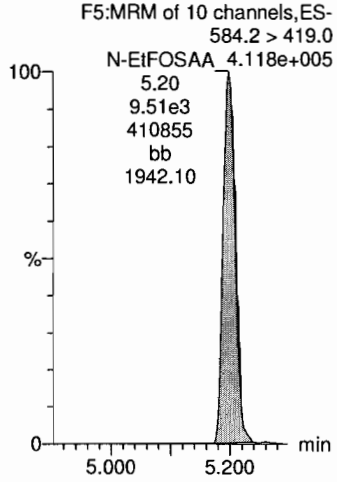

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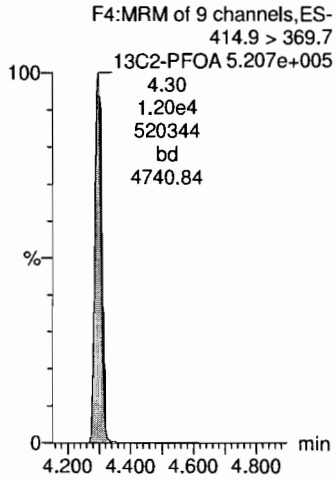
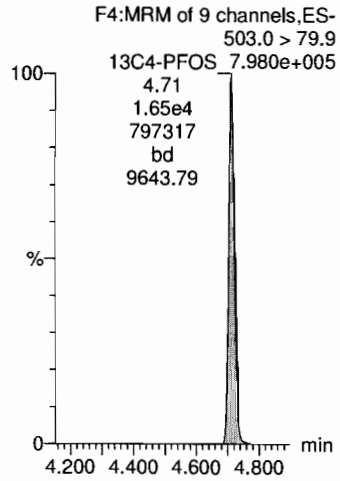


13C4-PFOS



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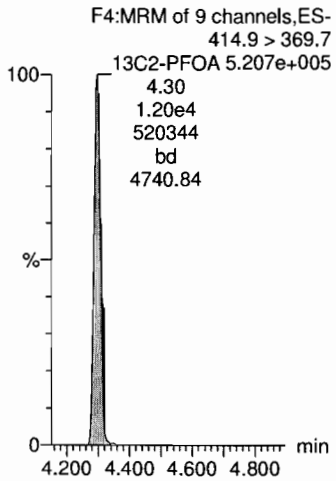

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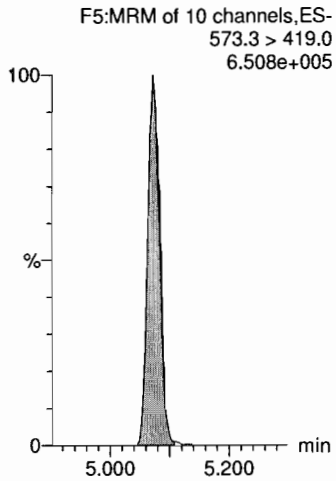

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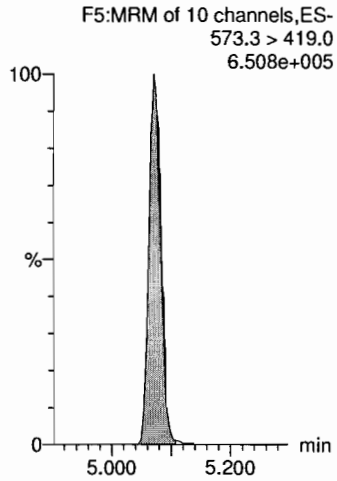

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Printed: Monday, March 05, 2018 11:05:45 Pacific Standard Time

Name: 180302G2-48, Date: 03-Mar-2018, Time: 00:11:30, ID: ST180302G2-3 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

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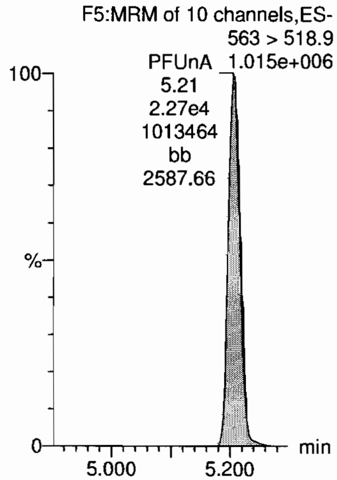

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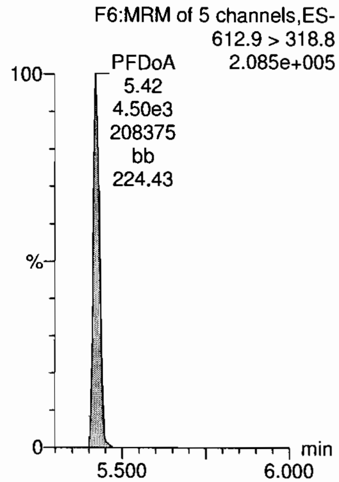

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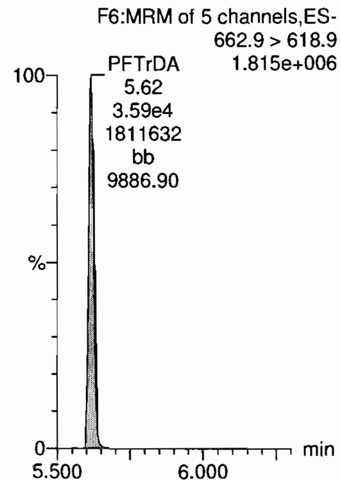

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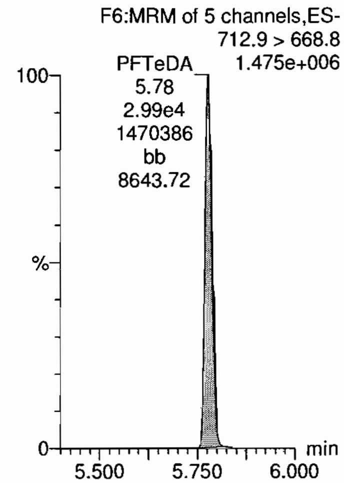

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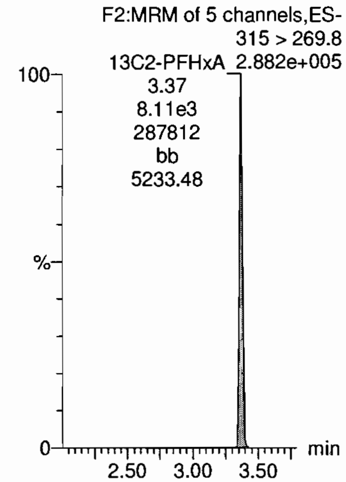

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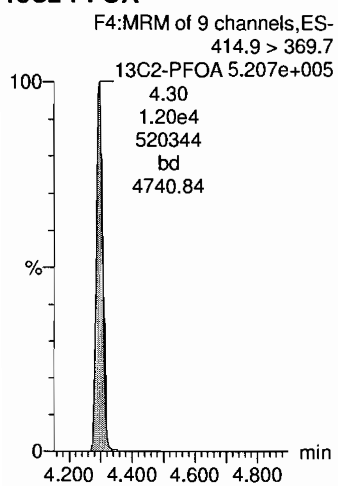

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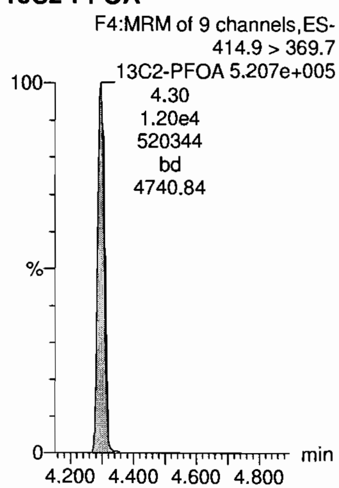

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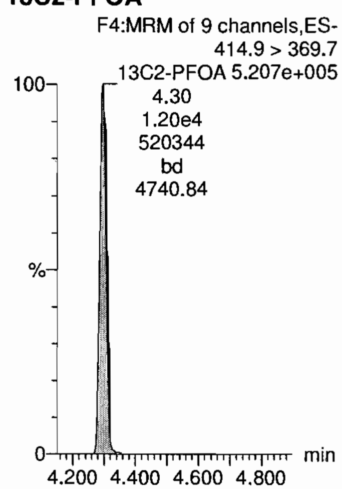

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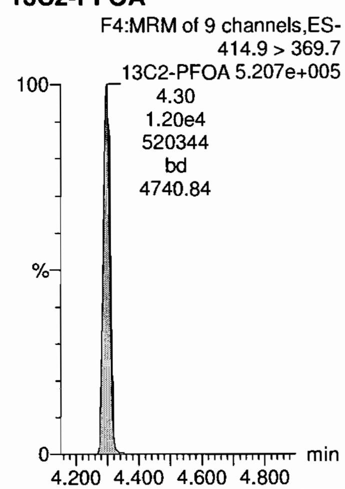

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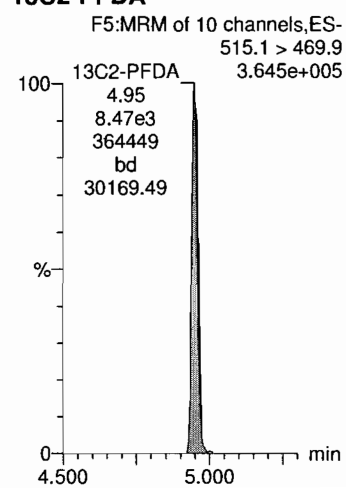

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Name: 180302G2-48, Date: 03-Mar-2018, Time: 00:11:30, ID: ST180302G2-3 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

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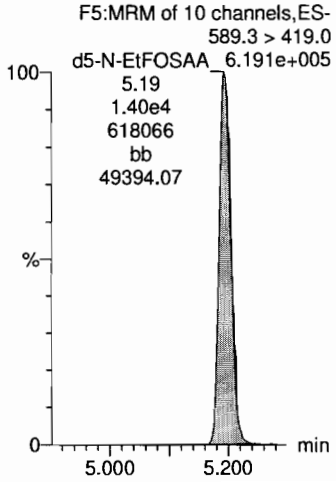


ICAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Conc	RT	Area	Ical Area	Area %
1	IPA	180305G3_1	Analyte	10			8974.47	0.00
2	ST180305G3-1 PFC CS-1 537 18B2310	180305G3_2	Analyte	10	4.27	10034.1	8974.47	111.81
3	IPA	180305G3_3	Analyte	10			8974.47	0.00
4	B8C0015-BLK1 LRB 0.25	180305G3_4	Analyte	10	4.27	7484.979	8974.47	83.40
5	B8C0015-BS1 LFB 0.25	180305G3_5	Analyte	10	4.28	8109.955	8974.47	90.37
6	B8C0015-BSD1 LFBD 0.25	180305G3_6	Analyte	10	4.28	7313.518	8974.47	81.49
7	1800366-01RE1 CH-AT-1RW165-0218 0.25	180305G3_7	Analyte	10	4.27	8392.729	8974.47	93.52
8	1800366-02RE1 CH-AT-1FB165-0218 0.25	180305G3_8	Analyte	10	4.28	8274.444	8974.47	92.20
9	1800366-03RE1 CH-AT-1RW166-0218 0.25	180305G3_9	Analyte	10	4.27	8521.142	8974.47	94.95
10	1800366-04RE1 CH-AT-1FB166-0218 0.25	180305G3_10	Analyte	10	4.27	8065.264	8974.47	89.87
11	1800366-05RE1 CH-AT-1RW167-0218 0.25	180305G3_11	Analyte	10	4.27	8700.437	8974.47	96.95
12	1800366-06RE1 CH-AT-1FB167-0218 0.25	180305G3_12	Analyte	10	4.27	7658.056	8974.47	85.33
13	1800366-07RE1 CH-AT-1RW168-0218 0.25	180305G3_13	Analyte	10	4.27	8076.924	8974.47	90.00
14	1800366-08RE1 CH-AT-1FB168-0218 0.25	180305G3_14	Analyte	10	4.28	8905.58	8974.47	99.23
15	1800366-09RE1 CH-AT-1RW169-0218 0.25	180305G3_15	Analyte	10	4.27	9493.356	8974.47	105.78
16	1800366-10RE1 CH-AT-1FB169-0218 0.25	180305G3_16	Analyte	10	4.27	8427.829	8974.47	93.91
17	1800366-11RE1 CH-AT-1RW170-0218 0.25	180305G3_17	Analyte	10	4.27	8758.39	8974.47	97.59
18	1800366-12RE1 CH-AT-1FB170-0218 0.25	180305G3_18	Analyte	10	4.27	9383.355	8974.47	104.56
19	IPA	180305G3_19	Analyte	10			8974.47	0.00
20	ST180305G3-2 PFC CS2 537 18B2305	180305G3_20	Analyte	10	4.27	10975.54	8974.47	122.30
21	IPA	180305G3_21	Analyte	10				

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Conc	RT	Area	Ical Area	Area %
1	IPA	180305G3_1	Analyte	28.7			17934.74	0.00
2	ST180305G3-1 PFC CS-1 537 18B2310	180305G3_2	Analyte	28.7	4.7	17129.59	17934.74	95.51
3	IPA	180305G3_3	Analyte	28.7			17934.74	0.00
4	B8C0015-BLK1 LRB 0.25	180305G3_4	Analyte	28.7	4.7	13607.18	17934.74	75.87

MJT 3/6/2018

5	B8C0015-BS1 LFB 0.25	180305G3_5	Analyte	28.7	4.7	13017.24	17934.74	72.58
6	B8C0015-BSD1 LFBD 0.25	180305G3_6	Analyte	28.7	4.7	12521.66	17934.74	69.82
7	1800366-01RE1 CH-AT-1RW165-0218 0.25	180305G3_7	Analyte	28.7	4.7	14343.64	17934.74	79.98
8	1800366-02RE1 CH-AT-1FB165-0218 0.25	180305G3_8	Analyte	28.7	4.7	13294.56	17934.74	74.13
9	1800366-03RE1 CH-AT-1RW166-0218 0.25	180305G3_9	Analyte	28.7	4.7	13686.75	17934.74	76.31
10	1800366-04RE1 CH-AT-1FB166-0218 0.25	180305G3_10	Analyte	28.7	4.7	13487.25	17934.74	75.20
11	1800366-05RE1 CH-AT-1RW167-0218 0.25	180305G3_11	Analyte	28.7	4.7	13327.72	17934.74	74.31
12	1800366-06RE1 CH-AT-1FB167-0218 0.25	180305G3_12	Analyte	28.7	4.7	12899.00	17934.74	71.92
13	1800366-07RE1 CH-AT-1RW168-0218 0.25	180305G3_13	Analyte	28.7	4.7	12036.05	17934.74	67.11
14	1800366-08RE1 CH-AT-1FB168-0218 0.25	180305G3_14	Analyte	28.7	4.7	12668.85	17934.74	70.64
15	1800366-09RE1 CH-AT-1RW169-0218 0.25	180305G3_15	Analyte	28.7	4.7	13712.19	17934.74	76.46
16	1800366-10RE1 CH-AT-1FB169-0218 0.25	180305G3_16	Analyte	28.7	4.7	12802.58	17934.74	71.38
17	1800366-11RE1 CH-AT-1RW170-0218 0.25	180305G3_17	Analyte	28.7	4.7	12441.81	17934.74	69.37
18	1800366-12RE1 CH-AT-1FB170-0218 0.25	180305G3_18	Analyte	28.7	4.7	13039.26	17934.74	72.70
19	IPA	180305G3_19	Analyte	28.7			17934.74	0.00
20	ST180305G3-2 PFC CS2 537 18B2305	180305G3_20	Analyte	28.7	4.7	16108.77	17934.74	89.82
21	IPA	180305G3_21	Analyte	28.7				

CCAL

Compound 18: 13C2-PFOA

	ID	Name	Type	Std. Conc	RT	Area	Ccal Area	Area %
1	IPA	180305G3_1	Analyte	10			10034.1	0.00
2	ST180305G3-1 PFC CS-1 537 18B2310	180305G3_2	Analyte	10	4.27	10034.1	10034.1	100.00
3	IPA	180305G3_3	Analyte	10			10034.1	0.00
4	B8C0015-BLK1 LRB 0.25	180305G3_4	Analyte	10	4.27	7484.979	10034.1	74.60
5	B8C0015-BS1 LFB 0.25	180305G3_5	Analyte	10	4.28	8109.955	10034.1	80.82
6	B8C0015-BSD1 LFBD 0.25	180305G3_6	Analyte	10	4.28	7313.518	10034.1	72.89
7	1800366-01RE1 CH-AT-1RW165-0218 0.25	180305G3_7	Analyte	10	4.27	8392.729	10034.1	83.64
8	1800366-02RE1 CH-AT-1FB165-0218 0.25	180305G3_8	Analyte	10	4.28	8274.444	10034.1	82.46
9	1800366-03RE1 CH-AT-1RW166-0218 0.25	180305G3_9	Analyte	10	4.27	8521.142	10034.1	84.92
10	1800366-04RE1 CH-AT-1FB166-0218 0.25	180305G3_10	Analyte	10	4.27	8065.264	10034.1	80.38
11	1800366-05RE1 CH-AT-1RW167-0218 0.25	180305G3_11	Analyte	10	4.27	8700.437	10034.1	86.71
12	1800366-06RE1 CH-AT-1FB167-0218 0.25	180305G3_12	Analyte	10	4.27	7658.056	10034.1	76.32

MJT 3/6/2018

13	1800366-07RE1 CH-AT-1RW168-0218 0.25	180305G3_13	Analyte	10	4.27	8076.924	10034.1	80.49
14	1800366-08RE1 CH-AT-1FB168-0218 0.25	180305G3_14	Analyte	10	4.28	8905.58	10034.1	88.75
15	1800366-09RE1 CH-AT-1RW169-0218 0.25	180305G3_15	Analyte	10	4.27	9493.356	10034.1	94.61
16	1800366-10RE1 CH-AT-1FB169-0218 0.25	180305G3_16	Analyte	10	4.27	8427.829	10034.1	83.99
17	1800366-11RE1 CH-AT-1RW170-0218 0.25	180305G3_17	Analyte	10	4.27	8758.39	10034.1	87.29
18	1800366-12RE1 CH-AT-1FB170-0218 0.25	180305G3_18	Analyte	10	4.27	9383.355	10034.1	93.51
19	IPA	180305G3_19	Analyte	10			10034.1	0.00
20	ST180305G3-2 PFC CS2 537 18B2305	180305G3_20	Analyte	10	4.27	10975.54	10034.1	109.38
21	IPA	180305G3_21	Analyte	10				

Compound 19: 13C4-PFOS

	ID	Name	Type	Std. Conc	RT	Area	Ccal Area	Area %
1	IPA	180305G3_1	Analyte	28.7			17129.59	0.00
2	ST180305G3-1 PFC CS-1 537 18B2310	180305G3_2	Analyte	28.7	4.7	17129.59	17129.59	100.00
3	IPA	180305G3_3	Analyte	28.7			17129.59	0.00
4	B8C0015-BLK1 LRB 0.25	180305G3_4	Analyte	28.7	4.7	13607.18	17129.59	79.44
5	B8C0015-BS1 LFB 0.25	180305G3_5	Analyte	28.7	4.7	13017.24	17129.59	75.99
6	B8C0015-BSD1 LFBD 0.25	180305G3_6	Analyte	28.7	4.7	12521.66	17129.59	73.10
7	1800366-01RE1 CH-AT-1RW165-0218 0.25	180305G3_7	Analyte	28.7	4.7	14343.64	17129.59	83.74
8	1800366-02RE1 CH-AT-1FB165-0218 0.25	180305G3_8	Analyte	28.7	4.7	13294.56	17129.59	77.61
9	1800366-03RE1 CH-AT-1RW166-0218 0.25	180305G3_9	Analyte	28.7	4.7	13686.75	17129.59	79.90
10	1800366-04RE1 CH-AT-1FB166-0218 0.25	180305G3_10	Analyte	28.7	4.7	13487.25	17129.59	78.74
11	1800366-05RE1 CH-AT-1RW167-0218 0.25	180305G3_11	Analyte	28.7	4.7	13327.72	17129.59	77.81
12	1800366-06RE1 CH-AT-1FB167-0218 0.25	180305G3_12	Analyte	28.7	4.7	12899.00	17129.59	75.30
13	1800366-07RE1 CH-AT-1RW168-0218 0.25	180305G3_13	Analyte	28.7	4.7	12036.05	17129.59	70.26
14	1800366-08RE1 CH-AT-1FB168-0218 0.25	180305G3_14	Analyte	28.7	4.7	12668.85	17129.59	73.96
15	1800366-09RE1 CH-AT-1RW169-0218 0.25	180305G3_15	Analyte	28.7	4.7	13712.19	17129.59	80.05
16	1800366-10RE1 CH-AT-1FB169-0218 0.25	180305G3_16	Analyte	28.7	4.7	12802.58	17129.59	74.74
17	1800366-11RE1 CH-AT-1RW170-0218 0.25	180305G3_17	Analyte	28.7	4.7	12441.81	17129.59	72.63
18	1800366-12RE1 CH-AT-1FB170-0218 0.25	180305G3_18	Analyte	28.7	4.7	13039.26	17129.59	76.12
19	IPA	180305G3_19	Analyte	28.7			17129.59	0.00
20	ST180305G3-2 PFC CS2 537 18B2305	180305G3_20	Analyte	28.7	4.7	16108.77	17129.59	94.04
21	IPA	180305G3_21	Analyte	28.7				

MJT 3/6/2018

LC Calibration Standards Review Checklist Q1

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID:	ST180305G3-1	(L) M H	NA ☐ ↓	☑	☑	☑	☑	☑	☐ ↓
Calibration ID:	ST180305G3-2	L (M) H	☑	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 4.15.17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Instrument Blank Saved ☑ NA DW

IIS Area Saved ☑

Reviewed By: [signature] 3/6/18
Initials/Date

Comments:

L14 DW
written up for L3 only.

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-2.qld

Last Altered: Tuesday, March 06, 2018 08:01:47 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:07:54 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

KGT 3/6/18

Name: 180305G3_2, Date: 05-Mar-2018, Time: 15:28:15, ID: ST180305G3-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	1.00e3	1.71e4	1.0000		3.01	2.97	1.68	2.29	129.5
2	5	PFOA	413 > 368.7	2.21e3	1.00e4	1.0000		4.27	4.27	2.20	2.63	131.3
3	7	PFOS	499 >79.9	1.13e3	1.71e4	1.0000		4.70	4.70	1.89	1.97	106.6
4	15	13C2-PFHxA	315 > 269.8	7.00e3	1.00e4	1.0000	0.731	3.43	3.34	6.97	9.53	95.3
5	16	13C2-PFDA	515.1 > 469.9	9.55e3	1.00e4	1.0000	0.910	4.87	4.93	9.51	10.5	104.6
6	18	13C2-PFOA	414.9 > 369.7	1.00e4	1.00e4	1.0000	1.000	4.41	4.27	10.0	10.0	100.0
7	19	13C4-PFOS	503.0 > 79.9	1.71e4	1.71e4	1.0000	1.000	4.81	4.70	28.7	28.7	100.0

50-150

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, March 06, 2018 08:57:17 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:57:50 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	180305G3_1	IPA	05-Mar-18	15:16:12
2	180305G3_2	ST180305G3-1 PFC CS-1 537 18B2310	05-Mar-18	15:28:15
3	180305G3_3	IPA	05-Mar-18	15:40:41
4	180305G3_4	B8C0015-BLK1 LRB 0.25	05-Mar-18	15:53:07
5	180305G3_5	B8C0015-BS1 LFB 0.25	05-Mar-18	16:05:28
6	180305G3_6	B8C0015-BSD1 LFBD 0.25	05-Mar-18	16:17:53
7	180305G3_7	1800366-01RE1 CH-AT-1RW165-0218 0.25	05-Mar-18	16:30:18
8	180305G3_8	1800366-02RE1 CH-AT-1FB165-0218 0.25	05-Mar-18	16:42:43
9	180305G3_9	1800366-03RE1 CH-AT-1RW166-0218 0.25	05-Mar-18	16:55:08
10	180305G3_10	1800366-04RE1 CH-AT-1FB166-0218 0.25	05-Mar-18	17:07:34
11	180305G3_11	1800366-05RE1 CH-AT-1RW167-0218 0.25	05-Mar-18	17:19:59
12	180305G3_12	1800366-06RE1 CH-AT-1FB167-0218 0.25	05-Mar-18	17:32:24
13	180305G3_13	1800366-07RE1 CH-AT-1RW168-0218 0.25	05-Mar-18	17:44:44
14	180305G3_14	1800366-08RE1 CH-AT-1FB168-0218 0.25	05-Mar-18	17:57:01
15	180305G3_15	1800366-09RE1 CH-AT-1RW169-0218 0.25	05-Mar-18	18:09:27
16	180305G3_16	1800366-10RE1 CH-AT-1FB169-0218 0.25	05-Mar-18	18:21:52
17	180305G3_17	1800366-11RE1 CH-AT-1RW170-0218 0.25	05-Mar-18	18:34:16
18	180305G3_18	1800366-12RE1 CH-AT-1FB170-0218 0.25	05-Mar-18	18:46:43
19	180305G3_19	IPA	05-Mar-18	18:59:08
20	180305G3_20	ST180305G3-2 PFC CS2 537 18B2305	05-Mar-18	19:11:33
21	180305G3_21	IPA	05-Mar-18	19:23:56

Vista Analytical Laboratory

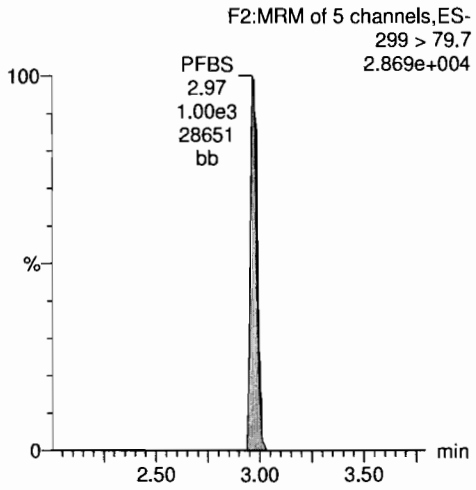
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-2.qld

Last Altered: Tuesday, March 06, 2018 08:01:47 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:07:54 Pacific Standard Time

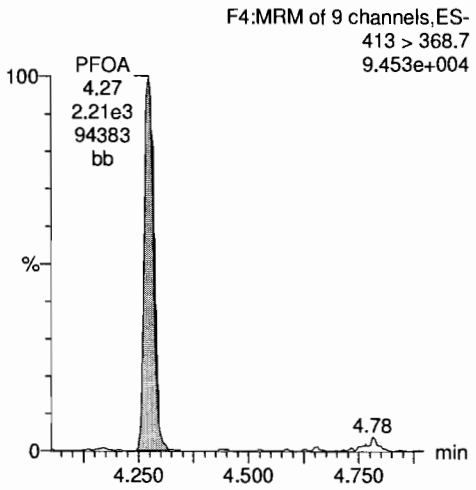
Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_2, Date: 05-Mar-2018, Time: 15:28:15, ID: ST180305G3-1 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

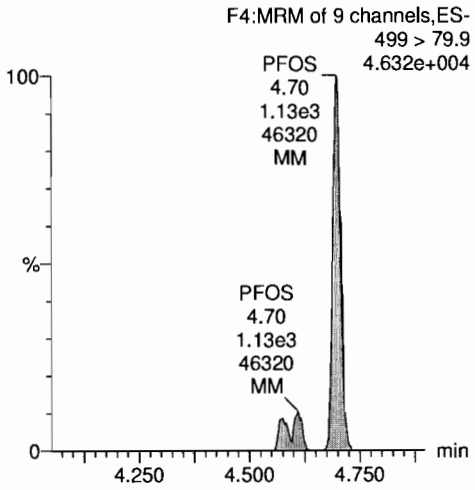
PFBS



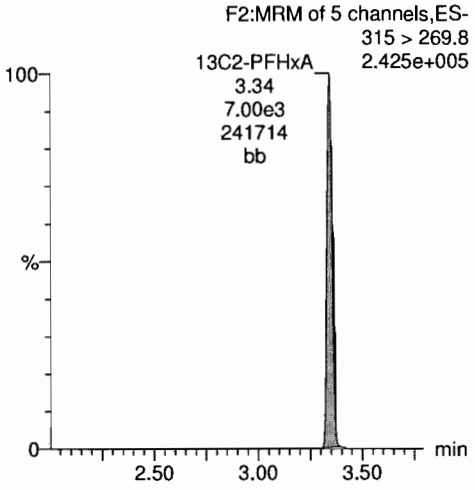
PFOA



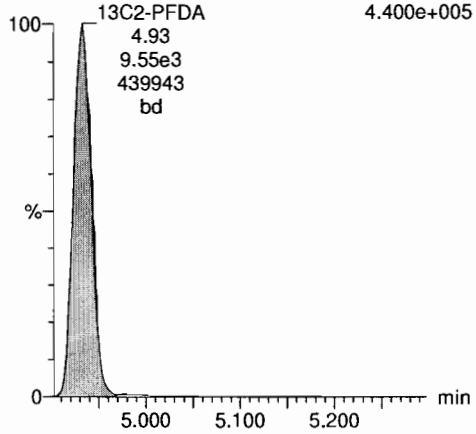
PFOS



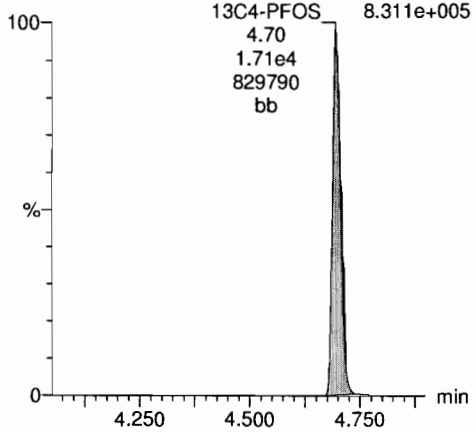
13C2-PFHxA



13C2-PFDA



13C4-PFOS



Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-20.qld

Last Altered: Tuesday, March 06, 2018 08:08:48 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:09:10 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

JJT 3/6/18

Name: 180305G3_20, Date: 05-Mar-2018, Time: 19:11:33, ID: ST180305G3-2 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	9.65e3	1.61e4	1.0000		3.01	2.97	17.2	23.5	106.4
2	5	PFOA	413 > 368.7	2.05e4	1.10e4	1.0000		4.27	4.27	18.7	22.3	89.4
3	7	PFOS	499 >79.9	1.13e4	1.61e4	1.0000		4.70	4.70	20.1	21.0	90.7
4	15	13C2-PFHxA	315 > 269.8	7.19e3	1.10e4	1.0000	0.731	3.43	3.34	6.55	8.96	89.6
5	16	13C2-PFDA	515.1 > 469.9	9.00e3	1.10e4	1.0000	0.910	4.87	4.93	8.20	9.02	90.2
6	18	13C2-PFOA	414.9 > 369.7	1.10e4	1.10e4	1.0000	1.000	4.41	4.27	10.0	10.0	100.0
7	19	13C4-PFOS	503.0 > 79.9	1.61e4	1.61e4	1.0000	1.000	4.81	4.70	28.7	28.7	100.0

70 - 130

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, March 06, 2018 08:57:17 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:57:50 Pacific Standard Time

Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	180305G3_1	IPA	05-Mar-18	15:16:12
2	180305G3_2	ST180305G3-1 PFC CS-1 537 18B2310	05-Mar-18	15:28:15
3	180305G3_3	IPA	05-Mar-18	15:40:41
4	180305G3_4	B8C0015-BLK1 LRB 0.25	05-Mar-18	15:53:07
5	180305G3_5	B8C0015-BS1 LFB 0.25	05-Mar-18	16:05:28
6	180305G3_6	B8C0015-BSD1 LFBD 0.25	05-Mar-18	16:17:53
7	180305G3_7	1800366-01RE1 CH-AT-1RW165-0218 0.25	05-Mar-18	16:30:18
8	180305G3_8	1800366-02RE1 CH-AT-1FB165-0218 0.25	05-Mar-18	16:42:43
9	180305G3_9	1800366-03RE1 CH-AT-1RW166-0218 0.25	05-Mar-18	16:55:08
10	180305G3_10	1800366-04RE1 CH-AT-1FB166-0218 0.25	05-Mar-18	17:07:34
11	180305G3_11	1800366-05RE1 CH-AT-1RW167-0218 0.25	05-Mar-18	17:19:59
12	180305G3_12	1800366-06RE1 CH-AT-1FB167-0218 0.25	05-Mar-18	17:32:24
13	180305G3_13	1800366-07RE1 CH-AT-1RW168-0218 0.25	05-Mar-18	17:44:44
14	180305G3_14	1800366-08RE1 CH-AT-1FB168-0218 0.25	05-Mar-18	17:57:01
15	180305G3_15	1800366-09RE1 CH-AT-1RW169-0218 0.25	05-Mar-18	18:09:27
16	180305G3_16	1800366-10RE1 CH-AT-1FB169-0218 0.25	05-Mar-18	18:21:52
17	180305G3_17	1800366-11RE1 CH-AT-1RW170-0218 0.25	05-Mar-18	18:34:16
18	180305G3_18	1800366-12RE1 CH-AT-1FB170-0218 0.25	05-Mar-18	18:46:43
19	180305G3_19	IPA	05-Mar-18	18:59:08
20	180305G3_20	ST180305G3-2 PFC CS2 537 18B2305	05-Mar-18	19:11:33
21	180305G3_21	IPA	05-Mar-18	19:23:56

Vista Analytical Laboratory

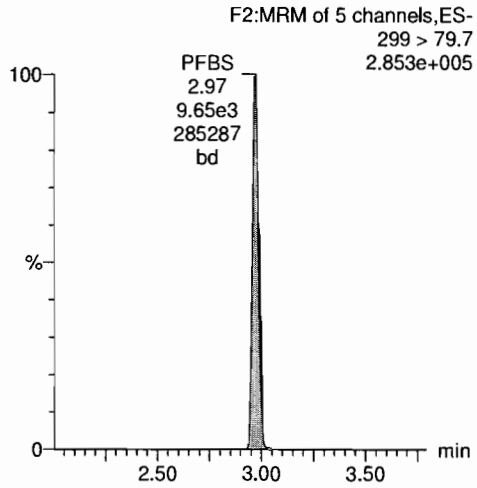
Dataset: X:\G1.PRO\Results\2018\180305G3\180305G3-20.qld

Last Altered: Tuesday, March 06, 2018 08:08:48 Pacific Standard Time
Printed: Tuesday, March 06, 2018 08:09:10 Pacific Standard Time

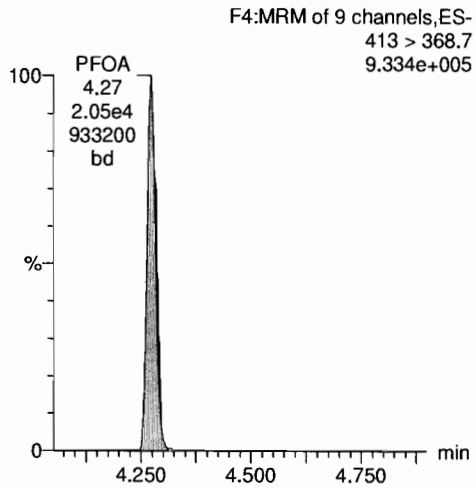
Method: X:\G1.pro\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.pro\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180305G3_20, Date: 05-Mar-2018, Time: 19:11:33, ID: ST180305G3-2 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

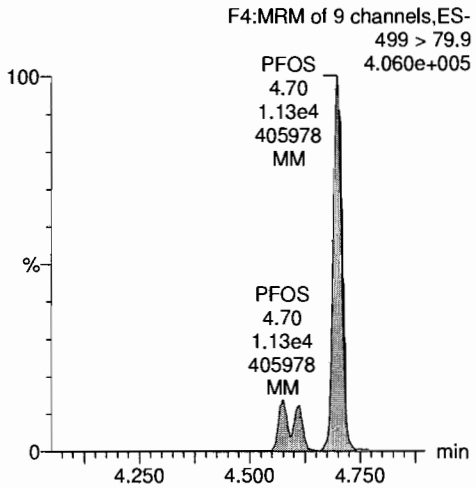
PFBS



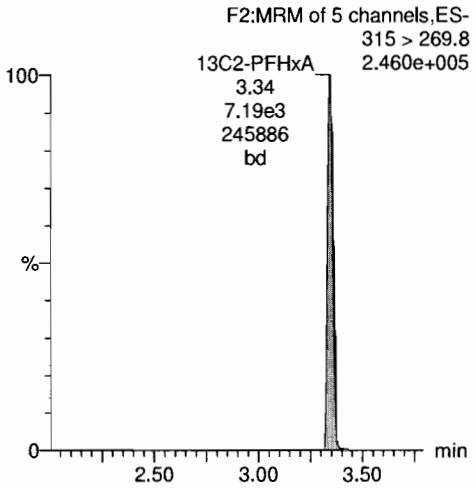
PFOA



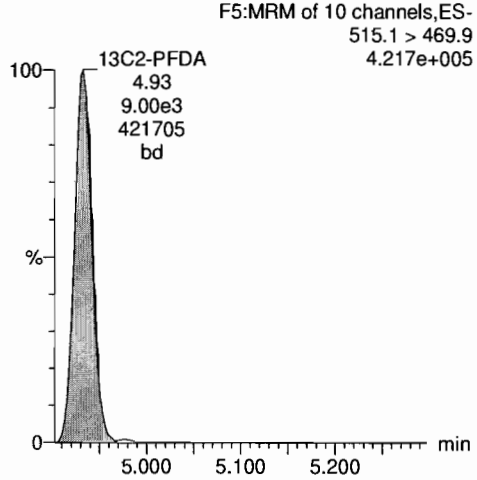
PFOS



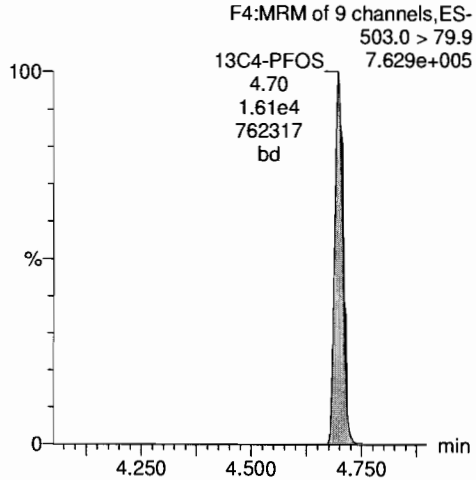
13C2-PFHxA



13C2-PFDA



13C4-PFOS



INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

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

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

vJA. 02/24/2018

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 17:19:14

Compound name: PFBS
Coefficient of Determination: R^2 = 0.996349
Calibration curve: 0.731202 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

MJT 2/23/18

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	180223G2_2	Standard	0.443	3.01	198.814	16868.711	0.338	0.5	4.5	NO	0.996	NO	bb
2	2	180223G2_3	Standard	0.885	3.01	521.997	18929.600	0.791	1.1	22.3	NO	0.996	NO	bb
3	3	180223G2_4	Standard	1.770	3.02	909.253	19568.625	1.334	1.8	3.0	NO	0.996	NO	bb
4	4	180223G2_5	Standard	4.420	3.01	2203.222	17986.094	3.516	4.8	8.8	NO	0.996	NO	bb
5	5	180223G2_6	Standard	8.850	3.02	3827.673	17892.594	6.140	8.4	-5.1	NO	0.996	NO	bb
6	6	180223G2_7	Standard	22.100	3.01	9307.743	17798.180	15.009	20.5	-7.1	NO	0.996	NO	bb
7	7	180223G2_8	Standard	44.200	3.02	19324.398	16645.363	33.319	45.6	3.1	NO	0.996	NO	bb
8	8	180223G2_9	Standard	66.300	3.02	28018.547	15491.563	51.908	71.0	7.1	NO	0.996	NO	MMX
9	9	180223G2_10	Standard	88.400	3.02	37264.695	15634.240	68.407	93.6	5.8	NO	0.996	NO	MMX

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.997717
Calibration curve: 0.553475 * 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	180223G2_2	Standard	0.500	3.38	354.132	9097.107	0.389	0.7	40.7	NO	0.998	NO	MM
2	2	180223G2_3	Standard	1.000	3.38	711.273	9939.635	0.716	1.3	29.3	NO	0.998	NO	MM
3	3	180223G2_4	Standard	2.000	3.38	1173.079	9566.432	1.226	2.2	10.8	NO	0.998	NO	bb
4	4	180223G2_5	Standard	5.000	3.38	2646.081	8946.824	2.958	5.3	6.9	NO	0.998	NO	bb
5	5	180223G2_6	Standard	10.000	3.38	4344.971	8816.899	4.928	8.9	-11.0	NO	0.998	NO	bb
6	6	180223G2_7	Standard	25.000	3.38	11894.084	8696.680	13.677	24.7	-1.2	NO	0.998	NO	bb
7	7	180223G2_8	Standard	50.000	3.38	23477.408	8483.395	27.675	50.0	0.0	NO	0.998	NO	bb
8	8	180223G2_9	Standard	75.000	3.38	34391.449	8248.775	41.693	75.3	0.4	NO	0.998	NO	MM
9	9	180223G2_10	Standard	100.000	3.38	44779.535	7559.229	59.238	107.0	7.0	NO	0.998	NO	bbX

MJT 2/23/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.998875
Calibration curve: 0.940423 * 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	180223G2_2	Standard	0.500	3.89	483.433	9097.107	0.531	0.6	13.0	NO	0.999	NO	bb
2	2	180223G2_3	Standard	1.000	3.89	1185.001	9939.635	1.192	1.3	26.8	NO	0.999	NO	bb
3	3	180223G2_4	Standard	2.000	3.89	1948.822	9566.432	2.037	2.2	8.3	NO	0.999	NO	bb
4	4	180223G2_5	Standard	5.000	3.89	4527.533	8946.824	5.060	5.4	7.6	NO	0.999	NO	bb
5	5	180223G2_6	Standard	10.000	3.89	7941.743	8816.899	9.007	9.6	-4.2	NO	0.999	NO	MM
6	6	180223G2_7	Standard	25.000	3.89	19776.438	8696.680	22.740	24.2	-3.3	NO	0.999	NO	bb
7	7	180223G2_8	Standard	50.000	3.89	39949.883	8483.395	47.092	50.1	0.2	NO	0.999	NO	MM
8	8	180223G2_9	Standard	75.000	3.89	58401.840	8248.775	70.801	75.3	0.4	NO	0.999	NO	bb
9	9	180223G2_10	Standard	100.000	3.89	74943.813	7559.229	99.142	105.4	5.4	NO	0.999	NO	bbX

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.997652
Calibration curve: 0.699727 * 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	180223G2_2	Standard	0.455	4.01	218.022	16868.711	0.371	0.5	16.5	NO	0.998	NO	MM
2	2	180223G2_3	Standard	0.910	4.01	506.356	18929.600	0.768	1.1	20.6	NO	0.998	NO	MM
3	3	180223G2_4	Standard	1.820	4.01	943.059	19568.625	1.383	2.0	8.6	NO	0.998	NO	MM
4	4	180223G2_5	Standard	4.560	4.01	2125.416	17986.094	3.391	4.8	6.3	NO	0.998	NO	MM
5	5	180223G2_6	Standard	9.120	4.01	3769.145	17892.594	6.046	8.6	-5.3	NO	0.998	NO	MM
6	6	180223G2_7	Standard	22.800	4.01	9441.263	17798.180	15.224	21.8	-4.6	NO	0.998	NO	MM
7	7	180223G2_8	Standard	45.600	4.01	18837.053	16645.363	32.479	46.4	1.8	NO	0.998	NO	MM
8	8	180223G2_9	Standard	68.400	4.01	26492.680	15491.563	49.081	70.1	2.5	NO	0.998	NO	MMX
9	9	180223G2_10	Standard	91.200	4.01	36343.625	15634.240	66.717	95.3	4.5	NO	0.998	NO	MMX

MJT 2/23/2018

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

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Compound name: PFOA
Coefficient of Determination: R^2 = 0.998447
Calibration curve: 0.83774 * 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	180223G2_2	Standard	0.500	4.31	444.616	9097.107	0.489	0.6	16.7	NO	0.998	NO	MMX
2	2	180223G2_3	Standard	1.000	4.31	1106.276	9939.635	1.113	1.3	32.9	NO	0.998	NO	bb
3	3	180223G2_4	Standard	2.000	4.31	1805.433	9566.432	1.887	2.3	12.6	NO	0.998	NO	MM
4	4	180223G2_5	Standard	5.000	4.31	4055.906	8946.824	4.533	5.4	8.2	NO	0.998	NO	bb
5	5	180223G2_6	Standard	10.000	4.31	6970.526	8816.899	7.906	9.4	-5.6	NO	0.998	NO	bb
6	6	180223G2_7	Standard	25.000	4.31	17861.994	8696.680	20.539	24.5	-1.9	NO	0.998	NO	bb
7	7	180223G2_8	Standard	50.000	4.31	35483.926	8483.395	41.828	49.9	-0.1	NO	0.998	NO	MM
8	8	180223G2_9	Standard	75.000	4.31	51913.281	8248.775	62.935	75.1	0.2	NO	0.998	NO	bb
9	9	180223G2_10	Standard	100.000	4.31	68504.563	7559.229	90.624	108.2	8.2	NO	0.998	NO	bbX

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999615
Calibration curve: 1.01645 * 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	180223G2_2	Standard	0.500	4.65	563.949	9097.107	0.620	0.6	22.0	NO	1.000	NO	bb
2	2	180223G2_3	Standard	1.000	4.65	1157.372	9939.635	1.164	1.1	14.6	NO	1.000	NO	MM
3	3	180223G2_4	Standard	2.000	4.65	1920.400	9566.432	2.007	2.0	-1.3	NO	1.000	NO	bb
4	4	180223G2_5	Standard	5.000	4.65	4575.846	8946.824	5.114	5.0	0.6	NO	1.000	NO	bb
5	5	180223G2_6	Standard	10.000	4.65	8764.228	8816.899	9.940	9.8	-2.2	NO	1.000	NO	bd
6	6	180223G2_7	Standard	25.000	4.65	22423.768	8696.680	25.784	25.4	1.5	NO	1.000	NO	bb
7	7	180223G2_8	Standard	50.000	4.65	42865.504	8483.395	50.529	49.7	-0.6	NO	1.000	NO	bb
8	8	180223G2_9	Standard	75.000	4.65	62783.340	8248.775	76.112	74.9	-0.2	NO	1.000	NO	bd
9	9	180223G2_10	Standard	100.000	4.65	84539.195	7559.229	111.836	110.0	10.0	NO	1.000	NO	bbX

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
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Compound name: PFOS
Coefficient of Determination: R^2 = 0.999243
Calibration curve: 0.960258 * 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	180223G2_2	Standard	0.464	4.71	240.346	16868.711	0.409	0.4	-8.2	NO	0.999	NO	MM
2	2	180223G2_3	Standard	0.925	4.71	578.990	18929.600	0.878	0.9	-1.2	NO	0.999	NO	MM
3	3	180223G2_4	Standard	1.850	4.72	1246.784	19568.625	1.829	1.9	2.9	NO	0.999	NO	MM
4	4	180223G2_5	Standard	4.625	4.71	2839.078	17986.094	4.530	4.7	2.0	NO	0.999	NO	MM
5	5	180223G2_6	Standard	9.250	4.71	5482.640	17892.594	8.794	9.2	-1.0	NO	0.999	NO	MM
6	6	180223G2_7	Standard	23.100	4.71	13237.046	17798.180	21.345	22.2	-3.8	NO	0.999	NO	MM
7	7	180223G2_8	Standard	46.200	4.71	26212.029	16645.363	45.195	47.1	1.9	NO	0.999	NO	MM
8	8	180223G2_9	Standard	69.300	4.71	38823.871	15491.563	71.926	74.9	8.1	NO	0.999	NO	MMX
9	9	180223G2_10	Standard	92.400	4.72	54783.223	15634.240	100.566	104.7	13.3	NO	0.999	NO	MMX

Compound name: PFDA
Coefficient of Determination: R^2 = 0.997317
Calibration curve: 1.0203 * 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	180223G2_2	Standard	0.500	4.95	595.268	9097.107	0.654	0.6	28.3	NO	0.997	NO	bb
2	2	180223G2_3	Standard	1.000	4.95	1092.503	9939.635	1.099	1.1	7.7	NO	0.997	NO	MM
3	3	180223G2_4	Standard	2.000	4.95	2348.901	9566.432	2.455	2.4	20.3	NO	0.997	NO	bb
4	4	180223G2_5	Standard	5.000	4.95	5082.690	8946.824	5.681	5.6	11.4	NO	0.997	NO	bb
5	5	180223G2_6	Standard	10.000	4.95	9182.706	8816.899	10.415	10.2	2.1	NO	0.997	NO	bb
6	6	180223G2_7	Standard	25.000	4.95	23729.313	8696.680	27.285	26.7	7.0	NO	0.997	NO	bb
7	7	180223G2_8	Standard	50.000	4.95	42435.055	8483.395	50.021	49.0	-1.9	NO	0.997	NO	bb
8	8	180223G2_9	Standard	75.000	4.95	61296.219	8248.775	74.309	72.8	-2.9	NO	0.997	NO	bb
9	9	180223G2_10	Standard	100.000	4.95	86878.820	7559.229	114.931	112.6	12.6	NO	0.997	NO	bbX

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.996817
Calibration curve: 1.4828 * 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	180223G2_2	Standard	0.500	5.07	216.499	12707.717	0.681	0.5	-8.1	NO	0.997	NO	MM
2	2	180223G2_3	Standard	1.000	5.07	405.579	13652.991	1.188	0.8	-19.9	NO	0.997	NO	bb
3	3	180223G2_4	Standard	2.000	5.07	807.999	11741.213	2.753	1.9	-7.2	NO	0.997	NO	bb
4	4	180223G2_5	Standard	5.000	5.07	2570.225	14071.951	7.306	4.9	-1.5	NO	0.997	NO	bd
5	5	180223G2_6	Standard	10.000	5.07	4020.162	12882.572	12.482	8.4	-15.8	NO	0.997	NO	bb
6	6	180223G2_7	Standard	25.000	5.07	11394.728	13583.305	33.555	22.6	-9.5	NO	0.997	NO	bd
7	7	180223G2_8	Standard	50.000	5.07	22109.602	12346.496	71.630	48.3	-3.4	NO	0.997	NO	MM
8	8	180223G2_9	Standard	75.000	5.07	34154.773	11885.659	114.944	77.5	3.4	NO	0.997	NO	bb
9	9	180223G2_10	Standard	100.000	5.07	48529.656	12638.679	153.591	103.6	3.6	NO	0.997	NO	MM

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.993395
Calibration curve: 1.05983 * 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	180223G2_2	Standard	0.500	5.20	154.728	12707.717	0.487	0.5	-8.1	NO	0.993	NO	bb
2	2	180223G2_3	Standard	1.000	5.20	373.410	13652.991	1.094	1.0	3.2	NO	0.993	NO	MM
3	3	180223G2_4	Standard	2.000	5.20	628.798	11741.213	2.142	2.0	1.1	NO	0.993	NO	bb
4	4	180223G2_5	Standard	5.000	5.20	1653.245	14071.951	4.699	4.4	-11.3	NO	0.993	NO	bb
5	5	180223G2_6	Standard	10.000	5.20	3759.236	12882.572	11.672	11.0	10.1	NO	0.993	NO	bb
6	6	180223G2_7	Standard	25.000	5.20	9480.810	13583.305	27.919	26.3	5.4	NO	0.993	NO	bd
7	7	180223G2_8	Standard	50.000	5.20	17892.572	12346.496	57.968	54.7	9.4	NO	0.993	NO	bd
8	8	180223G2_9	Standard	75.000	5.20	24490.510	11885.659	82.420	77.8	3.7	NO	0.993	NO	bb
9	9	180223G2_10	Standard	100.000	5.20	30383.941	12638.679	96.162	90.7	-9.3	NO	0.993	NO	bb

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999540
Calibration curve: 1.00493 * 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	180223G2_2	Standard	0.500	5.21	522.451	9097.107	0.574	0.6	14.3	NO	1.000	NO	bb
2	2	180223G2_3	Standard	1.000	5.20	1059.691	9939.635	1.066	1.1	6.1	NO	1.000	NO	bb
3	3	180223G2_4	Standard	2.000	5.21	1984.447	9566.432	2.074	2.1	3.2	NO	1.000	NO	bb
4	4	180223G2_5	Standard	5.000	5.21	4406.931	8946.824	4.926	4.9	-2.0	NO	1.000	NO	bb
5	5	180223G2_6	Standard	10.000	5.21	9202.060	8816.899	10.437	10.4	3.9	NO	1.000	NO	MM
6	6	180223G2_7	Standard	25.000	5.21	22094.332	8696.680	25.405	25.3	1.1	NO	1.000	NO	bb
7	7	180223G2_8	Standard	50.000	5.21	41571.934	8483.395	49.004	48.8	-2.5	NO	1.000	NO	bb
8	8	180223G2_9	Standard	75.000	5.21	62562.047	8248.775	75.844	75.5	0.6	NO	1.000	NO	bb
9	9	180223G2_10	Standard	100.000	5.21	78905.391	7559.229	104.383	103.9	3.9	NO	1.000	NO	bbX

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995506
Calibration curve: 0.158397 * 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	180223G2_2	Standard	0.500	5.43	59.313	9097.107	0.065	0.4	-17.7	NO	0.996	NO	bb
2	2	180223G2_3	Standard	1.000	5.43	144.899	9939.635	0.146	0.9	-8.0	NO	0.996	NO	bb
3	3	180223G2_4	Standard	2.000	5.43	316.583	9566.432	0.331	2.1	4.5	NO	0.996	NO	bb
4	4	180223G2_5	Standard	5.000	5.42	872.572	8946.824	0.975	6.2	23.1	NO	0.996	NO	bb
5	5	180223G2_6	Standard	10.000	5.43	1223.185	8816.899	1.387	8.8	-12.4	NO	0.996	NO	bb
6	6	180223G2_7	Standard	25.000	5.43	3603.039	8696.680	4.143	26.2	4.6	NO	0.996	NO	bb
7	7	180223G2_8	Standard	50.000	5.43	6975.865	8483.395	8.223	51.9	3.8	NO	0.996	NO	bb
8	8	180223G2_9	Standard	75.000	5.42	9419.647	8248.775	11.419	72.1	-3.9	NO	0.996	NO	bb
9	9	180223G2_10	Standard	100.000	5.43	10426.521	7559.229	13.793	87.1	-12.9	NO	0.996	NO	bbX

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.997291
Calibration curve: 1.3743 * 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	180223G2_2	Standard	0.500	5.61	726.707	9097.107	0.799	0.6	16.3	NO	0.997	NO	bd
2	2	180223G2_3	Standard	1.000	5.61	1605.347	9939.635	1.615	1.2	17.5	NO	0.997	NO	bb
3	3	180223G2_4	Standard	2.000	5.61	3192.247	9566.432	3.337	2.4	21.4	NO	0.997	NO	bb
4	4	180223G2_5	Standard	5.000	5.61	6533.214	8946.824	7.302	5.3	6.3	NO	0.997	NO	bb
5	5	180223G2_6	Standard	10.000	5.61	12468.454	8816.899	14.142	10.3	2.9	NO	0.997	NO	bb
6	6	180223G2_7	Standard	25.000	5.61	32196.830	8696.680	37.022	26.9	7.8	NO	0.997	NO	MM
7	7	180223G2_8	Standard	50.000	5.62	56222.504	8483.395	66.274	48.2	-3.6	NO	0.997	NO	bb
8	8	180223G2_9	Standard	75.000	5.61	83378.453	8248.775	101.080	73.5	-1.9	NO	0.997	NO	bb
9	9	180223G2_10	Standard	100.000	5.61	109636.859	7559.229	145.037	105.5	5.5	NO	0.997	NO	bbX

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.998250
Calibration curve: 1.24932 * 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	180223G2_2	Standard	0.500	5.79	611.723	9097.107	0.672	0.5	7.6	NO	0.998	NO	MM
2	2	180223G2_3	Standard	1.000	5.79	1435.181	9939.635	1.444	1.2	15.6	NO	0.998	NO	bb
3	3	180223G2_4	Standard	2.000	5.78	2593.027	9566.432	2.711	2.2	8.5	NO	0.998	NO	MM
4	4	180223G2_5	Standard	5.000	5.78	6228.092	8946.824	6.961	5.6	11.4	NO	0.998	NO	bb
5	5	180223G2_6	Standard	10.000	5.78	11576.812	8816.899	13.130	10.5	5.1	NO	0.998	NO	bb
6	6	180223G2_7	Standard	25.000	5.79	28530.078	8696.680	32.806	26.3	5.0	NO	0.998	NO	MM
7	7	180223G2_8	Standard	50.000	5.79	52361.477	8483.395	61.722	49.4	-1.2	NO	0.998	NO	bd
8	8	180223G2_9	Standard	75.000	5.79	75116.234	8248.775	91.064	72.9	-2.8	NO	0.998	NO	MM
9	9	180223G2_10	Standard	100.000	5.79	102852.344	7559.229	136.062	108.9	8.9	NO	0.998	NO	MMX

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: 13C2-PFHxA
Response Factor: 0.731379
RRF SD: 0.0238184, Relative SD: 3.25663
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	180223G2_2	Standard	10.000	3.38	6700.987	9097.107	7.366	10.1	0.7	NO		NO	bd
2	2	180223G2_3	Standard	10.000	3.38	7319.206	9939.635	7.364	10.1	0.7	NO		NO	bb
3	3	180223G2_4	Standard	10.000	3.38	6577.065	9566.432	6.875	9.4	-6.0	NO		NO	bb
4	4	180223G2_5	Standard	10.000	3.38	6657.985	8946.824	7.442	10.2	1.7	NO		NO	bb
5	5	180223G2_6	Standard	10.000	3.38	6290.871	8816.899	7.135	9.8	-2.4	NO		NO	bb
6	6	180223G2_7	Standard	10.000	3.38	6250.375	8696.680	7.187	9.8	-1.7	NO		NO	bb
7	7	180223G2_8	Standard	10.000	3.38	6455.338	8483.395	7.609	10.4	4.0	NO		NO	bb
8	8	180223G2_9	Standard	10.000	3.38	6213.207	8248.775	7.532	10.3	3.0	NO		NO	bb
9	9	180223G2_10	Standard	10.000	3.38	6040.483	7559.229	7.991	10.9	9.3	NO		NO	bbX

Compound name: 13C2-PFDA
Response Factor: 0.909838
RRF SD: 0.0477189, Relative SD: 5.24477
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	180223G2_2	Standard	10.000	4.95	7725.546	9097.107	8.492	9.3	-6.7	NO		NO	bb
2	2	180223G2_3	Standard	10.000	4.95	8959.234	9939.635	9.014	9.9	-0.9	NO		NO	MM
3	3	180223G2_4	Standard	10.000	4.95	8703.722	9566.432	9.098	10.0	-0.0	NO		NO	bb
4	4	180223G2_5	Standard	10.000	4.95	8332.058	8946.824	9.313	10.2	2.4	NO		NO	bb
5	5	180223G2_6	Standard	10.000	4.95	7919.763	8816.899	8.982	9.9	-1.3	NO		NO	bb
6	6	180223G2_7	Standard	10.000	4.95	8753.030	8696.680	10.065	11.1	10.6	NO		NO	bb
7	7	180223G2_8	Standard	10.000	4.95	7796.922	8483.395	9.191	10.1	1.0	NO		NO	bb
8	8	180223G2_9	Standard	10.000	4.95	7120.327	8248.775	8.632	9.5	-5.1	NO		NO	bb
9	9	180223G2_10	Standard	10.000	4.95	7540.862	7559.229	9.976	11.0	9.6	NO		NO	bbX

MJT 2/23/2018

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Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Compound name: d5-N-EtFOSAA
Response Factor: 1.04937
RRF SD: 0.099298, Relative SD: 9.46259
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	180223G2_2	Standard	40.000	5.19	11991.277	12707.717	37.745	36.0	-10.1	NO		NO	bb
2	2	180223G2_3	Standard	40.000	5.19	16726.662	13652.991	49.005	46.7	16.7	NO		NO	bb
3	3	180223G2_4	Standard	40.000	5.19	14092.588	11741.213	48.011	45.8	14.4	NO		NO	bb
4	4	180223G2_5	Standard	40.000	5.19	14119.112	14071.951	40.134	38.2	-4.4	NO		NO	bb
5	5	180223G2_6	Standard	40.000	5.19	13679.503	12882.572	42.474	40.5	1.2	NO		NO	bb
6	6	180223G2_7	Standard	40.000	5.19	14178.573	13583.305	41.753	39.8	-0.5	NO		NO	bd
7	7	180223G2_8	Standard	40.000	5.19	12425.209	12346.496	40.255	38.4	-4.1	NO		NO	bb
8	8	180223G2_9	Standard	40.000	5.19	11514.227	11885.659	38.750	36.9	-7.7	NO		NO	bb
9	9	180223G2_10	Standard	40.000	5.19	12527.367	12638.679	39.648	37.8	-5.5	NO		NO	bd

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	180223G2_2	Standard	10.000	4.31	9097.107	9097.107	10.000	10.0	0.0	NO		NO	bb
2	2	180223G2_3	Standard	10.000	4.31	9939.635	9939.635	10.000	10.0	0.0	NO		NO	bb
3	3	180223G2_4	Standard	10.000	4.31	9566.432	9566.432	10.000	10.0	0.0	NO		NO	bb
4	4	180223G2_5	Standard	10.000	4.31	8946.824	8946.824	10.000	10.0	0.0	NO		NO	bb
5	5	180223G2_6	Standard	10.000	4.31	8816.899	8816.899	10.000	10.0	0.0	NO		NO	bb
6	6	180223G2_7	Standard	10.000	4.31	8696.680	8696.680	10.000	10.0	0.0	NO		NO	bd
7	7	180223G2_8	Standard	10.000	4.31	8483.395	8483.395	10.000	10.0	0.0	NO		NO	bd
8	8	180223G2_9	Standard	10.000	4.31	8248.775	8248.775	10.000	10.0	0.0	NO		NO	bb
9	9	180223G2_10	Standard	10.000	4.31	7559.229	7559.229	10.000	10.0	0.0	NO		NO	bbX

MJT 2/23/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 1.35974e-016, Relative SD: 1.35974e-014
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	180223G2_2	Standard	28.700	4.71	16868.711	16868.711	28.700	28.7	0.0	NO		NO	bd
2	2	180223G2_3	Standard	28.700	4.71	18929.600	18929.600	28.700	28.7	0.0	NO		NO	MM
3	3	180223G2_4	Standard	28.700	4.71	19568.625	19568.625	28.700	28.7	0.0	NO		NO	bd
4	4	180223G2_5	Standard	28.700	4.71	17986.094	17986.094	28.700	28.7	0.0	NO		NO	bd
5	5	180223G2_6	Standard	28.700	4.71	17892.594	17892.594	28.700	28.7	0.0	NO		NO	bd
6	6	180223G2_7	Standard	28.700	4.71	17798.180	17798.180	28.700	28.7	0.0	NO		NO	bb
7	7	180223G2_8	Standard	28.700	4.71	16645.363	16645.363	28.700	28.7	0.0	NO		NO	bb
8	8	180223G2_9	Standard	28.700	4.71	15491.563	15491.563	28.700	28.7	0.0	NO		NO	bbX
9	9	180223G2_10	Standard	28.700	4.71	15634.240	15634.240	28.700	28.7	0.0	NO		NO	bbX

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	180223G2_2	Standard	40.000	5.07	12707.717	12707.717	40.000	40.0	0.0	NO		NO	bb
2	2	180223G2_3	Standard	40.000	5.07	13652.991	13652.991	40.000	40.0	0.0	NO		NO	bb
3	3	180223G2_4	Standard	40.000	5.07	11741.213	11741.213	40.000	40.0	0.0	NO		NO	bd
4	4	180223G2_5	Standard	40.000	5.07	14071.951	14071.951	40.000	40.0	0.0	NO		NO	bd
5	5	180223G2_6	Standard	40.000	5.07	12882.572	12882.572	40.000	40.0	0.0	NO		NO	bd
6	6	180223G2_7	Standard	40.000	5.07	13583.305	13583.305	40.000	40.0	0.0	NO		NO	bb
7	7	180223G2_8	Standard	40.000	5.07	12346.496	12346.496	40.000	40.0	0.0	NO		NO	bb
8	8	180223G2_9	Standard	40.000	5.07	11885.659	11885.659	40.000	40.0	0.0	NO		NO	bb
9	9	180223G2_10	Standard	40.000	5.07	12638.679	12638.679	40.000	40.0	0.0	NO		NO	MM

MJT 2/23/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:22:19 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 17:19:14

Name: 180223G2_2, Date: 23-Feb-2018, Time: 13:29:59, ID: ST180223G2-1 PFC CS-3 537 18B2301, Description: PFC CS-3 537 18B2301

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBS	19	0.9963	NO	
2	2	PFHxA	18	0.9977	NO	
3	3	PFHpA	18	0.9989	NO	
4	4	PFHxS	19	0.9977	NO	
5	5	PFOA	18	0.9984	NO	
6	6	PFNA	18	0.9996	NO	
7	7	PFOS	19	0.9992	NO	
8	8	PFDA	18	0.9973	NO	
9	9	N-MeFOSAA	20	0.9968	NO	
10	10	N-EtFOSAA	20	0.9934	NO	
11	11	PFUnA	18	0.9995	NO	
12	12	PFDoA	18	0.9955	NO	
13	13	PFTrDA	18	0.9973	NO	
14	14	PFTeDA	18	0.9982	NO	
15	15	13C2-PFHxA	18		NO	3.257
16	16	13C2-PFDA	18		NO	5.245
17	17	d5-N-EtFOSAA	20		NO	9.463
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

MJT 2/23/2018

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

Dataset: Untitled

Last Altered: Friday, February 23, 2018 17:34:09 Pacific Standard Time
Printed: Friday, February 23, 2018 17:36:22 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Compound name: PFBS

	Name	ID	Acq.Date	Acq.Time
1	180223G2_1	IPA	23-Feb-18	13:17:36
2	180223G2_2	ST180223G2-1 PFC CS-3 537 18B2301	23-Feb-18	13:29:59
3	180223G2_3	ST180223G2-2 PFC CS-2 537 18B2302	23-Feb-18	13:42:20
4	180223G2_4	ST180223G2-3 PFC CS-1 537 18B2310	23-Feb-18	13:54:45
5	180223G2_5	ST180222G3-4 PFC CS0 537 18B2303	23-Feb-18	14:07:10
6	180223G2_6	ST180223G2-5 PFC CS1 537 18B2304	23-Feb-18	14:19:35
7	180223G2_7	ST180223G2-6 PFC CS2 537 18B2305	23-Feb-18	14:32:01
8	180223G2_8	ST180223G2-7 PFC CS3 537 18B2306	23-Feb-18	14:44:25
9	180223G2_9	ST180223G2-8 PFC CS4 537 18B2307	23-Feb-18	14:56:52
10	180223G2_10	ST180223G2-9 PFC CS5 537 18B2308	23-Feb-18	15:09:16
11	180223G2_11	IPA	23-Feb-18	15:21:37
12	180223G2_12	ICV180223G2-1 PFC ICV 537 18B2309	23-Feb-18	15:34:05
13	180223G2_13	IPA	23-Feb-18	15:46:26

MJT 2/23/2018

ICAL

Compound 18: 13C2-PFOA

high	9939.64	RPD
low	8248.78	18.59

	ID	Name	Type	Std. C	RT	Area	IS Area	Respo	Primary Flags
1	ST180223G2-1 PFC CS-3 537 18B2301	180223G2_2	Analyte	10	4.31	9097.11	9097.11	10	bb
2	ST180223G2-2 PFC CS-2 537 18B2302	180223G2_3	Analyte	10	4.31	9939.64	9939.64	10	bb
3	ST180223G2-3 PFC CS-1 537 18B2310	180223G2_4	Standard	10	4.31	9566.43	9566.43	10	bb
4	ST180222G3-4 PFC CS0 537 18B2303	180223G2_5	Standard	10	4.31	8946.82	8946.82	10	bb
5	ST180223G2-5 PFC CS1 537 18B2304	180223G2_6	Standard	10	4.31	8816.90	8816.90	10	bb
6	ST180223G2-6 PFC CS2 537 18B2305	180223G2_7	Standard	10	4.31	8696.68	8696.68	10	bd
7	ST180223G2-7 PFC CS3 537 18B2306	180223G2_8	Standard	10	4.31	8483.40	8483.40	10	bd
8	ST180223G2-8 PFC CS4 537 18B2307	180223G2_9	Standard	10	4.31	8248.78	8248.78	10	bb
9	ST180223G2-9 PFC CS5 537 18B2308	180223G2_10	Standard	10	4.31	7559.23	7559.23	10	bbX

average
8974.47

Compound 19: 13C4-PFOS

high	19568.625	RPD
low	16645.363	16.14

	ID	Name	Type	Std. C	RT	Area	IS Area	Respo	Primary Flags
1	ST180223G2-1 PFC CS-3 537 18B2301	180223G2_2	Analyte	28.7	4.71	16868.71	16868.71	28.7	bd
2	ST180223G2-2 PFC CS-2 537 18B2302	180223G2_3	Analyte	28.7	4.71	18923.35	18783.59	28.7	bb
3	ST180223G2-3 PFC CS-1 537 18B2310	180223G2_4	Standard	28.7	4.71	19568.63	19568.63	28.7	bd
4	ST180222G3-4 PFC CS0 537 18B2303	180223G2_5	Standard	28.7	4.71	17986.09	17986.09	28.7	bd
5	ST180223G2-5 PFC CS1 537 18B2304	180223G2_6	Standard	28.7	4.71	17892.59	17892.59	28.7	bd
6	ST180223G2-6 PFC CS2 537 18B2305	180223G2_7	Standard	28.7	4.71	17798.18	17798.18	28.7	bb
7	ST180223G2-7 PFC CS3 537 18B2306	180223G2_8	Standard	28.7	4.71	16645.36	16645.36	28.7	bb
8	ST180223G2-8 PFC CS4 537 18B2307	180223G2_9	Standard	28.7	4.71	15491.56	15491.56	28.7	bbX
9	ST180223G2-9 PFC CS5 537 18B2308	180223G2_10	Standard	28.7	4.71	15634.24	15634.24	28.7	bbX

average
17934.74

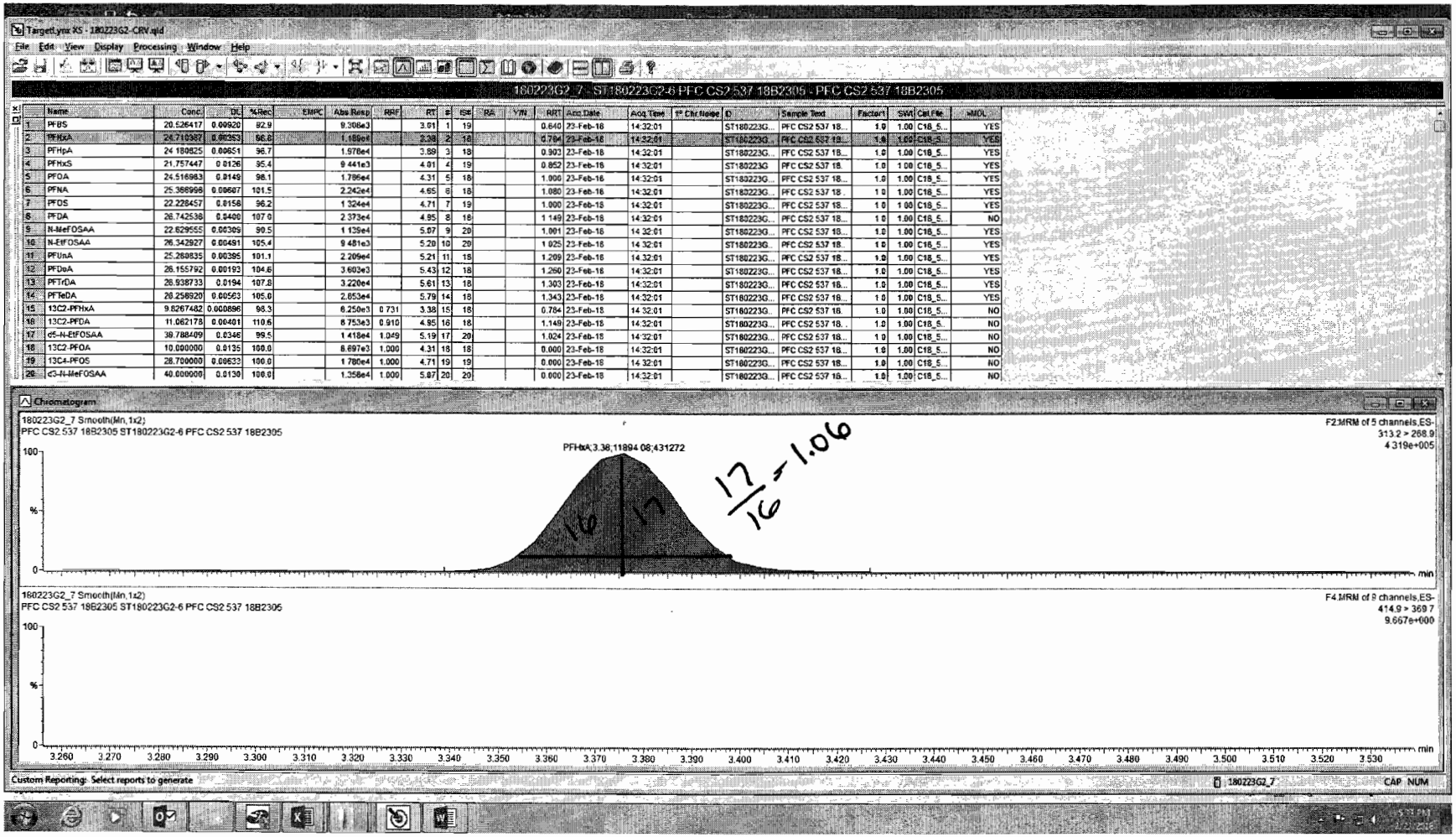
MJT 2/23/2018

Compound 20: d3-N-MeFOSAA

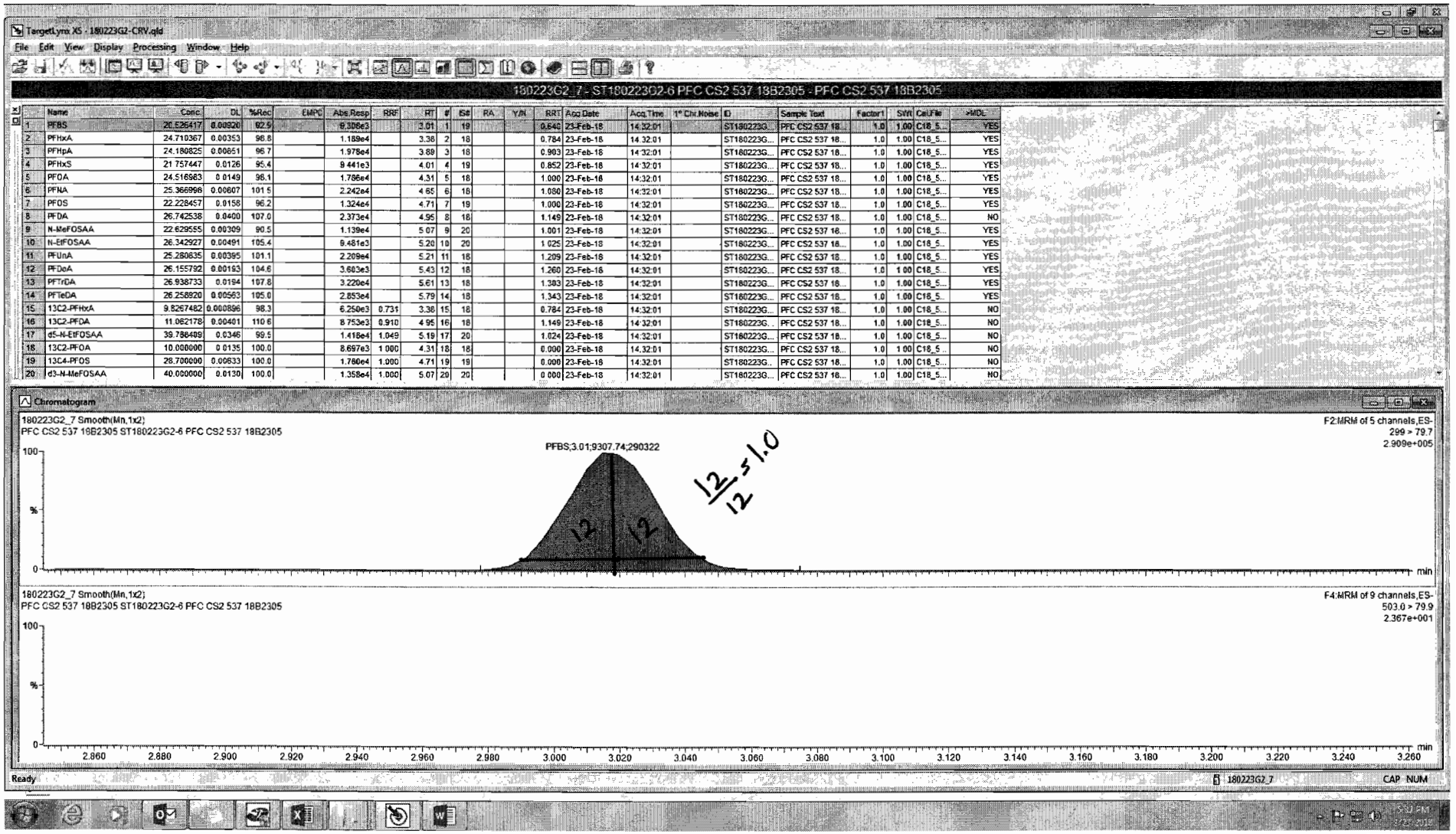
high	14071.95	RPD
low	11741.21	18.06

	ID	Name	Type	Std. C	RT	Area	IS Area	Respo	Primary Flags
1	ST180223G2-1 PFC CS-3 537 18B2301	180223G2_2	Analyte	40	5.07	12707.72	12707.72	40	bb
2	ST180223G2-2 PFC CS-2 537 18B2302	180223G2_3	Analyte	40	5.07	13652.99	13652.99	40	bb
3	ST180223G2-3 PFC CS-1 537 18B2310	180223G2_4	Standard	40	5.07	11741.21	11741.21	40	bd
4	ST180222G3-4 PFC CS0 537 18B2303	180223G2_5	Standard	40	5.07	14071.95	14071.95	40	bd
5	ST180223G2-5 PFC CS1 537 18B2304	180223G2_6	Standard	40	5.07	12882.57	12882.57	40	bd
6	ST180223G2-6 PFC CS2 537 18B2305	180223G2_7	Standard	40	5.07	13583.31	13583.31	40	bb
7	ST180223G2-7 PFC CS3 537 18B2306	180223G2_8	Standard	40	5.07	12346.50	12346.50	40	bb
8	ST180223G2-8 PFC CS4 537 18B2307	180223G2_9	Standard	40	5.07	11885.66	11885.66	40	bb
9	ST180223G2-9 PFC CS5 537 18B2308	180223G2_10	Standard	40	5.07	12557.49	12557.49	40	bb
							average		
							12825.49		

MJT 2/23/2018



	Name	Conc	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	ISR	RA	Y/N	RRT	Acq Date	Acq Time	1st Chl Resp	ID	Sample Text	Factor1	SWR	Cal File	>MDL
1	PFBS	20.526417	0.00920	92.9		9.306e3		3.01	1	19			0.640	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
2	PFHxA	24.710987	0.00253	96.0		1.189e4		3.38	2	18			0.784	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
3	PFHpA	24.180825	0.00651	96.7		1.976e4		3.89	3	18			0.903	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
4	PFHxS	21.757447	0.0126	95.4		9.441e3		4.01	4	19			0.852	23-Feb-18	14:32:01		ST180223G	PFC CS2 537 18.	1.0	1.00	C18_5...	YES
5	PFOA	24.516983	0.0149	98.1		1.786e4		4.31	5	18			1.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
6	PFNA	25.368998	0.00687	101.5		2.242e4		4.65	6	18			1.080	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18.	1.0	1.00	C18_5...	YES
7	PFOS	22.228457	0.0158	96.2		1.324e4		4.71	7	19			1.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
8	PFDA	28.742538	0.0400	107.0		2.373e4		4.95	8	18			1.149	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
9	N-MeFOSAA	22.629555	0.00309	90.5		1.139e4		5.07	9	20			1.001	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
10	N-EtFOSAA	26.342927	0.00491	105.4		9.481e3		5.28	10	20			1.025	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
11	PFUnA	25.260835	0.00395	101.1		2.209e4		5.21	11	18			1.209	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
12	PFDoA	26.155792	0.00193	104.6		3.603e3		5.43	12	18			1.260	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
13	PFTrDA	26.938733	0.0194	107.8		3.220e4		5.61	13	18			1.303	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
14	PFTeDA	26.258920	0.00563	105.0		2.853e4		5.79	14	18			1.343	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
15	13C2-PFHxA	9.8267482	0.000896	98.3		6.250e3	0.731	3.38	15	18			0.784	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18.	1.0	1.00	C18_5...	NO
16	13C2-PFDA	11.062178	0.00401	110.6		8.753e3	0.910	4.95	16	18			1.149	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
17	d5-N-EtFOSAA	39.788409	0.0346	99.5		1.418e4	1.049	5.19	17	20			1.024	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
18	13C2-PFOA	10.000000	0.0135	100.0		8.697e3	1.000	4.31	18	18			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
19	13C4-PFOS	28.700000	0.00633	100.0		1.780e4	1.000	4.71	19	19			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
20	d3-N-MeFOSAA	40.000000	0.0130	100.0		1.356e4	1.000	5.07	20	20			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO



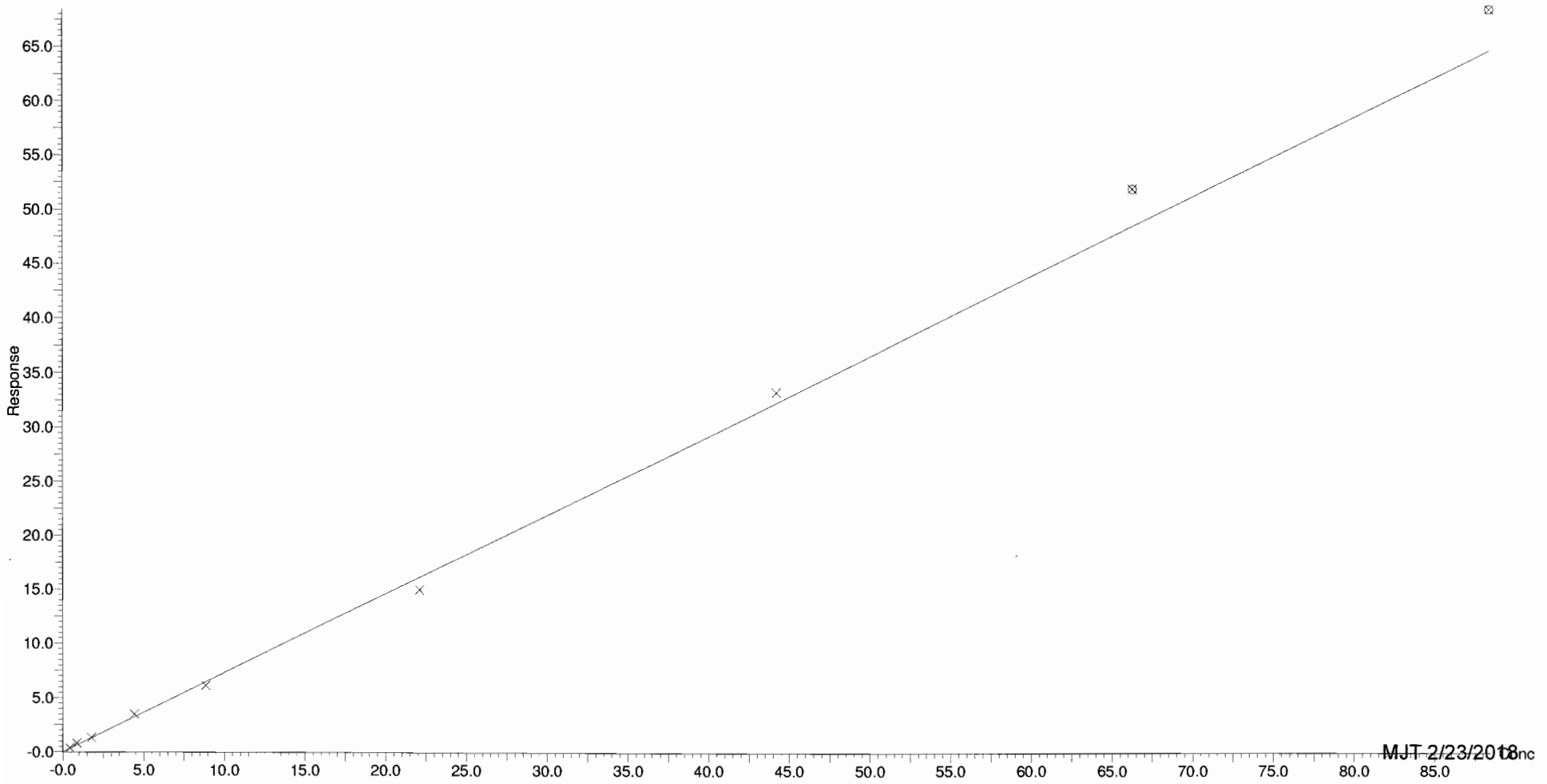
	Name	Conc	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	ISt	RA	Y/N	RRT	Acq Date	Acq Time	1st Chr.Noise	ID	Sample Text	Factor1	SWt	Cal File	>MDL
1	PFBS	20.526417	0.00920	92.5		9.308e3		3.01	1	19			0.640	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
2	PFHxA	24.710367	0.00353	96.8		1.189e4		3.36	2	18			0.784	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
3	PFHpA	24.180825	0.00651	96.7		1.978e4		3.89	3	18			0.903	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
4	PFHxS	21.757447	0.0126	95.4		9.441e3		4.01	4	19			0.852	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
5	PFOA	24.516983	0.0149	98.1		1.786e4		4.31	5	18			1.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
6	PFNA	25.366998	0.00607	101.5		2.242e4		4.65	6	18			1.080	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
7	PFOS	22.228457	0.0158	96.2		1.324e4		4.71	7	19			1.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
8	PFDA	26.742538	0.0400	107.0		2.373e4		4.95	8	18			1.149	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
9	N-MeFOSAA	22.629555	0.00309	90.5		1.139e4		5.07	9	20			1.001	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
10	N-EtFOSAA	26.342927	0.00491	105.4		9.481e3		5.20	10	20			1.025	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
11	PFUnA	25.280635	0.00395	101.1		2.209e4		5.21	11	18			1.209	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
12	PFDoA	26.155792	0.00193	104.6		3.683e3		5.43	12	18			1.260	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
13	PFTrDA	26.938733	0.0194	107.8		3.220e4		5.61	13	18			1.303	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
14	PFTeDA	26.258920	0.00563	105.0		2.853e4		5.79	14	18			1.343	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	YES
15	13C2-PFHxA	9.8267482	0.000896	98.3		6.250e3	0.731	3.36	15	18			0.784	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
16	13C2-PFDA	11.062178	0.00401	110.6		8.753e3	0.910	4.95	16	18			1.149	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
17	d5-N-EtFOSAA	39.786489	0.0346	99.5		1.418e4	1.049	5.19	17	20			1.024	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
18	13C2-PFOA	10.000000	0.0135	100.0		8.697e3	1.000	4.31	18	18			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
19	13C4-PFOS	28.700000	0.00633	100.0		1.780e4	1.000	4.71	19	19			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO
20	d3-N-MeFOSAA	40.000000	0.0130	100.0		1.358e4	1.000	5.07	20	20			0.000	23-Feb-18	14:32:01		ST180223G...	PFC CS2 537 18...	1.0	1.00	C18_5...	NO

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 17:19:14

Compound name: PFBS
Coefficient of Determination: R^2 = 0.996349
Calibration curve: 0.731202 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

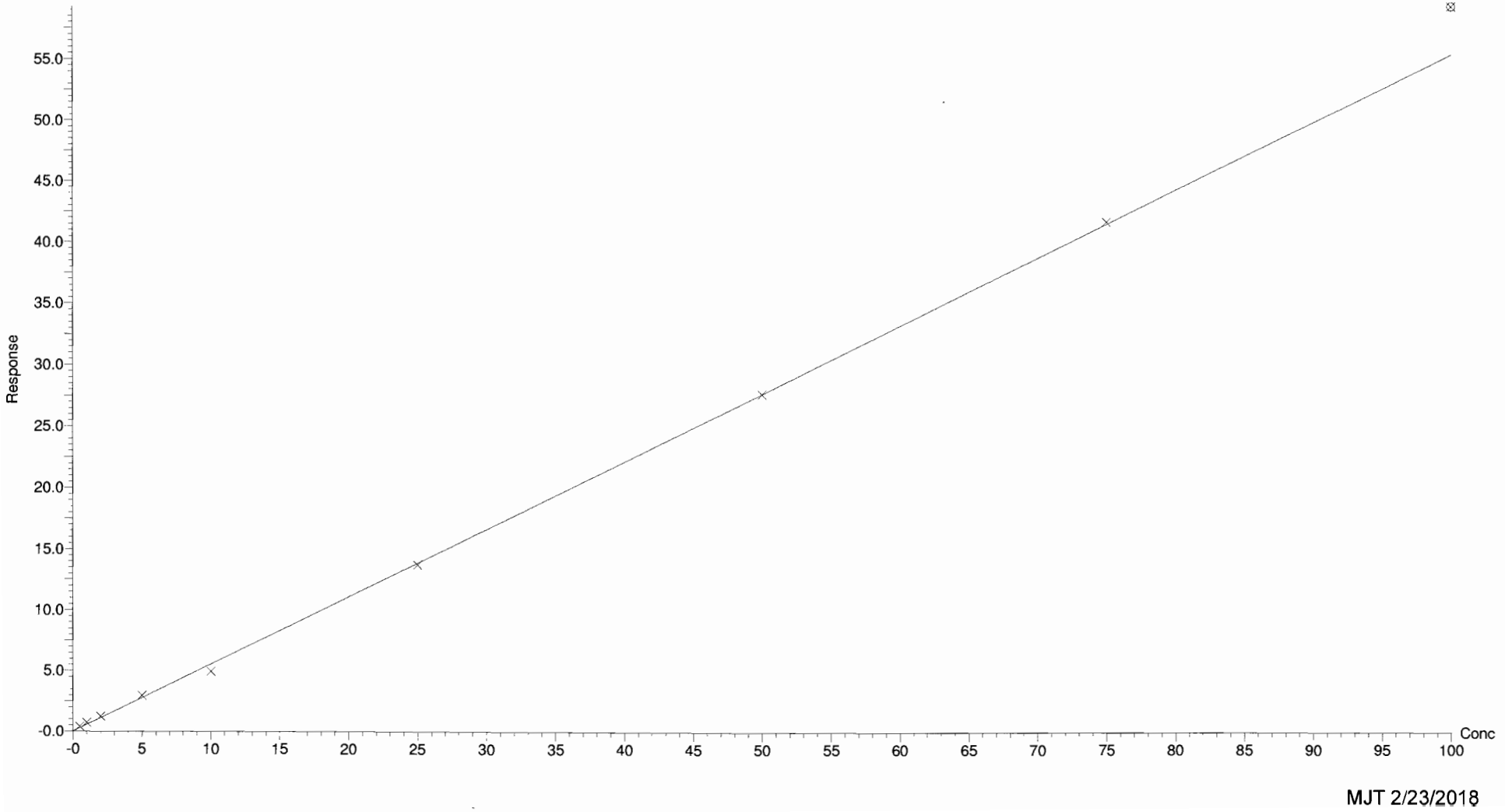


Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFHxA
Coefficient of Determination: R^2 = 0.997717
Calibration curve: 0.553475 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

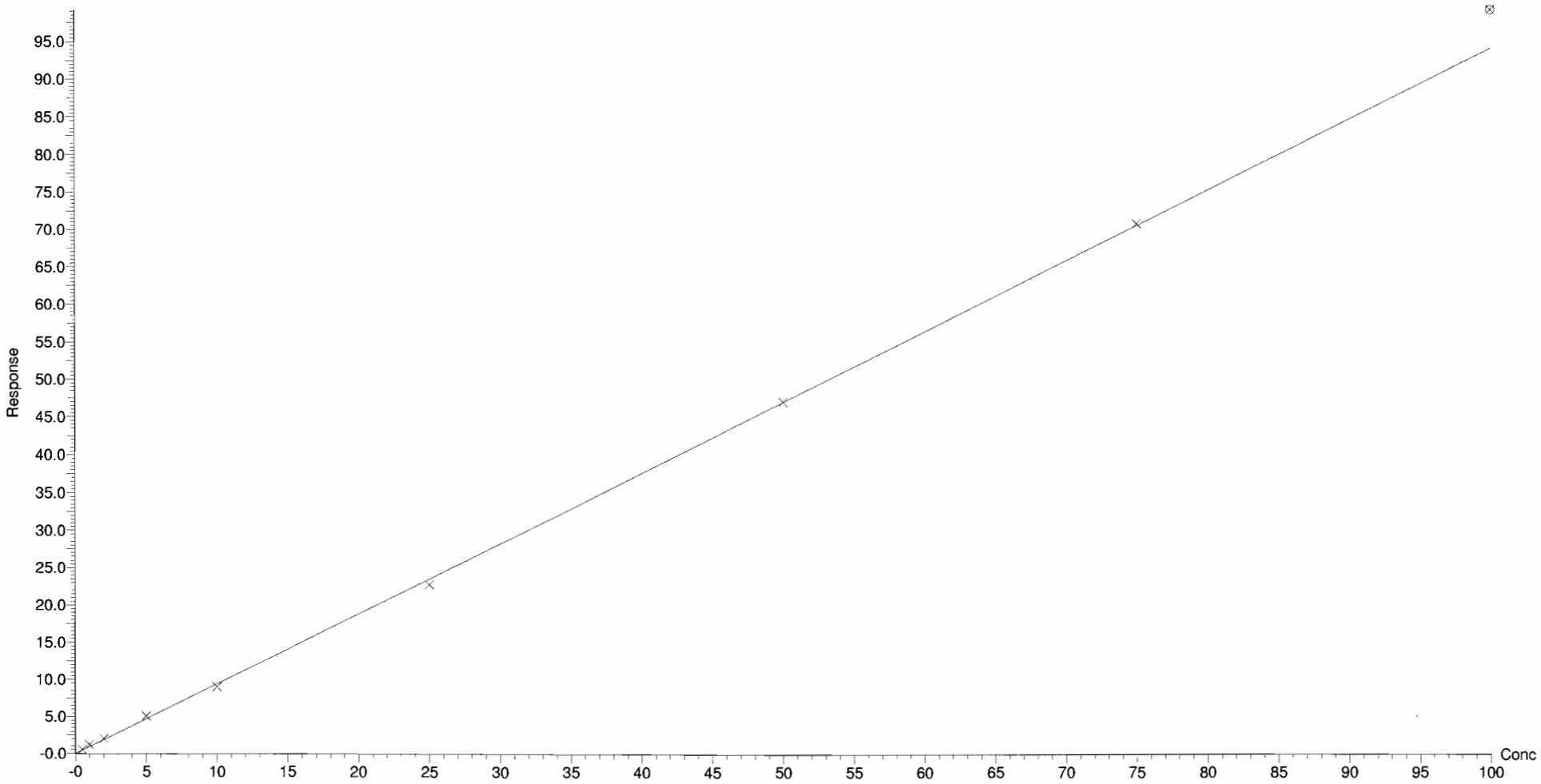


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.998875
Calibration curve: 0.940423 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

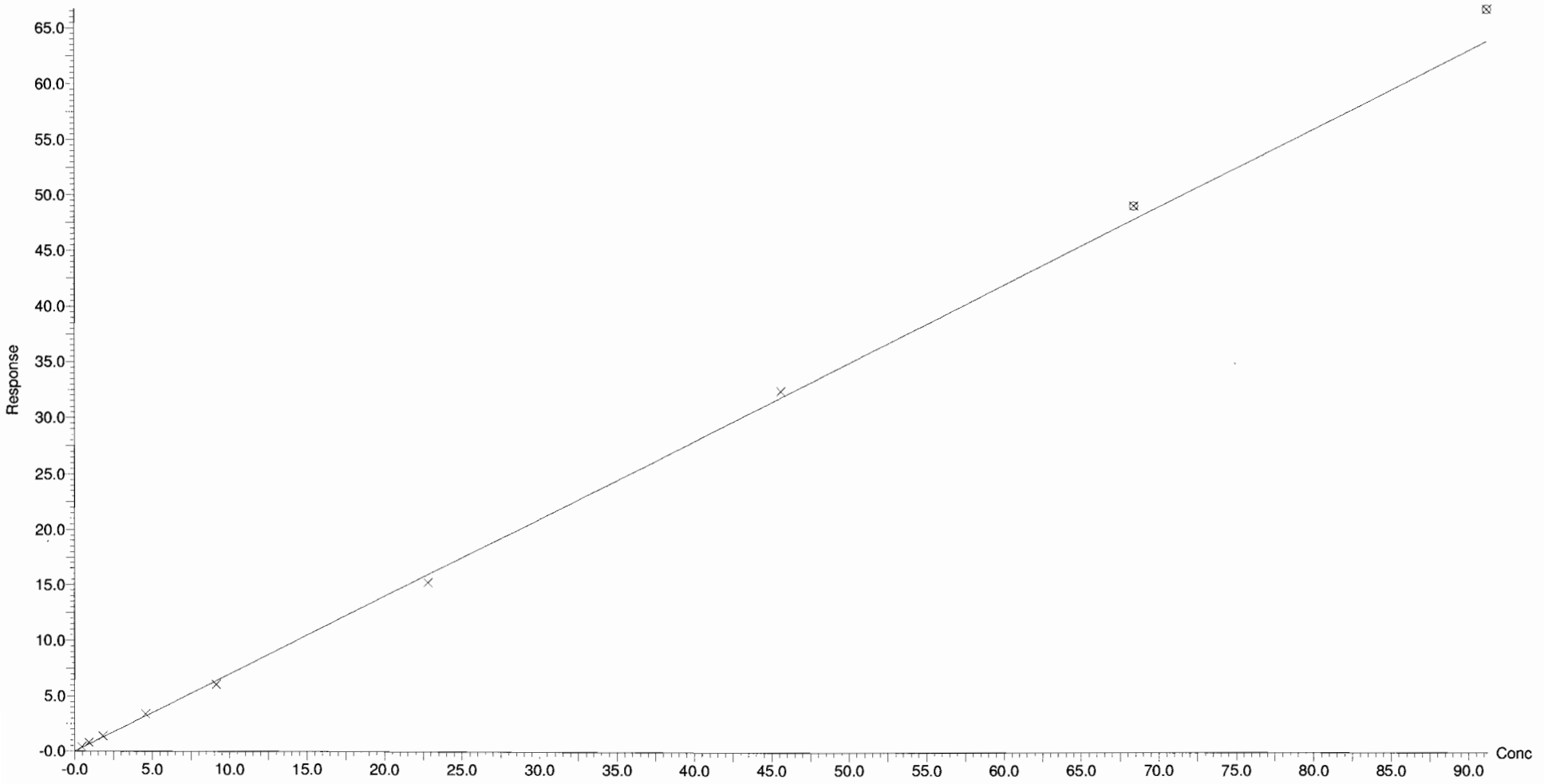


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.997652
Calibration curve: 0.699727 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



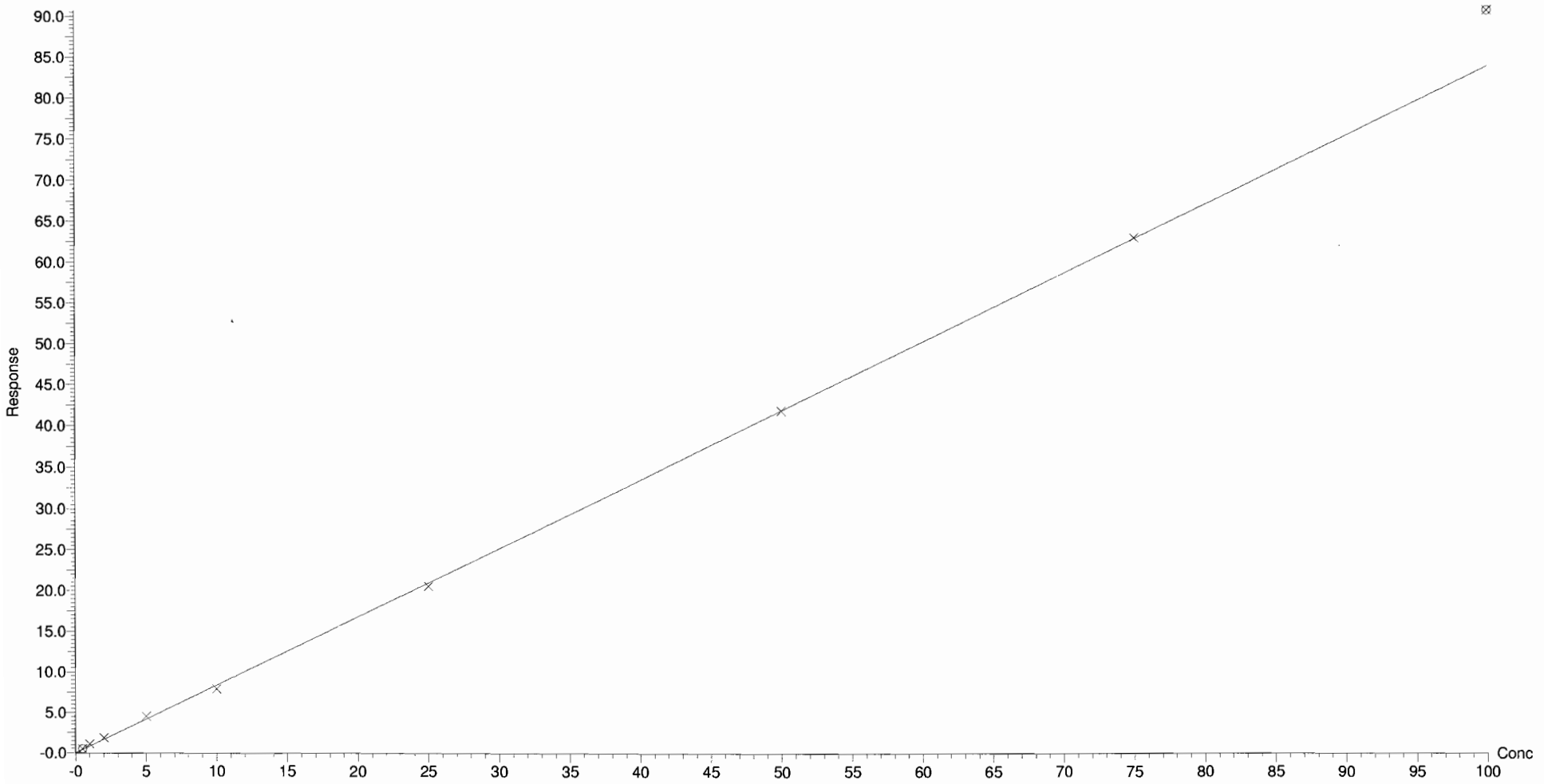
MJT 2/23/2018

Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

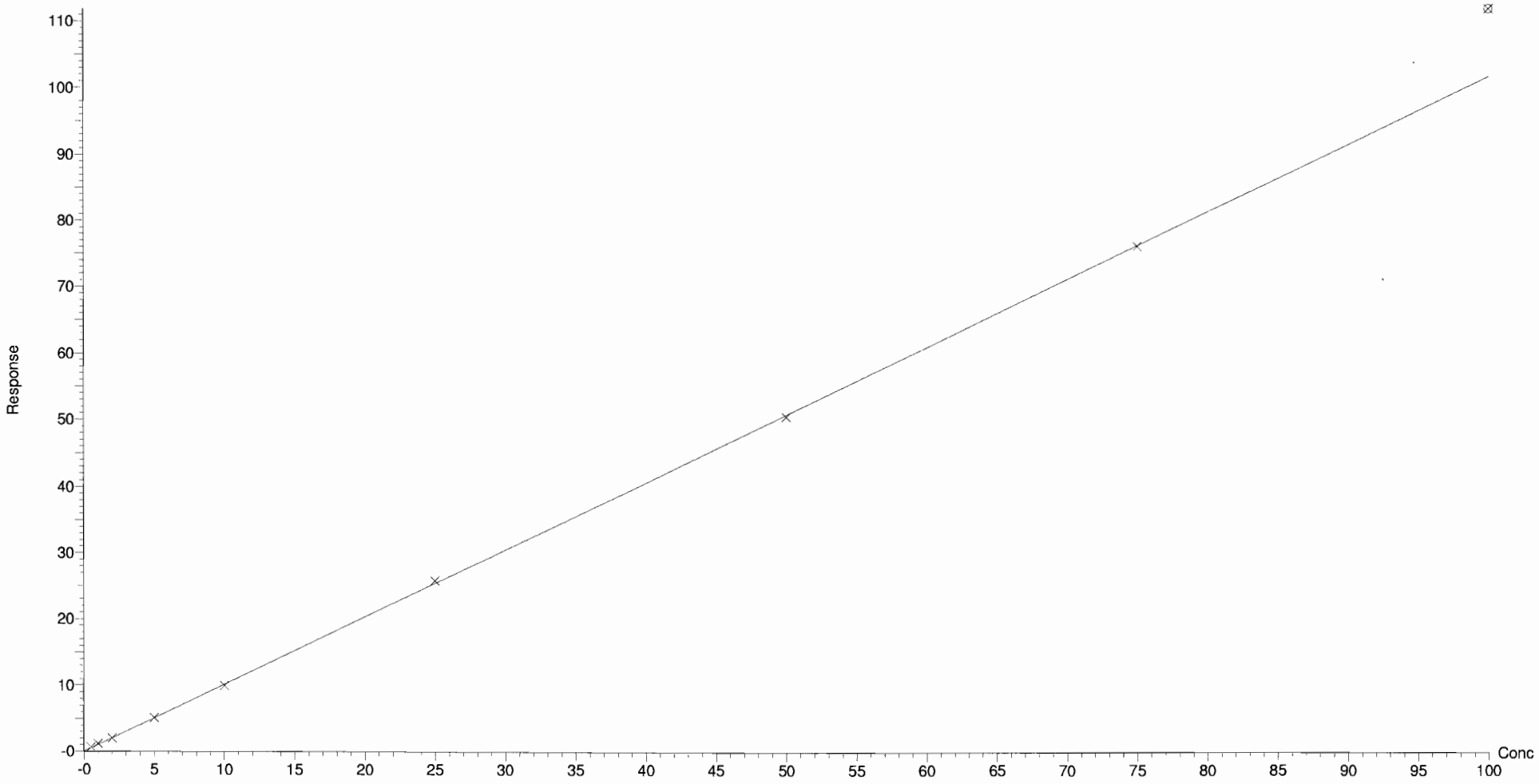
Compound name: PFOA
Coefficient of Determination: R^2 = 0.998447
Calibration curve: 0.83774 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999615
Calibration curve: 1.01645 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

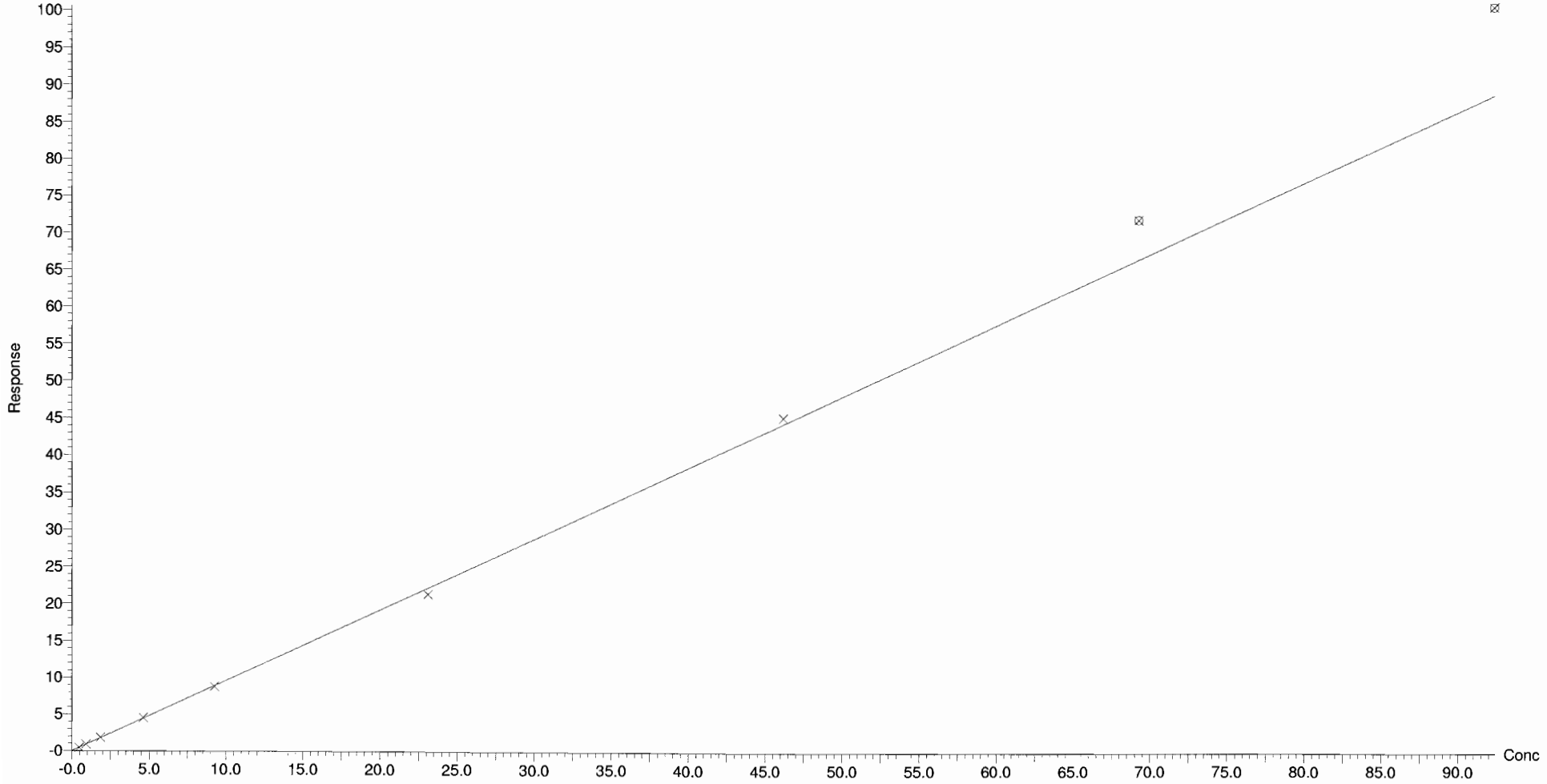


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999243
Calibration curve: 0.960258 * x
Response type: Internal Std (Ref 19), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



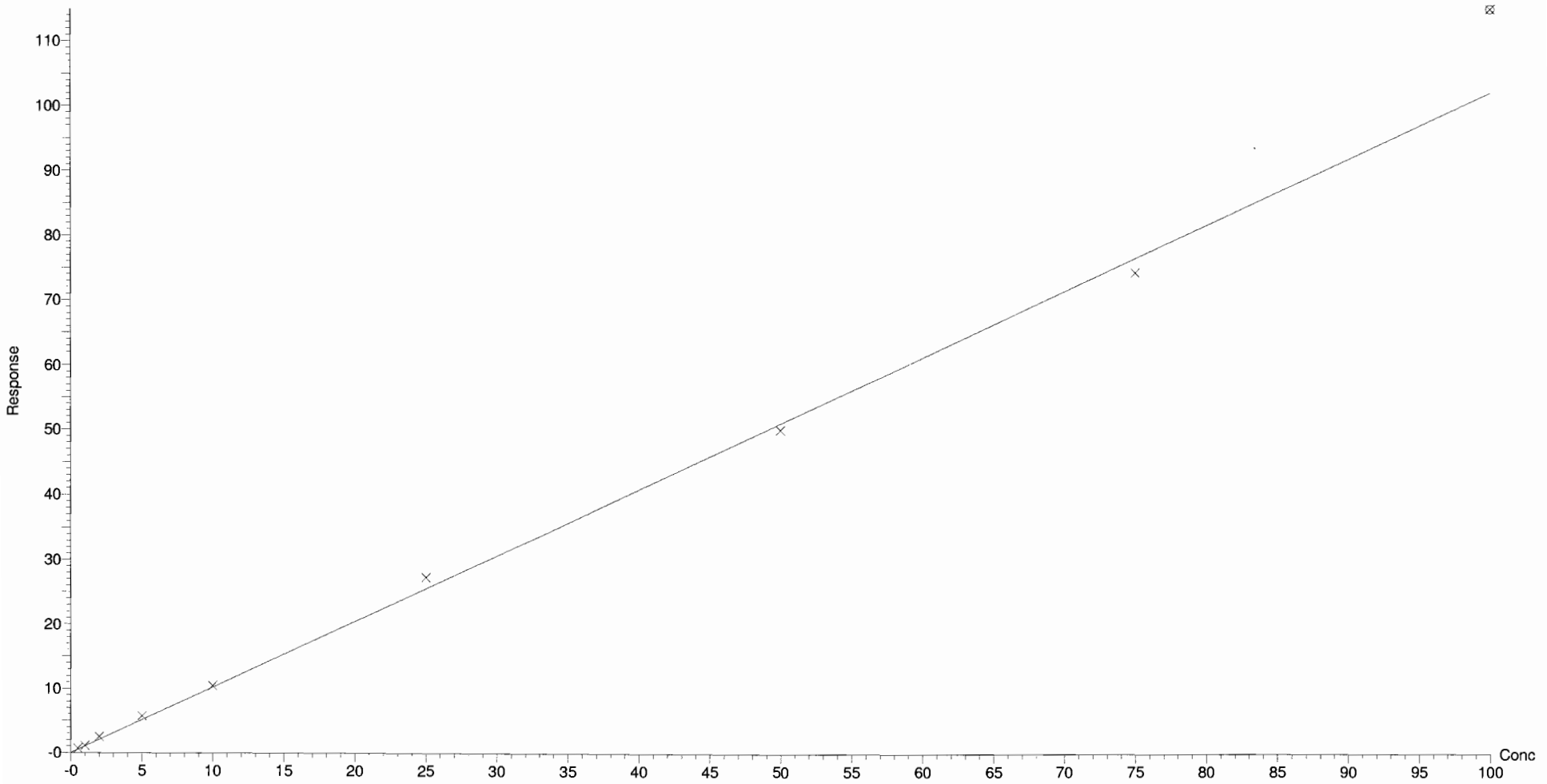
MJT 2/23/2018

Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.997317
Calibration curve: 1.0203 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



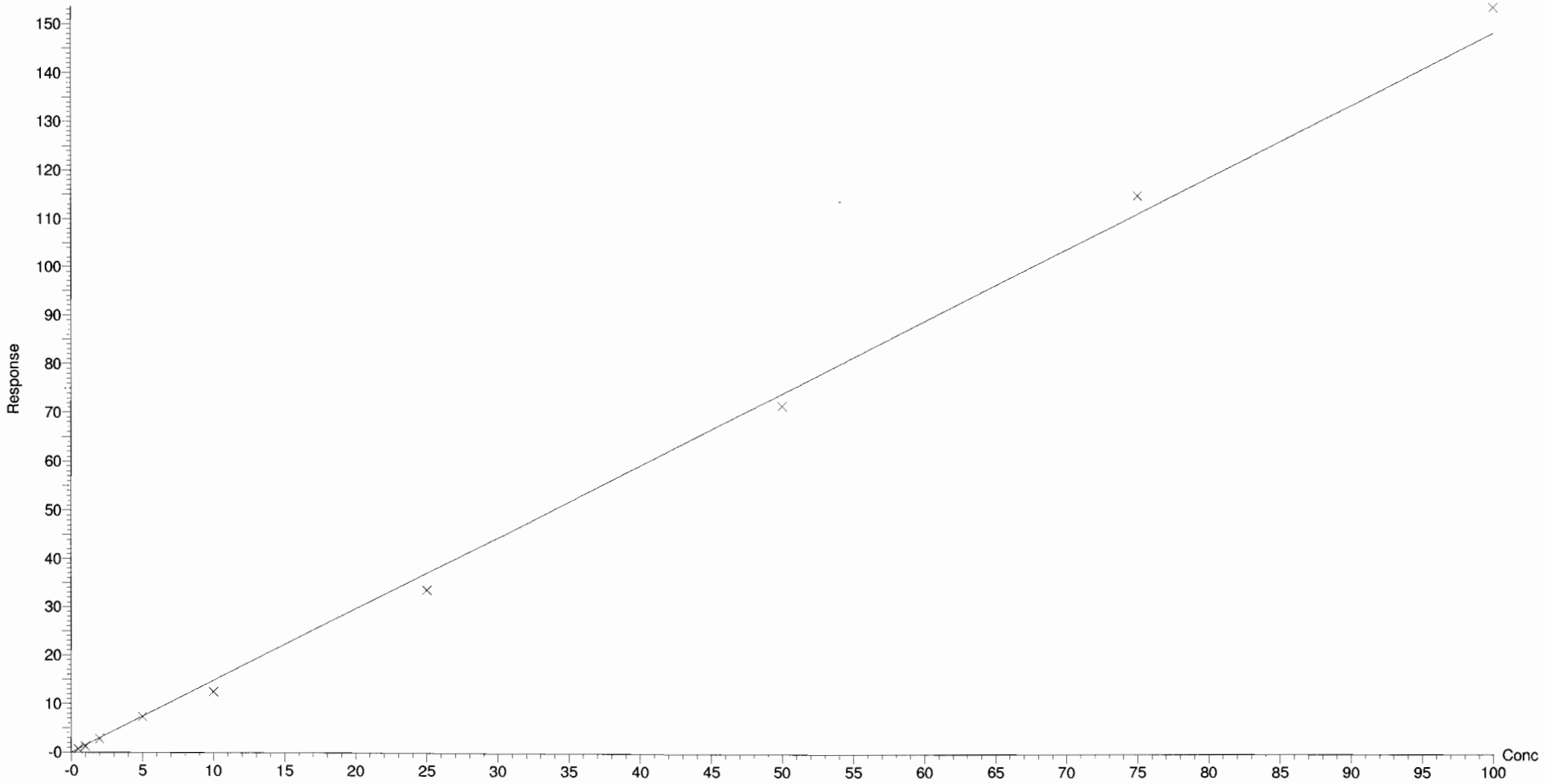
MJT 2/23/2018

Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.996817
Calibration curve: 1.4828 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

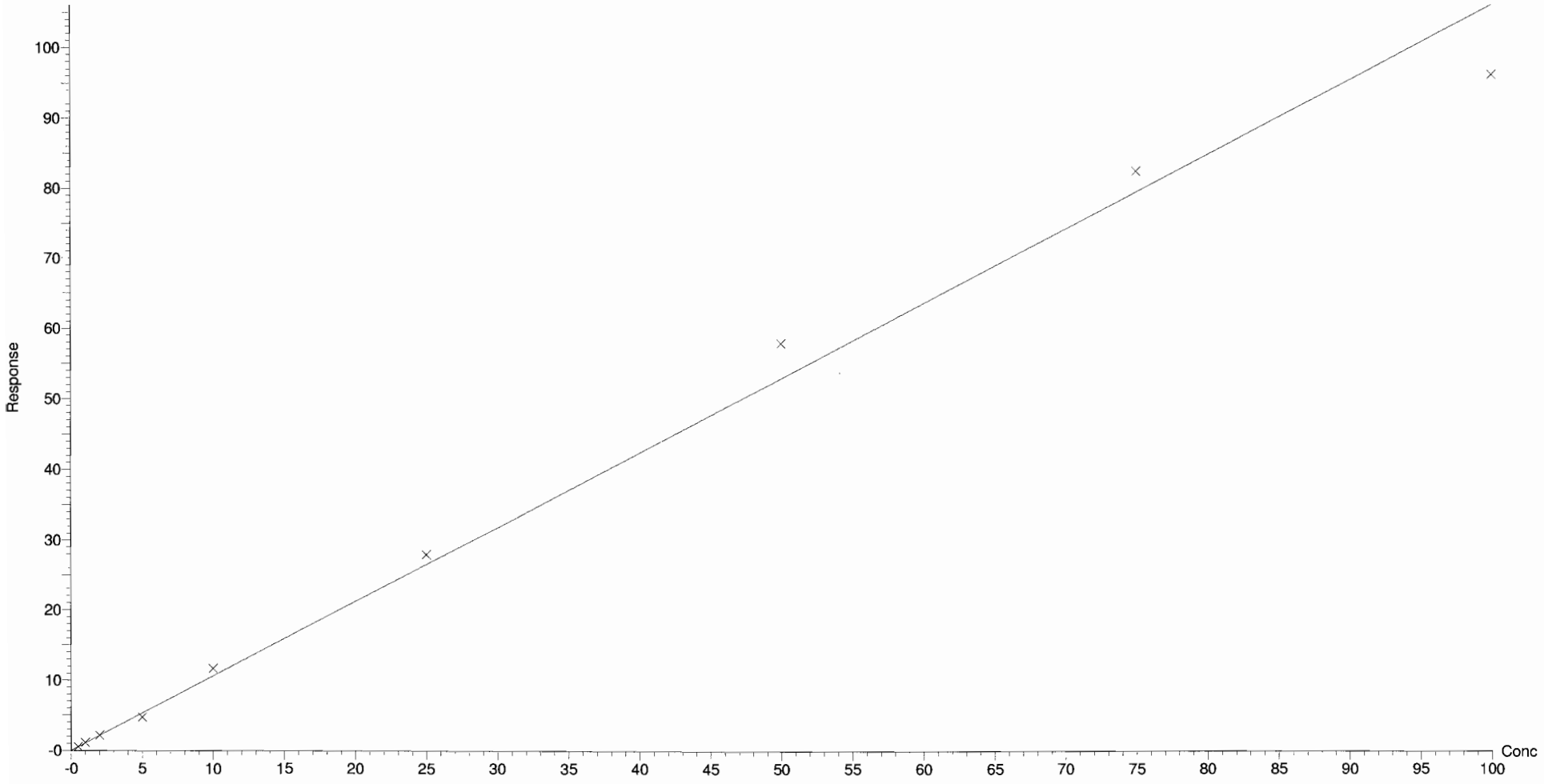


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.993395
Calibration curve: 1.05983 * x
Response type: Internal Std (Ref 20), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

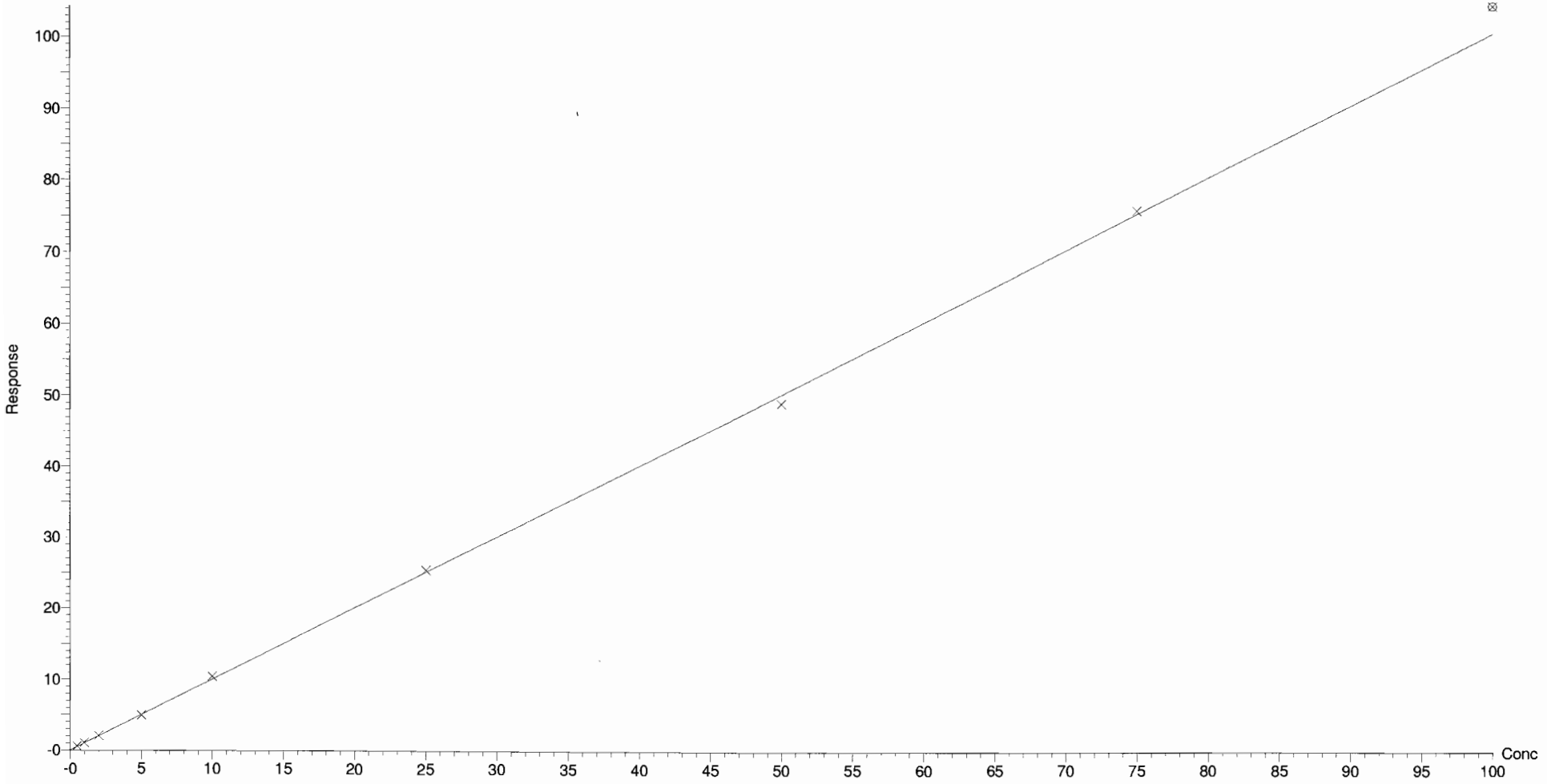


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.999540
Calibration curve: 1.00493 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None

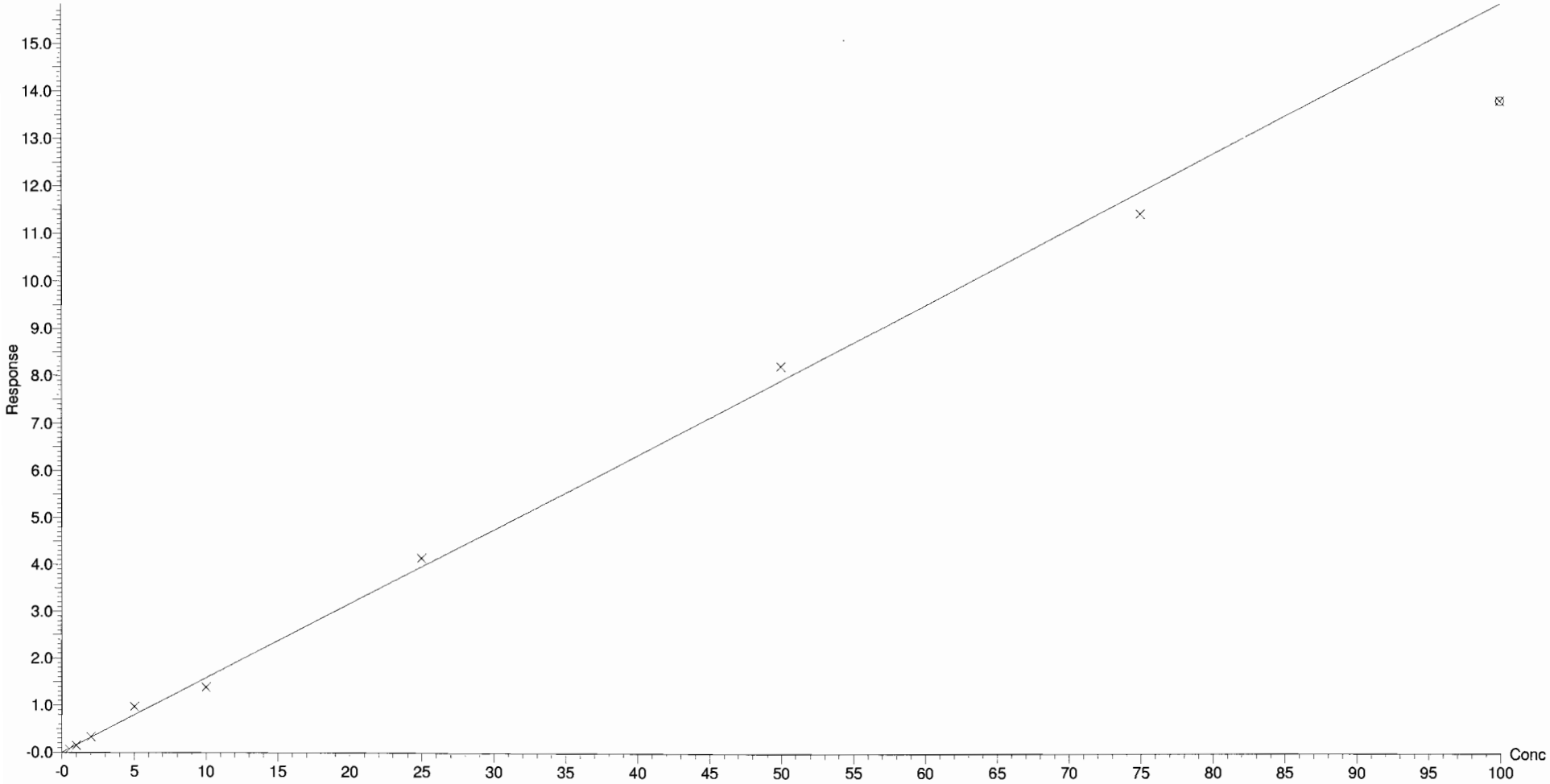


MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.995506
Calibration curve: 0.158397 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



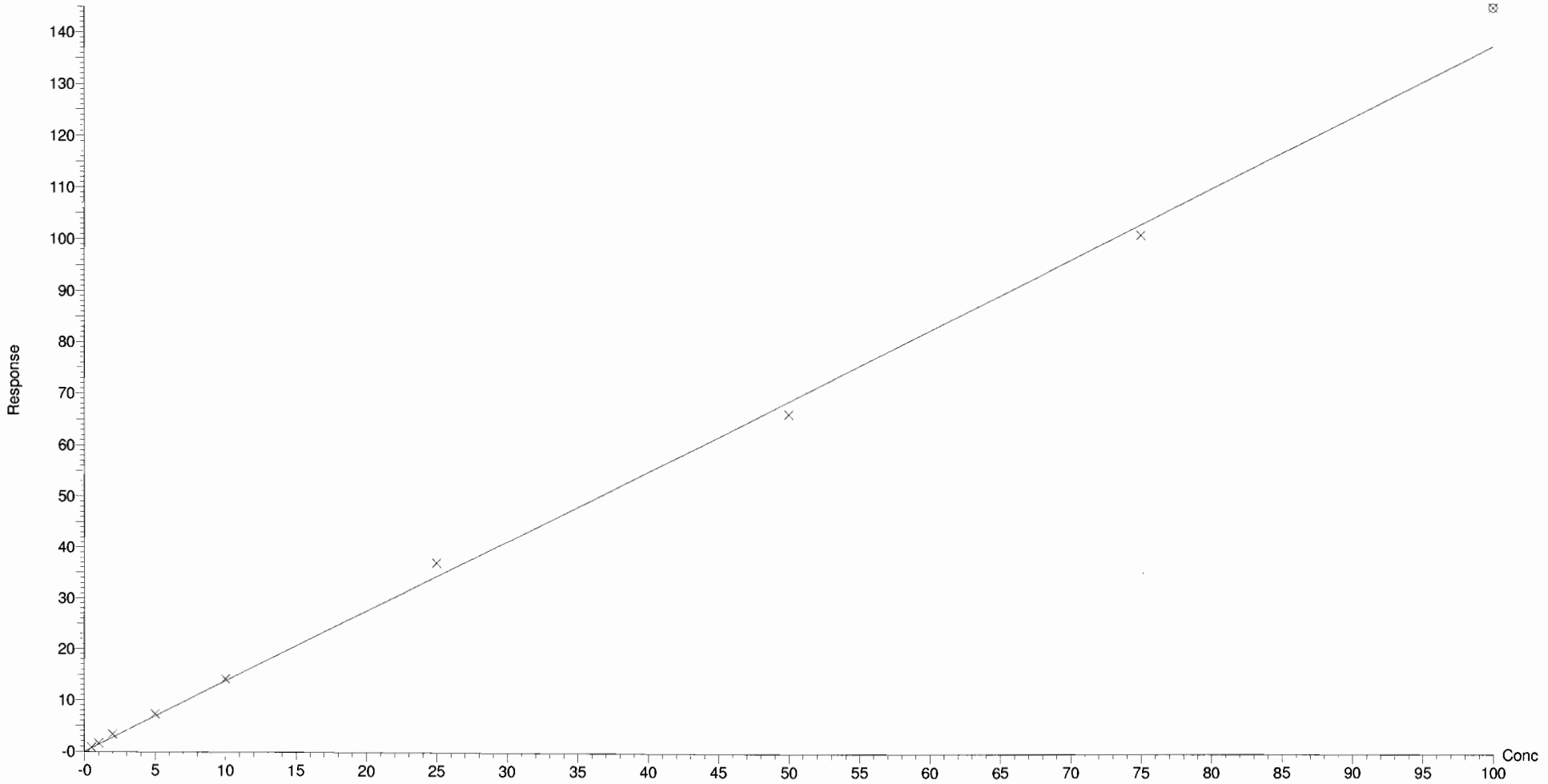
MJT 2/23/2018

Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.997291
Calibration curve: 1.3743 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Force, Weighting: 1/x, Axis trans: None



MJT 2/23/2018

Vista Analytical Laboratory Q1

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:26:36 Pacific Standard Time

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.998250
Calibration curve: 1.24932 * x
Response type: Internal Std (Ref 18), Area * (IS Conc. / IS Area)
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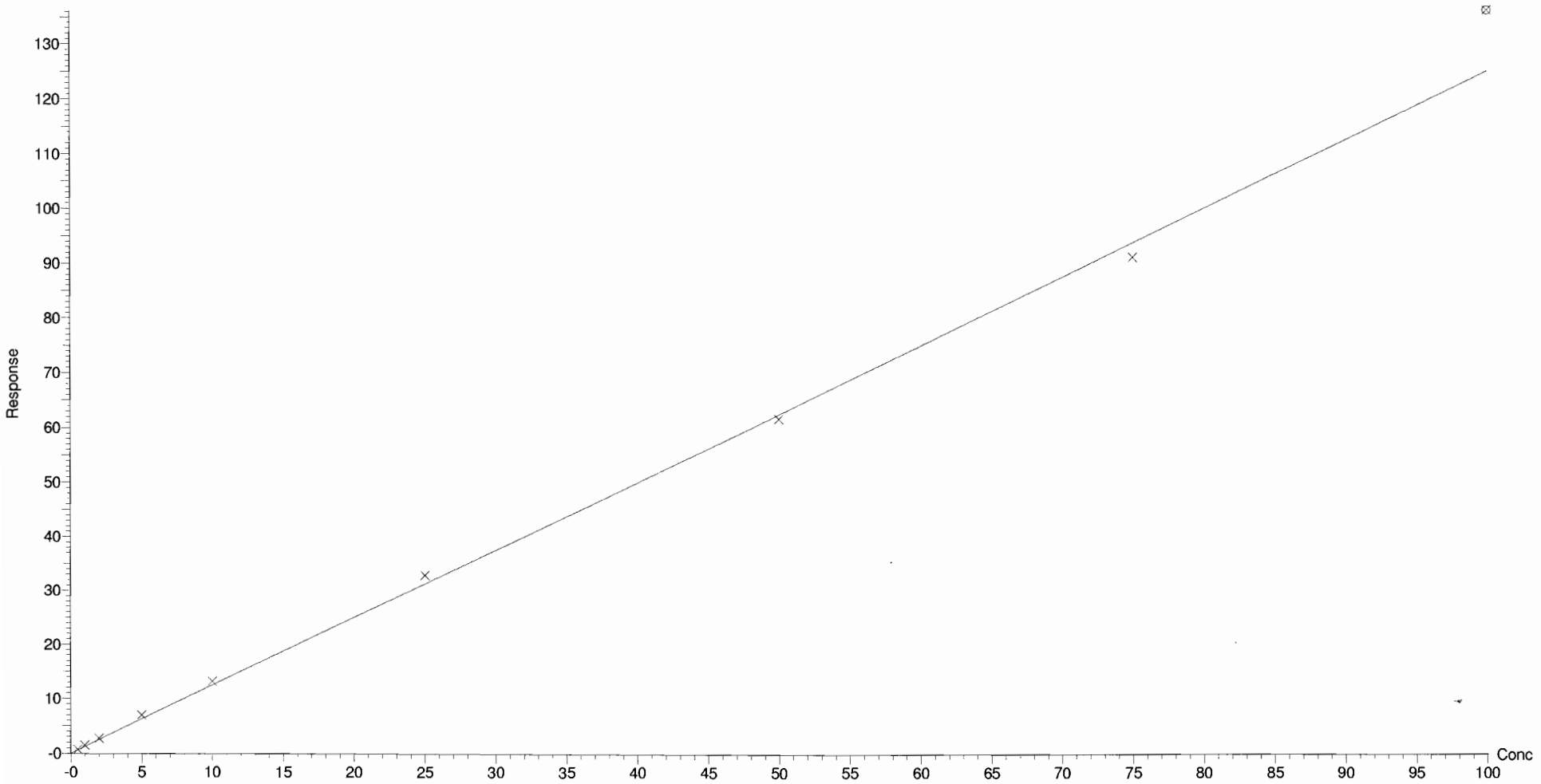


MJT 2/23/2018

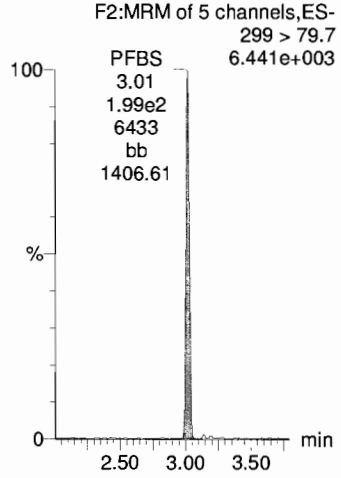
Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

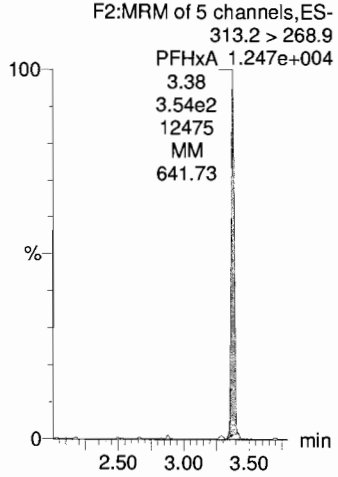
Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 17:19:14

Name: 180223G2_2, Date: 23-Feb-2018, Time: 13:29:59, ID: ST180223G2-1 PFC CS-3 537 18B2301, Description: PFC CS-3 537 18B2301

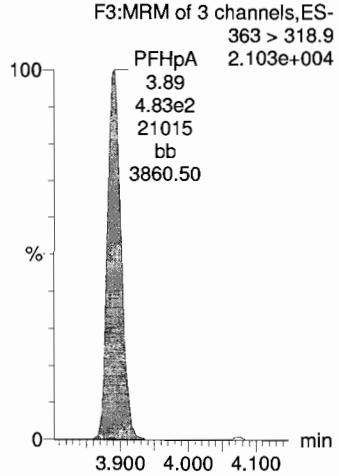
PFBS



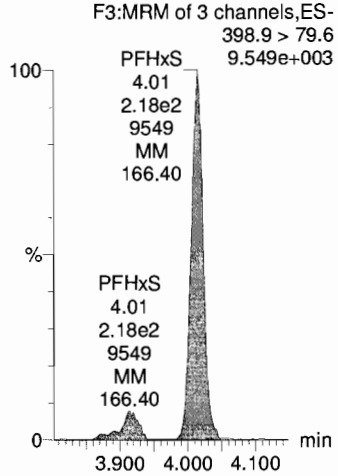
PFHxA



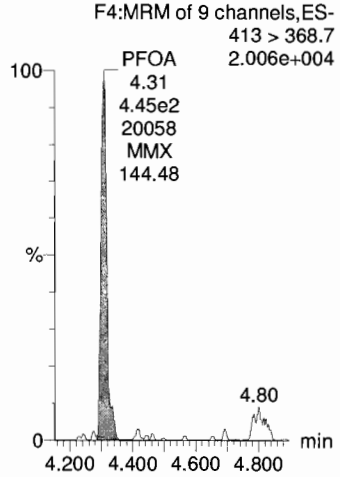
PFHpA



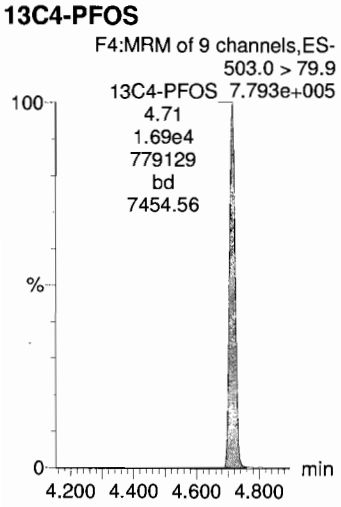
PFHxS



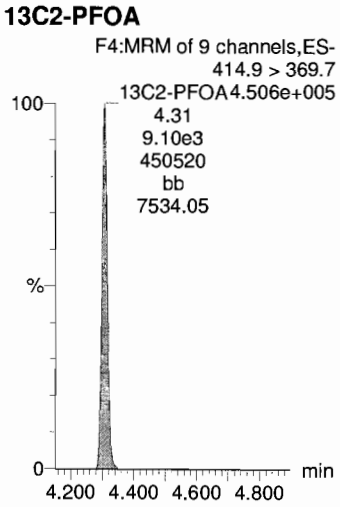
PFOA



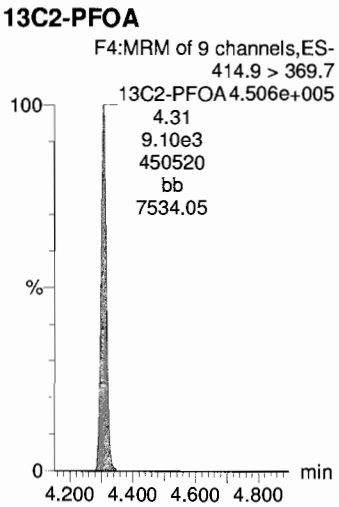
13C4-PFOS



13C2-PFOA



13C2-PFOA



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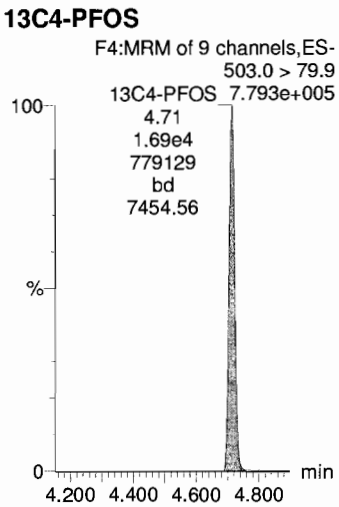

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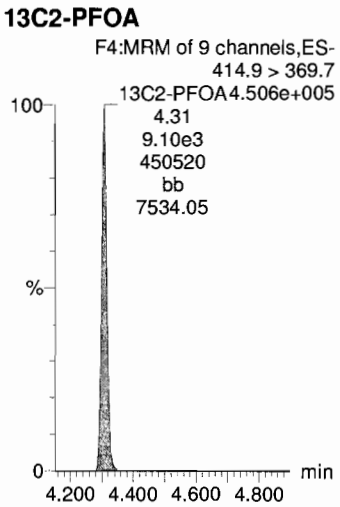


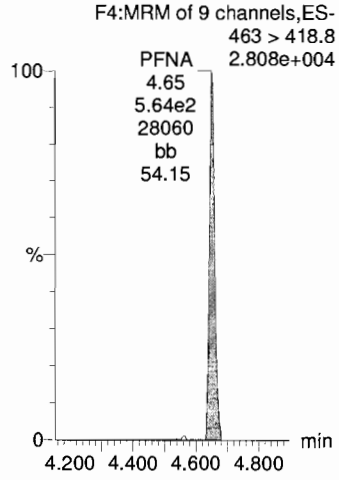
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

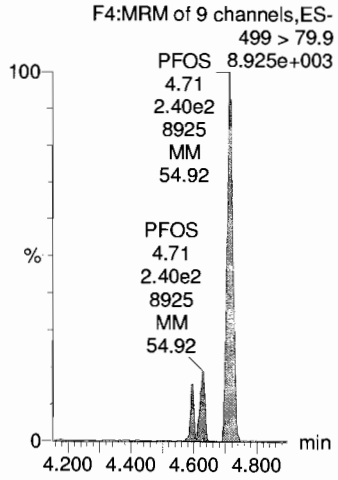
Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_2, Date: 23-Feb-2018, Time: 13:29:59, ID: ST180223G2-1 PFC CS-3 537 18B2301, Description: PFC CS-3 537 18B2301

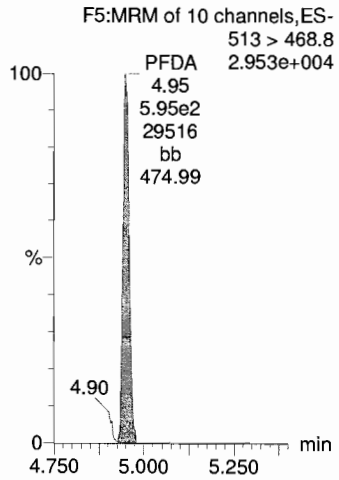
PFNA



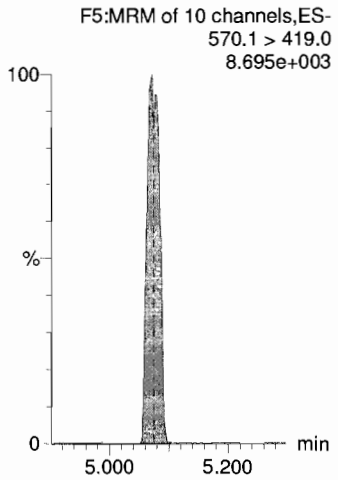
PFOS



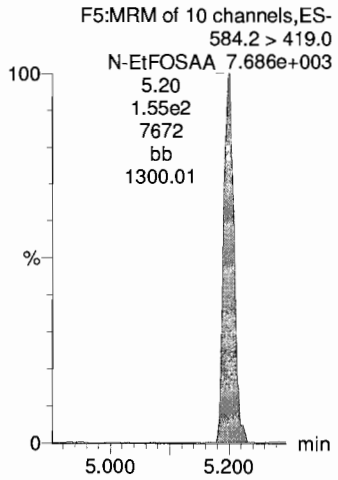
PFDA



N-MeFOSAA



N-EtFOSAA



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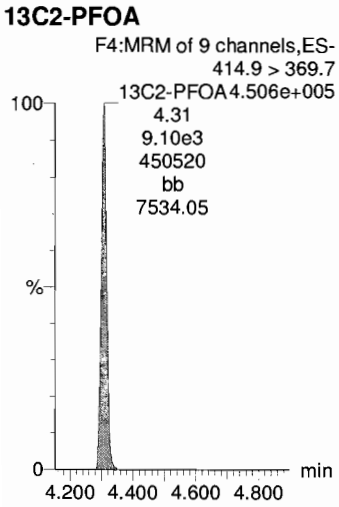
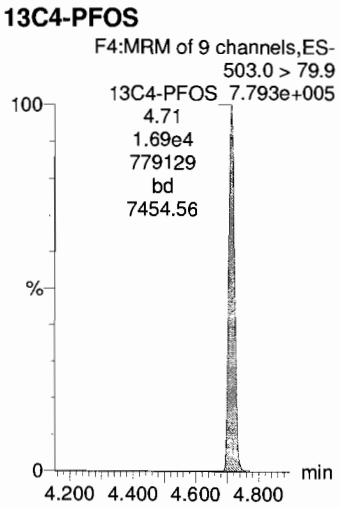


13C4-PFOS



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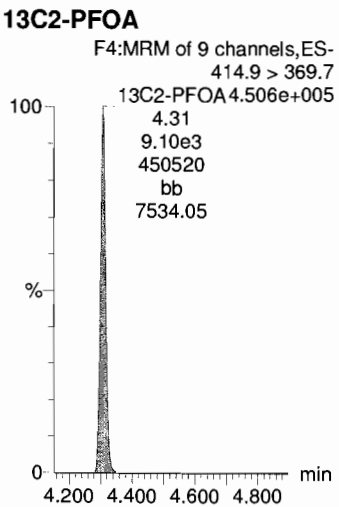

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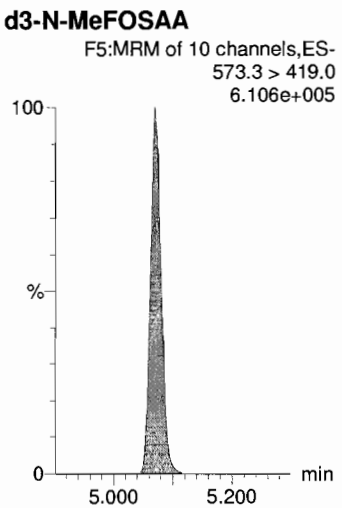

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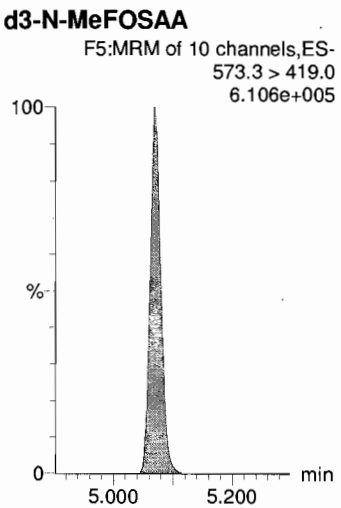

MJT 2/23/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_2, Date: 23-Feb-2018, Time: 13:29:59, ID: ST180223G2-1 PFC CS-3 537 18B2301, Description: PFC CS-3 537 18B2301

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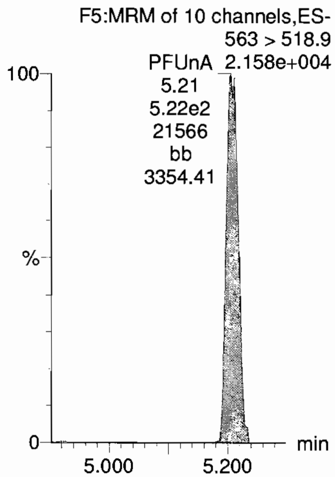

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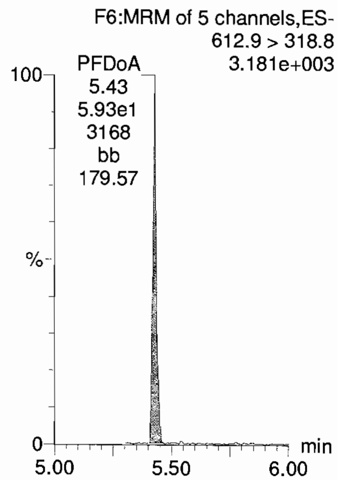

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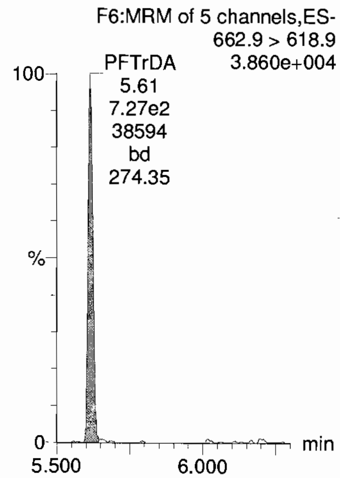

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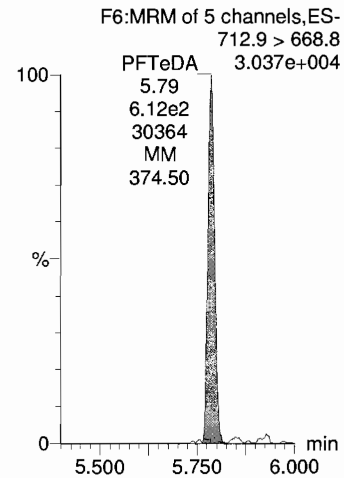

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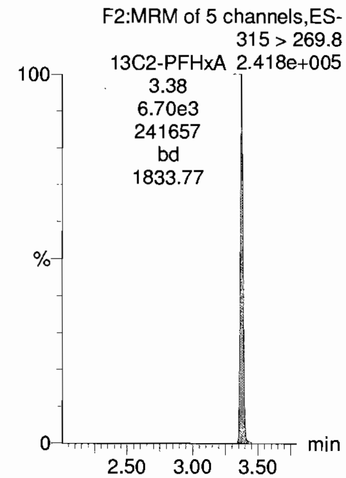

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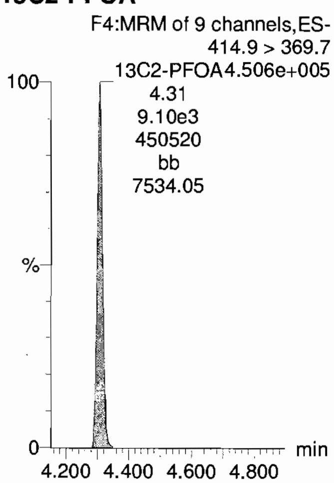

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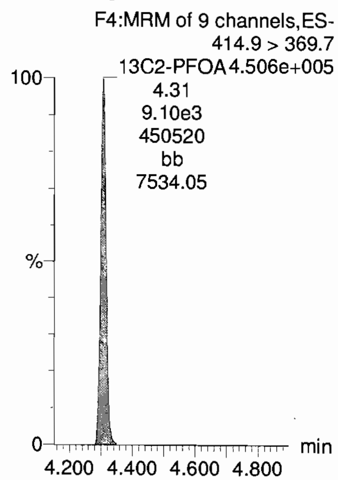

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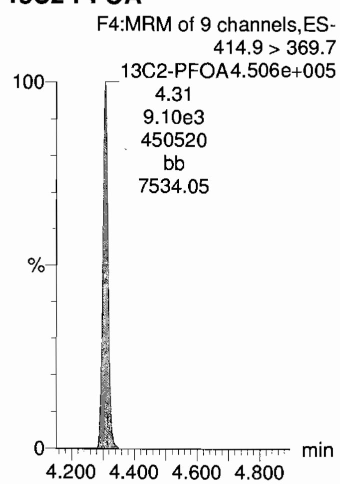

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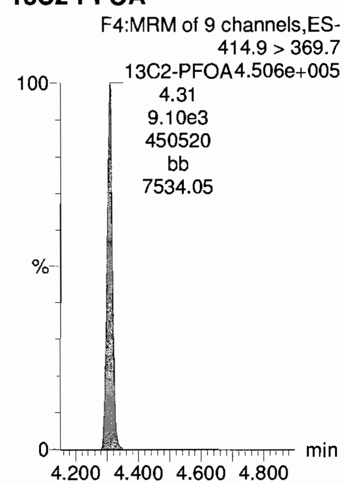

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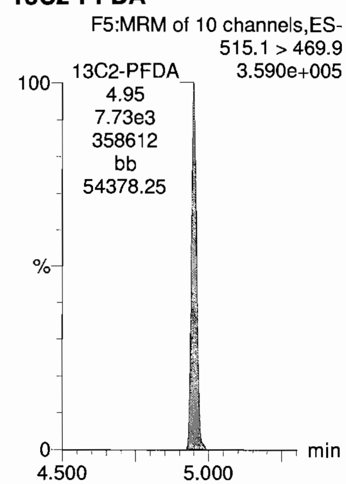

MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

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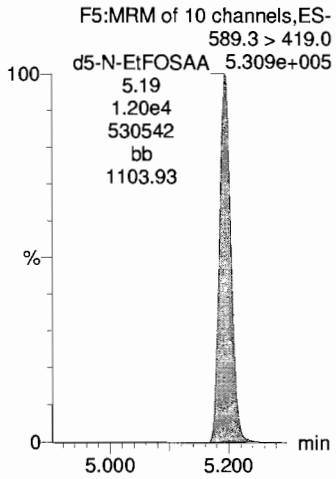

MJT 2/23/2018

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Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
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Name: 180223G2_3, Date: 23-Feb-2018, Time: 13:42:20, ID: ST180223G2-2 PFC CS-2 537 18B2302, Description: PFC CS-2 537 18B2302

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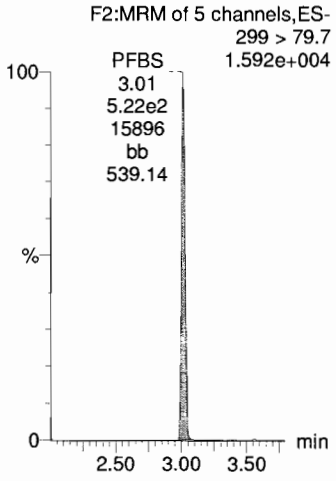

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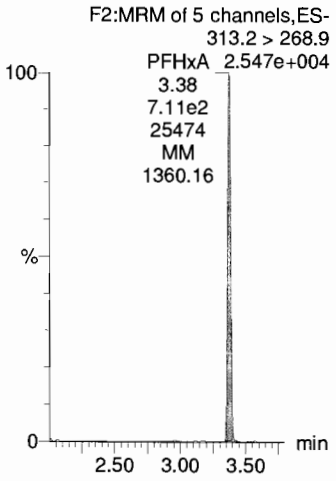

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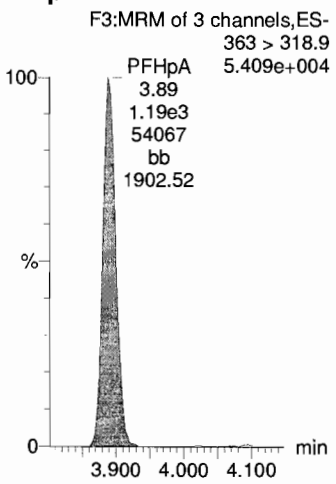

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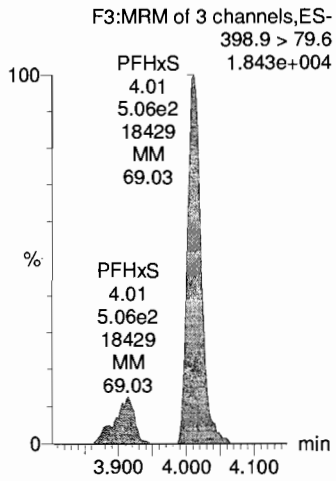

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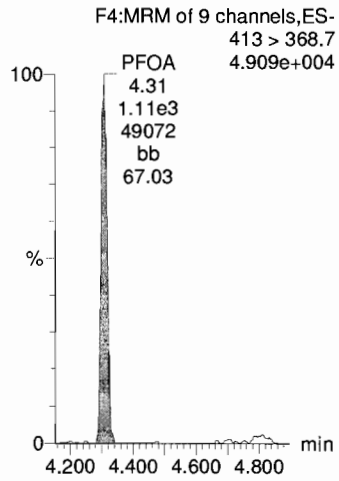

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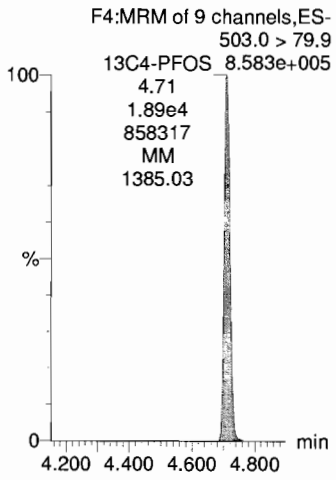

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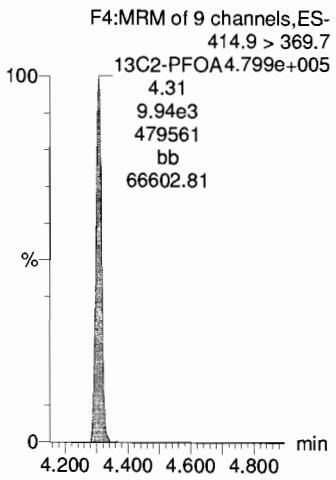

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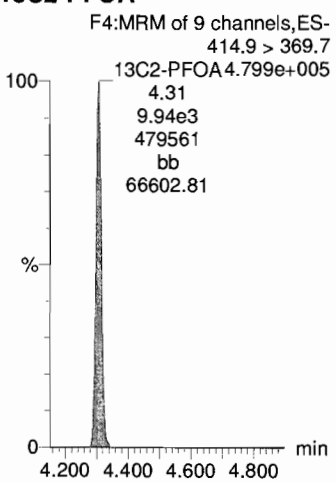

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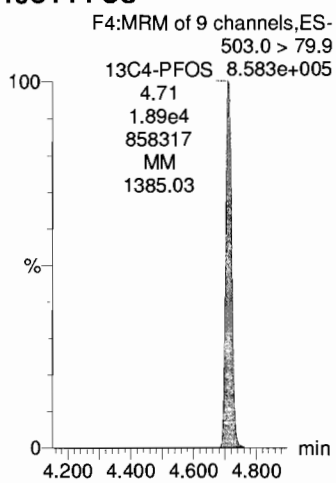

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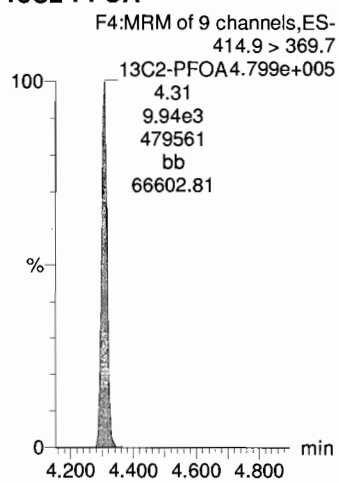

MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_3, Date: 23-Feb-2018, Time: 13:42:20, ID: ST180223G2-2 PFC CS-2 537 18B2302, Description: PFC CS-2 537 18B2302

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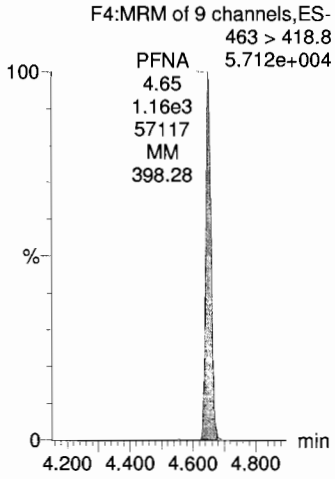

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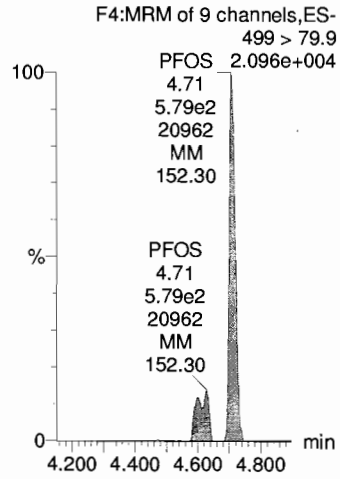

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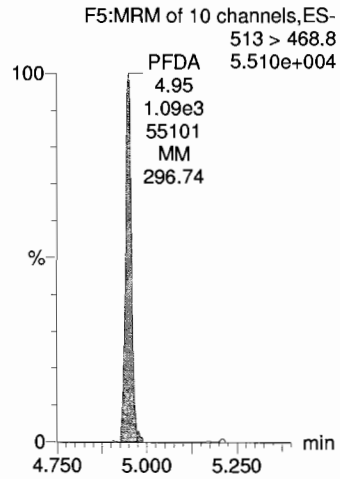

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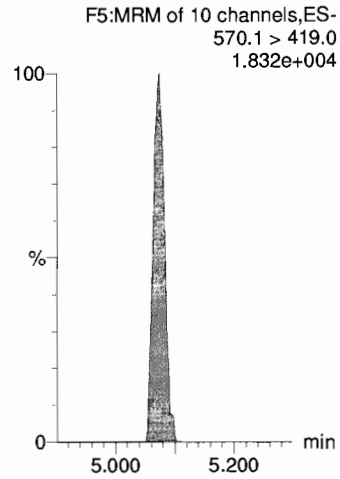

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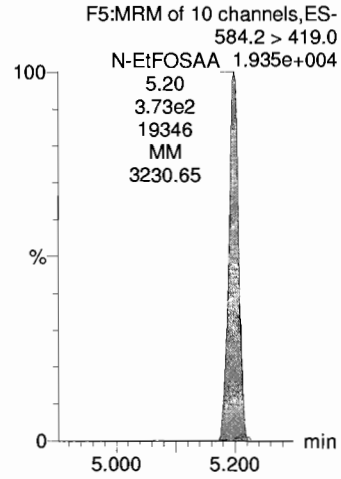

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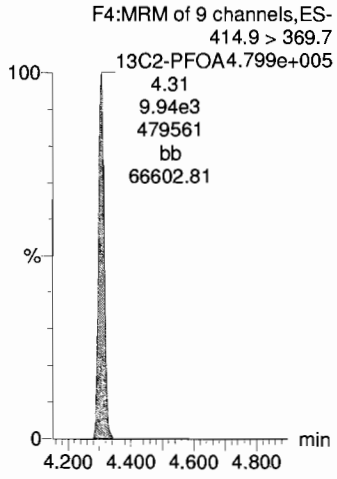

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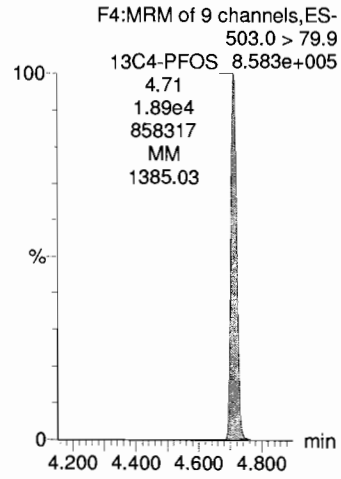

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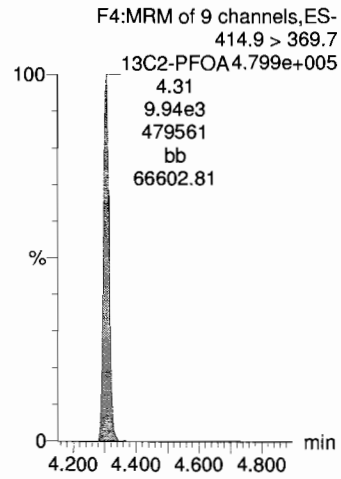

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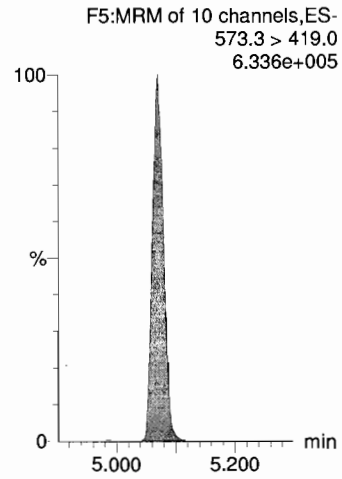

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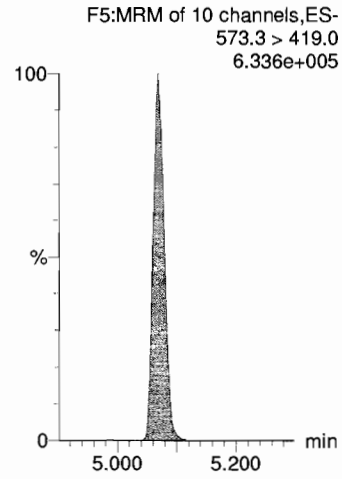

MJT 2/23/2018

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Name: 180223G2_3, Date: 23-Feb-2018, Time: 13:42:20, ID: ST180223G2-2 PFC CS-2 537 18B2302, Description: PFC CS-2 537 18B2302

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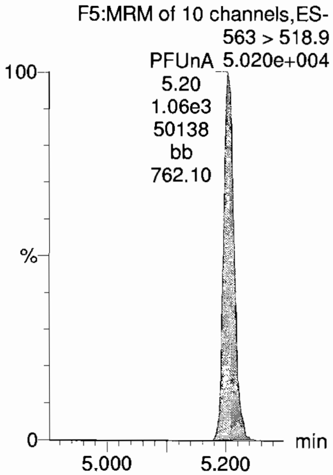

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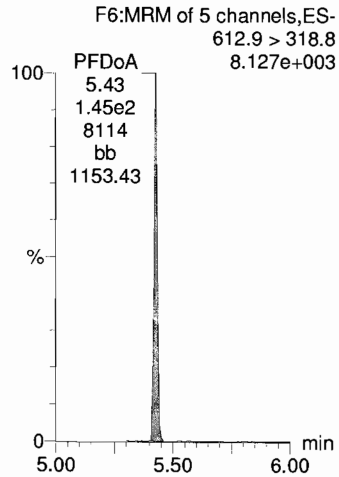

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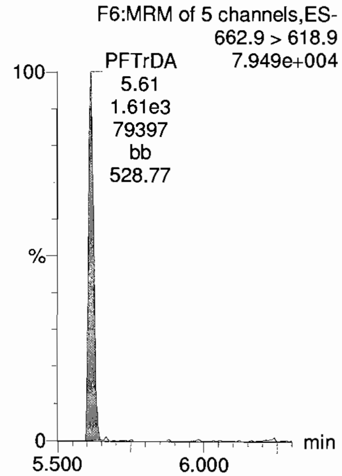

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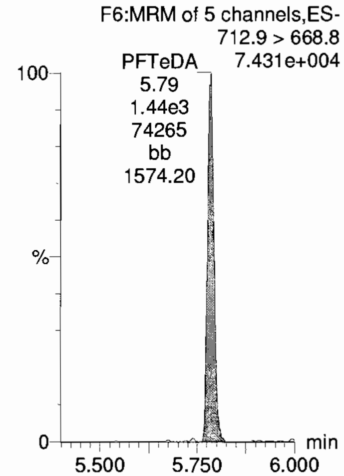

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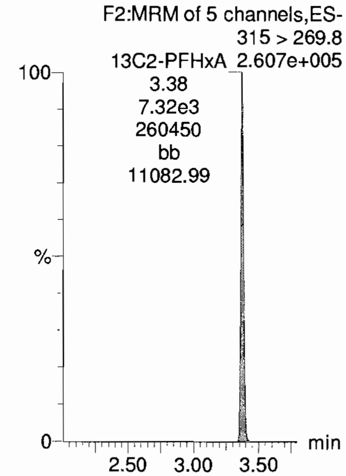

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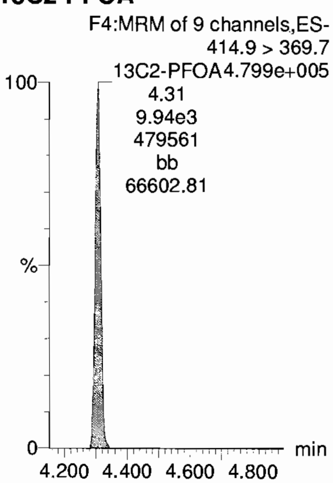

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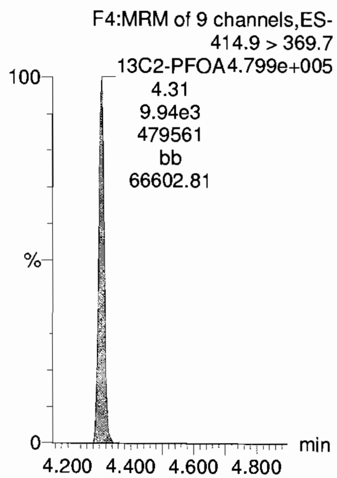

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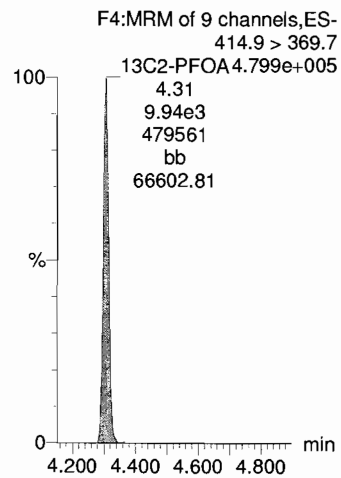

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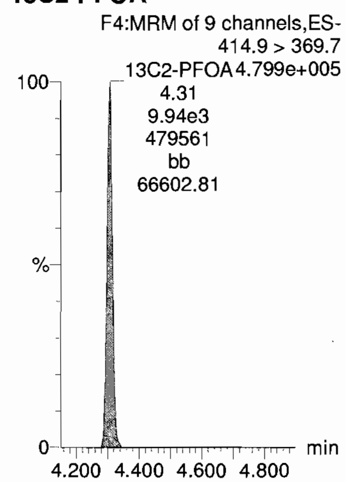

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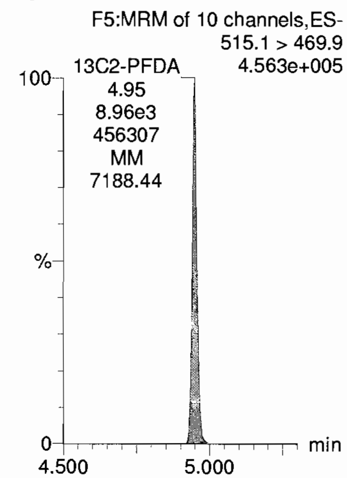

MJT 2/23/2018

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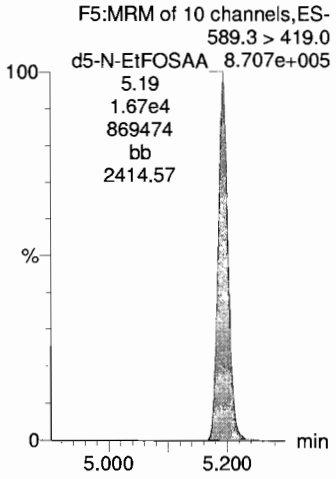
Name: 180223G2_3, Date: 23-Feb-2018, Time: 13:42:20, ID: ST180223G2-2 PFC CS-2 537 18B2302, Description: PFC CS-2 537 18B2302

d5-N-EtFOSAA



MJT 2/23/2018

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Name: 180223G2_4, Date: 23-Feb-2018, Time: 13:54:45, ID: ST180223G2-3 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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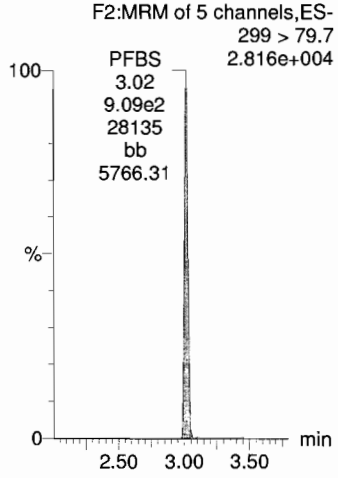

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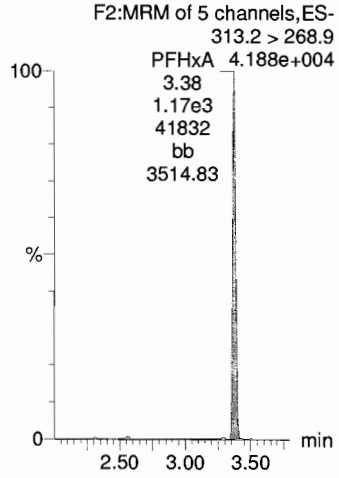

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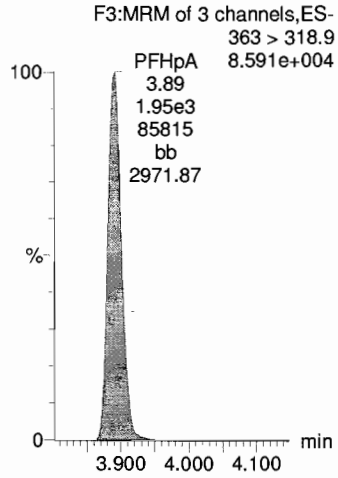

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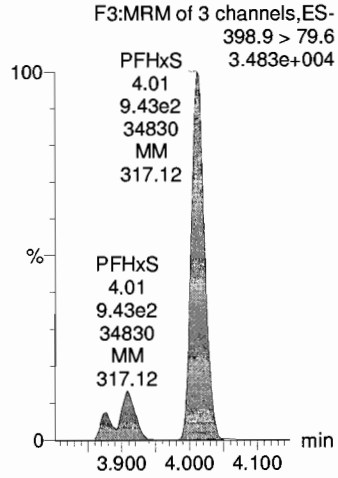

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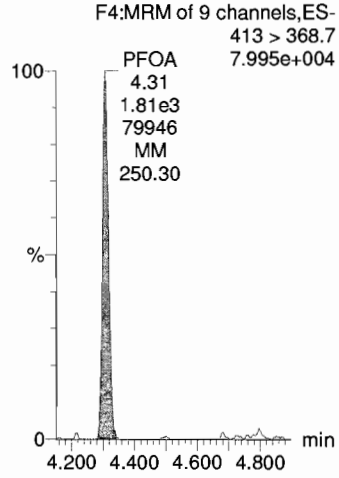

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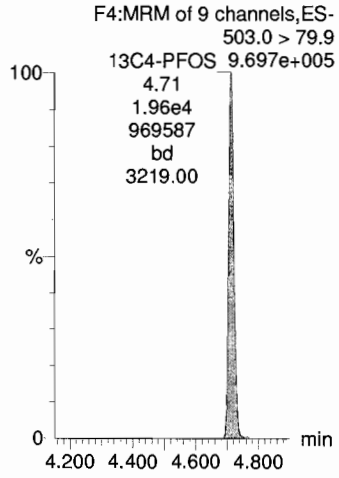

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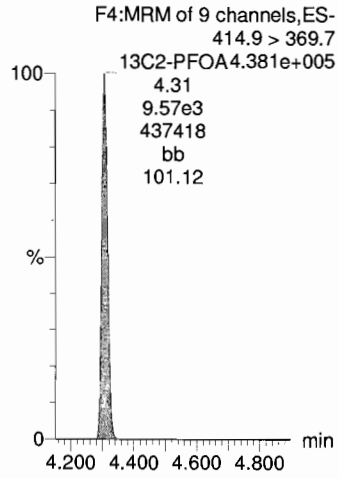

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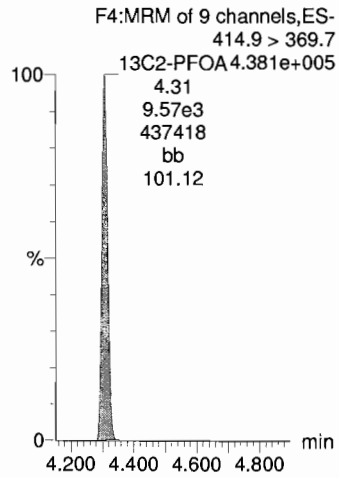

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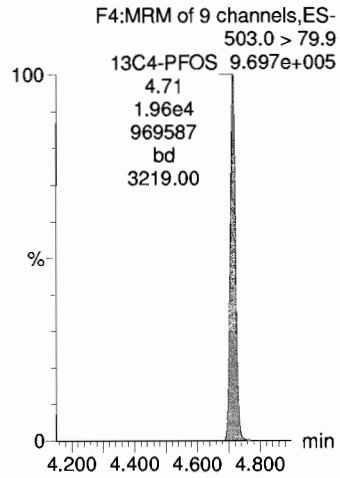
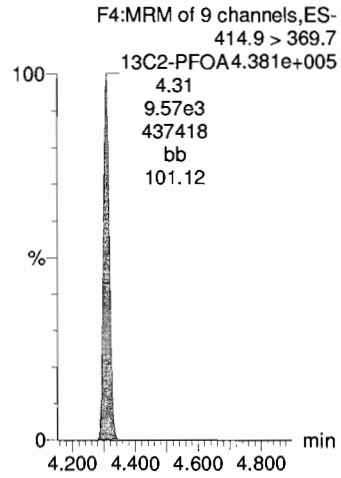


13C2-PFOA



MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_4, Date: 23-Feb-2018, Time: 13:54:45, ID: ST180223G2-3 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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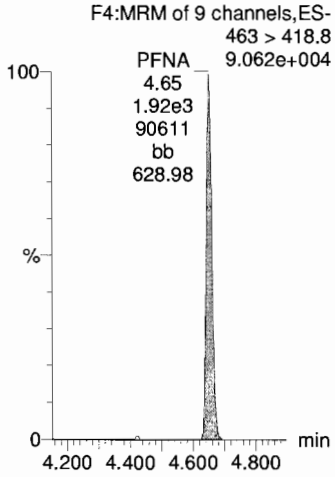

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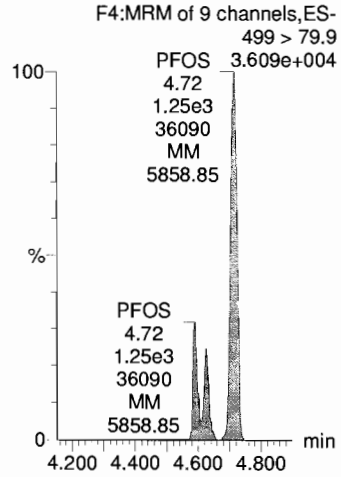

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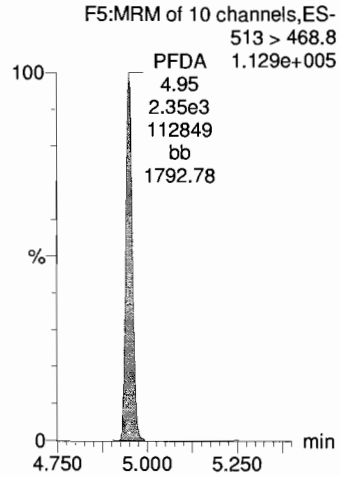

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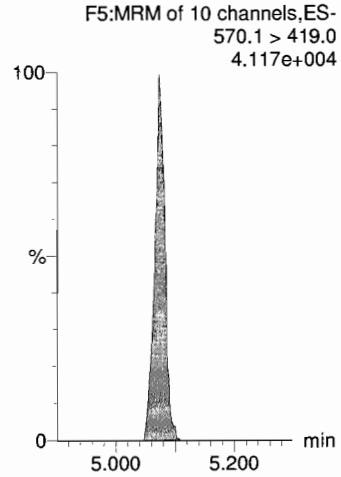

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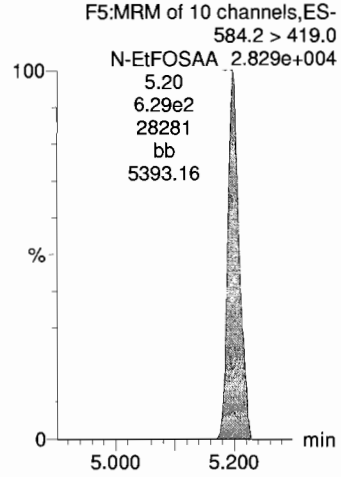

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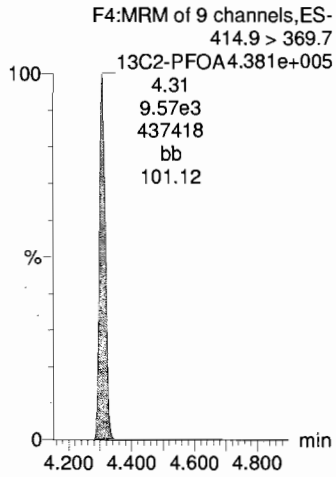

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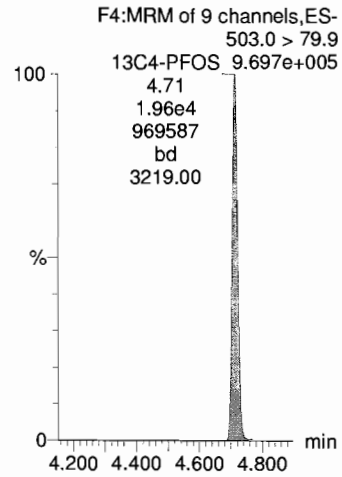

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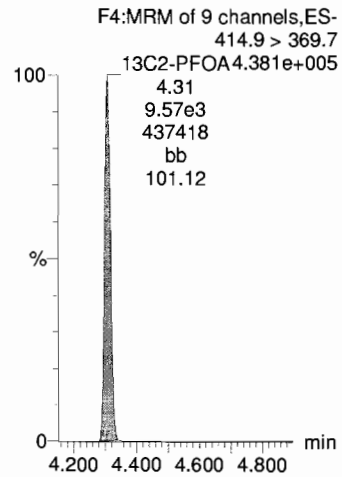

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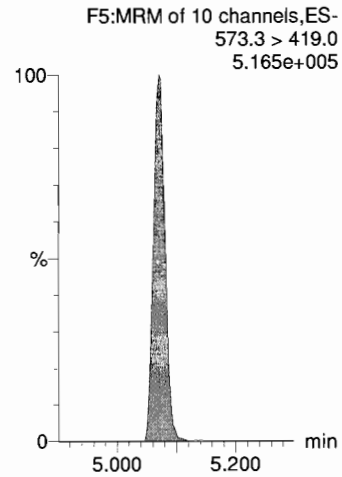

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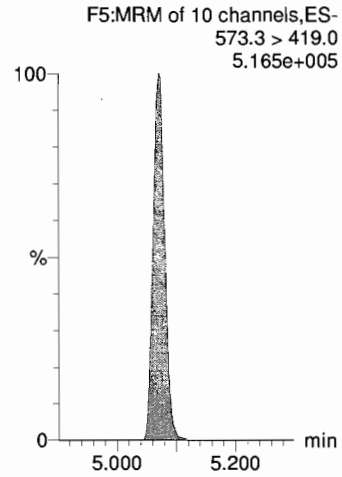

MJT 2/23/2018

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Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_4, Date: 23-Feb-2018, Time: 13:54:45, ID: ST180223G2-3 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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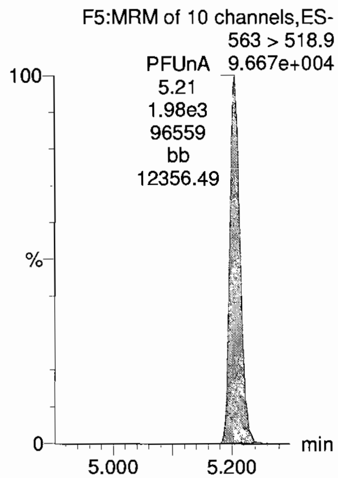

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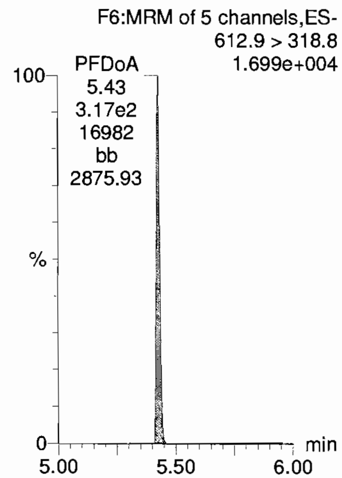

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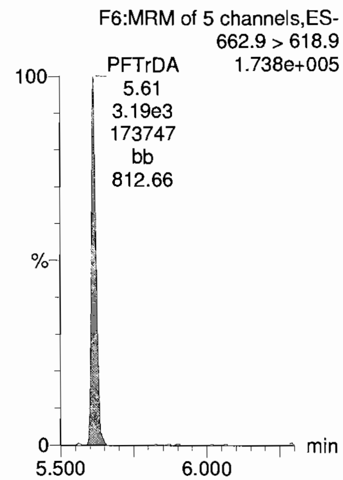

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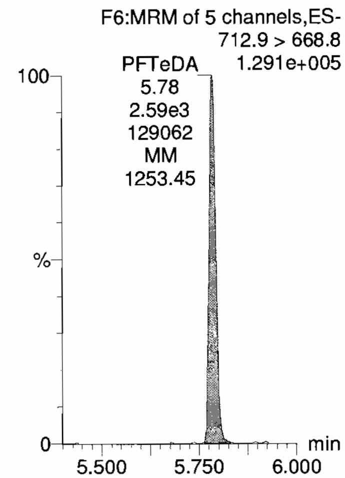

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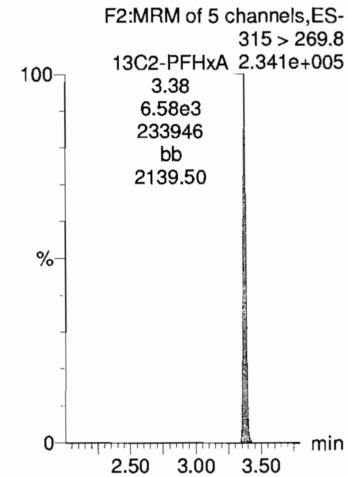

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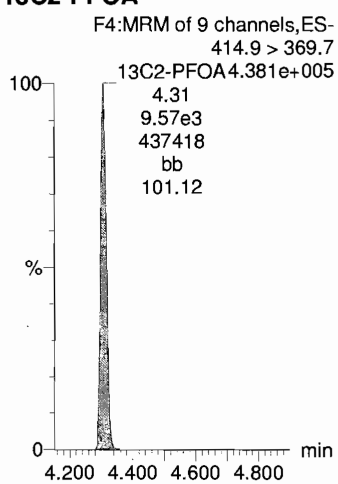

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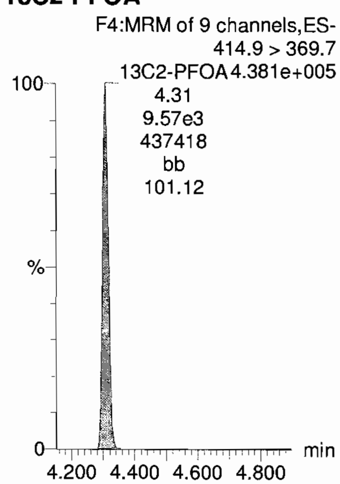

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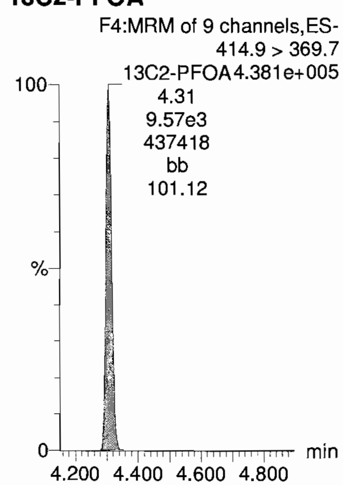

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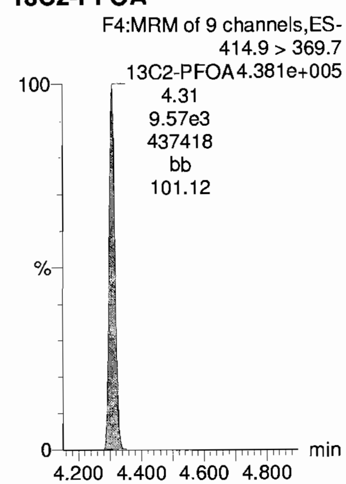

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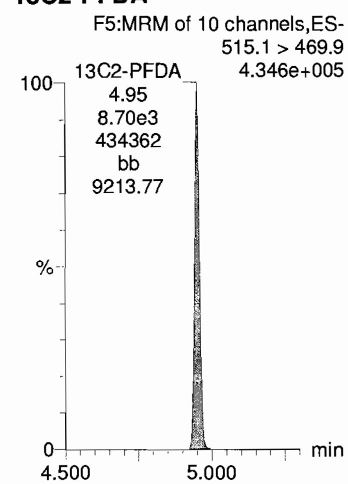

MJT 2/23/2018

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Name: 180223G2_4, Date: 23-Feb-2018, Time: 13:54:45, ID: ST180223G2-3 PFC CS-1 537 18B2310, Description: PFC CS-1 537 18B2310

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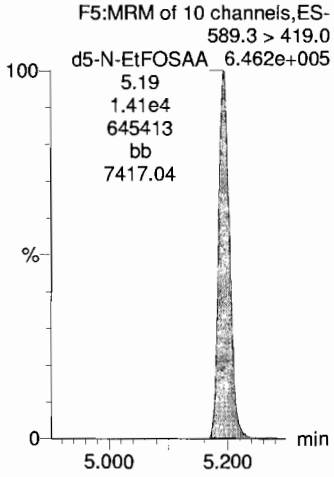

MJT 2/23/2018

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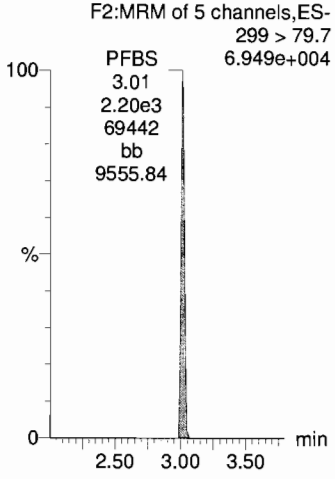

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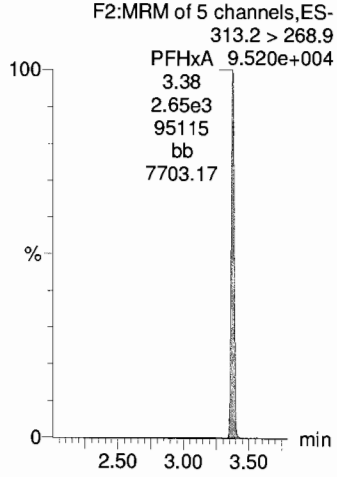

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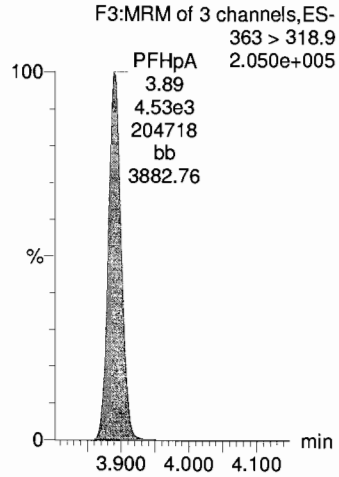

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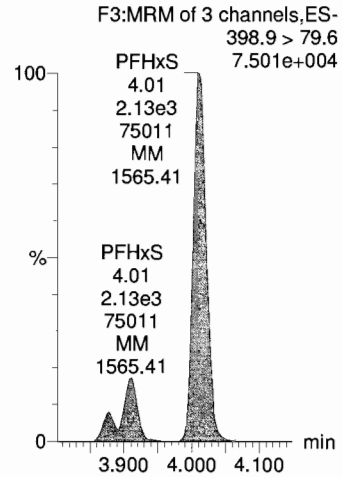

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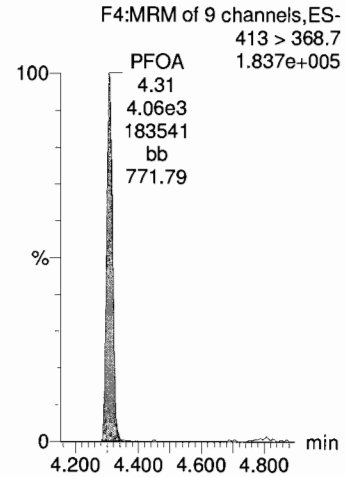

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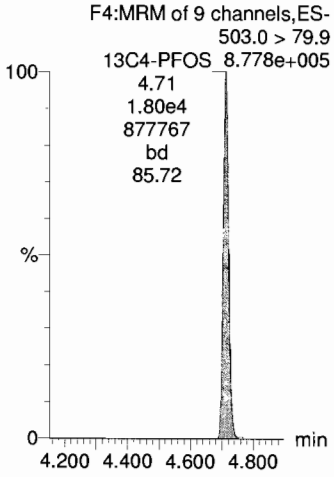

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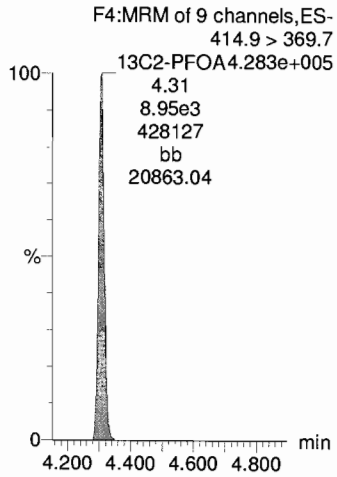

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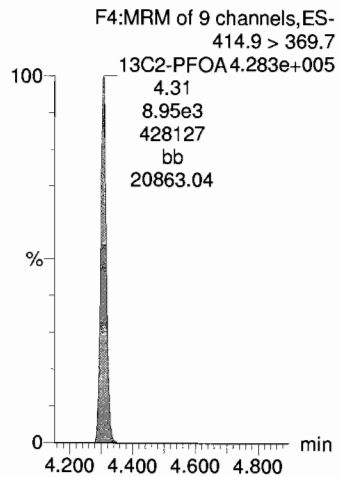

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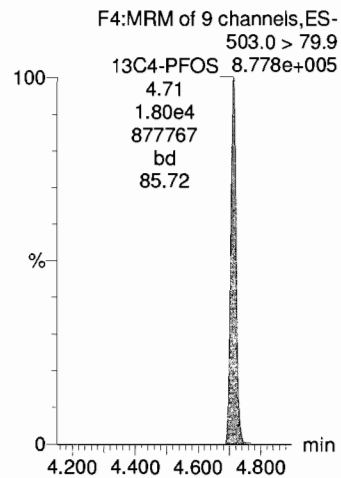

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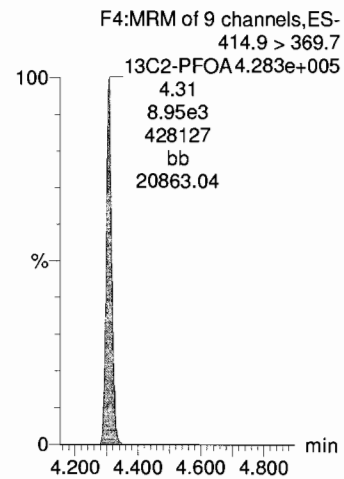

MJT 2/23/2018

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Name: 180223G2_5, Date: 23-Feb-2018, Time: 14:07:10, ID: ST180222G3-4 PFC CS0 537 18B2303, Description: PFC CS0 537 18B2303

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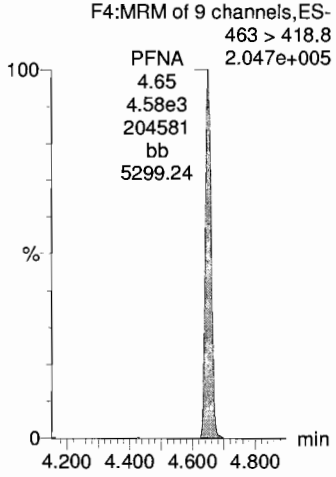

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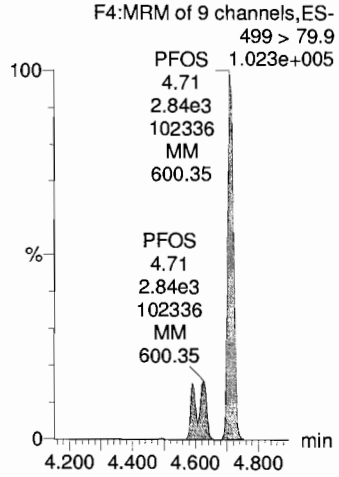

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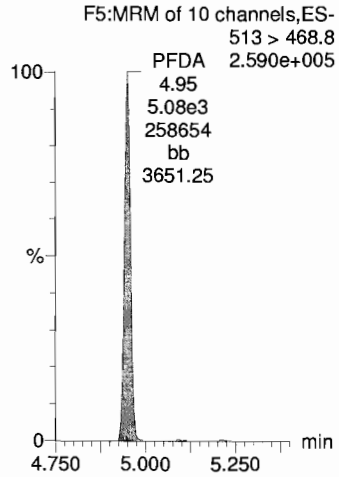

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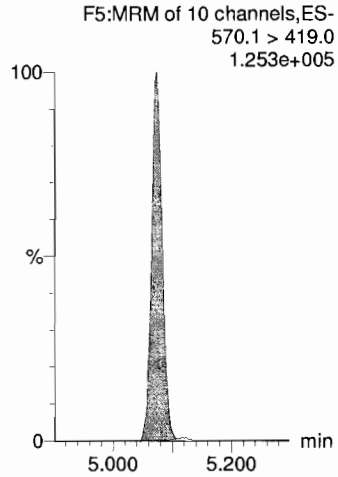

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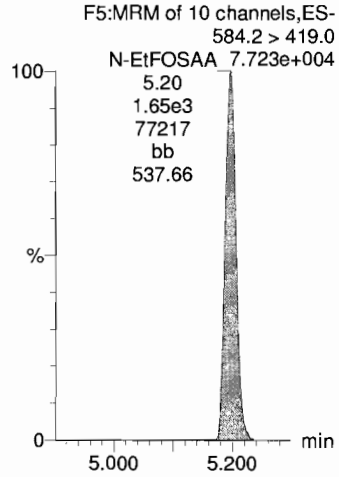

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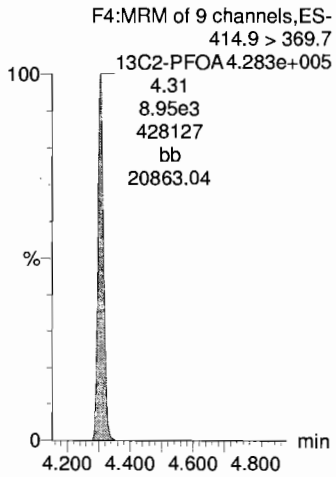

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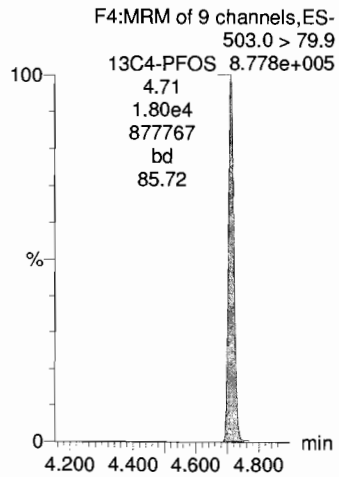

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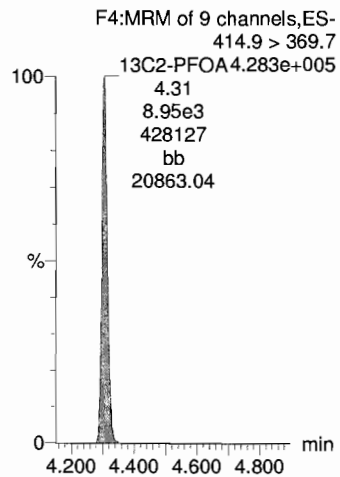

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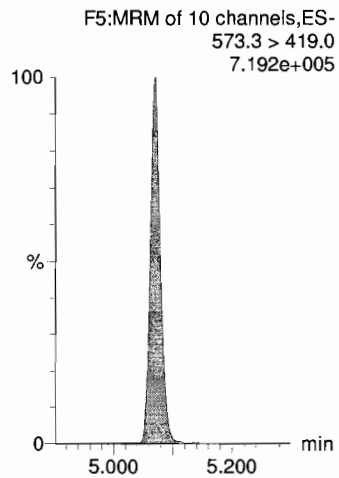

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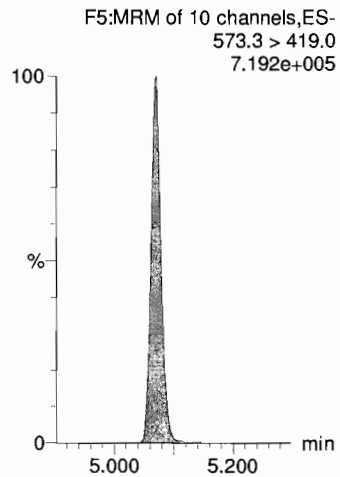

MJT 2/23/2018

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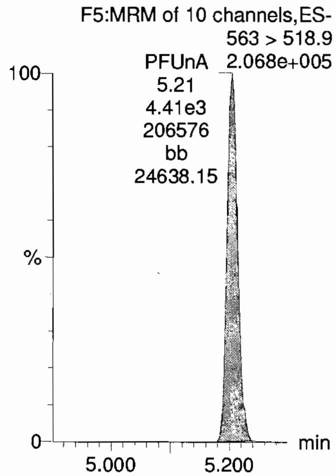

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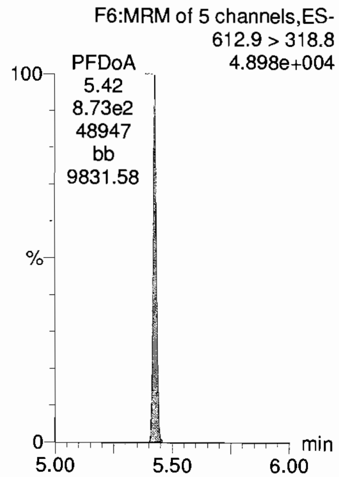

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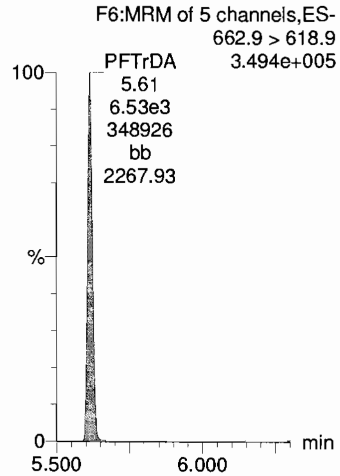

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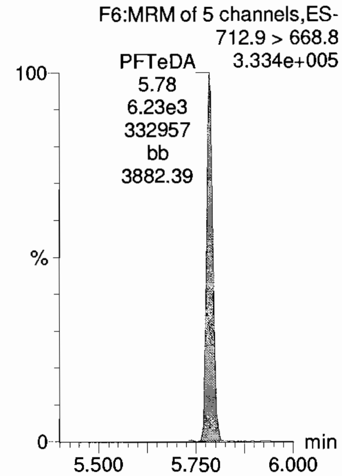

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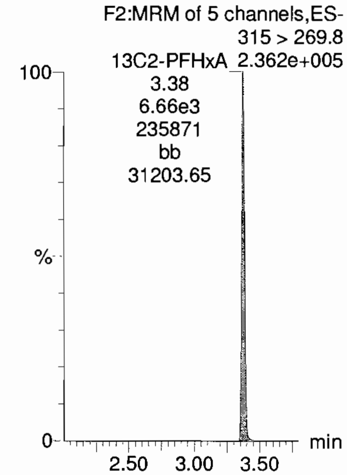

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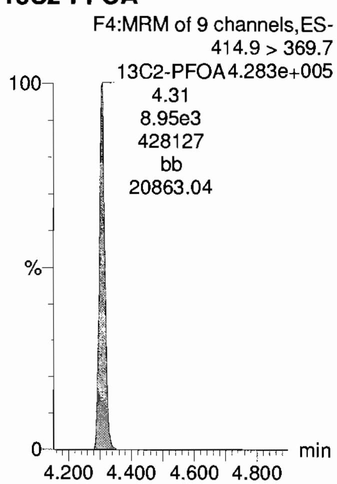

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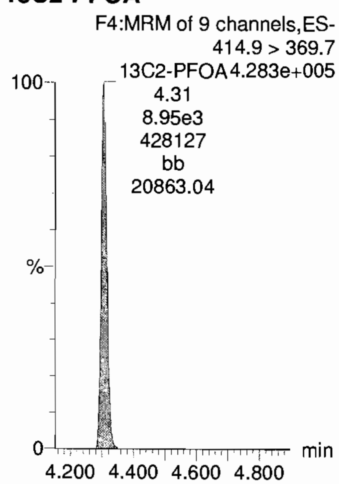

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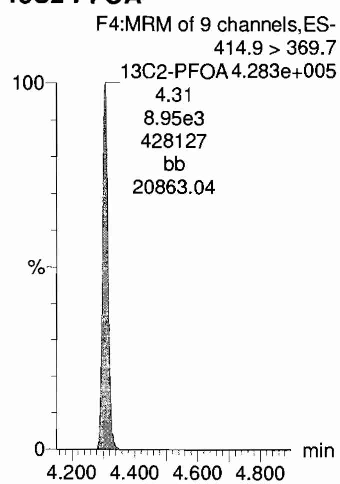

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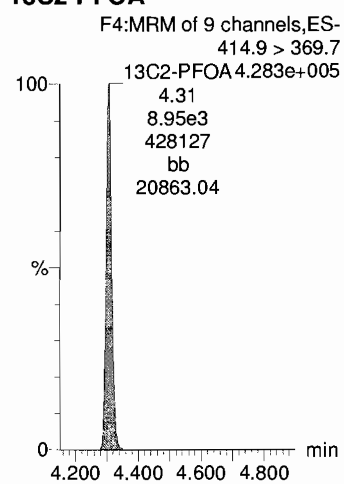

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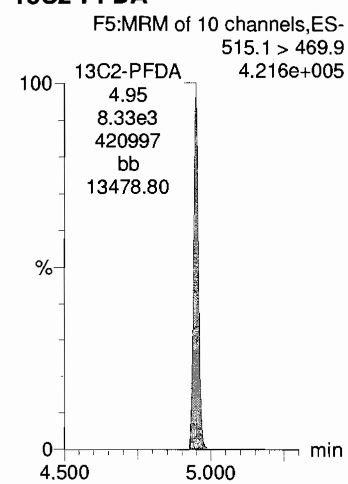

MJT 2/23/2018

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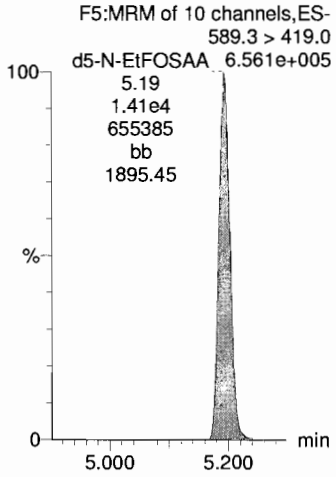
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_5, Date: 23-Feb-2018, Time: 14:07:10, ID: ST180222G3-4 PFC CS0 537 18B2303, Description: PFC CS0 537 18B2303

d5-N-EtFOSAA



MJT 2/23/2018

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Name: 180223G2_6, Date: 23-Feb-2018, Time: 14:19:35, ID: ST180223G2-5 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

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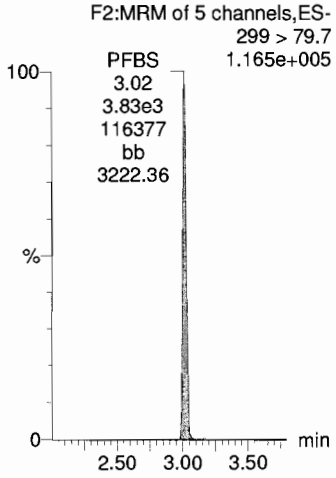

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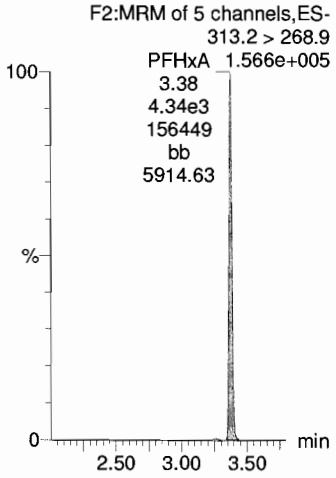

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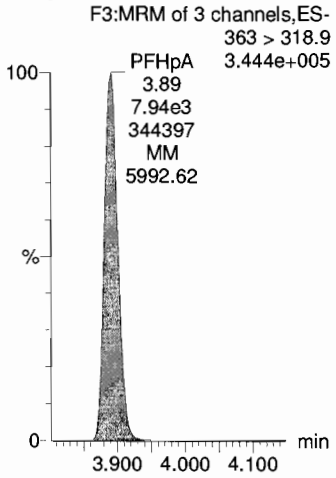

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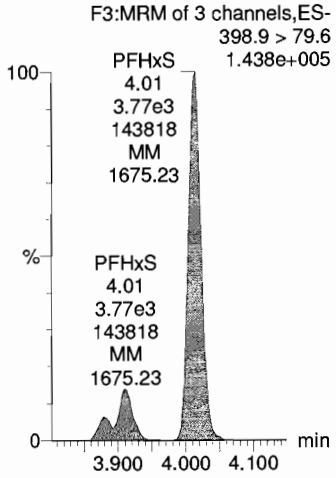

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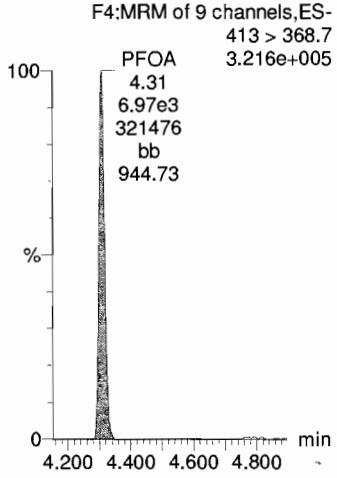
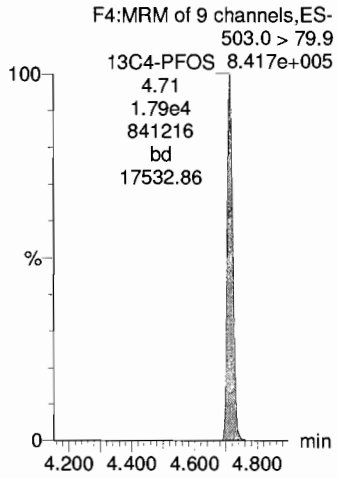


13C4-PFOS



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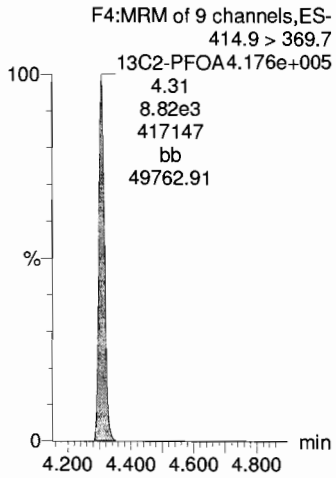

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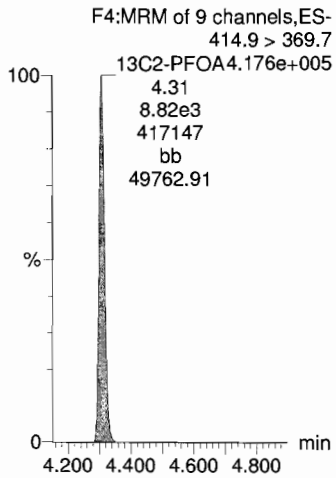

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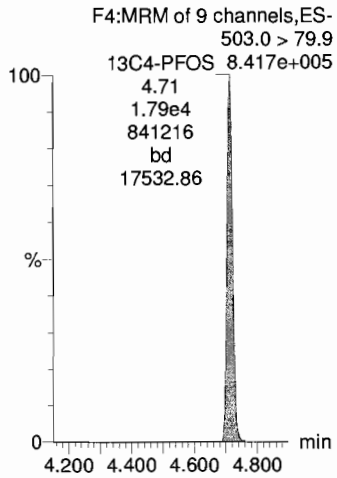

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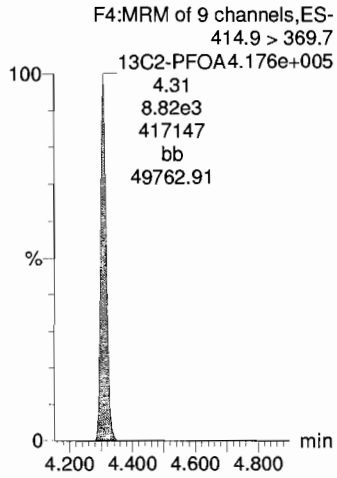

MJT 2/23/2018

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Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_6, Date: 23-Feb-2018, Time: 14:19:35, ID: ST180223G2-5 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

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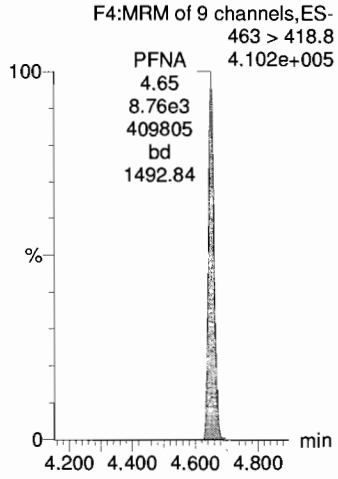

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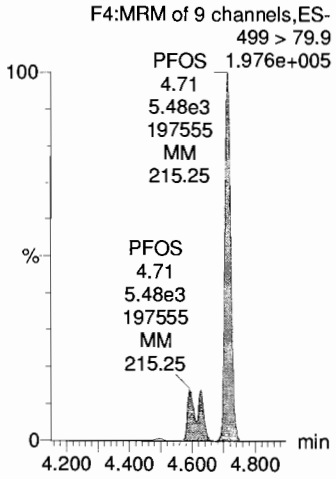

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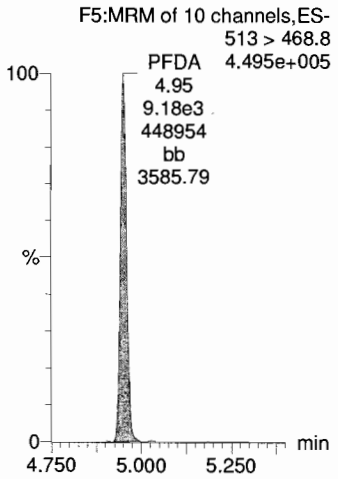

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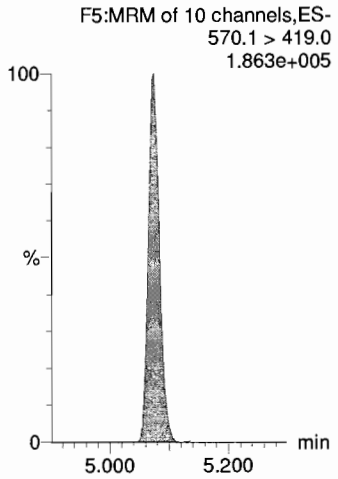

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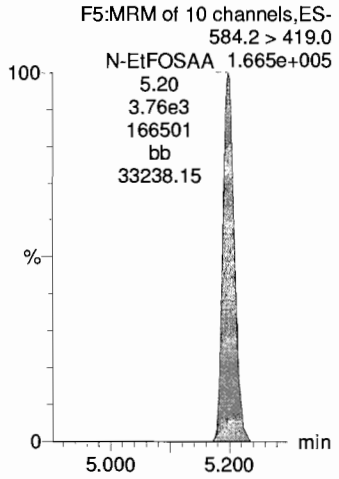

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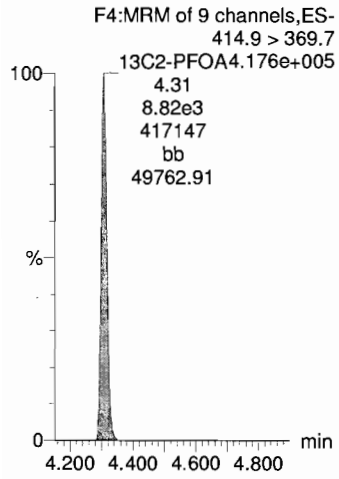

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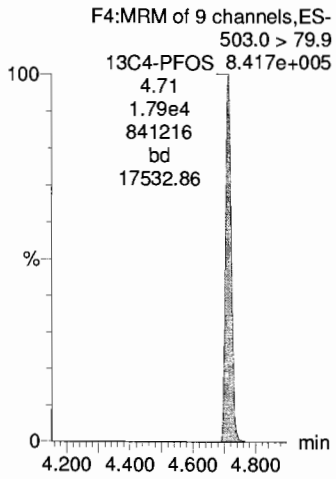

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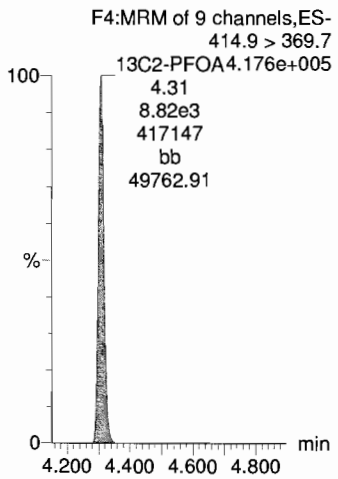

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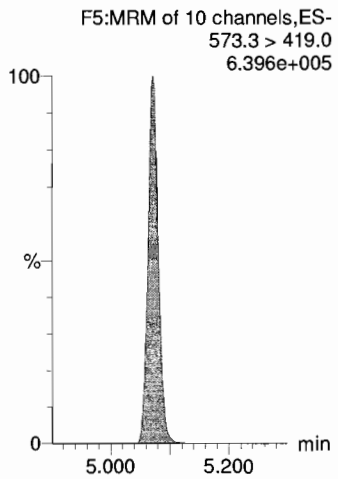

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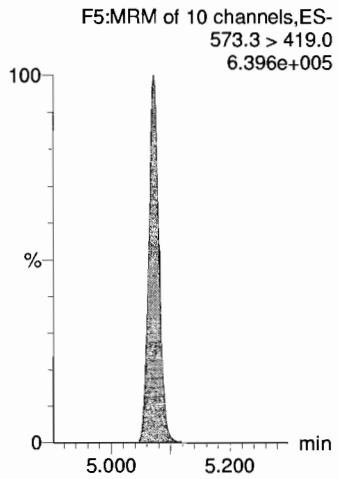

MJT 2/23/2018

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Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_6, Date: 23-Feb-2018, Time: 14:19:35, ID: ST180223G2-5 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

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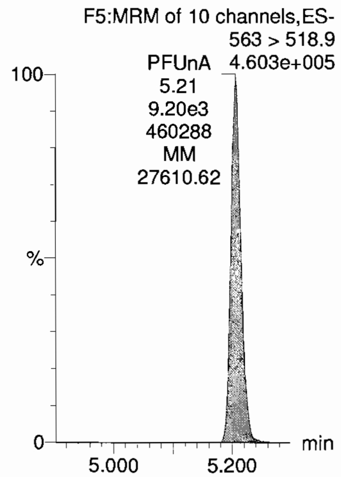

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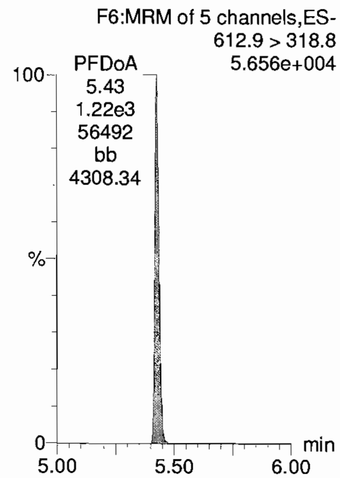

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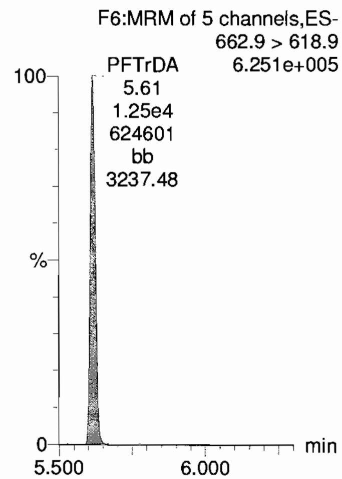

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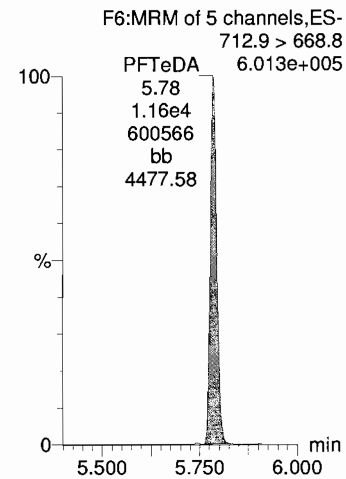

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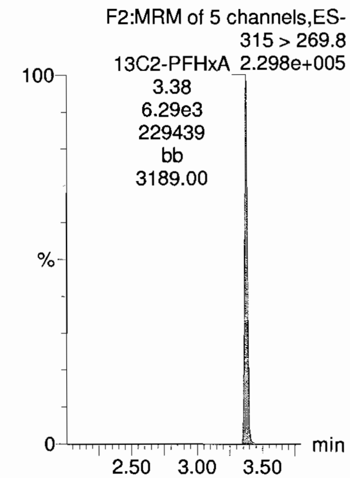

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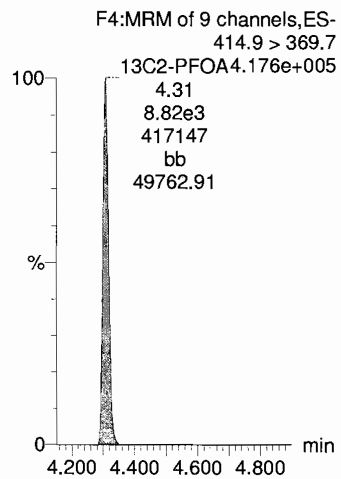

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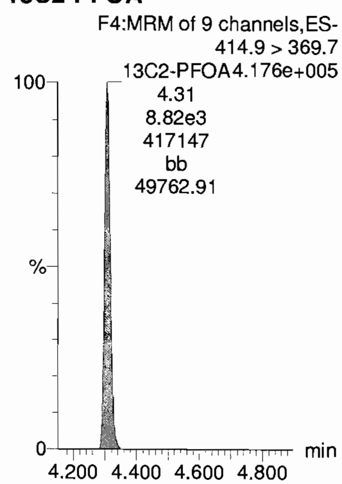

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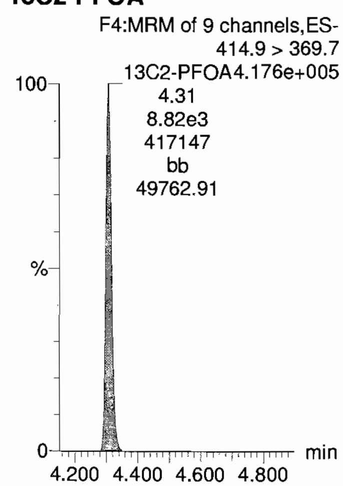

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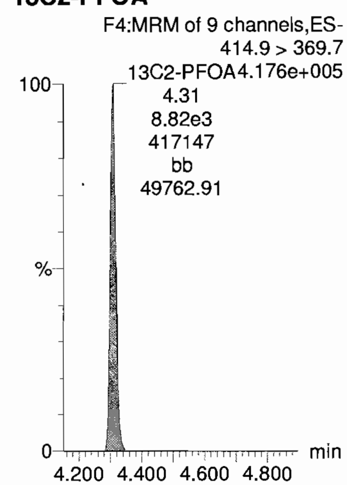

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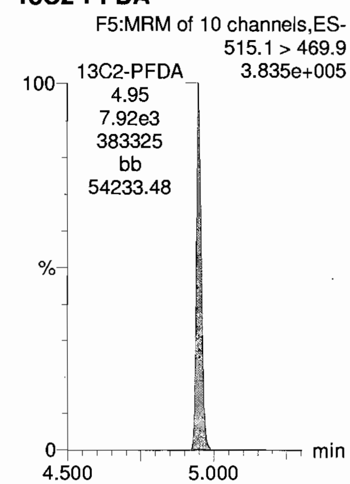

MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
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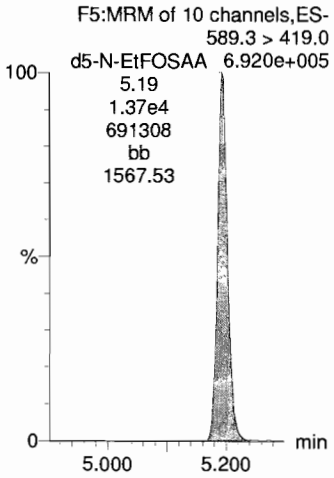
Name: 180223G2_6, Date: 23-Feb-2018, Time: 14:19:35, ID: ST180223G2-5 PFC CS1 537 18B2304, Description: PFC CS1 537 18B2304

d5-N-EtFOSAA



MJT 2/23/2018

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Name: 180223G2_7, Date: 23-Feb-2018, Time: 14:32:01, ID: ST180223G2-6 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

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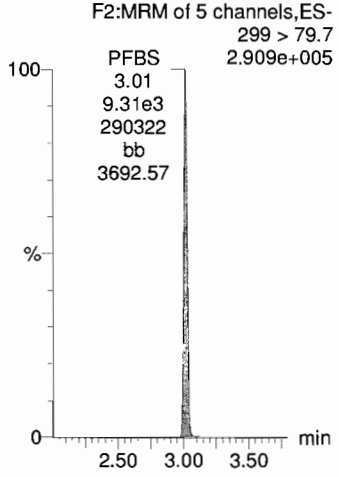

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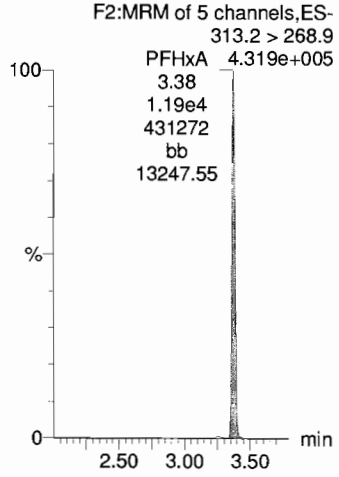

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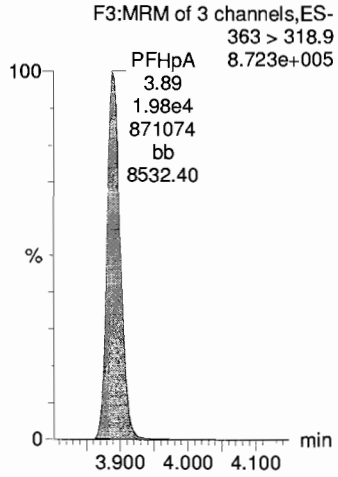

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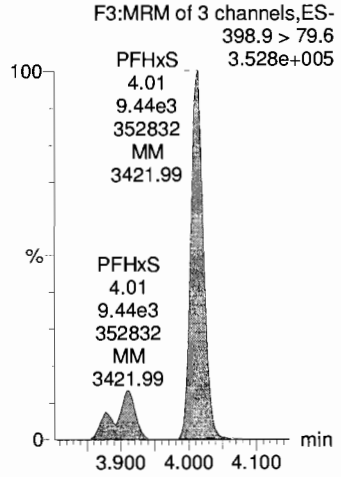

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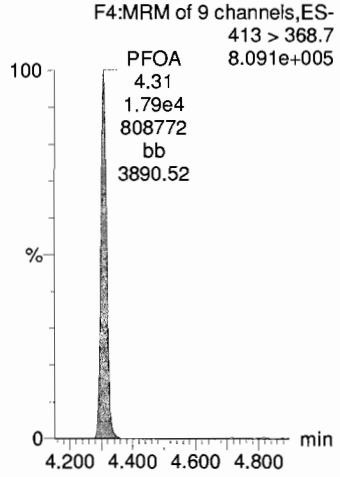

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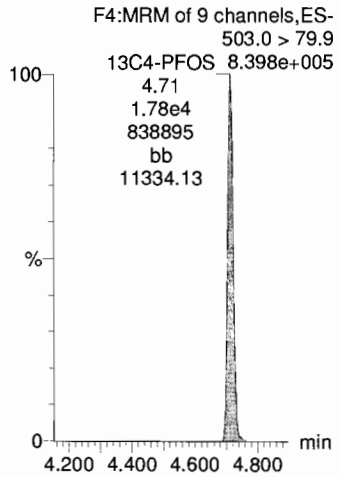

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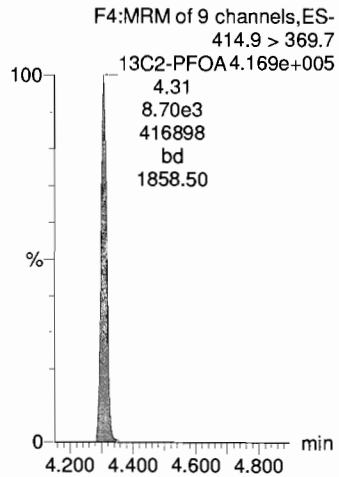

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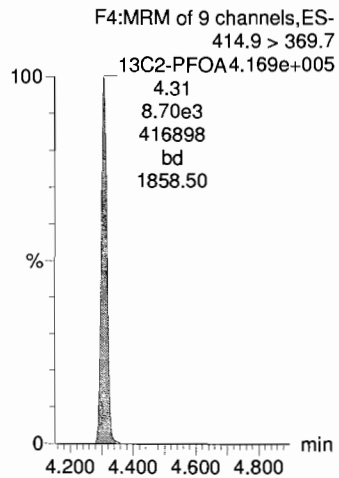

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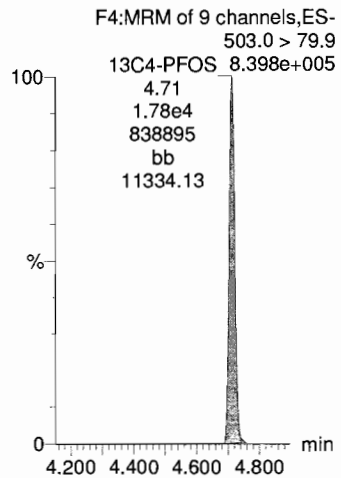

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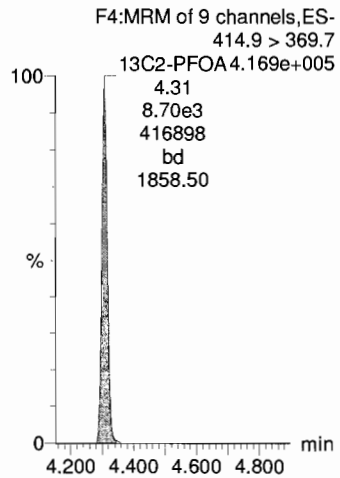

MJT 2/23/2018

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Name: 180223G2_7, Date: 23-Feb-2018, Time: 14:32:01, ID: ST180223G2-6 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

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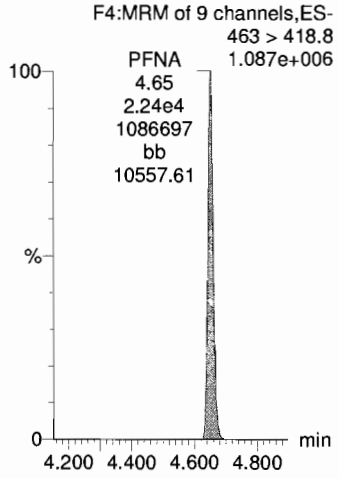

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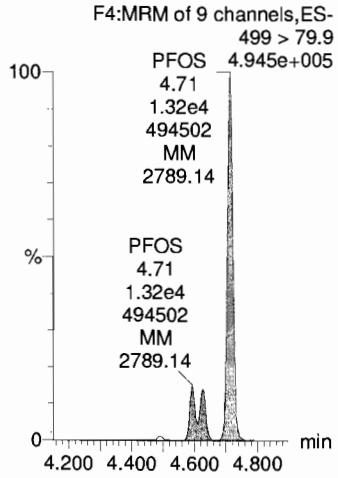

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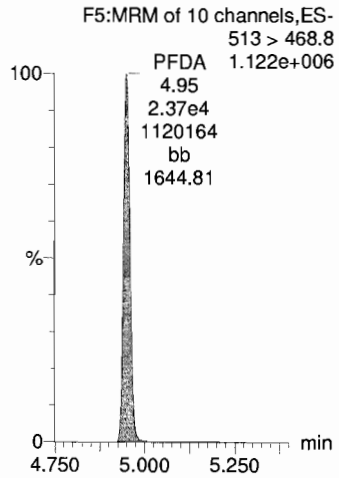

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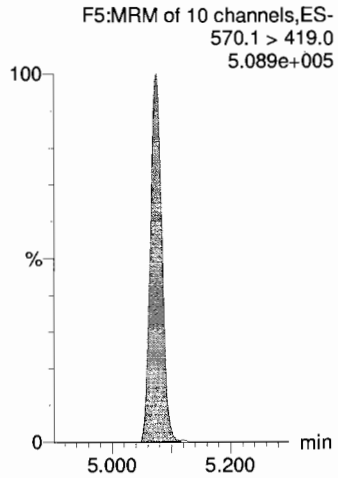

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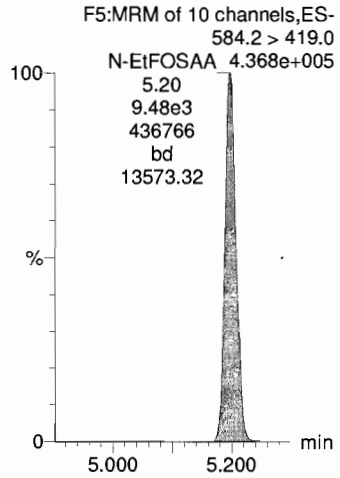

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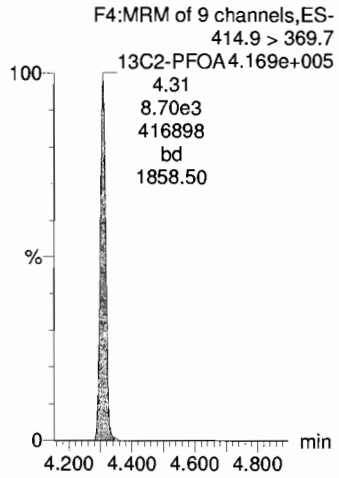

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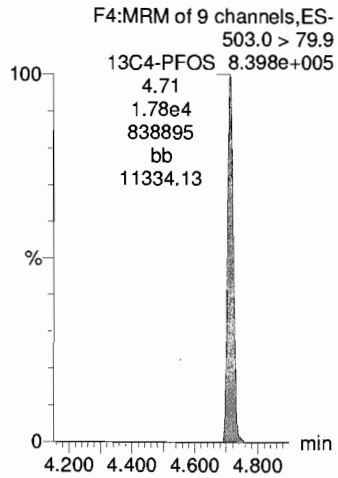

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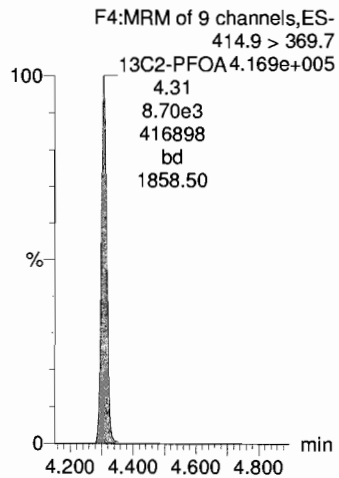

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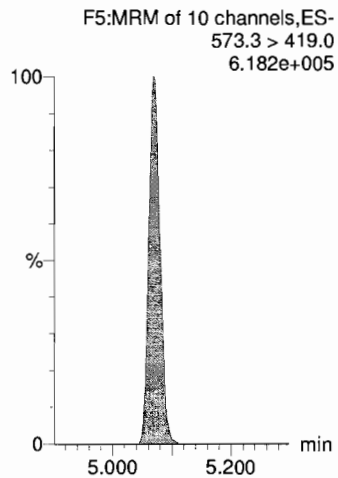

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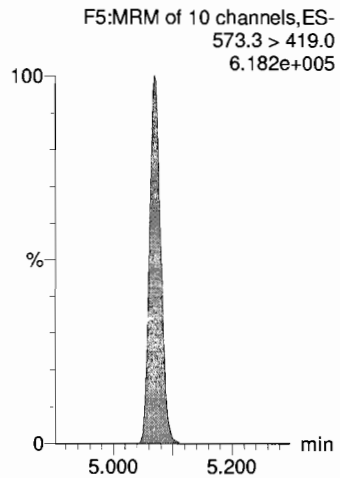

MJT 2/23/2018

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Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_7, Date: 23-Feb-2018, Time: 14:32:01, ID: ST180223G2-6 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

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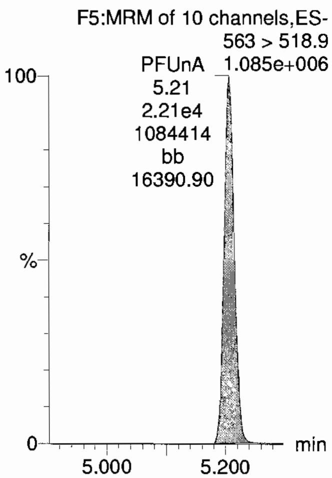

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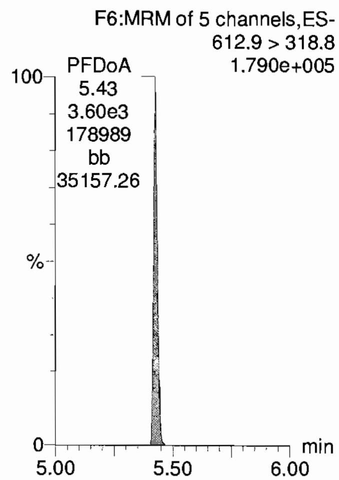

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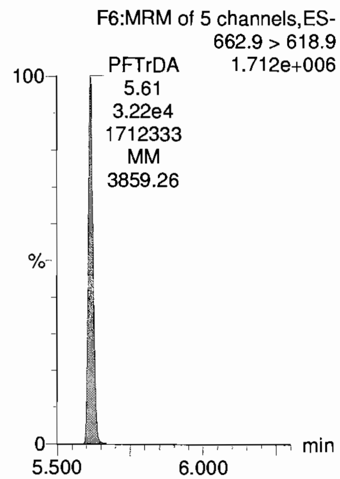

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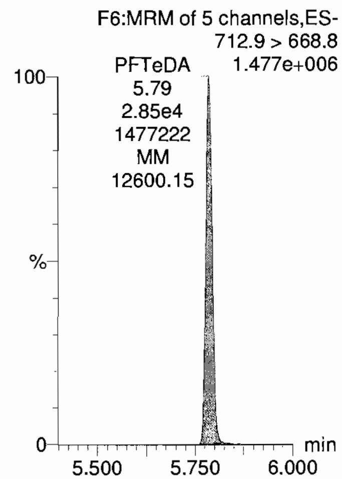

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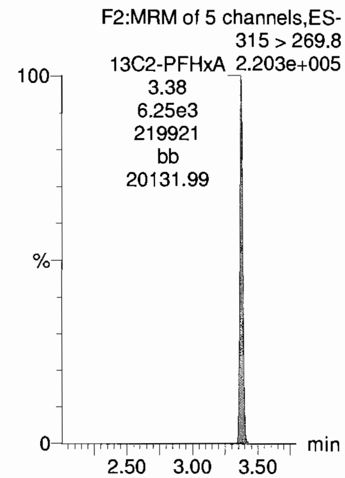

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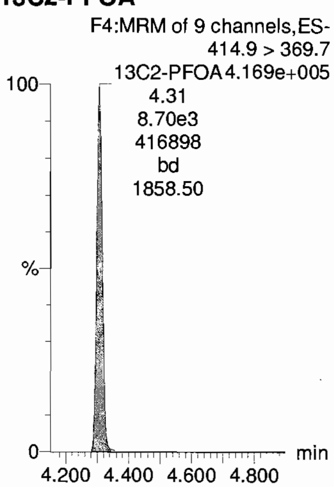

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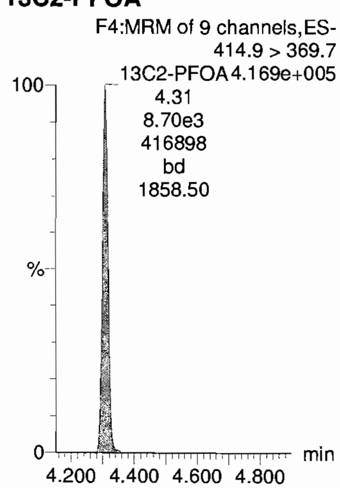

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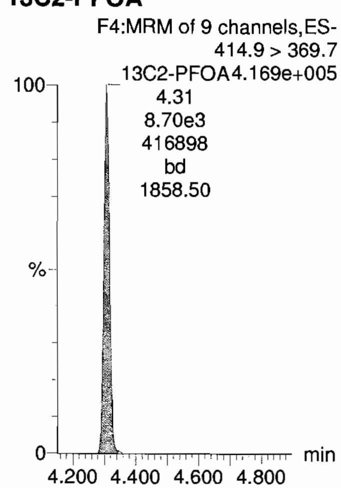

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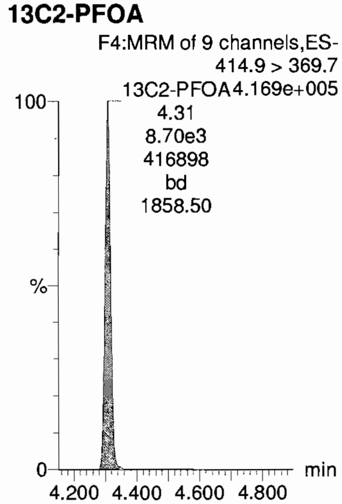

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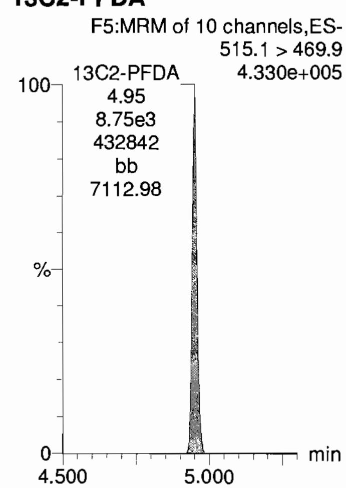


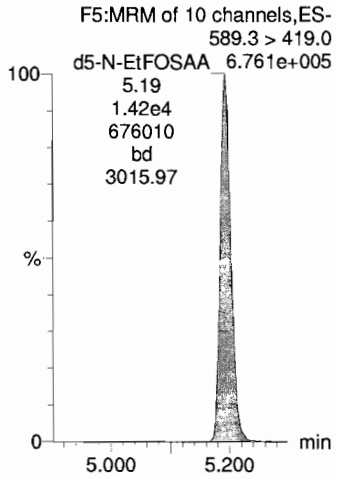
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_7, Date: 23-Feb-2018, Time: 14:32:01, ID: ST180223G2-6 PFC CS2 537 18B2305, Description: PFC CS2 537 18B2305

d5-N-EtFOSAA



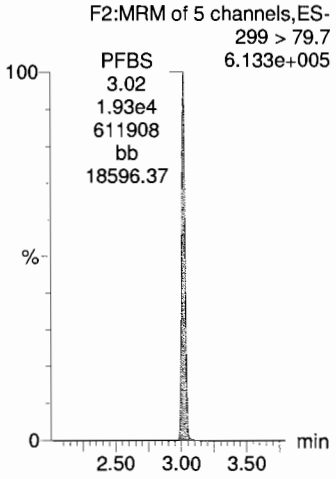
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_8, Date: 23-Feb-2018, Time: 14:44:25, ID: ST180223G2-7 PFC CS3 537 18B2306, Description: PFC CS3 537 18B2306

PFBS



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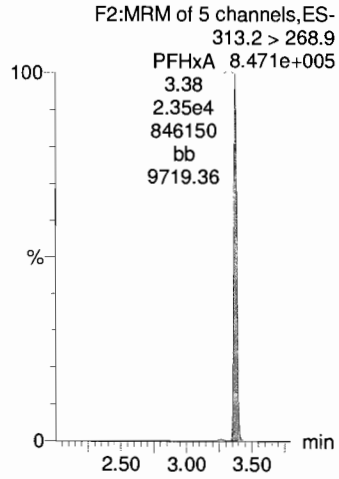

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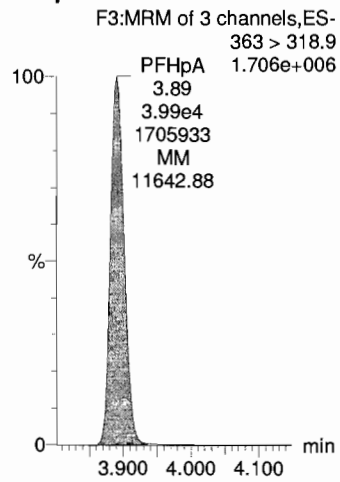

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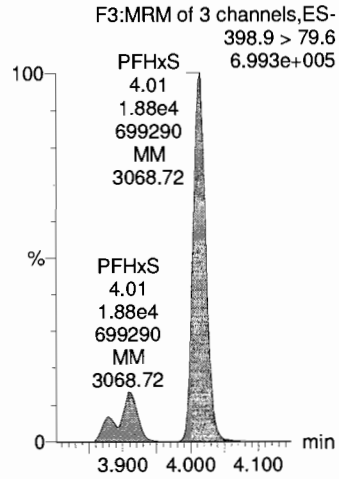

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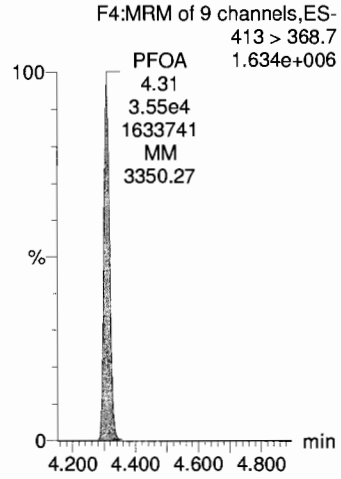

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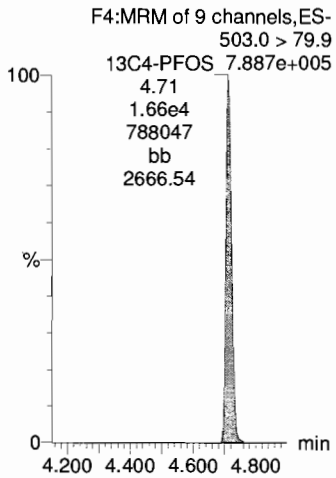

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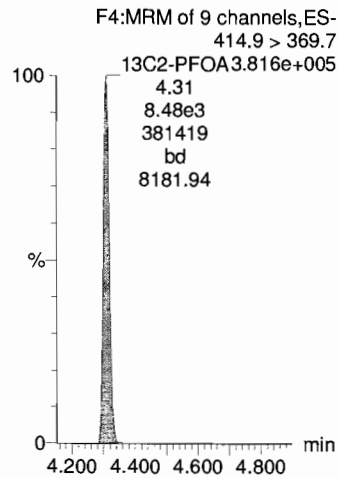

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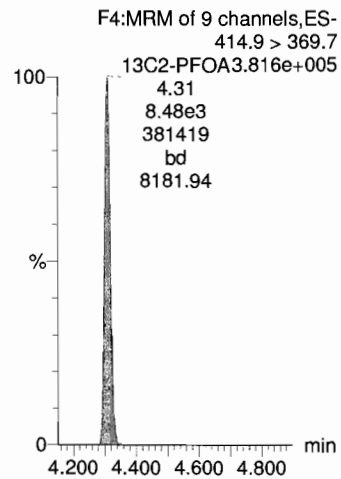

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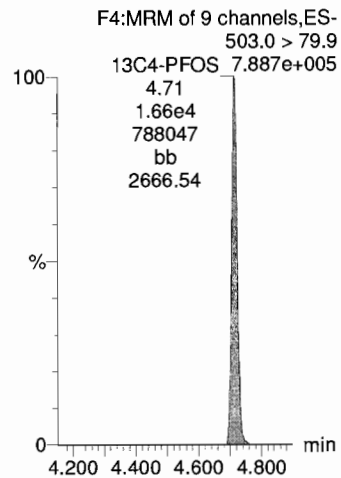

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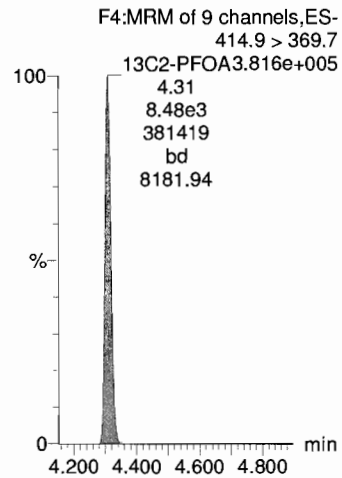

MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_8, Date: 23-Feb-2018, Time: 14:44:25, ID: ST180223G2-7 PFC CS3 537 18B2306, Description: PFC CS3 537 18B2306

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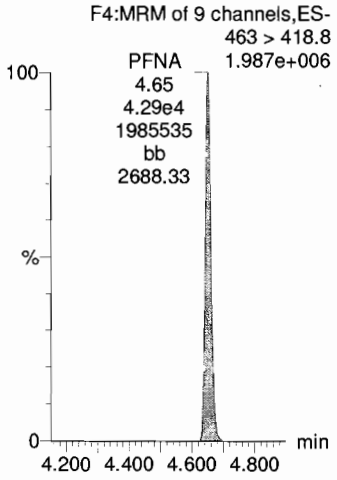
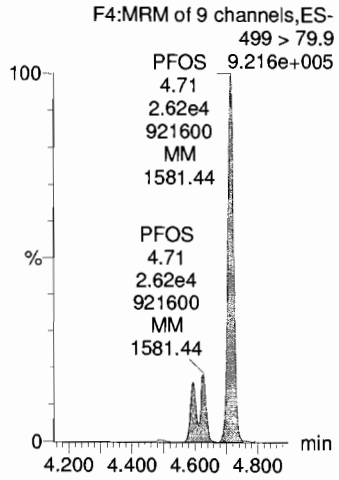


PFOS



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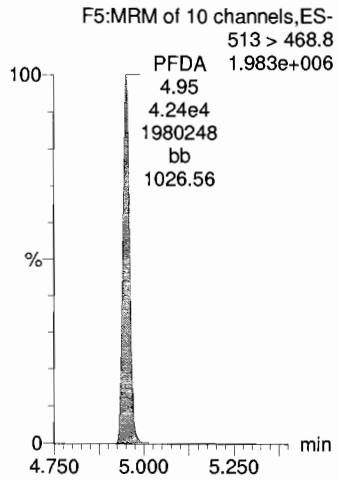

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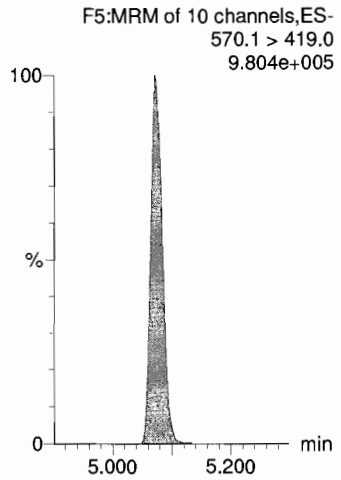

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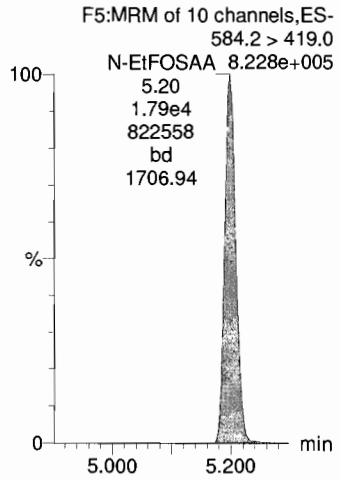

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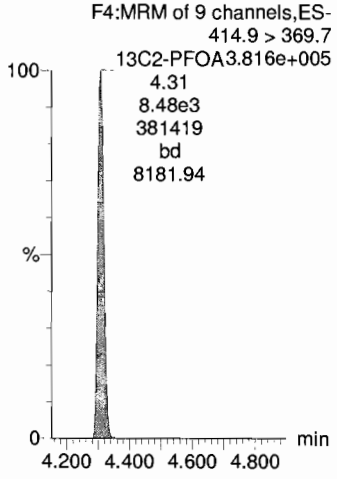

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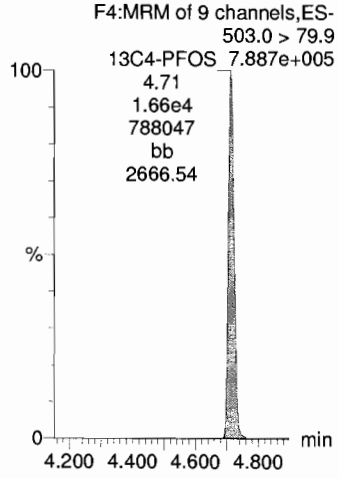

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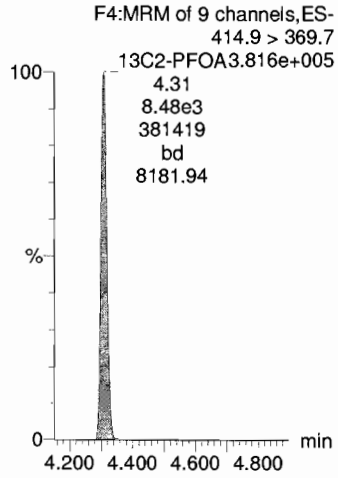

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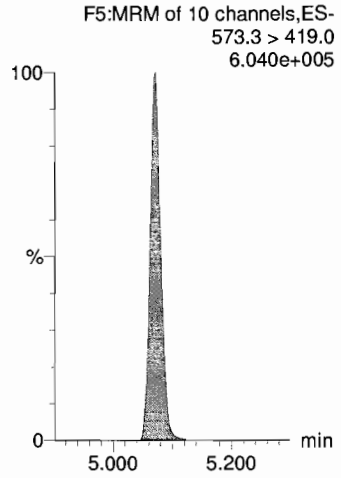

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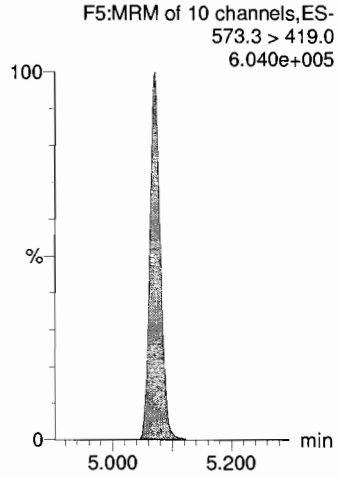

MJT 2/23/2018

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Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_8, Date: 23-Feb-2018, Time: 14:44:25, ID: ST180223G2-7 PFC CS3 537 18B2306, Description: PFC CS3 537 18B2306

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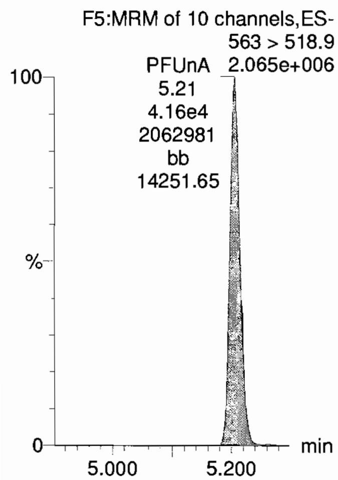

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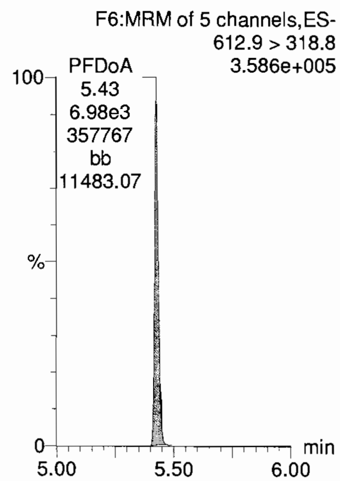

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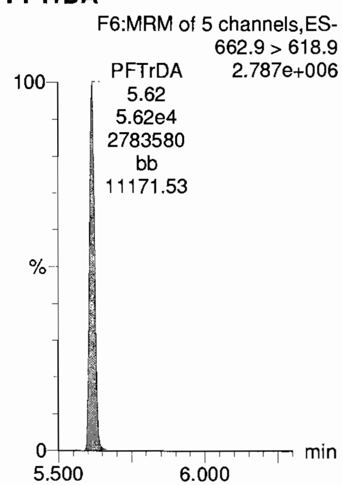

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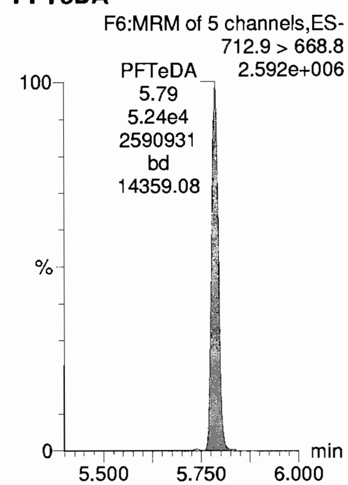

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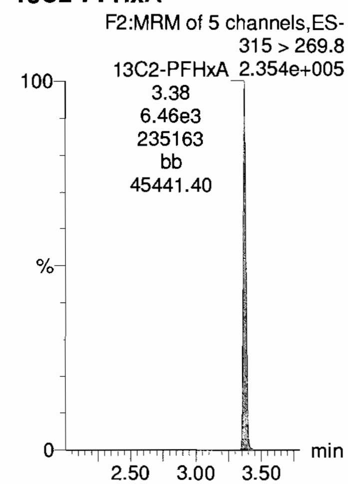

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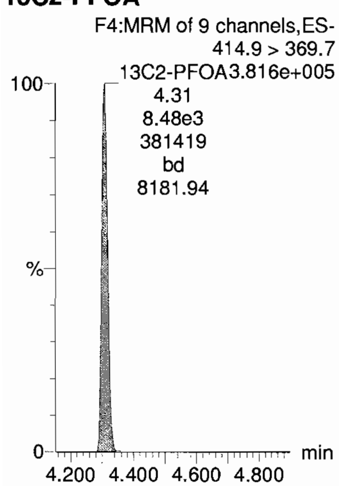

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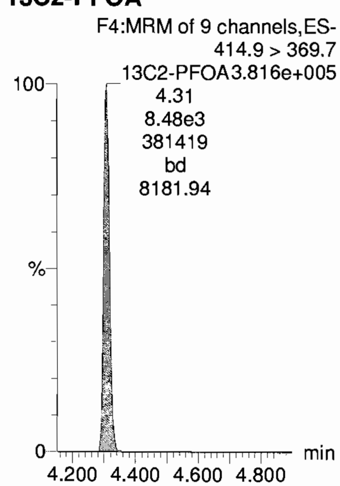

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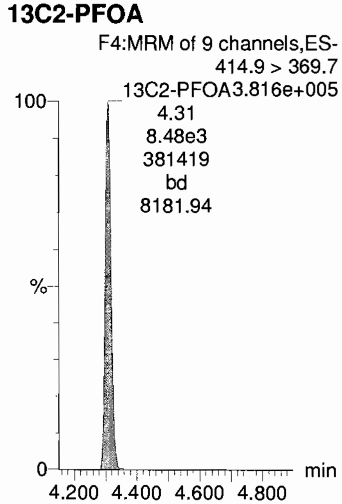

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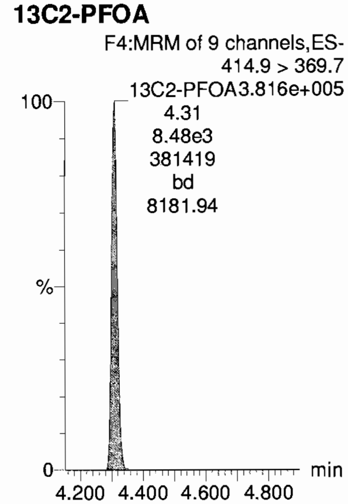

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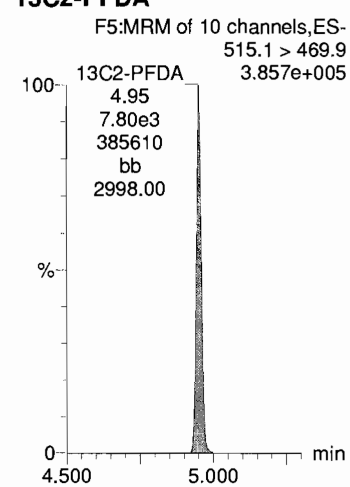

MJT 2/23/2018

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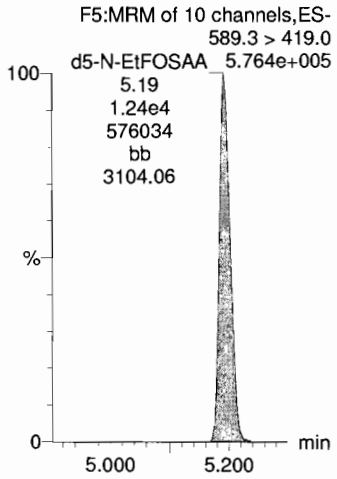
Name: 180223G2_8, Date: 23-Feb-2018, Time: 14:44:25, ID: ST180223G2-7 PFC CS3 537 18B2306, Description: PFC CS3 537 18B2306

d5-N-EtFOSAA



MJT 2/23/2018

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Name: 180223G2_9, Date: 23-Feb-2018, Time: 14:56:52, ID: ST180223G2-8 PFC CS4 537 18B2307, Description: PFC CS4 537 18B2307

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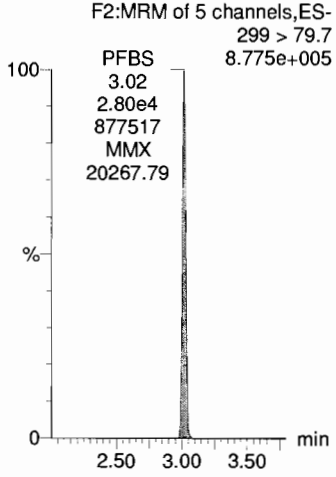

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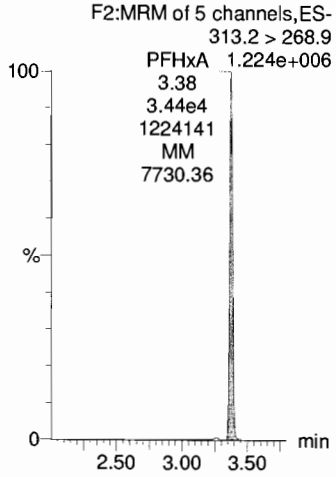

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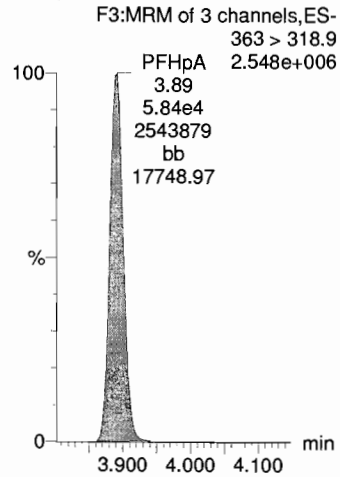

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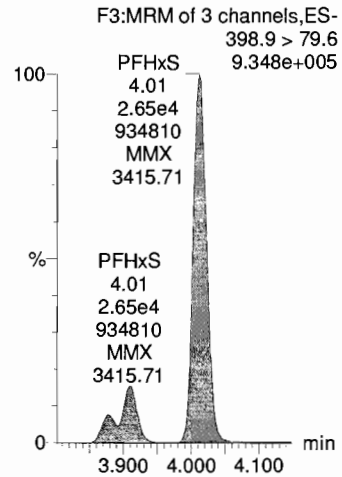
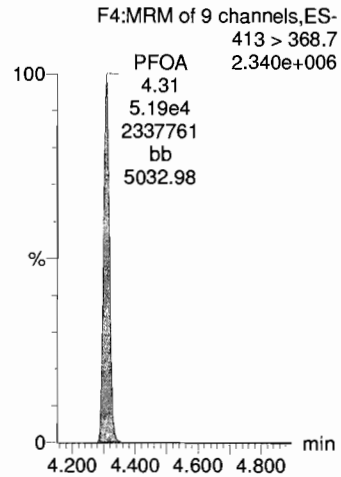


PFOA



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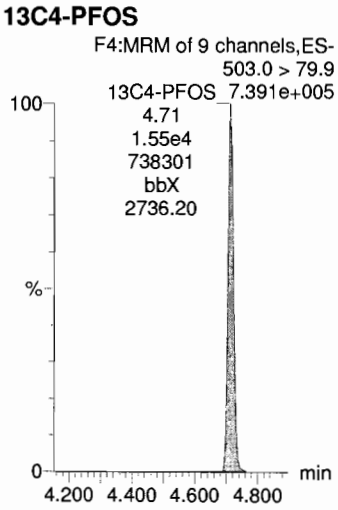

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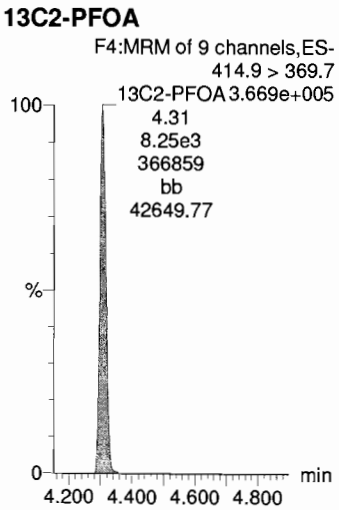

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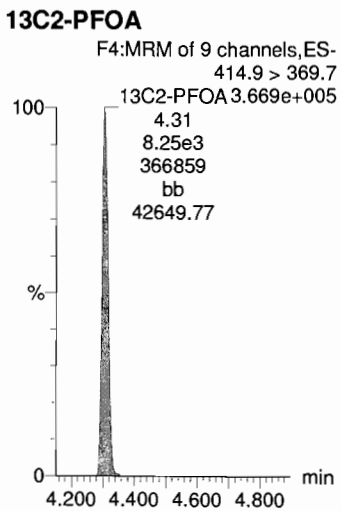

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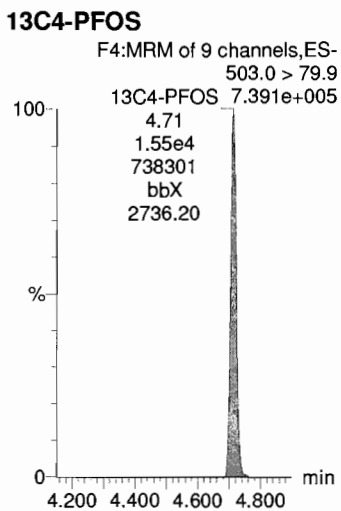

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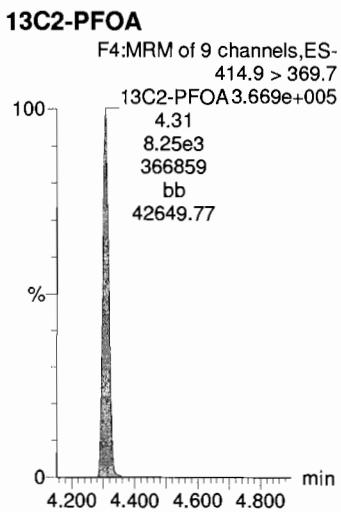

MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_9, Date: 23-Feb-2018, Time: 14:56:52, ID: ST180223G2-8 PFC CS4 537 18B2307, Description: PFC CS4 537 18B2307

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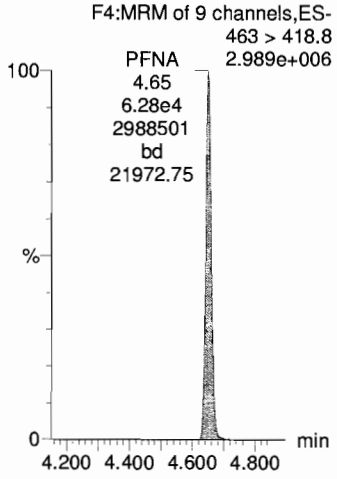

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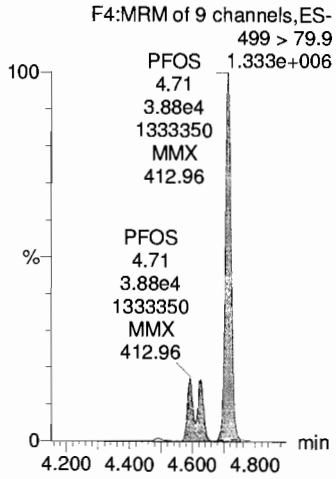

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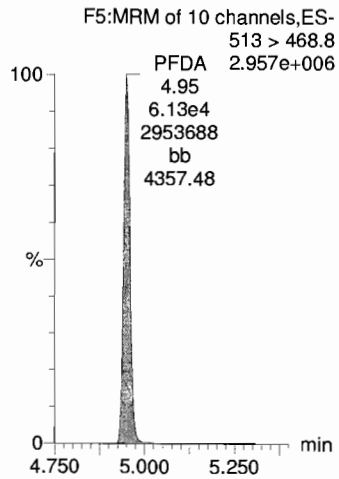

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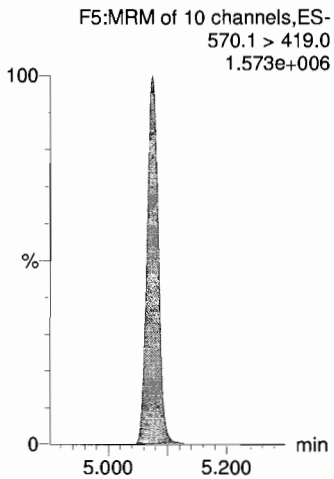

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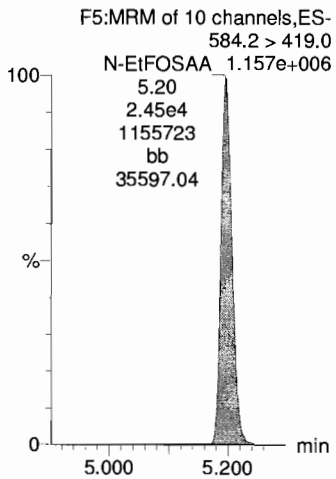

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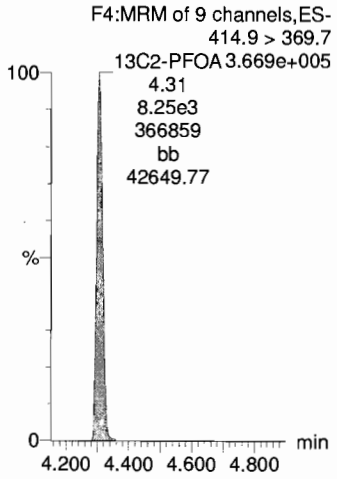

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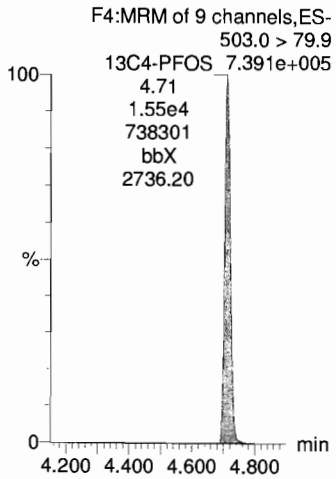

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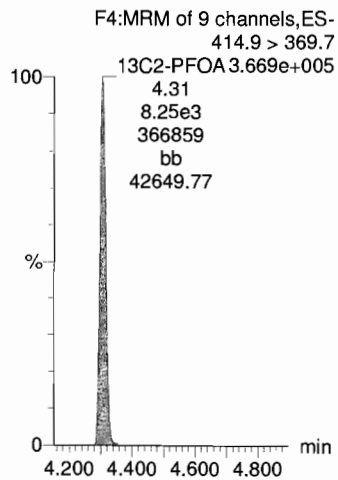
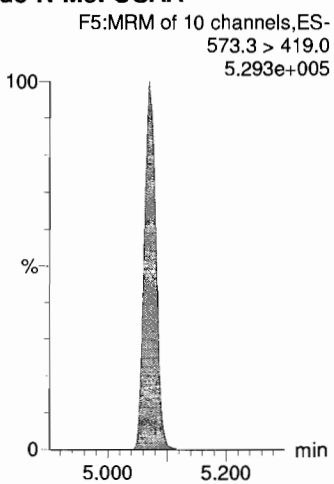
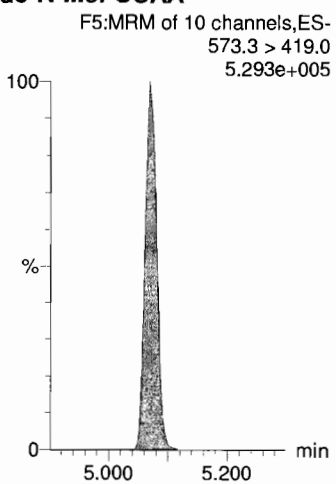


d3-N-MeFOSAA



d3-N-MeFOSAA



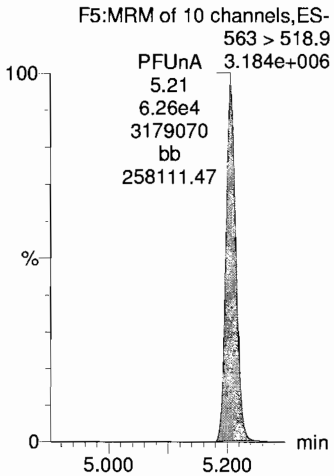
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

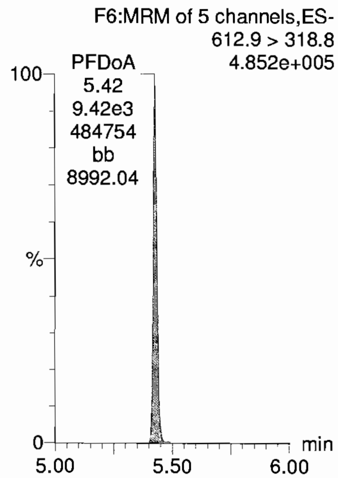
Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_9, Date: 23-Feb-2018, Time: 14:56:52, ID: ST180223G2-8 PFC CS4 537 18B2307, Description: PFC CS4 537 18B2307

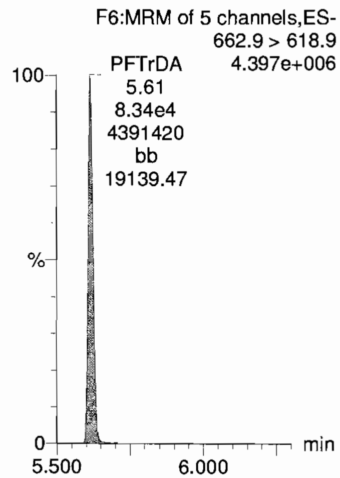
PFUnA



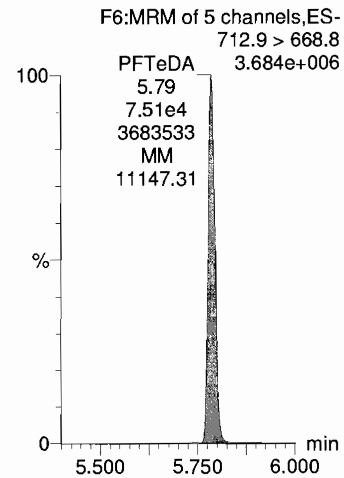
PFDoA



PFTrDA



PFTeDA



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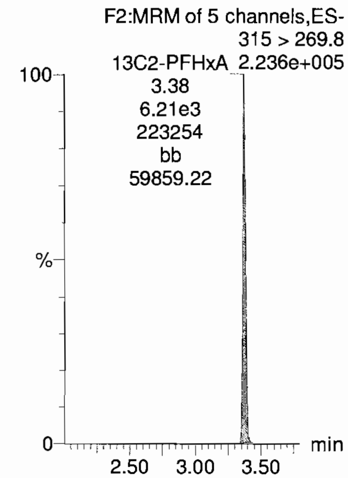

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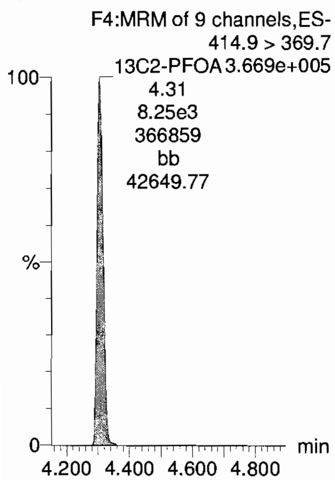

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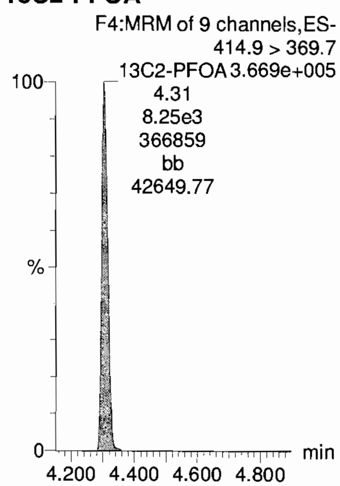

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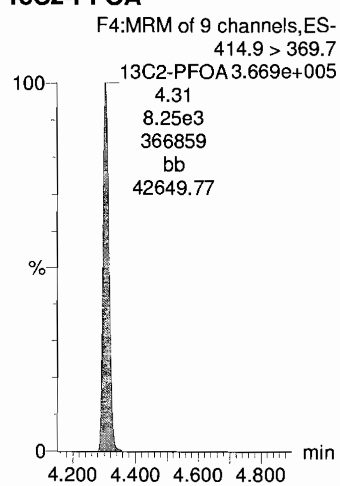

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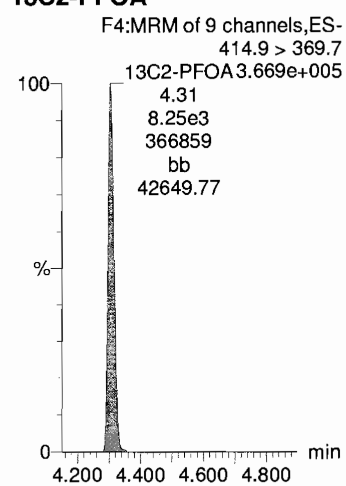
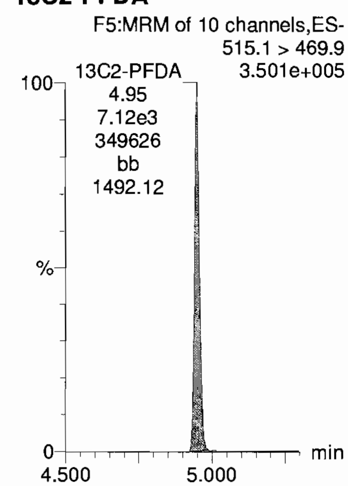


13C2-PFDA



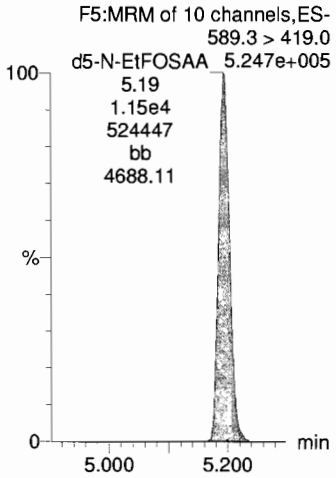
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_9, Date: 23-Feb-2018, Time: 14:56:52, ID: ST180223G2-8 PFC CS4 537 18B2307, Description: PFC CS4 537 18B2307

d5-N-EtFOSAA



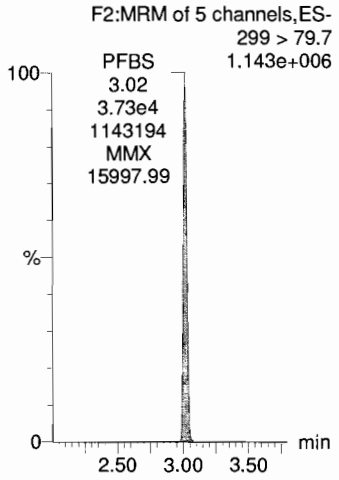
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_10, Date: 23-Feb-2018, Time: 15:09:16, ID: ST180223G2-9 PFC CS5 537 18B2308, Description: PFC CS5 537 18B2308

PFBS



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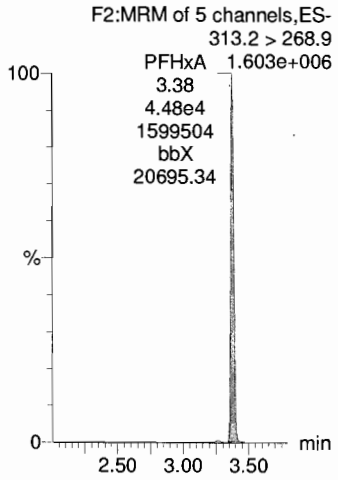

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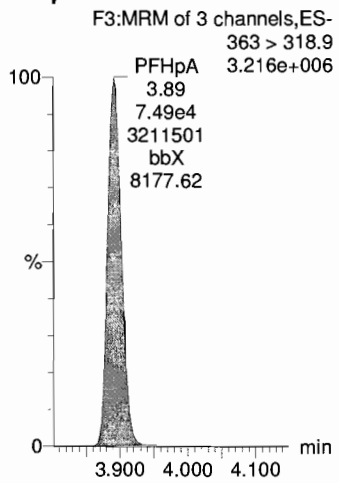
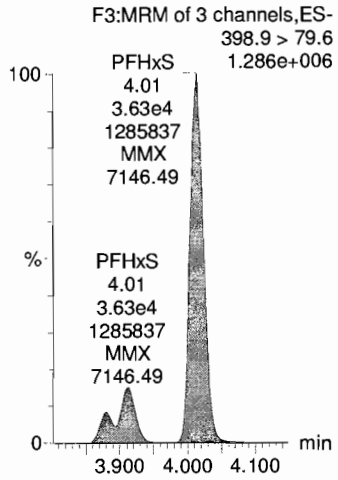
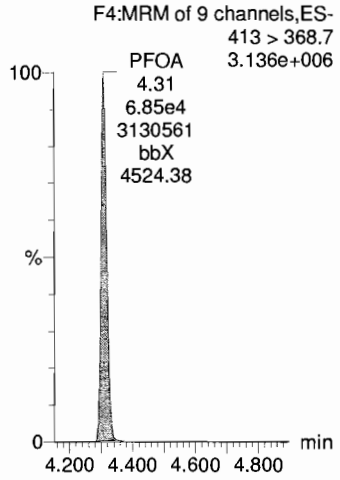


PFHxS



PFOA



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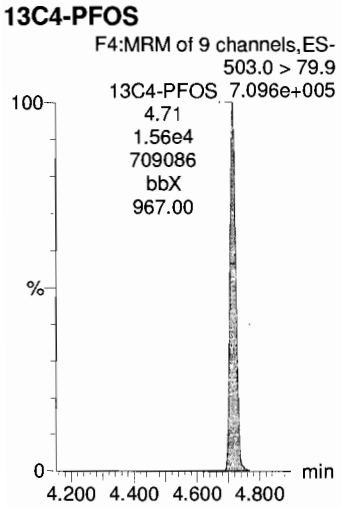

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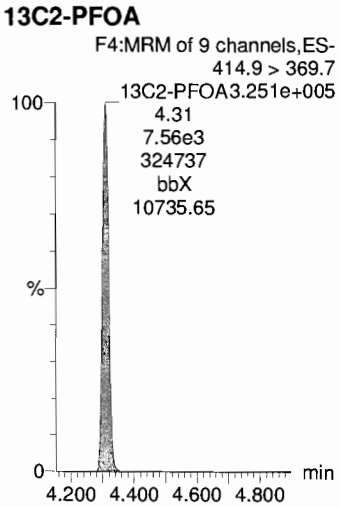

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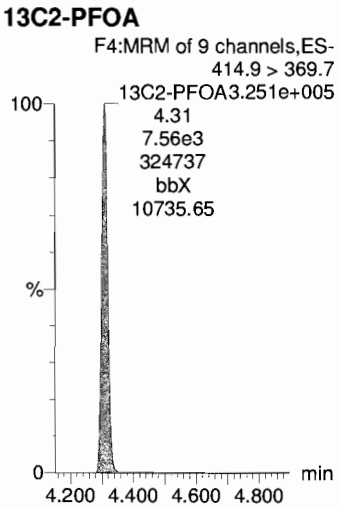

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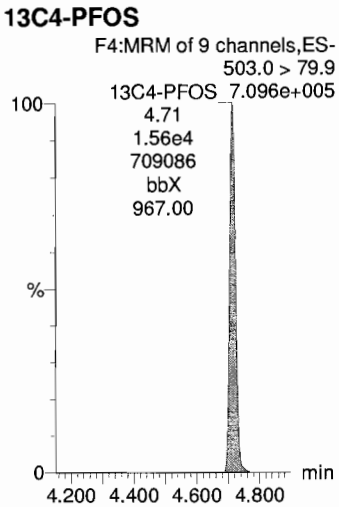

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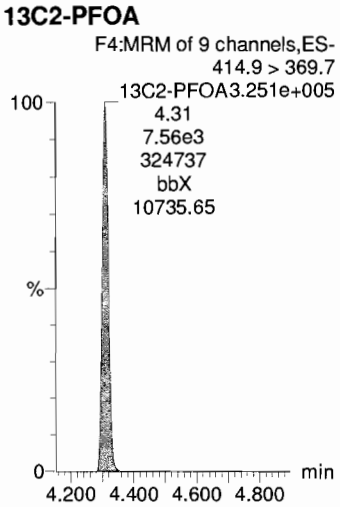


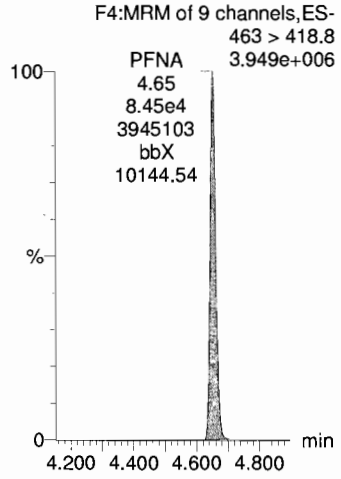
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

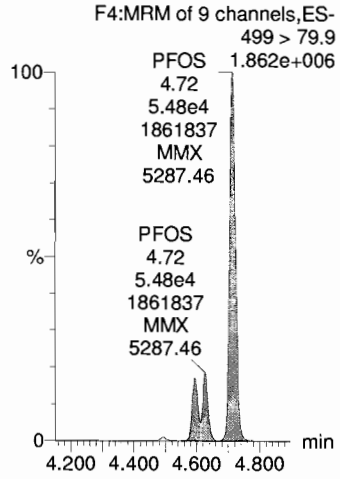
Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_10, Date: 23-Feb-2018, Time: 15:09:16, ID: ST180223G2-9 PFC CS5 537 18B2308, Description: PFC CS5 537 18B2308

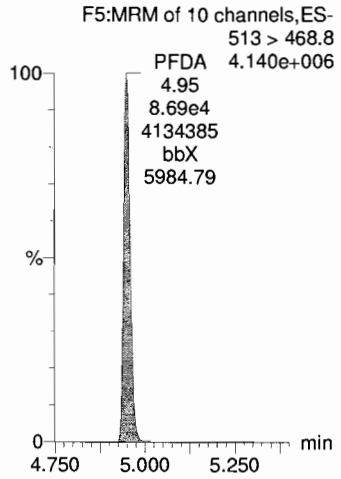
PFNA



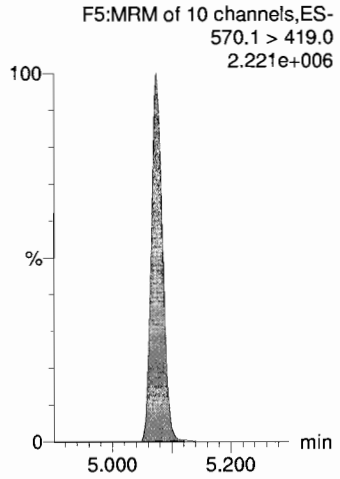
PFOS



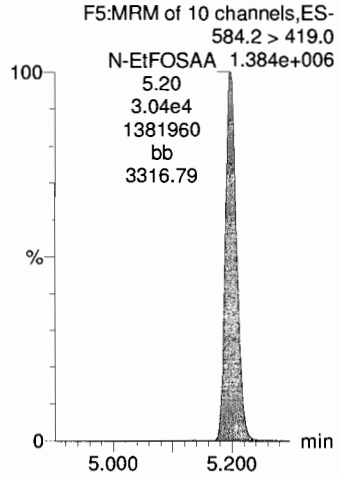
PFDA



N-MeFOSAA



N-EtFOSAA



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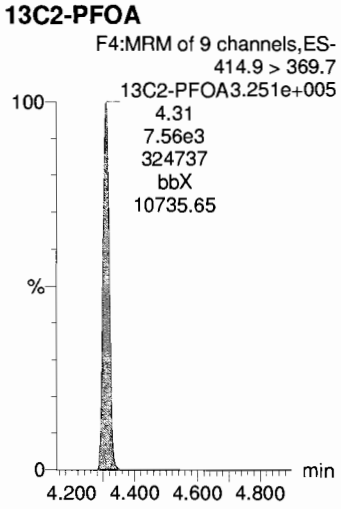

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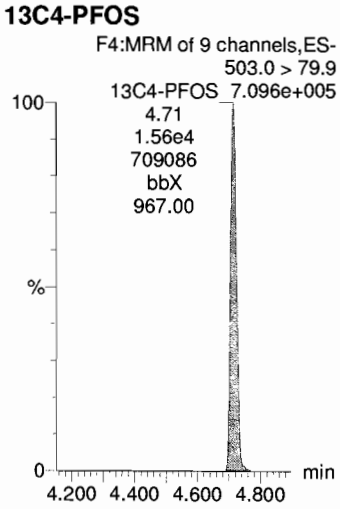

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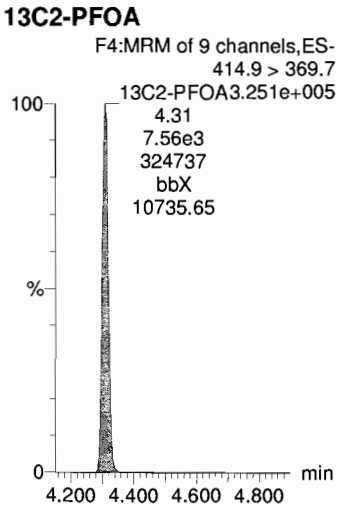
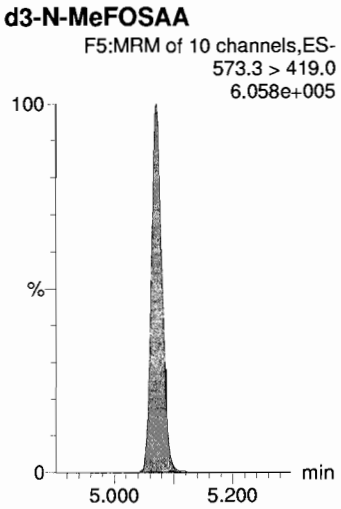


d3-N-MeFOSAA



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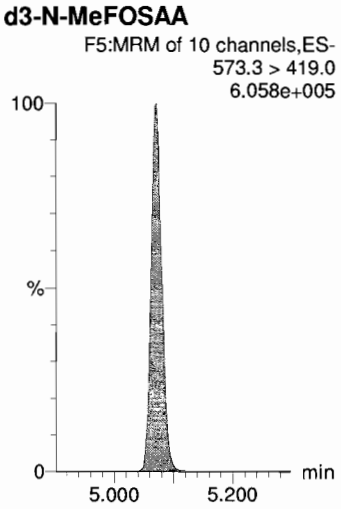


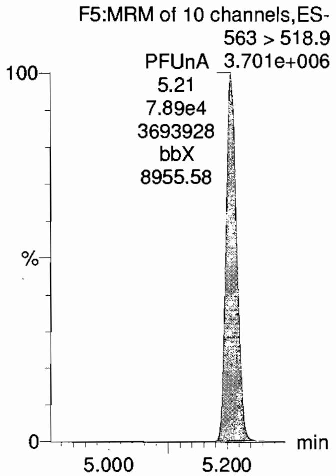
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

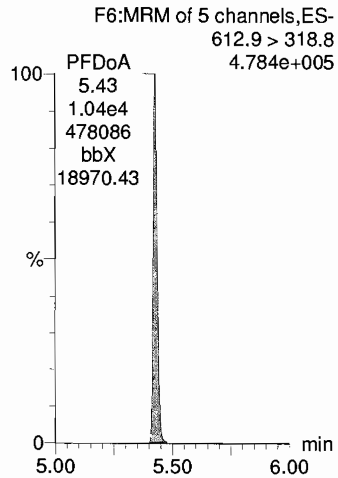
Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_10, Date: 23-Feb-2018, Time: 15:09:16, ID: ST180223G2-9 PFC CS5 537 18B2308, Description: PFC CS5 537 18B2308

PFUnA



PFDoA



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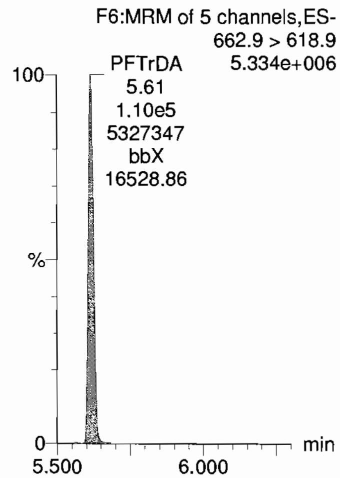
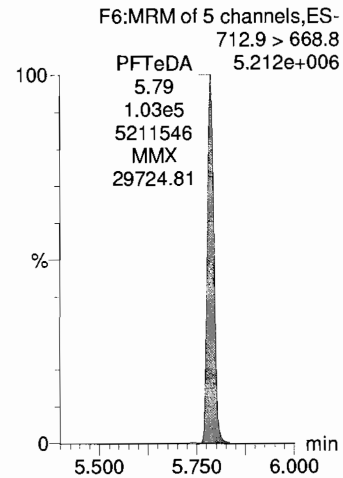


PFTeDA



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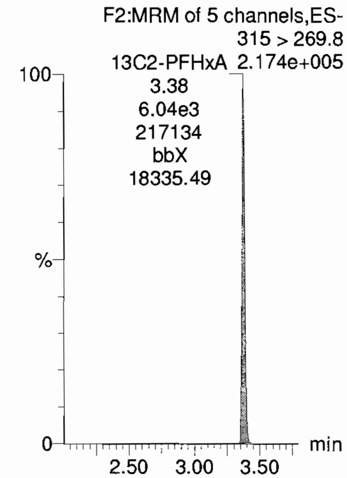

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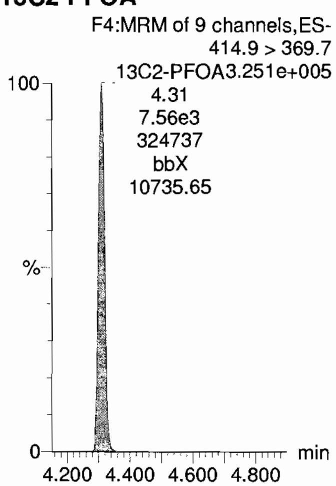

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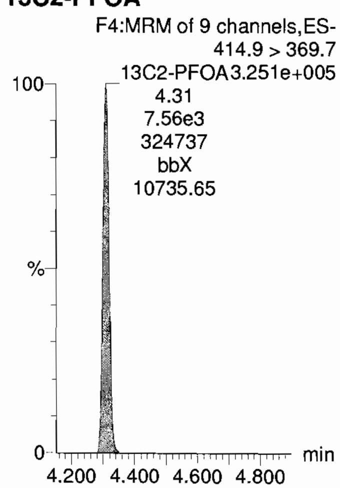

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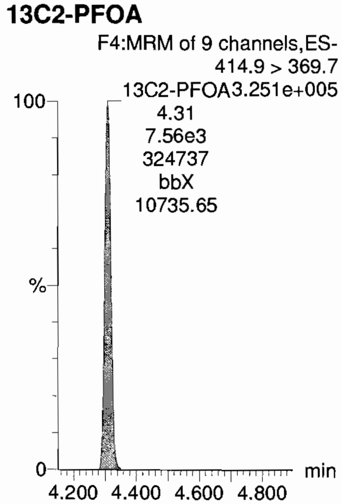

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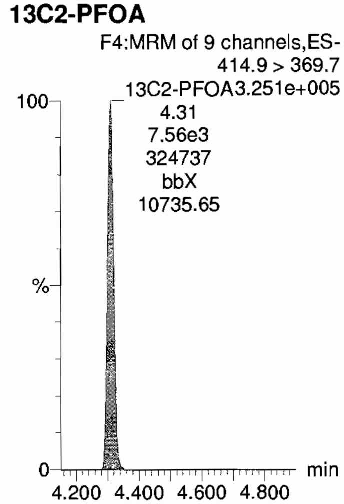

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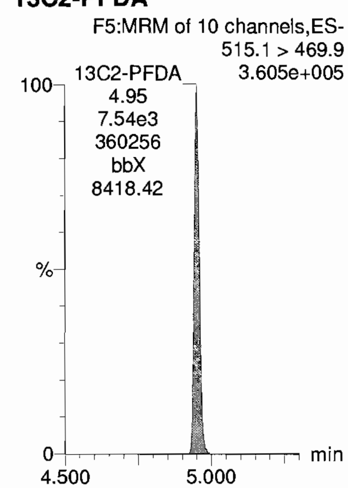


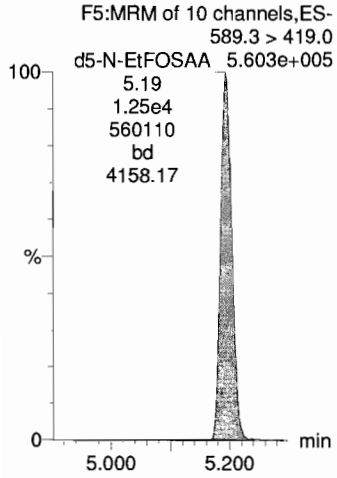
MJT 2/23/2018

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-CRV.qld

Last Altered: Friday, February 23, 2018 17:19:15 Pacific Standard Time
Printed: Friday, February 23, 2018 17:24:39 Pacific Standard Time

Name: 180223G2_10, Date: 23-Feb-2018, Time: 15:09:16, ID: ST180223G2-9 PFC CS5 537 18B2308, Description: PFC CS5 537 18B2308

d5-N-EtFOSAA



MJT 2/23/2018

Vista Analytical Laboratory

Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-12.qld

Last Altered: Friday, February 23, 2018 17:29:48 Pacific Standard Time
Printed: Friday, February 23, 2018 17:30:15 Pacific Standard Time

JA 02/24/2018

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180223G2_12, Date: 23-Feb-2018, Time: 15:34:05, ID: ICV180223G2-1 PFC ICV 537 18B2309, Description: PFC ICV 537 18B2309

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBS	299 > 79.7	4.38e3	1.84e4	1.0000		3.02	3.02	6.82	9.32	93.2
2	2	PFHxA	313.2 > 268.9	5.03e3	8.33e3	1.0000		3.36	3.38	6.03	10.9	109.0
3	3	PFHpA	363 > 318.9	8.62e3	8.33e3	1.0000		3.88	3.89	10.3	11.0	110.1
4	4	PFHxS	398.9 > 79.6	4.37e3	1.84e4	1.0000		4.00	4.01	6.81	9.73	97.3
5	5	PFOA	413 > 368.7	7.32e3	8.33e3	1.0000		4.31	4.31	8.78	10.5	104.8
6	6	PFNA	463 > 418.8	1.03e4	8.33e3	1.0000		4.65	4.65	12.4	12.2	122.2
7	7	PFOS	499 >79.9	6.52e3	1.84e4	1.0000		4.71	4.71	10.2	10.6	105.7
8	8	PFDA	513 > 468.8	9.34e3	8.33e3	1.0000		4.88	4.95	11.2	10.2	102.5
9	9	N-MeFOSAA	570.1 > 419.0	4.31e3	1.17e4	1.0000		5.01	5.08	14.7	11.0	109.9
10	10	N-EtFOSAA	584.2 >419.0	3.95e3	1.17e4	1.0000		5.19	5.20	13.5	12.7	127.3
11	11	PFUnA	563 > 518.9	1.01e4	8.33e3	1.0000		5.14	5.21	12.2	12.1	121.2
12	12	PFDoA	612.9 > 318.8	1.39e3	8.33e3	1.0000		5.34	5.43	1.67	10.5	105.2
13	13	PFTrDA	662.9 > 618.9	1.34e4	8.33e3	1.0000		5.57	5.61	16.0	11.7	116.7
14	14	PFTeDA	712.9 > 668.8	1.13e4	8.33e3	1.0000		5.74	5.78	13.5	10.8	108.4
15	15	13C2-PFHxA	315 > 269.8	6.61e3	8.33e3	1.0000	0.731	3.46	3.38	7.94	10.9	108.5
16	16	13C2-PFDA	515.1 > 469.9	7.73e3	8.33e3	1.0000	0.910	4.91	4.95	9.28	10.2	102.0
17	17	d5-N-EtFOSAA	589.3 > 419.0	1.26e4	1.17e4	1.0000	1.049	5.07	5.19	43.1	41.0	102.6
18	18	13C2-PFOA	414.9 > 369.7	8.33e3	8.33e3	1.0000	1.000	4.41	4.31	10.0	10.0	100.0
19	19	13C4-PFOS	503.0 > 79.9	1.84e4	1.84e4	1.0000	1.000	4.81	4.71	28.7	28.7	100.0
20	20	d3-N-MeFOSAA	573.3 > 419.0	1.17e4	1.17e4	1.0000	1.000	5.16	5.07	40.0	40.0	100.0

MJT 2/23/2018

Vista Analytical Laboratory

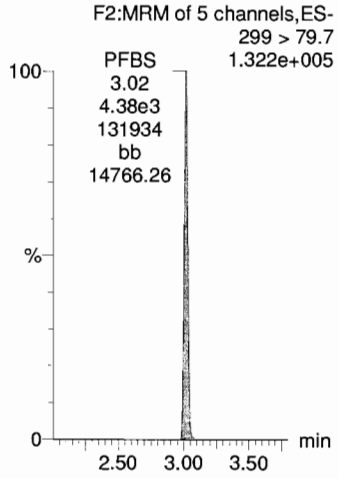
Dataset: X:\G1.PRO\Results\2018\180223G2\180223G2-12.qld

Last Altered: Friday, February 23, 2018 17:29:48 Pacific Standard Time
Printed: Friday, February 23, 2018 17:30:15 Pacific Standard Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_1223.mdb 23 Feb 2018 15:59:15
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_02-23-18_L14.cdb 23 Feb 2018 16:46:11

Name: 180223G2_12, Date: 23-Feb-2018, Time: 15:34:05, ID: ICV180223G2-1 PFC ICV 537 18B2309, Description: PFC ICV 537 18B2309

PFBS



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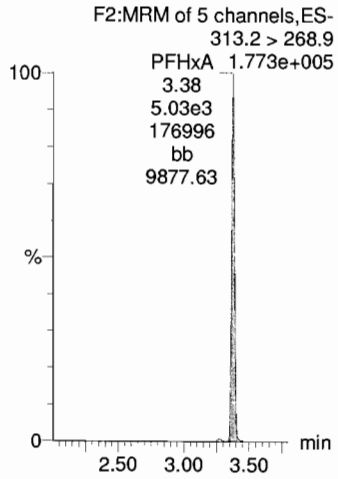

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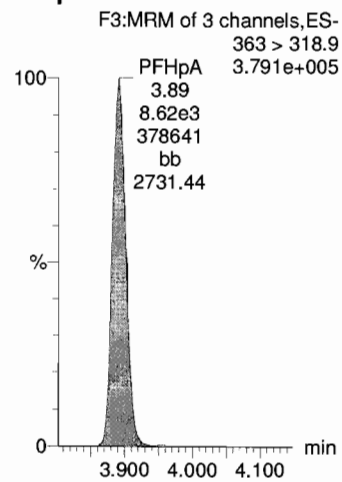

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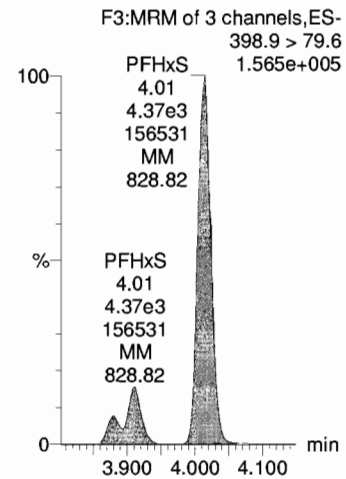

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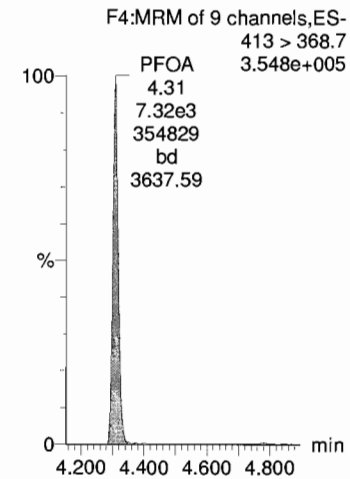

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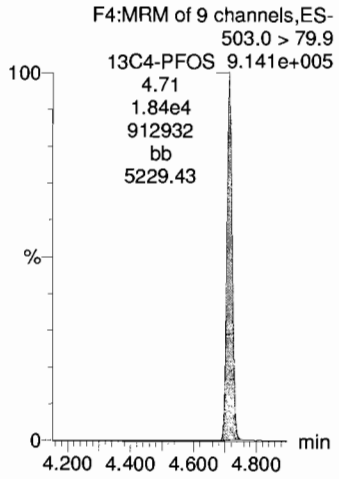

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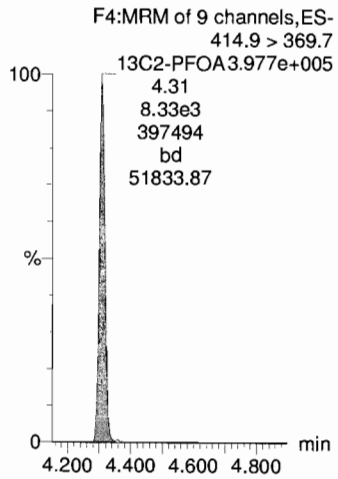

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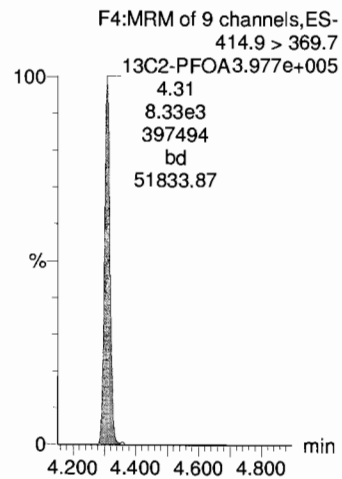

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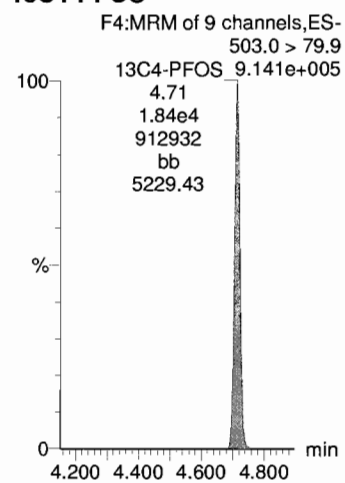

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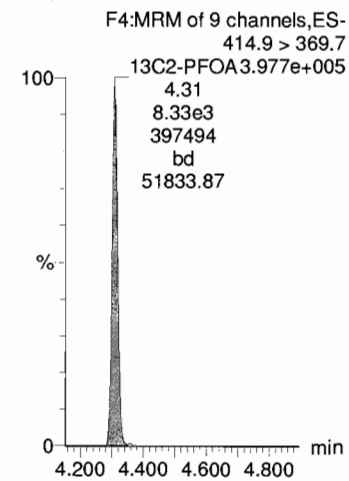

MJT 2/23/2018

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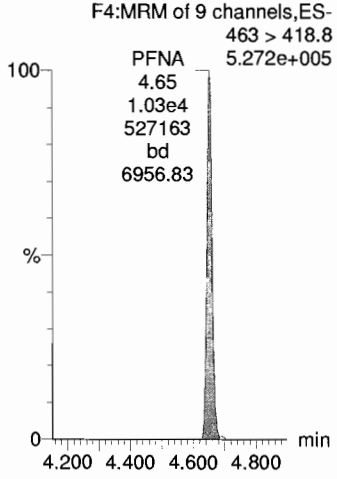

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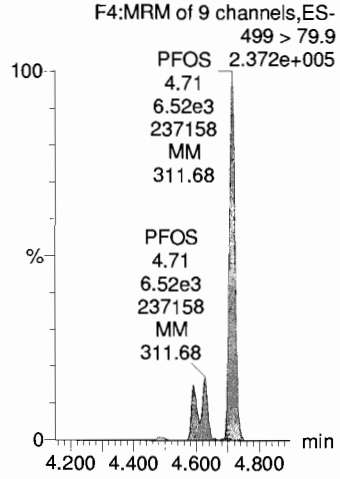

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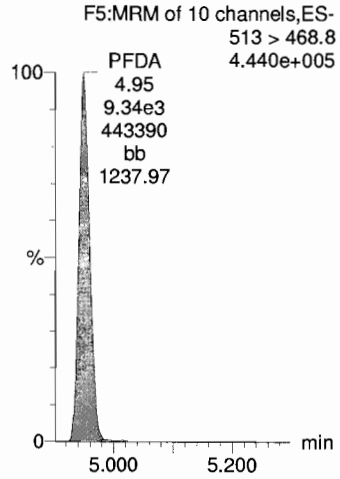

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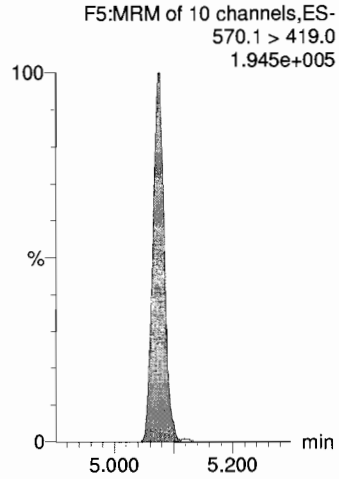

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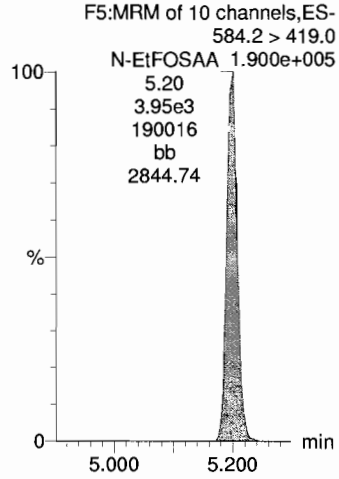

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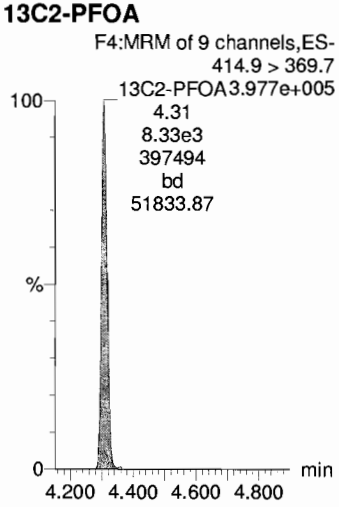

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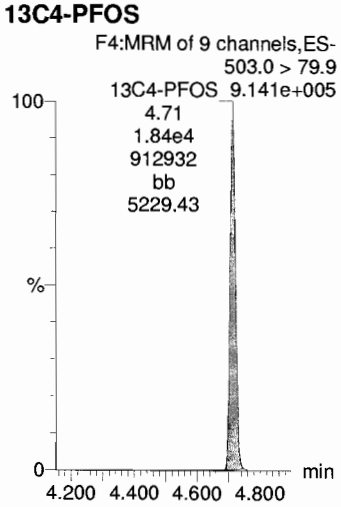

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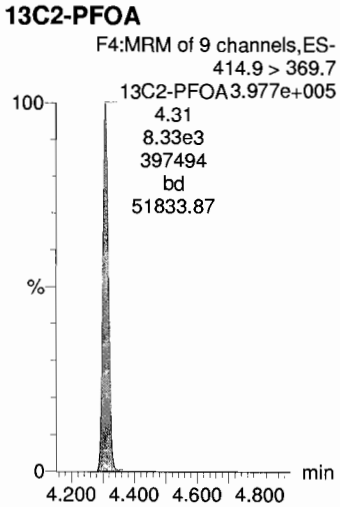

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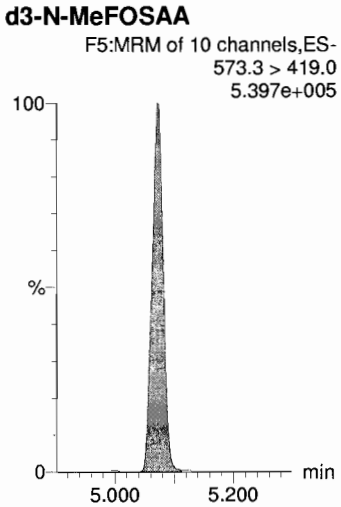

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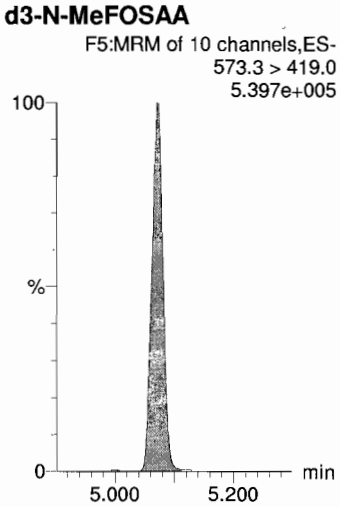

MJT 2/23/2018

Vista Analytical Laboratory

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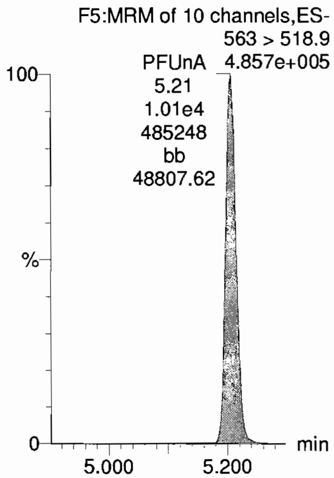

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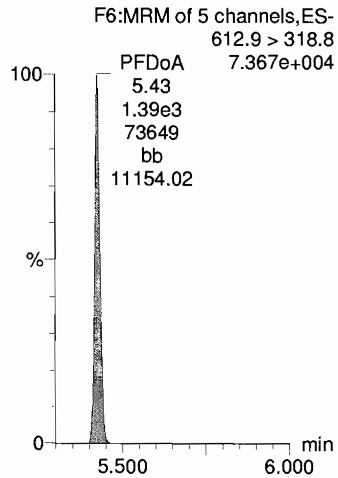

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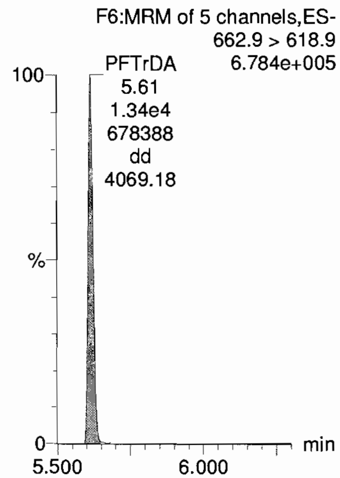

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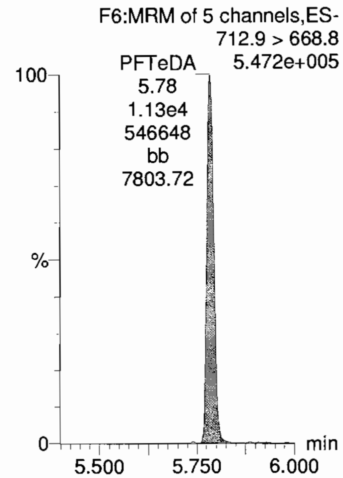

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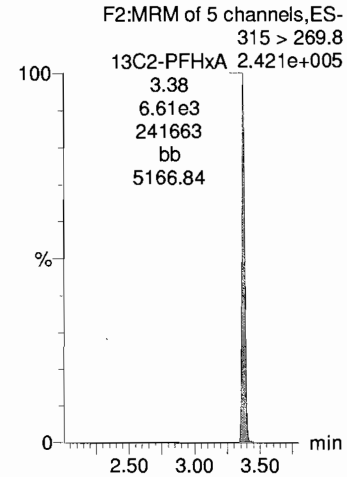

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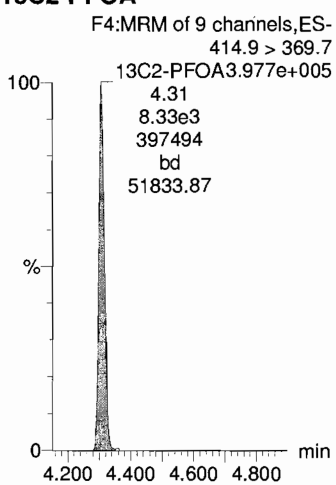

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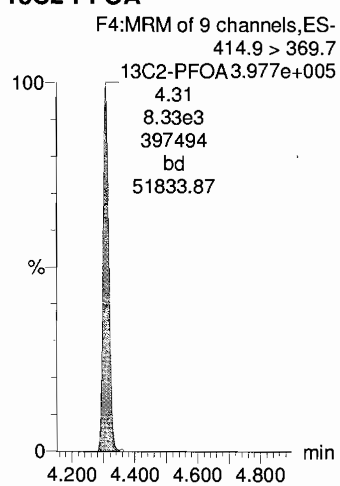

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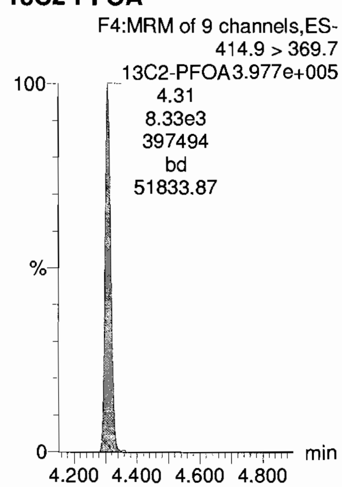

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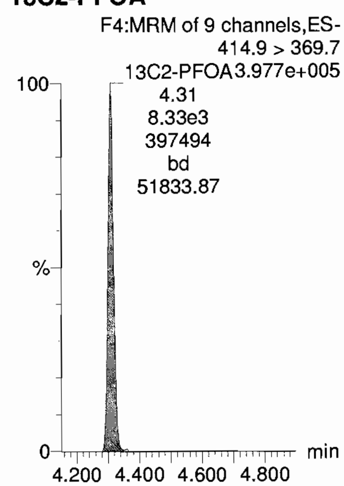

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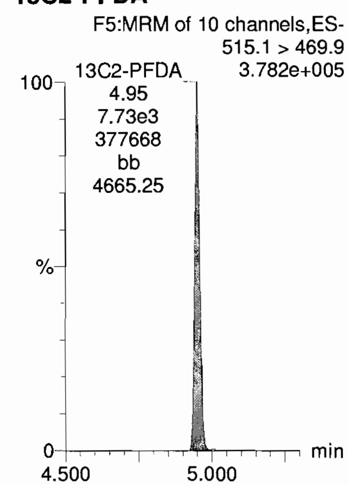

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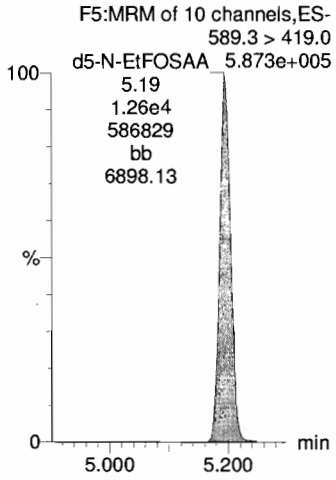

MJT 2/23/2018

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N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB167-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 11:35	02/27/2018			20180301	09:40:00	20180302	21:17:00	1800366-06	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB167-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 11:35	02/27/2018			20180302	09:30:00	20180305	17:32:00	1800366-06	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:39	02/27/2018			20180302	09:30:00	20180305	17:44:00	1800366-07	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:39	02/27/2018			20180301	09:40:00	20180302	21:30:00	1800366-07	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:39	02/27/2018			20180302	09:30:00	20180305	17:44:00	1800366-07	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:39	02/27/2018			20180301	09:40:00	20180302	21:30:00	1800366-07	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:39	02/27/2018			20180302	09:30:00	20180305	17:44:00	1800366-07	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:40	02/27/2018			20180302	09:30:00	20180305	17:57:00	1800366-08	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:40	02/27/2018			20180301	09:40:00	20180302	21:42:00	1800366-08	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:40	02/27/2018			20180302	09:30:00	20180305	17:57:00	1800366-08	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:40	02/27/2018			20180301	09:40:00	20180302	21:42:00	1800366-08	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB168-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/24/2018 12:40	02/27/2018			20180302	09:30:00	20180305	17:57:00	1800366-08	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:05	02/27/2018			20180302	09:30:00	20180305	18:09:00	1800366-09	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:05	02/27/2018			20180301	09:40:00	20180302	21:55:00	1800366-09	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:05	02/27/2018			20180302	09:30:00	20180305	18:09:00	1800366-09	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:05	02/27/2018			20180301	09:40:00	20180302	21:55:00	1800366-09	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:05	02/27/2018			20180302	09:30:00	20180305	18:09:00	1800366-09	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:06	02/27/2018			20180302	09:30:00	20180305	18:21:00	1800366-10	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:06	02/27/2018			20180301	09:40:00	20180302	22:07:00	1800366-10	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:06	02/27/2018			20180302	09:30:00	20180305	18:21:00	1800366-10	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:06	02/27/2018			20180301	09:40:00	20180302	22:07:00	1800366-10	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB169-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/25/2018 13:06	02/27/2018			20180302	09:30:00	20180305	18:21:00	1800366-10	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:11	02/27/2018			20180302	09:30:00	20180305	18:34:00	1800366-11	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:11	02/27/2018			20180301	09:40:00	20180302	22:19:00	1800366-11	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:11	02/27/2018			20180302	09:30:00	20180305	18:34:00	1800366-11	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:11	02/27/2018			20180301	09:40:00	20180302	22:19:00	1800366-11	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1RW170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:11	02/27/2018			20180302	09:30:00	20180305	18:34:00	1800366-11	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:12	02/27/2018			20180302	09:30:00	20180305	18:46:00	1800366-12	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:12	02/27/2018			20180301	09:40:00	20180302	22:32:00	1800366-12	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:12	02/27/2018			20180302	09:30:00	20180305	18:46:00	1800366-12	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:12	02/27/2018			20180301	09:40:00	20180302	22:32:00	1800366-12	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	CH-AT-1FB170-0218	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	REG	W	4	02/26/2018 13:12	02/27/2018			20180302	09:30:00	20180305	18:46:00	1800366-12	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	20:03:00	B8B0169-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	20:03:00	B8B0169-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	20:03:00	B8B0169-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:38:00	B8B0169-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:38:00	B8B0169-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:38:00	B8B0169-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:51:00	B8B0169-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:51:00	B8B0169-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/01/2018 09:40	03/01/2018			20180301	09:40:00	20180302	19:51:00	B8B0169-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	15:53:00	B8C0015-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	15:53:00	B8C0015-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	15:53:00	B8C0015-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	Blank	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BLK	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	15:53:00	B8C0015-BLK1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:05:00	B8C0015-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:05:00	B8C0015-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:05:00	B8C0015-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:05:00	B8C0015-BS1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:17:00	B8C0015-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:17:00	B8C0015-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:17:00	B8C0015-BSD1	1	-999		
N6247016D9000	0008		CHERRY_POINT_MCAS	LCS Dup	NONS	SVOA	537	ORG	VISTA	VISTA ANALYTICAL LABORATORY, INC.	NONE	WET	METHOD	000	BS	W	4	03/02/2018 09:30	03/02/2018			20180302	09:30:00	20180305	16:17:00	B8C0015-BSD1	1	-999		

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.90	NG_L	U		PR	TRG									5.1	0.434	4.90	9.80	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.10	NG_L	U		PR	TRG									5.1	1.10	5.10	10.2	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.90	NG_L	U		PR	TRG									5.1	1.02	4.90	9.80	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		105	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		93.0	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.90	NG_L	U		PR	TRG									5.1	0.434	4.90	9.79	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		4.92	NG_L	U		PR	TRG									5.1	1.06	4.92	9.84	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.90	NG_L	U		PR	TRG									5.1	1.02	4.90	9.79	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		98.3	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		91.4	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.04	NG_L	U		PR	TRG									5.1	0.447	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.10	NG_L	U		PR	TRG									5.1	1.10	5.10	10.2	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.04	NG_L	U		PR	TRG									5.1	1.05	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		101	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		84.0	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.98	NG_L	U		PR	TRG									5.1	0.441	4.98	9.95	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		4.90	NG_L	U		PR	TRG									5.1	1.06	4.90	9.82	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.98	NG_L	U		PR	TRG									5.1	1.04	4.98	9.95	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		102	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		102	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		4.96	NG_L	U		PR	TRG									5.1	0.440	4.96	9.93	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.04	NG_L	U		PR	TRG									5.1	1.09	5.04	10.1	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		4.96	NG_L	U		PR	TRG									5.1	1.03	4.96	9.93	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		98.8	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		84.1	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.06	NG_L	U		PR	TRG									5.1	0.448	5.06	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.34	NG_L	U		PR	TRG									5.1	1.15	5.34	10.7	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.06	NG_L	U		PR	TRG									5.1	1.05	5.06	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		86.7	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		97.1	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.04	NG_L	U		PR	TRG									5.1	0.447	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.06	NG_L	U		PR	TRG									5.1	1.09	5.06	10.1	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.04	NG_L	U		PR	TRG									5.1	1.05	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		101	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		87.9	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.25	NG_L	U		PR	TRG									5.1	0.465	5.25	10.5	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		4.98	NG_L	U		PR	TRG									5.1	1.08	4.98	9.98	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.25	NG_L	U		PR	TRG									5.1	1.09	5.25	10.5	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		94.5	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		88.9	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.06	NG_L	U		PR	TRG									5.1	0.448	5.06	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.00	NG_L	U		PR	TRG									5.1	1.08	5.00	9.99	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.06	NG_L	U		PR	TRG									5.1	1.05	5.06	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		103	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		76.0	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.08	NG_L	U		PR	TRG									5.1	0.450	5.08	10.2	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.02	NG_L	U		PR	TRG									5.1	1.08	5.02	10.0	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.08	NG_L	U		PR	TRG									5.1	1.06	5.08	10.2	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		81.2	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		92.7	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.30	NG_L	U		PR	TRG									5.1	0.470	5.30	10.6	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.00	NG_L	U		PR	TRG									5.1	1.08	5.00	10.0	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.30	NG_L	U		PR	TRG									5.1	1.10	5.30	10.6	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		102	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		91.4	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.04	NG_L	U		PR	TRG									5.1	0.447	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		4.96	NG_L	U		PR	TRG									5.1	1.07	4.96	9.90	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.04	NG_L	U		PR	TRG									5.1	1.05	5.04	10.1	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		88.9	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		85.1	PCT_REC			PR			SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		5.00	NG_L	U		PR	TRG									5.1	1.08	5.00	10.0	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		94.3	PCT_REC			PR	SUR		SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		76.9	PCT_REC			PR	SUR		SLSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		24.6	NG_L			PR	TRG		LSA	130	70					5.1	1.08	5.00	10.0	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		119	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		88.5	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctanoic acid (PFOA)	335-67-1		20.0	NG_L			PR	TRG		LSA	130	70					5.1	1.08	5.00	10.0	1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		103	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		88.0	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0006
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		5.00	NG_L	U		PR	TRG									5.1	0.443	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		5.00	NG_L	U		PR	TRG									5.1	1.04	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		98.8	PCT_REC			PR	SUR		SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		105	PCT_REC			PR	SUR		SLSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		41.3	NG_L			PR	TRG		LSA	130	70					5.1	0.443	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		40.3	NG_L			PR	TRG		LSA	130	70					5.1	1.04	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		88.3	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		95.9	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorobutanesulfonic acid (PFBS)	375-73-5		41.7	NG_L			PR	TRG		LSA	130	70					5.1	0.443	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	Perfluorooctane Sulfonate (PFOS)	1763-23-1		40.2	NG_L			PR	TRG		LSA	130	70					5.1	1.04	5.00	10.0	1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFHxA	13C2-PFHxA		92.4	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0011
N6247016D9000	0008		CHERRY_POINT_MCAS	13C2-PFDA	13C2-PFDA		108	PCT_REC			PR	SUR		LSA	130	70					5.1				1800366	S8C0011

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
MCOLF ATLANTC, NORTH CAROLINA

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 1800366
Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
Site: MCOLF Atlantic, North Carolina
Date: March 12, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CH-AT-1RW165-0218	1800366-1	Water
2	CH-AT-1FB165-0218	1800366-2	Water
3	CH-AT-1RW166-0218	1800366-3	Water
4	CH-AT-1FB166-0218	1800366-4	Water
5	CH-AT-1RW167-0218	1800366-5	Water
6	CH-AT-1FB167-0218	1800366-6	Water
7	CH-AT-1RW168-0218	1800366-7	Water
8	CH-AT-1FB168-0218	1800366-8	Water
9	CH-AT-1RW169-0218	1800366-9	Water
10	CH-AT-1FB169-0218	1800366-10	Water
11	CH-AT-1RW170-0218	1800366-11	Water
12	CH-AT-1FB170-0218	1800366-12	Water

A full data validation was performed on the analytical data for six water samples and six aqueous field blank samples collected on February 24-26, 2018 by CH2M HILL at the MCOLF Atlantic site in Atlantic, North Carolina. 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

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

- The USEPA "Contract Laboratories Program National Functional Guidelines for 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
CH-AT-1FB165-0218	None - ND	-	-	-
CH-AT-1FB166-0218	None - ND	-	-	-
CH-AT-1FB167-0218	None - ND	-	-	-
CH-AT-1FB168-0218	None - ND	-	-	-
CH-AT-1FB169-0218	None - ND	-	-	-
CH-AT-1FB170-0218	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

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

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: 3/13/18

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: CH-AT-1RW165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:09

Laboratory Data

Lab Sample: 1800366-01
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
PFOS	ND	1.02	4.90	9.80		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	105	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:16	1
13C2-PFDA	SURR	93.0	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:30	1

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

NW 3/12/18

Vista Analytical Laboratory 2

Sample ID: CH-AT-1FB165-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:10

Laboratory Data

Lab Sample: 1800366-02
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.434	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1
PFOA	ND	1.06	4.92	9.84		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
PFOS	ND	1.02	4.90	9.79		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.3	70 - 130		B8B0169	01-Mar-18	0.254 L	02-Mar-18 20:28	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.255 L	05-Mar-18 16:42	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.

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

NW 3/1/18

Vista Analytical Laboratory 3

Sample ID: CH-AT-1RW166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 09:59

Laboratory Data

Lab Sample: 1800366-03
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1
PFOA	ND	1.10	5.10	10.2		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.245 L	02-Mar-18 20:40	1
13C2-PFDA	SURR	84.0	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 16:55	1

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

NW 3/2/18

Vista Analytical Laboratory 4

Sample ID: CH-AT-1FB166-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 10:00

Laboratory Data

Lab Sample: 1800366-04
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.441	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1
PFOA	ND	1.06	4.90	9.82		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
PFOS	ND	1.04	4.98	9.95		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.255 L	02-Mar-18 20:53	1
13C2-PFDA	SURR	102	70 - 130		B8C0015	02-Mar-18	0.251 L	05-Mar-18 17:07	1

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

rev 3/12/18

Vista Analytical Laboratory 5

Sample ID: CH-AT-1RW167-0218 **EPA Method 537**

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800366-05	Column:	BEH C18
Project:	CTO-08, MCOLF Atlantic PFAS DW Investigation	Date Collected:	24-Feb-18 11:34	Date Received:	27-Feb-18 09:40		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.440	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1
PFOA	ND	1.09	5.04	10.1		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
PFOS	ND	1.03	4.96	9.93		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.8	70 - 130		B8B0169	01-Mar-18	0.248 L	02-Mar-18 21:05	1
13C2-PFDA	SURR	84.1	70 - 130		B8C0015	02-Mar-18	0.252 L	05-Mar-18 17:19	1

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

NW 3/12/18

Vista 6
Analytical Laboratory

Sample ID: CH-AT-1FB167-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 24-Feb-18 11:35

Laboratory Data

Lab Sample: 1800366-06
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1
PFOA	ND	1.15	5.34	10.7		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	86.7	70 - 130		B8B0169	01-Mar-18	0.234 L	02-Mar-18 21:17	1
13C2-PFDA	SURR	97.1	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 17:32	1

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

MW 3/1/18

Sample ID: CH-AT-1RW168-0218

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800366-07	Column:	BEH C18
Project:	CTO-08, MCOLF Atlantic PFAS DW Investigation	Date Collected:	24-Feb-18 12:39	Date Received:	27-Feb-18 09:40		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1
PFOA	ND	1.09	5.06	10.1		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	101	70 - 130		B8B0169	01-Mar-18	0.247 L	02-Mar-18 21:30	1
13C2-PFDA	SURR	87.9	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 17:44	1

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

NW 3/12/18

Sample ID: CH-AT-1FB168-0218

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800366-08	Column:	BEH C18
Project:	CTO-08, MCOLF Atlantic PFAS DW Investigation	Date Collected:	24-Feb-18 12:40	Date Received:	27-Feb-18 09:40		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.465	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1
PFOA	ND	1.08	4.98	9.98		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
PFOS	ND	1.09	5.25	10.5		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.5	70 - 130		B8B0169	01-Mar-18	0.251 L	02-Mar-18 21:42	1
13C2-PFDA	SURR	88.9	70 - 130		B8C0015	02-Mar-18	0.238 L	05-Mar-18 17:57	1

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

mw 3/12/18

Vista Analytical Laboratory 9

Sample ID: CH-AT-1RW169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:05

Laboratory Data

Lab Sample: 1800366-09
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.448	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1
PFOA	ND	1.08	5.00	9.99		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
PFOS	ND	1.05	5.06	10.1		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 21:55	1
13C2-PFDA	SURR	76.0	70 - 130		B8C0015	02-Mar-18	0.247 L	05-Mar-18 18:09	1

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

MW 3/12/18

Vista Analytical Laboratory 10

Sample ID: CH-AT-1FB169-0218

EPA Method 537

Client Data

Name: CH2M Hill
Project: CTO-08, MCOLF Atlantic PFAS DW Investigation
Matrix: Drinking Water
Date Collected: 25-Feb-18 13:06

Laboratory Data

Lab Sample: 1800366-10
Date Received: 27-Feb-18 09:40
Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.450	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1
PFOA	ND	1.08	5.02	10.0		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
PFOS	ND	1.06	5.08	10.2		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	81.2	70 - 130		B8B0169	01-Mar-18	0.249 L	02-Mar-18 22:07	1
13C2-PFDA	SURR	92.7	70 - 130		B8C0015	02-Mar-18	0.246 L	05-Mar-18 18:21	1

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

nw 3/2/18

Sample ID: CH-AT-1RW170-0218 **EPA Method 537**

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800366-11	Column:	BEH C18
Project:	CTO-08, MCOLF Atlantic PFAS DW Investigation	Date Collected:	26-Feb-18 13:11	Date Received:	27-Feb-18 09:40		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.470	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1
PFOA	ND	1.08	5.00	10.0		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
PFOS	ND	1.10	5.30	10.6		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8B0169	01-Mar-18	0.250 L	02-Mar-18 22:19	1
13C2-PFDA	SURR	91.4	70 - 130		B8C0015	02-Mar-18	0.236 L	05-Mar-18 18:34	1

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

Rev 31.2/18

Vista Analytical Laboratory 12

Sample ID: CH-AT-1FB170-0218 **EPA Method 537**

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800366-12	Column:	BEH C18
Project:	CTO-08. MCOLF Atlantic PFAS DW Investigation	Date Collected:	26-Feb-18 13:12	Date Received:	27-Feb-18 09:40		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.447	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1
PFOA	ND	1.07	4.96	9.90		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
PFOS	ND	1.05	5.04	10.1		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	88.9	70 - 130		B8B0169	01-Mar-18	0.252 L	02-Mar-18 22:32	1
13C2-PFDA	SURR	85.1	70 - 130		B8C0015	02-Mar-18	0.248 L	05-Mar-18 18:46	1

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

nw 3/12/18

R:\N\Navy\CLEAN\MULTI_REGION\PFC_679580\MapFiles\ML\CherryPoint_MCAS\OLF Atlantic Working - 2.mxd4/25/2017bmailhes

Legend

- Proposed Sample Location
- Public Water Supply Well
- Direction of Groundwater Flow
- MCOLF Atlantic - 1-mile zone
- Base Boundary
- Site Boundary (suspected source)
- Parcels

N

0 0.2 0.4 Miles

1 inch = 0.4 mile

Imagery: Esri, 2016

Figure 3
Proposed Sampling Locations
Marine Corps Outlying Landing Field Atlantic
Atlantic Beach, North Carolina