



**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 1801769**

*Naval Research Laboratory – Chesapeake Bay
Detachment
Chesapeake Beach, Maryland*

February 2019

July 24, 2018

Vista Work Order No. 1801769

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 17, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 PFAS DW Investigation NRL CBD'.

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. 1801769

Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 537, Rev. 1.1

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

Holding Times

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

Quality Control

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

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

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801769-01	CBD-1RW11-0718	14-Jul-18 09:03	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-02	CBD-1FB11-0718	14-Jul-18 09:05	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-03	CBD-1RW12-0718	14-Jul-18 09:47	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-04	CBD-1FB12-0718	14-Jul-18 09:50	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-05	CBD-1RW13-0718	14-Jul-18 10:29	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-06	CBD-1FB13-0718	14-Jul-18 10:31	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-07	CBD-1RW14-0718	14-Jul-18 10:45	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-08	CBD-1FB14-0718	14-Jul-18 10:47	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-09	CBD-1RW15-0718	14-Jul-18 12:01	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-10	CBD-1FB15-0718	14-Jul-18 12:05	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-11	CBD-1RW16-0718	15-Jul-18 14:57	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-12	CBD-1FB16-0718	15-Jul-18 15:00	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-13	CBD-1RW17-0718	15-Jul-18 15:49	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-14	CBD-1FB17-0718	15-Jul-18 15:51	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-15	CBD-1RW18-0718	16-Jul-18 09:04	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-16	CBD-1FB18-0718	16-Jul-18 09:06	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-17	CBD-1RW19-0718	16-Jul-18 09:40	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-18	CBD-1FB19-0718	16-Jul-18 09:42	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-19	CBD-1RW20-0718	16-Jul-18 11:20	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-20	CBD-1FB20-0718	16-Jul-18 11:22	17-Jul-18 09:27	HDPE Bottle, 250 mL

Vista Project: 1801769

Client Project: CTO-08 PFAS DW Investigation NRL CBD

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801769-20	CBD-1FB20-0718	16-Jul-18 11:22	17-Jul-18 09:27	HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data					Laboratory Data							
Name:	CH2M Hill	Matrix:	Aqueous		Lab Sample:	B8G0141-BLK1	Column:	BEH C18				
Project:	CTO-08 PFAS DW Investigation NRL CBD											

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOA	2058-94-8	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFTTrDA	72629-94-8	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	95.6	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	
13C2-PFDA	SURR	87.9	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	
d5-EtFOSAA	SURR	113	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: LFBD **EPA Method 537**

Name: CH2M Hill	Lab Sample: B8G0141-BS1/B8G0141-BSD1	Date Extracted: 18-Jul-18	18-Jul-18
Project: CTO-08 PFAS DW Investigation NRL CBD	QC Batch: B8G0141	Column: BEH C18	
Matrix: Aqueous	Samp Size: 0.250/0.250 L		

Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	16.9	17.7	95.8		18.0	17.7	102	6.06		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHxA	307-24-4	18.1	20.0	90.7		18.8	20.0	94.2	3.77		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHpA	375-85-9	18.9	20.0	94.7		19.6	20.0	97.9	3.29		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHxS	355-46-4	16.1	18.2	88.5		17.7	18.2	96.9	9.09		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFOA	335-67-1	19.9	20.0	99.7		18.8	20.0	94.1	5.80		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFNA	375-95-1	17.4	20.0	87.2		18.3	20.0	91.4	4.75		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFOS	1763-23-1	15.9	18.5	85.9		18.1	18.5	98.2	13.3		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFDA	335-76-2	17.1	20.0	85.3		18.1	20.0	90.6	6.03		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
MeFOSAA	2355-31-9	17.7	20.0	88.4		19.4	20.0	97.2	9.50		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
EtFOSAA	2991-50-6	19.0	20.0	95.1		17.1	20.0	85.7	10.4		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFUnA	2058-94-8	17.4	20.0	87.1		18.8	20.0	93.8	7.34		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFDaA	307-55-1	16.7	20.0	83.4		20.0	20.0	99.8	17.9		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFTTrDA	72629-94-8	17.8	20.0	89.0		17.0	20.0	84.9	4.71		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFTeDA	376-06-7	16.2	20.0	81.2		17.5	20.0	87.3	7.30		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1

Labeled Standards	Type	LFB % Rec	LFB Quals	LFBD % Rec	LFBD Quals	Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA	SURR	100		101		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1
13C2-PFDA	SURR	95.4		94.7		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1
d5-EtFOSAA	SURR	93.6		100		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1

Sample ID: CBD-1RW11-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-01	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:03	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxA	307-24-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHpA	375-85-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxS	355-46-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOA	335-67-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFNA	375-95-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOS	1763-23-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDA	335-76-2	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOA	2058-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDoA	307-55-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTeDA	376-06-7	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	94.0	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	
13C2-PFDA	SURR	85.3	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	
d5-EtFOSAA	SURR	95.5	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB11-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-0H	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:03	Date Received:	17-Jul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G73-7G3	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 xA	G07-H4-4	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 pA	G73-83-9	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 xS	G33-46-4	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	G33-67-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFNA	G73-93-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOS	176G-HG-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFDA	G33-76-H	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
MeFOSAA	H33-GI-9	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
EtFOSAA	H991-30-6	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	H338-94-8	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFDoA	G07-33-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFTTrDA	7H6H9-94-8	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFTeDA	G76-06-7	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1CCHPF2 xA	SURR	94.3		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
1CCHPFDA	SURR	86.H		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
d3-EtFOSAA	SURR	91.7		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW12-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3EI-18 09:J7	Date Received:	17-3EI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	H7G7HG	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 xA	H7-uJ-J	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 pA	H7G8G9	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 xS	HGGJ6-J	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFOA	HG-67-1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFNA	H7G9G1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFOS	176HuH1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFDA	HG-76-u	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
MeFOSAA	uHGGHI-9	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
ktFOSAA	u991-G0-6	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PfUnA	u0G8-9J-8	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFDoA	H7-CG-1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFTrDA	7u6u9-9J-8	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFTeDA	H76-06-7	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1HCu-PF2 xA	SURR	9J.G	70 - 1H0			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	
1HCu-PFDA	SURR	88.0	70 - 1H0			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	
dGktFOSAA	SURR	109	70 - 1H0			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1FB12-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1H-JEI-18 09:30	Date Received:	17-JEI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	573-75-3	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 xA	507-uHH	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 pA	573-83-9	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 xS	533-H6-H	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFOA	553-67-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFNA	573-93-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFOS	1765-u5-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFDA	553-76-u	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
MeFOSAA	u533-51-9	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
ktFOSAA	u991-30-6	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PfUnA	u038-9H8	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFDoA	507-33-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFTrDA	7u6u9-9H8	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFTeDA	576-06-7	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15Cu-PF2 xA	SURR	87.5	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	
15Cu-PFDA	SURR	81.0	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	
d3-ktFOSAA	SURR	95.9	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW10-781L **PAMh etdr5 308**

Client Data				baoryatryEData			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3EI-18 10:u9	Date Received:	17-3EI-18 09:u7		

MnalEte	CMS Numocy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	. 7H7. -H	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 xA	. 07-uJ-J	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 pA	. 7H8H9	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 xS	. HJ6-J	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFOA	. . H67-1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFNA	. 7H9H1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFOS	176. -u. -1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFDA	. . H76-u	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
MeFOSAA	u. H. 1-9	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
ktFOSAA	u991-HD-6	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFUnA	u0H8-9J-8	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFD0A	. 07-HH1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFTrDA	7u6u9-9J-8	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFTeDA	. 76-06-7	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1

baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
1. Cu-PF2 xA	SURR	9H0	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
1. Cu-PFDA	SURR	9u0	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
dHktFOSAA	SURR	980	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DLG

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

Sample ID: CBD-1FB10-781L **PAMh etdr5 308**

Client Data				baoryatryEData			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-06	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:31	Date Received:	17-Jul-18 09:27		

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	37G73-G	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHxA	307-24-4	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHpA	37G8G9	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHxS	3GG46-4	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFOA	33G67-1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFNA	37G9G1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFOS	1763-23-1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFDA	33G76-2	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
MeFOSAA	23GG31-9	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
EtFOSAA	2991-G0-6	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFUnA	20G8-94-8	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFDoA	307-GG1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFTrDA	72629-94-8	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFTeDA	376-06-7	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits		Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn	
13C2-PFHxA	SURR	89.6	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	
13C2-PFDA	SURR	88.7	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	
dGEtFOSAA	SURR	83.8	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1RW14-0718

EPA Method 537

Client Data					Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-07	Column:	BEH C18				
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:43	Date Received:	17-Jul-18 09:27						

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	. 73-7. -3	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHxA	. 07-24-4	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHpA	. 73-83-9	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHxS	. 33-46-4	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOA	. . 3-67-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFNA	. 73-93-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOS	176. -2. -1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFDA	. . 3-76-2	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
MeFOSAA	2. 33-. 1-9	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
EtFOSAA	2991-30-6	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOA	2038-94-8	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFDoA	. 07-33-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFTDA	72629-94-8	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFTeDA	. 76-06-7	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1. C2-PFHxA	SURR	90G	70 - 1.0			B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1	
1. C2-PFDA	SURR	84G	70 - 1.0			B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1	
d3-EtFOSAA	SURR	91G	70 - 1.0			B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLG

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

Sample ID: CBD-1FB14-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-08	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:47	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	57G75-G	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHxA	507-24-4	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHpA	57G8G-9	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHxS	5CG46-4	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFOA	55G67-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFNA	57G9G-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFOS	1765-25-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFDA	55G76-2	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
MeFOSAA	25CG51-9	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
EtFOSAA	2991-G-6	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFOA	20G8-94-8	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFDoA	507-CG-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFTrDA	72629-94-8	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFTeDA	576-06-7	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15C2-PFHxA	SURR	903	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	
15C2-PFDA	SURR	903	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	
dGEtFOSAA	SURR	101	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers3 Only the linear isomer is reported for all other analytes3

Sample ID: CBD-1RW10-781L

PAMh etdr5 038

Client Data						baoryatryEData					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-09	Column:	BEH C18				
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 12:01	Date Received:	17-Jul-18 09:27						

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	375-73-5	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxA	307-24-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHpA	375-85-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxS	355-46-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOA	335-67-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFNA	375-95-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOS	1763-23-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDA	335-76-2	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
MeFOSAA	2355-31-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
EtFOSAA	2991-50-6	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PUnA	2058-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDaA	307-55-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTrDA	72629-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTeDA	376-06-7	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1

baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
13C2-PFHxA	SURR	90.4	70 - 130		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
13C2-PFDA	SURR	90.1	70 - 130		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
d5-EtFOSAA	SURR	83.4	70 - 130		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB10-781L

PAMh etdr5 038

Client Data				baoryatryEData			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-10	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 12:03	Date Received:	17-Jul-18 09:27		

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	. 73-7. -3	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHxA	. 07-24-4	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHpA	. 73-83-9	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHxS	. 33-46-4	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFOA	. . 3-67-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFNA	. 73-93-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFOS	176. -2. -1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFDA	. . 3-76-2	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
MeFOSAA	2. 33-. 1-9	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
EtFOSAA	2991-30-6	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PfUnA	2038-94-8	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFDoA	. 07-33-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFTrDA	72629-94-8	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFTeDA	. 76-06-7	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1

baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
1. C2-PFHxA	SURR	8. 6	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
1. C2-PFDA	SURR	820	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
d3-EtFOSAA	SURR	101	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLG

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

Sample ID: CBD-1RW16-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-11	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 13:47	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	574-75-4	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHxA	507-23-3	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHpA	574-84-9	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHxS	544-36-3	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOA	554-67-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFNA	574-94-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOS	1765-25-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFDA	554-76-2	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
MeFOSAA	2544-51-9	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
EtFOSAA	2991-40-6	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOA	2048-93-8	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFDoA	507-44-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFTTrDA	72629-93-8	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFTeDA	576-06-7	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15C2-PFHxA	SURR	110	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	
15C2-PFDA	SURR	103	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	
d4-EtFOSAA	SURR	104	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB16-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-1H	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 14:00	Date Received:	17-Jul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G74-7G4	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 xA	G07-H -.	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 pA	G74-84-9	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 xS	G44- 6-.	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOA	G04-67-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFNA	G74-94-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOS	176G-HG1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFDA	G04-76-H	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
MeFOSAA	HG44-GI-9	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
EtFOSAA	H091-40-6	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFUnA	H048-9. -8	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFD0A	G07-44-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFTrDA	7H6H9-9. -8	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFTeDA	G76-06-7	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1CCHPF2 xA	SURR	993G	70 - 1G0		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
1CCHPFDA	SURR	101	70 - 1G0		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
d4-EtFOSAA	SURR	101	70 - 1G0		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers3 Only the linear isomer is reported for all other analytes3

Sample ID: CBD-1RW10-7018

EPA Method 530

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3El-18 1J.: 9	Date Received:	17-3El-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	H7J-7HJ	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 xA	H7-u. -.	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 pA	H7J-8J-9	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 xS	HJJ-. 6-	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFOA	HJJ-67-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFNA	H7J-9J-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFOS	176HuH1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFDA	HJJ-76-u	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
MeFOSAA	uHJJ-HI-9	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
ktFOSAA	u991-J0-6	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFUnA	u0J8-9. -8	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFD0A	H7-JJ-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFTrDA	7u6u9-9. -8	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFTeDA	H76-06-7	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1HCu-PF2 xA	SURR	10u	70 - 1H0			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	
1HCu-PFDA	SURR	10u	70 - 1H0			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	
dJ-ktFOSAA	SURR	966	70 - 1H0			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DLG

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

Sample ID: CBD-1FB10-7018

EPA Method 530

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3EI-18 1J:J1	Date Received:	17-3EI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G7J-7G-J	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PF2 xA	G7J-8J-9	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PF2 pA	G7J-8J-9	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PF2 xS	G7J-H6-H	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFOA	G7J-67-1	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFNA	G7J-9J-1	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFOS	176GuG-1	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFDA	G7J-76-u	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
MeFOSAA	uG7J-GI-9	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
ktFOSAA	u991-J0-6	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFUnA	u0J8-9H8	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFDoA	G7J-JJ-1	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFTrDA	7u6u9-9H8	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
PFTeDA	G76-06-7	ND	u.99	H9u	9.8G		B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1CCu-PF2 xA	SURR	9G6	70 - 1G0			B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1	
1CCu-PFDA	SURR	10H	70 - 1G0			B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1	
dJ-ktFOSAA	SURR	99J	70 - 1G0			B85 01HI	18-3EI-18	0.uJHL	u1-3EI-18 1u:Hu	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of Quantitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW10-7810

EPA Method 538

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-JEI-18 09:03	Date Received:	17-JEI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	. 7H7. -H	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 xA	. 07-u3-3	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 pA	. 7H8H9	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 xS	. H136-3	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFOA	. . H67-1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFNA	. 7H9H1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFOS	176. -u. -1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFDA	. . H76-u	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
MeFOSAA	u. H1. 1-9	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
ktFOSAA	u991-HD-6	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFUnA	u0H8-93-8	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFDoA	. 07-HH1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFTrDA	7u6u9-93-8	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFTeDA	. 76-06-7	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1. Cu-PF2 xA	SURR	990H	70 - 1. 0		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
1. Cu-PFDA	SURR	9. G	70 - 1. 0		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
dHktFOSAA	SURR	9uG	70 - 1. 0		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DLG

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

Sample ID: CBD-1FB10-7810

EPA Method 538

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-16	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:06	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G73-7G3	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHxA	G07-2. -.	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHpA	G73-83-9	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHxS	G3-. 6-.	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOA	G3-67-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFNA	G73-93-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOS	176G2G1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFDA	G3-76-2	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
MeFOSAA	2G3-GI-9	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
EtFOSAA	2991-30-6	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOA	2038-9. -8	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFDaA	G07-33-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFTDA	72629-9. -8	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFTeDA	G76-06-7	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1CC2-PFHxA	SURR	102	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	
1CC2-PFDA	SURR	99.1	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	
d3-EtFOSAA	SURR	98.9	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLJ

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

Sample ID: CBD-1RW19-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-17	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:J0	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHxA	307-2J-J	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHpA	375-85-9	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHxS	355-J6-J	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOA	335-67-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFNA	375-95-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOS	1763-23-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFDA	335-76-2	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
MeFOSAA	2355-31-9	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
EtFOSAA	2991-50-6	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOA	2058-9J-8	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFDoA	307-55-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFTTrDA	72629-9J-8	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFTeDA	376-06-7	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	10J	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	
13C2-PFDA	SURR	105	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	
d5-EtFOSAA	SURR	93.5	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB19-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-18	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:J2	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHxA	307-2J-J	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHpA	375-85-9	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHxS	355-J6-J	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOA	335-67-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFNA	375-95-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOS	1763-23-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFDA	335-76-2	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
MeFOSAA	2355-31-9	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
EtFOSAA	2991-50-6	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOA	2058-9J-8	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFDoA	307-55-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFTTrDA	72629-9J-8	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFTeDA	376-06-7	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	105	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	
13C2-PFDA	SURR	102	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	
d5-EtFOSAA	SURR	91.J	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1RW20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-19	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 11:20	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	J75-7J-5	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHxA	J07-2.-.	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHpA	J75-85-9	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHxS	J55-.6-	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOA	JJ5-67-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFNA	J75-95-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOS	176J-2J-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFDA	JJ5-76-2	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
MeFOSAA	2J55-J1-9	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
EtFOSAA	2991-50-6	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOxA	2058-9.-8	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFDoA	J07-55-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFTrDA	72629-9.-8	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFTeDA	J76-06-7	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1JC2-PFHxA	SURR	9937		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
1JC2-PFDA	SURR	9635		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
d5-EtFOSAA	SURR	9035		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers3 Only the linear isomer is reported for all other analytes3

Sample ID: CBD-1FB20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-HD	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 11:HH	Date Received:	17-4ul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	J7G7J-G	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 xA	J07-H -	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 pA	J7G8G9	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 xS	JGG- 6-	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFOA	JJG67-1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFNA	J7G9G1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFOS	176J-HJ-1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFDA	JJG76-H	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
MeFOSAA	HJGGJ1-9	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
EtFOSAA	H991-G0-6	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFUnA	H08-9. -8	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFD0A	J07-GG1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFTrDA	7H6H9-9. -8	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFTeDA	J76-06-7	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1JCHPF2 xA	SURR	10J		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
1JCHPFDA	SURR	97J		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
dGEtFOSAA	SURR	97G		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL3

LOQ - Limit of quantitation

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers³ Only the linear isomer is reported for all other analytes³

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
Q	Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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



CHAIN OF CUSTODY

For Laboratory Use Only

Work Order #: 1801769 Temp: 1.3 °C

Storage ID: WR-2 Storage Secured: Yes No

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

TAT (check one): 21 days 14 days 7 days Specify: _____

Rush (surcharge may apply)

Invoice to: Name Tiffany Hill Company CNZM Address 1100 NE Circle Blvd St 300 City Cervallis State Oregon Ph# 541-768-3109 Fax# _____

Relinquished by (printed name and signature) Mike Wilbur Date 7/16/18 Time 1600 Received by (printed name and signature) Kim Eukic Date 07/17/18 Time 0935

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

Method of Shipment: FEDEX

ATTN: Martha Maier

Tracking No.: _____

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested							Comments		
				Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List 6	537 List: 14	Full List of 28		Other, Please List Below	
CBD-1RW11-0718	7/14/18	0903		2	P	DW							
CBD-1FB11-0718		0905		2	P	DW							
CBD-1RW12-0718		0947		2	P	DW							
CBD-1FB12-0718		0950		2	P	DW							
CBD-1RW13-0718		1029		2	P	DW							
CBD-1FB13-0718		1031		2	P	DW							
CBD-1RW14-0718		1045		2	P	DW							
CBD-1FB14-0718		1047		2	P	DW							
CBD-1RW15-0718		1201		2	P	DW							
CBD-1FB15-0718		1205		2	P	DW							

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

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CNZM HILL INC
Address: 1100 NE Circle Blvd St 300
City: Cervallis State: OR Zip: 97330
Phone: 541-768-3109 Fax: _____
Email: Tiffany.Hill@cnzm.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: _____

CTO-08 679580.14.F1.FS



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 1801769 Temp: 16.3 °C
 Storage ID: WR-2 Storage Secured: Yes No

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

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

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

Relinquished by (printed name and signature) Mike Winn Date 7/16/18 Time 1600 Received by (printed name and signature) Kim Eric Date 07/17/18 Time 0935
 Relinquished by (printed name and signature) _____ Date _____ Time _____ Received by (printed name and signature) _____ Date _____ Time _____

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106
 Method of Shipment: FDEX
 ATTN: Martha Mayer Tracking No.: _____

Add Analysis(es) Requested
 Container(s)
 Mod. EPA Method 537
 EPA Method 537 (DW only)

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested							Comments						
				Quantity	Type	Matrix	PFDA/PFOA	UCMR3 PFAS List 6	537 List: 14	Full List of 28		Other: Please List Below	PFDA/PFOA	UCMR3 PFAS List 6	PFAS List: 14		
CB0-1RW16-0718	7/15/18	1457		2	P	DW											
CB0-1FB16-0718	7/15/18	1500		2	P	DW											
CB0-1RW17-0718	7/15/18	1549		2	P	DW											
CB0-1FB17-0718	7/15/18	1551		2	P	DW											
CB0-1RW18-0718	7/16/18	0909		2	P	DW											
CB0-1FB18-0718	7/16/18	0906		2	P	DW											
CB0-1RW19-0718	7/16/18	0940		2	P	DW											
CB0-1FB19-0718	7/16/18	0942		2	P	DW											
CB0-1RW20-0718	7/16/18	1120		2	P	DW											
CB0-1FB20-0718	7/16/18	1122		2	P	DW											

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

SEND DOCUMENTATION AND RESULTS TO:
 Name: Tiffany Hill
 Company: CH2M HILL INC
 Address: 1100 NE Circle Blvd St 300
 City: Corvallis State: OR Zip: 97336
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@ch2m.com

Container Types: P = HDPE, PJ = HDPE Jar
 Bottle Preservation Type: T = Thiosulfate, Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, O = Other; TZ = Trizma; SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Sample Log-in Checklist

 Vista Work Order #: 1801769 TAT 7 day

Samples Arrival:	Date/Time: 07/17/18 0927	Initials: KE	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time: 07/17/18 1031	Initials: WWS	Location: WR-2
			Shelf/Rack: E-3, F-6
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GSO	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 1.3 (uncorrected)	Time: 0939	Thermometer ID: IR-4	
Temp °C: 1.3 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DT -3	

 KE
 07/18
 01/17/18 KE

	YES	NO	NA
Adequate Sample Volume Received?	WWS		
Holding Time Acceptable?	WWS		
Shipping Container(s) Intact?	KE		
Shipping Custody Seals Intact?	KE		
Shipping Documentation Present?	KE		
Airbill <input checked="" type="checkbox"/>	Trk # 7818 7523 0262	KE	
Sample Container Intact?	WWS		
Sample Custody Seals Intact?			WWS
Chain of Custody / Sample Documentation Present?	KE		
COC Anomaly/Sample Acceptance Form completed?		WWS	WWS
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	WWS		
Preservation Documented:	Na ₂ S ₂ O ₃	<input checked="" type="checkbox"/> Trizma	<input type="checkbox"/> None
		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain
		<input type="checkbox"/> Return	<input type="checkbox"/> Dispose

Comments:

July 24, 2018

Vista Work Order No. 1801769

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

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 17, 2018. This sample set was analyzed on a rush turn-around time, under your Project Name 'CTO-08 PFAS DW Investigation NRL CBD'.

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. 1801769

Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

EPA Method 537, Rev. 1.1

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

Holding Times

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

Quality Control

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

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

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801769-01	CBD-1RW11-0718	14-Jul-18 09:03	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-02	CBD-1FB11-0718	14-Jul-18 09:05	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-03	CBD-1RW12-0718	14-Jul-18 09:47	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-04	CBD-1FB12-0718	14-Jul-18 09:50	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-05	CBD-1RW13-0718	14-Jul-18 10:29	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-06	CBD-1FB13-0718	14-Jul-18 10:31	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-07	CBD-1RW14-0718	14-Jul-18 10:45	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-08	CBD-1FB14-0718	14-Jul-18 10:47	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-09	CBD-1RW15-0718	14-Jul-18 12:01	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-10	CBD-1FB15-0718	14-Jul-18 12:05	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-11	CBD-1RW16-0718	15-Jul-18 14:57	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-12	CBD-1FB16-0718	15-Jul-18 15:00	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-13	CBD-1RW17-0718	15-Jul-18 15:49	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-14	CBD-1FB17-0718	15-Jul-18 15:51	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-15	CBD-1RW18-0718	16-Jul-18 09:04	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-16	CBD-1FB18-0718	16-Jul-18 09:06	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-17	CBD-1RW19-0718	16-Jul-18 09:40	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-18	CBD-1FB19-0718	16-Jul-18 09:42	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-19	CBD-1RW20-0718	16-Jul-18 11:20	17-Jul-18 09:27	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1801769-20	CBD-1FB20-0718	16-Jul-18 11:22	17-Jul-18 09:27	HDPE Bottle, 250 mL

Vista Project: 1801769

Client Project: CTO-08 PFAS DW Investigation NRL CBD

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801769-20	CBD-1FB20-0718	16-Jul-18 11:22	17-Jul-18 09:27	HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: LRB

EPA Method 537

Client Data					Laboratory Data						
Name:	CH2M Hill	Matrix:	Aqueous		Lab Sample:	B8G0141-BLK1	Column:	BEH C18			
Project:	CTO-08 PFAS DW Investigation NRL CBD										

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHxA	307-24-4	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHpA	375-85-9	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFHxS	355-46-4	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOA	335-67-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFNA	375-95-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOS	1763-23-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFDA	335-76-2	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
MeFOSAA	2355-31-9	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
EtFOSAA	2991-50-6	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFOA	2058-94-8	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFDoA	307-55-1	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFTTrDA	72629-94-8	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
PFTeDA	376-06-7	ND	3.04	5.00	10.0		B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	95.6	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	
13C2-PFDA	SURR	87.9	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	
d5-EtFOSAA	SURR	113	70 - 130			B8G0141	18-Jul-18	0.250 L	20-Jul-18 17:40	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: LFBD **EPA Method 537**

Name: CH2M Hill	Lab Sample: B8G0141-BS1/B8G0141-BSD1	Date Extracted: 18-Jul-18	18-Jul-18
Project: CTO-08 PFAS DW Investigation NRL CBD	QC Batch: B8G0141	Column: BEH C18	
Matrix: Aqueous	Samp Size: 0.250/0.250 L		

Analyte	CAS Number	LFB (ng/L)	LFB Spike Amt	LFB % Rec	LFB Quals	LFBD (ng/L)	LFBD Spike Amt	LFBD % Rec	RPD	LFBD Quals	%Rec Limits	RPD Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
PFBS	375-73-5	16.9	17.7	95.8		18.0	17.7	102	6.06		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHxA	307-24-4	18.1	20.0	90.7		18.8	20.0	94.2	3.77		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHpA	375-85-9	18.9	20.0	94.7		19.6	20.0	97.9	3.29		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFHxS	355-46-4	16.1	18.2	88.5		17.7	18.2	96.9	9.09		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFOA	335-67-1	19.9	20.0	99.7		18.8	20.0	94.1	5.80		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFNA	375-95-1	17.4	20.0	87.2		18.3	20.0	91.4	4.75		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFOS	1763-23-1	15.9	18.5	85.9		18.1	18.5	98.2	13.3		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFDA	335-76-2	17.1	20.0	85.3		18.1	20.0	90.6	6.03		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
MeFOSAA	2355-31-9	17.7	20.0	88.4		19.4	20.0	97.2	9.50		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
EtFOSAA	2991-50-6	19.0	20.0	95.1		17.1	20.0	85.7	10.4		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFUnA	2058-94-8	17.4	20.0	87.1		18.8	20.0	93.8	7.34		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFDaA	307-55-1	16.7	20.0	83.4		20.0	20.0	99.8	17.9		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFTrDA	72629-94-8	17.8	20.0	89.0		17.0	20.0	84.9	4.71		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1
PFTeDA	376-06-7	16.2	20.0	81.2		17.5	20.0	87.3	7.30		70-130		20-Jul-18 17:53	1	20-Jul-18 18:06	1

Labeled Standards	Type	LFB % Rec	LFB Quals	LFBD % Rec	LFBD Quals	Limits	LFB Analyzed	LFB Dil	LFBD Analyzed	LFBD Dil
13C2-PFHxA	SURR	100		101		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1
13C2-PFDA	SURR	95.4		94.7		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1
d5-EtFOSAA	SURR	93.6		100		70-130	20-Jul-18 17:53	1	20-Jul-18 18:06	1

Sample ID: CBD-1RW11-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-01	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:03	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxA	307-24-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHpA	375-85-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxS	355-46-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOA	335-67-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFNA	375-95-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOS	1763-23-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDA	335-76-2	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOA	2058-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDoA	307-55-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTeDA	376-06-7	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	94.0	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
13C2-PFDA	SURR	85.3	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
d5-EtFOSAA	SURR	95.5	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB11-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-0H	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:03	Date Received:	17-Jul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G73-7G3	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 xA	G07-H4-4	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 pA	G73-83-9	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PF2 xS	G33-46-4	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	G33-67-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFNA	G73-93-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOS	176G-HG-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFDA	G33-76-H	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
MeFOSAA	H33-GI-9	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
EtFOSAA	H991-30-6	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	H33-94-8	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	G07-33-1	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	7H6H-94-8	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
PFOA	G76-06-7	ND	H97	4.88	9.73		B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1CCHPF2 xA	SURR	94.3		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
1CCHPFDA	SURR	86.H		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1
d3-EtFOSAA	SURR	91.7		70 - 1G0			B85 0141	18-Jul-18	0.1B6 L	HI-Jul-18 00:4G	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW12-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3EI-18 09:J7	Date Received:	17-3EI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	H7G7HG	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 xA	H7-uJ-J	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 pA	H7G8G9	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PF2 xS	HGGJ6-J	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFOA	HG-67-1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFNA	H7G9G1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFOS	176HuH1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFDA	HG-76-u	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
MeFOSAA	uHGGHI-9	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
ktFOSAA	u991-G-6	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFUnA	u0G8-9J-8	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFDoA	H7-CG-1	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFTrDA	7u6u9-9J-8	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
PFTeDA	H76-06-7	ND	u.98	J.90	9.80		B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1HCu-PF2 xA	SURR	9J.G	70 - 1HD			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	
1HCu-PFDA	SURR	88.0	70 - 1HD			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	
dGktFOSAA	SURR	109	70 - 1HD			B85 01J1	18-3EI-18	0.uCGL	u1-3EI-18 00:C6	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1FB12-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1H-JEI-18 09:30	Date Received:	17-JEI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	573-75-3	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 xA	507-uHH	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 pA	573-83-9	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PF2 xS	533-H6-H	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFOA	553-67-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFNA	573-93-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFOS	1765-u5-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFDA	553-76-u	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
MeFOSAA	u533-51-9	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
ktFOSAA	u991-30-6	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PUnA	u038-9H8	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFDaA	507-33-1	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFTrDA	7u6u9-9H8	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
PFTeDA	576-06-7	ND	u.97	H88	9.76		B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15Cu-PF2 xA	SURR	87.5	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	
15Cu-PFDA	SURR	81.0	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	
d3-ktFOSAA	SURR	95.9	70 - 150			B8G01HI	18-JEI-18	0.u36 L	u1-JEI-18 01:09	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW10-781L **PAMh etdr5 308**

Client Data				baoryatryEData			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-0H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3EI-18 10:u9	Date Received:	17-3EI-18 09:u7		

MnalEte	CMS Numocy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	. 7H7. -H	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 xA	. 07-uJ-J	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 pA	. 7H8H9	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PF2 xS	. HJ6-J	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFOA	. . H67-1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFNA	. 7H9H1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFOS	176. -u. -1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFDA	. . H76-u	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
MeFOSAA	u. H. 1-9	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
ktFOSAA	u991-HD-6	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFUnA	u0H8-9J-8	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFDaA	. 07-HH1	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFTrDA	7u6u9-9J-8	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
PFTeDA	. 76-06-7	ND	. 00	J0J	908		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1

baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
1. Cu-PF2 xA	SURR	9H0	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
1. Cu-PFDA	SURR	9u0	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1
dHktFOSAA	SURR	980	70 - 1.0		B85 01J1	18-3EI-18	00H L	u1-3EI-18 01:uu	1

DL - Detection Limit LOD - Limit of Detection ResElts reported to the DLG When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

LOQ - Limit of qEntitation

Sample ID: CBD-1FB10-781L **PAMh etdr5 308**

Client Data				baoryatryEData			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-06	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:31	Date Received:	17-Jul-18 09:27		

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	37G73-G	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHxA	307-24-4	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHpA	37G8G9	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFHxS	3GG46-4	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFOA	33G67-1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFNA	37G9G1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFOS	1763-23-1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFDA	33G76-2	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
MeFOSAA	23GG31-9	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
EtFOSAA	2991-G0-6	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFUnA	20G8-94-8	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFDoA	307-GG1	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFTrDA	72629-94-8	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
PFTeDA	376-06-7	ND	2.96	4.88	9.7G		B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1
baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits		Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn	
13C2-PFHxA	SURR	89.6	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	
13C2-PFDA	SURR	88.7	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	
dGEtFOSAA	SURR	83.8	70 - 130			B85 0141	18-Jul-18	0.2G6 L	21-Jul-18 01:34	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1RW14-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-07	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:43	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	. 73-7. -3	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHxA	. 07-24-4	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHpA	. 73-83-9	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFHxS	. 33-46-4	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOA	. . 3-67-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFNA	. 73-93-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOS	176. -2. -1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFDA	. . 3-76-2	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
MeFOSAA	2. 33-. 1-9	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
EtFOSAA	2991-30-6	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFOA	2038-94-8	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFDaA	. 07-33-1	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFTDA	72629-94-8	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
PFTeDA	. 76-06-7	ND	. 02	408	904		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1. C2-PFHxA	SURR	90G	70 - 1. 0		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
1. C2-PFDA	SURR	84G	70 - 1. 0		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1
d3-EtFOSAA	SURR	91G	70 - 1. 0		B85 0141	18-Jul-18	0Q31 L	21-Jul-18 01:47	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLG

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

Sample ID: CBD-1FB14-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-08	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:47	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	57G75-G	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHxA	507-24-4	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHpA	57G8G-9	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFHxS	5GG46-4	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFOA	55G67-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFNA	57G9G-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFOS	1765-25-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFDA	55G76-2	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
MeFOSAA	25GG51-9	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
EtFOSAA	2991-G-6	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFUnA	20G8-94-8	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFDoA	507-GG-1	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFTrDA	72629-94-8	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
PFTeDA	576-06-7	ND	238	430	939		B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15C2-PFHxA	SURR	903	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	
15C2-PFDA	SURR	903	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	
dGEtFOSAA	SURR	101	70 - 150			B8. 0141	18-Jul-18	03CGL	21-Jul-18 02:00	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers³ Only the linear isomer is reported for all other analytes³

Sample ID: CBD-1RW10-781L

PAMh etdr5 038

Client Data						baoryatryEData					
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-09	Column:	BEH C18				
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 12:01	Date Received:	17-Jul-18 09:27						

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	375-73-5	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxA	307-24-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHpA	375-85-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxS	355-46-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOA	335-67-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFNA	375-95-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOS	1763-23-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDA	335-76-2	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
MeFOSAA	2355-31-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
EtFOSAA	2991-50-6	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PUnA	2058-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDaA	307-55-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTrDA	72629-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTeDA	376-06-7	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits			Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
13C2-PFHxA	SURR	90.4	70 - 130				B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
13C2-PFDA	SURR	90.1	70 - 130				B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
d5-EtFOSAA	SURR	83.4	70 - 130				B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB10-781L

PAMh etdr5 038

Client Data				baoryatryEData			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-10	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 12:03	Date Received:	17-Jul-18 09:27		

MnalEte	CMS Numoy	Crnc. (ng/b)	Db	bOD	bOQ	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
PFBS	. 73-7. -3	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHxA	. 07-24-4	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHpA	. 73-83-9	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFHxS	. 33-46-4	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFOA	. . 3-67-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFNA	. 73-93-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFOS	176. -2. -1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFDA	. . 3-76-2	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
MeFOSAA	2. 33-. 1-9	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
EtFOSAA	2991-30-6	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFOA	2038-94-8	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFDaA	. 07-33-1	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFTrDA	72629-94-8	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
PFTeDA	. 76-06-7	ND	. 00	404	907		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1

baoele5 Stan5ay5s	TEpe	% RecrveyE	bimits	Qualifieys	Batcd	Pxyacte5	Samp Size	MnalEze5	Dilutirn
1. C2-PFHxA	SURR	8. 0	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
1. C2-PFDA	SURR	820	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1
d3-EtFOSAA	SURR	101	70 - 1. 0		B85 0141	18-Jul-18	0Q3. L	21-Jul-18 02:26	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLG

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

Sample ID: CBD-1RW16-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-11	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 13:47	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	574-75-4	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHxA	507-23-3	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHpA	574-84-9	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFHxS	544-36-3	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOA	554-67-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFNA	574-94-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOS	1765-25-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFDA	554-76-2	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
MeFOSAA	2544-51-9	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
EtFOSAA	2991-40-6	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFOA	2048-93-8	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFDoA	507-44-1	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFTTrDA	72629-93-8	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
PFTeDA	576-06-7	ND	2.98	3.90	9.79		B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
15C2-PFHxA	SURR	110	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	
15C2-PFDA	SURR	103	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	
d4-EtFOSAA	SURR	104	70 - 150			B8G0131	18-Jul-18	0.244 L	21-Jul-18 12:04	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB16-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-1H	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 14:00	Date Received:	17-Jul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G74-7G4	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 xA	G07-H -.	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 pA	G74-84-9	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PF2 xS	G44-. 6-.	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOA	G04-67-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFNA	G74-94-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOS	176G-HG1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFDA	G04-76-H	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
MeFOSAA	HG44-GI-9	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
EtFOSAA	H091-40-6	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOxA	H048-9. -8	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOyA	G07-44-1	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOzA	7H6H9-9. -8	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
PFOxA	G76-06-7	ND	H9.	. 3G	936		B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1CCHPF2 xA	SURR	993G		70 - 1G0			B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
1CCHPFDA	SURR	101		70 - 1G0			B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1
d4-EtFOSAA	SURR	101		70 - 1G0			B85 01. 1	18-Jul-18	0349 L	HI-Jul-18 1H17	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers3 Only the linear isomer is reported for all other analytes3

Sample ID: CBD-1RW10-7018

EPA Method 530

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3El-18 1J.:. 9	Date Received:	17-3El-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	H7J-7HJ	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 xA	H7-u. -.	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 pA	H7J-8J-9	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PF2 xS	HJJ-. 6-	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFOA	HJJ-67-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFNA	H7J-9J-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFOS	176HuH1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFDA	HJJ-76-u	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
MeFOSAA	uHJJ-HI-9	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
ktFOSAA	u991-J0-6	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFUnA	u0J8-9. -8	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFDoA	H7-JJ-1	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFTrDA	7u6u9-9. -8	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
PFTeDA	H76-06-7	ND	u99	. 9u	99.		B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1HCu-PF2 xA	SURR	10u	70 - 1HD			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	
1HCu-PFDA	SURR	10u	70 - 1HD			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	
dJ-ktFOSAA	SURR	966	70 - 1HD			B85 01. 1	18-3El-18	06J. L	u1-3El-18 1u:u9	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DLG

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

Sample ID: CBD-1FB10-7018

EPA Method 530

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	1J-3El-18 1J:J1	Date Received:	17-3El-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G7J-7G-J	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PF2 xA	G7J-7G-J	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PF2 pA	G7J-8J-9	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PF2 xS	G7J-H6-H	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFOA	G7J-67-1	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFNA	G7J-9J-1	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFOS	176GuG-1	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFDA	G7J-76-u	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
MeFOSAA	uG7J-Gl-9	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
ktFOSAA	u991-J0-6	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFUnA	u0J8-9H8	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFDoA	G7J-JJ-1	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFTrDA	7u6u9-9H8	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
PFTeDA	G76-06-7	ND	u.99	H9u	9.8G		B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1CCu-PF2 xA	SURR	9G6	70 - 1G0			B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1	
1CCu-PFDA	SURR	10H	70 - 1G0			B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1	
dJ-ktFOSAA	SURR	99J	70 - 1G0			B85 01Hl	18-3El-18	0.uJHL	u1-3El-18 1u:Hu	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DL.

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: CBD-1RW10-7810

EPA Method 538

Client Data				Laboratory Data			
Name:	C2 uM 2 ill	Matrix:	Drin4ing Water	Lab Sample:	1801769-1H	ColEmn:	Bk2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-JEI-18 09:03	Date Received:	17-JEI-18 09:u7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	. 7H7. -H	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 xA	. 07-u3-3	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 pA	. 7H8H9	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PF2 xS	. H136-3	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFOA	. . H67-1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFNA	. 7H9H1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFOS	176. -u. -1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFDA	. . H76-u	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
MeFOSAA	u. H1. 1-9	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
ktFOSAA	u991-HD-6	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFUnA	u0H8-93-8	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFD0A	. 07-HH1	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFTrDA	7u6u9-93-8	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
PFTeDA	. 76-06-7	ND	. 00	303	908		B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1. Cu-PF2 xA	SURR	990H		70 - 1. 0			B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
1. Cu-PFDA	SURR	9. G		70 - 1. 0			B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1
dHktFOSAA	SURR	9uG		70 - 1. 0			B85 0131	18-JEI-18	00H L	u1-JEI-18 1u:HH	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of qEntitation

ResElts reported to the DLG

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and ktFOSAA inclEde both linear and branched isomersGOnly the linear isomer is reported for all other analytesG

Sample ID: CBD-1FB10-7810

EPA Method 538

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-16	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:06	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	G73-7G3	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHxA	G07-2. -.	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHpA	G73-83-9	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFHxS	G33- 6-	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOA	G3-67-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFNA	G73-93-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOS	176G2G1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFDA	G3-76-2	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
MeFOSAA	2G3-GI-9	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
EtFOSAA	2991-30-6	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFOA	2038-9. -8	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFDoA	G07-33-1	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFTDA	72629-9. -8	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
PFTeDA	G76-06-7	ND	2.93	.86	9.72		B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1CC2-PFHxA	SURR	102	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	
1CC2-PFDA	SURR	99.1	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	
d3-EtFOSAA	SURR	98.9	70 - 100			B85 01. 1	18-4ul-18	0.237 L	21-4ul-18 1G08	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DLJ

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

Sample ID: CBD-1RW19-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-17	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:J0	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHxA	307-2J-J	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHpA	375-85-9	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFHxS	355-J6-J	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOA	335-67-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFNA	375-95-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOS	1763-23-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFDA	335-76-2	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
MeFOSAA	2355-31-9	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
EtFOSAA	2991-50-6	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFOA	2058-9J-8	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFDaA	307-55-1	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFTDA	72629-9J-8	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
PFTeDA	376-06-7	ND	3.00	J.9J	9.88		B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	10J	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	
13C2-PFDA	SURR	105	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	
d5-EtFOSAA	SURR	93.5	70 - 130			B8G01J1	18-4ul-18	0.253 L	21-4ul-18 13:21	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1FB19-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-18	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 09:J2	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHxA	307-2J-J	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHpA	375-85-9	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFHxS	355-J6-J	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOA	335-67-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFNA	375-95-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOS	1763-23-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFDA	335-76-2	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
MeFOSAA	2355-31-9	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
EtFOSAA	2991-50-6	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFOA	2058-9J-8	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFDoA	307-55-1	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFTTrDA	72629-9J-8	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
PFTeDA	376-06-7	ND	3.00	J.92	9.86		B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	105	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	
13C2-PFDA	SURR	102	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	
d5-EtFOSAA	SURR	91.J	70 - 130			B8G01J1	18-4ul-18	0.25J L	21-4ul-18 13:33	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: CBD-1RW20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-19	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 11:20	Date Received:	17-4ul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	J75-7J-5	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHxA	J07-2.-.	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHpA	J75-85-9	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFHxS	J55-.6-	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOA	JJ5-67-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFNA	J75-95-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOS	176J-2J-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFDA	JJ5-76-2	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
MeFOSAA	2J55-J1-9	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
EtFOSAA	2991-50-6	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFOxA	2058-9.-8	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFDoA	J07-55-1	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFTrDA	72629-9.-8	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
PFTeDA	J76-06-7	ND	J3J	.398	936		B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1JC2-PFHxA	SURR	9937		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
1JC2-PFDA	SURR	9635		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1
d5-EtFOSAA	SURR	9035		70 - 1J0			B8G01.1	18-4ul-18	0351 L	21-4ul-18 1J.:6	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers³ Only the linear isomer is reported for all other analytes³

Sample ID: CBD-1FB20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	C2 HM 2 ill	Matrix:	Drinking Water	Lab Sample:	1801769-HD	Column:	BE2 C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-4ul-18 11:HH	Date Received:	17-4ul-18 09:H7		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	J7G7J-G	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 xA	J07-H -	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 pA	J7G8G9	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PF2 xS	JGG- 6-	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFOA	JJG67-1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFNA	J7G9G1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFOS	176J-HJ-1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFDA	JJG76-H	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
MeFOSAA	HJGGJ1-9	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
EtFOSAA	H991-G0-6	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFOA	H08-9. -8	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFDoA	J07-GG1	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFTrDA	7H6H9-9. -8	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
PFTeDA	J76-06-7	ND	J3H	.36	93J		B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1JCHPF2 xA	SURR	10J		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
1JCHPFDA	SURR	97J		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1
dGEtFOSAA	SURR	97G		70 - 1J0			B85 01. 1	18-4ul-18	0FHGL	HI-4ul-18 1J:G	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL3

When reported, PF2 xS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers³ Only the linear isomer is reported for all other analytes³

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
Q	Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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



CHAIN OF CUSTODY

For Laboratory Use Only

Work Order #: 1801769 Temp: 1.3 °C

Storage ID: WR-2 Storage Secured: Yes No

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

TAT (check one): 21 days 14 days 7 days Specify: _____

Rush (surcharge may apply)

Invoice to: Name Tiffany Hill Company CNZM Address 1100 NE Circle Blvd St 300 City Cornwallis State Oregon Ph# 541-768-3109 Fax# _____

Relinquished by (printed name and signature) Mike Wilbur Date 7/16/18 Time 1600 Received by (printed name and signature) Kim Eukic Date 07/17/18 Time 0935

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

Method of Shipment: FEDEX

ATTN: Martha Maier

Tracking No.: _____

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested							Comments		
				Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List 6	537 List: 14	Full List of 28		Other, Please List Below	
CBD-1RW11-0718	7/14/18	0903		2	P	DW							
CBD-1FB11-0718		0905		2	P	DW							
CBD-1RW12-0718		0947		2	P	DW							
CBD-1FB12-0718		0950		2	P	DW							
CBD-1RW13-0718		1029		2	P	DW							
CBD-1FB13-0718		1031		2	P	DW							
CBD-1RW14-0718		1045		2	P	DW							
CBD-1FB14-0718		1047		2	P	DW							
CBD-1RW15-0718		1201		2	P	DW							
CBD-1FB15-0718		1205		2	P	DW							

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

SEND DOCUMENTATION AND RESULTS TO:

Name: Tiffany Hill
Company: CNZM HILL INC
Address: 1100 NE Circle Blvd St 300
City: Cornwallis State: OR Zip: 97330
Phone: 541-768-3109 Fax: _____
Email: Tiffany.Hill@cnzm.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: _____

CTO-08 679580.14.F1.FS



CHAIN OF CUSTODY

For Laboratory Use Only
 Work Order #: 1801769 Temp: 16.3 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: CTO-08 NRLCBO
PFA'S DW INVESTIGATION PO#: 101001982 Sampler: R. McElhinny
 (name)

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

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

Relinquished by (printed name and signature) Mike Winn Date 7/16/18 Time 1600 Received by (printed name and signature) Kim Eric Date 07/17/18 Time 0935
 Relinquished by (printed name and signature) _____ Date _____ Time _____ Received by (printed name and signature) _____ Date _____ Time _____

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106
 Method of Shipment: FDEX
 ATTN: Martha Mayer Tracking No.: _____

Add Analysis(es) Requested
 Container(s)
 Mod. EPA Method 537
 EPA Method 537 (DW only)

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested										Comments			
				Quantity	Type	Matrix	PFDA/PFOS	UCMR3 PFAS List 6	537 List: 14	Full List of 28	Other: Please List Below	PFDA/PFOS	UCMR3 PFAS List 6		PFAS List: 14		
CB0-1RW16-0718	7/15/18	1457		2	P	DW											
CB0-1FB16-0718	7/15/18	1500		2	P	DW											
CB0-1RW17-0718	7/15/18	1549		2	P	DW											
CB0-1FB17-0718	7/15/18	1551		2	P	DW											
CB0-1RW18-0718	7/16/18	0909		2	P	DW											
CB0-1FB18-0718	7/16/18	0906		2	P	DW											
CB0-1RW19-0718	7/16/18	0940		2	P	DW											
CB0-1FB19-0718	7/16/18	0942		2	P	DW											
CB0-1RW20-0718	7/16/18	1120		2	P	DW											
CB0-1FB20-0718	7/16/18	1122		2	P	DW											

Special Instructions/Comments: 7 DAY TAT
Analysis of DW samples for PFOA/PFOS/PFB5

SEND DOCUMENTATION AND RESULTS TO:
 Name: Tiffany Hill
 Company: CH2M HILL INC
 Address: 1100 NE Circle Blvd St 300
 City: Corvallis State: OR Zip: 97336
 Phone: 541-768-3109 Fax: _____
 Email: Tiffany.Hill@ch2m.com

Container Types: P = HDPE, PJ = HDPE Jar
 Bottle Preservation Type: T = Thiosulfate, Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, O = Other: _____
 TZ = Trizma: _____
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____

Sample Log-in Checklist

 Vista Work Order #: 1801769 TAT 7 day

Samples Arrival:	Date/Time: 07/17/18 0927	Initials: KE	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time: 07/17/18 1031	Initials: WWS	Location: WR-2
			Shelf/Rack: E-3, F-6
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GSO	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 1.3 (uncorrected)	Time: 0939	Thermometer ID: IR-4	
Temp °C: 1.3 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	DT -3	

 KE
 07/18
 01/17/18 KE

	YES	NO	NA
Adequate Sample Volume Received?	WWS		
Holding Time Acceptable?	WWS		
Shipping Container(s) Intact?	KE		
Shipping Custody Seals Intact?	KE		
Shipping Documentation Present?	KE		
Airbill <input checked="" type="checkbox"/>	Trk # 7818 7523 0262	KE	
Sample Container Intact?	WWS		
Sample Custody Seals Intact?			WWS
Chain of Custody / Sample Documentation Present?	KE		
COC Anomaly/Sample Acceptance Form completed?		WWS	WWS
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	WWS		
Preservation Documented:	Na ₂ S ₂ O ₃	<input checked="" type="checkbox"/> Trizma	<input type="checkbox"/> None
		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain
		<input type="checkbox"/> Return	<input type="checkbox"/> Dispose

Comments:

EXTRACTION INFORMATION



Process Sheet
Workorder: 1801769

7-DAY TAT

Prep Expiration: 2018-Jul-28
Client: CH2M Hill

Workorder Due: 24-Jul-18 00:00

TAT: 7

Method: 537 PFAS DW DoD Unmodified
Matrix: Aqueous

Prep Batch: B8G0141

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

Prep Data Entered: WY 7/19/18
Date and Initials

Initial Sequence: S860062

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
1801769-01	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW11-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-02	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB11-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-03	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW12-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-04	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB12-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-05	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW13-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-06	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB13-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-07	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW14-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-08	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB14-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-09	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW15-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-10	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB15-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-11	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW16-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-12	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB16-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-13	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW17-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-14	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB17-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-15	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW18-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-16	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB18-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-17	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW19-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-18	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB19-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-19	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1RW20-0718		WR-2 E-3	HDPE Bottle, 250 mL
1801769-20	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CBD-1FB20-0718		WR-2 E-3	HDPE Bottle, 250 mL

Pre-Prep Check Out: FR 7-18-18
Pre-Prep Check In: NA

Prep Check Out: NA
Prep Check In: NA

Prep Reconciled Initials/Date: FR 7-18-18
Spike Reconciled Initials/Date: HN 7/18/18
VialBoxID: Gyza

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DW DoD Unmodified

B8G0141

Chemist: FR
 Prep Date: 7-18-18
 Prep Time: 9:40

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-10

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
<input type="checkbox"/>	B8G0141-BLK1 <u>(A)</u>	NA	NA	(0.250) ✓	FR az 7-18-18	FR	HN FR 7/19/18
<input type="checkbox"/>	B8G0141-BS1 ↓	↓	↓	(0.250) ✓	↓	↓	↓
<input type="checkbox"/>	B8G0141-BSD1 ↓	↓	↓	(0.250) ✓	↓	↓	↓
<input type="checkbox"/>	1801769-01	292.34	37.40	0.25494 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-02	293.61	37.33	0.25628 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-03	292.45	37.43	0.25502 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-04	293.56	37.34	0.25622 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-05	290.02	37.08	0.25294 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-06	293.82	37.33	0.25649 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-07	288.76	37.35	0.25141 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-08	292.46	37.06	0.25540 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-09	290.66	37.26	0.25340 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-10	290.60	37.33	0.25327 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-11	292.61	37.24	0.25533 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-12	295.93	37.12	0.25881 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-13	291.24	37.21	0.25403 ✓	↓	↓	↓

SS/IS: <u>18G0301, 20µL (V5)</u> NS: <u>18F2207, 20µL</u> IS/RS: <u>18G0302, 20µL (V5)</u>	SPE Chem: <u>Strata-X 33µm 500mg/mL</u> Lot#: <u>517-005969</u> Ele SOLV: <u>MeOH</u> Lot#: <u>10897109 731</u> Final Volume(s) <u>1mL</u>	Notes: <u>(A) Trizma added to sample FR 7-18-18</u>
--	--	---

Comments: Assume 1 g = 1 mL
 Cen = Centrifuged

PREPARATION BENCH SHEET

Matrix: Aqueous

B8G0141

Chemist: FR

Method: 537 PFAS DW DoD Unmodified

Prep Date: 7-18-18

Prep Time: 9:40

Prepared using: LCMS - SPE Extraction-LCMS

BalanceID: HRMS-10

Cen	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	SS/NS CHEM/WIT DATE	SPE	IS CHEM/WIT DATE
<input type="checkbox"/>	1801769-14	291.48	37.14	0.25434 ✓	7R aE 7-18-18	7R 7-18-18	HN 7R 7/19/18
<input type="checkbox"/>	1801769-15	290.38	37.40	0.25298 ✓	↓	↓	↓
<input type="checkbox"/>	1801769-16	294.50	37.29	0.25305 0.25721 ✓			
<input type="checkbox"/>	1801769-17	290.46	37.41	0.25305 ✓			
<input type="checkbox"/>	1801769-18	290.98	37.42	0.25356 ✓			
<input type="checkbox"/>	1801769-19	288.26	37.36	0.25090 ✓			
<input type="checkbox"/>	1801769-20	288.89	37.05	0.25184 ✓			

SS/IS: <u>1860301, 20 mL (V5)</u> NS: <u>18F2207, 20 mL</u> IS/RS: <u>1860302, 20 mL V</u>	SPE Chem: <u>Strata-X 33µm 500mg/mL</u> Lot#: <u>517-005969</u> Ele SOLV: <u>MeOH</u> Lot#: <u>10897109 73J</u> Final Volume(s) <u>1 mL</u>	Notes:
--	---	--------

Comments: Assume 1 g = 1 mL
Cen = Centrifuged

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1801769-01	0.25494 ✓	NA	NA	1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-02	0.25628 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-03	0.25502 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-04	0.25622 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-05	0.25294 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-06	0.25649 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-07	0.25141 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-08	0.2554 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-09	0.2534 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-10	0.25327 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-11	0.25533 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-12	0.25881 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-13	0.25403 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-14	0.25434 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-15	0.25298 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-16	0.25721 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-17	0.25305 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-18	0.25356 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-19	0.2509 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
1801769-20	0.25184 ✓			1000	18-Jul-18 09:40	FBR			Drinking Water	537 PFAS DW DoD Unmod
B8G0141-BLK1	0.25 ✓			1000	18-Jul-18 09:40	FBR				QC
B8G0141-BS1	0.25 ✓			1000	18-Jul-18 09:40	FBR	18F2207 ✓	20 ✓		QC
B8G0141-BSD1	0.25 ✓			1000	18-Jul-18 09:40	FBR	18F2207 ✓	20 ✓		QC

by 7/19/18

SAMPLE DATA –EPA METHOD 537

MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-09.qld

Last Altered: Sunday, July 22, 2018 15:08:47 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:09:22 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_9, Date: 20-Jul-2018, Time: 17:40:41, ID: B8G0141-BLK1 LRB 0.25, Description: LRB

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.35e4	0.250		2.96				
2	2 PFHxA	312.7 > 268.8	5.85e1	1.09e4	0.250		3.34	3.34	0.0537	0.264	
3	3 PFHpA	362.7 > 318.8	1.28e1	1.09e4	0.250		3.85	3.86	0.0118	0.0536	
4	4 PFHxS	398.7 > 80.7		1.35e4	0.250		3.98				
5	5 PFOA	412.8 > 369.0	1.33e1	1.09e4	0.250		4.28	4.26	0.0123	0.0673	
6	6 PFNA	462.9 > 419.1		1.09e4	0.250		4.64				
7	7 PFOS	498.8 > 80.7		1.35e4	0.250		4.70				
8	8 PFDA	512.8 > 469.0	2.87e1	1.09e4	0.250		4.92	4.96	0.0264	0.121	
9	9 N-MeFOSAA	569.7 > 419.0	4.16e0	1.57e4	0.250		5.06	5.06	0.0106	0.0367	
10	10 N-EtFOSAA	583.6 > 419.1		1.57e4	0.250		5.17				
11	11 PFUnA	562.7 > 518.9		1.09e4	0.250		5.16				
12	12 PFDoA	612.5 > 319.0		1.09e4	0.250		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.09e4	0.250		5.61				
14	14 PFTeDA	712.2 > 668.4		1.09e4	0.250		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	7.83e3	1.09e4	0.250	0.753	3.43	3.34	7.19	38.2	95.6
16	16 13C2-PFDA	514.8 > 470.0	9.78e3	1.09e4	0.250	1.023	4.87	4.94	8.99	35.2	87.9
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.25e4	1.57e4	0.250	1.264	5.05	5.17	57.3	181	113.3
18	18 13C2-PFOA	414.8 > 370.1	1.09e4	1.09e4	0.250	1.000	4.28	4.28	10.0	40.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.35e4	1.35e4	0.250	1.000	4.71	4.70	28.7	115	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.57e4	1.57e4	0.250	1.000	5.04	5.05	40.0	160	100.0

MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-09.qld

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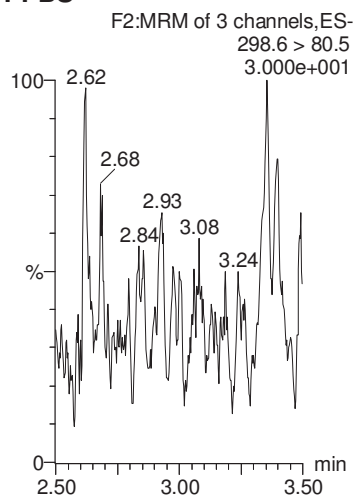
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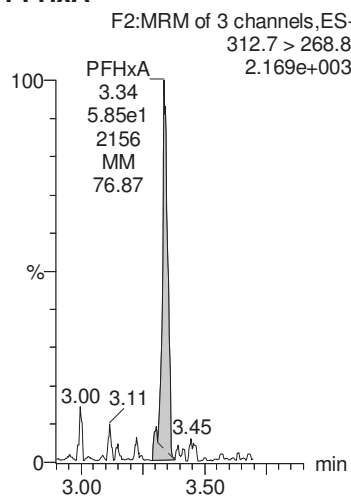
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Name: 180720G2_9, Date: 20-Jul-2018, Time: 17:40:41, ID: B8G0141-BLK1 LRB 0.25, Description: LRB

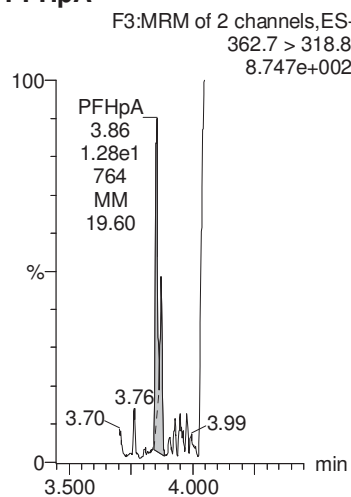
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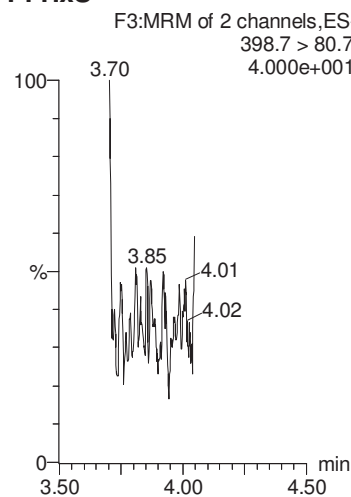
PFHxA



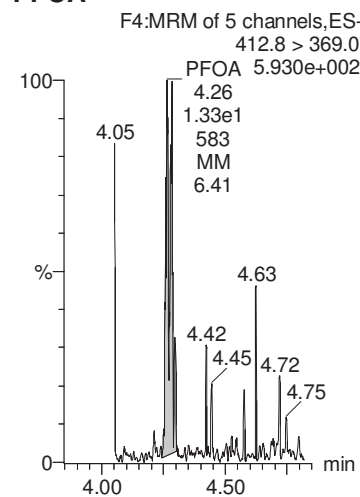
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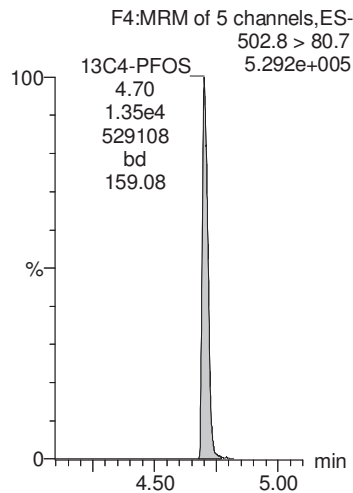
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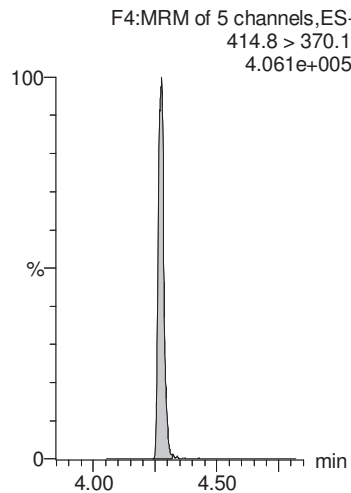
PFOA



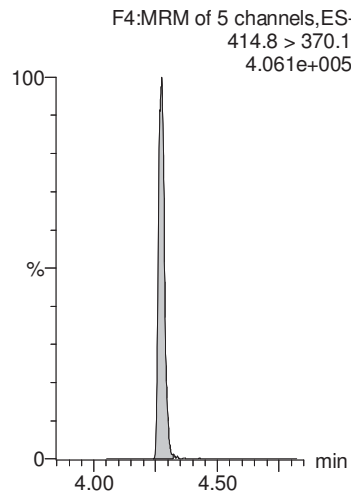
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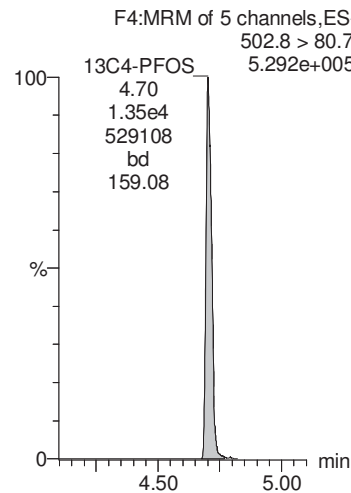
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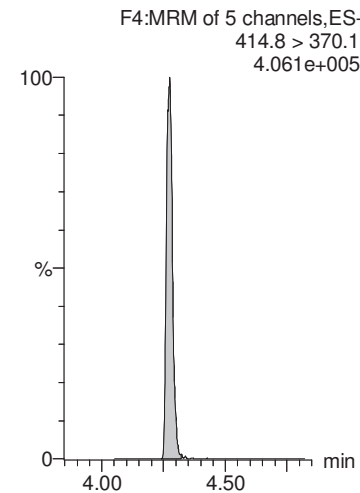
13C2-PFOA



13C4-PFOS



13C2-PFOA



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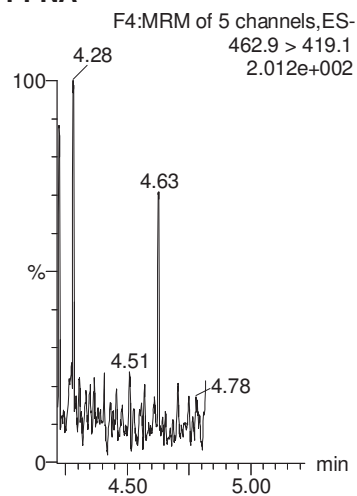
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Last Altered: Sunday, July 22, 2018 15:08:47 Pacific Daylight Time

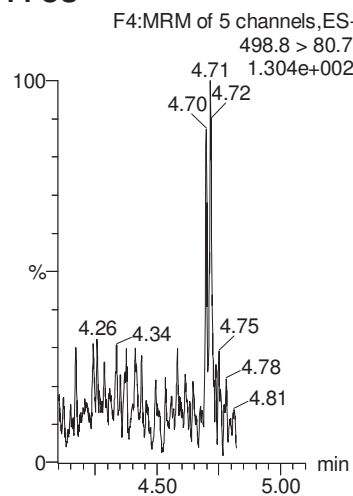
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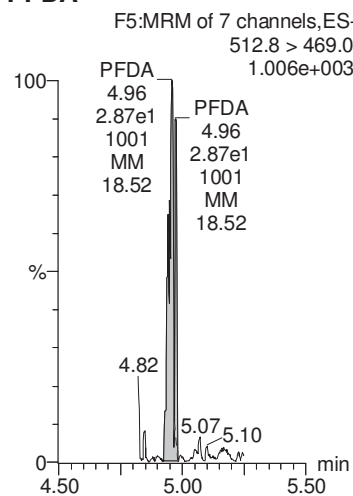
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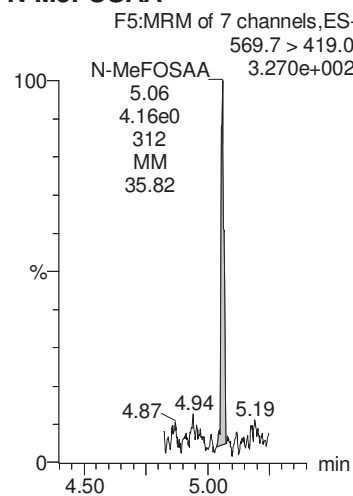
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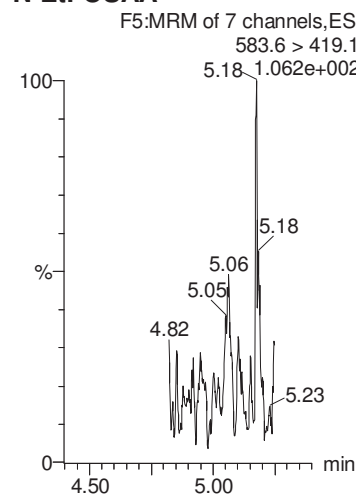
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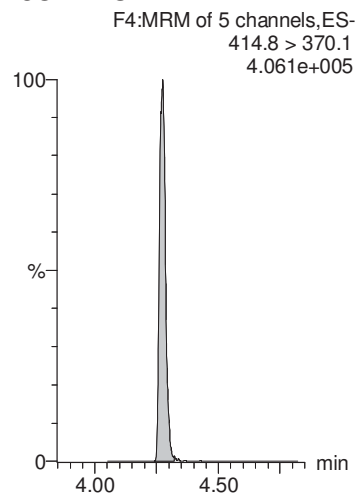
N-MeFOSAA



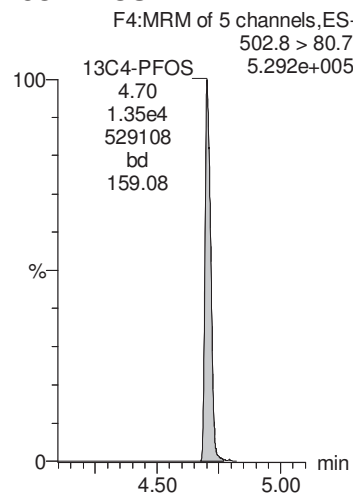
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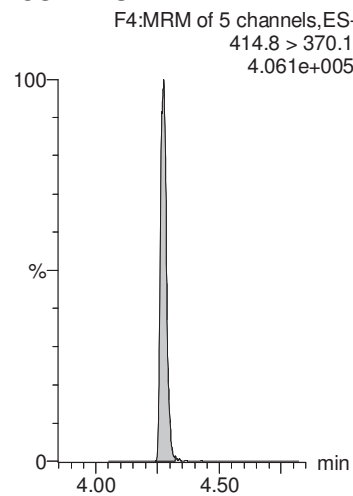
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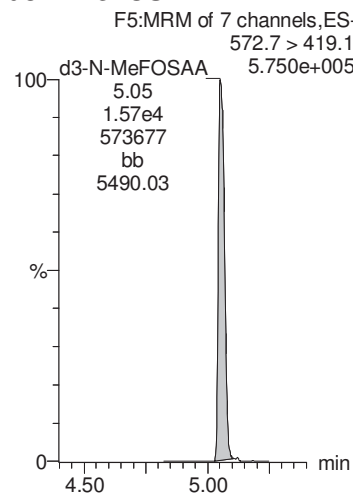
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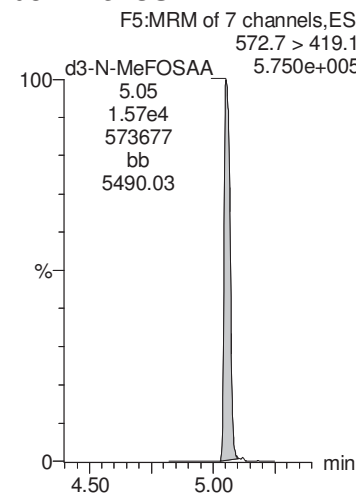
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d3-N-MeFOSAA



d3-N-MeFOSAA



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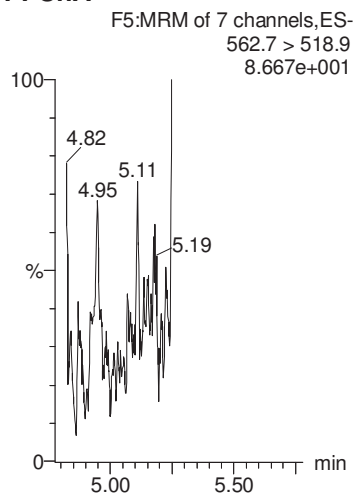
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Last Altered: Sunday, July 22, 2018 15:08:47 Pacific Daylight Time

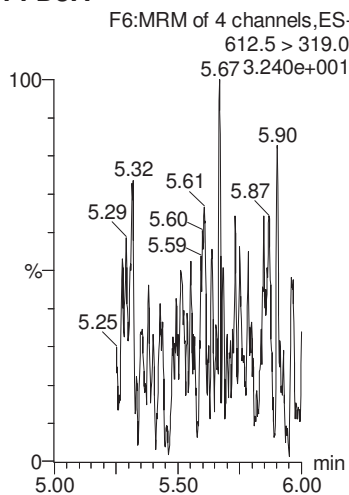
Printed: Sunday, July 22, 2018 15:09:22 Pacific Daylight Time

Name: 180720G2_9, Date: 20-Jul-2018, Time: 17:40:41, ID: B8G0141-BLK1 LRB 0.25, Description: LRB

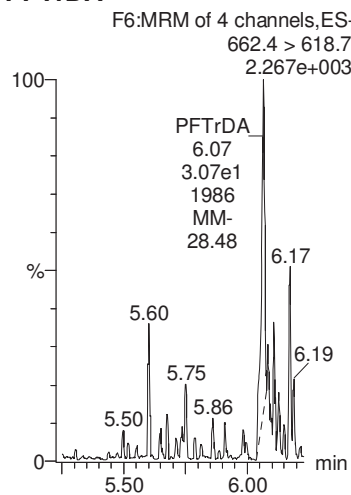
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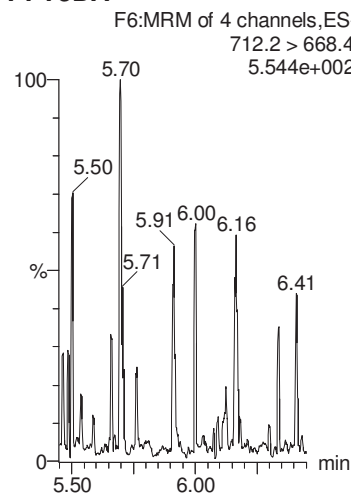
PFDaA



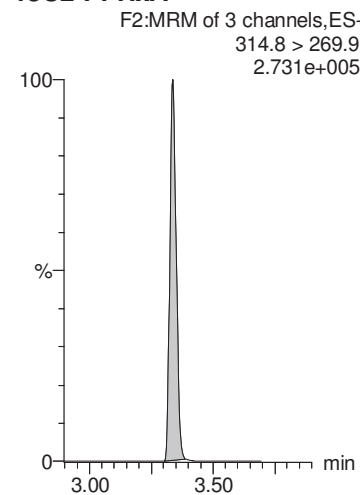
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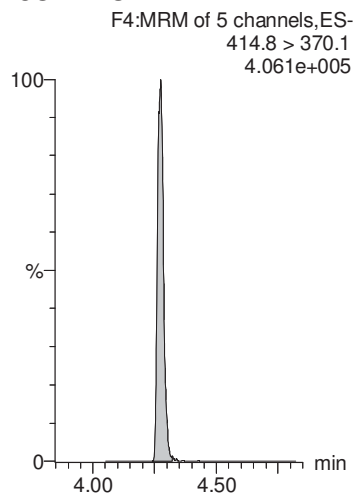
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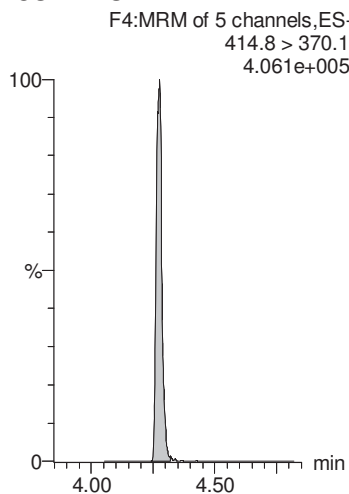
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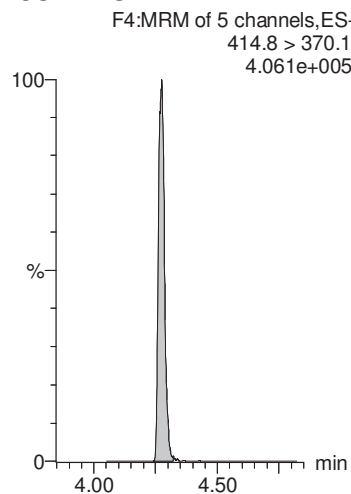
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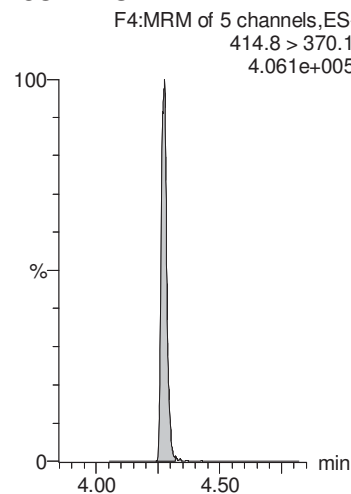
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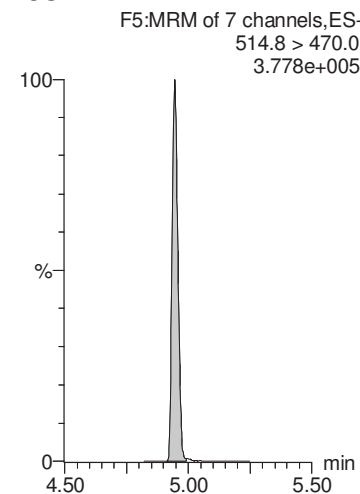
13C2-PFOA



13C2-PFOA



13C2-PFDA



MMM 7/23/2018

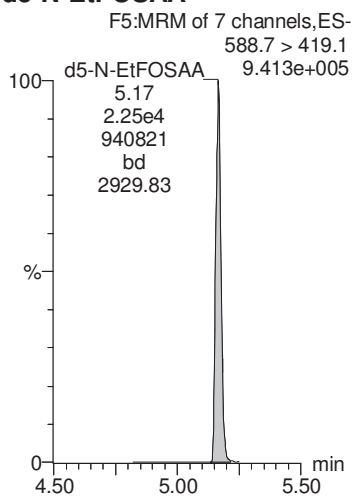
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Last Altered: Sunday, July 22, 2018 15:08:47 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:09:22 Pacific Daylight Time

Name: 180720G2_9, Date: 20-Jul-2018, Time: 17:40:41, ID: B8G0141-BLK1 LRB 0.25, Description: LRB

d5-N-EtFOSAA



MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-10.qld

Last Altered: Sunday, July 22, 2018 15:12:05 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:12:21 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_10, Date: 20-Jul-2018, Time: 17:53:30, ID: B8G0141-BS1 LFB 0.25, Description: LFB

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5	1.65e3	1.18e4	0.250		2.96	2.96	4.03	16.9	95.6
2	2 PFHxA	312.7 > 268.8	3.28e3	8.90e3	0.250		3.34	3.34	3.69	18.1	90.7
3	3 PFHpA	362.7 > 318.8	3.69e3	8.90e3	0.250		3.85	3.86	4.15	18.9	94.7
4	4 PFHxS	398.7 > 80.7	1.87e3	1.18e4	0.250		3.98	3.98	4.55	16.1	88.6
5	5 PFOA	412.8 > 369.0	3.24e3	8.90e3	0.250		4.28	4.27	3.64	19.9	99.7
6	6 PFNA	462.9 > 419.1	3.38e3	8.90e3	0.250		4.64	4.63	3.80	17.4	87.2
7	7 PFOS	498.8 > 80.7	6.03e2	1.18e4	0.250		4.70	4.71	1.47	15.9	85.7
8	8 PFDA	512.8 > 469.0	3.31e3	8.90e3	0.250		4.92	4.94	3.72	17.1	85.3
9	9 N-MeFOSAA	569.7 > 419.0	1.86e3	1.46e4	0.250		5.06	5.06	5.11	17.7	88.4
10	10 N-EtFOSAA	583.6 > 419.1	1.73e3	1.46e4	0.250		5.17	5.17	4.74	19.0	95.1
11	11 PFUnA	562.7 > 518.9	3.72e3	8.90e3	0.250		5.17	5.18	4.19	17.4	87.1
12	12 PFDoA	612.5 > 319.0	5.45e2	8.90e3	0.250		5.41	5.40	0.613	16.7	83.4
13	13 PFTTrDA	662.4 > 618.7	3.57e3	8.90e3	0.250		5.62	5.61	4.01	17.8	89.0
14	14 PFTeDA	712.2 > 668.4	3.35e3	8.90e3	0.250		5.80	5.80	3.76	16.2	81.2
15	15 13C2-PFHxA	314.8 > 269.9	6.70e3	8.90e3	0.250	0.753	3.43	3.34	7.53	40.0	100.0
16	16 13C2-PFDA	514.8 > 470.0	8.68e3	8.90e3	0.250	1.023	4.88	4.94	9.76	38.2	95.4
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.73e4	1.46e4	0.250	1.264	5.05	5.16	47.4	150	93.6
18	18 13C2-PFOA	414.8 > 370.1	8.90e3	8.90e3	0.250	1.000	4.28	4.28	10.0	40.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.18e4	1.18e4	0.250	1.000	4.71	4.71	28.7	115	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.46e4	1.46e4	0.250	1.000	5.04	5.05	40.0	160	100.0

MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-10.qld

Last Altered: Sunday, July 22, 2018 15:12:05 Pacific Daylight Time

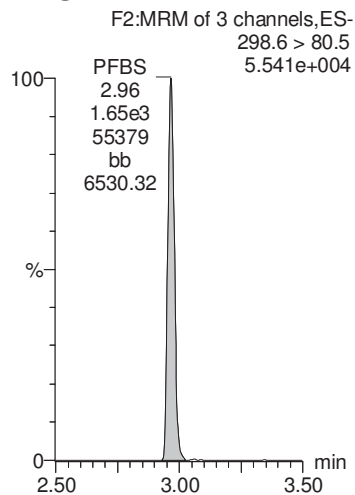
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Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

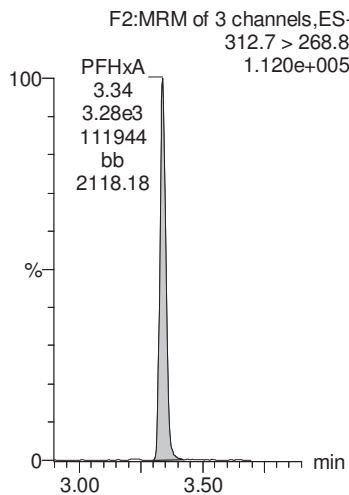
Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_10, Date: 20-Jul-2018, Time: 17:53:30, ID: B8G0141-BS1 LFB 0.25, Description: LFB

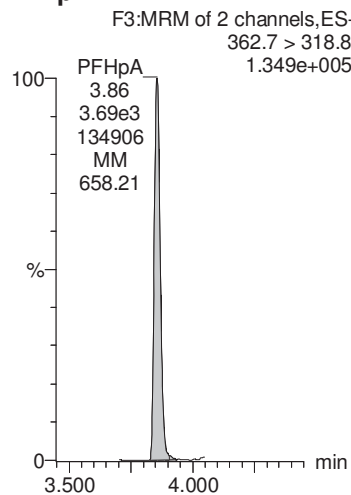
PFBS



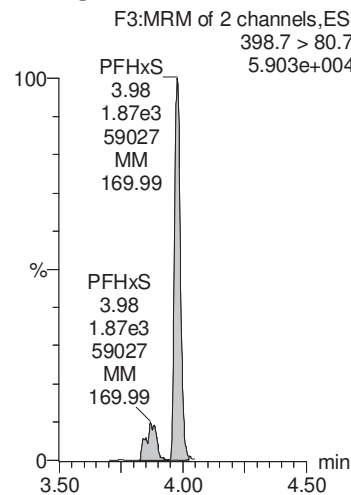
PFHxA



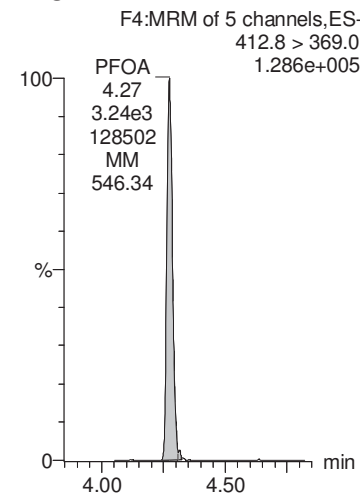
PFHpA



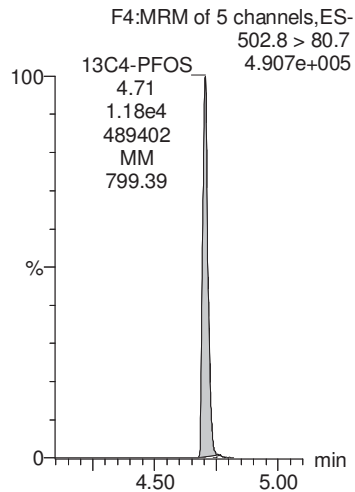
PFHxS



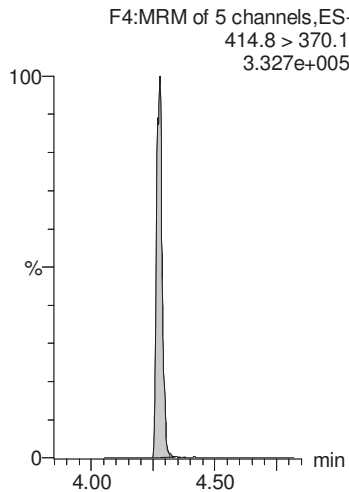
PFOA



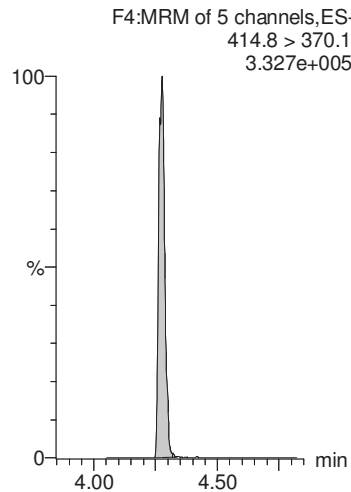
13C4-PFOS



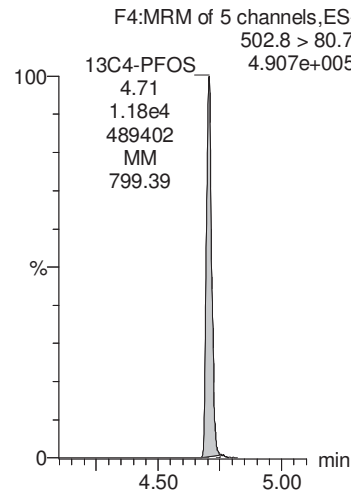
13C2-PFOA



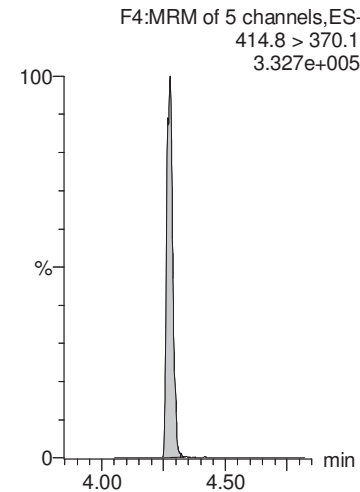
13C2-PFOA



13C4-PFOS



13C2-PFOA



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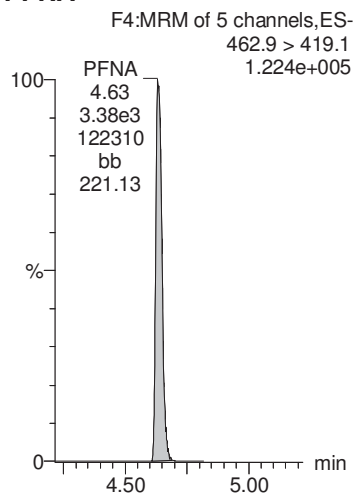
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Last Altered: Sunday, July 22, 2018 15:12:05 Pacific Daylight Time

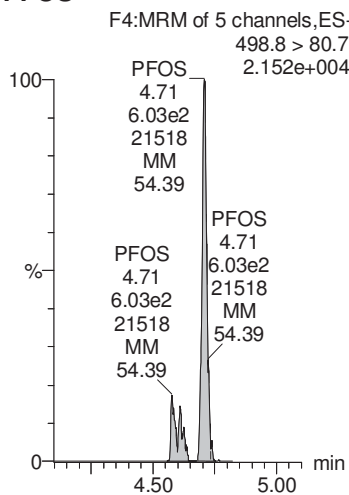
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Name: 180720G2_10, Date: 20-Jul-2018, Time: 17:53:30, ID: B8G0141-BS1 LFB 0.25, Description: LFB

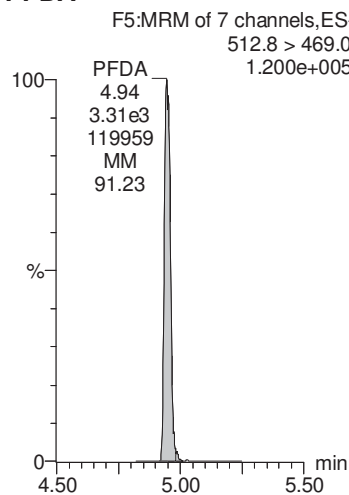
PFNA



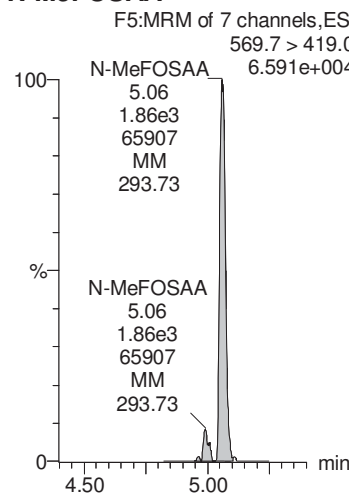
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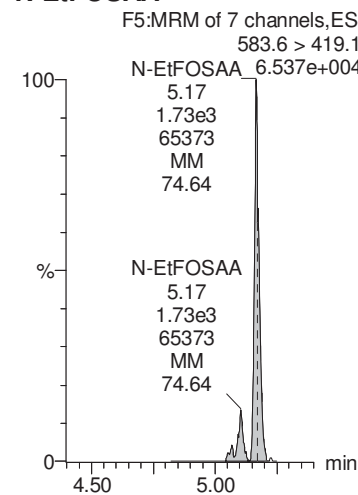
PFDA



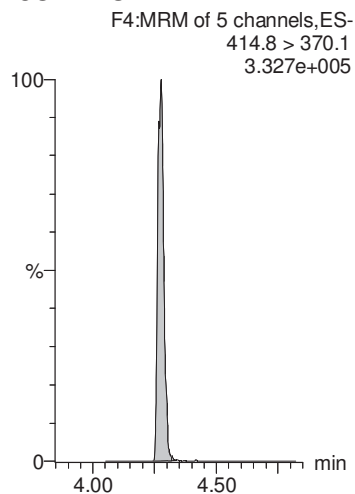
N-MeFOSAA



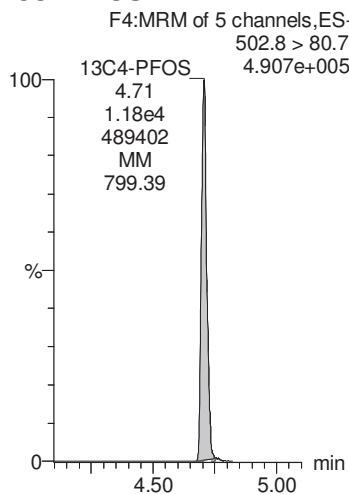
N-EtFOSAA



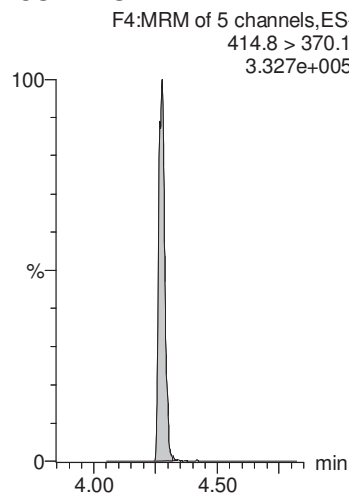
13C2-PFOA



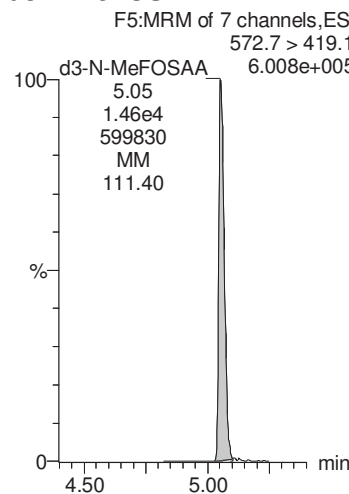
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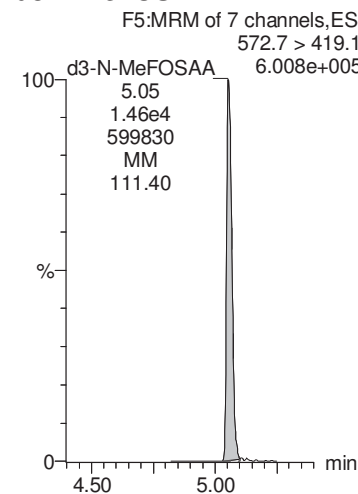
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-10.qld

Last Altered: Sunday, July 22, 2018 15:12:05 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:12:21 Pacific Daylight Time

Name: 180720G2_10, Date: 20-Jul-2018, Time: 17:53:30, ID: B8G0141-BS1 LFB 0.25, Description: LFB

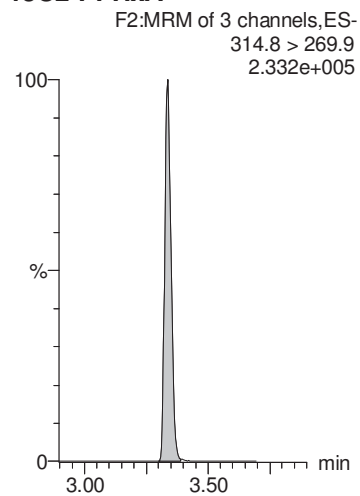
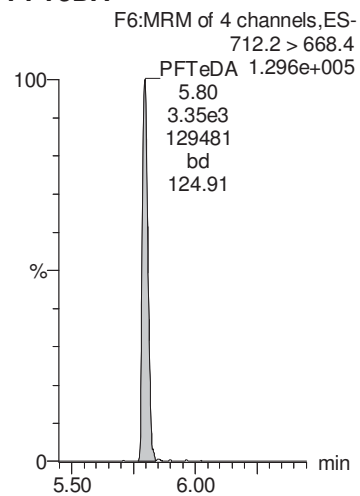
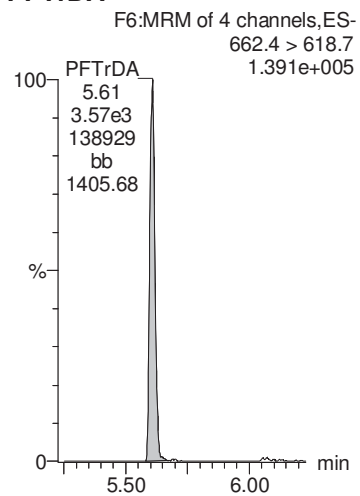
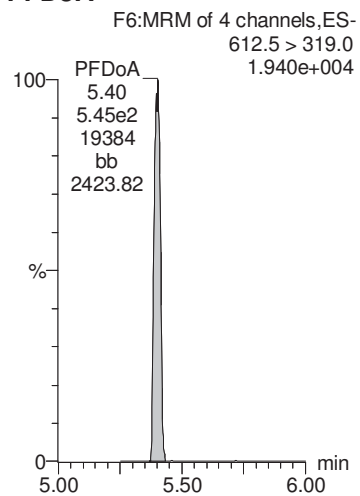
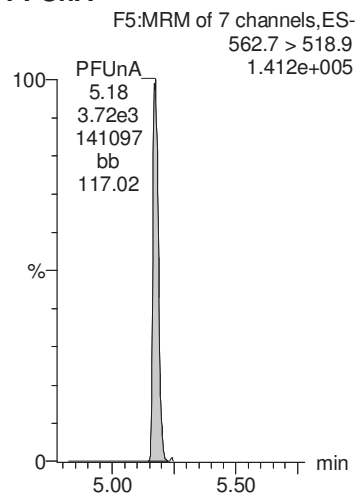
PFUnA

PFDaA

PFTrDA

PFTeDA

13C2-PFHxA



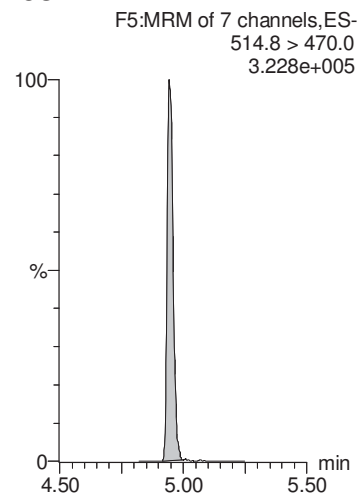
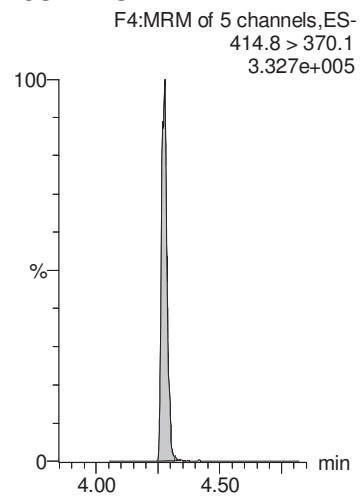
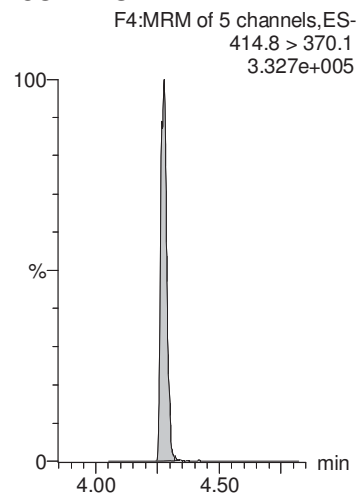
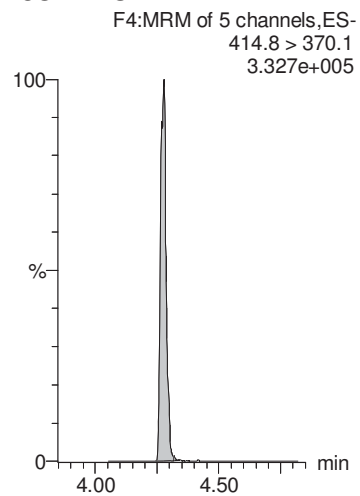
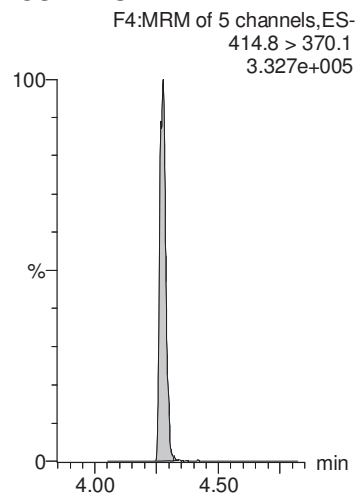
13C2-PFOA

13C2-PFOA

13C2-PFOA

13C2-PFOA

13C2-PFDA



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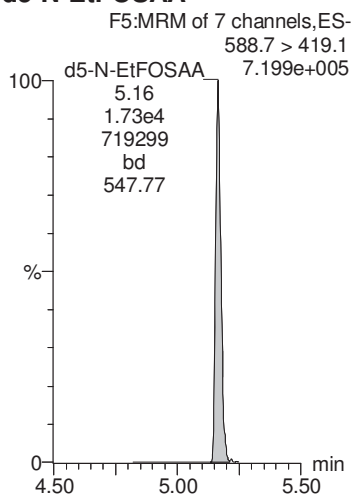
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Last Altered: Sunday, July 22, 2018 15:12:05 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:12:21 Pacific Daylight Time

Name: 180720G2_10, Date: 20-Jul-2018, Time: 17:53:30, ID: B8G0141-BS1 LFB 0.25, Description: LFB

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-11.qld

Last Altered: Sunday, July 22, 2018 15:13:59 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:14:19 Pacific Daylight Time

Method: X:\G1.PRO\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: X:\G1.PRO\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_11, Date: 20-Jul-2018, Time: 18:06:18, ID: B8G0141-BSD1 LFB0 0.25, Description: LFB0

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5	2.00e3	1.34e4	0.250		2.96	2.96	4.28	18.0	101.5
2	2 PFHxA	312.7 > 268.8	3.95e3	1.03e4	0.250		3.34	3.34	3.83	18.8	94.2
3	3 PFHpA	362.7 > 318.8	4.43e3	1.03e4	0.250		3.85	3.85	4.29	19.6	97.9
4	4 PFHxS	398.7 > 80.7	2.33e3	1.34e4	0.250		3.98	3.98	4.99	17.7	97.1
5	5 PFOA	412.8 > 369.0	3.54e3	1.03e4	0.250		4.28	4.27	3.43	18.8	94.1
6	6 PFNA	462.9 > 419.1	4.11e3	1.03e4	0.250		4.64	4.63	3.98	18.3	91.4
7	7 PFOS	498.8 > 80.7	7.84e2	1.34e4	0.250		4.70	4.70	1.68	18.1	98.0
8	8 PFDA	512.8 > 469.0	4.07e3	1.03e4	0.250		4.92	4.95	3.95	18.1	90.6
9	9 N-MeFOSAA	569.7 > 419.0	2.41e3	1.71e4	0.250		5.07	5.06	5.62	19.4	97.2
10	10 N-EtFOSAA	583.6 > 419.1	1.83e3	1.71e4	0.250		5.18	5.17	4.28	17.1	85.7
11	11 PFUnA	562.7 > 518.9	4.65e3	1.03e4	0.250		5.16	5.18	4.50	18.8	93.8
12	12 PFDoA	612.5 > 319.0	7.56e2	1.03e4	0.250		5.40	5.40	0.733	20.0	99.8
13	13 PFTTrDA	662.4 > 618.7	3.95e3	1.03e4	0.250		5.61	5.60	3.83	17.0	84.9
14	14 PFTeDA	712.2 > 668.4	4.17e3	1.03e4	0.250		5.80	5.80	4.04	17.5	87.3
15	15 13C2-PFHxA	314.8 > 269.9	7.81e3	1.03e4	0.250	0.753	3.43	3.34	7.57	40.3	100.6
16	16 13C2-PFDA	514.8 > 470.0	9.98e3	1.03e4	0.250	1.023	4.87	4.95	9.68	37.9	94.7
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.18e4	1.71e4	0.250	1.264	5.06	5.17	50.8	161	100.4
18	18 13C2-PFOA	414.8 > 370.1	1.03e4	1.03e4	0.250	1.000	4.28	4.27	10.0	40.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.34e4	1.34e4	0.250	1.000	4.71	4.70	28.7	115	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.71e4	1.71e4	0.250	1.000	5.04	5.06	40.0	160	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-11.qld

Last Altered: Sunday, July 22, 2018 15:13:59 Pacific Daylight Time

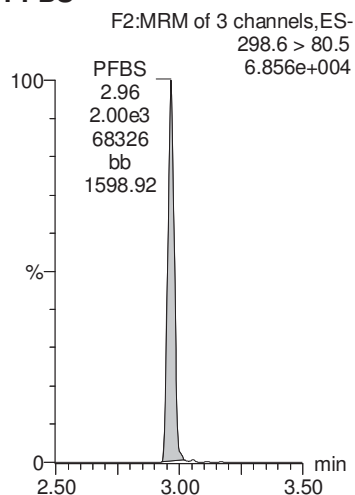
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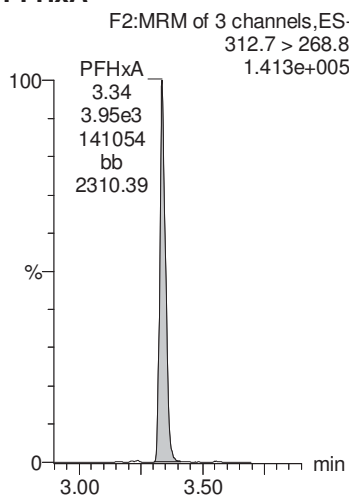
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Name: 180720G2_11, Date: 20-Jul-2018, Time: 18:06:18, ID: B8G0141-BSD1 LFBD 0.25, Description: LFBD

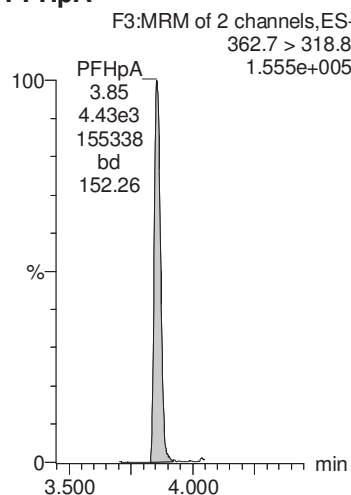
PFBS



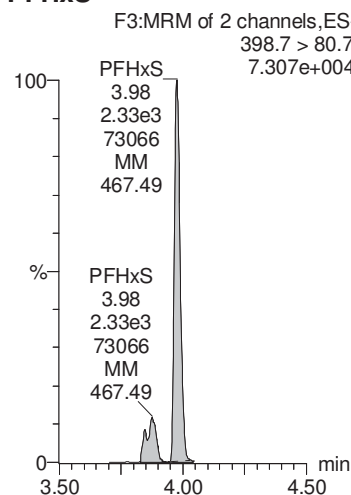
PFHxA



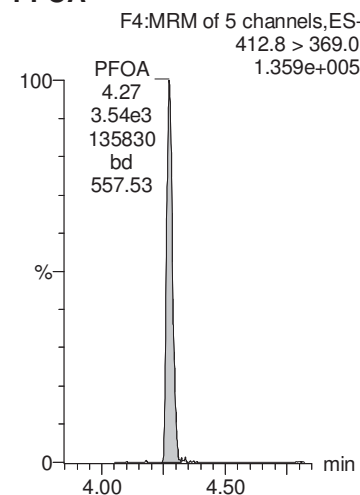
PFHpA



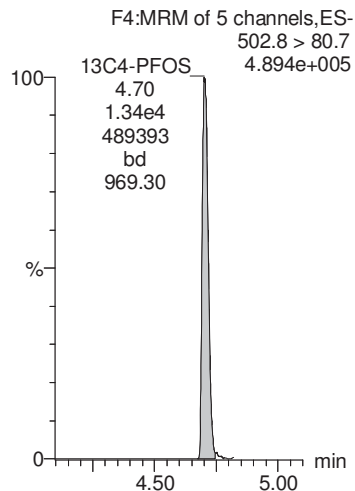
PFHxS



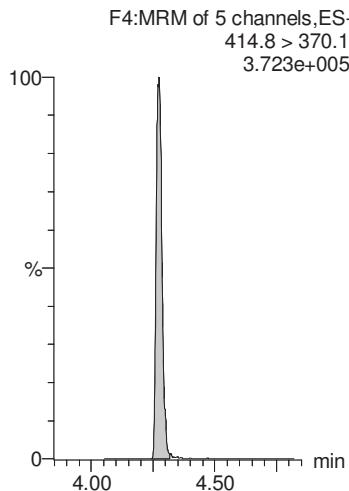
PFOA



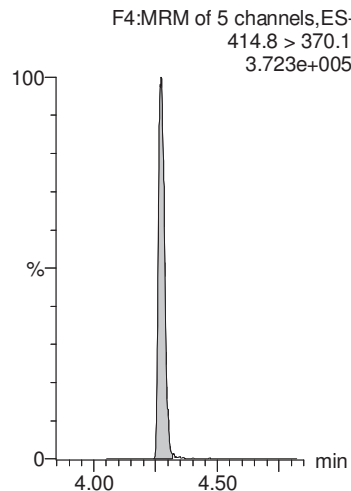
13C4-PFOS



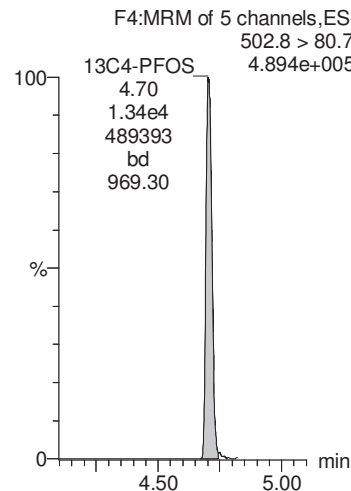
13C2-PFOA



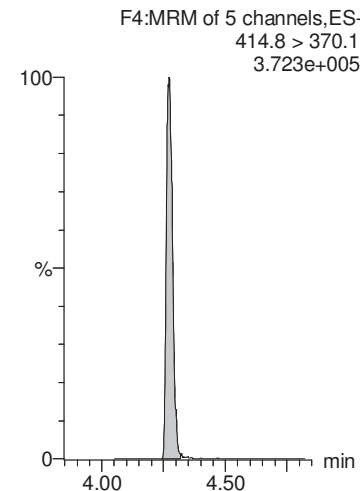
13C2-PFOA



13C4-PFOS



13C2-PFOA



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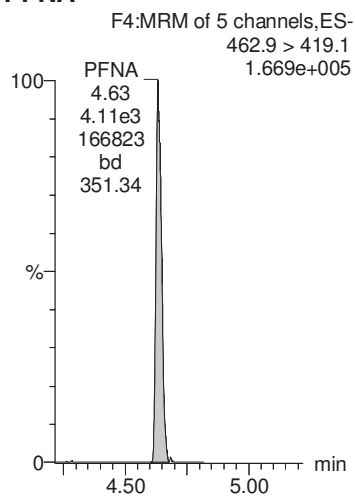
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Last Altered: Sunday, July 22, 2018 15:13:59 Pacific Daylight Time

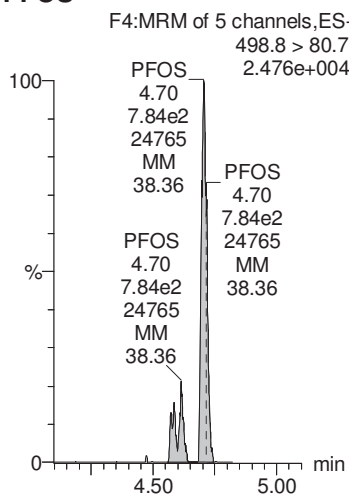
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Name: 180720G2_11, Date: 20-Jul-2018, Time: 18:06:18, ID: B8G0141-BSD1 LFBD 0.25, Description: LFBD

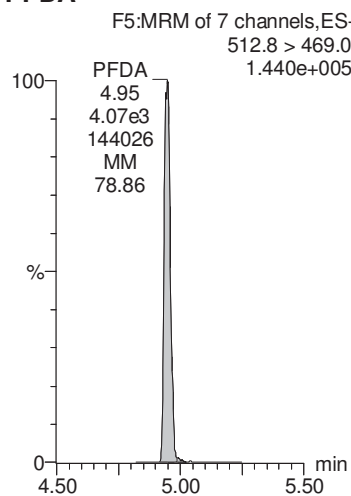
PFNA



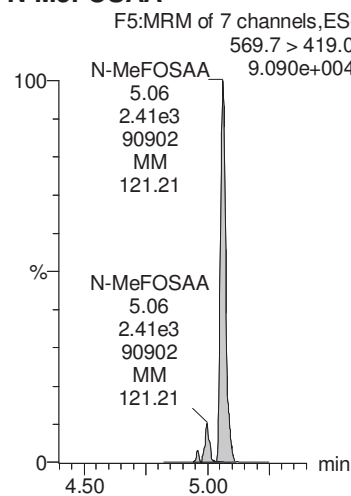
PFOS



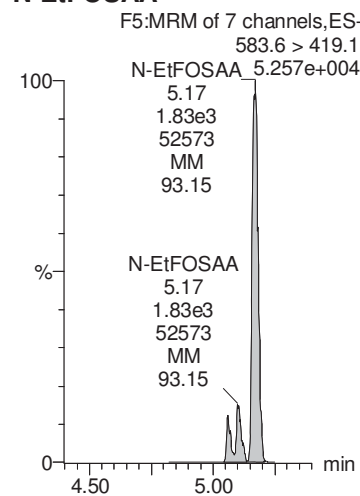
PFDA



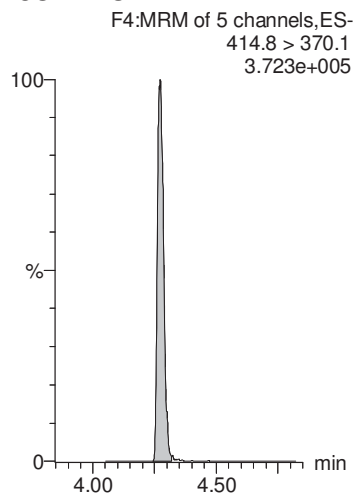
N-MeFOSAA



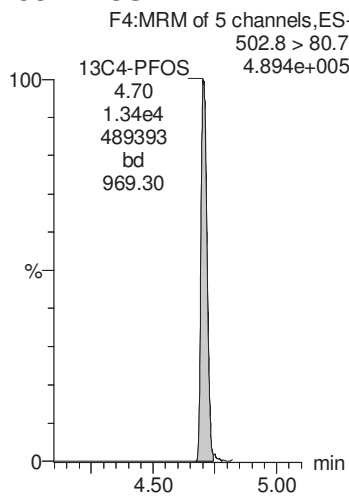
N-EtFOSAA



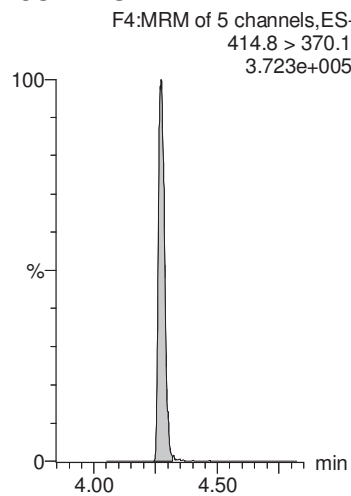
13C2-PFOA



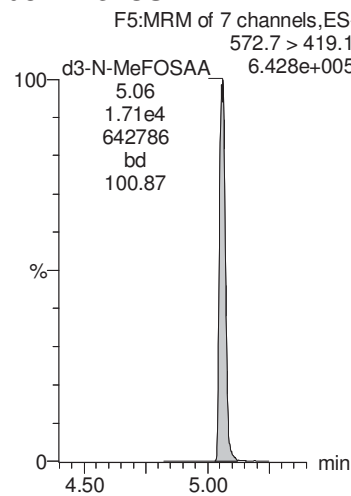
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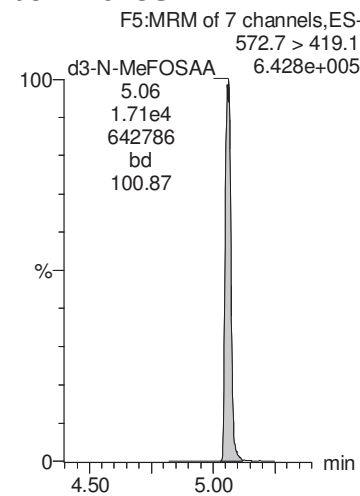
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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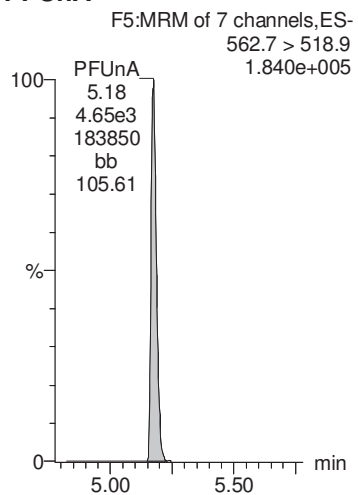
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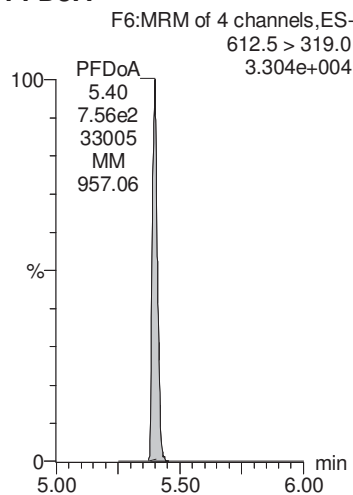
Printed: Sunday, July 22, 2018 15:14:19 Pacific Daylight Time

Name: 180720G2_11, Date: 20-Jul-2018, Time: 18:06:18, ID: B8G0141-BSD1 LFBD 0.25, Description: LFBD

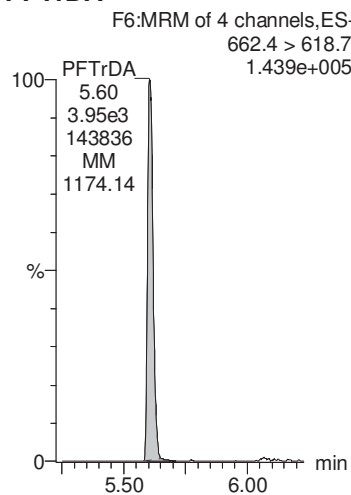
PFUnA



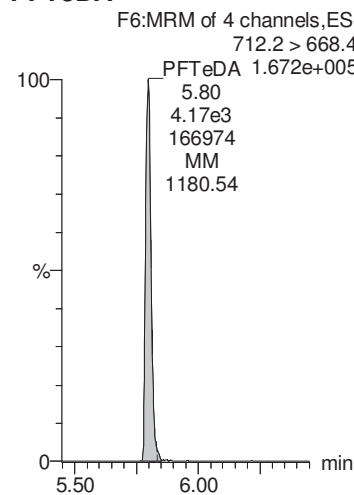
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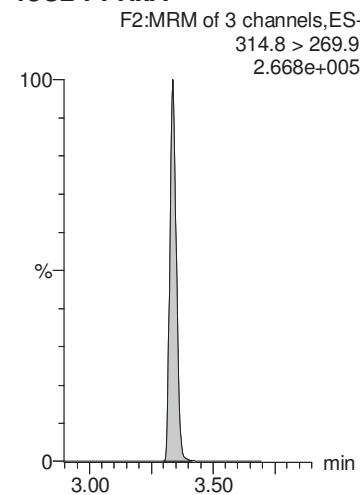
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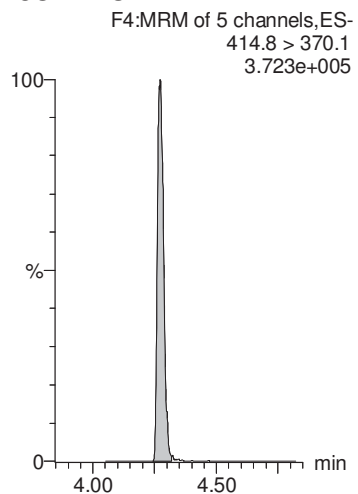
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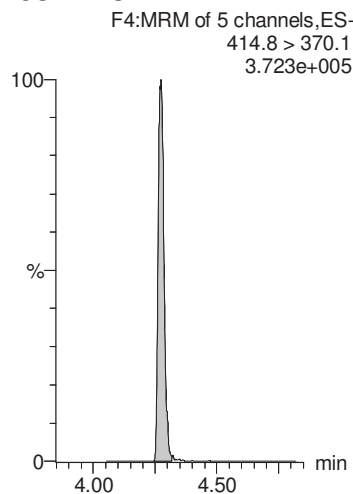
13C2-PFHxA



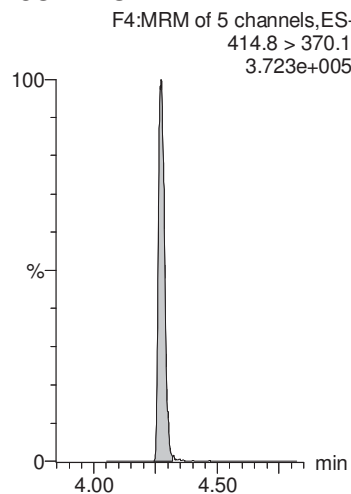
13C2-PFOA



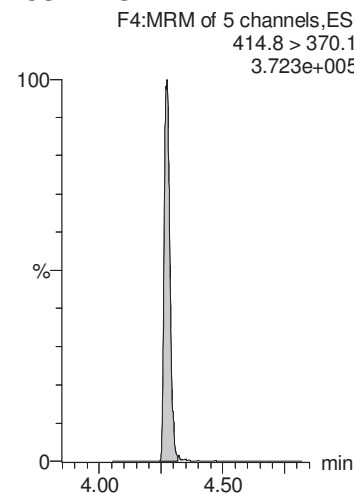
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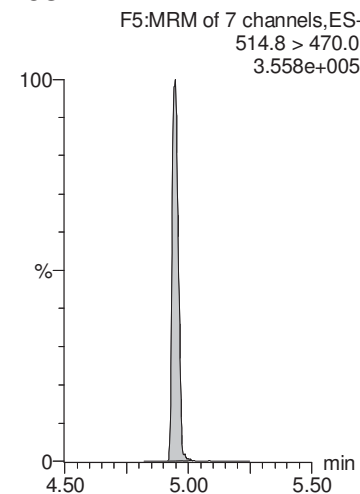
13C2-PFOA



13C2-PFOA



13C2-PFDA



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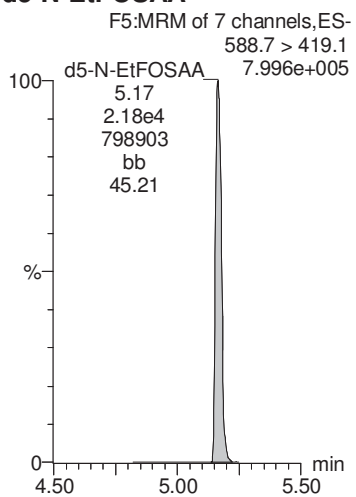
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Last Altered: Sunday, July 22, 2018 15:13:59 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:14:19 Pacific Daylight Time

Name: 180720G2_11, Date: 20-Jul-2018, Time: 18:06:18, ID: B8G0141-BSD1 LFBD 0.25, Description: LFBD

d5-N-EtFOSAA



MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-41.qld

Last Altered: Sunday, July 22, 2018 15:00:09 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:00:47 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_41, Date: 21-Jul-2018, Time: 00:30:43, ID: 1801769-01 CBD-1RW11-0718 0.25494, Description: CBD-1RW11-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5	1.95e1	1.01e4	0.255		2.96	2.98	0.0554	0.228	
2	2 PFHxA	312.7 > 268.8	9.00e1	8.81e3	0.255		3.34	3.34	0.102	0.493	
3	3 PFHpA	362.7 > 318.8		8.81e3	0.255		3.85				
4	4 PFHxS	398.7 > 80.7	1.94e1	1.01e4	0.255		3.98	3.97	0.0551	0.192	
5	5 PFOA	412.8 > 369.0	2.51e1	8.81e3	0.255		4.28	4.29	0.0285	0.153	
6	6 PFNA	462.9 > 419.1		8.81e3	0.255		4.64				
7	7 PFOS	498.8 > 80.7		1.01e4	0.255		4.70				
8	8 PFDA	512.8 > 469.0	3.57e1	8.81e3	0.255		4.92	4.95	0.0405	0.182	
9	9 N-MeFOSAA	569.7 > 419.0		1.30e4	0.255		5.07				
10	10 N-EtFOSAA	583.6 > 419.1		1.30e4	0.255		5.19				
11	11 PFUnA	562.7 > 518.9		8.81e3	0.255		5.16				
12	12 PFDoA	612.5 > 319.0		8.81e3	0.255		5.40				
13	13 PFTTrDA	662.4 > 618.7		8.81e3	0.255		5.61				
14	14 PFTeDA	712.2 > 668.4		8.81e3	0.255		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	6.23e3	8.81e3	0.255	0.753	3.43	3.34	7.08	36.9	94.0
16	16 13C2-PFDA	514.8 > 470.0	7.68e3	8.81e3	0.255	1.023	4.87	4.95	8.73	33.5	85.3
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.57e4	1.30e4	0.255	1.264	5.07	5.16	48.3	150	95.5
18	18 13C2-PFOA	414.8 > 370.1	8.81e3	8.81e3	0.255	1.000	4.28	4.27	10.0	39.2	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.01e4	1.01e4	0.255	1.000	4.71	4.70	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.30e4	1.30e4	0.255	1.000	5.04	5.07	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-41.qld

Last Altered: Sunday, July 22, 2018 15:00:09 Pacific Daylight Time

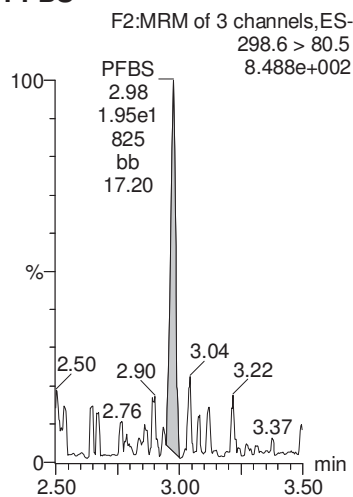
Printed: Sunday, July 22, 2018 15:00:47 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

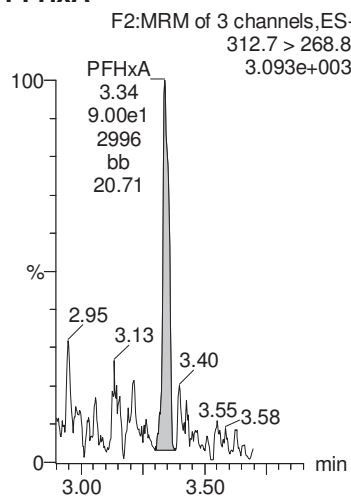
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Name: 180720G2_41, Date: 21-Jul-2018, Time: 00:30:43, ID: 1801769-01 CBD-1RW11-0718 0.25494, Description: CBD-1RW11-0718

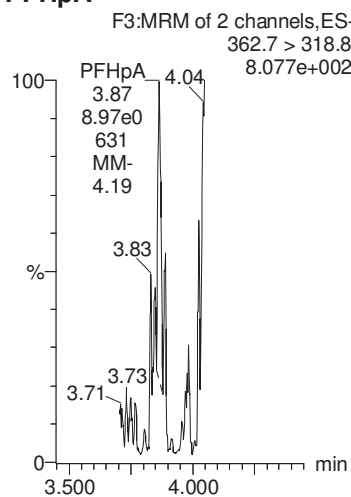
PFBS



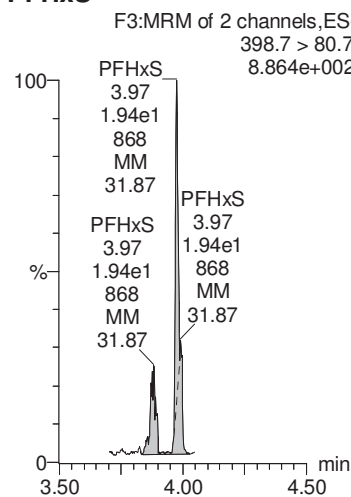
PFHxA



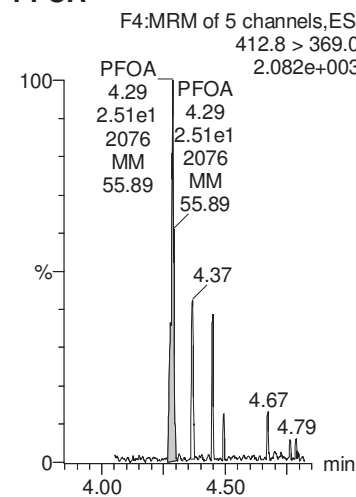
PFHpA



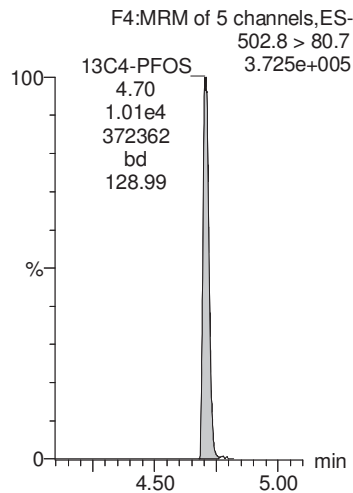
PFHxS



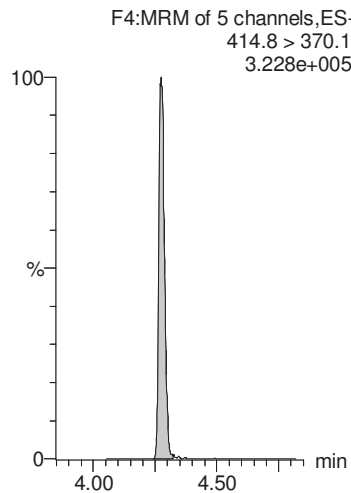
PFOA



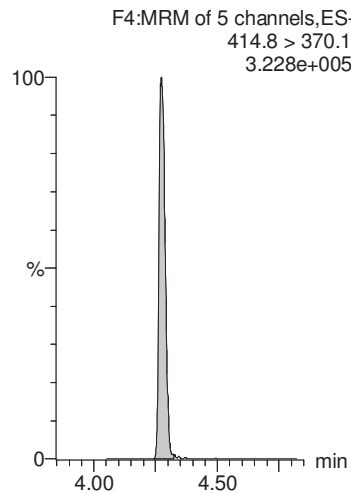
13C4-PFOS



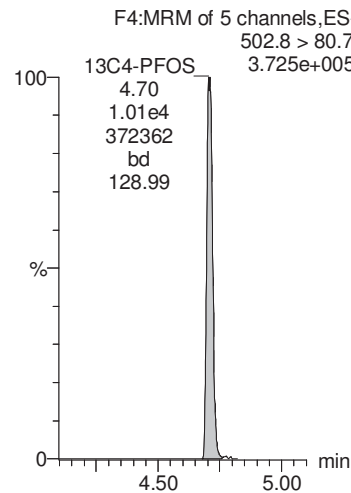
13C2-PFOA



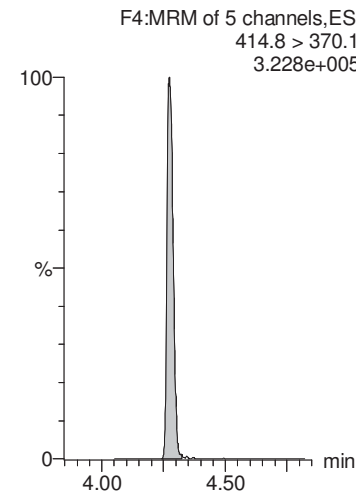
13C2-PFOA



13C4-PFOS



13C2-PFOA



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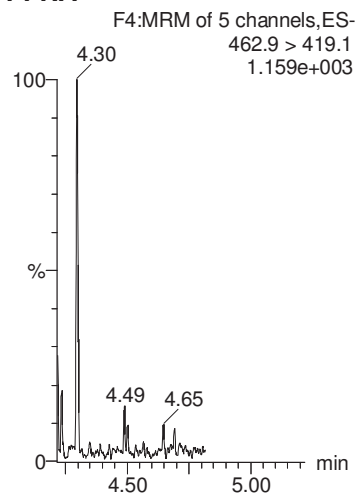
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Last Altered: Sunday, July 22, 2018 15:00:09 Pacific Daylight Time

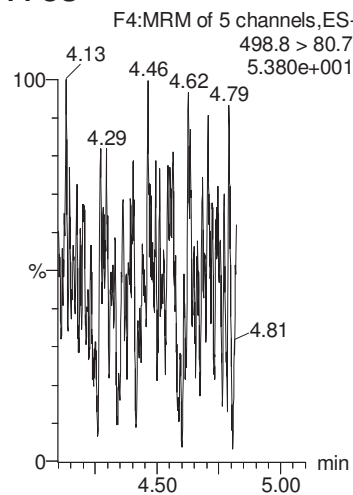
Printed: Sunday, July 22, 2018 15:00:47 Pacific Daylight Time

Name: 180720G2_41, Date: 21-Jul-2018, Time: 00:30:43, ID: 1801769-01 CBD-1RW11-0718 0.25494, Description: CBD-1RW11-0718

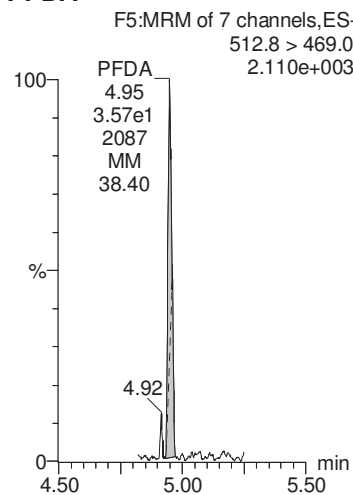
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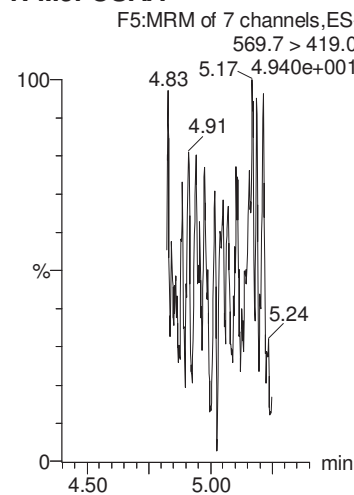
PFOS



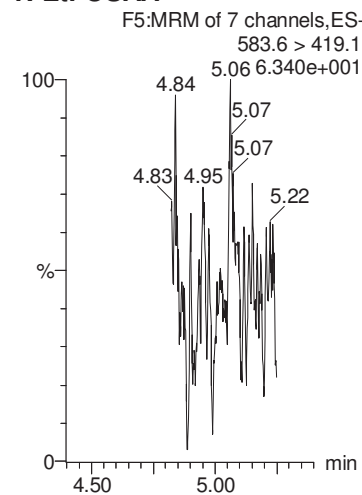
PFDA



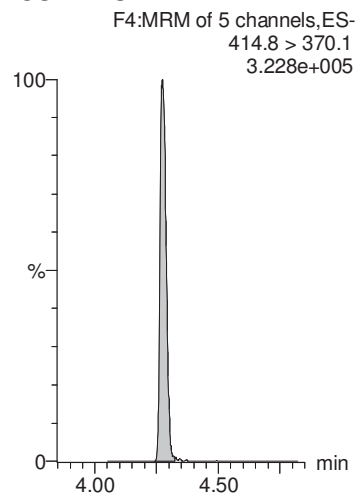
N-MeFOSAA



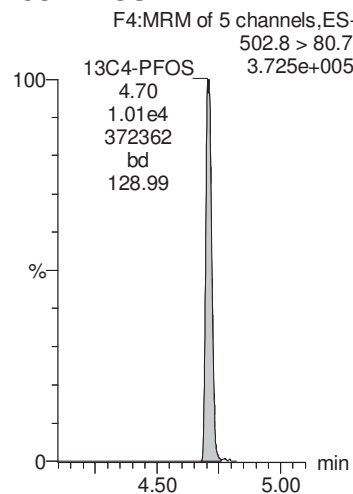
N-EtFOSAA



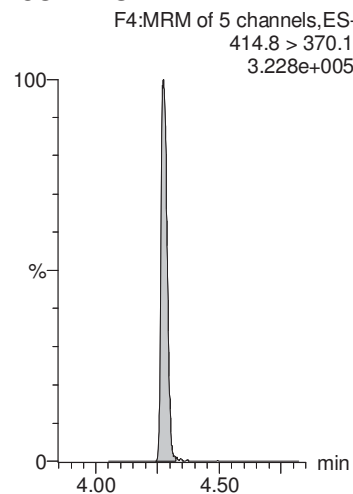
13C2-PFOA



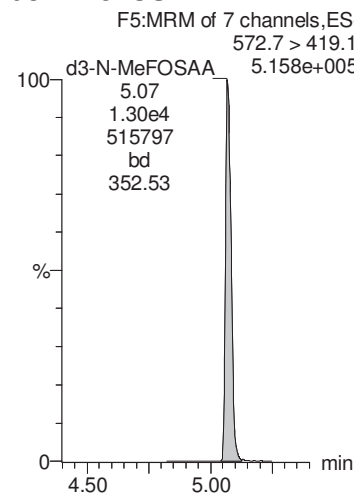
13C4-PFOS



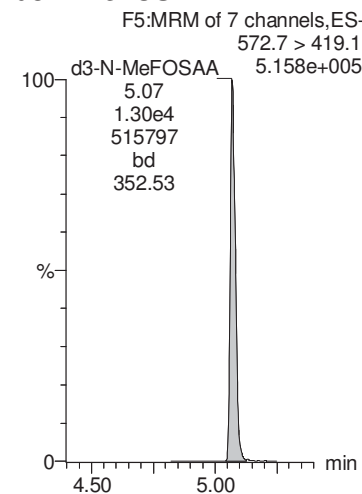
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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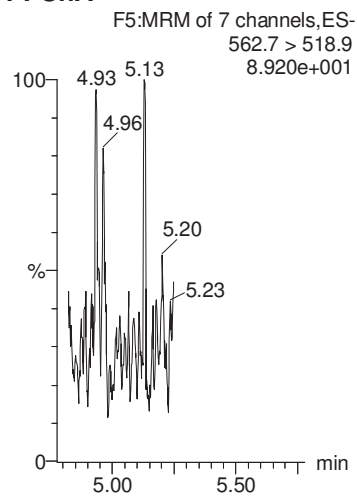
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Last Altered: Sunday, July 22, 2018 15:00:09 Pacific Daylight Time

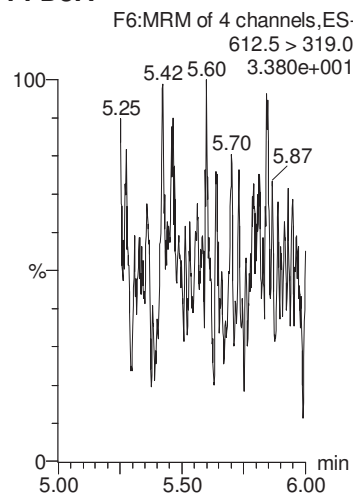
Printed: Sunday, July 22, 2018 15:00:47 Pacific Daylight Time

Name: 180720G2_41, Date: 21-Jul-2018, Time: 00:30:43, ID: 1801769-01 CBD-1RW11-0718 0.25494, Description: CBD-1RW11-0718

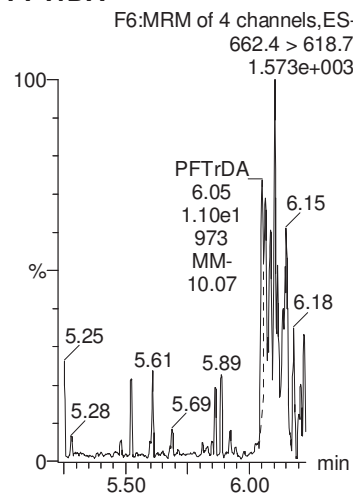
PFUnA



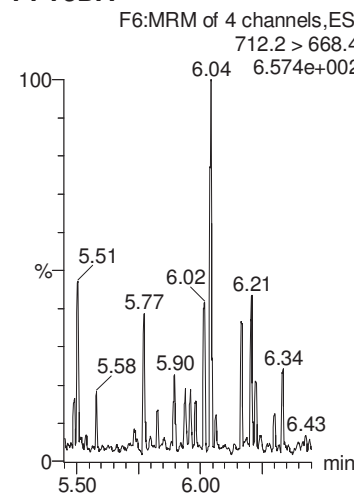
PFDoA



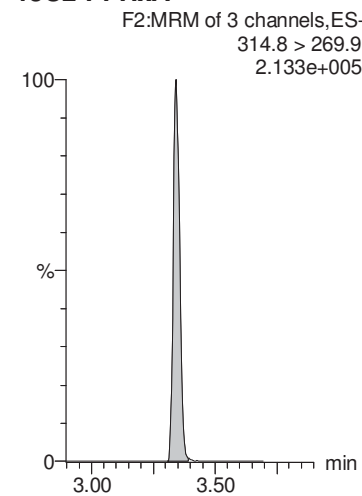
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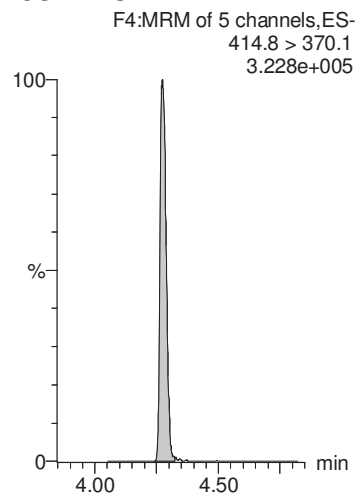
PFTeDA



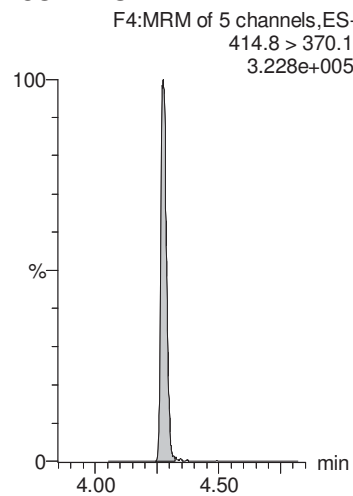
13C2-PFHxA



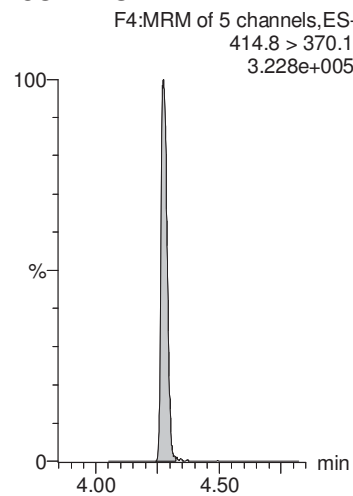
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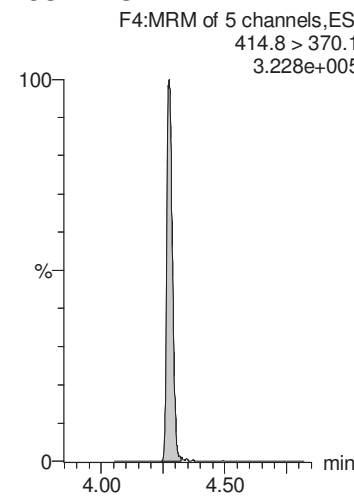
13C2-PFOA



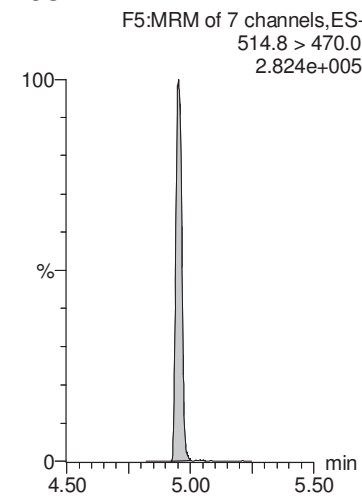
13C2-PFOA



13C2-PFOA



13C2-PFDA



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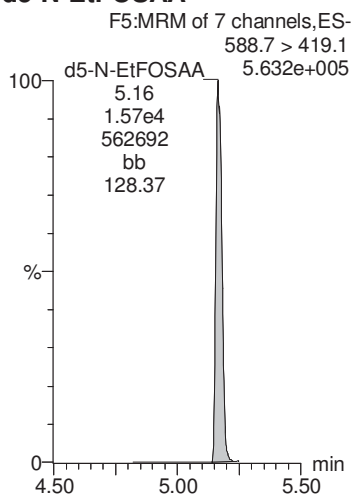
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Last Altered: Sunday, July 22, 2018 15:00:09 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:00:47 Pacific Daylight Time

Name: 180720G2_41, Date: 21-Jul-2018, Time: 00:30:43, ID: 1801769-01 CBD-1RW11-0718 0.25494, Description: CBD-1RW11-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-42.qld

Last Altered: Sunday, July 22, 2018 15:02:30 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:02:58 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_42, Date: 21-Jul-2018, Time: 00:43:32, ID: 1801769-02 CBD-1FB11-0718 0.25628, Description: CBD-1FB11-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.16e4	0.256		2.97				
2	2 PFHxA	312.7 > 268.8	6.46e1	1.02e4	0.256		3.34	3.34	0.0634	0.304	
3	3 PFHpA	362.7 > 318.8		1.02e4	0.256		3.85				
4	4 PFHxS	398.7 > 80.7		1.16e4	0.256		3.99				
5	5 PFOA	412.8 > 369.0	2.58e1	1.02e4	0.256		4.27	4.27	0.0253	0.135	
6	6 PFNA	462.9 > 419.1		1.02e4	0.256		4.64				
7	7 PFOS	498.8 > 80.7	4.26e0	1.16e4	0.256		4.70	4.71	0.0105	0.111	
8	8 PFDA	512.8 > 469.0	5.22e1	1.02e4	0.256		4.92	4.95	0.0512	0.229	
9	9 N-MeFOSAA	569.7 > 419.0		1.48e4	0.256		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.48e4	0.256		5.19				
11	11 PFUnA	562.7 > 518.9		1.02e4	0.256		5.16				
12	12 PFDoA	612.5 > 319.0		1.02e4	0.256		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.02e4	0.256		5.61				
14	14 PFTeDA	712.2 > 668.4		1.02e4	0.256		5.79				
15	15 13C2-PFHxA	314.8 > 269.9	7.25e3	1.02e4	0.256	0.753	3.43	3.34	7.11	36.9	94.5
16	16 13C2-PFDA	514.8 > 470.0	8.99e3	1.02e4	0.256	1.023	4.87	4.95	8.82	33.6	86.2
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.72e4	1.48e4	0.256	1.264	5.07	5.17	46.4	143	91.7
18	18 13C2-PFOA	414.8 > 370.1	1.02e4	1.02e4	0.256	1.000	4.28	4.27	10.0	39.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.16e4	1.16e4	0.256	1.000	4.71	4.71	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.48e4	1.48e4	0.256	1.000	5.04	5.07	40.0	156	100.0

MMM 7/23/2018

Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-42.qld

Last Altered: Sunday, July 22, 2018 15:02:30 Pacific Daylight Time

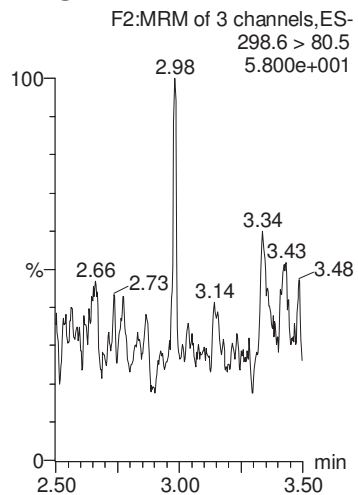
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Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

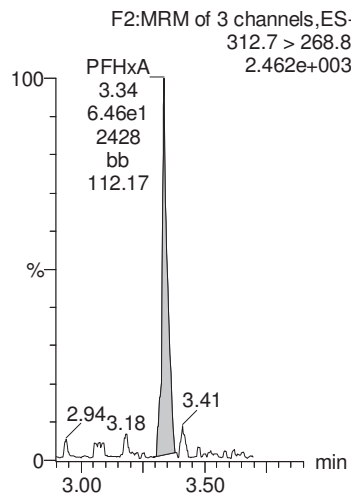
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_42, Date: 21-Jul-2018, Time: 00:43:32, ID: 1801769-02 CBD-1FB11-0718 0.25628, Description: CBD-1FB11-0718

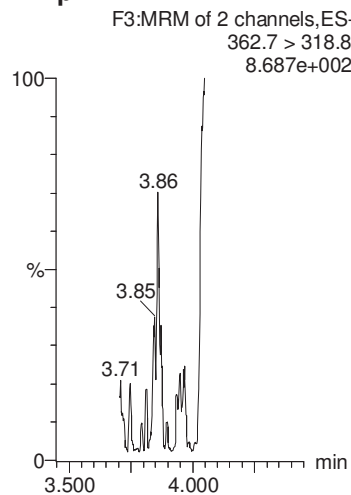
PFBS



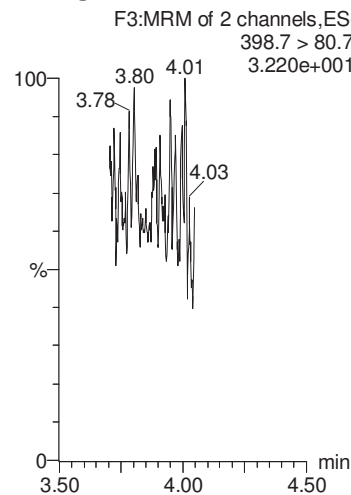
PFHxA



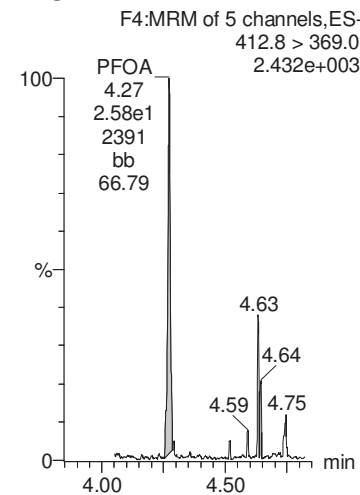
PFHpA



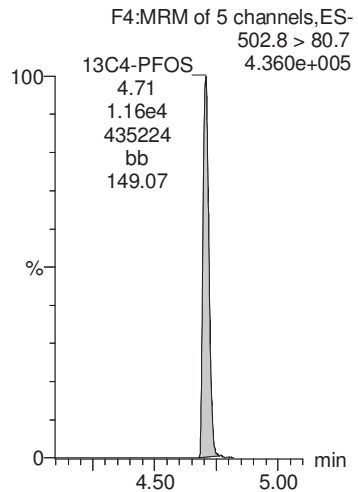
PFHxS



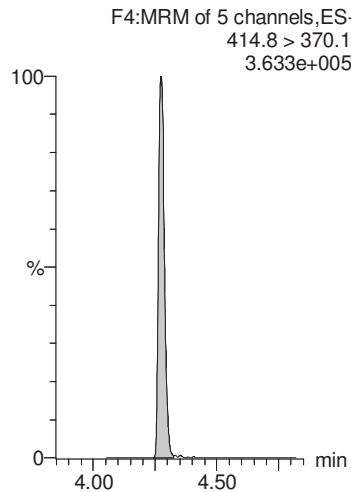
PFOA



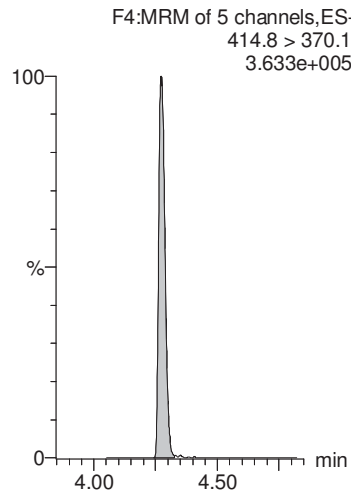
13C4-PFOS



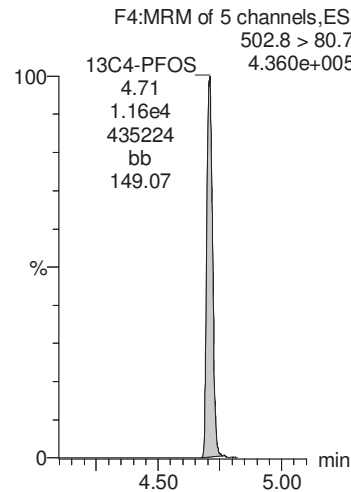
13C2-PFOA



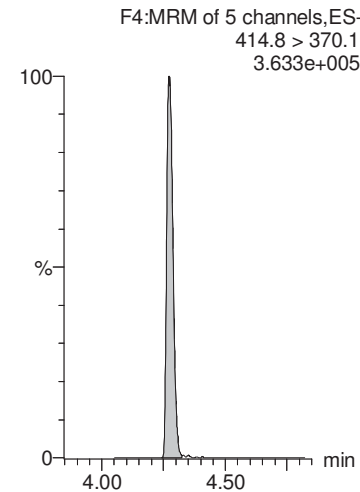
13C2-PFOA



13C4-PFOS



13C2-PFOA



MMM 7/23/2018

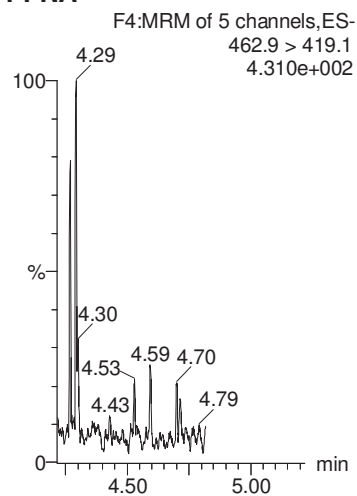
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Last Altered: Sunday, July 22, 2018 15:02:30 Pacific Daylight Time

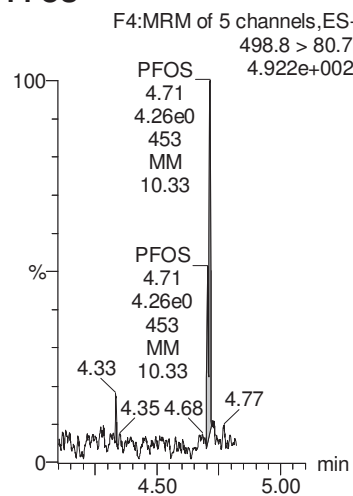
Printed: Sunday, July 22, 2018 15:02:58 Pacific Daylight Time

Name: 180720G2_42, Date: 21-Jul-2018, Time: 00:43:32, ID: 1801769-02 CBD-1FB11-0718 0.25628, Description: CBD-1FB11-0718

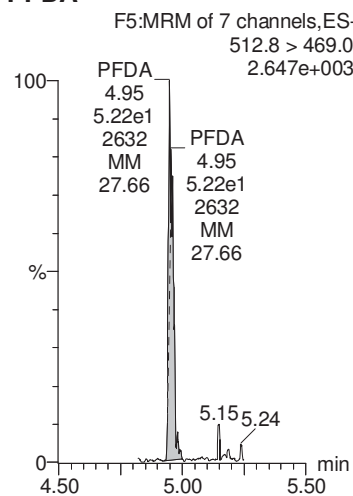
PFNA



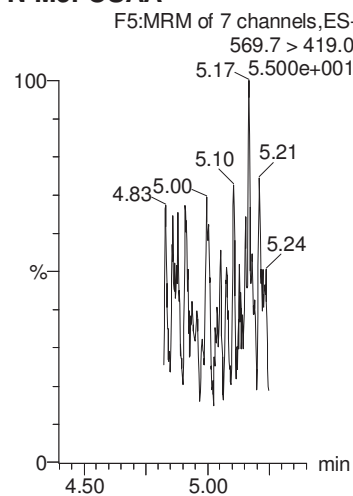
PFOS



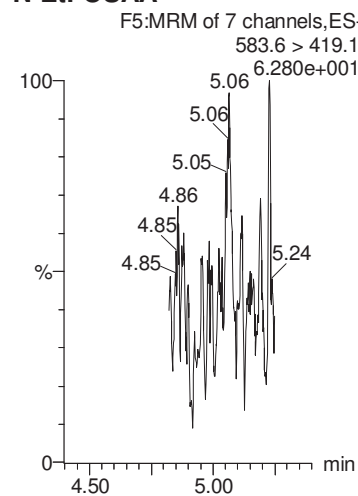
PFDA



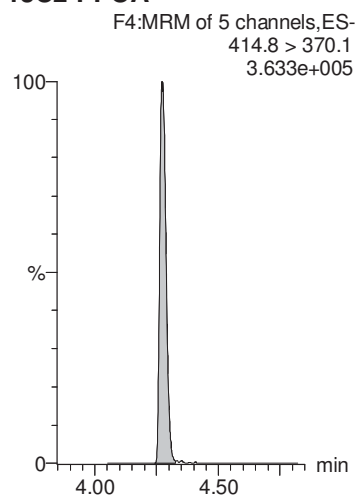
N-MeFOSAA



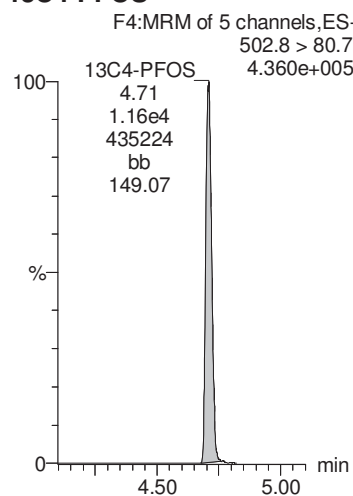
N-EtFOSAA



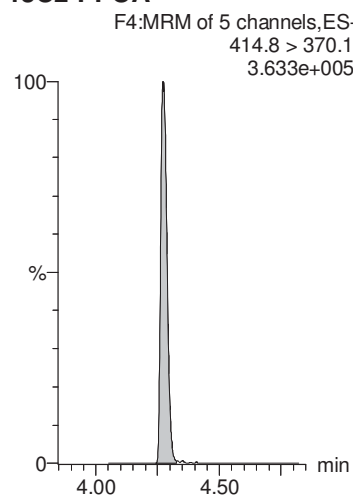
13C2-PFOA



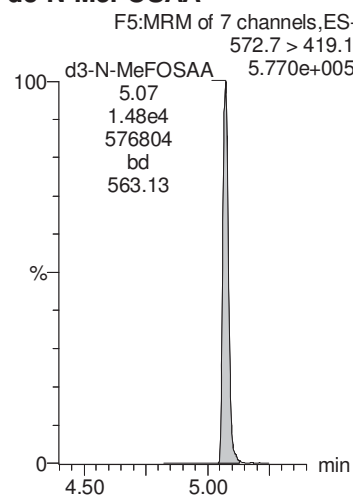
13C4-PFOS



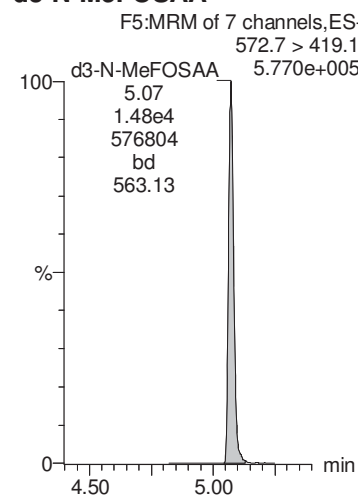
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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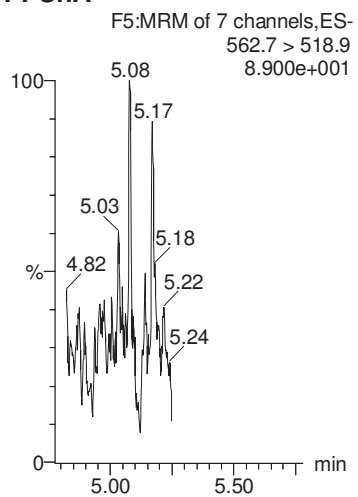
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-42.qld

Last Altered: Sunday, July 22, 2018 15:02:30 Pacific Daylight Time

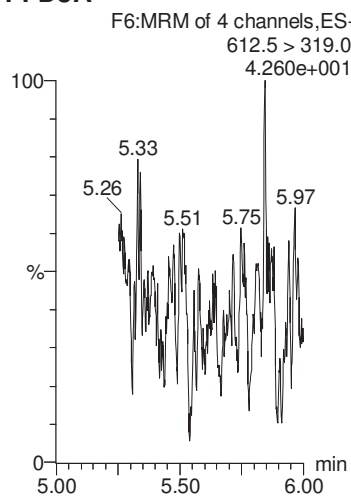
Printed: Sunday, July 22, 2018 15:02:58 Pacific Daylight Time

Name: 180720G2_42, Date: 21-Jul-2018, Time: 00:43:32, ID: 1801769-02 CBD-1FB11-0718 0.25628, Description: CBD-1FB11-0718

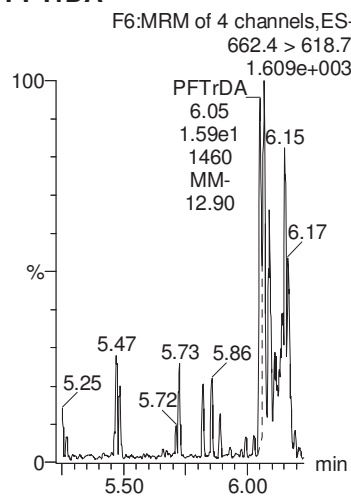
PFUnA



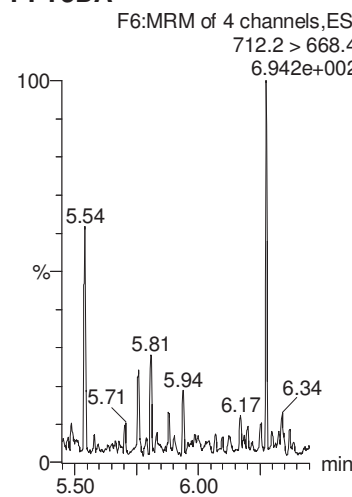
PFDoA



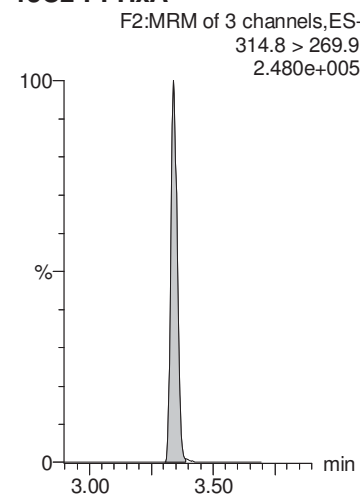
PFTrDA



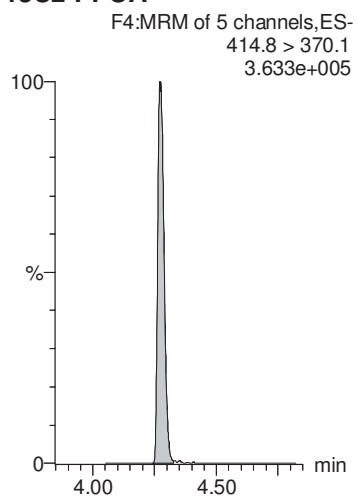
PFTeDA



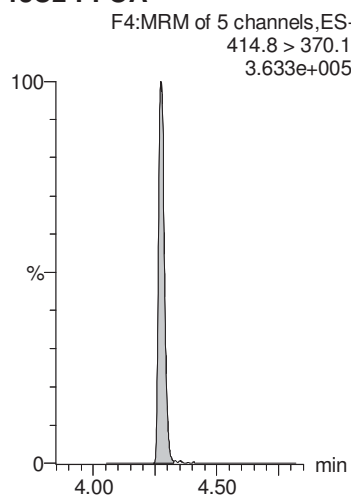
13C2-PFHxA



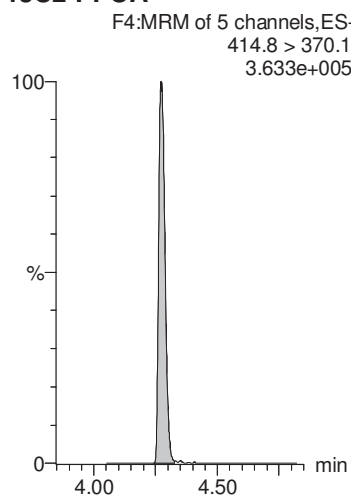
13C2-PFOA



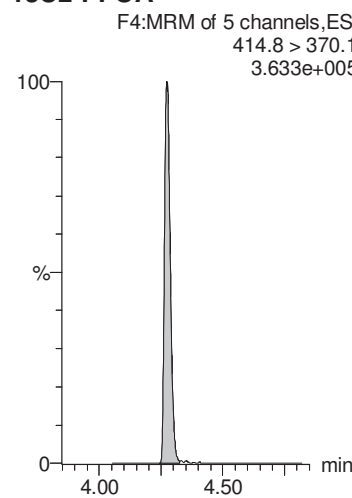
13C2-PFOA



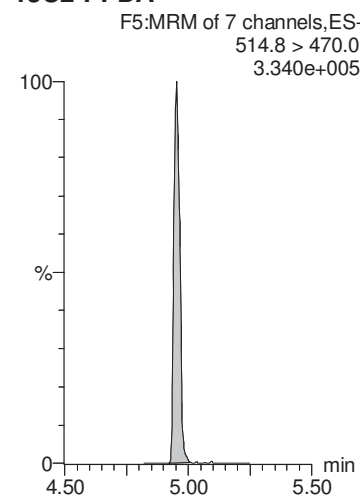
13C2-PFOA



13C2-PFOA



13C2-PFDA



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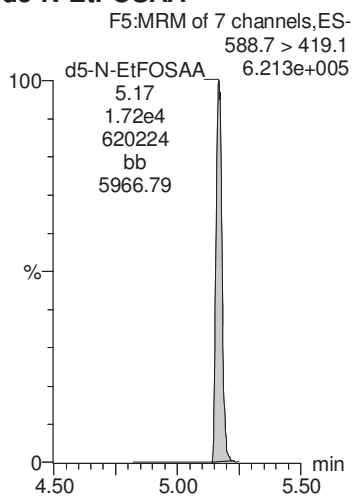
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Last Altered: Sunday, July 22, 2018 15:02:30 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:02:58 Pacific Daylight Time

Name: 180720G2_42, Date: 21-Jul-2018, Time: 00:43:32, ID: 1801769-02 CBD-1FB11-0718 0.25628, Description: CBD-1FB11-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-43.qld

Last Altered: Sunday, July 22, 2018 15:04:17 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:04:29 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_43, Date: 21-Jul-2018, Time: 00:56:22, ID: 1801769-03 CBD-1RW12-0718 0.25502, Description: CBD-1RW12-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.21e4	0.255		2.96				
2	2 PFHxA	312.7 > 268.8	8.38e1	1.08e4	0.255		3.33	3.35	0.0775	0.373	
3	3 PFHpA	362.7 > 318.8		1.08e4	0.255		3.85				
4	4 PFHxS	398.7 > 80.7		1.21e4	0.255		3.98				
5	5 PFOA	412.8 > 369.0	3.83e1	1.08e4	0.255		4.27	4.27	0.0354	0.190	
6	6 PFNA	462.9 > 419.1		1.08e4	0.255		4.63				
7	7 PFOS	498.8 > 80.7		1.21e4	0.255		4.70				
8	8 PFDA	512.8 > 469.0	3.87e1	1.08e4	0.255		4.92	4.96	0.0358	0.161	
9	9 N-MeFOSAA	569.7 > 419.0		1.42e4	0.255		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.42e4	0.255		5.19				
11	11 PFUnA	562.7 > 518.9	5.93e0	1.08e4	0.255		5.16	4.95	0.00549	0.0224	
12	12 PFDoA	612.5 > 319.0		1.08e4	0.255		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.08e4	0.255		5.61				
14	14 PFTeDA	712.2 > 668.4		1.08e4	0.255		5.79				
15	15 13C2-PFHxA	314.8 > 269.9	7.69e3	1.08e4	0.255	0.753	3.43	3.34	7.11	37.1	94.5
16	16 13C2-PFDA	514.8 > 470.0	9.74e3	1.08e4	0.255	1.023	4.87	4.95	9.00	34.5	88.0
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.96e4	1.42e4	0.255	1.264	5.07	5.17	55.0	170	108.7
18	18 13C2-PFOA	414.8 > 370.1	1.08e4	1.08e4	0.255	1.000	4.28	4.27	10.0	39.2	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.21e4	1.21e4	0.255	1.000	4.71	4.71	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.42e4	1.42e4	0.255	1.000	5.04	5.07	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-43.qld

Last Altered: Sunday, July 22, 2018 15:04:17 Pacific Daylight Time

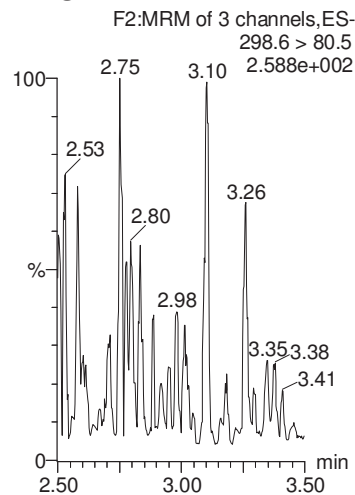
Printed: Sunday, July 22, 2018 15:04:29 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

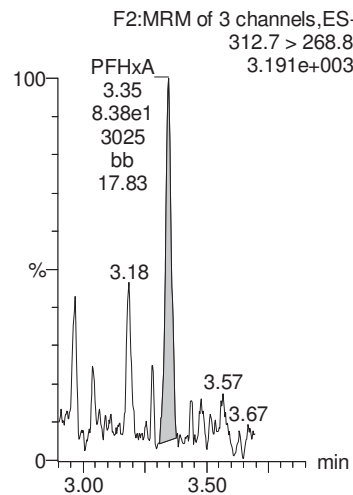
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_43, Date: 21-Jul-2018, Time: 00:56:22, ID: 1801769-03 CBD-1RW12-0718 0.25502, Description: CBD-1RW12-0718

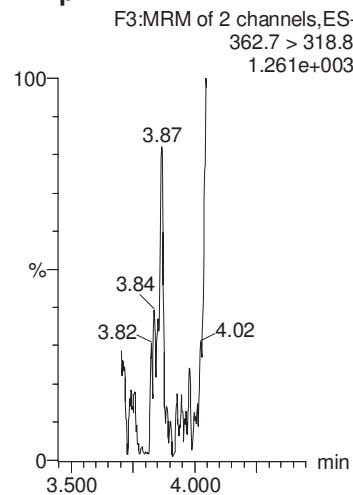
PFBS



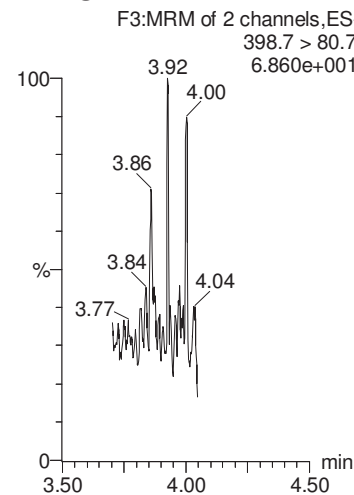
PFHxA



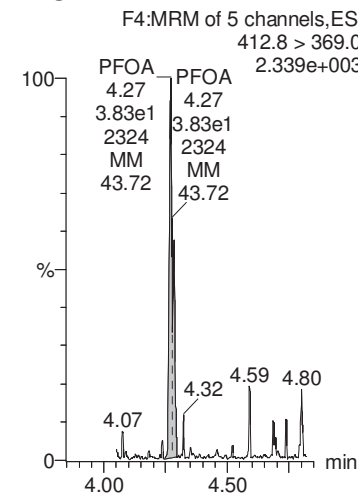
PFHpA



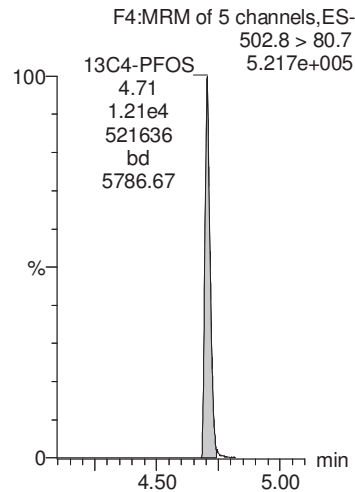
PFHxS



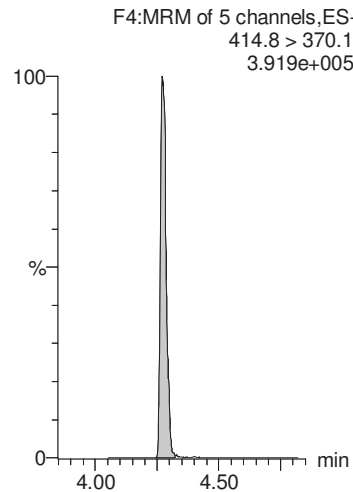
PFOA



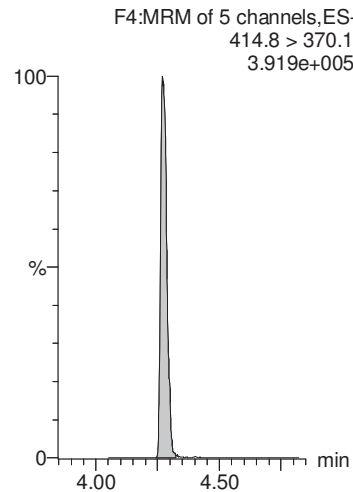
13C4-PFOS



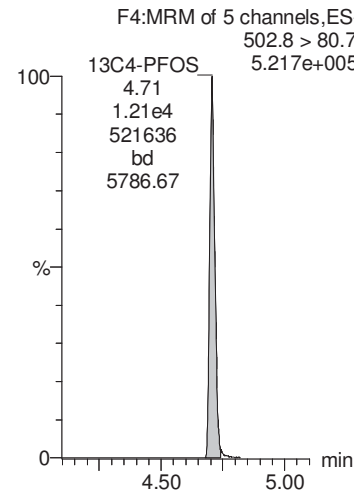
13C2-PFOA



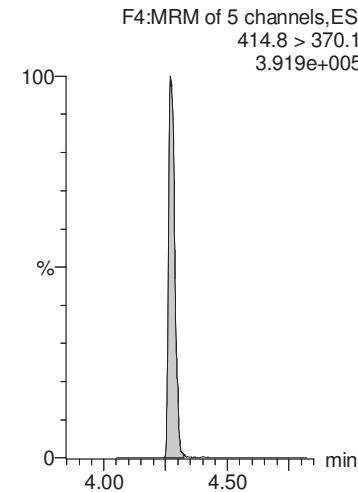
13C2-PFOA



13C4-PFOS



13C2-PFOA



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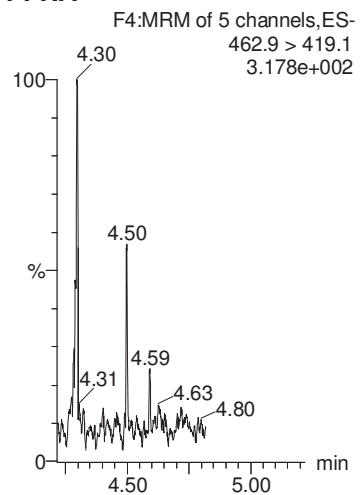
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-43.qld

Last Altered: Sunday, July 22, 2018 15:04:17 Pacific Daylight Time

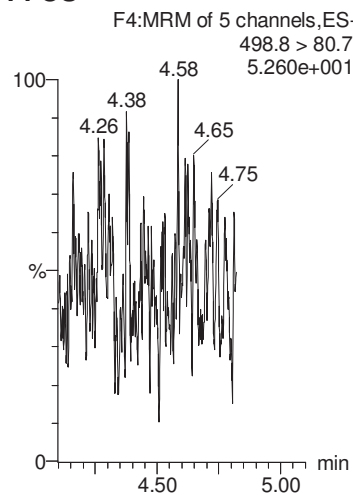
Printed: Sunday, July 22, 2018 15:04:29 Pacific Daylight Time

Name: 180720G2_43, Date: 21-Jul-2018, Time: 00:56:22, ID: 1801769-03 CBD-1RW12-0718 0.25502, Description: CBD-1RW12-0718

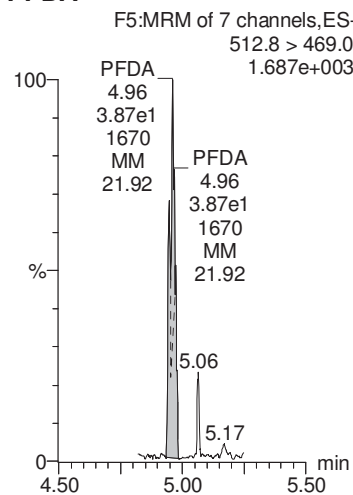
PFNA



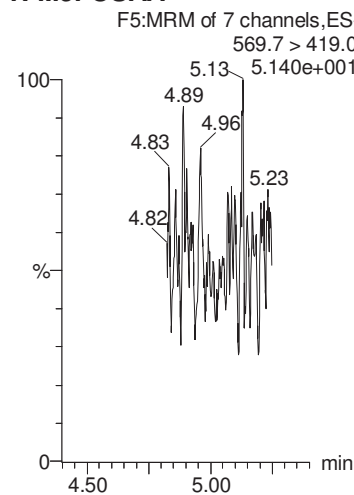
PFOS



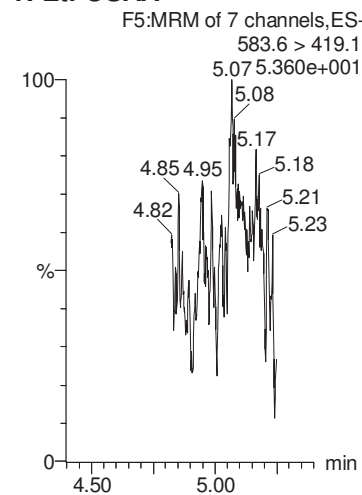
PFDA



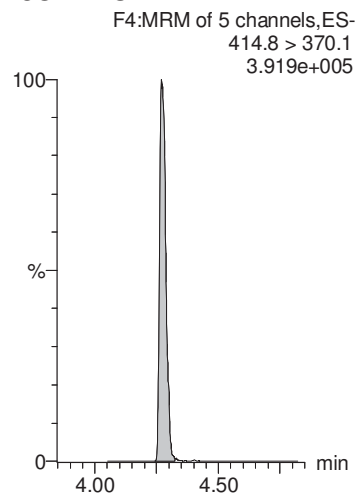
N-MeFOSAA



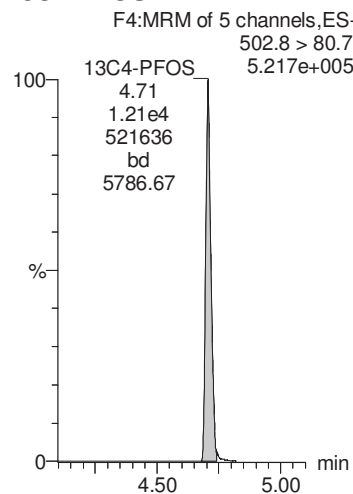
N-EtFOSAA



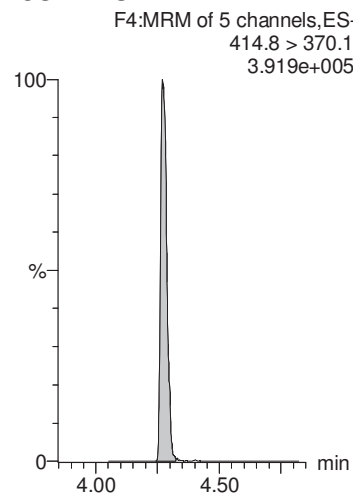
13C2-PFOA



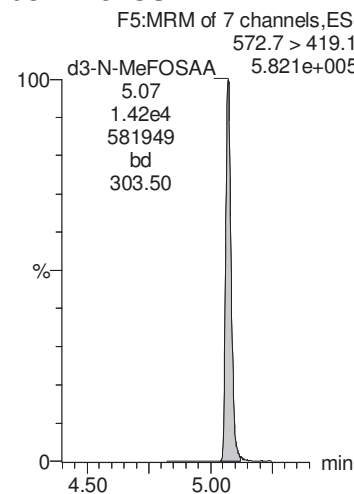
13C4-PFOS



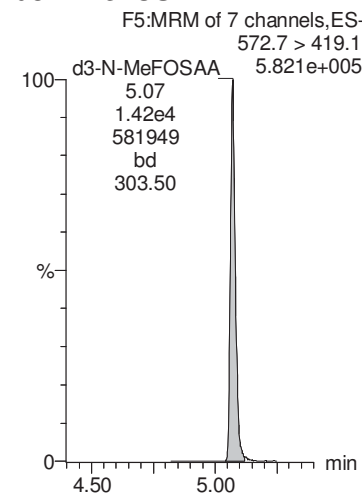
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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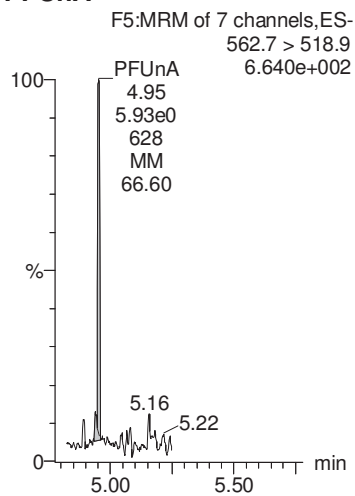
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-43.qld

Last Altered: Sunday, July 22, 2018 15:04:17 Pacific Daylight Time

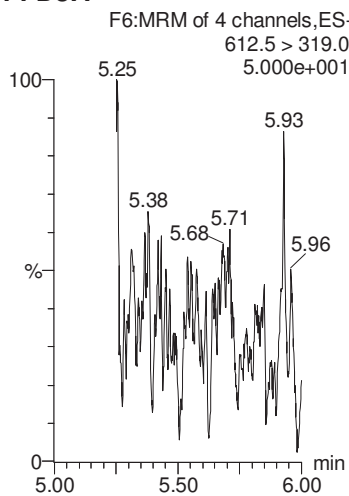
Printed: Sunday, July 22, 2018 15:04:29 Pacific Daylight Time

Name: 180720G2_43, Date: 21-Jul-2018, Time: 00:56:22, ID: 1801769-03 CBD-1RW12-0718 0.25502, Description: CBD-1RW12-0718

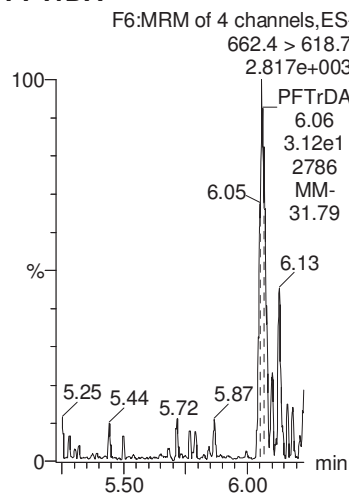
PFUnA



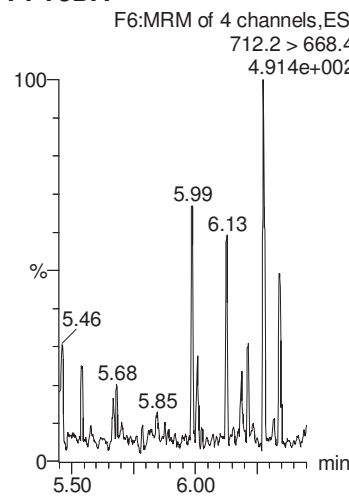
PFDaA



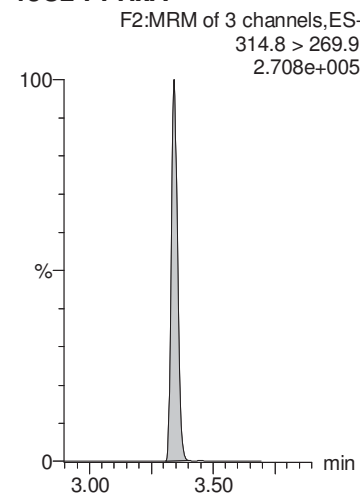
PFTrDA



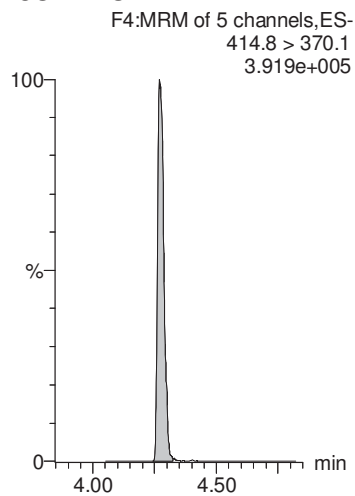
PFTeDA



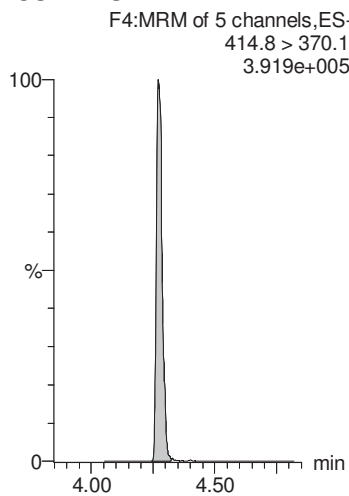
13C2-PFHxA



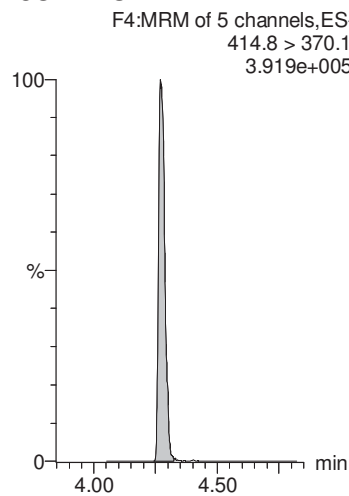
13C2-PFOA



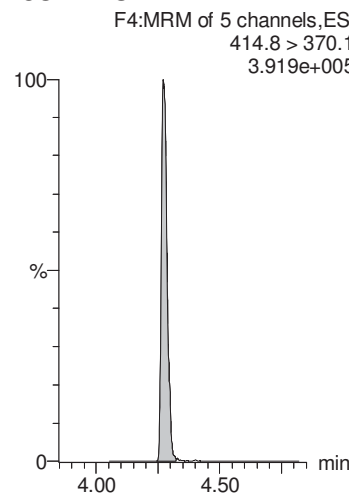
13C2-PFOA



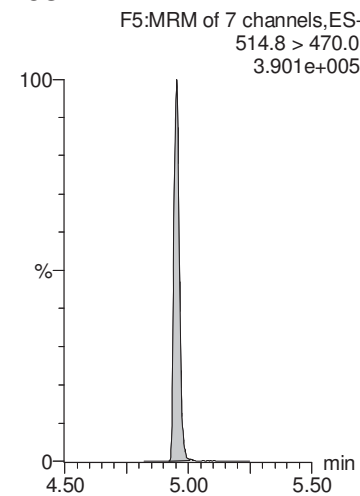
13C2-PFOA



13C2-PFOA



13C2-PFDA



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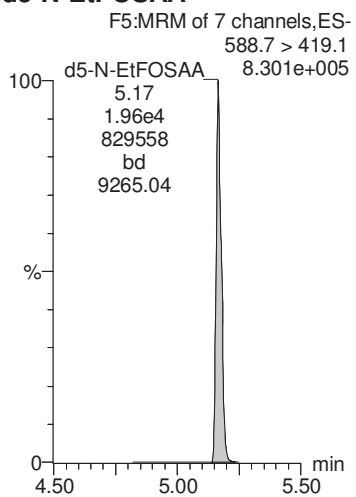
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Last Altered: Sunday, July 22, 2018 15:04:17 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:04:29 Pacific Daylight Time

Name: 180720G2_43, Date: 21-Jul-2018, Time: 00:56:22, ID: 1801769-03 CBD-1RW12-0718 0.25502, Description: CBD-1RW12-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-44.qld

Last Altered: Sunday, July 22, 2018 15:16:36 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:17:01 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_44, Date: 21-Jul-2018, Time: 01:09:11, ID: 1801769-04 CBD-1FB12-0718 0.25622, Description: CBD-1FB12-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.22e4	0.256		2.96				
2	2 PFHxA	312.7 > 268.8	8.16e1	1.09e4	0.256		3.34	3.35	0.0750	0.360	
3	3 PFHpA	362.7 > 318.8	1.00e1	1.09e4	0.256		3.85	3.85	0.00919	0.0409	
4	4 PFHxS	398.7 > 80.7		1.22e4	0.256		3.99				
5	5 PFOA	412.8 > 369.0	1.99e1	1.09e4	0.256		4.28	4.26	0.0183	0.0977	
6	6 PFNA	462.9 > 419.1		1.09e4	0.256		4.64				
7	7 PFOS	498.8 > 80.7		1.22e4	0.256		4.70				
8	8 PFDA	512.8 > 469.0	4.24e1	1.09e4	0.256		4.92	4.95	0.0389	0.174	
9	9 N-MeFOSAA	569.7 > 419.0		1.55e4	0.256		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.55e4	0.256		5.20				
11	11 PFUnA	562.7 > 518.9		1.09e4	0.256		5.16				
12	12 PFDoA	612.5 > 319.0		1.09e4	0.256		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.09e4	0.256		5.61				
14	14 PFTeDA	712.2 > 668.4		1.09e4	0.256		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	7.15e3	1.09e4	0.256	0.753	3.43	3.34	6.57	34.1	87.3
16	16 13C2-PFDA	514.8 > 470.0	9.01e3	1.09e4	0.256	1.023	4.87	4.95	8.28	31.6	81.0
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.84e4	1.55e4	0.256	1.264	5.07	5.17	47.5	147	93.9
18	18 13C2-PFOA	414.8 > 370.1	1.09e4	1.09e4	0.256	1.000	4.28	4.27	10.0	39.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.22e4	1.22e4	0.256	1.000	4.71	4.71	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.55e4	1.55e4	0.256	1.000	5.04	5.07	40.0	156	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-44.qld

Last Altered: Sunday, July 22, 2018 15:16:36 Pacific Daylight Time

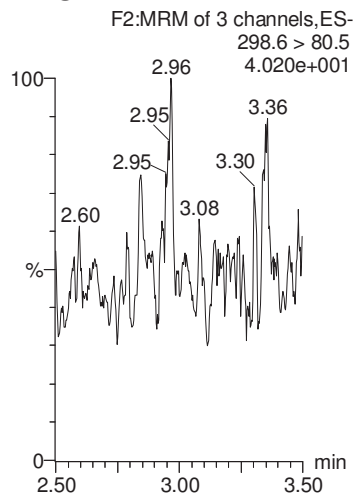
Printed: Sunday, July 22, 2018 15:17:01 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

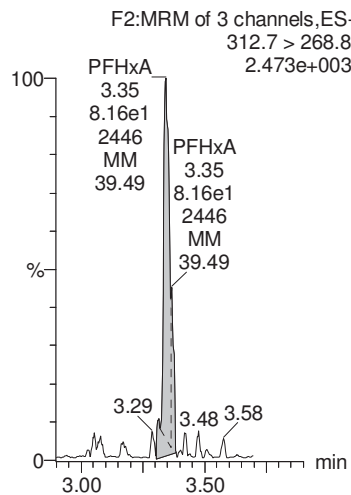
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_44, Date: 21-Jul-2018, Time: 01:09:11, ID: 1801769-04 CBD-1FB12-0718 0.25622, Description: CBD-1FB12-0718

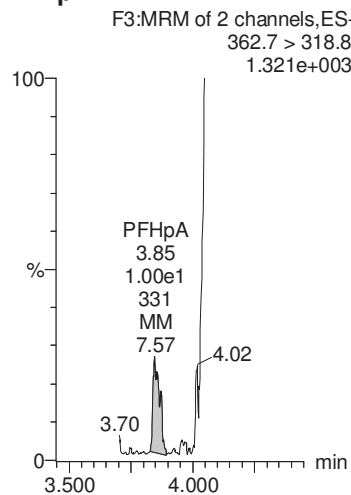
PFBS



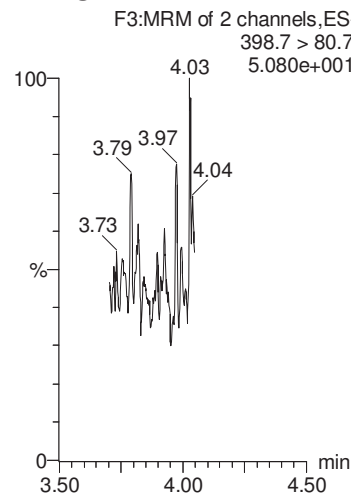
PFHxA



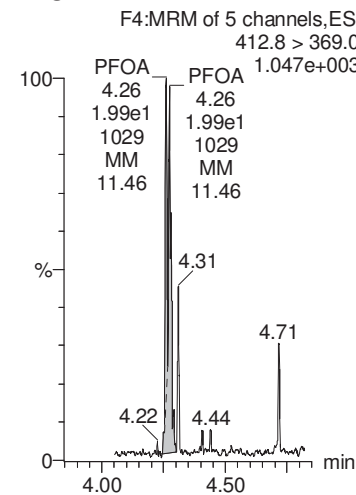
PFHpA



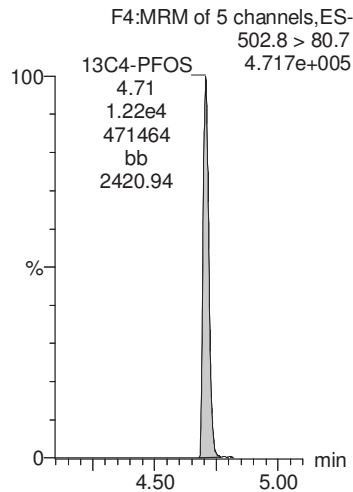
PFHxS



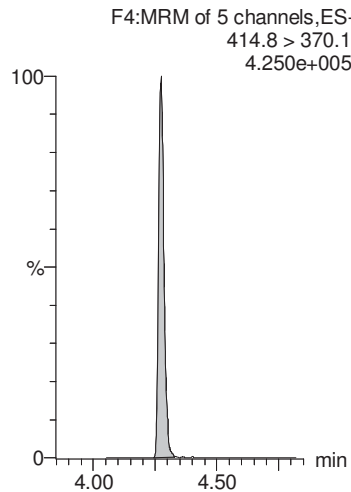
PFOA



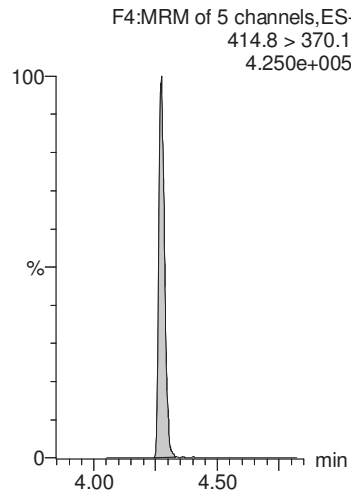
13C4-PFOS



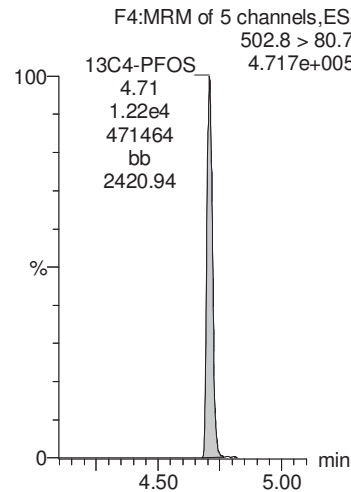
13C2-PFOA



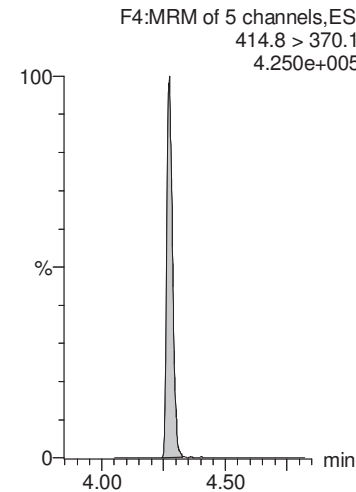
13C2-PFOA



13C4-PFOS



13C2-PFOA



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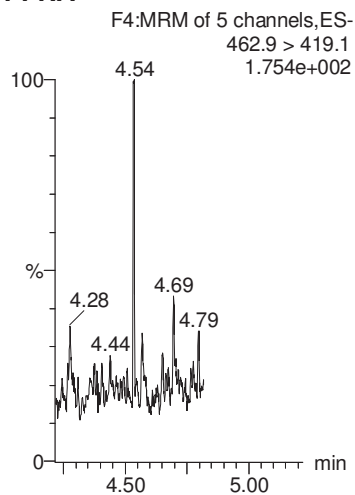
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-44.qld

Last Altered: Sunday, July 22, 2018 15:16:36 Pacific Daylight Time

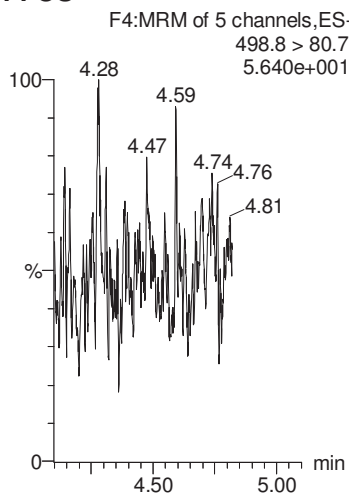
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Name: 180720G2_44, Date: 21-Jul-2018, Time: 01:09:11, ID: 1801769-04 CBD-1FB12-0718 0.25622, Description: CBD-1FB12-0718

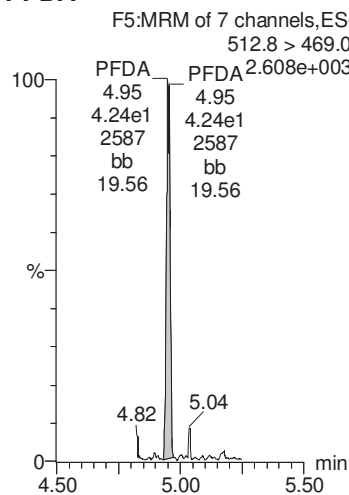
PFNA



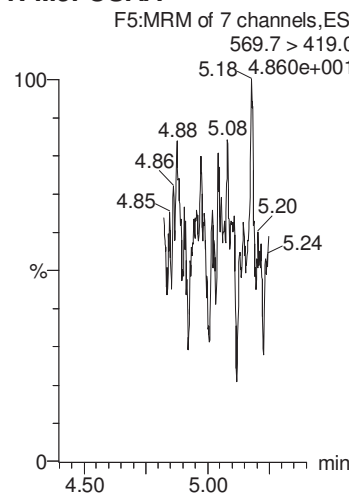
PFOS



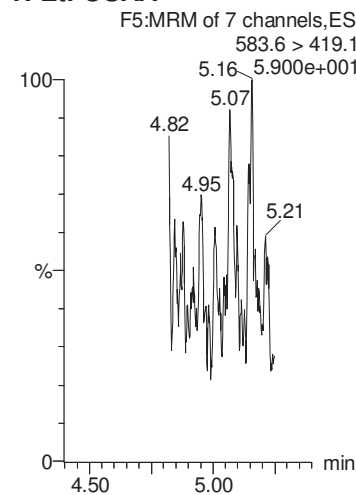
PFDA



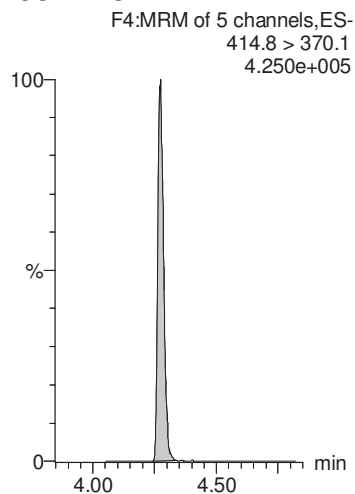
N-MeFOSAA



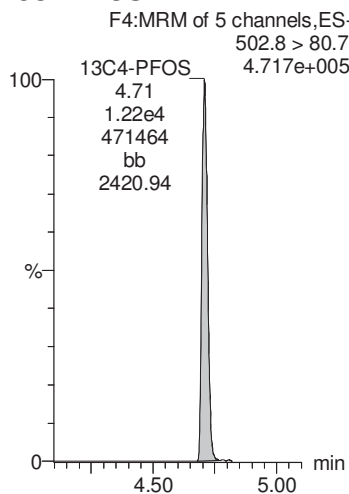
N-EtFOSAA



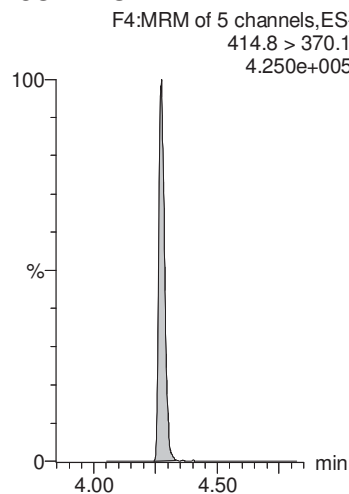
13C2-PFOA



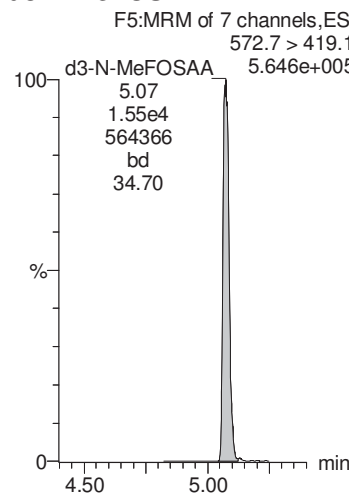
13C4-PFOS



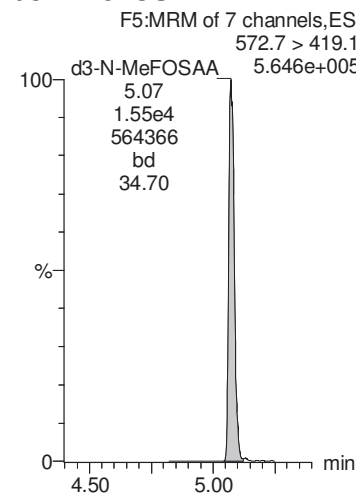
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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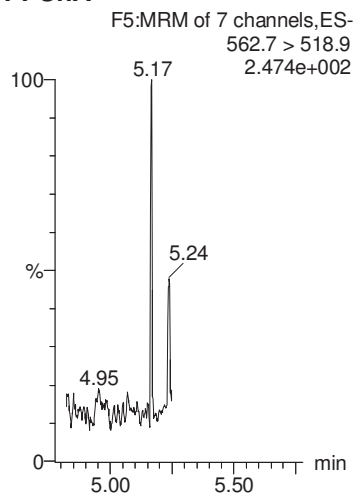
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-44.qld

Last Altered: Sunday, July 22, 2018 15:16:36 Pacific Daylight Time

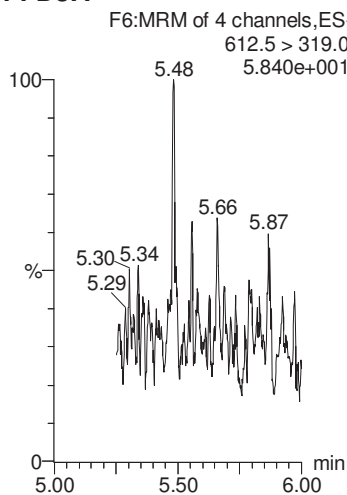
Printed: Sunday, July 22, 2018 15:17:01 Pacific Daylight Time

Name: 180720G2_44, Date: 21-Jul-2018, Time: 01:09:11, ID: 1801769-04 CBD-1FB12-0718 0.25622, Description: CBD-1FB12-0718

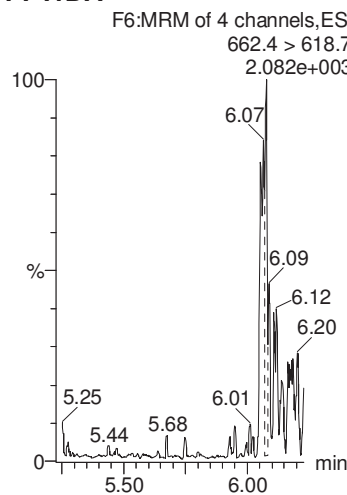
PFUnA



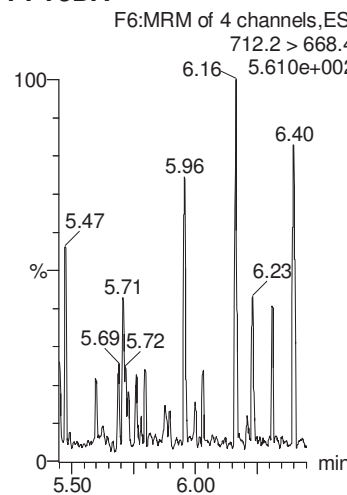
PFDaA



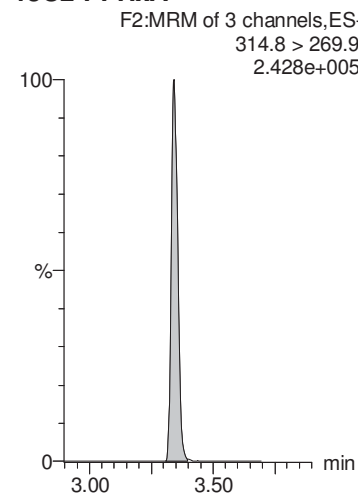
PFTrDA



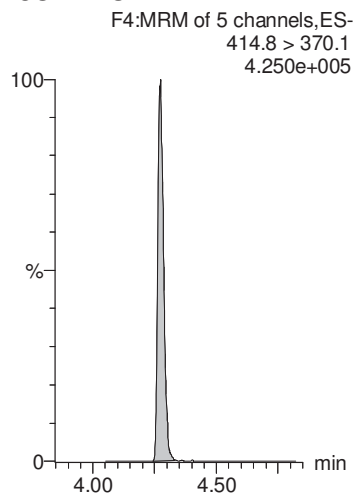
PFTeDA



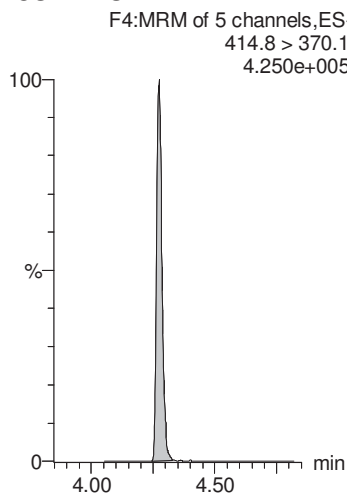
13C2-PFHxA



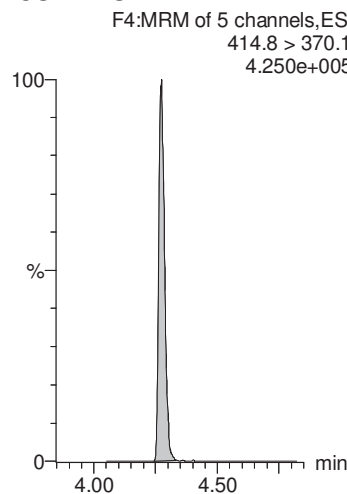
13C2-PFOA



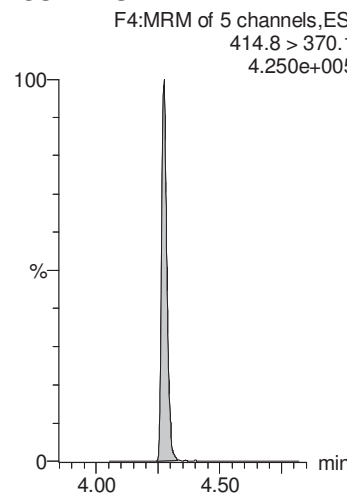
13C2-PFOA



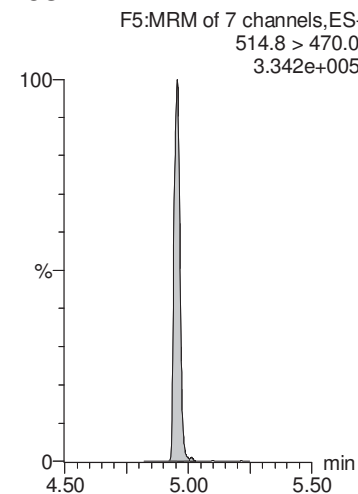
13C2-PFOA



13C2-PFOA



13C2-PFDA



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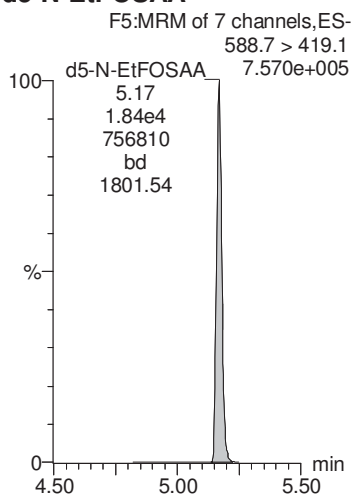
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-44.qld

Last Altered: Sunday, July 22, 2018 15:16:36 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:17:01 Pacific Daylight Time

Name: 180720G2_44, Date: 21-Jul-2018, Time: 01:09:11, ID: 1801769-04 CBD-1FB12-0718 0.25622, Description: CBD-1FB12-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-45.qld

Last Altered: Sunday, July 22, 2018 15:18:52 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:21:24 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_45, Date: 21-Jul-2018, Time: 01:22:03, ID: 1801769-05 CBD-1RW13-0718 0.25294, Description: CBD-1RW13-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.09e4	0.253		2.96				
2	2 PFHxA	312.7 > 268.8	1.08e2	9.43e3	0.253		3.34	3.35	0.115	0.558	
3	3 PFHpA	362.7 > 318.8		9.43e3	0.253		3.85				
4	4 PFHxS	398.7 > 80.7		1.09e4	0.253		3.98				
5	5 PFOA	412.8 > 369.0	2.34e1	9.43e3	0.253		4.28	4.28	0.0248	0.134	
6	6 PFNA	462.9 > 419.1		9.43e3	0.253		4.64				
7	7 PFOS	498.8 > 80.7		1.09e4	0.253		4.70				
8	8 PFDA	512.8 > 469.0	3.56e1	9.43e3	0.253		4.92	4.95	0.0378	0.171	
9	9 N-MeFOSAA	569.7 > 419.0		1.39e4	0.253		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.39e4	0.253		5.20				
11	11 PFUnA	562.7 > 518.9		9.43e3	0.253		5.16				
12	12 PFDoA	612.5 > 319.0		9.43e3	0.253		5.40				
13	13 PFTTrDA	662.4 > 618.7		9.43e3	0.253		5.61				
14	14 PFTeDA	712.2 > 668.4		9.43e3	0.253		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	6.75e3	9.43e3	0.253	0.753	3.43	3.34	7.16	37.6	95.2
16	16 13C2-PFDA	514.8 > 470.0	8.89e3	9.43e3	0.253	1.023	4.87	4.95	9.43	36.4	92.2
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.73e4	1.39e4	0.253	1.264	5.08	5.17	49.8	156	98.4
18	18 13C2-PFOA	414.8 > 370.1	9.43e3	9.43e3	0.253	1.000	4.28	4.27	10.0	39.5	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.09e4	1.09e4	0.253	1.000	4.71	4.70	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.39e4	1.39e4	0.253	1.000	5.04	5.08	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-45.qld

Last Altered: Sunday, July 22, 2018 15:18:52 Pacific Daylight Time

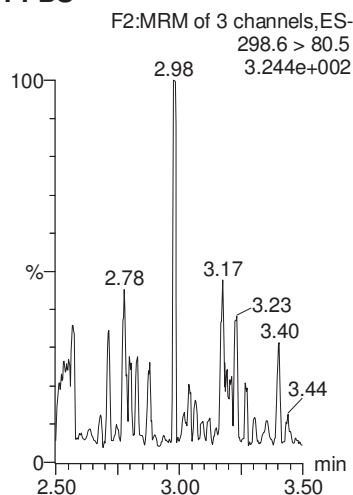
Printed: Sunday, July 22, 2018 15:21:24 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

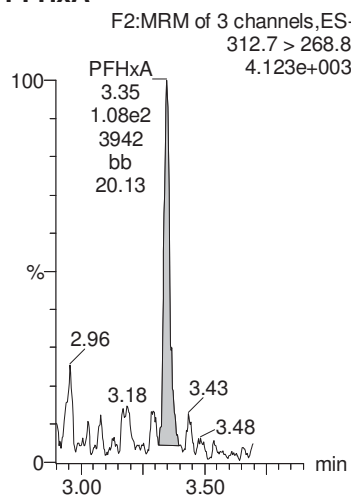
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_45, Date: 21-Jul-2018, Time: 01:22:03, ID: 1801769-05 CBD-1RW13-0718 0.25294, Description: CBD-1RW13-0718

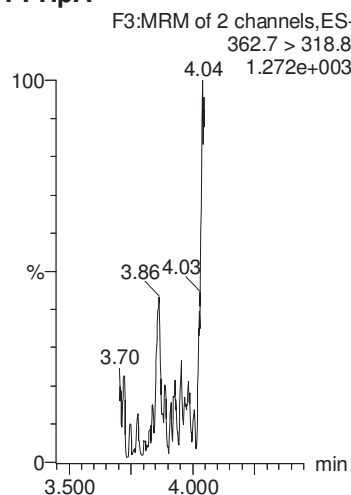
PFBS



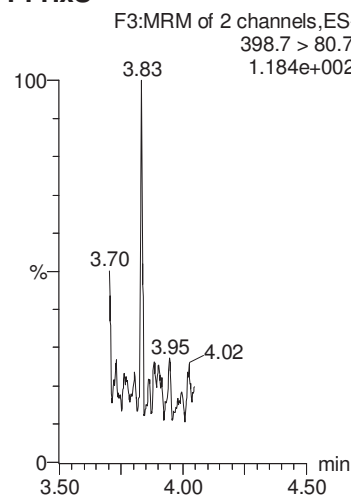
PFHxA



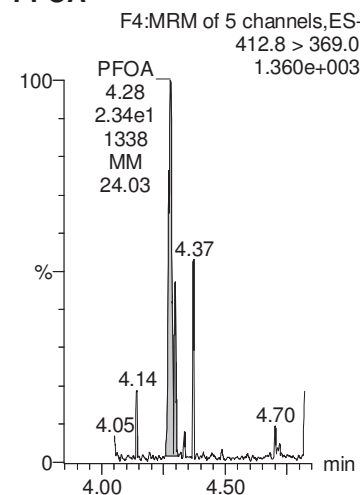
PFHpA



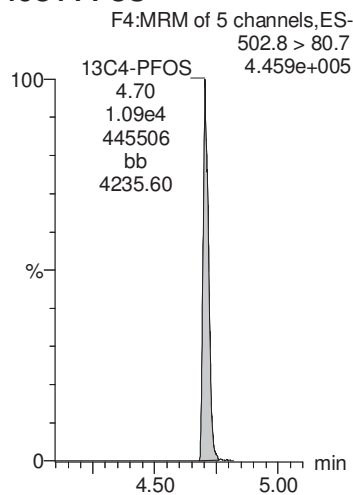
PFHxS



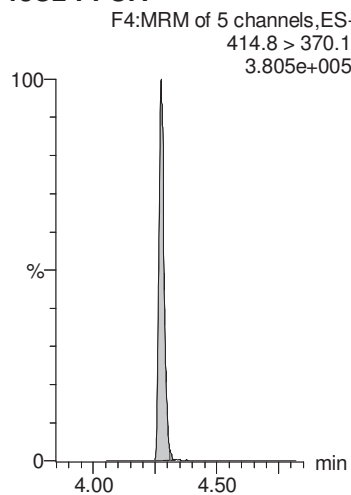
PFOA



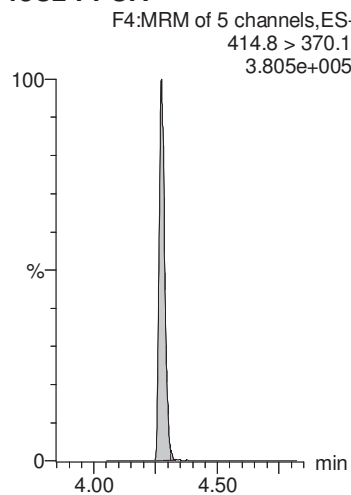
13C4-PFOS



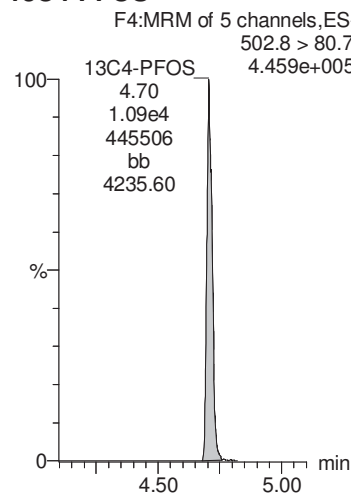
13C2-PFOA



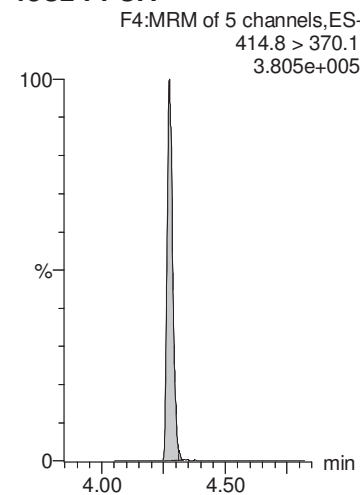
13C2-PFOA



13C4-PFOS



13C2-PFOA



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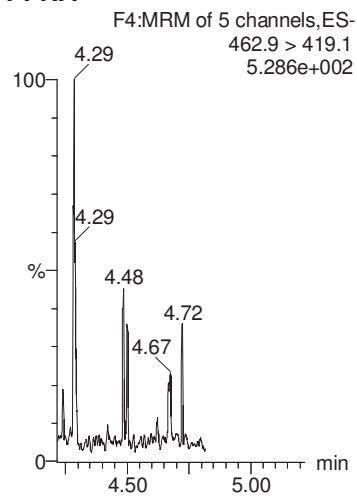
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Last Altered: Sunday, July 22, 2018 15:18:52 Pacific Daylight Time

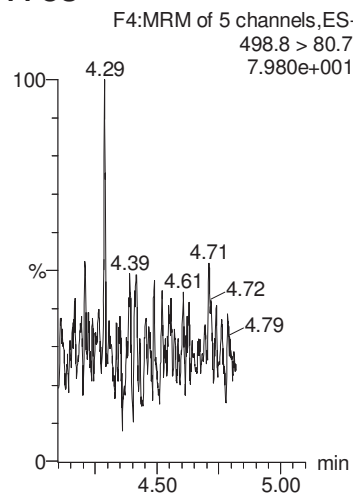
Printed: Sunday, July 22, 2018 15:21:24 Pacific Daylight Time

Name: 180720G2_45, Date: 21-Jul-2018, Time: 01:22:03, ID: 1801769-05 CBD-1RW13-0718 0.25294, Description: CBD-1RW13-0718

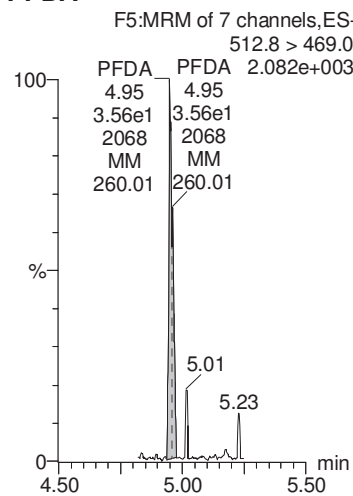
PFNA



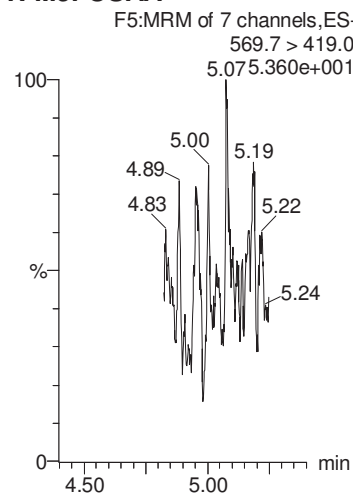
PFOS



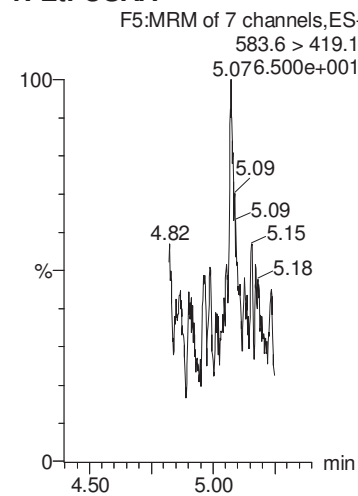
PFDA



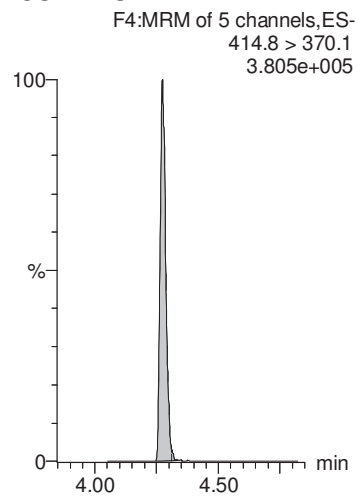
N-MeFOSAA



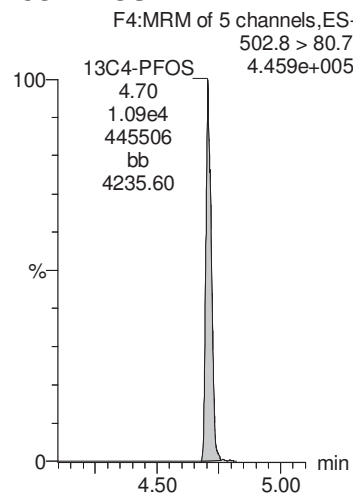
N-EtFOSAA



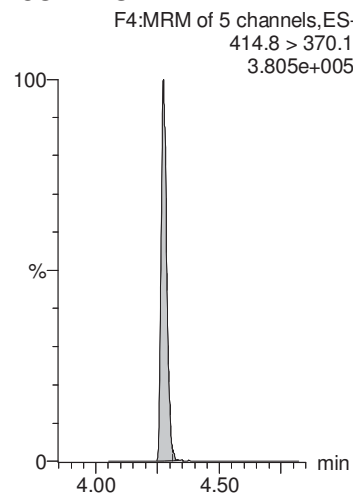
13C2-PFOA



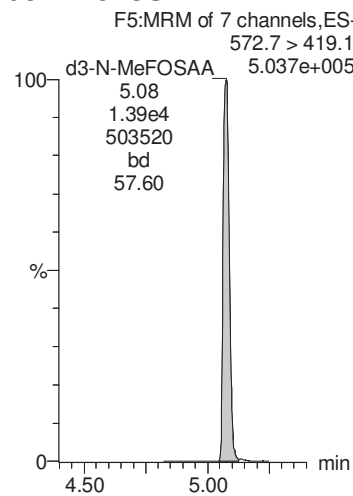
13C4-PFOS



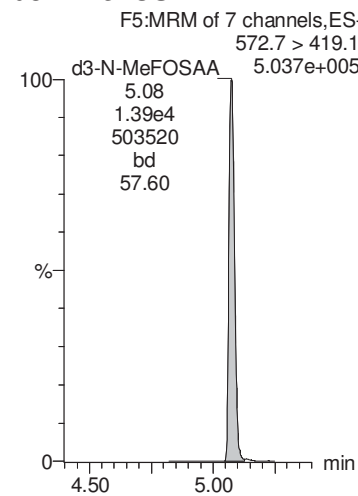
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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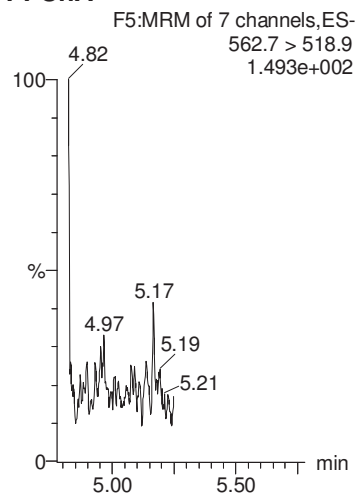
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-45.qld

Last Altered: Sunday, July 22, 2018 15:18:52 Pacific Daylight Time

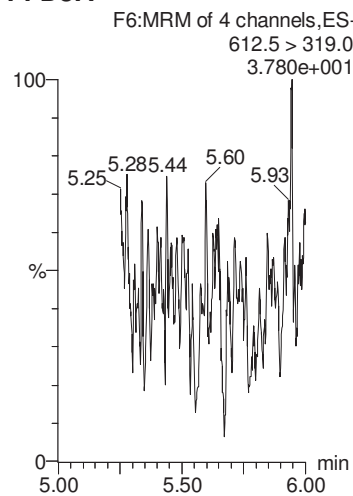
Printed: Sunday, July 22, 2018 15:21:24 Pacific Daylight Time

Name: 180720G2_45, Date: 21-Jul-2018, Time: 01:22:03, ID: 1801769-05 CBD-1RW13-0718 0.25294, Description: CBD-1RW13-0718

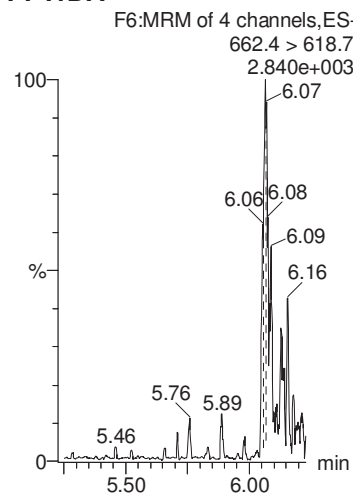
PFUnA



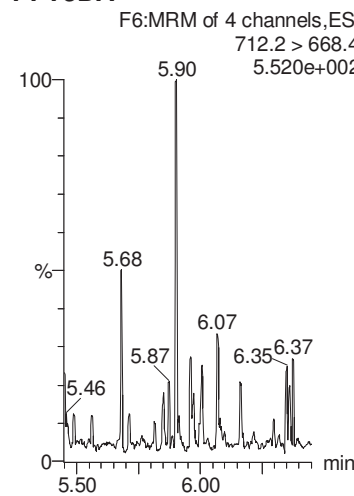
PFDaA



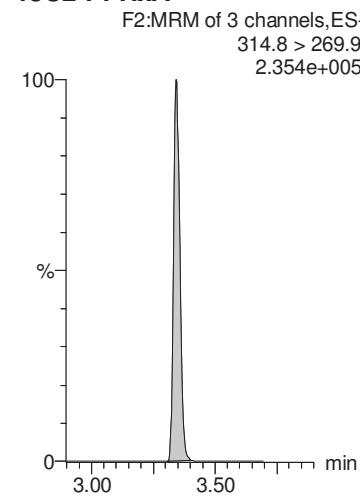
PFTrDA



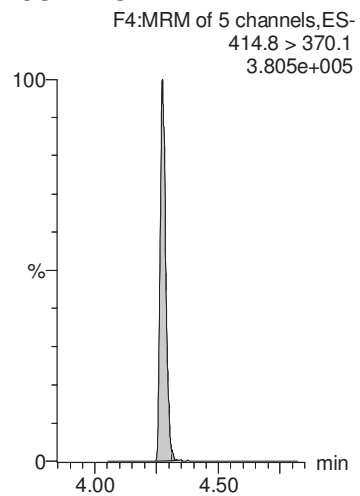
PFTeDA



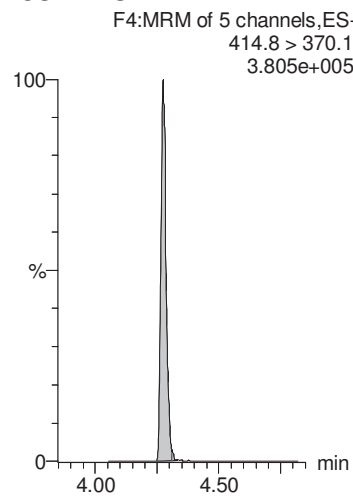
13C2-PFHxA



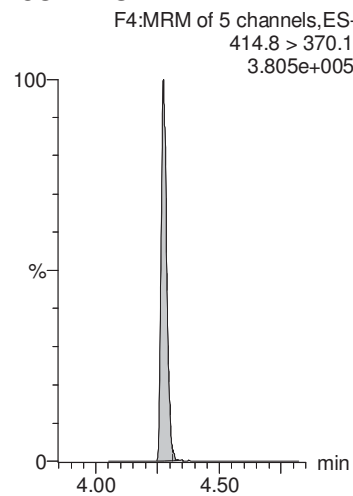
13C2-PFOA



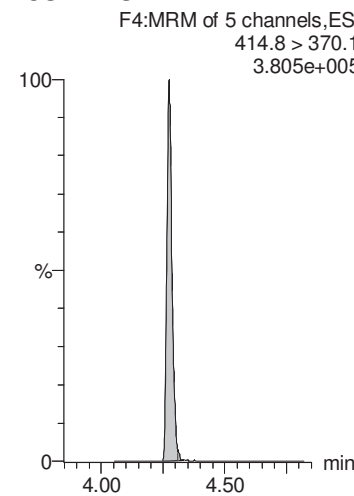
13C2-PFOA



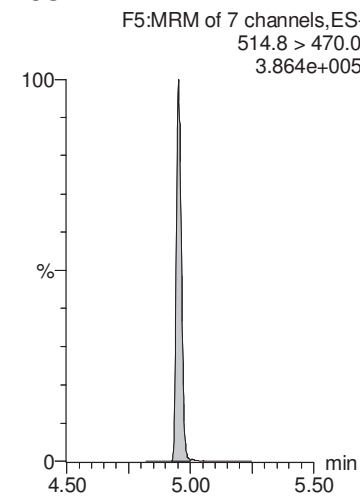
13C2-PFOA



13C2-PFOA



13C2-PFDA



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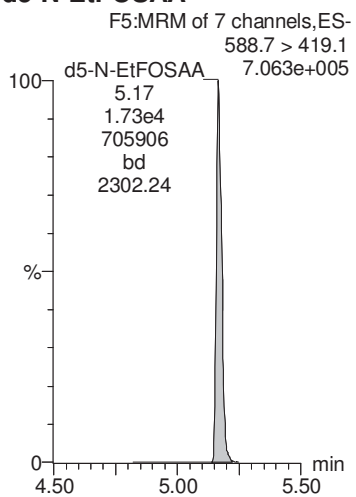
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-45.qld

Last Altered: Sunday, July 22, 2018 15:18:52 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:21:24 Pacific Daylight Time

Name: 180720G2_45, Date: 21-Jul-2018, Time: 01:22:03, ID: 1801769-05 CBD-1RW13-0718 0.25294, Description: CBD-1RW13-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-46.qld

Last Altered: Sunday, July 22, 2018 15:20:16 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:20:26 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_46, Date: 21-Jul-2018, Time: 01:34:50, ID: 1801769-06 CBD-1FB13-0718 0.25649, Description: CBD-1FB13-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.10e4	0.256		2.96				
2	2 PFHxA	312.7 > 268.8	6.43e1	9.82e3	0.256		3.34	3.34	0.0655	0.314	
3	3 PFHpA	362.7 > 318.8		9.82e3	0.256		3.85				
4	4 PFHxS	398.7 > 80.7		1.10e4	0.256		3.98				
5	5 PFOA	412.8 > 369.0	1.43e1	9.82e3	0.256		4.28	4.27	0.0146	0.0779	
6	6 PFNA	462.9 > 419.1		9.82e3	0.256		4.64				
7	7 PFOS	498.8 > 80.7	1.80e0	1.10e4	0.256		4.70	4.70	0.00470	0.0496	
8	8 PFDA	512.8 > 469.0	2.21e1	9.82e3	0.256		4.92	4.95	0.0225	0.101	
9	9 N-MeFOSAA	569.7 > 419.0		1.56e4	0.256		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.56e4	0.256		5.20				
11	11 PFUnA	562.7 > 518.9		9.82e3	0.256		5.16				
12	12 PFDoA	612.5 > 319.0		9.82e3	0.256		5.40				
13	13 PFTTrDA	662.4 > 618.7		9.82e3	0.256		5.61				
14	14 PFTeDA	712.2 > 668.4		9.82e3	0.256		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	6.62e3	9.82e3	0.256	0.753	3.43	3.34	6.74	34.9	89.6
16	16 13C2-PFDA	514.8 > 470.0	8.91e3	9.82e3	0.256	1.023	4.87	4.95	9.07	34.6	88.7
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.66e4	1.56e4	0.256	1.264	5.07	5.17	42.4	131	83.8
18	18 13C2-PFOA	414.8 > 370.1	9.82e3	9.82e3	0.256	1.000	4.28	4.27	10.0	39.0	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.10e4	1.10e4	0.256	1.000	4.71	4.71	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.56e4	1.56e4	0.256	1.000	5.04	5.07	40.0	156	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-46.qld

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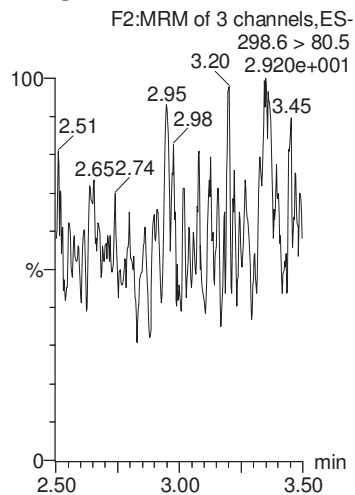
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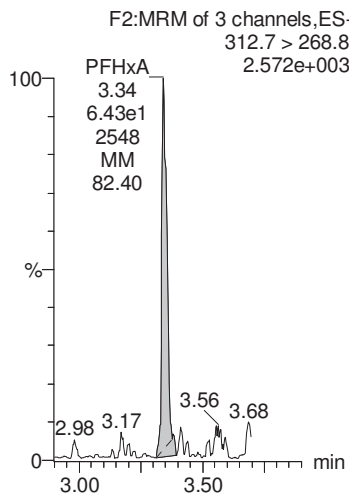
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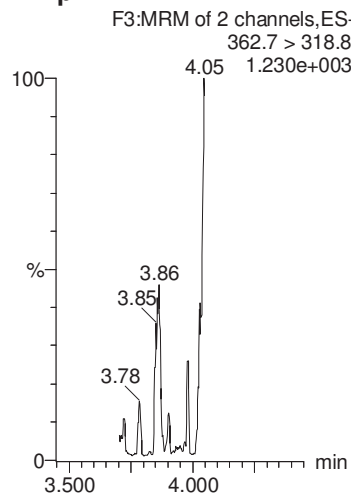
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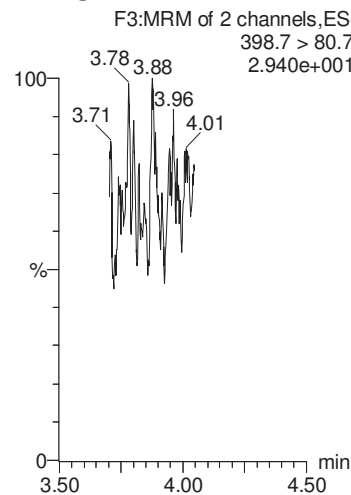
PFHxA



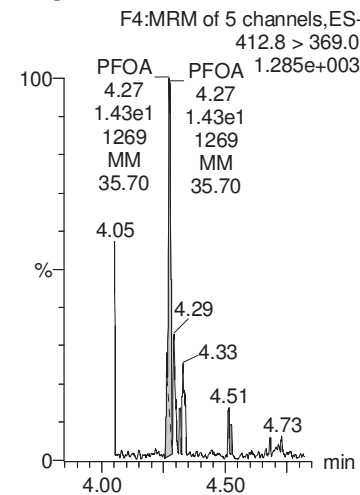
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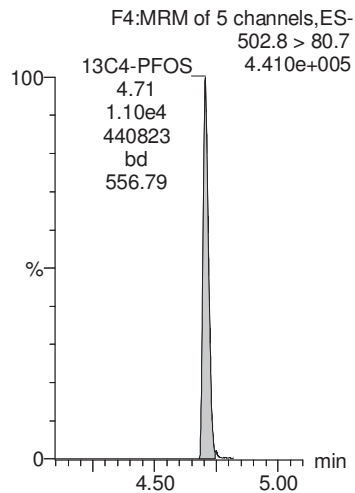
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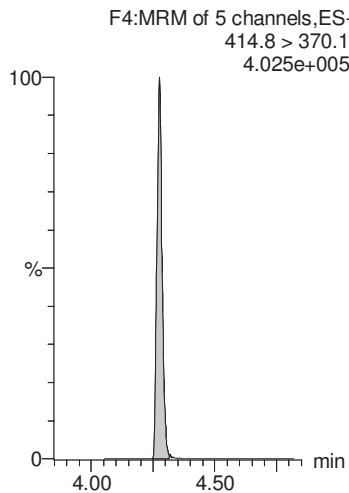
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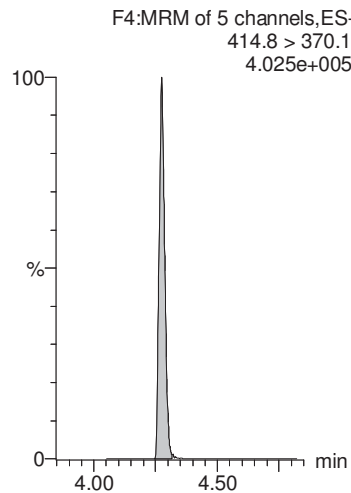
13C4-PFOS



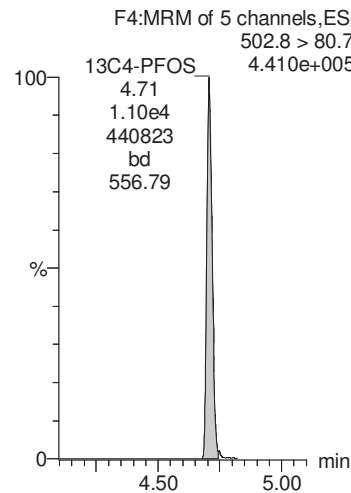
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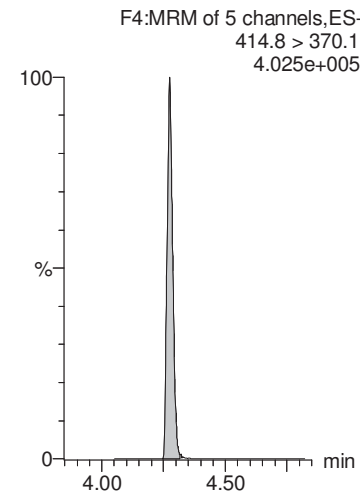
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13C4-PFOS



13C2-PFOA



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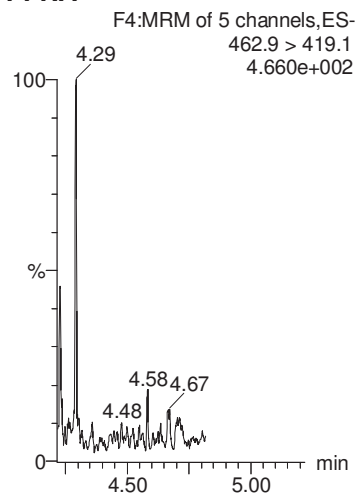
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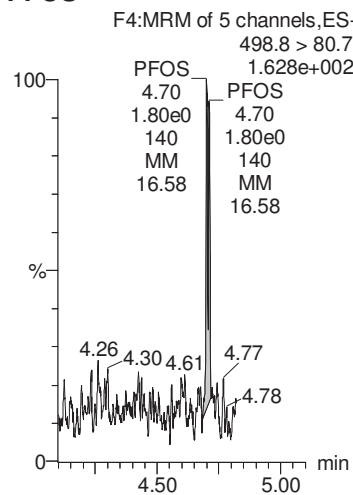
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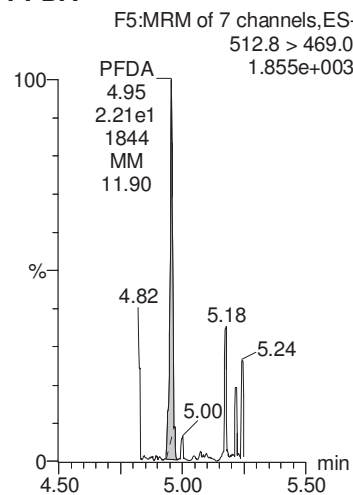
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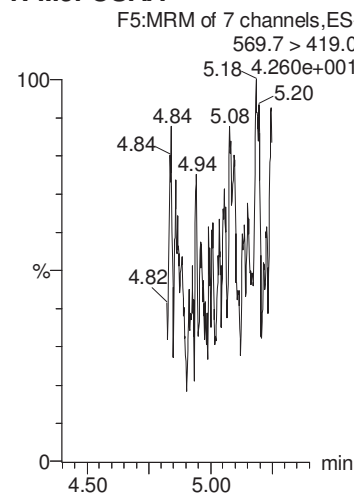
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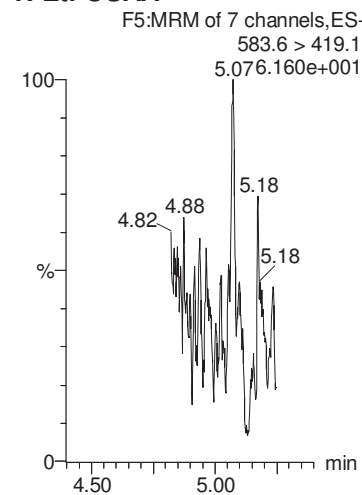
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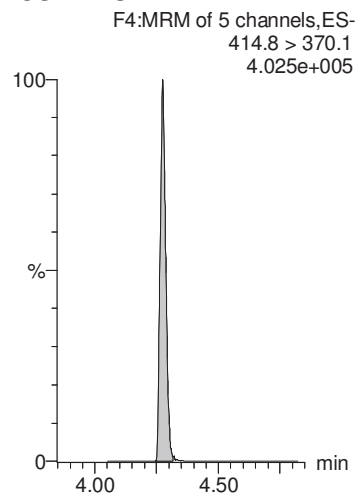
N-MeFOSAA



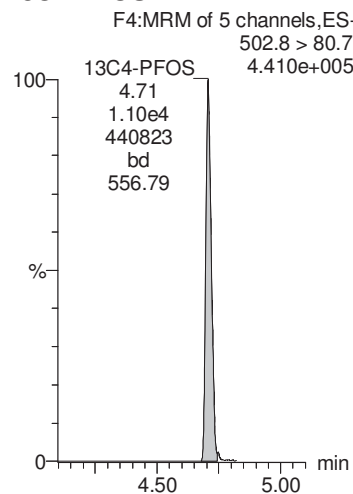
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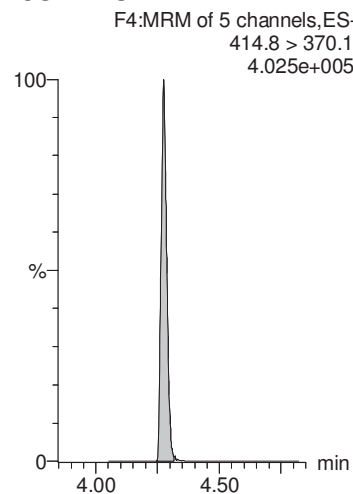
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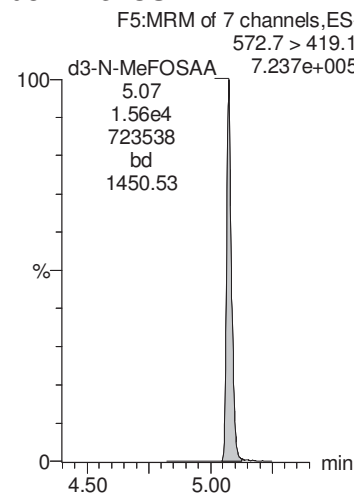
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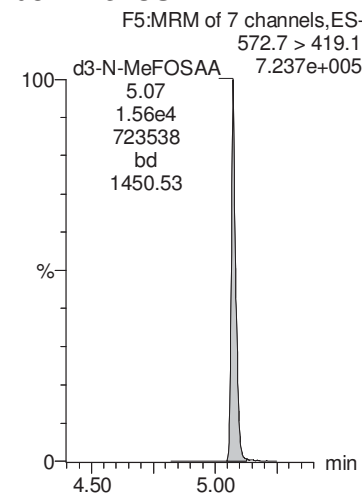
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d3-N-MeFOSAA



d3-N-MeFOSAA



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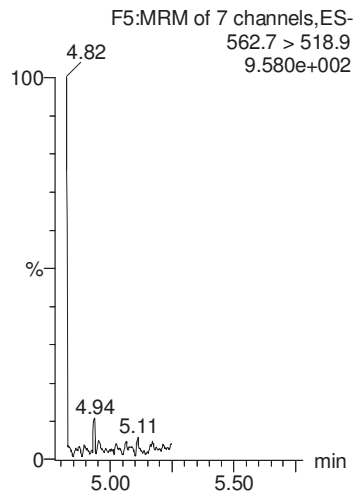
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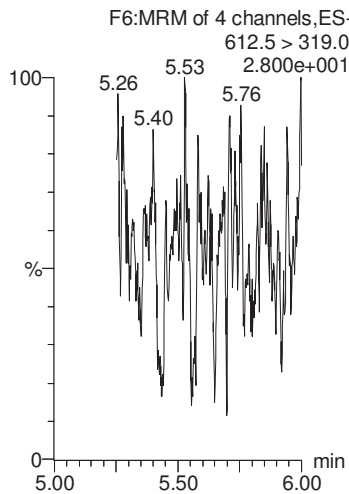
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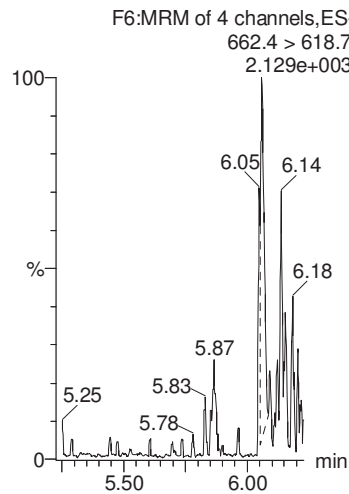
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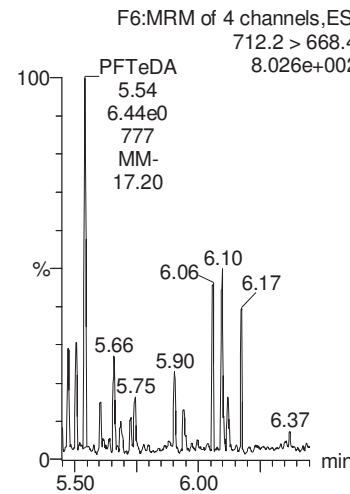
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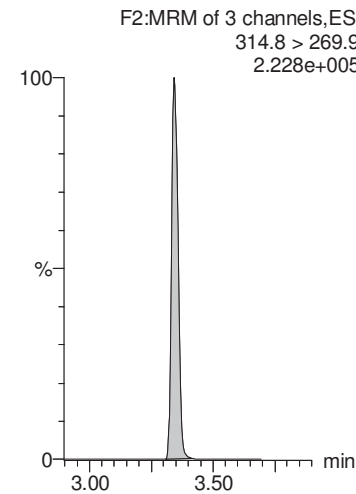
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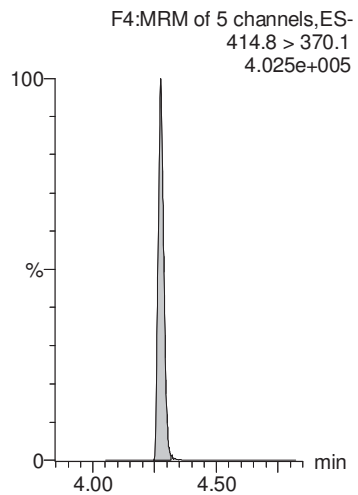
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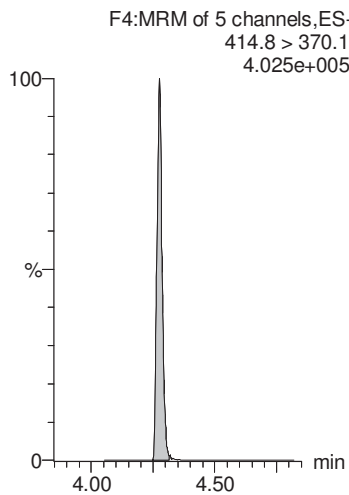
13C2-PFHxA



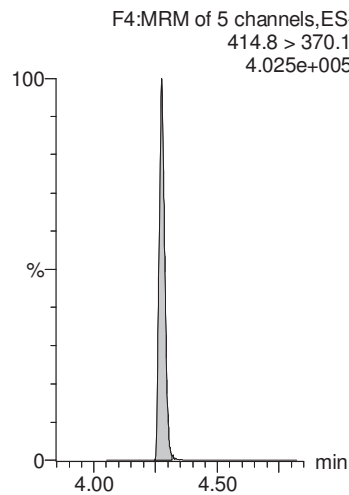
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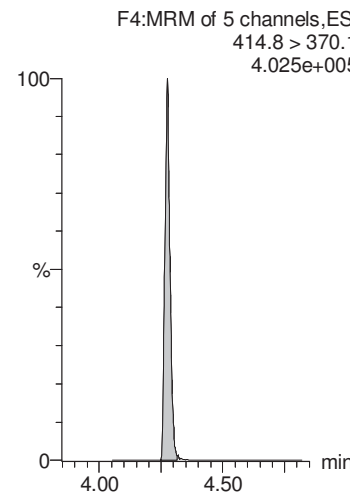
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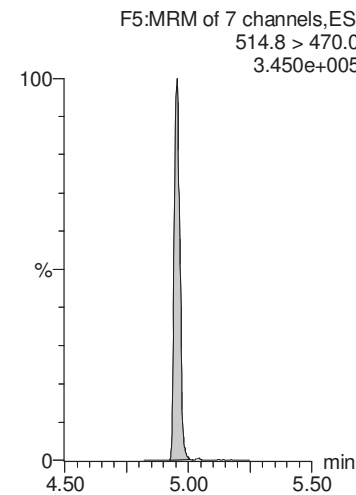
13C2-PFOA



13C2-PFOA



13C2-PFDA



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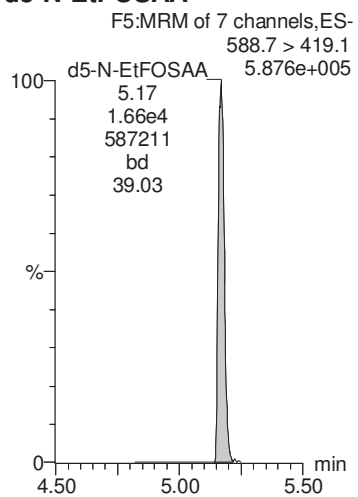
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Printed: Sunday, July 22, 2018 15:20:26 Pacific Daylight Time

Name: 180720G2_46, Date: 21-Jul-2018, Time: 01:34:50, ID: 1801769-06 CBD-1FB13-0718 0.25649, Description: CBD-1FB13-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-47.qld

Last Altered: Sunday, July 22, 2018 15:22:58 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:23:26 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_47, Date: 21-Jul-2018, Time: 01:47:40, ID: 1801769-07 CBD-1RW14-0718 0.25141, Description: CBD-1RW14-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.12e4	0.251		2.96				
2	2 PFHxA	312.7 > 268.8	9.21e1	1.05e4	0.251		3.33	3.34	0.0877	0.429	
3	3 PFHpA	362.7 > 318.8		1.05e4	0.251		3.85				
4	4 PFHxS	398.7 > 80.7		1.12e4	0.251		3.99				
5	5 PFOA	412.8 > 369.0	2.76e1	1.05e4	0.251		4.27	4.28	0.0262	0.143	
6	6 PFNA	462.9 > 419.1		1.05e4	0.251		4.63				
7	7 PFOS	498.8 > 80.7		1.12e4	0.251		4.70				
8	8 PFDA	512.8 > 469.0	5.87e1	1.05e4	0.251		4.92	4.95	0.0558	0.255	
9	9 N-MeFOSAA	569.7 > 419.0		1.61e4	0.251		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.61e4	0.251		5.20				
11	11 PFUnA	562.7 > 518.9		1.05e4	0.251		5.16				
12	12 PFDoA	612.5 > 319.0		1.05e4	0.251		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.05e4	0.251		5.61				
14	14 PFTeDA	712.2 > 668.4		1.05e4	0.251		5.79				
15	15 13C2-PFHxA	314.8 > 269.9	7.13e3	1.05e4	0.251	0.753	3.43	3.34	6.78	35.8	90.1
16	16 13C2-PFDA	514.8 > 470.0	9.10e3	1.05e4	0.251	1.023	4.87	4.95	8.66	33.7	84.7
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.87e4	1.61e4	0.251	1.264	5.08	5.17	46.4	146	91.8
18	18 13C2-PFOA	414.8 > 370.1	1.05e4	1.05e4	0.251	1.000	4.28	4.27	10.0	39.8	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.12e4	1.12e4	0.251	1.000	4.71	4.71	28.7	114	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.61e4	1.61e4	0.251	1.000	5.04	5.08	40.0	159	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-47.qld

Last Altered: Sunday, July 22, 2018 15:22:58 Pacific Daylight Time

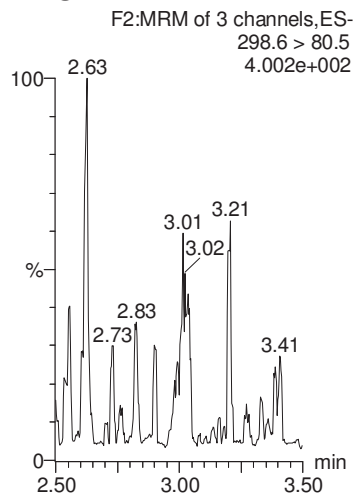
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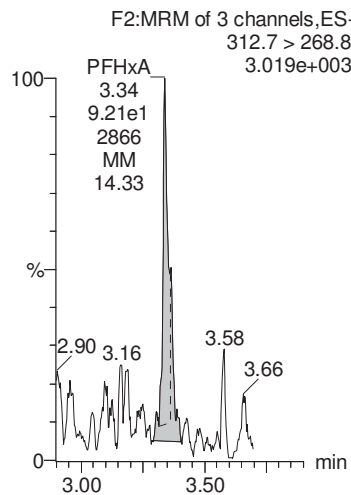
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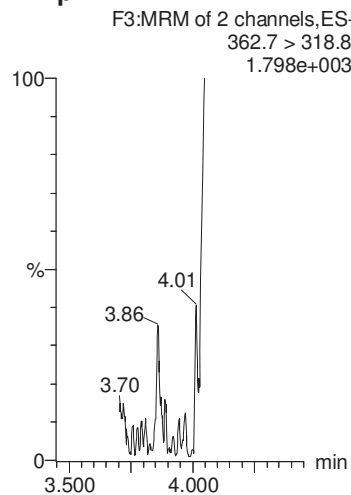
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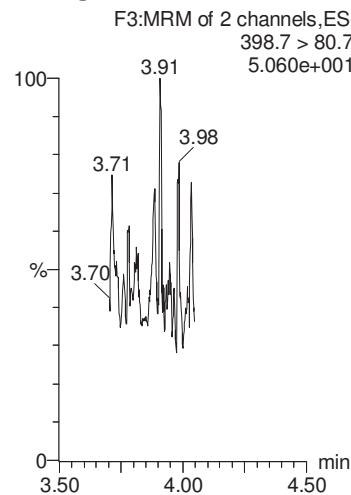
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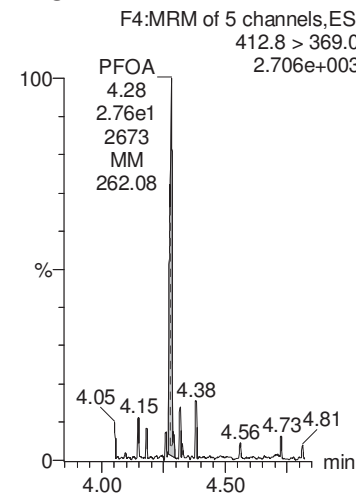
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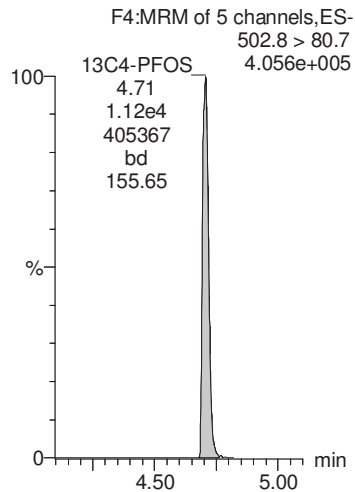
PFHxS



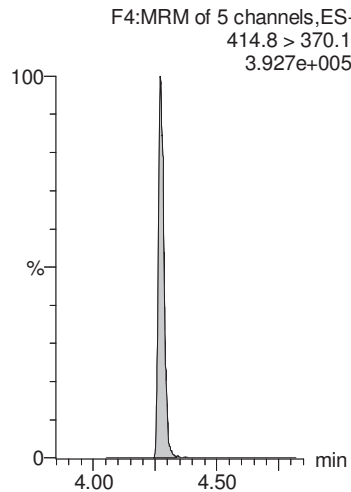
PFOA



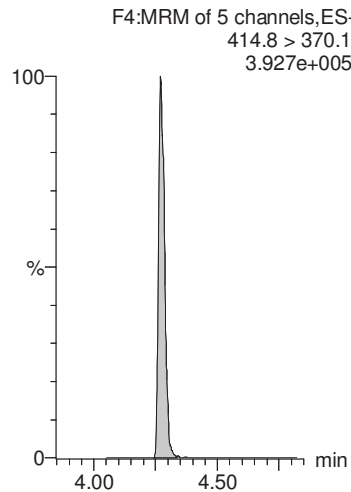
13C4-PFOS



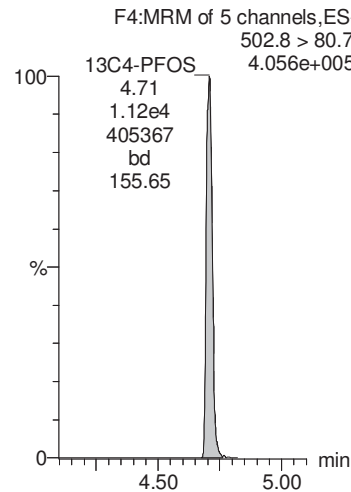
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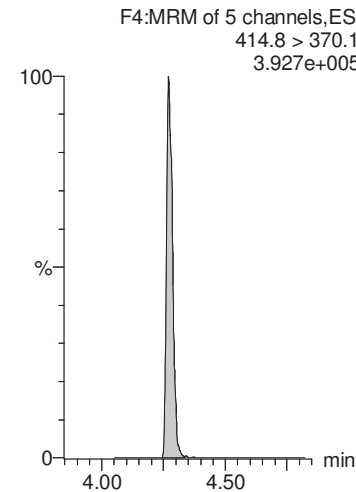
13C2-PFOA



13C4-PFOS



13C2-PFOA



MMM 7/23/2018

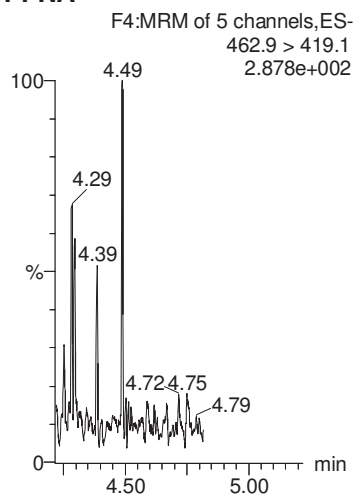
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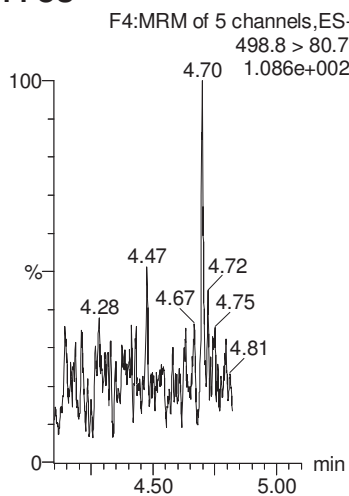
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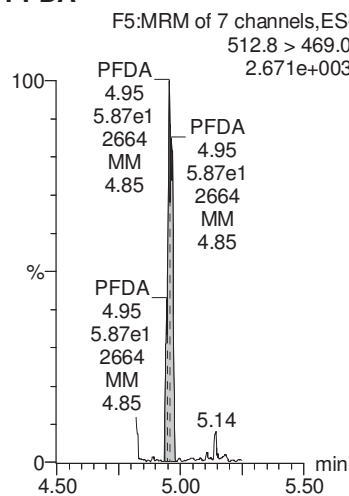
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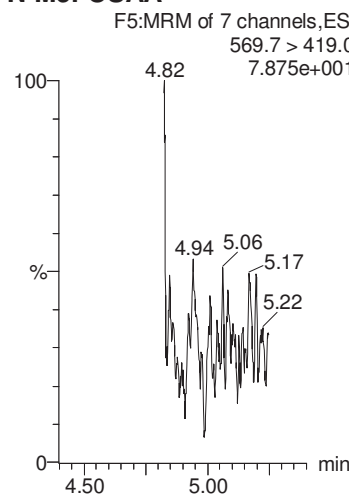
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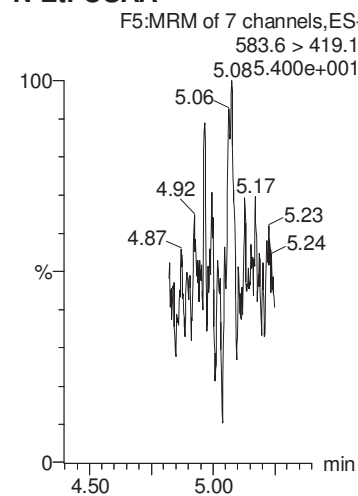
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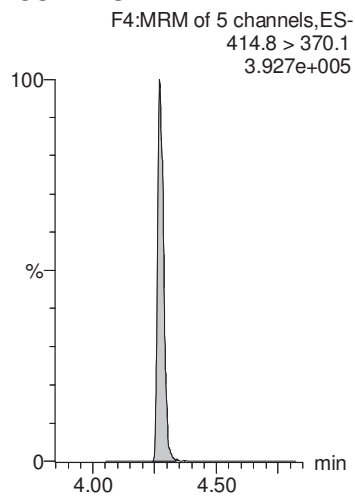
N-MeFOSAA



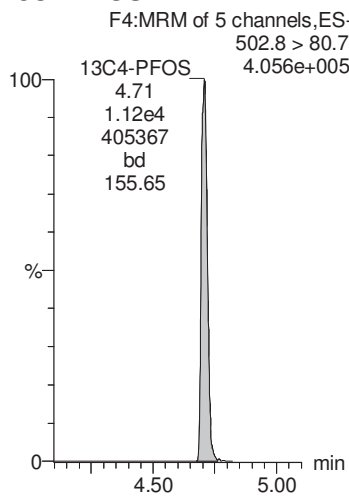
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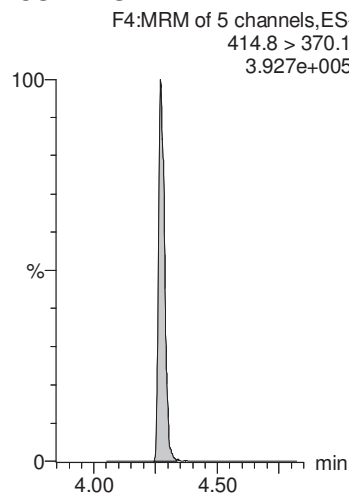
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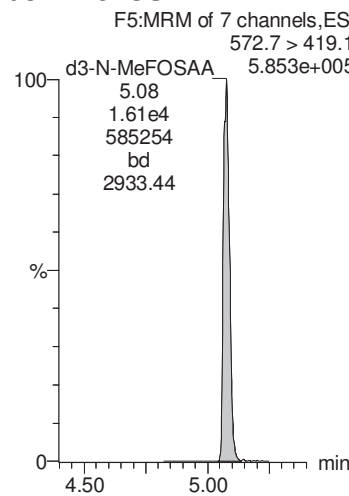
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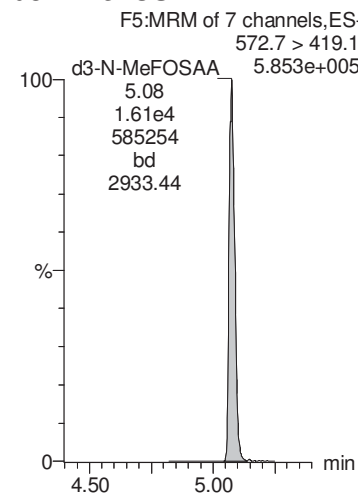
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



MMM 7/23/2018

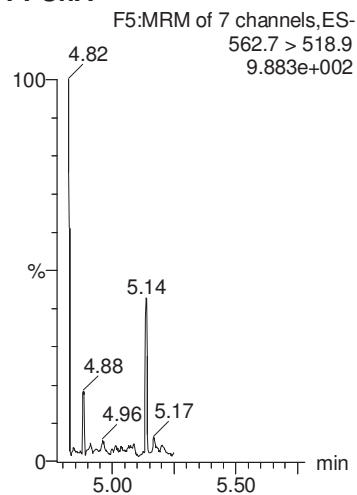
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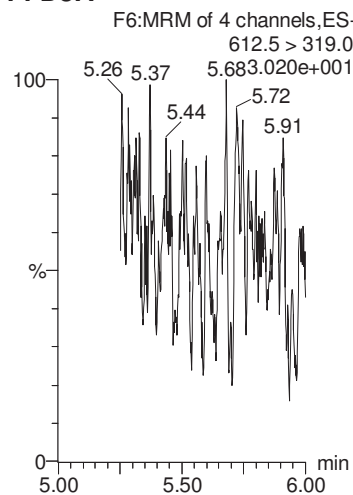
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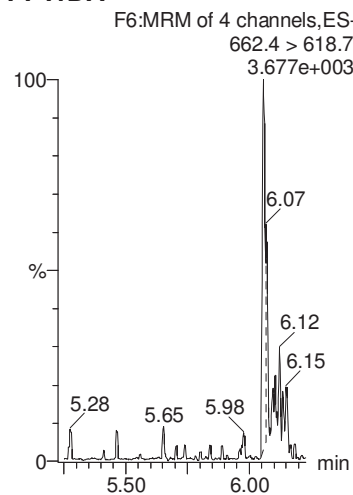
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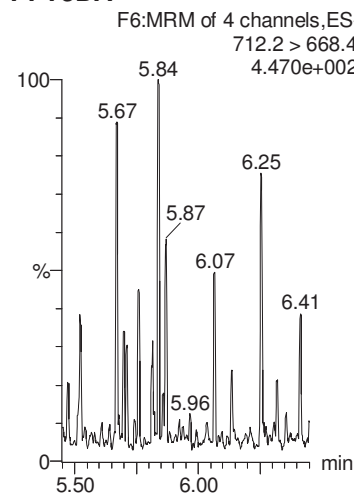
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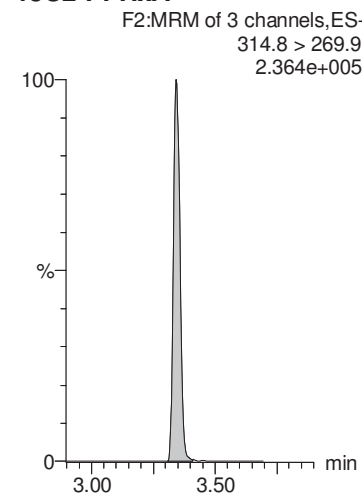
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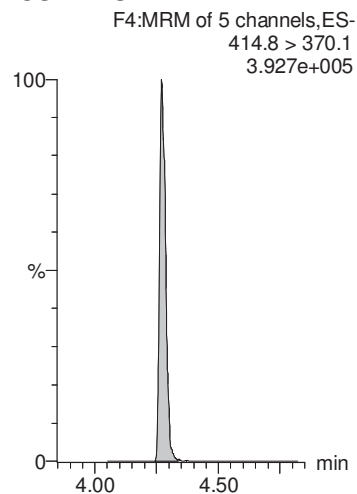
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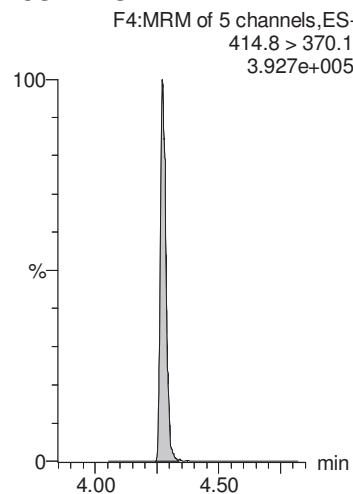
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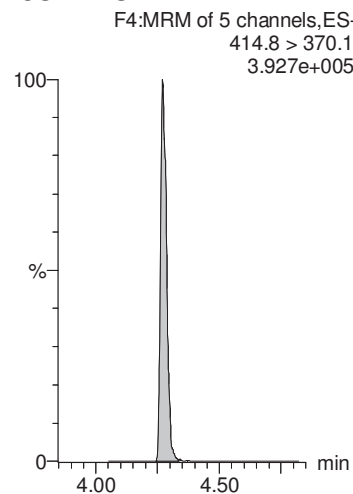
13C2-PFOA



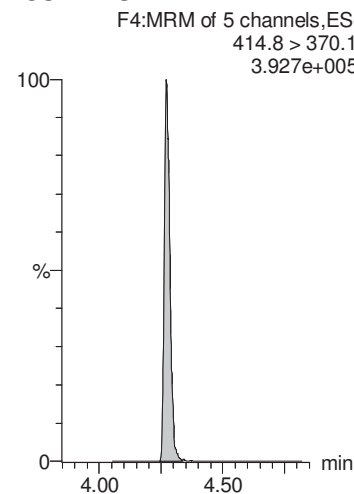
13C2-PFOA



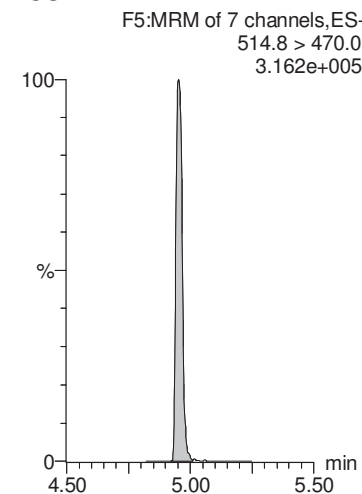
13C2-PFOA



13C2-PFOA



13C2-PFDA



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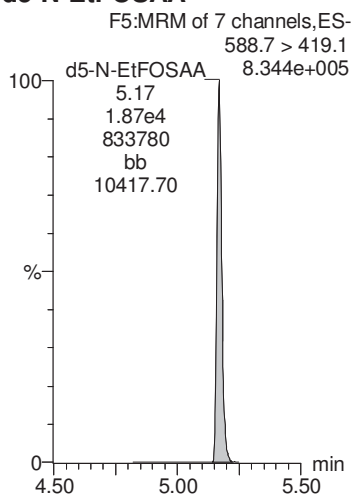
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Last Altered: Sunday, July 22, 2018 15:22:58 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:23:26 Pacific Daylight Time

Name: 180720G2_47, Date: 21-Jul-2018, Time: 01:47:40, ID: 1801769-07 CBD-1RW14-0718 0.25141, Description: CBD-1RW14-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-48.qld

Last Altered: Sunday, July 22, 2018 15:24:55 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:25:28 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_48, Date: 21-Jul-2018, Time: 02:00:25, ID: 1801769-08 CBD-1FB14-0718 0.2554, Description: CBD-1FB14-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.10e4	0.255		2.96				
2	2 PFHxA	312.7 > 268.8	3.83e1	9.91e3	0.255		3.34	3.36	0.0386	0.186	
3	3 PFHpA	362.7 > 318.8		9.91e3	0.255		3.85				
4	4 PFHxS	398.7 > 80.7		1.10e4	0.255		3.98				
5	5 PFOA	412.8 > 369.0	2.16e1	9.91e3	0.255		4.28	4.28	0.0218	0.117	
6	6 PFNA	462.9 > 419.1		9.91e3	0.255		4.64				
7	7 PFOS	498.8 > 80.7		1.10e4	0.255		4.70				
8	8 PFDA	512.8 > 469.0	2.98e1	9.91e3	0.255		4.92	4.95	0.0301	0.135	
9	9 N-MeFOSAA	569.7 > 419.0		1.42e4	0.255		5.08				
10	10 N-EtFOSAA	583.6 > 419.1		1.42e4	0.255		5.20				
11	11 PFUnA	562.7 > 518.9		9.91e3	0.255		5.16				
12	12 PFDoA	612.5 > 319.0		9.91e3	0.255		5.40				
13	13 PFTTrDA	662.4 > 618.7		9.91e3	0.255		5.61				
14	14 PFTeDA	712.2 > 668.4		9.91e3	0.255		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	6.76e3	9.91e3	0.255	0.753	3.43	3.35	6.82	35.5	90.6
16	16 13C2-PFDA	514.8 > 470.0	9.15e3	9.91e3	0.255	1.023	4.87	4.95	9.22	35.3	90.2
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.81e4	1.42e4	0.255	1.264	5.07	5.17	51.0	158	100.9
18	18 13C2-PFOA	414.8 > 370.1	9.91e3	9.91e3	0.255	1.000	4.28	4.27	10.0	39.2	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.10e4	1.10e4	0.255	1.000	4.71	4.71	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.42e4	1.42e4	0.255	1.000	5.04	5.07	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-48.qld

Last Altered: Sunday, July 22, 2018 15:24:55 Pacific Daylight Time

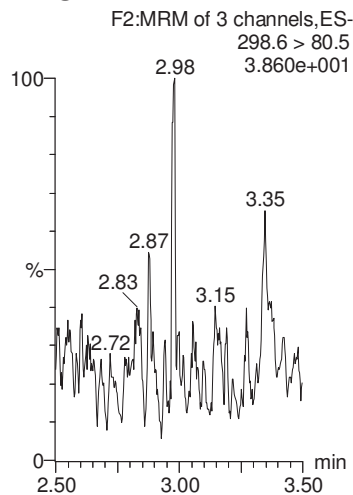
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Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

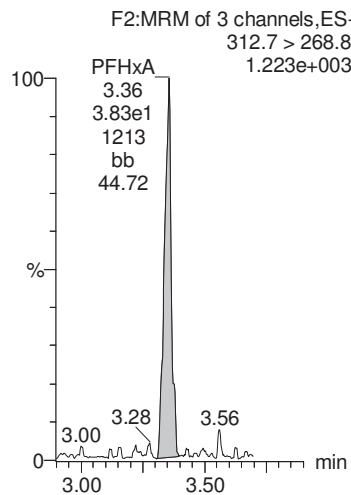
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_48, Date: 21-Jul-2018, Time: 02:00:25, ID: 1801769-08 CBD-1FB14-0718 0.2554, Description: CBD-1FB14-0718

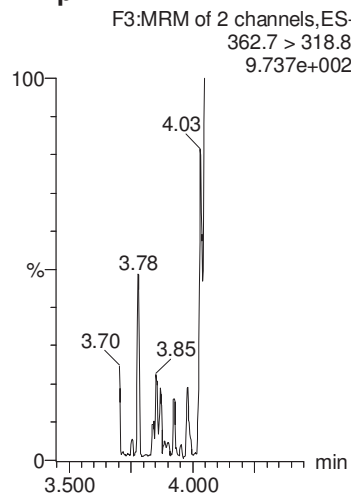
PFBS



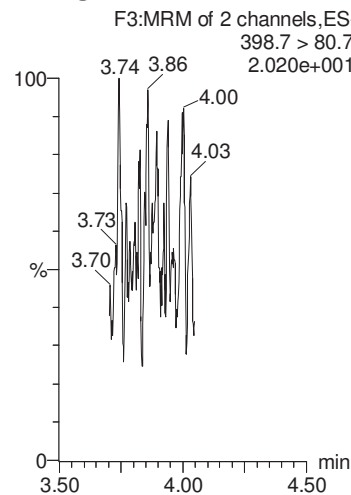
PFHxA



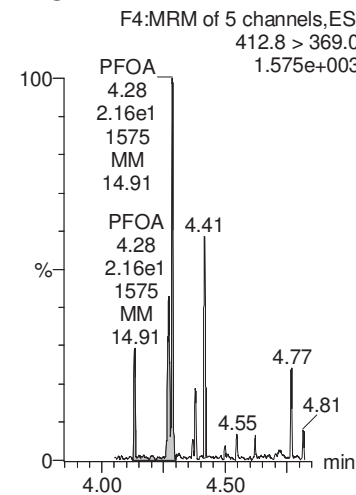
PFHpA



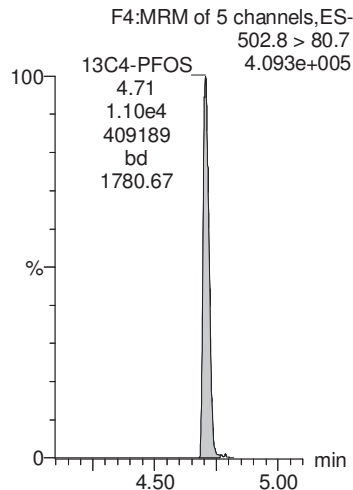
PFHxS



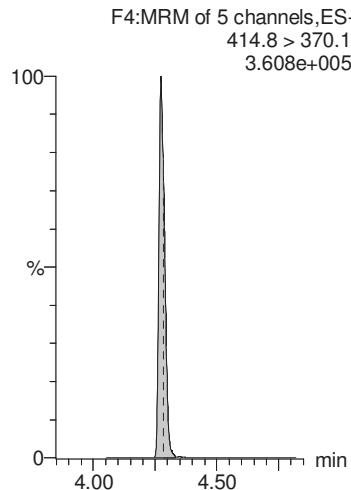
PFOA



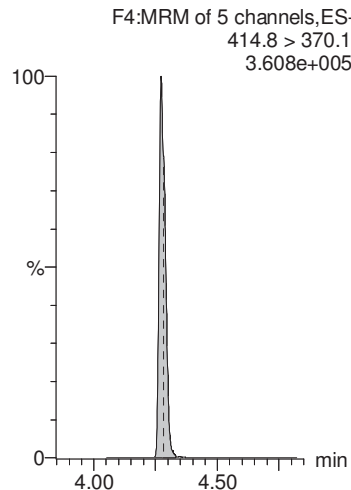
13C4-PFOS



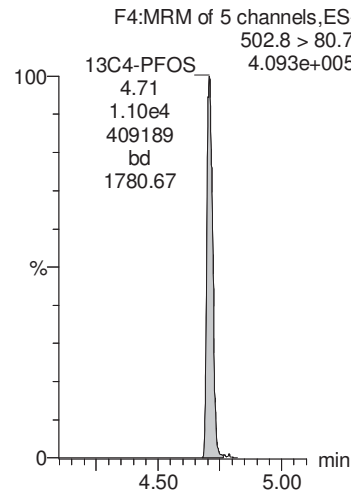
13C2-PFOA



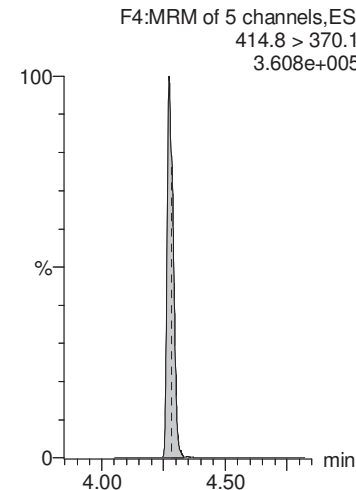
13C2-PFOA



13C4-PFOS



13C2-PFOA



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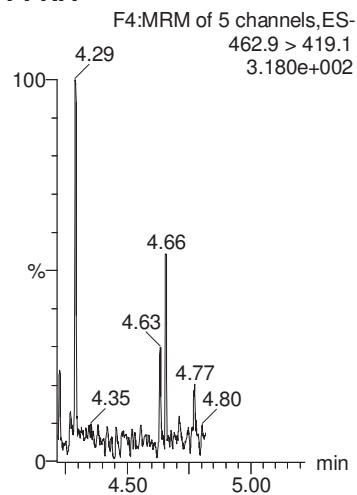
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Last Altered: Sunday, July 22, 2018 15:24:55 Pacific Daylight Time

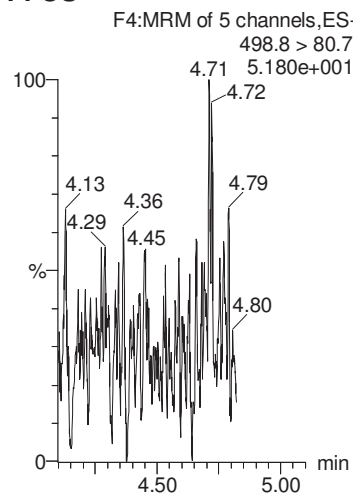
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Name: 180720G2_48, Date: 21-Jul-2018, Time: 02:00:25, ID: 1801769-08 CBD-1FB14-0718 0.2554, Description: CBD-1FB14-0718

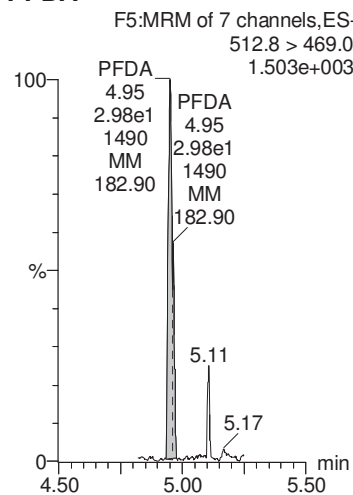
PFNA



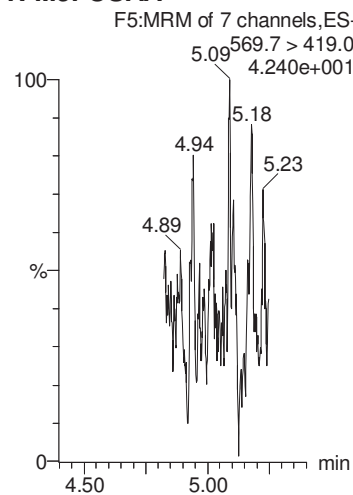
PFOS



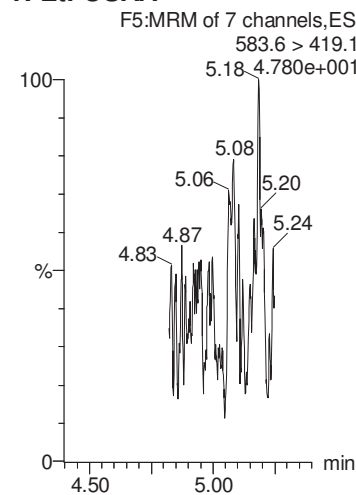
PFDA



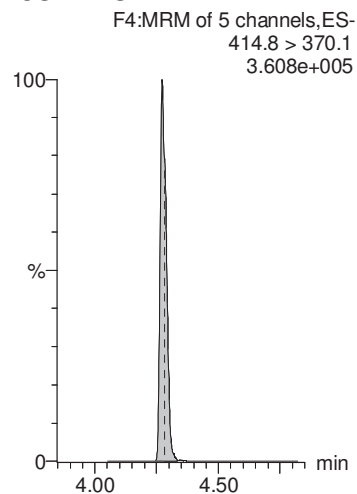
N-MeFOSAA



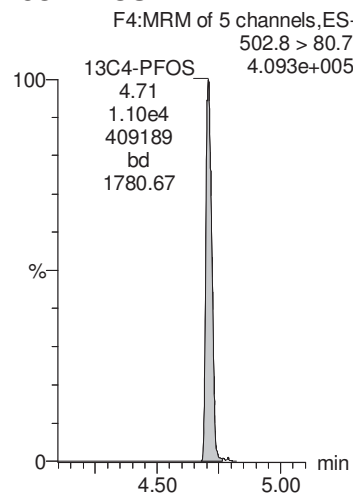
N-EtFOSAA



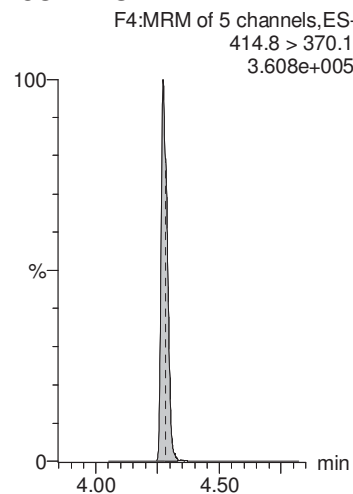
13C2-PFOA



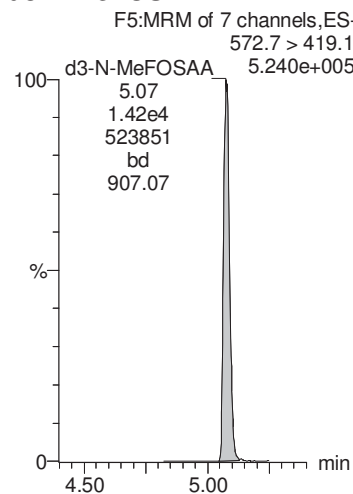
13C4-PFOS



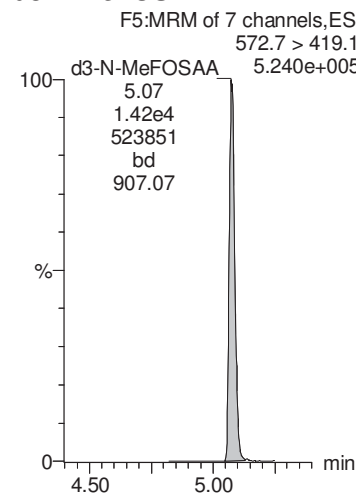
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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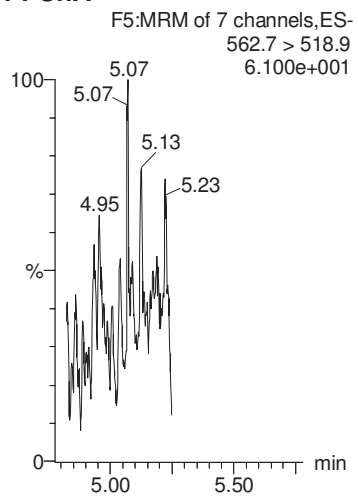
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-48.qld

Last Altered: Sunday, July 22, 2018 15:24:55 Pacific Daylight Time

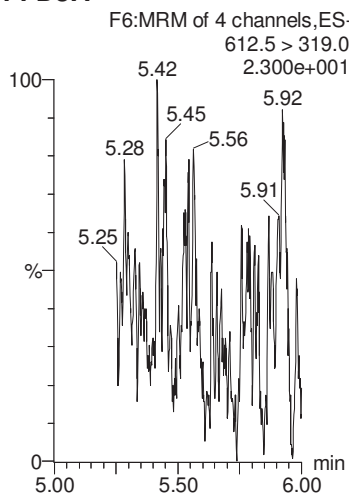
Printed: Sunday, July 22, 2018 15:25:28 Pacific Daylight Time

Name: 180720G2_48, Date: 21-Jul-2018, Time: 02:00:25, ID: 1801769-08 CBD-1FB14-0718 0.2554, Description: CBD-1FB14-0718

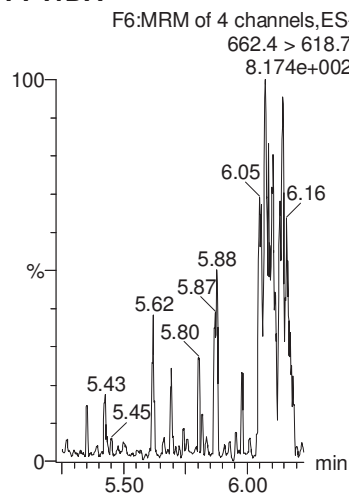
PFUnA



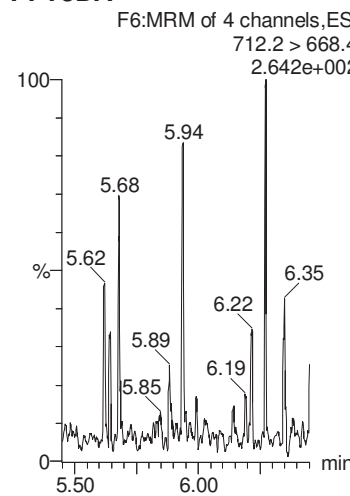
PFDaA



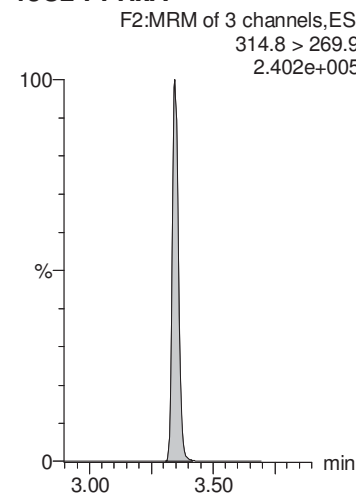
PFTrDA



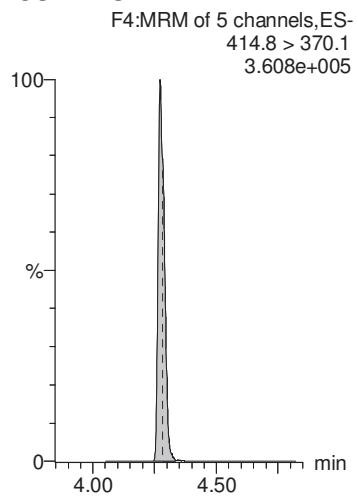
PFTeDA



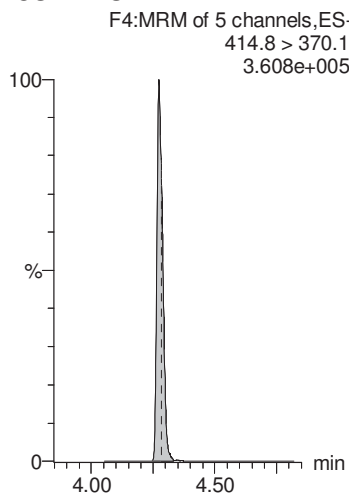
13C2-PFHxA



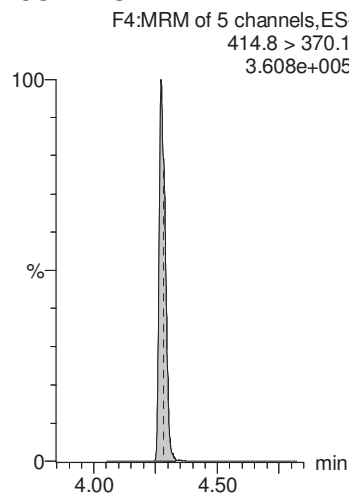
13C2-PFOA



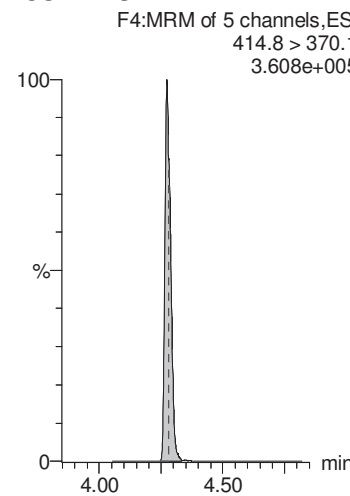
13C2-PFOA



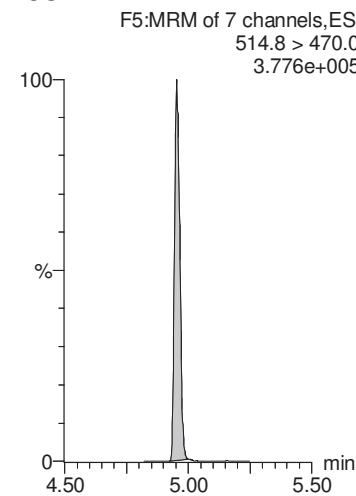
13C2-PFOA



13C2-PFOA



13C2-PFDA



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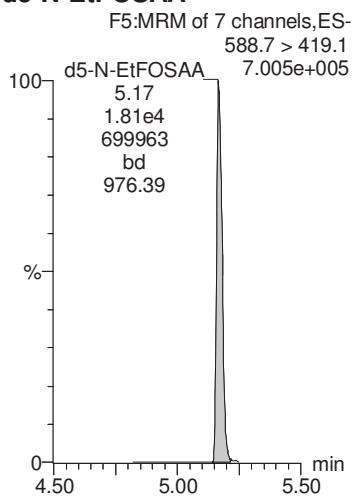
Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-48.qld

Last Altered: Sunday, July 22, 2018 15:24:55 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:25:28 Pacific Daylight Time

Name: 180720G2_48, Date: 21-Jul-2018, Time: 02:00:25, ID: 1801769-08 CBD-1FB14-0718 0.2554, Description: CBD-1FB14-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-49.qld

Last Altered: Sunday, July 22, 2018 15:27:27 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:28:00 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_49, Date: 21-Jul-2018, Time: 02:13:14, ID: 1801769-09 CBD-1RW15-0718 0.2534, Description: CBD-1RW15-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.28e4	0.253		2.96				
2	2 PFHxA	312.7 > 268.8	7.24e1	1.14e4	0.253		3.34	3.34	0.0637	0.309	
3	3 PFHpA	362.7 > 318.8		1.14e4	0.253		3.85				
4	4 PFHxS	398.7 > 80.7	8.20e1	1.28e4	0.253		3.98	3.97	0.184	0.645	
5	5 PFOA	412.8 > 369.0	4.09e1	1.14e4	0.253		4.27	4.28	0.0359	0.194	
6	6 PFNA	462.9 > 419.1	9.24e1	1.14e4	0.253		4.64	4.64	0.0813	0.368	
7	7 PFOS	498.8 > 80.7		1.28e4	0.253		4.70				
8	8 PFDA	512.8 > 469.0	4.11e1	1.14e4	0.253		4.92	4.95	0.0361	0.164	
9	9 N-MeFOSAA	569.7 > 419.0		1.69e4	0.253		5.07				
10	10 N-EtFOSAA	583.6 > 419.1		1.69e4	0.253		5.18				
11	11 PFUnA	562.7 > 518.9		1.14e4	0.253		5.16				
12	12 PFDoA	612.5 > 319.0		1.14e4	0.253		5.40				
13	13 PFTTrDA	662.4 > 618.7		1.14e4	0.253		5.61				
14	14 PFTeDA	712.2 > 668.4		1.14e4	0.253		5.79				
15	15 13C2-PFHxA	314.8 > 269.9	7.74e3	1.14e4	0.253	0.753	3.43	3.34	6.81	35.7	90.4
16	16 13C2-PFDA	514.8 > 470.0	1.05e4	1.14e4	0.253	1.023	4.87	4.95	9.21	35.5	90.1
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.79e4	1.69e4	0.253	1.264	5.06	5.16	42.1	132	83.4
18	18 13C2-PFOA	414.8 > 370.1	1.14e4	1.14e4	0.253	1.000	4.28	4.27	10.0	39.5	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.28e4	1.28e4	0.253	1.000	4.71	4.70	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.69e4	1.69e4	0.253	1.000	5.04	5.06	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-49.qld

Last Altered: Sunday, July 22, 2018 15:27:27 Pacific Daylight Time

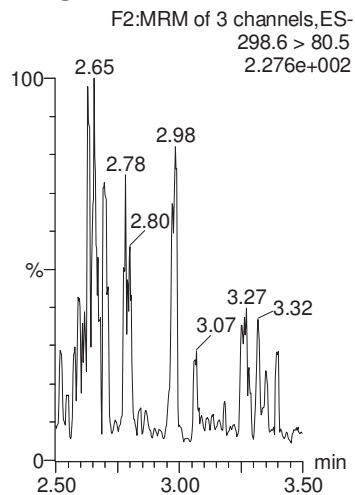
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Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

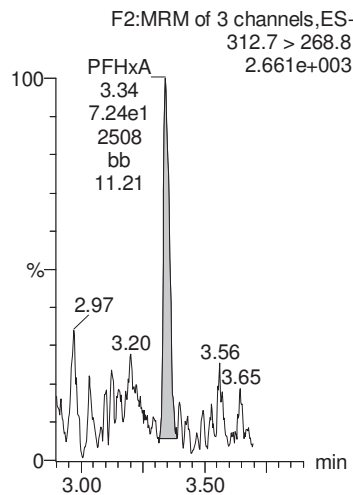
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_49, Date: 21-Jul-2018, Time: 02:13:14, ID: 1801769-09 CBD-1RW15-0718 0.2534, Description: CBD-1RW15-0718

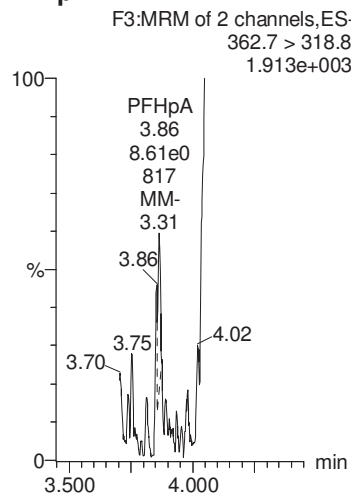
PFBS



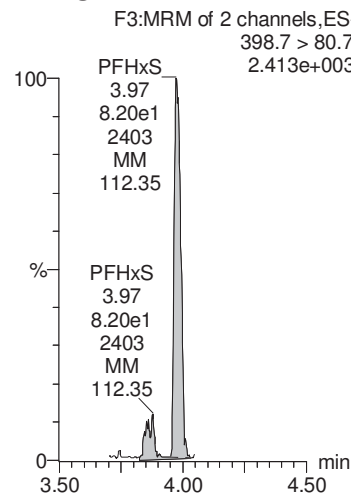
PFHxA



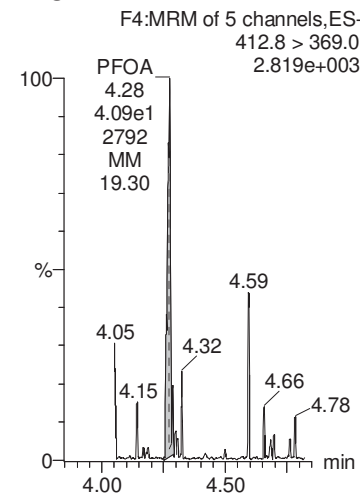
PFHpA



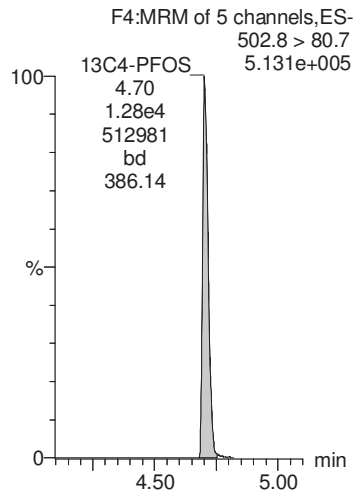
PFHxS



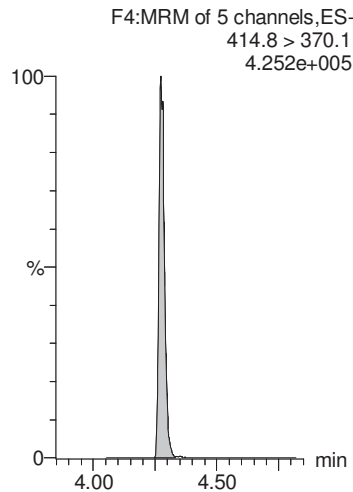
PFOA



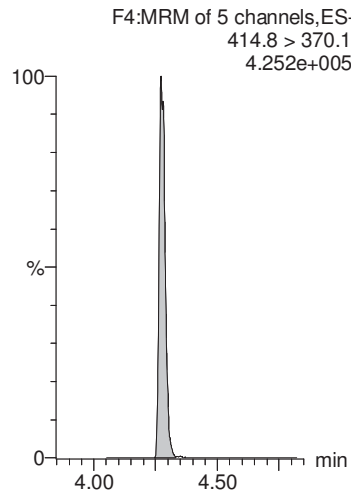
13C4-PFOS



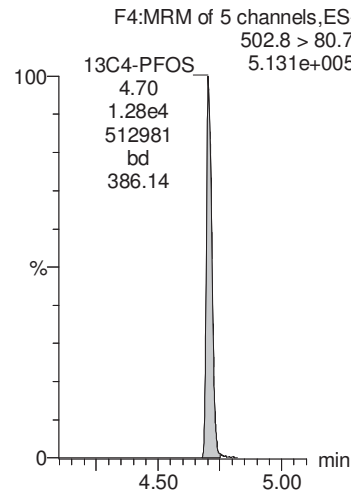
13C2-PFOA



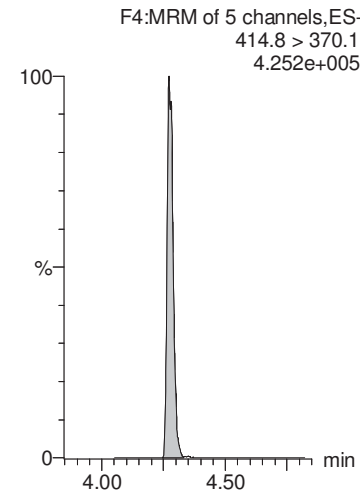
13C2-PFOA



13C4-PFOS



13C2-PFOA



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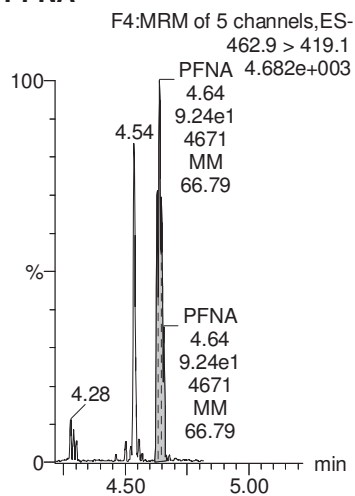
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Last Altered: Sunday, July 22, 2018 15:27:27 Pacific Daylight Time

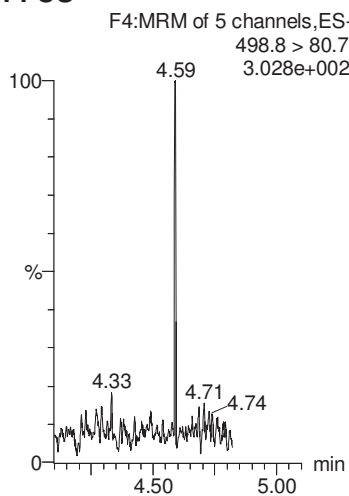
Printed: Sunday, July 22, 2018 15:28:00 Pacific Daylight Time

Name: 180720G2_49, Date: 21-Jul-2018, Time: 02:13:14, ID: 1801769-09 CBD-1RW15-0718 0.2534, Description: CBD-1RW15-0718

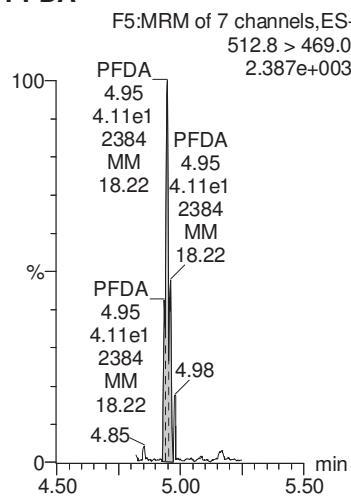
PFNA



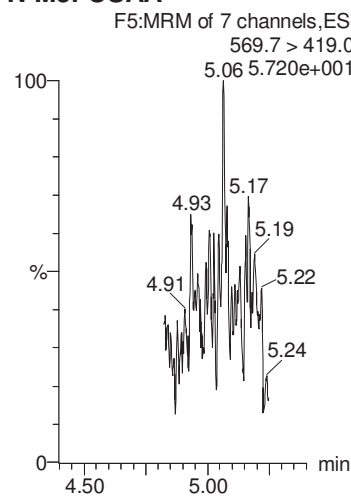
PFOS



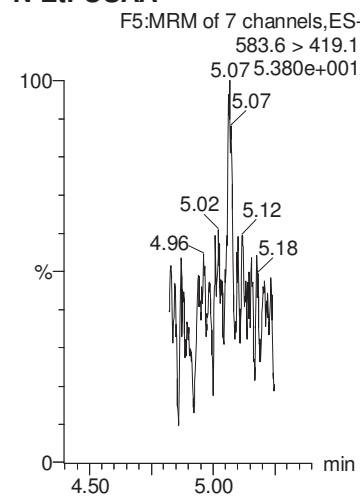
PFDA



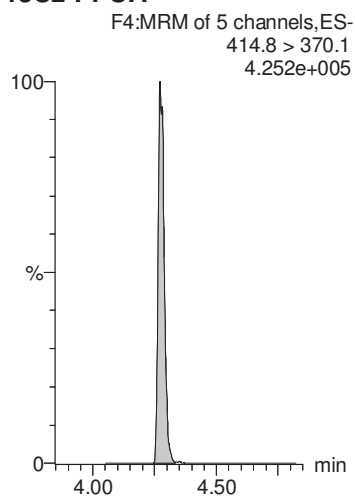
N-MeFOSAA



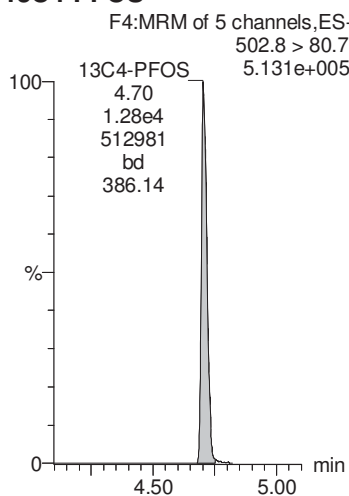
N-EtFOSAA



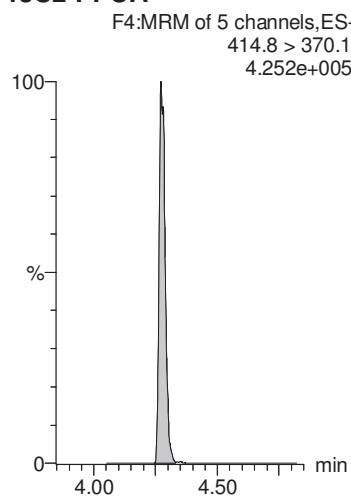
13C2-PFOA



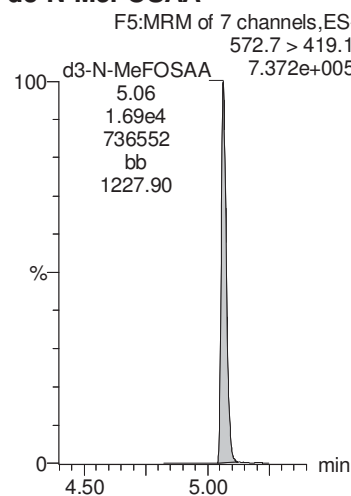
13C4-PFOS



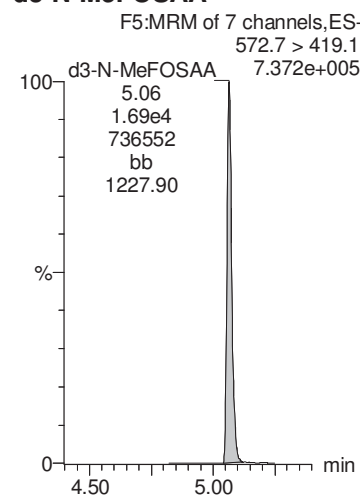
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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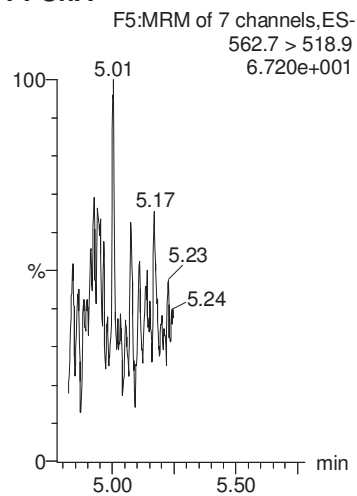
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Last Altered: Sunday, July 22, 2018 15:27:27 Pacific Daylight Time

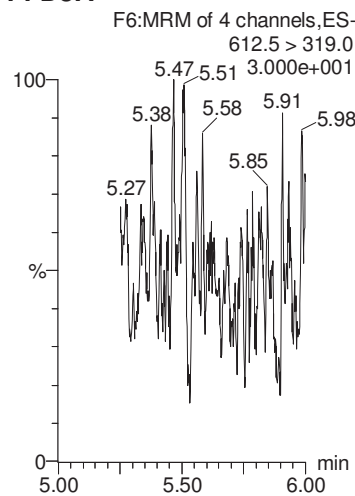
Printed: Sunday, July 22, 2018 15:28:00 Pacific Daylight Time

Name: 180720G2_49, Date: 21-Jul-2018, Time: 02:13:14, ID: 1801769-09 CBD-1RW15-0718 0.2534, Description: CBD-1RW15-0718

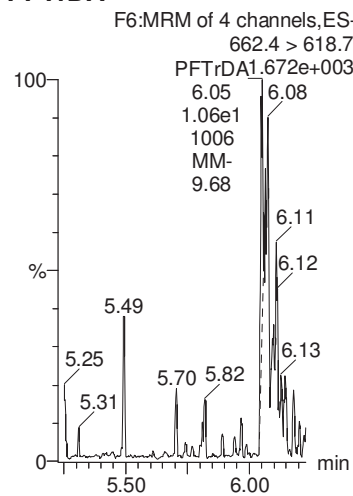
PFUnA



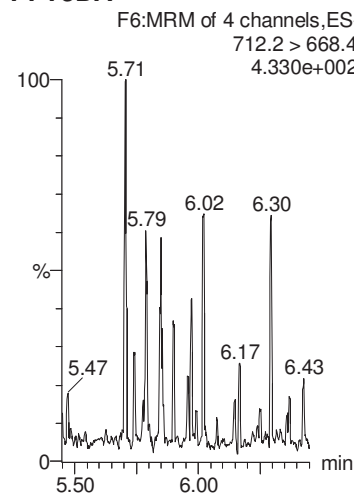
PFDaA



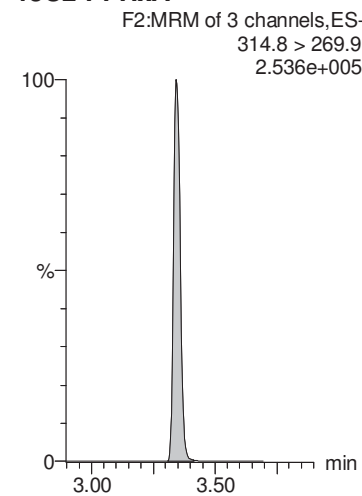
PFTrDA



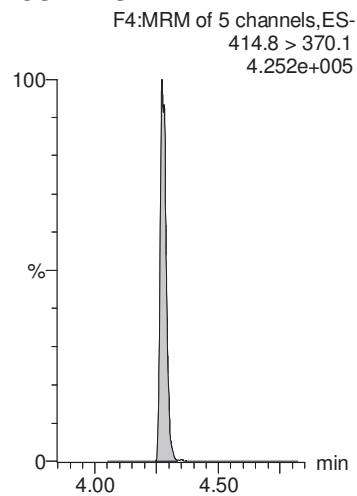
PFTeDA



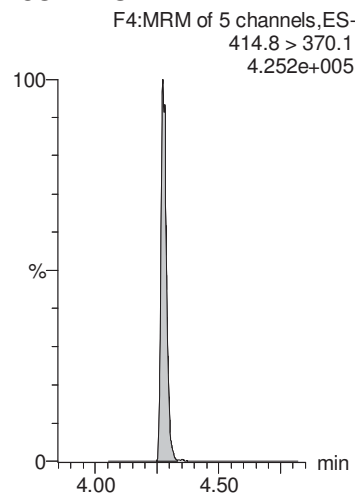
13C2-PFHxA



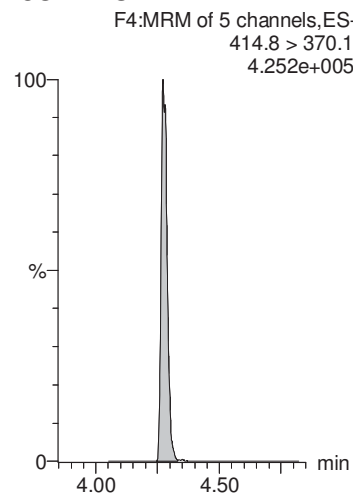
13C2-PFOA



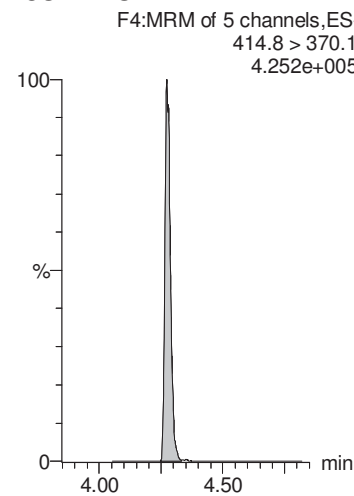
13C2-PFOA



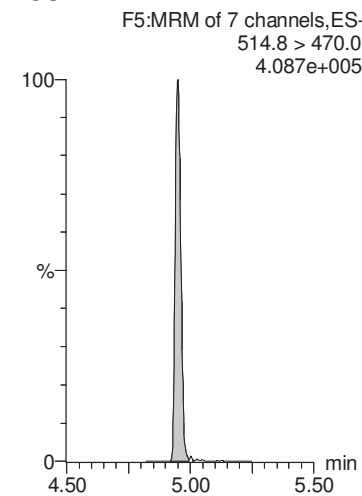
13C2-PFOA



13C2-PFOA



13C2-PFDA



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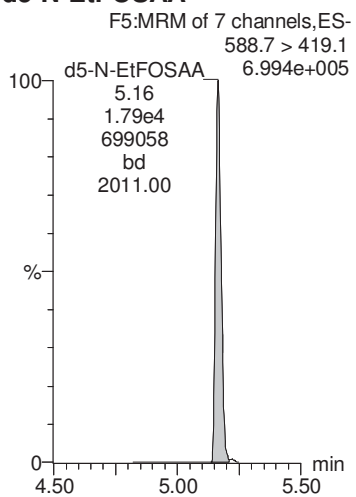
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Last Altered: Sunday, July 22, 2018 15:27:27 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:28:00 Pacific Daylight Time

Name: 180720G2_49, Date: 21-Jul-2018, Time: 02:13:14, ID: 1801769-09 CBD-1RW15-0718 0.2534, Description: CBD-1RW15-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-50.qld

Last Altered: Sunday, July 22, 2018 15:29:23 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:29:46 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_50, Date: 21-Jul-2018, Time: 02:26:03, ID: 1801769-10 CBD-1FB15-0718 0.25327, Description: CBD-1FB15-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.33e4	0.253		2.97				
2	2 PFHxA	312.7 > 268.8	5.16e1	1.20e4	0.253		3.34	3.35	0.0429	0.208	
3	3 PFHpA	362.7 > 318.8		1.20e4	0.253		3.85				
4	4 PFHxS	398.7 > 80.7		1.33e4	0.253		3.99				
5	5 PFOA	412.8 > 369.0	2.65e1	1.20e4	0.253		4.28	4.28	0.0221	0.119	
6	6 PFNA	462.9 > 419.1		1.20e4	0.253		4.64				
7	7 PFOS	498.8 > 80.7	3.18e0	1.33e4	0.253		4.70	4.70	0.00683	0.0730	
8	8 PFDA	512.8 > 469.0	3.26e1	1.20e4	0.253		4.92	4.95	0.0271	0.123	
9	9 N-MeFOSAA	569.7 > 419.0		1.67e4	0.253		5.06				
10	10 N-EtFOSAA	583.6 > 419.1		1.67e4	0.253		5.17				
11	11 PFUnA	562.7 > 518.9		1.20e4	0.253		5.17				
12	12 PFDoA	612.5 > 319.0		1.20e4	0.253		5.41				
13	13 PFTTrDA	662.4 > 618.7		1.20e4	0.253		5.62				
14	14 PFTeDA	712.2 > 668.4		1.20e4	0.253		5.80				
15	15 13C2-PFHxA	314.8 > 269.9	7.56e3	1.20e4	0.253	0.753	3.43	3.35	6.29	33.0	83.6
16	16 13C2-PFDA	514.8 > 470.0	1.01e4	1.20e4	0.253	1.023	4.88	4.95	8.38	32.4	82.0
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.12e4	1.67e4	0.253	1.264	5.05	5.16	50.9	159	100.7
18	18 13C2-PFOA	414.8 > 370.1	1.20e4	1.20e4	0.253	1.000	4.28	4.28	10.0	39.5	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.33e4	1.33e4	0.253	1.000	4.71	4.71	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.67e4	1.67e4	0.253	1.000	5.04	5.05	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180720G2\180720G2-50.qld

Last Altered: Sunday, July 22, 2018 15:29:23 Pacific Daylight Time

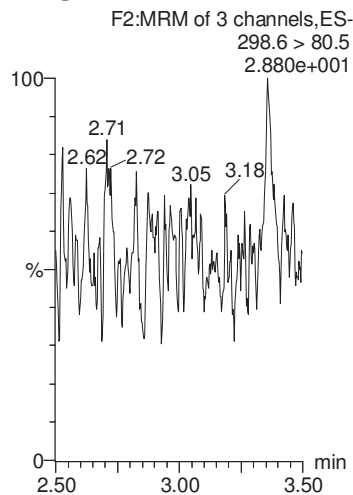
Printed: Sunday, July 22, 2018 15:29:46 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

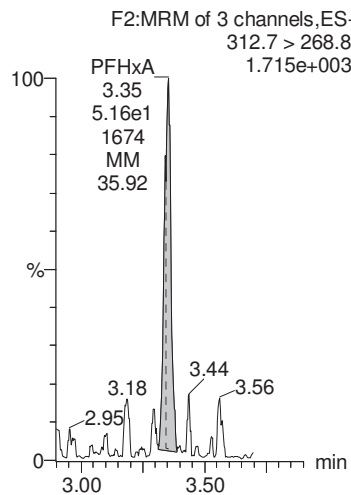
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180720G2_50, Date: 21-Jul-2018, Time: 02:26:03, ID: 1801769-10 CBD-1FB15-0718 0.25327, Description: CBD-1FB15-0718

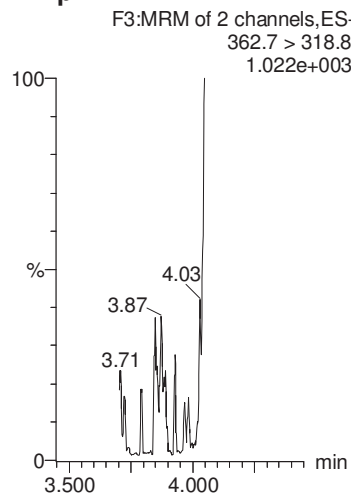
PFBS



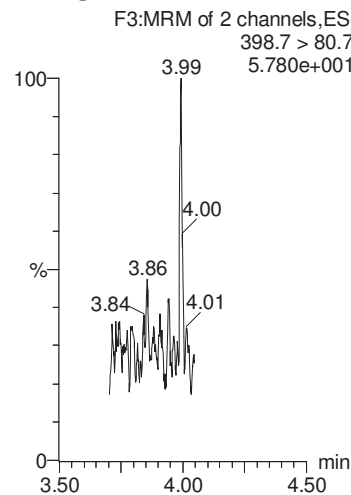
PFHxA



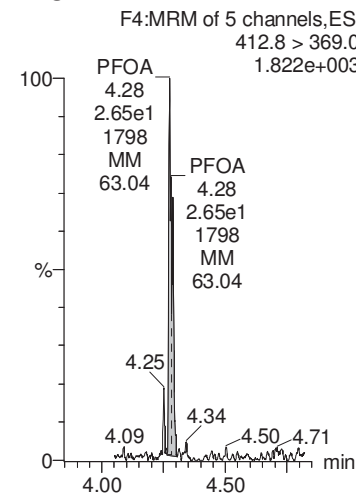
PFHpA



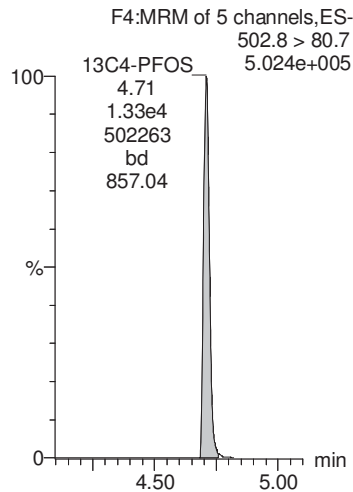
PFHxS



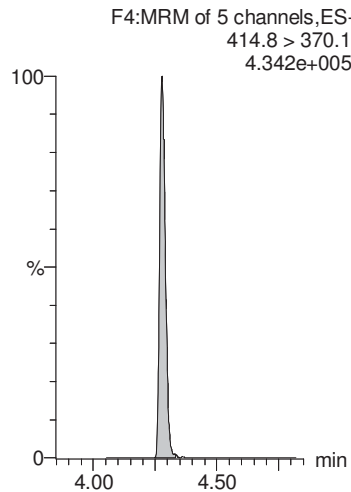
PFOA



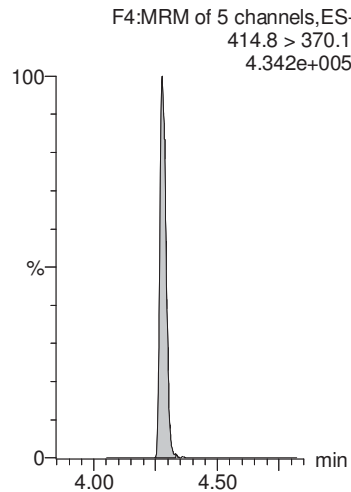
13C4-PFOS



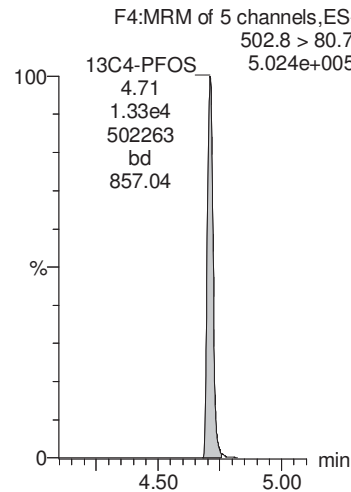
13C2-PFOA



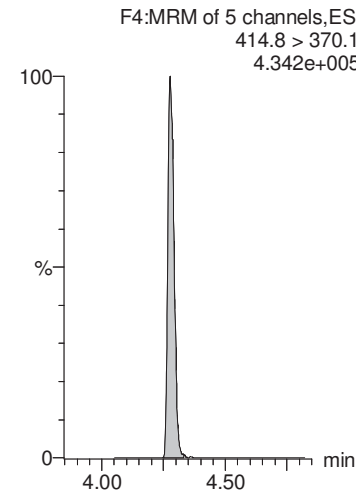
13C2-PFOA



13C4-PFOS



13C2-PFOA



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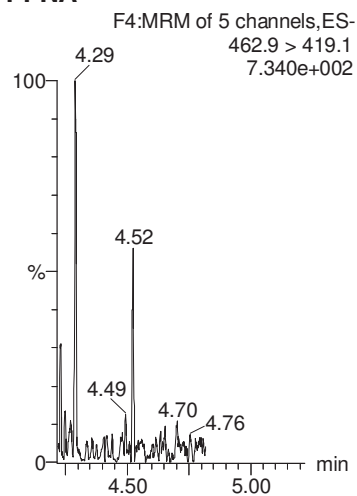
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Last Altered: Sunday, July 22, 2018 15:29:23 Pacific Daylight Time

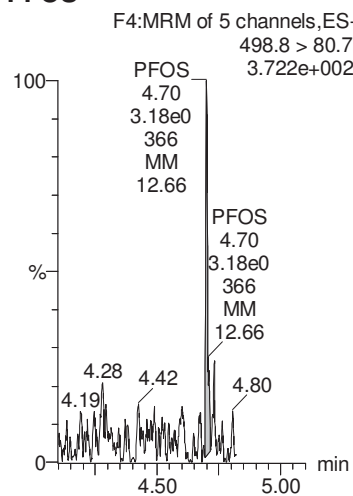
Printed: Sunday, July 22, 2018 15:29:46 Pacific Daylight Time

Name: 180720G2_50, Date: 21-Jul-2018, Time: 02:26:03, ID: 1801769-10 CBD-1FB15-0718 0.25327, Description: CBD-1FB15-0718

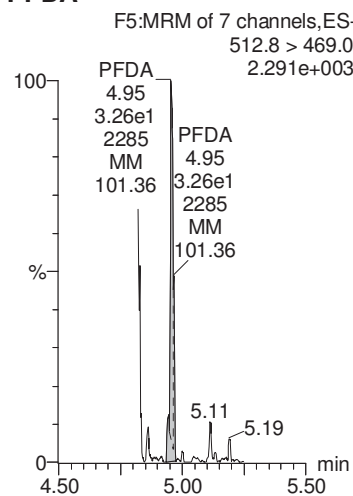
PFNA



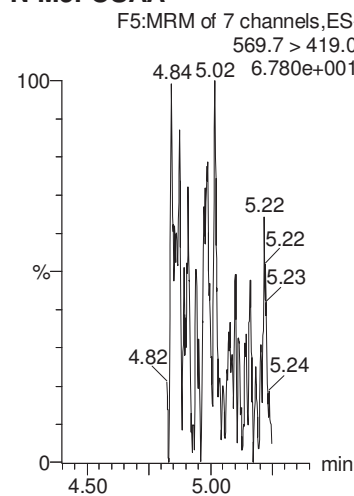
PFOS



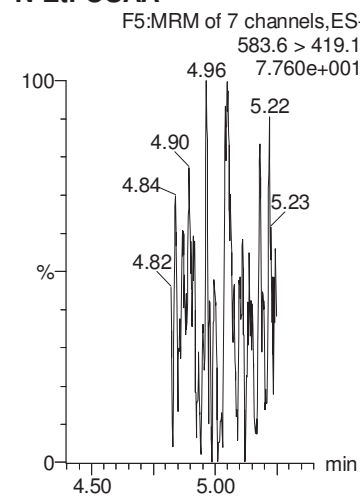
PFDA



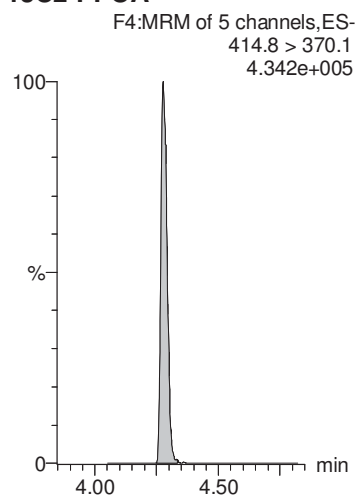
N-MeFOSAA



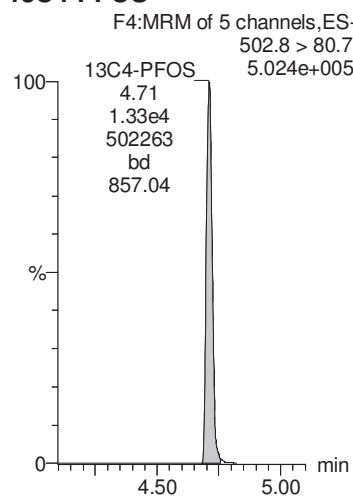
N-EtFOSAA



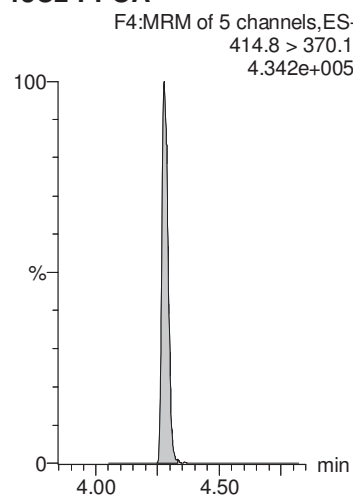
13C2-PFOA



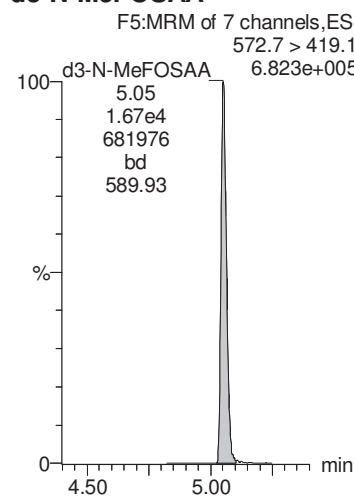
13C4-PFOS



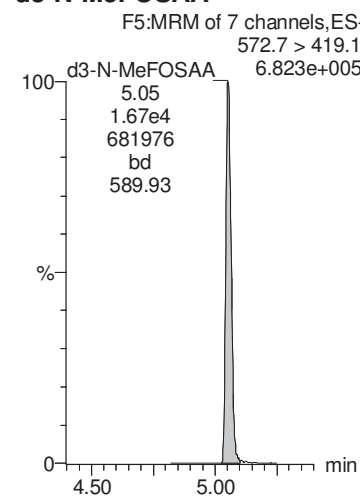
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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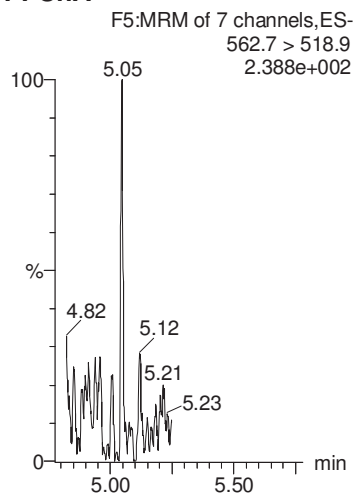
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Last Altered: Sunday, July 22, 2018 15:29:23 Pacific Daylight Time

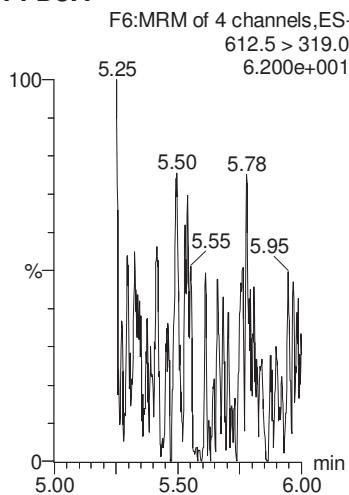
Printed: Sunday, July 22, 2018 15:29:46 Pacific Daylight Time

Name: 180720G2_50, Date: 21-Jul-2018, Time: 02:26:03, ID: 1801769-10 CBD-1FB15-0718 0.25327, Description: CBD-1FB15-0718

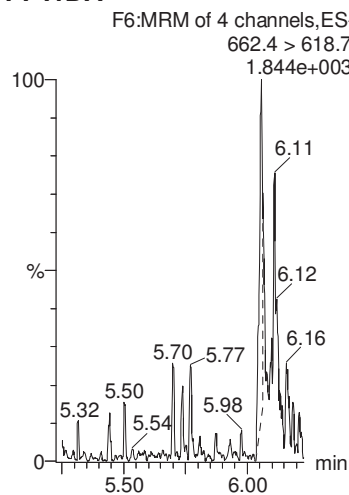
PFUnA



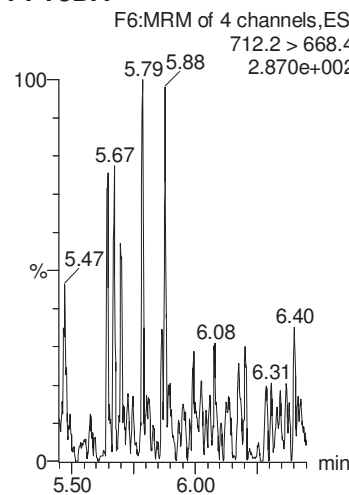
PFDaA



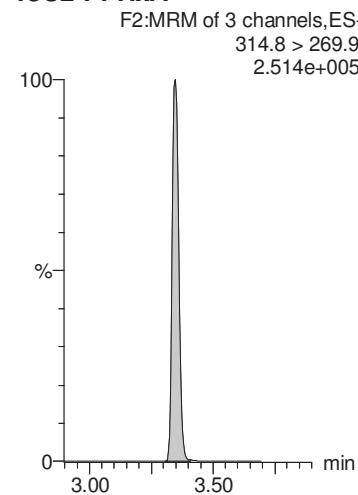
PFTrDA



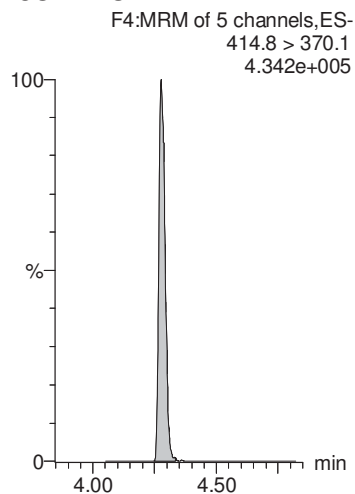
PFTeDA



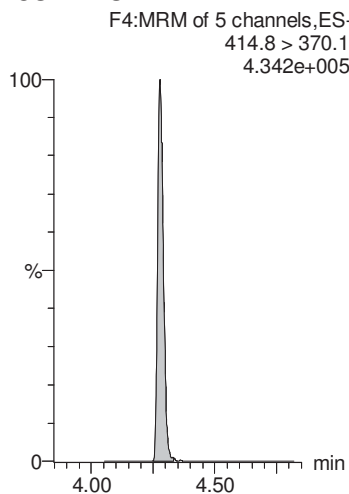
13C2-PFHxA



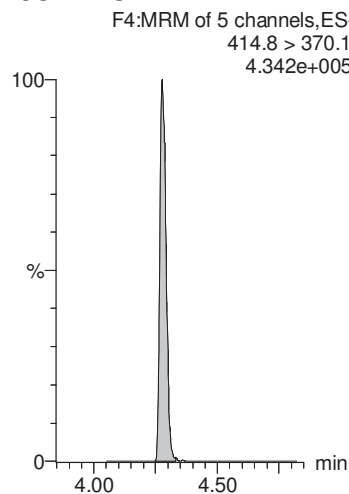
13C2-PFOA



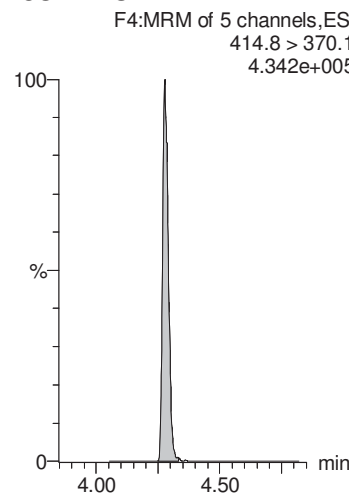
13C2-PFOA



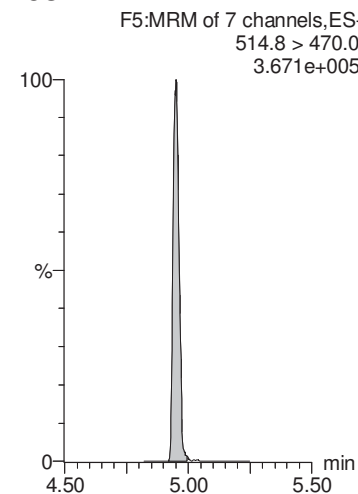
13C2-PFOA



13C2-PFOA



13C2-PFDA



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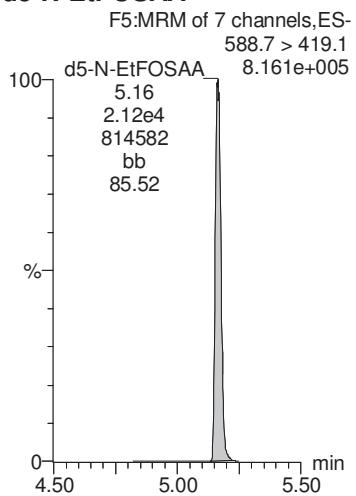
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Last Altered: Sunday, July 22, 2018 15:29:23 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:29:46 Pacific Daylight Time

Name: 180720G2_50, Date: 21-Jul-2018, Time: 02:26:03, ID: 1801769-10 CBD-1FB15-0718 0.25327, Description: CBD-1FB15-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-4.qld

Last Altered: Sunday, July 22, 2018 15:35:45 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:42:27 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_4, Date: 21-Jul-2018, Time: 12:05:02, ID: 1801769-11 CBD-1RW16-0718 0.25533, Description: CBD-1RW16-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.52e4	0.255		2.93				
2	2 PFHxA	312.7 > 268.8		8.59e3	0.255		3.32				
3	3 PFHpA	362.7 > 318.8		8.59e3	0.255		3.83				
4	4 PFHxS	398.7 > 80.7		1.52e4	0.255		3.95				
5	5 PFOA	412.8 > 369.0		8.59e3	0.255		4.26				
6	6 PFNA	462.9 > 419.1		8.59e3	0.255		4.62				
7	7 PFOS	498.8 > 80.7		1.52e4	0.255		4.67				
8	8 PFDA	512.8 > 469.0	6.49e1	8.59e3	0.255		4.90	4.90	0.0756	0.340	
9	9 N-MeFOSAA	569.7 > 419.0		1.59e4	0.255		5.03				
10	10 N-EtFOSAA	583.6 > 419.1		1.59e4	0.255		5.14				
11	11 PFUnA	562.7 > 518.9		8.59e3	0.255		5.14				
12	12 PFDoA	612.5 > 319.0		8.59e3	0.255		5.38				
13	13 PFTTrDA	662.4 > 618.7		8.59e3	0.255		5.59				
14	14 PFTeDA	712.2 > 668.4		8.59e3	0.255		5.78				
15	15 13C2-PFHxA	314.8 > 269.9	7.09e3	8.59e3	0.255	0.753	3.41	3.30	8.26	43.0	109.8
16	16 13C2-PFDA	514.8 > 470.0	9.12e3	8.59e3	0.255	1.023	4.85	4.90	10.6	40.7	103.9
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.11e4	1.59e4	0.255	1.264	5.02	5.15	53.1	164	104.9
18	18 13C2-PFOA	414.8 > 370.1	8.59e3	8.59e3	0.255	1.000	4.28	4.25	10.0	39.2	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.52e4	1.52e4	0.255	1.000	4.71	4.67	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.59e4	1.59e4	0.255	1.000	5.04	5.02	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-4.qld

Last Altered: Sunday, July 22, 2018 15:35:45 Pacific Daylight Time

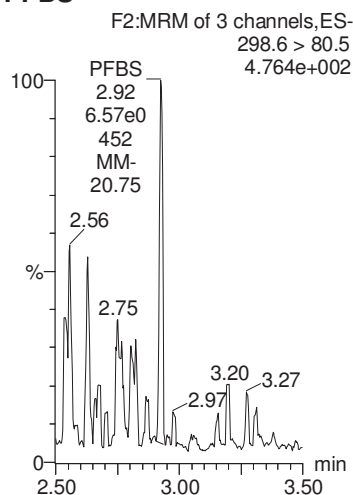
Printed: Sunday, July 22, 2018 15:42:27 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

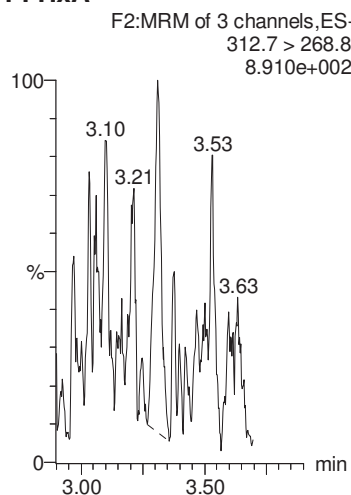
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_4, Date: 21-Jul-2018, Time: 12:05:02, ID: 1801769-11 CBD-1RW16-0718 0.25533, Description: CBD-1RW16-0718

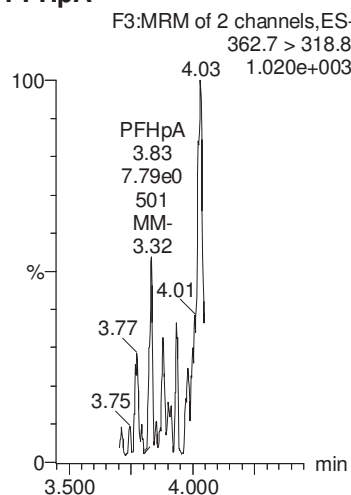
PFBS



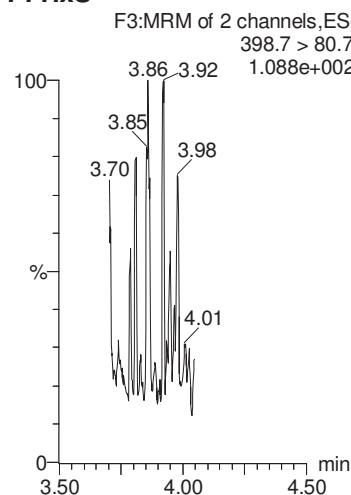
PFHxA



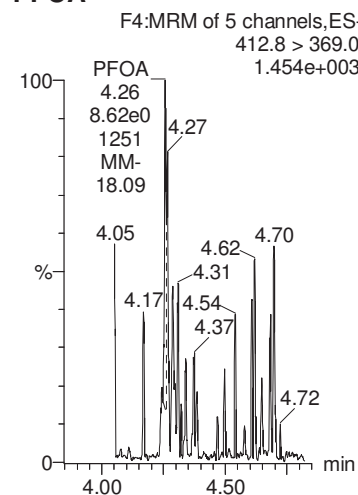
PFHpA



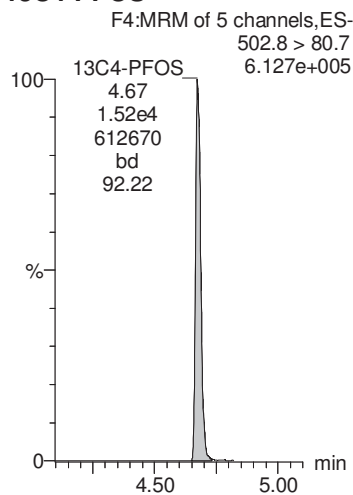
PFHxS



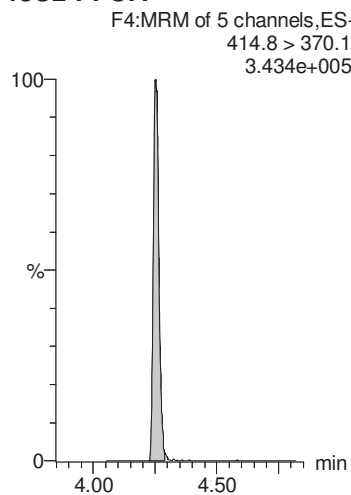
PFOA



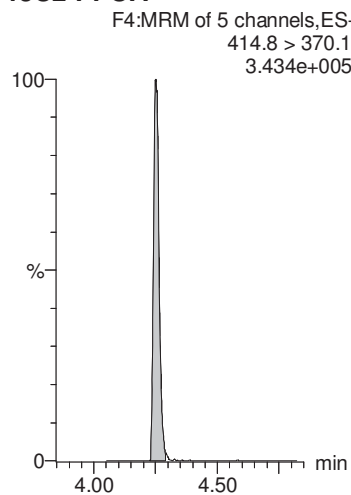
13C4-PFOS



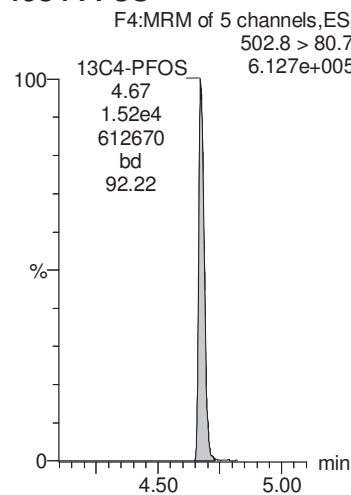
13C2-PFOA



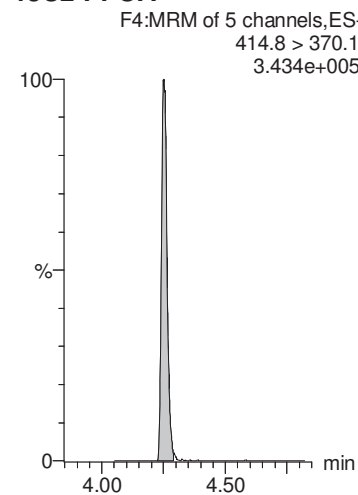
13C2-PFOA



13C4-PFOS



13C2-PFOA



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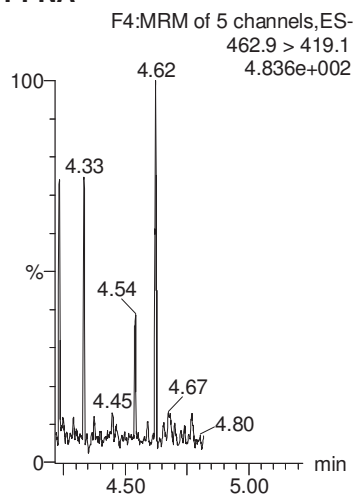
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Last Altered: Sunday, July 22, 2018 15:35:45 Pacific Daylight Time

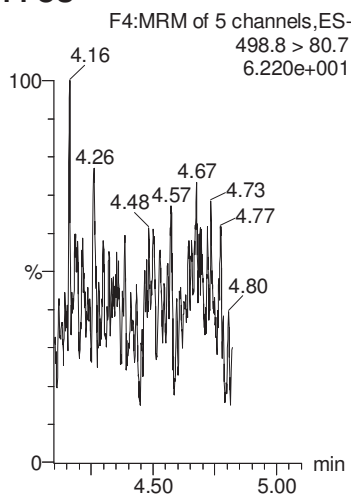
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Name: 180721G1_4, Date: 21-Jul-2018, Time: 12:05:02, ID: 1801769-11 CBD-1RW16-0718 0.25533, Description: CBD-1RW16-0718

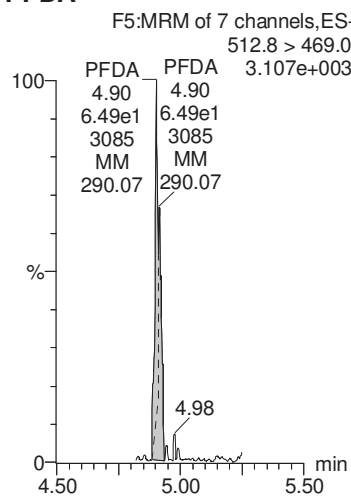
PFNA



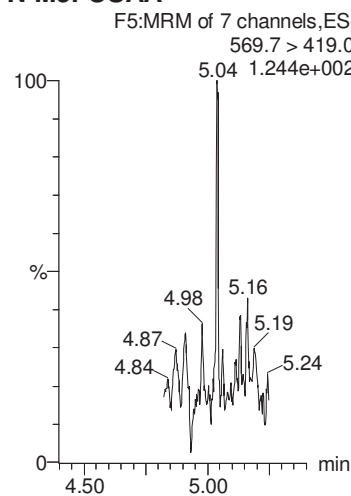
PFOS



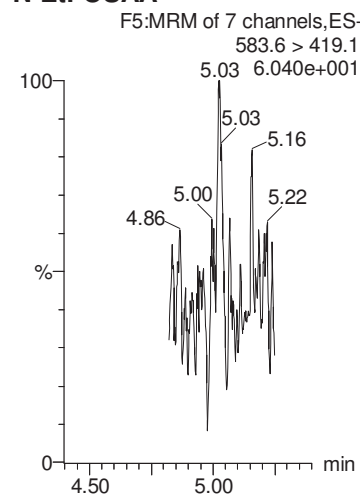
PFDA



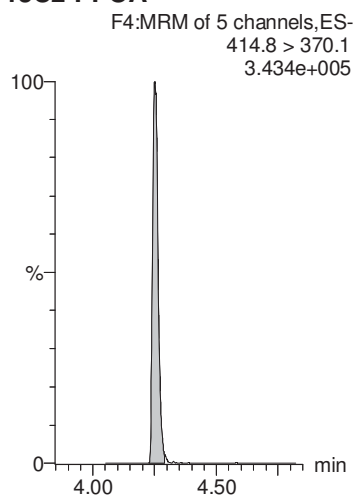
N-MeFOSAA



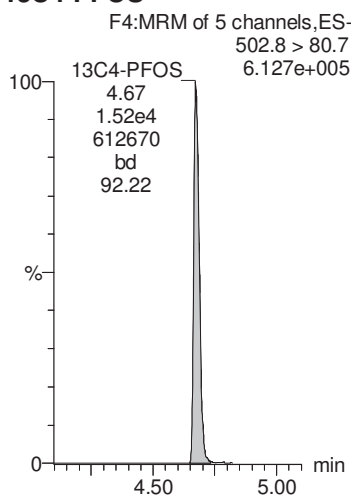
N-EtFOSAA



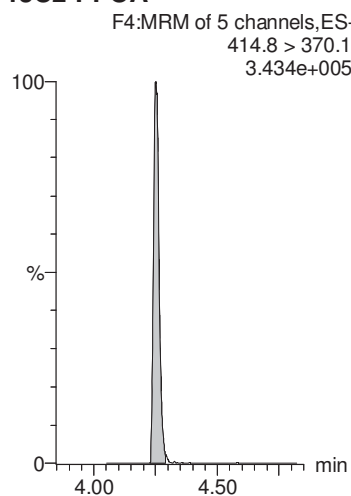
13C2-PFOA



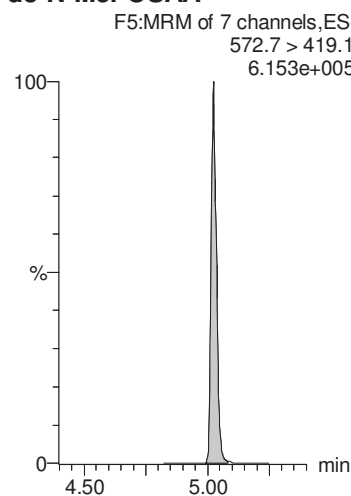
13C4-PFOS



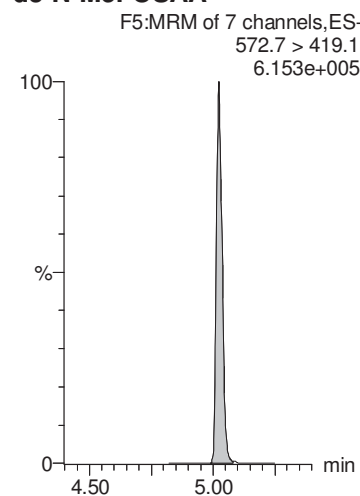
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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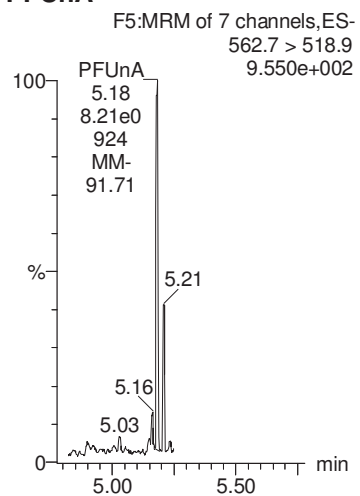
Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-4.qld

Last Altered: Sunday, July 22, 2018 15:35:45 Pacific Daylight Time

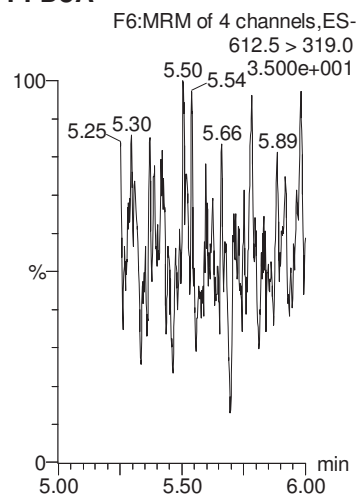
Printed: Sunday, July 22, 2018 15:42:27 Pacific Daylight Time

Name: 180721G1_4, Date: 21-Jul-2018, Time: 12:05:02, ID: 1801769-11 CBD-1RW16-0718 0.25533, Description: CBD-1RW16-0718

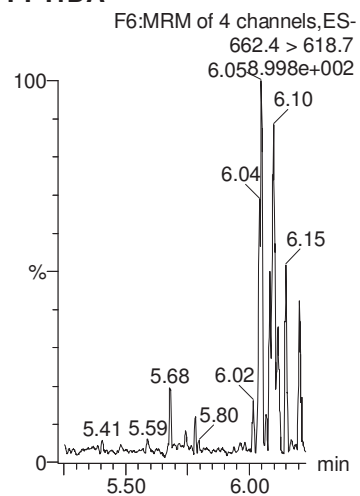
PFUnA



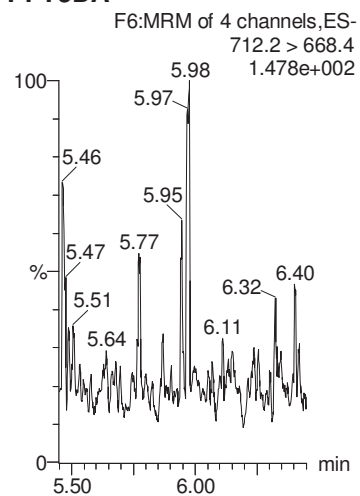
PFDaA



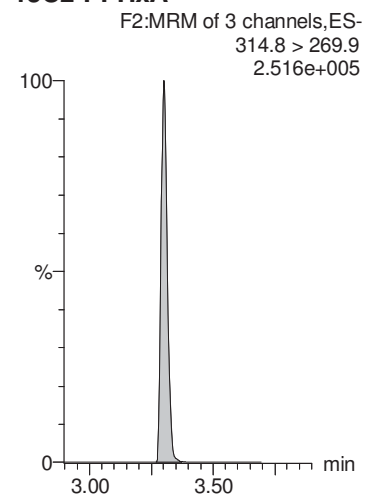
PFTrDA



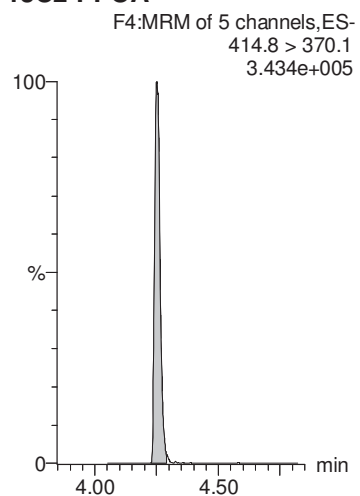
PFTeDA



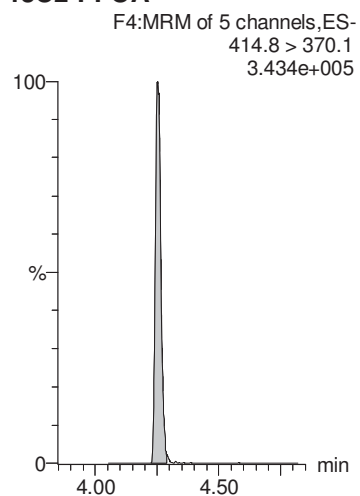
13C2-PFHxA



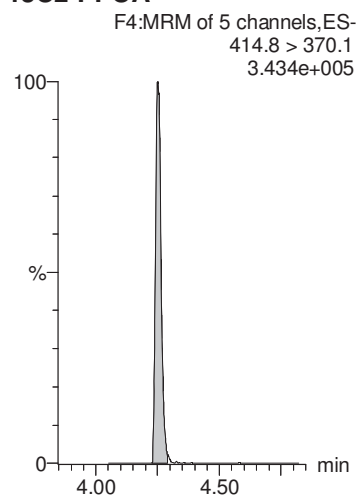
13C2-PFOA



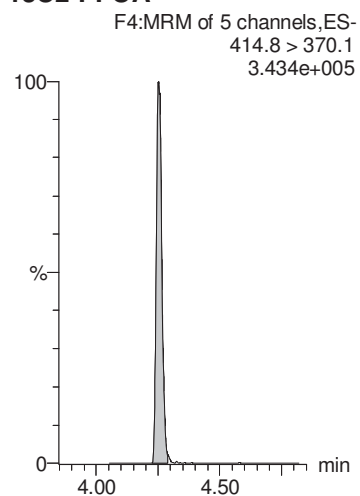
13C2-PFOA



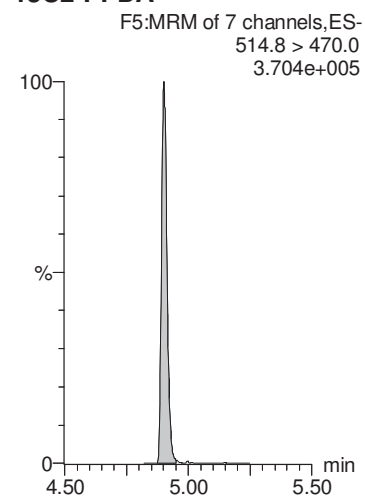
13C2-PFOA



13C2-PFOA



13C2-PFDA



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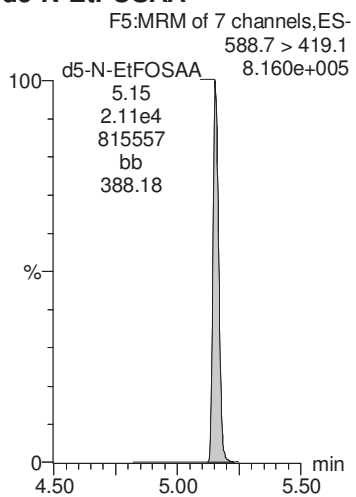
Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-4.qld

Last Altered: Sunday, July 22, 2018 15:35:45 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:42:27 Pacific Daylight Time

Name: 180721G1_4, Date: 21-Jul-2018, Time: 12:05:02, ID: 1801769-11 CBD-1RW16-0718 0.25533, Description: CBD-1RW16-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-5.qld

Last Altered: Sunday, July 22, 2018 15:43:33 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:43:56 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_5, Date: 21-Jul-2018, Time: 12:17:05, ID: 1801769-12 CBD-1FB16-0718 0.25881, Description: CBD-1FB16-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.42e4	0.259		2.93				
2	2 PFHxA	312.7 > 268.8	2.59e1	8.99e3	0.259		3.31	3.30	0.0288	0.137	
3	3 PFHpA	362.7 > 318.8		8.99e3	0.259		3.83				
4	4 PFHxS	398.7 > 80.7		1.42e4	0.259		3.95				
5	5 PFOA	412.8 > 369.0	1.65e1	8.99e3	0.259		4.25	4.25	0.0183	0.0970	
6	6 PFNA	462.9 > 419.1		8.99e3	0.259		4.61				
7	7 PFOS	498.8 > 80.7		1.42e4	0.259		4.67				
8	8 PFDA	512.8 > 469.0	2.37e1	8.99e3	0.259		4.90	4.91	0.0264	0.117	
9	9 N-MeFOSAA	569.7 > 419.0		1.60e4	0.259		5.02				
10	10 N-EtFOSAA	583.6 > 419.1		1.60e4	0.259		5.14				
11	11 PFUnA	562.7 > 518.9		8.99e3	0.259		5.14				
12	12 PFDoA	612.5 > 319.0		8.99e3	0.259		5.38				
13	13 PFTTrDA	662.4 > 618.7		8.99e3	0.259		5.59				
14	14 PFTeDA	712.2 > 668.4		8.99e3	0.259		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.72e3	8.99e3	0.259	0.753	3.41	3.30	7.47	38.4	99.3
16	16 13C2-PFDA	514.8 > 470.0	9.27e3	8.99e3	0.259	1.023	4.84	4.90	10.3	38.9	100.8
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.03e4	1.60e4	0.259	1.264	5.02	5.15	50.8	155	100.5
18	18 13C2-PFOA	414.8 > 370.1	8.99e3	8.99e3	0.259	1.000	4.28	4.25	10.0	38.6	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.42e4	1.42e4	0.259	1.000	4.71	4.67	28.7	111	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.60e4	1.60e4	0.259	1.000	5.04	5.02	40.0	155	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-5.qld

Last Altered: Sunday, July 22, 2018 15:43:33 Pacific Daylight Time

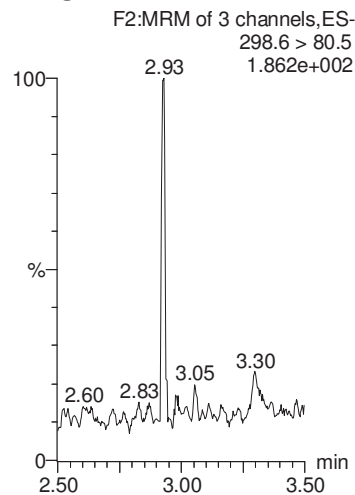
Printed: Sunday, July 22, 2018 15:43:56 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

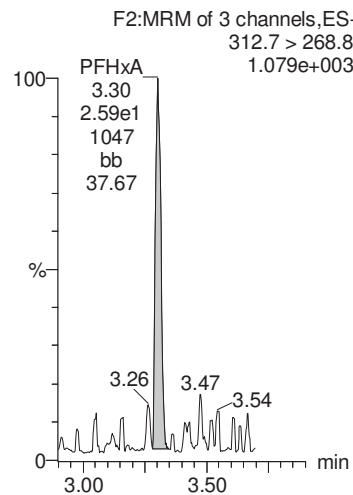
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Name: 180721G1_5, Date: 21-Jul-2018, Time: 12:17:05, ID: 1801769-12 CBD-1FB16-0718 0.25881, Description: CBD-1FB16-0718

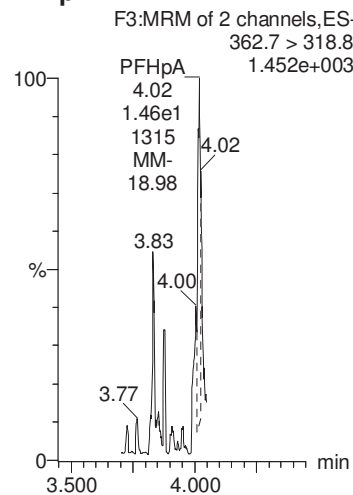
PFBS



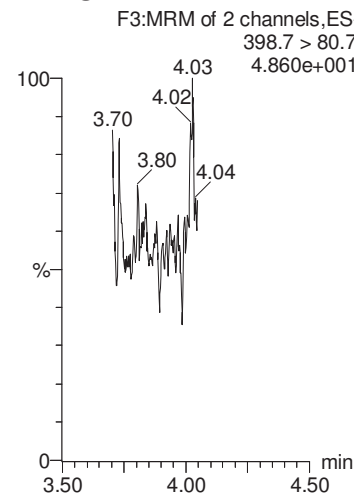
PFHxA



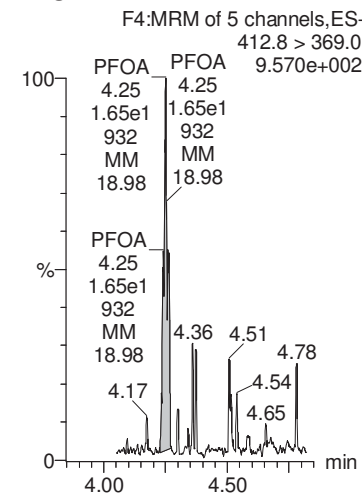
PFHpA



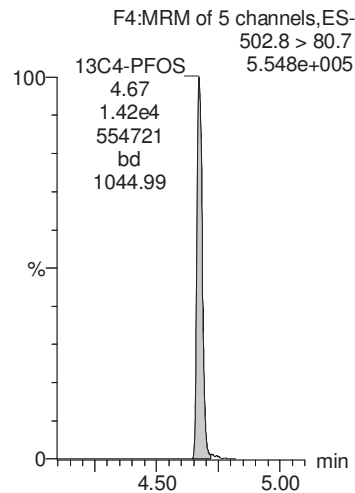
PFHxS



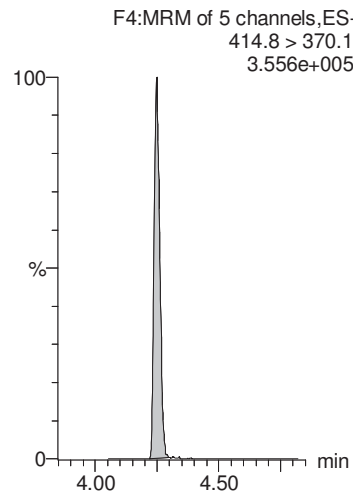
PFOA



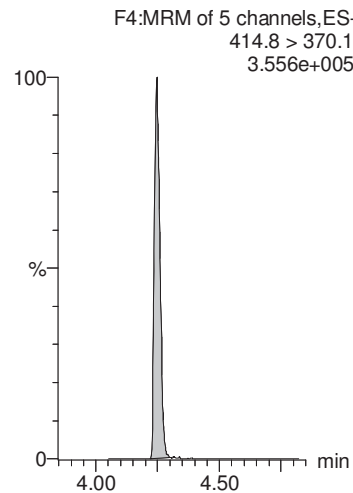
13C4-PFOS



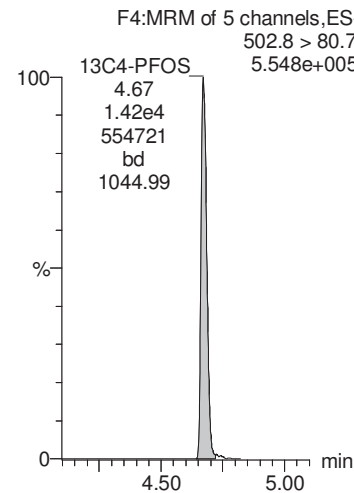
13C2-PFOA



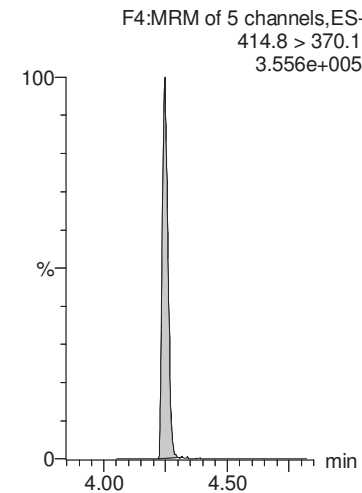
13C2-PFOA



13C4-PFOS



13C2-PFOA



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MMM 7/23/2018

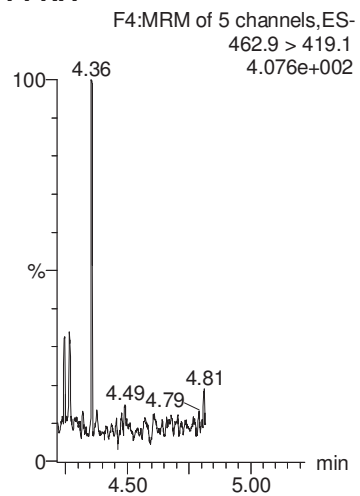
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Last Altered: Sunday, July 22, 2018 15:43:33 Pacific Daylight Time

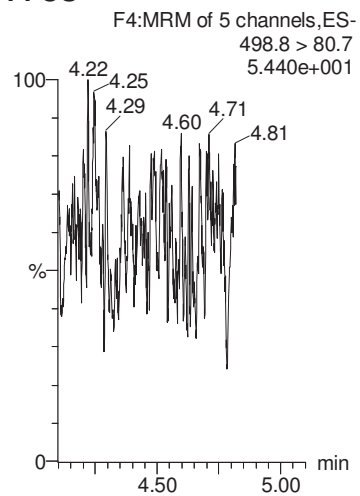
Printed: Sunday, July 22, 2018 15:43:56 Pacific Daylight Time

Name: 180721G1_5, Date: 21-Jul-2018, Time: 12:17:05, ID: 1801769-12 CBD-1FB16-0718 0.25881, Description: CBD-1FB16-0718

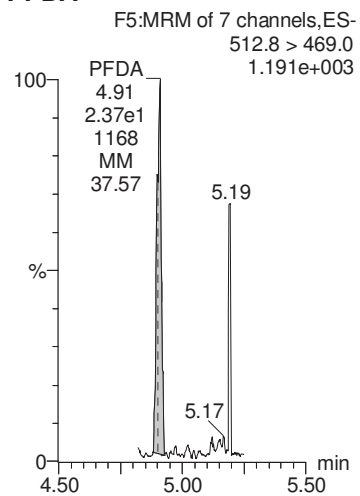
PFNA



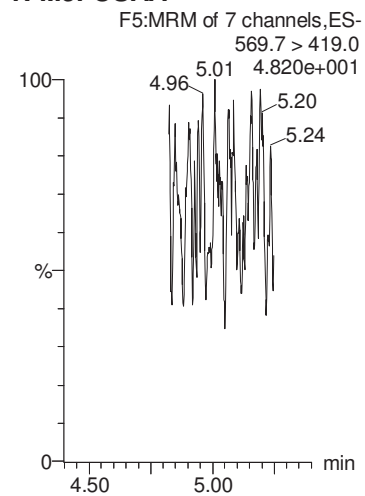
PFOS



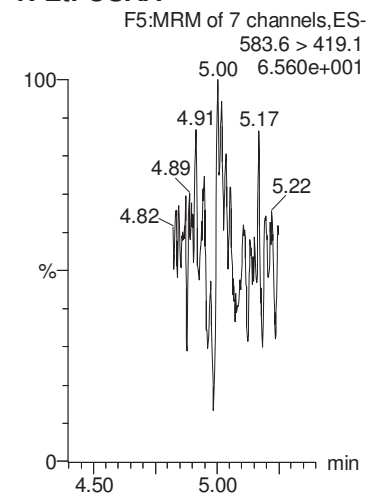
PFDA



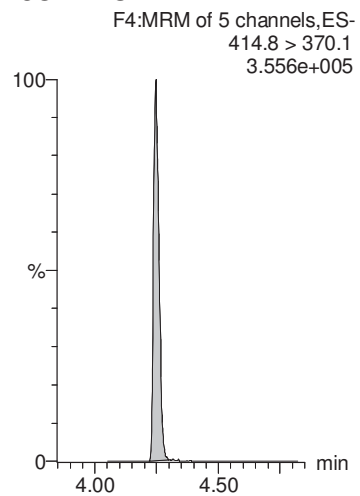
N-MeFOSAA



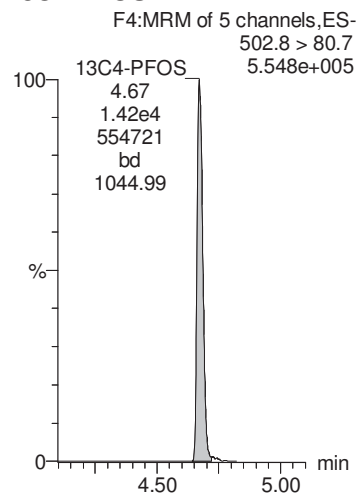
N-EtFOSAA



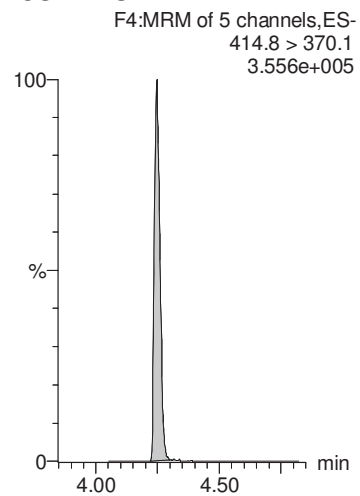
13C2-PFOA



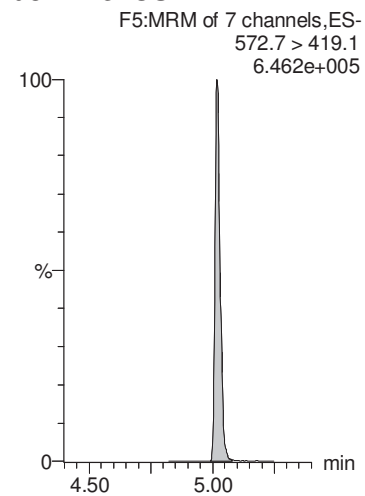
13C4-PFOS



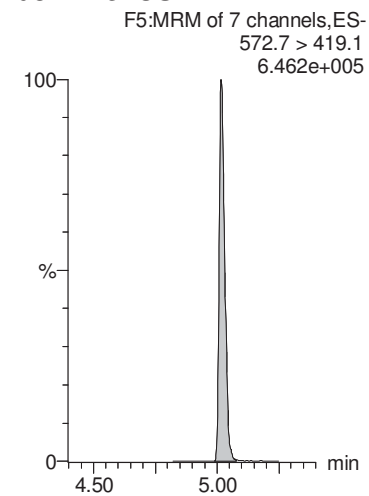
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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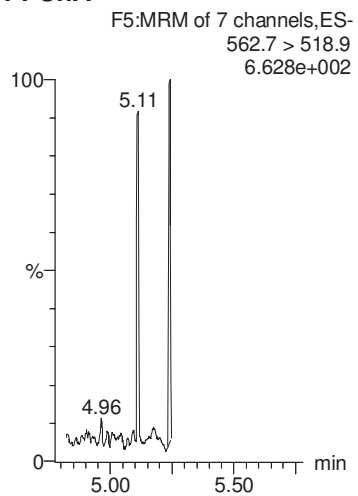
Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-5.qld

Last Altered: Sunday, July 22, 2018 15:43:33 Pacific Daylight Time

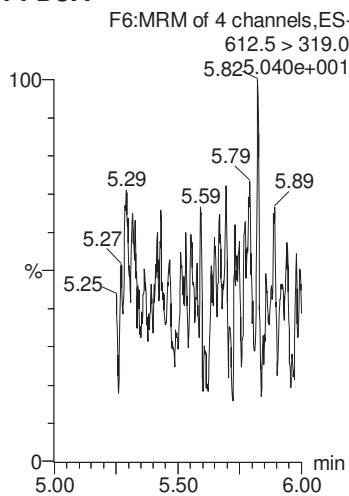
Printed: Sunday, July 22, 2018 15:43:56 Pacific Daylight Time

Name: 180721G1_5, Date: 21-Jul-2018, Time: 12:17:05, ID: 1801769-12 CBD-1FB16-0718 0.25881, Description: CBD-1FB16-0718

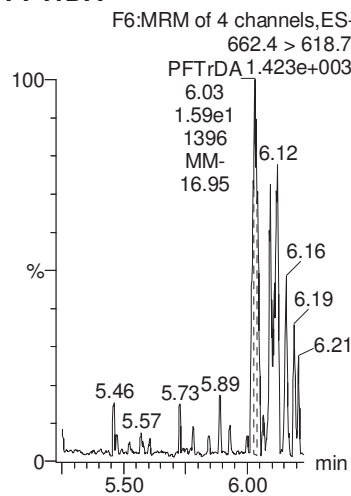
PFUnA



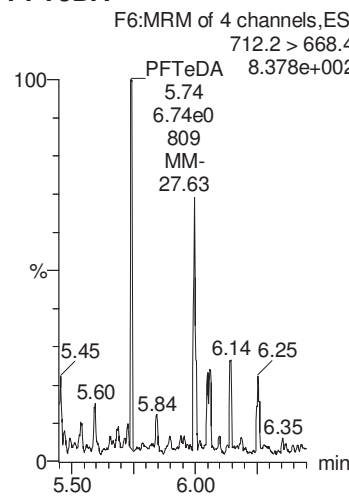
PFDaA



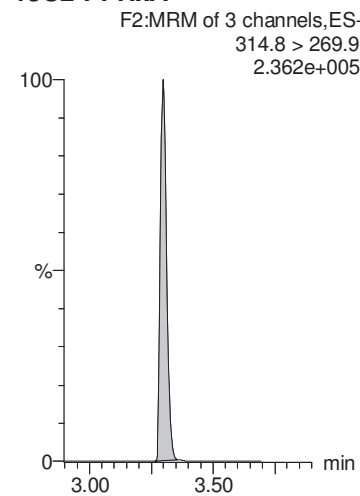
PFTrDA



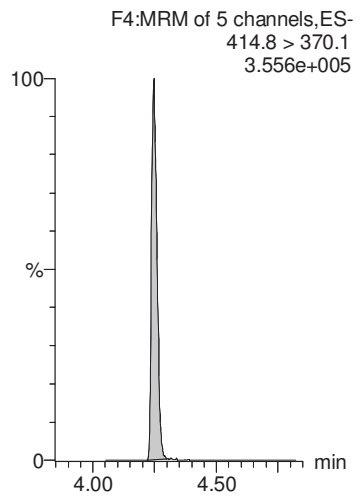
PFTeDA



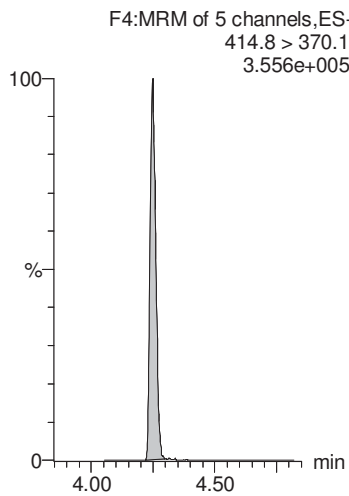
13C2-PFHxA



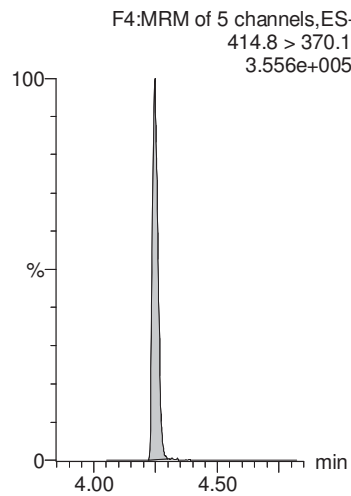
13C2-PFOA



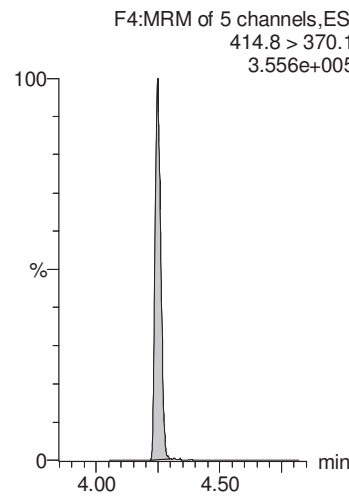
13C2-PFOA



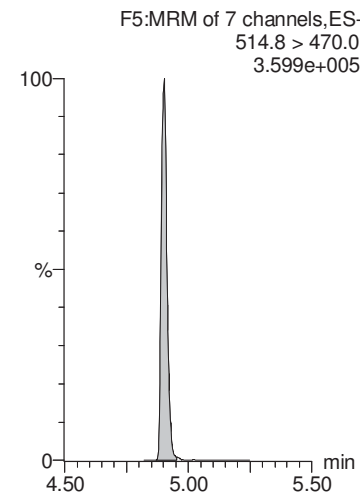
13C2-PFOA



13C2-PFOA



13C2-PFDA



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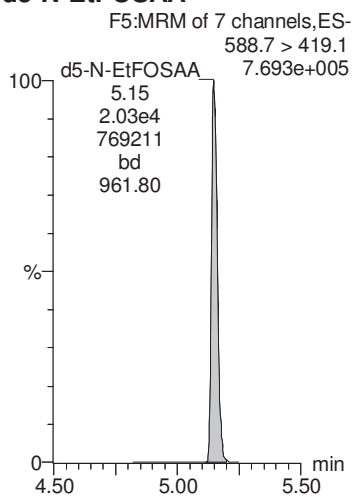
Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-5.qld

Last Altered: Sunday, July 22, 2018 15:43:33 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:43:56 Pacific Daylight Time

Name: 180721G1_5, Date: 21-Jul-2018, Time: 12:17:05, ID: 1801769-12 CBD-1FB16-0718 0.25881, Description: CBD-1FB16-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-6.qld

Last Altered: Sunday, July 22, 2018 15:44:52 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:45:10 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_6, Date: 21-Jul-2018, Time: 12:29:50, ID: 1801769-13 CBD-1RW17-0718 0.25403, Description: CBD-1RW17-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5	1.51e1	1.44e4	0.254		2.93	2.94	0.0300	0.124	
2	2 PFHxA	312.7 > 268.8	9.53e1	8.89e3	0.254		3.31	3.30	0.107	0.519	
3	3 PFHpA	362.7 > 318.8		8.89e3	0.254		3.83				
4	4 PFHxS	398.7 > 80.7	1.71e2	1.44e4	0.254		3.95	3.96	0.339	1.18	
5	5 PFOA	412.8 > 369.0	6.60e1	8.89e3	0.254		4.25	4.24	0.0742	0.401	
6	6 PFNA	462.9 > 419.1		8.89e3	0.254		4.61				
7	7 PFOS	498.8 > 80.7		1.44e4	0.254		4.67				
8	8 PFDA	512.8 > 469.0	1.98e1	8.89e3	0.254		4.90	4.91	0.0223	0.101	
9	9 N-MeFOSAA	569.7 > 419.0		1.56e4	0.254		5.03				
10	10 N-EtFOSAA	583.6 > 419.1		1.56e4	0.254		5.14				
11	11 PFUnA	562.7 > 518.9		8.89e3	0.254		5.14				
12	12 PFDoA	612.5 > 319.0		8.89e3	0.254		5.38				
13	13 PFTTrDA	662.4 > 618.7		8.89e3	0.254		5.59				
14	14 PFTeDA	712.2 > 668.4		8.89e3	0.254		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.84e3	8.89e3	0.254	0.753	3.41	3.30	7.69	40.2	102.2
16	16 13C2-PFDA	514.8 > 470.0	9.24e3	8.89e3	0.254	1.023	4.84	4.91	10.4	40.0	101.7
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.91e4	1.56e4	0.254	1.264	5.02	5.15	48.9	152	96.6
18	18 13C2-PFOA	414.8 > 370.1	8.89e3	8.89e3	0.254	1.000	4.28	4.25	10.0	39.4	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.44e4	1.44e4	0.254	1.000	4.71	4.67	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.56e4	1.56e4	0.254	1.000	5.04	5.02	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-6.qld

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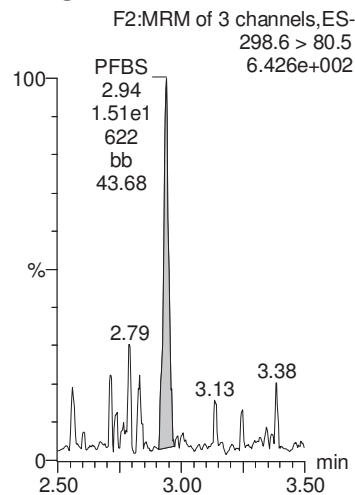
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Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_6, Date: 21-Jul-2018, Time: 12:29:50, ID: 1801769-13 CBD-1RW17-0718 0.25403, Description: CBD-1RW17-0718

PFBS



MMM 7/23/2018

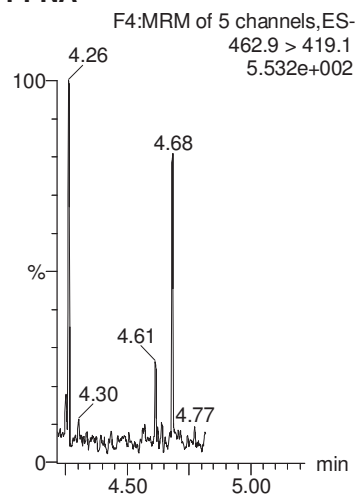
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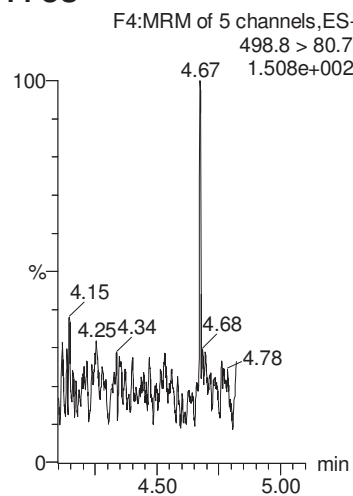
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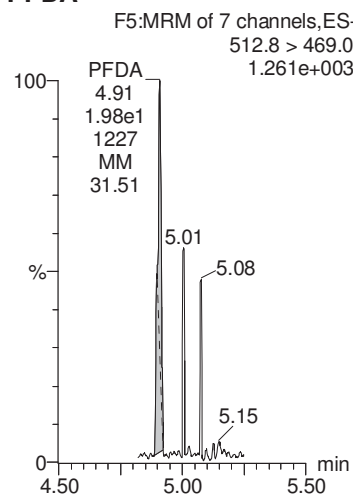
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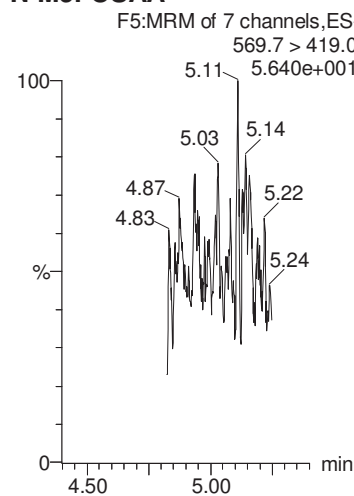
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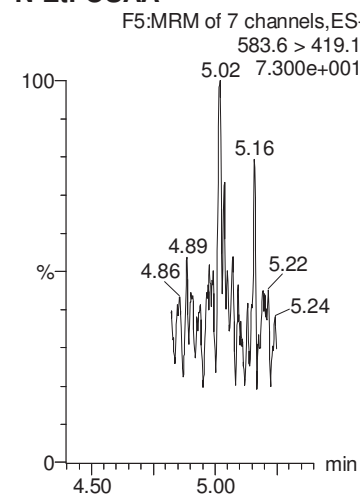
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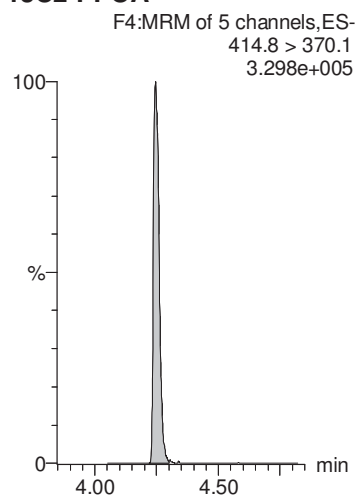
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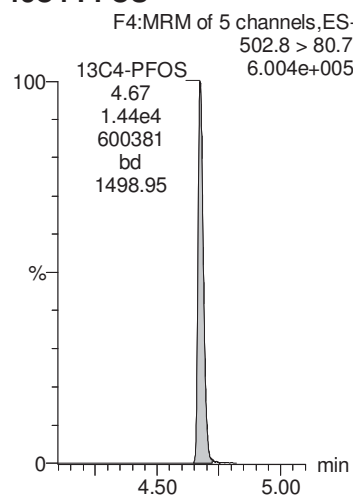
N-EtFOSAA



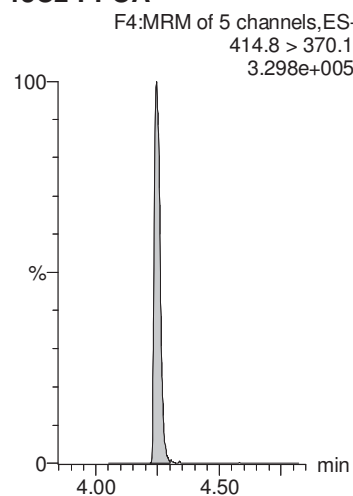
13C2-PFOA



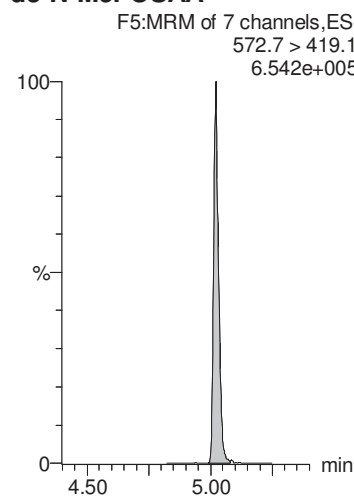
13C4-PFOS



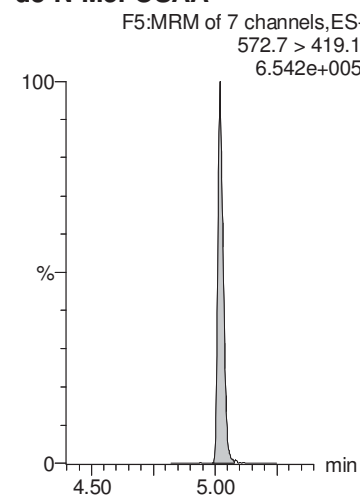
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d3-N-MeFOSAA



d3-N-MeFOSAA



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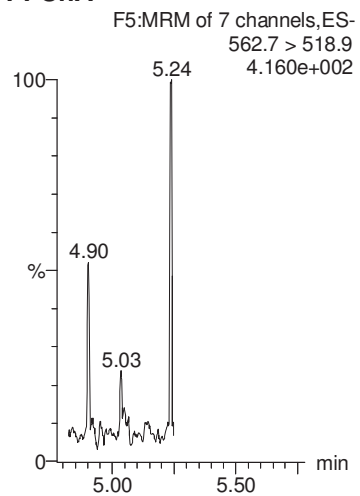
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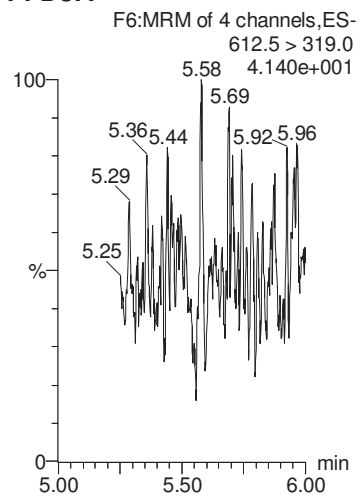
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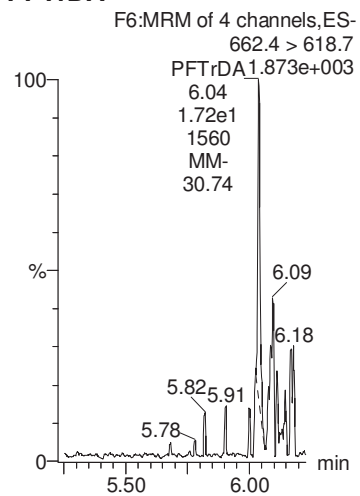
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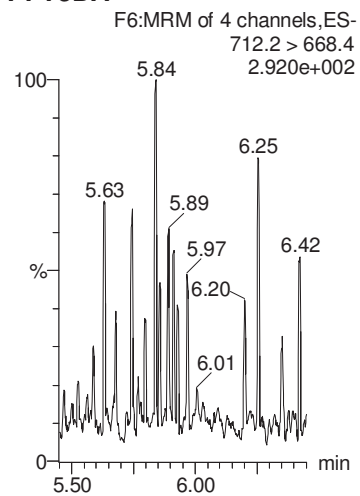
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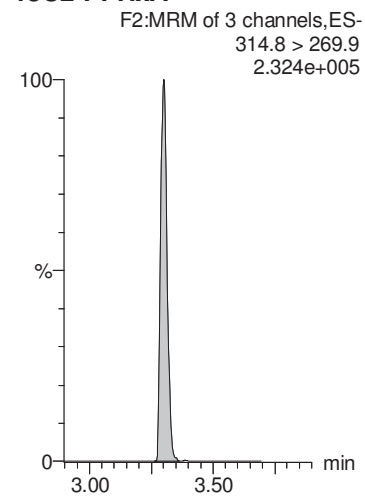
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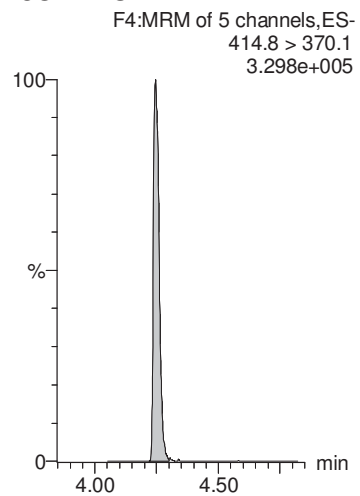
PFTeDA



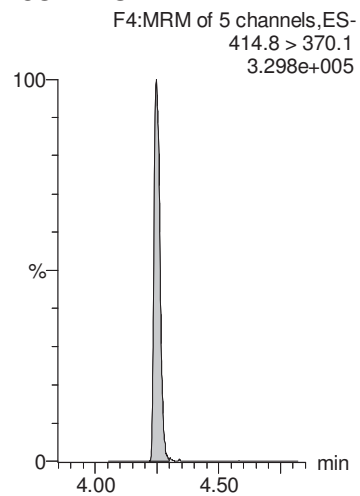
13C2-PFHxA



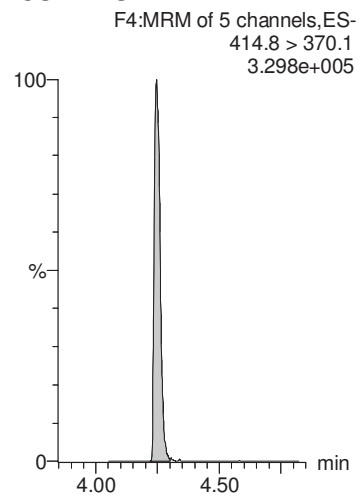
13C2-PFOA



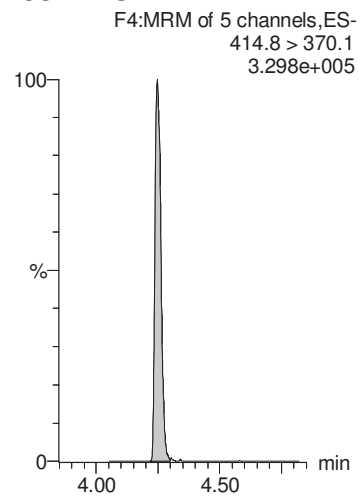
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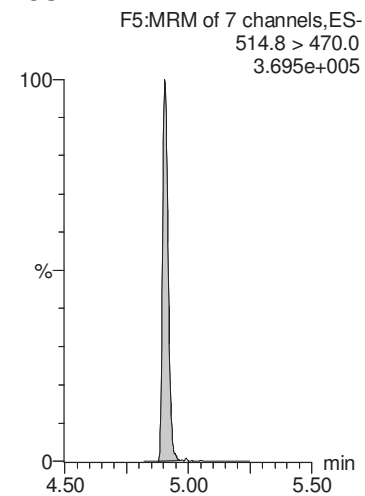
13C2-PFOA



13C2-PFOA



13C2-PFDA



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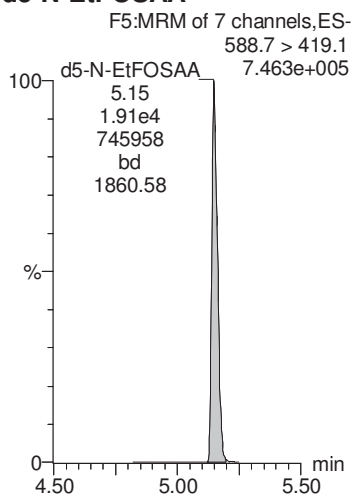
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Printed: Sunday, July 22, 2018 15:45:10 Pacific Daylight Time

Name: 180721G1_6, Date: 21-Jul-2018, Time: 12:29:50, ID: 1801769-13 CBD-1RW17-0718 0.25403, Description: CBD-1RW17-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-7.qld

Last Altered: Sunday, July 22, 2018 15:46:13 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:46:33 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_7, Date: 21-Jul-2018, Time: 12:42:39, ID: 1801769-14 CBD-1FB17-0718 0.25434, Description: CBD-1FB17-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.40e4	0.254		2.93				
2	2 PFHxA	312.7 > 268.8	2.87e1	9.18e3	0.254		3.31	3.30	0.0313	0.151	
3	3 PFHpA	362.7 > 318.8		9.18e3	0.254		3.83				
4	4 PFHxS	398.7 > 80.7		1.40e4	0.254		3.95				
5	5 PFOA	412.8 > 369.0	1.49e1	9.18e3	0.254		4.25	4.25	0.0162	0.0872	
6	6 PFNA	462.9 > 419.1		9.18e3	0.254		4.61				
7	7 PFOS	498.8 > 80.7		1.40e4	0.254		4.67				
8	8 PFDA	512.8 > 469.0	3.14e1	9.18e3	0.254		4.90	4.92	0.0342	0.154	
9	9 N-MeFOSAA	569.7 > 419.0		1.50e4	0.254		5.03				
10	10 N-EtFOSAA	583.6 > 419.1		1.50e4	0.254		5.14				
11	11 PFUnA	562.7 > 518.9		9.18e3	0.254		5.14				
12	12 PFDoA	612.5 > 319.0		9.18e3	0.254		5.38				
13	13 PFTTrDA	662.4 > 618.7		9.18e3	0.254		5.59				
14	14 PFTeDA	712.2 > 668.4		9.18e3	0.254		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.47e3	9.18e3	0.254	0.753	3.41	3.30	7.05	36.8	93.6
16	16 13C2-PFDA	514.8 > 470.0	9.76e3	9.18e3	0.254	1.023	4.84	4.91	10.6	40.9	103.9
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.88e4	1.50e4	0.254	1.264	5.02	5.15	50.3	157	99.5
18	18 13C2-PFOA	414.8 > 370.1	9.18e3	9.18e3	0.254	1.000	4.28	4.25	10.0	39.3	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.40e4	1.40e4	0.254	1.000	4.71	4.67	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.50e4	1.50e4	0.254	1.000	5.04	5.02	40.0	157	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-7.qld

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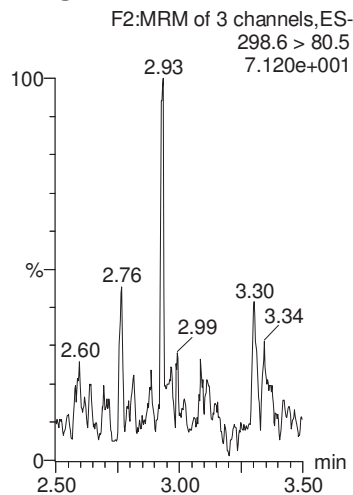
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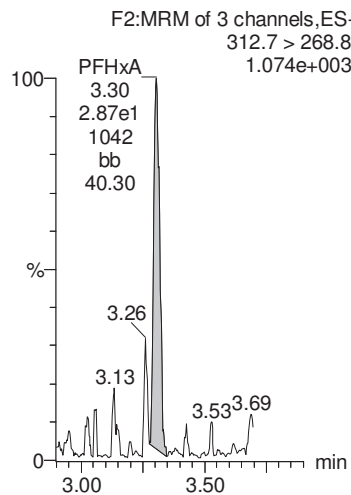
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Name: 180721G1_7, Date: 21-Jul-2018, Time: 12:42:39, ID: 1801769-14 CBD-1FB17-0718 0.25434, Description: CBD-1FB17-0718

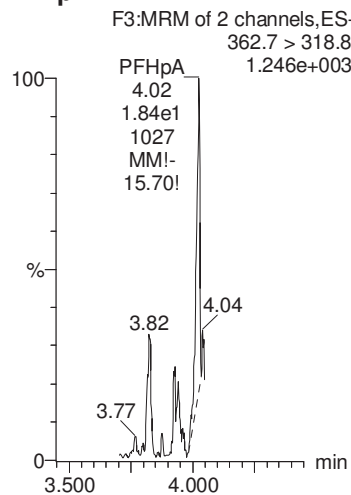
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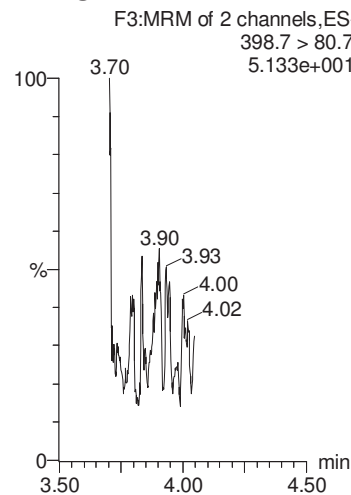
PFHxA



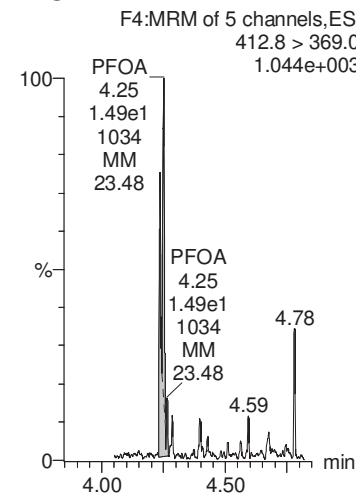
PFHpA



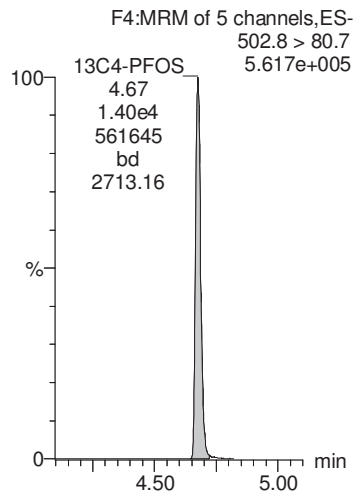
PFHxS



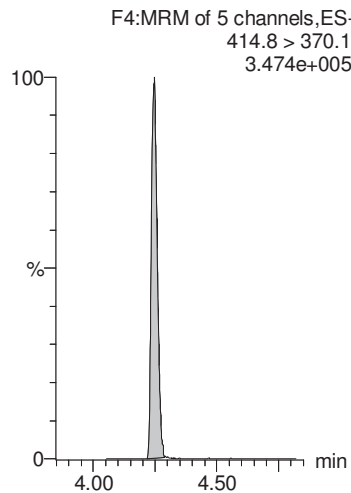
PFOA



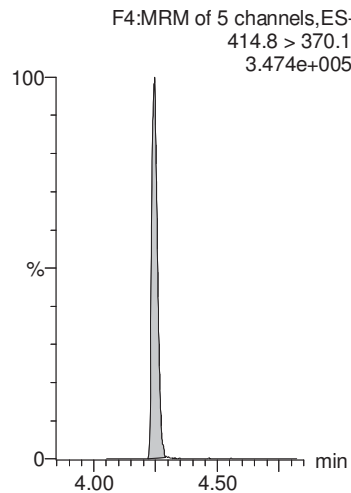
13C4-PFOS



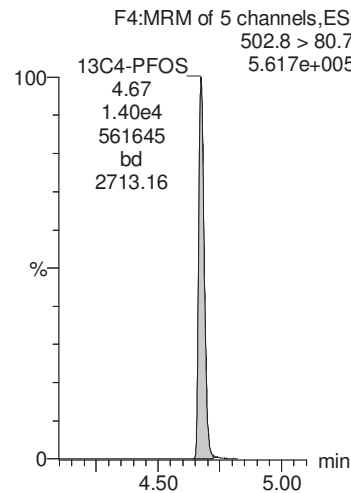
13C2-PFOA



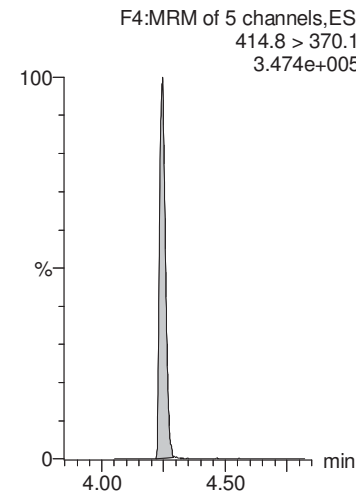
13C2-PFOA



13C4-PFOS



13C2-PFOA



MMM 7/23/2018

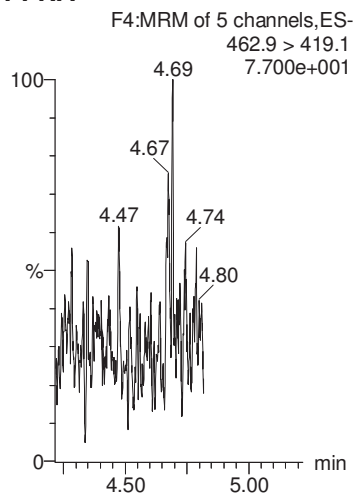
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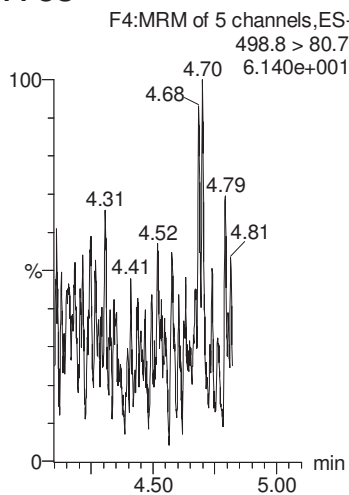
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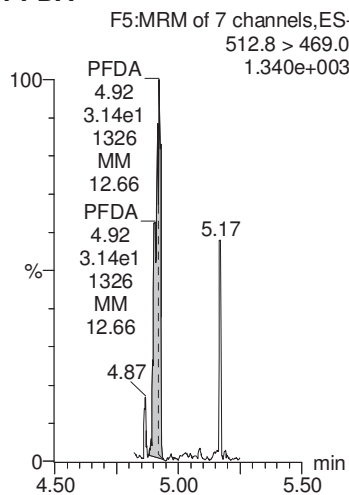
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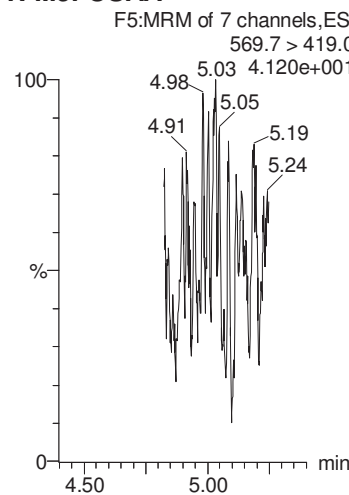
PFOS



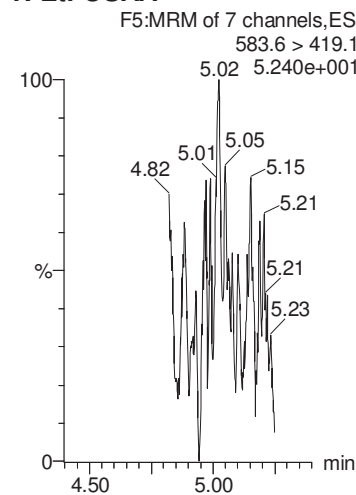
PFDA



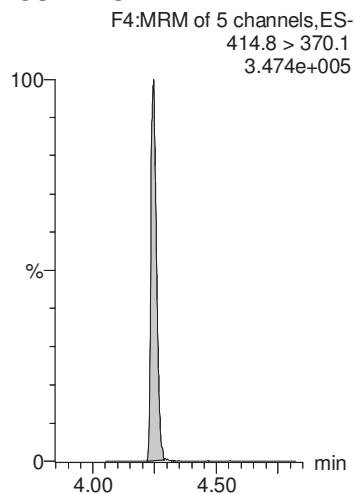
N-MeFOSAA



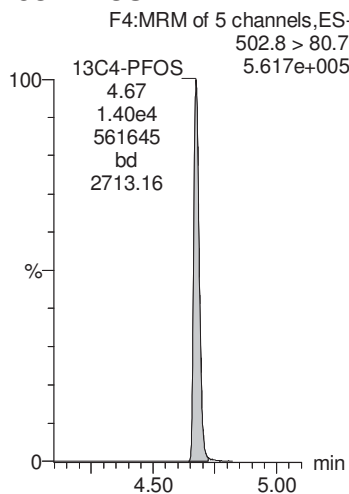
N-EtFOSAA



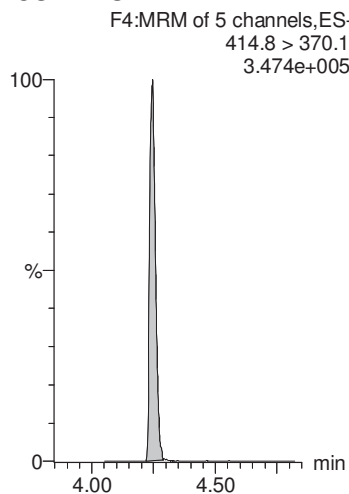
13C2-PFOA



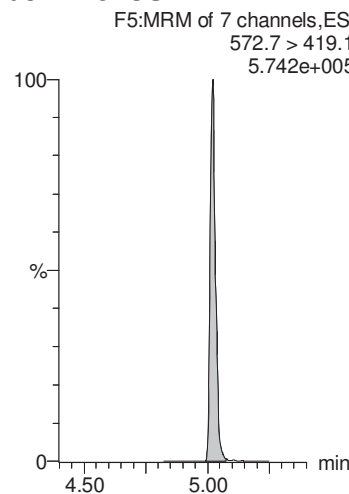
13C4-PFOS



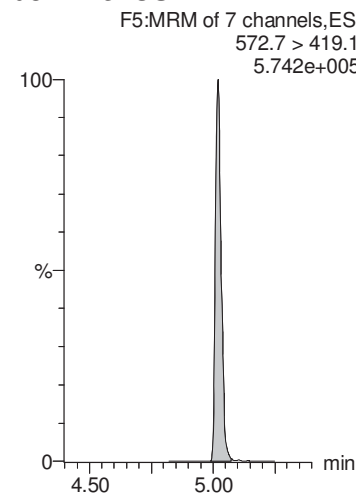
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



MMM 7/23/2018

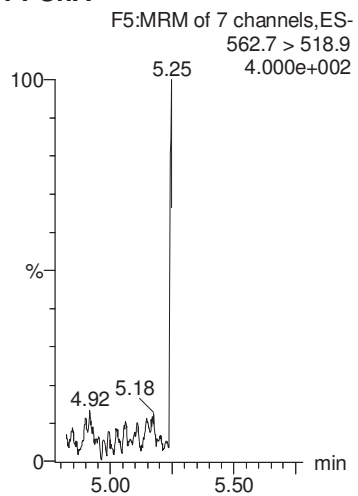
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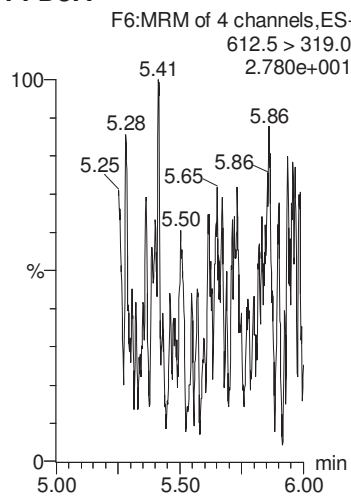
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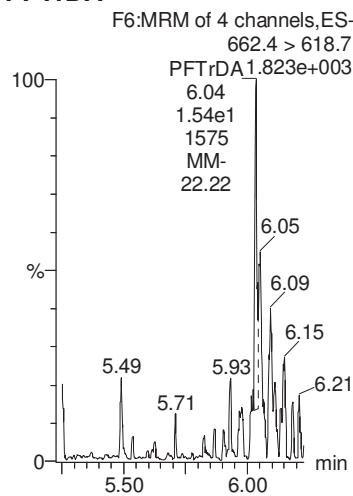
PFUnA



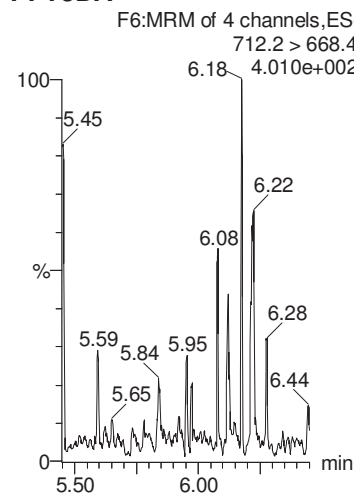
PFDaA



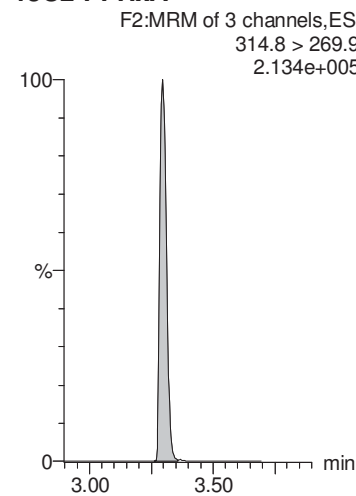
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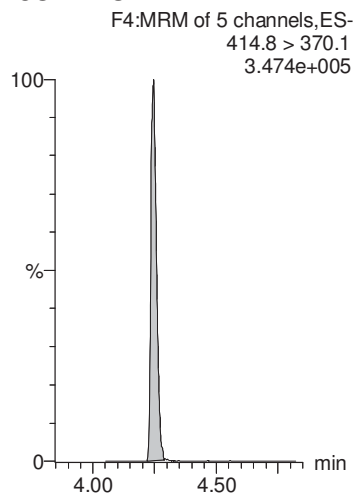
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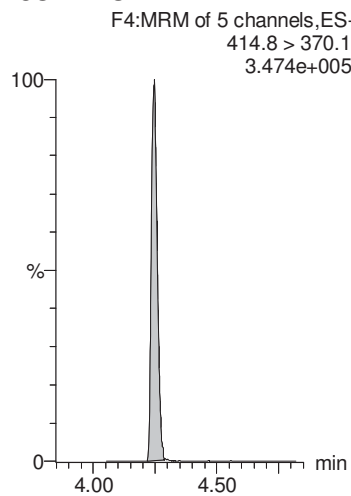
13C2-PFHxA



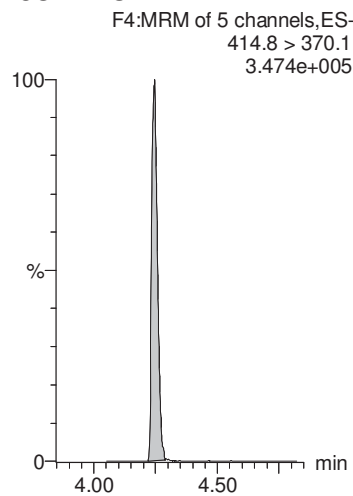
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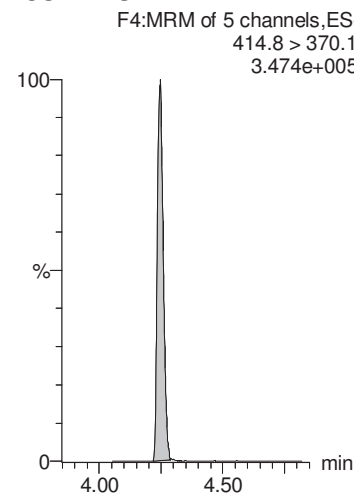
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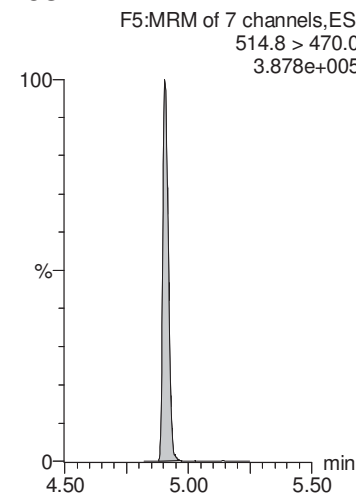
13C2-PFOA



13C2-PFOA



13C2-PFDA



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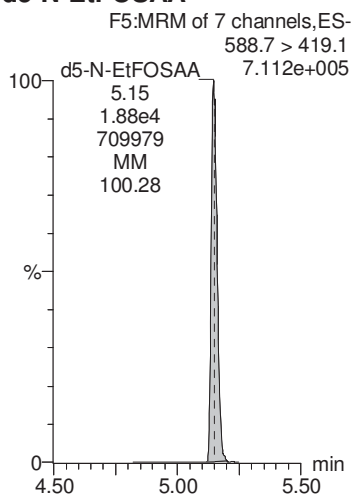
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Name: 180721G1_7, Date: 21-Jul-2018, Time: 12:42:39, ID: 1801769-14 CBD-1FB17-0718 0.25434, Description: CBD-1FB17-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-8.qld

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Printed: Sunday, July 22, 2018 15:48:12 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_8, Date: 21-Jul-2018, Time: 12:55:29, ID: 1801769-15 CBD-1RW18-0718 0.25298, Description: CBD-1RW18-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5	3.07e1	1.56e4	0.253		2.93	2.93	0.0566	0.235	
2	2 PFHxA	312.7 > 268.8	9.21e1	9.57e3	0.253		3.31	3.30	0.0962	0.468	
3	3 PFHpA	362.7 > 318.8		9.57e3	0.253		3.83				
4	4 PFHxS	398.7 > 80.7	1.13e2	1.56e4	0.253		3.95	3.95	0.208	0.727	
5	5 PFOA	412.8 > 369.0	3.13e1	9.57e3	0.253		4.25	4.24	0.0327	0.177	
6	6 PFNA	462.9 > 419.1		9.57e3	0.253		4.61				
7	7 PFOS	498.8 > 80.7		1.56e4	0.253		4.67				
8	8 PFDA	512.8 > 469.0	2.64e1	9.57e3	0.253		4.90	4.90	0.0276	0.125	
9	9 N-MeFOSAA	569.7 > 419.0	2.19e0	1.73e4	0.253		5.03	5.01	0.00507	0.0173	
10	10 N-EtFOSAA	583.6 > 419.1		1.73e4	0.253		5.14				
11	11 PFUnA	562.7 > 518.9		9.57e3	0.253		5.14				
12	12 PFDoA	612.5 > 319.0		9.57e3	0.253		5.38				
13	13 PFTTrDA	662.4 > 618.7		9.57e3	0.253		5.59				
14	14 PFTeDA	712.2 > 668.4		9.57e3	0.253		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	7.17e3	9.57e3	0.253	0.753	3.41	3.30	7.49	39.3	99.5
16	16 13C2-PFDA	514.8 > 470.0	9.13e3	9.57e3	0.253	1.023	4.84	4.91	9.54	36.9	93.3
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.02e4	1.73e4	0.253	1.264	5.02	5.15	46.7	146	92.3
18	18 13C2-PFOA	414.8 > 370.1	9.57e3	9.57e3	0.253	1.000	4.28	4.25	10.0	39.5	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.56e4	1.56e4	0.253	1.000	4.71	4.67	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.73e4	1.73e4	0.253	1.000	5.04	5.02	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-8.qld

Last Altered: Sunday, July 22, 2018 15:47:53 Pacific Daylight Time

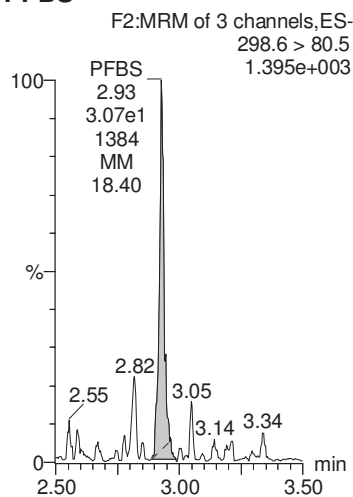
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Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

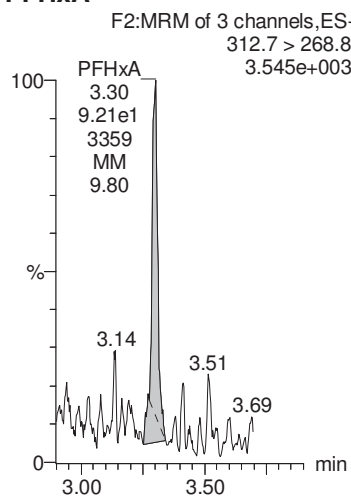
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Name: 180721G1_8, Date: 21-Jul-2018, Time: 12:55:29, ID: 1801769-15 CBD-1RW18-0718 0.25298, Description: CBD-1RW18-0718

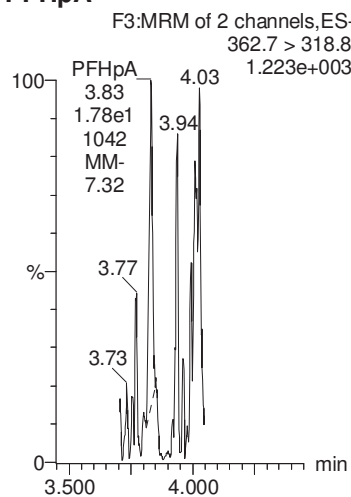
PFBS



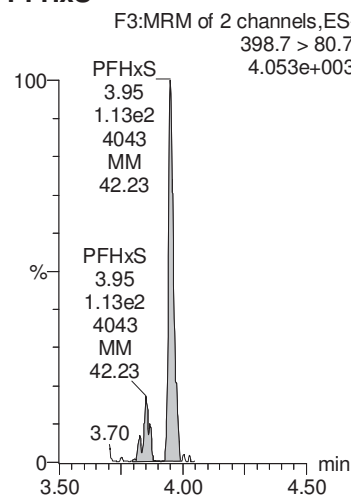
PFHxA



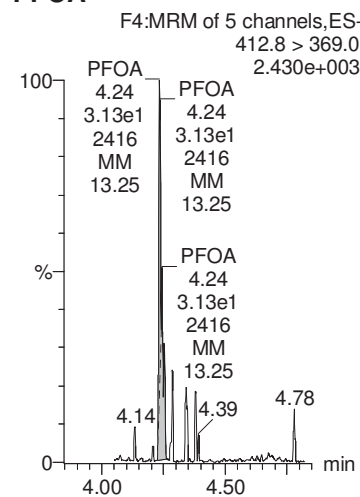
PFHpA



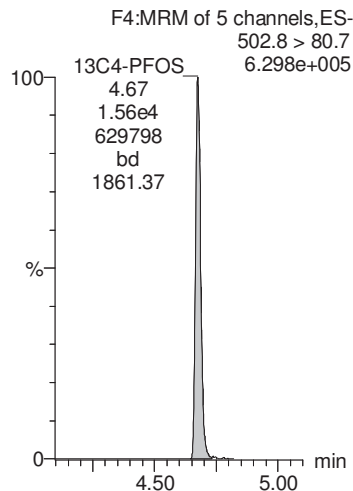
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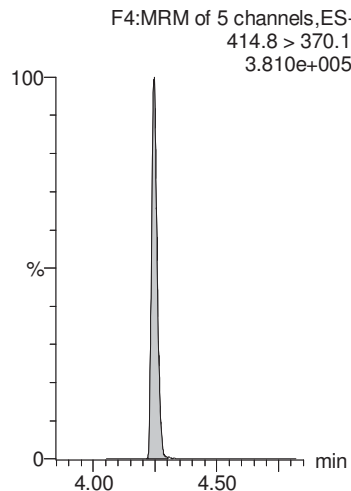
PFOA



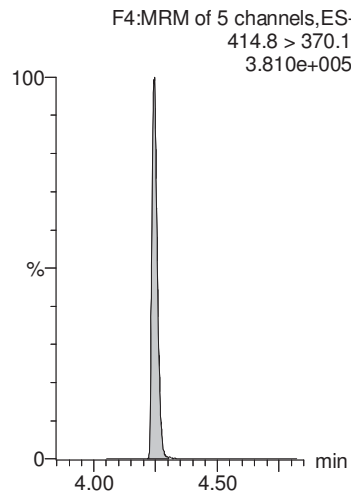
13C4-PFOS



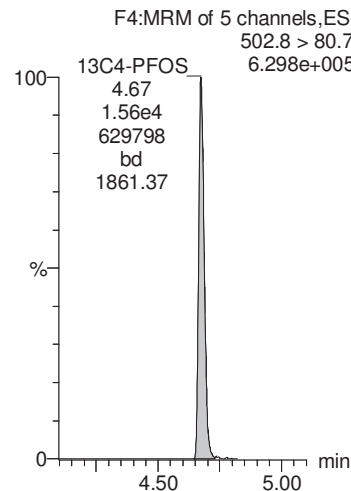
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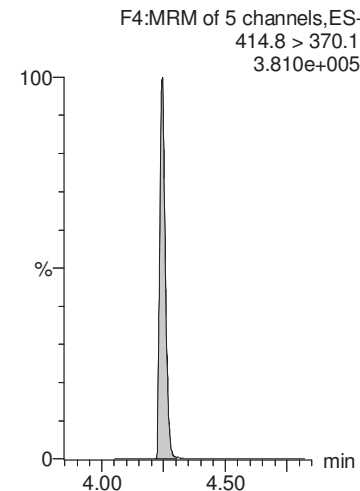
13C2-PFOA



13C4-PFOS



13C2-PFOA



AD 7/22/2018

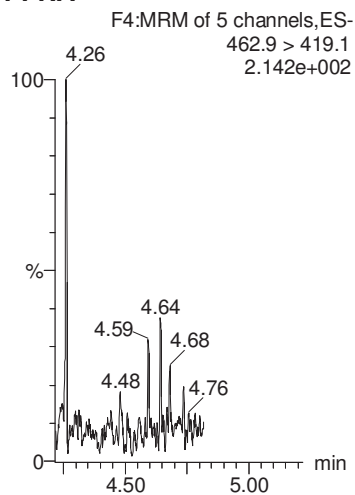
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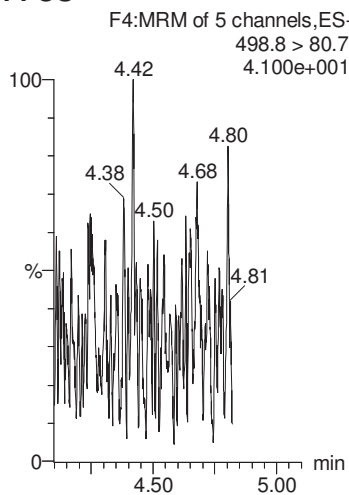
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Name: 180721G1_8, Date: 21-Jul-2018, Time: 12:55:29, ID: 1801769-15 CBD-1RW18-0718 0.25298, Description: CBD-1RW18-0718

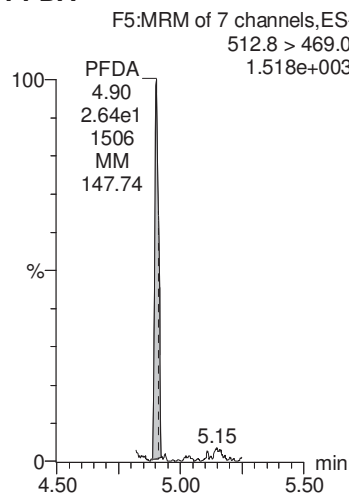
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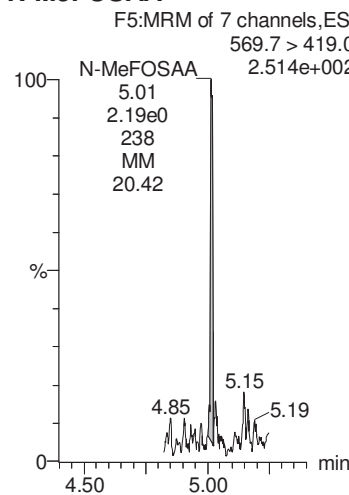
PFOS



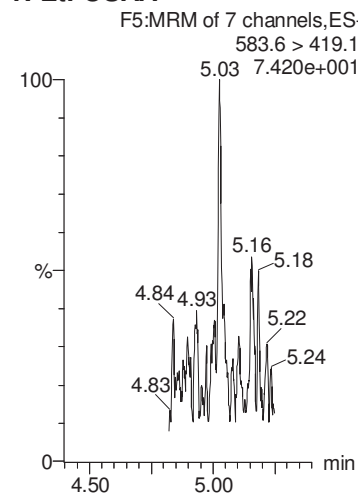
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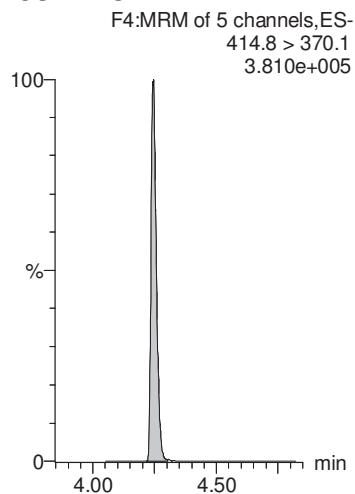
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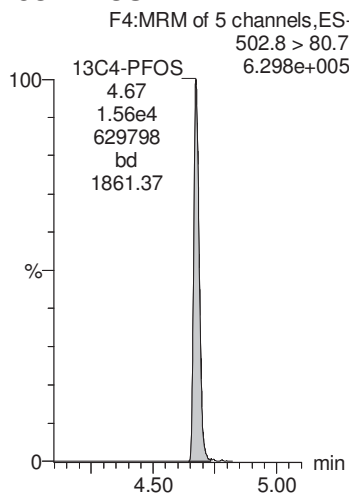
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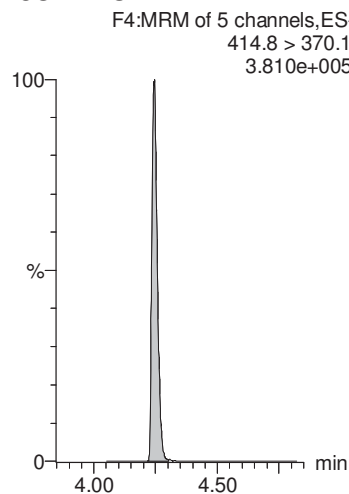
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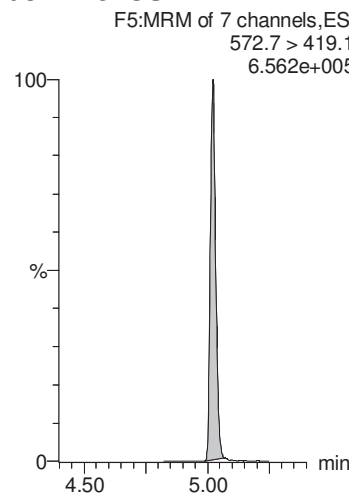
13C4-PFOS



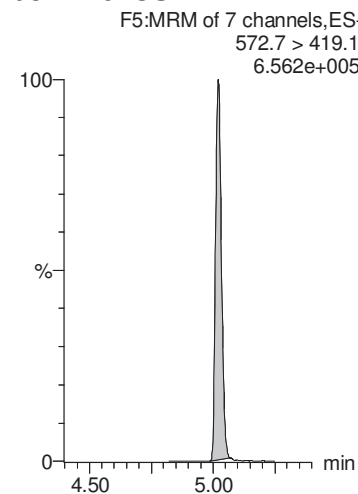
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d3-N-MeFOSAA



d3-N-MeFOSAA



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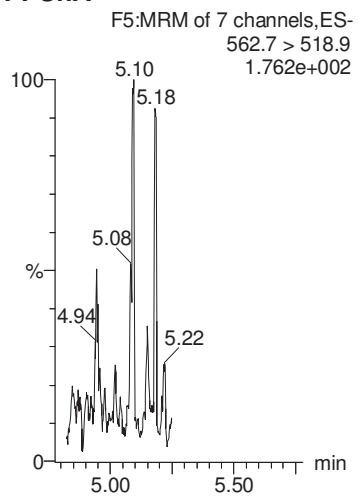
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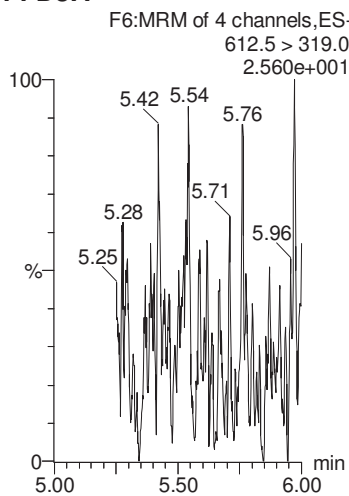
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Name: 180721G1_8, Date: 21-Jul-2018, Time: 12:55:29, ID: 1801769-15 CBD-1RW18-0718 0.25298, Description: CBD-1RW18-0718

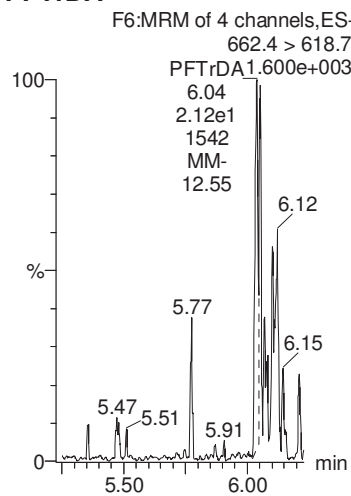
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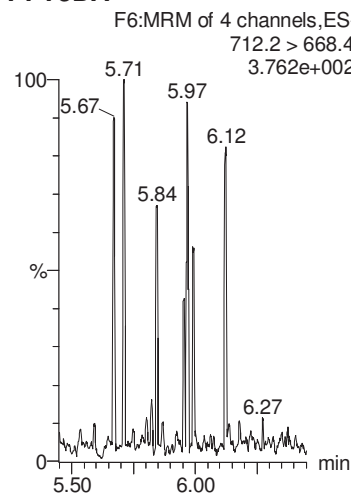
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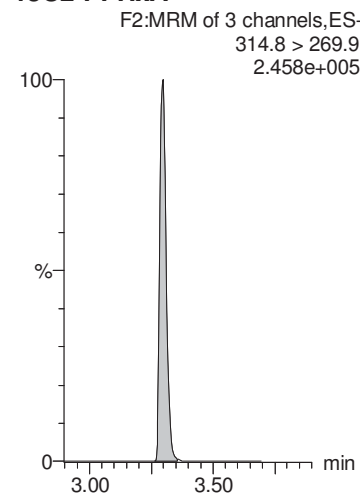
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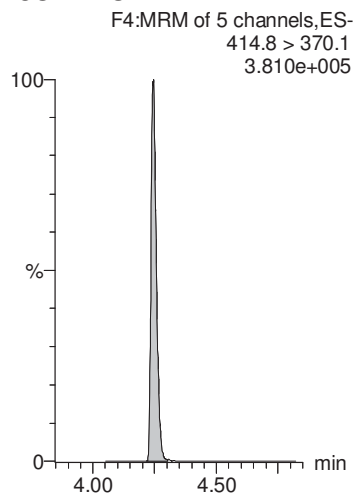
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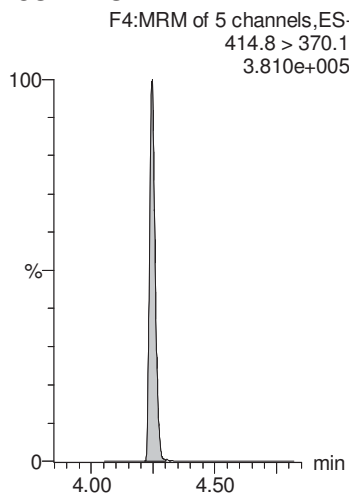
13C2-PFHxA



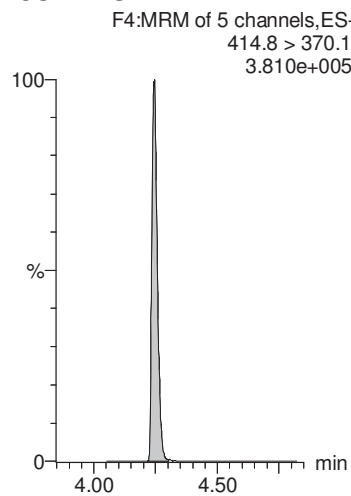
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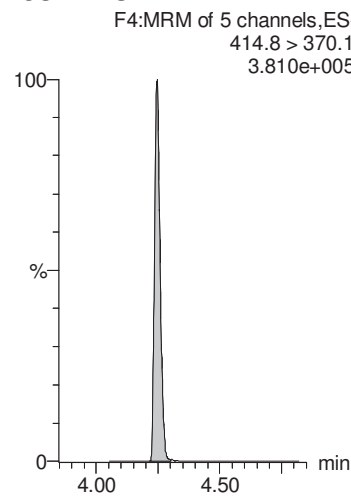
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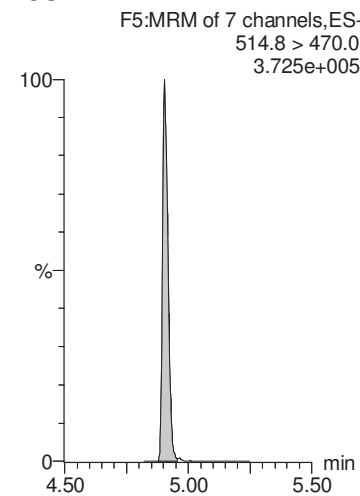
13C2-PFOA



13C2-PFOA



13C2-PFDA



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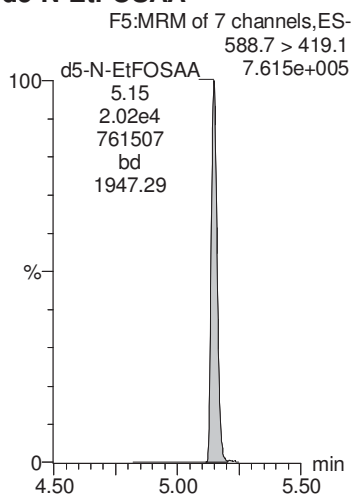
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Printed: Sunday, July 22, 2018 15:48:12 Pacific Daylight Time

Name: 180721G1_8, Date: 21-Jul-2018, Time: 12:55:29, ID: 1801769-15 CBD-1RW18-0718 0.25298, Description: CBD-1RW18-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-9.qld

Last Altered: Sunday, July 22, 2018 15:49:11 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:49:28 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_9, Date: 21-Jul-2018, Time: 13:08:18, ID: 1801769-16 CBD-1FB18-0718 0.25721, Description: CBD-1FB18-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.57e4	0.257		2.93				
2	2 PFHxA	312.7 > 268.8	3.30e1	9.83e3	0.257		3.31	3.29	0.0336	0.160	
3	3 PFHpA	362.7 > 318.8	1.09e1	9.83e3	0.257		3.82	3.82	0.0111	0.0491	
4	4 PFHxS	398.7 > 80.7		1.57e4	0.257		3.95				
5	5 PFOA	412.8 > 369.0	1.62e1	9.83e3	0.257		4.25	4.25	0.0165	0.0880	
6	6 PFNA	462.9 > 419.1		9.83e3	0.257		4.61				
7	7 PFOS	498.8 > 80.7		1.57e4	0.257		4.67				
8	8 PFDA	512.8 > 469.0	2.19e1	9.83e3	0.257		4.89	4.92	0.0223	0.0995	
9	9 N-MeFOSAA	569.7 > 419.0	8.77e-1	1.78e4	0.257		5.03	5.02	0.00197	0.00663	
10	10 N-EtFOSAA	583.6 > 419.1		1.78e4	0.257		5.14				
11	11 PFUnA	562.7 > 518.9		9.83e3	0.257		5.13				
12	12 PFDoA	612.5 > 319.0		9.83e3	0.257		5.37				
13	13 PFTTrDA	662.4 > 618.7		9.83e3	0.257		5.58				
14	14 PFTeDA	712.2 > 668.4		9.83e3	0.257		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	7.50e3	9.83e3	0.257	0.753	3.41	3.30	7.64	39.5	101.5
16	16 13C2-PFDA	514.8 > 470.0	9.99e3	9.83e3	0.257	1.023	4.84	4.91	10.2	38.7	99.4
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.22e4	1.78e4	0.257	1.264	5.02	5.15	50.0	154	98.9
18	18 13C2-PFOA	414.8 > 370.1	9.83e3	9.83e3	0.257	1.000	4.28	4.24	10.0	38.9	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.57e4	1.57e4	0.257	1.000	4.71	4.67	28.7	112	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.78e4	1.78e4	0.257	1.000	5.04	5.02	40.0	156	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-9.qld

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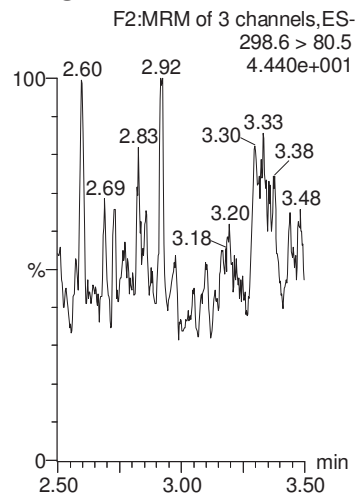
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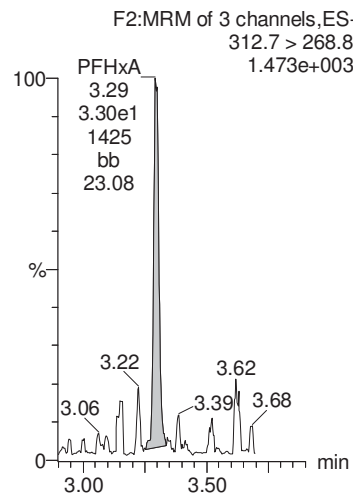
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Name: 180721G1_9, Date: 21-Jul-2018, Time: 13:08:18, ID: 1801769-16 CBD-1FB18-0718 0.25721, Description: CBD-1FB18-0718

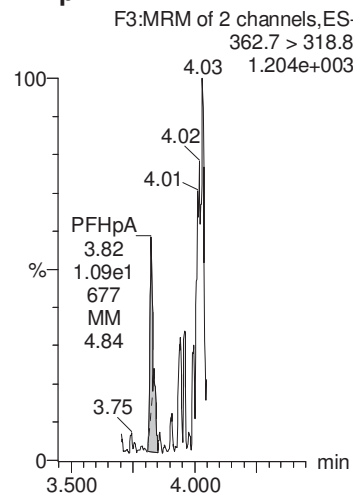
PFBS



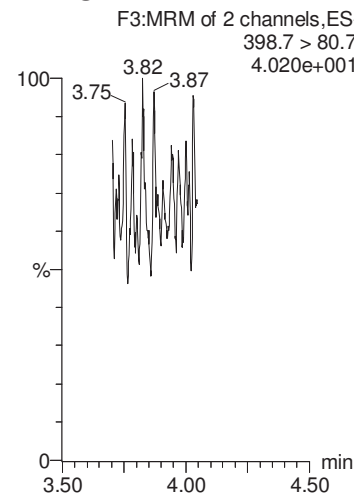
PFHxA



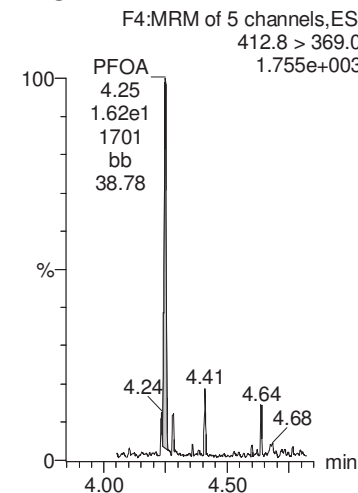
PFHpA



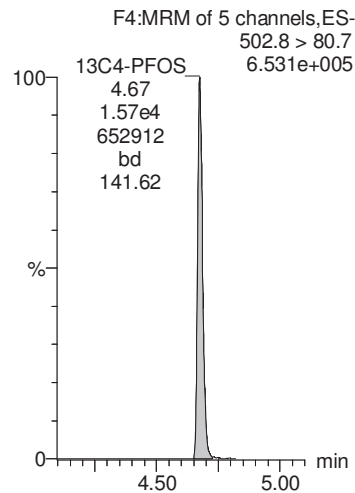
PFHxS



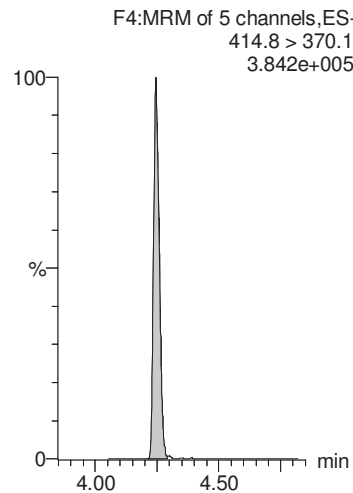
PFOA



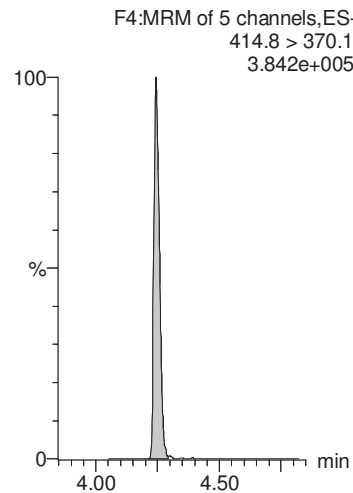
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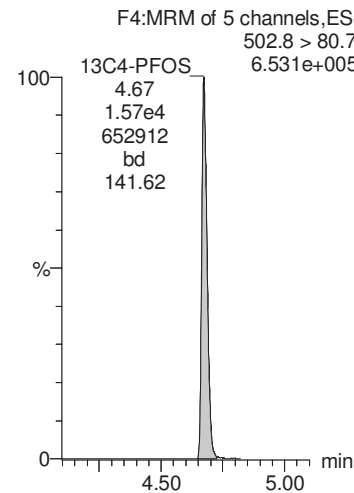
13C2-PFOA



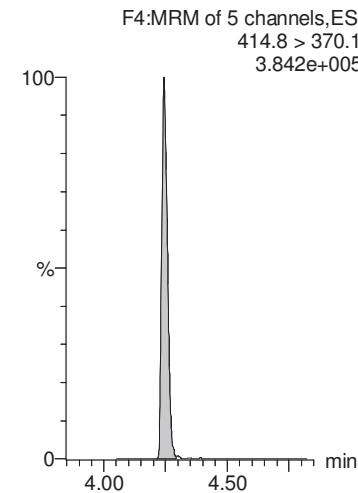
13C2-PFOA



13C4-PFOS



13C2-PFOA



MMM 7/23/2018

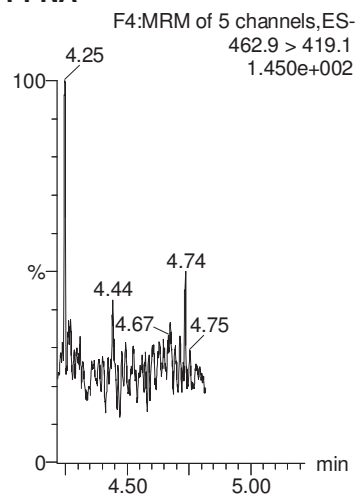
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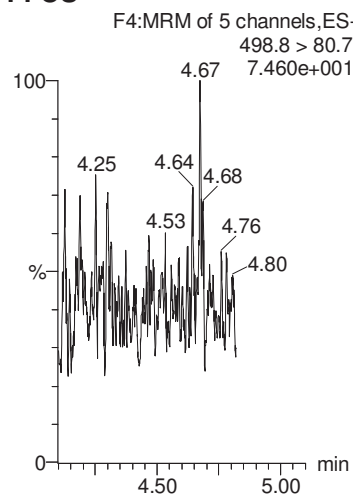
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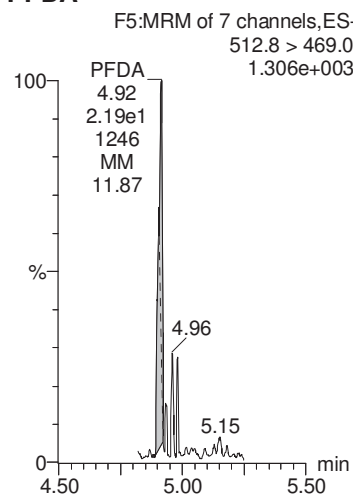
PFNA



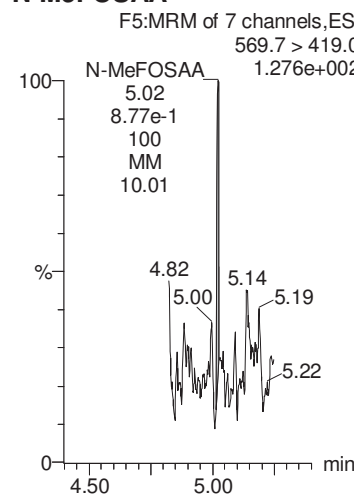
PFOS



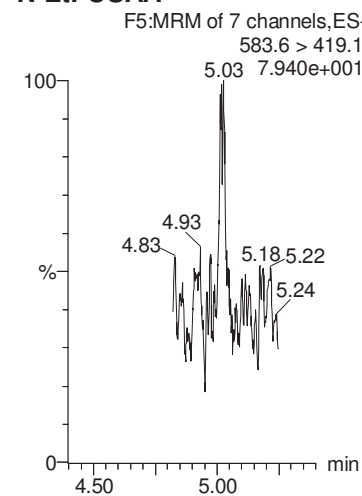
PFDA



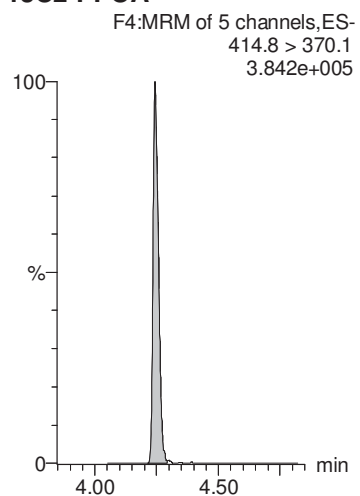
N-MeFOSAA



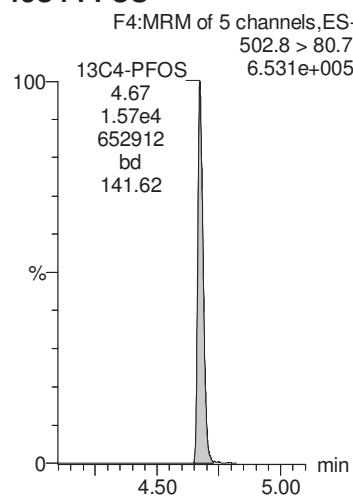
N-EtFOSAA



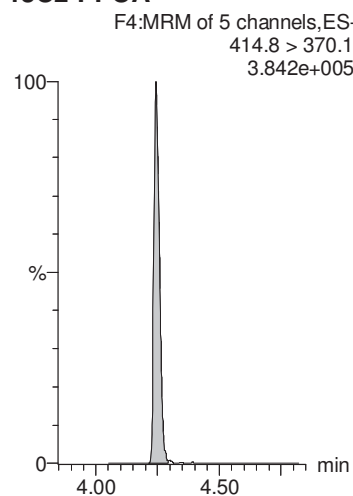
13C2-PFOA



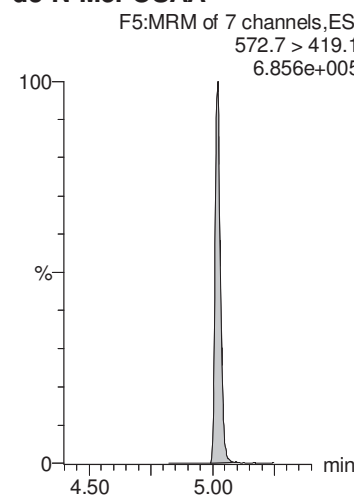
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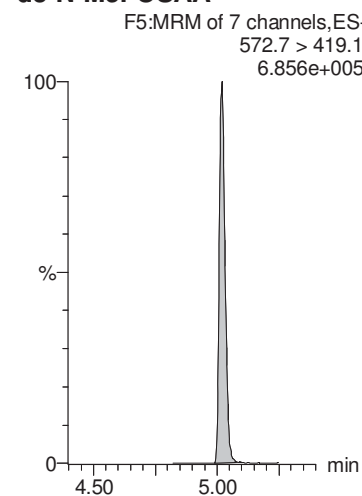
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



MMM 7/23/2018

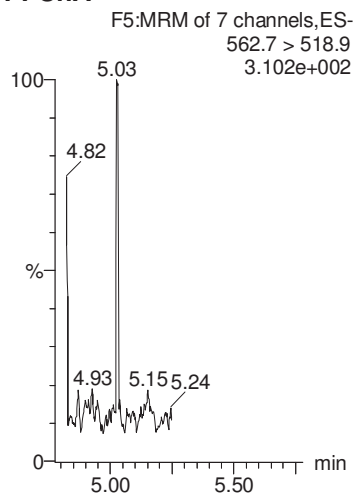
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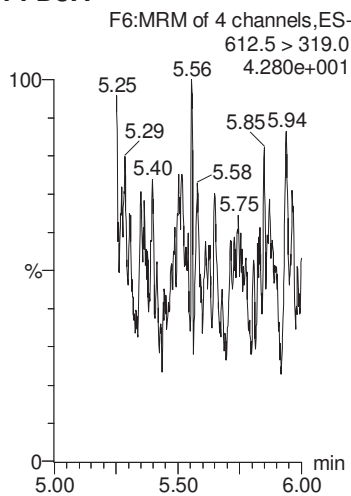
Printed: Sunday, July 22, 2018 15:49:28 Pacific Daylight Time

Name: 180721G1_9, Date: 21-Jul-2018, Time: 13:08:18, ID: 1801769-16 CBD-1FB18-0718 0.25721, Description: CBD-1FB18-0718

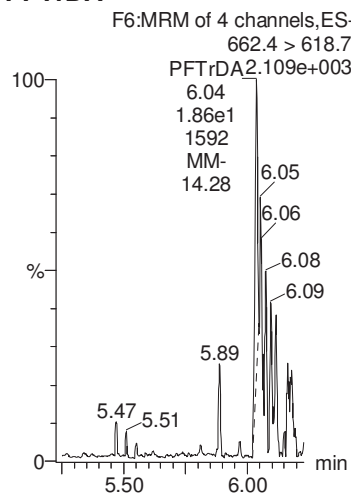
PFUnA



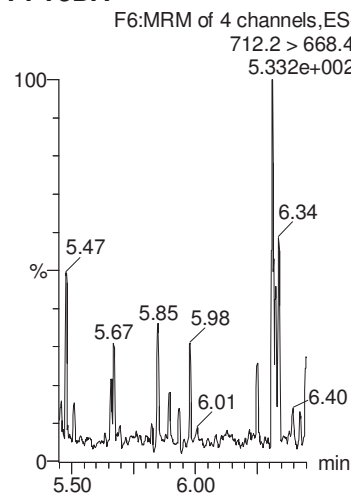
PFDaA



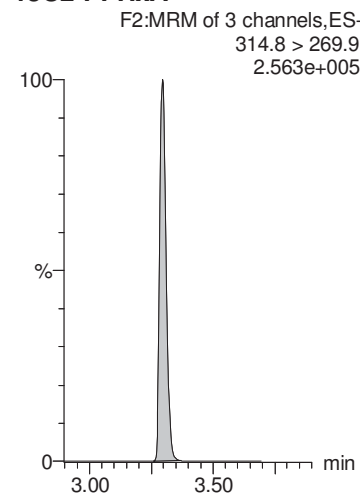
PFTrDA



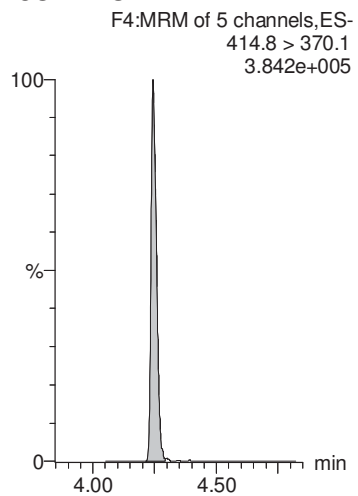
PFTeDA



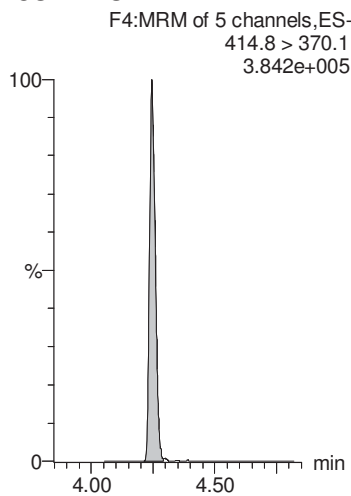
13C2-PFHxA



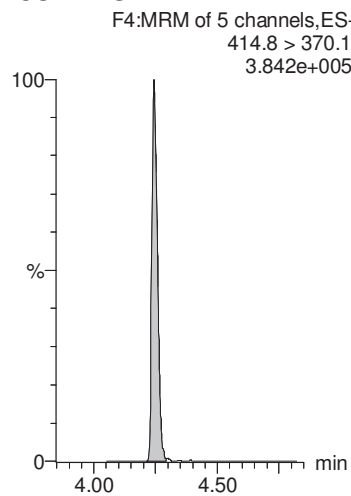
13C2-PFOA



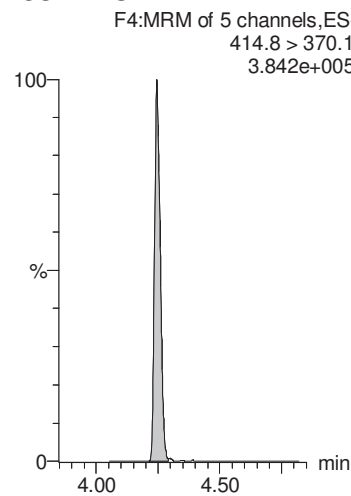
13C2-PFOA



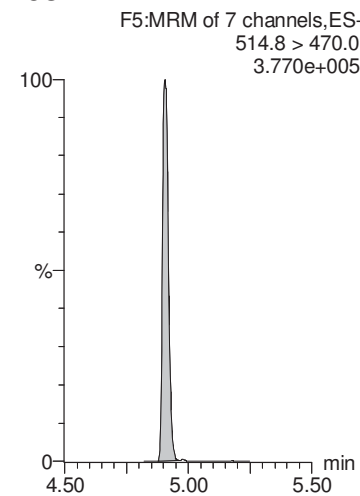
13C2-PFOA



13C2-PFOA



13C2-PFDA



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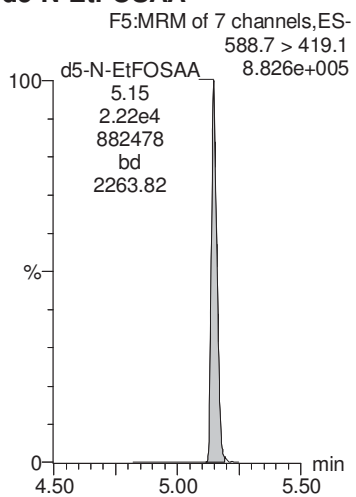
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Last Altered: Sunday, July 22, 2018 15:49:11 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:49:28 Pacific Daylight Time

Name: 180721G1_9, Date: 21-Jul-2018, Time: 13:08:18, ID: 1801769-16 CBD-1FB18-0718 0.25721, Description: CBD-1FB18-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-10.qld

Last Altered: Sunday, July 22, 2018 15:50:41 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:51:02 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_10, Date: 21-Jul-2018, Time: 13:21:08, ID: 1801769-17 CBD-1RW19-0718 0.25305, Description: CBD-1RW19-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.28e4	0.253		2.93				
2	2 PFHxA	312.7 > 268.8		8.17e3	0.253		3.31				
3	3 PFHpA	362.7 > 318.8	1.30e1	8.17e3	0.253		3.83	3.82	0.0160	0.0720	
4	4 PFHxS	398.7 > 80.7		1.28e4	0.253		3.95				
5	5 PFOA	412.8 > 369.0	8.92e0	8.17e3	0.253		4.25	4.24	0.0109	0.0592	
6	6 PFNA	462.9 > 419.1		8.17e3	0.253		4.61				
7	7 PFOS	498.8 > 80.7		1.28e4	0.253		4.67				
8	8 PFDA	512.8 > 469.0	4.62e1	8.17e3	0.253		4.90	4.90	0.0566	0.257	
9	9 N-MeFOSAA	569.7 > 419.0		1.41e4	0.253		5.02				
10	10 N-EtFOSAA	583.6 > 419.1		1.41e4	0.253		5.14				
11	11 PFUnA	562.7 > 518.9		8.17e3	0.253		5.14				
12	12 PFDoA	612.5 > 319.0		8.17e3	0.253		5.38				
13	13 PFTTrDA	662.4 > 618.7		8.17e3	0.253		5.59				
14	14 PFTeDA	712.2 > 668.4		8.17e3	0.253		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.40e3	8.17e3	0.253	0.753	3.41	3.30	7.84	41.1	104.1
16	16 13C2-PFDA	514.8 > 470.0	8.75e3	8.17e3	0.253	1.023	4.84	4.90	10.7	41.4	104.8
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.66e4	1.41e4	0.253	1.264	5.02	5.15	47.3	148	93.5
18	18 13C2-PFOA	414.8 > 370.1	8.17e3	8.17e3	0.253	1.000	4.28	4.25	10.0	39.5	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.28e4	1.28e4	0.253	1.000	4.71	4.67	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.41e4	1.41e4	0.253	1.000	5.04	5.02	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-10.qld

Last Altered: Sunday, July 22, 2018 15:50:41 Pacific Daylight Time

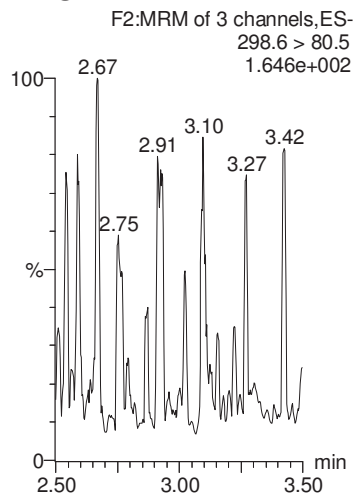
Printed: Sunday, July 22, 2018 15:51:02 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

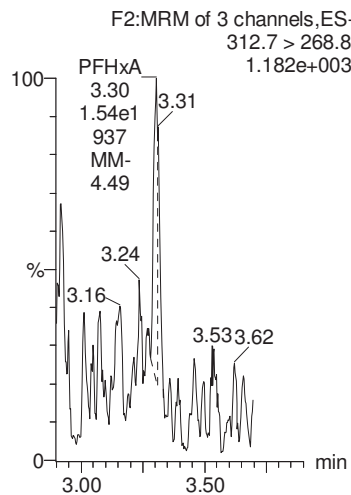
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_10, Date: 21-Jul-2018, Time: 13:21:08, ID: 1801769-17 CBD-1RW19-0718 0.25305, Description: CBD-1RW19-0718

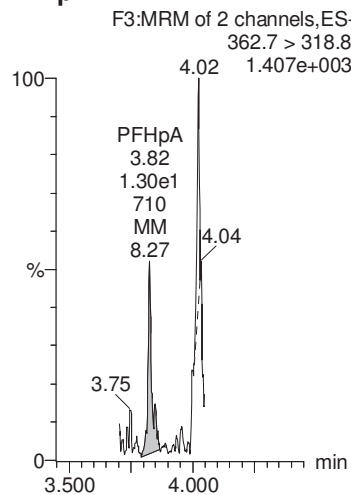
PFBS



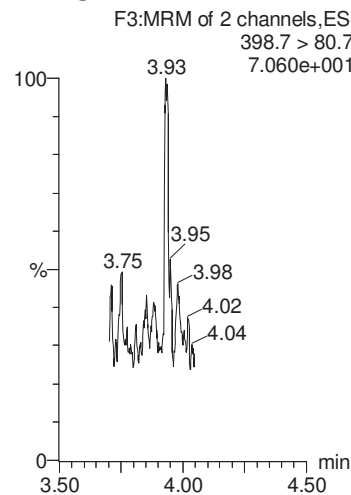
PFHxA



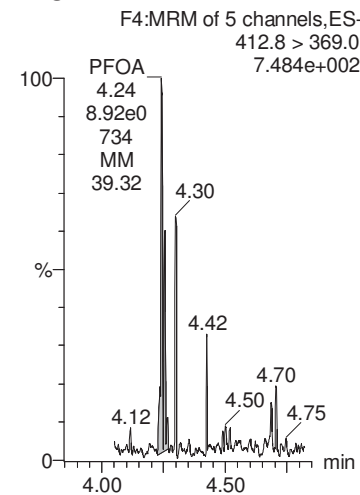
PFHpA



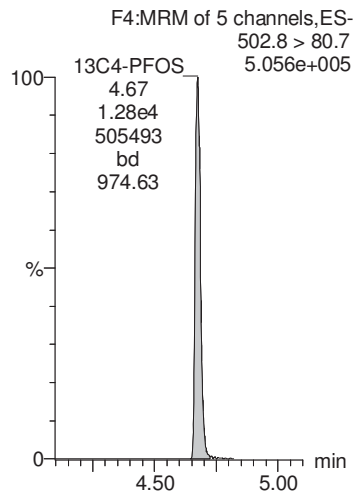
PFHxS



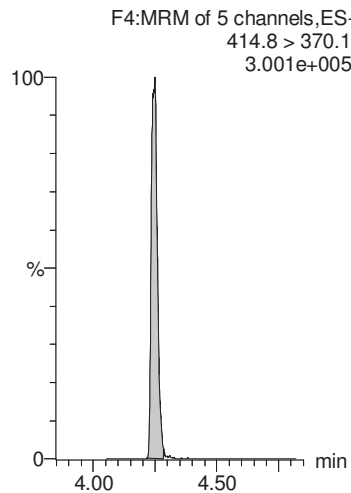
PFOA



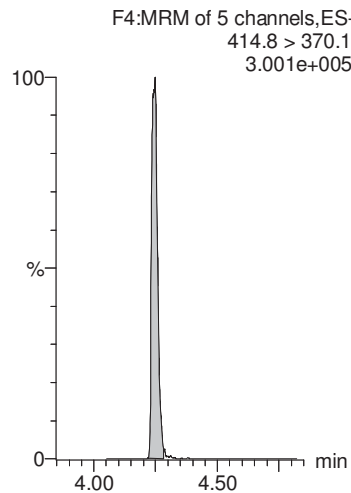
13C4-PFOS



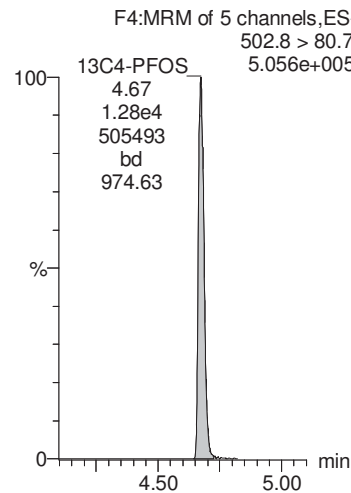
13C2-PFOA



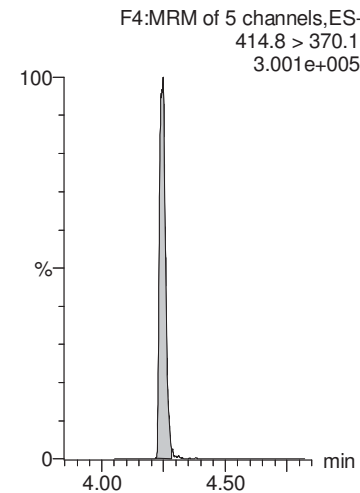
13C2-PFOA



13C4-PFOS



13C2-PFOA



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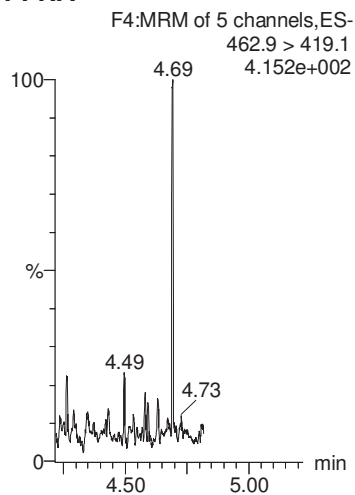
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Last Altered: Sunday, July 22, 2018 15:50:41 Pacific Daylight Time

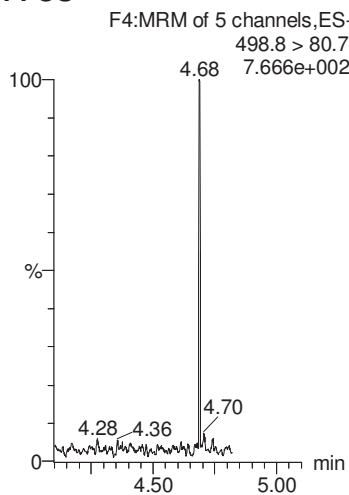
Printed: Sunday, July 22, 2018 15:51:02 Pacific Daylight Time

Name: 180721G1_10, Date: 21-Jul-2018, Time: 13:21:08, ID: 1801769-17 CBD-1RW19-0718 0.25305, Description: CBD-1RW19-0718

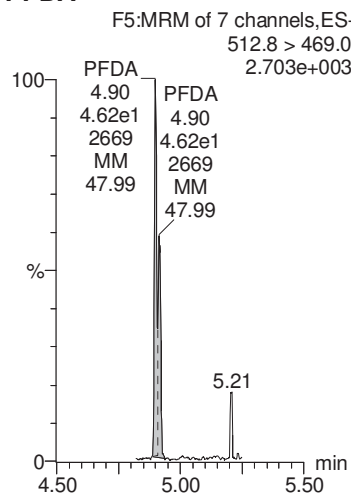
PFNA



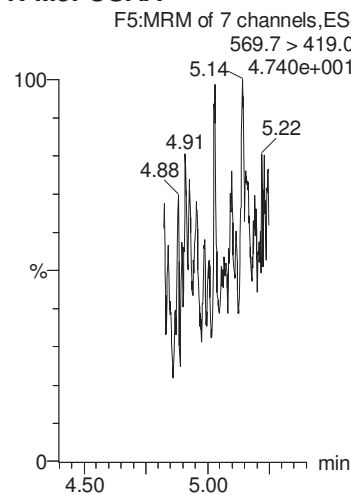
PFOS



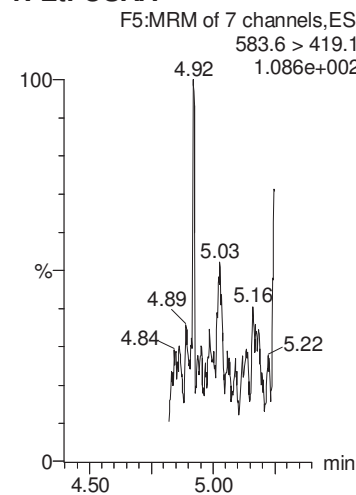
PFDA



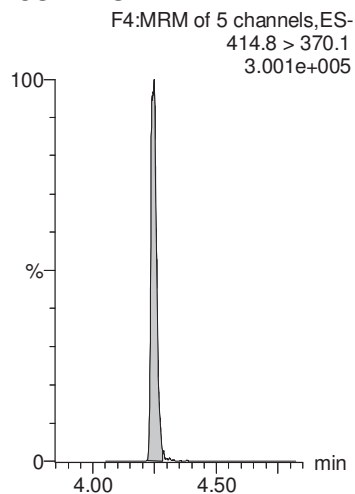
N-MeFOSAA



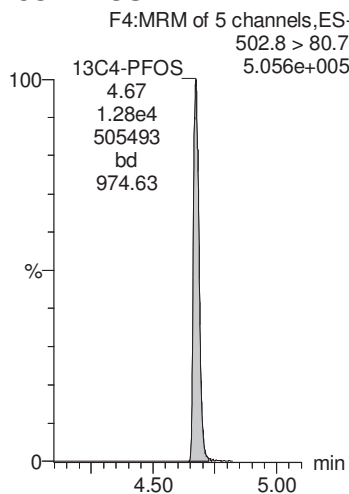
N-EtFOSAA



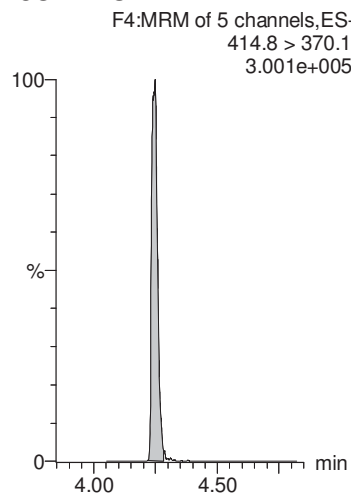
13C2-PFOA



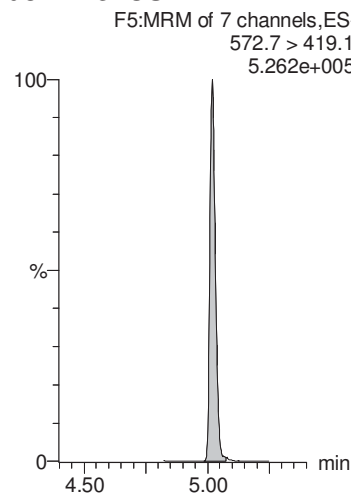
13C4-PFOS



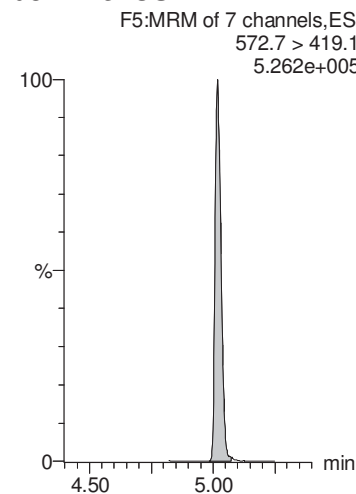
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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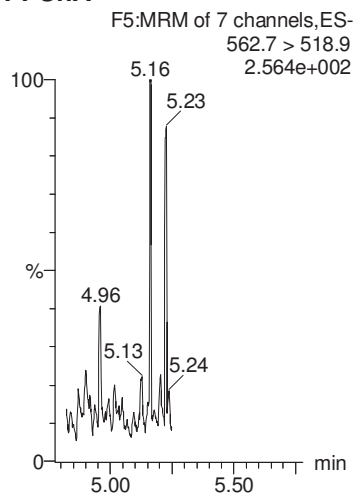
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Last Altered: Sunday, July 22, 2018 15:50:41 Pacific Daylight Time

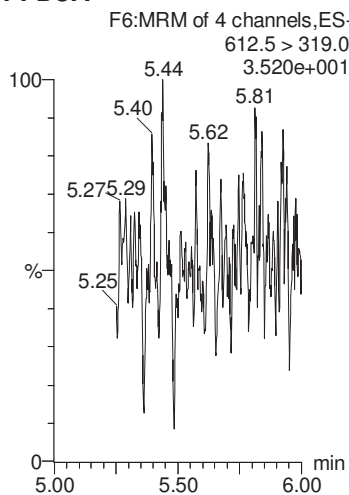
Printed: Sunday, July 22, 2018 15:51:02 Pacific Daylight Time

Name: 180721G1_10, Date: 21-Jul-2018, Time: 13:21:08, ID: 1801769-17 CBD-1RW19-0718 0.25305, Description: CBD-1RW19-0718

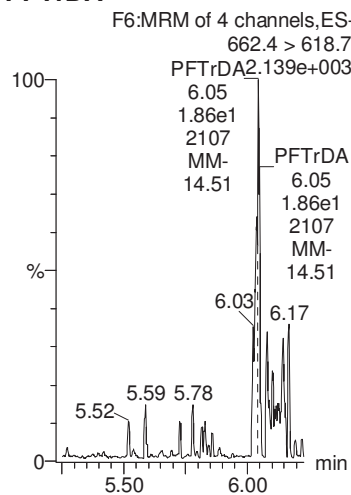
PFUnA



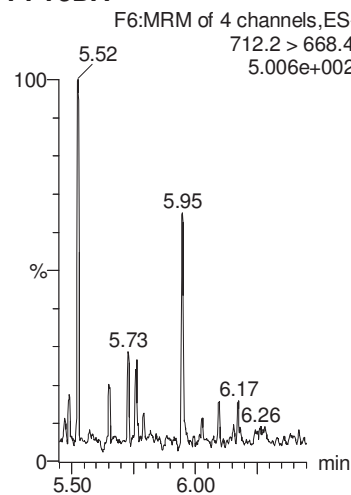
PFDaA



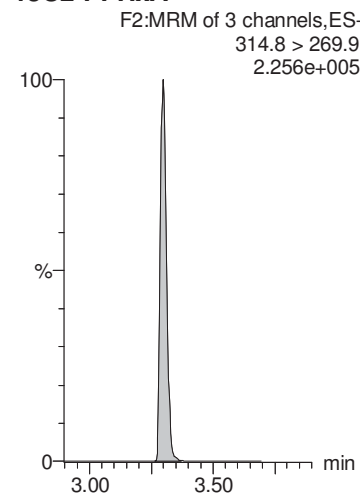
PFTrDA



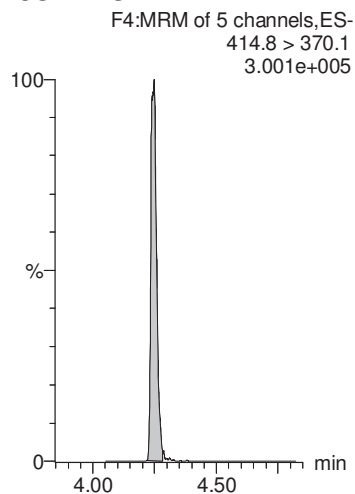
PFTeDA



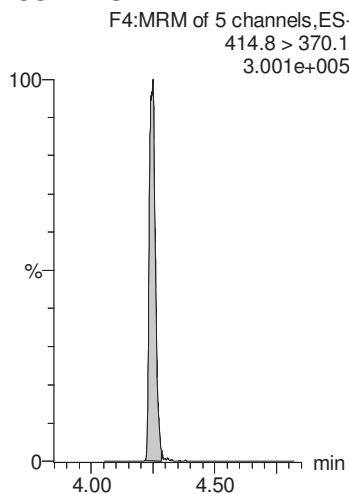
13C2-PFHxA



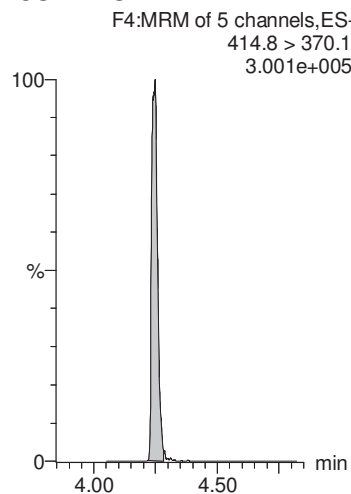
13C2-PFOA



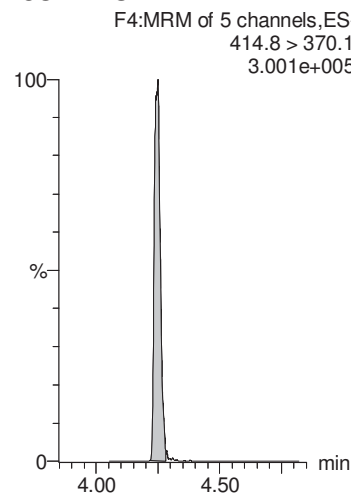
13C2-PFOA



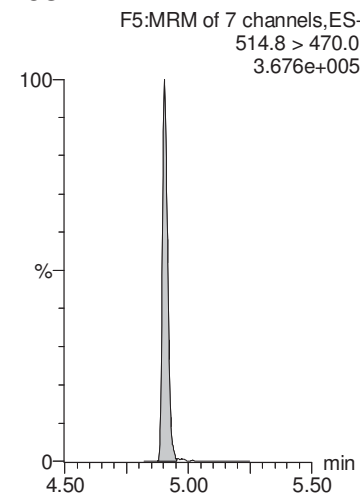
13C2-PFOA



13C2-PFOA



13C2-PFDA



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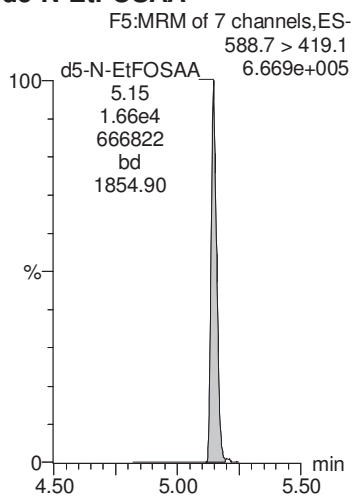
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Last Altered: Sunday, July 22, 2018 15:50:41 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:51:02 Pacific Daylight Time

Name: 180721G1_10, Date: 21-Jul-2018, Time: 13:21:08, ID: 1801769-17 CBD-1RW19-0718 0.25305, Description: CBD-1RW19-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-11.qld

Last Altered: Sunday, July 22, 2018 15:52:03 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:52:22 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_11, Date: 21-Jul-2018, Time: 13:33:58, ID: 1801769-18 CBD-1FB19-0718 0.25356, Description: CBD-1FB19-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.56e4	0.254		2.93				
2	2 PFHxA	312.7 > 268.8	3.77e1	9.70e3	0.254		3.31	3.30	0.0389	0.189	
3	3 PFHpA	362.7 > 318.8	1.54e1	9.70e3	0.254		3.83	3.83	0.0159	0.0716	
4	4 PFHxS	398.7 > 80.7		1.56e4	0.254		3.95				
5	5 PFOA	412.8 > 369.0		9.70e3	0.254		4.25				
6	6 PFNA	462.9 > 419.1		9.70e3	0.254		4.61				
7	7 PFOS	498.8 > 80.7		1.56e4	0.254		4.67				
8	8 PFDA	512.8 > 469.0	2.29e1	9.70e3	0.254		4.90	4.92	0.0236	0.107	
9	9 N-MeFOSAA	569.7 > 419.0	2.47e0	1.77e4	0.254		5.02	5.02	0.00560	0.0191	
10	10 N-EtFOSAA	583.6 > 419.1		1.77e4	0.254		5.14				
11	11 PFUnA	562.7 > 518.9		9.70e3	0.254		5.14				
12	12 PFDoA	612.5 > 319.0		9.70e3	0.254		5.38				
13	13 PFTTrDA	662.4 > 618.7		9.70e3	0.254		5.59				
14	14 PFTeDA	712.2 > 668.4		9.70e3	0.254		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	7.70e3	9.70e3	0.254	0.753	3.41	3.30	7.93	41.6	105.4
16	16 13C2-PFDA	514.8 > 470.0	1.01e4	9.70e3	0.254	1.023	4.84	4.91	10.4	40.3	102.2
17	17 d5-N-EtFOSAA	588.7 > 419.1	2.04e4	1.77e4	0.254	1.264	5.02	5.15	46.2	144	91.4
18	18 13C2-PFOA	414.8 > 370.1	9.70e3	9.70e3	0.254	1.000	4.28	4.25	10.0	39.4	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.56e4	1.56e4	0.254	1.000	4.71	4.67	28.7	113	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.77e4	1.77e4	0.254	1.000	5.04	5.02	40.0	158	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-11.qld

Last Altered: Sunday, July 22, 2018 15:52:03 Pacific Daylight Time

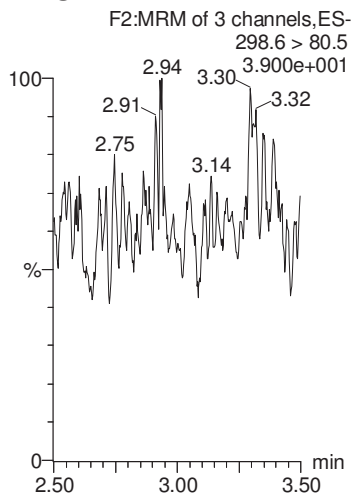
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Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

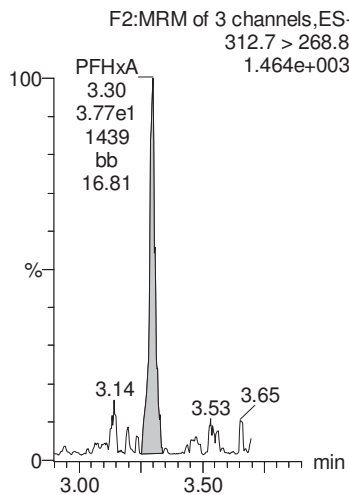
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Name: 180721G1_11, Date: 21-Jul-2018, Time: 13:33:58, ID: 1801769-18 CBD-1FB19-0718 0.25356, Description: CBD-1FB19-0718

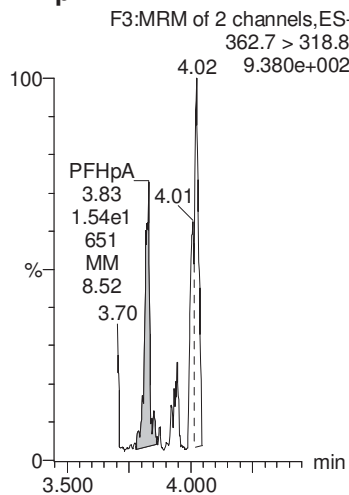
PFBS



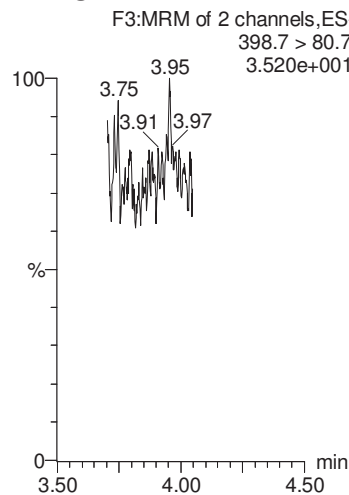
PFHxA



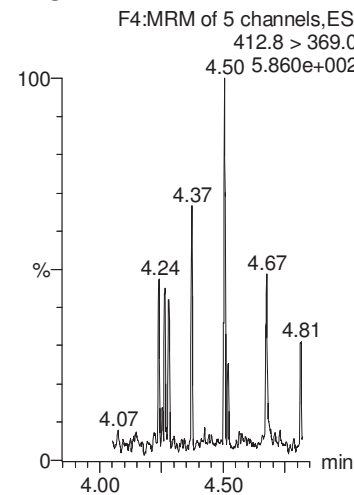
PFHpA



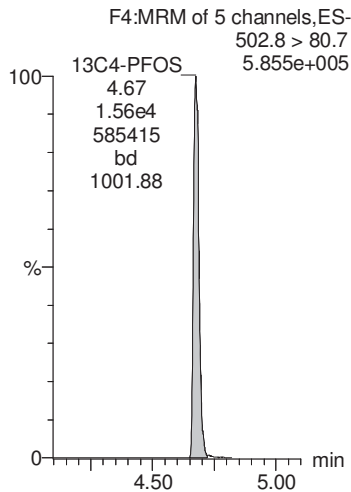
PFHxS



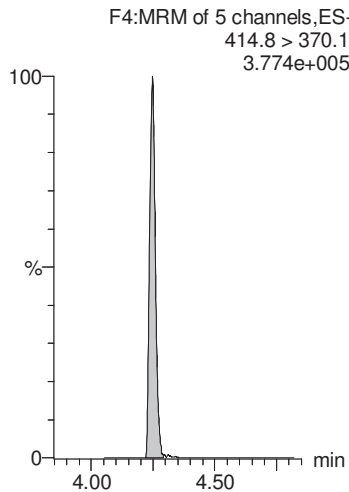
PFOA



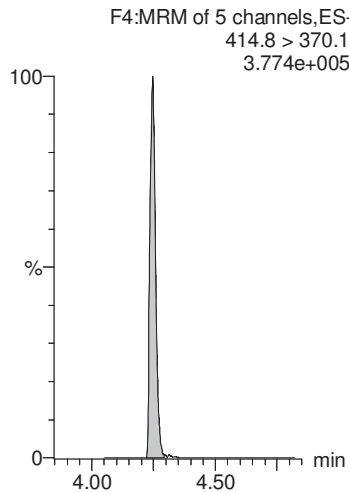
13C4-PFOS



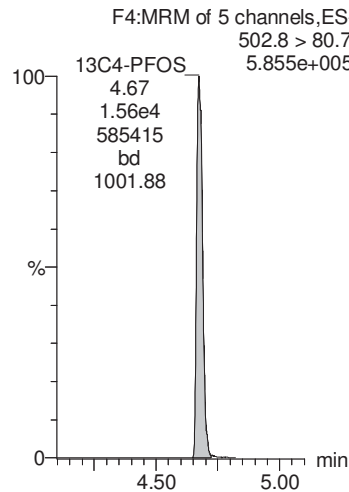
13C2-PFOA



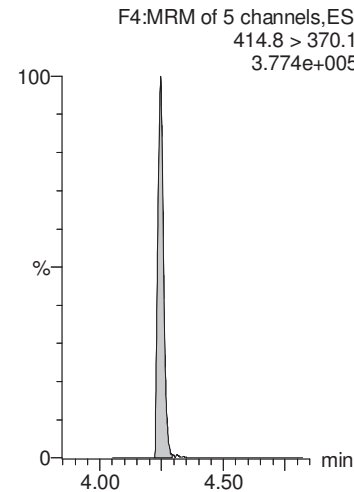
13C2-PFOA



13C4-PFOS



13C2-PFOA



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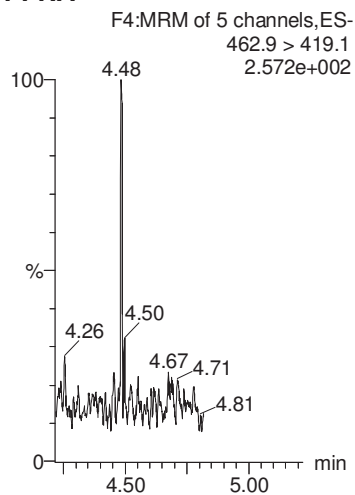
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Last Altered: Sunday, July 22, 2018 15:52:03 Pacific Daylight Time

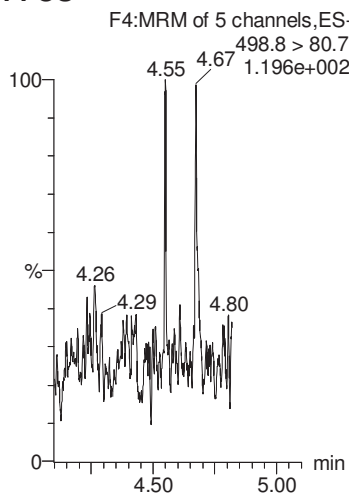
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Name: 180721G1_11, Date: 21-Jul-2018, Time: 13:33:58, ID: 1801769-18 CBD-1FB19-0718 0.25356, Description: CBD-1FB19-0718

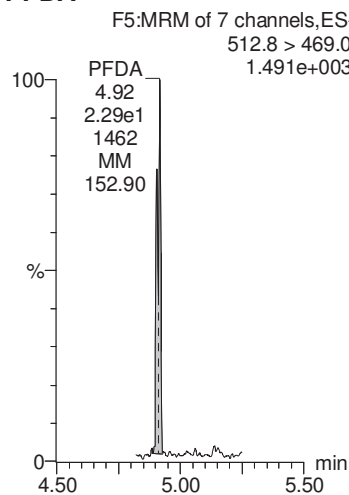
PFNA



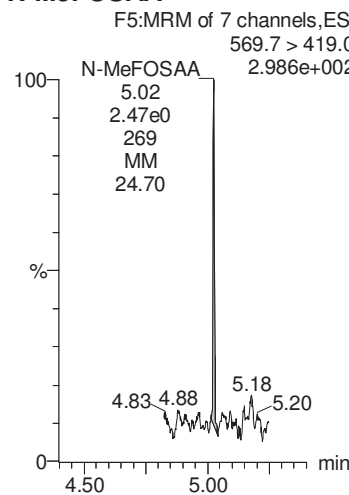
PFOS



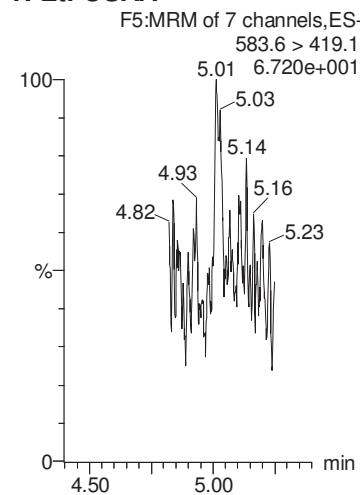
PFDA



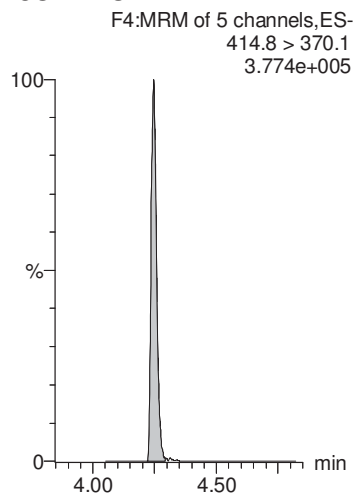
N-MeFOSAA



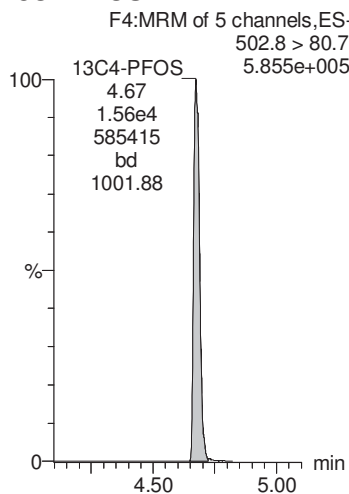
N-EtFOSAA



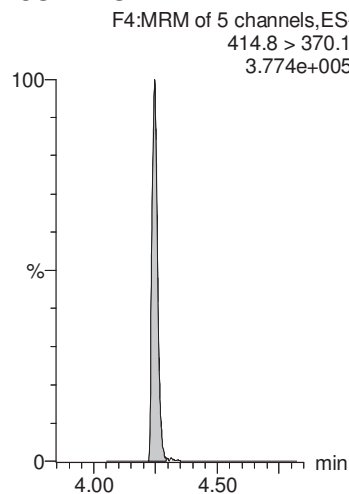
13C2-PFOA



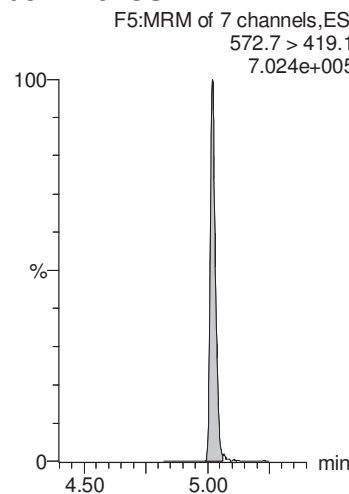
13C4-PFOS



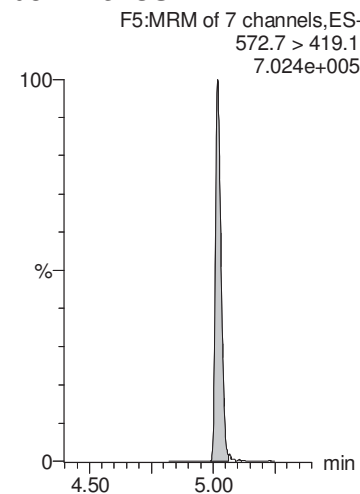
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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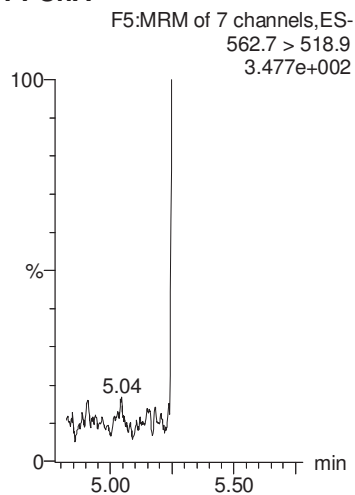
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Last Altered: Sunday, July 22, 2018 15:52:03 Pacific Daylight Time

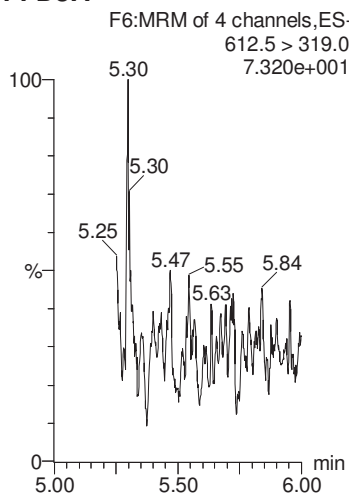
Printed: Sunday, July 22, 2018 15:52:22 Pacific Daylight Time

Name: 180721G1_11, Date: 21-Jul-2018, Time: 13:33:58, ID: 1801769-18 CBD-1FB19-0718 0.25356, Description: CBD-1FB19-0718

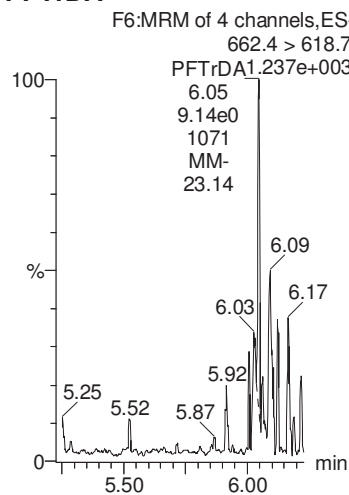
PFUnA



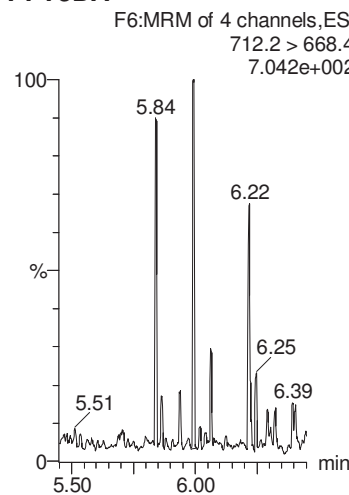
PFDoA



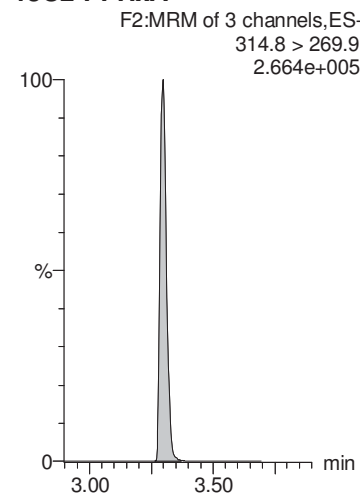
PFTrDA



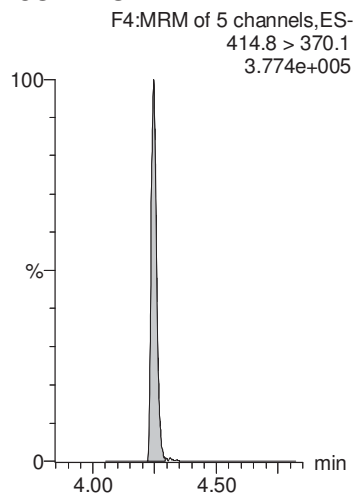
PFTeDA



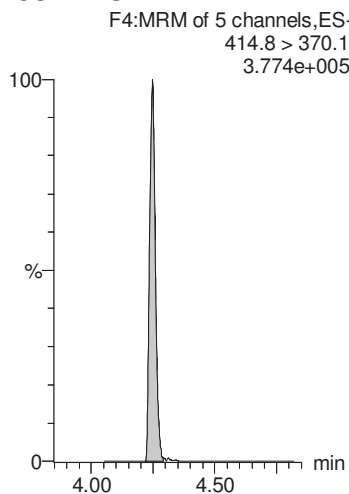
13C2-PFHxA



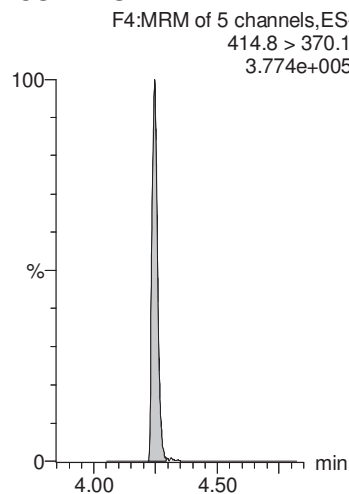
13C2-PFOA



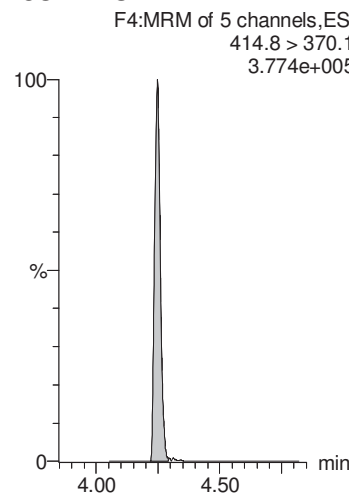
13C2-PFOA



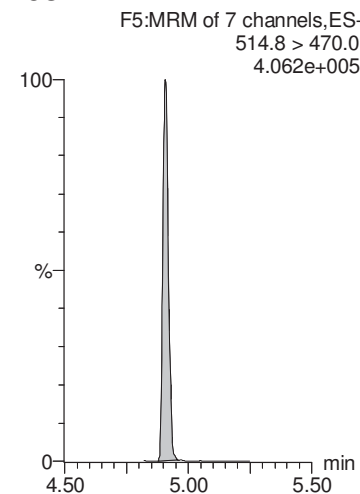
13C2-PFOA



13C2-PFOA



13C2-PFDA



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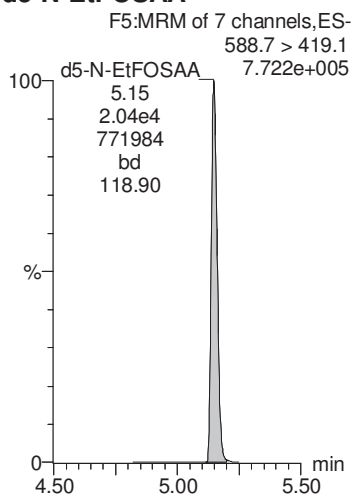
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Last Altered: Sunday, July 22, 2018 15:52:03 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:52:22 Pacific Daylight Time

Name: 180721G1_11, Date: 21-Jul-2018, Time: 13:33:58, ID: 1801769-18 CBD-1FB19-0718 0.25356, Description: CBD-1FB19-0718

d5-N-EtFOSAA



Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-12.qld

Last Altered: Sunday, July 22, 2018 15:53:26 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:53:47 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_12, Date: 21-Jul-2018, Time: 13:46:47, ID: 1801769-19 CBD-1RW20-0718 0.2509, Description: CBD-1RW20-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.32e4	0.251		2.93				
2	2 PFHxA	312.7 > 268.8		8.75e3	0.251		3.31				
3	3 PFHpA	362.7 > 318.8		8.75e3	0.251		3.82				
4	4 PFHxS	398.7 > 80.7		1.32e4	0.251		3.95				
5	5 PFOA	412.8 > 369.0	1.41e1	8.75e3	0.251		4.25	4.25	0.0161	0.0878	
6	6 PFNA	462.9 > 419.1		8.75e3	0.251		4.61				
7	7 PFOS	498.8 > 80.7		1.32e4	0.251		4.67				
8	8 PFDA	512.8 > 469.0	2.18e1	8.75e3	0.251		4.89	4.90	0.0249	0.114	
9	9 N-MeFOSAA	569.7 > 419.0		1.50e4	0.251		5.03				
10	10 N-EtFOSAA	583.6 > 419.1		1.50e4	0.251		5.14				
11	11 PFUnA	562.7 > 518.9		8.75e3	0.251		5.13				
12	12 PFDoA	612.5 > 319.0		8.75e3	0.251		5.37				
13	13 PFTTrDA	662.4 > 618.7		8.75e3	0.251		5.58				
14	14 PFTeDA	712.2 > 668.4		8.75e3	0.251		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.56e3	8.75e3	0.251	0.753	3.41	3.30	7.50	39.7	99.7
16	16 13C2-PFDA	514.8 > 470.0	8.64e3	8.75e3	0.251	1.023	4.84	4.91	9.88	38.5	96.6
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.71e4	1.50e4	0.251	1.264	5.02	5.15	45.8	144	90.5
18	18 13C2-PFOA	414.8 > 370.1	8.75e3	8.75e3	0.251	1.000	4.28	4.24	10.0	39.9	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.32e4	1.32e4	0.251	1.000	4.71	4.67	28.7	114	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.50e4	1.50e4	0.251	1.000	5.04	5.02	40.0	159	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-12.qld

Last Altered: Sunday, July 22, 2018 15:53:26 Pacific Daylight Time

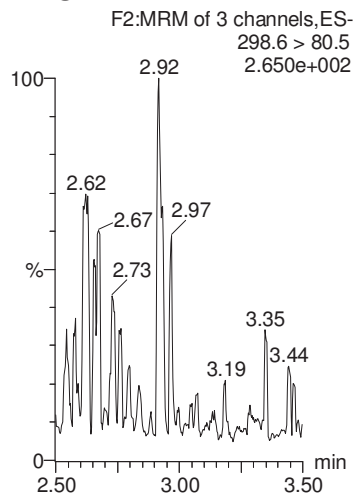
Printed: Sunday, July 22, 2018 15:53:47 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

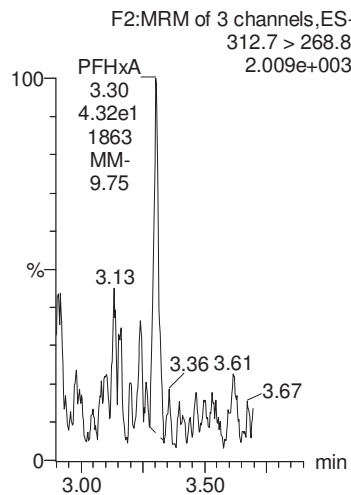
Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_12, Date: 21-Jul-2018, Time: 13:46:47, ID: 1801769-19 CBD-1RW20-0718 0.2509, Description: CBD-1RW20-0718

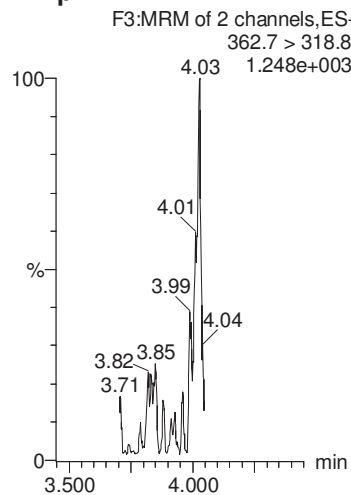
PFBS



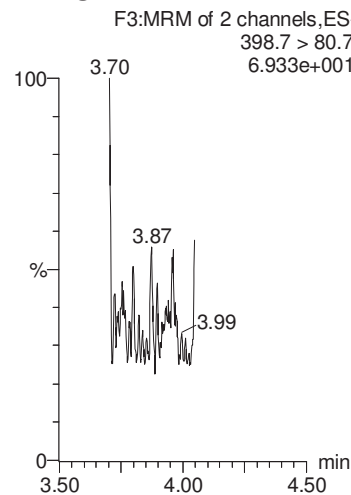
PFHxA



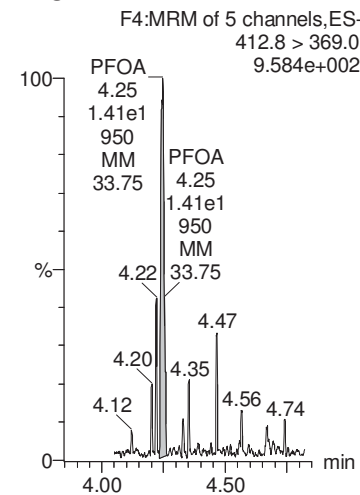
PFHpA



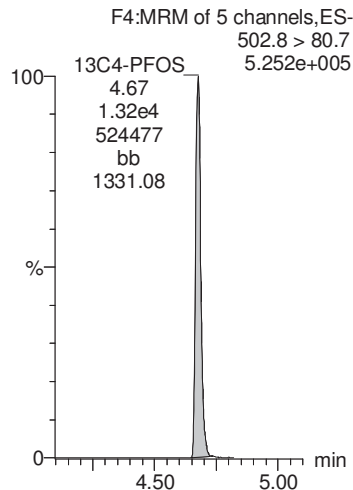
PFHxS



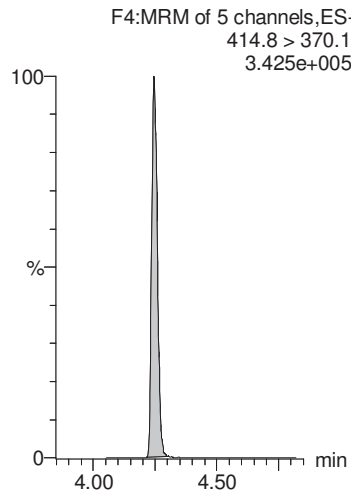
PFOA



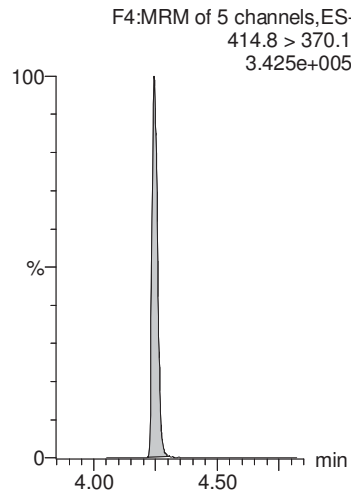
13C4-PFOS



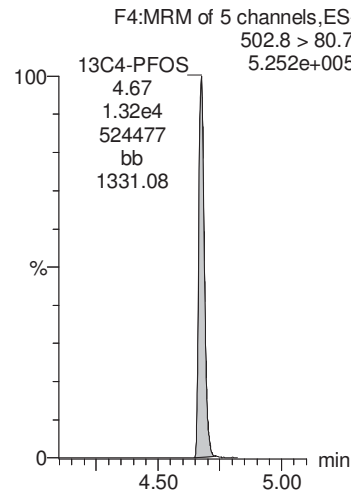
13C2-PFOA



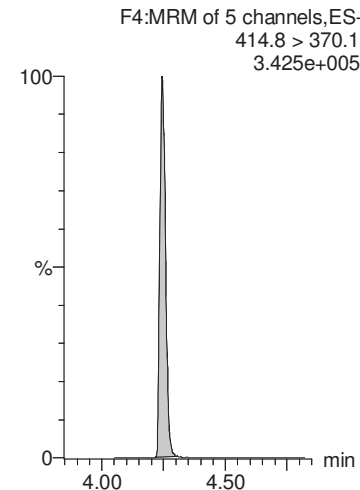
13C2-PFOA



13C4-PFOS



13C2-PFOA



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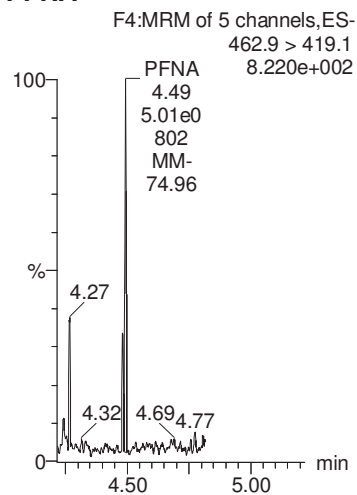
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Last Altered: Sunday, July 22, 2018 15:53:26 Pacific Daylight Time

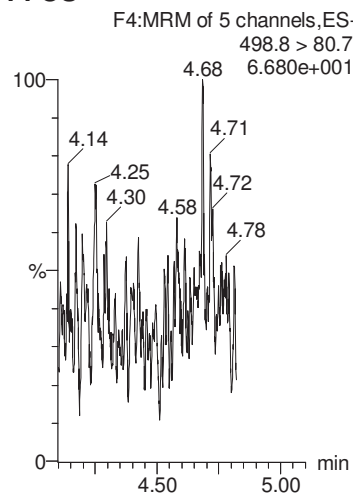
Printed: Sunday, July 22, 2018 15:53:47 Pacific Daylight Time

Name: 180721G1_12, Date: 21-Jul-2018, Time: 13:46:47, ID: 1801769-19 CBD-1RW20-0718 0.2509, Description: CBD-1RW20-0718

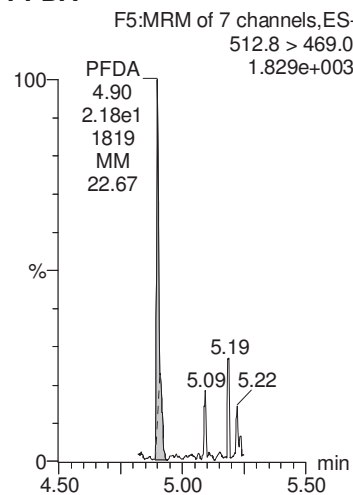
PFNA



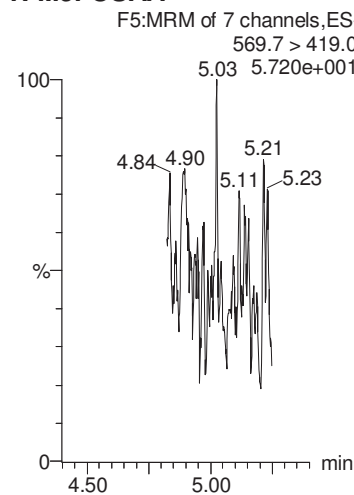
PFOS



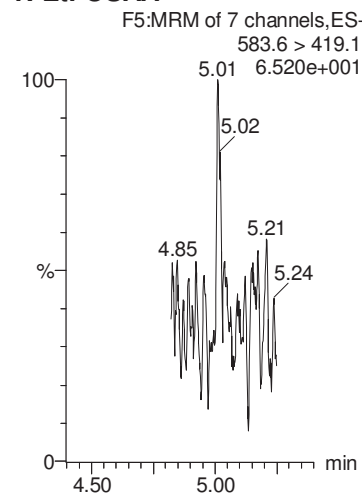
PFDA



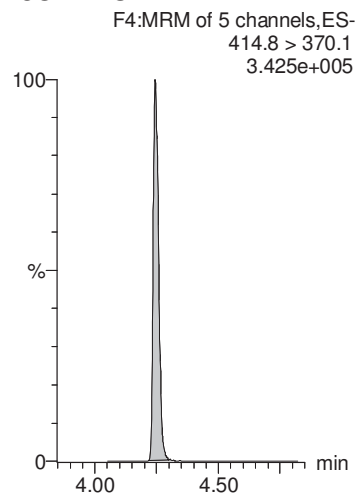
N-MeFOSAA



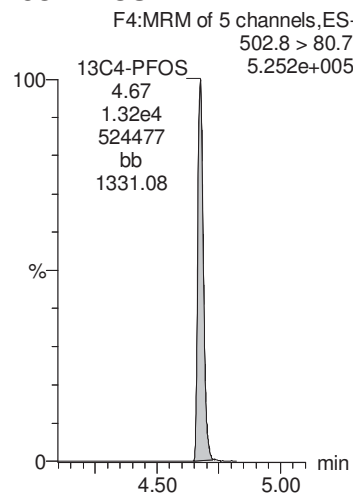
N-EtFOSAA



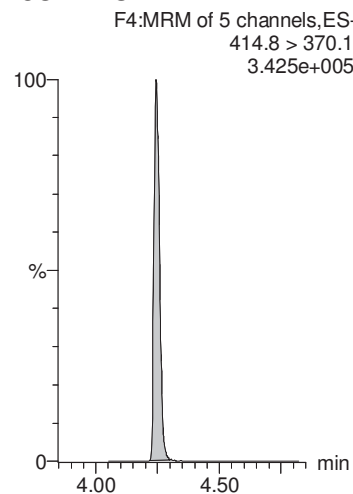
13C2-PFOA



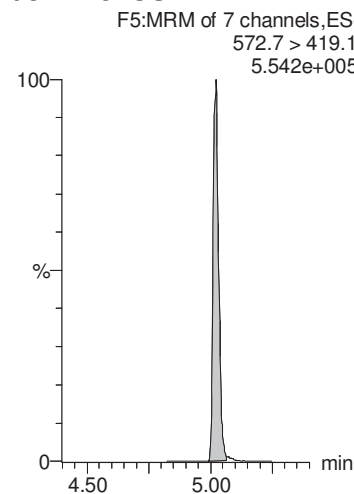
13C4-PFOS



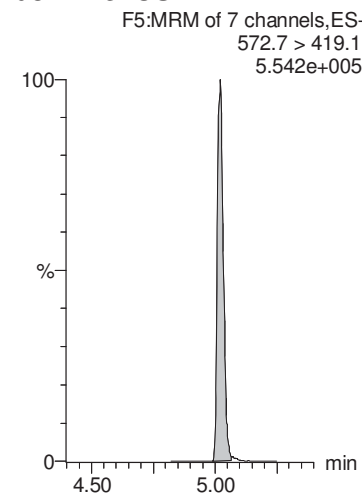
13C2-PFOA



d3-N-MeFOSAA



d3-N-MeFOSAA



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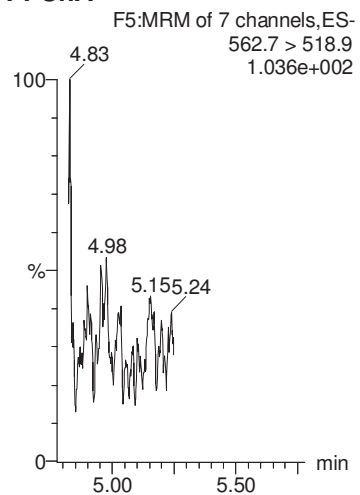
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Last Altered: Sunday, July 22, 2018 15:53:26 Pacific Daylight Time

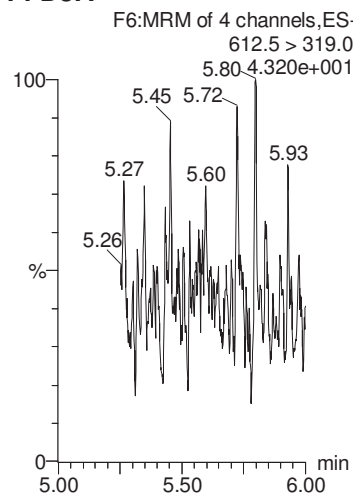
Printed: Sunday, July 22, 2018 15:53:47 Pacific Daylight Time

Name: 180721G1_12, Date: 21-Jul-2018, Time: 13:46:47, ID: 1801769-19 CBD-1RW20-0718 0.2509, Description: CBD-1RW20-0718

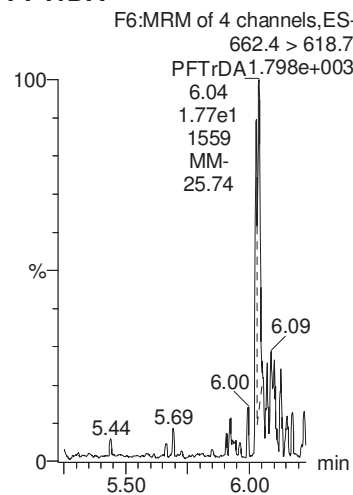
PFUnA



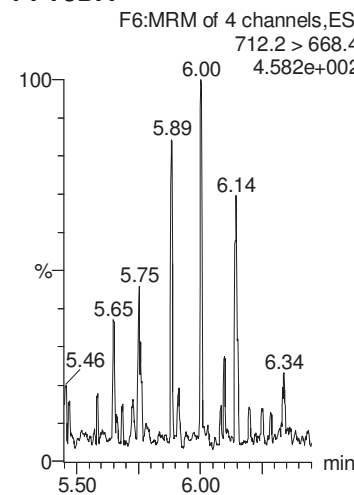
PFDoA



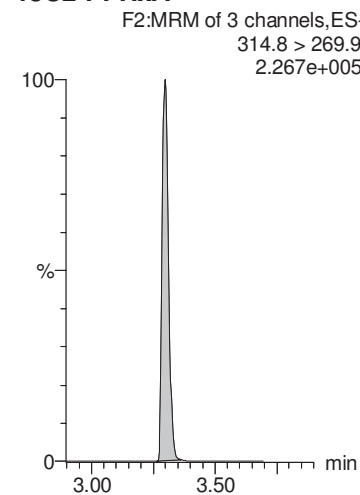
PFTrDA



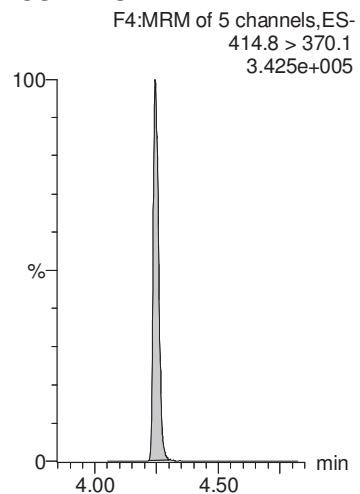
PFTeDA



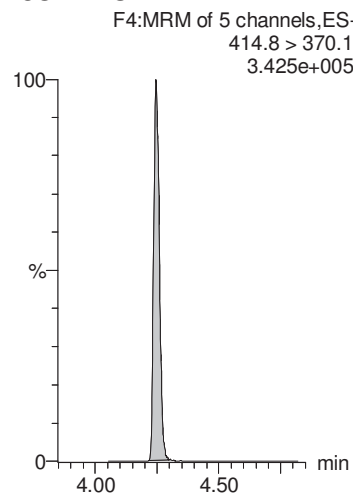
13C2-PFHxA



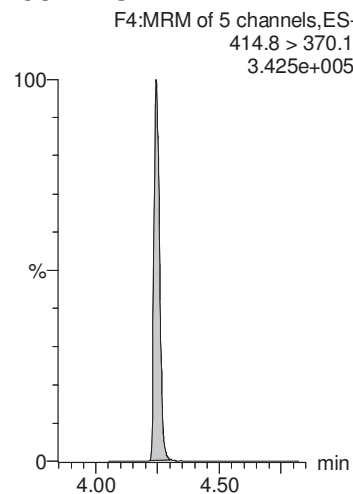
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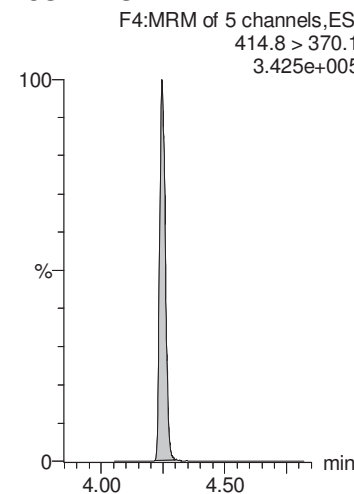
13C2-PFOA



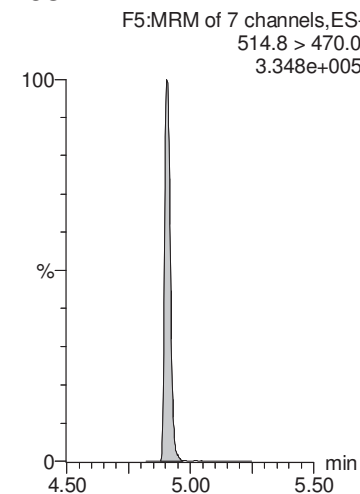
13C2-PFOA



13C2-PFOA



13C2-PFDA



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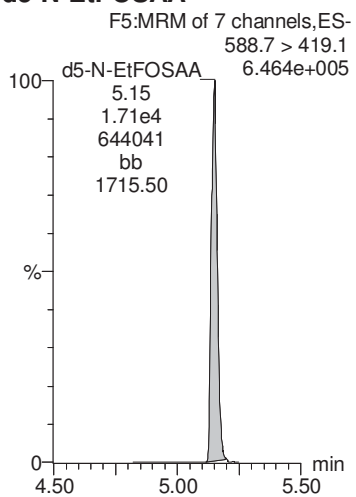
Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-12.qld

Last Altered: Sunday, July 22, 2018 15:53:26 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:53:47 Pacific Daylight Time

Name: 180721G1_12, Date: 21-Jul-2018, Time: 13:46:47, ID: 1801769-19 CBD-1RW20-0718 0.2509, Description: CBD-1RW20-0718

d5-N-EtFOSAA



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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-13.qld

Last Altered: Sunday, July 22, 2018 15:55:09 Pacific Daylight Time

Printed: Sunday, July 22, 2018 15:55:31 Pacific Daylight Time

Method: Y:\G1.pro\MethDB\PFAS_DW_L14_0719.mdb 20 Jul 2018 10:54:08

Calibration: Y:\G1.pro\CurveDB\C18_537_Q1_07-19-18_L14.cdb 20 Jul 2018 12:31:35

Name: 180721G1_13, Date: 21-Jul-2018, Time: 13:59:32, ID: 1801769-20 CBD-1FB20-0718 0.25184, Description: CBD-1FB20-0718

	# Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1 PFBS	298.6 > 80.5		1.45e4	0.252		2.93				
2	2 PFHxA	312.7 > 268.8	3.98e1	9.05e3	0.252		3.31	3.30	0.0439	0.215	
3	3 PFHpA	362.7 > 318.8		9.05e3	0.252		3.82				
4	4 PFHxS	398.7 > 80.7		1.45e4	0.252		3.95				
5	5 PFOA	412.8 > 369.0	1.47e1	9.05e3	0.252		4.25	4.24	0.0163	0.0886	
6	6 PFNA	462.9 > 419.1		9.05e3	0.252		4.61				
7	7 PFOS	498.8 > 80.7		1.45e4	0.252		4.67				
8	8 PFDA	512.8 > 469.0	4.19e1	9.05e3	0.252		4.89	4.89	0.0463	0.211	
9	9 N-MeFOSAA	569.7 > 419.0		1.58e4	0.252		5.02				
10	10 N-EtFOSAA	583.6 > 419.1	6.41e0	1.58e4	0.252		5.14	5.15	0.0163	0.0647	
11	11 PFUnA	562.7 > 518.9		9.05e3	0.252		5.13				
12	12 PFDoA	612.5 > 319.0		9.05e3	0.252		5.37				
13	13 PFTTrDA	662.4 > 618.7		9.05e3	0.252		5.59				
14	14 PFTeDA	712.2 > 668.4		9.05e3	0.252		5.77				
15	15 13C2-PFHxA	314.8 > 269.9	6.99e3	9.05e3	0.252	0.753	3.41	3.30	7.72	40.7	102.6
16	16 13C2-PFDA	514.8 > 470.0	8.99e3	9.05e3	0.252	1.023	4.84	4.91	9.93	38.5	97.1
17	17 d5-N-EtFOSAA	588.7 > 419.1	1.95e4	1.58e4	0.252	1.264	5.02	5.15	49.3	155	97.5
18	18 13C2-PFOA	414.8 > 370.1	9.05e3	9.05e3	0.252	1.000	4.28	4.25	10.0	39.7	100.0
19	19 13C4-PFOS	502.8 > 80.7	1.45e4	1.45e4	0.252	1.000	4.71	4.67	28.7	114	100.0
20	20 d3-N-MeFOSAA	572.7 > 419.1	1.58e4	1.58e4	0.252	1.000	5.04	5.02	40.0	159	100.0

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Dataset: Y:\G1.PRO\Results\2018\180721G1\180721G1-13.qld

Last Altered: Sunday, July 22, 2018 15:55:09 Pacific Daylight Time

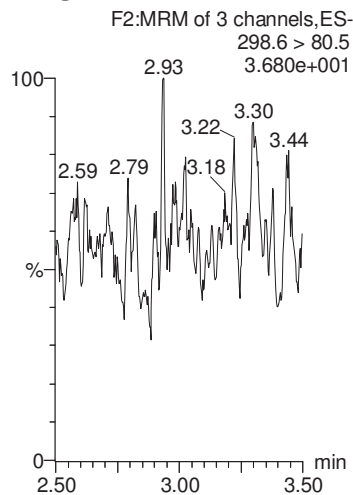
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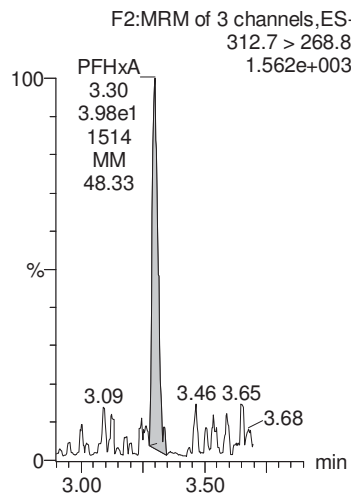
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Name: 180721G1_13, Date: 21-Jul-2018, Time: 13:59:32, ID: 1801769-20 CBD-1FB20-0718 0.25184, Description: CBD-1FB20-0718

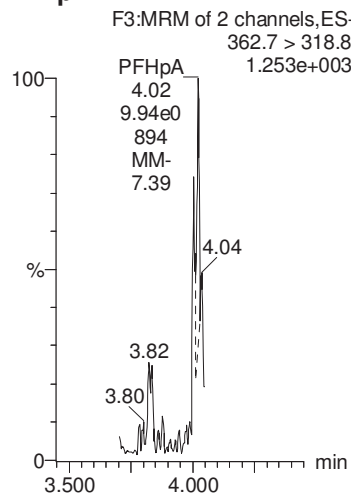
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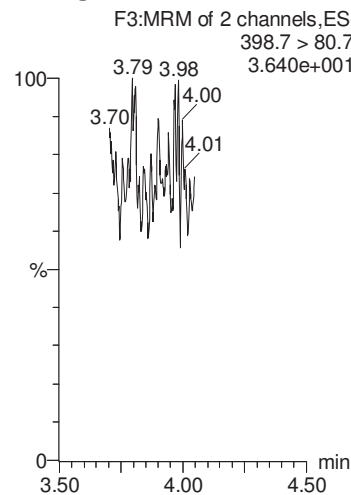
PFHxA



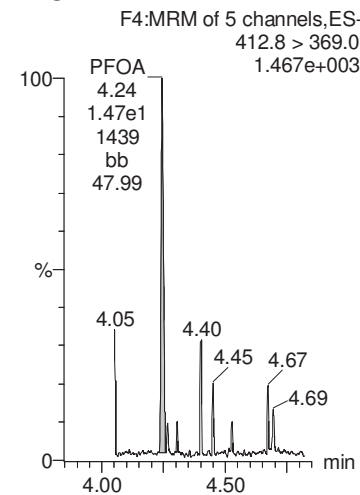
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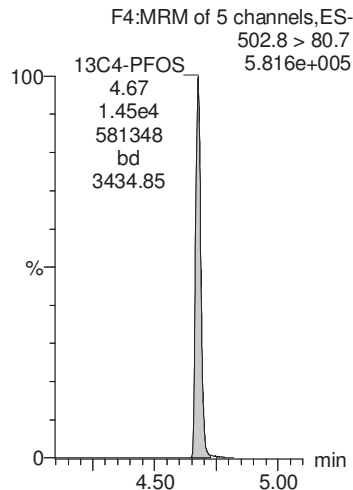
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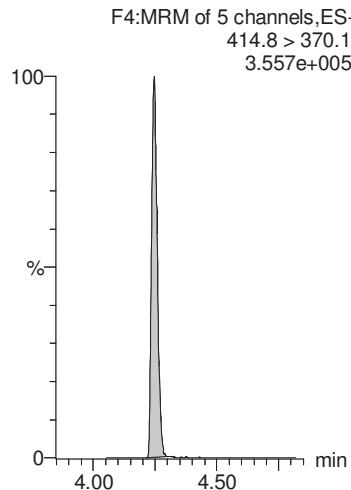
PFOA



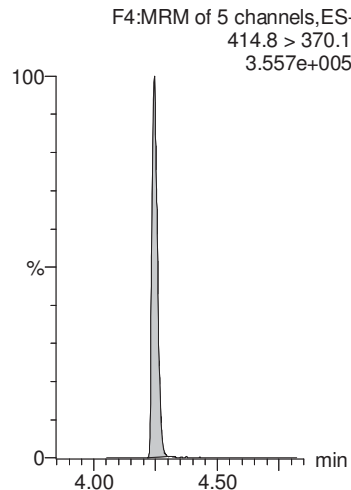
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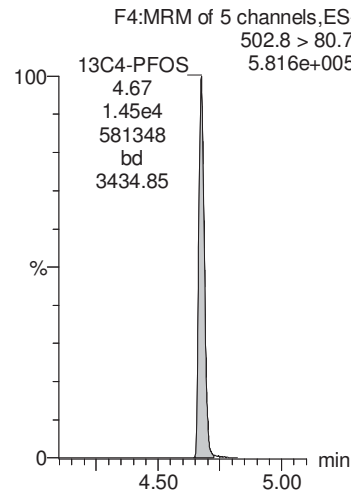
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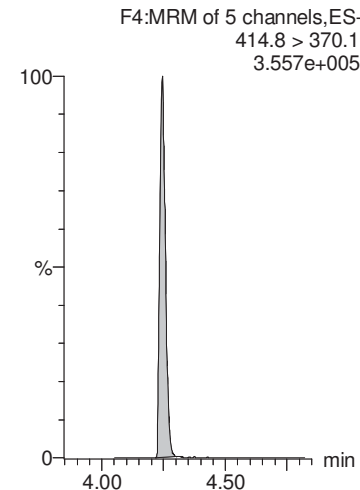
13C2-PFOA



13C4-PFOS



13C2-PFOA



MMM 7/23/2018

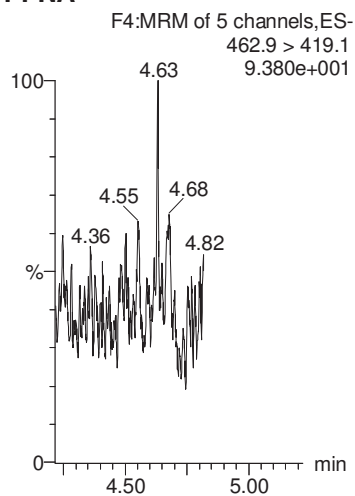
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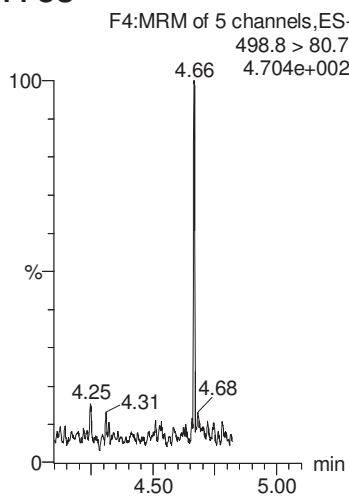
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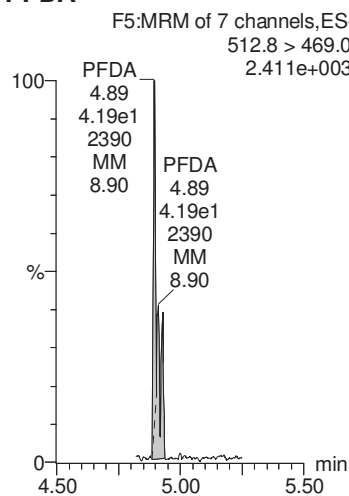
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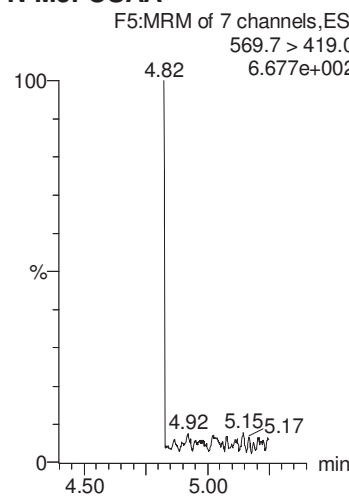
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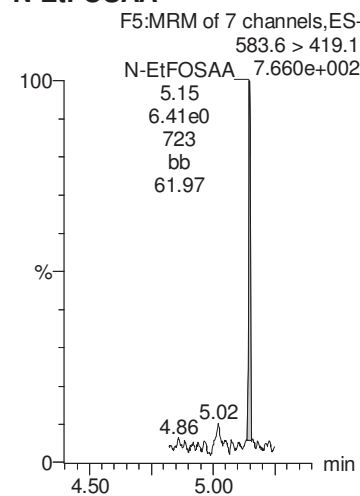
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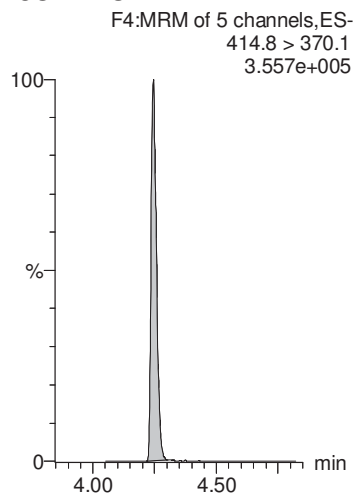
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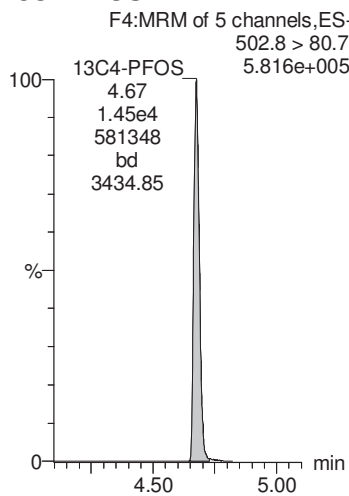
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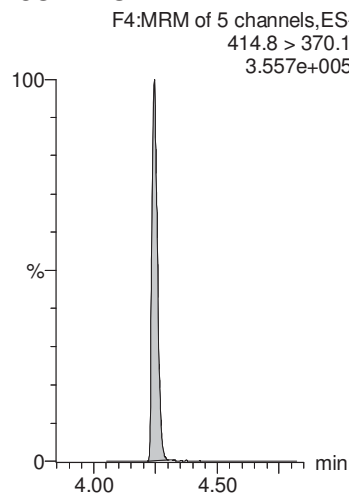
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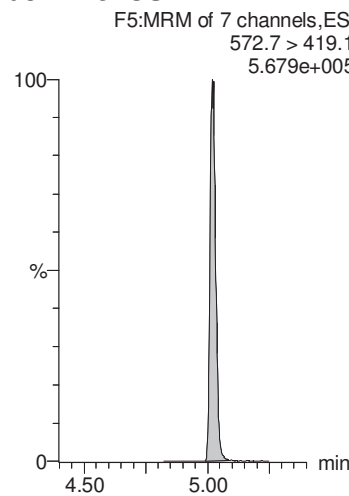
13C4-PFOS



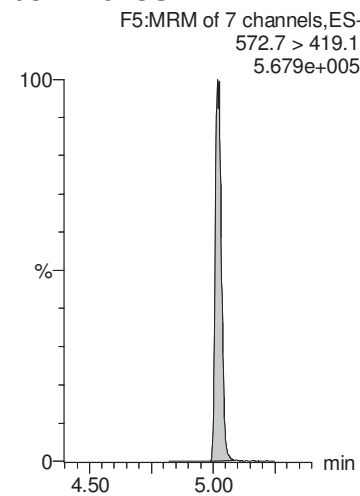
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d3-N-MeFOSAA



d3-N-MeFOSAA



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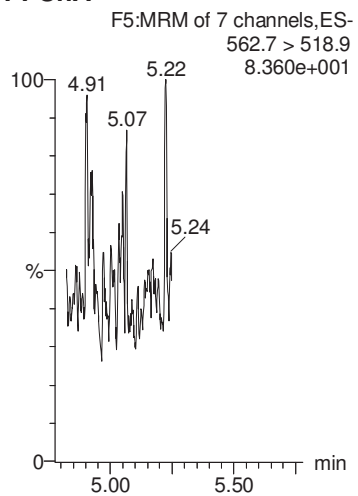
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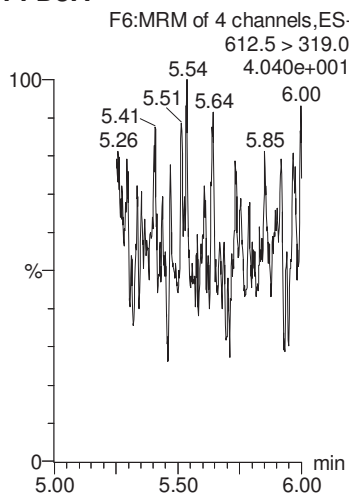
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Name: 180721G1_13, Date: 21-Jul-2018, Time: 13:59:32, ID: 1801769-20 CBD-1FB20-0718 0.25184, Description: CBD-1FB20-0718

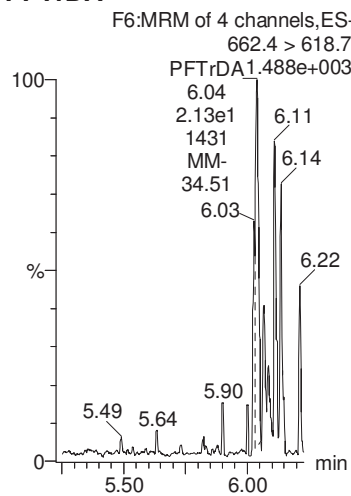
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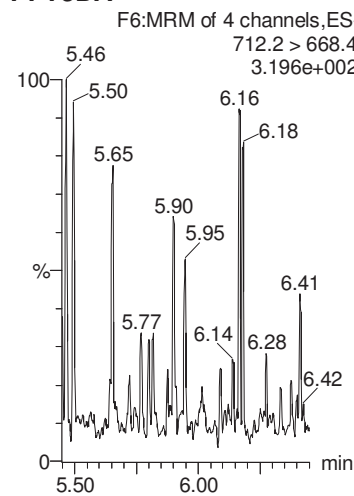
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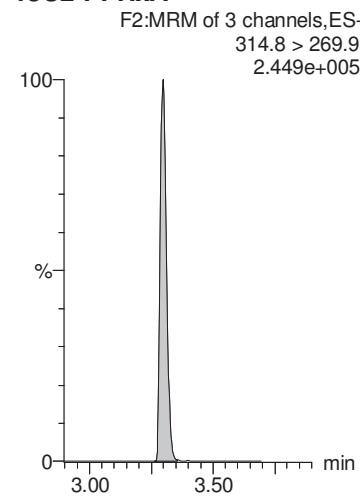
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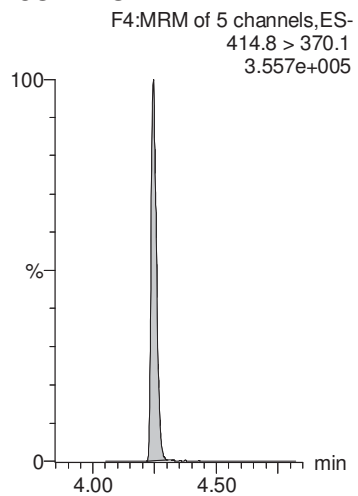
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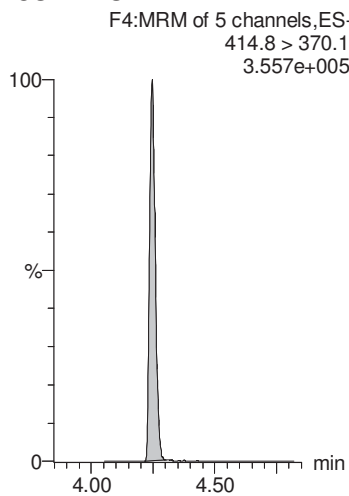
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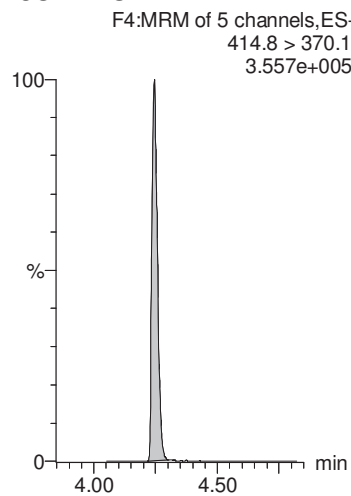
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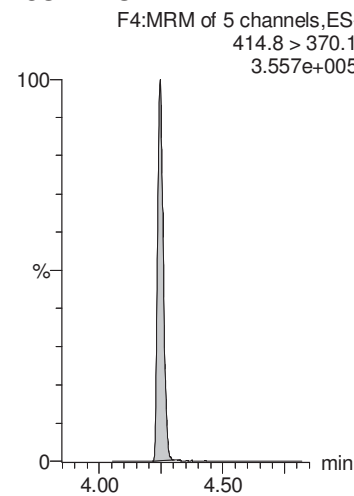
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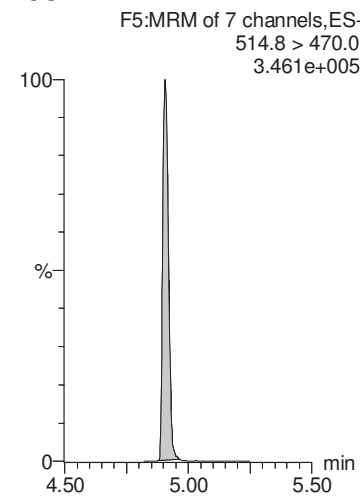
13C2-PFOA



13C2-PFOA



13C2-PFDA



MMM 7/23/2018

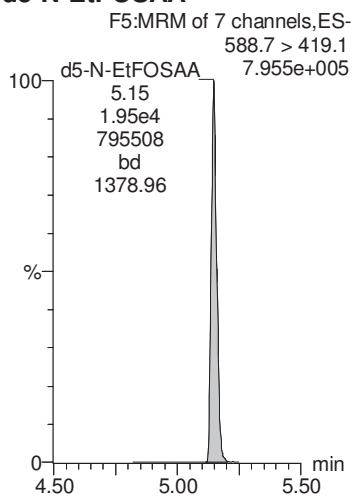
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Name: 180721G1_13, Date: 21-Jul-2018, Time: 13:59:32, ID: 1801769-20 CBD-1FB20-0718 0.25184, Description: CBD-1FB20-0718

d5-N-EtFOSAA



Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		5.00	NG_L	U	
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			13C2-PFHxA	13C2-PFHxA		95.6	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	Blank	20180718	09:40:00	20180720	17:40:00	B8G0141-BLK1	1	-999			13C2-PFDA	13C2-PFDA		87.9	PCT_REC		
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N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		16.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		18.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		18.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		16.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		19.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		17.4	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		15.9	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		17.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		17.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		19.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		17.4	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		16.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		17.8	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		16.2	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			13C2-PFHxA	13C2-PFHxA		100	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			13C2-PFDA	13C2-PFDA		95.4	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS	20180718	09:40:00	20180720	17:53:00	B8G0141-BS1	1	-999			d5-EtFOSAA	d5-EtFOSAA		93.6	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorobutanesulfonic acid (PFBS)	375-73-5		18.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorohexanoic Acid (PFHxA)	307-24-4		18.8	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluoroheptanoic acid (PFHpA)	375-85-9		19.6	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorohexanesulfonic acid (PFHxS)	355-46-4		17.7	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorooctanoic acid (PFOA)	335-67-1		18.8	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorononanoic acid (PFNA)	375-95-1		18.3	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorooctane Sulfonate (PFOS)	1763-23-1		18.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorodecanoic Acid (PFDA)	335-76-2		18.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9		19.4	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6		17.1	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluoroundecanoic Acid (PFUnA)	2058-94-8		18.8	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorododecanoic Acid (PFDoA)	307-55-1		20.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8		17.0	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7		17.5	NG_L		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			13C2-PFHxA	13C2-PFHxA		101	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			13C2-PFDA	13C2-PFDA		94.7	PCT_REC		
N6247016D9000	0008		CHESAPEAKE_NSGA	LCS Dup	20180718	09:40:00	20180720	18:06:00	B8G0141-BSD1	1	-999			d5-EtFOSAA	d5-EtFOSAA		100	PCT_REC		

**DATA VALIDATION SUMMARY REPORT
NRL-CBD, MARYLAND**

Client: CH2M HILL, Inc., Corvallis, Oregon
 SDG: 1801769
 Laboratory: Vista Analytical Laboratory, El Dorado Hills, California
 Site: NRL-CBD, CTO-0008, Maryland
 Date: August 13, 2018

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CBD-1RW11-0718	1801769-01	Water
2	CBD-1FB11-0718	1801769-02	Water
3	CBD-1RW12-0718	1801769-03	Water
4	CBD-1FB12-0718	1801769-04	Water
5	CBD-1RW13-0718	1801769-05	Water
6	CBD-1FB13-0718	1801769-06	Water
7	CBD-1RW14-0718	1801769-07	Water
8	CBD-1FB14-0718	1801769-08	Water
9	CBD-1RW15-0718	1801769-09	Water
10	CBD-1FB15-0718	1801769-10	Water
11	CBD-1RW16-0718	1801769-11	Water
12	CBD-1FB16-0718	1801769-12	Water
13	CBD-1RW17-0718	1801769-13	Water
14	CBD-1FB17-0718	1801769-14	Water
15	CBD-1RW18-0718	1801769-15	Water
16	CBD-1FB18-0718	1801769-16	Water
17	CBD-1RW19-0718	1801769-17	Water
18	CBD-1FB19-0718	1801769-18	Water
19	CBD-1RW20-0718	1801769-19	Water
20	CBD-1FB20-0718	1801769-20	Water

A full data validation was performed on the analytical data for ten water samples and ten aqueous field blank samples collected on July 14-16, 2018 by CH2M HILL at the NRL-CBD site in Maryland. The samples were analyzed under the EPA Method “Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)”.

Specific method references are as follows:

Analysis
PFCs

Method References
USEPA Method 537, Rev 1.1

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM),

Version 5.1 (2017) and the USEPA National Functional Guidelines for Organic Data Review as follows:

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

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Liquid Chromatography/Mass Spectrometry (LC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

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

Data Usability Assessment

There were no rejections of data.

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

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

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

Holding Times

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

LC/MS Tuning

- All criteria were met.

Initial Calibration

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

Continuing Calibration

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

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC samples were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-1FB11-0718	None - ND	-	-	-
CBD-1FB12-0718	None - ND	-	-	-
CBD-1FB13-0718	None - ND	-	-	-
CBD-1FB14-0718	None - ND	-	-	-
CBD-1FB15-0718	None - ND	-	-	-
CBD-1FB16-0718	None - ND	-	-	-
CBD-1FB17-0718	None - ND	-	-	-
CBD-1FB18-0718	None - ND	-	-	-
CBD-1FB19-0718	None - ND	-	-	-
CBD-1FB20-0718	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

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

- MS/MSD samples were not analyzed.

Laboratory Control Samples/Laboratory Control Sample Duplicates

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

Internal Standard (IS) Area Performance

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

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

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

Signed: Nancy Weaver Dated: 8/13/18
Nancy Weaver
Senior Chemist

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

Sample ID: CBD-1RW11-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-01	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:03	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxA	307-24-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHpA	375-85-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFHxS	355-46-4	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOA	335-67-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFNA	375-95-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFOS	1763-23-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDA	335-76-2	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFUnA	2058-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFDoA	307-55-1	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
PFTeDA	376-06-7	ND	2.98	4.90	9.81		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
I3C2-PFHxA	SURR	94.0	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	
I3C2-PFDA	SURR	85.3	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	
d5-EtFOSAA	SURR	95.5	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:30	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

nr 8/13/18

Sample ID: CBD-1FB11-0718							EPA Method 537				
Client Data				Laboratory Data							
Name:	CH2M Hill		Matrix:	Drinking Water			Lab Sample:	1801769-02	Column:	BEH C18	
Project:	CTO-08 PFAS DW Investigation NRL CBD		Date Collected:	14-Jul-18 09:05			Date Received:	17-Jul-18 09:27			
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFHxA	307-24-4	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFHpA	375-85-9	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFHxS	355-46-4	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFOA	335-67-1	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFNA	375-95-1	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFOS	1763-23-1	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFDA	335-76-2	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
MeFOSAA	2355-31-9	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
EtFOSAA	2991-50-6	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFUnA	2058-94-8	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFDoA	307-55-1	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFTTrDA	72629-94-8	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
PFTeDA	376-06-7	ND	2.97	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	94.5	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1	
13C2-PFDA	SURR	86.2	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1	
d5-EtFOSAA	SURR	91.7	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 00:43	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

m 8/13/18

Sample ID: CBD-1RW12-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-03	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:47	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFHxA	307-24-4	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFHpA	375-85-9	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFHxS	355-46-4	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFOA	335-67-1	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFNA	375-95-1	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFOS	1763-23-1	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFDA	335-76-2	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFUnA	2058-94-8	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFDoA	307-55-1	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
PFTeDA	376-06-7	ND	2.98	4.90	9.80		B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	94.5	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1	
13C2-PFDA	SURR	88.0	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1	
d5-EtFOSAA	SURR	109	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 00:56	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

see 8/13/18

Sample ID: CBD-1FB12-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-04	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 09:50	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFHxA	307-24-4	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFHpA	375-85-9	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFHxS	355-46-4	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFOA	335-67-1	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFNA	375-95-1	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFOS	1763-23-1	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFDA	335-76-2	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
MeFOSAA	2355-31-9	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
EtFOSAA	2991-50-6	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFUnA	2058-94-8	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFDoA	307-55-1	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFTTrDA	72629-94-8	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
PFTeDA	376-06-7	ND	2.97	4.88	9.76		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	87.3	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1	
13C2-PFDA	SURR	81.0	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1	
d5-EtFOSAA	SURR	93.9	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:09	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

see 8/13/18

Sample ID: CBD-1RW13-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-05	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:29	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFHxA	307-24-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFHpA	375-85-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFHxS	355-46-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFOA	335-67-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFNA	375-95-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFOS	1763-23-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFDA	335-76-2	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
MeFOSAA	2355-31-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
EtFOSAA	2991-50-6	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFUnA	2058-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFDoA	307-55-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFTTrDA	72629-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
PFTeDA	376-06-7	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
I3C2-PFHxA	SURR	95.2	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1	
I3C2-PFDA	SURR	92.2	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1	
d5-EtFOSAA	SURR	98.4	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 01:22	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

New 8/13/18

Sample ID: CBD-1FB13-0718							EPA Method 537					
Client Data					Laboratory Data							
Name:	CH2M Hill		Matrix:	Drinking Water		Lab Sample:	1801769-06	Column:	BEH C18			6
Project:	CTO-08 PFAS DW Investigation NRL CBD		Date Collected:	14-Jul-18 10:31		Date Received:	17-Jul-18 09:27					
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	375-73-5	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFHxA	307-24-4	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFHpA	375-85-9	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFHxS	355-46-4	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFOA	335-67-1	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFNA	375-95-1	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFOS	1763-23-1	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFDA	335-76-2	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
MeFOSAA	2355-31-9	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
EtFOSAA	2991-50-6	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFUnA	2058-94-8	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFDoA	307-55-1	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFTTrDA	72629-94-8	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
PFTeDA	376-06-7	ND	2.96	4.88	9.75		B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	89.6	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1		
13C2-PFDA	SURR	88.7	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1		
d5-EtFOSAA	SURR	83.8	70 - 130			B8G0141	18-Jul-18	0.256 L	21-Jul-18 01:34	1		

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation

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

new 8/13/18

Sample ID: CBD-1RW14-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-07	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:45	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFHxA	307-24-4	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFHpA	375-85-9	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFHxS	355-46-4	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFOA	335-67-1	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFNA	375-95-1	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFOS	1763-23-1	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFDA	335-76-2	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
MeFOSAA	2355-31-9	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
EtFOSAA	2991-50-6	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFUnA	2058-94-8	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFDoA	307-55-1	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFTTrDA	72629-94-8	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
PFTeDA	376-06-7	ND	3.02	4.98	9.94		B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	90.1	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1	
13C2-PFDA	SURR	84.7	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1	
d5-EtFOSAA	SURR	91.8	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 01:47	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation

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

nw 8/13/18

Sample ID: CBD-1FB14-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-08	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 10:47	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFHxA	307-24-4	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFHpA	375-85-9	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFHxS	355-46-4	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFOA	335-67-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFNA	375-95-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFOS	1763-23-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFDA	335-76-2	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFUnA	2058-94-8	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFDoA	307-55-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
PFTeDA	376-06-7	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
I3C2-PFHxA	SURR	90.6	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1	
I3C2-PFDA	SURR	90.2	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1	
d5-EtFOSAA	SURR	101	70 - 130			B8G0141	18-Jul-18	0.255 L	21-Jul-18 02:00	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation

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

mw 8/13/18

Sample ID: CBD-1RW15-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-09	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	14-Jul-18 12:01	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxA	307-24-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHpA	375-85-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFHxS	355-46-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOA	335-67-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFNA	375-95-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFOS	1763-23-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDA	335-76-2	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
MeFOSAA	2355-31-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
EtFOSAA	2991-50-6	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFUnA	2058-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFDoA	307-55-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTTrDA	72629-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
PFTeDA	376-06-7	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	90.4	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1	
13C2-PFDA	SURR	90.1	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1	
d5-EtFOSAA	SURR	83.4	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:13	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

new 8/13/18

Sample ID: CBD-1FB15-0718							EPA Method 537					
Client Data					Laboratory Data							
Name:	CH2M Hill			Matrix:	Drinking Water		Lab Sample:	1801769-10		Column:	BEH C18	
Project:	CTO-08 PFAS DW Investigation NRL CBD			Date Collected:	14-Jul-18 12:05		Date Received:	17-Jul-18 09:27				
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	375-73-5	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFHxA	307-24-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFHpA	375-85-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFHxS	355-46-4	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFOA	335-67-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFNA	375-95-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFOS	1763-23-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFDA	335-76-2	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
MeFOSAA	2355-31-9	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
EtFOSAA	2991-50-6	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFUnA	2058-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFDoA	307-55-1	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFTTrDA	72629-94-8	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
PFTeDA	376-06-7	ND	3.00	4.94	9.87		B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	83.6	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1		
13C2-PFDA	SURR	82.0	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1		
d5-EtFOSAA	SURR	101	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 02:26	1		

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

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rw 8/13/18

Sample ID: CBD-1RW16-0718 **EPA Method 537**

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-11	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	15-Jul-18 14:57	Date Received:	17-Jul-18 09:27		

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFHxA	307-24-4	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFHpA	375-85-9	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFHxS	355-46-4	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFOA	335-67-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFNA	375-95-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFOS	1763-23-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFDA	335-76-2	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
MeFOSAA	2355-31-9	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
EtFOSAA	2991-50-6	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFUnA	2058-94-8	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFDoA	307-55-1	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFTTrDA	72629-94-8	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
PFTeDA	376-06-7	ND	2.98	4.90	9.79		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	110	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
13C2-PFDA	SURR	104	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1
d5-EtFOSAA	SURR	105	70 - 130		B8G0141	18-Jul-18	0.255 L	21-Jul-18 12:05	1

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

rev 8/13/18

Sample ID: CBD-1FB16-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-12	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	15-Jul-18 15:00	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFHxA	307-24-4	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFHpA	375-85-9	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFHxS	355-46-4	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFOA	335-67-1	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFNA	375-95-1	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFOS	1763-23-1	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFDA	335-76-2	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
MeFOSAA	2355-31-9	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
EtFOSAA	2991-50-6	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFUnA	2058-94-8	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFDoA	307-55-1	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFTTrDA	72629-94-8	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
PFTeDA	376-06-7	ND	2.94	4.83	9.66		B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	99.3	70 - 130			B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1	
13C2-PFDA	SURR	101	70 - 130			B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1	
d5-EtFOSAA	SURR	101	70 - 130			B8G0141	18-Jul-18	0.259 L	21-Jul-18 12:17	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

new 8/13/18

Sample ID: CBD-1RW17-0718										EPA Method 537		
Client Data					Laboratory Data							
Name:	CH2M Hill			Matrix:	Drinking Water		Lab Sample:	1801769-13		Column:	BEH C18	
Project:	CTO-08 PFAS DW Investigation NRL CBD			Date Collected:	15-Jul-18 15:49		Date Received:	17-Jul-18 09:27				
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	375-73-5	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFHxA	307-24-4	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFHpA	375-85-9	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFHxS	355-46-4	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFOA	335-67-1	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFNA	375-95-1	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFOS	1763-23-1	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFDA	335-76-2	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
MeFOSAA	2355-31-9	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
EtFOSAA	2991-50-6	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFUnA	2058-94-8	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFDoA	307-55-1	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFTTrDA	72629-94-8	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
PFTeDA	376-06-7	ND	2.99	4.92	9.84		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	102	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1		
13C2-PFDA	SURR	102	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1		
d5-EtFOSAA	SURR	96.6	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:29	1		

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DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL

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

rw 8/13/18

Sample ID: CBD-1FB17-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-14	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	15-Jul-18 15:51	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFHxA	307-24-4	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFHpA	375-85-9	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFHxS	355-46-4	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFOA	335-67-1	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFNA	375-95-1	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFOS	1763-23-1	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFDA	335-76-2	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
MeFOSAA	2355-31-9	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
EtFOSAA	2991-50-6	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFUnA	2058-94-8	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFDoA	307-55-1	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFTTrDA	72629-94-8	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
PFTeDA	376-06-7	ND	2.99	4.92	9.83		B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	93.6	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1	
13C2-PFDA	SURR	104	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1	
d5-EtFOSAA	SURR	99.5	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 12:42	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

new 8/13/18

Sample ID: CBD-1RW18-0718							EPA Method 537					
Client Data				Laboratory Data								
Name:	CH2M Hill			Matrix:	Drinking Water			Lab Sample:	1801769-15	Column:	BEH C18	15
Project:	CTO-08 PFAS DW Investigation NRL CBD			Date Collected:	16-Jul-18 09:04			Date Received:	17-Jul-18 09:27			
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	375-73-5	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFHxA	307-24-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFHpA	375-85-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFHxS	355-46-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFOA	335-67-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFNA	375-95-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFOS	1763-23-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFDA	335-76-2	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
MeFOSAA	2355-31-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
EtFOSAA	2991-50-6	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFUnA	2058-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFDoA	307-55-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFTTrDA	72629-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
PFTeDA	376-06-7	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	99.5	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1		
13C2-PFDA	SURR	93.3	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1		
d5-EtFOSAA	SURR	92.3	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 12:55	1		

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

new 8/13/18

Sample ID: CBD-1FB18-0718											EPA Method 537	
Client Data						Laboratory Data						
Name:	CH2M Hill			Matrix:	Drinking Water		Lab Sample:	1801769-16		Column:	BEH C18	
Project:	CTO-08 PFAS DW Investigation NRL CBD			Date Collected:	16-Jul-18 09:06		Date Received:	17-Jul-18 09:27				
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	375-73-5	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFHxA	307-24-4	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFHpA	375-85-9	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFHxS	355-46-4	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFOA	335-67-1	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFNA	375-95-1	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFOS	1763-23-1	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFDA	335-76-2	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
MeFOSAA	2355-31-9	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
EtFOSAA	2991-50-6	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFUnA	2058-94-8	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFDoA	307-55-1	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFTTrDA	72629-94-8	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
PFTeDA	376-06-7	ND	2.95	4.86	9.72		B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
I3C2-PFHxA	SURR	102	70 - 130			B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1		
I3C2-PFDA	SURR	99.4	70 - 130			B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1		
d5-EtFOSAA	SURR	98.9	70 - 130			B8G0141	18-Jul-18	0.257 L	21-Jul-18 13:08	1		

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DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL

LOQ - Limit of quantitation

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

nr 8/13/18

Sample ID: CBD-1RW19-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-17	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-Jul-18 09:40	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFHxA	307-24-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFHpA	375-85-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFHxS	355-46-4	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFOA	335-67-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFNA	375-95-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFOS	1763-23-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFDA	335-76-2	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
MeFOSAA	2355-31-9	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
EtFOSAA	2991-50-6	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFUnA	2058-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFDoA	307-55-1	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFTTrDA	72629-94-8	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
PFTeDA	376-06-7	ND	3.00	4.94	9.88		B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
I3C2-PFHxA	SURR	104	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1	
I3C2-PFDA	SURR	105	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1	
d5-EtFOSAA	SURR	93.5	70 - 130			B8G0141	18-Jul-18	0.253 L	21-Jul-18 13:21	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

1801769

Sample ID: CBD-1FB19-0718							EPA Method 537						
Client Data				Laboratory Data									
Name:	CH2M Hill			Matrix:	Drinking Water			Lab Sample:	1801769-18		Column:	BEH C18	
Project:	CTO-08 PFAS DW Investigation NRL CBD			Date Collected:	16-Jul-18 09:42			Date Received:	17-Jul-18 09:27				
Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
PFBS	375-73-5	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFHxA	307-24-4	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFHpA	375-85-9	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFHxS	355-46-4	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFOA	335-67-1	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFNA	375-95-1	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFOS	1763-23-1	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFDA	335-76-2	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
MeFOSAA	2355-31-9	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
EtFOSAA	2991-50-6	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFUnA	2058-94-8	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFDoA	307-55-1	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFTTrDA	72629-94-8	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
PFTeDA	376-06-7	ND	3.00	4.92	9.86		B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1		
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
13C2-PFHxA	SURR	105	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1			
13C2-PFDA	SURR	102	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1			
d5-EtFOSAA	SURR	91.4	70 - 130			B8G0141	18-Jul-18	0.254 L	21-Jul-18 13:33	1			

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DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

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

LOQ - Limit of quantitation

see 8/13/18

Sample ID: CBD-1RW20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-19	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-Jul-18 11:20	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFHxA	307-24-4	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFHpA	375-85-9	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFHxS	355-46-4	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFOA	335-67-1	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFNA	375-95-1	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFOS	1763-23-1	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFDA	335-76-2	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
MeFOSAA	2355-31-9	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
EtFOSAA	2991-50-6	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFUnA	2058-94-8	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFDoA	307-55-1	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFTTrDA	72629-94-8	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
PFTeDA	376-06-7	ND	3.03	4.98	9.96		B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
I3C2-PFHxA	SURR	99.7	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1	
I3C2-PFDA	SURR	96.6	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1	
d5-EtFOSAA	SURR	90.5	70 - 130			B8G0141	18-Jul-18	0.251 L	21-Jul-18 13:46	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL

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

rw 8/13/18

Sample ID: CBD-1FB20-0718

EPA Method 537

Client Data				Laboratory Data			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1801769-20	Column:	BEH C18
Project:	CTO-08 PFAS DW Investigation NRL CBD	Date Collected:	16-Jul-18 11:22	Date Received:	17-Jul-18 09:27		

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Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFHxA	307-24-4	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFHpA	375-85-9	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFHxS	355-46-4	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFOA	335-67-1	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFNA	375-95-1	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFOS	1763-23-1	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFDA	335-76-2	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
MeFOSAA	2355-31-9	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
EtFOSAA	2991-50-6	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFUnA	2058-94-8	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFDoA	307-55-1	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFTTrDA	72629-94-8	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
PFTeDA	376-06-7	ND	3.02	4.96	9.93		B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	103	70 - 130			B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1	
13C2-PFDA	SURR	97.1	70 - 130			B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1	
d5-EtFOSAA	SURR	97.5	70 - 130			B8G0141	18-Jul-18	0.252 L	21-Jul-18 13:59	1	

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation

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

see 8/13/18



Basemap Data: Esri

- Legend**
- Sampling Area
 - Sampling Area
 - Site 10 Boundary
 - Base Boundary
 - Surface Water
 - 5-foot Contour Interval (dashed where inferred)
 - Direction of Shallow Groundwater Flow
 - Assumed Stream Channel
 - Stream

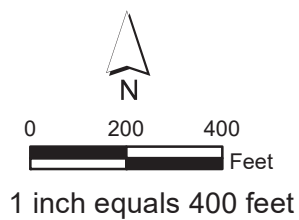


Figure 1
Off-Base Drinking Water Sampling Results through November 2018
NRL - Chesapeake Bay Detachment
Chesapeake Beach, Maryland