



**Sediment Sample Results,
Level 4 Laboratory Report, Electronic Data
Deliverable, Data Validation Report, Sample Location
Report, SDG 20-1297**

NRL

Chesapeake Bay Detachment, MD

October2021

**CTO-4532: NRL Chesapeake Bay Detachment
(NRL-CBD) Site 10
Project No 100142218
PFAS by DoD QSM 5.3 Table B-15**

SD

Batch 20-1297

Package DP-20-1177

Submitted to:

CH2M

5701 Cleveland Street

Virginia Beach, VA 23462 USA

Submitted by:

Battelle Norwell Operations

141 Longwater Drive Suite 202

Norwell, MA 02061

BATTELLE

It can be done

**CTO-4532: NRL Chesapeake Bay Detachment
(NRL-CBD) Site 10
Project No 100142218
PFAS by DoD QSM 5.3 Table B-15
SD
Batch 20-1297
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Submitted to:
CH2M
5701 Cleveland Street
Virginia Beach, VA 23462 USA

NELAP Accreditation Number: E87856 (Florida Department of Health)

Submitted by:
Battelle Norwell Operations
141 Longwater Drive Suite 202
Norwell, MA 02061



Digitally signed by
Stephanie Schultz
Date: 2020.11.03 13:53:12
-05'00'

Analyst Approval:

QC Chemist Approval:



Digitally signed by Carla Devine
Date: 2020.11.08 22:08:13 -05'00'

Project Manager Approval:



Digitally signed by Jonathan Thorn
Date: 2020.11.09 07:52:22 -05'00'

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CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No 100142218

PFAS by DoD QSM 5.3 Table B-15

SD

Batch 20-1297

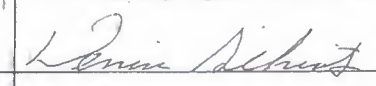
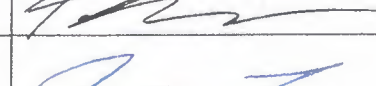
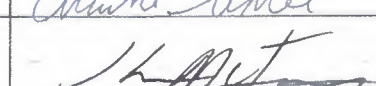
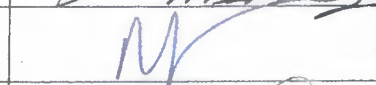
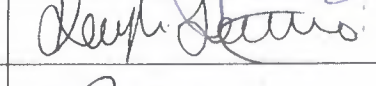
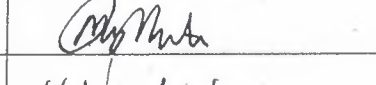
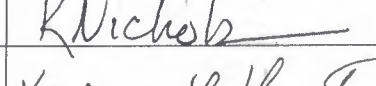
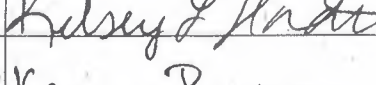
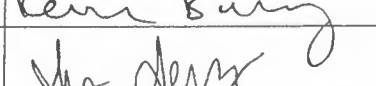
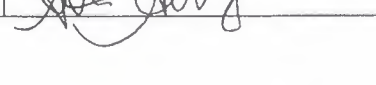
Package DP-20-1177

1	<i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
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Master Signature Page

Name (Printed)	Signature	Initials	Date
Jonathan Thom		JRT	1/9/2020
Robert Lizette, Jr.		BL	1.9.2020
Elynn M. Fitch		EF	1/9/2020
Carla Devine		CRD	1/9/2020
Dennis Schumitz		DS	1/9/2020
Lauren Griffith		LMG	1.9.2020
Carrie P. McCarthy		CPM	1/9/2020
Rich Restucci		RR	1/9/2020
Sam Guimaraes		SAG	1/9/2020
Jordan Tower		JOT	1/9/2020
Christie Usher		CU	1/9/2020
Kevin McInerney		KM	1/14/2020
Matt Schumitz		MDS	1/14/2020
Weidong Li		W.L	1/14/2020
Kayla Lamarre		KAL	1/14/2020
MUNAZ MUNTASIR		MM	01/14/2020
Kristen Nichols		KN	01/14/2020
Kelsey Harnden		KH	01/30/2020
Kevin Bailey		KB	1/30/2020
Stephanie Schultz		SAS	1/30/2020

Sample Summary

Client: CH2M
SDG: 20-1297
Project/Site: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
CTO: 4532

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
DA889PB-FS	Procedural Blank	SEDIMENT	10/20/2020	10/20/2020
DA890LCS-FS	200320-01: Ottawa Sand	SEDIMENT	10/20/2020	10/20/2020
G1648-FS	CBD-AOA-SD04-000H	SD	10/13/2020	10/14/2020
G1649MS-FS	CBD-AOA-SD04-000H-MS	SD	10/13/2020	10/14/2020
G1650MSD-FS	CBD-AOA-SD04-000H-SD	SD	10/13/2020	10/14/2020
G1653-FS	CBD-AOA-SD02-000H	SD	10/13/2020	10/14/2020
G1659-FS	CBD-AOA-SD08-000H	SD	10/13/2020	10/14/2020
G1660-FS	CBD-AOA-SD08P-000H	SD	10/13/2020	10/14/2020
G1662-FS	CBD-AOA-SD06-000H	SD	10/13/2020	10/14/2020

Work Plan



WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: CTO-4532: PFAS in Solids
Project Number: 100142218
Client: CH2M
 2411 Dulles Corner Park
 Suite 500
 Herdon, VA 20171
 USA

Client Contact Information: Michael Zamboni
 Project Chemist
 (703) 376-5301(V)
 NA
 Michael.Zamboni@jacobs.com

Effective Date of QAPP: 10/1/2020
Version Number: 100142218(S)-01
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 10/29/2020

2.0 SCOPE OF WORK

Overview: Analysis of soil and sediment for PFAS.
Matrix: Soil/Sediment

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

The list of samples for this project plan are presented in Attachment 1.

Storage Directions: Store samples refrigerated prior to extraction.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: None.
Archiving: Store excess samples for six months after delivery of final data.
Disposal: Dispose of samples in the appropriate waste stream.



WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

IDW samples should be batched separately from field samples.

Samples Expected:	Samples Per Batch:	Batches Expected:
92	20	5

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

Table 1: Quality Control Samples

Type:	Description:	Count:	Rgt:	Reference:	Comment:
PB	Laboratory control reagent blank.	1 per batch	--	NA	
LCS	Laboratory Control Sample	1 per batch	Yes	200320-01: Ottawa Sand Lot:2HE0443	
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	MS/MSD identified on COC with suffix "-MS" and "-SD".
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-370-11
SOP Title:	<i>Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices</i>
Sample Size:	2 g
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	None
Comments:	None

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LC69 SIS	~ 11.3 - 12.5 ng	125 uL	NA



WORK/QUALITY ASSURANCE PROJECT PLAN

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Second Source LCS/MS solution	LD11 LCS/MS	~ 20.0 ng	200 uL	Vary spikes 200 (LCS only), 300, 400, 500, 600, 700, 800 µL

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 1000

Table 3: RIS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	LD33 RIS	~ 1.25 ng	125 uL	NA

2.1.4 Instrumental Analysis

The list of analytes along with data quality criteria are presented in Attachment 2.

- 1) SOP_No-Rev: **5-369-08**
- SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*
- Deviations: None.
- Comments: None.

2.2. DELIVERABLES

Deliverables Due: 10/29/2020

LIMS Reports: No

Histograms: No

Excel Tables: No

EICs: No

Chromatograms: No

EDDs: No



WORK/QUALITY ASSURANCE PROJECT PLAN

Comments:

- 28-day TAT for most samples
- Samples marked rush will be 7-day TAT
- LIV validation data packages
- CH2M EDD file

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

Staff Member	Role	Comment
Jonathan R. Thorn	Project Manager	NA
Ryan P. Kelly	Sample Preparation	NA
Stephanie A. Schultz	LC-MS/MS Analysis	NA
Matt D. Schumitz	Sample Custody	NA
Carla R. Devine	Quality Control Officer	NA
Zachary J. Willenberg	Quality Assurance Officer	NA

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	10/01/2020	10/01/2020	0	NA
Sample Preparation	10/01/2020	10/12/2020	11	NA
Instrument Analysis	10/12/2020	10/23/2020	11	NA
Quality Control Review	10/23/2020	10/27/2020	4	NA



WORK/QUALITY ASSURANCE PROJECT PLAN

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Quality Assurance Review	10/27/2020	10/29/2020	2	NA

6.0 BUDGET

The labor budget for the analytical task is presented in Table 6.

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	4	5	20	NA
Sample Preparation	9	5	45	NA
Instrument Analysis	10	5	50	NA
Quality Control Review	3	5	15	NA
Quality Assurance Review	1	5	5	NA

7.0 STAFF DEVELOPMENT

None anticipated.



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-201001-01
Status: Pending
Description: Site 10
Range: G0904-G0911
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G0904	CBD-AOA-SS02-000H	09/30/2020 10:50 am	SO	R0119 (NA)			
2	G0905	CBD-AOA-SB02-0810	09/30/2020 12:40 pm	SO	R0119 (NA)			
3	G0906	CBD-AOA-SS03-000H	09/30/2020 12:45 pm	SO	R0119 (NA)			
4	G0907	CBD-AOA-SB03-0810	09/30/2020 12:40 pm	SO	R0119 (NA)			
5	G0908	CBD-AOA-SS06-000H	09/30/2020 2:20 pm	SO	R0119 (NA)			
6	G0909	CBD-AOA-SB06-0709	09/30/2020 2:25 pm	SO	R0119 (NA)			
7	G0910	CBD-AOA-SS08-000H	09/30/2020 3:15 pm	SO	R0119 (NA)			
8	G0911	CBD-AOA-SB08-0810	09/30/2020 3:25 pm	SO	R0119 (NA)			

Shipment: SHP-201002-01
Status: Pending
Description: NRLCBD Site 10 SI
Range: G0976-G0992
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G0976	CBD-AOA-SS04-000H	10/01/2020 9:55 am	SO	R0119 (NA)			
2	G0977	CBD-AOA-SB04-1618	10/01/2020 10:00 am	SO	R0119 (NA)			
3	G0978	CBD-AOA-SS01-000H	10/01/2020 10:55 am	SO	R0119 (NA)			
4	G0979	CBD-AOA-SS01P-000H	10/01/2020 11:00 am	SO	R0119 (NA)			
5	G0980	CBD-AOA-SB01-0709	10/01/2020 11:05 am	SO	R0119 (NA)			
6	G0981	CBD-AOA-SS09-000H	10/01/2020 12:10 pm	SO	R0119 (NA)			
7	G0982	CBD-AOA-SB09-0103	10/01/2020 12:20 pm	SO	R0119 (NA)			
8	G0983	CBD-AOA-SB09-0608	10/01/2020 12:40 pm	SO	R0119 (NA)			
9	G0984	CBD-AOA-SS25-000H	10/01/2020 1:25 pm	SO	R0119 (NA)			
10	G0985	CBD-AOA-SS25-000H-MS	10/01/2020 1:25 pm	SO	R0119 (NA)			
11	G0986	CBD-AOA-SS25-000H-SD	10/01/2020 1:25 pm	SO	R0119 (NA)			
12	G0987	CBD-AOA-SB25-0810	10/01/2020 1:35 pm	SO	R0119 (NA)			
13	G0988	CBD-AOA-SB25-1517	10/01/2020 1:40 pm	SO	R0119 (NA)			
14	G0989	CBD-AOA-SB25P-0810	10/01/2020 1:45 pm	SO	R0119 (NA)			
15	G0990	CBD-AOA-SS10-000H	10/01/2020 2:25 pm	SO	R0119 (NA)			
16	G0991	CBD-AOA-SB10-0608	10/01/2020 2:35 pm	SO	R0119 (NA)			
17	G0992	CBD-AOA-SB10P-0608	10/01/2020 2:40 pm	SO	R0119 (NA)			



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201005-02

Status: Pending

Description: Site 10 SI

Range: G1066-G1077

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	G1066	CBD-AOA-SS22-000H	10/02/2020 9:20 am	SO	R0119 (NA)		
2	G1067	CBD-AOA-SB22-0911	10/02/2020 9:30 am	SO	R0119 (NA)		
3	G1068	CBD-AOA-SS21-000H	10/02/2020 10:20 am	SO	R0119 (NA)		
4	G1069	CBD-AOA-SS21P-000H	10/02/2020 10:25 am	SO	R0119 (NA)		
5	G1070	CBD-AOA-SB21-1516	10/02/2020 10:35 am	SO	R0119 (NA)		
6	G1073	CBD-AOA-SS29-000H	10/02/2020 11:30 am	SO	R0119 (NA)		
7	G1074	CBD-AOA-SB29-0608	10/02/2020 11:40 am	SO	R0119 (NA)		
8	G1075	CBD-AOA-SB29-0810	10/02/2020 11:50 am	SO	R0119 (NA)		
9	G1076	CBD-AOA-SS24-000H	10/02/2020 12:30 pm	SO	R0119 (NA)		
10	G1077	CBD-AOA-SB24-0103	10/02/2020 12:40 pm	SO	R0119 (NA)		

Shipment: SHP-201006-04

Status: Pending

Description: Site 10 (FTA) SI

Range: G1222-G1237

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	G1222	CBD-AOA-SS07-000H	10/05/2020 9:10 am	SO	R0118 (NA)		Rush: 7-day TAT
2	G1223	CBD-AOA-SB07-0809	10/05/2020 9:15 am	SO	R0118 (NA)		Rush: 7-day TAT
3	G1224	CBD-AOA-SS18-000H	10/05/2020 9:55 am	SO	R0118 (NA)		
4	G1225	CBD-AOA-SB18-0204	10/05/2020 10:00 am	SO	R0118 (NA)		Highest PID @ S018
5	G1226	CBD-AOA-SB18-0809	10/05/2020 10:05 am	SO	R0118 (NA)		Visible contamination: black streaks
6	G1227	CBD-AOA-SS19-000H	10/05/2020 10:55 am	SO	R0118 (NA)		
7	G1228	CBD-AOA-SB19-0608	10/05/2020 11:00 am	SO	R0118 (NA)		
8	G1229	CBD-AOA-SS20-000H	10/05/2020 11:50 am	SO	R0118 (NA)		
9	G1230	CBD-AOA-SB20-0810	10/05/2020 11:55 am	SO	R0118 (NA)		
10	G1231	CBD-AOA-SS17-000H	10/05/2020 12:45 pm	SO	R0118 (NA)		
11	G1232	CBD-AOA-SB17-0608	10/05/2020 12:50 pm	SO	R0118 (NA)		
12	G1233	CBD-AOA-SS11-000H	10/05/2020 1:55 pm	SO	R0118 (NA)		
13	G1234	CBD-AOA-SS11P-000H	10/05/2020 2:00 pm	SO	R0118 (NA)		Duplicate
14	G1235	CBD-AOA-SB11-1315	10/05/2020 2:05 pm	SO	R0118 (NA)		
15	G1236	CBD-AOA-SS12-000H	10/05/2020 2:50 pm	SO	R0118 (NA)		
16	G1237	CBD-AOA-SB12-0103	10/05/2020 3:00 pm	SO	R0118 (NA)		

Shipment: SHP-201007-05

Status: Pending

Description: Site 10 SI

Range: G1374-G1396

Comment: NA



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201007-05

Status: Pending

Description: Site 10 SI

Range: G1374-G1396

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	G1374	CBD-AOA-SS13-000H	10/06/2020 9:40 am	SO	R0119 (NA)		
2	G1375	CBD-AOA-SB13-0103	10/06/2020 9:45 am	SO	R0119 (NA)		
3	G1376	CBD-AOA-SS16-000H	10/06/2020 10:20 am	SO	R0119 (NA)		
4	G1377	CBD-AOA-SB16-0608	10/06/2020 10:25 am	SO	R0119 (NA)		
5	G1378	CBD-AOA-SS26-000H	10/06/2020 10:55 am	SO	R0119 (NA)		
6	G1379	CBD-AOA-SB26-0810	10/06/2020 11:00 am	SO	R0119 (NA)		
7	G1380	CBD-AOA-SB26-1012	10/06/2020 11:10 am	SO	R0119 (NA)		
8	G1381	CBD-AOA-SB26-0810-MS	10/06/2020 11:00 am	SO	R0119 (NA)		
9	G1382	CBD-AOA-SB26-0810-SD	10/06/2020 11:00 am	SO	R0119 (NA)		
10	G1383	CBD-AOA-SS05-000H	10/06/2020 12:00 pm	SO	R0119 (NA)		
11	G1384	CBD-AOA-SS05-000H-MS	10/06/2020 12:00 pm	SO	R0119 (NA)		
12	G1385	CBD-AOA-SS05-000H-SD	10/06/2020 12:00 pm	SO	R0119 (NA)		
13	G1386	CBD-AOA-SB05-1113	10/06/2020 12:05 pm	SO	R0119 (NA)		
14	G1387	CBD-AOA-SB05P-1113	10/06/2020 12:10 pm	SO	R0119 (NA)		
15	G1388	CBD-AOA-SS27-000H	10/06/2020 1:15 pm	SO	R0119 (NA)		
16	G1389	CBD-AOA-SB27-1012	10/06/2020 1:20 pm	SO	R0119 (NA)		
17	G1390	CBD-AOA-SB27P-1012	10/06/2020 1:25 pm	SO	R0119 (NA)		
18	G1391	CBD-AOA-SS14-000H	10/06/2020 1:50 pm	SO	R0119 (NA)		
19	G1392	CBD-AOA-SB14-1012	10/06/2020 2:00 pm	SO	R0119 (NA)		
20	G1393	CBD-AOA-SS15-000H	10/06/2020 2:30 pm	SO	R0119 (NA)		
21	G1394	CBD-AOA-SB15-0810	10/06/2020 2:35 pm	SO	R0119 (NA)		
22	G1395	CBD-AOA-SB15-1113	10/06/2020 2:40 pm	SO	R0119 (NA)		
23	G1396	CBD-AOA-SB15P-1113	10/06/2020 2:45 pm	SO	R0119 (NA)		

Shipment: SHP-201012-02

Status: Pending

Description: Site 10

Range: G1517-G1523

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	G1517	CBD-AOA-SS23-000H	10/09/2020 12:15 pm	SO	R0119 (NA)		
2	G1518	CBD-AOA-SB23-1516	10/09/2020 12:20 pm	SO	R0119 (NA)		
3	G1519	CBD-AOA-SB23-1516-MS	10/09/2020 12:20 pm	SO	R0119 (NA)		
4	G1520	CBD-AOA-SB23-1516-SD	10/09/2020 12:20 pm	SO	R0119 (NA)		
5	G1521	CBD-AOA-SS28-000H	10/09/2020 11:30 am	SO	R0119 (NA)		
6	G1522	CBD-AOA-SB28-0809	10/09/2020 11:35 am	SO	R0119 (NA)		



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201012-02

Status: Pending

Description: Site 10

Range: G1517-G1523

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
7	G1523	CBD-AOA-SB28-1516	10/09/2020 11:40 am	SO	R0119 (NA)			

Shipment: SHP-201014-03

Status: Pending

Description: Site 10 SI

Range: G1648-G1662

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1648	CBD-AOA-SD04-000H	10/13/2020 10:45 am	SD	R0119 (NA)			
2	G1649	CBD-AOA-SD04-000H-MS	10/13/2020 10:45 am	SD	R0119 (NA)			
3	G1650	CBD-AOA-SD04-000H-SD	10/13/2020 10:45 am	SD	R0119 (NA)			
4	G1653	CBD-AOA-SD02-000H	10/13/2020 11:40 am	SD	R0119 (NA)			
5	G1659	CBD-AOA-SD08-000H	10/13/2020 1:10 pm	SD	R0119 (NA)			
6	G1660	CBD-AOA-SD08P-000H	10/13/2020 1:15 pm	SD	R0119 (NA)			
7	G1662	CBD-AOA-SD06-000H	10/13/2020 1:30 pm	SD	R0119 (NA)			

Shipment: SHP-201029-03

Status: Pending

Description: Site 10 SI

Range: G2213-G2213

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G2213	CBD-AOA-IS01-102820	10/28/2020 5:35 pm	SO	R0119 (NA)			



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name:	Master_369B
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.3 Table B-15
Matrix:	S - Solid Samples, like soil or sediment, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting				Holding Times (days)	Data Flags
Result Units:	ng/g	Unit Conversion:	(none)	Sample: 14	DL_Flag: U
Weight Basis:	DRY	Result Format:	Fixed Digits	Frozen: 14	RL_Flag: J
Standard Basis:	SIS	# of Figures/Digits:	2	Extract: 28	PB_Flag: B
Oil Weight Basis:	No	Oil Weight Source:	Oil Weight		DIL_Flag: D
U-Value Substitution:	U-Flag=MD	Histograms:	No		HT_Flag: T
ECD_Reporting:	No				

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		d3-MeFOSAA	No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T		d5-EtFOSAA	No	No
12	Perfluoro-1-butanefulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanesulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanesulfonate	PFOS	T		13C8-PFOS	No	No
15	Hexafluoropropylene oxide dimer acid	HFPO-DA	T		13C3-HFPO-DA	No	No
16	Adona	Adona	T		13C3-HFPO-DA	No	No
17	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	T		13C3-HFPO-DA	No	No



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369B

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
18	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	T		13C3-HFPO-DA	No	No
1	13C5-PFHxA	13C5-PFHxA	SIS	13C2-PFOA		No	No
2	13C4-PFHpA	13C4-PFHpA	SIS	13C2-PFOA		No	No
3	13C8-PFOA	13C8-PFOA	SIS	13C2-PFOA		No	No
4	13C9-PFNA	13C9-PFNA	SIS	13C2-PFOA		No	No
5	13C6-PFDA	13C6-PFDA	SIS	13C2-PFDA		No	No
6	13C7-PFUnA	13C7-PFUnA	SIS	13C2-PFDA		No	No
7	13C2-PFDoA	13C2-PFDoA	SIS	13C2-PFDA		No	No
8	13C2-PFTeDA	13C2-PFTeDA	SIS	13C2-PFDA		No	No
9	d3-MeFOSAA	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	d5-EtFOSAA	d5-EtFOSAA	SIS	13C4-PFOS		No	No
11	13C3-PFBS	13C3-PFBS	SIS	13C4-PFOS		No	No
12	13C3-PFHxS	13C3-PFHxS	SIS	13C4-PFOS		No	No
13	13C8-PFOS	13C8-PFOS	SIS	13C4-PFOS		No	No
14	13C3-HFPO-DA	13C3-HFPO-DA	SIS	13C2-PFOA		No	No
Total Analytes:		32					

Subtract Peaks:

None

Sum Peaks:

None



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name: Master_369B

ICAL Acceptance Criteria:

Curve Fit:	Limit Mean(%):	Mean Qual:	Limit Ind.:	Ind. Qual:	Min Points:	Points Qual:	Comments:
Linear	NA	NA	0.99	N	5	N	y = Bx + C
Quadratic	NA	NA	0.99	N	6	N	y = Ax^2 + Bx + C

Continuing Calibration Verification Criteria:

CCV Name: 5-369

Frequency Hrs:	Mean PD(%):	Individual PD(%):	RIS/SIS RT Window (min):	Area Limit Low(%):	Area Limit High(%):	Comment:
12 (N)	30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Independent Calibration Verification:

ICC Name: 5-369

Mean PD Limit(%):	Ind. PD Limit(%):	RIS/SIS Window Limit (Secs):	Area Limit High(%):	Area Limit Low(%):	Comment:
30 (N)	30 (N)	0.04 (N)	-50	100 (N)	NA

Mass Discrimination Criteria:

None

Degradation Check Criteria:

None



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application: <i>Universal_LC</i>			
MQO:	Acceptance Criteria:	Qual:	Corrective Action:
Procedural Blank	Samples must be greater than five times the blank concentration (>5xPB).	B	Review with Project Manager; re-analyze or justify results in project records.
PB Measurement Quality Objective	Organic results in the Procedural Blank are less than 1/2 times the LOQ (<1/2xLOQ)	N	Review with Project Manager; re-analyze or justify results in project records.
Laboratory Control Sample	Recovery values 70-130%.	N	Review with project manager; re-analyze or justify reporting the results in project records.
Matrix Spike / Matrix Spike Duplicate Recovery	Organics 70-130%. Analyte concentration in MS/MSD must be greater than five times reported background concentration.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Matrix Spike/Spike Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Standard Reference Material Accuracy	Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL).	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the MDL	n	
Analytical Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application:		<i>Universal_LC</i>	
MQO:	Acceptance Criteria:	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-8: R-squared greater than or equal to 0.990		Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-369-8: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-369-8: Individual PD less than or equal to 30%. Mean Percent Difference less than or equal to 30%.	N	Review with Project Manager; re-analyze or justify in project records.

ShpNo **SHP-201014-03**

It can be done

Battelle Project No: **100142218**

Sample Receipt Form

Approved: ☐ Authorized: ☐

Project Number:

Client: Jacobs

Received by: Schumitz, Matt

Date/Time Received: Wednesday, October 14, 2020 10:00 AM

No. of Shipping Containers: **1****SHIPMENT**

Method of Delivery: Commercial Carrier

Tracking Number: Fed Ex

COC Forms: ☒ Shipped with samples ☐ No Forms**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smgs
1 of 1	Cooler	7716 6398 3997	Custody Seals	Intact	Intact	Therm_2	1.0	25

Samples

Sample Labels:

- ☒ Sample labels agree with COC forms
☐ Discrepancies (see Sample Custody Corrective Action Form)

Container Seals:

- ☐ Tape ☐ Custody Seals ☐ Other Seals (See sample Log)
☒ Seals intact for each shipping container
☐ Seals broken (See sample log for impacted samples)

Condition of Samples:

- ☒ Sample containers intact
☐ Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): **1** Temperature Blank used ☒ Yes ☐ No

(Note: If temperature upon receipt differs from required conditions, see sample log comment field)

Samples Acidified:

- ☐ Yes ☐ No ☒ Unknown

Initial pH 5-9?:

- ☐ Yes ☐ No ☒ NA

If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: ☐ Yes ☐ No ☒ NA

If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: ☐ Yes ☐ No ☒ NA

Individual sample deviations noted on sample log

Samples Containers:

Samples returned in PC-grade jars: ☐ Yes ☐ No ☒ Unknown /Lot No.: Unknown

Storage Location:

Custody: Refrigerator - R0119 (NA)

BDO IDs Assigned:

G1644 - G1668

Samples logged in by:

Schumitz, Matt

Date/Time: 10/14/2020 10:00 AM

Approved By:

Approved On:

Authorized By:

Authorized On:



It can be done

ShpNo SHP-201014-03Battelle Project No: 100142218

Sample Receipt Form Details

Approved: ☐ Authorized: ☐

Project Number:

Client: Jacobs

Received by:

Schumitz, MattDate/Time Received: Wednesday, October 14, 2020 10:00 AMNo. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
G1644	CBD-AOA-SW07-1020	10/13/20 10:00	10/14/20 11:05	2	SW	1	NA	NA	NA	R0119 (NA)			
G1645	CBD-AOA-SW05-1020	10/13/20 10:20	10/14/20 11:05	2	SW	1	NA	NA	NA	R0119 (NA)			
G1646	CBD-AOA-SW03-1020	10/13/20 10:35	10/14/20 11:06	2	SW	1	NA	NA	NA	R0119 (NA)			
G1647	CBD-AOA-SW04-1020	10/13/20 10:40	10/14/20 11:06	2	SW	1	NA	NA	NA	R0119 (NA)			
G1648	CBD-AOA-SD04-000H	10/13/20 10:45	10/14/20 11:06	1	SD	1	NA	NA	NA	R0119 (NA)			
G1649	CBD-AOA-SD04-000H-MS	10/13/20 10:45	10/14/20 11:08	1	SD	1	NA	NA	NA	R0119 (NA)			
G1650	CBD-AOA-SD04-000H-SD	10/13/20 10:45	10/14/20 11:08	1	SD	1	NA	NA	NA	R0119 (NA)			
G1651	CBD-AOA-SW02-1020	10/13/20 11:30	10/14/20 11:09	2	SW	1	NA	NA	NA	R0119 (NA)			
G1652	CBD-AOA-SW02P-1020	10/13/20 11:35	10/14/20 11:09	2	SW	1	NA	NA	NA	R0119 (NA)			
G1653	CBD-AOA-SD02-000H	10/13/20 11:40	10/14/20 11:09	1	SD	1	NA	NA	NA	R0119 (NA)			
G1654	CBD-AOA-SW01-1020	10/13/20 12:00	10/14/20 11:10	2	SW	1	NA	NA	NA	R0119 (NA)			
G1655	CBD-AOA-FB03-101320	10/13/20 12:20	10/14/20 11:11	2	AQ	1	NA	NA	NA	R0119 (NA)			
G1656	CBD-AOA-EB01-101320-SW	10/13/20 12:25	10/14/20 11:14	2	AQ	1	NA	NA	NA	R0119 (NA)			
G1657	CBD-AOA-EB01-101320-SD	10/13/20 12:30	10/14/20 11:14	2	AQ	1	NA	NA	NA	R0119 (NA)			
G1658	CBD-AOA-SW08-1020	10/13/20 13:00	10/14/20 11:15	2	SW	1	NA	NA	NA	R0119 (NA)			
G1659	CBD-AOA-SD08-000H	10/13/20 13:10	10/14/20 11:15	1	SD	1	NA	NA	NA	R0119 (NA)			
G1660	CBD-AOA-SD08P-000H	10/13/20 13:15	10/14/20 11:15	1	SD	1	NA	NA	NA	R0119 (NA)			
G1661	CBD-AOA-SW06-1020	10/13/20 13:25	10/14/20 11:16	2	SW	1	NA	NA	NA	R0119 (NA)			
G1662	CBD-AOA-SD06-000H	10/13/20 13:30	10/14/20 11:17	1	SD	1	NA	NA	NA	R0119 (NA)			
G1663	CBD-AOA-SW11-1020	10/13/20 14:00	10/14/20 11:17	2	SW	1	NA	NA	NA	R0119 (NA)			
G1664	CBD-AOA-SW11P-1020	10/13/20 14:05	10/14/20 11:18	2	SW	1	NA	NA	NA	R0119 (NA)			
G1665	CBD-AOA-SW10-1020	10/13/20 14:10	10/14/20 11:18	2	SW	1	NA	NA	NA	R0119 (NA)			
G1666	CBD-AOA-SW10-1020-MS	10/13/20 14:10	10/14/20 11:18	2	SW	1	NA	NA	NA	R0119 (NA)			
G1667	CBD-AOA-SW10-1020-SD	10/13/20 14:10	10/14/20 11:18	2	SW	1	NA	NA	NA	R0119 (NA)			
G1668	CBD-AOA-SW09-1020	10/13/20 14:25	10/14/20 11:19	2	SW	1	NA	NA	NA	R0119 (NA)			

Total Samples: 25



Chain-of-Custody

Client Contact Information Mike Zamboni michael.zamboni@jacobs.com CH2M/Jacobs		Project Manager: <u> </u> Sampler Information (print name): <u>Carlin Dronfield</u> Phone: <u>703 376 5097</u> Email: <u>carlin.dronfield@jacobs.com</u> Turnaround Time (TAT) Requested: <u>com</u>		Sampling Site: <u>Site 10 (FA)</u>		Site Information: <u>NRL CBD</u>			
Project Name: <u>Site 10 SI</u> Project No.: <u> </u>		Normal ☒ Priority ☐ RUSH ☐ Time Zone: <u>ET</u>		Preservative <u>G012</u> Analysis <u>AFAS</u>		COC # <u> </u> Page# <u>Page 1 of 3</u>			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.			
CBD-ADA-SW01-1020		10/13/20	1000	Grab	SW	2	X	G1644	
CBD-ADA-SW05-1020			1020		SW	2	X	45	
CBD-ADA-SW03-1020			1035		SW	2	X	46	
CBD-ADA-SW04-1020			1040		SW	2	X	47	
CBD-ADA-SD04-000H			1045		SD	1	X	48	
CBD-ADA-SD04-000H-MS			1045		SD	1	X	49	
CBD-ADA-SD04-000H-SD			1045		SD	1	X	50	
CBD-ADA-SW02-1020			1130		SW	2	X	51	
CBD-ADA-SW02P-1020			1135		SW	2	X	52	
CBD-ADA-SD02-000H			1140		SD	1	X	53	
CBD-ADA-SW01-1020			1200		SW	2	X	54	
CBD-ADA-FB03-101320			1220		AQ	2	X	G1655	
Receipt Temperature: (°C)		Samples Intact: Yes - No		Samples on Ice: Yes - No		Receipt Comments:			
Relinquished by (Print/Sign): <u>Carlin Dronfield</u> Relinquished by (Print/Sign): <u> </u> Relinquished by (Print/Sign): <u> </u>		Company: <u>CH2M/Jacobs</u> Company: <u> </u> Company: <u> </u>		Date/Time: <u>10/13/20 1700</u> Date/Time: <u> </u> Date/Time: <u> </u>		Received by (Print/Sign): <u> </u> Received by (Print/Sign): <u> </u> Received by (Print/Sign): <u> </u>		Company: <u>ISNO</u> Company: <u> </u> Company: <u> </u>	
Date/Time: <u>10.14.20 1000</u>		Date/Time: <u> </u>		Date/Time: <u> </u>		Date/Time: <u> </u>			
Comments:									

 It can be done		Chain-of-Custody									
Client Contact Information Project Manager: <u>See page 1</u> Sampler Information (print name): Phone: Email:		Sampling Site: <u>See page 1</u>		Site Information:							
Project Name:		Turnaround Time (TAT) Requested:		Normal ☒ Priority ☐ RUSH ☐		Preservation: <u>None</u>		Analysis: <u>PEAC</u>		COC #	
Project No.:		Time Zone: <u>EST</u>		Sample Date:		Sample Time:		Sample Type:		Matrix:	
Sample Identification		Total # of Cont.		Sample Date		Sample Time		Sample Type		Matrix	
CBD-AAA-EB01-101320-SW		10/13/20		Grab		1225		AQ		2	
CBD-AAA-EB01-101320-SD		1230		AQ		2		X		G1656	
CBD-AAA-SW08-1020		1300		SW		2		X		57	
CBD-AAA-SD08-000H		1310		SD		1		X		58	
CBD-AAA-SD08P-000H		1315		SD		1		X		59	
CBD-AAA-SW06-1020		1325		SW		2		X		60	
CBD-AAA-SD06-000H		1330		SD		1		X		61	
CBD-AAA-SW11-1020		1400		SW		2		X		62	
CBD-AAA-SW11P-1020		1405		SW		2		X		63	
CBD-AAA-SW10-1020		1410		SW		2		X		64	
CBD-AAA-SW10-1020-MS		1410		SW		2		X		65	
CBD-AAA-SW10-1020-SD		1410		SW		2		X		66	
Receipt Temperature: (°C)		Samples Intact: Yes - No		Samples on Ice: Yes - No		Receipt Comments:		Equipment Blank - SW		Equipment Blank - SD	
Relinquished by (Print/Sign) <u>Cartier</u>		Company: <u>CH2M/JACOBS</u>		Date/Time: <u>10/13/20 1700</u>		Received by (Print/Sign) <u>M</u>		Company: <u>BNO</u>		Date/Time: <u>10-14-20 1000</u>	
Relinquished by (Print/Sign)		Company:		Date/Time:		Received by (Print/Sign)		Company:		Date/Time:	
Relinquished by (Print/Sign)		Company:		Date/Time:		Received by (Print/Sign)		Company:		Date/Time:	
Comments:											

BATTELLE It can be done		Chain-of-Custody												
Client Contact Information <i>S22</i>		Project Manager: <i>[Signature]</i>				Sampling Site:				Site Information: <i>see page 1</i>				
		Sample Information (print name): <i>[Signature]</i>												
		Email:				Preservative: <i>CONE</i>				COC #				
Project Name:		Turnaround Time (TAT) Requested:				Analysis: <i>CFA S</i>				Page# <i>Page 3 of 3</i>				
Project No.:		Normal ☒ Priority ☐ RUSH ☐												
		Time Zone: <i>ET</i>												
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.								
<i>LBD-ADA-SW09-1020</i>		<i>10/13/20</i>	<i>1425</i>	<i>GAB</i>	<i>SW</i>	<i>2</i>	<i>X</i>				<i>G1668</i>			
(S)														
Receipt Temperature:(°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:				
Relinquished by (Print/Sign) <i>[Signature]</i>		Company: <i>CH2M/Jacobs</i>		Date/Time: <i>10/13/20 1700</i>		Received by (Print/Sign) <i>[Signature]</i>		Company: <i>BNO</i>		Date/Time: <i>10-14-20 1000</i>				
Relinquished by (Print/Sign)		Company:		Date/Time:		Received by (Print/Sign)		Company:		Date/Time:				
Relinquished by (Print/Sign)		Company:		Date/Time:		Received by (Print/Sign)		Company:		Date/Time:				
Comments:														

ORIGIN ID:BCBA (703) 376-5000
 CAITLIN DRONFIELD
 CAITLIN DRONFIELD
 2411 DULLES CORNER PARK
 SUITE 500
 HERNDON, VA 20171
 UNITED STATES US

SHIP DATE: 29SEP20
 ACTWGT: 50.00 LB
 CAD: 103931050/INET4280
 DIMS: 16x24x18 IN

BILL THIRD PARTY

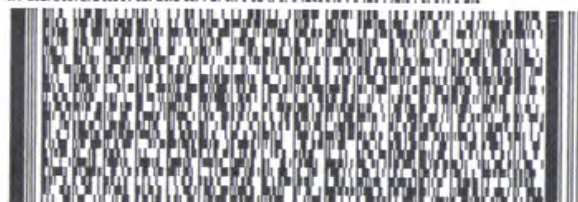
TO **ATTN: SAMPLE RECEIVING
 BATELLE
 141 LONGWATER DRIVE
 SUITE 202
 NORWELL MA 02061**

(781) 681-5565

REF: 706207 FI FK

INV
 PO

DEPT.



TRK# 7716 6398 3997
 0201

WED - 30 SEP 10:30A
 PRIORITY OVERNIGHT

EM XPUA

02061
 MA-US BOS



*Therm 2
 1.0*

55612/A27E17/05

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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Data Tables

Battelle ID	G1648-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS
% Moisture	22.42
Matrix	SD
Sample Size	1.51

Analyzed by: Schultz, Stephanie
Printed: 11/9/2020

Client ID	CBD-AOA-SD04-000H
Battelle ID	G1648-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	Recovery	Extract ID	Analysis Date
13C5-PFHxA	77	G1648-FS(3)	11/2/2020
13C4-PFHpA	75	G1648-FS(3)	11/2/2020
13C8-PFOA	74	G1648-FS(3)	11/2/2020
13C9-PFNA	89	G1648-FS(3)	11/2/2020
13C6-PFDA	81	G1648-FS(3)	11/2/2020
13C7-PFUnA	80	G1648-FS(3)	11/2/2020
13C2-PFDoA	80	G1648-FS(3)	11/2/2020
13C2-PFTeDA	86	G1648-FS(3)	11/2/2020
d3-MeFOSAA	84	G1648-FS(3)	11/2/2020
d5-EtFOSAA	91	G1648-FS(3)	11/2/2020
13C3-PFBS	98	G1648-FS(3)	11/2/2020
13C3-PFHxS	99	G1648-FS(3)	11/2/2020
13C8-PFOS	90	G1648-FS(3)	11/2/2020
13C3-HFPO-DA	72	G1648-FS(3)	11/2/2020



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID CBD-AOA-SD02-000H

Battelle ID G1653-FS

Sample Type	SA
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Collection Date 10/13/2020

Extraction Date 10/20/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture	48.56
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Matrix	SD
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Sample Size	1.05
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Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.35	3.81	9.52
PFHpA	375-85-9	2.86 U	G1653-FS(3)	10.000	11/2/2020	0.964	2.86	9.52
PFOA	335-67-1	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.16	3.81	9.52
PFNA	375-95-1	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.935	1.90	9.52
PFDA	335-76-2	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.882	1.90	9.52
PFUnA	2058-94-8	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.870	1.90	9.52
PFDaA	307-55-1	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.17	3.81	9.52
PFTTrDA	72629-94-8	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.533	1.90	9.52
PFTeDA	376-06-7	4.76 U	G1653-FS(3)	10.000	11/2/2020	2.06	4.76	9.52
NMeFOSAA	2355-31-9	4.76 U	G1653-FS(3)	10.000	11/2/2020	1.94	4.76	9.52
NEtFOSAA	2991-50-6	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.42	3.81	9.52
PFBS	375-73-5	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.667	1.90	9.52
PFHxS	355-46-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.54	3.81	9.52
PFOS	1763-23-1	2.64 J	G1653-FS(3)	10.000	11/2/2020	1.32	3.81	9.52
HFPO-DA	13252-13-6	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.22	3.81	9.52
Adona	919005-14-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.58	3.81	9.52
9Cl-PF3ONS	756426-58-1	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.918	1.90	9.52
11Cl-PF3OUdS	763051-92-9	2.86 U	G1653-FS(3)	10.000	11/2/2020	0.998	2.86	9.52

Client ID	CBD-AOA-SD02-000H
Battelle ID	G1653-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

Surrogate Recoveries (%)		Analysis	
		Recovery	Extract ID Date
13C5-PFHxA	80	G1653-FS(3)	11/2/2020
13C4-PFHpA	78	G1653-FS(3)	11/2/2020
13C8-PFOA	78	G1653-FS(3)	11/2/2020
13C9-PFNA	92	G1653-FS(3)	11/2/2020
13C6-PFDA	86	G1653-FS(3)	11/2/2020
13C7-PFUnA	77	G1653-FS(3)	11/2/2020
13C2-PFDoA	77	G1653-FS(3)	11/2/2020
13C2-PFTeDA	80	G1653-FS(3)	11/2/2020
d3-MeFOSAA	104	G1653-FS(3)	11/2/2020
d5-EtFOSAA	103	G1653-FS(3)	11/2/2020
13C3-PFBS	107	G1653-FS(3)	11/2/2020
13C3-PFHxS	100	G1653-FS(3)	11/2/2020
13C8-PFOS	89	G1653-FS(3)	11/2/2020
13C3-HFPO-DA	73	G1653-FS(3)	11/2/2020

Client ID CBD-AOA-SD08-000H

Battelle ID	G1659-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS
% Moisture	19.26
Matrix	SD
Sample Size	1.52

Size Unit-Basis		g	Analysis					
Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.930	2.63	6.58
PFHpA	375-85-9	1.97 U	G1659-FS(3)	10.000	11/2/2020	0.666	1.97	6.58
PFOA	335-67-1	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.799	2.63	6.58
PFNA	375-95-1	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.646	1.32	6.58
PFDA	335-76-2	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.609	1.32	6.58
PFUnA	2058-94-8	1.24 J	G1659-FS(3)	10.000	11/2/2020	0.601	1.32	6.58
PFDoA	307-55-1	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.805	2.63	6.58
PFTTrDA	72629-94-8	1.10 J	G1659-FS(3)	10.000	11/2/2020	0.368	1.32	6.58
PFTeDA	376-06-7	3.29 U	G1659-FS(3)	10.000	11/2/2020	1.42	3.29	6.58
NMeFOSAA	2355-31-9	3.29 U	G1659-FS(3)	10.000	11/2/2020	1.34	3.29	6.58
NEtFOSAA	2991-50-6	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.984	2.63	6.58
PFBS	375-73-5	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.461	1.32	6.58
PFHxS	355-46-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	1.06	2.63	6.58
PFOS	1763-23-1	7.49	G1659-FS(3)	10.000	11/2/2020	0.911	2.63	6.58
HFPO-DA	13252-13-6	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.843	2.63	6.58
Adona	919005-14-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	1.09	2.63	6.58
9CI-PF3ONS	756426-58-1	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.634	1.32	6.58
11CI-PF3OUdS	763051-92-9	1.97 U	G1659-FS(3)	10.000	11/2/2020	0.689	1.97	6.58



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID CBD-AOA-SD08-000H

Battelle ID	G1659-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			71	G1659-FS(3)	11/2/2020
13C4-PFHpA			72	G1659-FS(3)	11/2/2020
13C8-PFOA			76	G1659-FS(3)	11/2/2020
13C9-PFNA			96	G1659-FS(3)	11/2/2020
13C6-PFDA			88	G1659-FS(3)	11/2/2020
13C7-PFUnA			82	G1659-FS(3)	11/2/2020
13C2-PFDoA			88	G1659-FS(3)	11/2/2020
13C2-PFTeDA			91	G1659-FS(3)	11/2/2020
d3-MeFOSAA			95	G1659-FS(3)	11/2/2020
d5-EtFOSAA			93	G1659-FS(3)	11/2/2020
13C3-PFBS			104	G1659-FS(3)	11/2/2020
13C3-PFHxS			101	G1659-FS(3)	11/2/2020
13C8-PFOS			109	G1659-FS(3)	11/2/2020
13C3-HFPO-DA			68	G1659-FS(3)	11/2/2020

Client ID CBD-AOA-SD08P-000H

Battelle ID G1660-FS

Sample Type	SA
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Collection Date 10/13/2020

Extraction Date 10/20/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture	19.72
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Matrix	SD
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Sample Size	1.66
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Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.852	2.41	6.02
PFHpA	375-85-9	1.81 U	G1660-FS(3)	10.000	11/2/2020	0.610	1.81	6.02
PFOA	335-67-1	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.731	2.41	6.02
PFNA	375-95-1	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.592	1.20	6.02
PFDA	335-76-2	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.558	1.20	6.02
PFUnA	2058-94-8	1.11 J	G1660-FS(3)	10.000	11/2/2020	0.551	1.20	6.02
PFDaA	307-55-1	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.737	2.41	6.02
PFTTrDA	72629-94-8	0.975 J	G1660-FS(3)	10.000	11/2/2020	0.337	1.20	6.02
PFTeDA	376-06-7	3.01 U	G1660-FS(3)	10.000	11/2/2020	1.30	3.01	6.02
NMeFOSAA	2355-31-9	3.01 U	G1660-FS(3)	10.000	11/2/2020	1.23	3.01	6.02
NEtFOSAA	2991-50-6	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.901	2.41	6.02
PFBS	375-73-5	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.422	1.20	6.02
PFHxS	355-46-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.973	2.41	6.02
PFOS	1763-23-1	6.10	G1660-FS(3)	10.000	11/2/2020	0.834	2.41	6.02
HFPO-DA	13252-13-6	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.772	2.41	6.02
Adona	919005-14-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	1.00	2.41	6.02
9Cl-PF3ONS	756426-58-1	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.581	1.20	6.02
11Cl-PF3OUdS	763051-92-9	1.81 U	G1660-FS(3)	10.000	11/2/2020	0.631	1.81	6.02

Client ID	CBD-AOA-SD08P-000H
Battelle ID	G1660-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

Analyzed by: Schultz, Stephanie
Printed: 11/9/2020

Client ID CBD-AOA-SD06-000H

Sample Type	SA
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Extraction Date 10/20/2020

% Moisture	24.08
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Sample Size	1.48
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Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.955	2.70	6.76
PFHpA	375-85-9	2.03 U	G1662-FS(3)	10.000	11/2/2020	0.684	2.03	6.76
PFOA	335-67-1	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.820	2.70	6.76
PFNA	375-95-1	1.19 J	G1662-FS(3)	10.000	11/2/2020	0.664	1.35	6.76
PFDA	335-76-2	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.626	1.35	6.76
PFUnA	2058-94-8	3.39 J	G1662-FS(3)	10.000	11/2/2020	0.618	1.35	6.76
PFDaA	307-55-1	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.827	2.70	6.76
PFTTrDA	72629-94-8	5.23 J	G1662-FS(3)	10.000	11/2/2020	0.378	1.35	6.76
PFTeDA	376-06-7	3.38 U	G1662-FS(3)	10.000	11/2/2020	1.46	3.38	6.76
NMeFOSAA	2355-31-9	3.38 U	G1662-FS(3)	10.000	11/2/2020	1.38	3.38	6.76
NEtFOSAA	2991-50-6	2.70 U	G1662-FS(3)	10.000	11/2/2020	1.01	2.70	6.76
PFBS	375-73-5	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.473	1.35	6.76
PFHxS	355-46-4	1.40 J	G1662-FS(3)	10.000	11/2/2020	1.09	2.70	6.76
PFOS	1763-23-1	34.9	G1662-FS(3)	10.000	11/2/2020	0.935	2.70	6.76
HFPO-DA	13252-13-6	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.866	2.70	6.76
Adona	919005-14-4	2.70 U	G1662-FS(3)	10.000	11/2/2020	1.12	2.70	6.76
9CI-PF3ONS	756426-58-1	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.651	1.35	6.76
11CI-PF3OUdS	763051-92-9	2.03 U	G1662-FS(3)	10.000	11/2/2020	0.708	2.03	6.76

Client ID	CBD-AOA-SD06-000H
Battelle ID	G1662-FS
Sample Type	SA
Collection Date	10/13/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

Surrogate Recoveries (%)		Analysis	
		Recovery	Extract ID Date
13C5-PFHxA		60	G1662-FS(3) 11/2/2020
13C4-PFHpA		61	G1662-FS(3) 11/2/2020
13C8-PFOA		68	G1662-FS(3) 11/2/2020
13C9-PFNA		76	G1662-FS(3) 11/2/2020
13C6-PFDA		75	G1662-FS(3) 11/2/2020
13C7-PFUnA		70	G1662-FS(3) 11/2/2020
13C2-PFDoA		73	G1662-FS(3) 11/2/2020
13C2-PFTeDA		76	G1662-FS(3) 11/2/2020
d3-MeFOSAA		82	G1662-FS(3) 11/2/2020
d5-EtFOSAA		74	G1662-FS(3) 11/2/2020
13C3-PFBS		89	G1662-FS(3) 11/2/2020
13C3-PFHxS		91	G1662-FS(3) 11/2/2020
13C8-PFOS		96	G1662-FS(3) 11/2/2020
13C3-HFPO-DA		56	G1662-FS(3) 11/2/2020



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Client ID LD80 IB

Battelle ID LD80 IB_10/30/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 10/30/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix Solid

Sample Size 2.00

Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	DL	LOD	LOQ
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PFHxA	307-24-4	2.00 U	0.707	2.00	5.00
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PFHpA	375-85-9	1.50 U	0.506	1.50	5.00
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PFOA	335-67-1	2.00 U	0.607	2.00	5.00
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PFNA	375-95-1	1.00 U	0.491	1.00	5.00
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PFDA	335-76-2	1.00 U	0.463	1.00	5.00
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PFUnA	2058-94-8	1.00 U	0.457	1.00	5.00
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PFDoA	307-55-1	2.00 U	0.612	2.00	5.00
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PFTTrDA	72629-94-8	1.00 U	0.280	1.00	5.00
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PFTeDA	376-06-7	2.50 U	1.08	2.50	5.00
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NMeFOSAA	2355-31-9	2.50 U	1.02	2.50	5.00
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NEtFOSAA	2991-50-6	2.00 U	0.748	2.00	5.00
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PFBS	375-73-5	1.00 U	0.350	1.00	5.00
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PFHxS	355-46-4	2.00 U	0.808	2.00	5.00
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PFOS	1763-23-1	2.00 U	0.692	2.00	5.00
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HFPO-DA	13252-13-6	2.00 U	0.641	2.00	5.00
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Adona	919005-14-4	2.00 U	0.830	2.00	5.00
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9CI-PF3ONS	756426-58-1	1.00 U	0.482	1.00	5.00
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11CI-PF3OUdS	763051-92-9	1.50 U	0.524	1.50	5.00
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Analyzed by: Schultz, Stephanie

Printed: 11/9/2020

Isotope Dilution

S20-1297_Master_369B.xlsm



It can be done
Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID	LD80 IB
Battelle ID	LD80 IB_10/30/2020
Sample Type	IB
Collection Date	NA
Extraction Date	NA
Analysis Date	10/30/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS
% Moisture	NA
Matrix	Solid
Sample Size	2.00
Size Unit-Basis	g

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	110
13C8-PFOA	110
13C9-PFNA	102
13C6-PFDA	109
13C7-PFUnA	108
13C2-PFDoA	99
13C2-PFTeDA	100
d3-MeFOSAA	96
d5-EtFOSAA	102
13C3-PFBS	90
13C3-PFHxS	97
13C8-PFOS	101
13C3-HFPO-DA	107



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Client ID LD80 IB

Battelle ID LD80 IB_11/02/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/02/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix Solid

Sample Size 2.00

Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	DL	LOD	LOQ
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PFHxA	307-24-4	2.00 U	0.707	2.00	5.00
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PFHpA	375-85-9	1.50 U	0.506	1.50	5.00
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PFOA	335-67-1	2.00 U	0.607	2.00	5.00
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PFNA	375-95-1	1.00 U	0.491	1.00	5.00
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PFDA	335-76-2	1.00 U	0.463	1.00	5.00
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PFUnA	2058-94-8	1.00 U	0.457	1.00	5.00
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PFDoA	307-55-1	2.00 U	0.612	2.00	5.00
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PFTTrDA	72629-94-8	1.00 U	0.280	1.00	5.00
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PFTeDA	376-06-7	2.50 U	1.08	2.50	5.00
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NMeFOSAA	2355-31-9	2.50 U	1.02	2.50	5.00
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NEtFOSAA	2991-50-6	2.00 U	0.748	2.00	5.00
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PFBS	375-73-5	1.00 U	0.350	1.00	5.00
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PFHxS	355-46-4	2.00 U	0.808	2.00	5.00
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PFOS	1763-23-1	2.00 U	0.692	2.00	5.00
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HFPO-DA	13252-13-6	2.00 U	0.641	2.00	5.00
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Adona	919005-14-4	2.00 U	0.830	2.00	5.00
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9CI-PF3ONS	756426-58-1	1.00 U	0.482	1.00	5.00
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11CI-PF3OUdS	763051-92-9	1.50 U	0.524	1.50	5.00
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Analyzed by: Schultz, Stephanie

Printed: 11/9/2020

Isotope Dilution

S20-1297_Master_369B.xlsm



It can be done

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Client ID LD80 IB

Battelle ID LD80 IB_11/02/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/02/2020

Analytical Instrument Sciex 6500+ (AE) LC/MS/MS

% Moisture NA

Matrix Solid

Sample Size 2.00

Size Unit-Basis g

Surrogate Recoveries (%)

13C5-PFHxA	102
13C4-PFHpA	103
13C8-PFOA	101
13C9-PFNA	99
13C6-PFDA	89
13C7-PFUnA	96
13C2-PFDoA	87
13C2-PFTeDA	92
d3-MeFOSAA	101
d5-EtFOSAA	117
13C3-PFBS	104
13C3-PFHxS	103
13C8-PFOS	102
13C3-HFPO-DA	107

Analyzed by: Schultz, Stephanie

Printed: 11/9/2020

Isotope Dilution

S20-1297_Master_369B.xlsm



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID

Battelle ID
Sample Type
Collection Date
Extraction Date
Analytical Instrument
% Moisture
Matrix
Sample Size
Size Unit-Basis

Procedural Blank

DA889PB-FS
PB
10/20/2020
10/20/2020
Sciex 6500+ (AE) LC/MS/MS
0.00
SEDIMENT
2.08
g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.680	1.92	4.81
PFHpA	375-85-9	1.44 U	DA889PB-FS(3)	10.000	11/2/2020	0.487	1.44	4.81
PFOA	335-67-1	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.584	1.92	4.81
PFNA	375-95-1	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.472	0.962	4.81
PFDA	335-76-2	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.445	0.962	4.81
PFUnA	2058-94-8	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.439	0.962	4.81
PFDaA	307-55-1	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.588	1.92	4.81
PFTTrDA	72629-94-8	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.269	0.962	4.81
PFTeDA	376-06-7	2.40 U	DA889PB-FS(3)	10.000	11/2/2020	1.04	2.40	4.81
NMeFOSAA	2355-31-9	2.40 U	DA889PB-FS(3)	10.000	11/2/2020	0.981	2.40	4.81
NEtFOSAA	2991-50-6	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.719	1.92	4.81
PFBS	375-73-5	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.337	0.962	4.81
PFHxS	355-46-4	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.777	1.92	4.81
PFOS	1763-23-1	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.665	1.92	4.81
HFPO-DA	13252-13-6	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.616	1.92	4.81
Adona	919005-14-4	1.92 U	DA889PB-FS(3)	10.000	11/2/2020	0.798	1.92	4.81
9Cl-PF3ONS	756426-58-1	0.962 U	DA889PB-FS(3)	10.000	11/2/2020	0.463	0.962	4.81
11Cl-PF3OUdS	763051-92-9	1.44 U	DA889PB-FS(3)	10.000	11/2/2020	0.504	1.44	4.81



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID	Procedural Blank
Battelle ID	DA889PB-FS
Sample Type	PB
Collection Date	10/20/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	Recovery	Extract ID	Analysis Date
13C5-PFHxA	72	DA889PB-FS(3)	11/2/2020
13C4-PFHpA	75	DA889PB-FS(3)	11/2/2020
13C8-PFOA	76	DA889PB-FS(3)	11/2/2020
13C9-PFNA	88	DA889PB-FS(3)	11/2/2020
13C6-PFDA	94	DA889PB-FS(3)	11/2/2020
13C7-PFUnA	85	DA889PB-FS(3)	11/2/2020
13C2-PFDoA	89	DA889PB-FS(3)	11/2/2020
13C2-PFTeDA	97	DA889PB-FS(3)	11/2/2020
d3-MeFOSAA	95	DA889PB-FS(3)	11/2/2020
d5-EtFOSAA	86	DA889PB-FS(3)	11/2/2020
13C3-PFBS	112	DA889PB-FS(3)	11/2/2020
13C3-PFHxS	105	DA889PB-FS(3)	11/2/2020
13C8-PFOS	98	DA889PB-FS(3)	11/2/2020
13C3-HFPO-DA	74	DA889PB-FS(3)	11/2/2020



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID Laboratory Control Sample

Battelle ID DA890LCS-FS
Sample Type LCS
Collection Date 10/20/2020
Extraction Date 10/20/2020
Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
% Moisture 0.00
Matrix SEDIMENT
Sample Size 2.16
Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	Target	Recovery	Qual	Control Limits	
									Lower	Upper
PFHxA	307-24-4	9.50	DA890LCS-FS(3)	10.000	11/2/2020	9.35	102		70	132
PFHpA	375-85-9	9.35	DA890LCS-FS(3)	10.000	11/2/2020	9.26	101		71	131
PFOA	335-67-1	9.55	DA890LCS-FS(3)	10.000	11/2/2020	9.26	103		69	133
PFNA	375-95-1	9.78	DA890LCS-FS(3)	10.000	11/2/2020	9.26	106		72	129
PFDA	335-76-2	10.8	DA890LCS-FS(3)	10.000	11/2/2020	9.26	117		69	133
PFUnA	2058-94-8	8.63	DA890LCS-FS(3)	10.000	11/2/2020	9.26	93		64	136
PFDoA	307-55-1	9.82	DA890LCS-FS(3)	10.000	11/2/2020	9.26	106		69	135
PFTTrDA	72629-94-8	10.1	DA890LCS-FS(3)	10.000	11/2/2020	9.26	109		66	139
PFTeDA	376-06-7	10.0	DA890LCS-FS(3)	10.000	11/2/2020	9.26	108		69	133
NMeFOSAA	2355-31-9	9.31	DA890LCS-FS(3)	10.000	11/2/2020	9.26	101		63	144
NEtFOSAA	2991-50-6	9.23	DA890LCS-FS(3)	10.000	11/2/2020	9.26	100		61	139
PFBS	375-73-5	10.2	DA890LCS-FS(3)	10.000	11/2/2020	9.26	110		72	128
PFHxS	355-46-4	10.2	DA890LCS-FS(3)	10.000	11/2/2020	9.35	109		67	130
PFOS	1763-23-1	9.92	DA890LCS-FS(3)	10.000	11/2/2020	9.35	106		68	136
HFPO-DA	13252-13-6	8.27	DA890LCS-FS(3)	10.000	11/2/2020	9.26	89		71	153
Adona	919005-14-4	8.70	DA890LCS-FS(3)	10.000	11/2/2020	9.26	94		61	139
9CI-PF3ONS	756426-58-1	9.17	DA890LCS-FS(3)	10.000	11/2/2020	9.26	99		60	140
11CI-PF3OUdS	763051-92-9	8.74	DA890LCS-FS(3)	10.000	11/2/2020	9.26	94		40	160



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

Client ID	Laboratory Control Sample
Battelle ID	DA890LCS-FS
Sample Type	LCS
Collection Date	10/20/2020
Extraction Date	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	Recovery	Extract ID	Analysis Date
13C5-PFHxA	74	DA890LCS-FS(3)	11/2/2020
13C4-PFHpA	75	DA890LCS-FS(3)	11/2/2020
13C8-PFOA	77	DA890LCS-FS(3)	11/2/2020
13C9-PFNA	82	DA890LCS-FS(3)	11/2/2020
13C6-PFDA	77	DA890LCS-FS(3)	11/2/2020
13C7-PFUnA	74	DA890LCS-FS(3)	11/2/2020
13C2-PFDoA	76	DA890LCS-FS(3)	11/2/2020
13C2-PFTeDA	81	DA890LCS-FS(3)	11/2/2020
d3-MeFOSAA	91	DA890LCS-FS(3)	11/2/2020
d5-EtFOSAA	77	DA890LCS-FS(3)	11/2/2020
13C3-PFBS	98	DA890LCS-FS(3)	11/2/2020
13C3-PFHxS	92	DA890LCS-FS(3)	11/2/2020
13C8-PFOS	84	DA890LCS-FS(3)	11/2/2020
13C3-HFPO-DA	76	DA890LCS-FS(3)	11/2/2020



Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

MS/MSD Background
Sample

Client ID CBD-AOA-SD04-000H-MS

CBD-AOA-SD04-000H

Battelle ID	G1649MS-FS	G1648-FS
Sample Type	MS	SA
Collection Date	10/13/2020	10/13/2020
Extraction Date	10/20/2020	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS	Sciex 6500+ (AE) LC/MS/MS
% Moisture	20.81	22.42
Matrix	SD	SD
Sample Size	1.48	1.51

Size Unit-Basis		g	g	Analysis							Control Limits	
Analyte	CAS No.	Result (ng/g_Dry)	Result (ng/g_Dry)	Extract ID	DF	Date	Target	Recovery	Qual	Lower	Upper	
PFHxA	307-24-4	27.8	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.3	102		70	132	
PFFHpA	375-85-9	26.3	1.99 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	97		71	131	
PFOA	335-67-1	30.4	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	113		69	133	
PFNA	375-95-1	28.2	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	104		72	129	
PFDA	335-76-2	29.2	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	108		69	133	
PFUnA	2058-94-8	26.5	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	98		64	136	
PFDaA	307-55-1	29.2	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	108		69	135	
PFTTrDA	72629-94-8	28.7	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	106		66	139	
PFTeDA	376-06-7	29.2	3.31 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	108		69	133	
NMeFOSAA	2355-31-9	26.8	3.31 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	99		63	144	
NEtFOSAA	2991-50-6	28.4	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	105		61	139	
PFBS	375-73-5	30.1	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	111		72	128	
PFHxS	355-46-4	31.2	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.3	114		67	130	
PFOS	1763-23-1	27.3	1.63 J	G1649MS-FS(3)	10.000	11/2/2020	27.3	94		68	136	
HFPO-DA	13252-13-6	23.1	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	86		71	153	
Adona	919005-14-4	27.8	2.65 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	103		61	139	
9Cl-PF3ONS	756426-58-1	30.2	1.32 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	112		60	140	
11Cl-PF3OUdS	763051-92-9	28.5	1.99 U	G1649MS-FS(3)	10.000	11/2/2020	27.0	106		40	160	



Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

MS/MSD Background

Sample

Client ID

CBD-AOA-SD04-000H-MS

CBD-AOA-SD04-000H

Battelle ID

G1649MS-FS

G1648-FS

Sample Type

MS

SA

Collection Date

10/13/2020

10/13/2020

Extraction Date

10/20/2020

10/20/2020

Analytical Instrument

Sciex 6500+ (AE) LC/MS/MS

Sciex 6500+ (AE) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	71	G1649MS-FS(3)	11/2/2020
13C4-PFHpA	77	G1649MS-FS(3)	11/2/2020
13C8-PFOA	67	G1649MS-FS(3)	11/2/2020
13C9-PFNA	85	G1649MS-FS(3)	11/2/2020
13C6-PFDA	85	G1649MS-FS(3)	11/2/2020
13C7-PFUnA	79	G1649MS-FS(3)	11/2/2020
13C2-PFDoA	82	G1649MS-FS(3)	11/2/2020
13C2-PFTeDA	89	G1649MS-FS(3)	11/2/2020
d3-MeFOSAA	94	G1649MS-FS(3)	11/2/2020
d5-EtFOSAA	84	G1649MS-FS(3)	11/2/2020
13C3-PFBS	105	G1649MS-FS(3)	11/2/2020
13C3-PFHxS	92	G1649MS-FS(3)	11/2/2020
13C8-PFOS	93	G1649MS-FS(3)	11/2/2020
13C3-HFPO-DA	78	G1649MS-FS(3)	11/2/2020



Project Client: CH2M
Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Project No.: 100142218

MS/MSD Background
Sample

Client ID	CBD-AOA-SD04-000H-SD	CBD-AOA-SD04-000H
Battelle ID	G1650MSD-FS	G1648-FS
Sample Type	MSD	SA
Collection Date	10/13/2020	10/13/2020
Extraction Date	10/20/2020	10/20/2020
Analytical Instrument	Sciex 6500+ (AE) LC/MS/MS	Sciex 6500+ (AE) LC/MS/MS
% Moisture	22.45	22.42
Matrix	SD	SD
Sample Size	1.45	1.51
Size Unit-Basis	g	g

Analyte	CAS No.	Result (ng/g_Dry)	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	Target	Recovery	Qual	Control Limits		RPD	Qual	RPD Limit
										Lower	Upper			
PFHxA	307-24-4	29.3	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.9	105		70	132	2.9		≤ 30
PFHpA	375-85-9	31.3	1.99 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	113		71	131	15.2		≤ 30
PFOA	335-67-1	26.8	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	97		69	133	15.2		≤ 30
PFNA	375-95-1	29.4	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	107		72	129	2.8		≤ 30
PFDA	335-76-2	31.2	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	113		69	133	4.5		≤ 30
PFUnA	2058-94-8	27.2	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	99		64	136	1.0		≤ 30
PFDoA	307-55-1	29.6	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	107		69	135	0.9		≤ 30
PFTrDA	72629-94-8	28.1	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	102		66	139	3.8		≤ 30
PFTeDA	376-06-7	28.2	3.31 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	102		69	133	5.7		≤ 30
NMeFOSAA	2355-31-9	29.2	3.31 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	106		63	144	6.8		≤ 30
NEtFOSAA	2991-50-6	28.4	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	103		61	139	1.9		≤ 30
PFBS	375-73-5	30.8	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	112		72	128	0.9		≤ 30
PFHxS	355-46-4	30.1	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.9	108		67	130	5.4		≤ 30
PFOS	1763-23-1	30.1	1.63 J	G1650MSD-FS(3)	10.000	11/2/2020	27.9	102		68	136	8.2		≤ 30
HFPO-DA	13252-13-6	25.6	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	93		71	153	7.8		≤ 30
Adona	919005-14-4	26.4	2.65 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	96		61	139	7.0		≤ 30
9CI-PF3ONS	756426-58-1	27.5	1.32 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	100		60	140	11.3		≤ 30
11CI-PF3OUdS	763051-92-9	27.7	1.99 U	G1650MSD-FS(3)	10.000	11/2/2020	27.6	100		40	160	5.8		≤ 30



Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

MS/MSD Background

Sample

Client ID

CBD-AOA-SD04-000H-SD

CBD-AOA-SD04-000H

Battelle ID

G1650MSD-FS

G1648-FS

Sample Type

MSD

SA

Collection Date

10/13/2020

10/13/2020

Extraction Date

10/20/2020

10/20/2020

Analytical Instrument

Sciex 6500+ (AE) LC/MS/MS

Sciex 6500+ (AE) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	62	G1650MSD-FS(3)	11/2/2020
13C4-PFHpA	61	G1650MSD-FS(3)	11/2/2020
13C8-PFOA	66	G1650MSD-FS(3)	11/2/2020
13C9-PFNA	88	G1650MSD-FS(3)	11/2/2020
13C6-PFDA	79	G1650MSD-FS(3)	11/2/2020
13C7-PFUnA	79	G1650MSD-FS(3)	11/2/2020
13C2-PFDoA	79	G1650MSD-FS(3)	11/2/2020
13C2-PFTeDA	89	G1650MSD-FS(3)	11/2/2020
d3-MeFOSAA	95	G1650MSD-FS(3)	11/2/2020
d5-EtFOSAA	85	G1650MSD-FS(3)	11/2/2020
13C3-PFBS	101	G1650MSD-FS(3)	11/2/2020
13C3-PFHxS	101	G1650MSD-FS(3)	11/2/2020
13C8-PFOS	95	G1650MSD-FS(3)	11/2/2020
13C3-HFPO-DA	63	G1650MSD-FS(3)	11/2/2020



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
J	Analyte detected below the Limit of Quantitation (LOQ)
MI	Significant Matrix Interference - value could not be determined.
N	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO)
NA	Not Applicable
T	Holding Time (HT) exceeded
U	Analyte not detected or detected below the Detection Limit (DL) value, Limit of Detection (LOD) reported
Q	Ion ratio outside of criteria (50% difference from calibration expected ratio)

Miscellaneous Documentation

QA/QC Summary Batch 20-1297

Project:	CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Client Project Manager:	Michael Zamboni
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	SD
Data Set:	DP-20-1177
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.3 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/13/2020	10/14/2020	1.0

Corrective Actions	None.
Sample Storage	The samples were stored refrigerated until extraction.
Related samples	None.

	METHOD SUMMARIES
Sample Preparation	Solid samples were homogenized and aliquoted into extraction tubes and fortified with surrogates prior to the addition of solvent. The sample was extracted on the Geno/Grinder with methanol and extraction salts (MgSO ₄ and NaCl). Post centrifugation, 1.5 mL of extract was suspended in 60 mL of Millipore water and processed through Weak-anion exchange (WAX) solid phase extraction (SPE) cartridges. Target analytes are eluted from the WAX SPE using methanol followed by 0.5% NH ₃ in methanol. Extracts were further refined using Envi-carb to remove co-extracted interferences. Extracts were concentrated to approximately 500 µL under nitrogen with a water bath set between 50 °C and 60 °C, reconstituted with methanol/water and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis in 80:20 methanol/water (V/V).
Prep comments	pH of all samples prior to SPE extraction was verified between 6 and 8. Samples G1648-FS (CBD-AOA-SD04-000H), G1649MS-FS (CBD-AOA-SD04-000H-MS), G1650MSD-FS (CBD-AOA-SD04-000H-SD), G1653-FS (CBD-AOA-SD02-000H), G1659-FS (CBD-AOA-SD08-000H), G1660-FS (CBD-AOA-SD08P-000H), and G1662-FS (CBD-AOA-SD06-000H) contained overlying water that was decanted to waste prior to homogenization and subsampling for extraction and analysis.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/g concentrations on a dry weight basis to three (3) significant figures.
Analysis Comments	Samples analyzed on Sciex 6500+ (AE) LC-MS/MS. MeFOSAA, EtFOSAA, PFHxS, and PFOS in the LCS, MS, MSD, and field samples when detected, were found and reported as a combination of the linear and

QA/QC Summary Batch 20-1297

	branched isomers. Adona, 9CI-PF3ONS and 11CI-PF3OUdS are quantified using 13C8-PFOA. 13C9-PFNA is quantified using 13C4-PFOS.	
Holding Times	Extraction Date(s)	Analysis Date(s)
	10/20/2020	10/30 and 11/2/2020
Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.	
≤ ½ the LOQ	No exceedances noted.	
Samples >10x PB	No comments.	
Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery	No exceedances noted.	
	No comments.	
Matrix Spike and Matrix Spike Duplicate (MS/MSD)	A MS/MSD was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.	
Laboratory derived control limits for recovery and <30% RPD	No exceedances noted.	
	No comments.	
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.	
50-150% of true value	No exceedances noted.	
	No comments.	
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.	
+/- 50% of the area of the L5 calibration point.	No exceedances noted.	
	No comment.	
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.	
+/- 30% of true value, R ² ≥0.99	No exceedances noted.	
	No comments.	

QA/QC Summary
Batch 20-1297

Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted.
	No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted.
	No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project Number: 100142218
 Preparation Batch: 20-1297
 Data Set: DP-20-1177
 Test Code: Master_369B

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	0	None
Matrix Spike / Matrix Spike Duplicate Precision	0	None
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title:	CTO-4532: NRL Chesapeake Bay Detac	Data Set Number:	DP-20-1177
Project Number:	100142218	Prep Batch Number:	20-1297
Entered By:	Stephanie Schultz	Entered On:	11/03/2020
Test Code (Matrix Type):	Master_369B(S)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
SAS 11/3/2020

ADONA, 9CI-PF3ONS, and 11CI-PF3OUdS are being quantified off 13C8-PFOA instead of 13C3-HFPO-DA.
SAS 11/3/2020

13C9-PFNA is being quantified off 13C4-PFOS instead of 13C2-PFOA.
SAS 11/3/2020

Task Leader Approval:**Supervisor Approval:****PM Approval:**

Digitally signed by Jonathan Thorn
Date: 2020.11.03 14:15:42 -05'00'



Example Calculation for PFAS

Calculation of final concentration from area:

$$\text{Concentration} = \left[\frac{PA - b}{m} \right] * C_{IS} * PIV * DF / S$$

Where:

PA = Area of target / area of internal standard

b = y intercept from calibration curve

CIS = concentration of internal standard (ng/L)

m = slope of calibration

DF = dilution factor

S = Sample Size

PIV = Pre-injection volume (L)

Sample ID: G1659-FS(3)
 Client Sample ID: CBD-AOA-SD08-000H
 Sample Size: 1.52
 Units: g
 Dilution Factor: 10.000
 PIV (L): 0.001
 Target Analyte: PFOS
 MRM Transition: 499.0 / 80.0
 Data file: AE_10292020_5-369.wiff
 Result table: 20-1297
 Area: 762,804.31
 IS Name: 13C8-PFOS
 IS Area: 214,503.48
 IS Amount (ng/L): 1195
 y-intercept: 0.0675
 slope: 3.66302

$$\text{Concentration} = \frac{[(762804.31/214503.48) - 0.0675]}{3.66302} * 1195 * 0.001 * 10 / 1.52$$

$$\text{ng/g} = 7.49$$

*Final concentration may vary based on rounding.



Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218

Preparation Batch: 20-1297

Data Set: DP-20-1177

		DA889PB-FS (Procedural Blank)	DA890LCS-FS (Laboratory Control Sample)	G1649MS-FS (CBD-AOA-SD04-000H-MS)	G1650MSD-FS (CBD-AOA-SD04-000H-SD)	G1648-FS (CBD-AOA-SD04-000H)	G1653-FS (CBD-AOA-SD02-000H)	G1659-FS (CBD-AOA-SD08-000H)	G1660-FS (CBD-AOA-SD08P-000H)	G1662-FS (CBD-AOA-SD06-000H)
PFHxA	307-24-4	-	L	L	L	-	-	-	-	-
PFHpA	375-85-9	-	L	L	L	-	-	-	-	-
PFOA	335-67-1	-	L	L	L	-	-	-	-	-
PFNA	375-95-1	-	L	L	L	-	-	-	-	L
PFDA	335-76-2	-	L	L	L	-	-	-	-	-
PFUnA	2058-94-8	-	L	L	L	-	-	L	L	L
PFDoA	307-55-1	-	L	L	L	-	-	-	-	-
PFTTrDA	72629-94-8	-	L	L	L	-	-	L	L	L
PFTeDA	376-06-7	-	L	L	L	-	-	-	-	-
NMeFOSAA	2355-31-9	-	L/Br	L/Br	L/Br	-	-	-	-	-
NEtFOSAA	2991-50-6	-	L/Br	L/Br	L/Br	-	-	-	-	-
PFBS	375-73-5	-	L	L	L	-	-	-	-	-
PFHxS	355-46-4	-	L/Br	L/Br	L/Br	-	-	-	-	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br
HFPO-DA	13252-13-6	-	L	L	L	-	-	-	-	-
Adona	919005-14-4	-	L	L	L	-	-	-	-	-
9CI-PF3ONS	756426-58-1	-	L	L	L	-	-	-	-	-
11CI-PF3OUdS	763051-92-9	-	L	L	L	-	-	-	-	-

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: CH2M

Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.: 100142218



Passing criteria = 50% to 150% of internal standard area (compared to mid-point of calibration)

Sample Name	Sample ID	Analysis Date	13C3-PFBA		13C2-PFOA		13C2-PFDA		13C4-PFOS	
LD78	L5	10/30/20 3:49	-		765,858.22		1,011,724.54		202,293.56	
		Lower	-		382,929.11		505,862.27		101,146.78	
		Upper	-		1,148,787.33		1,517,586.81		303,440.34	

Sample Name	Sample ID	Analysis Date	13C3-PFBA	Qual	User	13C2-PFOA	Qual	User	13C2-PFDA	Qual	User	13C4-PFOS	Qual	User
LD74	L1	10/30/20 3:07	-			693,146.99			1,057,440.61			200,153.85		
LD75	L2	10/30/20 3:18	-			780,590.21			1,046,464.52			194,414.86		
LD76	L3	10/30/20 3:28	-			757,693.03			1,120,485.31			226,279.78		
LD77	L4	10/30/20 3:39	-			808,019.77			1,094,011.01			218,508.68		
LD78	L5	10/30/20 3:49	-			765,858.22			1,011,724.54			202,293.56		
LD79	L6	10/30/20 3:59	-			767,411.77			965,151.31			183,510.52		
LD80 IB	Instrument Blank	10/30/20 4:10	-			733,801.21			1,077,516.43			218,525.13		
LD81 ICC	ICC	10/30/20 4:20	-			772,983.68			1,091,658.34			226,332.68		
LD76 CCV	CCV	11/2/20 9:34	-			677,878.24			1,001,271.40			169,289.53		
LD80 IB	Instrument Blank	11/2/20 9:55	-			633,320.95			981,632.04			159,305.70		
LD76 CCV	CCV	11/2/20 20:22	-			856,811.81			1,169,210.82			217,821.46		
DA889PB-FS(3)	Procedural Blank	11/2/20 20:42	-			965,388.87			1,113,588.85			197,010.23		
DA890LCS-FS(3)	Laboratory Control Sample	11/2/20 20:53	-			974,920.39			1,314,409.75			223,707.60		
G1648-FS(3)	CBD-AOA-SD04-000H	11/2/20 21:03	-			887,722.01			1,180,209.90			205,428.37		
G1649MS-FS(3)	CBD-AOA-SD04-000H-MS	11/2/20 21:14	-			1,000,986.12			1,244,854.54			218,782.47		
G1650MSD-FS(3)	CBD-AOA-SD04-000H-SD	11/2/20 21:24	-			1,000,771.87			1,182,105.11			194,644.69		
G1653-FS(3)	CBD-AOA-SD02-000H	11/2/20 21:35	-			909,923.85			1,267,152.82			203,750.64		
G1659-FS(3)	CBD-AOA-SD08-000H	11/2/20 21:45	-			963,588.95			1,132,080.76			189,406.29		
G1660-FS(3)	CBD-AOA-SD08P-000H	11/2/20 21:56	-			933,444.03			1,175,311.96			188,388.07		
G1662-FS(3)	CBD-AOA-SD06-000H	11/2/20 22:06	-			968,206.39			1,295,087.30			219,462.38		
LD77 CCV	CCV	11/2/20 22:17	-			854,433.38			1,173,469.05			205,112.33		

Sample Name	LD78	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:49:29 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.32	1.36	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.57	1.31	0.8 – 1.5

Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS 1	298.9 / 80.0	1.32	43	>10
PFBS 2	298.9 / 99.0	1.32	40	>10
PFHxA 1	313.0 / 269.0	1.57	54	>10
PFHxA 2	313.0 / 119.0	1.57	33	>10
PFHpA 1	363.0 / 319.0	1.90	48	>10
PFHpA 2	363.0 / 169.0	1.90	33	>10
PFHxS 1	399.0 / 80.0	1.91	39	>10
PFHxS 2	399.0 / 99.0	1.90	48	>10
PFOA 1	413.0 / 369.0	2.26	48	>10
PFOA 2	413.0 / 169.0	2.26	29	>10
PFNA 1	463.0 / 419.0	2.63	45	>10
PFNA 2	463.0 / 219.0	2.63	62	>10
PFOS 1	499.0 / 80.0	2.62	40	>10
PFOS 2	499.0 / 99.0	2.62	51	>10
PFDA 1	513.0 / 469.0	2.98	44	>10
PFDA 2	513.0 / 219.0	2.98	51	>10
PFUnA 1	563.0 / 519.0	3.30	61	>10
PFUnA 2	563.0 / 269.0	3.30	64	>10
PFDoA 1	613.0 / 569.0	3.59	67	>10
PFDoA 2	613.0 / 319.0	3.59	61	>10
PFTrDA 1	663.0 / 619.0	3.85	95	>10
PFTTrDA 2	663.0 / 169.0	3.85	67	>10
PFTeDA 1	713.0 / 669.0	4.08	105	>10
PFTeDA 2	713.0 / 169.0	4.08	87	>10
NMeFOSAA 1	570.0 / 419.0	3.12	57	>10
NMeFOSAA 2	570.0 / 512.0	3.12	76	>10
NEtFOSAA 1	584.0 / 419.0	3.29	72	>10
NEtFOSAA 2	584.0 / 483.0	3.29	77	>10
HFPO-DA 1	285.0 / 169.0	1.66	45	>10
HFPO-DA 2	285.0 / 118.8	1.66	39	>10
ADONA 1	377.0 / 251.0	1.93	50	>10
ADONA 2	377.0 / 85.0	1.93	43	>10
9Cl-PF3ONS 1	531.0 / 351.0	2.83	57	>10
9Cl-PF3ONS 2	531.0 / 83.0	2.83	34	>10
11Cl-pf3OUdS 1	631.0 / 451.0	3.46	63	>10
11Cl-pf3OUdS 2	631.0 / 83.0	3.46	33	>10

Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.59	48	>10
d3-MeFOSAA	573.0 / 419.0	3.12	32	>10
d5-EtFOSAA	589.0 / 419.0	3.29	40	>10
13C5-PFHxA	318.0 / 273.0	1.56	35	>10
13C4-PFHpA	367.0 / 322.0	1.89	33	>10
13C8-PFOA	421.0 / 376.0	2.25	40	>10
13C9-PFNA	472.0 / 427.0	2.62	37	>10
13C6-PFDA	519.0 / 474.0	2.98	52	>10
13C7-PFUnA	570.0 / 525.0	3.30	41	>10
13C2-PFTeDA	715.0 / 670.0	4.07	66	>10
13C3-PFBS	302.0 / 99.0	1.31	40	>10
13C3-PFHxS	402.0 / 99.0	1.90	39	>10
13C8-PFOS	507.0 / 99.0	2.62	31	>10
13C3-HFPO-DA	287.0 / 169.0	1.66	30	>10



Precision and Bias at the LOQ for PFAS in Solids

Analyte	CAS No.	Average (ng/g)	ST DEV	2 Sigma	n ¹
PFBA	375-22-4	10.37	1.2279	2.46	9
PFPeA	2706-90-3	9.44	0.8776	1.76	9
PFHxA	307-24-4	10.22	1.0229	2.05	33
PFHpA	375-85-9	10.12	1.0454	2.09	33
PFOA	335-67-1	10.06	1.0528	2.11	33
PFNA	375-95-1	10.01	1.3090	2.62	33
PFDA	335-76-2	10.04	1.0884	2.18	33
PFUnA	2058-94-8	9.83	0.9538	1.91	33
PFDoA	307-55-1	10.67	0.8012	1.60	33
PFTrDA	72629-94-8	10.31	1.1482	2.30	33
PFTeDA	376-06-7	10.94	1.0435	2.09	33
NMeFOSAA	2355-31-9	9.85	1.3511	2.70	34
NEtFOSAA	2991-50-6	10.20	1.3334	2.67	34
PFOSA	754-91-6	9.79	0.5648	1.13	9
PFBS	375-73-5	10.07	0.8377	1.68	33
PFPeS	2706-91-4	9.53	0.6453	1.29	7
PFHxS	355-46-4	10.22	0.9246	1.85	33
PFHpS	375-92-8	9.70	0.4462	0.89	9
PFOS	1763-23-1	10.21	1.1884	2.38	33
PFNS	68259-12-1	9.13	0.7183	1.44	7
PFDS	335-77-3	9.35	0.7479	1.50	9
4:2FTS	757124-72-4	9.81	0.9840	1.97	7
6:2FTS	27619-97-2	9.94	2.4102	4.82	9
8:2FTS	39108-34-4	9.95	2.0273	4.05	9
HFPO-DA	13252-13-6	11.63	1.1159	2.23	19
Adona	919005-14-4	10.35	1.2099	2.42	19
11Cl-PF3OUdS	763051-92-9	10.34	1.4687	2.94	19
9Cl-PF3ONS	756426-58-1	9.97	0.9943	1.99	19

¹ Minimum of 20 samples required per QAM for determination of uncertainty, results including less than 20 data points are estimated.

BATTELLE DETECTION LIMITS FOR PFAS IN SOLIDS (SEDIMENT/SOIL)

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QSM 5.1.1 compliant with Table B-15 requirements

Analyte	CAS No.	MDL (ng/g)	LOD (ng/g)	LOQ (ng/g)
PFBA	375-22-4	0.73	2.0	5.0
PFPeA	2706-90-3	0.45	1.0	5.0
PFHxA	307-24-4	0.71	2.0	5.0
PFHpA	375-85-9	0.51	1.5	5.0
PFOA	335-67-1	0.61	2.0	5.0
PFNA	375-95-1	0.49	1.0	5.0
PFDA	335-76-2	0.46	1.0	5.0
PFUnA	2058-94-8	0.46	1.0	5.0
PFDoA	307-55-1	0.61	2.0	5.0
PFTTrDA	72629-94-8	0.28	1.0	5.0
PFTeDA	376-06-7	1.08	2.5	5.0
NMeFOSAA	2355-31-9	1.02	2.5	5.0
NEtFOSAA	2991-50-6	0.75	2.0	5.0
PFOSA	754-91-6	0.42	1.0	5.0
PFBS	375-73-5	0.35	1.0	5.0
PFPeS	2706-91-4	0.44	1.0	5.0
PFHxS	355-46-4	0.81	2.0	5.0
PFHpS	375-92-8	0.78	2.0	5.0
PFOS	1763-23-1	0.69	2.0	5.0
PFNS	68259-12-1	0.56	2.0	5.0
PFDS	335-77-3	0.24	0.5	5.0
4:2FTS	747124-72-4	1.20	2.5	5.0
6:2FTS	27619-97-2	0.80	2.0	5.0
8:2FTS	39108-34-4	1.44	3.0	5.0
3:3 FTCA	356-02-5	2.75	6.0	10.0
5:3 FTCA	914637-49-3	3.05	6.5	10.0
7:3 FTCA	812-70-4	1.98	4.0	10.0
HFPO-DA	13252-13-6	0.64	2.0	5.0
Adona	919005-14-4	0.83	2.0	5.0
11CI-PF3OUdS	763051-92-9	0.52	1.5	5.0
9CI-PF3ONS	756426-58-1	0.48	1.0	5.0

Analytes on ELAP QSM 5.1.1 Scope of accreditation

MDL calculated based on 40 CFR 136 (2017)

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It can be done

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ID 595 10/19

Analytical Transitions for PFAS in non-potable water, solid, and tissue

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
PFBA	375-22-4	Target	213.0 / 169.0	NA
PFPeA	2706-90-3	Target	263.0 / 219.0	NA
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFOSA	754-91-6	Target	498.0 / 78.0	498.0 / 83.0
PFBS	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
PFPeS	BDO-2114	Target	349.0 / 99.0	249.0 / 80.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFHpS	375-99-6	Target	449.0 / 80.0	449.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
PFNS	98789-57-2	Target	549.0 / 99.0	549.0 / 80.0
PFDS	2806-15-7	Target	599.0 / 80.0	599.0 / 99.0
4:2FTS	BDO-2205	Target	327.0 / 307.0	327.0 / 80.0
6:2FTS	27619-97-2	Target	427.0 / 407.0	427.0 / 81.0
8:2FTS	39108-34-4	Target	527.0 / 507.0	527.0 / 487.0
3:3 FTCA	356-02-5	Target	241.0 / 177.0	NA
5:3 FTCA	914637-49-3	Target	341.0 / 237.0	NA
7:3 FTCA	812-70-4	Target	441.0 / 337.0	NA
HFPO-DA	13252-13-6	Target	285.0 / 169.0	285.0 / 118.8
Adona	919005-14-4	Target	377.0 / 251.0	377.0 / 85.0
9CI-PF3ONS	756426-58-1	Target	531.0 / 351.0	531.0 / 83.0
11CI-PF3OUdS	763051-92-9	Target	631.0 / 451.0	631.0 / 83.0

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFBA	NA	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	NA	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	NA	SIS ¹	318.0 / 273.0	NA
13C4-PFHpA	NA	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	NA	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	NA	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	NA	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	NA	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	NA	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	NA	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	NA	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	NA	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	NA	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	NA	SIS ¹	302.0 / 99.0	NA
13C3-PFHxS	NA	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	NA	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	NA	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	NA	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	NA	SIS ¹	529.0 / 81.0	NA
¹³ C ₃ -HFPO-DA	NA	SIS	287.0 / 169.0	NA
13C3-PFBA	NA	IS ²	216.0 / 172.0	NA
13C2-PFOA	NA	IS ²	415.0 / 370.0	NA
13C2-PFDA	NA	IS ²	515.0 / 470.0	NA
13C4-PFOS	NA	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard



Solids Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (g)	Sample Equivalent (ng/g) ²
250	1	10	2.0	1.3
500	1	10	2.0	2.5
1,000	1	10	2.0	5.0
2,500	1	10	2.0	12.5
10,000	1	10	2.0	50.0
25,000	1	10	2.0	125.0

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

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Triple Quad 6500+

LC/MS/MS Detector System

Appendix ZEFPM003-1S

Triple Quad 6500+ Preventive Maintenance Checklist

Preventive Maintenance Date:	
Request ID:	
Company Name:	
Instrument ID:	
Instrument Model:	
Instrument Serial Number:	

☐ **PASS**

☐ **FAIL**

Any failure will lead to an automatic Service Call being open to investigate fault.

Preventive Maintenance is performed twice every year unless specified in the Service Contract. It is designed to help maintain optimum system performance and to help diagnose any system deficiencies.

Engineer is required the assigned Request ID for this PM otherwise making this job invalid.

Comments: _____

Performed By: _____ **Date:** _____

Approved By : _____ **Date:** _____

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PRE-PM PPG PERFORMANCE EVALUATION:

- ☐ Consult the customer concerning the system overall performance.
- ☐ Check Logbook for services performed recently if available.
- ☐ Check Vacuum Pressure.

CAD Settings	Vacuum Reading (10^{-5} Torr)	Acceptance Criteria
☐ CAD 0		0.4 to 1.1×10^{-5} Torr
☐ CAD 12		2.4 to 4.1×10^{-5} Torr

- ☐ Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - ☐ No degradation or Sensitivity drop
- ☐ Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - ☐ No degradation or Sensitivity drop

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Appendix ZEFPM003-1S

PPG Performance Test

(Make printouts showing all the peaks, intensities, peak widths, and mass shift values.)

Positive Mode: Masses for the peaks of interest are: 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427.

High Mass Test

☐ Perform High Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Specs		
Q1 500.380		Read Only		Read Only
Q1 616.464		Read Only		Read Only
Q1 906.673		Read Only		Read Only
Q1 1952.427		Read Only		Read Only

☐ Perform High Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Specs		
Q3 500.380		Read Only		Read Only
Q3 616.464		Read Only		Read Only
Q3 906.673		Read Only		Read Only
Q3 1952.427		Read Only		Read Only

Low Mass Test

☐ Perform Low Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Specs		
Q1 175.133		Read Only		Read Only
Q1 500.380		Read Only		Read Only
Q1 616.464		Read Only		Read Only
Q1 906.673		Read Only		Read Only

☐ Perform Low Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Specs		
Q3 175.133		Read Only		Read Only
Q3 500.380		Read Only		Read Only
Q3 616.464		Read Only		Read Only
Q3 906.673		Read Only		Read Only

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Appendix ZEFPM003-1S

Preventive Maintenance Procedure

- ☐ Check cooling fans in mass spec if working. Replace them soon, if defective.
- ☐ Clean bench cooling fans if applicable. Replace them soon, if defective.
- ☐ Record AC input voltage while MS is OFF: _____ (200 to 240 Vac).
Notify customer if input voltage is out of range.
- ☐ After venting, clean Interface region:
 - ☐ Curtain Plate
 - ☐ Orifice Plate atmosphere side
 - ☐ Orifice Plate vacuum side
 - ☐ Ion Drive QJet and IQ0.
- ☐ Check Q0 for signs of arcing and clean with cleaning solvent.
- ☐ Replace Roughing Pump Oil.
- ☐ Clean oil exhaust Filter.

Replace if necessary.
☐ N/A
- ☐ Adjust Multiplier Voltage if necessary.
- ☐ Clean or replace Air Filters.
- ☐ Clean the turbo pump filter screen if applicable.
- ☐ Check Orifice resistances.

Replace it soon if out of resistance specifications.
☐ N/A
- ☐ Replace Electrode if necessary in Ion Drive Turbo V source.
- ☐ Check Turbo heaters resistances and their physical conditions in Ion Drive Turbo V source.

Replace the defective heaters if necessary.
☐ N/A
- ☐ Check the APCI heater resistance. Verify Temperature reaches setpoint

Replace the heater if necessary.
☐ N/A
- ☐ Turn on the mass spec and rough pumps for pumping down.
- ☐ Verify Temperature reaches setpoint in both TIS and APCI modes if applicable.

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Appendix ZEFPM003-1S

POST- PM PPG PERFORMANCE TESTS:

- ☐ Set-up PPG standard for infusion.
- ☐ Check spray and adjust sprayer's position of the Ion Drive Turbo V source.
- ☐ Check Vacuum Pressure:

CAD Settings	Vacuum Reading (10^{-5} Torr)	Acceptance Criteria
☐ CAD 0		0.4 to 1.1×10^{-5} Torr
☐ CAD 12		2.4 to 4.1×10^{-5} Torr

- ☐ Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - ☐ No degradation or Sensitivity drop
- ☐ Check for Q3 contamination symptoms. Run Q3 POS PPG using PPG 2e-7M for a few minutes and check for any TIC signal degradation or huge sensitivity drop where the sensitivity result can't pass specification.
 - ☐ No degradation or Sensitivity drop

PPG Performance Test

(Mass calibrate to less than 0.1 amu. Make printouts showing all the peaks, intensities, peak widths, and mass shift values.)

Positive Mode: Masses for the peaks of interest are: 59.050, 175.133, 500.380, 616.464, 906.673, 1254.925, 1545.134, 1952.427.

Negative Mode: Masses for the peaks of interest are: 44.998, 411.259, 585.385, 933.636, 1223.845, 1572.097, 1863.306, 1979.389.

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High Mass Test

☐ Perform High Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Specs		
Q1 500.380		$\geq 3.2 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 616.464		$\geq 2.0 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 906.673		$\geq 9.6 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 1952.427		$\geq 2.4 \text{ }^{\text{e}6}$		0.6 to 0.8

☐ Perform High Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Specs		
Q3 500.380		$\geq 3.2 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 616.464		$\geq 2.0 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 906.673		$\geq 9.6 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 1952.427		$\geq 2.4 \text{ }^{\text{e}6}$		0.6 to 0.8

☐ Perform MSMS POS in Product Ion scan with 907 parent and record daughter 175.1 using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
MS/MS 175.1		Read Only		Read Only

☐ Perform Q1 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Specs		
Q1 933.636		$\geq 1.8 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 1863.306		$\geq 1.0 \text{ }^{\text{e}6}$		0.6 to 0.8

☐ Perform Q3 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Specs		
Q3 933.636		$\geq 1.8 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 1863.306		$\geq 1.0 \text{ }^{\text{e}6}$		0.6 to 0.8

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Appendix ZEFPM003-1S

Low Mass Test

☐ Perform Low Mass Q1 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Specs		
Q1 175.133		$\geq 8.0 \text{ }^{\text{e}6}$		0.6 to 0.8
Q1 500.380		$\geq 3.68 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 616.464		$\geq 2.4 \text{ }^{\text{e}7}$		0.6 to 0.8
Q1 906.673		$\geq 1.0 \text{ }^{\text{e}8}$		0.6 to 0.8

☐ Perform Low Mass Q3 POS using POS PPG 2e-7M (500:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Specs		
Q3 175.133		$\geq 8.0 \text{ }^{\text{e}6}$		0.6 to 0.8
Q3 500.380		$\geq 3.68 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 616.464		$\geq 2.4 \text{ }^{\text{e}7}$		0.6 to 0.8
Q3 906.673		$\geq 1.0 \text{ }^{\text{e}8}$		0.6 to 0.8

☐ Perform Q1 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636		$\geq 1.8 \text{ }^{\text{e}7}$		0.6 to 0.8

☐ Perform Q3 NEG using NEG PPG 3 x 10-5 M (10:1). Scan Rate 10 Da/s. Record 10 MCA.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636		$\geq 1.8 \text{ }^{\text{e}7}$		0.6 to 0.8

☐ Perform MSMS NEG in Product Ion scan with 933.6 parent and record daughter 45.0 using NEG PPG 3 x 10-5 M (10:1) at the scan rate of 10 Da/s for 10 MCA.

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
MS/MS 45.0		Read Only		Read Only

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Appendix ZEFPM003-1S

REVIEW:

- ☐ Attach all printouts to this checklist.
- ☐ If any parameter setting access modes were changed during the PM, ensure that they are returned to their normal access mode and that their offsets are adjusted to match optimized values from the post-PM acquisition files.
- ☐ Empty tuning cache folder, if necessary. ☐ N/A
- ☐ Fill and replaced PM Label.

END OF PREVENTIVE MAINTENANCE PROCEDURE

Document history:

04 OCT 2016: Appendix ZEFPM003-1S: New SOP Appendix.

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-01
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-02
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-03
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-04
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-05
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-06
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-07
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-08
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-09
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-10
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-11
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-12
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-13
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-14
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-15
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-16
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-17
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-18
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-19
LC69	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	LB74	-	-	200721-20
LD43	PFAS - DoD Second Source LCS/MS Solution	-	-	-	200909-01
LD43	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-01
LD43	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-02
LD43	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-03
LD56	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-21
LD56	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-22
LD56	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-23
LD56	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-24
LD74	PFAS - DoD Calibration L1	LB78	LB75	-	200721-21
LD74	PFAS - DoD Calibration L1	LB78	LB75	-	200721-22
LD74	PFAS - DoD Calibration L1	LB78	LB75	-	200721-23
LD74	PFAS - DoD Calibration L1	LB78	LB75	-	200721-24
LD74	PFAS - DoD Calibration L1	LC85	LC84	LC24	200811-01
LD74	PFAS - DoD Calibration L1	LC85	LC84	LC24	200811-02
LD74	PFAS - DoD Calibration L1	LC85	LC84	LC24	200811-03
LD74	PFAS - DoD Calibration L1	LC85	LC84	-	200914-01
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-01
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-02
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-03
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-04
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-05
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-06
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-07
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-08
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-09
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-10
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-11
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-12
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-13
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-14
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-15
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-16
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-17
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-18
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-19
LD74	PFAS - DoD Calibration L1	LD73	LB74	-	200721-20
LD75	PFAS - DoD Calibration L2	LB78	LB75	-	200721-21
LD75	PFAS - DoD Calibration L2	LB78	LB75	-	200721-22

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LD75	PFAS - DoD Calibration L2	LB78	LB75	-	200721-23
LD75	PFAS - DoD Calibration L2	LB78	LB75	-	200721-24
LD75	PFAS - DoD Calibration L2	LC85	LC84	LC24	200811-01
LD75	PFAS - DoD Calibration L2	LC85	LC84	LC24	200811-02
LD75	PFAS - DoD Calibration L2	LC85	LC84	LC24	200811-03
LD75	PFAS - DoD Calibration L2	LC85	LC84	-	200914-01
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-01
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-02
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-03
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-04
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-05
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-06
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-07
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-08
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-09
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-10
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-11
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-12
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-13
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-14
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-15
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-16
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-17
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-18
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-19
LD75	PFAS - DoD Calibration L2	LD73	LB74	-	200721-20
LD76	PFAS - DoD Calibration L3	LB78	LB75	-	200721-21
LD76	PFAS - DoD Calibration L3	LB78	LB75	-	200721-22
LD76	PFAS - DoD Calibration L3	LB78	LB75	-	200721-23
LD76	PFAS - DoD Calibration L3	LB78	LB75	-	200721-24
LD76	PFAS - DoD Calibration L3	LC84	LC24	-	200811-01
LD76	PFAS - DoD Calibration L3	LC84	LC24	-	200811-02
LD76	PFAS - DoD Calibration L3	LC84	LC24	-	200811-03
LD76	PFAS - DoD Calibration L3	LC84	-	-	200914-01
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-01
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-02
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-03
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-04
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-05
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-06
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-07
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-08
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-09
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-10
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-11
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-12
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-13
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-14
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-15
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-16
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-17
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-18
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-19
LD76	PFAS - DoD Calibration L3	LD73	LB74	-	200721-20
LD77	PFAS - DoD Calibration L4	LB78	LB75	-	200721-21
LD77	PFAS - DoD Calibration L4	LB78	LB75	-	200721-22
LD77	PFAS - DoD Calibration L4	LB78	LB75	-	200721-23
LD77	PFAS - DoD Calibration L4	LB78	LB75	-	200721-24

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LD77	PFAS - DoD Calibration L4	LC84	LC24	-	200811-01
LD77	PFAS - DoD Calibration L4	LC84	LC24	-	200811-02
LD77	PFAS - DoD Calibration L4	LC84	LC24	-	200811-03
LD77	PFAS - DoD Calibration L4	LC84	-	-	200914-01
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-01
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-02
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-03
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-04
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-05
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-06
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-07
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-08
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-09
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-10
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-11
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-12
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-13
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-14
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-15
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-16
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-17
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-18
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-19
LD77	PFAS - DoD Calibration L4	LD73	LB74	-	200721-20
LD78	PFAS - DoD Calibration L5	LB78	LB75	-	200721-21
LD78	PFAS - DoD Calibration L5	LB78	LB75	-	200721-22
LD78	PFAS - DoD Calibration L5	LB78	LB75	-	200721-23
LD78	PFAS - DoD Calibration L5	LB78	LB75	-	200721-24
LD78	PFAS - DoD Calibration L5	LC84	LC24	-	200811-01
LD78	PFAS - DoD Calibration L5	LC84	LC24	-	200811-02
LD78	PFAS - DoD Calibration L5	LC84	LC24	-	200811-03
LD78	PFAS - DoD Calibration L5	LC84	-	-	200914-01
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-01
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-02
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-03
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-04
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-05
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-06
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-07
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-08
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-09
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-10
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-11
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-12
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-13
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-14
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-15
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-16
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-17
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-18
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-19
LD78	PFAS - DoD Calibration L5	LD73	LB74	-	200721-20
LD79	PFAS - DoD Calibration L6	LB78	LB75	-	200721-21
LD79	PFAS - DoD Calibration L6	LB78	LB75	-	200721-22
LD79	PFAS - DoD Calibration L6	LB78	LB75	-	200721-23
LD79	PFAS - DoD Calibration L6	LB78	LB75	-	200721-24
LD79	PFAS - DoD Calibration L6	LC84	LC24	-	200811-01
LD79	PFAS - DoD Calibration L6	LC84	LC24	-	200811-02

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LD79	PFAS - DoD Calibration L6	LC84	LC24	-	200811-03
LD79	PFAS - DoD Calibration L6	LC84	-	-	200914-01
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-01
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-02
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-03
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-04
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-05
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-06
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-07
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-08
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-09
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-10
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-11
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-12
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-13
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-14
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-15
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-16
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-17
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-18
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-19
LD79	PFAS - DoD Calibration L6	LD73	LB74	-	200721-20
LD81	PFAS - DoD ICC	LB78	LB75	-	200721-21
LD81	PFAS - DoD ICC	LB78	LB75	-	200721-22
LD81	PFAS - DoD ICC	LB78	LB75	-	200721-23
LD81	PFAS - DoD ICC	LB78	LB75	-	200721-24
LD81	PFAS - DoD ICC	LD43	LC24	-	200811-01
LD81	PFAS - DoD ICC	LD43	LC24	-	200811-02
LD81	PFAS - DoD ICC	LD43	LC24	-	200811-03
LD81	PFAS - DoD ICC	LD43	-	-	200909-01
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-01
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-02
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-03
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-04
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-05
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-06
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-07
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-08
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-09
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-10
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-11
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-12
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-13
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-14
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-15
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-16
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-17
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-18
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-19
LD81	PFAS - DoD ICC	LD73	LB74	-	200721-20



It can be done

Standard Solution Concentrations

Approved: ☒Standard Laboratory ID Number: **LB74**

Description: PFAS - DoD SIS Stock

Stock Id: 200721-01							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C4-PFBA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-02							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C5-PFPeA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-03							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C5-PFHxA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-04							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C4-PFHpA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-05							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C8-PFOA	1000	48.90	1	97.800	1	50	0.97800
Stock Id: 200721-06							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C9-PFNA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-07							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C6-PFDA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-08							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C7-PFUnA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-09							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDoA	1000	50.00	1	98.000	1	50	1.00000

Solution Prepared By: Schultz, Stephanie

Date Prepared:

7/21/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise

Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒Standard Laboratory ID Number: **LB74**

Description: PFAS - DoD SIS Stock

Stock Id: 200721-10							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFTeDA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-11							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	1000	46.70	1	98.000	1	50	0.93400
Stock Id: 200721-12							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-6:2FTS	1000	47.50	1	98.000	1	50	0.95000
Stock Id: 200721-13							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-8:2FTS	1000	47.90	1	98.000	1	50	0.95800
Stock Id: 200721-14							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C3-PFBS	1000	46.50	1	98.000	1	50	0.93000
Stock Id: 200721-15							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C3-PFHxS	1000	47.30	1	98.000	1	50	0.94600
Stock Id: 200721-16							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C8-PFOS	1000	47.80	1	98.000	1	50	0.95600
Stock Id: 200721-17							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
d3-MeFOSAA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-18							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
d5-EtFOSAA	1000	50.00	1	98.000	1	50	1.00000

Solution Prepared By: Schultz, Stephanie Date Prepared: 7/21/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LB74

Description: PFAS - DoD SIS Stock

Stock Id: 200721-19

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C8-FOSA	1000	50.00	1	98.000	1	50	1.00000

Stock Id: 200721-20

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C3-HFPO-DA	1000	50.00	1	98.000	1	50	1.00000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.93400
13C2-6:2FTS	.95000
13C2-8:2FTS	.95800
13C2-PFDoA	1.00000
13C2-PFTeDA	1.00000
13C3-HFPO-DA	1.00000
13C3-PFBS	.93000
13C3-PFHxS	.94600
13C4-PFBA	1.00000
13C4-PFHpA	1.00000
13C5-PFHxA	1.00000
13C5-PFPeA	1.00000
13C6-PFDA	1.00000
13C7-PFUnA	1.00000
13C8-FOSA	1.00000
13C8-PFOA	.97800
13C8-PFOS	.95600
13C9-PFNA	1.00000
d3-MeFOSAA	1.00000
d5-EtFOSAA	1.00000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200721-01	Pipette	B820865811
200721-02	Pipette	B820865811
200721-03	Pipette	B820865811
200721-04	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/21/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise **Date:** 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LB74

Description: PFAS - DoD SIS Stock

200721-05	Pipette	B820865811
200721-06	Pipette	B820865811
200721-07	Pipette	B820865811
200721-08	Pipette	B820865811
200721-09	Pipette	B820865811
200721-10	Pipette	B820865811
200721-11	Pipette	B820865811
200721-12	Pipette	B820865811
200721-13	Pipette	B820865811
200721-14	Pipette	B820865811
200721-15	Pipette	B820865811
200721-16	Pipette	B820865811
200721-17	Pipette	B820865811
200721-18	Pipette	B820865811
200721-19	Pipette	B820865811
200721-20	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/21/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise **Date:** 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LB75**

Description: PFAS - DoD RIS Stock

Stock Id: 200721-21							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-22							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-23							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C3-PFBA	1000	50.00	1	98.000	1	50	1.00000
Stock Id: 200721-24							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C4-PFOS	1000	47.80	1	98.000	1	50	0.95600

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	1.00000
13C2-PFOA	1.00000
13C3-PFBA	1.00000
13C4-PFOS	.95600

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200721-21	Pipette	B820865811
200721-22	Pipette	B820865811
200721-23	Pipette	B820865811
200721-24	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie	Date Prepared: 7/21/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0123		
Comment: 96/4 methanol/milli-q water (RP-200722-1)		

Approved By: Schumitz, Denise Date: 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LB78

Description: PFAS - DoD Internal Standard Stock Solution

Stock ID: LB75

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	5000	1.00	---	---	1	50	0.10000
13C2-PFOA	5000	1.00	---	---	1	50	0.10000
13C3-PFBA	5000	1.00	---	---	1	50	0.10000
13C4-PFOS	5000	0.96	---	---	1	50	0.09560

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.10000
13C2-PFOA	.10000
13C3-PFBA	.10000
13C4-PFOS	.09560

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB75	Pipette	B906204506

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 7/21/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q water (RP-200722-1)

Approved By: Schumitz, Denise **Date:** 7/23/2020 11:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LC24

Description: PFAS - FTCA Stock

Stock Id: 200811-01							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-perfluoropropyl propanoic Acid	1000	50.00	1	98.000	1	10	5.00000
Stock Id: 200811-02							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	1000	50.00	1	98.000	1	10	5.00000
Stock Id: 200811-03							
Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoropentyl propanoic acid	1000	50.00	1	98.000	1	10	5.00000

Final Concentrations:

Analyte:	Conc (ug/mL):
3-Perfluoroheptyl propanoic acid	5.00000
3-Perfluoropentyl propanoic acid	5.00000
3-perfluoropropyl propanoic Acid	5.00000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200811-01	Pipette	B909301606
200811-02	Pipette	B909301606
200811-03	Pipette	B909301606

Solution Prepared By: Bailey, Kevin	Date Prepared: 8/11/2020	Expiration Date: 8/11/2021
Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Freezer - F0111		

Comment:

Approved By: Schumitz, Denise **Date:** 8/12/2020 8:20:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LC69**

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: **LB74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	5000	0.93	---	---	1	50	0.09340
13C2-6:2FTS	5000	0.95	---	---	1	50	0.09500
13C2-8:2FTS	5000	0.96	---	---	1	50	0.09580
13C2-PFDoA	5000	1.00	---	---	1	50	0.10000
13C2-PFTeDA	5000	1.00	---	---	1	50	0.10000
13C3-HFPO-DA	5000	1.00	---	---	1	50	0.10000
13C3-PFBS	5000	0.93	---	---	1	50	0.09300
13C3-PFHxS	5000	0.95	---	---	1	50	0.09460
13C4-PFBA	5000	1.00	---	---	1	50	0.10000
13C4-PFHpA	5000	1.00	---	---	1	50	0.10000
13C5-PFHxA	5000	1.00	---	---	1	50	0.10000
13C5-PFPeA	5000	1.00	---	---	1	50	0.10000
13C6-PFDA	5000	1.00	---	---	1	50	0.10000
13C7-PFUnA	5000	1.00	---	---	1	50	0.10000
13C8-FOSA	5000	1.00	---	---	1	50	0.10000
13C8-PFOA	5000	0.98	---	---	1	50	0.09780
13C8-PFOS	5000	0.96	---	---	1	50	0.09560
13C9-PFNA	5000	1.00	---	---	1	50	0.10000
d3-MeFOSAA	5000	1.00	---	---	1	50	0.10000
d5-EtFOSAA	5000	1.00	---	---	1	50	0.10000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.09340
13C2-6:2FTS	.09500
13C2-8:2FTS	.09580
13C2-PFDoA	.10000
13C2-PFTeDA	.10000
13C3-HFPO-DA	.10000
13C3-PFBS	.09300
13C3-PFHxS	.09460
13C4-PFBA	.10000
13C4-PFHpA	.10000
13C5-PFHxA	.10000
13C5-PFPeA	.10000
13C6-PFDA	.10000

Solution Prepared By: Schultz, Stephanie

Date Prepared:

8/31/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment:

Approved By: Schumitz, Denise

Date: 9/3/2020 8:57:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LC69

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

13C7-PFUnA	.10000
13C8-FOSA	.10000
13C8-PFOA	.09780
13C8-PFOS	.09560
13C9-PFNA	.10000
d3-MeFOSAA	.10000
d5-EtFOSAA	.10000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB74	Pipette	B641148506

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/31/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 5 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121		

Comment:

Approved By: Schumitz, Denise **Date:** 9/3/2020 8:57:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LC84

Description: PFAS - DoD High ICAL Stock

Stock Id: 200914-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci	2000	1.00	1	100.000	1	20	0.10000
1H,1H,2H,2H-Perfluorodecane sulfonate	2000	1.01	1	100.000	1	20	0.10100
1H,1H,2H,2H-Perfluorohexane sulfonate	2000	1.00	1	100.000	1	20	0.10000
1H,1H,2H,2H-Perfluorooctane sulfonate	2000	1.00	1	100.000	1	20	0.10000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	2000	1.00	1	100.000	1	20	0.10000
Adona	2000	1.00	1	100.000	1	20	0.10000
Hexafluoropropylene oxide dimer acid	2000	1.00	1	100.000	1	20	0.10000
N-ethylperfluoro-octanesulfonamidoacetic acid	2000	1.00	1	100.000	1	20	0.10000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-butanefluoride	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-decanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-heptanesulfonate	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-hexanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-nonanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-octanesulfonamide	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-octanesulfonate	2000	1.01	1	100.000	1	20	0.10100
perfluoro-1-pentanesulfonate	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-butanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-decanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-dodecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-heptanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-hexanoic acid	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-n-octanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluorononanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-pentanoic acid	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-n-tetradecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-tridecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-undecanoic acid	2000	1.00	1	100.000	1	20	0.10000

Stock Id: LC24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	400	5.00	---	---	1	20	0.10000
3-Perfluoropentyl propanoic acid	400	5.00	---	---	1	20	0.10000
3-perfluoropropyl propanoic Acid	400	5.00	---	---	1	20	0.10000

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 9/15/2020	Expiration Date: 8/11/2021
Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121		

Comment: 96/4 methanol/milli-q (RP-200915-3)

Approved By: Schumitz, Denise **Date:** 9/16/2020 8:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LC84

Description: PFAS - DoD High ICAL Stock

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.10000
1H,1H,2H,2H-Perfluorodecane sulfonate	.10100
1H,1H,2H,2H-Perfluorohexane sulfonate	.10000
1H,1H,2H,2H-Perfluorooctane sulfonate	.10000
3-Perfluoroheptyl propanoic acid	.10000
3-Perfluoropentyl propanoic acid	.10000
3-perfluoropropyl propanoic Acid	.10000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.10000
Adona	.10000
Hexafluoropropylene oxide dimer acid	.10000
N-ethylperfluoro-octanesulfonamidoacetic acid	.10000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.10000
Perfluoro-1-butanedisulfonate	.10000
Perfluoro-1-decanedisulfonate	.10100
Perfluoro-1-heptanedisulfonate	.10000
Perfluoro-1-hexanedisulfonate	.10100
Perfluoro-1-nonanedisulfonate	.10100
Perfluoro-1-octanesulfonamide	.10000
Perfluoro-1-octanedisulfonate	.10100
perfluoro-1-pentanedisulfonate	.10000
Perfluoro-n-butanedioic Acid	.10000
Perfluoro-n-decanedioic Acid	.10000
Perfluoro-n-dodecanedioic acid	.10000
Perfluoro-n-heptanedioic Acid	.10000
Perfluoro-n-hexanedioic acid	.10100
Perfluoro-n-octanedioic Acid	.10000
Perfluorononanedioic Acid	.10000
Perfluoro-n-pentanedioic acid	.10100
Perfluoro-n-tetradecanedioic acid	.10000
Perfluoro-n-tridecanedioic acid	.10000
Perfluoro-n-undecanedioic acid	.10000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200914-01	Pipette	B1100330B
LC24	Pipette	B1100330B

Solution Prepared By: Bailey, Kevin

Date Prepared:

9/15/2020

Expiration Date:

8/11/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-200915-3)

Approved By: Schumitz, Denise

Date: 9/16/2020 8:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LC85**

Description: PFAS - DoD Low ICAL Stock

Stock Id: **LC84**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic aci	500	0.10	---	---	1	5	0.01000
1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.10	---	---	1	5	0.01010
1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.10	---	---	1	5	0.01000
1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.10	---	---	1	5	0.01000
3-Perfluoroheptyl propanoic acid	500	0.10	---	---	1	5	0.01000
3-Perfluoropentyl propanoic acid	500	0.10	---	---	1	5	0.01000
3-perfluoropropyl propanoic Acid	500	0.10	---	---	1	5	0.01000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	500	0.10	---	---	1	5	0.01000
Adona	500	0.10	---	---	1	5	0.01000
Hexafluoropropylene oxide dimer acid	500	0.10	---	---	1	5	0.01000
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.10	---	---	1	5	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.10	---	---	1	5	0.01000
Perfluoro-1-butanedisulfonate	500	0.10	---	---	1	5	0.01000
Perfluoro-1-decanedisulfonate	500	0.10	---	---	1	5	0.01010
Perfluoro-1-heptanedisulfonate	500	0.10	---	---	1	5	0.01000
Perfluoro-1-hexanedisulfonate	500	0.10	---	---	1	5	0.01010
Perfluoro-1-nonanedisulfonate	500	0.10	---	---	1	5	0.01010
Perfluoro-1-octanesulfonamide	500	0.10	---	---	1	5	0.01000
Perfluoro-1-octanesulfonate	500	0.10	---	---	1	5	0.01010
perfluoro-1-pentanedisulfonate	500	0.10	---	---	1	5	0.01000
Perfluoro-n-butanoic Acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-decanoic Acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-dodecanoic acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-heptanoic Acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-hexanoic acid	500	0.10	---	---	1	5	0.01010
Perfluoro-n-octanoic Acid	500	0.10	---	---	1	5	0.01000
Perfluorononanoic Acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-pentanoic acid	500	0.10	---	---	1	5	0.01010
Perfluoro-n-tetradecanoic acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-tridecanoic acid	500	0.10	---	---	1	5	0.01000
Perfluoro-n-undecanoic acid	500	0.10	---	---	1	5	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.01000
1H,1H,2H,2H-Perfluorodecane sulfonate	.01010

Solution Prepared By: Bailey, Kevin	Date Prepared: 9/15/2020	Expiration Date: 8/11/2021
Solution Volume : 40 mL X 1 Vials	Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121	

Comment: 96/4 methanol/milli-q (RP-200915-3)

Approved By: Schumitz, Denise Date: 9/16/2020 8:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LC85

Description: PFAS - DoD Low ICAL Stock

1H,1H,2H,2H-Perfluorohexane sulfonate	.01000
1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
3-Perfluoroheptyl propanoic acid	.01000
3-Perfluoropentyl propanoic acid	.01000
3-perfluoropropyl propanoic Acid	.01000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.01000
Adona	.01000
Hexafluoropropylene oxide dimer acid	.01000
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanedisulfonate	.01000
Perfluoro-1-decanedisulfonate	.01010
Perfluoro-1-heptanedisulfonate	.01000
Perfluoro-1-hexanedisulfonate	.01010
Perfluoro-1-nonanedisulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanedisulfonate	.01010
perfluoro-1-pentanedisulfonate	.01000
Perfluoro-n-butanedisulfonate	.01000
Perfluoro-n-decanedisulfonate	.01000
Perfluoro-n-dodecanedisulfonate	.01000
Perfluoro-n-heptanedisulfonate	.01000
Perfluoro-n-hexanedisulfonate	.01010
Perfluoro-n-octanedisulfonate	.01000
Perfluorononanedisulfonate	.01000
Perfluoro-n-pentanedisulfonate	.01010
Perfluoro-n-tetradecanedisulfonate	.01000
Perfluoro-n-tridecanedisulfonate	.01000
Perfluoro-n-undecanedisulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LC84	Pipette	B1100330B

Solution Prepared By: Bailey, Kevin **Date Prepared:** 9/15/2020 **Expiration Date:** 8/11/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-200915-3)

Approved By: Schumitz, Denise **Date:** 9/16/2020 8:25:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD43

Description: PFAS - DoD Second Source LCS/MS Solution

Stock Id: 200909-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci	2000	1.00	1	100.000	1	20	0.10000
1H,1H,2H,2H-Perfluorodecane sulfonate	2000	1.01	1	100.000	1	20	0.10100
1H,1H,2H,2H-Perfluorohexane sulfonate	2000	1.00	1	100.000	1	20	0.10000
1H,1H,2H,2H-Perfluorooctane sulfonate	2000	1.00	1	100.000	1	20	0.10000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	2000	1.00	1	100.000	1	20	0.10000
Adona	2000	1.00	1	100.000	1	20	0.10000
Hexafluoropropylene oxide dimer acid	2000	1.00	1	100.000	1	20	0.10000
N-ethylperfluoro-octanesulfonamidoacetic acid	2000	1.00	1	100.000	1	20	0.10000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-butanefluoride	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-decanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-heptanesulfonate	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-hexanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-nonanesulfonate	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-1-octanesulfonamide	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-1-octanesulfonate	2000	1.01	1	100.000	1	20	0.10100
perfluoro-1-pentanesulfonate	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-butanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-decanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-dodecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-heptanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-hexanoic acid	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-n-octanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluorononanoic Acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-pentanoic acid	2000	1.01	1	100.000	1	20	0.10100
Perfluoro-n-tetradecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-tridecanoic acid	2000	1.00	1	100.000	1	20	0.10000
Perfluoro-n-undecanoic acid	2000	1.00	1	100.000	1	20	0.10000

Stock Id: LC24

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	400	5.00	---	---	1	20	0.10000
3-Perfluoropentyl propanoic acid	400	5.00	---	---	1	20	0.10000
3-perfluoropropyl propanoic Acid	400	5.00	---	---	1	20	0.10000

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/6/2020	Expiration Date: 8/11/2021
Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121		

Comment: 80/20 methanol/milli-q (RP-201006-1)

Approved By: Schumitz, Denise **Date:** 10/8/2020 10:54:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD43

Description: PFAS - DoD Second Source LCS/MS Solution

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.10000
1H,1H,2H,2H-Perfluorodecane sulfonate	.10100
1H,1H,2H,2H-Perfluorohexane sulfonate	.10000
1H,1H,2H,2H-Perfluorooctane sulfonate	.10000
3-Perfluoroheptyl propanoic acid	.10000
3-Perfluoropentyl propanoic acid	.10000
3-perfluoropropyl propanoic Acid	.10000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.10000
Adona	.10000
Hexafluoropropylene oxide dimer acid	.10000
N-ethylperfluoro-octanesulfonamidoacetic acid	.10000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.10000
Perfluoro-1-butanedisulfonate	.10000
Perfluoro-1-decanedisulfonate	.10100
Perfluoro-1-heptanedisulfonate	.10000
Perfluoro-1-hexanedisulfonate	.10100
Perfluoro-1-nonanedisulfonate	.10100
Perfluoro-1-octanesulfonamide	.10000
Perfluoro-1-octanedisulfonate	.10100
perfluoro-1-pentanedisulfonate	.10000
Perfluoro-n-butanedioic Acid	.10000
Perfluoro-n-decanedioic Acid	.10000
Perfluoro-n-dodecanedioic acid	.10000
Perfluoro-n-heptanedioic Acid	.10000
Perfluoro-n-hexanedioic acid	.10100
Perfluoro-n-octanedioic Acid	.10000
Perfluorononanedioic Acid	.10000
Perfluoro-n-pentanedioic acid	.10100
Perfluoro-n-tetradecanedioic acid	.10000
Perfluoro-n-tridecanedioic acid	.10000
Perfluoro-n-undecanedioic acid	.10000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200909-01	Pipette	B820865811
LC24	Pipette	B820865811

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/6/2020

Expiration Date:

8/11/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201006-1)

Approved By: Schumitz, Denise

Date: 10/8/2020 10:54:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD56

Description: PFAS - DoD Internal Standard Spiking Solution

Stock ID: LB75

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2000	1.00	---	---	1	200	0.01000
13C2-PFOA	2000	1.00	---	---	1	200	0.01000
13C3-PFBA	2000	1.00	---	---	1	200	0.01000
13C4-PFOS	2000	0.96	---	---	1	200	0.00956

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.01000
13C2-PFOA	.01000
13C3-PFBA	.01000
13C4-PFOS	.00956

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB75	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/8/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 8 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment:

Approved By: Schumitz, Denise **Date:** 10/9/2020 12:46:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD73

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

Stock Id: LB74

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	5000	0.93	---	---	1	50	0.09340
13C2-6:2FTS	5000	0.95	---	---	1	50	0.09500
13C2-8:2FTS	5000	0.96	---	---	1	50	0.09580
13C2-PFDoA	5000	1.00	---	---	1	50	0.10000
13C2-PFTeDA	5000	1.00	---	---	1	50	0.10000
13C3-HFPO-DA	5000	1.00	---	---	1	50	0.10000
13C3-PFBS	5000	0.93	---	---	1	50	0.09300
13C3-PFHxS	5000	0.95	---	---	1	50	0.09460
13C4-PFBA	5000	1.00	---	---	1	50	0.10000
13C4-PFHpA	5000	1.00	---	---	1	50	0.10000
13C5-PFHxA	5000	1.00	---	---	1	50	0.10000
13C5-PFPeA	5000	1.00	---	---	1	50	0.10000
13C6-PFDA	5000	1.00	---	---	1	50	0.10000
13C7-PFUnA	5000	1.00	---	---	1	50	0.10000
13C8-FOSA	5000	1.00	---	---	1	50	0.10000
13C8-PFOA	5000	0.98	---	---	1	50	0.09780
13C8-PFOS	5000	0.96	---	---	1	50	0.09560
13C9-PFNA	5000	1.00	---	---	1	50	0.10000
d3-MeFOSAA	5000	1.00	---	---	1	50	0.10000
d5-EtFOSAA	5000	1.00	---	---	1	50	0.10000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.09340
13C2-6:2FTS	.09500
13C2-8:2FTS	.09580
13C2-PFDoA	.10000
13C2-PFTeDA	.10000
13C3-HFPO-DA	.10000
13C3-PFBS	.09300
13C3-PFHxS	.09460
13C4-PFBA	.10000
13C4-PFHpA	.10000
13C5-PFHxA	.10000
13C5-PFPeA	.10000
13C6-PFDA	.10000

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/22/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201022-2)

Approved By: Schumitz, Denise

Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD73

Description: PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)

13C7-PFUnA	.10000
13C8-FOSA	.10000
13C8-PFOA	.09780
13C8-PFOS	.09560
13C9-PFNA	.10000
d3-MeFOSAA	.10000
d5-EtFOSAA	.10000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB74	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 5 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 96/4 methanol/milli-q (RP-201022-2)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD74**

Description: PFAS - DoD Calibration L1

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	125	0.10	---	---	1	10	0.00125
13C2-PFOA	125	0.10	---	---	1	10	0.00125
13C3-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFOS	125	0.10	---	---	1	10	0.00119

Stock Id: LC85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	250	0.01	---	---	1	10	0.00025
3-Perfluoropentyl propanoic acid	250	0.01	---	---	1	10	0.00025
3-perfluoropropyl propanoic Acid	250	0.01	---	---	1	10	0.00025

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	125	0.09	---	---	1	10	0.00117
13C2-6:2FTS	125	0.10	---	---	1	10	0.00119
13C2-8:2FTS	125	0.10	---	---	1	10	0.00120
13C2-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121		

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD74

Description: PFAS - DoD Calibration L1

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.00025
3-Perfluoropentyl propanoic acid	.00025
3-perfluoropropyl propanoic Acid	.00025
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LC85	Pipette	B814657482
LD73	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD75**

Description: PFAS - DoD Calibration L2

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	125	0.10	---	---	1	10	0.00125
13C2-PFOA	125	0.10	---	---	1	10	0.00125
13C3-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFOS	125	0.10	---	---	1	10	0.00119

Stock Id: LC85

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	500	0.01	---	---	1	10	0.00050
3-Perfluoropentyl propanoic acid	500	0.01	---	---	1	10	0.00050
3-perfluoropropyl propanoic Acid	500	0.01	---	---	1	10	0.00050

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	125	0.09	---	---	1	10	0.00117
13C2-6:2FTS	125	0.10	---	---	1	10	0.00119
13C2-8:2FTS	125	0.10	---	---	1	10	0.00120
13C2-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials	Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121	

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD75

Description: PFAS - DoD Calibration L2

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.00050
3-Perfluoropentyl propanoic acid	.00050
3-perfluoropropyl propanoic Acid	.00050
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LC85	Pipette	B820865811
LD73	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD76**

Description: PFAS - DoD Calibration L3

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	500	0.10	---	---	1	40	0.00125
13C2-PFOA	500	0.10	---	---	1	40	0.00125
13C3-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFOS	500	0.10	---	---	1	40	0.00119

Stock Id: LC84

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	400	0.10	---	---	1	40	0.00100
3-Perfluoropentyl propanoic acid	400	0.10	---	---	1	40	0.00100
3-perfluoropropyl propanoic Acid	400	0.10	---	---	1	40	0.00100

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	500	0.09	---	---	1	40	0.00117
13C2-6:2FTS	500	0.10	---	---	1	40	0.00119
13C2-8:2FTS	500	0.10	---	---	1	40	0.00120
13C2-PFDoA	500	0.10	---	---	1	40	0.00125
13C2-PFTeDA	500	0.10	---	---	1	40	0.00125
13C3-HFPO-DA	500	0.10	---	---	1	40	0.00125
13C3-PFBS	500	0.09	---	---	1	40	0.00116
13C3-PFHxS	500	0.09	---	---	1	40	0.00118
13C4-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFHpA	500	0.10	---	---	1	40	0.00125
13C5-PFHxA	500	0.10	---	---	1	40	0.00125
13C5-PFPeA	500	0.10	---	---	1	40	0.00125
13C6-PFDA	500	0.10	---	---	1	40	0.00125
13C7-PFUnA	500	0.10	---	---	1	40	0.00125
13C8-FOSA	500	0.10	---	---	1	40	0.00125
13C8-PFOA	500	0.10	---	---	1	40	0.00122
13C8-PFOS	500	0.10	---	---	1	40	0.00119
13C9-PFNA	500	0.10	---	---	1	40	0.00125
d3-MeFOSAA	500	0.10	---	---	1	40	0.00125
d5-EtFOSAA	500	0.10	---	---	1	40	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials	Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121	

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD76

Description: PFAS - DoD Calibration L3

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.00100
3-Perfluoropentyl propanoic acid	.00100
3-perfluoropropyl propanoic Acid	.00100
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B820865811
LC84	Pipette	B820865811
LD73	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD77**

Description: PFAS - DoD Calibration L4

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	500	0.10	---	---	1	40	0.00125
13C2-PFOA	500	0.10	---	---	1	40	0.00125
13C3-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFOS	500	0.10	---	---	1	40	0.00119

Stock Id: LC84

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	1000	0.10	---	---	1	40	0.00250
3-Perfluoropentyl propanoic acid	1000	0.10	---	---	1	40	0.00250
3-perfluoropropyl propanoic Acid	1000	0.10	---	---	1	40	0.00250

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	500	0.09	---	---	1	40	0.00117
13C2-6:2FTS	500	0.10	---	---	1	40	0.00119
13C2-8:2FTS	500	0.10	---	---	1	40	0.00120
13C2-PFDoA	500	0.10	---	---	1	40	0.00125
13C2-PFTeDA	500	0.10	---	---	1	40	0.00125
13C3-HFPO-DA	500	0.10	---	---	1	40	0.00125
13C3-PFBS	500	0.09	---	---	1	40	0.00116
13C3-PFHxS	500	0.09	---	---	1	40	0.00118
13C4-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFHpA	500	0.10	---	---	1	40	0.00125
13C5-PFHxA	500	0.10	---	---	1	40	0.00125
13C5-PFPeA	500	0.10	---	---	1	40	0.00125
13C6-PFDA	500	0.10	---	---	1	40	0.00125
13C7-PFUnA	500	0.10	---	---	1	40	0.00125
13C8-FOSA	500	0.10	---	---	1	40	0.00125
13C8-PFOA	500	0.10	---	---	1	40	0.00122
13C8-PFOS	500	0.10	---	---	1	40	0.00119
13C9-PFNA	500	0.10	---	---	1	40	0.00125
d3-MeFOSAA	500	0.10	---	---	1	40	0.00125
d5-EtFOSAA	500	0.10	---	---	1	40	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials	Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121	

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD77

Description: PFAS - DoD Calibration L4

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.00250
3-Perfluoropentyl propanoic acid	.00250
3-perfluoropropyl propanoic Acid	.00250
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B820865811
LC84	Pipette	B820865811
LD73	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD78**

Description: PFAS - DoD Calibration L5

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	125	0.10	---	---	1	10	0.00125
13C2-PFOA	125	0.10	---	---	1	10	0.00125
13C3-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFOS	125	0.10	---	---	1	10	0.00119

Stock Id: LC84

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	1000	0.10	---	---	1	10	0.01000
3-Perfluoropentyl propanoic acid	1000	0.10	---	---	1	10	0.01000
3-perfluoropropyl propanoic Acid	1000	0.10	---	---	1	10	0.01000

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	125	0.09	---	---	1	10	0.00117
13C2-6:2FTS	125	0.10	---	---	1	10	0.00119
13C2-8:2FTS	125	0.10	---	---	1	10	0.00120
13C2-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials	Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121	

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD78

Description: PFAS - DoD Calibration L5

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.01000
3-Perfluoropentyl propanoic acid	.01000
3-perfluoropropyl propanoic Acid	.01000
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LC84	Pipette	B820865811
LD73	Pipette	B814657482

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/22/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise

Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD79**

Description: PFAS - DoD Calibration L6

Stock Id: LB78

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	125	0.10	---	---	1	10	0.00125
13C2-PFOA	125	0.10	---	---	1	10	0.00125
13C3-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFOS	125	0.10	---	---	1	10	0.00119

Stock Id: LC84

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
3-Perfluoroheptyl propanoic acid	2500	0.10	---	---	1	10	0.02500
3-Perfluoropentyl propanoic acid	2500	0.10	---	---	1	10	0.02500
3-perfluoropropyl propanoic Acid	2500	0.10	---	---	1	10	0.02500

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	125	0.09	---	---	1	10	0.00117
13C2-6:2FTS	125	0.10	---	---	1	10	0.00119
13C2-8:2FTS	125	0.10	---	---	1	10	0.00120
13C2-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

Final Concentrations:

Solution Prepared By: Bailey, Kevin	Date Prepared: 10/22/2020	Expiration Date: 7/21/2021
Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121		

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD79

Description: PFAS - DoD Calibration L6

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125
13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
3-Perfluoroheptyl propanoic acid	.02500
3-Perfluoropentyl propanoic acid	.02500
3-perfluoropropyl propanoic Acid	.02500
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LC84	Pipette	B820865811
LD73	Pipette	B814657482

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/22/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise

Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LD81**

Description: PFAS - DoD ICC

Stock Id: **LB78**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	125	0.10	---	---	1	10	0.00125
13C2-PFOA	125	0.10	---	---	1	10	0.00125
13C3-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFOS	125	0.10	---	---	1	10	0.00119

Stock Id: **LD43**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic aci	250	0.10	---	---	1	10	0.00250
1H,1H,2H,2H-Perfluorodecane sulfonate	250	0.10	---	---	1	10	0.00253
1H,1H,2H,2H-Perfluorohexane sulfonate	250	0.10	---	---	1	10	0.00250
1H,1H,2H,2H-Perfluorooctane sulfonate	250	0.10	---	---	1	10	0.00250
3-Perfluoroheptyl propanoic acid	250	0.10	---	---	1	10	0.00250
3-Perfluoropentyl propanoic acid	250	0.10	---	---	1	10	0.00250
3-perfluoropropyl propanoic Acid	250	0.10	---	---	1	10	0.00250
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	250	0.10	---	---	1	10	0.00250
Adona	250	0.10	---	---	1	10	0.00250
Hexafluoropropylene oxide dimer acid	250	0.10	---	---	1	10	0.00250
N-ethylperfluoro-octanesulfonamidoacetic acid	250	0.10	---	---	1	10	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-1-butanefluoride	250	0.10	---	---	1	10	0.00250
Perfluoro-1-decanesulfonate	250	0.10	---	---	1	10	0.00253
Perfluoro-1-heptanesulfonate	250	0.10	---	---	1	10	0.00250
Perfluoro-1-hexanesulfonate	250	0.10	---	---	1	10	0.00253
Perfluoro-1-nonanesulfonate	250	0.10	---	---	1	10	0.00253
Perfluoro-1-octanesulfonamide	250	0.10	---	---	1	10	0.00250
Perfluoro-1-octanesulfonate	250	0.10	---	---	1	10	0.00253
perfluoro-1-pentanesulfonate	250	0.10	---	---	1	10	0.00250
Perfluoro-n-butanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	250	0.10	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluorononanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	250	0.10	---	---	1	10	0.00253

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/22/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise

Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD81

Description: PFAS - DoD ICC

Perfluoro-n-tetradecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	250	0.10	---	---	1	10	0.00250

Stock Id: LD73

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	125	0.09	---	---	1	10	0.00117
13C2-6:2FTS	125	0.10	---	---	1	10	0.00119
13C2-8:2FTS	125	0.10	---	---	1	10	0.00120
13C2-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	.00250
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125

Solution Prepared By: Bailey, Kevin Date Prepared: 10/22/2020 Expiration Date: 7/21/2021

Solution Volume : 40 mL X 1 Vials Refrigerator/Freezer No: VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD81

Description: PFAS - DoD ICC

13C3-PFBS	.00116
13C3-PFHxS	.00118
13C4-PFBA	.00125
13C4-PFHpA	.00125
13C4-PFOS	.00119
13C5-PFHxA	.00125
13C5-PFPeA	.00125
13C6-PFDA	.00125
13C7-PFUnA	.00125
13C8-FOSA	.00125
13C8-PFOA	.00122
13C8-PFOS	.00119
13C9-PFNA	.00125
1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
1H,1H,2H,2H-Perfluorohexane sulfonate	.00250
1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
3-Perfluoroheptyl propanoic acid	.00250
3-Perfluoropentyl propanoic acid	.00250
3-perfluoropropyl propanoic Acid	.00250
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.00250
Adona	.00250
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
Hexafluoropropylene oxide dimer acid	.00250
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanedisulfonate	.00250
Perfluoro-1-decanedisulfonate	.00253
Perfluoro-1-heptanedisulfonate	.00250
Perfluoro-1-hexanedisulfonate	.00253
Perfluoro-1-nonanedisulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanedisulfonate	.00253
perfluoro-1-pentanedisulfonate	.00250
Perfluoro-n-butanoic Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/22/2020

Expiration Date:

7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise

Date: 10/23/2020 9:27:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD81

Description: PFAS - DoD ICC

Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00253
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LD43	Pipette	B814657482
LD73	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/22/2020 **Expiration Date:** 7/21/2021

Solution Volume : 40 mL X 1 Vials **Refrigerator/Freezer No:** VOC Laboratory: Refrigerator - R0121

Comment: 80/20 methanol/milli-q (RP-201022-7)

Approved By: Schumitz, Denise **Date:** 10/23/2020 9:27:00 AM



It can be done

BDO Id:

200721-01

Reagent Receipt Report

Approved: ☐4. Thompson ☐

Name: MPFBA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: MPFBA Expires: 5/13/2025
Type: Solution Consumed: _____
Lot No: MPFBA0420 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: MPFBA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C4-PFBA	BDO-2105	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

WELLINGTON
LABORATORIESCERTIFICATE OF ANALYSIS
DOCUMENTATION**PRODUCT CODE:**

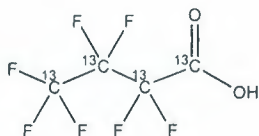
MPFBA

LOT NUMBER:

MPFBA0420

COMPOUND:Perfluoro-n-[1,2,3,4-¹³C₄]butanoic acid**STRUCTURE:****CAS #:**

Not available

**MOLECULAR FORMULA:**¹³C₄HF₇O₂**MOLECULAR WEIGHT:**

218.01

CONCENTRATION:

50.0 ± 2.5 µg/ml

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:≥99% ¹³C**LAST TESTED:** (mm/dd/yyyy)

05/13/2020

(1,2,3,4-¹³C₄)**EXPIRY DATE:** (mm/dd/yyyy)

05/13/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/20/2020

(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

BATTELLE

It can be done

BDO Id:

200721-02

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M5PFPeA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M5PFPeA

Expires: 1/22/2025

Type: Solution

Consumed:

Lot No: M5PFPeA0120

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M5PFPeA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C5-PFPeA	BDO-2216	50.0000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

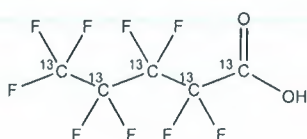
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M5PFPeA
COMPOUND: Perfluoro-n-[¹³C₅]pentanoic acid

LOT NUMBER: M5PFPeA0120

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: ¹³C₅HF₉O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 269.01
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/22/2020
EXPIRY DATE: (mm/dd/yyyy) 01/22/2025

ISOTOPIC PURITY: ≥99% ¹³C
(¹³C₅)

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

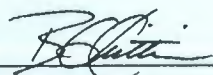
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.25% of perfluoro-n-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 01/24/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id:

200721-03

Reagent Receipt Report

Approved: ☐Date: ☐

Name: M5PFHxA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M5PFHxA

Expires: 4/3/2025

Type: Solution

Consumed:

Lot No: M5PFHxA0320

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M5PFHxA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C5-PFHxA	BDO-2217	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by:

Approved on:

Authorized by:

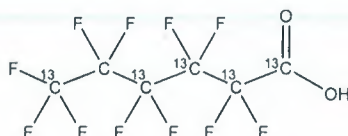
Authorized on:



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M5PFHxA **LOT NUMBER:** M5PFHxA0320
COMPOUND: Perfluoro-n-[1,2,3,4,6-¹³C₅]hexanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₅¹²C₁HF₁₁O₂ **MOLECULAR WEIGHT:** 319.02
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 04/03/2020 (1,2,3,4,6-¹³C₅)
EXPIRY DATE: (mm/dd/yyyy) 04/03/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

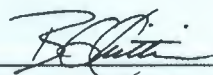
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 04/15/2020
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-04

Reagent Receipt Report

Approved: ☐8/11/2020 ☐

Name: M4PFHpA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M4PFHpA Expires: 1/8/2025
Type: Solution Consumed: _____
Lot No: M4PFHpA0120 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M4PFHpA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C4-PFHpA	BDO-2218	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

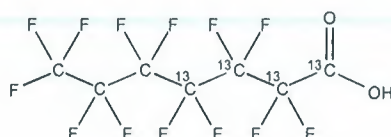
Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M4PFHpA
COMPOUND: Perfluoro-n-[1,2,3,4-¹³C₄]heptanoic acid
LOT NUMBER: M4PFHpA0120
STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA: ¹³C₄¹²C₃HF₁₃O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml
MOLECULAR WEIGHT: 368.03
SOLVENT(S): Methanol
Water (<1%)
CHEMICAL PURITY: >98%
ISOTOPIC PURITY: ≥99% ¹³C
(1,2,3,4-¹³C₄)
LAST TESTED: (mm/dd/yyyy) 01/08/2020
EXPIRY DATE: (mm/dd/yyyy) 01/08/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

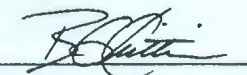
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.03% of perfluoro-n-heptanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager
Date: 01/24/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id:

200721-05

Reagent Receipt Report

Approved: ☐ Authorized: ☐

Name: M8PFOA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M8PFOA Expires: 1/23/2025
Type: Solution Consumed: _____
Lot No: M8PFOA0220 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M8PFOA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C8-PFOA	BDO-2219	48.9000	97.80	--	--	☐		
Total Analytes:	1							

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-05



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

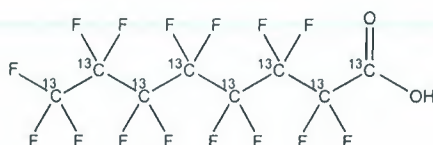
M8PFOA

LOT NUMBER:

M8PFOA0220

COMPOUND:Perfluoro-n-[¹³C₈]octanoic acid**STRUCTURE:****CAS #:**

Not available

**MOLECULAR FORMULA:**¹³C₈HF₁₅O₂**MOLECULAR WEIGHT:**

422.01

CONCENTRATION:

48.9 ± 2.4 µg/ml

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

97.8% (M8PFOA)

ISOTOPIC PURITY:≥99% ¹³C(¹³C₈)

2.2% (MPFOA [M+4])

LAST TESTED: (mm/dd/yyyy)

01/23/2020

EXPIRY DATE: (mm/dd/yyyy)

01/23/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 2.2% of [M+4] perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**Certified By:**

B.G. Chittim, General Manager
Date: 01/24/2020

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-06

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M9PFNA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M9PFNA Expires: 9/8/2023
Type: Solution Consumed: _____
Lot No: M9PFNA0918 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M9PFNA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C9-PFNA	BDO-2221	50.0000	98.00	--	--	☐		
Total Analytes:	1							

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: M9PFNA
COMPOUND: Perfluoro-n-[¹³C₉]nonanoic acid

LOT NUMBER: M9PFNA0918

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: ¹³C₉HF₁₇O₂
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 473.01
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/08/2018
EXPIRY DATE: (mm/dd/yyyy) 09/08/2023

ISOTOPIC PURITY: ≥99% ¹³C
(¹³C₉)

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 1.0% of ¹³C₅¹²C₄HF₁₇O₂ (MPFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 09/19/2018

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-07

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M6PFDA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M6PFDA

Expires: 7/25/2024

Type: Solution

Consumed:

Lot No: M6PFDA0719

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M6PFDA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C6-PFDA	BDO-2222	50.0000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

Printed on 7/21/2020

Page 1 of 1

260721-07



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

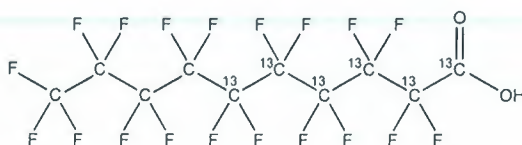
M6PFDA

LOT NUMBER:

M6PFDA0719

COMPOUND:Perfluoro-n-[1,2,3,4,5,6-¹³C₆]decanoic acid**STRUCTURE:****CAS #:**

Not available

**MOLECULAR FORMULA:**¹³C₆¹²C₄HF₁₉O₂**MOLECULAR WEIGHT:**

520.04

CONCENTRATION:

50 ± 2.5 µg/ml

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:≥99% ¹³C**LAST TESTED:** (mm/dd/yyyy)

07/25/2019

(1,2,3,4,5,6-¹³C₆)**EXPIRY DATE:** (mm/dd/yyyy)

07/25/2024

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**Certified By:**

B.G. Chittim, General Manager
Date: 07/26/2019

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-08

Acquaint Receipt Report

Approved: ☐Authorized: ☐

Name: M7PFUdA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M7PFUdA

Expires: 7/22/2024

Type: Solution

Consumed:

Lot No: M7PFUdA0719

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M7PFUdA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C7-PFUnA	BDO-2223	50.0000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

200721-08



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M7PFUdA **LOT NUMBER:** M7PFUdA0719
COMPOUND: Perfluoro-n-[1,2,3,4,5,6,7-¹³C₇]undecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₇¹²C₄HF₂₁O₂ **MOLECULAR WEIGHT:** 571.04
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2,3,4,5,6,7-¹³C₇)
LAST TESTED: (mm/dd/yyyy) 07/22/2019
EXPIRY DATE: (mm/dd/yyyy) 07/22/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

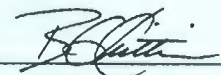
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 09/12/2019
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-09

Reagent Receipt Report

Approved:

☐

Authorized:

☐

Name: MPFDoA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: MPFDoA

Expires: 11/22/2024

Type: Solution

Consumed:

Lot No: MPFDoA1119

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: MPFDoA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDoA	BDO-2112	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by:

Approved on:

Authorized by:

Authorized on:

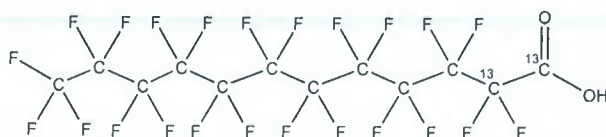
200721-09



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDoA **LOT NUMBER:** MPFDoA1119
COMPOUND: Perfluoro-n-[1,2-¹³C₂]dodecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₁₀HF₂₃O₂ **MOLECULAR WEIGHT:** 616.08
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 11/22/2019
EXPIRY DATE: (mm/dd/yyyy) 11/22/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

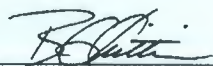
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 11/27/2019
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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It can be done

BDO Id:

200721-10

Reagent Receipt Report

Approved:

Authorized:

Name: M2PFTeDA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M2PFTeDA

Expires: 11/14/2024

Type: Solution

Consumed:

Lot No: M2PFTeDA1119

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M2PFTeDA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFTeDA	BDO-2224	50.0000	98.00	--	--				
Total Analytes:	1								

Notes:

Approved by:

Approved on:

Authorized by:

Authorized on:



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2PFTeDA **LOT NUMBER:** M2PFTeDA1119
COMPOUND: Perfluoro-n-[1,2-¹³C₂]tetradecanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₁₂HF₂₇O₂ **MOLECULAR WEIGHT:** 716.10
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** >99% ¹³C
LAST TESTED: (mm/dd/yyyy) 11/14/2019 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 11/14/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-tetradecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 11/26/2019
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-11

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M2-4:2FTS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M2-4:2FTS Expires: 4/16/2025
Type: Solution Consumed:
Lot No: M242FTS0420 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M2-4:2FTS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	46.7000	98.00	--	--	☐		
Total Analytes:	1							

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-11

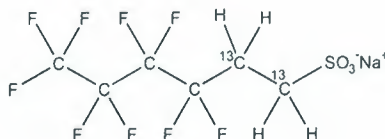


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-4:2FTS **LOT NUMBER:** M242FTS0420
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]hexane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	¹³ C ₂ ¹² C ₄ H ₄ F ₉ SO ₃ Na	MOLECULAR WEIGHT:	352.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.9 ± 2.3 µg/ml (M2-4:2FTS acid) 46.7 ± 2.3 µg/ml (M2-4:2FTS anion)	SOLVENT(S):	Methanol
CHEMICAL PURITY:	>98%	ISOTOPIC PURITY:	≥99% ¹³ C (1,2- ¹³ C ₂)
LAST TESTED: (mm/dd/yyyy)	04/16/2020		
EXPIRY DATE: (mm/dd/yyyy)	04/16/2025		
RECOMMENDED STORAGE:	Refrigerate ampoule		

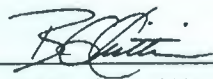
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 4:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 4:2FTS and M2-4:2FTS will produce signals in the m/z 329 to m/z 309 channel during SRM analysis. We recommend using the m/z 329 to m/z 81 transition to monitor for M2-4:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 04/20/2020
 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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It can be done

BDO Id:

200721-12

Reagent Receipt Report

Approved: ☐Substituted ☐

Name: M2-6:2FTS

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M2-6:2FTS

Expires: 5/20/2025

Type: Solution

Consumed:

Lot No: M262FTS0520

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M2-6:2FTS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-6:2FTS	BDO-2230	47.5000	98.00	--	--	☐		

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

200721-12

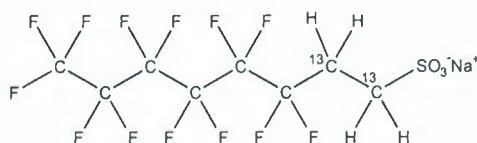


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0520
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]octane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₆H₄F₁₃SO₃Na **MOLECULAR WEIGHT:** 452.13
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.6 ± 2.4 µg/ml (M2-6:2FTS acid)
 47.5 ± 2.4 µg/ml (M2-6:2FTS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 05/20/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 05/20/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:
 B.G. Chittim, General Manager

Date: 06/02/2020
 (mm/dd/yyyy)

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BATTELLE

It can be done

BDO Id:

200721-13

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M2-8:2FTS

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M2-8:2FTS

Expires: 3/18/2025

Type: Solution

Consumed:

Lot No: M282FTS0320

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M2-8:2FTS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C2-8:2FTS	BDO-2220	47.9000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0320
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-¹³C₂]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₈H₄F₁₇SO₃Na **MOLECULAR WEIGHT:** 552.15
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
48.0 ± 2.4 µg/ml (M2-8:2FTS acid)
47.9 ± 2.4 µg/ml (M2-8:2FTS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 03/18/2020 (1,2-¹³C₂)
EXPIRY DATE: (mm/dd/yyyy) 03/18/2025
RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:
B.G. Chittim, General Manager

Date: 03/18/2020
(mm/dd/yyyy)

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It can be done

BDO Id:

200721-14

Reagent Receipt Report

Approved: ☐Date: ☐

Name: M3PFBS

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M3PFBS

Expires: 3/17/2025

Type: Solution

Consumed:

Lot No: M3PFBS1019

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M3PFBS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C3-PFBS	BDO-2226	46.5000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: _____

Approved on: _____

Authorized by: _____

Authorized on: _____

200721-14



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

M3PFBS

LOT NUMBER:

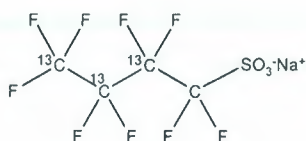
M3PFBS1019

COMPOUND:

Sodium perfluoro-1-[2,3,4-¹³C₃]butanesulfonate

STRUCTURE:
CAS #:

Not available


MOLECULAR FORMULA:
¹³C₃¹²CF₉SO₃Na

MOLECULAR WEIGHT:

325.06

CONCENTRATION:

50.0 ± 2.5 µg/ml (Na salt)
46.6 ± 2.3 µg/ml (M3PFBS acid)
46.5 ± 2.3 µg/ml (M3PFBS anion)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99% ¹³C
(2,3,4-¹³C₃)

LAST TESTED: (mm/dd/yyyy)

03/17/2020

EXPIRY DATE: (mm/dd/yyyy)

03/17/2025

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains < 0.1% of perfluoro-1-butanesulfonate.

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Certified By:

B.G. Chittim, General Manager

Date: 03/18/2020

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-15

Reagent Receipt Report

Approved:

☐

Authorized on:

☐

Name: M3PFHxS

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M3PFHxS

Expires: 10/15/2024

Type: Solution

Consumed:

Lot No: M3PFHxS1019

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M3PFHxS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C3-PFHxS	BDO-2227	47.3000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by:

Approved on:

Authorized by:

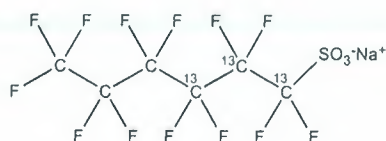
Authorized on:



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFHxS **LOT NUMBER:** M3PFHxS1019
COMPOUND: Sodium perfluoro-1-[1,2,3-¹³C₃]hexanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²C₃F₁₃SO₃Na **MOLECULAR WEIGHT:** 425.07
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.3 ± 2.4 µg/ml (M3PFHxS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 10/15/2019 (1,2,3-¹³C₃)
EXPIRY DATE: (mm/dd/yyyy) 10/15/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.1% perfluoro-1-[1,2-¹³C₂]pentanesulfonate, ~ 0.1% perfluoro-1-octanesulfonate, and ~ 0.05% of perfluoro-1-hexanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:
 B.G. Chittim, General Manager

Date: 10/16/2019
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-16

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M8PFOS

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M8PFOS

Expires: 2/21/2025

Type: Solution

Consumed:

Lot No: M8PFOS0120

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M8PFOS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C8-PFOS	BDO-2228	47.8000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

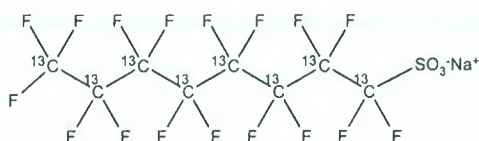
200721-16



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOS **LOT NUMBER:** M8PFOS0120
COMPOUND: Sodium perfluoro-1-[$^{13}\text{C}_8$]octanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $^{13}\text{C}_8\text{F}_{17}\text{SO}_3\text{Na}$ **MOLECULAR WEIGHT:** 530.05
CONCENTRATION: 50.0 $\pm$ 2.5 $\mu\text{g/ml}$ (Na salt) **SOLVENT(S):** Methanol
 47.9 $\pm$ 2.4 $\mu\text{g/ml}$ (M8PFOS acid)
 47.8 $\pm$ 2.4 $\mu\text{g/ml}$ (M8PFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** >99% ^{13}C
LAST TESTED: (mm/dd/yyyy) 02/21/2020 ($^{13}\text{C}_8$)
EXPIRY DATE: (mm/dd/yyyy) 02/21/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

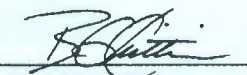
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of sodium perfluoro-1-[$^{13}\text{C}_7$]heptanesulfonate ($^{13}\text{C}_7$ -PFHpS) and ~ 1.0% of sodium perfluoro-1-[$^{13}\text{C}_8$]octanesulfonate (MPFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
 B.G. Chittim, General Manager

Date: 02/21/2020
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-17

Reagent Receipt Report

Approved: ☐ Authorized: ☐

Name: d3-N-MeFOSAA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: d3-N-MeFOSAA

Expires: 12/2/2024

Type: Solution

Consumed:

Lot No: d3NMeFOSAA1119

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: d3-N-MeFOSAA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
d3-MeFOSAA	BDO-1838	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

200721-17



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA1119
COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 1400690-70-1



MOLECULAR FORMULA: $C_{11}D_3H_3F_{17}NO_4S$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$

MOLECULAR WEIGHT: 574.23
SOLVENT(S): Methanol
 Water (<1%)

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: $\geq 98\% \text{ } ^2\text{H}_3$

LAST TESTED: (mm/dd/yyyy) 12/02/2019

EXPIRY DATE: (mm/dd/yyyy) 12/02/2024

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 12/04/2019
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-18

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: d5-N-EtFOSAA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: d5-N-EtFOSAA Expires: 5/20/2025
Type: Solution Consumed: _____
Lot No: d5NEtFOSAA0520 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: d5-N-EtFOSAA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
d5-EtFOSAA	BDO-1839	50.0000	98.00	--	--	☐		
Total Analytes:	1							

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**PRODUCT CODE:**

d5-N-EtFOSAA

LOT NUMBER:

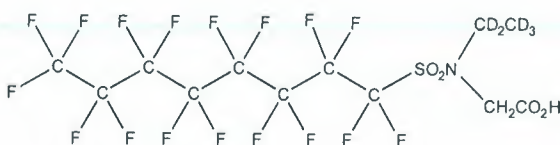
d5NEtFOSAA0520

COMPOUND:

N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:**CAS #:**

Not available

**MOLECULAR FORMULA:** $C_{12}D_5H_3F_{17}NO_4S$ **CONCENTRATION:** $50.0 \pm 2.5 \mu\text{g/ml}$ **MOLECULAR WEIGHT:**

590.26

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY: $\geq 98\% \text{ } ^2\text{H}_5$ **LAST TESTED:** (mm/dd/yyyy)

05/20/2020

EXPIRY DATE: (mm/dd/yyyy)

05/20/2025

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 05/22/2020

(mm/dd/yyyy)

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BATTELLE

It can be done

BDO Id:

200721-19

Reagent Receipt Report

Approved: ☐ Authorized: ☐

Name: M8FOSA-I Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M8FOSA-I Expires: 2/28/2025
Type: Solution Consumed: _____
Lot No: M8FOSA0220I Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture: _____
Description: M8FOSA-I

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C8-FOSA	BDO-2225	50.0000	98.00	--	--	☐		
Total Analytes:	1							

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-19



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8FOSA-I
COMPOUND: Perfluoro-1-[¹³C₈]octanesulfonamide

LOT NUMBER: M8FOSA0220I

STRUCTURE:

CAS #: 1365803-60-6



MOLECULAR FORMULA: ¹³C₈H₂F₁₇NO₂S
CONCENTRATION: 50.0 ± 2.5 µg/ml
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/28/2020
EXPIRY DATE: (mm/dd/yyyy) 02/28/2025
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 507.09
SOLVENT(S): Isopropanol
ISOTOPIC PURITY: ≥99% ¹³C
(¹³C₈)

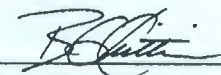
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.2% of perfluoro-1-[¹³C₄]octanesulfonamide and ~ 0.03% of perfluoro-1-[¹³C₇]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 03/03/2020
(mm/dd/yyyy)

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It can be done

BDO Id:

200721-20

Reagent Receipt Report

Approved: ☐

Date: 7/21/20

Name: M3HFPO-DA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M3HFPO-DA

Expires: 5/13/2023

Type: Solution

Consumed:

Lot No: M3HFPODA0520

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M3HFPO-DA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C3-HFPO-DA	BDO-2276	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

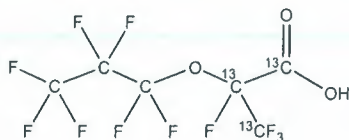


WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3HFPO-DA **LOT NUMBER:** M3HFPODA0520
COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-¹³C₃-propanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₃¹²C₃HF₁₁O₃
CONCENTRATION: 50.0 ± 2.5 µg/ml
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/13/2020
EXPIRY DATE: (mm/dd/yyyy) 05/13/2023
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 333.03
SOLVENT(S): Methanol
ISOTOPIC PURITY: ≥99% ¹³C
 (¹³C₃)

DOCUMENTATION/ DATA ATTACHED:

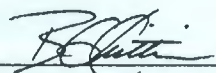
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.9% of the linear M3HFPO-DA isomer.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 05/22/2020
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-21

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: MPFDA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: MPFDA

Expires: 3/24/2025

Type: Solution

Consumed:

Lot No: MPFDA0320

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: MPFDA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	50.0000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: Approved on:

Authorized by: Authorized on:

200721-21



WELLINGTON LABORATORIES

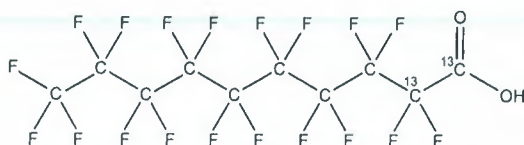
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFDA
COMPOUND: Perfluoro-n-[1,2-¹³C₂]decanoic acid

LOT NUMBER: MPFDA0320

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: ¹³C₂¹²C₈HF₁₉O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 516.07
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: ≥99% ¹³C
(1,2-¹³C₂)

LAST TESTED: (mm/dd/yyyy) 03/24/2020

EXPIRY DATE: (mm/dd/yyyy) 03/24/2025

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

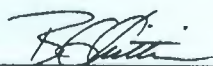
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


B.G. Chittim, General Manager

Date: 04/06/2020
(mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

It can be done

BDO Id:

200721-22

Reagent Receipt Report

Approved: ☐

8/1/2020

☐

Name: M2PFOA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: M2PFOA

Expires: 1/8/2025

Type: Solution

Consumed:

Lot No: M2PFOA0120

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: M2PFOA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFOA	BDO-2107	50.0000	98.00	--	--	☐			
Total Analytes:		1							

Notes:

Approved by: _____ Approved on: _____

Authorized by: _____ Authorized on: _____

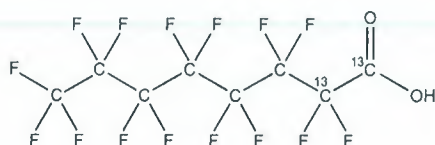
200721-22



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2PFOA **LOT NUMBER:** M2PFOA0120
COMPOUND: Perfluoro-n-[1,2-¹³C₂]octanoic acid
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₂¹²C₆HF₁₅O₂ **MOLECULAR WEIGHT:** 416.05
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 01/08/2020
EXPIRY DATE: (mm/dd/yyyy) 01/08/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-[¹³C₁]heptanoic acid (¹³C₁-PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 01/15/2020
 (mm/dd/yyyy)

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It can be done

BDO Id:

200721-23

Reagent Receipt Report

Approved: ☐Authorized: ☐

Name: M3PFBA Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: M3PFBA Expires: 2/24/2025
Type: Solution Consumed:
Lot No: M3PFBA0120 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: M3PFBA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C3-PFBA	BDO-2231	50.0000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

200721-23



WELLINGTON LABORATORIES

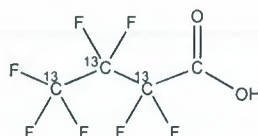
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBA
COMPOUND: Perfluoro-n-[2,3,4-¹³C₃]butanoic acid

LOT NUMBER: M3PFBA0120

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: ¹³C₃¹²CHF₇O₂
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 217.02
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: ≥99% ¹³C
(2,3,4-¹³C₃)

LAST TESTED: (mm/dd/yyyy) 02/24/2020

EXPIRY DATE: (mm/dd/yyyy) 02/24/2025

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[¹³C₃]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-¹³C₄]butanoic acid due to the naturally occurring isotopic abundance of ¹³C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 03/27/2020
(mm/dd/yyyy)

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It can be done

BDO Id: 200721-24

Reagent Receipt Report

Approved: ☐ Authorized: ☐

Name: MPFOS Received: 7/21/2020
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie
Catalogue No: MPFOS Expires: 4/15/2025
Type: Solution Consumed:
Lot No: MPFOS0420 Stored In: VOC Laboratory - R0123
Quantity: 1 ea mL % Moisture:
Description: MPFOS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
13C4-PFOS	BDO-2121	47.8000	98.00	--	--	☐			
Total Analytes:	1								

Notes:

Approved by: _____ Approved on: _____
Authorized by: _____ Authorized on: _____

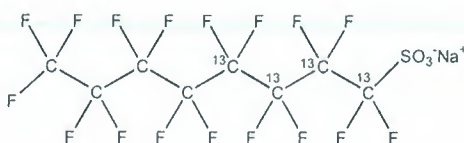
2007-21-24



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0420
COMPOUND: Sodium perfluoro-1-[1,2,3,4-¹³C₄]octanesulfonate
STRUCTURE: **CAS #:** 960315-53-1



MOLECULAR FORMULA: ¹³C₄¹²C₄F₁₇SO₃Na **MOLECULAR WEIGHT:** 526.08
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.9 ± 2.4 µg/ml (MPFOS acid)
 47.8 ± 2.4 µg/ml (MPFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
LAST TESTED: (mm/dd/yyyy) 04/15/2020 (1,2,3,4-¹³C₄)
EXPIRY DATE: (mm/dd/yyyy) 04/15/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

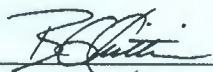
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% Sodium perfluoro-1-[1,2,3-¹³C₃]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim, General Manager

Date: 04/20/2020
 (mm/dd/yyyy)

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It can be done

BDO Id: 200811-01

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	<u>3-Perfluoropropyl propanoic acid</u>	Received:	<u>8/11/2020</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Bailey, Kevin</u>
Catalogue No:	<u>FPrPA</u>	Expires:	<u>1/7/2023</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>FPrPA1219</u>	Stored In:	<u>VOC Laboratory - R0123</u>
Quantity:	<u>1 ea</u> <u>ml</u>	% Moisture:	<u></u>
Description:	<u>FPrPA</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
3-perfluoropropyl propanoic Acid	356-02-5	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>



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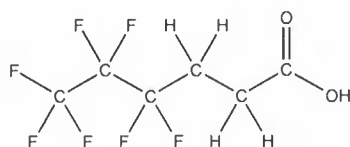
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPrPA1219

STRUCTURE:

CAS #: 356-02-5



MOLECULAR FORMULA: $C_6H_5F_7O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/07/2020
EXPIRY DATE: (mm/dd/yyyy) 01/07/2023
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 242.09
SOLVENT(S): Methanol

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ($C_6H_3F_7O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 01/08/2020
(mm/dd/yyyy)

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It can be done

BDO Id: 200811-02

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name: 3-Perfluoroheptyl propanoic acid **Received:** 8/11/2020
Vendor: Wellington Laboratories **Custodian:** Bailey, Kevin
Catalogue No: FHpPA **Expires:** 3/31/2023
Type: Solution **Consumed:** _____
Lot No: FHpPA0320 **Stored In:** VOC Laboratory - R0123
Quantity: 1 ea ml **% Moisture:** _____
Description: FHpPA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
3-Perfluoroheptyl propanoic acid	812-70-4	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**PRODUCT CODE:**

FHpPA

LOT NUMBER:

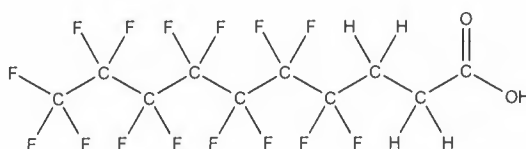
FHpPA0320

COMPOUND:

3-Perfluoroheptyl propanoic acid

STRUCTURE:**CAS #:**

812-70-4

**MOLECULAR FORMULA:** $C_{10}H_5F_{15}O_2$ **MOLECULAR WEIGHT:**

442.12

CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/ml}$ **SOLVENT(S):**

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

03/31/2020

EXPIRY DATE: (mm/dd/yyyy)

03/31/2023

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE**Certified By:**

B.G. Chittim, General Manager

Date:04/01/2020
(mm/dd/yyyy)

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It can be done

BDO Id: 200811-03

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	<u>3-Perfluoropentyl propanoic acid</u>	Received:	<u>8/11/2020</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Bailey, Kevin</u>
Catalogue No:	<u>FPePA</u>	Expires:	<u>10/2/2022</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>FPePA0919</u>	Stored In:	<u>VOC Laboratory - R0123</u>
Quantity:	<u>1 ea</u> <u>ml</u>	% Moisture:	<u></u>
Description:	<u>FPePA</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
3-Perfluoropentyl propanoic acid	914637-49-3	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

Approved by:	<u></u>	Approved on:	<u></u>
Authorized by:	<u></u>	Authorized on:	<u></u>

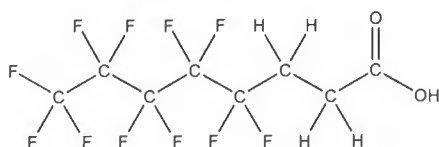
**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION

PRODUCT CODE: FPePA
COMPOUND: 3-Perfluoropentyl propanoic acid

LOT NUMBER: FPePA0919

STRUCTURE:

CAS #: 914637-49-3



MOLECULAR FORMULA: $C_8H_5F_{11}O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 10/02/2019
EXPIRY DATE: (mm/dd/yyyy) 10/02/2022
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 342.11
SOLVENT(S): Methanol

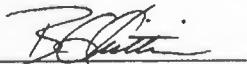
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: 
B.G. Chittim, General Manager

Date: 10/04/2019
(mm/dd/yyyy)

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It can be done

BDO Id: 200909-01

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name: PFOA DOD
Received: 9/9/2020
Vendor: ABSOLUTE STANDARDS
Custodian: Bailey, Kevin
Catalogue No: 64029
Expires: 7/28/2025
Type: Solution
Consumed:
Lot No: 072820
Stored In: LC Laboratory - F0111
Quantity: 5 ea ml % Moisture:
Description: PFOA DOD

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
11-chloroeicosafluoro-3-oxaundecan	763051-92-9	1.0000	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorodecane sulfon	39108-34-4	1.0100	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorohexane sulfon	757124-72-4	1.0000	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorooctane sulfon	27619-97-2	1.0000	100.00	--	--	☐			
9-chlorohexadecafluoro-3-oxanonane	756426-58-1	1.0000	100.00	--	--	☐			
Adona	919005-14-4	1.0000	100.00	--	--	☐			
Hexafluoropropylene oxide dimer aci	13252-13-6	1.0000	100.00	--	--	☐			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	☐			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	☐			
Perfluoro-1-butanefluoride	375-73-5	1.0000	100.00	--	--	☐			
Perfluoro-1-decanesulfonate	335-77-3	1.0100	100.00	--	--	☐			
Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	☐			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	☐			
Perfluoro-1-nonanesulfonate	68259-12-1	1.0100	100.00	--	--	☐			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	☐			
Perfluoro-1-octanesulfonate	1763-23-1	1.0100	100.00	--	--	☐			
perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	☐			
Perfluoro-n-butyric Acid	375-22-4	1.0000	100.00	--	--	☐			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	☐			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	☐			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	☐			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	☐			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	☐			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	☐			
Perfluoro-n-pentanoic acid	2706-90-3	1.0100	100.00	--	--	☐			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	☐			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	☐			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	☐			

Total Analytes: 28

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____



200909-01

CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 072820
Description: PFOA - DODExpiration Date: 072825
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23050Solvent(s):
Methanol (1 mM KOH)
2-Propanol
Lot# 042920 (98%)
23214 (2%)

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanolic acid (linear)	99542	110419	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	99543	110419	0.02	1.00	0.004	50.7	1.01	0.02	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	010820	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	071219	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid (branched)*	99202	021820	0.02	1.00	0.004	50.3	1.01	0.01	335-67-1	N/A	ipr-rel 189mg/kg
6. Perfluorononanoic acid	99200	110419	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	110419	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rel 57mg/kg
8. Perfluoroundecanoic acid	99205	110419	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	010820	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	110419	0.02	1.00	0.004	50.1	1.00	0.01	72829-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	120319	0.02	1.00	0.004	50.1	1.00	0.01	376-08-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA04201	0.02	1.00	0.004	50.0	1.00	0.05	754-91-8	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSA0119	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEIFOSA0819	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	021820	0.02	1.00	0.004	50.2	1.00	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	99544	011420	0.02	0.98	0.004	51.3	1.00	0.02	830402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)*	99198	091219	0.02	1.00	0.004	50.6	1.01	0.01	355-46-4	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS0120	0.021	1.05	0.004	47.6	1.00	0.05	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)*	99201	021820	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS1119	0.021	1.05	0.004	46.0	1.01	0.05	98789-57-2	N/A	N/A
21. Perfluoro-1-decane sulfonic acid	3671	LPFDS0419	0.021	1.05	0.004	48.2	1.01	0.05	2808-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1019	0.0214	1.07	0.004	46.7	1.00	0.05	27819-93-8	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	82FTS0919	0.021	1.05	0.004	47.4	1.00	0.05	27819-94-9	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS0520	0.021	1.05	0.004	47.9	1.01	0.05	27819-96-1	N/A	N/A
25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid	99668	071219	0.020	1.00	0.004	50.1	1.00	0.01	13252-13-6	N/A	N/A
26. 11-Chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid	4165	11CIPF3OUdS0320	0.021	1.06	0.004	47.1	1.00	0.05	83329-89-9	N/A	N/A
27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	4164	9CIPF3ONS0420	0.021	1.07	0.004	46.6	1.00	0.05	73606-19-6	N/A	N/A
28. Dodecafluoro-3H,4,8-dioxanonanoic acid (ADONA)	4103	NaDONA1119	0.021	1.06	0.004	47.1	1.00	0.05	958445-44-8	N/A	N/A
Perfluorooctanoic acid (linear)*	99202	021820	0.02	1.00	0.004	44.2	0.88	0.012	335-67-1	N/A	ipr-rel 189mg/kg
Perfluorooctanoic acid (branched isomer)*	99202	021820	0.02	1.00	0.004	6.0	0.12	0.002	335-67-1	N/A	ipr-rel 189mg/kg
Perfluorohexanesulfonic acid (linear)*	99198	091219	0.02	1.00	0.004	50.0	1.00	0.01	355-46-4	N/A	N/A
Perfluorohexanesulfonic acid (branched isomer)*	99198	091219	0.02	1.00	0.004	0.6	0.01	0.0002	355-46-4	N/A	N/A
Heptadecafluorooctanesulfonic acid (linear)*	99201	021820	0.02	1.00	0.004	38.2	0.76	0.01	1763-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	7.5	0.16	0.002	1763-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	4.0	0.08	0.001	1763-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	0.5	0.010	0.0001	1763-23-1	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4162	brNMeFOSA0119	0.02	1.00	0.004	34.2	0.68	0.03	2355-31-9	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSA0119	0.02	1.00	0.004	10.5	0.21	0.011	00-00-0	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSA0119	0.02	1.00	0.004	5.1	0.10	0.005	00-00-0	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSA0119	0.02	1.00	0.004	0.3	0.005	0.00026	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4163	brNEIFOSA0819	0.02	1.00	0.004	36.2	0.72	0.04	2991-50-6	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEIFOSA0819	0.02	1.00	0.004	8.7	0.17	0.009	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEIFOSA0819	0.02	1.00	0.004	4.5	0.09	0.005	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEIFOSA0819	0.02	1.00	0.004	0.6	0.012	0.0006	00-00-0	N/A	N/A

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with cap tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



It can be done

BDO Id: 200914-01

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name: PFOA DOD
Received: 9/14/2020
Vendor: ABSOLUTE STANDARDS
Custodian: Schumitz, Matt
Catalogue No: 64029
Expires: 8/26/2025
Type: Solution
Consumed:
Lot No: 082620
Stored In: LC Laboratory - F0111
Quantity: 5 ea MI % Moisture:
Description: PFOA DOD

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
11-chloroeicosafluoro-3-oxaundecan	763051-92-9	1.0000	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorodecane sulfon	39108-34-4	1.0100	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorohexane sulfon	757124-72-4	1.0000	100.00	--	--	☐			
1H,1H,2H,2H-Perfluorooctane sulfon	27619-97-2	1.0000	100.00	--	--	☐			
9-chlorohexadecafluoro-3-oxanonane	756426-58-1	1.0000	100.00	--	--	☐			
Adona	919005-14-4	1.0000	100.00	--	--	☐			
Hexafluoropropylene oxide dimer aci	13252-13-6	1.0000	100.00	--	--	☐			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	☐			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	☐			
Perfluoro-1-butanefluoride	375-73-5	1.0000	100.00	--	--	☐			
Perfluoro-1-decanesulfonate	335-77-3	1.0100	100.00	--	--	☐			
Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	☐			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	☐			
Perfluoro-1-nonanesulfonate	68259-12-1	1.0100	100.00	--	--	☐			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	☐			
Perfluoro-1-octanesulfonate	1763-23-1	1.0100	100.00	--	--	☐			
perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	☐			
Perfluoro-n-butyric Acid	375-22-4	1.0000	100.00	--	--	☐			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	☐			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	☐			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	☐			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	☐			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	☐			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	☐			
Perfluoro-n-pentanoic acid	2706-90-3	1.0100	100.00	--	--	☐			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	☐			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	☐			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	☐			

Total Analytes: 28

Notes:

Approved by: _____ Approved on: _____
 Authorized by: _____ Authorized on: _____



CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 082620
Description: PFOA - DOD
28 components
Expiration Date: 082625
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23060
Solvent(s): Methanol (1 mM KOH) 042920 (98%)
2-Propanol 23214 (2%)
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.007

Formulated By: Benson Chan	DATE: 082620
Reviewed By: Pedro L. Renteria	DATE: 082620

Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

SDS Information (Solvent Safety Info. On Attached pg.)											
Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (±) µg/mL	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butyric acid (linear)	99542	110419	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	99543	110419	0.02	1.00	0.004	50.7	1.01	0.02	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	010820	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	081920	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid (branched)*	99202	021820	0.02	1.00	0.004	50.3	1.01	0.01	335-67-1	N/A	ip-rat 180mg/kg
6. Perfluorononanoic acid	99200	110419	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	110419	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	110419	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosfluorododecanoic acid	99196	010820	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluortridecanoic acid	99204	110419	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluortetradecanoic acid	99203	120319	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA04201	0.02	1.00	0.004	50.0	1.00	0.05	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brMeFOSAA1119	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA0819	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	021820	0.02	1.00	0.004	50.2	1.00	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	99544	011420	0.02	0.98	0.004	51.3	1.00	0.02	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)*	99198	081920	0.02	1.00	0.004	50.2	1.00	0.01	355-46-4	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFH050120	0.021	1.05	0.004	47.6	1.00	0.05	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)*	99201	021820	0.02	1.00	0.004	50.2	1.00	0.01	1783-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS1119	0.021	1.05	0.004	48.0	1.01	0.05	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS1119	0.021	1.05	0.004	48.2	1.01	0.05	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS0720	0.0214	1.07	0.004	46.7	1.00	0.05	27619-93-8	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0420	0.021	1.05	0.004	47.4	1.00	0.05	27819-94-9	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS0520	0.021	1.05	0.004	47.9	1.01	0.05	27619-96-1	N/A	N/A
25. 2-(heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid	99966	061820	0.020	1.00	0.004	50.1	1.00	0.01	13252-13-6	N/A	N/A
26. 11-Chlorooctadecafluoro-3-oxaundecane-1-sulfonic acid	4165	11COPF30U050320	0.021	1.06	0.004	47.1	1.00	0.05	83329-89-9	N/A	N/A
27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	4164	9COPF30NS0420	0.021	1.07	0.004	46.6	1.00	0.05	73606-19-6	N/A	N/A
28. Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA)	4103	NaDONA1119	0.021	1.06	0.004	47.1	1.00	0.05	958445-44-8	N/A	N/A

Perfluorooctanoic acid (linear)*	99202	021820	0.02	1.00	0.004	44.2	0.88	0.012	335-67-1	N/A	ip-rat 180mg/kg
Perfluorooctanoic acid (branched isomer)*	99202	021820	0.02	1.00	0.004	6.0	0.12	0.002	335-67-1	N/A	ip-rat 180mg/kg
Perfluorohexanesulfonic acid (linear)*	99198	081920	0.02	1.00	0.004	49.6	0.99	0.01	355-46-4	N/A	N/A
Perfluorohexanesulfonic acid (branched isomer)*	99198	081920	0.02	1.00	0.004	0.6	0.01	0.0002	355-46-4	N/A	N/A
Heptadecafluorooctanesulfonic acid (linear)*	99201	021820	0.02	1.00	0.004	38.2	0.76	0.01	1783-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	7.5	0.15	0.002	1783-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	4.0	0.08	0.001	1783-23-1	N/A	N/A
Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	021820	0.02	1.00	0.004	0.5	0.010	0.0001	1783-23-1	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4162	brMeFOSAA0119	0.02	1.00	0.004	34.2	0.68	0.03	2355-31-9	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brMeFOSAA0819	0.02	1.00	0.004	10.5	0.21	0.011	00-00-0	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brMeFOSAA0119	0.02	1.00	0.004	5.1	0.10	0.005	00-00-0	N/A	N/A
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brMeFOSAA0819	0.02	1.00	0.004	0.3	0.005	0.00026	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4163	brNEFOSAA0819	0.02	1.00	0.004	36.2	0.72	0.04	2991-50-6	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA0819	0.02	1.00	0.004	6.7	0.17	0.009	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA0819	0.02	1.00	0.004	4.5	0.09	0.005	00-00-0	N/A	N/A
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEFOSAA0819	0.02	1.00	0.004	0.6	0.012	0.0006	00-00-0	N/A	N/A

*Concentrations for branched and linear isomers are based on LC/MS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

1. The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
2. Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
3. Standards are certified (±) 0.5% of the stated value, unless otherwise stated.
4. All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
5. Uncertainty Reference: Taylor, B.N. and Kuyatt, C.E., "Guidelines for Expressing and Reporting the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

ACCREDITATIONS

Accrediting Authority	Laboratory ID
U.S. Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP)	91667
State of Florida Department of Health	E87856
State of New York Department of Health	12105
State of Washington Department of Ecology	C1050
State of California	3045
Commonwealth of Massachusetts	E87856
State of Maine	MA00056
State of Vermont	VT 87856
State of New Hampshire	2137
Commonwealth of Pennsylvania Department of Environmental Protection	68-05687
State of Alaska Department of Environmental Conservation	19-005
State of Rhode Island	E87856

Current certificates and lists of accredited parameters are available upon request.

Sample Preparation

It can be done**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS****Project Title(s)**CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10**Project No.(s)**

100142218

20-1297**CTO-4532: PFAS in Solids****SD**

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:

DA889PB-FS	G1659-FS
DA890LCS-FS	G1660-FS
G1648-FS	G1662-FS
G1649MS-FS	
G1650MSD-FS	
G1653-FS	

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Ryan Kelly

Approved By:	Date	Initials
Denise Schumitz	11/04/2020	DMS



BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

**CTO-4532: PFAS in Solids
SD**

Sample ID	Description
DA889PB-FS	Procedural Blank
DA890LCS-FS	Laboratory Control Sample - Ottawa Sand (200320-01)
G1648-FS	CBD-AOA-SD04-000H
G1649MS-FS	Matrix Spike of CBD-AOA-SD04-000H-MS
G1650MSD-FS	Matrix Spike Duplicate of CBD-AOA-SD04-000H-SD
G1653-FS	CBD-AOA-SD02-000H
G1659-FS	CBD-AOA-SD08-000H
G1660-FS	CBD-AOA-SD08P-000H
G1662-FS	CBD-AOA-SD06-000H

Samples Assigned By:

Matt Schumitz

Date : October 14, 2020

Comments:



BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Requested On/By: 10/19/2020 BTM Relinquished On/By: 10/19/2020 MDS	Purpose: Sample Preparation Last Activity: Return
Accepted On/By: 10/19/2020 BTM Stored In Facility: Sample Preparation Stored Until: 10/19/2020 Stored Comment: NA	Returned On/To: 10/19/2020 MDS Returned To Facility: Custody: NA Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	G1648	1	--	Intact	NA
2	G1653	1	--	Intact	NA
3	G1659	1	--	Intact	NA
4	G1660	1	--	Intact	NA
5	G1662	1	--	Intact	NA
Total Samples		5	* "C" = Consumed Container		



BATTELLE - NORWELL OPERATIONS ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
DA889PB-FS	NA	Y	NA	NA	NA	2.08	100.00	0.00	2.08
DA890LCS-FS	NA	Y	NA	NA	NA	2.16	100.00	0.00	2.16
G1648-FS	1	Y	0.77	14.51	11.43	1.95	77.58	22.42	1.51
G1649MS-FS	1	Y	0.76	11.19	9.02	1.87	79.19	20.81	1.48
G1650MSD-FS	1	Y	0.76	11.14	8.81	1.87	77.55	22.45	1.45
G1653-FS	1	Y	0.77	11.56	6.32	2.04	51.44	48.56	1.05
G1659-FS	1	Y	0.79	16.21	13.24	1.88	80.74	19.26	1.52
G1660-FS	1	Y	0.78	10.92	8.92	2.07	80.28	19.72	1.66
G1662-FS	1	Y	0.78	8.96	6.99	1.95	75.92	24.08	1.48

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "Y" = Sample homogenized per SOP requirements



BATTELLE - NORWELL OPERATIONS ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
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Task: **Wet Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
DA889PB-FS	10/20/2020 BTM	BAL-009
DA890LCS-FS	10/20/2020 BTM	BAL-009
G1648-FS	10/19/2020 BTM	BAL-007
G1649MS-FS	10/19/2020 BTM	BAL-007
G1650MSD-FS	10/19/2020 BTM	BAL-007
G1653-FS	10/19/2020 BTM	BAL-007
G1659-FS	10/19/2020 BTM	BAL-007
G1660-FS	10/19/2020 BTM	BAL-007
G1662-FS	10/19/2020 BTM	BAL-007

Task: **Tare Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
DA889PB-FS	--	--
DA890LCS-FS	--	--
G1648-FS	10/19/2020 BTM	BAL-007
G1649MS-FS	10/19/2020 BTM	BAL-007
G1650MSD-FS	10/19/2020 BTM	BAL-007
G1653-FS	10/19/2020 BTM	BAL-007
G1659-FS	10/19/2020 BTM	BAL-007
G1660-FS	10/19/2020 BTM	BAL-007
G1662-FS	10/19/2020 BTM	BAL-007

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "Y" = Sample homogenized per SOP requirements



BATTELLE - NORWELL OPERATIONS ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
------------	-------	---	-----------------	--------------------	----------------	-----------------------	--------------	---------------	-----------------------

Task: **Aliquot Wet Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
DA889PB-FS	--	--
DA890LCS-FS	--	--
G1648-FS	10/19/2020 BTM	BAL-007
G1649MS-FS	10/19/2020 BTM	BAL-007
G1650MSD-FS	10/19/2020 BTM	BAL-007
G1653-FS	10/19/2020 BTM	BAL-007
G1659-FS	10/19/2020 BTM	BAL-007
G1660-FS	10/19/2020 BTM	BAL-007
G1662-FS	10/19/2020 BTM	BAL-007

Task: **Aliquot Dry Weight**

BNO-ID:	Date/Initials:	Battelle-ID:
DA889PB-FS	--	--
DA890LCS-FS	--	--
G1648-FS	10/20/2020 BTM	BAL-009
G1649MS-FS	10/20/2020 BTM	BAL-009
G1650MSD-FS	10/20/2020 BTM	BAL-009
G1653-FS	10/20/2020 BTM	BAL-009
G1659-FS	10/20/2020 BTM	BAL-009
G1660-FS	10/20/2020 BTM	BAL-009
G1662-FS	10/20/2020 BTM	BAL-009

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100

Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]

* "Y" = Sample homogenized per SOP requirements



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
DA889PB-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
DA890LCS-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
DA890LCS-FS	LD43	LCS/MS	1	200	10/20/20 BTM	SG	NA
G1648-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1649MS-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1649MS-FS	LD43	LCS/MS	1	400	10/20/20 BTM	SG	NA
G1650MSD-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1650MSD-FS	LD43	LCS/MS	1	400	10/20/20 BTM	SG	NA
G1653-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1659-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1660-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA
G1662-FS	LC69	SIS	2	125	10/20/20 BTM	SG	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LC69	Pipette	B814657482
LD43	Pipette	B909301606



BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
DA889PB-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
DA890LCS-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1648-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1649MS-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1650MSD-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1653-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1659-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1660-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA
G1662-FS	10/20/20 BTM	NA	NA	NEVAP_3	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
Q-Sep QuEChERS Extraction Salt	200831-01	07/31/23	99704	NA	

Solvents/Reagents:

Name	Lot No	Comments
Methanol HPLC (201009-01)	202167	



It can be done

BATTELLE - NORWELL OPERATIONS COLUMN FRACTIONATION FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Extract Id	Date	Init.	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comments
DA889PB-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
DA890LCS-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1648-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1649MS-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1650MSD-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1653-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1659-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1660-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA
G1662-FS(3)	10/23/20	RPK	NA	NA	NA	NA	NA

Column Diameter: 13 mm **Procedure Comment:**

Elution Volume: 9 mL

Solvents

Name	Lot No
Methanol HPLC	202167

Reagents

Reagent Prep	Weight g	Name	Expires	Lot No	Procedure
RP-201023-1	Not Measured	0.5% NH3 in Methanol (w/v)	10/23/20	202167	Per 100 mL, 4.25 mL are brought to 100 mL with
RP-201023-1	Not Measured	0.5% NH3 in Methanol (w/v)	10/23/20	A0409799	Per 100 mL, 4.25 mL are brought to 100 mL with
RP-201023-2	0.20	Pre-packed SPE Column	10/23/20	S308-0116/S20-004415	Pre-packed SPE Column

Fractions



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT CLEANUP FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Extract Id	Date	Init.	Comments
DA889PB-FS(3)	10/23/20	RPK	NA
DA890LCS-FS(3)	10/23/20	RPK	NA
G1648-FS(3)	10/23/20	RPK	NA
G1649MS-FS(3)	10/23/20	RPK	NA
G1650MSD-FS(3)	10/23/20	RPK	NA
G1653-FS(3)	10/23/20	RPK	NA
G1659-FS(3)	10/23/20	RPK	NA
G1660-FS(3)	10/23/20	RPK	NA
G1662-FS(3)	10/23/20	RPK	NA

Cleanup:

Envi-Carb

Reagents:

Reagent Prep	Name	Expires	Lot No	Procedure
191209-01	Supelclean ENVI-Carb SPE Bulk Packing	12/09/24	122395	NA



It can be done

**BATTELLE - NORWELL OPERATIONS
EXTRACT CLEANUP FORM**

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

**CTO-4532: PFAS in Solids
SD**

Extract Id	Date	Init.	Comments
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It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

(N/A Fraction)

Extract Id	Extr. Vol. (uL)	Added (uL)	Std. Id	Accm. (uL)	Vial No.	Pre Inj. Vol. (uL)^	Final Dilution *	Date Spiked/ Spiked By	Witn'd By
DA889PB-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
DA890LCS-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1648-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1649MS-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1650MSD-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1653-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1659-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1660-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW
G1662-FS(3)	875	125	LD56	125	7	1000	10.000	11/02/20 KH	AW

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LD56	Pipette	B814657482

* - Final Dilution is any HPLC, dilutions, or other manipulation

^ - Pre Injection Volume (PIV) includes any RIS spikes.



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
DA889PB-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
DA889PB-FS	2	--	10/23/2020 9:20:00 AM	DA889PB-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
DA889PB-FS	3	--	10/23/2020 9:20:00 AM	DA889PB-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
DA890LCS-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
DA890LCS-FS	2	--	10/23/2020 9:20:00 AM	DA890LCS-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
DA890LCS-FS	3	--	10/23/2020 9:20:00 AM	DA890LCS-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1648-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1648-FS	2	--	10/23/2020 9:20:00 AM	G1648-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1648-FS	3	--	10/23/2020 9:20:00 AM	G1648-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1649MS-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1649MS-FS	2	--	10/23/2020 9:20:00 AM	G1649MS-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1649MS-FS	3	--	10/23/2020 9:20:00 AM	G1649MS-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1650MSD-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1650MSD-FS	2	--	10/23/2020 9:20:00 AM	G1650MSD-FS	0	15000	13500	1.111	1.111	10/23/20 RPK

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
G1650MSD-FS	3	--	10/23/2020 9:20:00 AM	G1650MSD-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1653-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1653-FS	2	--	10/23/2020 9:20:00 AM	G1653-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1653-FS	3	--	10/23/2020 9:20:00 AM	G1653-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1659-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1659-FS	2	--	10/23/2020 9:20:00 AM	G1659-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1659-FS	3	--	10/23/2020 9:20:00 AM	G1659-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1660-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1660-FS	2	--	10/23/2020 9:20:00 AM	G1660-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1660-FS	3	--	10/23/2020 9:20:00 AM	G1660-FS	0	15000	1500	10.000	10.000	10/23/20 RPK
G1662-FS	0	C	10/20/2020	NA		NA	NA	1.000	1.000	10/20/20 BTM
G1662-FS	2	--	10/23/2020 9:20:00 AM	G1662-FS	0	15000	13500	1.111	1.111	10/23/20 RPK
G1662-FS	3	--	10/23/2020 9:20:00 AM	G1662-FS	0	15000	1500	10.000	10.000	10/23/20 RPK

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]

Dilution Factor = [Sample Volume (uL) / Aliquot Volume (uL)] * Prior Dilution Factor

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Nov 2 2020 5:10PM SAS		Received On/By: Nov 2 2020 5:10PM SAS	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	DA889PB-FS(3)	1000	10	Intact	NA
2	DA890LCS-FS(3)	1000	10	Intact	NA
3	G1648-FS(3)	1000	10	Intact	NA
4	G1649MS-FS(3)	1000	10	Intact	NA
5	G1650MSD-FS(3)	1000	10	Intact	NA
6	G1653-FS(3)	1000	10	Intact	NA
7	G1659-FS(3)	1000	10	Intact	NA
8	G1660-FS(3)	1000	10	Intact	NA
9	G1662-FS(3)	1000	10	Intact	NA

Total Extracts: 9



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10

Project No.(s)

100142218

20-1297

CTO-4532: PFAS in Solids

SD

Sample ID:	Comment:	Date/Initials:
DA889PB-FS	SPE began at 10:17 AM, manifold 1, ended at 10:53 AM.	10/23/20 RPK
DA890LCS-FS	SPE began at 10:17 AM, manifold 1, ended at 10:46 AM.	10/23/20 RPK
G1648-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1648-FS	SPE began at 10:17 AM, manifold 1, ended at 10:49 AM.	10/23/20 RPK
G1649MS-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1649MS-FS	SPE began at 10:17 AM, manifold 1, ended at 10:47 AM.	10/23/20 RPK
G1650MSD-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1650MSD-FS	SPE began at 10:17 AM, manifold 1, ended at 10:46 AM.	10/23/20 RPK
G1653-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1653-FS	SPE began at 10:17 AM, manifold 1, ended at 10:46 AM.	10/23/20 RPK
G1659-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1659-FS	SPE began at 10:17 AM, manifold 1, ended at 10:46 AM.	10/23/20 RPK
G1660-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1660-FS	SPE began at 10:17 AM, manifold 1, ended at 10:45 AM.	10/23/20 RPK
G1662-FS	Sample contained overlying water, which was poured off prior to weighing out.	10/19/20 BTM
G1662-FS	SPE began at 10:17 AM, manifold 1, ended at 10:47 AM.	10/23/20 RPK



It can be done

**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM****Project Title(s)**CTO-4532: NRL Chesapeake Bay Detachment (NRL-
CBD) Site 10**Project No.(s)**

100142218

20-1297**CTO-4532: PFAS in Solids
SD**

Entered By:**On:**

Task Leader Approval:**On:****Supervisor Approval:****On:****PM Approval:****On:**

Analytical Calibrations



Sequence Report

Created with Analyst Reporter
Printed: 03/11/2020 1:43:39 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
11	MeOH		10/30/2020 2:57:13 AM	5-369.dam	AE_10292020_5-369.wiff
2	LD74	L1	10/30/2020 3:07:41 AM	5-369.dam	AE_10292020_5-369.wiff
3	LD75	L2	10/30/2020 3:18:08 AM	5-369.dam	AE_10292020_5-369.wiff
4	LD76	L3	10/30/2020 3:28:36 AM	5-369.dam	AE_10292020_5-369.wiff
5	LD77	L4	10/30/2020 3:39:03 AM	5-369.dam	AE_10292020_5-369.wiff
6	LD78	L5	10/30/2020 3:49:29 AM	5-369.dam	AE_10292020_5-369.wiff
7	LD79	L6	10/30/2020 3:59:58 AM	5-369.dam	AE_10292020_5-369.wiff
8	LD80 IB	Instrument Blank	10/30/2020 4:10:26 AM	5-369.dam	AE_10292020_5-369.wiff
9	LD81 ICC	ICC	10/30/2020 4:20:54 AM	5-369.dam	AE_10292020_5-369.wiff
10	LD10 Branch	Branch Standard	10/30/2020 4:31:23 AM	5-369.dam	AE_10292020_5-369.wiff



Sequence Report

Created with Analyst Reporter
Printed: 03/11/2020 1:45:02 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		11/2/2020 9:23:50 AM	5-369.dam	AE_11022020_5-369.wiff
2	LD76 CCV	CCV	11/2/2020 9:34:18 AM	5-369.dam	AE_11022020_5-369.wiff
3	LD79	L6	11/2/2020 9:44:45 AM	5-369.dam	AE_11022020_5-369.wiff
4	LD80 IB	Instrument Blank	11/2/2020 9:55:12 AM	5-369.dam	AE_11022020_5-369.wiff
5	MeOH		11/2/2020 10:05:39 AM	5-369.dam	AE_11022020_5-369.wiff
6	DA869PB-FS(0)		11/2/2020 10:16:05 AM	5-369.dam	AE_11022020_5-369.wiff
7	G1560-FS(0)		11/2/2020 10:26:32 AM	5-369.dam	AE_11022020_5-369.wiff
8	G1554-FS-D(5)		11/2/2020 10:36:59 AM	5-369.dam	AE_11022020_5-369.wiff
9	MeOH		11/2/2020 10:47:44 AM	5-369.dam	AE_11022020_5-369.wiff
10	LD77 CCV	CCV	11/2/2020 10:58:11 AM	5-369.dam	AE_11022020_5-369.wiff
1	MeOH		11/2/2020 5:13:34 PM	5-369.dam	AE_11022020_5-369.wiff
2	LD76 CCV	CCV	11/2/2020 5:24:03 PM	5-369.dam	AE_11022020_5-369.wiff
3	MeOH		11/2/2020 5:34:31 PM	5-369.dam	AE_11022020_5-369.wiff
4	DA860PB-FS(0)		11/2/2020 5:44:58 PM	5-369.dam	AE_11022020_5-369.wiff
5	DA861LCS-FS(0)		11/2/2020 5:55:27 PM	5-369.dam	AE_11022020_5-369.wiff
6	G1524-FS(0)		11/2/2020 6:05:55 PM	5-369.dam	AE_11022020_5-369.wiff
7	G1525-FS(0)		11/2/2020 6:16:23 PM	5-369.dam	AE_11022020_5-369.wiff
8	LD77 CCV	CCV	11/2/2020 6:26:51 PM	5-369.dam	AE_11022020_5-369.wiff
9	MeOH		11/2/2020 6:37:20 PM	5-369.dam	AE_11022020_5-369.wiff
10	DA858PB-FS(3)		11/2/2020 6:47:48 PM	5-369.dam	AE_11022020_5-369.wiff
11	DA859LCS-FS(3)		11/2/2020 6:58:15 PM	5-369.dam	AE_11022020_5-369.wiff
12	G1517-FS(3)		11/2/2020 7:08:43 PM	5-369.dam	AE_11022020_5-369.wiff
13	G1518-FS(3)		11/2/2020 7:19:11 PM	5-369.dam	AE_11022020_5-369.wiff
14	G1519MS-FS(3)		11/2/2020 7:29:39 PM	5-369.dam	AE_11022020_5-369.wiff
15	G1520MSD-FS(3)		11/2/2020 7:40:07 PM	5-369.dam	AE_11022020_5-369.wiff
16	G1521-FS(3)		11/2/2020 7:50:35 PM	5-369.dam	AE_11022020_5-369.wiff
17	G1522-FS(3)		11/2/2020 8:01:03 PM	5-369.dam	AE_11022020_5-369.wiff
18	G1523-FS(3)		11/2/2020 8:11:31 PM	5-369.dam	AE_11022020_5-369.wiff
19	LD76 CCV	CCV	11/2/2020 8:22:00 PM	5-369.dam	AE_11022020_5-369.wiff
20	MeOH		11/2/2020 8:32:28 PM	5-369.dam	AE_11022020_5-369.wiff
21	DA889PB-FS(3)	Procedural Blank	11/2/2020 8:42:56 PM	5-369.dam	AE_11022020_5-369.wiff
22	DA890LCS-FS(3)	Laboratory Control Sample	11/2/2020 8:53:24 PM	5-369.dam	AE_11022020_5-369.wiff
23	G1648-FS(3)	CBD-AOA-SD04-000H	11/2/2020 9:03:52 PM	5-369.dam	AE_11022020_5-369.wiff
24	G1649MS-FS(3)	CBD-AOA-SD04-000H-MS	11/2/2020 9:14:20 PM	5-369.dam	AE_11022020_5-369.wiff
25	G1650MSD-FS(3)	CBD-AOA-SD04-000H-SD	11/2/2020 9:24:48 PM	5-369.dam	AE_11022020_5-369.wiff
26	G1653-FS(3)	CBD-AOA-SD02-000H	11/2/2020 9:35:16 PM	5-369.dam	AE_11022020_5-369.wiff
27	G1659-FS(3)	CBD-AOA-SD08-000H	11/2/2020 9:45:44 PM	5-369.dam	AE_11022020_5-369.wiff
28	G1660-FS(3)	CBD-AOA-SD08P-000H	11/2/2020 9:56:12 PM	5-369.dam	AE_11022020_5-369.wiff
29	G1662-FS(3)	CBD-AOA-SD06-000H	11/2/2020 10:06:40 PM	5-369.dam	AE_11022020_5-369.wiff



Sequence Report

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Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
30	LD77 CCV	CCV	11/2/2020 10:17:09 PM	5-369.dam	AE_11022020_5-369.wiff

1. Samples do not apply to this batch. SAS 11/3/2020



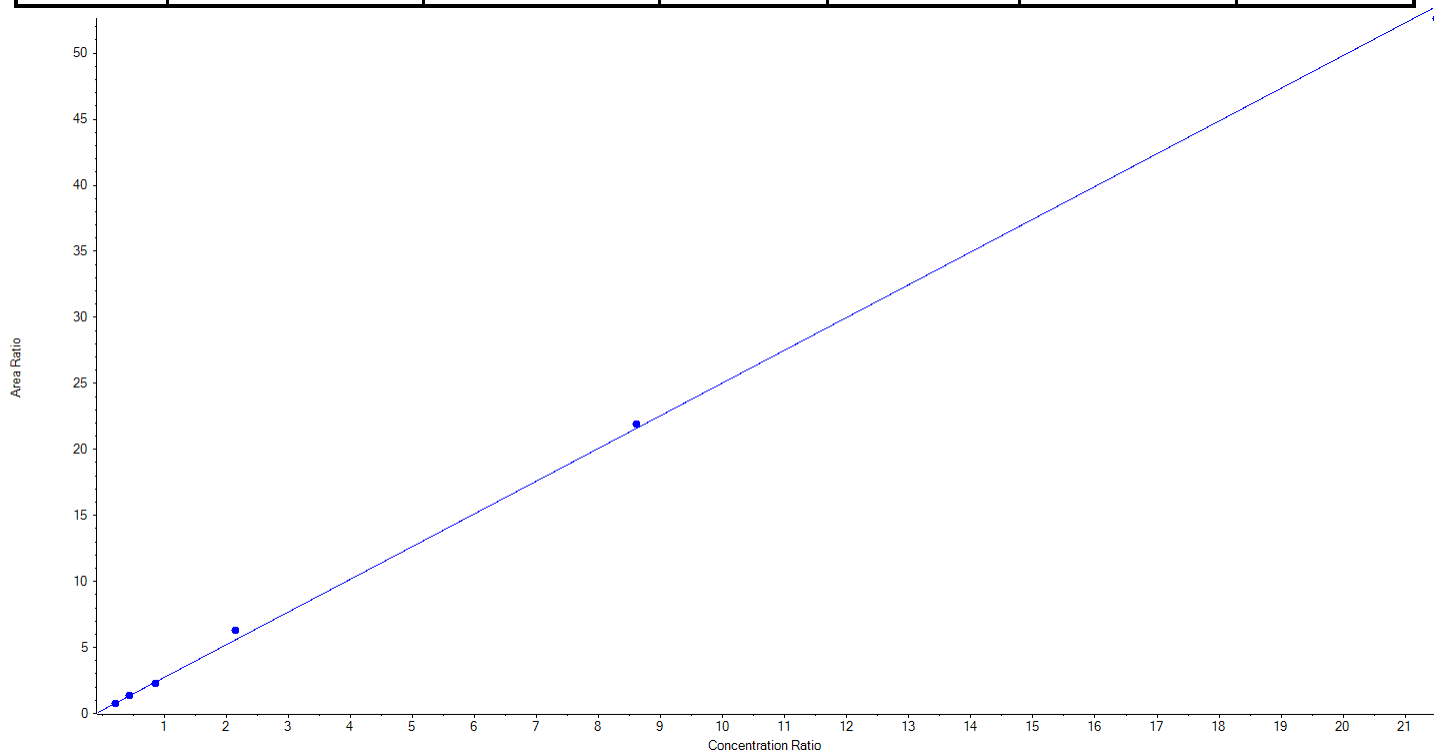
Calibration Summary Report

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Analyte Name	PFBS_1	Data File	AE_10292020_5-369.wiff
MRM Transition	298.9 / 80.0	Result Table	20-1297
Internal Standard	13C3-PFBS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 2.47805x + 0.26034$ ($r = 0.99917$) (weighting: $1/x$) $r^2: 0.9983$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	222.12	88.9
3	LD75	L2	True	500.00	513.64	102.7
4	LD76	L3	True	1000.00	956.22	95.6
5	LD77	L4	True	2500.00	2820.80	112.8
6	LD78	L5	True	10000.00	10170.48	101.7
7	LD79	L6	True	25000.00	24566.75	98.3





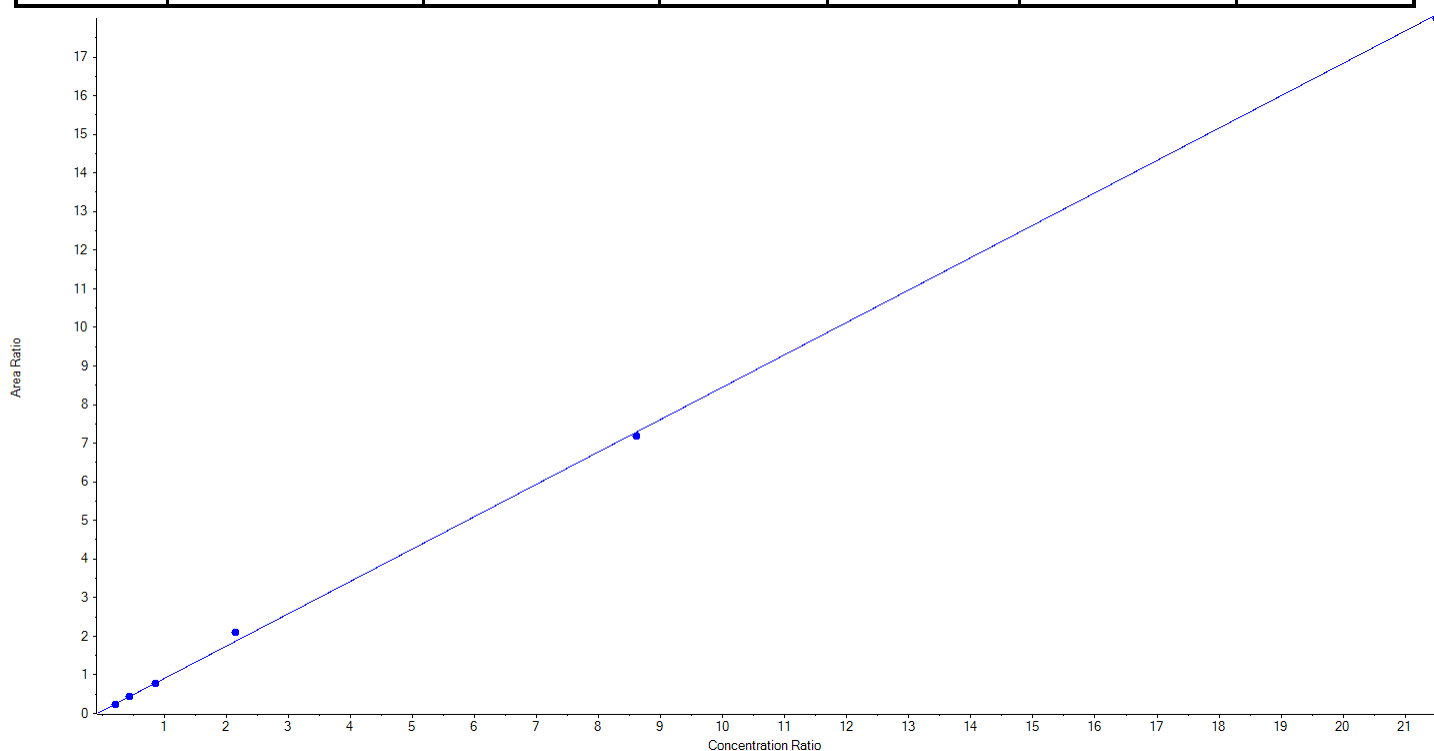
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Analyte Name	PFBS_2	Data File	AE_10292020_5-369.wiff
MRM Transition	298.9 / 99.0	Result Table	20-1297
Internal Standard	13C3-PFBS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.83834x + 0.07137$ ($r = 0.99930$) (weighting: $1/x$) $r^2: 0.9986$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	218.51	87.4
3	LD75	L2	True	500.00	519.81	104.0
4	LD76	L3	True	1000.00	979.50	98.0
5	LD77	L4	True	2500.00	2817.55	112.7
6	LD78	L5	True	10000.00	9853.95	98.5
7	LD79	L6	True	25000.00	24860.68	99.4





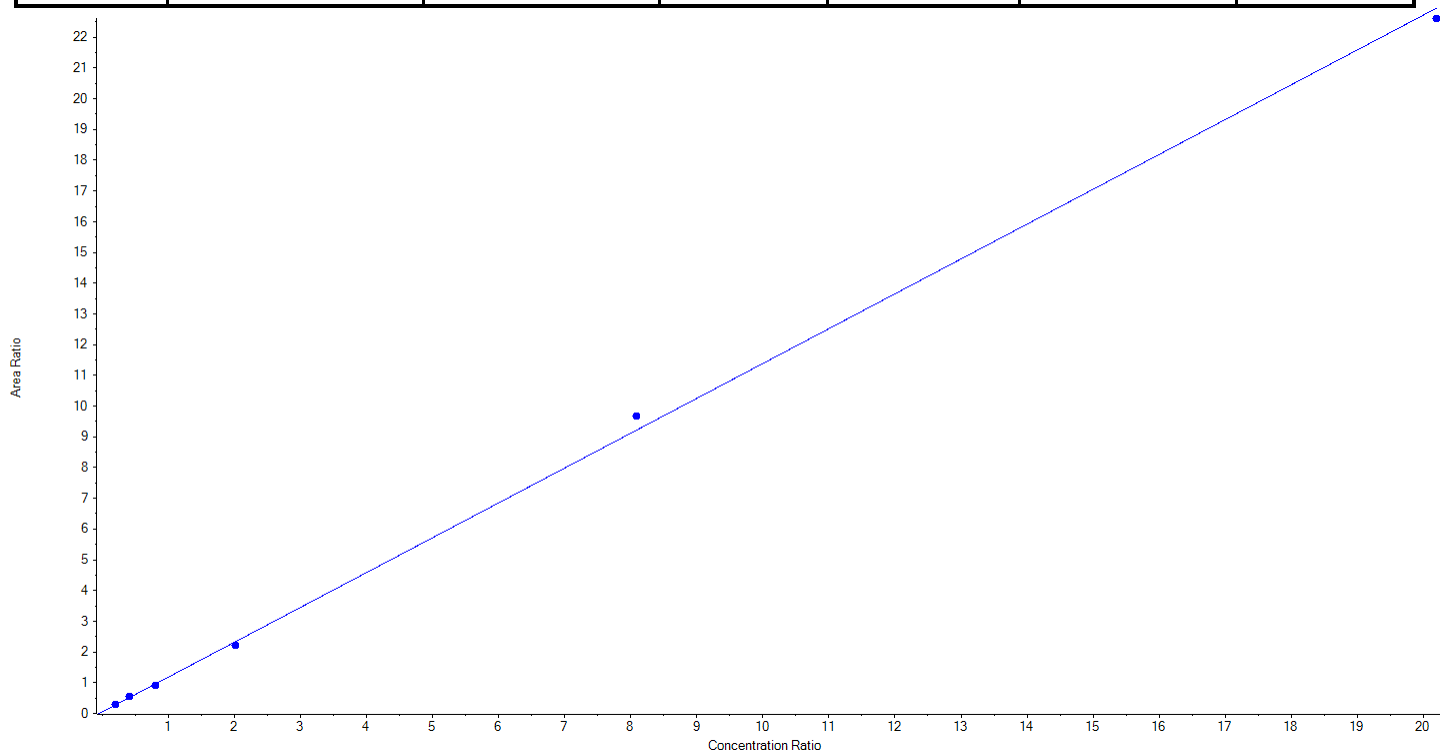
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Analyte Name	PFHxA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	313.0 / 269.0	Result Table	20-1297
Internal Standard	13C5-PFHxA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.13340 x + 0.05269$ ($r = 0.99936$) (weighting: $1/x$) $r^2: 0.9987$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	249.58	98.8
3	LD75	L2	True	505.00	544.87	107.9
4	LD76	L3	True	1010.00	956.98	94.8
5	LD77	L4	True	2525.00	2395.08	94.9
6	LD78	L5	True	10100.00	10618.29	105.1
7	LD79	L6	True	25250.00	24877.70	98.5





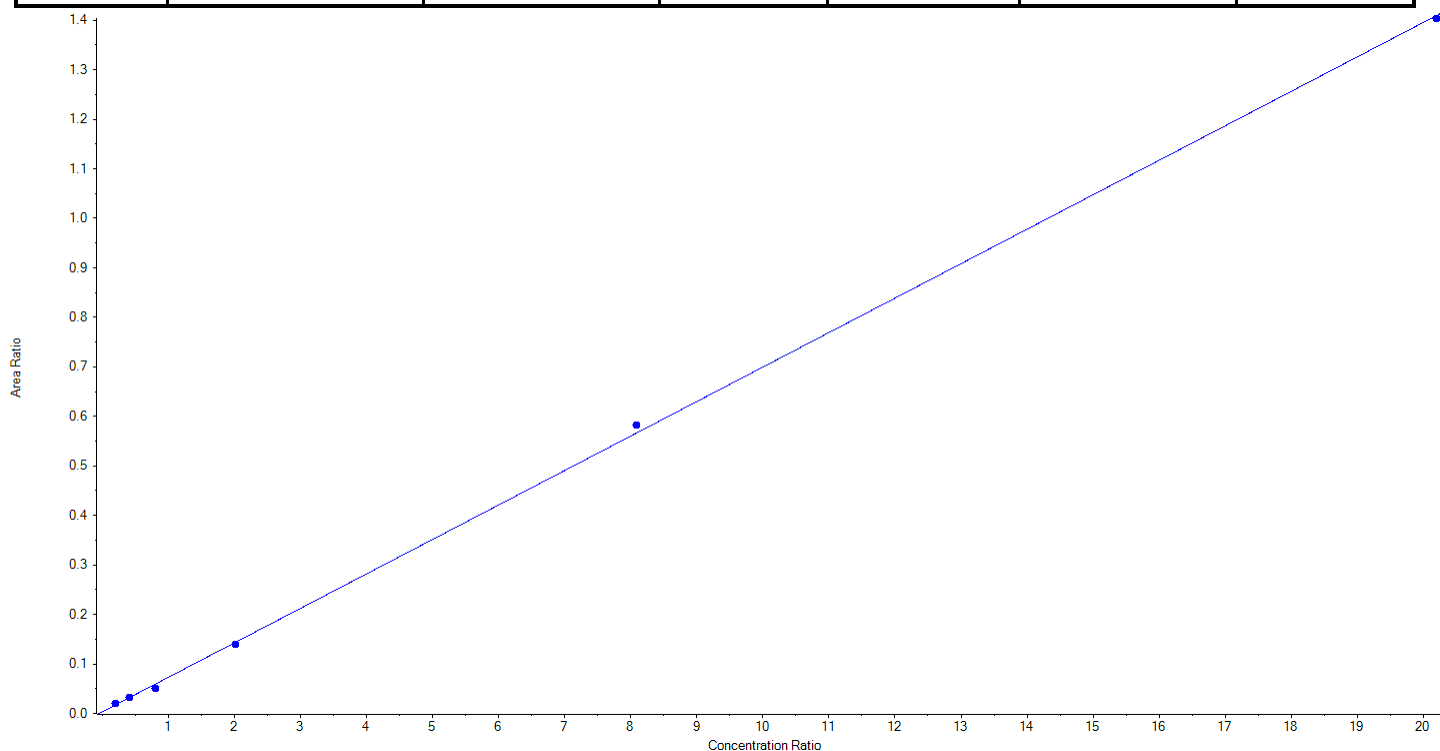
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Analyte Name	PFHxA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	313.0 / 119.0	Result Table	20-1297
Internal Standard	13C5-PFHxA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.06959x + 0.00361$ ($r = 0.99934$) (weighting: $1/x$) $r^2: 0.9987$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	284.08	112.5
3	LD75	L2	True	505.00	530.31	105.0
4	LD76	L3	True	1010.00	840.07	83.2
5	LD77	L4	True	2525.00	2442.45	96.7
6	LD78	L5	True	10100.00	10403.43	103.0
7	LD79	L6	True	25250.00	25142.16	99.6





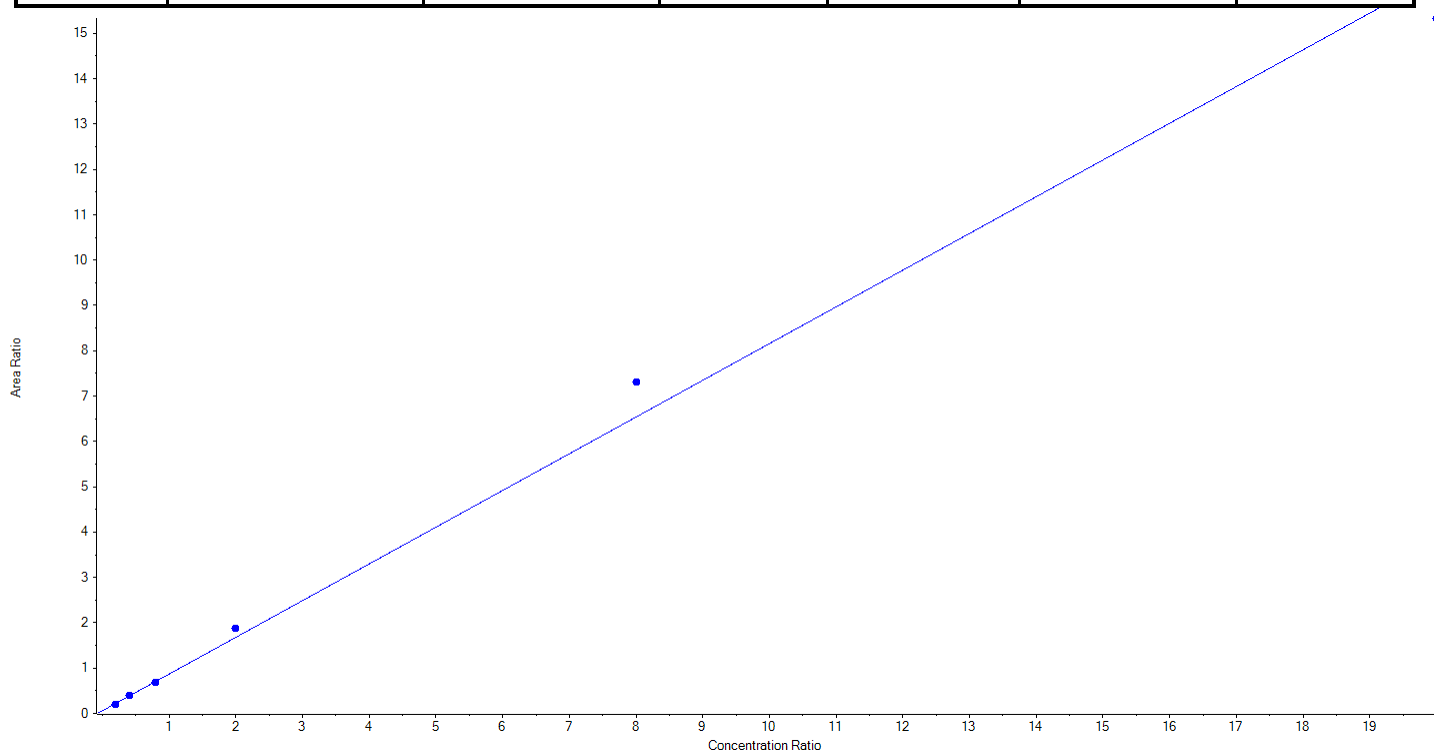
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Analyte Name	PFHpA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	363.0 / 319.0	Result Table	20-1297
Internal Standard	13C4-PFHpA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.80980x + 0.06001$ ($r = 0.99607$) (weighting: $1/x$) $r^2: 0.9922$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	206.84	82.7
3	LD75	L2	True	500.00	514.89	103.0
4	LD76	L3	True	1000.00	959.57	96.0
5	LD77	L4	True	2500.00	2801.13	112.1
6	LD78	L5	True	10000.00	11202.55	112.0
7	LD79	L6	True	25000.00	23565.03	94.3





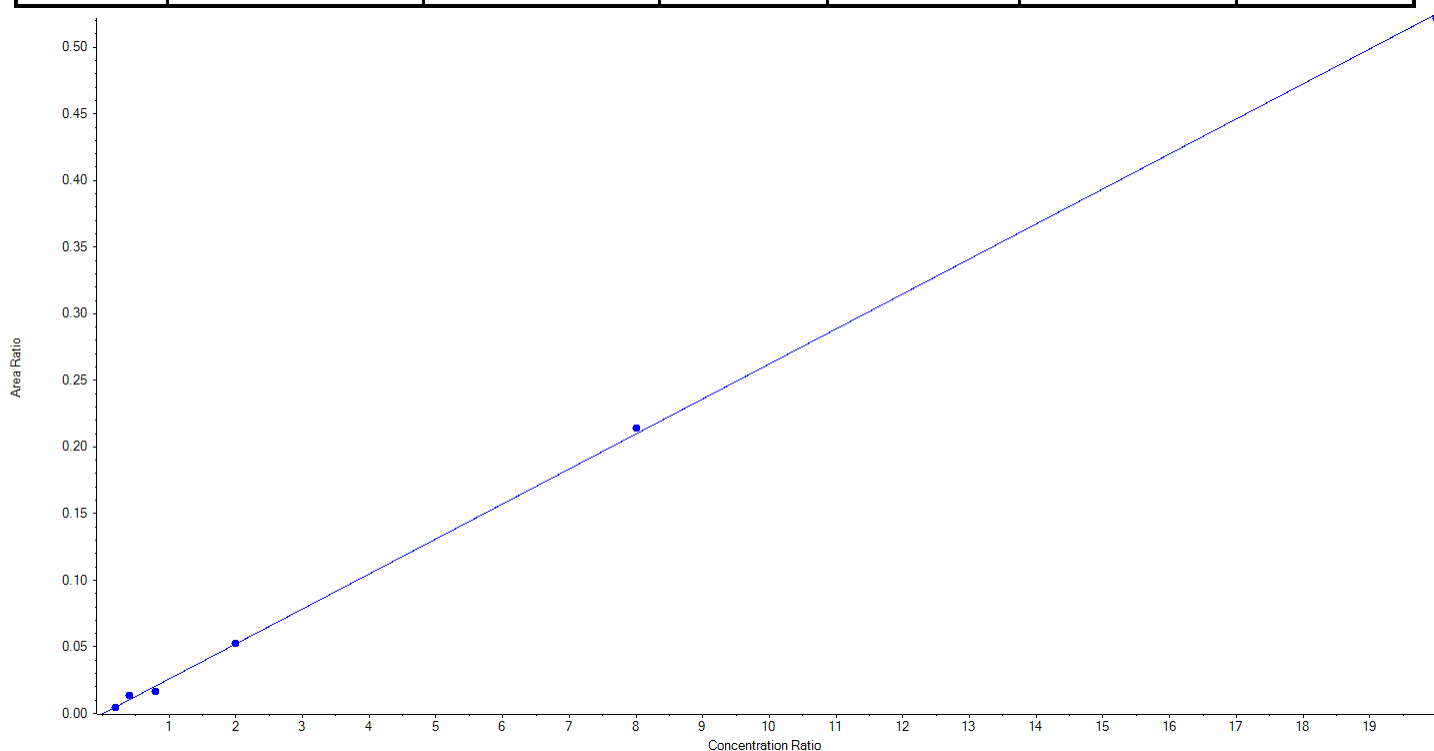
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Analyte Name	PFHpA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	363.0 / 169.0	Result Table	20-1297
Internal Standard	13C4-PFHpA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.02627x + -3.27945e-4$ ($r = 0.99868$) (weighting: $1/x$) $r^2: 0.9974$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	218.50	87.4
3	LD75	L2	True	500.00	647.07	129.4
4	LD76	L3	True	1000.00	804.40	80.4
5	LD77	L4	True	2500.00	2531.81	101.3
6	LD78	L5	True	10000.00	10213.21	102.1
7	LD79	L6	True	25000.00	24835.00	99.3





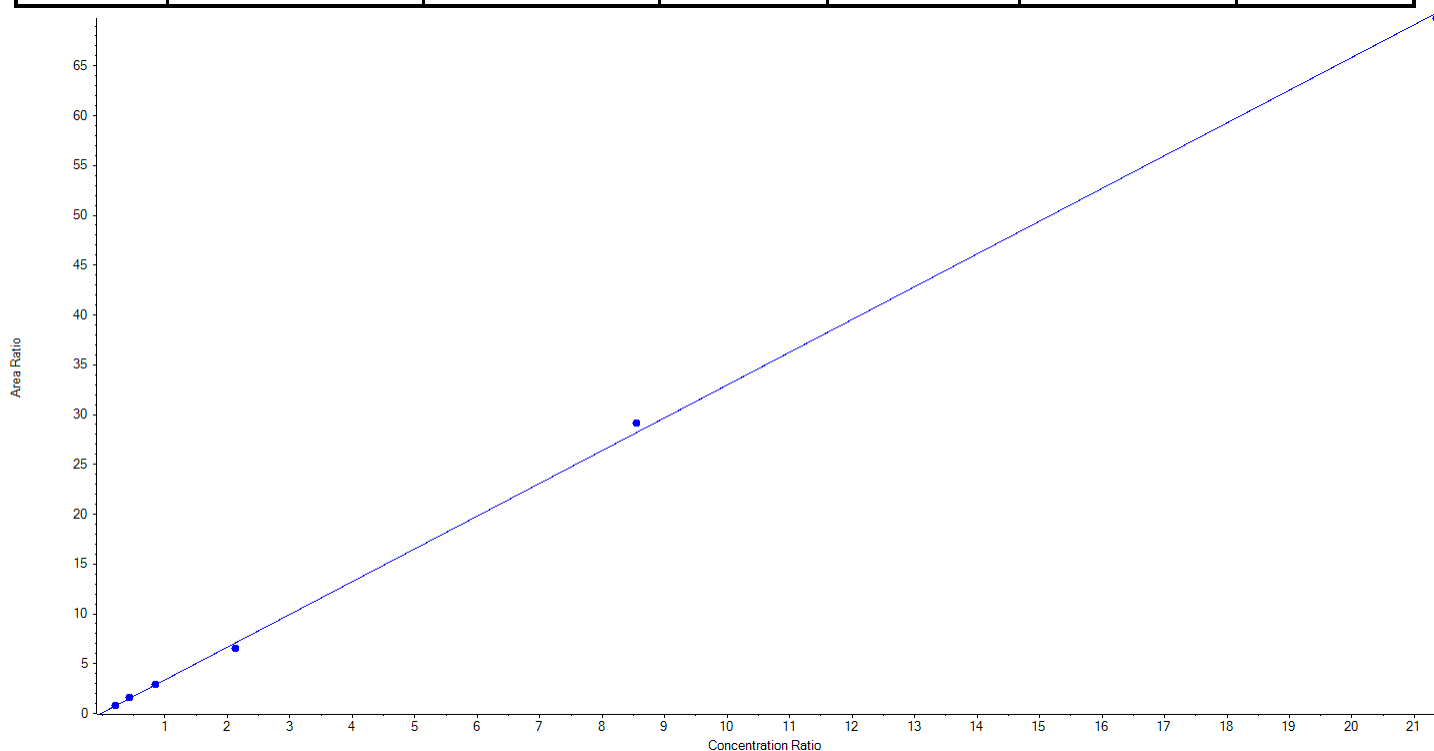
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Analyte Name	PFHxS_1	Data File	AE_10292020_5-369.wiff
MRM Transition	399.0 / 80.0	Result Table	20-1297
Internal Standard	13C3-PFHxS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 3.28867 x + 0.08472$ ($r = 0.99952$) (weighting: $1 / x$) $r^2: 0.9990$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	245.70	97.3
3	LD75	L2	True	505.00	541.32	107.2
4	LD76	L3	True	1010.00	1016.69	100.7
5	LD77	L4	True	2525.00	2323.62	92.0
6	LD78	L5	True	10100.00	10463.86	103.6
7	LD79	L6	True	25250.00	25051.32	99.2





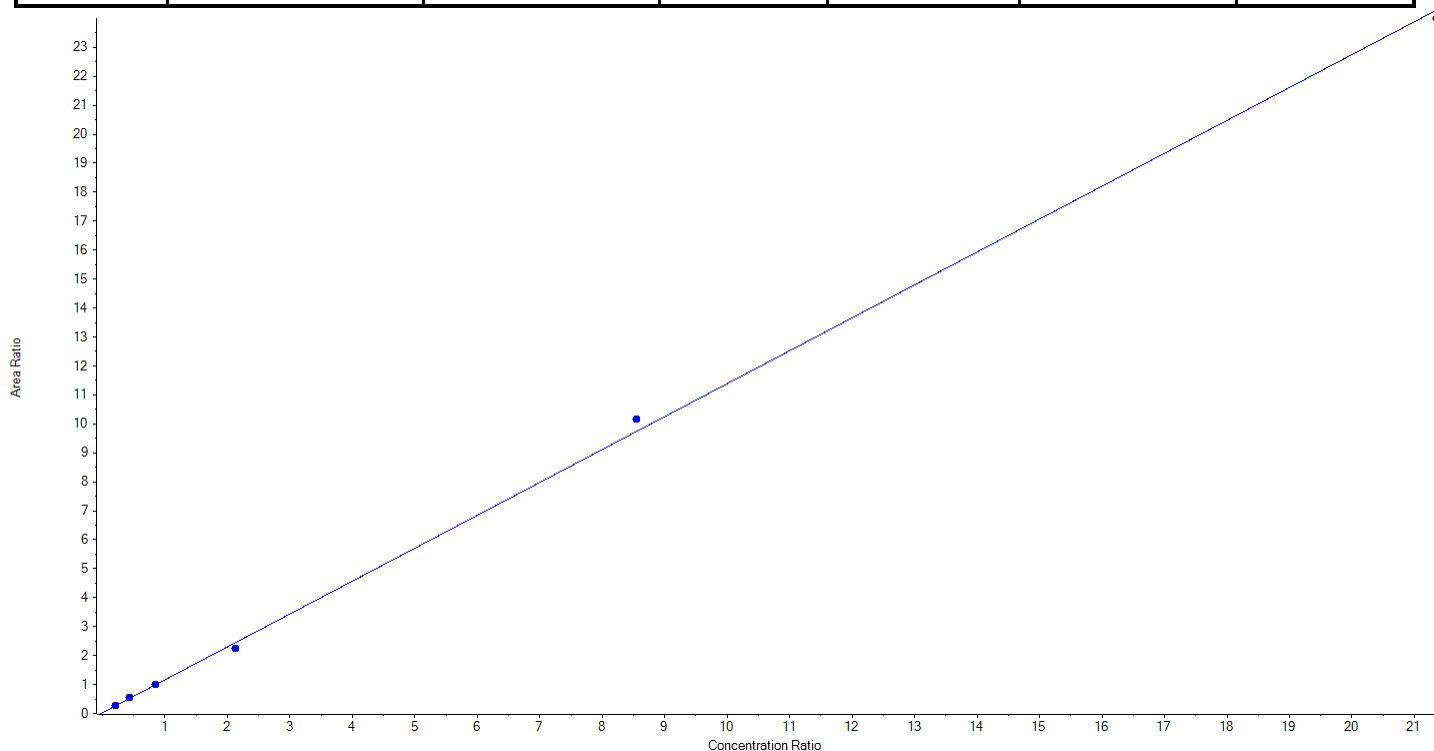
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Analyte Name	PFHxS_2	Data File	AE_10292020_5-369.wiff
MRM Transition	399.0 / 99.0	Result Table	20-1297
Internal Standard	13C3-PFHxS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.13607x + 0.02816$ ($r = 0.99936$) (weighting: $1/x$) $r^2: 0.9987$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	243.31	96.4
3	LD75	L2	True	505.00	539.50	106.8
4	LD76	L3	True	1010.00	1024.34	101.4
5	LD77	L4	True	2525.00	2322.33	92.0
6	LD78	L5	True	10100.00	10565.89	104.6
7	LD79	L6	True	25250.00	24947.12	98.8





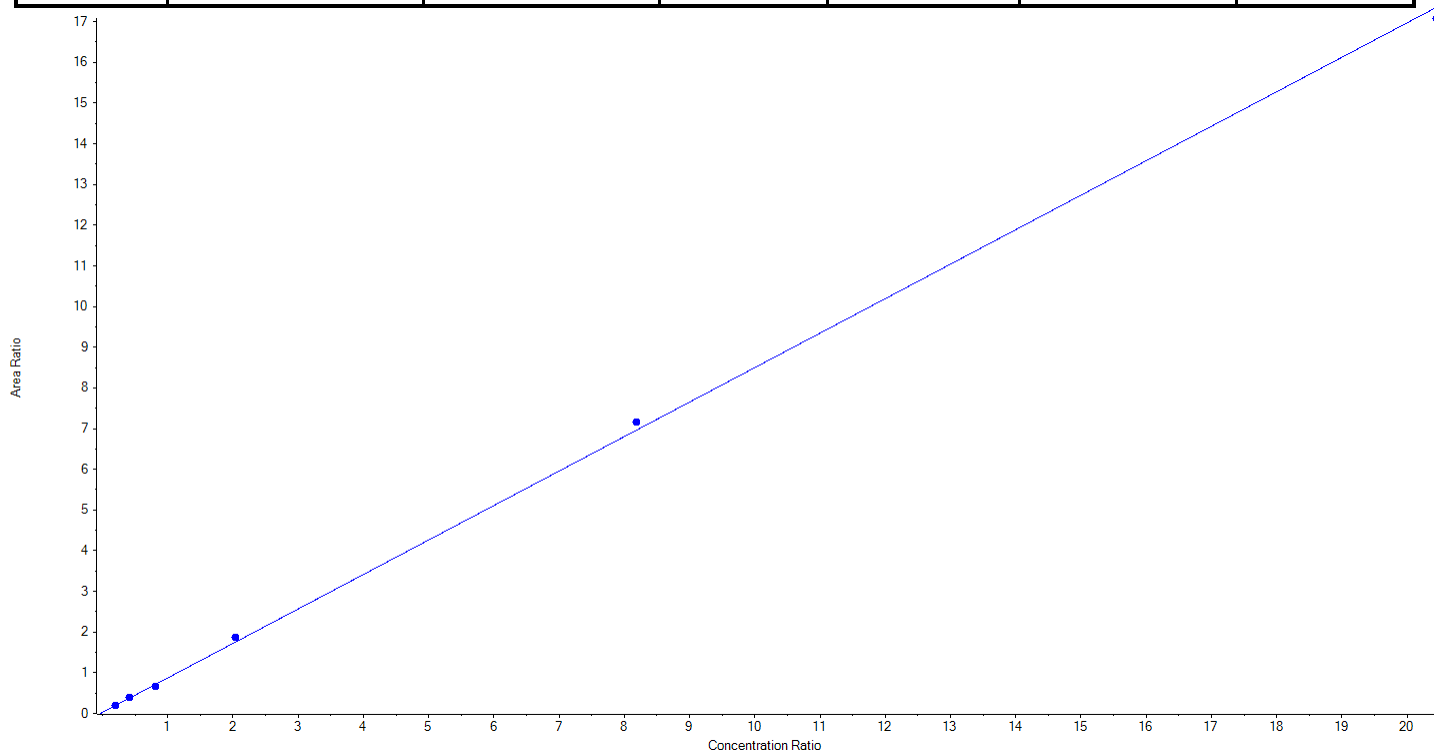
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Analyte Name	PFOA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	413.0 / 369.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.84726x + 0.02621$ ($r = 0.99949$) (weighting: $1/x$) $r^2: 0.9990$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	233.76	93.5
3	LD75	L2	True	500.00	533.30	106.7
4	LD76	L3	True	1000.00	920.40	92.0
5	LD77	L4	True	2500.00	2659.25	106.4
6	LD78	L5	True	10000.00	10302.18	103.0
7	LD79	L6	True	25000.00	24601.11	98.4





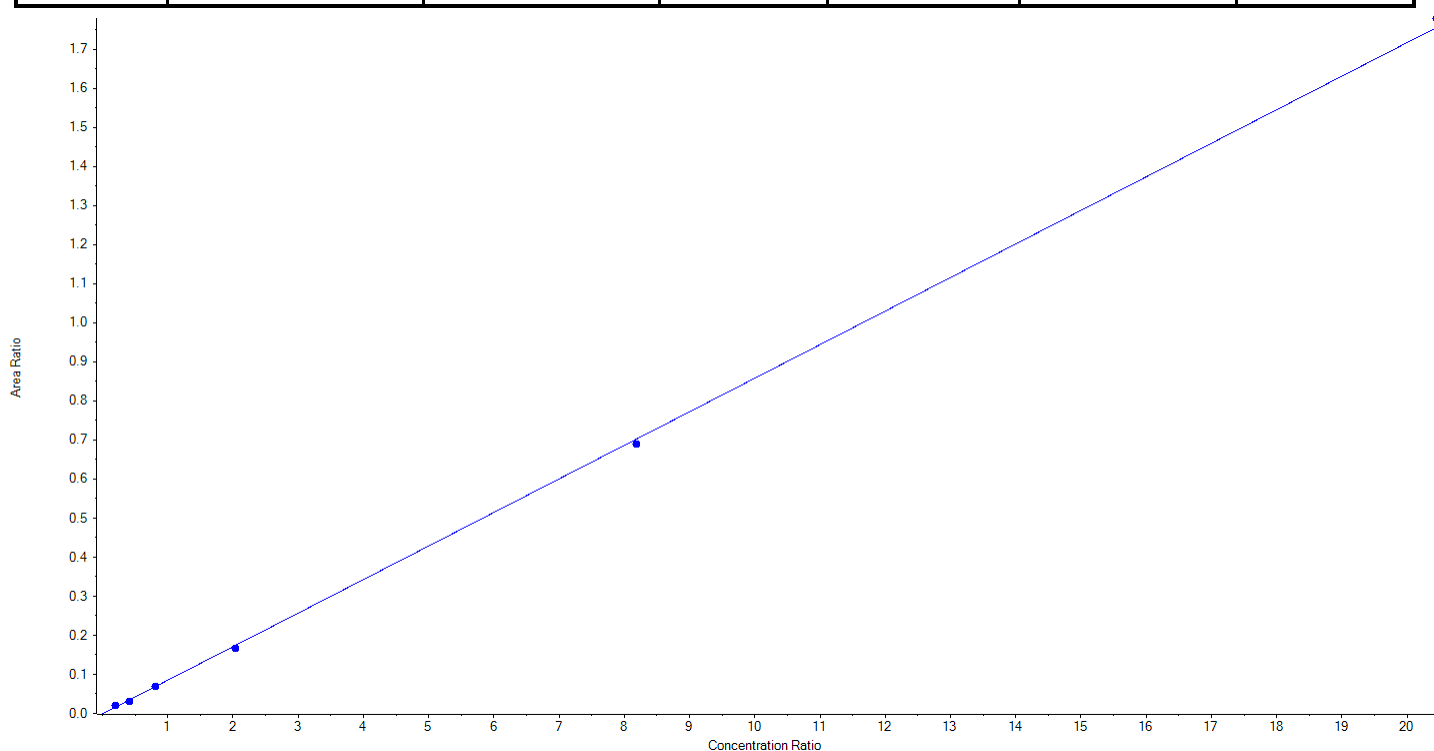
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Analyte Name	PFOA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	413.0 / 169.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.08589x + -7.97627e-4$ ($r = 0.99965$) (weighting: $1/x$) $r^2: 0.9993$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	290.04	116.0
3	LD75	L2	True	500.00	458.41	91.7
4	LD76	L3	True	1000.00	978.57	97.9
5	LD77	L4	True	2500.00	2372.58	94.9
6	LD78	L5	True	10000.00	9823.33	98.2
7	LD79	L6	True	25000.00	25327.07	101.3





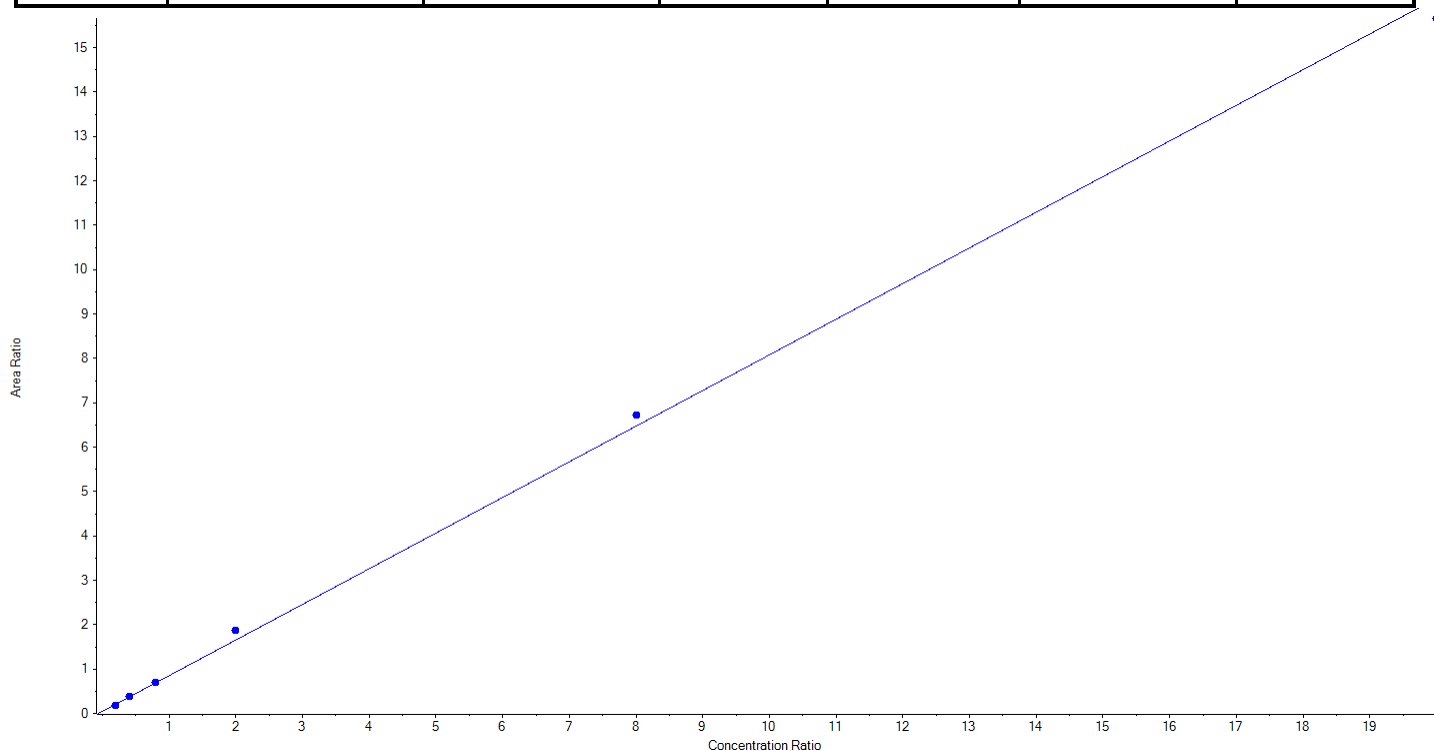
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Analyte Name	PFNA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	463.0 / 419.0	Result Table	20-1297
Internal Standard	13C9-PFNA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.80296x + 0.04971$ ($r = 0.99873$) (weighting: $1/x$) $r^2: 0.9975$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	199.93	80.0
3	LD75	L2	True	500.00	519.67	103.9
4	LD76	L3	True	1000.00	1021.39	102.1
5	LD77	L4	True	2500.00	2820.84	112.8
6	LD78	L5	True	10000.00	10395.03	104.0
7	LD79	L6	True	25000.00	24293.15	97.2





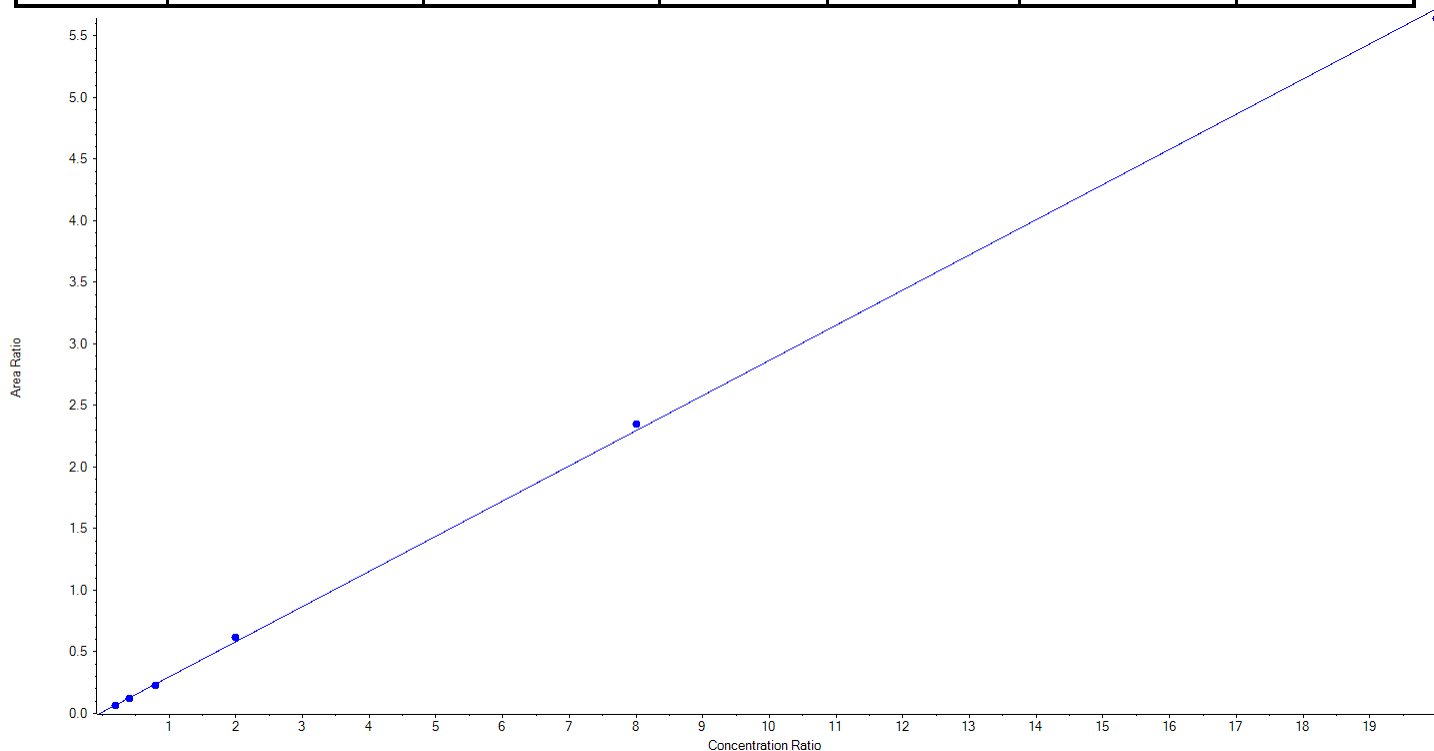
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Analyte Name	PFNA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	463.0 / 219.0	Result Table	20-1297
Internal Standard	13C9-PFNA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.28546x + 0.01201$ ($r = 0.99961$) (weighting: $1/x$) $r^2: 0.9992$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	247.65	99.1
3	LD75	L2	True	500.00	498.61	99.7
4	LD76	L3	True	1000.00	934.37	93.4
5	LD77	L4	True	2500.00	2666.48	106.7
6	LD78	L5	True	10000.00	10252.16	102.5
7	LD79	L6	True	25000.00	24650.74	98.6





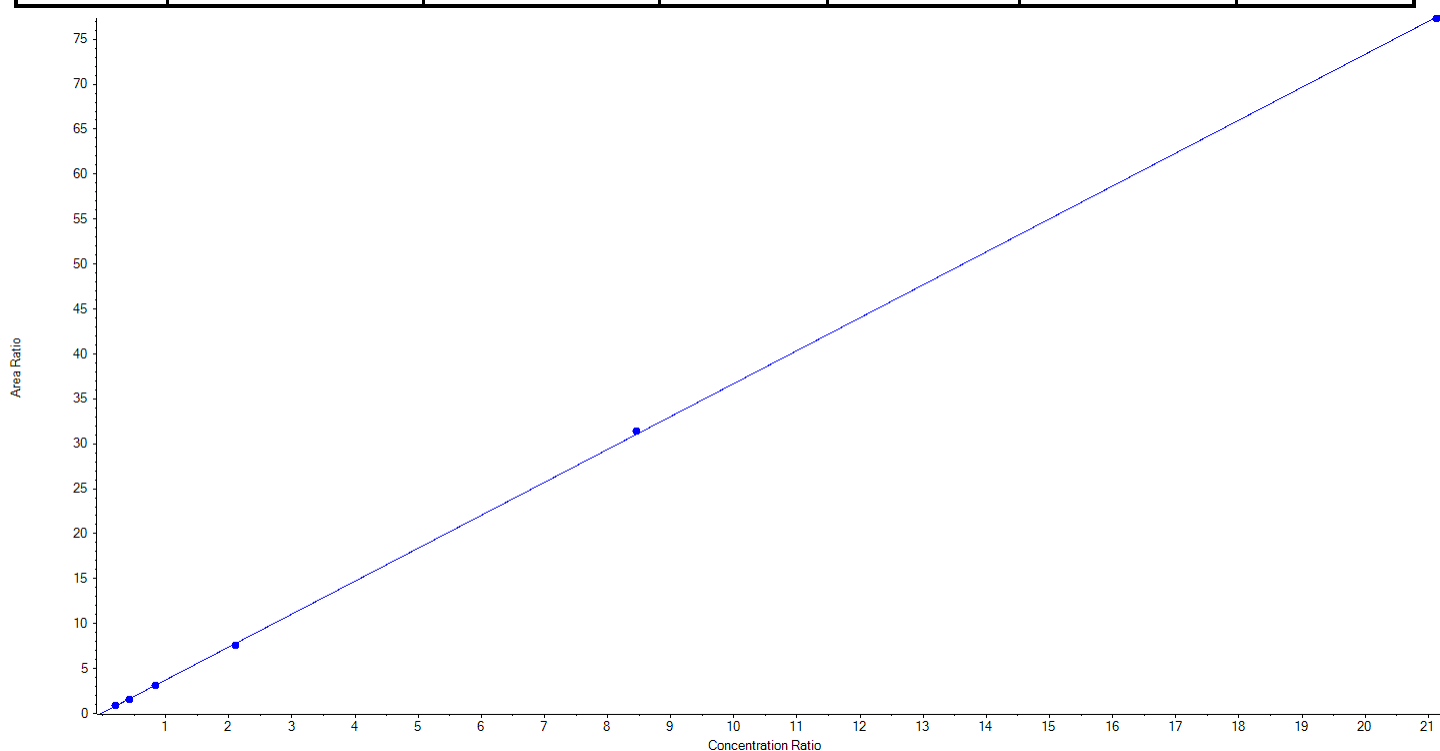
Calibration Summary Report

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Analyte Name	PFOS_1	Data File	AE_10292020_5-369.wiff
MRM Transition	499.0 / 80.0	Result Table	20-1297
Internal Standard	13C8-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 3.66302x + 0.06750$ ($r = 0.99992$) (weighting: $1/x$) $r^2: 0.9998$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	263.38	104.3
3	LD75	L2	True	505.00	504.46	99.9
4	LD76	L3	True	1010.00	986.01	97.6
5	LD77	L4	True	2525.00	2448.41	97.0
6	LD78	L5	True	10100.00	10242.62	101.4
7	LD79	L6	True	25250.00	25197.60	99.8





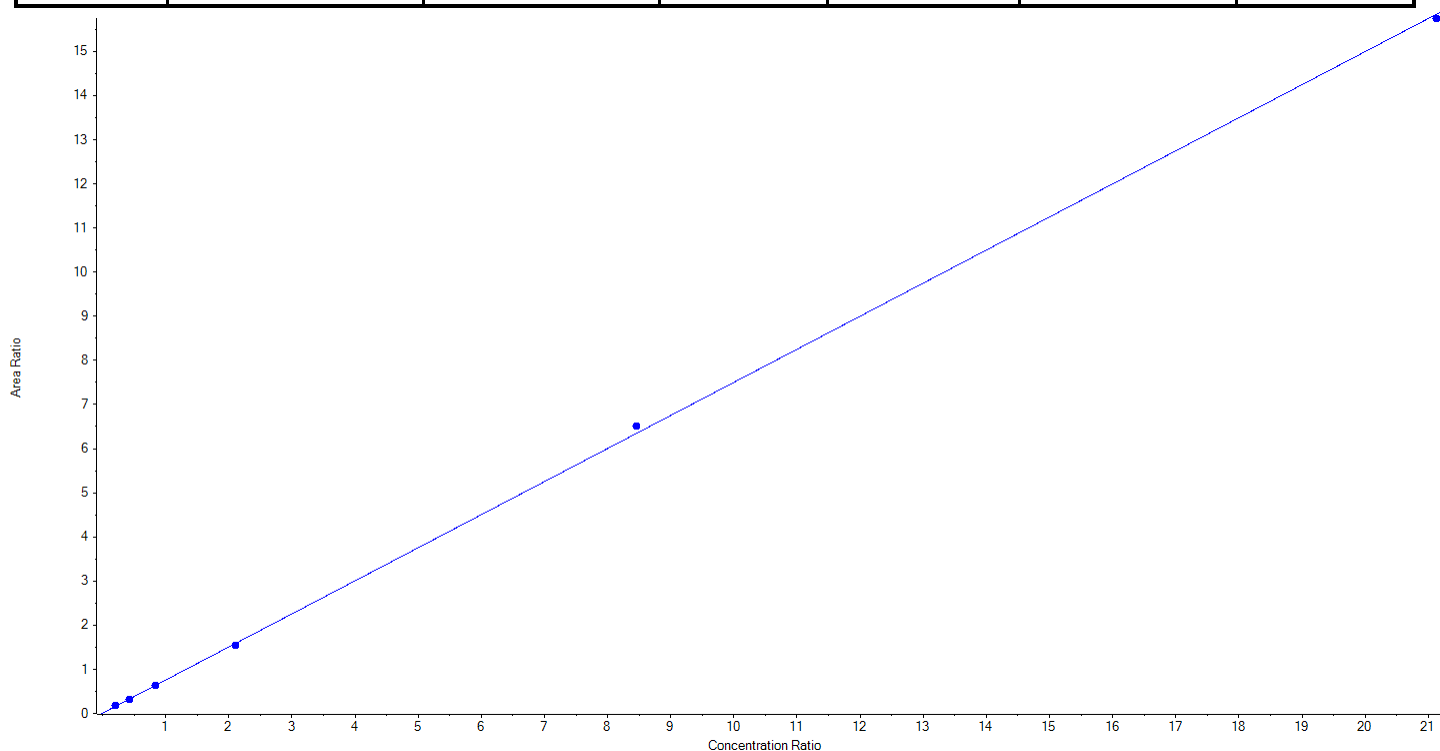
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Analyte Name	PFOS_2	Data File	AE_10292020_5-369.wiff
MRM Transition	499.0 / 99.0	Result Table	20-1297
Internal Standard	13C8-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.74936x + 0.00732$ ($r = 0.99980$) (weighting: $1/x$) $r^2: 0.9996$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	252.50	271.26	107.4
3	LD75	L2	True	505.00	485.65	96.2
4	LD76	L3	True	1010.00	990.36	98.1
5	LD77	L4	True	2525.00	2431.43	96.3
6	LD78	L5	True	10100.00	10369.54	102.7
7	LD79	L6	True	25250.00	25094.26	99.4





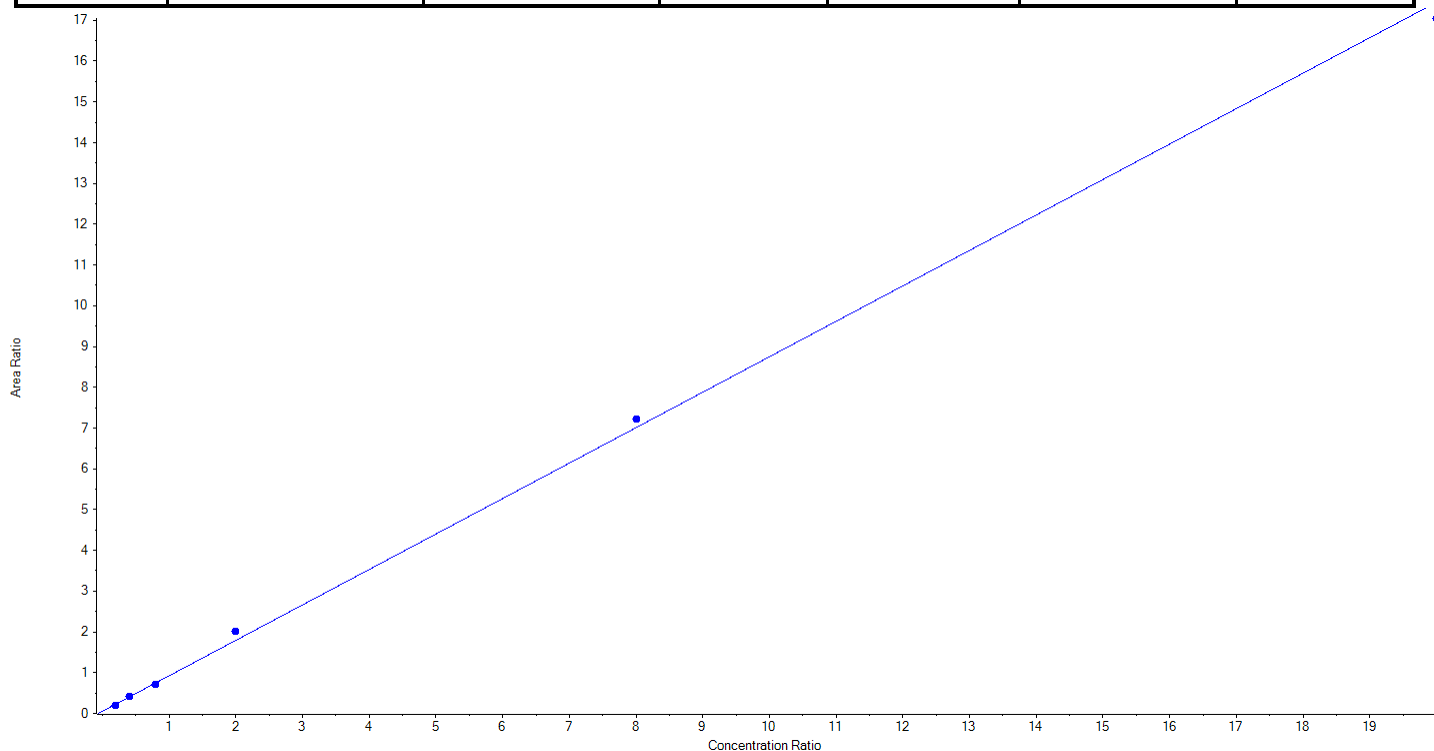
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Analyte Name	PFDA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	513.0 / 469.0	Result Table	20-1297
Internal Standard	13C6-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.86938x + 0.05530$ ($r = 0.99887$) (weighting: $1/x$) $r^2: 0.9977$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	218.73	87.5
3	LD75	L2	True	500.00	526.64	105.3
4	LD76	L3	True	1000.00	929.91	93.0
5	LD77	L4	True	2500.00	2833.26	113.3
6	LD78	L5	True	10000.00	10315.61	103.2
7	LD79	L6	True	25000.00	24425.85	97.7





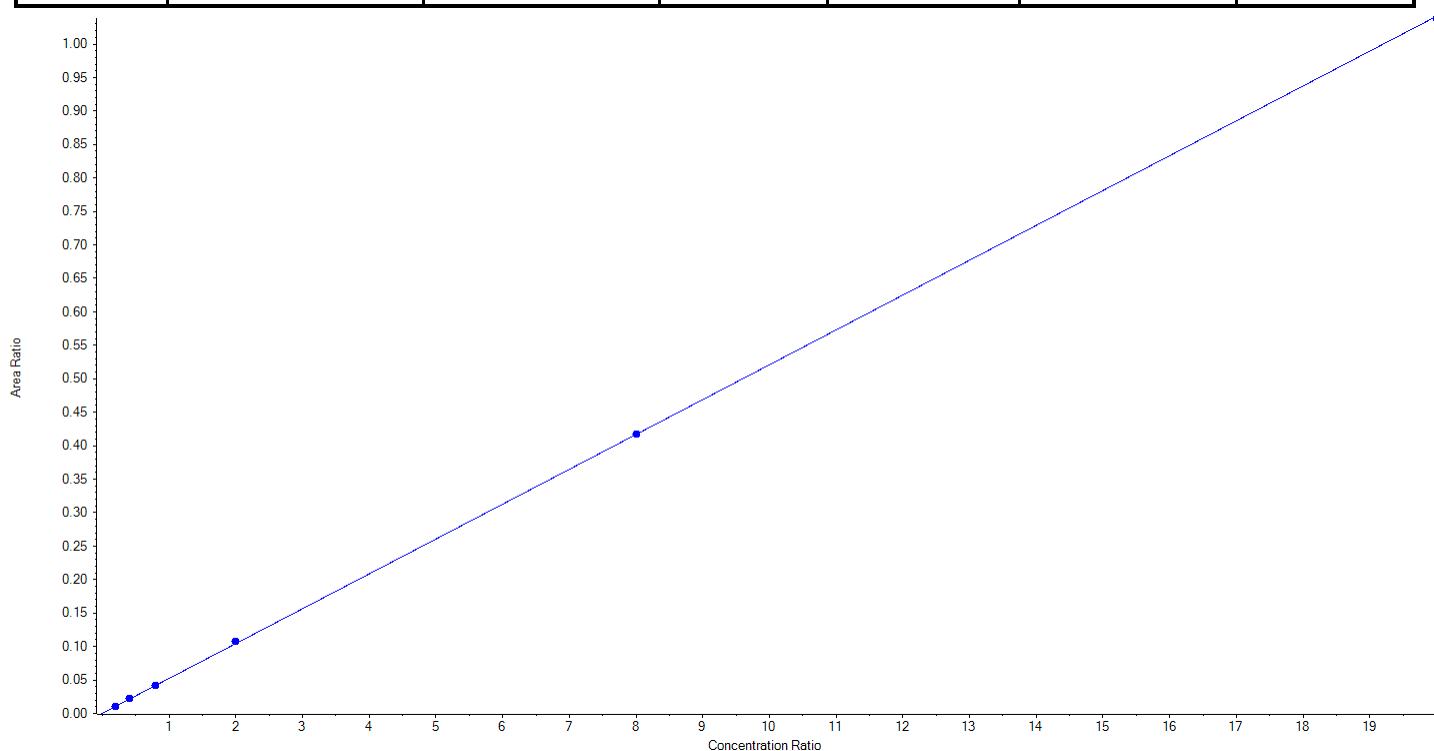
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Analyte Name	PFDA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	513.0 / 219.0	Result Table	20-1297
Internal Standard	13C6-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.05206 x + 3.79964e-4$ ($r = 0.99993$) (weighting: $1/x$) $r^2: 0.9999$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	232.30	92.9
3	LD75	L2	True	500.00	522.18	104.4
4	LD76	L3	True	1000.00	999.52	100.0
5	LD77	L4	True	2500.00	2574.92	103.0
6	LD78	L5	True	10000.00	10001.95	100.0
7	LD79	L6	True	25000.00	24919.14	99.7





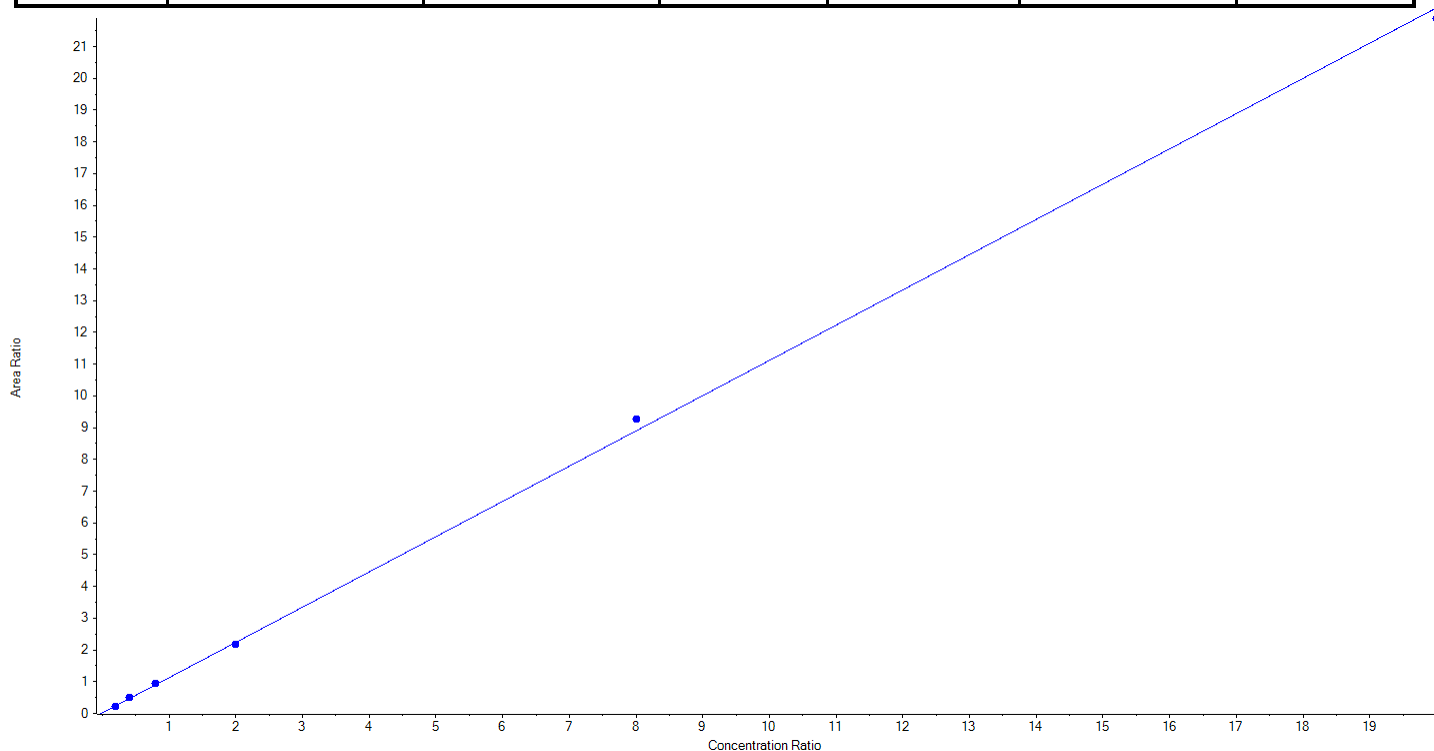
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Analyte Name	PFUnA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	563.0 / 519.0	Result Table	20-1297
Internal Standard	13C7-PFUnA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.10996x + 0.01872$ ($r = 0.99953$) (weighting: $1/x$) $r^2: 0.9991$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	222.35	88.9
3	LD75	L2	True	500.00	539.12	107.8
4	LD76	L3	True	1000.00	1037.97	103.8
5	LD77	L4	True	2500.00	2422.01	96.9
6	LD78	L5	True	10000.00	10407.33	104.1
7	LD79	L6	True	25000.00	24621.23	98.5





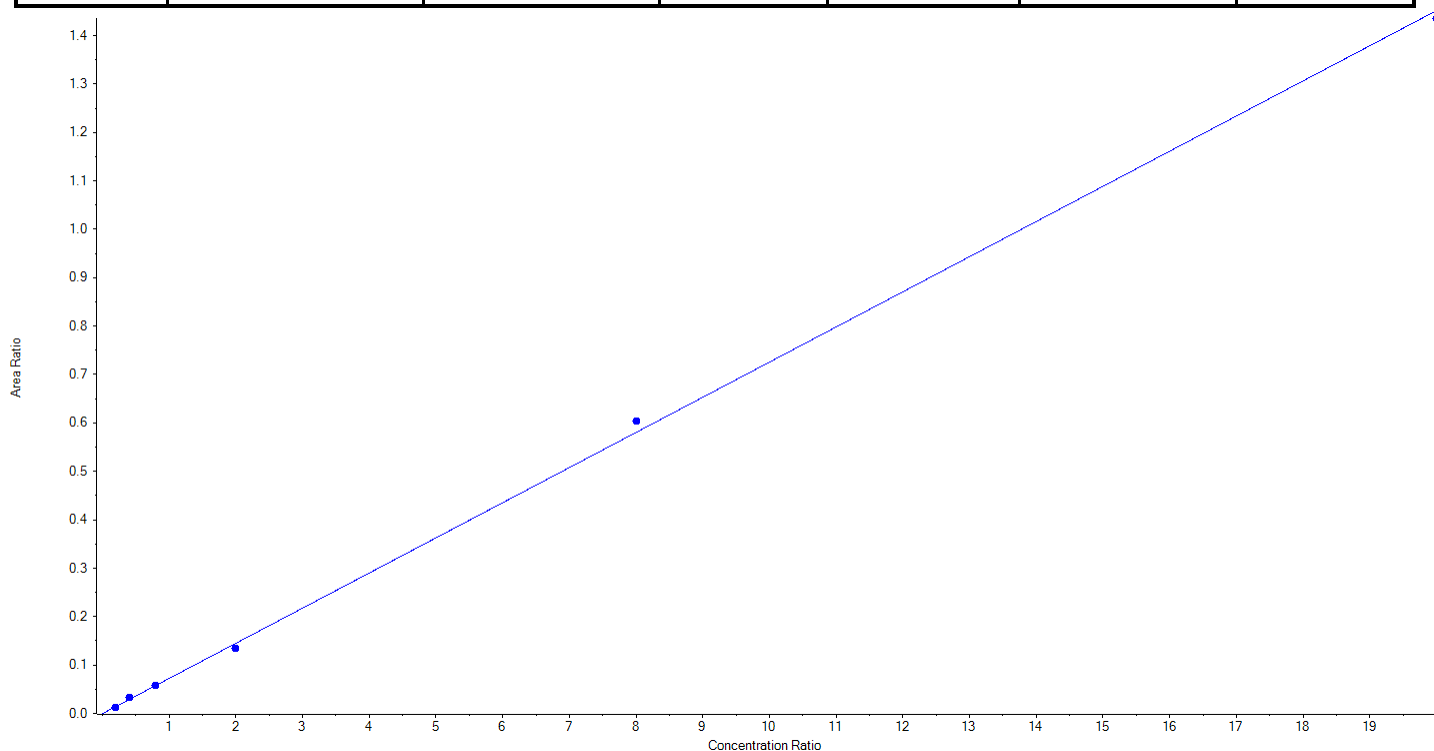
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Analyte Name	PFUnA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	563.0 / 269.0	Result Table	20-1297
Internal Standard	13C7-PFUnA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.07259x + -2.36564e-4$ ($r = 0.99929$) (weighting: $1/x$) $r^2: 0.9986$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	219.12	87.7
3	LD75	L2	True	500.00	585.69	117.1
4	LD76	L3	True	1000.00	989.29	98.9
5	LD77	L4	True	2500.00	2334.41	93.4
6	LD78	L5	True	10000.00	10403.74	104.0
7	LD79	L6	True	25000.00	24717.74	98.9





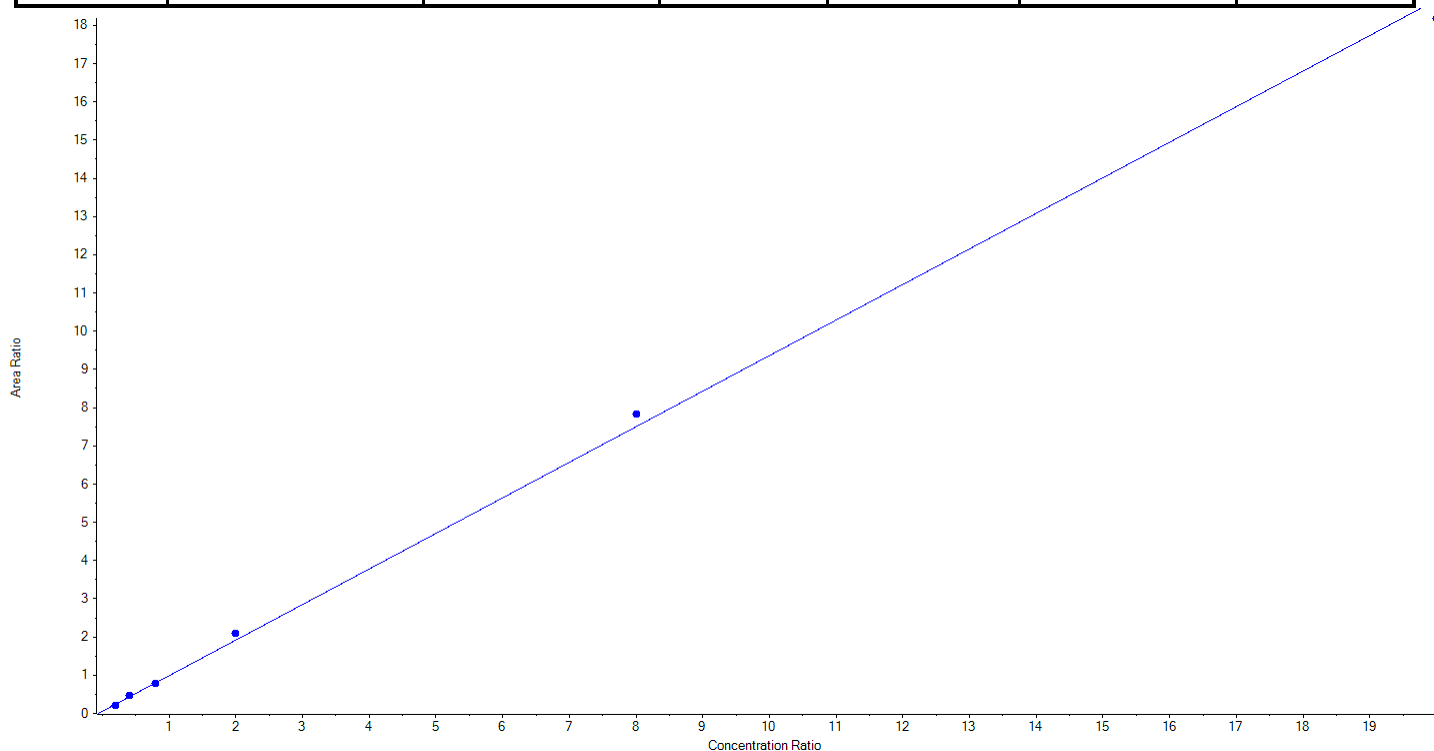
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Analyte Name	PFDaA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	613.0 / 569.0	Result Table	20-1297
Internal Standard	13C2-PFDaA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.93022x + 0.05985$ ($r = 0.99899$) (weighting: $1/x$) $r^2: 0.9980$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	208.72	83.5
3	LD75	L2	True	500.00	536.51	107.3
4	LD76	L3	True	1000.00	977.20	97.7
5	LD77	L4	True	2500.00	2743.11	109.7
6	LD78	L5	True	10000.00	10437.66	104.4
7	LD79	L6	True	25000.00	24346.80	97.4





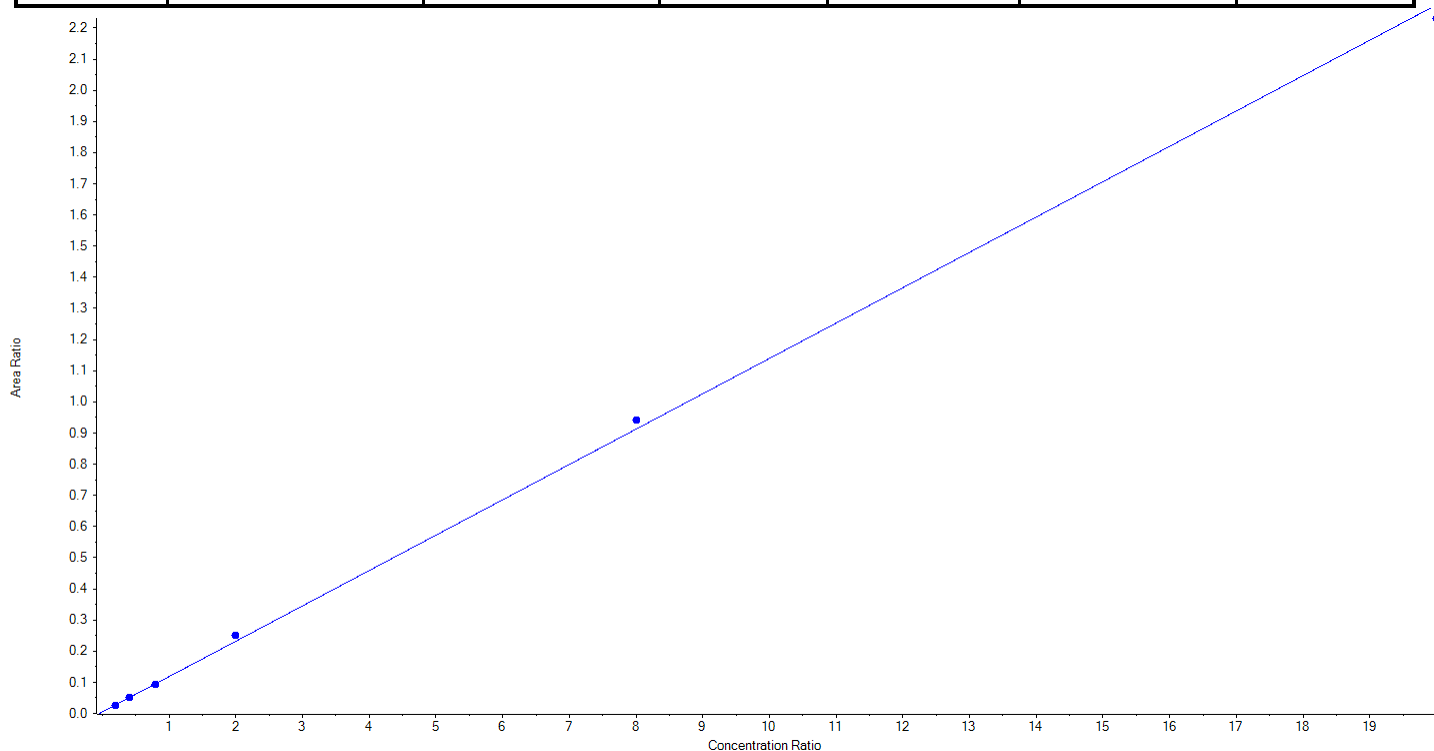
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Analyte Name	PFDaA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	613.0 / 319.0	Result Table	20-1297
Internal Standard	13C2-PFDaA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.11344 x + 0.00504$ ($r = 0.99942$) (weighting: $1 / x$) $r^2: 0.9988$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	238.79	95.5
3	LD75	L2	True	500.00	494.25	98.9
4	LD76	L3	True	1000.00	958.58	95.9
5	LD77	L4	True	2500.00	2709.99	108.4
6	LD78	L5	True	10000.00	10330.55	103.3
7	LD79	L6	True	25000.00	24517.84	98.1





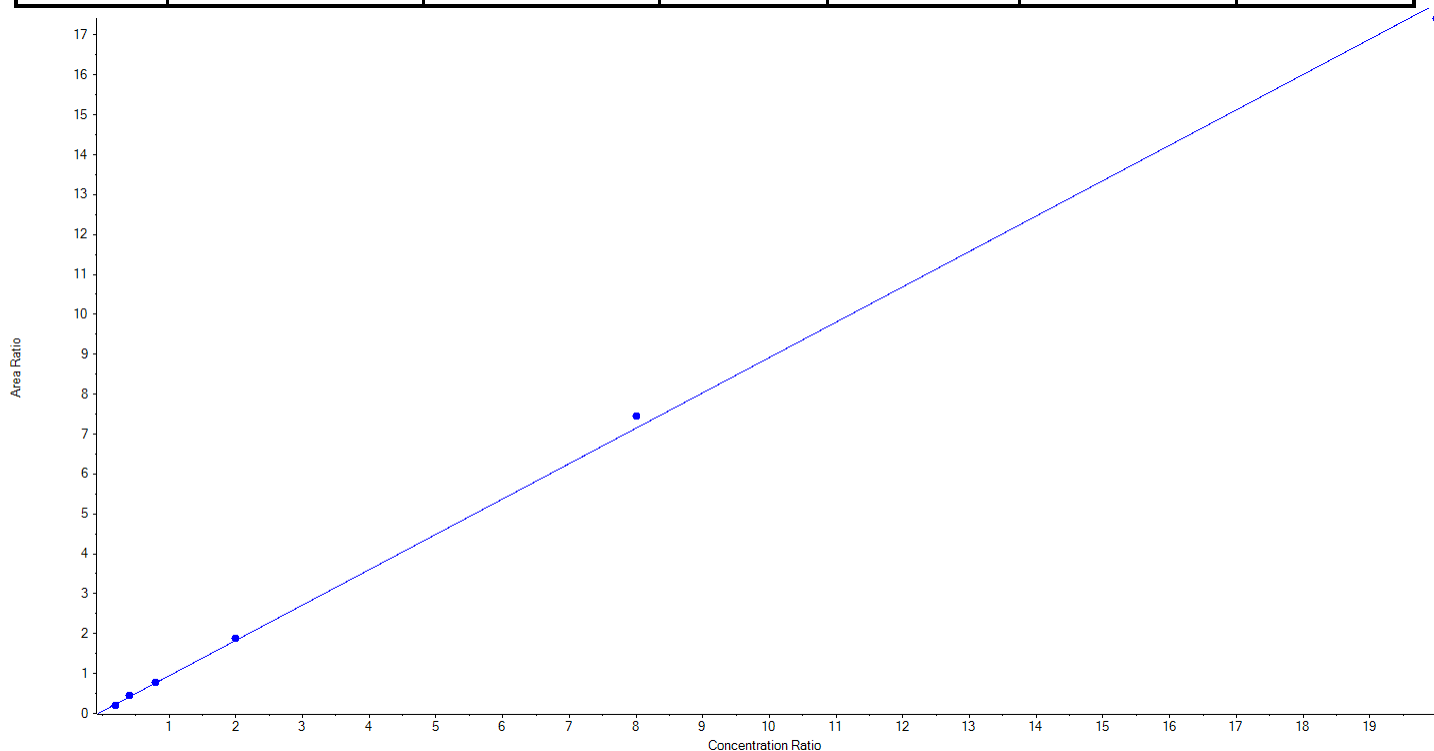
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Analyte Name	PFTTrDA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	663.0 / 619.0	Result Table	20-1297
Internal Standard	13C2-PFTeDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.88615x + 0.05802$ ($r = 0.99941$) (weighting: $1/x$) $r^2: 0.9988$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	215.78	86.3
3	LD75	L2	True	500.00	541.34	108.3
4	LD76	L3	True	1000.00	998.96	99.9
5	LD77	L4	True	2500.00	2581.76	103.3
6	LD78	L5	True	10000.00	10433.92	104.3
7	LD79	L6	True	25000.00	24478.23	97.9





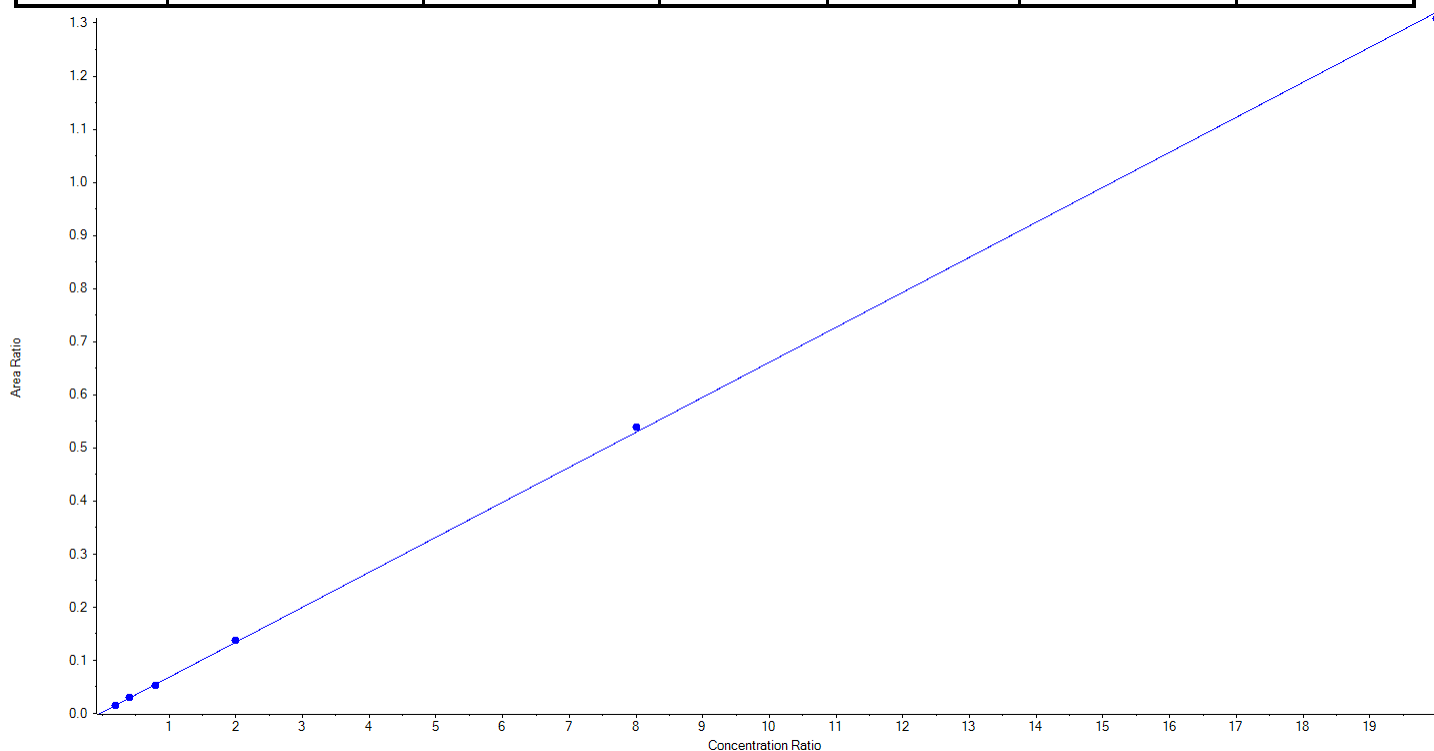
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Analyte Name	PFTTrDA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	663.0 / 169.0	Result Table	20-1297
Internal Standard	13C2-PFTeDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.06590x + 0.00236$ ($r = 0.99985$) (weighting: $1/x$) $r^2: 0.9997$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	241.37	96.6
3	LD75	L2	True	500.00	519.16	103.8
4	LD76	L3	True	1000.00	957.49	95.8
5	LD77	L4	True	2500.00	2573.69	103.0
6	LD78	L5	True	10000.00	10181.97	101.8
7	LD79	L6	True	25000.00	24776.32	99.1





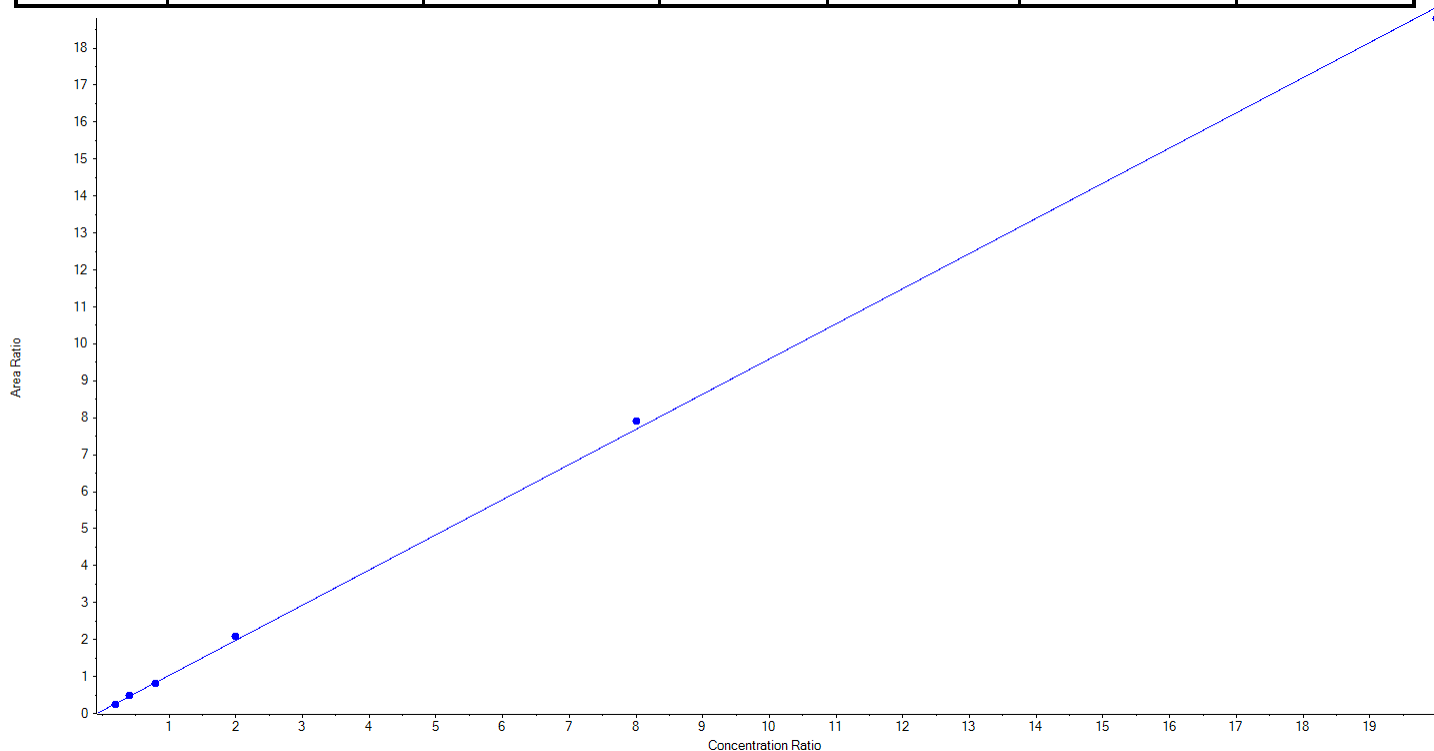
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Analyte Name	PFTeDA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	713.0 / 669.0	Result Table	20-1297
Internal Standard	13C2-PFTeDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.95126x + 0.07812$ ($r = 0.99954$) (weighting: $1/x$) $r^2: 0.9991$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	217.80	87.1
3	LD75	L2	True	500.00	548.22	109.6
4	LD76	L3	True	1000.00	964.96	96.5
5	LD77	L4	True	2500.00	2638.59	105.5
6	LD78	L5	True	10000.00	10278.94	102.8
7	LD79	L6	True	25000.00	24601.48	98.4





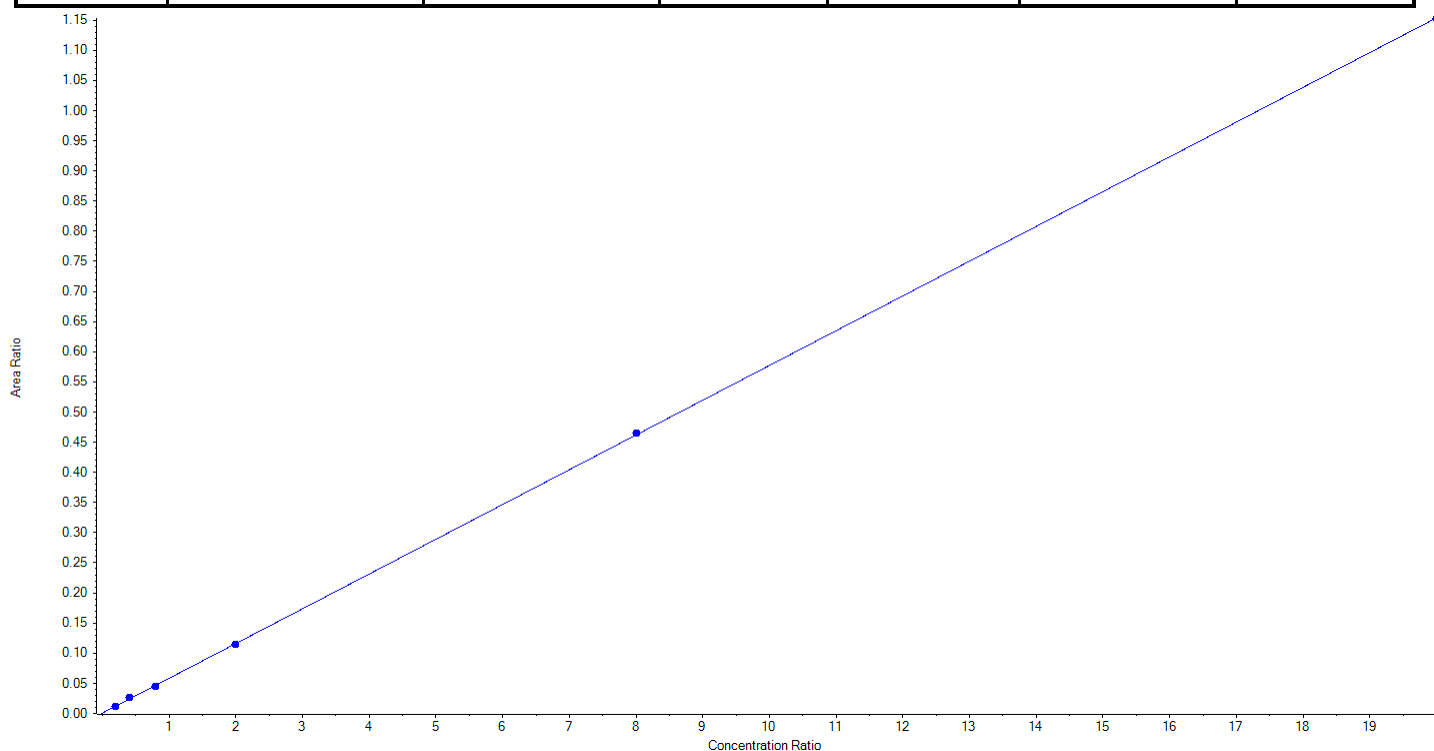
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Analyte Name	PFTeDA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	713.0 / 169.0	Result Table	20-1297
Internal Standard	13C2-PFTeDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.05765x + 8.03479e-4$ ($r = 0.99985$) (weighting: $1/x$) $r^2: 0.9997$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	234.40	93.8
3	LD75	L2	True	500.00	557.15	111.4
4	LD76	L3	True	1000.00	961.56	96.2
5	LD77	L4	True	2500.00	2451.27	98.1
6	LD78	L5	True	10000.00	10070.55	100.7
7	LD79	L6	True	25000.00	24975.08	99.9





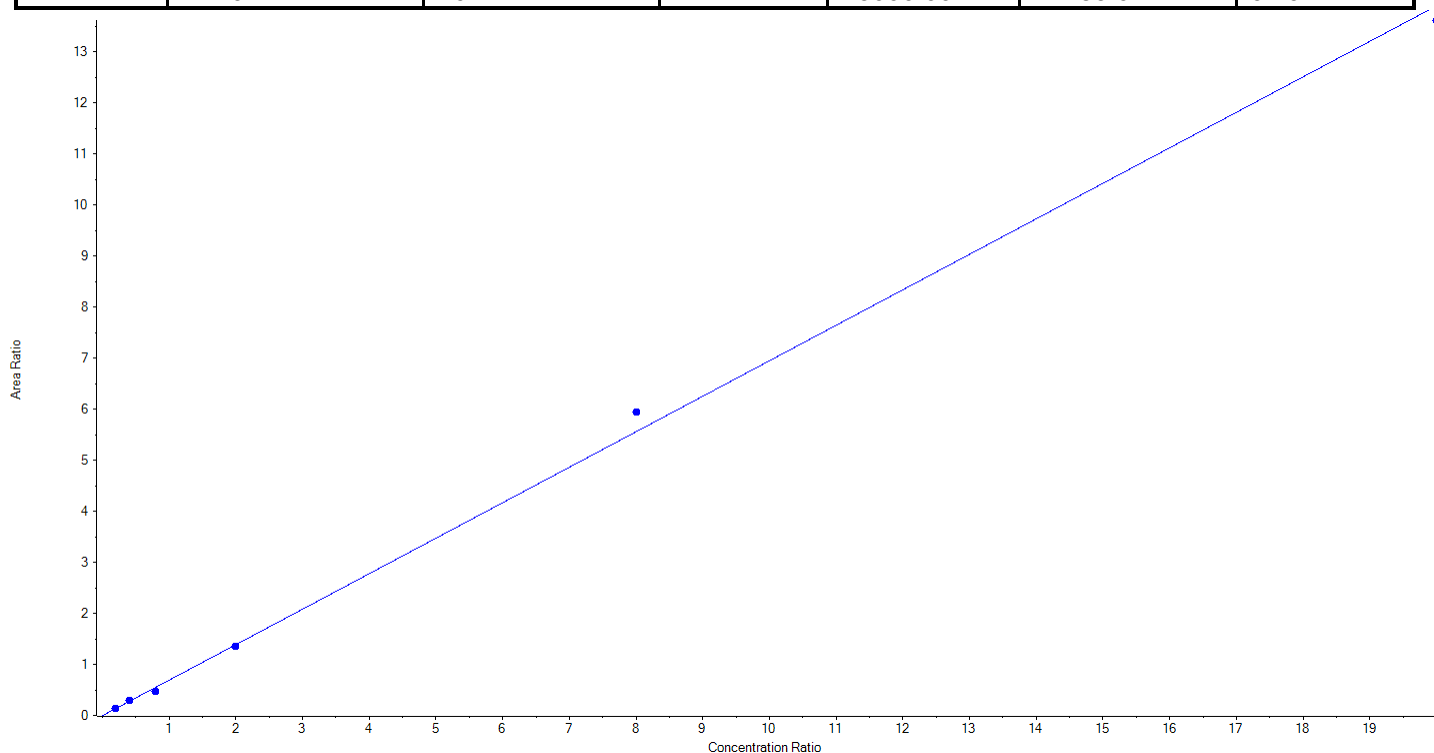
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Analyte Name	NMeFOSAA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	570.0 / 419.0	Result Table	20-1297
Internal Standard	d3-MeFOSAA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.69523x + -0.00297$ ($r = 0.99885$) (weighting: $1/x$) $r^2: 0.9977$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	263.60	105.4
3	LD75	L2	True	500.00	530.02	106.0
4	LD76	L3	True	1000.00	868.49	86.9
5	LD77	L4	True	2500.00	2424.25	97.0
6	LD78	L5	True	10000.00	10680.61	106.8
7	LD79	L6	True	25000.00	24483.04	97.9





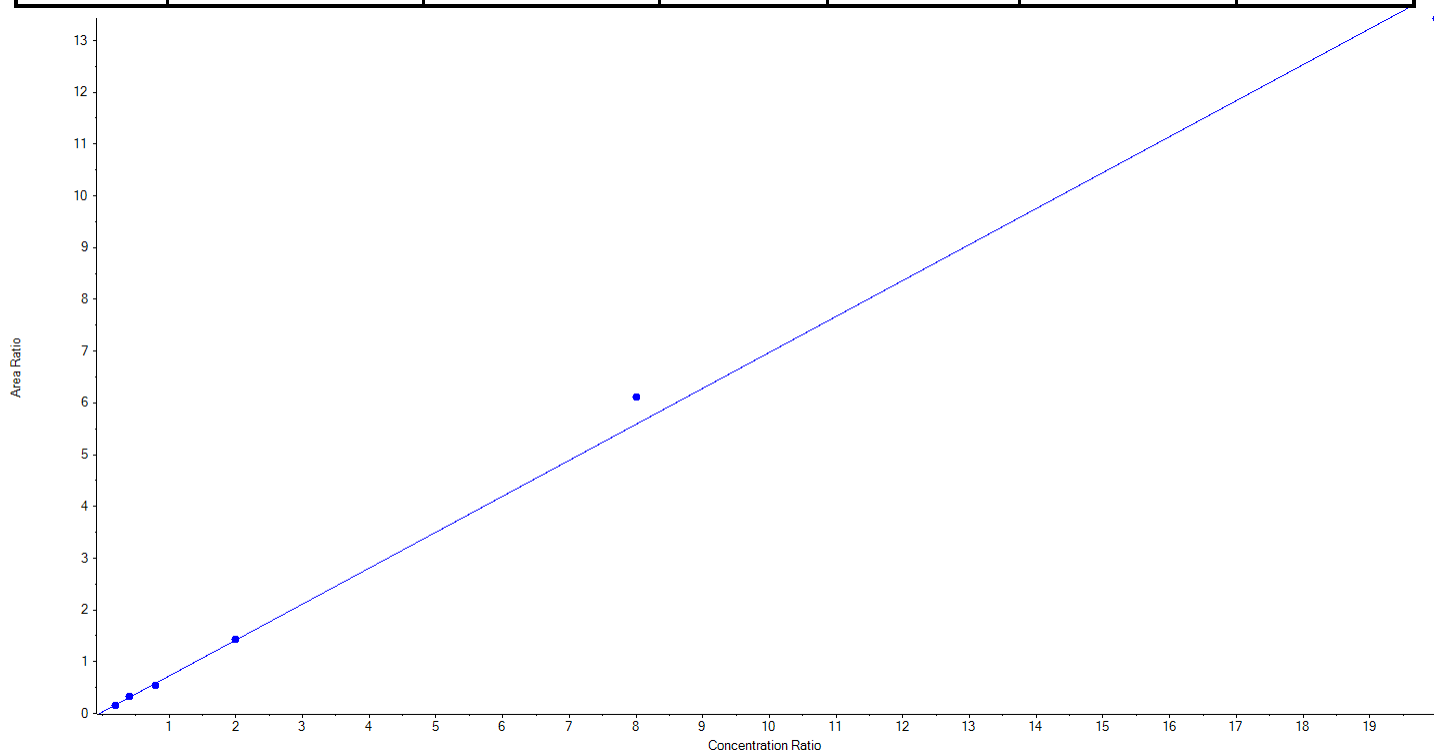
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Analyte Name	NMeFOSAA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	570.0 / 512.0	Result Table	20-1297
Internal Standard	d3-MeFOSAA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.69462x + 0.02907$ ($r = 0.99811$) (weighting: $1/x$) $r^2: 0.9962$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	240.37	96.2
3	LD75	L2	True	500.00	528.60	105.7
4	LD76	L3	True	1000.00	918.55	91.9
5	LD77	L4	True	2500.00	2509.28	100.4
6	LD78	L5	True	10000.00	10948.74	109.5
7	LD79	L6	True	25000.00	24104.45	96.4





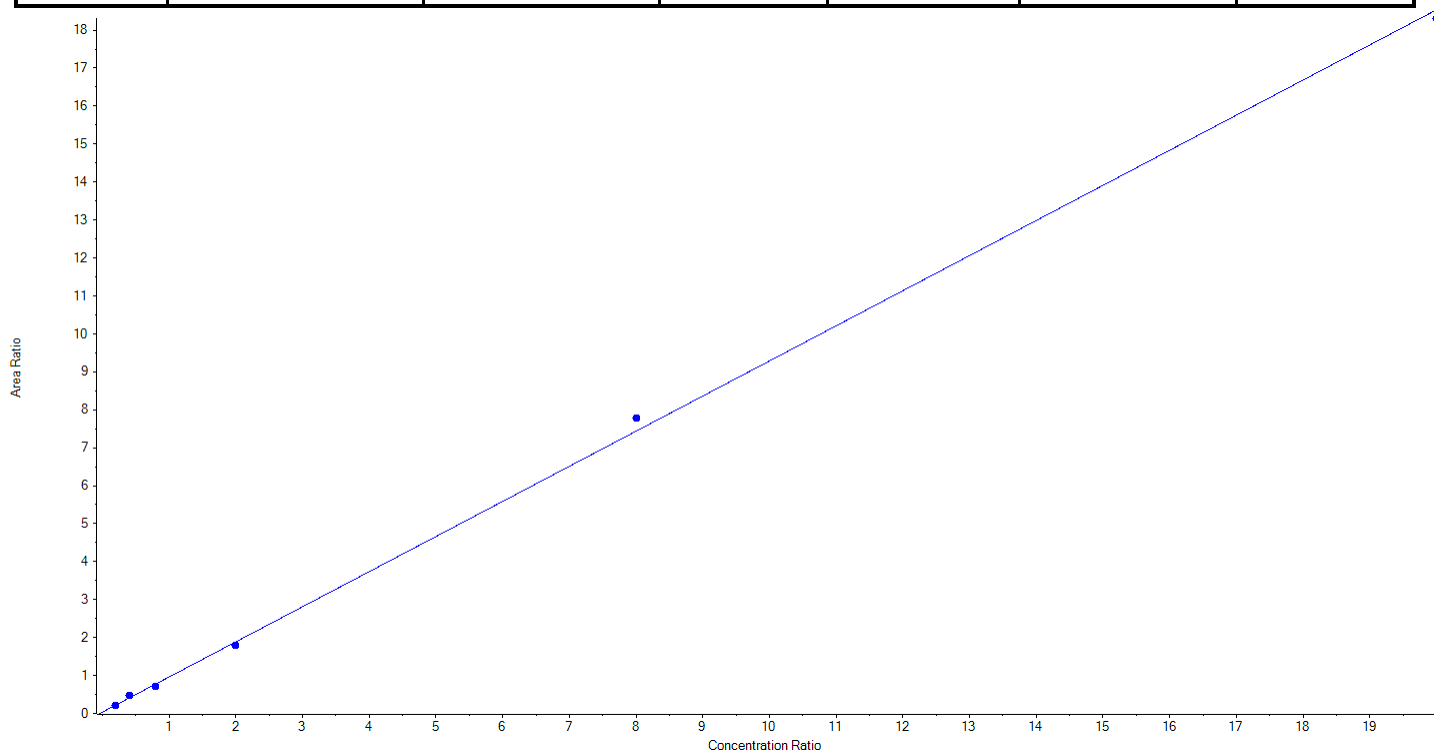
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Analyte Name	NEtFOSAA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	584.0 / 419.0	Result Table	20-1297
Internal Standard	d5-EtFOSAA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.92487x + 0.03790$ ($r = 0.99912$) (weighting: $1/x$) $r^2: 0.9982$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	234.21	93.7
3	LD75	L2	True	500.00	590.36	118.1
4	LD76	L3	True	1000.00	904.09	90.4
5	LD77	L4	True	2500.00	2358.57	94.3
6	LD78	L5	True	10000.00	10473.27	104.7
7	LD79	L6	True	25000.00	24689.49	98.8





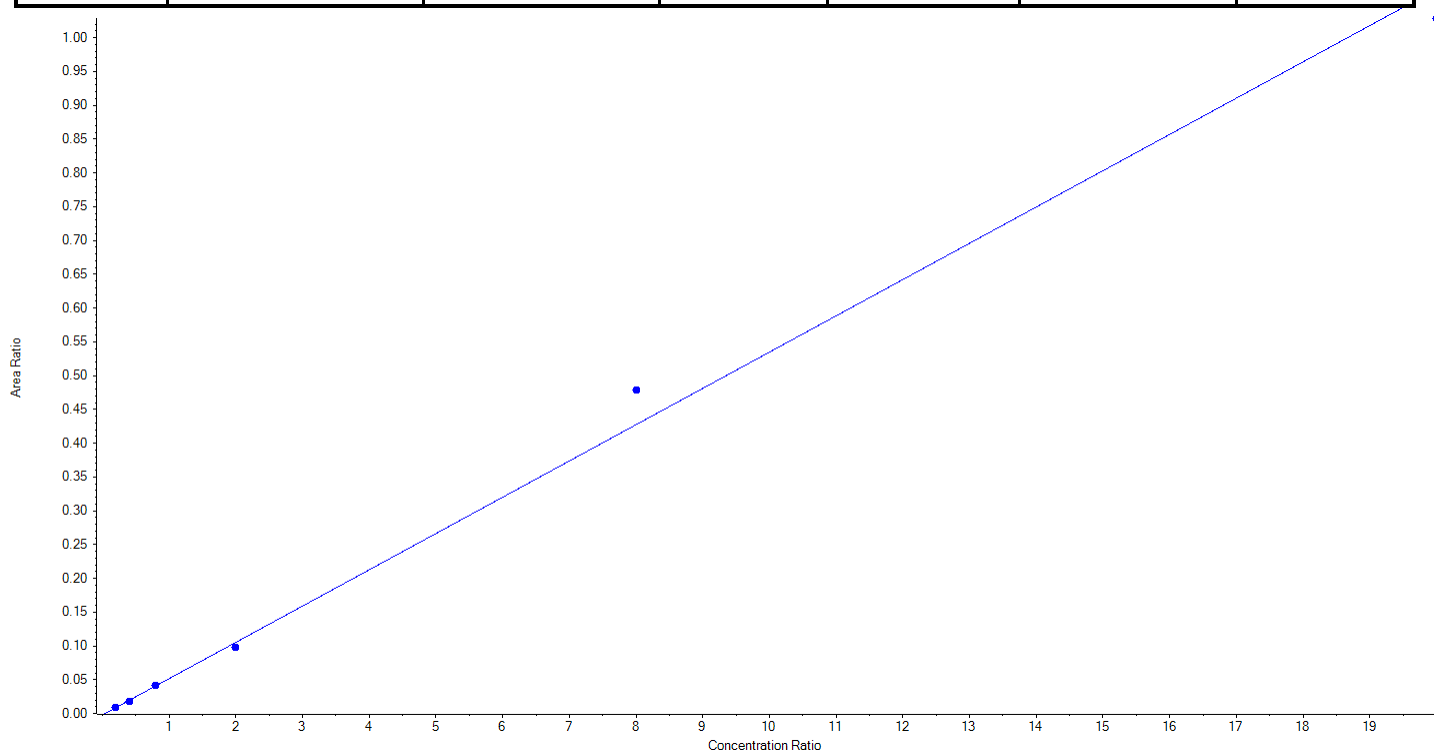
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Analyte Name	NEtFOSAA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	584.0 / 483.0	Result Table	20-1297
Internal Standard	d5-EtFOSAA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.05369x + -0.00209$ ($r = 0.99716$) (weighting: $1/x$) $r^2: 0.9943$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	256.99	102.8
3	LD75	L2	True	500.00	474.32	94.9
4	LD76	L3	True	1000.00	1016.81	101.7
5	LD77	L4	True	2500.00	2319.86	92.8
6	LD78	L5	True	10000.00	11189.55	111.9
7	LD79	L6	True	25000.00	23992.48	96.0





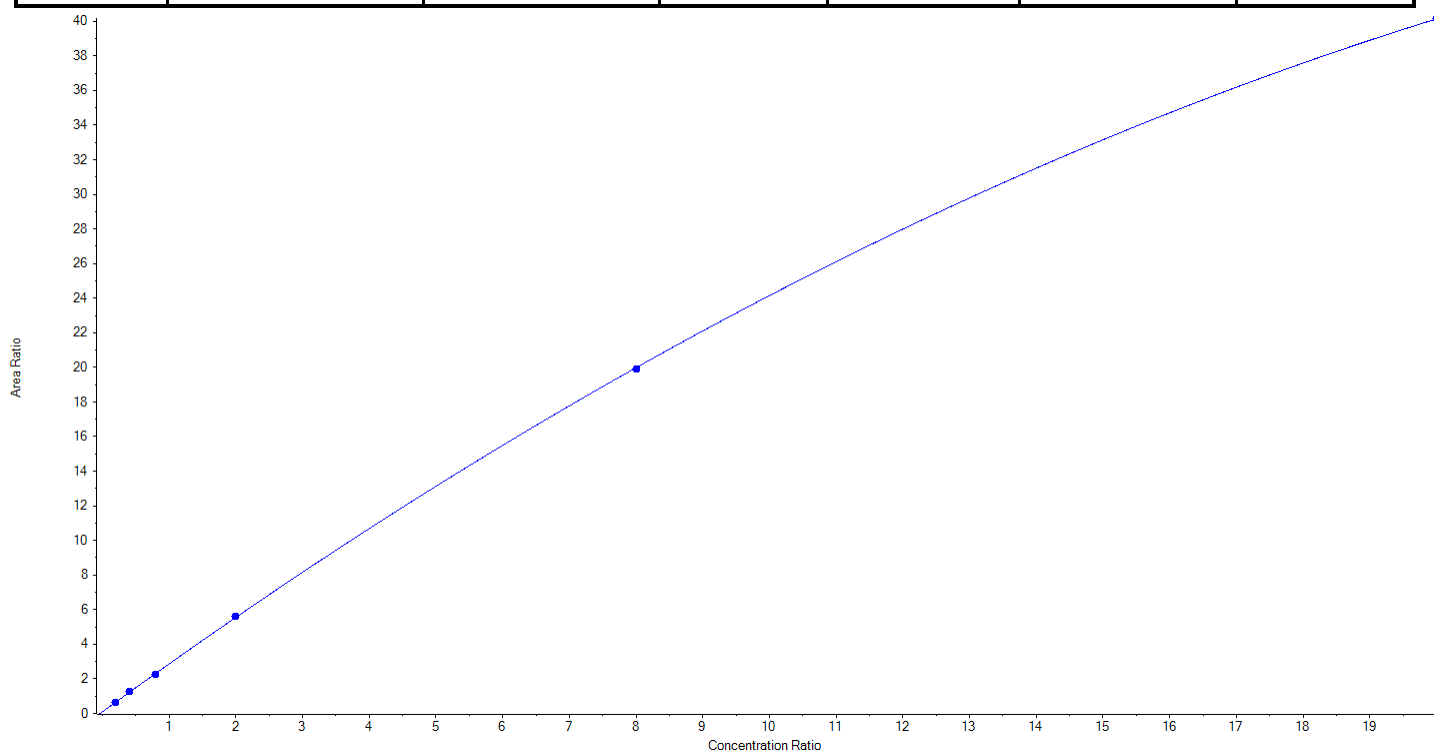
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Analyte Name	HFPO-DA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	285.0 / 169.0	Result Table	20-1297
Internal Standard	13C3-HFPO-DA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = -0.04028 x^2 + 2.80762 x + 0.09906$ ($r = 0.99992$) (weighting: $1 / x$) $r^2: 0.9998$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	238.90	95.6
3	LD75	L2	True	500.00	530.98	106.2
4	LD76	L3	True	1000.00	976.17	97.6
5	LD77	L4	True	2500.00	2522.64	100.9
6	LD78	L5	True	10000.00	9965.60	99.7
7	LD79	L6	True	25000.00	25020.91	100.1





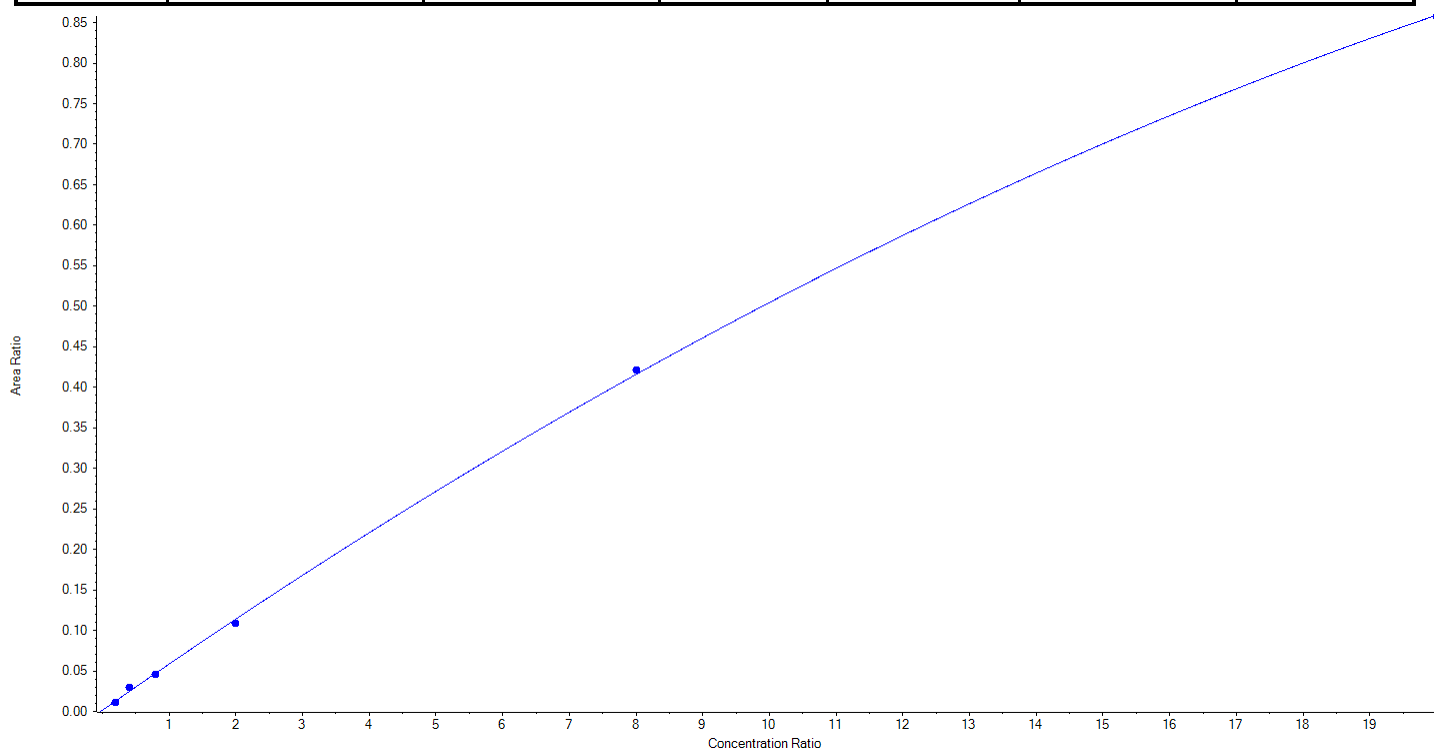
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Analyte Name	HFPO-DA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	285.0 / 118.8	Result Table	20-1297
Internal Standard	13C3-HFPO-DA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = -7.42513e-4 x^2 + 0.05773 x + 0.00156$ ($r = 0.99906$) (weighting: $1/x$) $r^2: 0.9981$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	211.51	84.6
3	LD75	L2	True	500.00	616.55	123.3
4	LD76	L3	True	1000.00	959.00	95.9
5	LD77	L4	True	2500.00	2375.63	95.0
6	LD78	L5	True	10000.00	10146.97	101.5
7	LD79	L6	True	25000.00	24927.81	99.7





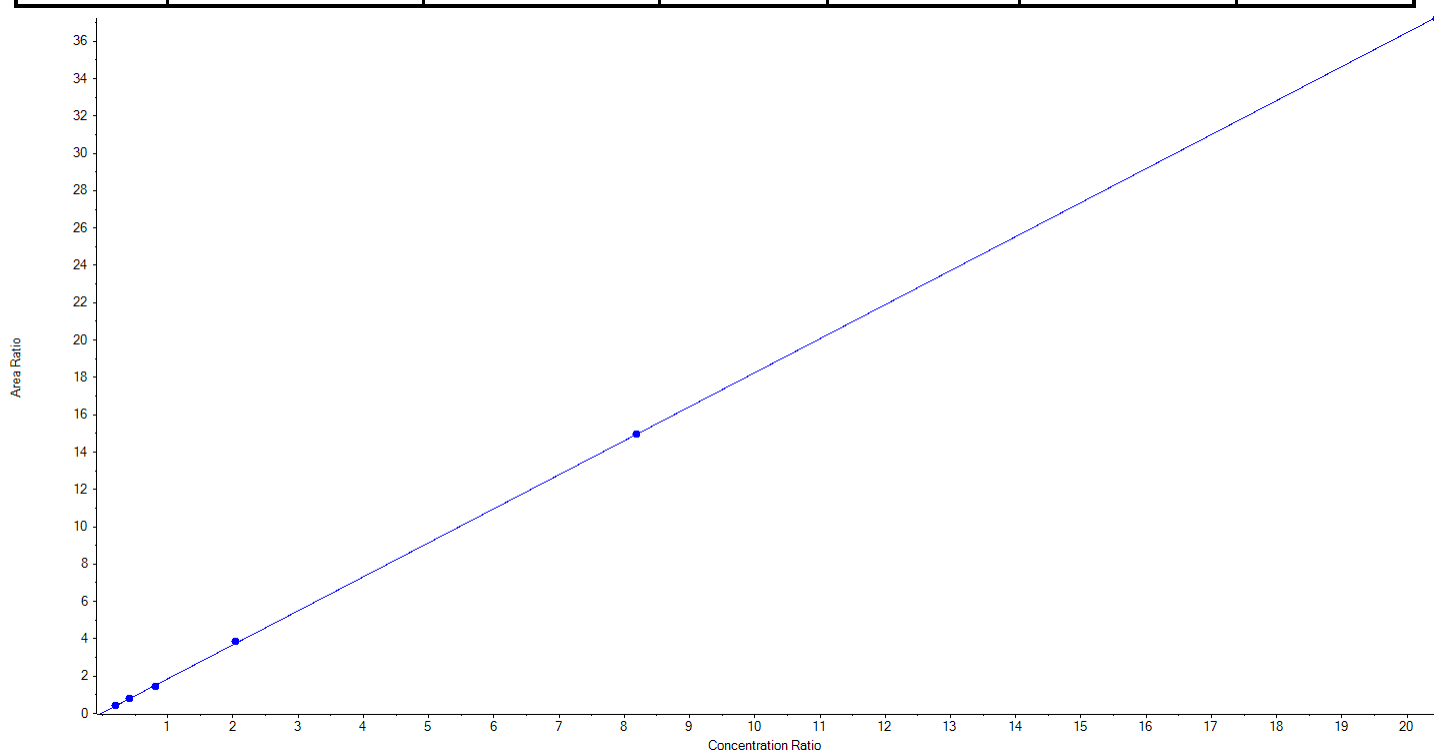
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Analyte Name	ADONA_1	Data File	AE_10292020_5-369.wiff
MRM Transition	377.0 / 251.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.82163x + 0.03488$ ($r = 0.99995$) (weighting: $1/x$) $r^2: 0.9999$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	247.22	98.9
3	LD75	L2	True	500.00	510.51	102.1
4	LD76	L3	True	1000.00	963.24	96.3
5	LD77	L4	True	2500.00	2570.36	102.8
6	LD78	L5	True	10000.00	10005.67	100.1
7	LD79	L6	True	25000.00	24952.99	99.8





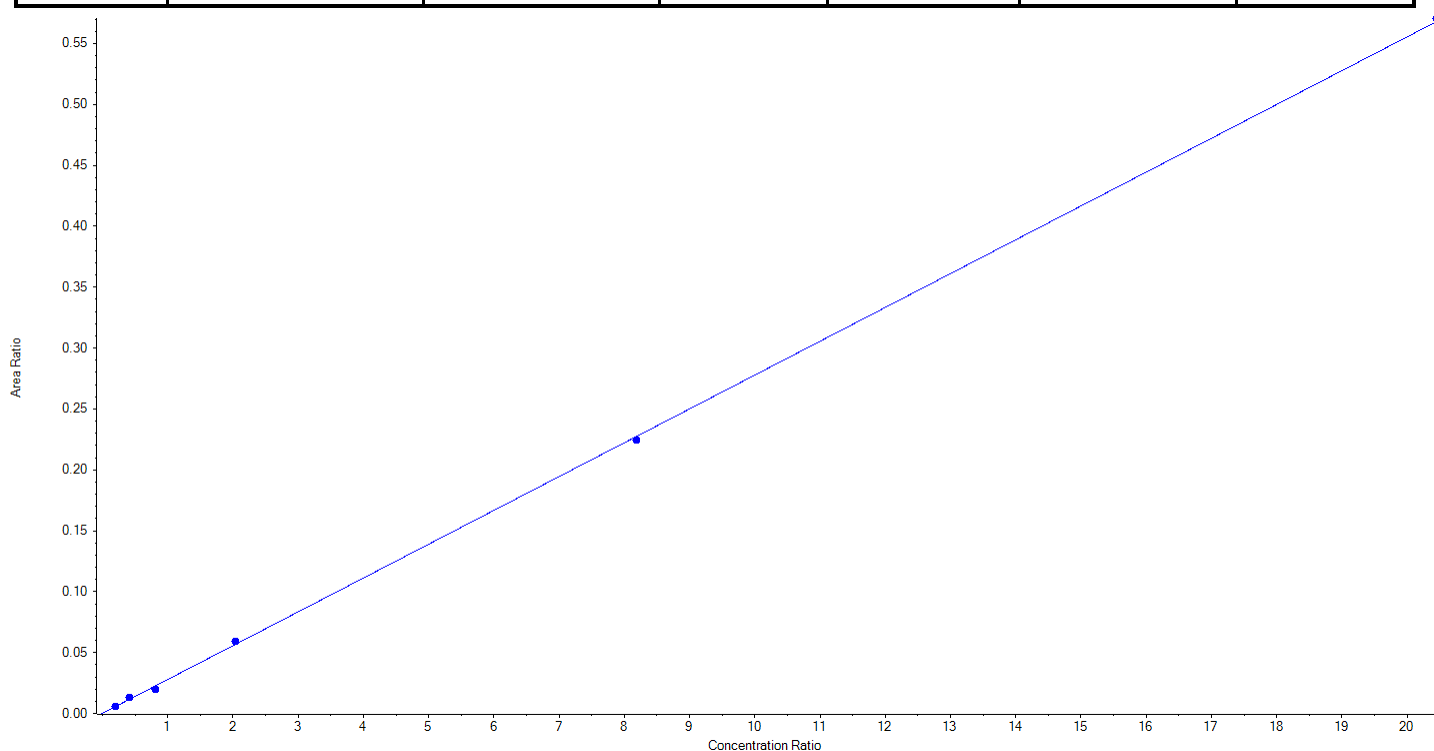
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Analyte Name	ADONA_2	Data File	AE_10292020_5-369.wiff
MRM Transition	377.0 / 85.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.02777 x + 1.20690e-4$ ($r = 0.99954$) (weighting: $1/x$) $r^2: 0.9991$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	250.81	100.3
3	LD75	L2	True	500.00	557.33	111.5
4	LD76	L3	True	1000.00	855.26	85.5
5	LD77	L4	True	2500.00	2582.85	103.3
6	LD78	L5	True	10000.00	9892.49	98.9
7	LD79	L6	True	25000.00	25111.26	100.5





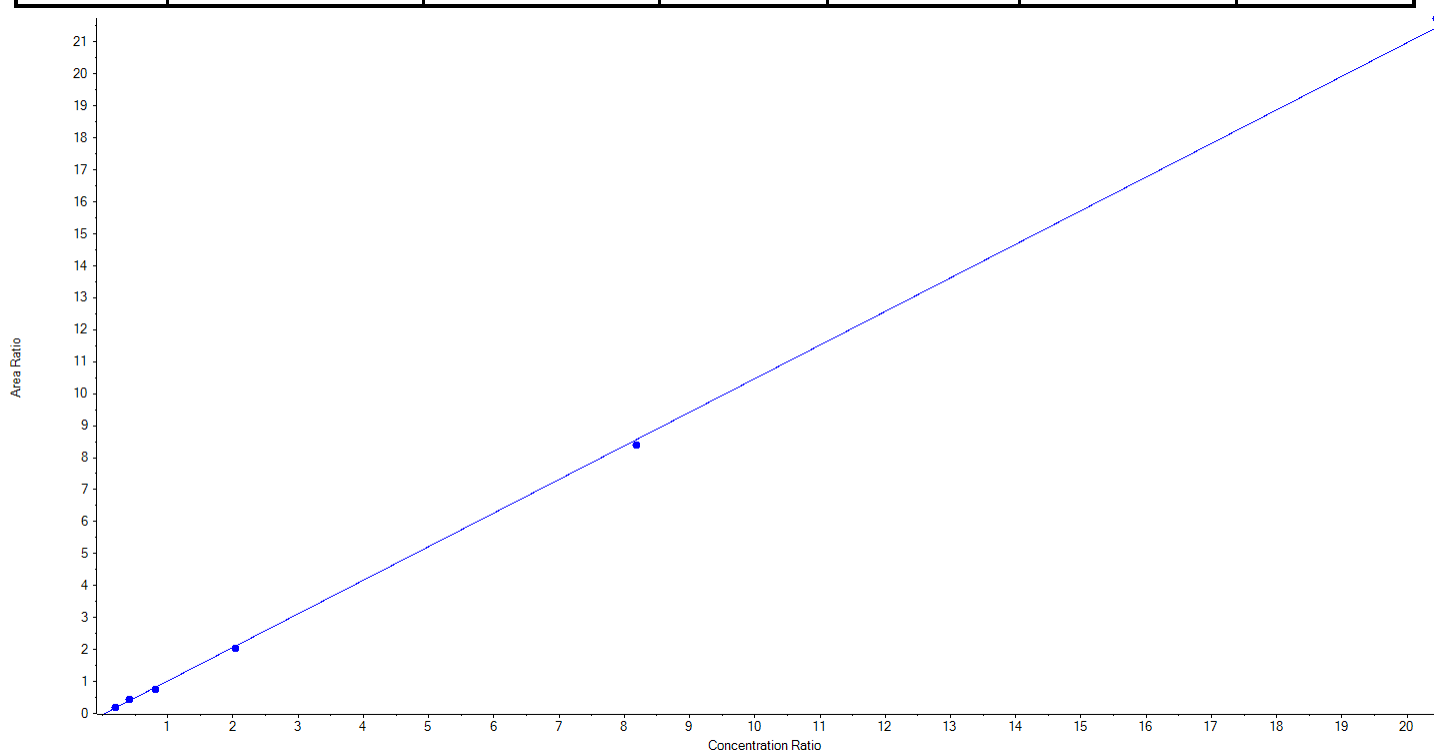
Calibration Summary Report

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Printed: 03/11/2020 1:26:13 PM

Analyte Name	9CI-PF3ONS_1	Data File	AE_10292020_5-369.wiff
MRM Transition	531.0 / 351.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.05052x + -0.03515$ ($r = 0.99965$) (weighting: $1/x$) $r^2: 0.9993$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	268.01	107.2
3	LD75	L2	True	500.00	533.43	106.7
4	LD76	L3	True	1000.00	902.04	90.2
5	LD77	L4	True	2500.00	2413.87	96.6
6	LD78	L5	True	10000.00	9803.67	98.0
7	LD79	L6	True	25000.00	25328.99	101.3





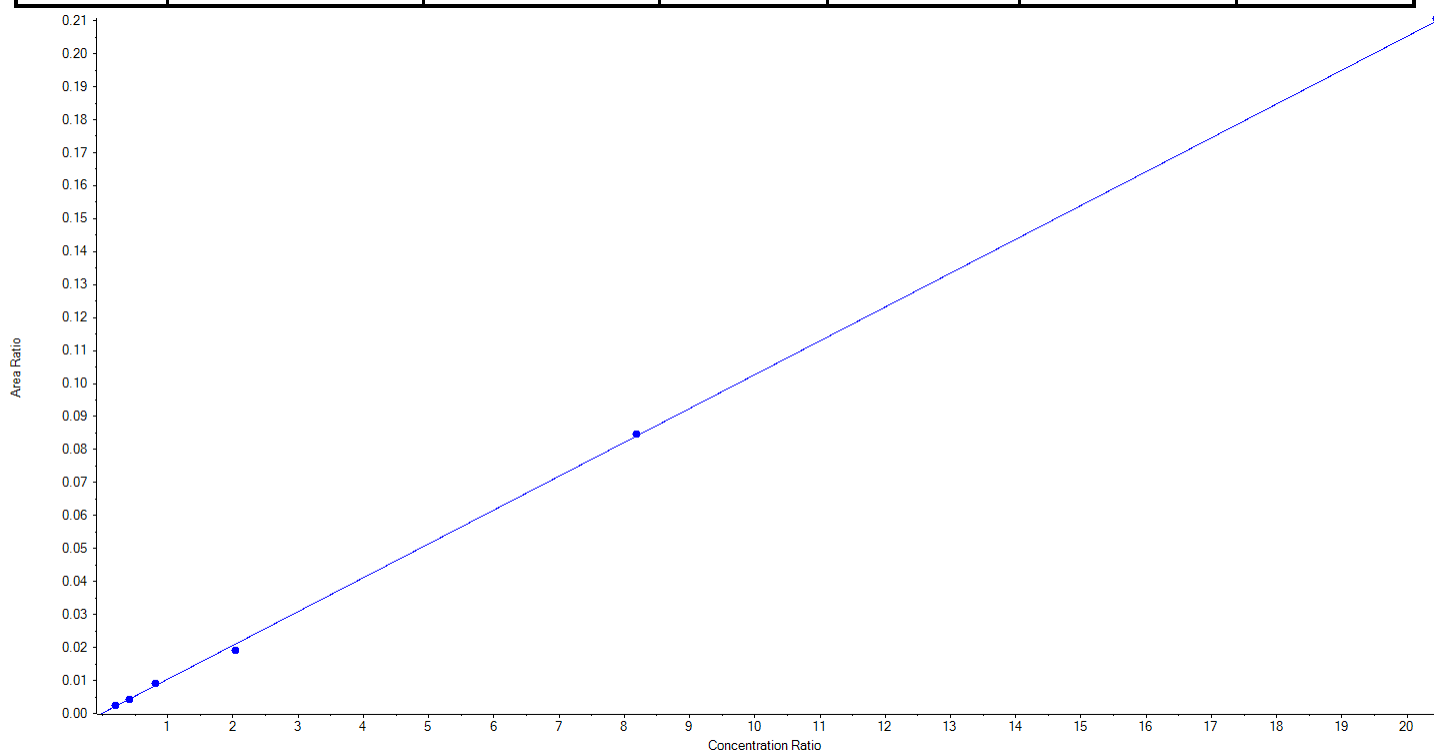
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:26:13 PM

Analyte Name	9CI-PF3ONS_2	Data File	AE_10292020_5-369.wiff
MRM Transition	531.0 / 83.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.01026x + 1.23613e-4$ ($r = 0.99956$) (weighting: $1/x$) $r^2: 0.9991$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	264.50	105.8
3	LD75	L2	True	500.00	481.69	96.3
4	LD76	L3	True	1000.00	1062.72	106.3
5	LD77	L4	True	2500.00	2257.72	90.3
6	LD78	L5	True	10000.00	10091.40	100.9
7	LD79	L6	True	25000.00	25091.98	100.4





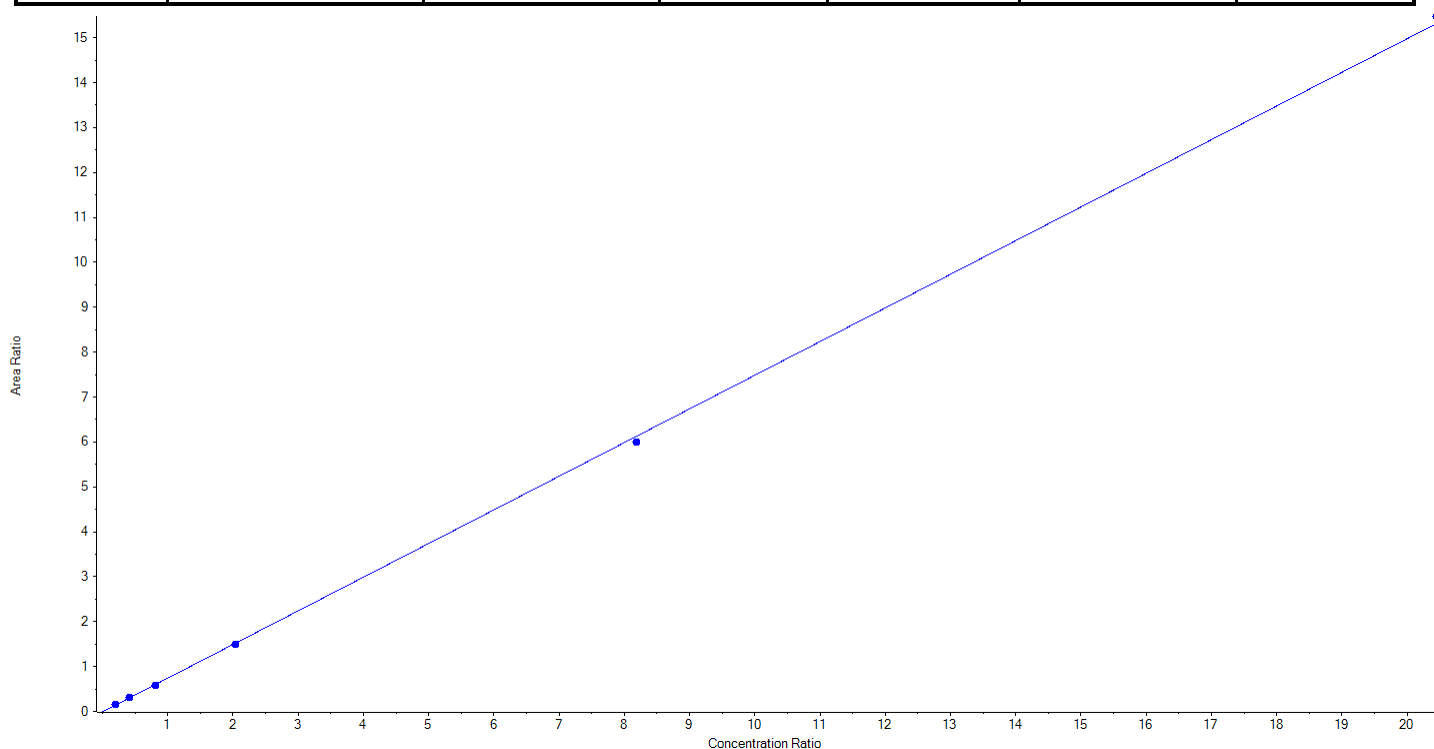
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:26:13 PM

Analyte Name	11Cl-pf3OUdS_1	Data File	AE_10292020_5-369.wiff
MRM Transition	631.0 / 451.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.74925x + -0.00723$ ($r = 0.99985$) (weighting: $1/x$) $r^2: 0.9997$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	265.50	106.2
3	LD75	L2	True	500.00	507.21	101.4
4	LD76	L3	True	1000.00	947.10	94.7
5	LD77	L4	True	2500.00	2462.62	98.5
6	LD78	L5	True	10000.00	9812.07	98.1
7	LD79	L6	True	25000.00	25255.50	101.0





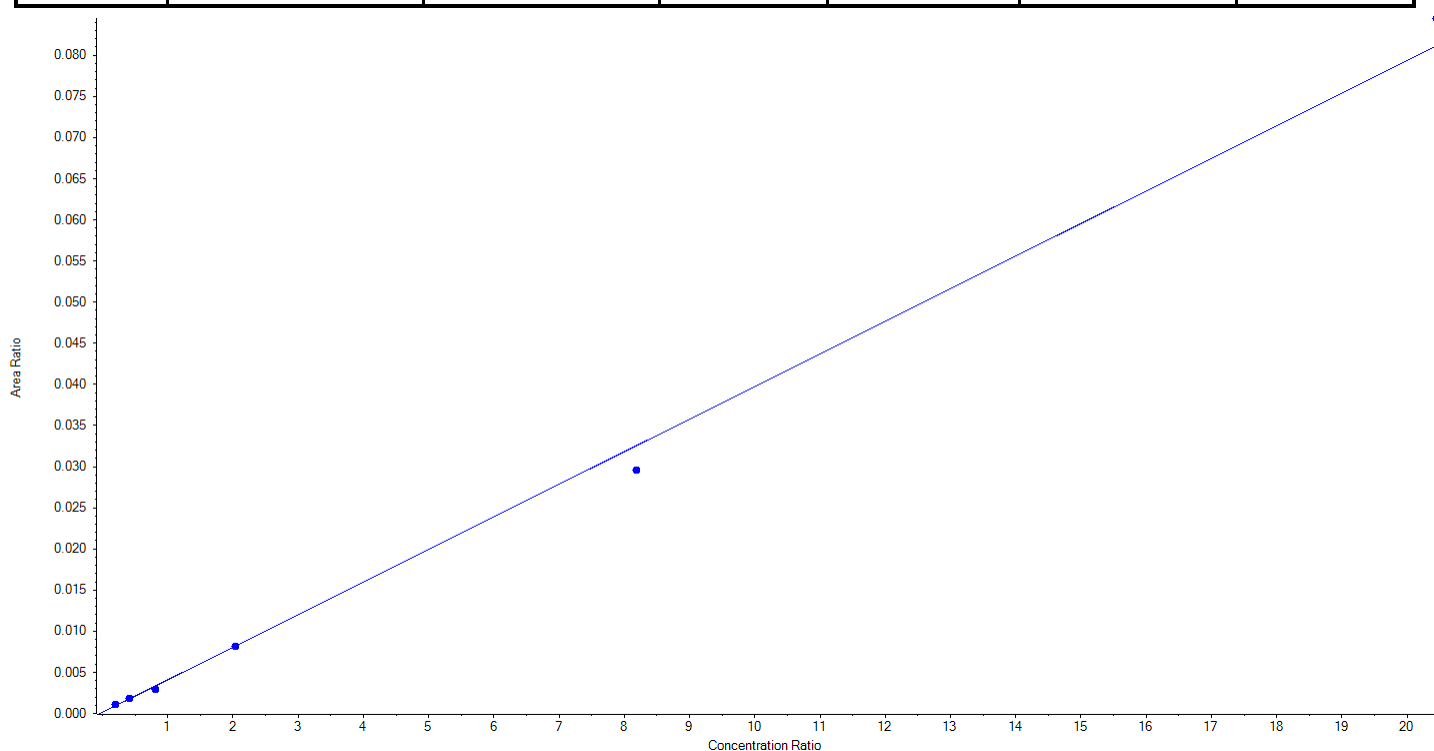
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Analyte Name	11Cl-pf3OUdS_2	Data File	AE_10292020_5-369.wiff
MRM Transition	631.0 / 83.0	Result Table	20-1297
Internal Standard	13C8-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.00396x + 1.31641e-4$ ($r = 0.99771$) (weighting: $1/x$) $r^2: 0.9954$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	250.00	297.53	119.0
3	LD75	L2	True	500.00	509.35	101.9
4	LD76	L3	True	1000.00	848.51	84.9
5	LD77	L4	True	2500.00	2482.84	99.3
6	LD78	L5	True	10000.00	9084.62	90.9
7	LD79	L6	True	25000.00	26027.16	104.1





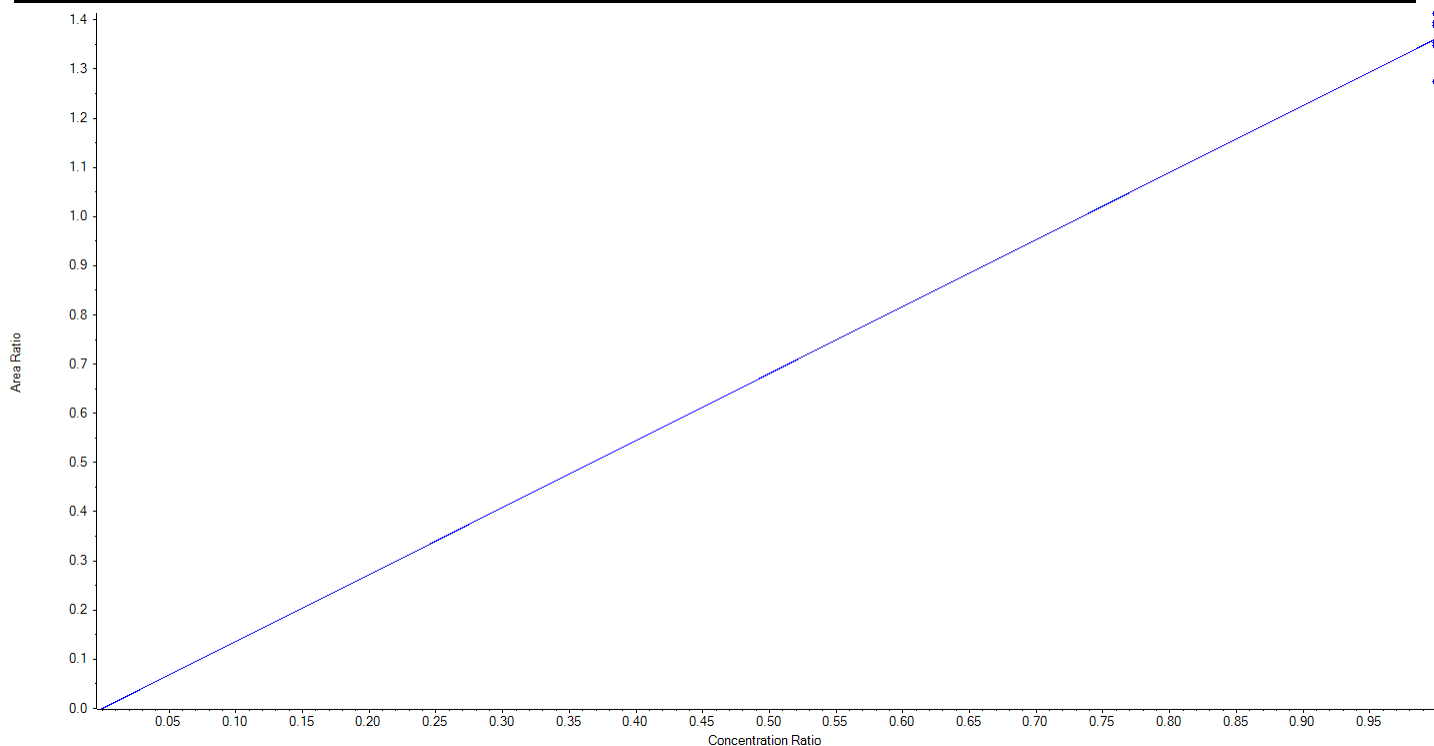
Calibration Summary Report

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Analyte Name	13C2-PFDoA	Data File	AE_10292020_5-369.wiff
MRM Transition	615.0 / 570.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.36190 x$ (std. dev. = 0.04987) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1274.11	101.9
3	LD75	L2	True	1250.00	1236.72	98.9
4	LD76	L3	True	1250.00	1243.38	99.5
5	LD77	L4	True	1250.00	1168.88	93.5
6	LD78	L5	True	1250.00	1296.65	103.7
7	LD79	L6	True	1250.00	1280.25	102.4





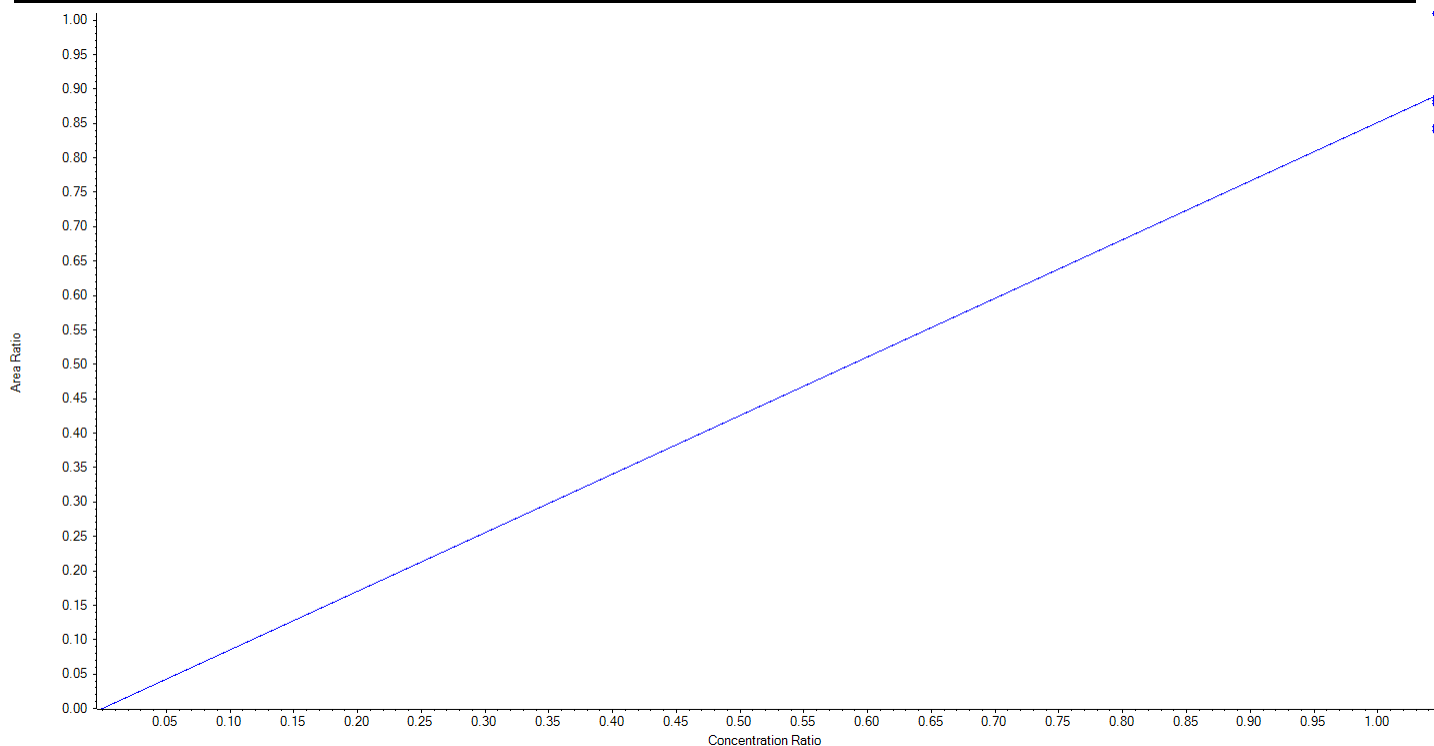
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	d3-MeFOSAA	Data File	AE_10292020_5-369.wiff
MRM Transition	573.0 / 419.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.85135 x$ (std. dev. = 0.05899) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1244.94	99.6
3	LD75	L2	True	1250.00	1233.23	98.7
4	LD76	L3	True	1250.00	1187.03	95.0
5	LD77	L4	True	1250.00	1177.70	94.2
6	LD78	L5	True	1250.00	1240.05	99.2
7	LD79	L6	True	1250.00	1417.05	113.4





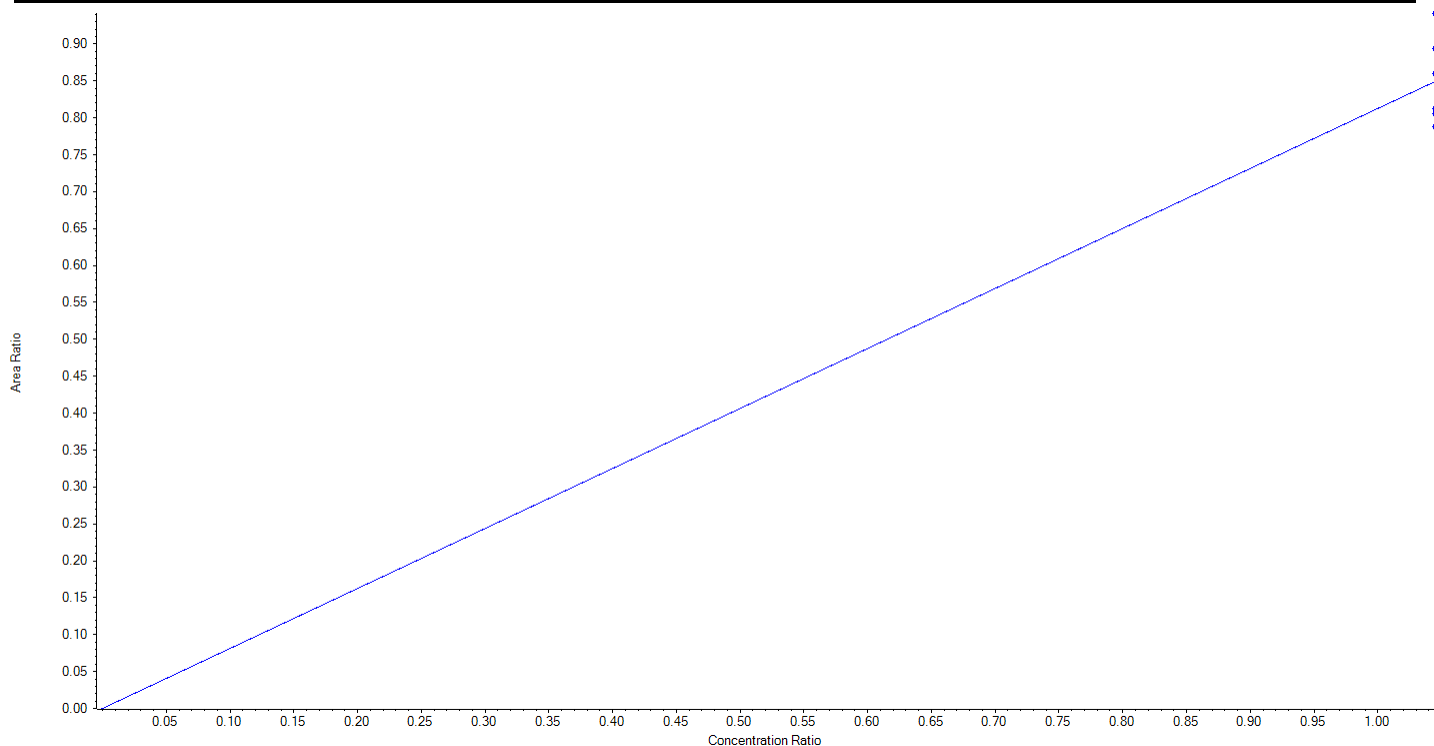
Calibration Summary Report

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Analyte Name	d5-EtFOSAA	Data File	AE_10292020_5-369.wiff
MRM Transition	589.0 / 419.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.81252 x$ (std. dev. = 0.05689) (weighting: None) r^2 :N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1384.10	110.7
3	LD75	L2	True	1250.00	1194.50	95.6
4	LD76	L3	True	1250.00	1263.84	101.1
5	LD77	L4	True	1250.00	1315.26	105.2
6	LD78	L5	True	1250.00	1184.25	94.7
7	LD79	L6	True	1250.00	1158.05	92.6





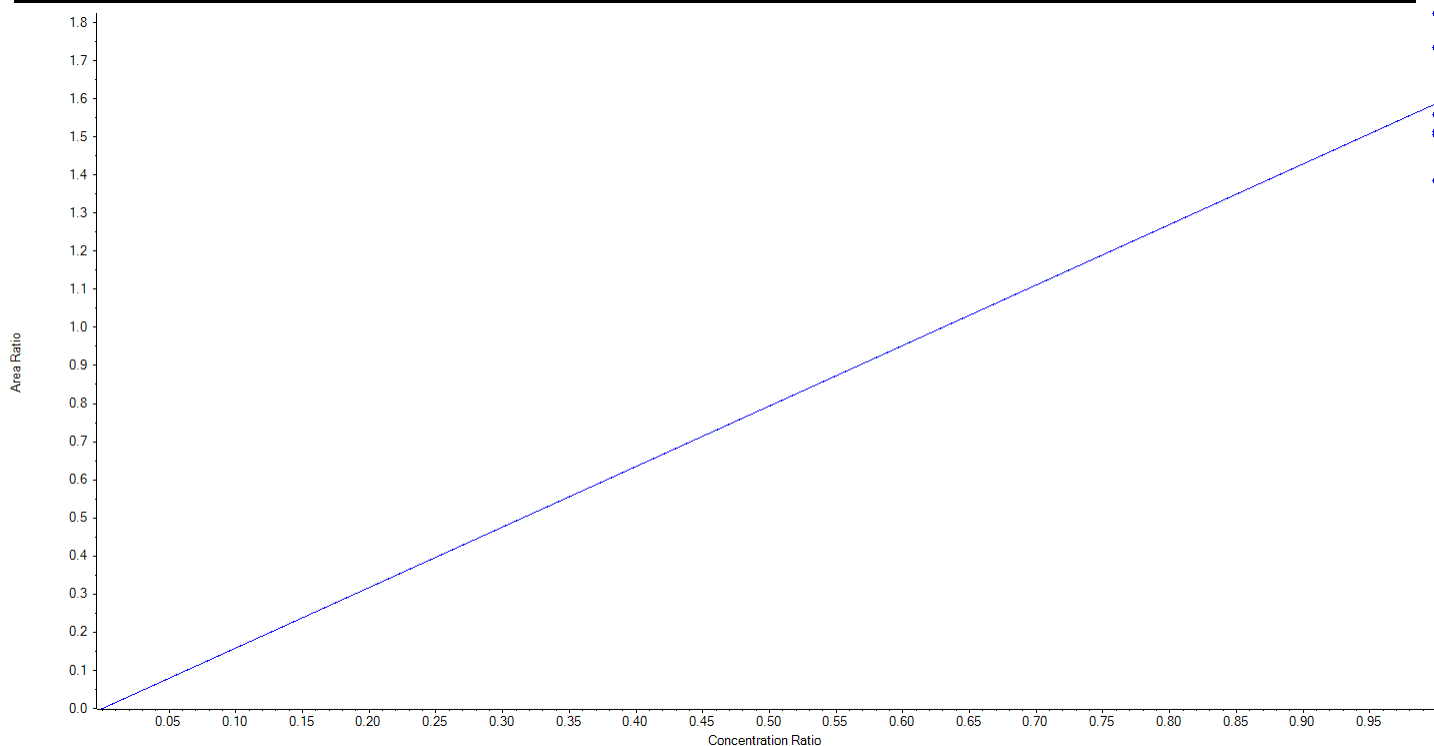
Calibration Summary Report

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Analyte Name	13C5-PFHxA	Data File	AE_10292020_5-369.wiff
MRM Transition	318.0 / 273.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.58743 x$ (std. dev. = 0.16178) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1435.81	114.9
3	LD75	L2	True	1250.00	1186.39	94.9
4	LD76	L3	True	1250.00	1366.36	109.3
5	LD77	L4	True	1250.00	1227.88	98.2
6	LD78	L5	True	1250.00	1192.36	95.4
7	LD79	L6	True	1250.00	1091.19	87.3





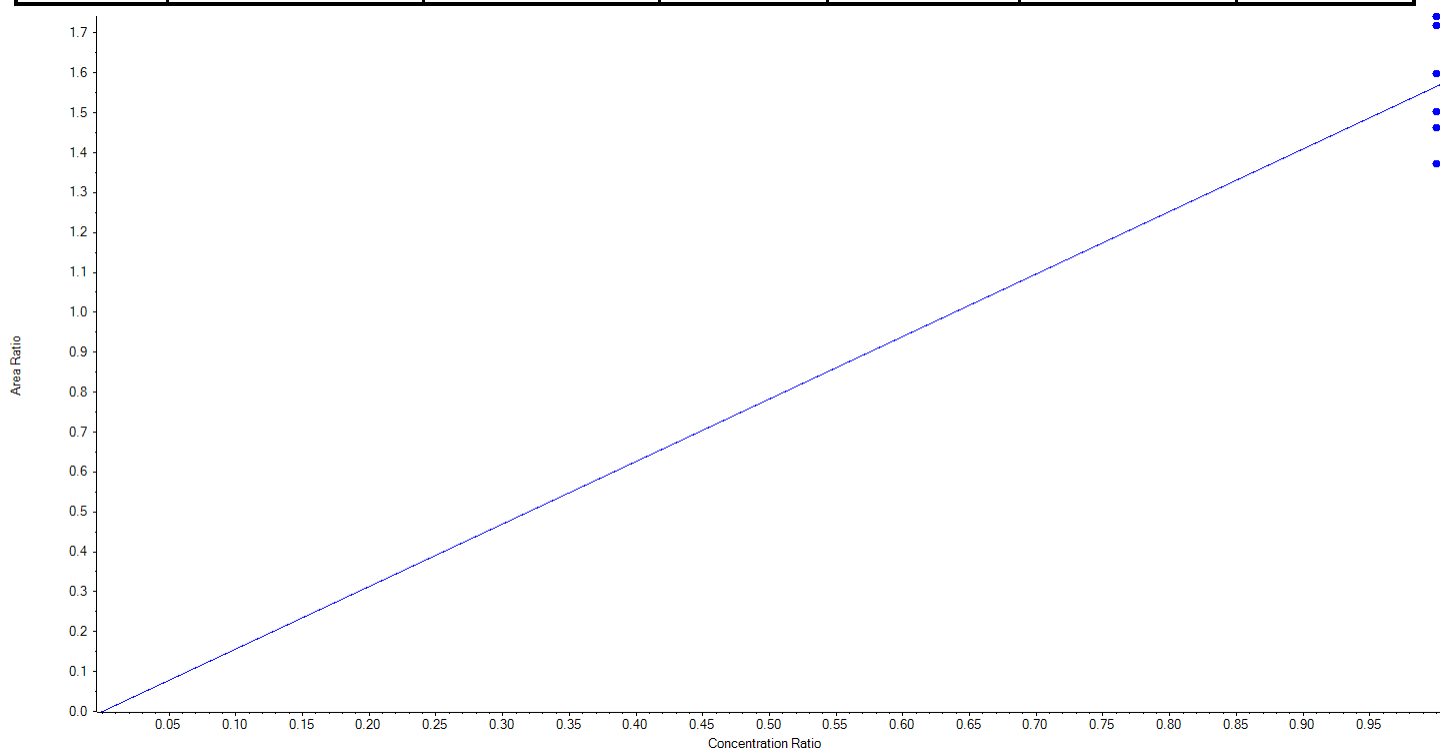
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C4-PFHpA	Data File	AE_10292020_5-369.wiff
MRM Transition	367.0 / 322.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.56591 x$ (std. dev. = 0.14655) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1389.90	111.2
3	LD75	L2	True	1250.00	1275.37	102.0
4	LD76	L3	True	1250.00	1372.13	109.8
5	LD77	L4	True	1250.00	1199.95	96.0
6	LD78	L5	True	1250.00	1167.56	93.4
7	LD79	L6	True	1250.00	1095.09	87.6





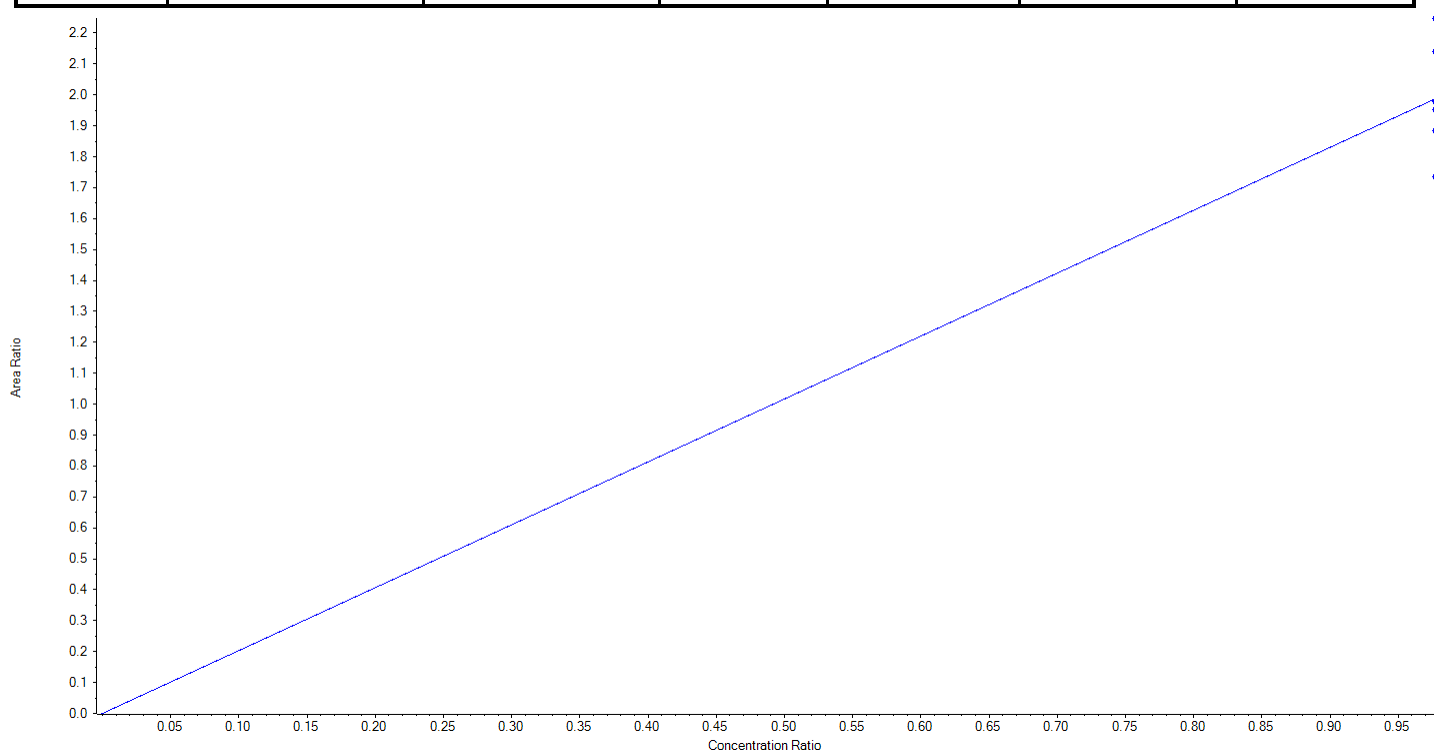
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C8-PFOA	Data File	AE_10292020_5-369.wiff
MRM Transition	421.0 / 376.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 2.03345 x$ (std. dev. = 0.18694) (weighting: None) r^2 :N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1222.50	1381.00	113.0
3	LD75	L2	True	1222.50	1215.18	99.4
4	LD76	L3	True	1222.50	1315.71	107.6
5	LD77	L4	True	1222.50	1157.44	94.7
6	LD78	L5	True	1222.50	1199.83	98.2
7	LD79	L6	True	1222.50	1065.83	87.2





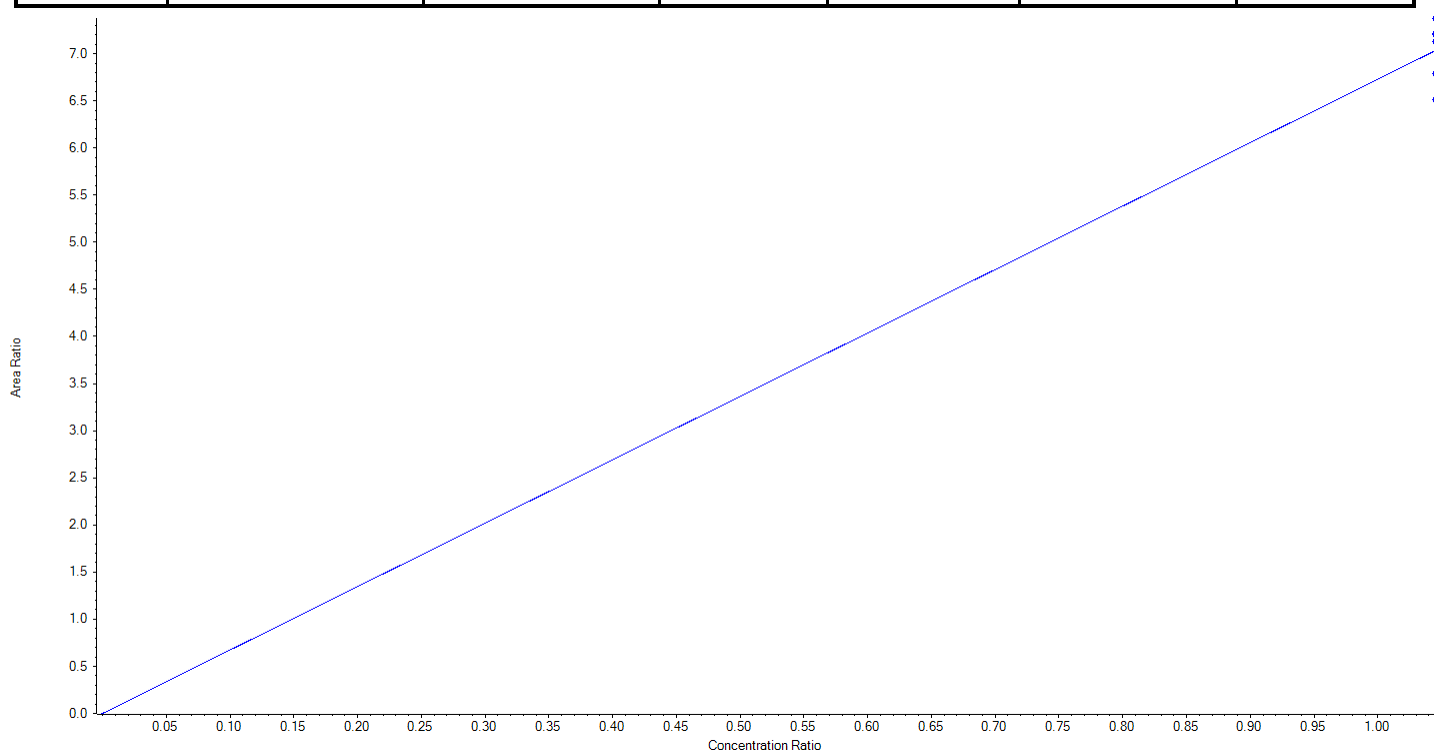
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C9-PFNA	Data File	AE_10292020_5-369.wiff
MRM Transition	472.0 / 427.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 6.72878 x$ (std. dev. = 0.30749) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1279.57	102.4
3	LD75	L2	True	1250.00	1309.42	104.8
4	LD76	L3	True	1250.00	1206.42	96.5
5	LD77	L4	True	1250.00	1156.47	92.5
6	LD78	L5	True	1250.00	1266.83	101.4
7	LD79	L6	True	1250.00	1281.29	102.5





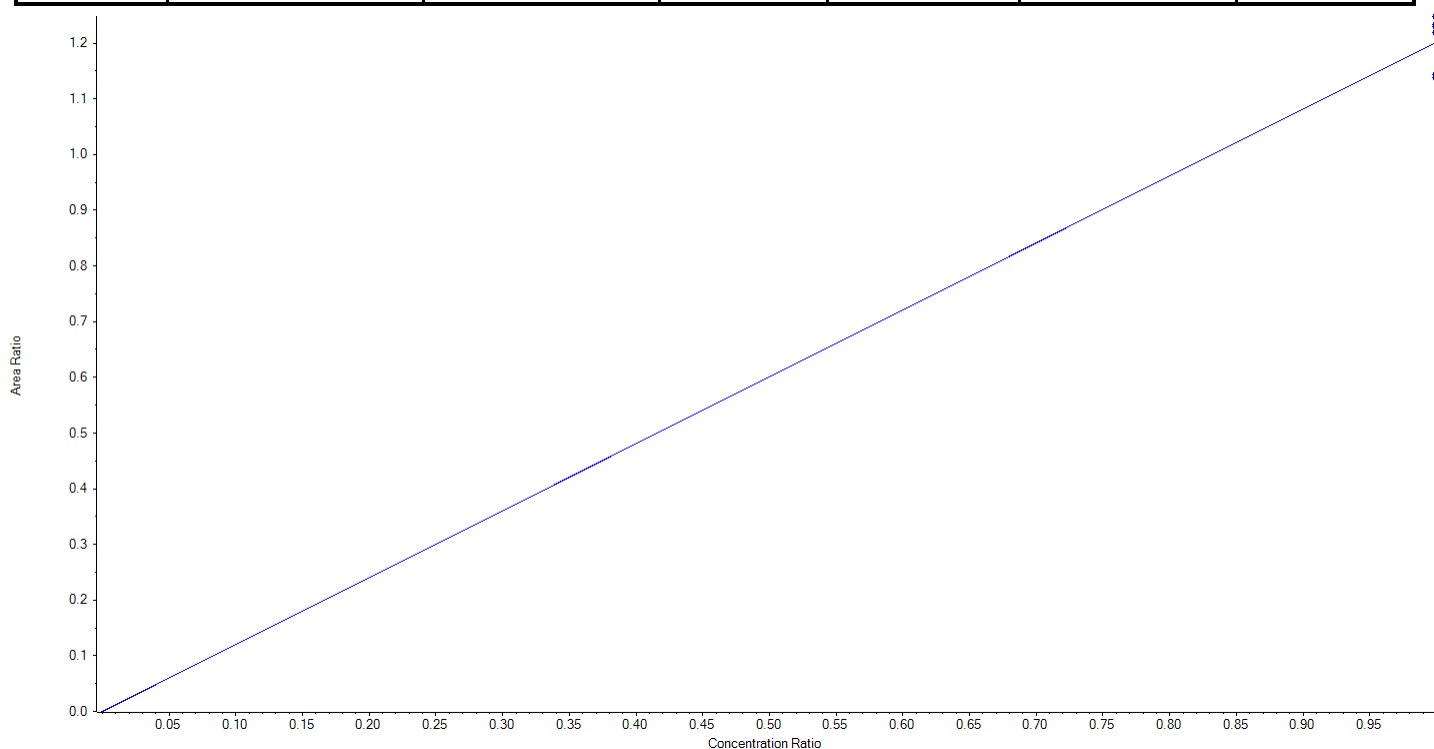
Calibration Summary Report

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Analyte Name	13C6-PFDA	Data File	AE_10292020_5-369.wiff
MRM Transition	519.0 / 474.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.20183 x$ (std. dev. = 0.04764) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1266.92	101.4
3	LD75	L2	True	1250.00	1297.74	103.8
4	LD76	L3	True	1250.00	1282.01	102.6
5	LD77	L4	True	1250.00	1190.22	95.2
6	LD78	L5	True	1250.00	1278.63	102.3
7	LD79	L6	True	1250.00	1184.48	94.8





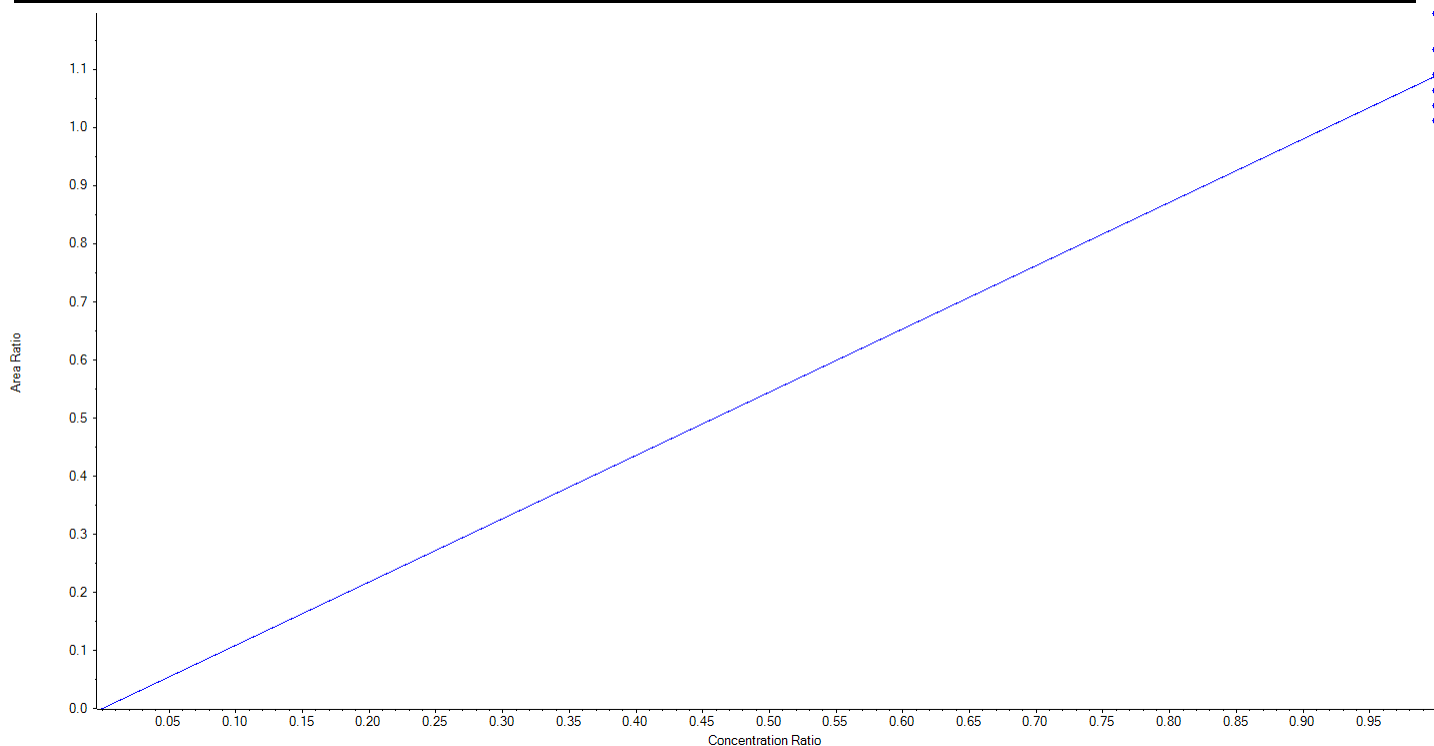
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:15:00 PM

Analyte Name	13C7-PFUnA	Data File	AE_10292020_5-369.wiff
MRM Transition	570.0 / 525.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.08920 x$ (std. dev. = 0.06738) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1372.79	109.8
3	LD75	L2	True	1250.00	1219.94	97.6
4	LD76	L3	True	1250.00	1191.46	95.3
5	LD77	L4	True	1250.00	1301.97	104.2
6	LD78	L5	True	1250.00	1252.07	100.2
7	LD79	L6	True	1250.00	1161.76	92.9





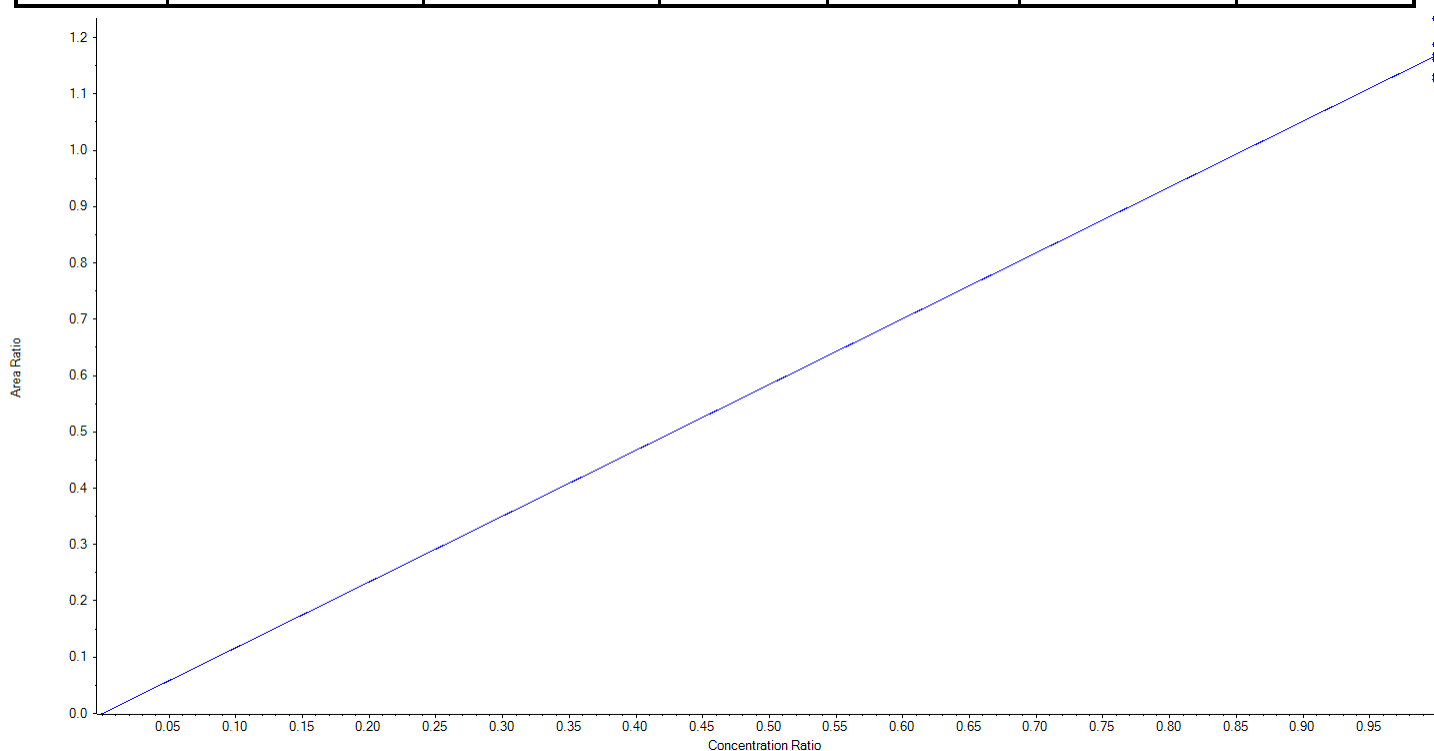
Calibration Summary Report

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Printed: 03/11/2020 1:15:00 PM

Analyte Name	13C2-PFTeDA	Data File	AE_10292020_5-369.wiff
MRM Transition	715.0 / 670.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFDA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.16843 x$ (std. dev. = 0.03938) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1250.61	100.1
3	LD75	L2	True	1250.00	1211.54	96.9
4	LD76	L3	True	1250.00	1242.87	99.4
5	LD77	L4	True	1250.00	1204.80	96.4
6	LD78	L5	True	1250.00	1319.92	105.6
7	LD79	L6	True	1250.00	1270.27	101.6





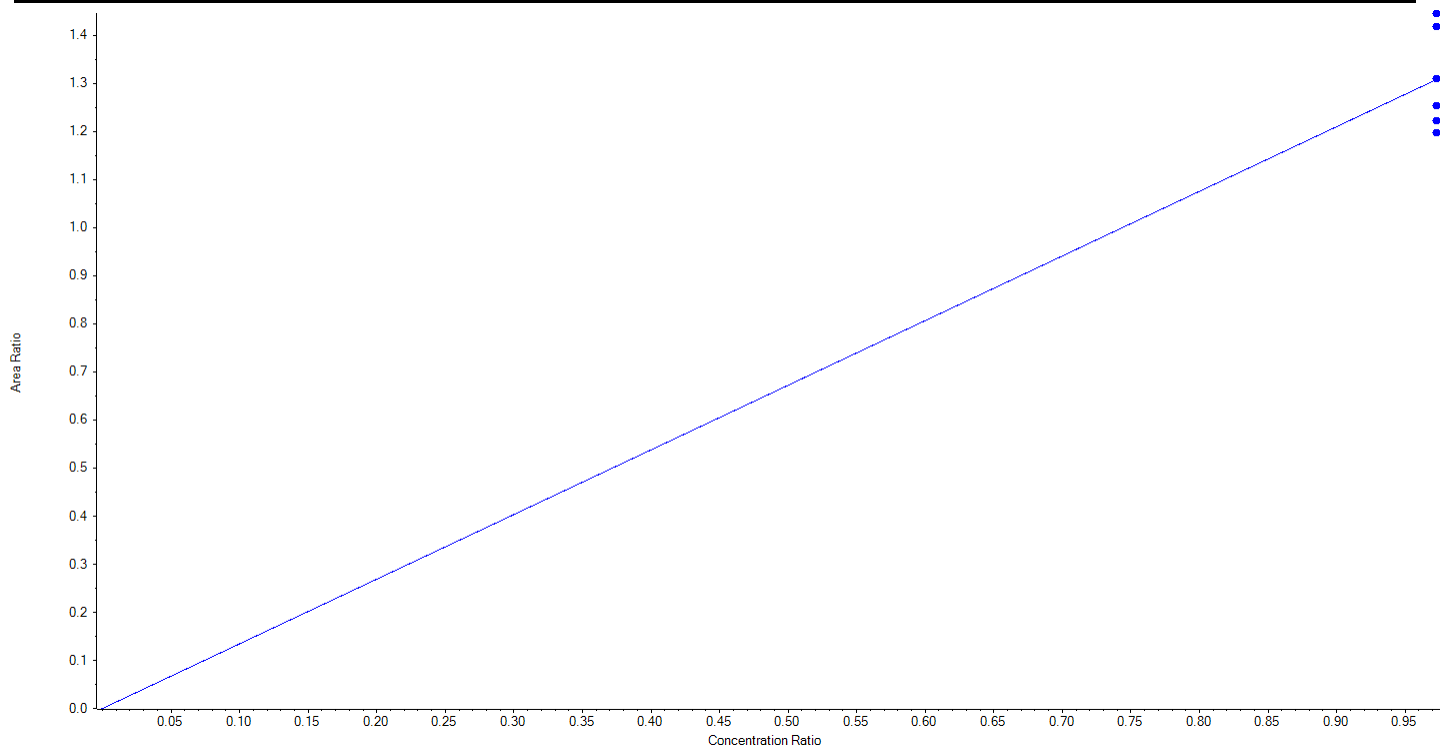
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:15:00 PM

Analyte Name	13C3-PFBS	Data File	AE_10292020_5-369.wiff
MRM Transition	302.0 / 99.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.34420 x$ (std. dev. = 0.10605) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1162.50	1114.55	95.9
3	LD75	L2	True	1162.50	1164.27	100.2
4	LD76	L3	True	1162.50	1087.10	93.5
5	LD77	L4	True	1162.50	1064.35	91.6
6	LD78	L5	True	1162.50	1260.15	108.4
7	LD79	L6	True	1162.50	1284.58	110.5





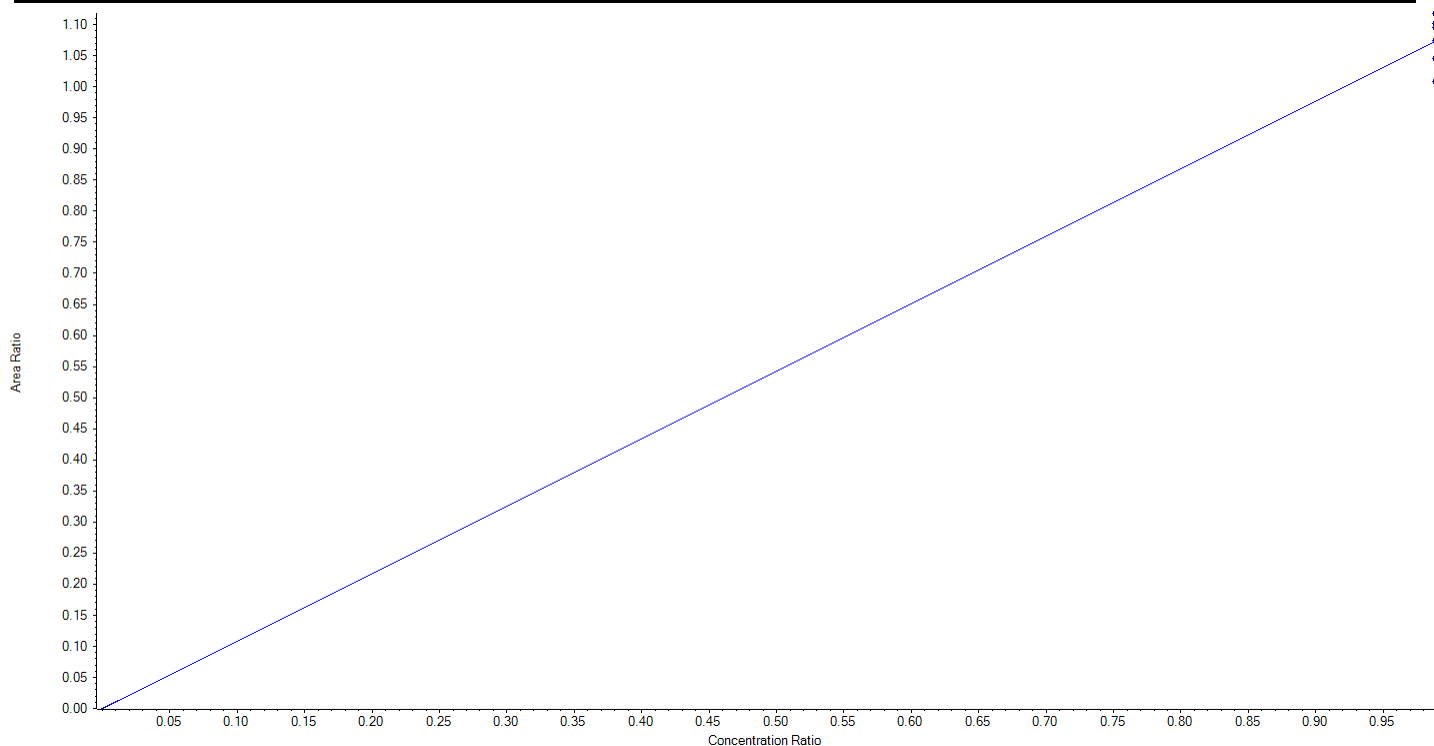
Calibration Summary Report

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Analyte Name	13C3-PFHxS	Data File	AE_10292020_5-369.wiff
MRM Transition	402.0 / 99.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.08535 x$ (std. dev. = 0.04104) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1182.50	1230.95	104.1
3	LD75	L2	True	1182.50	1183.55	100.1
4	LD76	L3	True	1182.50	1110.71	93.9
5	LD77	L4	True	1182.50	1212.59	102.5
6	LD78	L5	True	1182.50	1150.67	97.3
7	LD79	L6	True	1182.50	1206.52	102.0





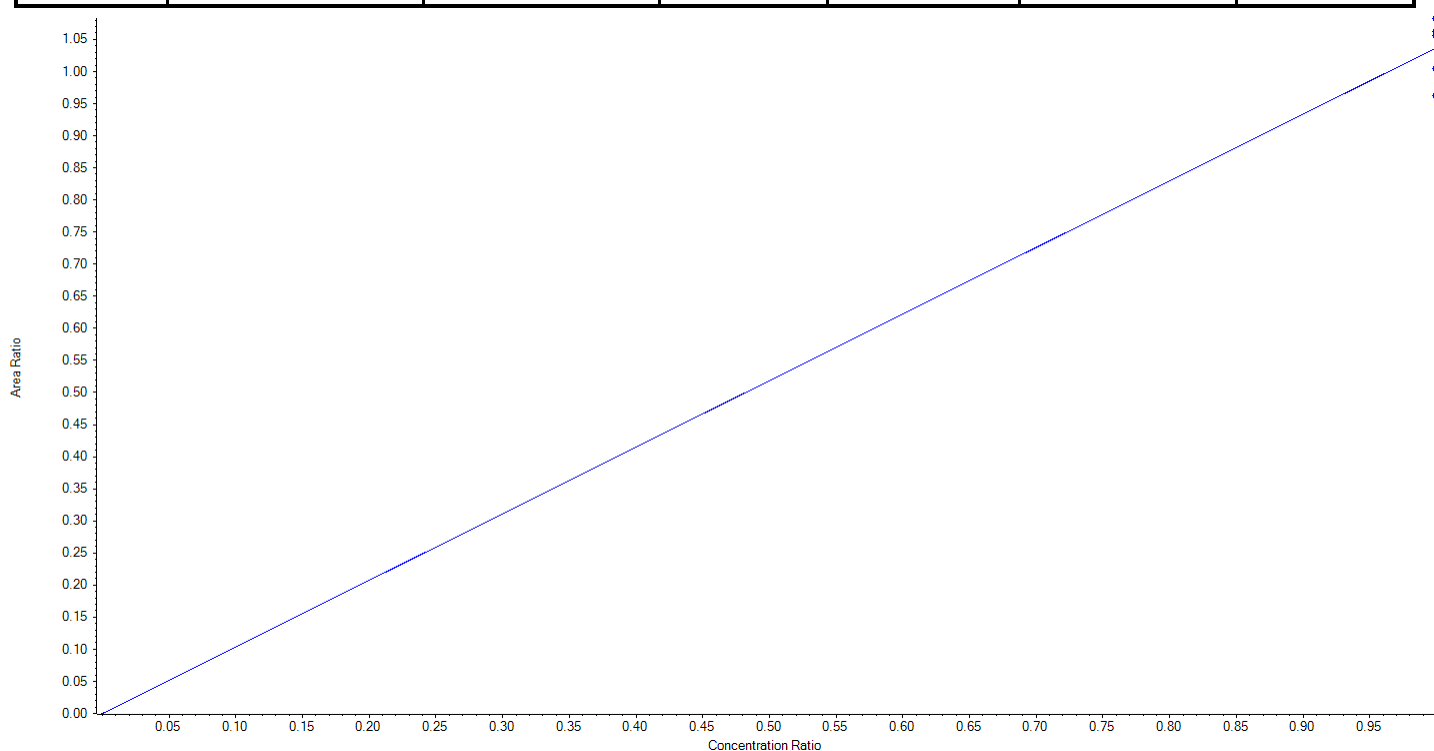
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:15:00 PM

Analyte Name	13C8-PFOS	Data File	AE_10292020_5-369.wiff
MRM Transition	507.0 / 99.0	Result Table	20-1297_SIS
Internal Standard	13C4-PFOS	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 1.03717 x$ (std. dev. = 0.04471) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1195.00	1223.60	102.4
3	LD75	L2	True	1195.00	1247.27	104.4
4	LD76	L3	True	1195.00	1109.44	92.8
5	LD77	L4	True	1195.00	1156.63	96.8
6	LD78	L5	True	1195.00	1216.71	101.8
7	LD79	L6	True	1195.00	1216.35	101.8





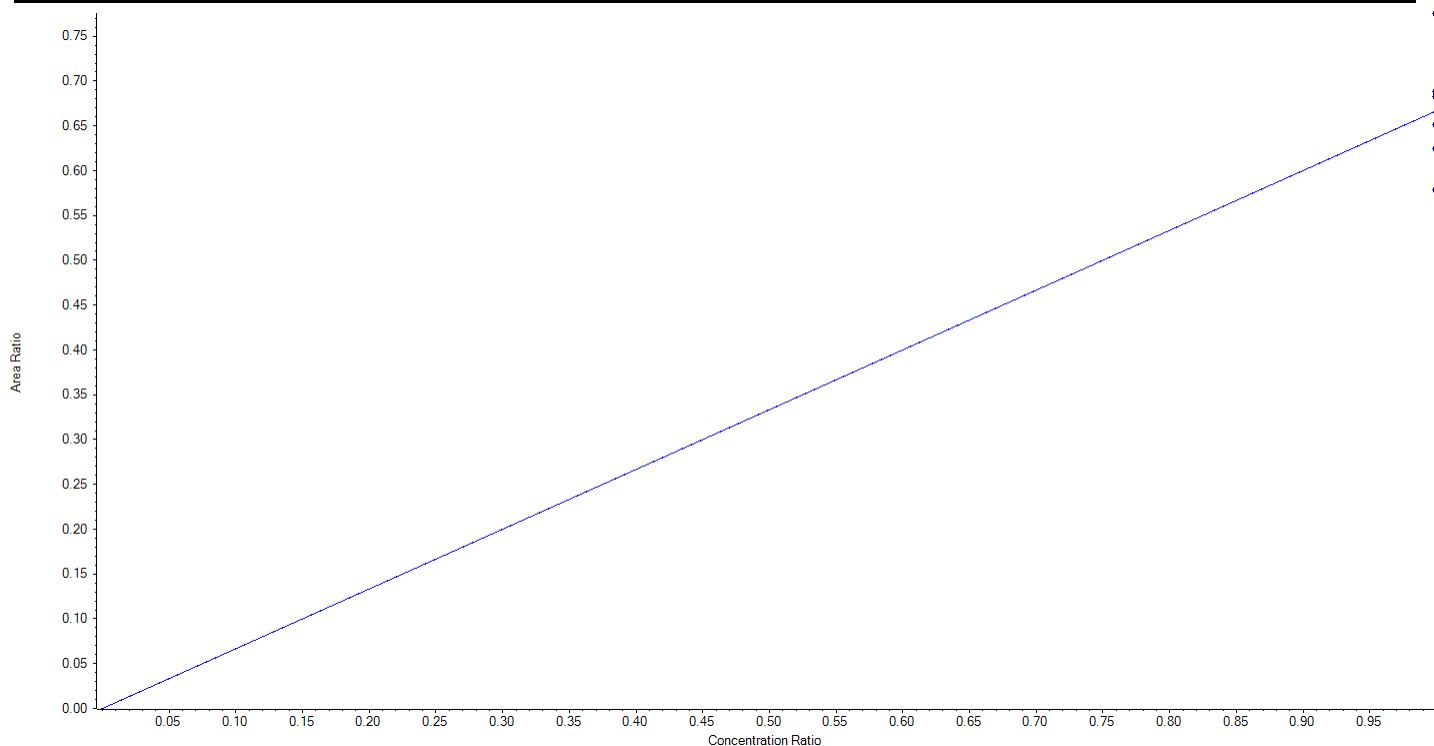
Calibration Summary Report

Created with Analyst Reporter
Printed: 03/11/2020 1:15:00 PM

Analyte Name	13C3-HFPO-DA	Data File	AE_10292020_5-369.wiff
MRM Transition	287.0 / 169.0	Result Table	20-1297_SIS
Internal Standard	13C2-PFOA	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Acquisition Method	5-369.dam

Regression Equation: $y = 0.66678 x$ (std. dev. = 0.06683) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LD74	L1	True	1250.00	1279.65	102.4
3	LD75	L2	True	1250.00	1084.35	86.8
4	LD76	L3	True	1250.00	1221.82	97.8
5	LD77	L4	True	1250.00	1170.37	93.6
6	LD78	L5	True	1250.00	1290.33	103.2
7	LD79	L6	True	1250.00	1453.47	116.3



[illegible]

Sample Name	LD74	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	184139.13	222.12	4883.4	False	13C3-PFBS	250934.51	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	57452.26	218.51	1260.1	False	13C3-PFBS	250934.51	1162.50	PFBS	0.312	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	352601.04	249.58	668.9	False	13C5-PFHxA	1263882.23	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	24554.27	284.08	507.1	False	13C5-PFHxA	1263882.23	1250.00	PFHxA	0.070	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	234139.41	206.84	419.6	False	13C4-PFHpA	1206883.20	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	5145.87	218.50	488.2	False	13C4-PFHpA	1206883.20	1250.00	PFHpA	0.022	0.029	✓
PFHxS_1	399.0 / 80.0	1.90	171866.97	245.70	771.1	False	13C3-PFHxS	223773.29	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.90	58609.65	243.31	535.3	False	13C3-PFHxS	223773.29	1182.50	PFHxS	0.341	0.345	✓
PFOA_1	413.0 / 369.0	2.25	293091.33	233.76	406.0	False	13C8-PFOA	1557192.68	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.25	30488.19	290.04	212.9	False	13C8-PFOA	1557192.68	1222.50	PFOA	0.104	0.096	✓
PFNA_1	463.0 / 419.0	2.62	256889.12	199.93	322.3	False	13C9-PFNA	1442100.54	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.62	98884.34	247.65	1581.2	False	13C9-PFNA	1442100.54	1250.00	PFNA	0.385	0.346	✓
PFOS_1	499.0 / 80.0	2.61	185959.54	263.38	418.7	False	13C8-PFOS	212563.00	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.61	37712.77	271.26	3087.5	False	13C8-PFOS	212563.00	1195.00	PFOS	0.203	0.202	✓
PFDA_1	513.0 / 469.0	2.97	267182.06	218.73	318.5	False	13C6-PFDA	1288070.41	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.97	12950.76	232.30	766.5	False	13C6-PFDA	1288070.41	1250.00	PFDA	0.048	0.055	✓
PFUnA_1	563.0 / 519.0	3.29	273423.01	222.35	433.4	False	13C7-PFUnA	1264907.08	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.29	15795.41	219.12	471.6	False	13C7-PFUnA	1264907.08	1250.00	PFUnA	0.058	0.063	✓
PFDoA_1	613.0 / 569.0	3.58	315857.57	208.72	594.6	False	13C2-PFDoA	1467915.08	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.58	39209.75	238.79	1000.0	False	13C2-PFDoA	1467915.08	1250.00	PFDoA	0.124	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.84	260224.05	215.78	923.1	False	13C2-PFTTeDA	1233330.08	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.84	18602.19	241.37	638.0	False	13C2-PFTTeDA	1233330.08	1250.00	PFTTrDA	0.071	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.07	300768.59	217.80	1610.1	False	13C2-PFTTeDA	1233330.08	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.07	14323.88	234.40	898.7	False	13C2-PFTTeDA	1233330.08	1250.00	PFTTeDA	0.048	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	25632.16	263.60	652.6	False	d3-MeFOSAA	178449.60	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.11	29023.41	240.37	79949.5	False	d3-MeFOSAA	178449.60	1250.00	NMeFOSAA	1.132	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.28	39520.95	234.21	108795.1	False	d5-EtFOSAA	187131.65	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.28	1673.68	256.99	315375.2	False	d5-EtFOSAA	187131.65	1250.00	NEtFOSAA	0.042	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.65	300050.96	238.90	2553.8	False	13C3-HFPO-DA	473140.05	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.65	5348.34	211.51	236.2	False	13C3-HFPO-DA	473140.05	1250.00	HFPO-DA	0.018	0.020	✓
ADONA_1	377.0 / 251.0	1.93	627968.64	247.22	3317.9	False	13C8-PFOA	1557192.68	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	9058.37	250.81	936.9	False	13C8-PFOA	1557192.68	1222.50	ADONA	0.014	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.82	303890.50	268.01	895.7	False	13C8-PFOA	1557192.68	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.82	3648.20	264.50	2190.7	False	13C8-PFOA	1557192.68	1222.50	9CI-PF3ONS	0.012	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.45	242137.27	265.50	1339.8	False	13C8-PFOA	1557192.68	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.45	1706.25	297.53	465.2	False	13C8-PFOA	1557192.68	1222.50	11Cl-PF3OUdS	0.007	0.006	✓



Sample Name	LD75	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:18:08 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	345063.44	513.64	5701.4	False	13C3-PFBS	254612.56	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	113617.94	519.81	2205.5	False	13C3-PFBS	254612.56	1162.50	PFBS	0.329	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	642995.57	544.87	873.3	False	13C5-PFHxA	1176075.46	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	38969.41	530.31	782.6	False	13C5-PFHxA	1176075.46	1250.00	PFHxA	0.061	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	490841.08	514.89	832.5	False	13C4-PFHpA	1247135.81	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	16549.08	647.07	20633.6	True	13C4-PFHpA	1247135.81	1250.00	PFHpA	0.034	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	332327.43	541.32	998.8	False	13C3-PFHxS	208986.78	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.90	114207.31	539.50	843.8	False	13C3-PFHxS	208986.78	1182.50	PFHxS	0.344	0.345	✓
PFOA_1	413.0 / 369.0	2.26	610776.62	533.30	570.2	False	13C8-PFOA	1543072.23	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.25	48464.90	458.41	3482.3	False	13C8-PFOA	1543072.23	1222.50	PFOA	0.079	0.096	✓
PFNA_1	463.0 / 419.0	2.62	549761.84	519.67	534.9	False	13C9-PFNA	1433433.59	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.63	180442.62	498.61	3357.3	False	13C9-PFNA	1433433.59	1250.00	PFNA	0.328	0.346	✓
PFOS_1	499.0 / 80.0	2.62	339647.96	504.46	515.1	False	13C8-PFOS	210461.14	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	65634.99	485.65	23641.6	False	13C8-PFOS	210461.14	1195.00	PFOS	0.193	0.202	✓
PFDA_1	513.0 / 469.0	2.98	550472.33	526.64	490.3	False	13C6-PFDA	1305709.57	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	28891.36	522.18	1706.7	False	13C6-PFDA	1305709.57	1250.00	PFDA	0.052	0.055	✓
PFUnA_1	563.0 / 519.0	3.30	553345.42	539.12	673.5	False	13C7-PFUnA	1112397.39	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.30	37570.36	585.69	1494.9	False	13C7-PFUnA	1112397.39	1250.00	PFUnA	0.068	0.063	✓
PFDoA_1	613.0 / 569.0	3.59	647357.54	536.51	911.2	False	13C2-PFDoA	1410043.68	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	70355.57	494.25	1251.1	False	13C2-PFDoA	1410043.68	1250.00	PFDoA	0.109	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.84	522283.21	541.34	1600.4	False	13C2-PFTTeDA	1182205.15	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.84	35143.87	519.16	1130.2	False	13C2-PFTTeDA	1182205.15	1250.00	PFTTrDA	0.067	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.07	585566.50	548.22	2528.6	False	13C2-PFTTeDA	1182205.15	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.07	31327.89	557.15	1615.3	False	13C2-PFTTeDA	1182205.15	1250.00	PFTTeDA	0.054	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	49746.59	530.02	3883766.8	False	d3-MeFOSAA	170470.06	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.12	55030.09	528.60	16908.8	False	d3-MeFOSAA	170470.06	1250.00	NMeFOSAA	1.106	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.29	75047.44	590.36	207780.1	False	d5-EiFOSAA	158093.30	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.28	2889.58	474.32	414.2	False	d5-EiFOSAA	158093.30	1250.00	NEiFOSAA	0.039	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	579922.34	530.98	3364.7	False	13C3-HFPO-DA	451508.07	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	13477.57	616.55	3361.7	False	13C3-HFPO-DA	451508.07	1250.00	HFPO-DA	0.023	0.020	✓
ADONA_1	377.0 / 251.0	1.93	1227654.75	510.51	13701.3	False	13C8-PFOA	1543072.23	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	19718.65	557.33	20406.8	False	13C8-PFOA	1543072.23	1222.50	ADONA	0.016	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.82	653089.32	533.43	1669.9	False	13C8-PFOA	1543072.23	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.83	6427.00	481.69	806.8	False	13C8-PFOA	1543072.23	1222.50	9CI-PF3ONS	0.010	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.45	468529.55	507.21	1365.1	False	13C8-PFOA	1543072.23	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.46	2749.88	509.35	419.6	False	13C8-PFOA	1543072.23	1222.50	11CI-PF3OUdS	0.006	0.006	✓

Sample Name	LD76	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:28:36 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	636047.11	956.22	7938.2	False	13C3-PFBS	276703.25	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	215204.21	979.50	2207.3	False	13C3-PFBS	276703.25	1162.50	PFBS	0.338	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	1210098.87	956.98	1338.7	False	13C5-PFHxA	1314752.56	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	66236.18	840.07	810.5	False	13C5-PFHxA	1314752.56	1250.00	PFHxA	0.055	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	887780.33	959.57	772.7	False	13C4-PFHpA	1302395.93	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	21588.54	804.40	8194973.0	False	13C4-PFHpA	1302395.93	1250.00	PFHpA	0.024	0.029	✓
PFHxS_1	399.0 / 80.0	1.90	664777.98	1016.69	1062.6	False	13C3-PFHxS	228269.75	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.91	231074.04	1024.34	1336.7	False	13C3-PFHxS	228269.75	1182.50	PFHxS	0.348	0.345	✓
PFOA_1	413.0 / 369.0	2.26	1076972.52	920.40	688.0	False	13C8-PFOA	1621721.07	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.25	110197.56	978.57	1493.5	False	13C8-PFOA	1621721.07	1222.50	PFOA	0.102	0.096	✓
PFNA_1	463.0 / 419.0	2.62	1084941.69	1021.39	685.2	False	13C9-PFNA	1537139.83	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.62	346465.64	934.37	2770.9	False	13C9-PFNA	1537139.83	1250.00	PFNA	0.319	0.346	✓
PFOS_1	499.0 / 80.0	2.62	673255.23	986.01	617.7	False	13C8-PFOS	217887.69	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	136910.36	990.36	1672.1	False	13C8-PFOS	217887.69	1195.00	PFOS	0.203	0.202	✓
PFDA_1	513.0 / 469.0	2.98	969633.25	929.91	622.4	False	13C6-PFDA	1381121.72	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	58015.99	999.52	4488909.9	False	13C6-PFDA	1381121.72	1250.00	PFDA	0.060	0.055	✓
PFUnA_1	563.0 / 519.0	3.30	1093945.93	1037.97	1026.5	False	13C7-PFUnA	1163280.57	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.30	66552.26	989.29	1163.0	False	13C7-PFUnA	1163280.57	1250.00	PFUnA	0.061	0.063	✓
PFDoA_1	613.0 / 569.0	3.59	1194688.07	977.20	1083.1	False	13C2-PFDoA	1517916.72	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	139703.39	958.58	1789.5	False	13C2-PFDoA	1517916.72	1250.00	PFDoA	0.117	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	994260.45	998.96	2052.4	False	13C2-PFTeDA	1297640.34	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.84	68560.18	957.49	1618.9	False	13C2-PFTeDA	1297640.34	1250.00	PFTTrDA	0.069	0.071	✓
PFTeDA_1	713.0 / 669.0	4.08	1054283.03	964.96	2599.0	False	13C2-PFTeDA	1297640.34	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.08	58590.21	961.56	2215.2	False	13C2-PFTeDA	1297640.34	1250.00	PFTeDA	0.056	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	92478.89	868.49	285932.1	False	d3-MeFOSAA	192637.20	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.12	103928.95	918.55	3888082.9	False	d3-MeFOSAA	192637.20	1250.00	NMeFOSAA	1.124	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.29	137954.50	904.09	54113.5	False	d5-EtFOSAA	195173.20	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.29	8114.71	1016.81	4272.8	False	d5-EtFOSAA	195173.20	1250.00	NEtFOSAA	0.059	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	1119530.78	976.17	4826.8	False	13C3-HFPO-DA	493825.52	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	22423.91	959.00	36349.6	False	13C3-HFPO-DA	493825.52	1250.00	HFPO-DA	0.020	0.020	✓
ADONA_1	377.0 / 251.0	1.93	2384257.60	963.24	59290.1	False	13C8-PFOA	1621721.07	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	31697.00	855.26	3008.8	False	13C8-PFOA	1621721.07	1222.50	ADONA	0.013	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.83	1200061.42	902.04	2340.9	False	13C8-PFOA	1621721.07	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.83	14660.42	1062.72	62519.1	False	13C8-PFOA	1621721.07	1222.50	9CI-PF3ONS	0.012	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.45	929628.34	947.10	2057.9	False	13C8-PFOA	1621721.07	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.45	4672.31	848.51	643.3	False	13C8-PFOA	1621721.07	1222.50	11CI-pf3OUdS	0.005	0.006	✓

Sample Name	LD77	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:39:03 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	1641150.68	2820.80	14994.2	False	13C3-PFBS	261608.56	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	550229.90	2817.55	5997.1	False	13C3-PFBS	261608.56	1162.50	PFBS	0.335	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	2802627.55	2395.08	1695.8	False	13C5-PFHxA	1259980.51	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	175869.68	2442.45	1992.3	False	13C5-PFHxA	1259980.51	1250.00	PFHxA	0.063	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	2277034.98	2801.13	1299.2	False	13C4-PFHpA	1214619.59	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	64224.28	2531.81	45998.1	False	13C4-PFHpA	1214619.59	1250.00	PFHpA	0.028	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	1575528.15	2323.62	2541.6	False	13C3-PFHxS	240649.91	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.91	543703.00	2322.33	1935.9	False	13C3-PFHxS	240649.91	1182.50	PFHxS	0.345	0.345	✓
PFOA_1	413.0 / 369.0	2.26	2843826.30	2659.25	1062.9	False	13C8-PFOA	1521405.64	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.26	252381.08	2372.58	2726.4	False	13C8-PFOA	1521405.64	1222.50	PFOA	0.089	0.096	✓
PFNA_1	463.0 / 419.0	2.63	2649027.19	2820.84	1093.7	False	13C9-PFNA	1422887.92	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.63	883556.08	2666.48	7658.6	False	13C9-PFNA	1422887.92	1250.00	PFNA	0.334	0.346	✓
PFOS_1	499.0 / 80.0	2.62	1661085.12	2448.41	1311.9	False	13C8-PFOS	219354.94	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	336057.23	2431.43	9760.6	False	13C8-PFOS	219354.94	1195.00	PFOS	0.202	0.202	✓
PFDA_1	513.0 / 469.0	2.98	2536245.97	2833.26	1143.0	False	13C6-PFDA	1251935.03	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	134728.50	2574.92	5377.5	False	13C6-PFDA	1251935.03	1250.00	PFDA	0.053	0.055	✓
PFUnA_1	563.0 / 519.0	3.31	2692505.64	2422.01	1700.4	False	13C7-PFUnA	1241140.92	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.30	167952.07	2334.41	3707.7	False	13C7-PFUnA	1241140.92	1250.00	PFUnA	0.062	0.063	✓
PFDoA_1	613.0 / 569.0	3.60	2927493.84	2743.11	1856.9	False	13C2-PFDoA	1393242.67	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	349683.73	2709.99	2120.5	False	13C2-PFDoA	1393242.67	1250.00	PFDoA	0.119	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	2319334.66	2581.76	2216.8	False	13C2-PFTeDA	1228276.70	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.85	169545.36	2573.69	2064.3	False	13C2-PFTeDA	1228276.70	1250.00	PFTTrDA	0.073	0.071	✓
PFTeDA_1	713.0 / 669.0	4.08	2562309.33	2638.59	3778.3	False	13C2-PFTeDA	1228276.70	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.08	139849.53	2451.27	3081.9	False	13C2-PFTeDA	1228276.70	1250.00	PFTeDA	0.055	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	247927.87	2424.25	256493.1	False	d3-MeFOSAA	184284.90	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.13	262325.37	2509.28	8241582.9	False	d3-MeFOSAA	184284.90	1250.00	NMeFOSAA	1.058	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.29	347861.91	2358.57	2276.2	False	d5-EtFOSAA	195099.10	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.30	19030.07	2319.86	2526.3	False	d5-EtFOSAA	195099.10	1250.00	NEtFOSAA	0.055	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	2825469.67	2522.64	7194.8	False	13C3-HFPO-DA	504448.90	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	54775.95	2375.63	15625.4	False	13C3-HFPO-DA	504448.90	1250.00	HFPO-DA	0.019	0.020	✓
ADONA_1	377.0 / 251.0	1.93	5880144.27	2570.36	9252.9	False	13C8-PFOA	1521405.64	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	89431.99	2582.85	1902.2	False	13C8-PFOA	1521405.64	1222.50	ADONA	0.015	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.83	3102353.07	2413.87	2809.4	False	13C8-PFOA	1521405.64	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.83	29007.59	2257.72	19180.9	False	13C8-PFOA	1521405.64	1222.50	9CI-PF3ONS	0.009	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.46	2285273.51	2462.62	2754.0	False	13C8-PFOA	1521405.64	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.46	12440.22	2482.84	754.9	False	13C8-PFOA	1521405.64	1222.50	11CI-pf3OUdS	0.005	0.006	✓

Sample Name	LD78	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:49:29 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	6291360.81	10170.48	75568.9	False	13C3-PFBS	286748.90	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	2058162.67	9853.95	8961.1	False	13C3-PFBS	286748.90	1162.50	PFBS	0.327	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	11226317.76	10618.29	3398.3	False	13C5-PFHxA	1159687.73	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	675816.52	10403.43	3902.2	False	13C5-PFHxA	1159687.73	1250.00	PFHxA	0.060	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	8196801.32	11202.55	2076.2	False	13C4-PFHpA	1120169.80	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	240046.88	10213.21	56187908.0	False	13C4-PFHpA	1120169.80	1250.00	PFHpA	0.029	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	6170334.81	10463.86	4306.7	False	13C3-PFHxS	211414.96	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.91	2152036.82	10565.89	6207.2	False	13C3-PFHxS	211414.96	1182.50	PFHxS	0.349	0.345	✓
PFOA_1	413.0 / 369.0	2.26	10712175.21	10302.18	1957.7	False	13C8-PFOA	1494829.51	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.26	1030439.50	9823.33	11868.0	False	13C8-PFOA	1494829.51	1222.50	PFOA	0.096	0.096	✓
PFNA_1	463.0 / 419.0	2.63	9707350.52	10395.03	1645.5	False	13C9-PFNA	1443012.79	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.63	3395852.50	10252.16	3761.8	False	13C9-PFNA	1443012.79	1250.00	PFNA	0.350	0.346	✓
PFOS_1	499.0 / 80.0	2.62	6721546.10	10242.62	2656.7	False	13C8-PFOS	213625.95	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	1390677.50	10369.54	3621.5	False	13C8-PFOS	213625.95	1195.00	PFOS	0.207	0.202	✓
PFDA_1	513.0 / 469.0	2.98	8992342.94	10315.61	1881.5	False	13C6-PFDA	1243773.52	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	518561.71	10001.95	3220.3	False	13C6-PFDA	1243773.52	1250.00	PFDA	0.058	0.055	✓
PFUnA_1	563.0 / 519.0	3.31	10221211.87	10407.33	2521.2	False	13C7-PFUnA	1103793.59	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.31	666581.00	10403.74	5671.0	False	13C7-PFUnA	1103793.59	1250.00	PFUnA	0.065	0.063	✓
PFDoA_1	613.0 / 569.0	3.60	11187576.42	10437.66	2967.8	False	13C2-PFDoA	1429297.40	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.60	1347241.42	10330.55	3697.3	False	13C2-PFDoA	1429297.40	1250.00	PFDoA	0.120	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	9266732.08	10433.92	3565.3	False	13C2-PFTTeDA	1243049.70	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.85	670151.06	10181.97	2960.2	False	13C2-PFTTeDA	1243049.70	1250.00	PFTTrDA	0.072	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.08	9820641.06	10278.94	4217.1	False	13C2-PFTTeDA	1243049.70	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.08	578348.28	10070.55	4664.5	False	13C2-PFTTeDA	1243049.70	1250.00	PFTTeDA	0.059	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.13	1065168.90	10680.61	4159.1	False	d3-MeFOSAA	179400.55	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.13	1096726.28	10948.74	3720.3	False	d3-MeFOSAA	179400.55	1250.00	NMeFOSAA	1.030	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.30	1267821.46	10473.27	2223.7	False	d5-EiFOSAA	162811.57	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.30	77901.96	11189.55	4092.3	False	d5-EiFOSAA	162811.57	1250.00	NEiFOSAA	0.061	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	10501732.37	9965.60	10573.4	False	13C3-HFPO-DA	527132.89	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	222044.52	10146.97	89356.9	False	13C3-HFPO-DA	527132.89	1250.00	HFPO-DA	0.021	0.020	✓
ADONA_1	377.0 / 251.0	1.93	22339046.62	10005.67	38004.3	False	13C8-PFOA	1494829.51	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	336036.82	9892.49	837472.2	False	13C8-PFOA	1494829.51	1222.50	ADONA	0.015	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.83	12540638.84	9803.67	4478.1	False	13C8-PFOA	1494829.51	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.83	126750.05	10091.40	1300.6	False	13C8-PFOA	1494829.51	1222.50	9CI-PF3ONS	0.010	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.46	8978641.67	9812.07	4698.2	False	13C8-PFOA	1494829.51	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.46	44200.05	9084.62	1854.3	False	13C8-PFOA	1494829.51	1222.50	11Cl-PF3OUdS	0.005	0.006	✓



Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	13955233.01	24566.75	33327.0	False	13C3-PFBS	265166.46	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	4772923.53	24860.68	11186.2	False	13C3-PFBS	265166.46	1162.50	PFBS	0.342	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	24044140.54	24877.70	4697.8	False	13C5-PFHxA	1063443.58	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.57	1492267.53	25142.16	3862.5	False	13C5-PFHxA	1063443.58	1250.00	PFHxA	0.062	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	16135198.58	23565.03	3567.6	False	13C4-PFHpA	1052773.58	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	549085.68	24835.00	5011.0	False	13C4-PFHpA	1052773.58	1250.00	PFHpA	0.034	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	14027325.28	25051.32	7468.3	False	13C3-PFHxS	201093.40	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.90	4825399.49	24947.12	5453.8	False	13C3-PFHxS	201093.40	1182.50	PFHxS	0.344	0.345	✓
PFOA_1	413.0 / 369.0	2.26	22721024.38	24601.11	2415.1	False	13C8-PFOA	1330579.17	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.26	2366492.06	25327.07	3598.5	False	13C8-PFOA	1330579.17	1222.50	PFOA	0.104	0.096	✓
PFNA_1	463.0 / 419.0	2.63	20726410.21	24293.15	2695.0	False	13C9-PFNA	1323960.85	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.63	7469154.08	24650.74	9405.9	False	13C9-PFNA	1323960.85	1250.00	PFNA	0.360	0.346	✓
PFOS_1	499.0 / 80.0	2.62	14976576.83	25197.60	2664.7	False	13C8-PFOS	193732.59	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	3050024.50	25094.26	4964.7	False	13C8-PFOS	193732.59	1195.00	PFOS	0.204	0.202	✓
PFDA_1	513.0 / 469.0	2.98	18733549.94	24425.85	2242.1	False	13C6-PFDA	1099149.68	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	1141109.61	24919.14	8630.6	False	13C6-PFDA	1099149.68	1250.00	PFDA	0.061	0.055	✓
PFUnA_1	563.0 / 519.0	3.30	21379010.36	24621.23	3400.7	False	13C7-PFUnA	977034.09	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.30	1402143.55	24717.74	5992.7	False	13C7-PFUnA	977034.09	1250.00	PFUnA	0.066	0.063	✓
PFDoA_1	613.0 / 569.0	3.59	24472548.37	24346.80	3425.9	False	13C2-PFDoA	1346257.03	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	3002368.24	24517.84	5143.3	False	13C2-PFDoA	1346257.03	1250.00	PFDoA	0.123	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	19914550.30	24478.23	3781.0	False	13C2-PFTTeDA	1143782.22	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.85	1496620.46	24776.32	4054.3	False	13C2-PFTTeDA	1143782.22	1250.00	PFTTrDA	0.075	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.08	21503050.19	24601.48	3660.7	False	13C2-PFTTeDA	1143782.22	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.08	1318409.34	24975.08	3895.2	False	13C2-PFTTeDA	1143782.22	1250.00	PFTTeDA	0.061	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	2531582.96	24483.04	3304.8	False	d3-MeFOSAA	185954.07	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.12	2496229.72	24104.45	3376.2	False	d3-MeFOSAA	185954.07	1250.00	NMeFOSAA	0.986	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.29	2668563.45	24689.49	2226.9	False	d5-EtFOSAA	145778.58	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.29	149910.47	23992.48	5941.8	False	d5-EtFOSAA	145778.58	1250.00	NEtFOSAA	0.056	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	23893553.14	25020.91	15412.0	False	13C3-HFPO-DA	594985.01	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	510179.26	24927.81	1367.3	False	13C3-HFPO-DA	594985.01	1250.00	HFPO-DA	0.021	0.020	✓
ADONA_1	377.0 / 251.0	1.93	49520176.85	24952.99	33915.8	False	13C8-PFOA	1330579.17	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	759027.55	25111.26	19419.0	False	13C8-PFOA	1330579.17	1222.50	ADONA	0.015	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.83	28914241.11	25328.99	8299.6	False	13C8-PFOA	1330579.17	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.83	280286.52	25091.98	53396.4	False	13C8-PFOA	1330579.17	1222.50	9CI-PF3ONS	0.010	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.46	20586118.49	25255.50	7647.0	False	13C8-PFOA	1330579.17	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.46	112390.96	26027.16	1845.0	False	13C8-PFOA	1330579.17	1222.50	11Cl-PF3OUdS	0.005	0.006	✓



Sample Name	LD74	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.58	1467915.08	1274.11	5069.6	False	13C2-PFDA	1057440.61	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.11	177522.63	1244.94	1556.8	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.28	188364.27	1384.10	946.7	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1263882.23	1435.81	8470.9	False	13C2-PFOA	693146.99	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.88	1206883.20	1389.90	31137843.6	False	13C2-PFOA	693146.99	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.24	1557192.68	1381.00	27019.7	False	13C2-PFOA	693146.99	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.61	1442100.54	1279.57	27851.3	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.97	1288070.41	1266.92	6035.5	False	13C2-PFDA	1057440.61	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.29	1264907.08	1372.79	6593.4	False	13C2-PFDA	1057440.61	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.06	1236155.13	1250.61	4139.4	True	13C2-PFDA	1057440.61	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	250934.51	1114.55	11448.6	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.89	223773.29	1230.95	9264004.6	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.61	212563.00	1223.60	1644.3	False	13C4-PFOS	200153.85	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.65	473140.05	1279.65	6929.1	False	13C2-PFOA	693146.99	1250.00		N/A	N/A	✓

Sample Name	LD75	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:18:08 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1410043.68	1236.72	3627.8	False	13C2-PFDA	1046464.52	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	170811.50	1233.23	1467.1	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.28	157900.01	1194.50	1292.2	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1176075.46	1186.39	8796.8	False	13C2-PFOA	780590.21	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1247135.81	1275.37	143796.9	False	13C2-PFOA	780590.21	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1543072.23	1215.18	192385.6	False	13C2-PFOA	780590.21	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1433433.59	1309.42	4296.0	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.97	1305709.57	1297.74	8672.3	False	13C2-PFDA	1046464.52	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.29	1112397.39	1219.94	4325.1	False	13C2-PFDA	1046464.52	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.07	1185100.97	1211.54	3977.9	True	13C2-PFDA	1046464.52	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	254612.56	1164.27	6502.9	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	208986.78	1183.55	33480.5	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.61	210461.14	1247.27	2038.7	False	13C4-PFOS	194414.86	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.66	451508.07	1084.35	13900.9	False	13C2-PFOA	780590.21	1250.00		N/A	N/A	✓

Sample Name	LD76	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:28:36 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1517916.72	1243.38	5155.0	False	13C2-PFDA	1120485.31	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	191358.72	1187.03	1203.7	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.28	194449.42	1263.84	1348.2	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1314752.56	1366.36	12734.0	False	13C2-PFOA	757693.03	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1302395.93	1372.13	1235847.8	False	13C2-PFOA	757693.03	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1621721.07	1315.71	24743962.2	False	13C2-PFOA	757693.03	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.61	1537139.83	1206.42	8182.5	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.97	1381121.72	1282.01	90467.6	False	13C2-PFDA	1120485.31	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	1163280.57	1191.46	5884.4	False	13C2-PFDA	1120485.31	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.07	1301739.94	1242.87	4646.2	True	13C2-PFDA	1120485.31	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	276703.25	1087.10	7044.3	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	228269.75	1110.71	29590.9	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.61	217887.69	1109.44	1746.1	False	13C4-PFOS	226279.78	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.65	493825.52	1221.82	5176.7	False	13C2-PFOA	757693.03	1250.00		N/A	N/A	✓

Sample Name	LD77	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:39:03 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1393242.67	1168.88	5494.9	False	13C2-PFDA	1094011.01	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	183335.37	1177.70	1117.2	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.29	195411.06	1315.26	1053.1	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1259980.51	1227.88	10385.7	False	13C2-PFOA	808019.77	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1214619.59	1199.95	13744013.4	False	13C2-PFOA	808019.77	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1521405.64	1157.44	6256.1	False	13C2-PFOA	808019.77	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1422887.92	1156.47	3769.3	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.98	1251935.03	1190.22	4724.0	False	13C2-PFDA	1094011.01	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	1241140.92	1301.97	4984.7	False	13C2-PFDA	1094011.01	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.08	1232053.65	1204.80	4005.5	True	13C2-PFDA	1094011.01	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	261608.56	1064.35	8242.9	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	240649.91	1212.59	2106740.4	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.62	219354.94	1156.63	1731.2	False	13C4-PFOS	218508.68	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.66	504448.90	1170.37	7542.9	False	13C2-PFOA	808019.77	1250.00		N/A	N/A	✓



Sample Name	LD78	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:49:29 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.60	1429297.40	1296.65	4940.6	False	13C2-PFDA	1011724.54	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.13	178716.46	1240.05	1366.8	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.29	162888.88	1184.25	1315.0	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1159687.73	1192.36	8382.4	False	13C2-PFOA	765858.22	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1120169.80	1167.56	19527.4	False	13C2-PFOA	765858.22	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1494829.51	1199.83	502573.1	False	13C2-PFOA	765858.22	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1443012.79	1266.83	1327.2	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.98	1243773.52	1278.63	3482.5	False	13C2-PFDA	1011724.54	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	1103793.59	1252.07	4569.6	False	13C2-PFDA	1011724.54	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.08	1248259.53	1319.92	4390.7	True	13C2-PFDA	1011724.54	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	286748.90	1260.15	25442.9	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	211414.96	1150.67	33051.5	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.62	213625.95	1216.71	1330.1	False	13C4-PFOS	202293.56	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.66	527132.89	1290.33	11436.0	False	13C2-PFOA	765858.22	1250.00		N/A	N/A	✓

Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1346257.03	1280.25	4207.8	False	13C2-PFDA	965151.31	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	185263.10	1417.05	1019.8	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.29	144495.86	1158.05	1343.2	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1063443.58	1091.19	11049.7	False	13C2-PFOA	767411.77	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1052773.58	1095.09	101765.1	False	13C2-PFOA	767411.77	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1330579.17	1065.83	32873.4	False	13C2-PFOA	767411.77	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1323960.85	1281.29	13095.5	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.98	1099149.68	1184.48	5155.2	False	13C2-PFDA	965151.31	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	977034.09	1161.76	4230.8	False	13C2-PFDA	965151.31	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.07	1145997.88	1270.27	4612.6	True	13C2-PFDA	965151.31	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	265166.46	1284.58	39743.5	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	201093.40	1206.52	7423.9	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.62	193732.59	1216.35	1681.7	False	13C4-PFOS	183510.52	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.66	594985.01	1453.47	60467.4	False	13C2-PFOA	767411.77	1250.00		N/A	N/A	✓

Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.32	3000.19	2500.00	120.01
PFBS 2	298.9 / 99.0	1.32	3035.90	2500.00	121.44
PFHxA 1	313.0 / 269.0	1.57	2601.67	2525.00	103.04
PFHxA 2	313.0 / 119.0	1.56	2555.38	2525.00	101.20
PFHpA 1	363.0 / 319.0	1.90	2529.25	2500.00	101.17
PFHpA 2	363.0 / 169.0	1.90	2400.58	2500.00	96.02
PFHxS 1	399.0 / 80.0	1.90	2661.03	2525.00	105.39
PFHxS 2	399.0 / 99.0	1.90	2881.65	2525.00	114.12
PFOA 1	413.0 / 369.0	2.26	2598.17	2500.00	103.93
PFOA 2	413.0 / 169.0	2.25	2685.82	2500.00	107.43
PFNA 1	463.0 / 419.0	2.62	2739.79	2500.00	109.59
PFNA 2	463.0 / 219.0	2.62	2634.70	2500.00	105.39
PFOS 1	499.0 / 80.0	2.62	2606.15	2525.00	103.21
PFOS 2	499.0 / 99.0	2.62	2637.86	2525.00	104.47
PFDA 1	513.0 / 469.0	2.98	2801.52	2500.00	112.06
PFDA 2	513.0 / 219.0	2.98	2809.09	2500.00	112.36
PFUnA 1	563.0 / 519.0	3.30	2562.04	2500.00	102.48
PFUnA 2	563.0 / 269.0	3.30	2409.71	2500.00	96.39
PFDoA 1	613.0 / 569.0	3.59	2996.78	2500.00	119.87
PFDoA 2	613.0 / 319.0	3.59	2764.60	2500.00	110.58
PFTTrDA 1	663.0 / 619.0	3.85	2778.84	2500.00	111.15
PFTTrDA 2	663.0 / 169.0	3.84	2656.66	2500.00	106.27
PFTeDA 1	713.0 / 669.0	4.08	2834.65	2500.00	113.39
PFTeDA 2	713.0 / 169.0	4.07	2693.39	2500.00	107.74
NMeFOSAA 1	570.0 / 419.0	3.12	2577.95	2500.00	103.12
NMeFOSAA 2	570.0 / 512.0	3.12	2731.06	2500.00	109.24
NEtFOSAA 1	584.0 / 419.0	3.29	2412.94	2500.00	96.52
NEtFOSAA 2	584.0 / 483.0	3.29	2561.22	2500.00	102.45
HFPO-DA 1	285.0 / 169.0	1.65	2559.91	2500.00	102.40
HFPO-DA 2	285.0 / 118.8	1.65	2245.22	2500.00	89.81
ADONA 1	377.0 / 251.0	1.93	2725.85	2500.00	109.03
ADONA 2	377.0 / 85.0	1.93	2842.82	2500.00	113.71
9Cl-PF3ONS 1	531.0 / 351.0	2.83	2648.94	2500.00	105.96
9Cl-PF3ONS 2	531.0 / 83.0	2.82	2763.41	2500.00	110.54
11Cl-pf3OUdS 1	631.0 / 451.0	3.46	2556.44	2500.00	102.26
11Cl-pf3OUdS 2	631.0 / 83.0	3.45	2308.08	2500.00	92.32

Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.35	1037.17	1000.00	103.72
PFBS_2	298.9 / 99.0	1.35	1043.86	1000.00	104.39
PFHxA_1	313.0 / 269.0	1.62	1063.20	1010.00	105.27
PFHxA_2	313.0 / 119.0	1.62	982.21	1010.00	97.25
PFHpA_1	363.0 / 319.0	1.97	1054.29	1000.00	105.43
PFHpA_2	363.0 / 169.0	1.97	843.77	1000.00	84.38
PFHxS_1	399.0 / 80.0	1.97	909.98	1010.00	90.10
PFHxS_2	399.0 / 99.0	1.97	975.34	1010.00	96.57
PFOA_1	413.0 / 369.0	2.34	913.96	1000.00	91.40
PFOA_2	413.0 / 169.0	2.34	905.73	1000.00	90.57
PFNA_1	463.0 / 419.0	2.73	997.01	1000.00	99.70
PFNA_2	463.0 / 219.0	2.73	934.24	1000.00	93.42
PFOS_1	499.0 / 80.0	2.72	896.93	1010.00	88.81
PFOS_2	499.0 / 99.0	2.72	919.53	1010.00	91.04
PFDA_1	513.0 / 469.0	3.09	1024.10	1000.00	102.41
PFDA_2	513.0 / 219.0	3.09	1005.00	1000.00	100.50
PFUnA_1	563.0 / 519.0	3.43	967.60	1000.00	96.76
PFUnA_2	563.0 / 269.0	3.43	883.64	1000.00	88.36
PFDoA_1	613.0 / 569.0	3.73	1008.96	1000.00	100.90
PFDoA_2	613.0 / 319.0	3.73	942.34	1000.00	94.23
PFTTrDA_1	663.0 / 619.0	3.99	849.58	1000.00	84.96
PFTTrDA_2	663.0 / 169.0	3.99	825.75	1000.00	82.57
PFTeDA_1	713.0 / 669.0	4.24	971.85	1000.00	97.18
PFTeDA_2	713.0 / 169.0	4.24	937.05	1000.00	93.71
NMeFOSAA_1	570.0 / 419.0	3.25	1034.95	1000.00	103.49
NMeFOSAA_2	570.0 / 512.0	3.24	1033.32	1000.00	103.33
NEtFOSAA_1	584.0 / 419.0	3.41	904.77	1000.00	90.48
NEtFOSAA_2	584.0 / 483.0	3.41	1093.88	1000.00	109.39
HFPO-DA_1	285.0 / 169.0	1.71	796.78	1000.00	79.68
HFPO-DA_2	285.0 / 118.8	1.71	933.68	1000.00	93.37
ADONA_1	377.0 / 251.0	2.00	903.32	1000.00	90.33
ADONA_2	377.0 / 85.0	2.00	798.26	1000.00	79.83
9Cl-PF3ONS_1	531.0 / 351.0	2.93	1012.18	1000.00	101.22
9Cl-PF3ONS_2	531.0 / 83.0	2.93	791.45	1000.00	79.15
11Cl-pf3OUdS_1	631.0 / 451.0	3.58	924.72	1000.00	92.47
11Cl-pf3OUdS_2	631.0 / 83.0	3.59	740.88	1000.00	74.09

Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:22:00 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.33	982.28	1000.00	98.23
PFBS 2	298.9 / 99.0	1.33	1013.47	1000.00	101.35
PFHxA 1	313.0 / 269.0	1.58	944.76	1010.00	93.54
PFHxA 2	313.0 / 119.0	1.58	928.91	1010.00	91.97
PFHpA 1	363.0 / 319.0	1.91	1067.09	1000.00	106.71
PFHpA 2	363.0 / 169.0	1.90	940.60	1000.00	94.06
PFHxS 1	399.0 / 80.0	1.91	892.68	1010.00	88.38
PFHxS 2	399.0 / 99.0	1.91	888.53	1010.00	87.97
PFOA 1	413.0 / 369.0	2.27	1000.65	1000.00	100.06
PFOA 2	413.0 / 169.0	2.27	976.01	1000.00	97.60
PFNA 1	463.0 / 419.0	2.64	977.70	1000.00	97.77
PFNA 2	463.0 / 219.0	2.63	943.61	1000.00	94.36
PFOS 1	499.0 / 80.0	2.63	836.65	1010.00	82.84
PFOS 2	499.0 / 99.0	2.63	911.97	1010.00	90.29
PFDA 1	513.0 / 469.0	2.99	893.65	1000.00	89.36
PFDA 2	513.0 / 219.0	2.99	950.25	1000.00	95.02
PFUnA 1	563.0 / 519.0	3.31	979.83	1000.00	97.98
PFUnA 2	563.0 / 269.0	3.31	986.76	1000.00	98.68
PFDoA 1	613.0 / 569.0	3.61	984.53	1000.00	98.45
PFDoA 2	613.0 / 319.0	3.61	940.64	1000.00	94.06
PFTTrDA 1	663.0 / 619.0	3.86	965.63	1000.00	96.56
PFTTrDA 2	663.0 / 169.0	3.86	943.81	1000.00	94.38
PFTeDA 1	713.0 / 669.0	4.09	980.75	1000.00	98.07
PFTeDA 2	713.0 / 169.0	4.09	957.07	1000.00	95.71
NMeFOSAA 1	570.0 / 419.0	3.13	952.52	1000.00	95.25
NMeFOSAA 2	570.0 / 512.0	3.13	999.79	1000.00	99.98
NEtFOSAA 1	584.0 / 419.0	3.30	954.28	1000.00	95.43
NEtFOSAA 2	584.0 / 483.0	3.31	1167.58	1000.00	116.76
HFPO-DA 1	285.0 / 169.0	1.66	860.98	1000.00	86.10
HFPO-DA 2	285.0 / 118.8	1.66	824.13	1000.00	82.41
ADONA 1	377.0 / 251.0	1.94	936.76	1000.00	93.68
ADONA 2	377.0 / 85.0	1.94	894.37	1000.00	89.44
9Cl-PF3ONS 1	531.0 / 351.0	2.84	927.72	1000.00	92.77
9Cl-PF3ONS 2	531.0 / 83.0	2.84	978.04	1000.00	97.80
11Cl-pf3OUdS 1	631.0 / 451.0	3.47	933.02	1000.00	93.30
11Cl-pf3OUdS 2	631.0 / 83.0	3.46	864.02	1000.00	86.40

Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.33	2744.62	2500.00	109.78
PFBS_2	298.9 / 99.0	1.33	2822.78	2500.00	112.91
PFHxA_1	313.0 / 269.0	1.58	2478.54	2525.00	98.16
PFHxA_2	313.0 / 119.0	1.58	2230.36	2525.00	88.33
PFHpA_1	363.0 / 319.0	1.91	2842.67	2500.00	113.71
PFHpA_2	363.0 / 169.0	1.91	2816.41	2500.00	112.66
PFHxS_1	399.0 / 80.0	1.92	2560.82	2525.00	101.42
PFHxS_2	399.0 / 99.0	1.92	2742.40	2525.00	108.61
PFOA_1	413.0 / 369.0	2.28	2577.24	2500.00	103.09
PFOA_2	413.0 / 169.0	2.27	2538.06	2500.00	101.52
PFNA_1	463.0 / 419.0	2.64	2721.66	2500.00	108.87
PFNA_2	463.0 / 219.0	2.64	2388.32	2500.00	95.53
PFOS_1	499.0 / 80.0	2.64	2348.92	2525.00	93.03
PFOS_2	499.0 / 99.0	2.64	2400.54	2525.00	95.07
PFDA_1	513.0 / 469.0	3.00	2915.24	2500.00	116.61
PFDA_2	513.0 / 219.0	3.00	2458.62	2500.00	98.34
PFUnA_1	563.0 / 519.0	3.32	2522.67	2500.00	100.91
PFUnA_2	563.0 / 269.0	3.32	2453.60	2500.00	98.14
PFDoA_1	613.0 / 569.0	3.61	2565.89	2500.00	102.64
PFDoA_2	613.0 / 319.0	3.61	2479.54	2500.00	99.18
PFTTrDA_1	663.0 / 619.0	3.86	2519.52	2500.00	100.78
PFTTrDA_2	663.0 / 169.0	3.86	2532.77	2500.00	101.31
PFTeDA_1	713.0 / 669.0	4.09	2608.63	2500.00	104.35
PFTeDA_2	713.0 / 169.0	4.09	2396.72	2500.00	95.87
NMeFOSAA_1	570.0 / 419.0	3.14	2316.14	2500.00	92.65
NMeFOSAA_2	570.0 / 512.0	3.14	2770.36	2500.00	110.81
NEtFOSAA_1	584.0 / 419.0	3.31	2406.24	2500.00	96.25
NEtFOSAA_2	584.0 / 483.0	3.30	2255.70	2500.00	90.23
HFPO-DA_1	285.0 / 169.0	1.67	2482.26	2500.00	99.29
HFPO-DA_2	285.0 / 118.8	1.67	2150.09	2500.00	86.00
ADONA_1	377.0 / 251.0	1.95	2472.12	2500.00	98.88
ADONA_2	377.0 / 85.0	1.94	2291.60	2500.00	91.66
9Cl-PF3ONS_1	531.0 / 351.0	2.85	2416.99	2500.00	96.68
9Cl-PF3ONS_2	531.0 / 83.0	2.85	2452.71	2500.00	98.11
11Cl-pf3OUdS_1	631.0 / 451.0	3.47	2597.19	2500.00	103.89
11Cl-pf3OUdS_2	631.0 / 83.0	3.47	2670.88	2500.00	106.84

Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.59	1148.32	1250.00	91.87
d3-MeFOSAA	573.0 / 419.0	3.12	1207.29	1250.00	96.58
d5-EtFOSAA	589.0 / 419.0	3.29	1276.47	1250.00	102.12
13C5-PFHxA	318.0 / 273.0	1.56	1270.24	1250.00	101.62
13C4-PFHpA	367.0 / 322.0	1.89	1318.03	1250.00	105.44
13C8-PFOA	421.0 / 376.0	2.25	1189.74	1222.50	97.32
13C9-PFNA	472.0 / 427.0	2.62	1164.10	1250.00	93.13
13C6-PFDA	519.0 / 474.0	2.97	1171.08	1250.00	93.69
13C7-PFUnA	570.0 / 525.0	3.30	1280.83	1250.00	102.47
13C2-PFTeDA	715.0 / 670.0	4.07	1226.24	1250.00	98.10
13C3-PFBS	302.0 / 99.0	1.31	1020.80	1162.50	87.81
13C3-PFHxS	402.0 / 99.0	1.90	1137.02	1182.50	96.15
13C8-PFOS	507.0 / 99.0	2.61	1108.74	1195.00	92.78
13C3-HFPO-DA	287.0 / 169.0	1.65	1240.92	1250.00	99.27

Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.73	1056.38	1250.00	84.51
d3-MeFOSAA	573.0 / 419.0	3.24	1190.49	1250.00	95.24
d5-EtFOSAA	589.0 / 419.0	3.41	1352.68	1250.00	108.21
13C5-PFHxA	318.0 / 273.0	1.61	1195.44	1250.00	95.63
13C4-PFHpA	367.0 / 322.0	1.96	1195.85	1250.00	95.67
13C8-PFOA	421.0 / 376.0	2.33	1220.40	1222.50	99.83
13C9-PFNA	472.0 / 427.0	2.72	1218.17	1250.00	97.45
13C6-PFDA	519.0 / 474.0	3.09	1074.88	1250.00	85.99
13C7-PFUnA	570.0 / 525.0	3.42	1134.60	1250.00	90.77
13C2-PFTeDA	715.0 / 670.0	4.23	1291.57	1250.00	103.33
13C3-PFBS	302.0 / 99.0	1.34	1176.82	1162.50	101.23
13C3-PFHxS	402.0 / 99.0	1.97	1273.64	1182.50	107.71
13C8-PFOS	507.0 / 99.0	2.72	1267.64	1195.00	106.08
13C3-HFPO-DA	287.0 / 169.0	1.71	1396.77	1250.00	111.74

Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:22:00 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.60	1115.24	1250.00	89.22
d3-MeFOSAA	573.0 / 419.0	3.13	1176.24	1250.00	94.10
d5-EtFOSAA	589.0 / 419.0	3.30	1275.45	1250.00	102.04
13C5-PFHxA	318.0 / 273.0	1.57	1142.24	1250.00	91.38
13C4-PFHpA	367.0 / 322.0	1.90	1109.53	1250.00	88.76
13C8-PFOA	421.0 / 376.0	2.26	1095.97	1222.50	89.65
13C9-PFNA	472.0 / 427.0	2.63	1241.63	1250.00	99.33
13C6-PFDA	519.0 / 474.0	2.98	1289.74	1250.00	103.18
13C7-PFUnA	570.0 / 525.0	3.31	1220.29	1250.00	97.62
13C2-PFTeDA	715.0 / 670.0	4.09	1192.30	1250.00	95.38
13C3-PFBS	302.0 / 99.0	1.32	1069.27	1162.50	91.98
13C3-PFHxS	402.0 / 99.0	1.90	1217.18	1182.50	102.93
13C8-PFOS	507.0 / 99.0	2.62	1237.18	1195.00	103.53
13C3-HFPO-DA	287.0 / 169.0	1.66	1118.38	1250.00	89.47

Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.60	1151.31	1250.00	92.10
d3-MeFOSAA	573.0 / 419.0	3.14	1297.26	1250.00	103.78
d5-EtFOSAA	589.0 / 419.0	3.30	1404.94	1250.00	112.40
13C5-PFHxA	318.0 / 273.0	1.57	1235.12	1250.00	98.81
13C4-PFHpA	367.0 / 322.0	1.90	1146.94	1250.00	91.76
13C8-PFOA	421.0 / 376.0	2.27	1098.98	1222.50	89.90
13C9-PFNA	472.0 / 427.0	2.64	1351.69	1250.00	108.14
13C6-PFDA	519.0 / 474.0	2.99	1148.74	1250.00	91.90
13C7-PFUnA	570.0 / 525.0	3.31	1301.11	1250.00	104.09
13C2-PFTeDA	715.0 / 670.0	4.09	1198.77	1250.00	95.90
13C3-PFBS	302.0 / 99.0	1.32	1140.44	1162.50	98.10
13C3-PFHxS	402.0 / 99.0	1.91	1189.32	1182.50	100.58
13C8-PFOS	507.0 / 99.0	2.63	1313.00	1195.00	109.87
13C3-HFPO-DA	287.0 / 169.0	1.67	1138.34	1250.00	91.07



Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.32	1729739.25	3000.19	15178.5	False	13C3-PFBS	259888.24	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.32	587535.93	3035.90	4228.6	False	13C3-PFBS	259888.24	1162.50	PFBS	0.340	0.331	✓
PFHxA_1	313.0 / 269.0	1.57	3007171.02	2601.67	2041.6	False	13C5-PFHxA	1246927.93	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.56	181886.56	2555.38	1326.4	False	13C5-PFHxA	1246927.93	1250.00	PFHxA	0.060	0.062	✓
PFHpA_1	363.0 / 319.0	1.90	2167869.34	2529.25	1172.6	False	13C4-PFHpA	1276300.03	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	63966.24	2400.58	41056.8	False	13C4-PFHpA	1276300.03	1250.00	PFHpA	0.030	0.029	✓
PFHxS_1	399.0 / 80.0	1.90	1749560.88	2661.03	2743.9	False	13C3-PFHxS	233731.75	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.90	653669.73	2881.65	3610.1	False	13C3-PFHxS	233731.75	1182.50	PFHxS	0.374	0.345	✓
PFOA_1	413.0 / 369.0	2.26	2733089.75	2598.17	1031.2	False	13C8-PFOA	1496044.31	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.25	281096.69	2685.82	1869.6	False	13C8-PFOA	1496044.31	1222.50	PFOA	0.103	0.096	✓
PFNA_1	463.0 / 419.0	2.62	2684754.60	2739.79	1383.0	False	13C9-PFNA	1483568.59	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.62	910469.83	2634.70	3800.0	False	13C9-PFNA	1483568.59	1250.00	PFNA	0.339	0.346	✓
PFOS_1	499.0 / 80.0	2.62	1754631.76	2606.15	1402.1	False	13C8-PFOS	217801.21	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.62	361870.90	2637.86	54300.9	False	13C8-PFOS	217801.21	1195.00	PFOS	0.206	0.202	✓
PFDA_1	513.0 / 469.0	2.98	2462974.41	2801.52	963.1	False	13C6-PFDA	1229161.41	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	144265.16	2809.09	28286.0	False	13C6-PFDA	1229161.41	1250.00	PFDA	0.059	0.055	✓
PFUnA_1	563.0 / 519.0	3.30	2794577.06	2562.04	1516.1	False	13C7-PFUnA	1218358.02	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.30	170196.26	2409.71	2495.4	False	13C7-PFUnA	1218358.02	1250.00	PFUnA	0.061	0.063	✓
PFDoA_1	613.0 / 569.0	3.59	3127640.46	2996.78	1773.0	False	13C2-PFDoA	1365792.14	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	349563.25	2764.60	2843.9	False	13C2-PFDoA	1365792.14	1250.00	PFDoA	0.112	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	2537602.32	2778.84	3156.4	False	13C2-PFTTeDA	1251283.22	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.84	178193.95	2656.66	2262.1	False	13C2-PFTTeDA	1251283.22	1250.00	PFTTrDA	0.070	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.08	2796991.73	2834.65	3003.8	False	13C2-PFTTeDA	1251283.22	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.07	156441.53	2693.39	3059.9	False	13C2-PFTTeDA	1251283.22	1250.00	PFTTeDA	0.056	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.12	279884.65	2577.95	358260.2	False	d3-MeFOSAA	195609.04	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.12	302551.71	2731.06	2831.3	False	d3-MeFOSAA	195609.04	1250.00	NMeFOSAA	1.081	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.29	357440.41	2412.94	2353.6	False	d5-EtFOSAA	196047.91	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.29	21154.93	2561.22	15866.4	False	d5-EtFOSAA	196047.91	1250.00	NEtFOSAA	0.059	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.65	2906221.95	2559.91	6665.8	False	13C3-HFPO-DA	511665.42	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.65	52624.44	2245.22	52166.1	False	13C3-HFPO-DA	511665.42	1250.00	HFPO-DA	0.018	0.020	✓
ADONA_1	377.0 / 251.0	1.93	6128750.24	2725.85	9844.3	False	13C8-PFOA	1496044.31	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.93	96774.40	2842.82	494.0	False	13C8-PFOA	1496044.31	1222.50	ADONA	0.016	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.83	3352843.59	2648.94	2737.3	False	13C8-PFOA	1496044.31	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.82	34871.48	2763.41	3902.1	False	13C8-PFOA	1496044.31	1222.50	9CI-PF3ONS	0.010	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.46	2333201.61	2556.44	3101.1	False	13C8-PFOA	1496044.31	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.45	11385.72	2308.08	764.3	False	13C8-PFOA	1496044.31	1222.50	11Cl-PF3OUdS	0.005	0.006	✓



Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.35	553797.86	1037.17	7346.5	False	13C3-PFBS	224098.20	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.35	184692.67	1043.86	2880.8	False	13C3-PFBS	224098.20	1162.50	PFBS	0.334	0.331	✓
PFHxA_1	313.0 / 269.0	1.62	1046307.59	1063.20	1544.7	False	13C5-PFHxA	1029112.07	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.62	59988.69	982.21	2640.1	False	13C5-PFHxA	1029112.07	1250.00	PFHxA	0.057	0.062	✓
PFHpA_1	363.0 / 319.0	1.97	754540.47	1054.29	918.5	False	13C4-PFHpA	1015509.28	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.97	17673.10	843.77	5780710.5	False	13C4-PFHpA	1015509.28	1250.00	PFHpA	0.023	0.029	✓
PFHxS_1	399.0 / 80.0	1.97	512191.27	909.98	1281.3	False	13C3-PFHxS	195829.82	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.97	189016.38	975.34	1712.3	False	13C3-PFHxS	195829.82	1182.50	PFHxS	0.369	0.345	✓
PFOA_1	413.0 / 369.0	2.34	887731.70	913.96	734.9	False	13C8-PFOA	1345790.96	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.34	84561.46	905.73	1601.0	False	13C8-PFOA	1345790.96	1222.50	PFOA	0.095	0.096	✓
PFNA_1	463.0 / 419.0	2.73	801406.89	997.01	731.5	False	13C9-PFNA	1161198.27	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.73	261696.62	934.24	1962.1	False	13C9-PFNA	1161198.27	1250.00	PFNA	0.327	0.346	✓
PFOS_1	499.0 / 80.0	2.72	524658.48	896.93	885.3	False	13C8-PFOS	186256.46	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.72	108762.26	919.53	17377.2	False	13C8-PFOS	186256.46	1195.00	PFOS	0.207	0.202	✓
PFDA_1	513.0 / 469.0	3.09	794263.33	1024.10	684.5	False	13C6-PFDA	1034775.07	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.09	43703.56	1005.00	829.0	False	13C6-PFDA	1034775.07	1250.00	PFDA	0.055	0.055	✓
PFUnA_1	563.0 / 519.0	3.43	869049.16	967.60	1191.8	False	13C7-PFUnA	989901.35	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.43	50559.73	883.64	4302.6	False	13C7-PFUnA	989901.35	1250.00	PFUnA	0.058	0.063	✓
PFDoA_1	613.0 / 569.0	3.73	934253.08	1008.96	1280.0	False	13C2-PFDoA	1152409.05	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.73	104364.21	942.34	1612.2	False	13C2-PFDoA	1152409.05	1250.00	PFDoA	0.112	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.99	798197.32	849.58	2643.0	False	13C2-PFTeDA	1208825.92	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.99	55472.41	825.75	2315.9	False	13C2-PFTeDA	1208825.92	1250.00	PFTTrDA	0.069	0.071	✓
PFTeDA_1	713.0 / 669.0	4.24	988458.56	971.85	3655.4	False	13C2-PFTeDA	1208825.92	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.24	53214.02	937.05	2628.4	False	13C2-PFTeDA	1208825.92	1250.00	PFTeDA	0.054	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.25	81989.78	1034.95	1060.0	False	d3-MeFOSAA	143176.56	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.24	86376.44	1033.32	6341.8	False	d3-MeFOSAA	143176.56	1250.00	NMeFOSAA	1.054	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.41	109301.54	904.77	263580.6	False	d5-EiFOSAA	154525.82	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.41	6936.16	1093.88	69621.2	False	d5-EiFOSAA	154525.82	1250.00	NEiFOSAA	0.063	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.71	945660.37	796.78	4414.9	False	13C3-HFPO-DA	505067.40	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.71	22355.20	933.68	636.6	False	13C3-HFPO-DA	505067.40	1250.00	HFPO-DA	0.024	0.020	✓
ADONA_1	377.0 / 251.0	2.00	1858423.96	903.32	6807.4	False	13C8-PFOA	1345790.96	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.00	24561.75	798.26	10385109.1	False	13C8-PFOA	1345790.96	1222.50	ADONA	0.013	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.93	1123243.21	1012.18	2527.8	False	13C8-PFOA	1345790.96	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.93	9102.97	791.45	13260.8	False	13C8-PFOA	1345790.96	1222.50	9CI-PF3ONS	0.008	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.58	753001.23	924.72	2048.6	False	13C8-PFOA	1345790.96	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.59	3407.99	740.88	339.7	False	13C8-PFOA	1345790.96	1222.50	11Cl-PF3OUdS	0.005	0.006	✓



PFAS QC Sample Quant Report

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Printed: 03/11/2020 1:21:43 PM

Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:22:00 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	616781.76	982.28	9468.9	False	13C3-PFBS	261990.30	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	210180.41	1013.47	2666.9	False	13C3-PFBS	261990.30	1162.50	PFBS	0.341	0.331	✓
PFHxA_1	313.0 / 269.0	1.58	1130169.66	944.76	1203.2	False	13C5-PFHxA	1242872.86	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.58	68761.54	928.91	1960.6	False	13C5-PFHxA	1242872.86	1250.00	PFHxA	0.061	0.062	✓
PFHpA_1	363.0 / 319.0	1.91	894744.42	1067.09	836.8	False	13C4-PFHpA	1190908.80	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.90	23148.96	940.60	201900.8	False	13C4-PFHpA	1190908.80	1250.00	PFHpA	0.026	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	618220.56	892.68	1478.9	False	13C3-PFHxS	240800.61	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.91	212337.54	888.53	1598.7	False	13C3-PFHxS	240800.61	1182.50	PFHxS	0.343	0.345	✓
PFOA_1	413.0 / 369.0	2.27	1099428.77	1000.65	735.2	False	13C8-PFOA	1527595.44	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.27	103527.52	976.01	4946.1	False	13C8-PFOA	1527595.44	1222.50	PFOA	0.094	0.096	✓
PFNA_1	463.0 / 419.0	2.64	1032126.31	977.70	679.3	False	13C9-PFNA	1522867.03	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.63	346465.14	943.61	2260.4	False	13C9-PFNA	1522867.03	1250.00	PFNA	0.336	0.346	✓
PFOS_1	499.0 / 80.0	2.63	615622.37	836.65	736.6	False	13C8-PFOS	233893.16	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.63	135470.58	911.97	1823.0	False	13C8-PFOS	233893.16	1195.00	PFOS	0.220	0.202	✓
PFDA_1	513.0 / 469.0	2.99	981331.22	893.65	848.2	False	13C6-PFDA	1449865.64	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.99	57928.44	950.25	1918.7	False	13C6-PFDA	1449865.64	1250.00	PFDA	0.059	0.055	✓
PFUnA_1	563.0 / 519.0	3.31	1104950.07	979.83	804.2	False	13C7-PFUnA	1243233.92	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.31	70943.60	986.76	1464.3	False	13C7-PFUnA	1243233.92	1250.00	PFUnA	0.064	0.063	✓
PFDaA_1	613.0 / 569.0	3.61	1125908.32	984.53	1143.4	False	13C2-PFDaA	1420680.18	1250.00	PFDaA			
PFDaA_2	613.0 / 319.0	3.61	128440.46	940.64	1984.7	False	13C2-PFDaA	1420680.18	1250.00	PFDaA	0.114	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.86	967640.91	965.63	1731.2	False	13C2-PFTeDA	1303085.86	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.86	67908.36	943.81	1470.5	False	13C2-PFTeDA	1303085.86	1250.00	PFTTrDA	0.070	0.071	✓
PFTeDA_1	713.0 / 669.0	4.09	1074359.46	980.75	2353.3	False	13C2-PFTeDA	1303085.86	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.09	58566.41	957.07	2318.4	False	13C2-PFTeDA	1303085.86	1250.00	PFTeDA	0.055	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.13	96290.04	952.52	8703.0	False	d3-MeFOSAA	182781.68	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.13	106863.47	999.79	21380.2	False	d3-MeFOSAA	182781.68	1250.00	NMeFOSAA	1.110	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.30	140734.58	954.28	3986.1	False	d5-EiFOSAA	189167.46	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.31	9089.91	1167.58	829203.0	False	d5-EiFOSAA	189167.46	1250.00	NEiFOSAA	0.065	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.66	1029348.12	860.98	4145.2	False	13C3-HFPO-DA	511148.68	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.66	20085.24	824.13	19178.4	False	13C3-HFPO-DA	511148.68	1250.00	HFPO-DA	0.020	0.020	✓
ADONA_1	377.0 / 251.0	1.94	2185579.03	936.76	29221259.4	False	13C8-PFOA	1527595.44	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.94	31214.53	894.37	780.6	False	13C8-PFOA	1527595.44	1222.50	ADONA	0.014	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.84	1164112.68	927.72	1934.0	False	13C8-PFOA	1527595.44	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.84	12724.15	978.04	17438.5	False	13C8-PFOA	1527595.44	1222.50	9CI-PF3ONS	0.011	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.47	862491.51	933.02	2002.3	False	13C8-PFOA	1527595.44	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.46	4477.87	864.02	1348.0	False	13C8-PFOA	1527595.44	1222.50	11Cl-PF3OUdS	0.005	0.006	✓



Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	1607934.47	2744.62	18380.1	False	13C3-PFBS	263124.50	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	554410.65	2822.78	4727.7	False	13C3-PFBS	263124.50	1162.50	PFBS	0.345	0.331	✓
PFHxA_1	313.0 / 269.0	1.58	3082502.96	2478.54	2508.8	False	13C5-PFHxA	1340209.19	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.58	171244.70	2230.36	1681.4	False	13C5-PFHxA	1340209.19	1250.00	PFHxA	0.056	0.062	✓
PFHpA_1	363.0 / 319.0	1.91	2334503.39	2842.67	1242.4	False	13C4-PFHpA	1227650.52	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.91	72255.66	2816.41	1121.8	False	13C4-PFHpA	1227650.52	1250.00	PFHpA	0.031	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	1596705.46	2560.82	1984.3	False	13C3-PFHxS	221559.86	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	589988.41	2742.40	5114.7	False	13C3-PFHxS	221559.86	1182.50	PFHxS	0.370	0.345	✓
PFOA_1	413.0 / 369.0	2.28	2768448.71	2577.24	1212.5	False	13C8-PFOA	1527531.26	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.27	271155.84	2538.06	2067.0	False	13C8-PFOA	1527531.26	1222.50	PFOA	0.098	0.096	✓
PFNA_1	463.0 / 419.0	2.64	2806925.65	2721.66	1020.4	False	13C9-PFNA	1561122.21	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.64	870226.92	2388.32	3256.9	False	13C9-PFNA	1561122.21	1250.00	PFNA	0.310	0.346	✓
PFOS_1	499.0 / 80.0	2.64	1698755.73	2348.92	1265.0	False	13C8-PFOS	233743.08	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.64	353571.95	2400.54	1774.8	False	13C8-PFOS	233743.08	1195.00	PFOS	0.208	0.202	✓
PFDA_1	513.0 / 469.0	3.00	2699559.69	2915.24	1108.9	False	13C6-PFDA	1296071.59	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.00	133201.23	2458.62	1628.9	False	13C6-PFDA	1296071.59	1250.00	PFDA	0.049	0.055	✓
PFUnA_1	563.0 / 519.0	3.32	3005060.55	2522.67	1743.8	False	13C7-PFUnA	1330397.82	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.32	189238.26	2453.60	1853.2	False	13C7-PFUnA	1330397.82	1250.00	PFUnA	0.063	0.063	✓
PFDoA_1	613.0 / 569.0	3.61	2898798.36	2565.89	1695.3	False	13C2-PFDoA	1471976.01	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.61	338659.55	2479.54	2866.1	False	13C2-PFDoA	1471976.01	1250.00	PFDoA	0.117	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.86	2424938.70	2519.52	2635.4	False	13C2-PFTeDA	1314929.65	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.86	178670.25	2532.77	2445.1	False	13C2-PFTeDA	1314929.65	1250.00	PFTTrDA	0.074	0.071	✓
PFTeDA_1	713.0 / 669.0	4.09	2713094.24	2608.63	3796.2	False	13C2-PFTeDA	1314929.65	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.09	146407.00	2396.72	2865.6	False	13C2-PFTeDA	1314929.65	1250.00	PFTeDA	0.054	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.14	242785.99	2316.14	630.0	False	d3-MeFOSAA	188905.28	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.14	296308.55	2770.36	4703803.8	False	d3-MeFOSAA	188905.28	1250.00	NMeFOSAA	1.220	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.31	357253.61	2406.24	3761.9	False	d5-EtFOSAA	196480.17	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.30	18623.37	2255.70	394.3	False	d5-EtFOSAA	196480.17	1250.00	NEtFOSAA	0.052	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.67	2861642.63	2482.26	5043.6	False	13C3-HFPO-DA	518826.38	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.67	51184.69	2150.09	51336.0	False	13C3-HFPO-DA	518826.38	1250.00	HFPO-DA	0.018	0.020	✓
ADONA_1	377.0 / 251.0	1.95	5680218.86	2472.12	12368.8	False	13C8-PFOA	1527531.26	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.94	79687.65	2291.60	162904.9	False	13C8-PFOA	1527531.26	1222.50	ADONA	0.014	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.85	3118947.84	2416.99	2999.0	False	13C8-PFOA	1527531.26	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.85	31623.41	2452.71	2341.2	False	13C8-PFOA	1527531.26	1222.50	9CI-PF3ONS	0.010	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.47	2420460.51	2597.19	3124.5	False	13C8-PFOA	1527531.26	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.47	13421.09	2670.88	18677.8	False	13C8-PFOA	1527531.26	1222.50	11CI-PF3OUdS	0.006	0.006	✓



Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1365792.14	1148.32	3622.9	False	13C2-PFDA	1091658.34	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	194671.33	1207.29	1176.7	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.29	196438.11	1276.47	1110.1	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1246927.93	1270.24	7357.2	False	13C2-PFOA	772983.68	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1276300.03	1318.03	2177237.1	False	13C2-PFOA	772983.68	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1496044.31	1189.74	17592.8	False	13C2-PFOA	772983.68	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1483568.59	1164.10	6340.0	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.97	1229161.41	1171.08	5731.7	False	13C2-PFDA	1091658.34	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	1218358.02	1280.83	3084.1	False	13C2-PFDA	1091658.34	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.07	1251283.22	1226.24	4499.7	False	13C2-PFDA	1091658.34	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	259888.24	1020.80	4401.1	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	233731.75	1137.02	7034.8	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.61	217801.21	1108.74	1777.9	False	13C4-PFOS	226332.68	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.65	511665.42	1240.92	143287.2	False	13C2-PFOA	772983.68	1250.00		N/A	N/A	✓



Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.73	1152409.05	1056.38	9040.6	False	13C2-PFDA	1001271.40	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.24	143581.02	1190.49	1254.2	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.41	155700.92	1352.68	1587.2	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.61	1029112.07	1195.44	21997.2	False	13C2-PFOA	677878.24	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.96	1015509.28	1195.85	600275.4	False	13C2-PFOA	677878.24	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.33	1345790.96	1220.40	16599.9	False	13C2-PFOA	677878.24	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.72	1161198.27	1218.17	4680.7	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.09	1034775.07	1074.88	1578.8	False	13C2-PFDA	1001271.40	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.42	989901.35	1134.60	4425.5	False	13C2-PFDA	1001271.40	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.23	1208825.92	1291.57	4822.9	False	13C2-PFDA	1001271.40	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.34	224098.20	1176.82	80587.3	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.97	195829.82	1273.64	7170.9	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.72	186256.46	1267.64	1823.3	False	13C4-PFOS	169289.53	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.71	505067.40	1396.77	9566.5	False	13C2-PFOA	677878.24	1250.00		N/A	N/A	✓



Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:22:00 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.60	1420680.18	1115.24	5985.6	False	13C2-PFDA	1169210.82	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.13	182532.36	1176.24	1342.4	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.30	188899.55	1275.45	1338.5	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1242872.86	1142.24	18262.3	False	13C2-PFOA	856811.81	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.90	1190908.80	1109.53	17877.6	False	13C2-PFOA	856811.81	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.26	1527595.44	1095.97	12520.9	False	13C2-PFOA	856811.81	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.63	1522867.03	1241.63	78322.9	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.98	1449865.64	1289.74	211113.0	False	13C2-PFDA	1169210.82	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.31	1243233.92	1220.29	20400.8	False	13C2-PFDA	1169210.82	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.09	1303085.86	1192.30	4486.3	False	13C2-PFDA	1169210.82	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	261990.30	1069.27	10754.1	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	240800.61	1217.18	40277.1	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.62	233893.16	1237.18	1924.3	False	13C4-PFOS	217821.46	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.66	511148.68	1118.38	5568.6	False	13C2-PFOA	856811.81	1250.00		N/A	N/A	✓



Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.60	1471976.01	1151.31	5094.6	False	13C2-PFDA	1173469.05	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.14	189566.61	1297.26	1121.9	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.30	195937.77	1404.94	1257.5	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1340209.19	1235.12	6838.0	False	13C2-PFOA	854433.38	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.90	1227650.52	1146.94	2577.8	False	13C2-PFOA	854433.38	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1527531.26	1098.98	5435591.0	False	13C2-PFOA	854433.38	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.64	1561122.21	1351.69	11624.2	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.99	1296071.59	1148.74	5433.8	False	13C2-PFDA	1173469.05	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.31	1330397.82	1301.11	3491.2	False	13C2-PFDA	1173469.05	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.09	1314929.65	1198.77	4434.4	False	13C2-PFDA	1173469.05	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	263124.50	1140.44	14977.2	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.91	221559.86	1189.32	3992916.2	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.63	233743.08	1313.00	1311.2	False	13C4-PFOS	205112.33	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	518826.38	1138.34	18800.8	False	13C2-PFOA	854433.38	1250.00		N/A	N/A	✓

Raw Analytical Data



PFAS Sample Quant Report

Created with Analyst Reporter
Printed: 03/11/2020 1:20:40 PM

Sample Name	LD80 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:10:26 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	256509.24	1162.50	PFBS			
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	256509.24	1162.50	PFBS	N/A	0.331	✓
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	1334473.16	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	1334473.16	1250.00	PFHxA	N/A	0.062	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1269472.74	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1269472.74	1250.00	PFHpA	N/A	0.029	✓
PFHxS_1	399.0 / 80.0	1.91	3094.37	< 0	21.4	True	13C3-PFHxS	228229.45	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.89	943.80	< 0	14.3	False	13C3-PFHxS	228229.45	1182.50	PFHxS	0.305	0.345	✓
PFOA_1	413.0 / 369.0	2.27	11419.92	< 0	47.9	False	13C8-PFOA	1603465.71	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.24	1187.40	21.89	57313.2	False	13C8-PFOA	1603465.71	1222.50	PFOA	0.104	0.096	✓
PFNA_1	463.0 / 419.0	2.59	7225.37	< 0	32.5	False	13C9-PFNA	1567049.56	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.61	1519.05	< 0	89.2	False	13C9-PFNA	1567049.56	1250.00	PFNA	0.210	0.346	✓
PFOS_1	499.0 / 80.0	2.55	5218.20	< 0	14.5	True	13C8-PFOS	229148.45	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.56	900.41	< 0	139.7	False	13C8-PFOS	229148.45	1195.00	PFOS	0.173	0.202	✓
PFDA_1	513.0 / 469.0	2.98	9826.95	< 0	36.2	False	13C6-PFDA	1413621.21	1250.00	PFDA			
PFDA_2	513.0 / 219.0	2.98	645.76	1.85	105.6	True	13C6-PFDA	1413621.21	1250.00	PFDA	0.066	0.055	✓
PFUnA_1	563.0 / 519.0	3.31	12329.34	< 0	65.0	False	13C7-PFUnA	1267458.84	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.34	869.35	15.89	205.7	False	13C7-PFUnA	1267458.84	1250.00	PFUnA	0.071	0.063	✓
PFDoA_1	613.0 / 569.0	3.59	19331.57	< 0	92.0	False	13C2-PFDoA	1450043.21	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.59	3171.04	< 0	112.7	False	13C2-PFDoA	1450043.21	1250.00	PFDoA	0.164	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.85	16649.23	< 0	177.2	False	13C2-PFTeDA	1264129.30	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.85	1463.82	< 0	93.9	False	13C2-PFTeDA	1264129.30	1250.00	PFTTrDA	0.088	0.071	✓
PFTeDA_1	713.0 / 669.0	4.08	35549.44	< 0	320.4	False	13C2-PFTeDA	1264129.30	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.09	836.63	< 0	86.5	False	13C2-PFTeDA	1264129.30	1250.00	PFTeDA	0.024	0.055	
NMeFOSAA_1	570.0 / 419.0	3.12	8405.89	85.89	1000.5	False	d3-MeFOSAA	187627.71	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.12	8591.80	30.09	904.5	False	d3-MeFOSAA	187627.71	1250.00	NMeFOSAA	1.022	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.30	14508.87	52.37	408.0	False	d5-EtFOSAA	189297.85	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.19	610.44	123.83	4695.5	True	d5-EtFOSAA	189297.85	1250.00	NEtFOSAA	0.042	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.65	4258.40	< 0	66.3	False	13C3-HFPO-DA	522123.47	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	522123.47	1250.00	HFPO-DA	N/A	0.020	
ADONA_1	377.0 / 251.0	1.93	6744.99	< 0	158.8	False	13C8-PFOA	1603465.71	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1603465.71	1222.50	ADONA	N/A	0.015	
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1603465.71	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1603465.71	1222.50	9CI-PF3ONS	N/A	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1603465.71	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1603465.71	1222.50	11CI-pf3OUdS	N/A	0.006	✓



PFAS Sample Quant Report

Created with Analyst Reporter
Printed: 03/11/2020 1:20:40 PM

Sample Name	LD80 IB	Injection Vial	4
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:55:12 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	217171.76	1162.50	PFBS			
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	217171.76	1162.50	PFBS	N/A	0.331	✓
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	1030040.27	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	1030040.27	1250.00	PFHxA	N/A	0.062	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1026353.19	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1026353.19	1250.00	PFHpA	N/A	0.029	✓
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	175489.77	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	175489.77	1182.50	PFHxS	N/A	0.345	✓
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1268861.05	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1268861.05	1222.50	PFOA	N/A	0.096	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	1114952.63	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	1114952.63	1250.00	PFNA	N/A	0.346	✓
PFOS_1	499.0 / 80.0	2.69	6408.19	< 0	21.4	False	13C8-PFOS	168442.90	1195.00	PFOS			
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	True	13C8-PFOS	168442.90	1195.00	PFOS	N/A	0.202	
PFDA_1	513.0 / 469.0	3.09	4760.16	< 0	26.5	True	13C6-PFDA	1050453.28	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.06	519.21	2.74	337.0	False	13C6-PFDA	1050453.28	1250.00	PFDA	0.109	0.055	
PFUnA_1	563.0 / 519.0	3.41	6864.20	< 0	50.0	False	13C7-PFUnA	1024508.56	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.40	467.82	11.94	62.6	False	13C7-PFUnA	1024508.56	1250.00	PFUnA	0.068	0.063	✓
PFDoA_1	613.0 / 569.0	3.72	12311.78	< 0	80.9	False	13C2-PFDoA	1162063.64	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.72	1712.23	< 0	90.5	False	13C2-PFDoA	1162063.64	1250.00	PFDoA	0.139	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.98	10705.30	< 0	169.0	False	13C2-PFTTeDA	1054209.78	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.98	590.86	< 0	34.3	False	13C2-PFTTeDA	1054209.78	1250.00	PFTTrDA	0.055	0.071	✓
PFTTeDA_1	713.0 / 669.0	4.07	14351.86	< 0	149.7	False	13C2-PFTTeDA	1054209.78	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTTeDA	1054209.78	1250.00	PFTTeDA	N/A	0.055	
NMeFOSAA_1	570.0 / 419.0	3.23	3702.79	51.86	322.8	False	d3-MeFOSAA	143089.55	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.23	5919.23	22.13	211.0	True	d3-MeFOSAA	143089.55	1250.00	NMeFOSAA	1.599	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.40	7401.02	12.27	993.3	False	d5-EtFOSAA	157557.01	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	157557.01	1250.00	NEtFOSAA	N/A	0.052	
HFPO-DA_1	285.0 / 169.0	1.70	3462.39	< 0	64.7	False	13C3-HFPO-DA	453031.24	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	453031.24	1250.00	HFPO-DA	N/A	0.020	
ADONA_1	377.0 / 251.0	1.99	5654.87	< 0	127.2	False	13C8-PFOA	1268861.05	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1268861.05	1222.50	ADONA	N/A	0.015	
9CI-PF3ONS_1	531.0 / 351.0	2.90	2402.76	43.11	37.8	False	13C8-PFOA	1268861.05	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1268861.05	1222.50	9CI-PF3ONS	N/A	0.011	
11Cl-pf3OUdS_1	631.0 / 451.0	3.57	1123.42	13.24	31.7	False	13C8-PFOA	1268861.05	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1268861.05	1222.50	11Cl-PF3OUdS	N/A	0.006	



PFAS Sample Quant Report

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Sample Name	DA889PB-FS(3)	Injection Vial	21
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:42:56 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.34	11126.85	< 0	200.8	True	13C3-PFBS	288966.98	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.34	3483.66	< 0	75.1	False	13C3-PFBS	288966.98	1162.50	PFBS	0.313	0.331	✓
PFHxA_1	313.0 / 269.0	1.64	62418.81	4.70	124.8	False	13C5-PFHxA	1096075.21	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	1096075.21	1250.00	PFHxA	N/A	0.062	
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1134742.26	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1134742.26	1250.00	PFHpA	N/A	0.029	✓
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	221746.58	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	221746.58	1182.50	PFHxS	N/A	0.345	✓
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	PFOA	N/A	0.096	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	1225745.97	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	1225745.97	1250.00	PFNA	N/A	0.346	✓
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	True	13C8-PFOS	200830.52	1195.00	PFOS			
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	True	13C8-PFOS	200830.52	1195.00	PFOS	N/A	0.202	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	1256990.03	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	1256990.03	1250.00	PFDA	N/A	0.055	✓
PFUnA_1	563.0 / 519.0	3.35	5272.61	< 0	25.4	False	13C7-PFUnA	1031554.01	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	1031554.01	1250.00	PFUnA	N/A	0.063	
PFDoA_1	613.0 / 569.0	3.63	12103.68	< 0	47.4	False	13C2-PFDoA	1348385.72	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	787.29	< 0	38.9	False	13C2-PFDoA	1348385.72	1250.00	PFDoA	0.065	0.119	✓
PFTeDA_1	663.0 / 619.0	3.90	8983.37	< 0	129.5	False	13C2-PFTeDA	1264497.43	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	3.89	726.04	< 0	48.4	False	13C2-PFTeDA	1264497.43	1250.00	PFTeDA	0.081	0.071	✓
PFTeDA_1	713.0 / 669.0	4.13	15034.17	< 0	200.5	False	13C2-PFTeDA	1264497.43	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	1128.51	1.93	79.7	False	13C2-PFTeDA	1264497.43	1250.00	PFTeDA	0.075	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	165811.12	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	165811.12	1250.00	NMeFOSAA	N/A	1.073	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	143613.41	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	143613.41	1250.00	NEtFOSAA	N/A	0.052	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	476246.69	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	476246.69	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	ADONA	N/A	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	9CI-PF3ONS	N/A	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1464992.39	1222.50	11Cl-pf3OUdS	N/A	0.006	✓



PFAS Sample Quant Report

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Sample Name	DA890LCS-FS(3)	Injection Vial	22
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:53:24 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	1426971.35	2213.17	8314.6	False	13C3-PFBS	286651.83	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	468540.33	2167.58	2815.2	False	13C3-PFBS	286651.83	1162.50	PFBS	0.328	0.331	✓
PFHxA_1	313.0 / 269.0	1.58	2192202.07	2052.32	1193.8	False	13C5-PFHxA	1145613.52	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.58	130459.76	1980.72	1303.4	False	13C5-PFHxA	1145613.52	1250.00	PFHxA	0.060	0.062	✓
PFHpA_1	363.0 / 319.0	1.92	1575021.78	2019.80	912.9	False	13C4-PFHpA	1150900.73	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.92	48840.92	2035.05	2495.4	False	13C4-PFHpA	1150900.73	1250.00	PFHpA	0.031	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	1373174.33	2210.56	2065.3	False	13C3-PFHxS	220323.24	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	475335.08	2216.30	1764.0	False	13C3-PFHxS	220323.24	1182.50	PFHxS	0.346	0.345	✓
PFOA_1	413.0 / 369.0	2.28	2172849.50	2063.82	909.3	False	13C8-PFOA	1491786.10	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.28	202346.08	1942.05	1707.6	False	13C8-PFOA	1491786.10	1222.50	PFOA	0.093	0.096	✓
PFNA_1	463.0 / 419.0	2.65	1821798.76	2113.49	972.9	False	13C9-PFNA	1294488.75	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	663078.43	2190.37	2733.5	False	13C9-PFNA	1294488.75	1250.00	PFNA	0.364	0.346	✓
PFOS_1	499.0 / 80.0	2.65	1290166.25	2141.88	916.1	False	13C8-PFOS	194508.18	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.65	269637.94	2198.97	3149.8	False	13C8-PFOS	194508.18	1195.00	PFOS	0.209	0.202	✓
PFDA_1	513.0 / 469.0	3.01	2040403.06	2334.62	1020.8	False	13C6-PFDA	1215213.63	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.00	95695.08	1881.73	1645.0	False	13C6-PFDA	1215213.63	1250.00	PFDA	0.047	0.055	✓
PFUnA_1	563.0 / 519.0	3.33	1786359.01	1863.76	1126.1	False	13C7-PFUnA	1067326.60	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.33	120801.56	1953.15	999.9	False	13C7-PFUnA	1067326.60	1250.00	PFUnA	0.068	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	2217693.81	2121.02	1788.1	False	13C2-PFDoA	1353687.42	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	265905.27	2108.86	1998.4	False	13C2-PFDoA	1353687.42	1250.00	PFDoA	0.120	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.88	2006544.03	2183.24	2397.9	False	13C2-PFTeDA	1249586.26	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.88	140201.18	2083.58	1729.0	False	13C2-PFTeDA	1249586.26	1250.00	PFTTrDA	0.070	0.071	✓
PFTeDA_1	713.0 / 669.0	4.12	2153669.86	2162.13	3231.5	False	13C2-PFTeDA	1249586.26	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	118620.28	2040.82	2269.6	False	13C2-PFTeDA	1249586.26	1250.00	PFTeDA	0.055	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.15	200949.86	2010.63	636.4	False	d3-MeFOSAA	180175.02	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.15	207635.49	2021.49	5605.4	False	d3-MeFOSAA	180175.02	1250.00	NMeFOSAA	1.033	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.32	221323.07	1993.89	6825.8	False	d5-EtFOSAA	146264.27	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.32	14212.52	2311.23	1093849.4	False	d5-EtFOSAA	146264.27	1250.00	NEiFOSAA	0.064	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.67	1989409.19	1787.35	4292.5	False	13C3-HFPO-DA	493494.31	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.67	39550.04	1732.55	3385083.7	False	13C3-HFPO-DA	493494.31	1250.00	HFPO-DA	0.020	0.020	✓
ADONA_1	377.0 / 251.0	1.95	4229637.52	1879.35	22268.9	False	13C8-PFOA	1491786.10	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.95	56246.75	1654.79	2092.7	False	13C8-PFOA	1491786.10	1222.50	ADONA	0.013	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.85	2486604.93	1980.65	3100.3	False	13C8-PFOA	1491786.10	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.85	20128.59	1593.45	898.8	False	13C8-PFOA	1491786.10	1222.50	9CI-PF3ONS	0.008	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.49	1715287.35	1887.87	3088.8	False	13C8-PFOA	1491786.10	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.49	10193.19	2068.08	1463.9	False	13C8-PFOA	1491786.10	1222.50	11CI-PF3OUdS	0.006	0.006	✓



PFAS Sample Quant Report

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Sample Name	G1648-FS(3)	Injection Vial	23
Sample ID	CBD-AOA-SD04-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:03:52 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	10232.36	< 0	192.8	True	13C3-PFBS	263888.93	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	4914.10	< 0	101.7	False	13C3-PFBS	263888.93	1162.50	PFBS	0.480	0.331	✓
PFHxA_1	313.0 / 269.0	1.62	74680.91	17.91	134.6	False	13C5-PFHxA	1083476.70	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.61	2809.07	< 0	44.4	False	13C5-PFHxA	1083476.70	1250.00	PFHxA	0.038	0.062	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1048095.96	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	1048095.96	1250.00	PFHpA	N/A	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	40028.46	35.40	139.3	False	13C3-PFHxS	218535.90	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	10506.78	20.73	202.2	False	13C3-PFHxS	218535.90	1182.50	PFHxS	0.262	0.345	✓
PFOA_1	413.0 / 369.0	2.28	29495.86	< 0	78.5	False	13C8-PFOA	1310179.65	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.28	2081.64	33.97	225.7	False	13C8-PFOA	1310179.65	1222.50	PFOA	0.071	0.096	✓
PFNA_1	463.0 / 419.0	2.66	21233.76	< 0	76.6	False	13C9-PFNA	1283587.88	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	3396.74	< 0	94.8	False	13C9-PFNA	1283587.88	1250.00	PFNA	0.160	0.346	
PFOS_1	499.0 / 80.0	2.65	157955.36	246.51	374.1	False	13C8-PFOS	191900.36	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.64	30140.21	238.80	8190.0	False	13C8-PFOS	191900.36	1195.00	PFOS	0.191	0.202	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	1148129.64	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	1148129.64	1250.00	PFDA	N/A	0.055	✓
PFUnA_1	563.0 / 519.0	3.33	33891.33	16.14	122.5	False	13C7-PFUnA	1025370.09	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.34	2802.02	51.13	77.3	False	13C7-PFUnA	1025370.09	1250.00	PFUnA	0.083	0.063	✓
PFDoA_1	613.0 / 569.0	3.62	13421.99	< 0	64.0	False	13C2-PFDoA	1285126.29	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.62	983.79	< 0	29.8	False	13C2-PFDoA	1285126.29	1250.00	PFDoA	0.073	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.88	26844.33	< 0	261.2	False	13C2-PFTeDA	1178856.39	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.88	2238.70	< 0	99.5	False	13C2-PFTeDA	1178856.39	1250.00	PFTTrDA	0.083	0.071	✓
PFTeDA_1	713.0 / 669.0	4.11	17078.38	< 0	227.3	False	13C2-PFTeDA	1178856.39	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	768.72	< 0	56.2	False	13C2-PFTeDA	1178856.39	1250.00	PFTeDA	0.045	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	152523.88	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	152523.88	1250.00	NMeFOSAA	N/A	1.073	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	157957.71	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	157957.71	1250.00	NEtFOSAA	N/A	0.052	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	423864.72	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	423864.72	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	1.95	2545.96	< 0	181.4	False	13C8-PFOA	1310179.65	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	False	13C8-PFOA	1310179.65	1222.50	ADONA	N/A	0.015	
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1310179.65	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1310179.65	1222.50	9CI-PF3ONS	N/A	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1310179.65	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1310179.65	1222.50	11Cl-PF3OUdS	N/A	0.006	✓



PFAS Sample Quant Report

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Sample Name	G1649MS-FS(3)	Injection Vial	24
Sample ID	CBD-AOA-SD04-000H-MS	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:14:20 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	2922424.25	4452.70	10693.0	False	13C3-PFBS	299675.47	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	920935.48	4162.41	3264.9	False	13C3-PFBS	299675.47	1162.50	PFBS	0.315	0.331	✓
PFHxA_1	313.0 / 269.0	1.58	4263285.52	4109.75	1659.1	False	13C5-PFHxA	1128132.89	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.58	261853.86	4104.63	1867.6	False	13C5-PFHxA	1128132.89	1250.00	PFHxA	0.061	0.062	✓
PFHpA_1	363.0 / 319.0	1.92	3119312.56	3886.95	1200.6	False	13C4-PFHpA	1209913.44	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.92	91282.24	3605.80	15482.7	False	13C4-PFHpA	1209913.44	1250.00	PFHpA	0.029	0.029	✓
PFHxS_1	399.0 / 80.0	1.93	2794532.78	4624.69	2413.8	False	13C3-PFHxS	215852.20	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	1027827.46	4927.00	5578.5	False	13C3-PFHxS	215852.20	1182.50	PFHxS	0.368	0.345	✓
PFOA_1	413.0 / 369.0	2.28	4170401.60	4504.66	1204.5	False	13C8-PFOA	1324704.63	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.28	403291.86	4344.73	1627.5	False	13C8-PFOA	1324704.63	1222.50	PFOA	0.097	0.096	✓
PFNA_1	463.0 / 419.0	2.65	3571749.36	4168.86	1157.9	False	13C9-PFNA	1309458.63	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	1301452.17	4299.46	3260.4	False	13C9-PFNA	1309458.63	1250.00	PFNA	0.364	0.346	✓
PFOS_1	499.0 / 80.0	2.65	2632108.24	4036.92	1118.7	False	13C8-PFOS	211553.42	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.65	590831.48	4442.01	12208.3	False	13C8-PFOS	211553.42	1195.00	PFOS	0.224	0.202	✓
PFDA_1	513.0 / 469.0	3.01	3911337.76	4327.77	1644.8	False	13C6-PFDA	1276004.31	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.01	215914.91	4053.92	3965.5	False	13C6-PFDA	1276004.31	1250.00	PFDA	0.055	0.055	✓
PFUnA_1	563.0 / 519.0	3.34	3726188.50	3917.21	1751.9	False	13C7-PFUnA	1065516.70	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.33	246978.29	3995.73	1116.7	False	13C7-PFUnA	1065516.70	1250.00	PFUnA	0.066	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	4539846.99	4324.66	2405.2	False	13C2-PFDoA	1384874.37	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	568428.64	4467.13	3151.4	False	13C2-PFDoA	1384874.37	1250.00	PFDoA	0.125	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.89	3977556.14	4240.65	3192.0	False	13C2-PFTeDA	1298029.62	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.88	289701.62	4188.94	1948.7	False	13C2-PFTeDA	1298029.62	1250.00	PFTTrDA	0.073	0.071	✓
PFTeDA_1	713.0 / 669.0	4.12	4367411.64	4318.67	3818.1	False	13C2-PFTeDA	1298029.62	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	252089.77	4193.46	3178.2	False	13C2-PFTeDA	1298029.62	1250.00	PFTeDA	0.058	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.16	399310.70	3971.97	862.2	False	d3-MeFOSAA	180997.94	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.15	447713.71	4398.99	2821.5	False	d3-MeFOSAA	180997.94	1250.00	NMeFOSAA	1.121	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.33	490788.40	4203.85	3019.7	False	d5-EtFOSAA	155889.14	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.33	27722.39	4189.39	190139.5	False	d5-EtFOSAA	155889.14	1250.00	NEtFOSAA	0.056	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.67	3902076.78	3418.54	6179.0	False	13C3-HFPO-DA	521937.57	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.67	67132.87	2834.08	1286.1	False	13C3-HFPO-DA	521937.57	1250.00	HFPO-DA	0.017	0.020	✓
ADONA_1	377.0 / 251.0	1.95	8172443.64	4116.79	10705.0	False	13C8-PFOA	1324704.63	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.95	129588.11	4301.83	5474.7	False	13C8-PFOA	1324704.63	1222.50	ADONA	0.016	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.85	5034663.44	4463.69	3518.5	False	13C8-PFOA	1324704.63	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.85	42882.45	3843.50	937.8	False	13C8-PFOA	1324704.63	1222.50	9CI-PF3ONS	0.009	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.49	3418451.48	4222.25	5162.2	False	13C8-PFOA	1324704.63	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.49	19463.22	4493.66	1925.5	False	13C8-PFOA	1324704.63	1222.50	11Cl-PF3OUdS	0.006	0.006	✓

Sample Name	G1650MSD-FS(3)	Injection Vial	25
Sample ID	CBD-AOA-SD04-000H-SD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:24:48 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.34	2518627.99	4467.79	8558.2	False	13C3-PFBS	257419.68	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	835495.67	4401.68	4211.6	False	13C3-PFBS	257419.68	1162.50	PFBS	0.332	0.331	✓
PFHxA_1	313.0 / 269.0	1.59	3836470.45	4253.28	1434.4	False	13C5-PFHxA	981393.26	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.59	240027.65	4328.56	1328.6	False	13C5-PFHxA	981393.26	1250.00	PFHxA	0.063	0.062	✓
PFHpA_1	363.0 / 319.0	1.92	2871981.45	4541.65	1102.8	False	13C4-PFHpA	956603.39	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.92	78552.29	3923.23	2774.6	False	13C4-PFHpA	956603.39	1250.00	PFHpA	0.027	0.029	✓
PFHxS_1	399.0 / 80.0	1.93	2573229.55	4357.57	2396.3	False	13C3-PFHxS	210858.08	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.93	906502.76	4445.49	3189.8	False	13C3-PFHxS	210858.08	1182.50	PFHxS	0.352	0.345	✓
PFOA_1	413.0 / 369.0	2.29	3587767.65	3887.62	1038.6	False	13C8-PFOA	1318772.94	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.29	366141.80	3963.25	2131.2	False	13C8-PFOA	1318772.94	1222.50	PFOA	0.102	0.096	✓
PFNA_1	463.0 / 419.0	2.66	3361215.20	4268.23	1324.0	False	13C9-PFNA	1204097.72	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.66	1182654.92	4248.26	2182.9	False	13C9-PFNA	1204097.72	1250.00	PFNA	0.352	0.346	✓
PFOS_1	499.0 / 80.0	2.65	2574405.45	4371.00	1367.6	False	13C8-PFOS	191179.99	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.65	522824.58	4349.36	13238.3	False	13C8-PFOS	191179.99	1195.00	PFOS	0.203	0.202	✓
PFDA_1	513.0 / 469.0	3.01	3584732.29	4526.77	1177.2	False	13C6-PFDA	1118933.73	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.01	199302.38	4267.78	1992.4	False	13C6-PFDA	1118933.73	1250.00	PFDA	0.056	0.055	✓
PFUnA_1	563.0 / 519.0	3.34	3590885.07	3938.42	2015.5	False	13C7-PFUnA	1021327.89	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.34	219420.18	3703.77	1047.6	False	13C7-PFUnA	1021327.89	1250.00	PFUnA	0.061	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	4131143.21	4294.38	2043.4	False	13C2-PFDoA	1268922.41	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.64	489211.81	4192.53	2710.3	False	13C2-PFDoA	1268922.41	1250.00	PFDoA	0.118	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.89	3609118.44	4073.35	3164.8	False	13C2-PFTeDA	1225216.61	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.89	255152.22	3905.63	2725.5	False	13C2-PFTeDA	1225216.61	1250.00	PFTTrDA	0.071	0.071	✓
PFTeDA_1	713.0 / 669.0	4.13	3913462.87	4094.56	3550.3	False	13C2-PFTeDA	1225216.61	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.13	220009.16	3875.99	3008.3	False	13C2-PFTeDA	1225216.61	1250.00	PFTeDA	0.056	0.055	✓
NMeFOSAA_1	570.0 / 419.0	3.16	382612.09	4236.68	10318.8	False	d3-MeFOSAA	162579.14	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.16	406105.77	4442.74	4342.9	False	d3-MeFOSAA	162579.14	1250.00	NMeFOSAA	1.061	1.073	✓
NEiFOSAA_1	584.0 / 419.0	3.33	430557.52	4115.12	3790.2	False	d5-EiFOSAA	139670.55	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.33	24044.85	4057.14	89810.5	False	d5-EiFOSAA	139670.55	1250.00	NEiFOSAA	0.056	0.052	✓
HFPO-DA_1	285.0 / 169.0	1.68	3367928.18	3710.60	4884.6	False	13C3-HFPO-DA	416901.82	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.68	67529.75	3607.67	1918868.3	False	13C3-HFPO-DA	416901.82	1250.00	HFPO-DA	0.020	0.020	✓
ADONA_1	377.0 / 251.0	1.96	7562264.73	3824.90	11652.3	False	13C8-PFOA	1318772.94	1222.50	ADONA			
ADONA_2	377.0 / 85.0	1.96	113565.12	3786.25	59951.8	False	13C8-PFOA	1318772.94	1222.50	ADONA	0.015	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	2.86	4465388.60	3981.25	2664.5	False	13C8-PFOA	1318772.94	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	2.86	41011.24	3691.74	1572.7	False	13C8-PFOA	1318772.94	1222.50	9CI-PF3ONS	0.009	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.50	3242284.33	4023.23	3569.2	False	13C8-PFOA	1318772.94	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.49	18380.82	4260.76	973.1	False	13C8-PFOA	1318772.94	1222.50	11CI-PF3OUdS	0.006	0.006	✓



PFAS Sample Quant Report

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Sample Name	G1653-FS(3)	Injection Vial	26
Sample ID	CBD-AOA-SD02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:35:16 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	14089.23	< 0	204.9	True	13C3-PFBS	284453.51	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.34	5926.69	< 0	102.9	False	13C3-PFBS	284453.51	1162.50	PFBS	0.421	0.331	✓
PFHxA_1	313.0 / 269.0	1.63	91442.04	29.59	124.0	False	13C5-PFHxA	1149916.72	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.63	5845.11	26.40	43.1	False	13C5-PFHxA	1149916.72	1250.00	PFHxA	0.064	0.062	✓
PFHpA_1	363.0 / 319.0	1.95	20434.25	< 0	42.3	False	13C4-PFHpA	1108267.54	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.02	113.69	20.49	35383.1	True	13C4-PFHpA	1108267.54	1250.00	PFHpA	0.006	0.029	
PFHxS_1	399.0 / 80.0	1.92	19745.76	2.06	89.9	False	13C3-PFHxS	218294.49	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	7379.74	5.88	243.6	False	13C3-PFHxS	218294.49	1182.50	PFHxS	0.374	0.345	✓
PFOA_1	413.0 / 369.0	2.28	23472.19	< 0	59.2	False	13C8-PFOA	1406399.45	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.31	2662.27	38.30	27.4	False	13C8-PFOA	1406399.45	1222.50	PFOA	0.113	0.096	✓
PFNA_1	463.0 / 419.0	2.63	17869.03	< 0	58.1	False	13C9-PFNA	1313025.93	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	4864.94	< 0	93.0	False	13C9-PFNA	1313025.93	1250.00	PFNA	0.272	0.346	✓
PFOS_1	499.0 / 80.0	2.64	171510.92	276.96	305.1	False	13C8-PFOS	187142.41	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.64	37155.72	304.94	2799.1	False	13C8-PFOS	187142.41	1195.00	PFOS	0.217	0.202	✓
PFDA_1	513.0 / 469.0	3.01	11343.61	< 0	30.2	False	13C6-PFDA	1305323.73	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.08	346.96	< 0	6.7	False	13C6-PFDA	1305323.73	1250.00	PFDA	0.031	0.055	✓
PFUnA_1	563.0 / 519.0	3.33	31823.47	12.66	85.6	False	13C7-PFUnA	1062276.13	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.33	2333.05	41.90	39.4	False	13C7-PFUnA	1062276.13	1250.00	PFUnA	0.073	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	16390.68	< 0	99.5	False	13C2-PFDoA	1322008.31	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	1700.54	< 0	68.0	False	13C2-PFDoA	1322008.31	1250.00	PFDoA	0.104	0.119	✓
PFTeDA_1	663.0 / 619.0	3.89	36608.63	< 0	449.0	False	13C2-PFTeDA	1185542.03	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	3.88	3124.63	5.25	114.8	False	13C2-PFTeDA	1185542.03	1250.00	PFTeDA	0.085	0.071	✓
PFTeDA_1	713.0 / 669.0	4.12	17101.28	< 0	222.6	False	13C2-PFTeDA	1185542.03	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	744.72	< 0	45.0	False	13C2-PFTeDA	1185542.03	1250.00	PFTeDA	0.044	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	186764.78	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	186764.78	1250.00	NMeFOSAA	N/A	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.31	2029.78	< 0	280.9	False	d5-EtFOSAA	178829.85	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	178829.85	1250.00	NEtFOSAA	N/A	0.052	
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	441220.42	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	441220.42	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	1.97	4139.70	< 0	180.6	False	13C8-PFOA	1406399.45	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1406399.45	1222.50	ADONA	N/A	0.015	
9CI-PF3ONS_1	531.0 / 351.0	2.84	3391.05	43.71	51.0	False	13C8-PFOA	1406399.45	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1406399.45	1222.50	9CI-PF3ONS	N/A	0.011	
11CI-pf3OUdS_1	631.0 / 451.0	3.47	1407.71	13.43	39.6	False	13C8-PFOA	1406399.45	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1406399.45	1222.50	11CI-PF3OUdS	N/A	0.006	



PFAS Sample Quant Report

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Sample Name	G1659-FS(3)	Injection Vial	27
Sample ID	CBD-AOA-SD08-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:45:44 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.34	11770.90	< 0	223.2	False	13C3-PFBS	257143.72	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.34	4678.26	< 0	119.3	False	13C3-PFBS	257143.72	1162.50	PFBS	0.397	0.331	✓
PFHxA_1	313.0 / 269.0	1.60	99987.13	43.97	144.2	False	13C5-PFHxA	1080317.53	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.59	2740.90	< 0	53.1	False	13C5-PFHxA	1080317.53	1250.00	PFHxA	0.027	0.062	
PFHpA_1	363.0 / 319.0	1.93	34814.56	< 0	83.0	False	13C4-PFHpA	1089918.14	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.91	1001.85	59.35	79.3	False	13C4-PFHpA	1089918.14	1250.00	PFHpA	0.029	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	64440.92	82.43	244.0	False	13C3-PFHxS	205249.25	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	28239.11	113.90	694.0	False	13C3-PFHxS	205249.25	1182.50	PFHxS	0.438	0.345	✓
PFOA_1	413.0 / 369.0	2.28	66838.42	28.23	168.2	False	13C8-PFOA	1460189.58	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.27	4943.89	59.55	59.4	False	13C8-PFOA	1460189.58	1222.50	PFOA	0.074	0.096	✓
PFNA_1	463.0 / 419.0	2.65	65520.35	2.49	209.6	False	13C9-PFNA	1277040.00	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	20824.36	18.80	555.1	False	13C9-PFNA	1277040.00	1250.00	PFNA	0.318	0.346	✓
PFOS_1	499.0 / 80.0	2.65	762804.31	1138.11	888.5	False	13C8-PFOS	214503.48	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.64	176828.25	1302.93	312211.0	False	13C8-PFOS	214503.48	1195.00	PFOS	0.232	0.202	✓
PFDA_1	513.0 / 469.0	3.01	23994.28	< 0	77.8	False	13C6-PFDA	1197399.33	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.01	1289.87	16.74	39.3	False	13C6-PFDA	1197399.33	1250.00	PFDA	0.054	0.055	✓
PFUnA_1	563.0 / 519.0	3.33	187195.63	187.78	408.0	False	13C7-PFUnA	1009381.27	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.33	11264.58	196.26	194.2	False	13C7-PFUnA	1009381.27	1250.00	PFUnA	0.060	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	28016.15	< 0	127.1	False	13C2-PFDoA	1351960.23	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	2202.07	< 0	86.5	False	13C2-PFDoA	1351960.23	1250.00	PFDoA	0.079	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.88	212963.29	167.01	1106.2	False	13C2-PFTeDA	1207170.43	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.88	13909.29	173.82	361.6	True	13C2-PFTeDA	1207170.43	1250.00	PFTTrDA	0.065	0.071	✓
PFTeDA_1	713.0 / 669.0	4.12	18612.78	< 0	234.0	False	13C2-PFTeDA	1207170.43	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.11	845.67	< 0	51.4	False	13C2-PFTeDA	1207170.43	1250.00	PFTeDA	0.045	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	159005.72	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	159005.72	1250.00	NMeFOSAA	N/A	1.073	✓
NEtFOSAA_1	584.0 / 419.0	3.32	937.73	< 0	7453.0	False	d5-EtFOSAA	150585.05	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	150585.05	1250.00	NEtFOSAA	N/A	0.052	
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	439244.60	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	439244.60	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	1.99	1264.95	< 0	53.6	False	13C8-PFOA	1460189.58	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1460189.58	1222.50	ADONA	N/A	0.015	
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1460189.58	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1460189.58	1222.50	9CI-PF3ONS	N/A	0.011	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.48	1465.11	13.43	47.8	False	13C8-PFOA	1460189.58	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1460189.58	1222.50	11Cl-pf3OUdS	N/A	0.006	



PFAS Sample Quant Report

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Sample Name	G1660-FS(3)	Injection Vial	28
Sample ID	CBD-AOA-SD08P-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:56:12 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	14980.11	< 0	226.8	True	13C3-PFBS	255500.78	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	6857.05	< 0	147.9	False	13C3-PFBS	255500.78	1162.50	PFBS	0.458	0.331	✓
PFHxA_1	313.0 / 269.0	1.60	102201.99	56.39	222.3	False	13C5-PFHxA	984486.95	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.59	4476.32	16.76	96.5	False	13C5-PFHxA	984486.95	1250.00	PFHxA	0.044	0.062	✓
PFHpA_1	363.0 / 319.0	1.93	37337.16	< 0	95.6	False	13C4-PFHpA	973967.55	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	1.96	902.90	59.72	138.6	False	13C4-PFHpA	973967.55	1250.00	PFHpA	0.024	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	60485.21	74.26	284.6	False	13C3-PFHxS	207668.36	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.93	24291.81	92.45	629.3	False	13C3-PFHxS	207668.36	1182.50	PFHxS	0.402	0.345	✓
PFOA_1	413.0 / 369.0	2.29	60374.29	28.43	151.7	False	13C8-PFOA	1314848.12	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.28	5615.56	72.14	95.7	False	13C8-PFOA	1314848.12	1222.50	PFOA	0.093	0.096	✓
PFNA_1	463.0 / 419.0	2.65	52671.26	< 0	125.1	False	13C9-PFNA	1217067.69	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	17058.05	8.76	3247.5	False	13C9-PFNA	1217067.69	1250.00	PFNA	0.324	0.346	✓
PFOS_1	499.0 / 80.0	2.65	627756.69	1013.41	915.2	False	13C8-PFOS	197787.71	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.65	130572.21	1041.09	7343.2	False	13C8-PFOS	197787.71	1195.00	PFOS	0.208	0.202	✓
PFDA_1	513.0 / 469.0	3.00	17090.21	< 0	51.9	False	13C6-PFDA	1169319.24	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.03	1041.03	12.25	70.5	False	13C6-PFDA	1169319.24	1250.00	PFDA	0.061	0.055	✓
PFUnA_1	563.0 / 519.0	3.34	186757.92	184.84	431.6	False	13C7-PFUnA	1021386.95	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.34	10109.40	174.52	144.2	False	13C7-PFUnA	1021386.95	1250.00	PFUnA	0.054	0.063	✓
PFDoA_1	613.0 / 569.0	3.63	21109.85	< 0	98.7	False	13C2-PFDoA	1282109.00	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.63	2322.44	< 0	110.7	False	13C2-PFDoA	1282109.00	1250.00	PFDoA	0.110	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.89	212111.77	161.80	888.2	False	13C2-PFTeDA	1228028.75	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.89	12926.58	154.93	397.2	True	13C2-PFTeDA	1228028.75	1250.00	PFTTrDA	0.061	0.071	✓
PFTeDA_1	713.0 / 669.0	4.12	18412.04	< 0	243.5	False	13C2-PFTeDA	1228028.75	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	1197.83	3.73	83.6	False	13C2-PFTeDA	1228028.75	1250.00	PFTeDA	0.065	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	160171.50	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	160171.50	1250.00	NMeFOSAA	N/A	1.073	✓
NEiFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EiFOSAA	145799.72	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EiFOSAA	145799.72	1250.00	NEiFOSAA	N/A	0.052	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	415497.16	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	415497.16	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	ADONA	N/A	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	9CI-PF3ONS	N/A	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1314848.12	1222.50	11CI-pf3OUdS	N/A	0.006	✓



PFAS Sample Quant Report

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Sample Name	G1662-FS(3)	Injection Vial	29
Sample ID	CBD-AOA-SD06-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:06:40 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.33	12564.34	< 0	280.9	True	13C3-PFBS	255633.00	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.33	5014.28	< 0	115.2	False	13C3-PFBS	255633.00	1162.50	PFBS	0.399	0.331	✓
PFHxA_1	313.0 / 269.0	1.59	112425.60	77.09	202.4	False	13C5-PFHxA	917127.65	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.58	4153.41	16.44	59.9	False	13C5-PFHxA	917127.65	1250.00	PFHxA	0.037	0.062	✓
PFHpA_1	363.0 / 319.0	1.93	40922.53	< 0	108.5	False	13C4-PFHpA	930401.55	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.01	1724.93	103.83	1015.1	False	13C4-PFHpA	930401.55	1250.00	PFHpA	0.042	0.029	✓
PFHxS_1	399.0 / 80.0	1.92	142056.34	207.31	369.6	False	13C3-PFHxS	214822.08	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	1.92	48155.35	204.02	487.3	False	13C3-PFHxS	214822.08	1182.50	PFHxS	0.339	0.345	✓
PFOA_1	413.0 / 369.0	2.28	98477.67	70.92	211.5	False	13C8-PFOA	1306773.87	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.27	9177.68	111.32	200.9	False	13C8-PFOA	1306773.87	1222.50	PFOA	0.093	0.096	✓
PFNA_1	463.0 / 419.0	2.65	189784.99	175.99	316.0	False	13C9-PFNA	1166047.38	1250.00	PFNA			
PFNA_2	463.0 / 219.0	2.65	65530.55	193.48	761.0	False	13C9-PFNA	1166047.38	1250.00	PFNA	0.345	0.346	✓
PFOS_1	499.0 / 80.0	2.64	3451893.17	5158.87	1722.7	False	13C8-PFOS	217361.01	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.64	810252.49	5932.82	19759.2	False	13C8-PFOS	217361.01	1195.00	PFOS	0.235	0.202	✓
PFDA_1	513.0 / 469.0	3.00	34855.31	< 0	94.5	False	13C6-PFDA	1173933.86	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.00	1353.37	18.56	31.9	False	13C6-PFDA	1173933.86	1250.00	PFDA	0.039	0.055	✓
PFUnA_1	563.0 / 519.0	3.33	460263.64	501.95	589.7	False	13C7-PFUnA	991026.94	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.33	25383.34	445.15	371.3	False	13C7-PFUnA	991026.94	1250.00	PFUnA	0.055	0.063	✓
PFDoA_1	613.0 / 569.0	3.62	47221.20	< 0	164.9	False	13C2-PFDoA	1291005.09	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.62	4970.55	< 0	233.4	False	13C2-PFDoA	1291005.09	1250.00	PFDoA	0.105	0.119	✓
PFTTrDA_1	663.0 / 619.0	3.88	695888.74	773.72	1457.7	False	13C2-PFTeDA	1147328.68	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	3.88	43421.96	673.17	742.0	True	13C2-PFTeDA	1147328.68	1250.00	PFTTrDA	0.062	0.071	✓
PFTeDA_1	713.0 / 669.0	4.11	23406.98	< 0	247.5	False	13C2-PFTeDA	1147328.68	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.12	1422.40	9.46	84.0	False	13C2-PFTeDA	1147328.68	1250.00	PFTeDA	0.061	0.055	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	158587.32	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	158587.32	1250.00	NMeFOSAA	N/A	1.073	✓
NEiFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EiFOSAA	137380.29	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EiFOSAA	137380.29	1250.00	NEiFOSAA	N/A	0.052	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	360418.43	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	360418.43	1250.00	HFPO-DA	N/A	0.020	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	ADONA	N/A	0.015	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	9CI-PF3ONS	N/A	0.011	✓
11CI-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	1306773.87	1222.50	11CI-pf3OUdS	N/A	0.006	✓



Sample Name	LD80 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:10:26 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.59	1450043.21	1235.15	3909.1	False	13C2-PFDA	1077516.43	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.12	186623.87	1198.74	1395.3	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.29	189038.94	1272.28	1166.1	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.56	1334473.16	1432.01	9229.0	False	13C2-PFOA	733801.21	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.89	1269472.74	1380.99	11756.4	False	13C2-PFOA	733801.21	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.25	1603465.71	1343.25	10530.2	False	13C2-PFOA	733801.21	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.62	1567049.56	1273.54	3832.1	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	2.97	1413621.21	1364.51	4057.8	False	13C2-PFDA	1077516.43	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.30	1267458.84	1349.93	4703.0	False	13C2-PFDA	1077516.43	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.08	1264129.30	1255.09	4115.6	False	13C2-PFDA	1077516.43	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.31	256509.24	1043.53	6161.2	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.90	228229.45	1149.92	6711.4	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.61	229148.45	1208.18	1565.4	False	13C4-PFOS	218525.13	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.65	522123.47	1333.90	9193.6	False	13C2-PFOA	733801.21	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Printed: 03/11/2020 1:11:58 PM

Sample Name	LD80 IB	Injection Vial	4
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:55:12 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.71	1162063.64	1086.54	5617.6	False	13C2-PFDA	981632.04	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.23	143277.04	1262.42	1655.2	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.40	158279.67	1461.26	1679.7	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.61	1030040.27	1280.70	44300.2	False	13C2-PFOA	633320.95	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.95	1026353.19	1293.65	83060.3	False	13C2-PFOA	633320.95	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.33	1268861.05	1231.59	32064.0	False	13C2-PFOA	633320.95	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.71	1114952.63	1242.96	6170.0	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.08	1050453.28	1113.00	11976.3	False	13C2-PFDA	981632.04	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.41	1024508.56	1197.76	7287.0	False	13C2-PFDA	981632.04	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.22	1054209.78	1148.91	6067.1	False	13C2-PFDA	981632.04	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.35	217171.76	1211.92	84176.8	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.97	175489.77	1212.88	13234.0	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.71	168442.90	1218.25	1833.2	False	13C4-PFOS	159305.70	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.71	453031.24	1341.01	15151.6	False	13C2-PFOA	633320.95	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	DA889PB-FS(3)	Injection Vial	21
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:42:56 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1348385.72	1111.35	7038.5	False	13C2-PFDA	1113588.85	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.16	166971.23	1189.63	1127.2	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.33	143535.61	1071.53	1201.3	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.58	1096075.21	894.03	5970.8	False	13C2-PFOA	965388.87	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	1134742.26	938.30	38210.3	False	13C2-PFOA	965388.87	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.28	1464992.39	932.85	175712.8	False	13C2-PFOA	965388.87	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.65	1225745.97	1104.95	14172.7	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.01	1256990.03	1174.01	320072.4	False	13C2-PFDA	1113588.85	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.34	1031554.01	1063.09	4187.0	False	13C2-PFDA	1113588.85	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.13	1264497.43	1214.78	3906.6	False	13C2-PFDA	1113588.85	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	288966.98	1303.95	5348.5	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	221746.58	1239.27	4435.5	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.65	200830.52	1174.51	1363.8	False	13C4-PFOS	197010.23	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.68	476246.69	924.82	5026.6	False	13C2-PFOA	965388.87	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	DA890LCS-FS(3)	Injection Vial	22
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:53:24 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1353687.42	945.26	4762.1	False	13C2-PFDA	1314409.75	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	181471.74	1138.64	1472.3	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	146209.09	961.23	1070.8	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1145613.52	925.30	4233.7	False	13C2-PFOA	974920.39	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.90	1150900.73	942.35	177994.3	False	13C2-PFOA	974920.39	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1491786.10	940.62	8826.7	False	13C2-PFOA	974920.39	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.64	1294488.75	1027.66	6308.3	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1215213.63	961.59	20985.6	False	13C2-PFDA	1314409.75	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1067326.60	931.90	5101.0	False	13C2-PFDA	1314409.75	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.12	1249586.26	1017.05	3968.2	False	13C2-PFDA	1314409.75	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	286651.83	1139.14	8924.1	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	220323.24	1084.37	4314.0	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	194508.18	1001.78	2059.6	False	13C4-PFOS	223707.60	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	493494.31	948.95	3530.2	False	13C2-PFOA	974920.39	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1648-FS(3)	Injection Vial	23
Sample ID	CBD-AOA-SD04-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:03:52 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.62	1285126.29	999.42	5538.2	False	13C2-PFDA	1180209.90	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	153440.95	1048.43	1671.0	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	158259.05	1133.03	1833.3	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1083476.70	961.08	5757.3	False	13C2-PFOA	887722.01	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	1048095.96	942.47	15394.7	False	13C2-PFOA	887722.01	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1310179.65	907.26	177752.3	False	13C2-PFOA	887722.01	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.65	1283587.88	1109.68	8775.3	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1148129.64	1011.81	6058.4	False	13C2-PFDA	1180209.90	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1025370.09	997.07	5450.2	False	13C2-PFDA	1180209.90	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.11	1178856.39	1068.58	4256.5	False	13C2-PFDA	1180209.90	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	263888.93	1141.99	3375.9	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	218535.90	1171.28	4754.5	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	191900.36	1076.30	1505.9	False	13C4-PFOS	205428.37	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	423864.72	895.11	3973.6	False	13C2-PFOA	887722.01	1250.00		N/A	N/A	✓



Sample Name	G1649MS-FS(3)	Injection Vial	24
Sample ID	CBD-AOA-SD04-000H-MS	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:14:20 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1384874.37	1021.07	6093.7	False	13C2-PFDA	1244854.54	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	182453.77	1170.57	1306.6	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	156406.36	1051.42	1445.5	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1128132.89	887.46	5188.6	False	13C2-PFOA	1000986.12	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	1209913.44	964.87	8026.6	False	13C2-PFOA	1000986.12	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1324704.63	813.52	2083.9	False	13C2-PFOA	1000986.12	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.65	1309458.63	1062.95	174801.3	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1276004.31	1066.10	110909.4	False	13C2-PFDA	1244854.54	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1065516.70	982.30	4789.4	False	13C2-PFDA	1244854.54	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.12	1298029.62	1115.51	4085.2	False	13C2-PFDA	1244854.54	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	299675.47	1217.70	7770.8	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	215852.20	1086.28	5105.9	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	211553.42	1114.10	8921.7	False	13C4-PFOS	218782.47	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	521937.57	977.50	3640.3	False	13C2-PFOA	1000986.12	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1650MSD-FS(3)	Injection Vial	25
Sample ID	CBD-AOA-SD04-000H-SD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:24:48 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297 SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1268922.41	985.24	9173.2	False	13C2-PFDA	1182105.11	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.16	163941.73	1182.24	1488.7	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.33	140451.71	1061.25	1197.2	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.58	981393.26	772.19	6391.7	False	13C2-PFOA	1000771.87	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	956603.39	763.03	8777.5	False	13C2-PFOA	1000771.87	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.28	1318772.94	810.05	15611.0	False	13C2-PFOA	1000771.87	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.65	1204097.72	1098.63	1407.8	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.01	1118933.73	984.50	10531.5	False	13C2-PFDA	1182105.11	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.34	1021327.89	991.54	5031.7	False	13C2-PFDA	1182105.11	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.12	1225216.61	1108.82	3912.0	False	13C2-PFDA	1182105.11	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	257419.68	1175.71	4317.3	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	210858.08	1192.74	4545.9	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.65	191179.99	1131.66	2202.2	False	13C4-PFOS	194644.69	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.68	416901.82	780.96	4468.0	False	13C2-PFOA	1000771.87	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1653-FS(3)	Injection Vial	26
Sample ID	CBD-AOA-SD02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:35:16 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1322008.31	957.57	5212.7	False	13C2-PFDA	1267152.82	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	188183.50	1296.40	1463.3	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	178662.17	1289.63	1609.0	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1149916.72	995.12	5661.0	False	13C2-PFOA	909923.85	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.90	1108267.54	972.26	5983.8	False	13C2-PFOA	909923.85	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1406399.45	950.13	13571.0	False	13C2-PFOA	909923.85	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.64	1313025.93	1144.47	2512.0	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1305323.73	1071.41	10170.3	False	13C2-PFDA	1267152.82	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1062276.13	962.08	5974.0	False	13C2-PFDA	1267152.82	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.12	1185542.03	1000.91	3736.6	False	13C2-PFDA	1267152.82	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	284453.51	1241.12	6245.4	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.91	218294.49	1179.62	3758.0	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	187142.41	1058.25	1308.1	False	13C4-PFOS	203750.64	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	441220.42	909.03	3811.2	False	13C2-PFOA	909923.85	1250.00		N/A	N/A	✓



Sample Name	G1659-FS(3)	Injection Vial	27
Sample ID	CBD-AOA-SD08-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:45:44 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.62	1351960.23	1096.10	5254.2	False	13C2-PFDA	1132080.76	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	160486.70	1189.33	2009.3	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	150259.70	1166.76	1425.7	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	1080317.53	882.83	7149.2	False	13C2-PFOA	963588.95	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	1089918.14	902.91	6243820.4	False	13C2-PFOA	963588.95	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1460189.58	931.53	38906.5	False	13C2-PFOA	963588.95	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.64	1277040.00	1197.41	6397.7	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1197399.33	1100.09	159213.5	False	13C2-PFDA	1132080.76	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1009381.27	1023.25	4960.0	False	13C2-PFDA	1132080.76	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.11	1207170.43	1140.77	4171.3	False	13C2-PFDA	1132080.76	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	257143.72	1206.94	5421.3	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	205249.25	1193.12	9889.9	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	214503.48	1304.84	1762.8	False	13C4-PFOS	189406.29	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	439244.60	854.56	5576.3	False	13C2-PFOA	963588.95	1250.00		N/A	N/A	✓



Sample Name	G1660-FS(3)	Injection Vial	28
Sample ID	CBD-AOA-SD08P-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:56:12 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.63	1282109.00	1001.23	6968.1	False	13C2-PFDA	1175311.96	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	161458.20	1203.00	1533.7	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.32	146572.24	1144.28	1159.3	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	984486.95	830.50	7403.0	False	13C2-PFOA	933444.03	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.91	973967.55	832.91	4936.5	False	13C2-PFOA	933444.03	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1314848.12	865.89	16387.4	False	13C2-PFOA	933444.03	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.65	1217067.69	1147.34	8794.4	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1169319.24	1034.78	1303.8	False	13C2-PFDA	1175311.96	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	1021386.95	997.33	5588.4	False	13C2-PFDA	1175311.96	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.12	1228028.75	1117.79	4097.3	False	13C2-PFDA	1175311.96	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	255500.78	1205.71	59906.8	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	207668.36	1213.71	42257731.9	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.65	197787.71	1209.66	1604.3	False	13C4-PFOS	188388.07	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	415497.16	834.47	2911.2	False	13C2-PFOA	933444.03	1250.00		N/A	N/A	✓



Sample Name	G1662-FS(3)	Injection Vial	29
Sample ID	CBD-AOA-SD06-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:06:40 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	S/N Ratio	Modified	IS	IS Area	IS Conc. (ng/L)	Ratio Group	Ion Ratio	Expected Ion Ratio	Ratio OK
13C2-PFDoA	615.0 / 570.0	3.62	1291005.09	914.94	5083.2	False	13C2-PFDA	1295087.30	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.15	159723.99	1021.57	1209.4	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.31	137261.70	919.86	1523.9	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.57	917127.65	745.89	3705.2	False	13C2-PFOA	968206.39	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	1.90	930401.55	767.09	29078.5	False	13C2-PFOA	968206.39	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.27	1306773.87	829.68	18108.9	False	13C2-PFOA	968206.39	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	2.64	1166047.38	943.60	767796.2	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.00	1173933.86	942.78	20228.3	False	13C2-PFDA	1295087.30	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.33	991026.94	878.19	6935.8	False	13C2-PFDA	1295087.30	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.11	1147328.68	947.75	4951.2	False	13C2-PFDA	1295087.30	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.32	255633.00	1035.52	5498.5	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	1.92	214822.08	1077.75	5283.2	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	2.64	217361.01	1141.14	1368.3	False	13C4-PFOS	219462.38	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.67	360418.43	697.86	4148.5	False	13C2-PFOA	968206.39	1250.00		N/A	N/A	✓

Chromatograms



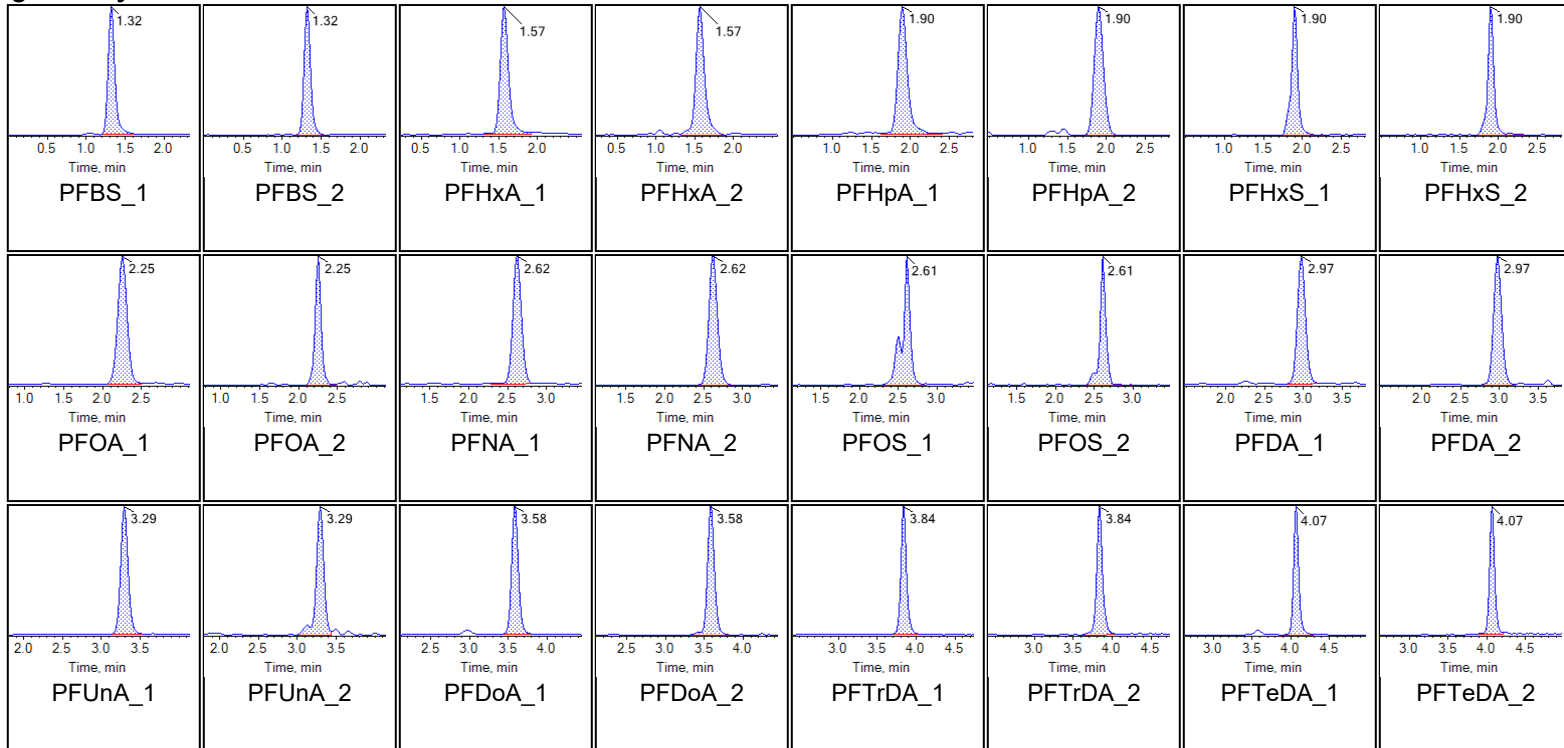
Chromatogram Report

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Sample Name	LD74	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
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Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

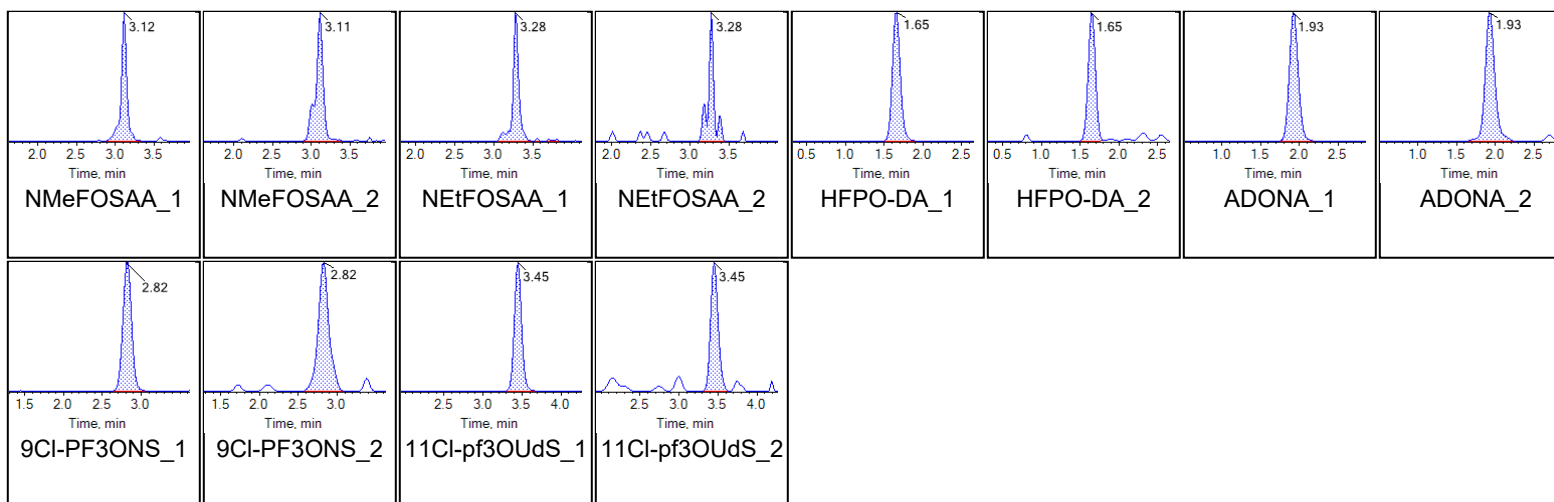
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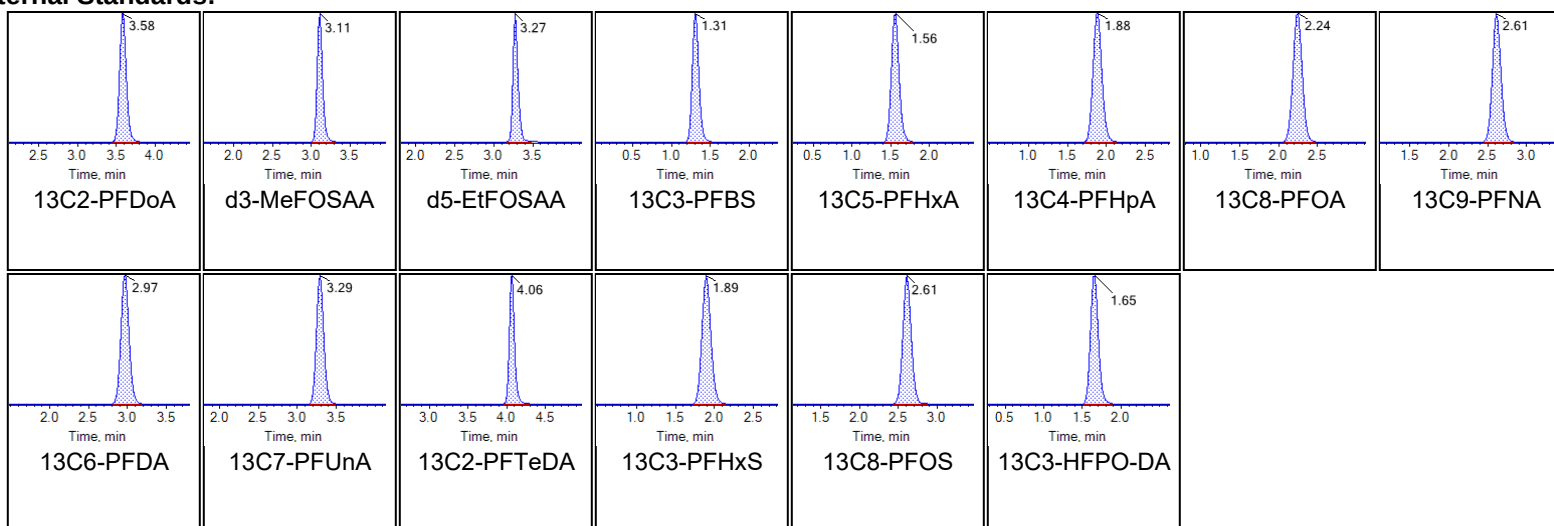


Chromatogram Report

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Internal Standards:





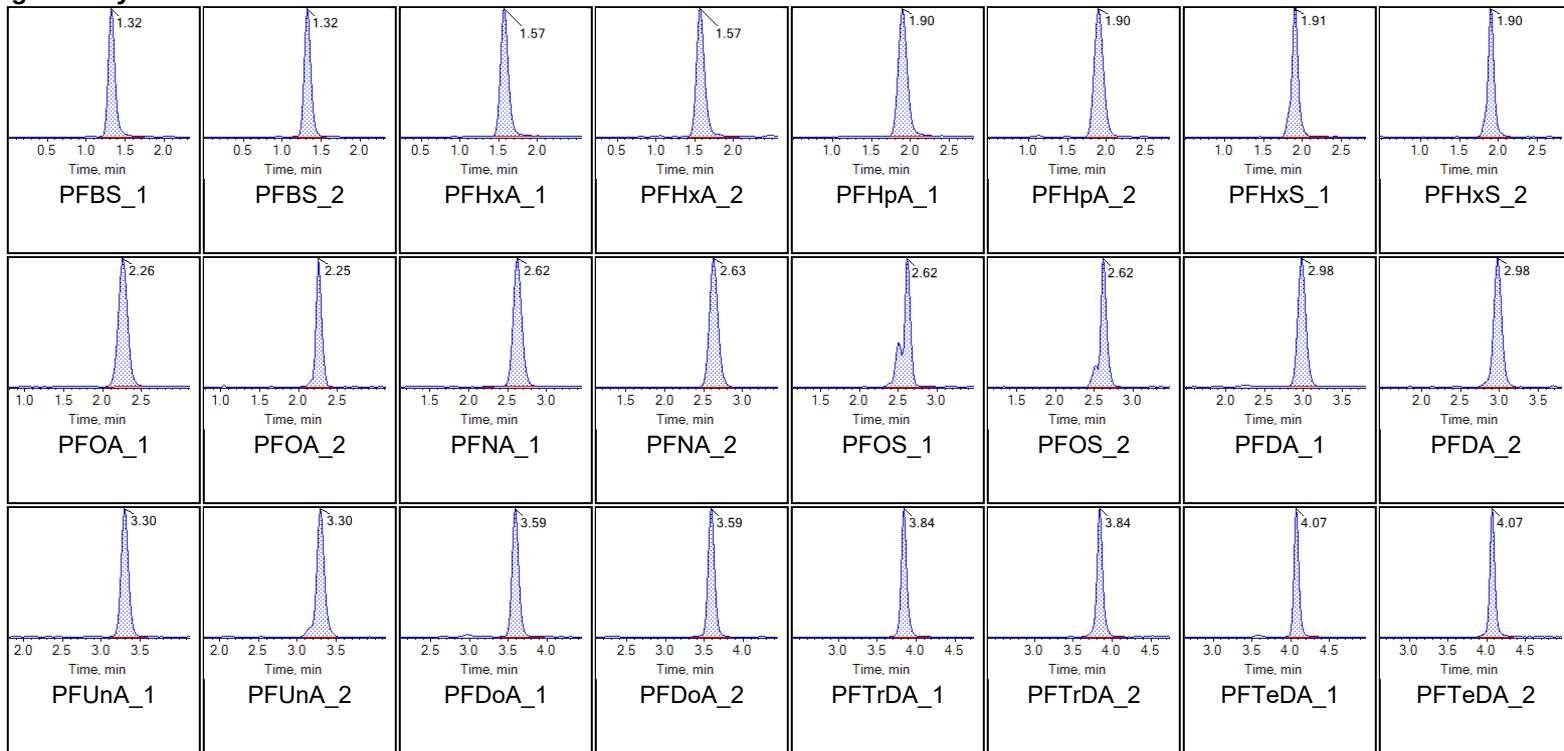
Chromatogram Report

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Sample Name	LD75	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:18:08 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

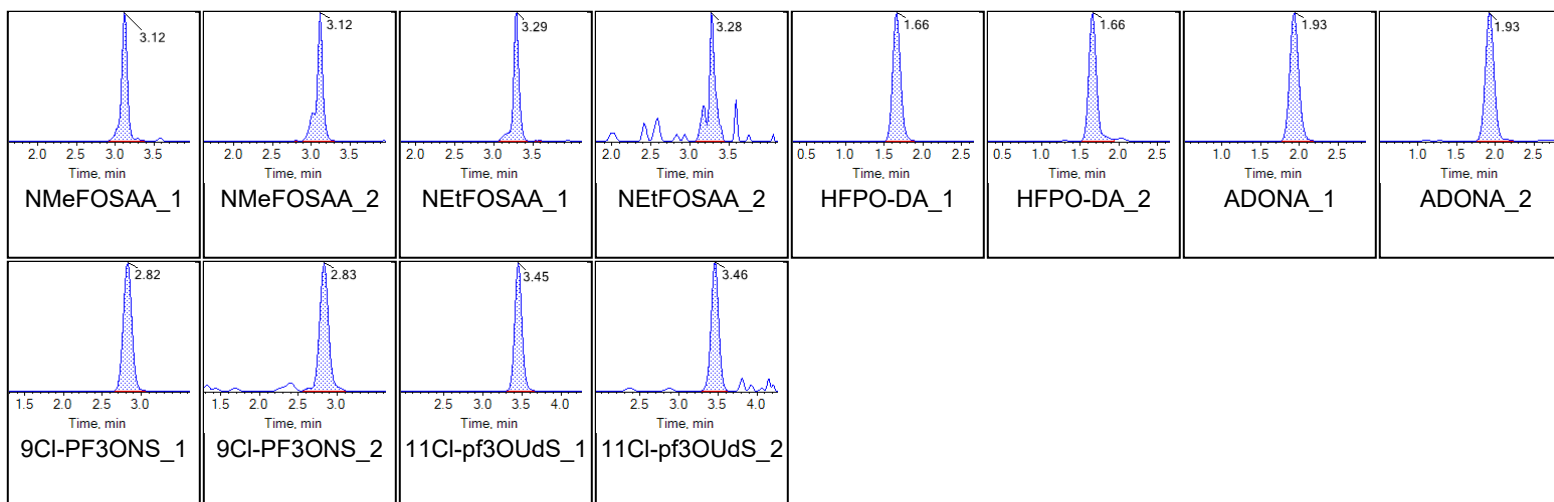
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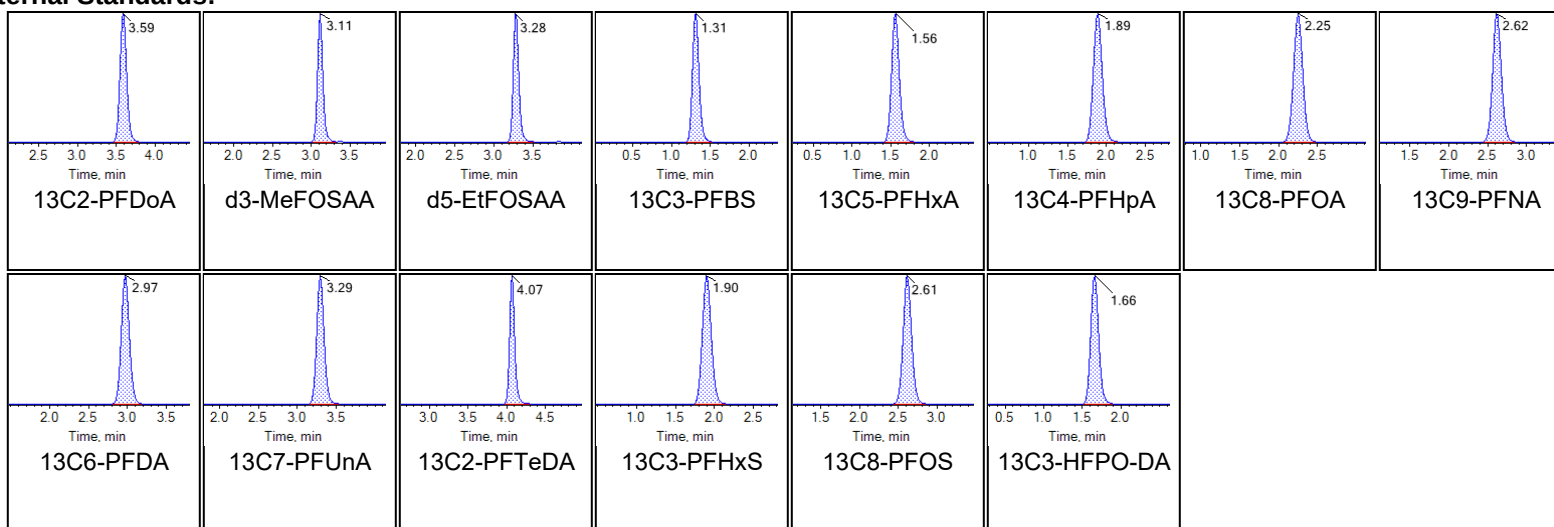


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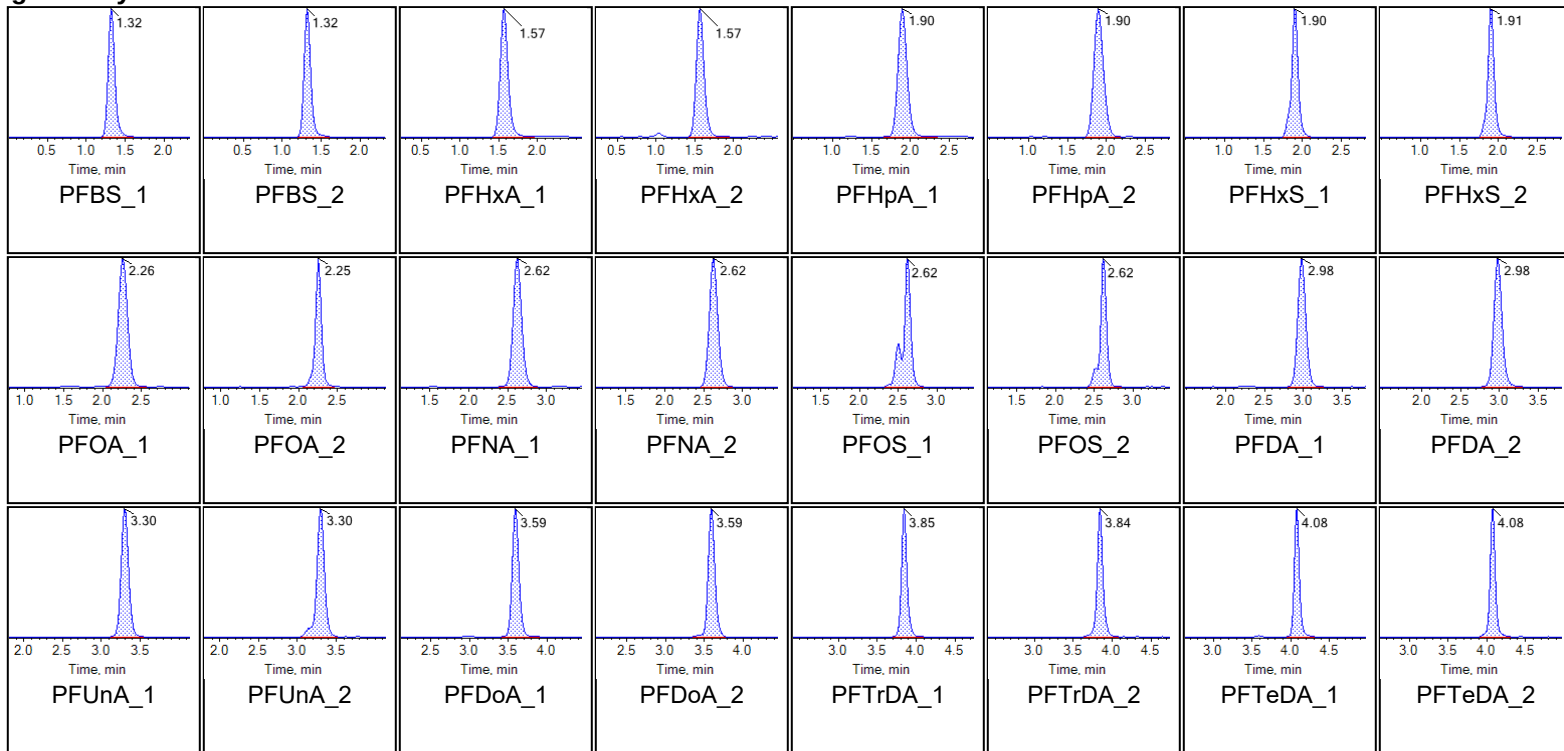
Chromatogram Report

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Sample Name	LD76	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:28:36 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

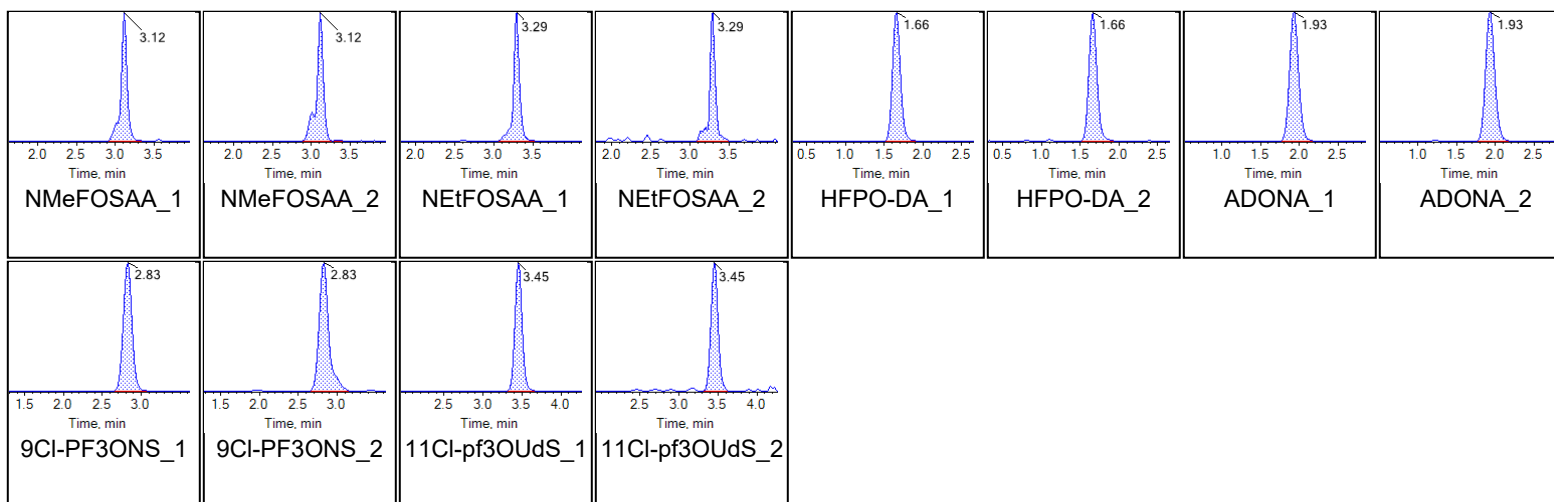
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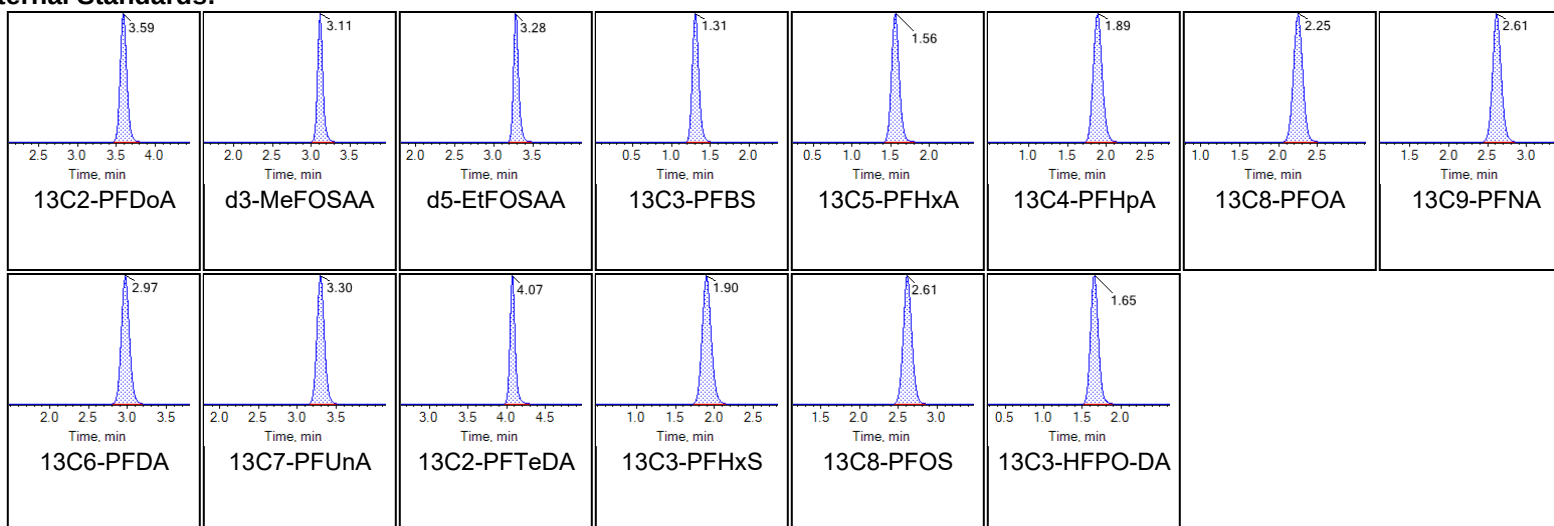


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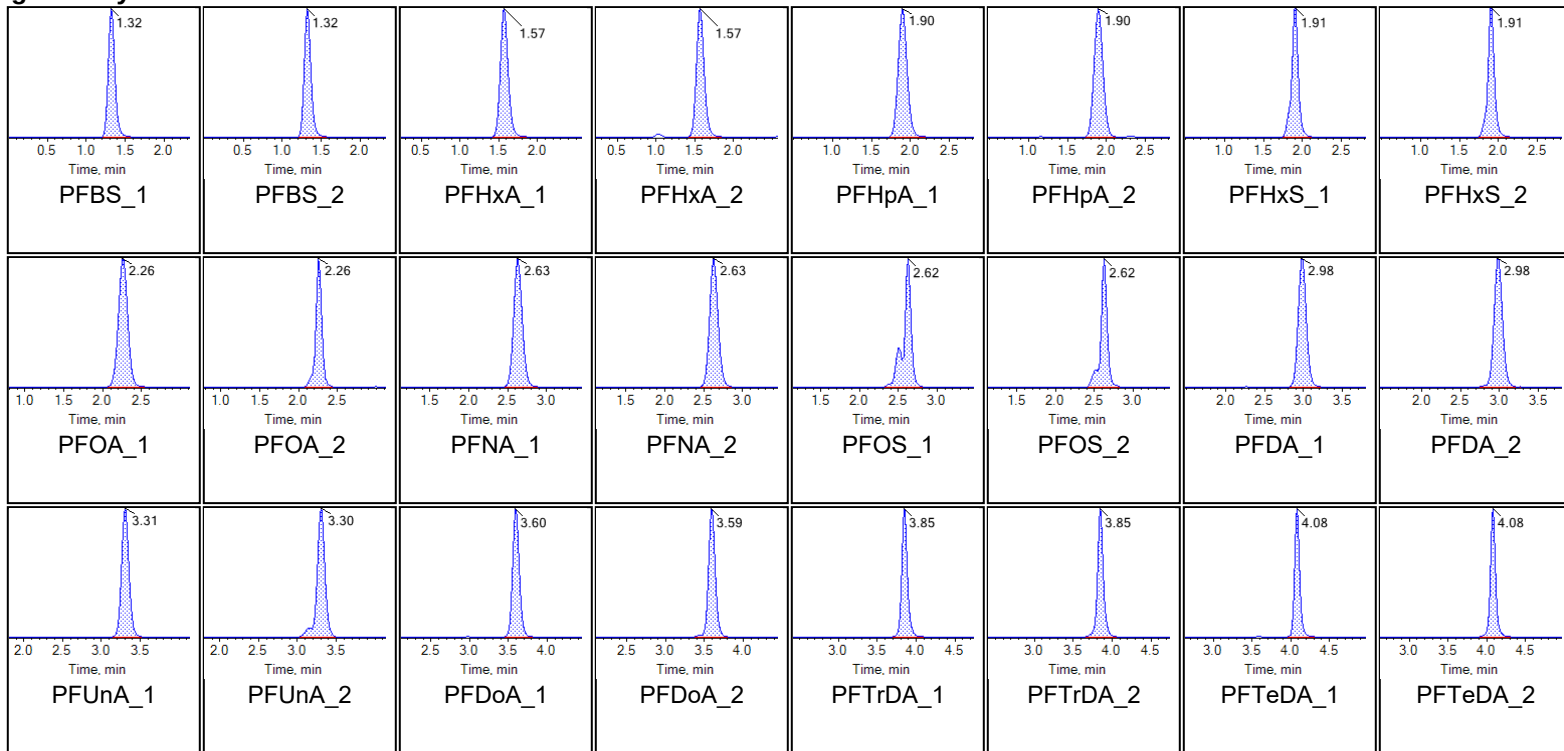
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Sample Name	LD77	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:39:03 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

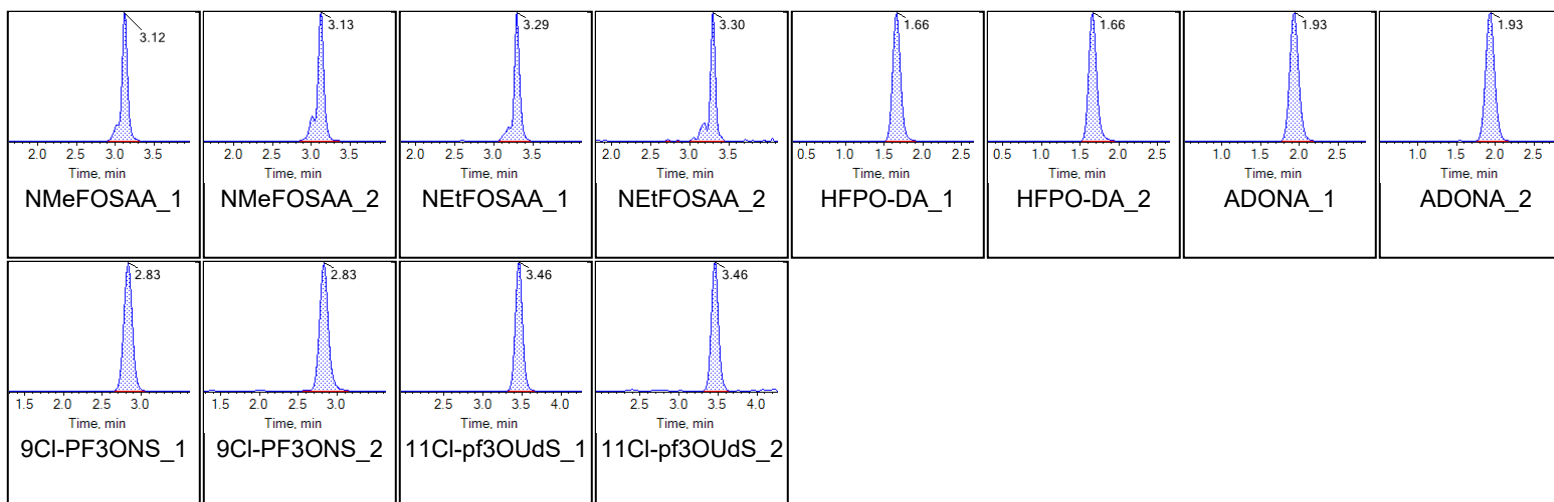
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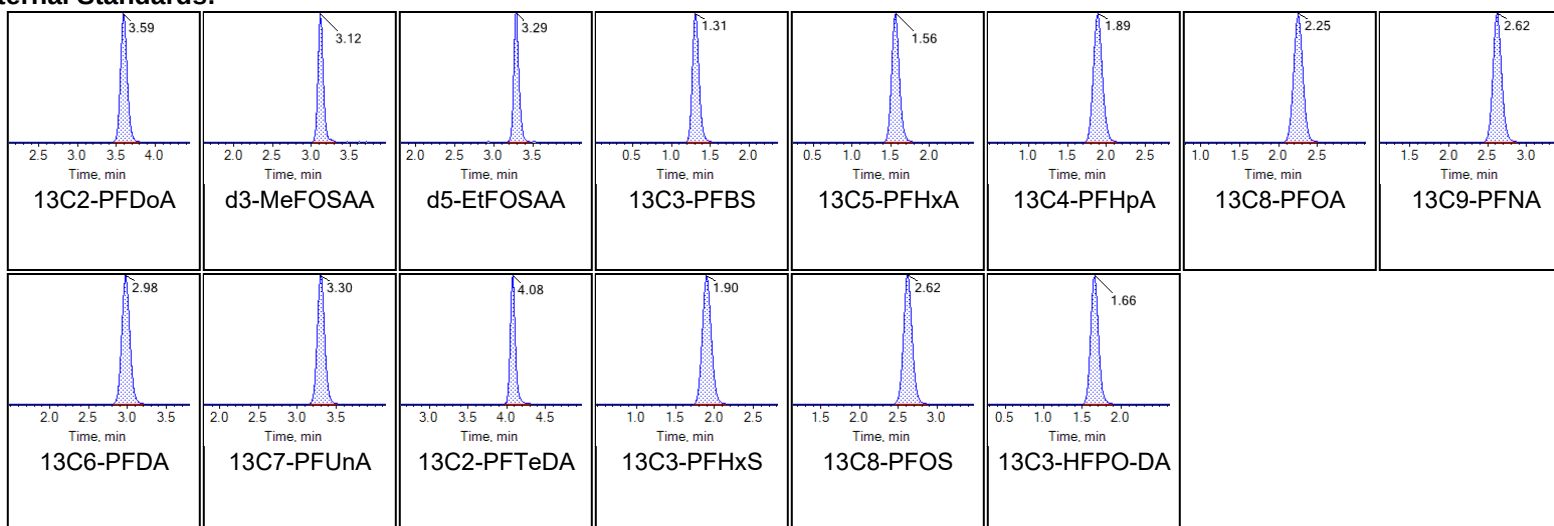


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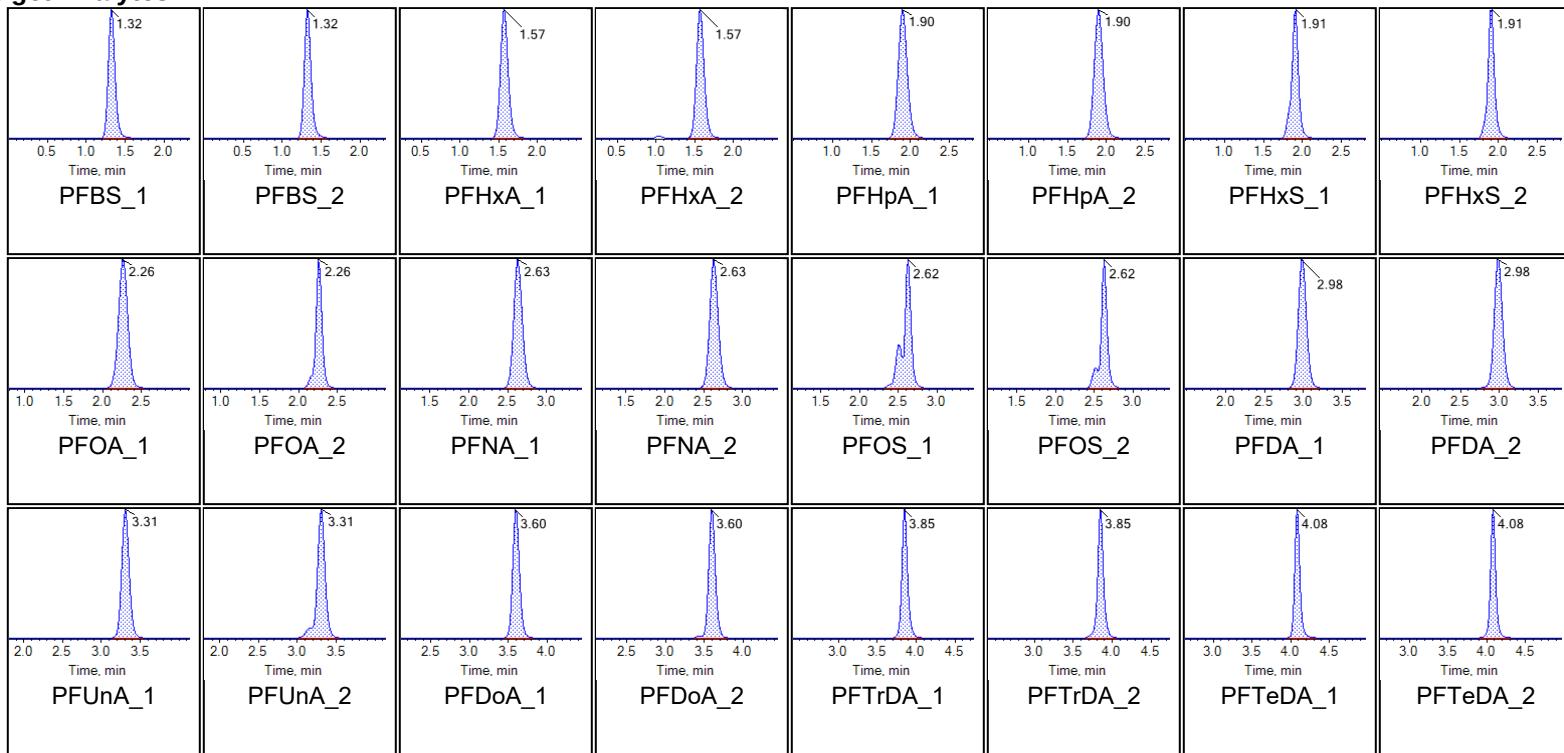
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Sample Name	LD78	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
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Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

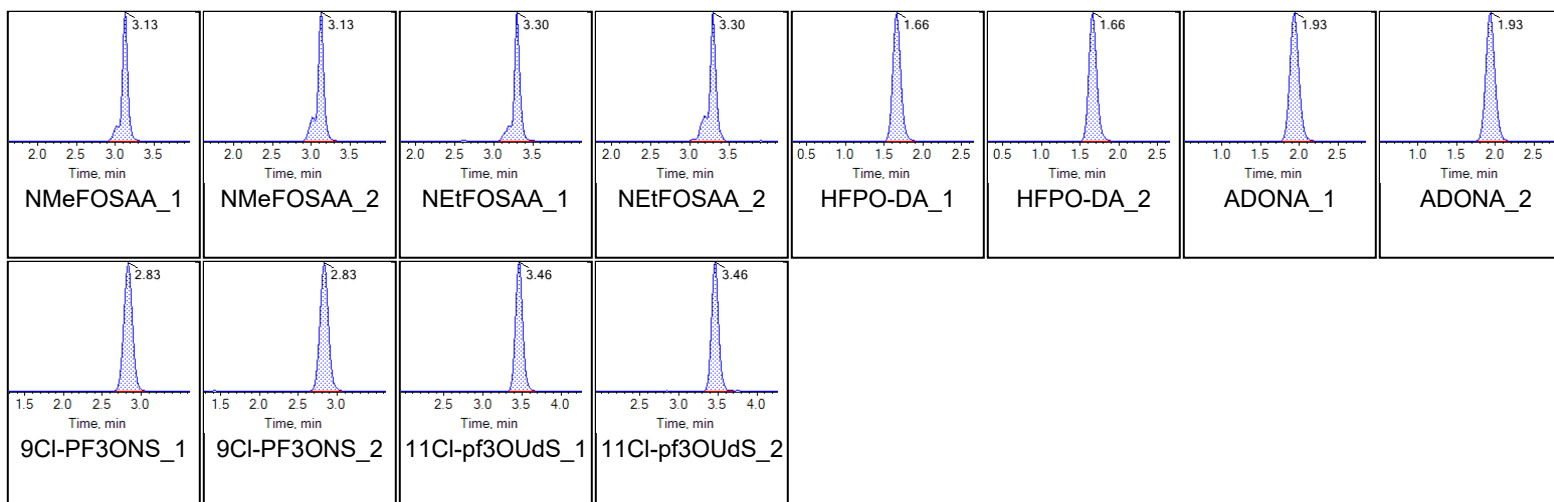
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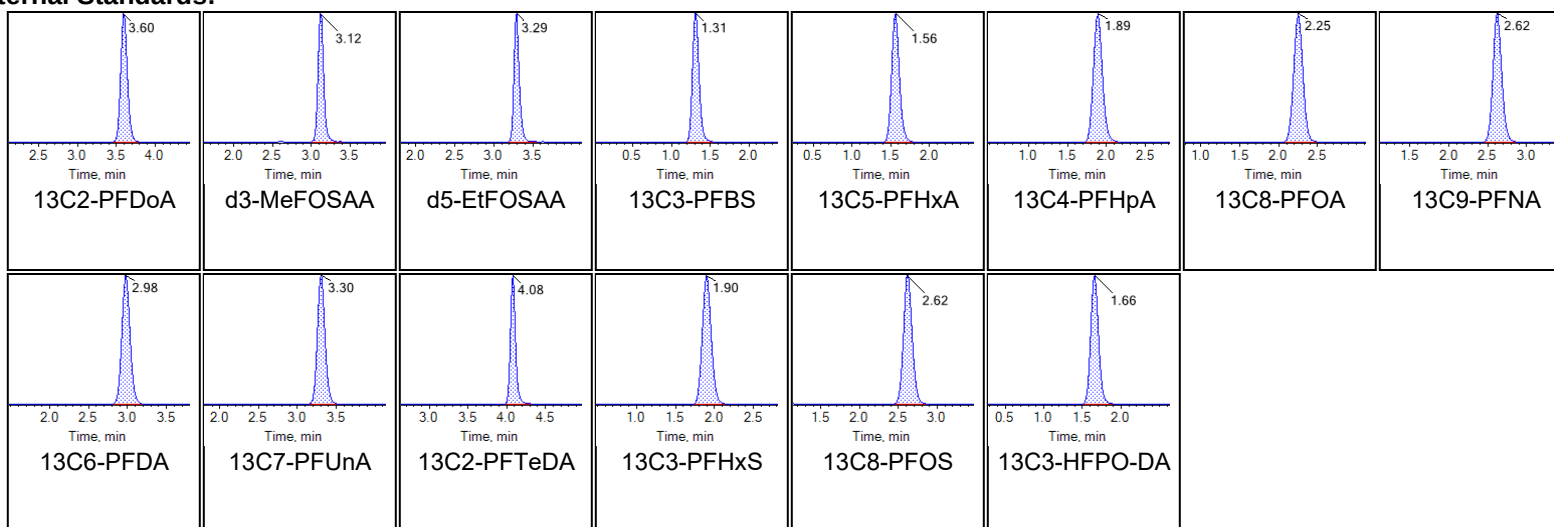


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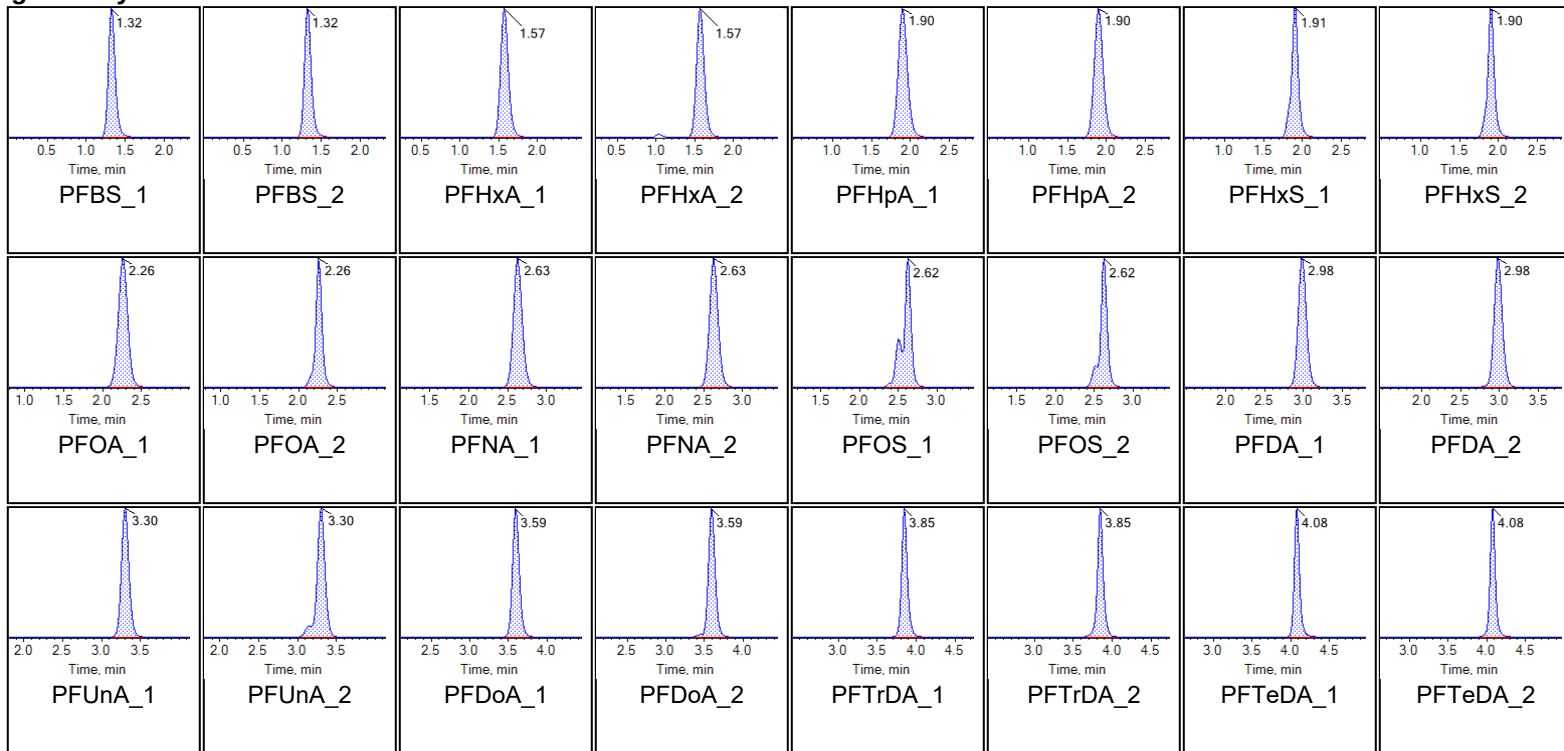
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Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

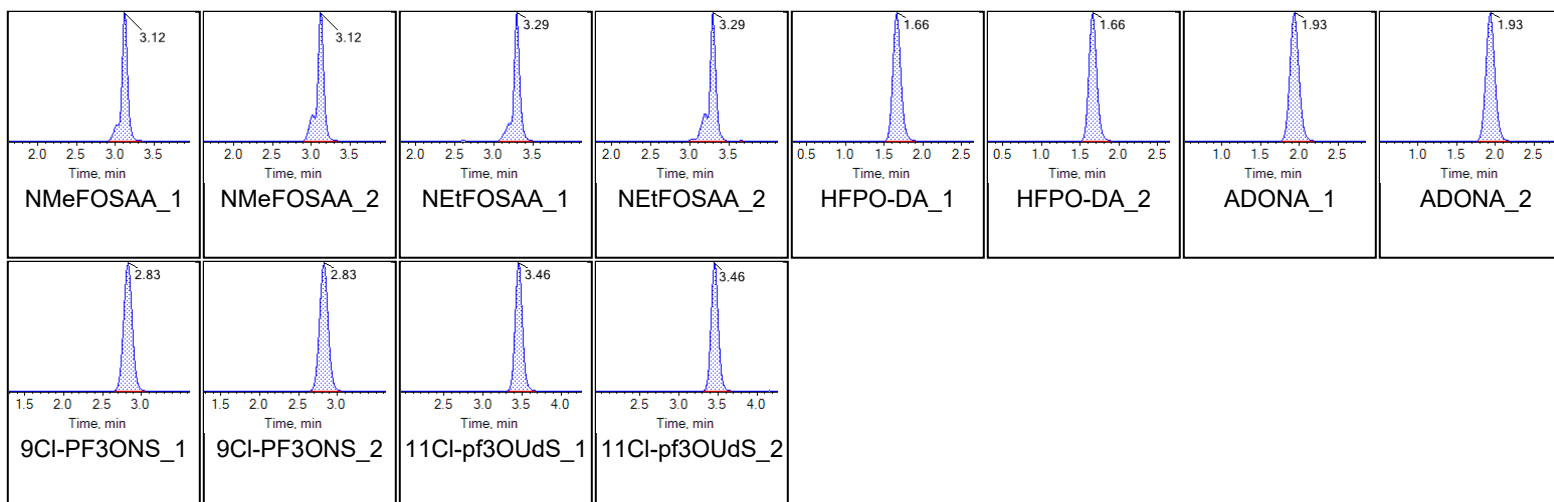
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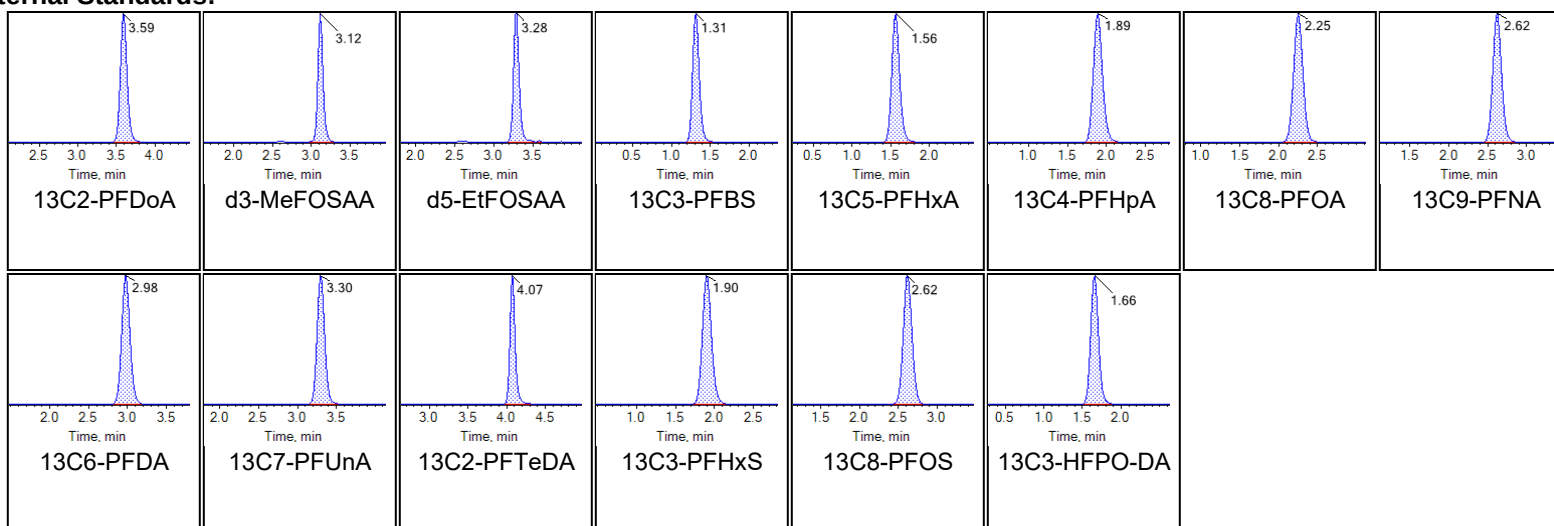


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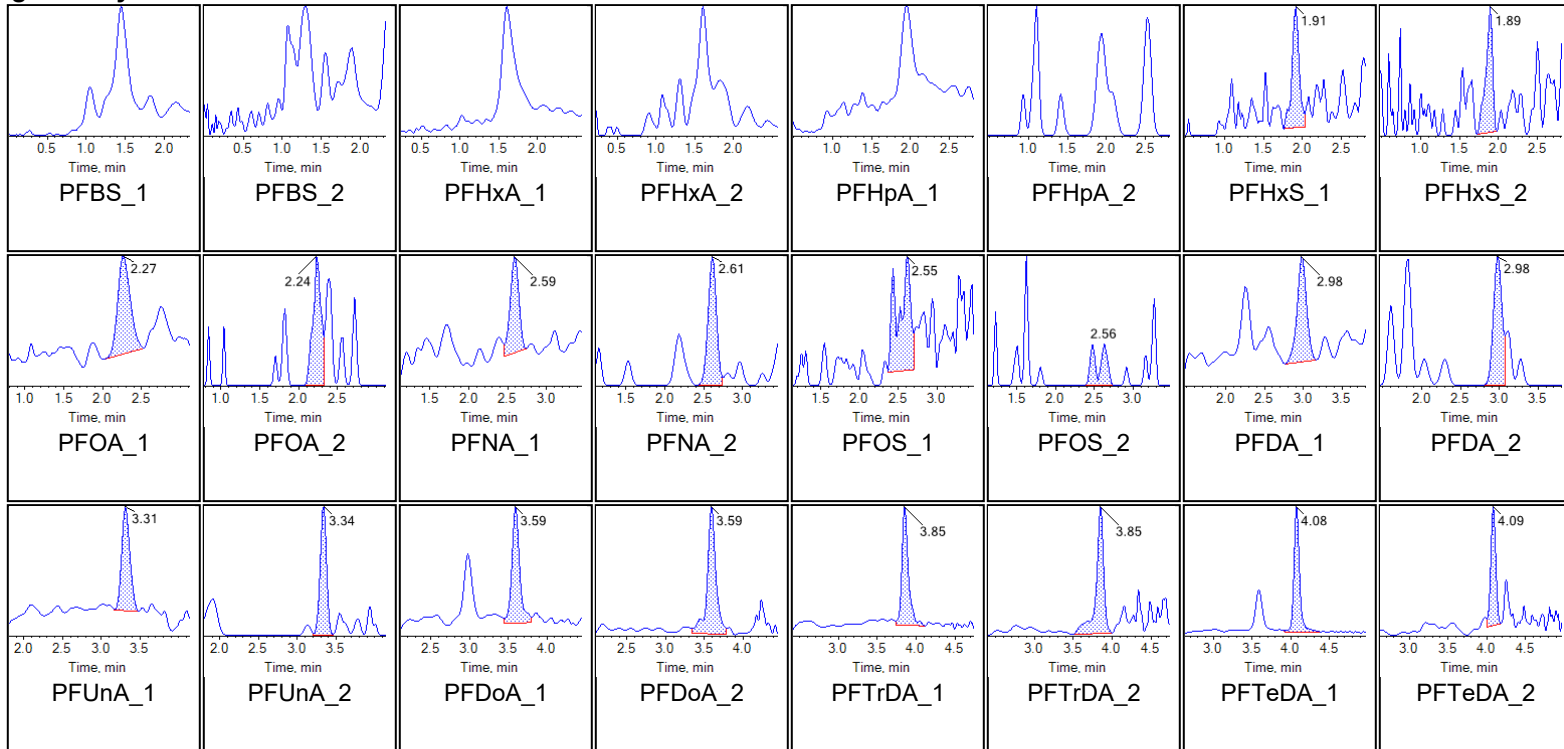
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Sample Name	LD80 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:10:26 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

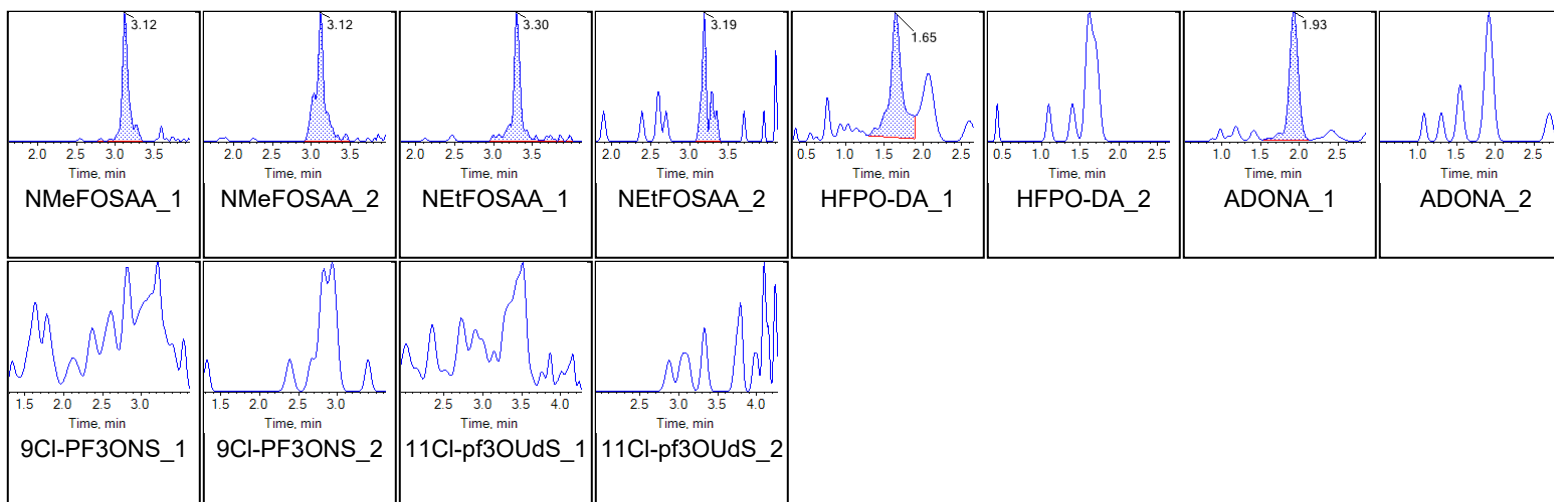
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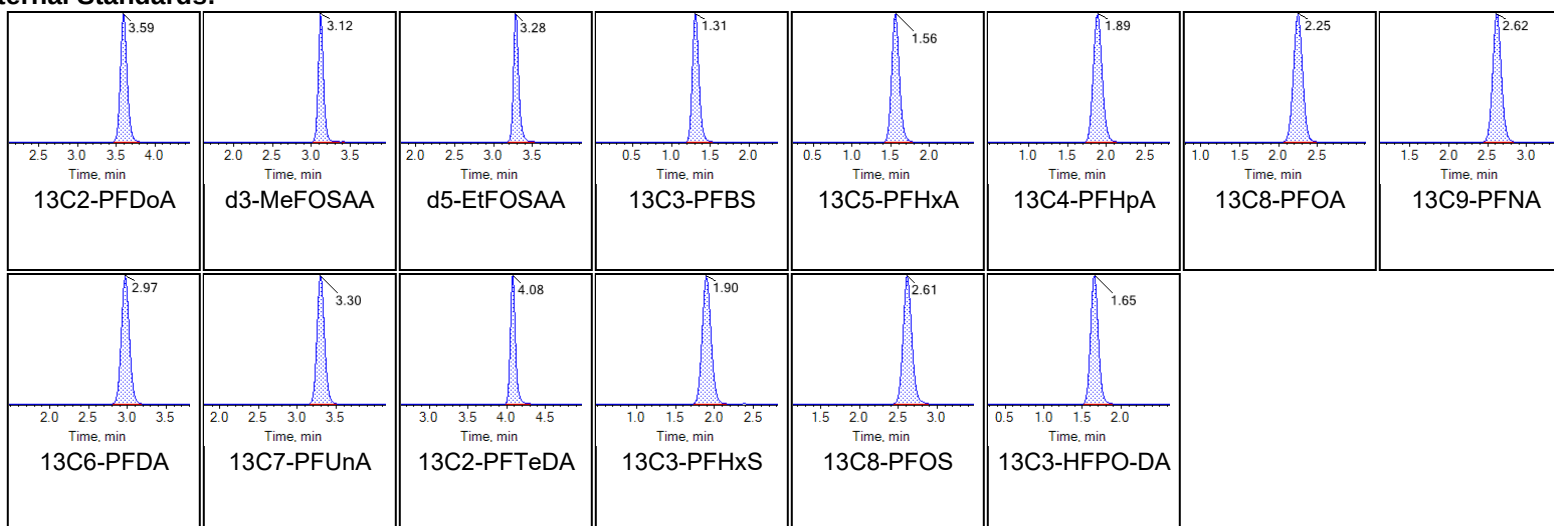


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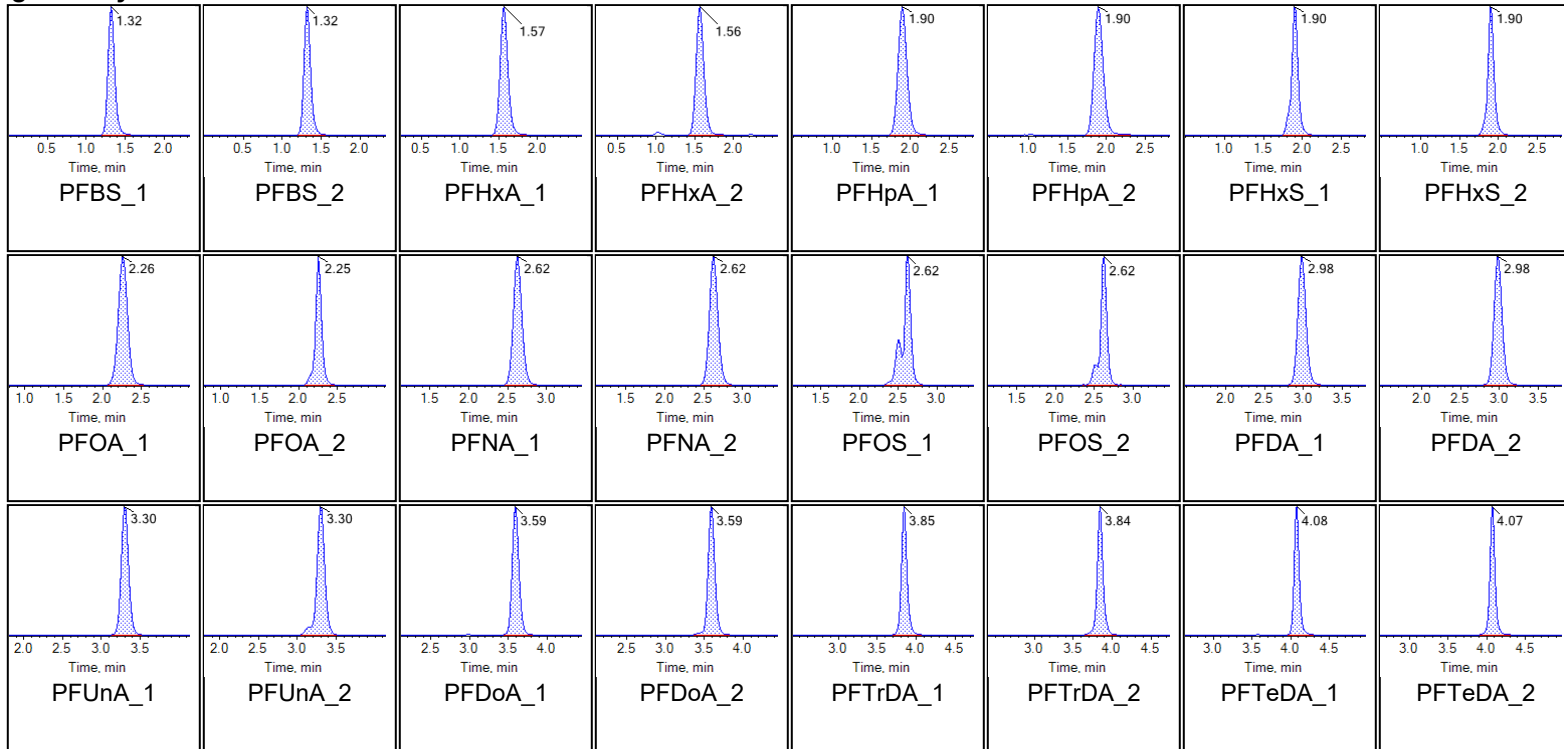
Chromatogram Report

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Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

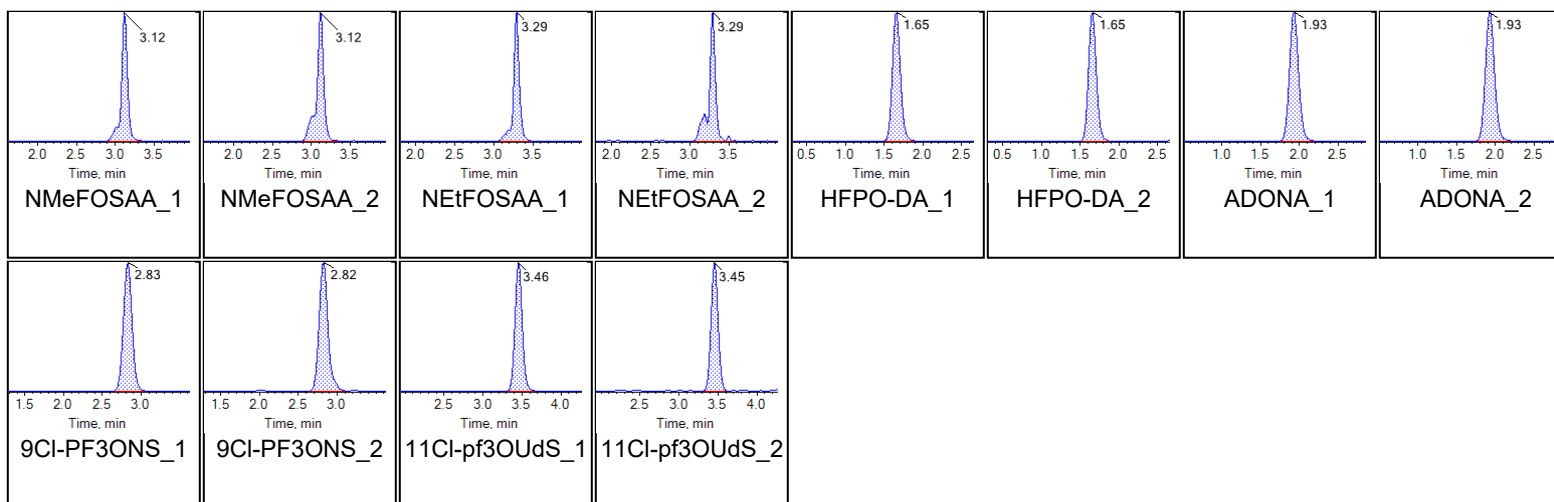
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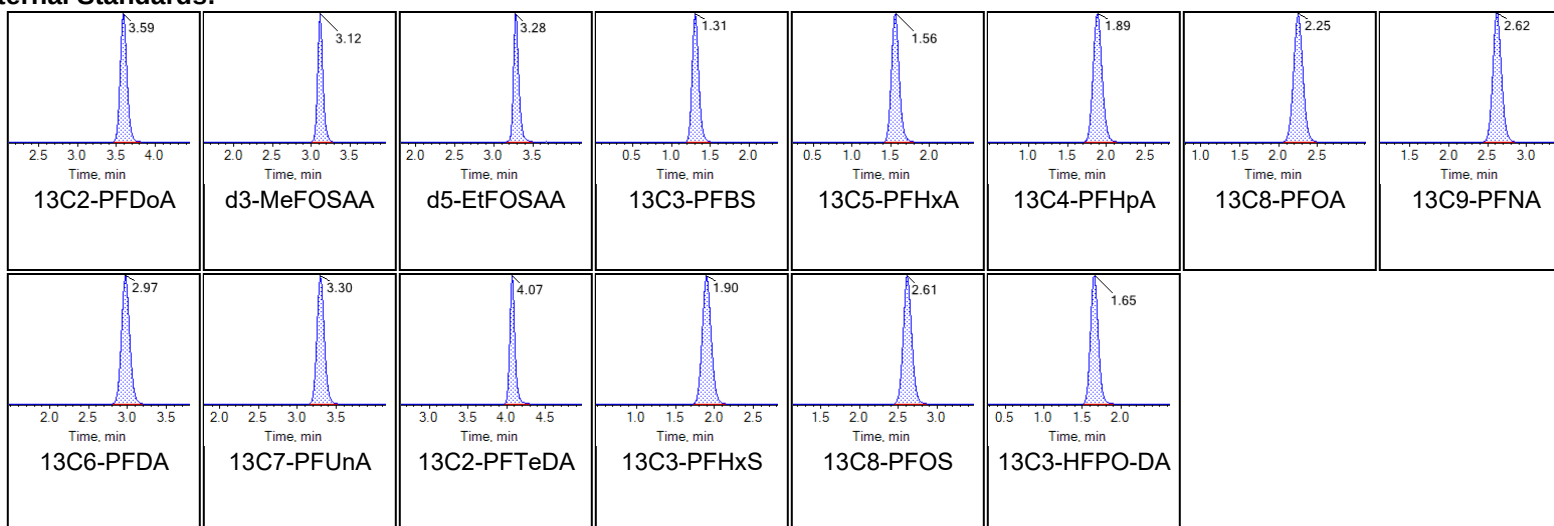


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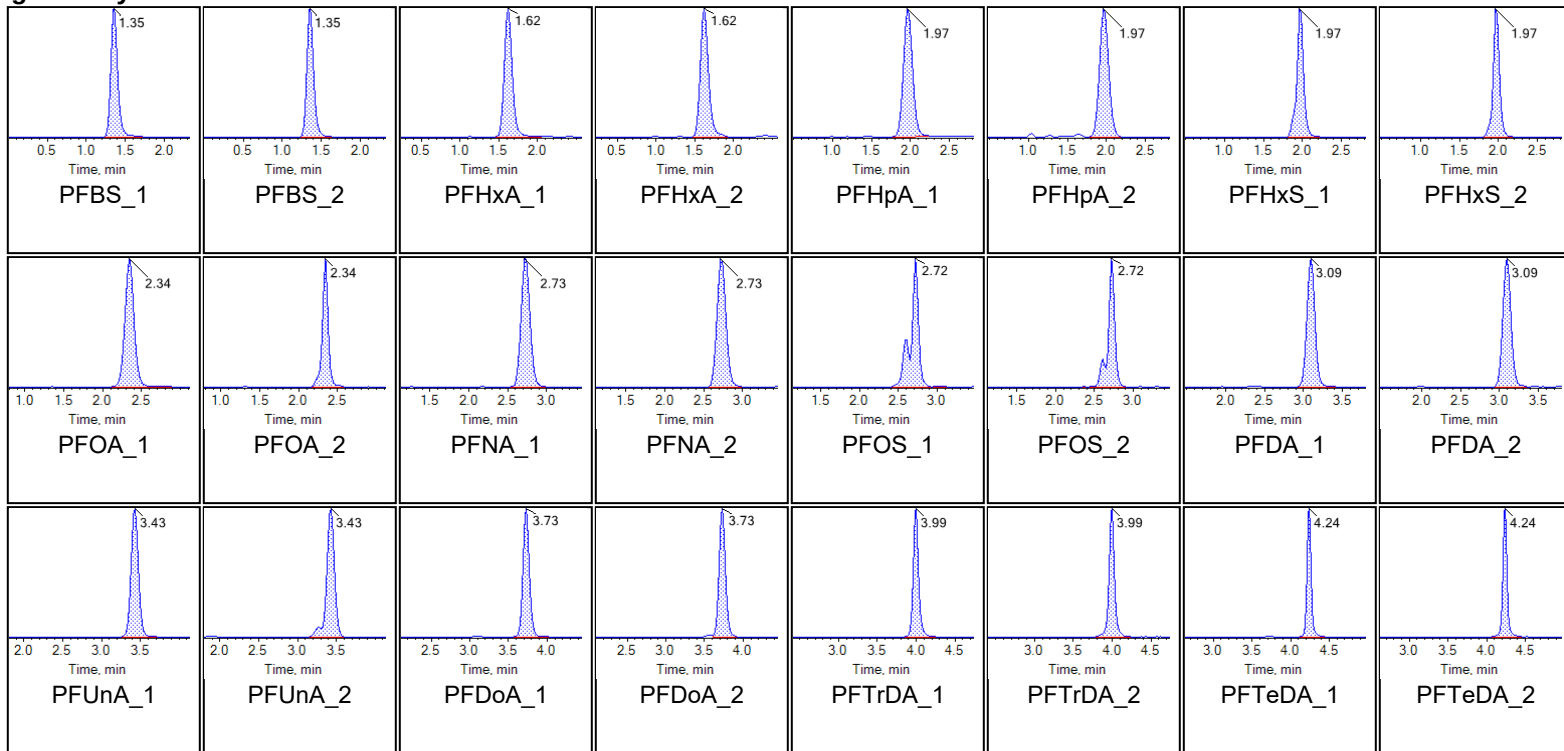
Chromatogram Report

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Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

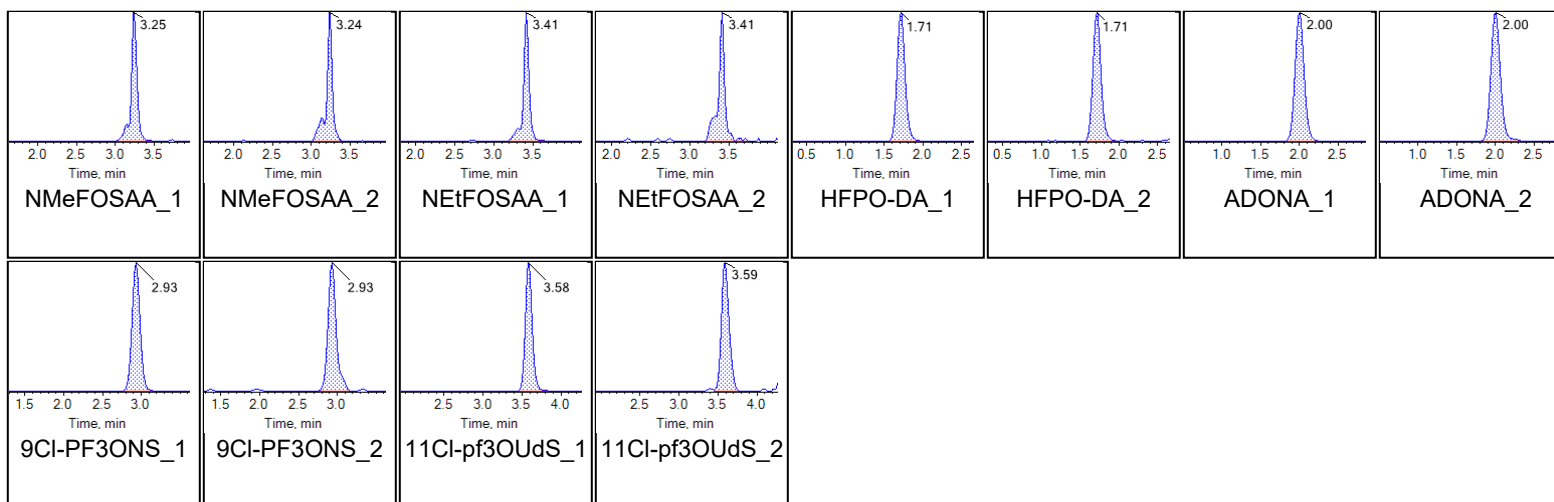
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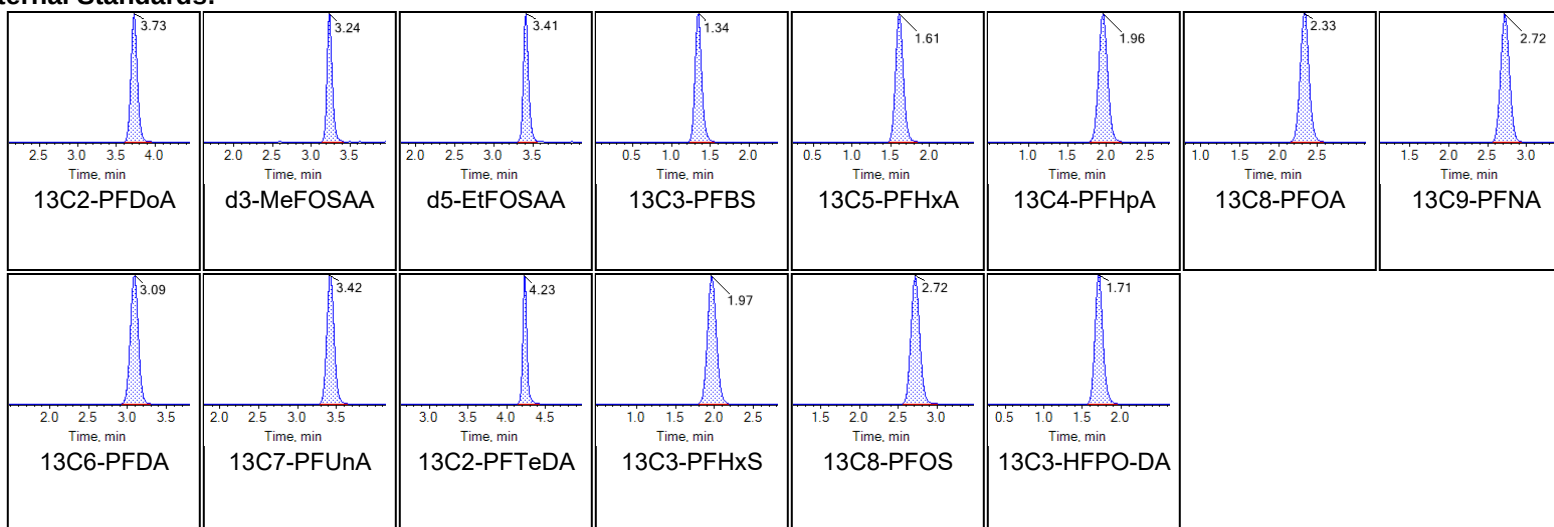


Chromatogram Report

Created with Analyst Reporter
Printed: 03/11/2020 1:28:53 PM



Internal Standards:





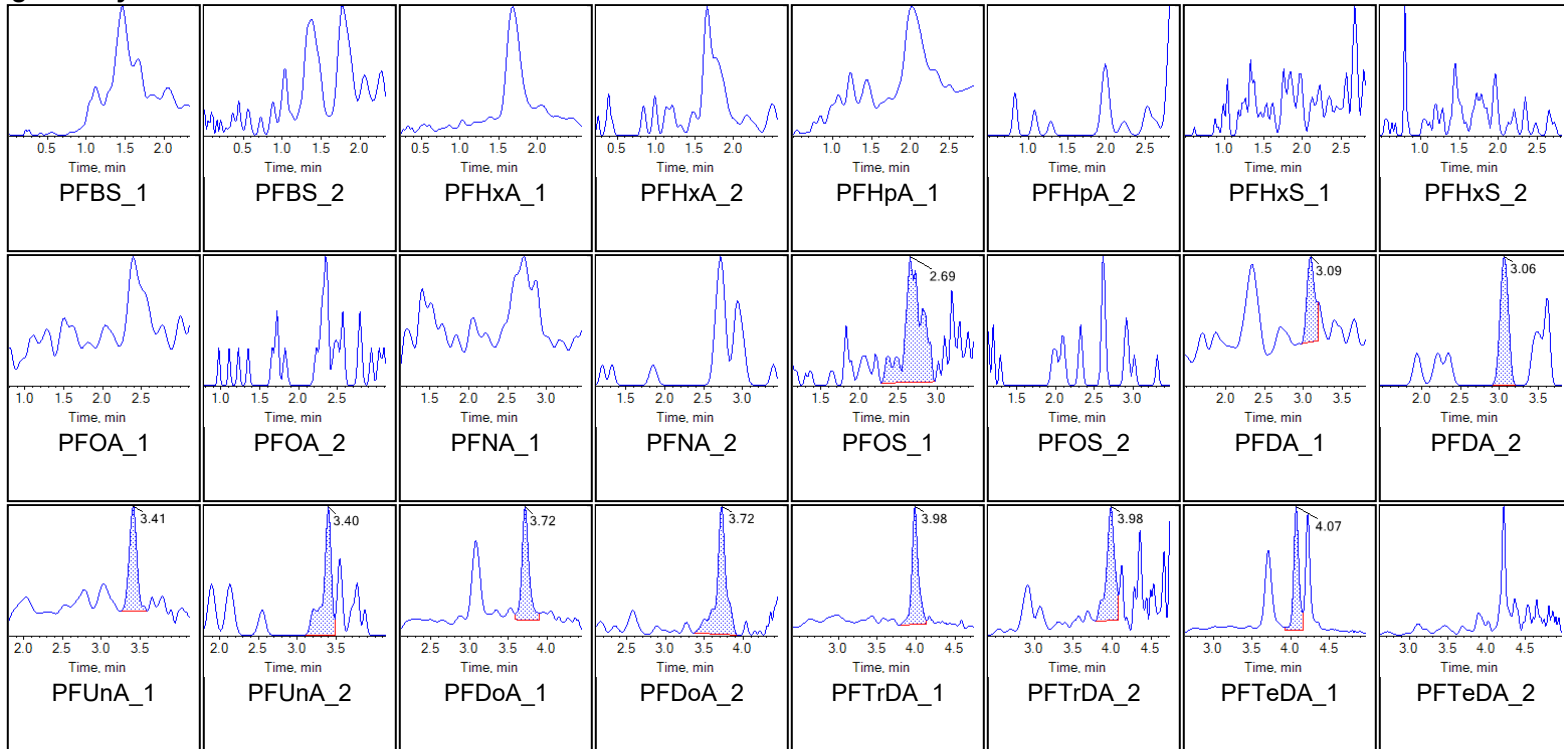
Chromatogram Report

Created with Analyst Reporter
Printed: 03/11/2020 1:28:53 PM

Sample Name	LD80 IB	Injection Vial	4
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:55:12 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

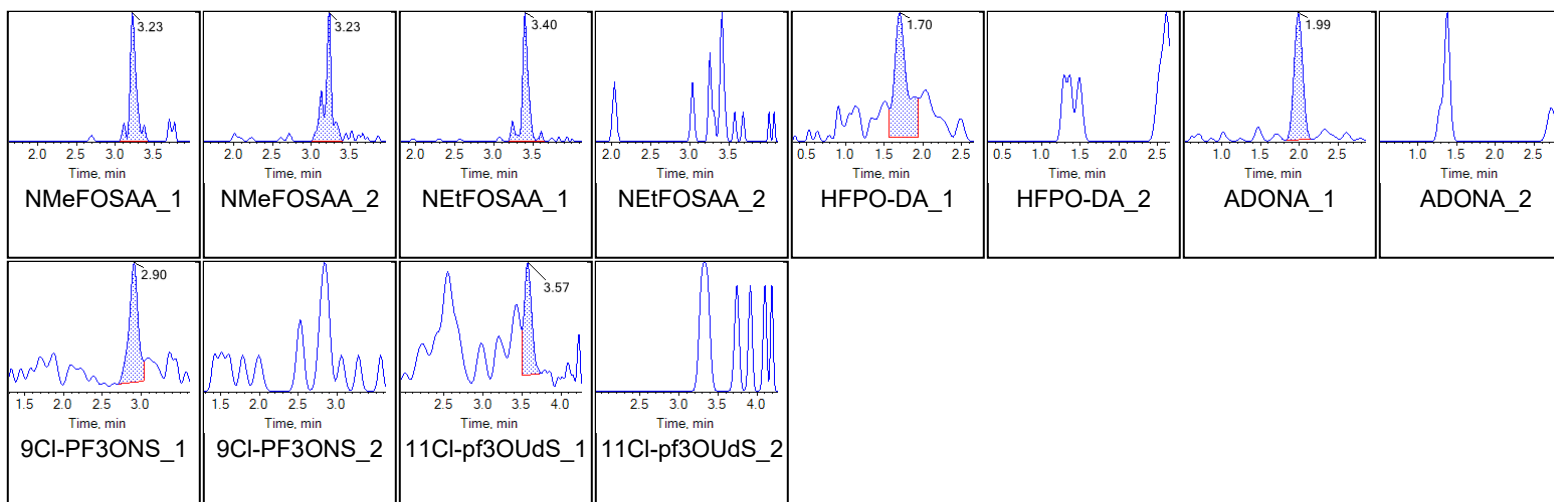
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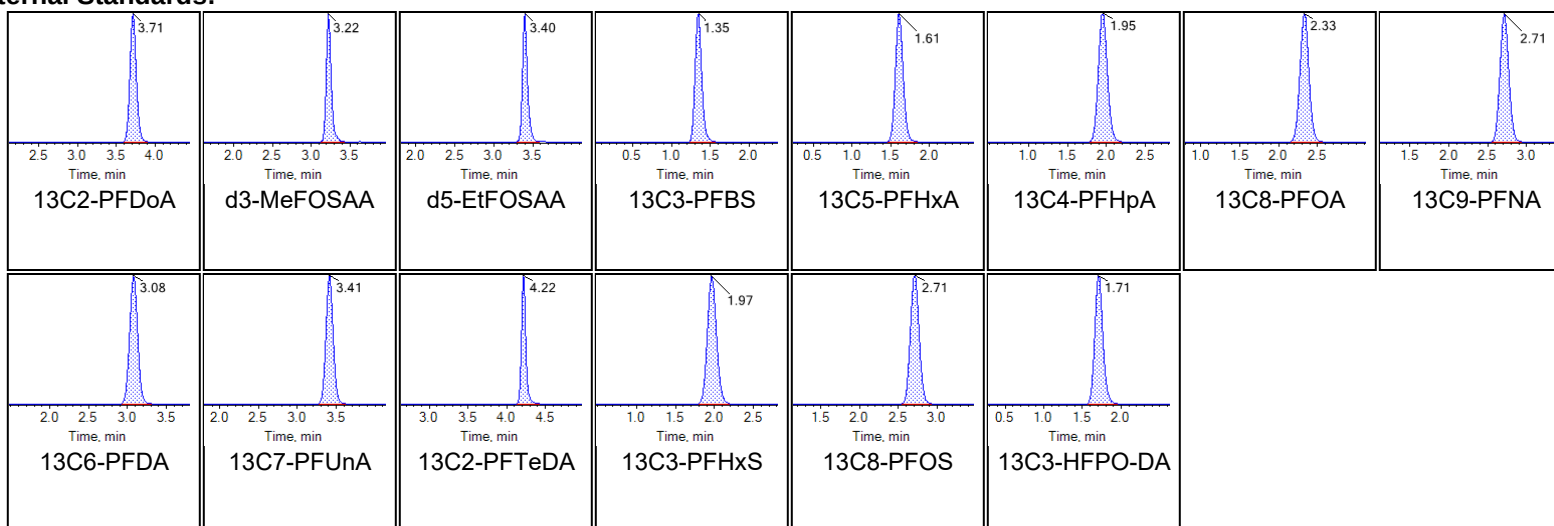


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Internal Standards:





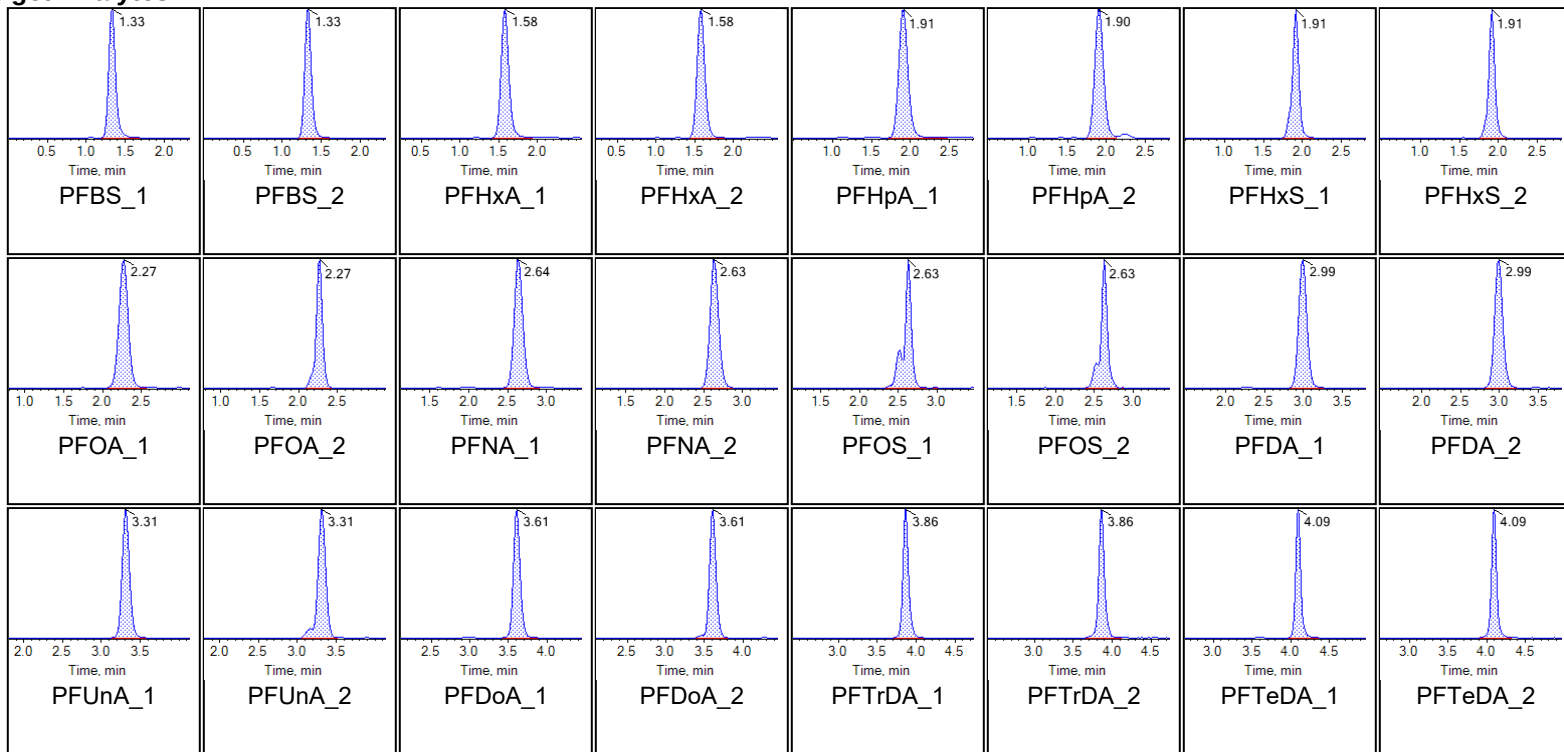
Chromatogram Report

Created with Analyst Reporter
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Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
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Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

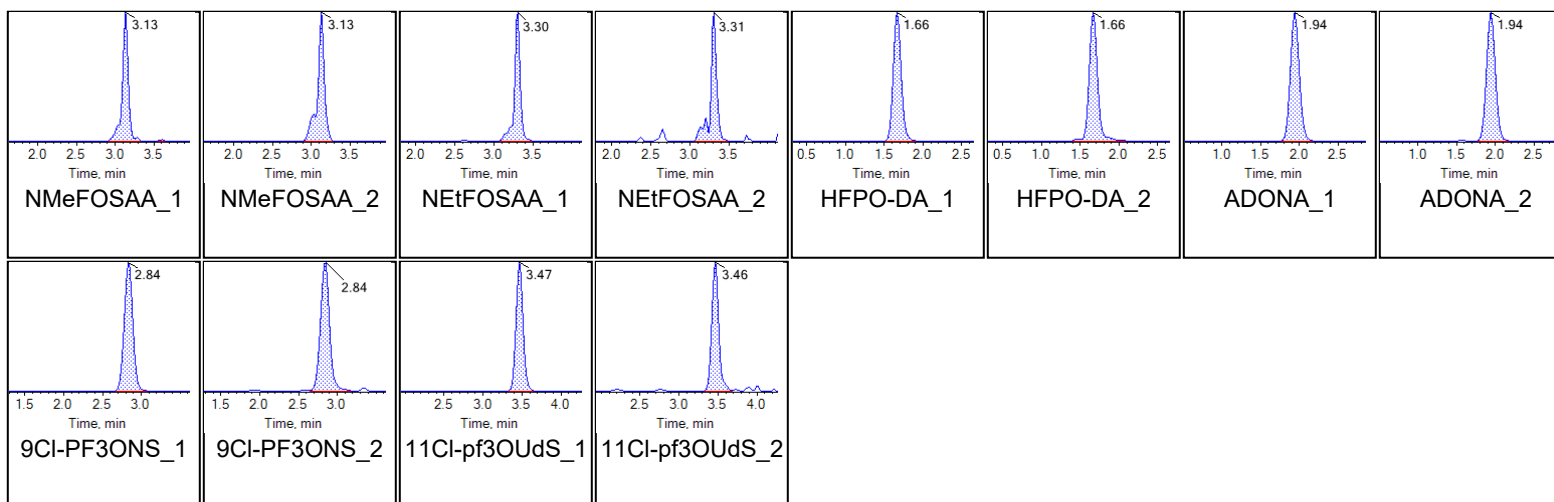
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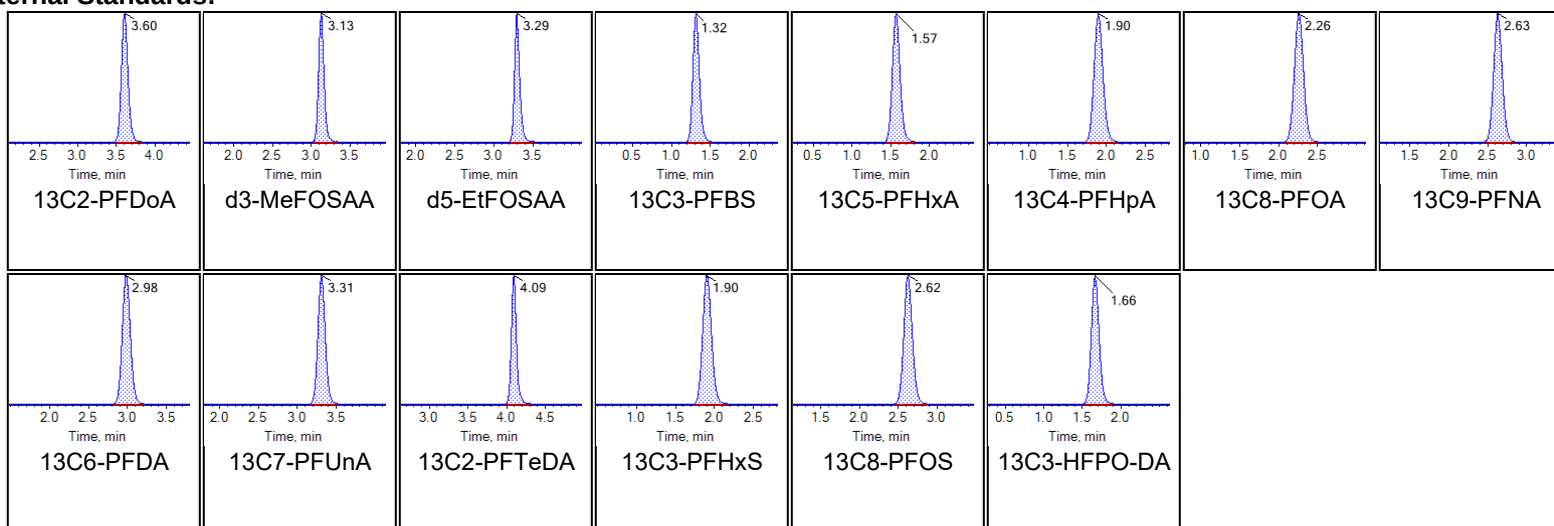


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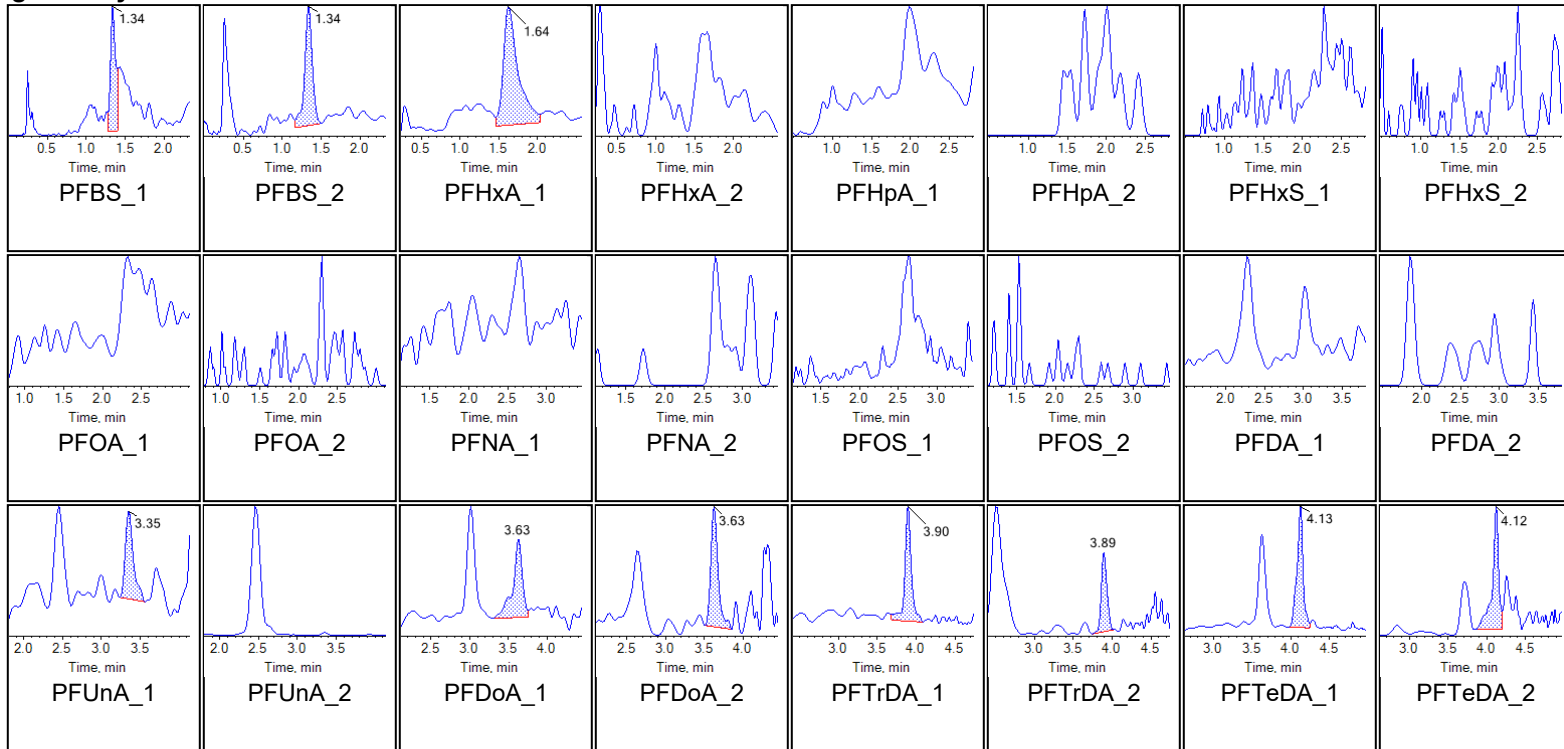
Chromatogram Report

Created with Analyst Reporter
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Sample Name	DA889PB-FS(3)	Injection Vial	21
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
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Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

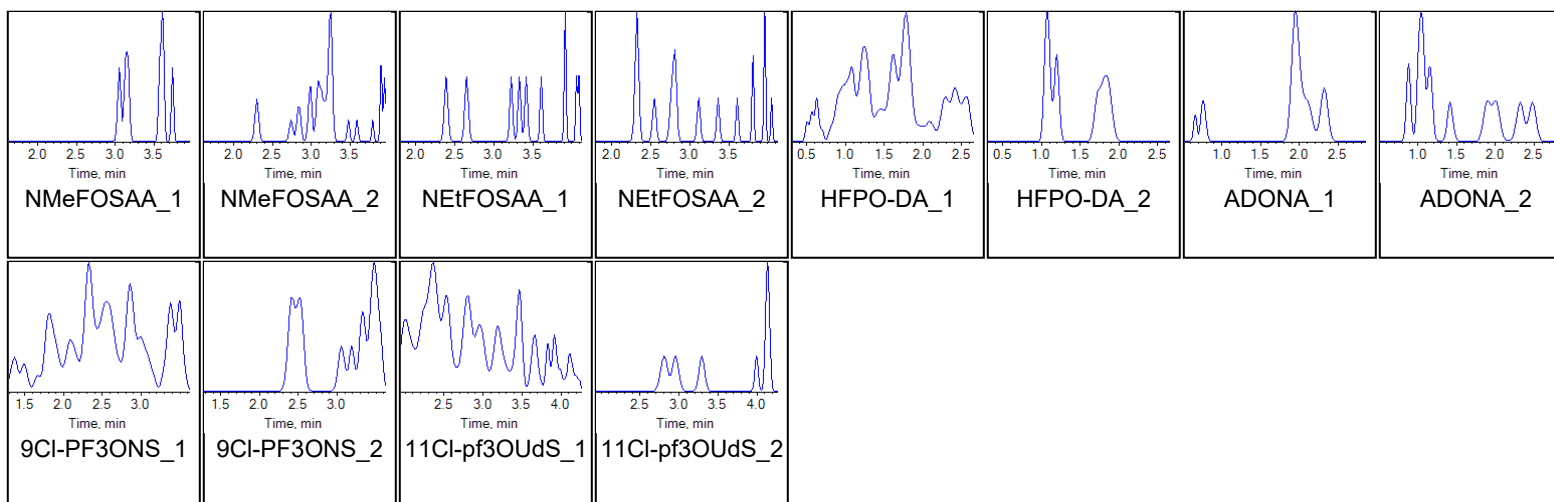
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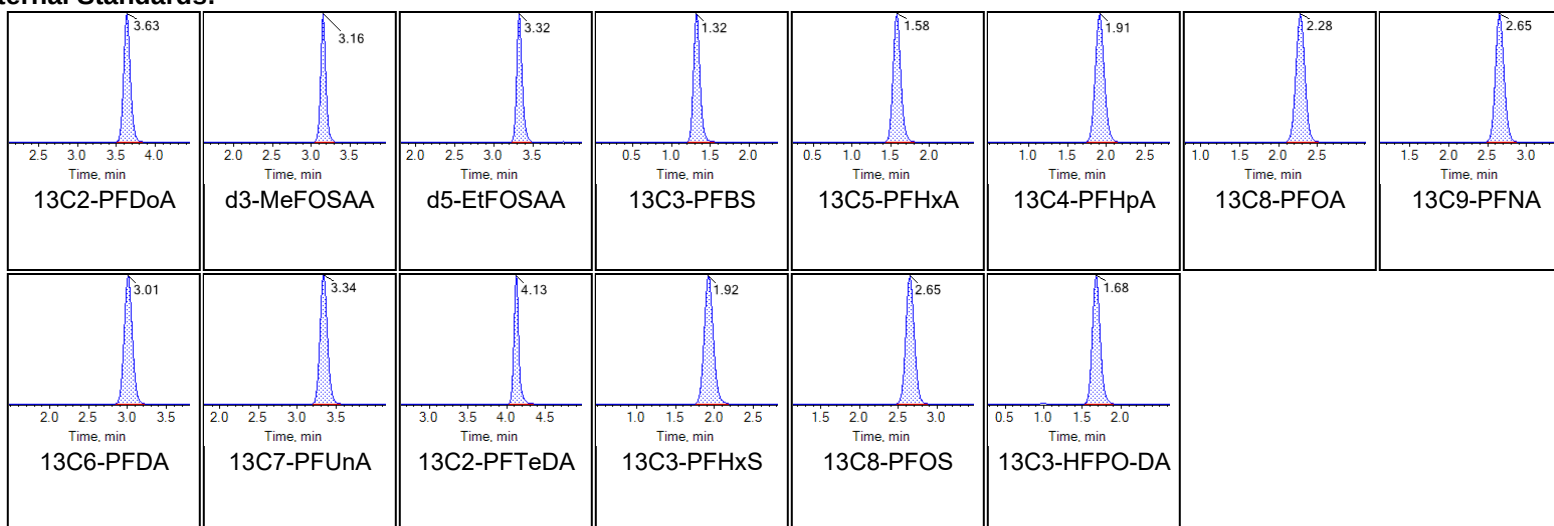


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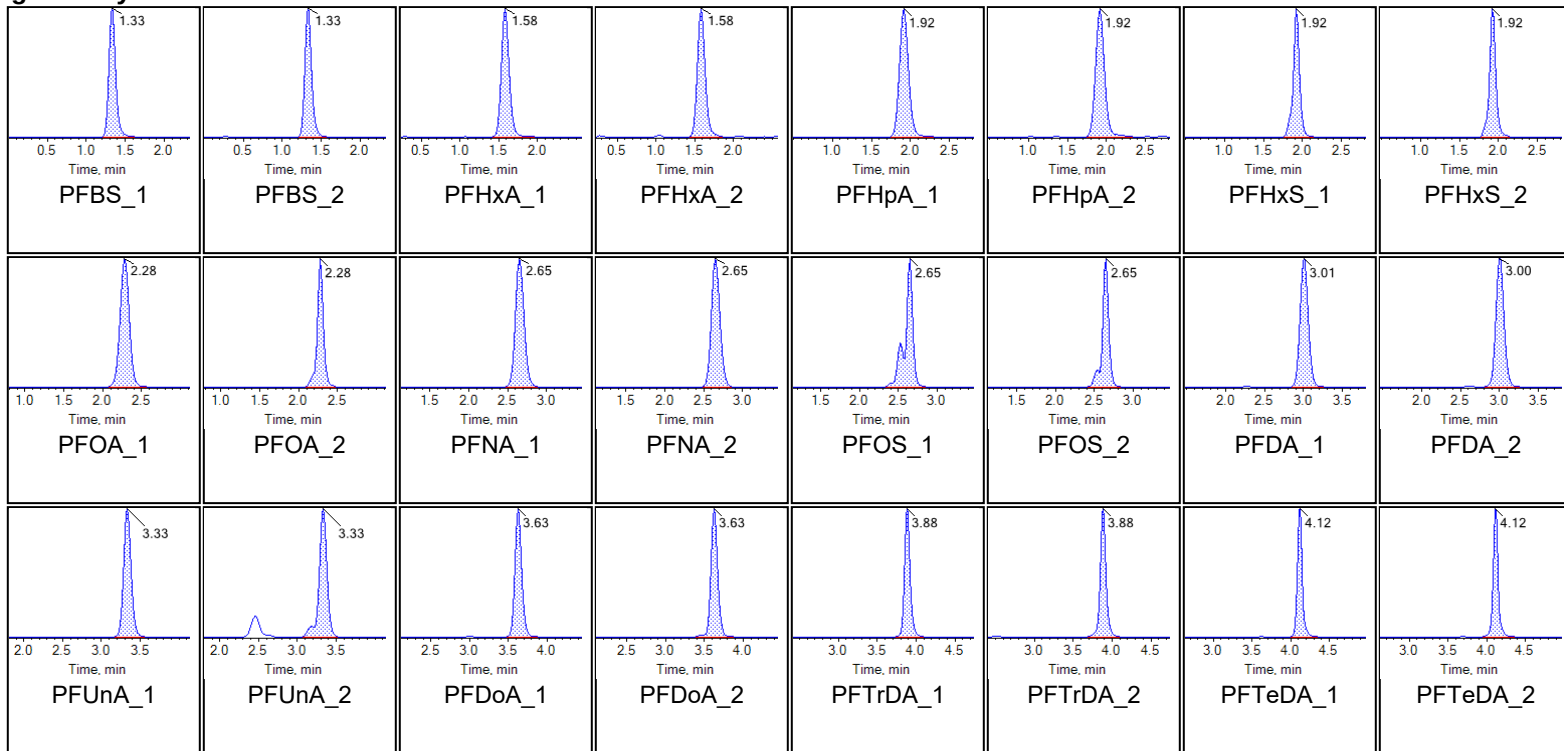
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Sample Name	DA890LCS-FS(3)	Injection Vial	22
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:53:24 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

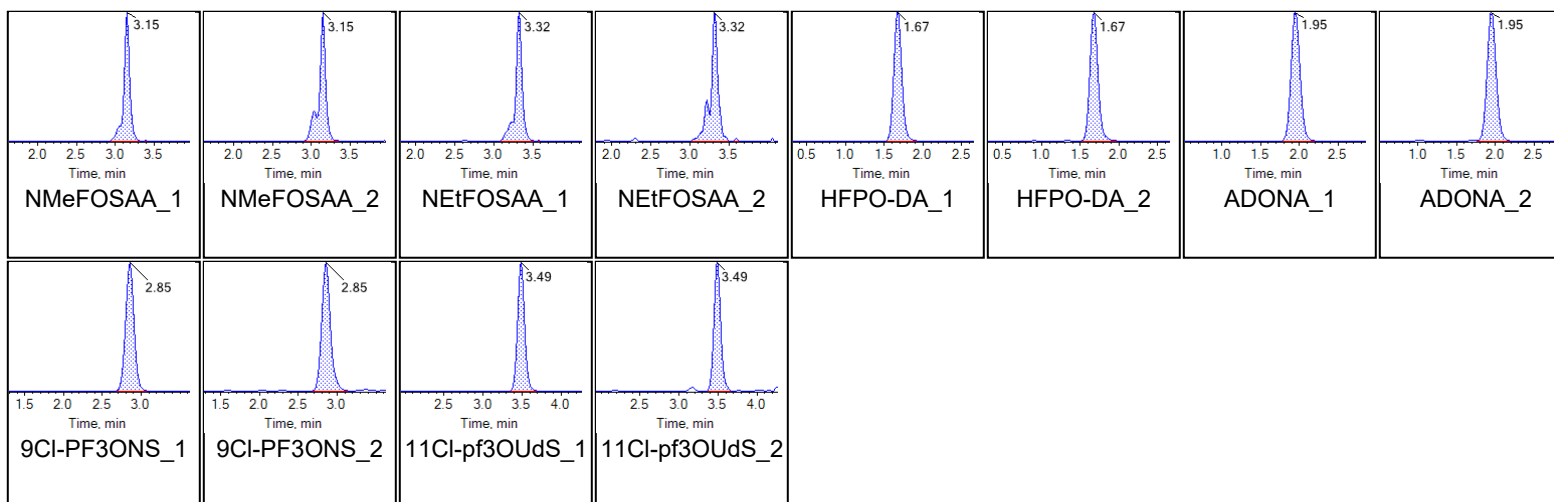
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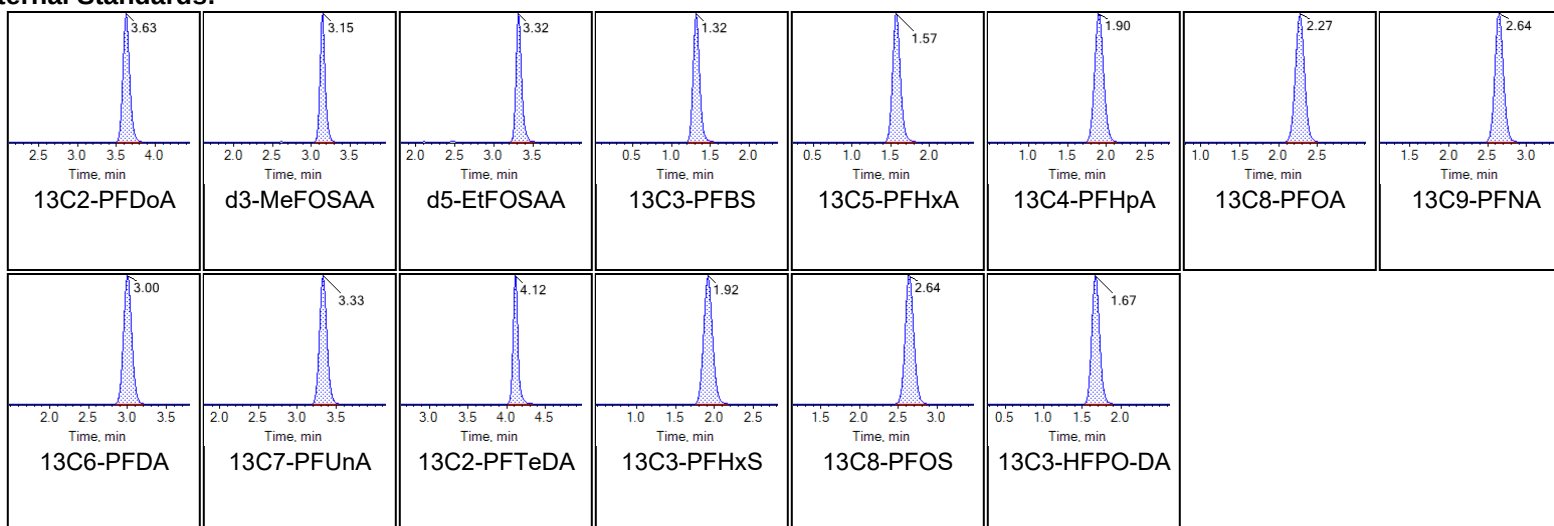


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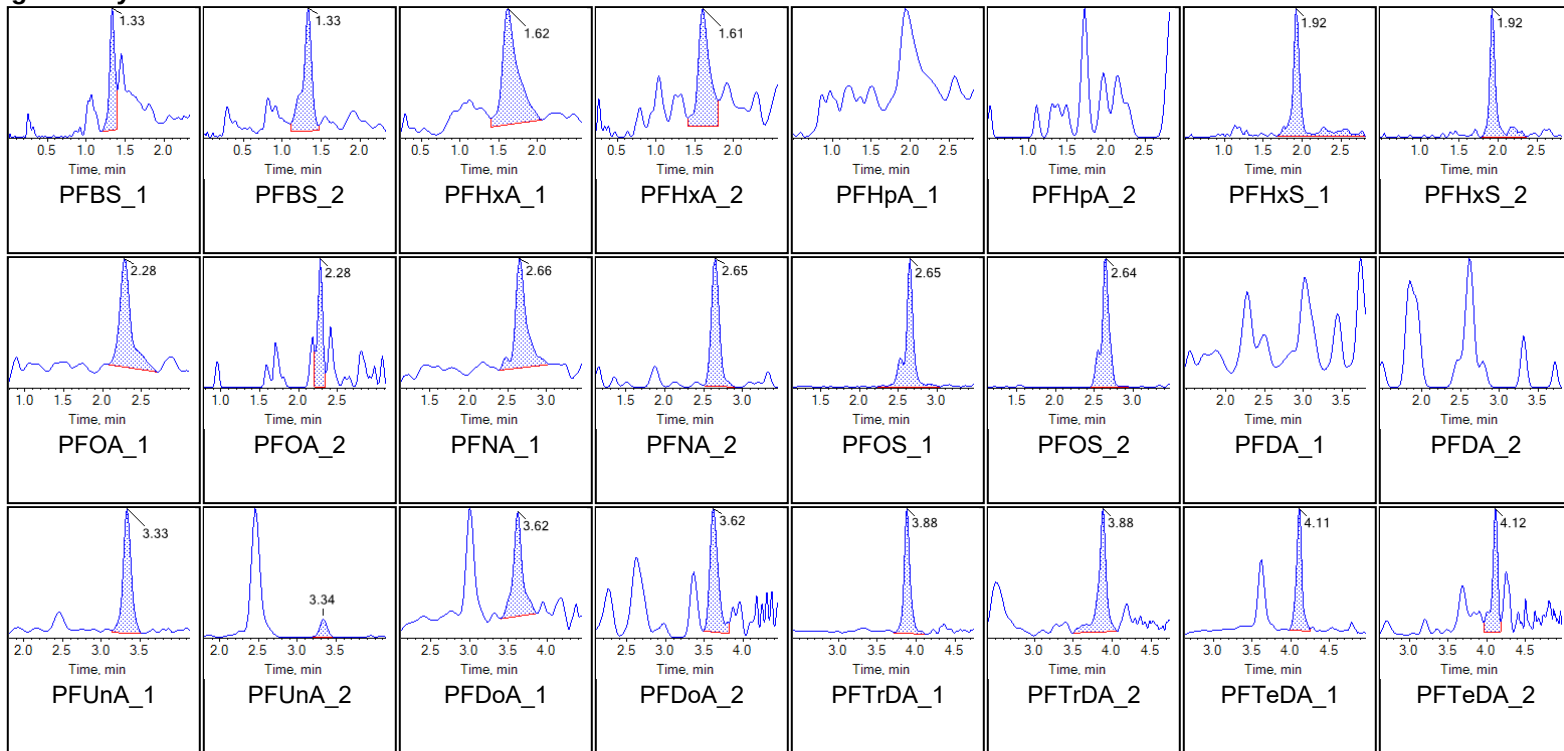
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Sample Name	G1648-FS(3)	Injection Vial	23
Sample ID	CBD-AOA-SD04-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:03:52 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

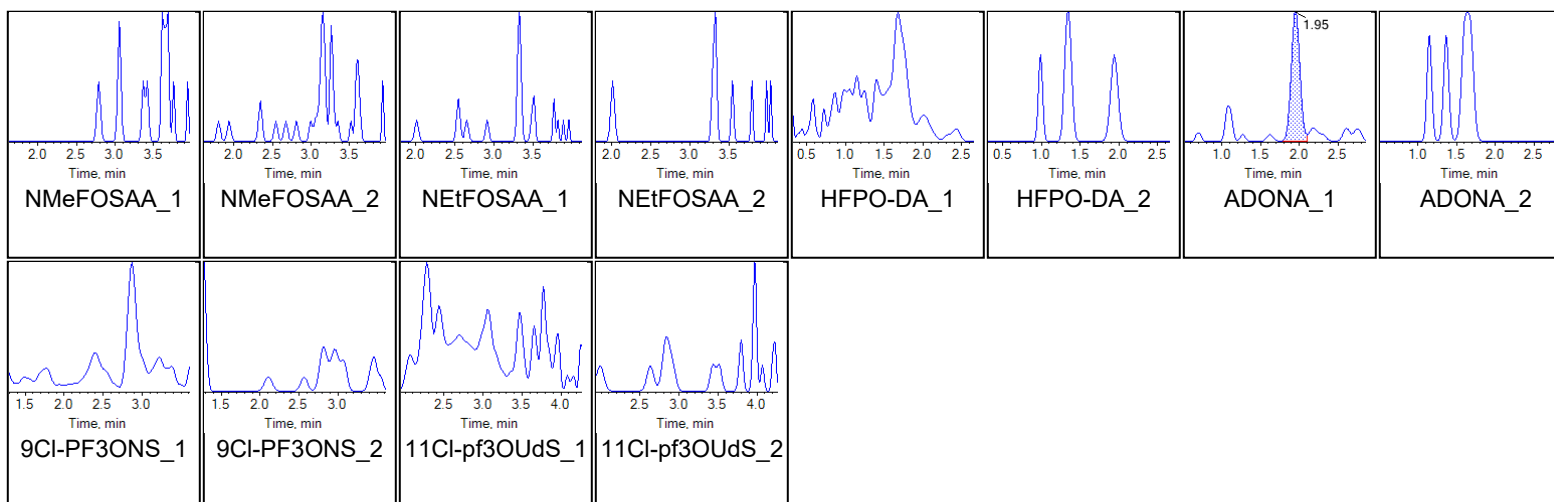
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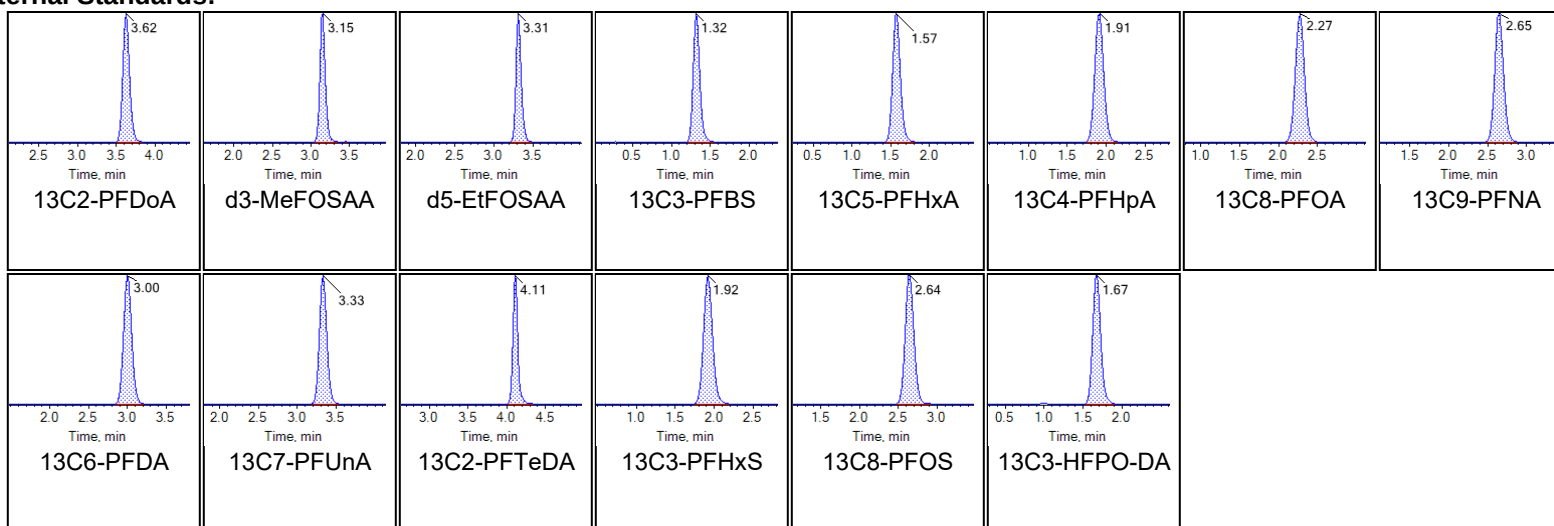


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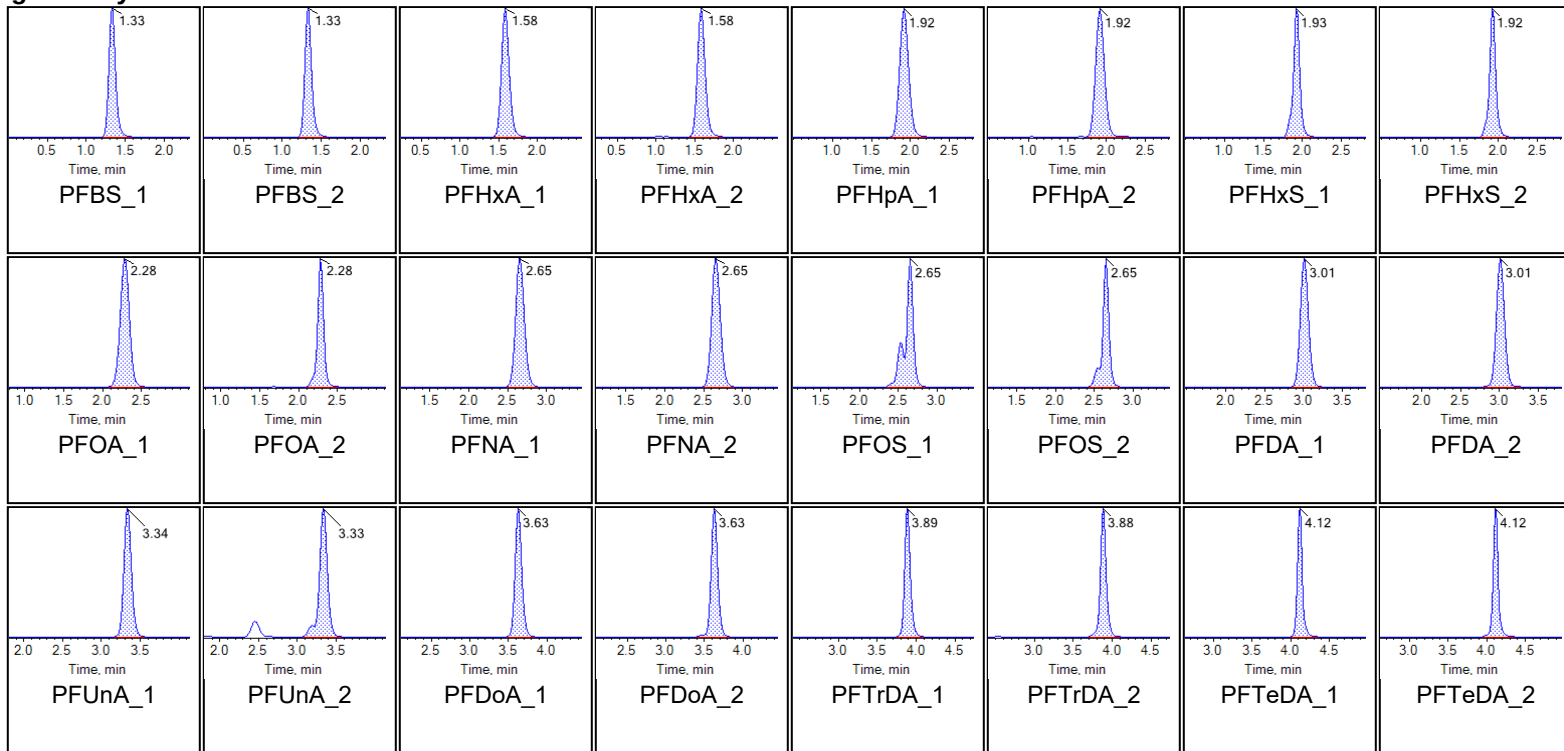
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Sample Name	G1649MS-FS(3)	Injection Vial	24
Sample ID	CBD-AOA-SD04-000H-MS	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
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Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

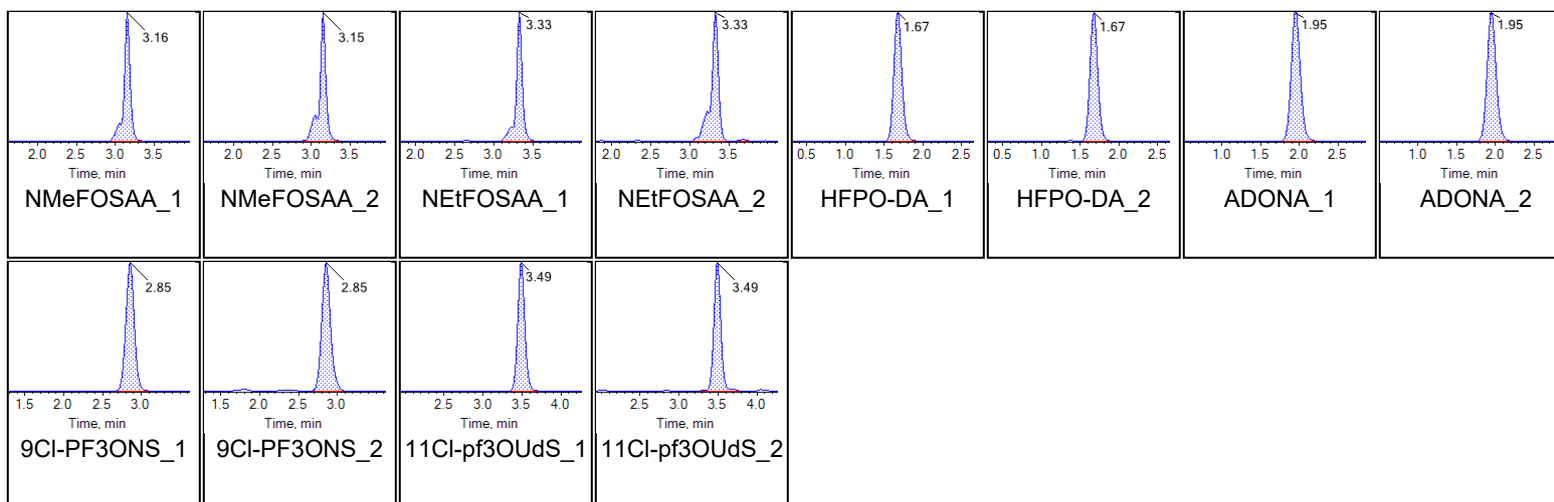
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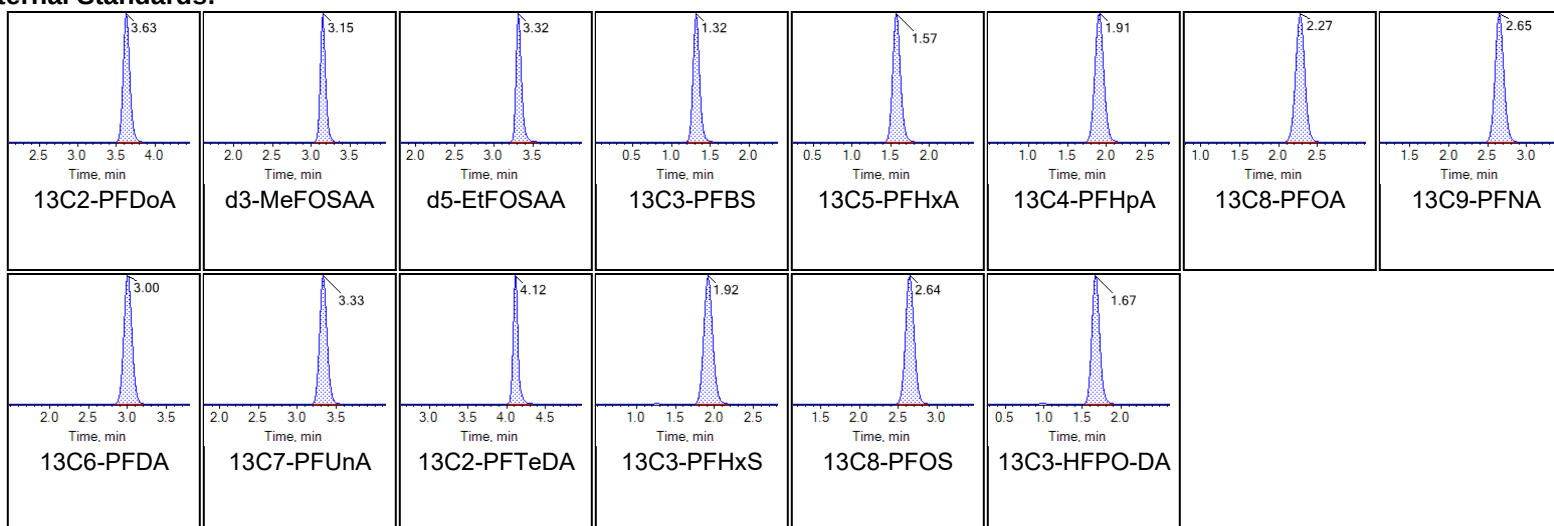


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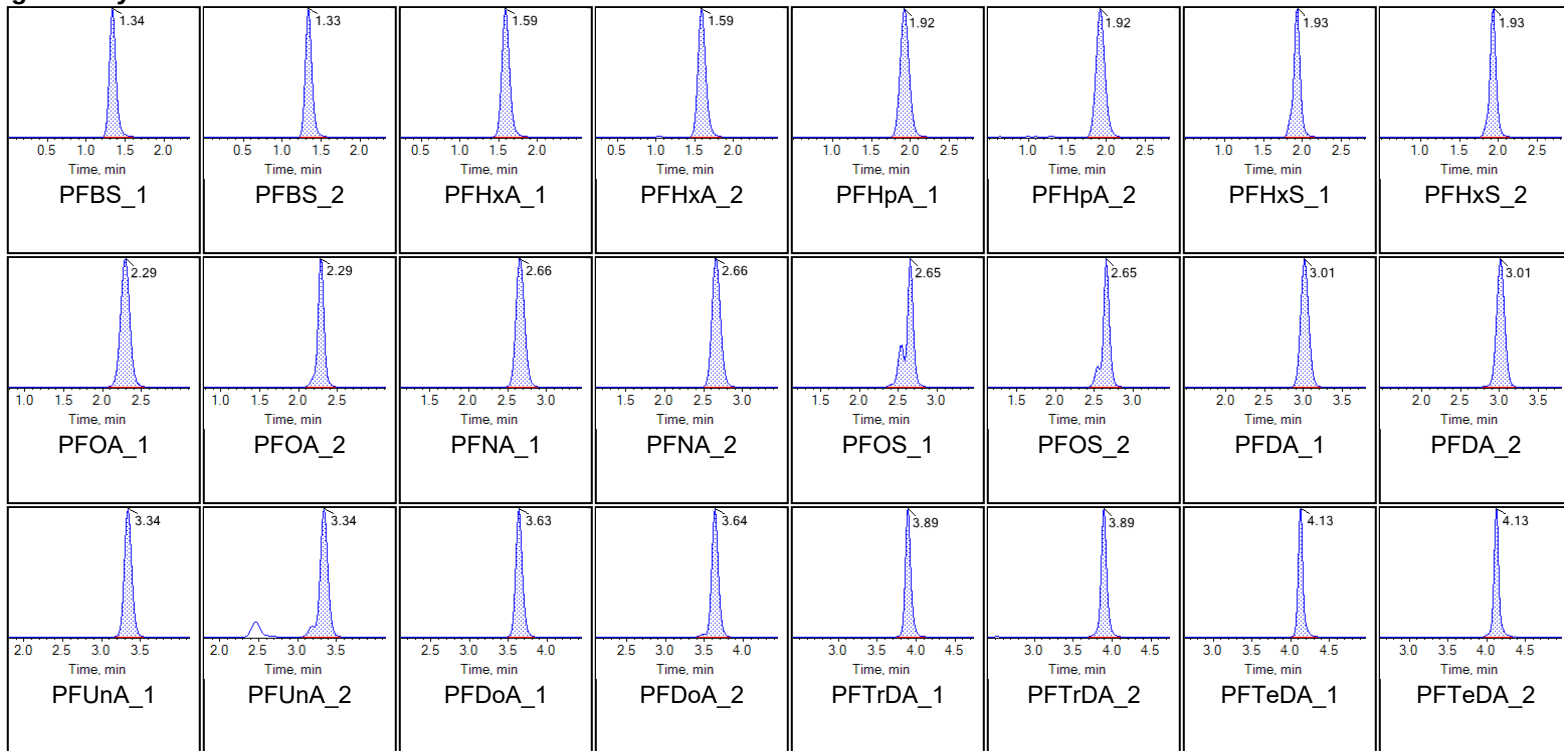
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Sample Name	G1650MSD-FS(3)	Injection Vial	25
Sample ID	CBD-AOA-SD04-000H-SD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:24:48 PM	Data File	AE_11022020_5-369.wiff
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Chromatograms

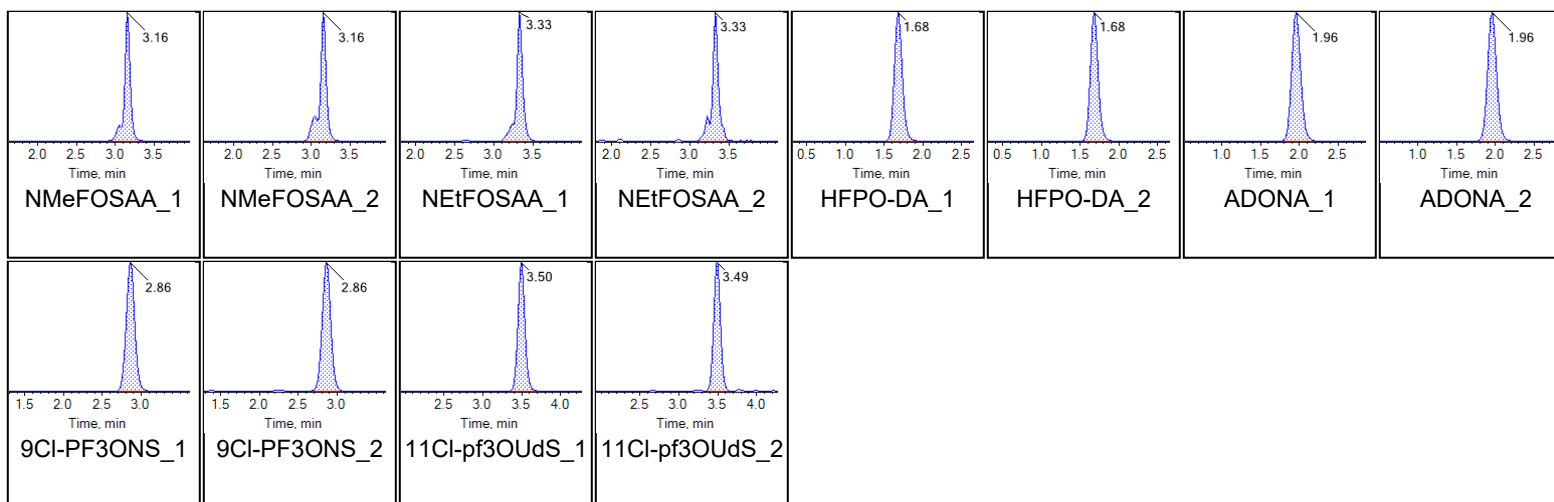
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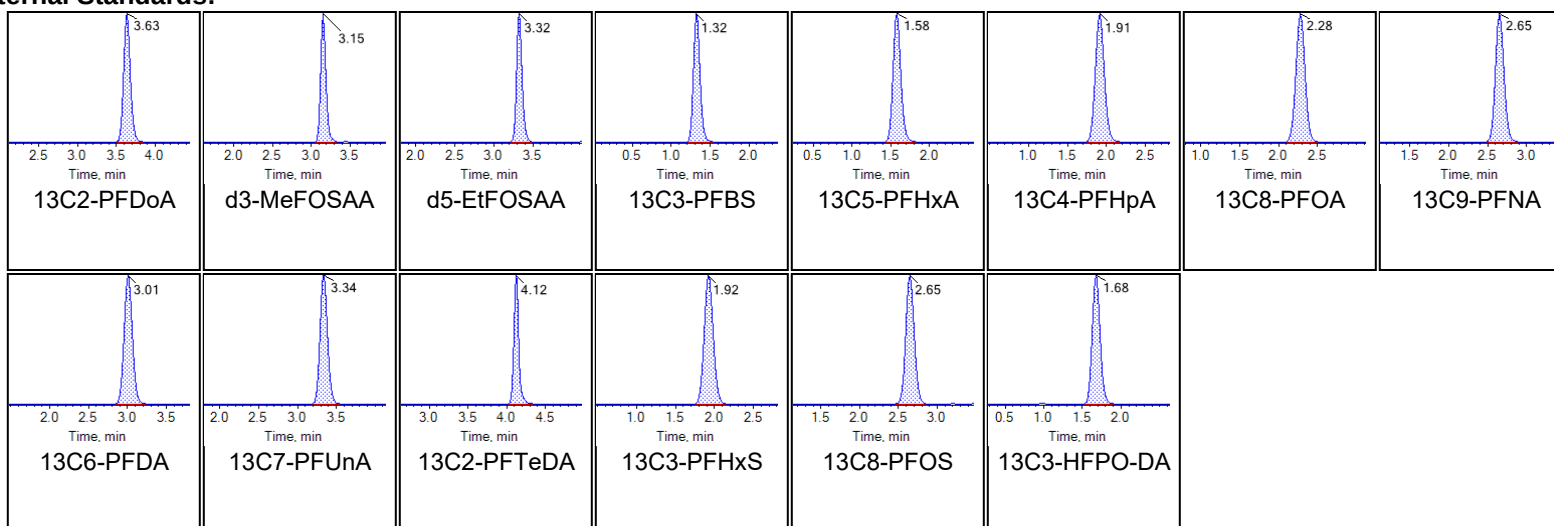


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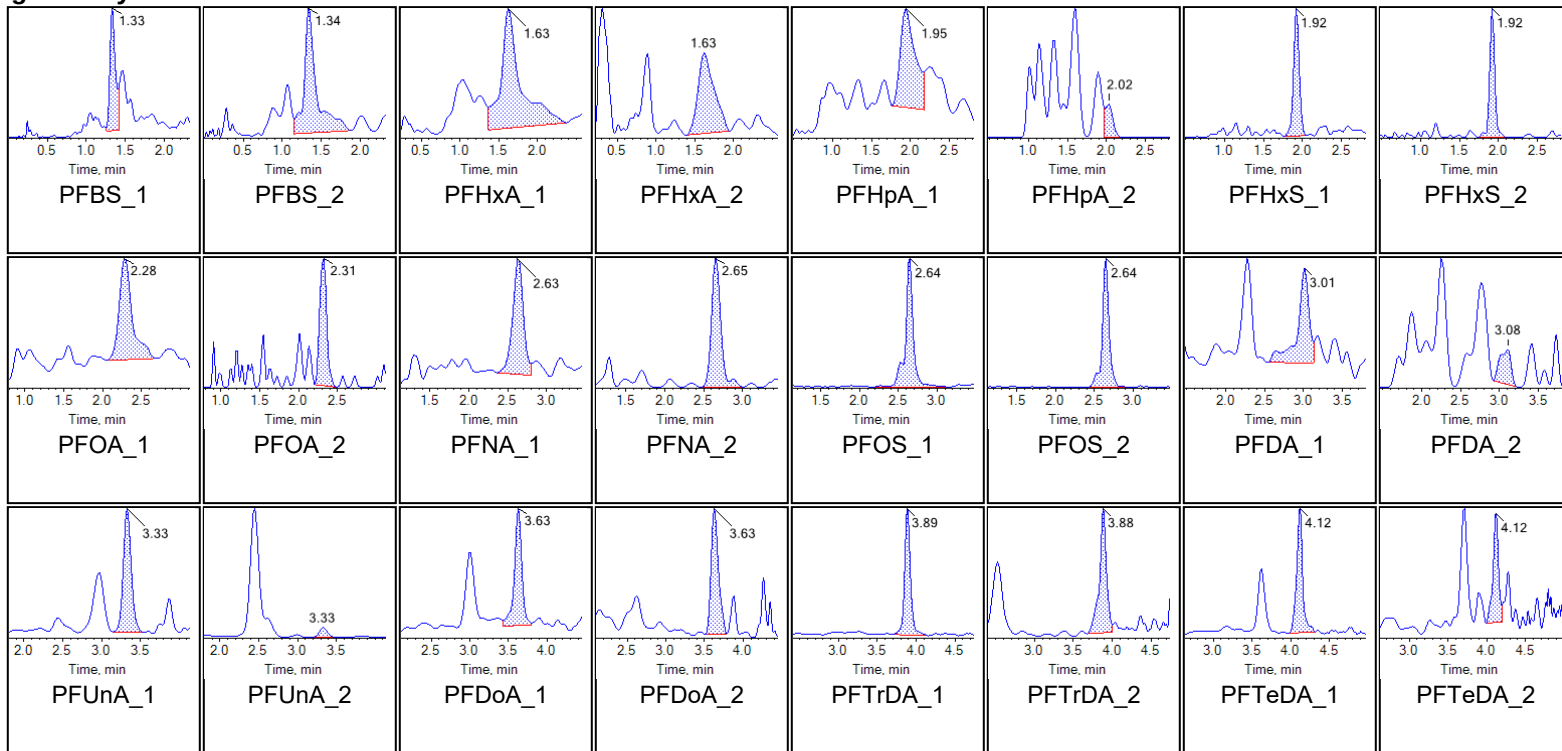
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Sample Name	G1653-FS(3)	Injection Vial	26
Sample ID	CBD-AOA-SD02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:35:16 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

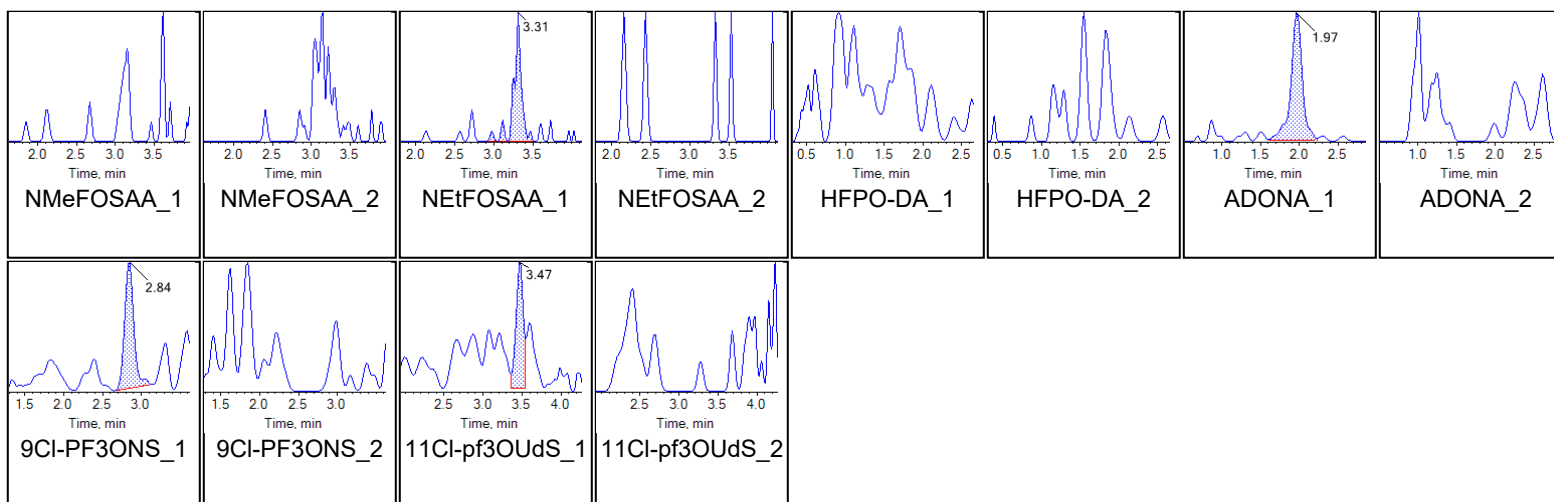
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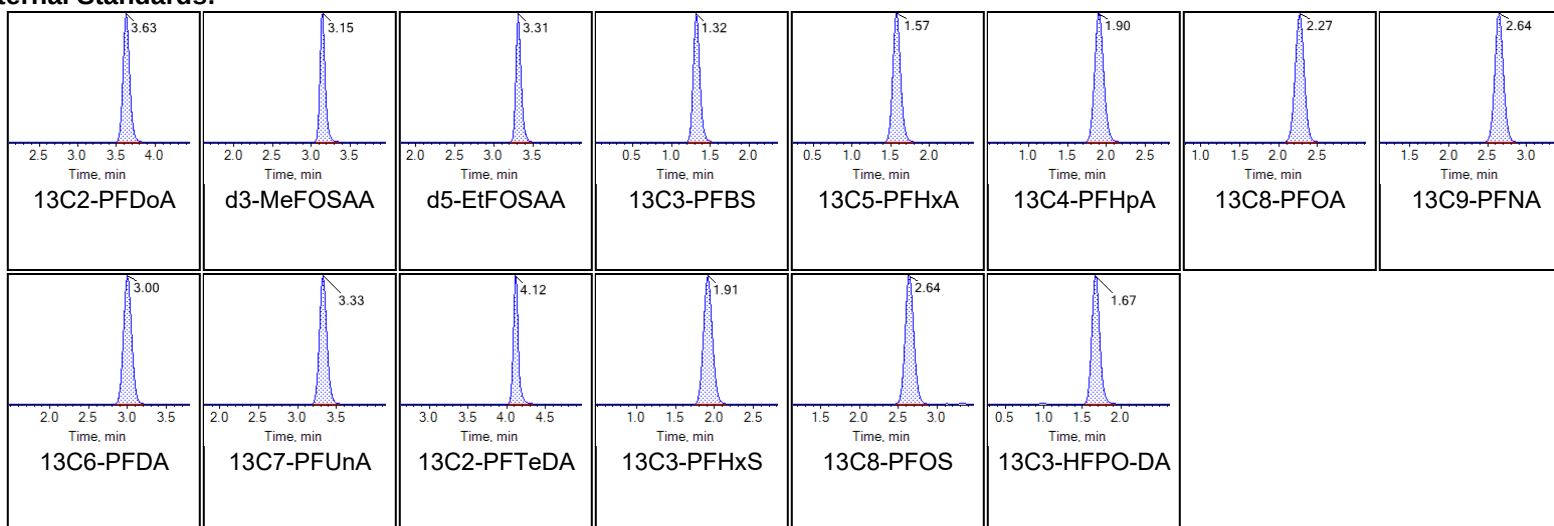


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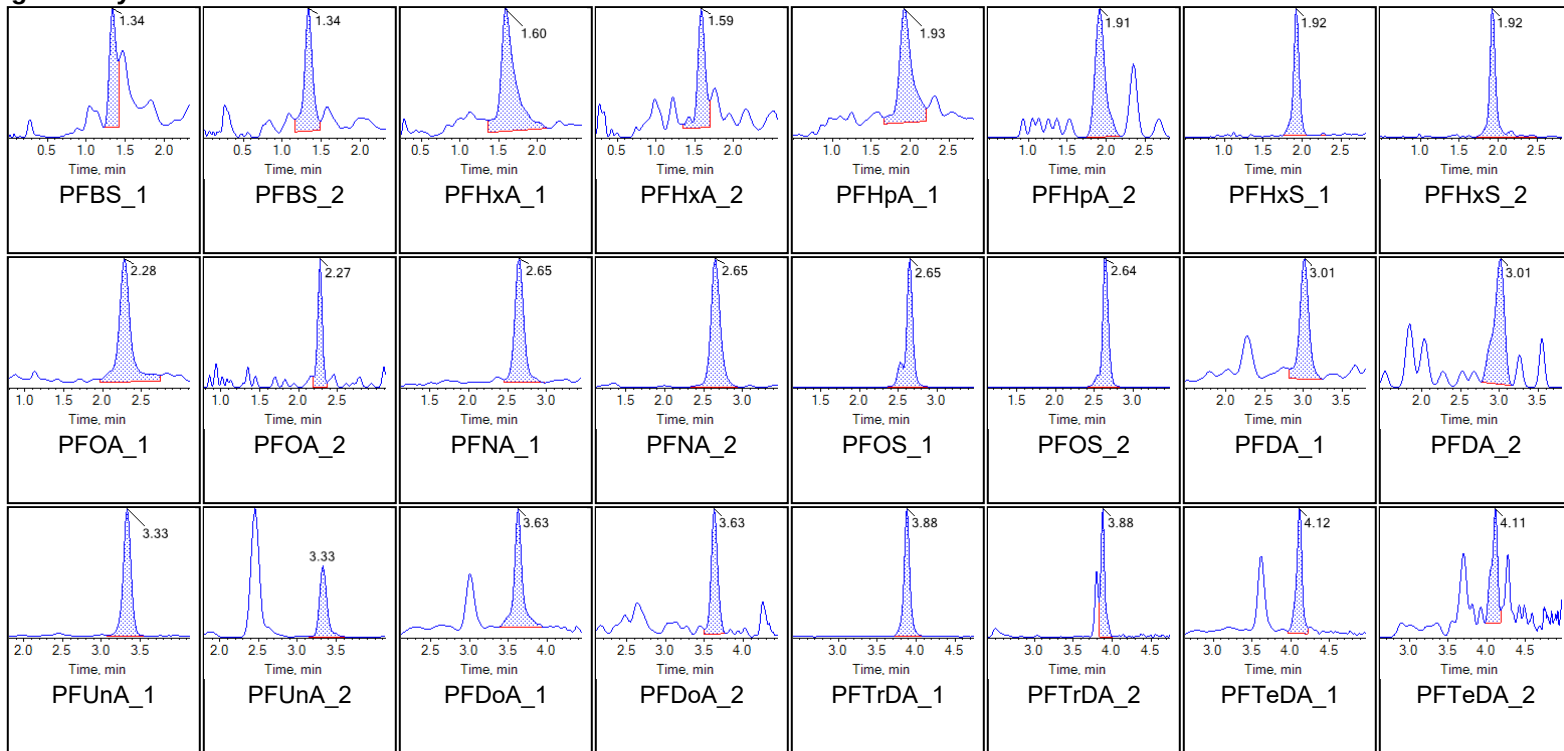
Chromatogram Report

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Sample Name	G1659-FS(3)	Injection Vial	27
Sample ID	CBD-AOA-SD08-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:45:44 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

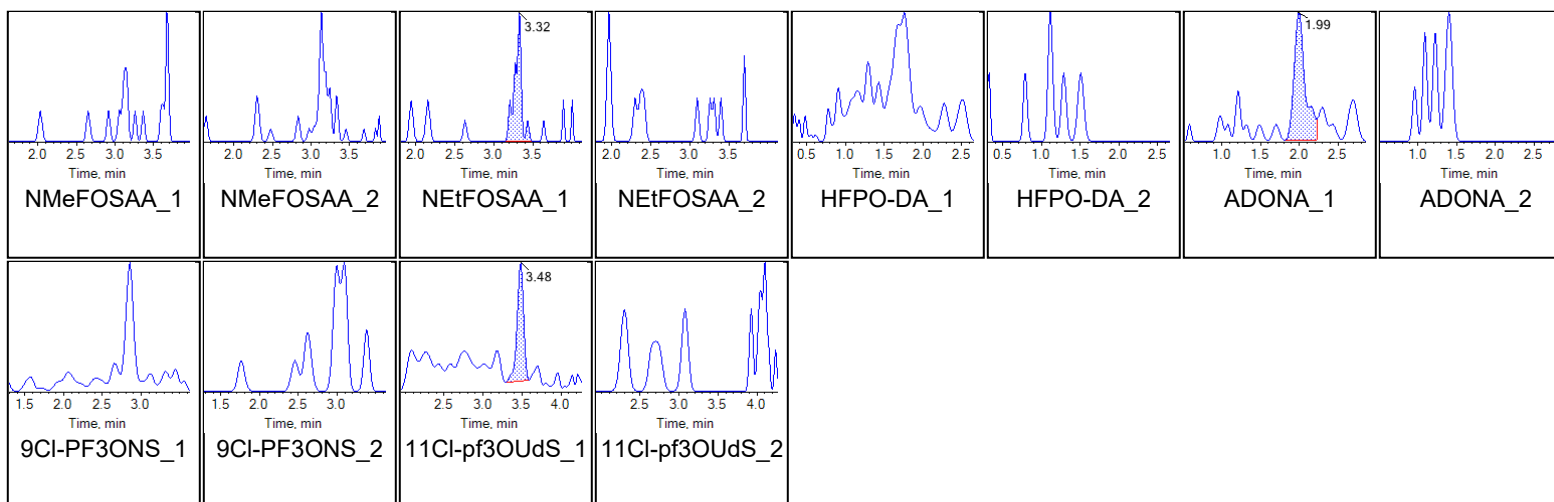
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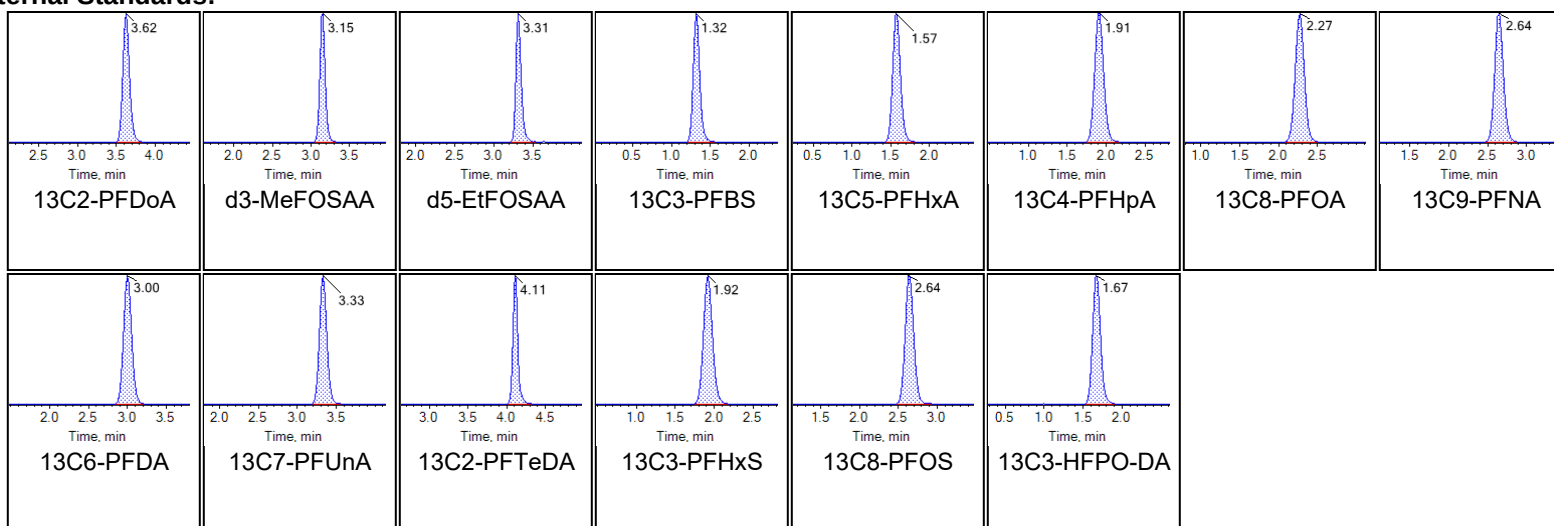


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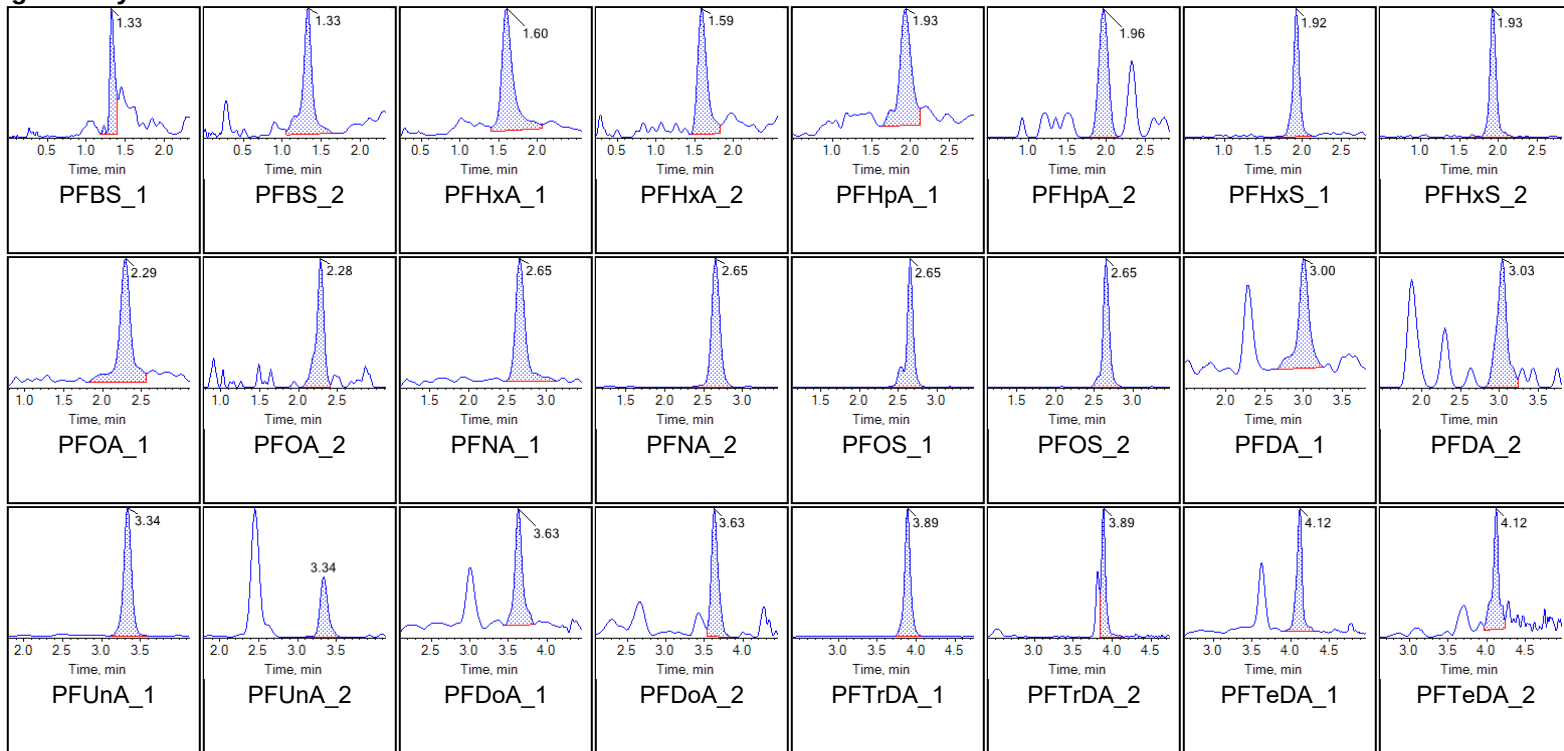
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Sample Name	G1660-FS(3)	Injection Vial	28
Sample ID	CBD-AOA-SD08P-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:56:12 PM	Data File	AE_11022020_5-369.wiff
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Chromatograms

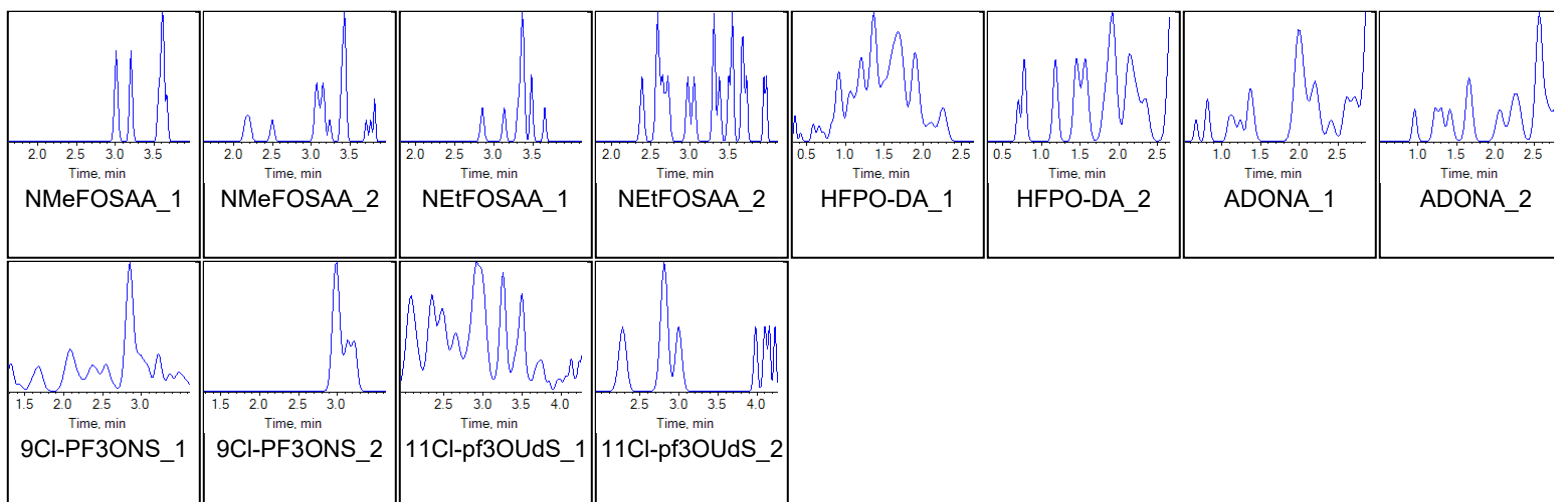
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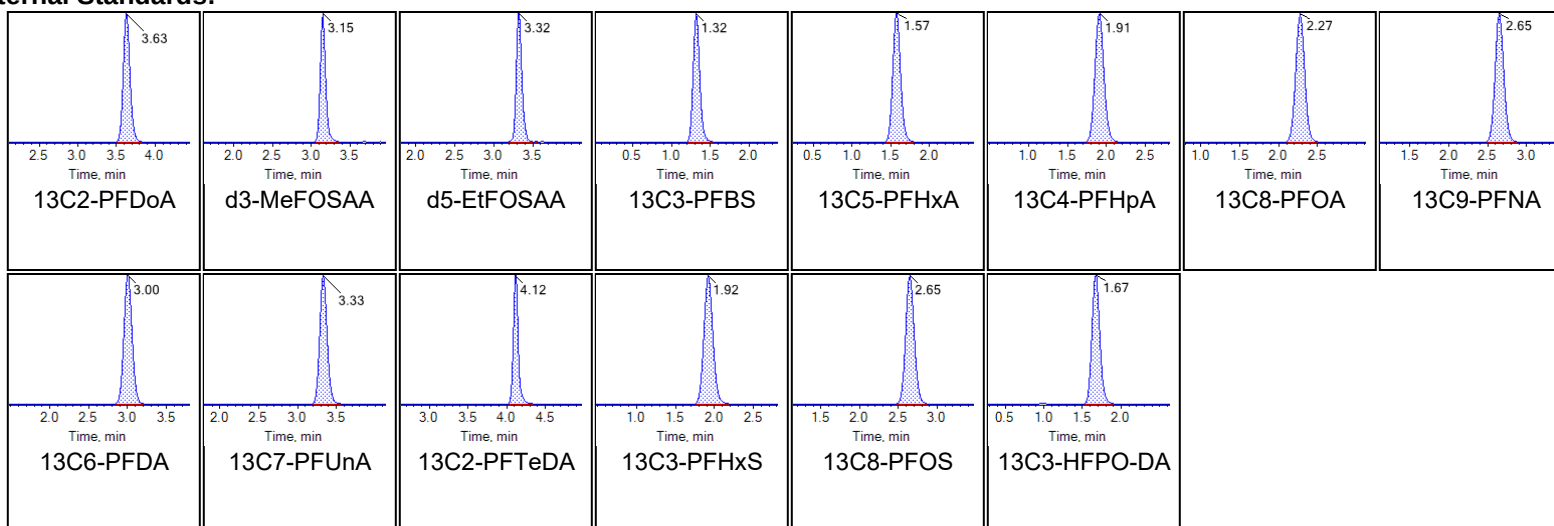


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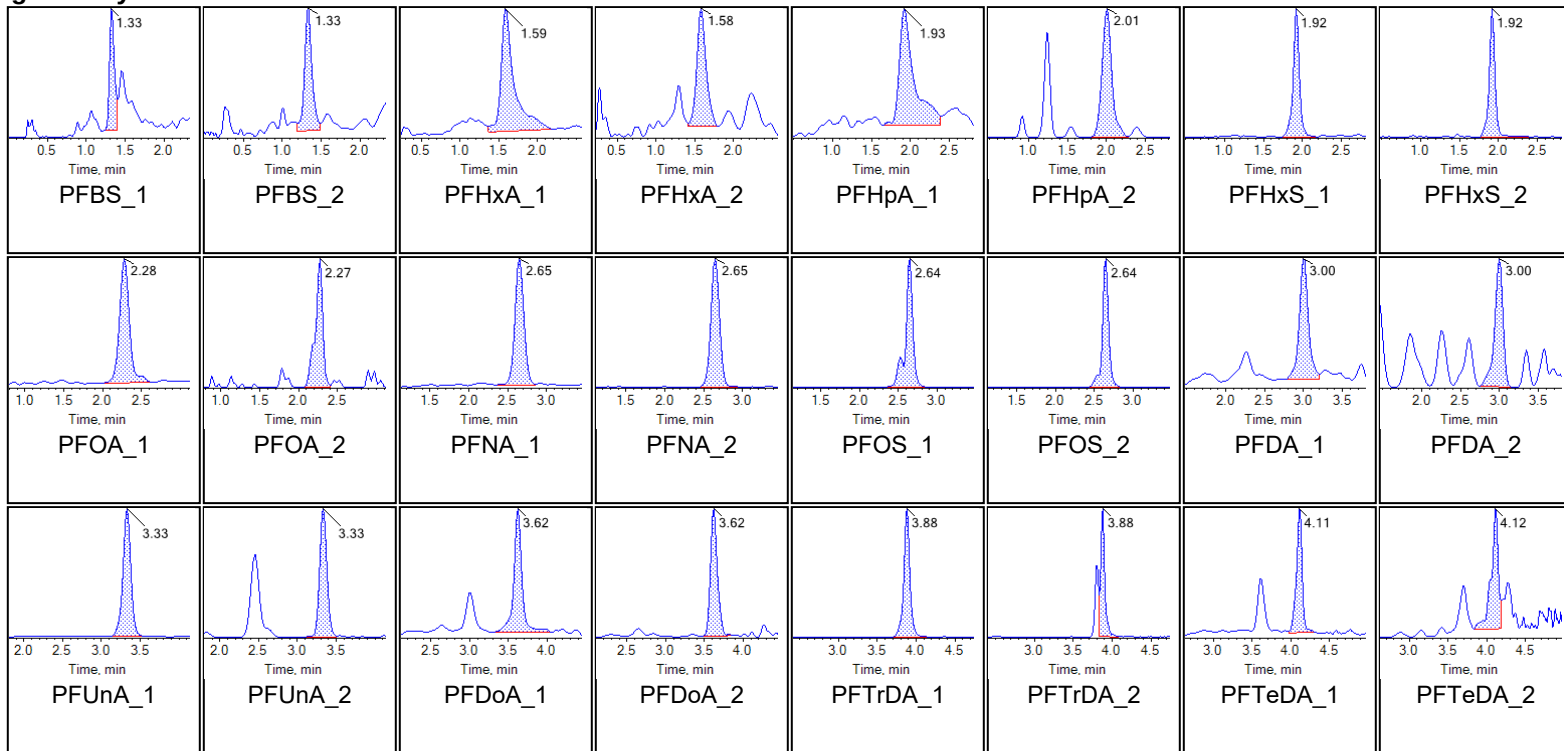
Chromatogram Report

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Sample Name	G1662-FS(3)	Injection Vial	29
Sample ID	CBD-AOA-SD06-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:06:40 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

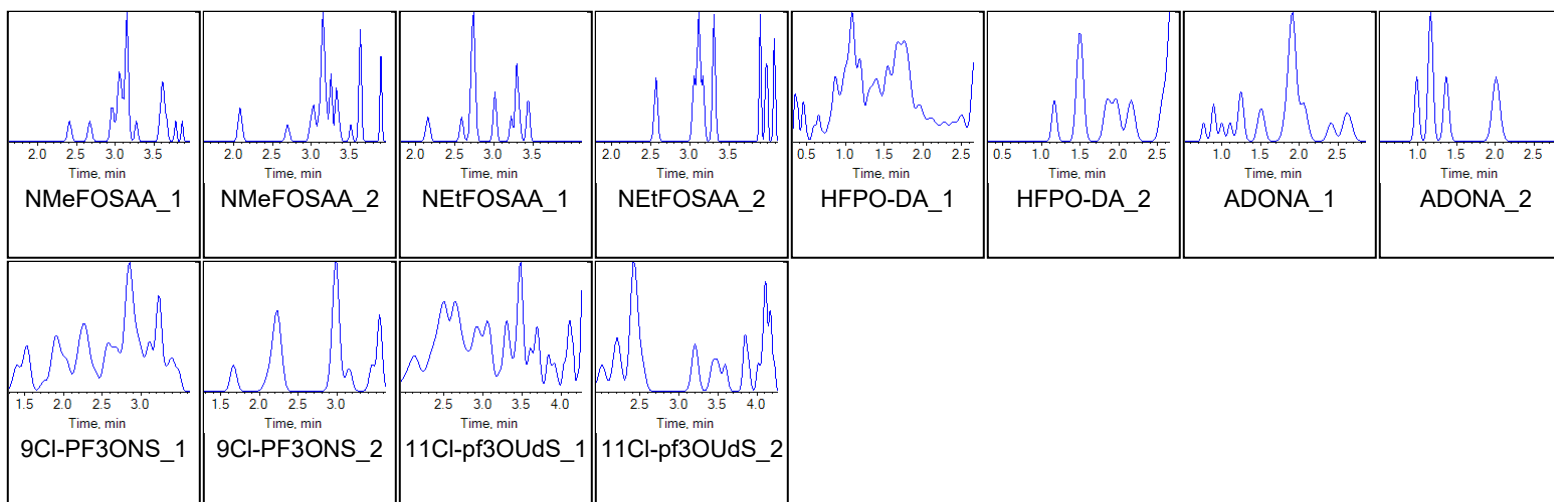
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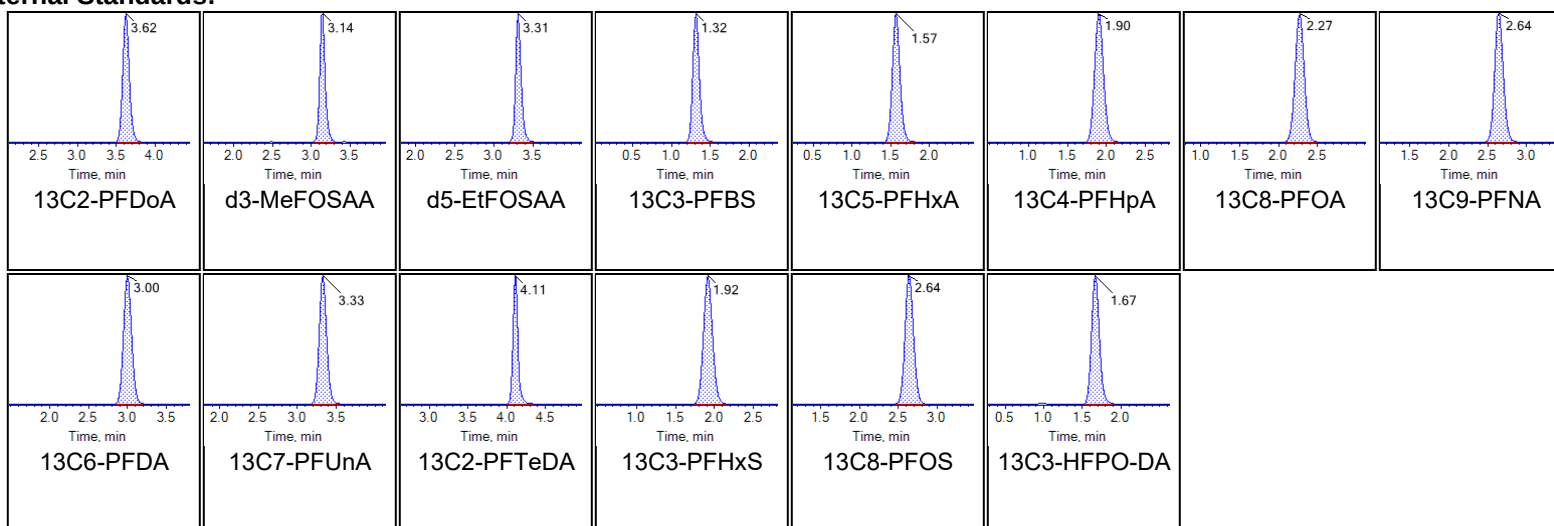


Chromatogram Report

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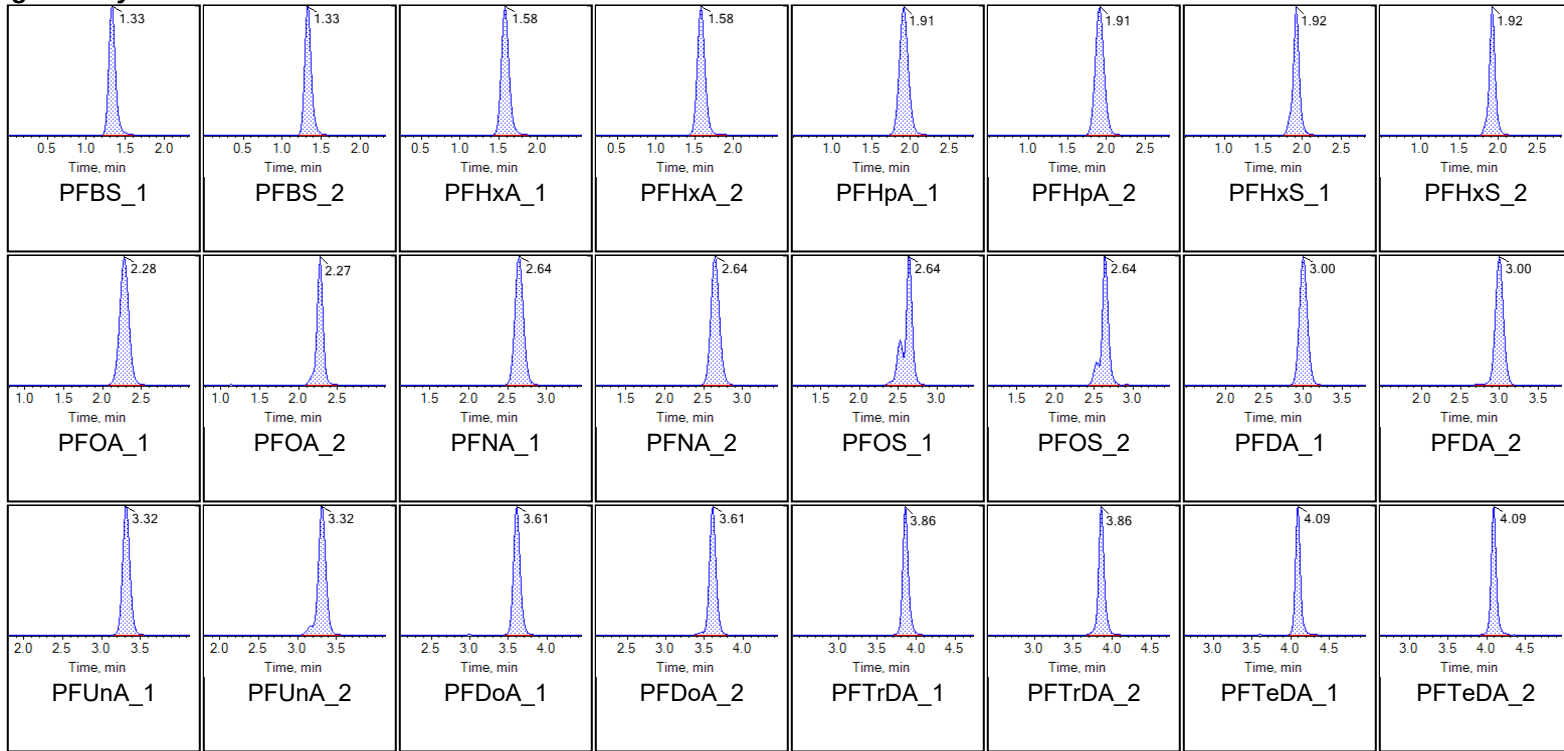
Chromatogram Report

Created with Analyst Reporter
Printed: 03/11/2020 1:28:53 PM

Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297

Chromatograms

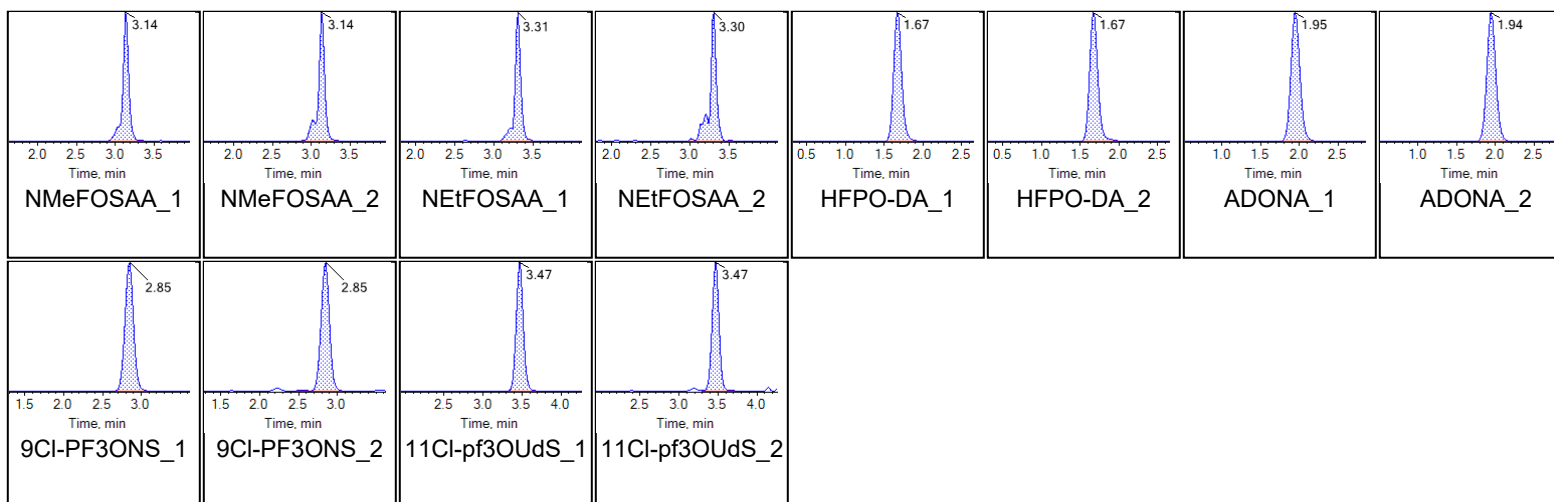
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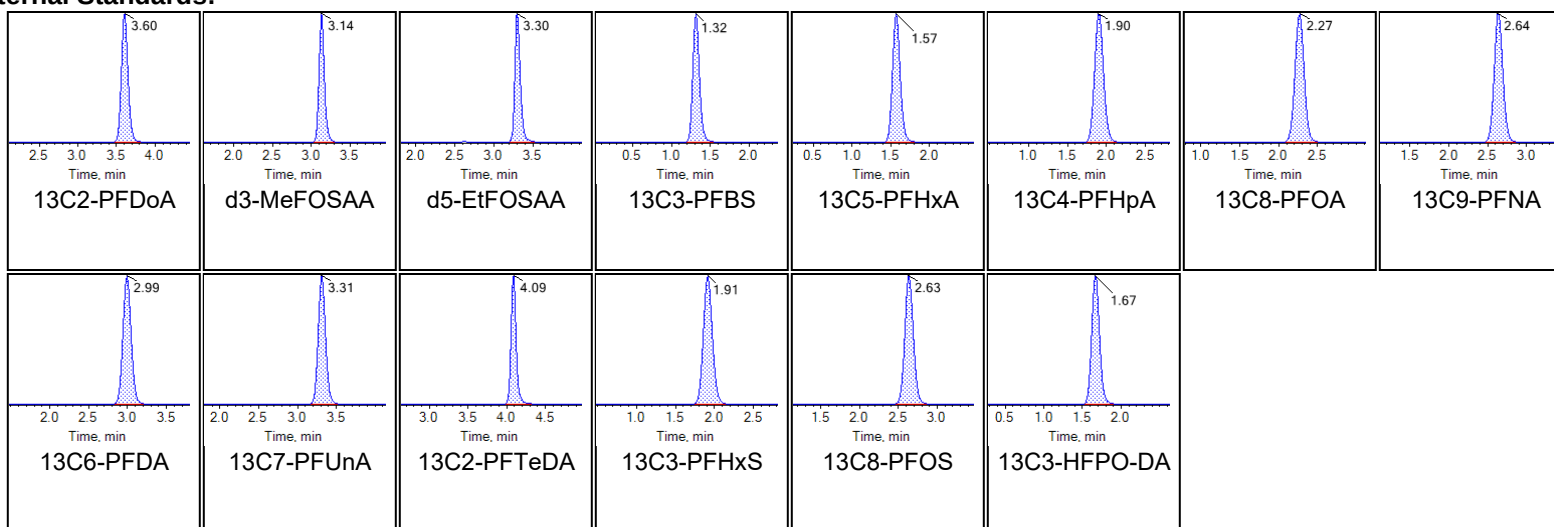


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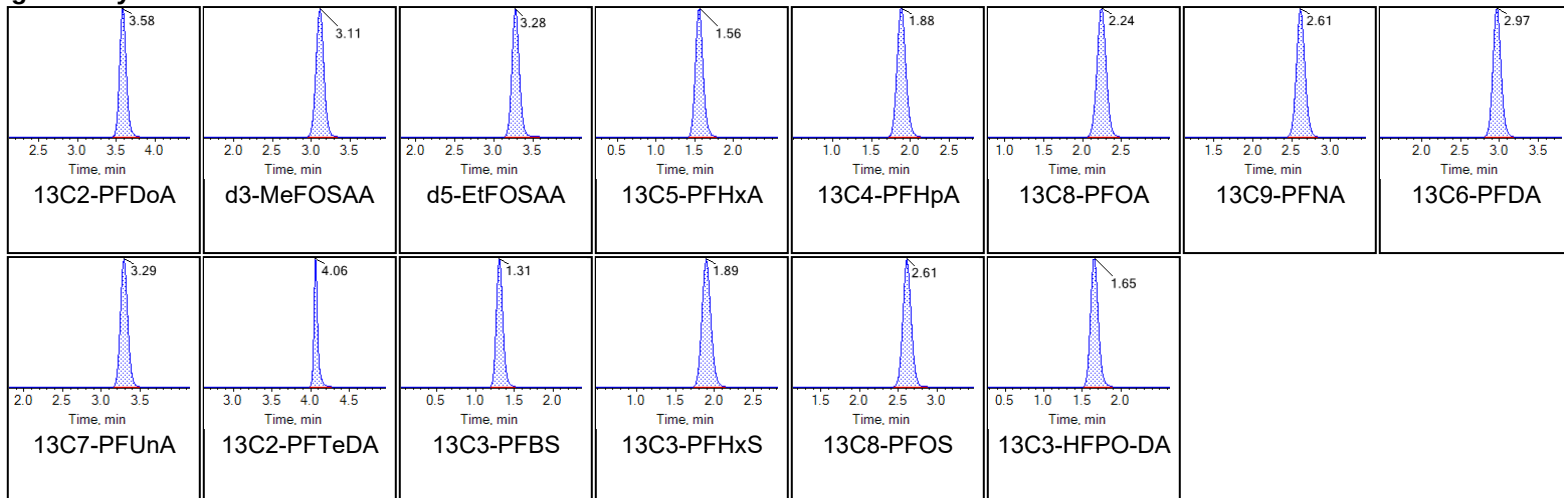
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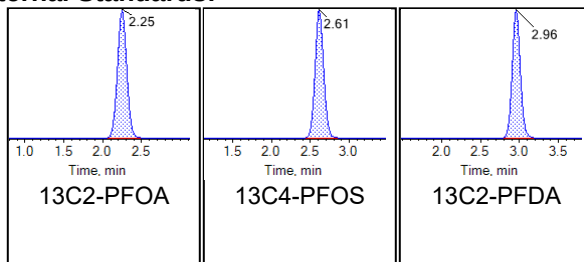
Sample Name	LD74	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:07:41 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





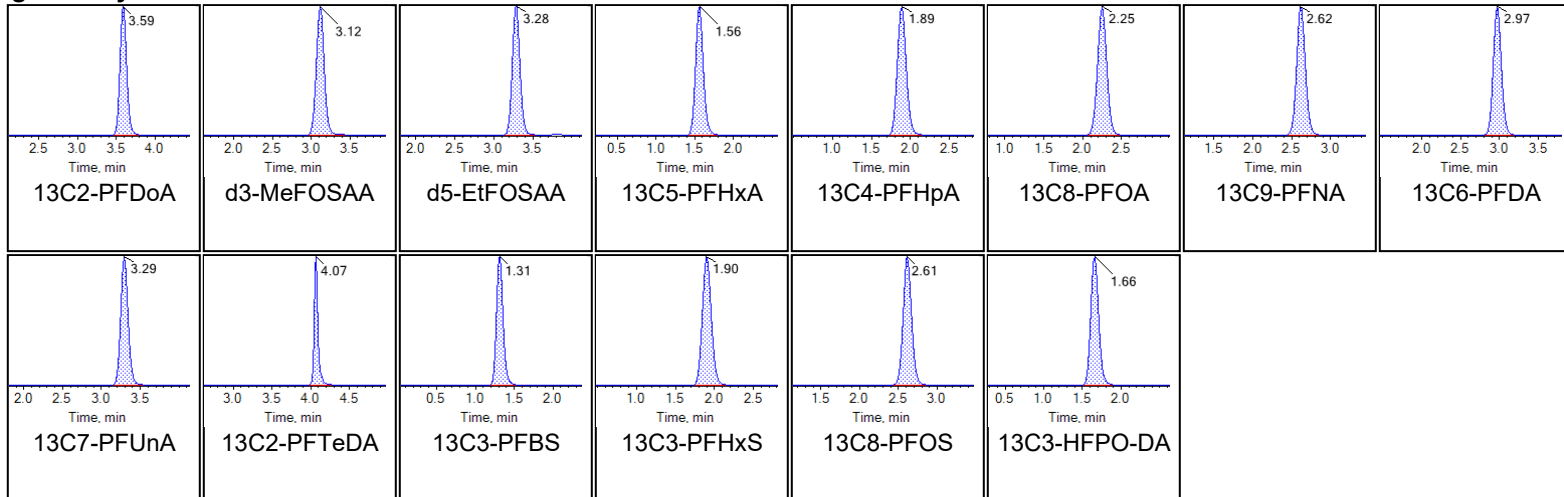
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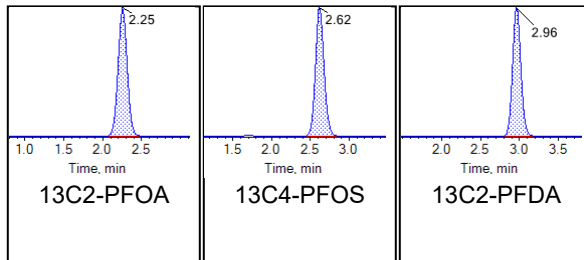
Sample Name	LD75	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:18:08 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





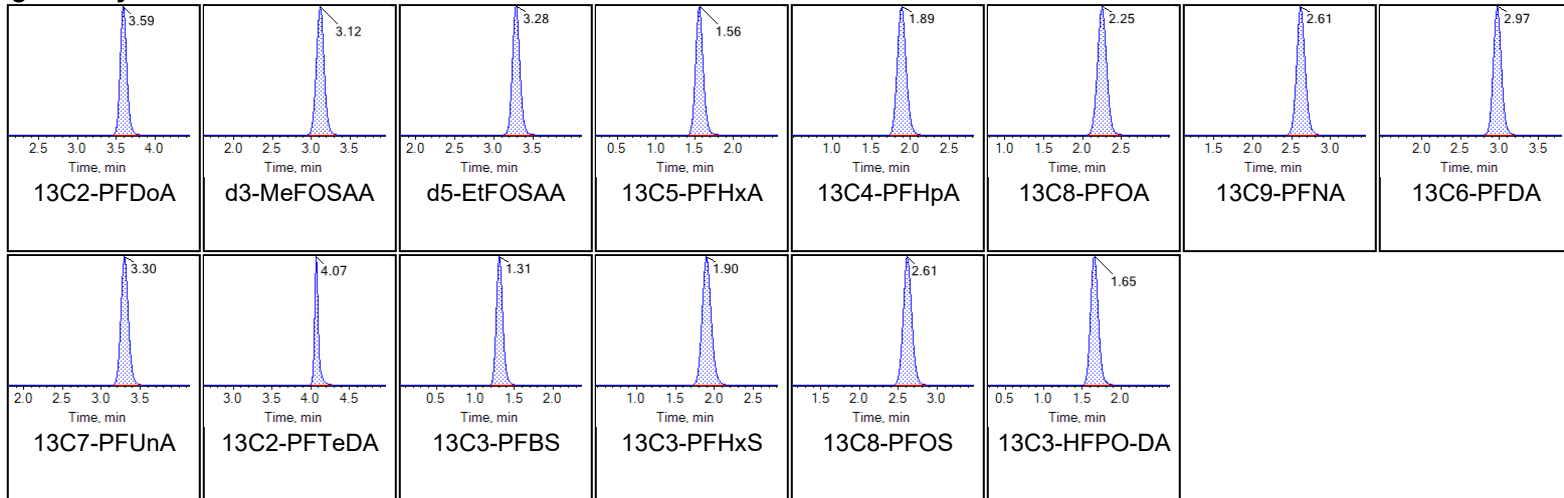
Chromatogram Report

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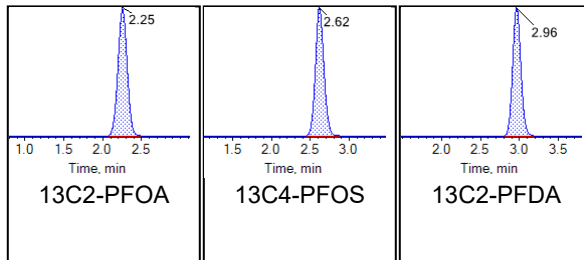
Sample Name	LD76	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:28:36 AM	Data File	AE_10292020_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





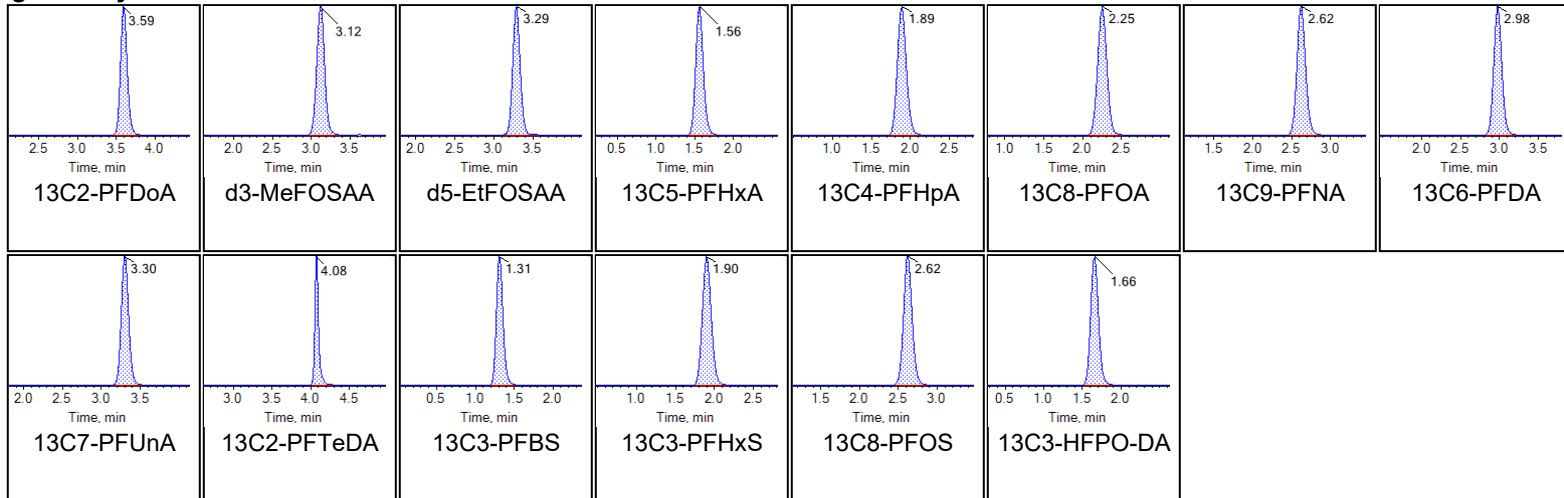
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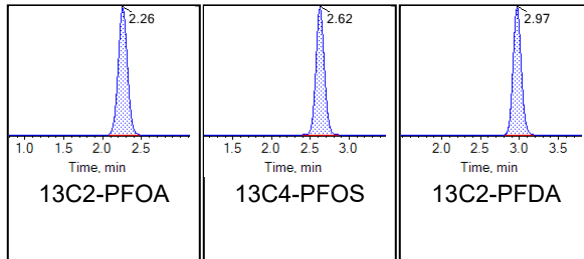
Sample Name	LD77	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:39:03 AM	Data File	AE_10292020_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





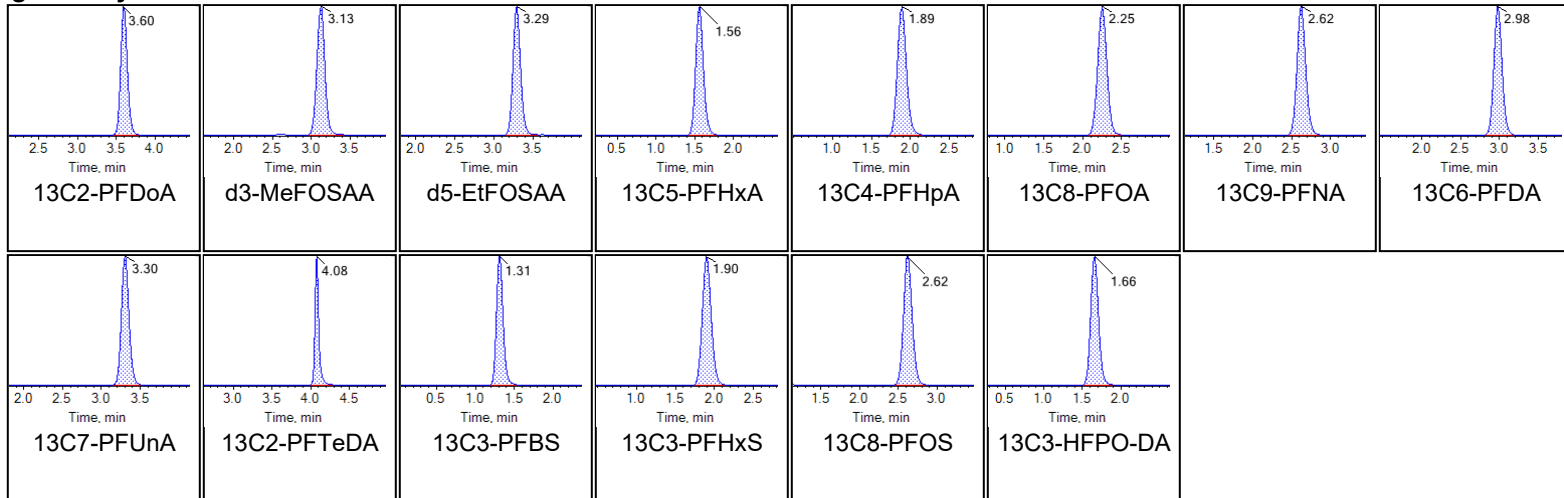
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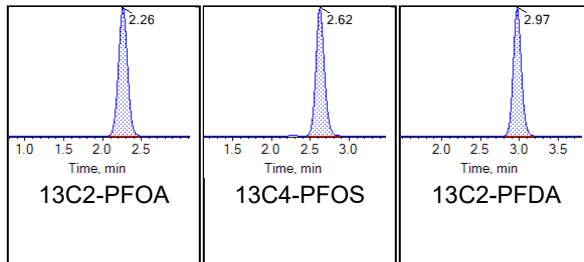
Sample Name	LD78	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:49:29 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





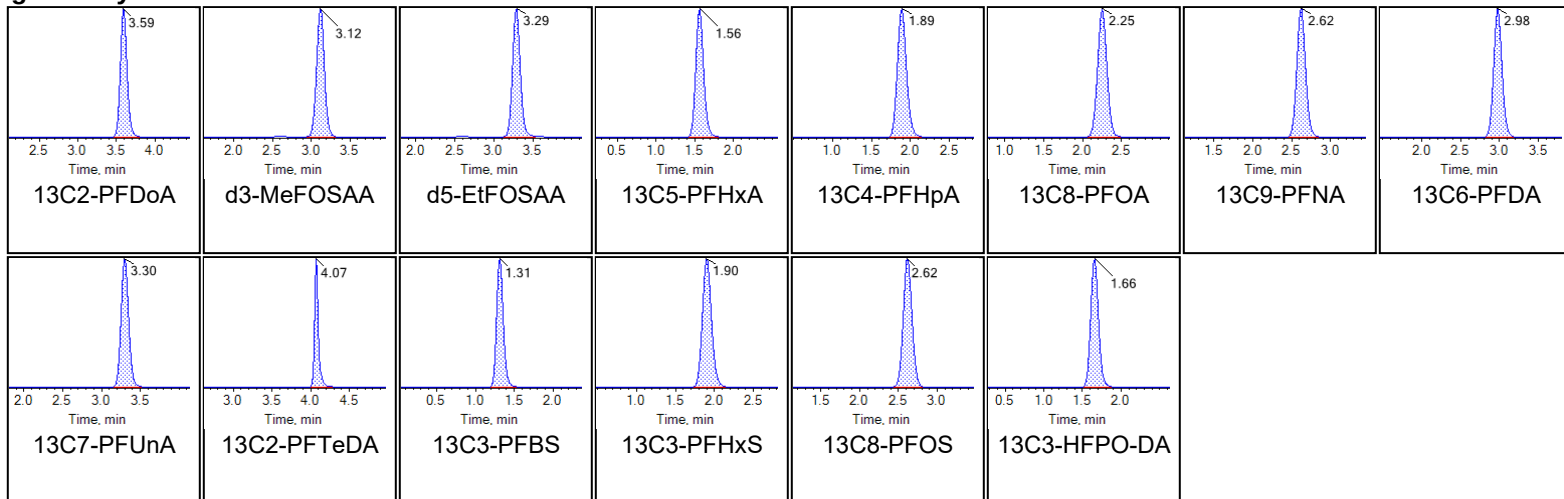
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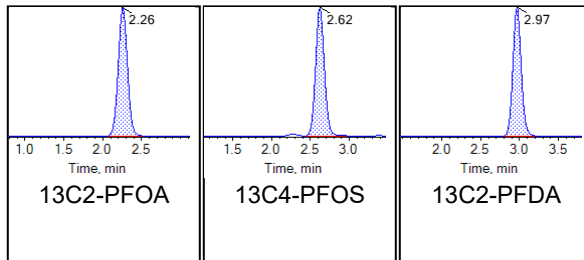
Sample Name	LD79	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 3:59:58 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





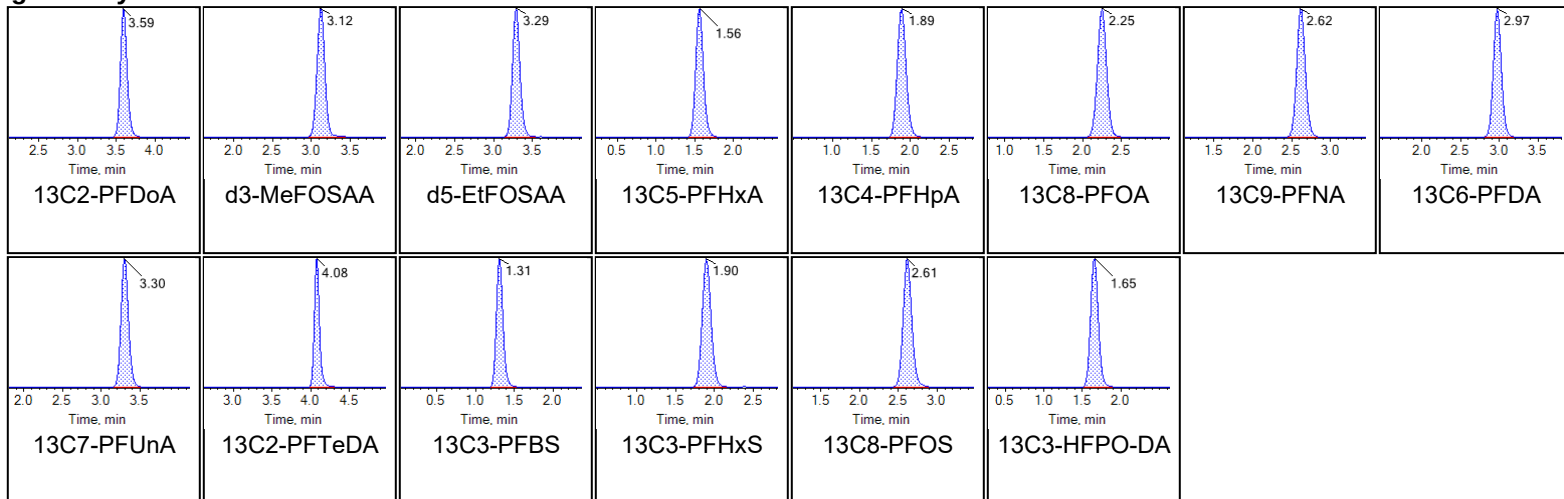
Chromatogram Report

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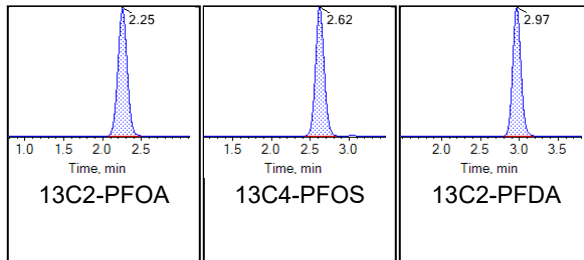
Sample Name	LD80 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:10:26 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





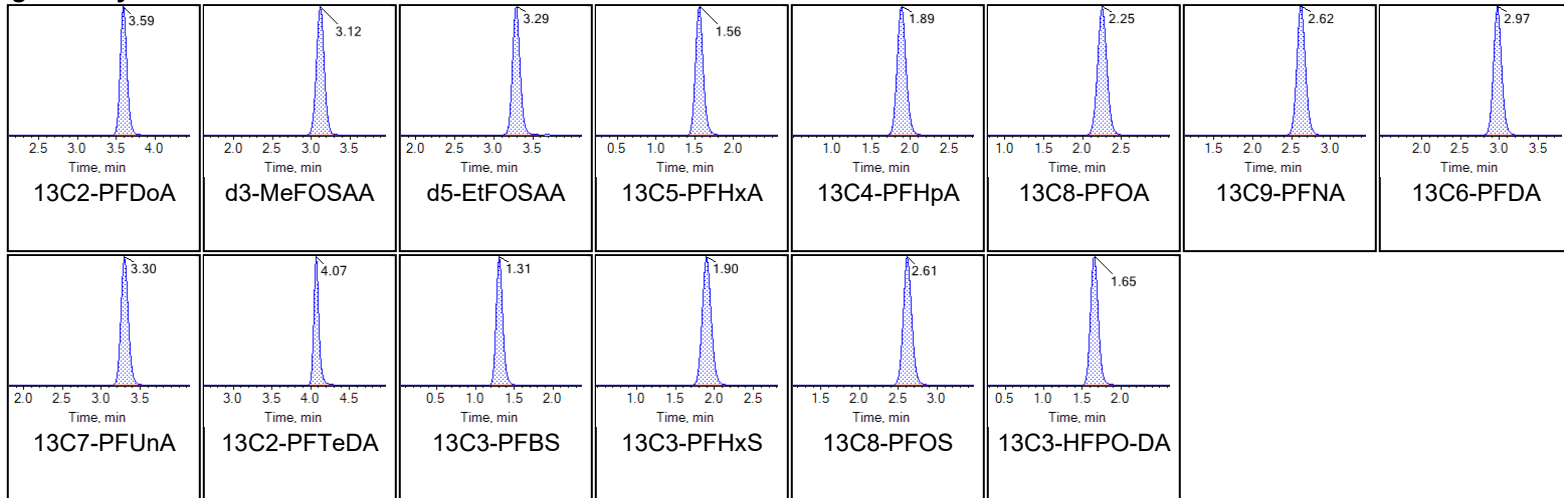
Chromatogram Report

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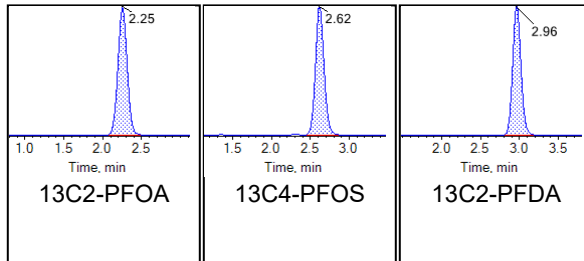
Sample Name	LD81 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	10/30/2020 4:20:54 AM	Data File	AE_10292020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





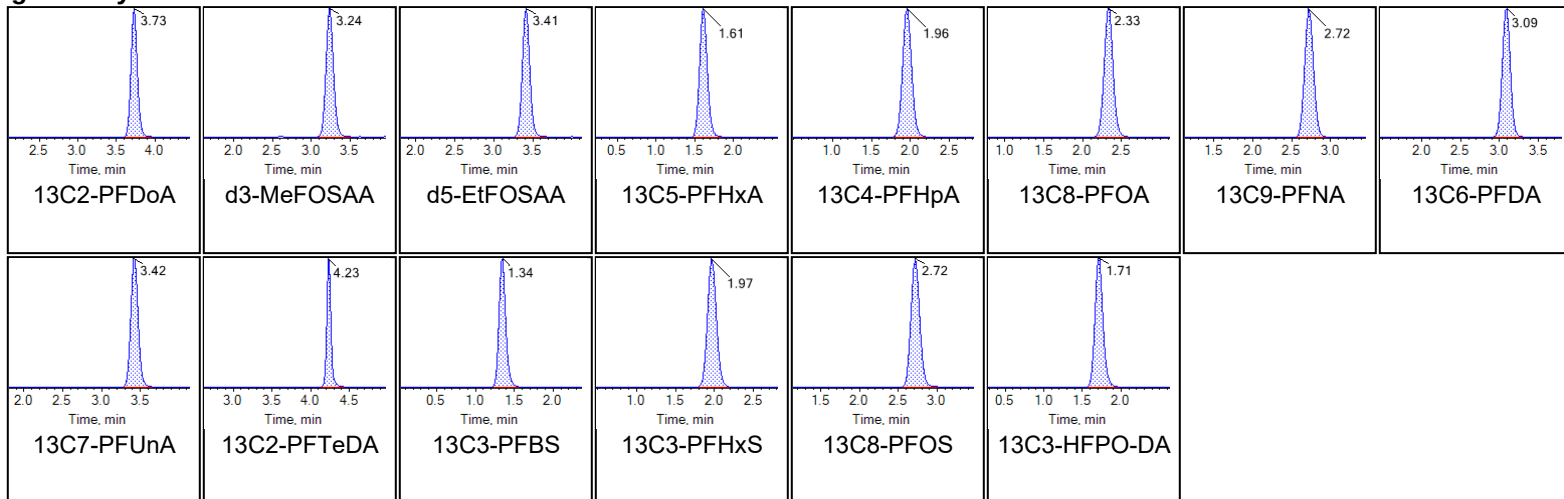
Chromatogram Report

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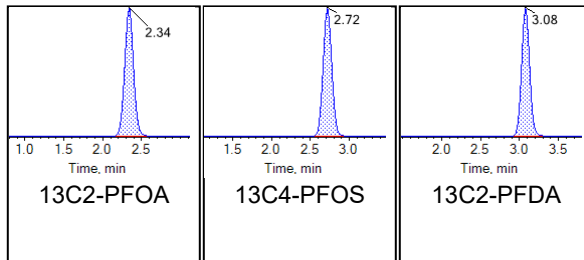
Sample Name	LD76 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:34:18 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





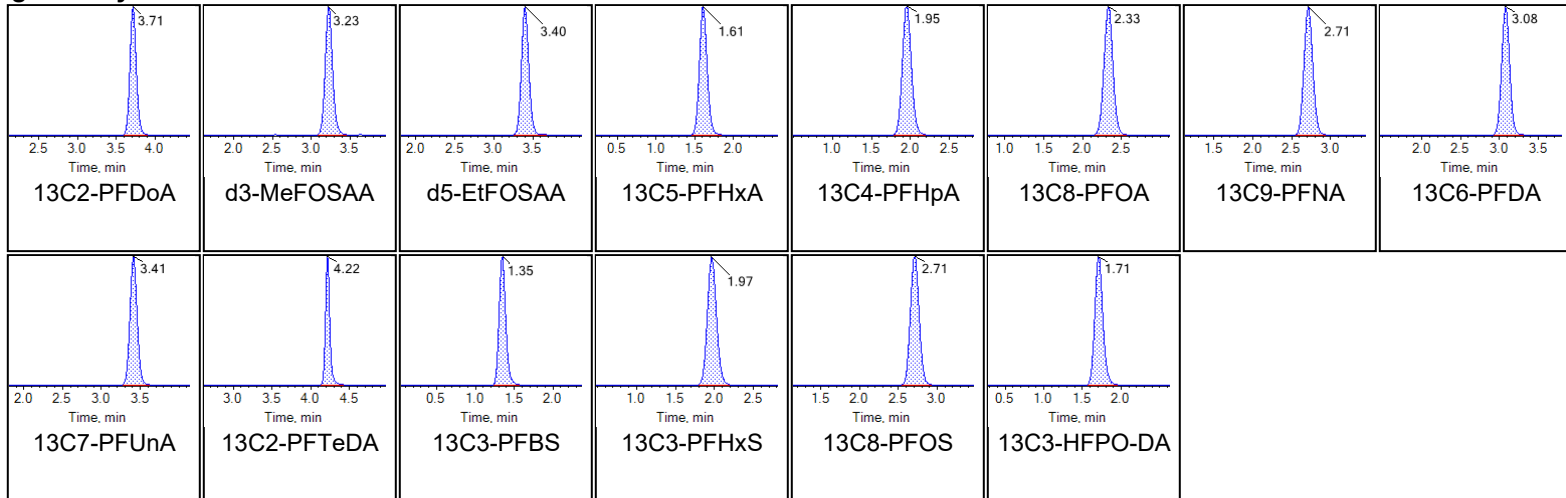
Chromatogram Report

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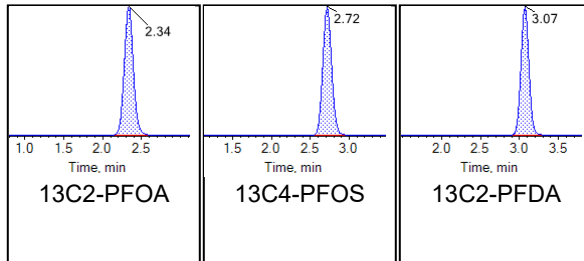
Sample Name	LD80 IB	Injection Vial	4
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:55:12 AM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





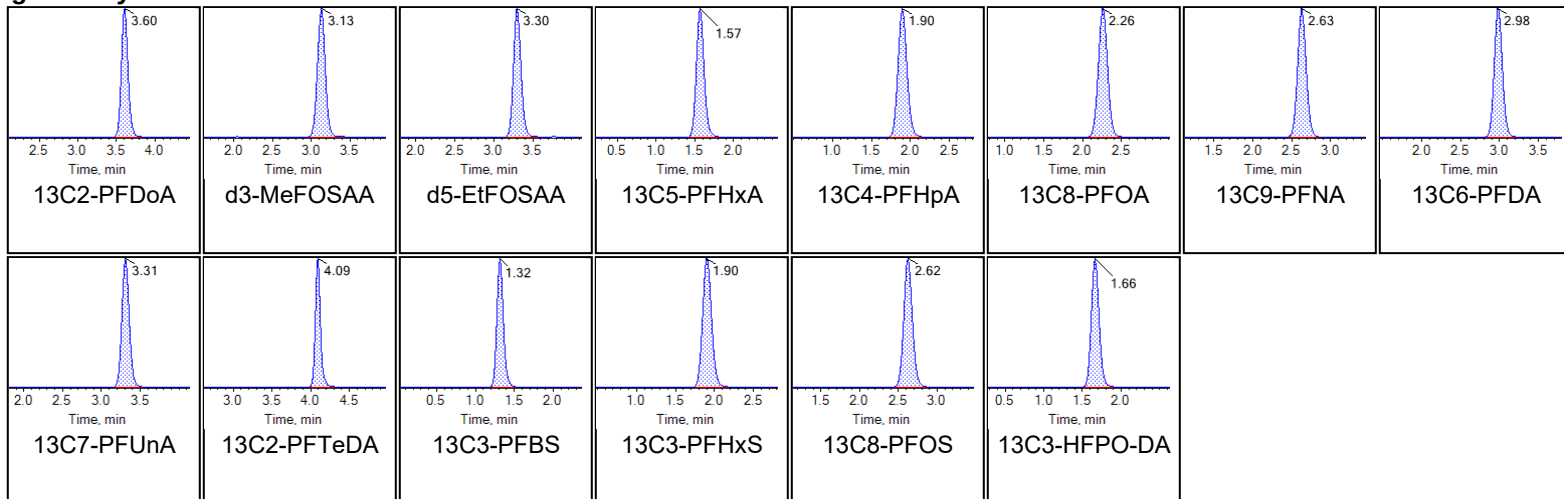
Chromatogram Report

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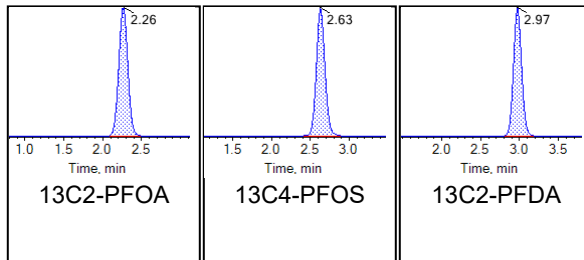
Sample Name	LD76 CCV	Injection Vial	19
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:22:00 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





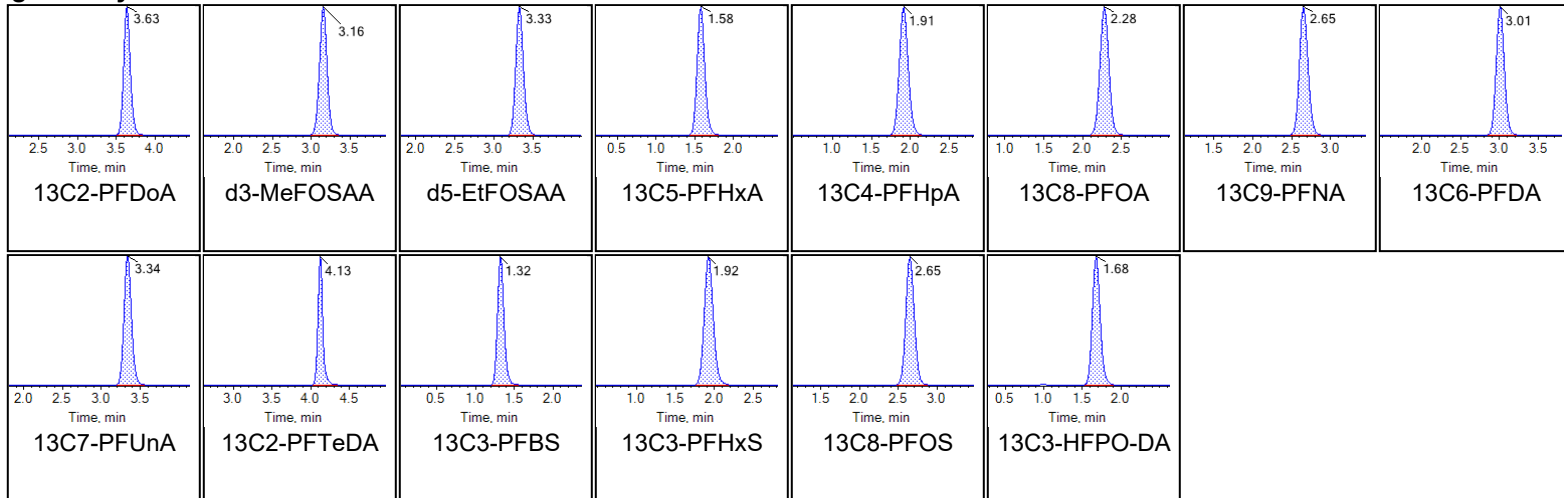
Chromatogram Report

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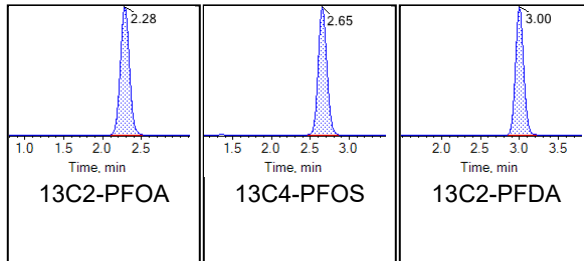
Sample Name	DA889PB-FS(3)	Injection Vial	21
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:42:56 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





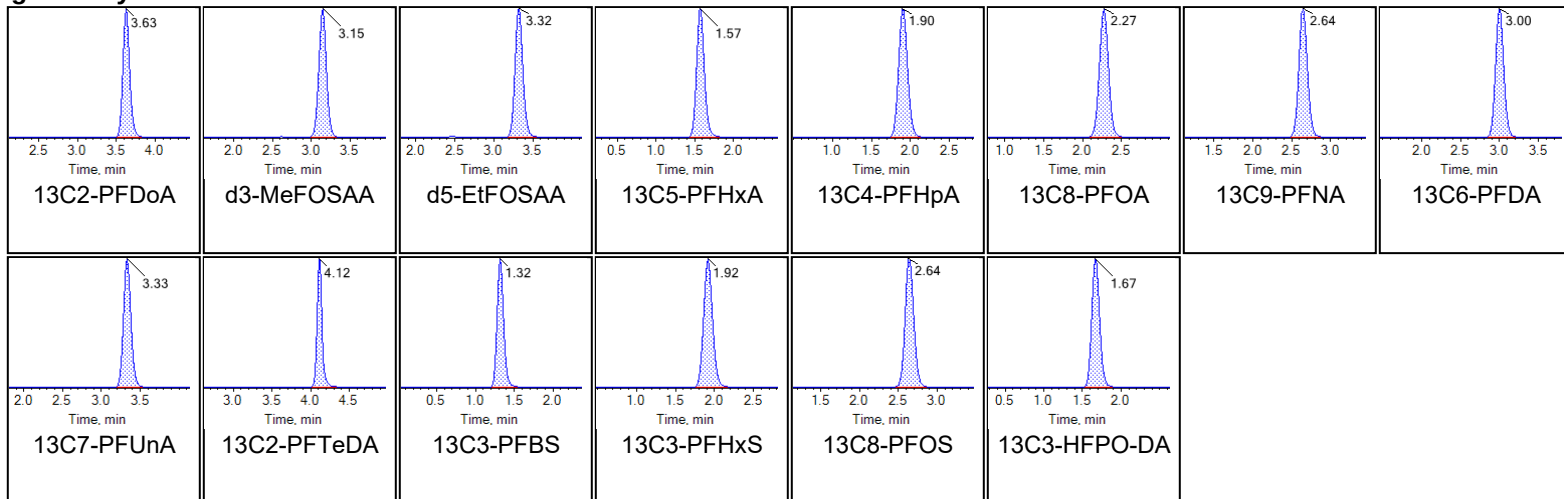
Chromatogram Report

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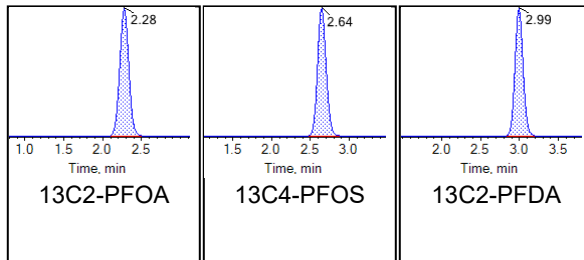
Sample Name	DA890LCS-FS(3)	Injection Vial	22
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 8:53:24 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





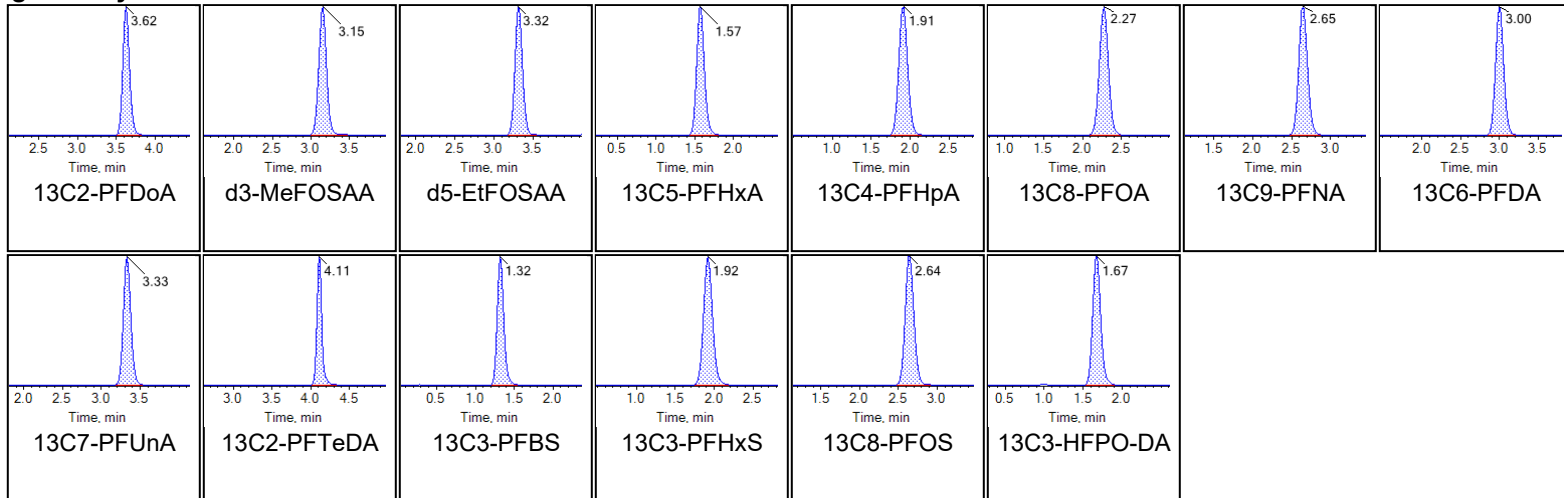
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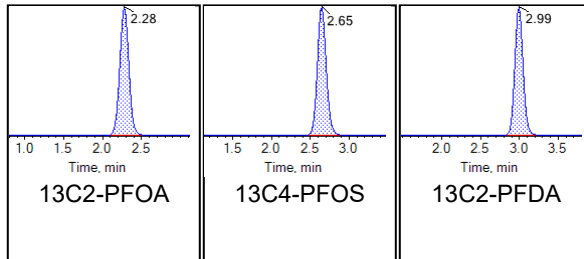
Sample Name	G1648-FS(3)	Injection Vial	23
Sample ID	CBD-AOA-SD04-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:03:52 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





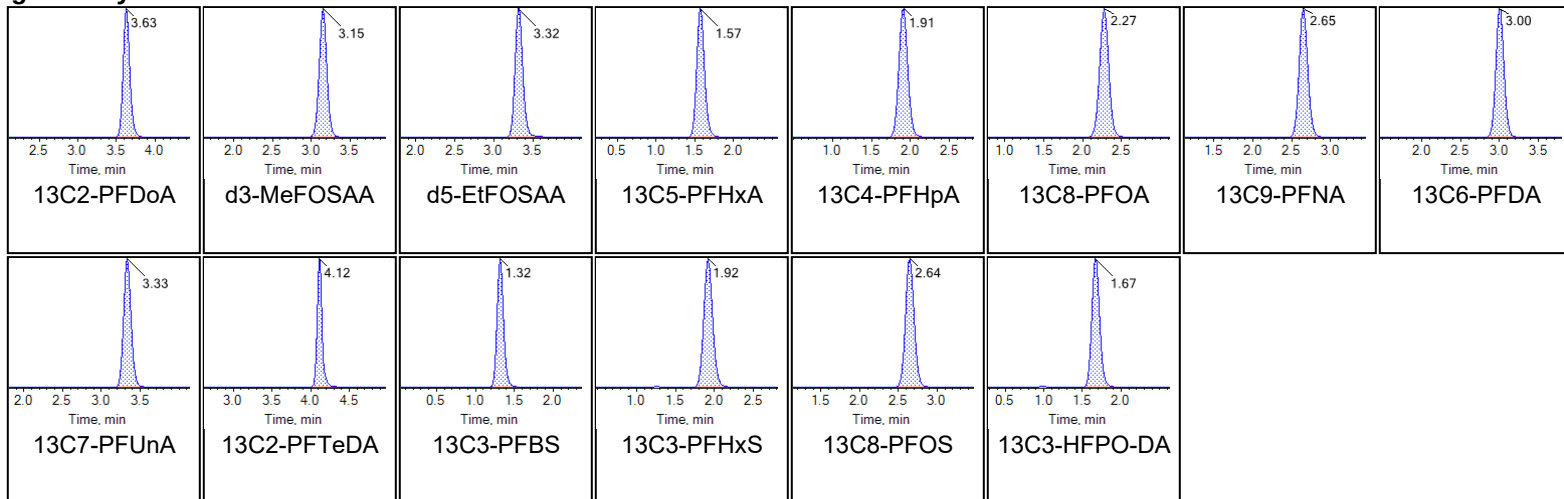
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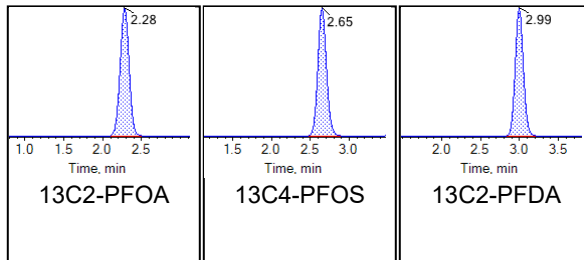
Sample Name	G1649MS-FS(3)	Injection Vial	24
Sample ID	CBD-AOA-SD04-000H-MS	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:14:20 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





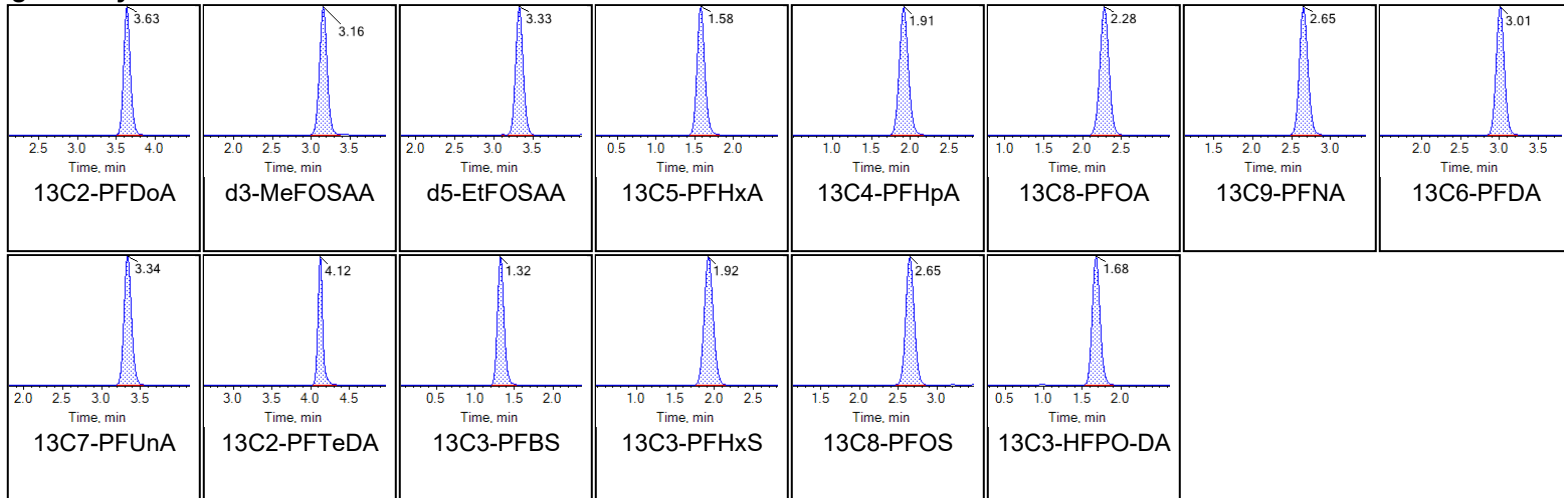
Chromatogram Report

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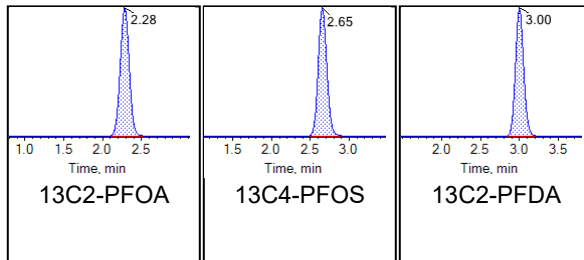
Sample Name	G1650MSD-FS(3)	Injection Vial	25
Sample ID	CBD-AOA-SD04-000H-SD	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:24:48 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





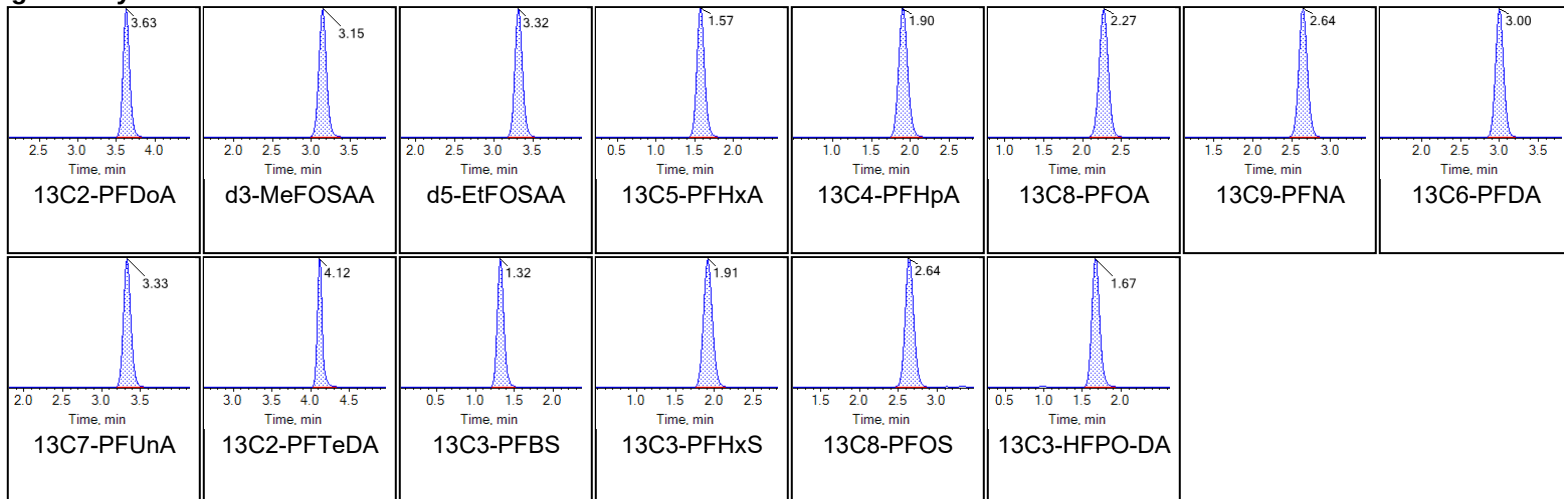
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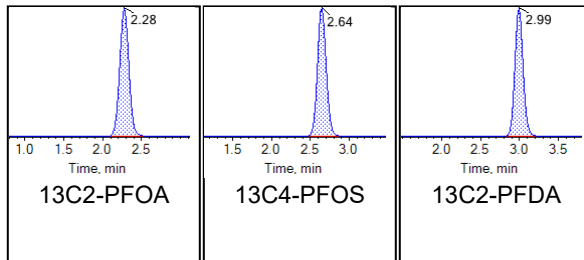
Sample Name	G1653-FS(3)	Injection Vial	26
Sample ID	CBD-AOA-SD02-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:35:16 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





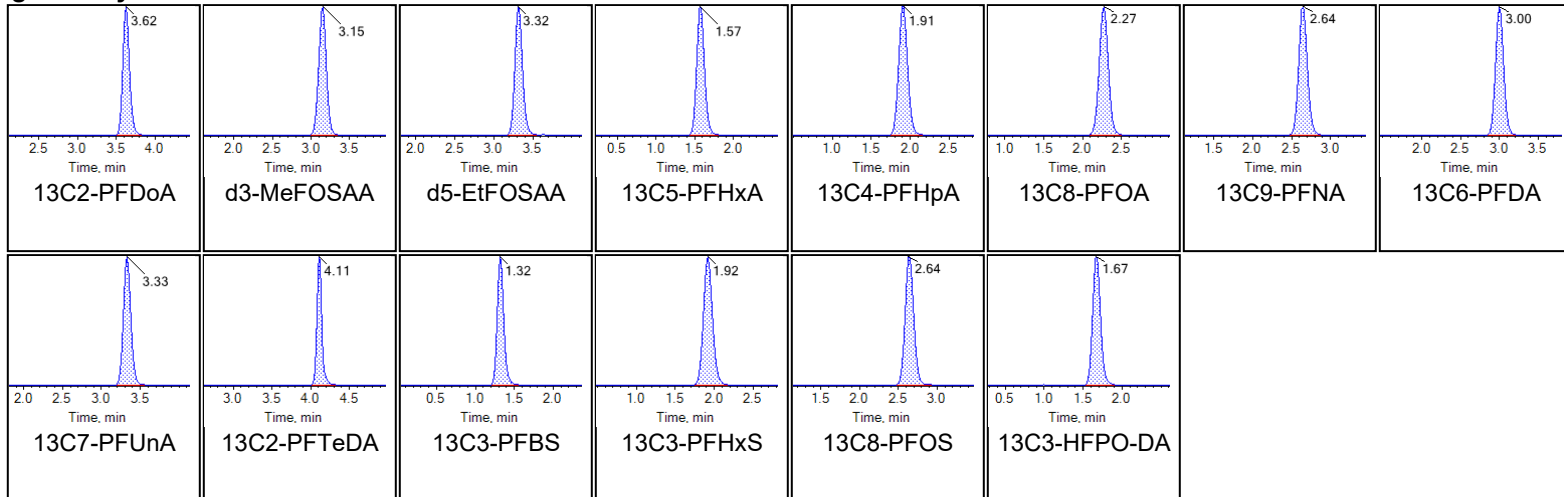
Chromatogram Report

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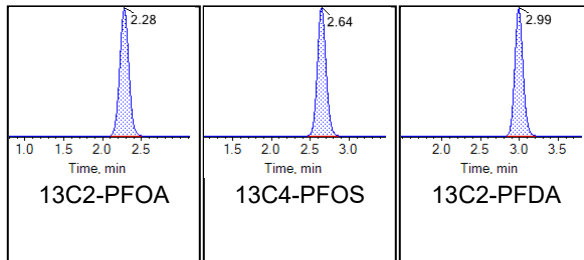
Sample Name	G1659-FS(3)	Injection Vial	27
Sample ID	CBD-AOA-SD08-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:45:44 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





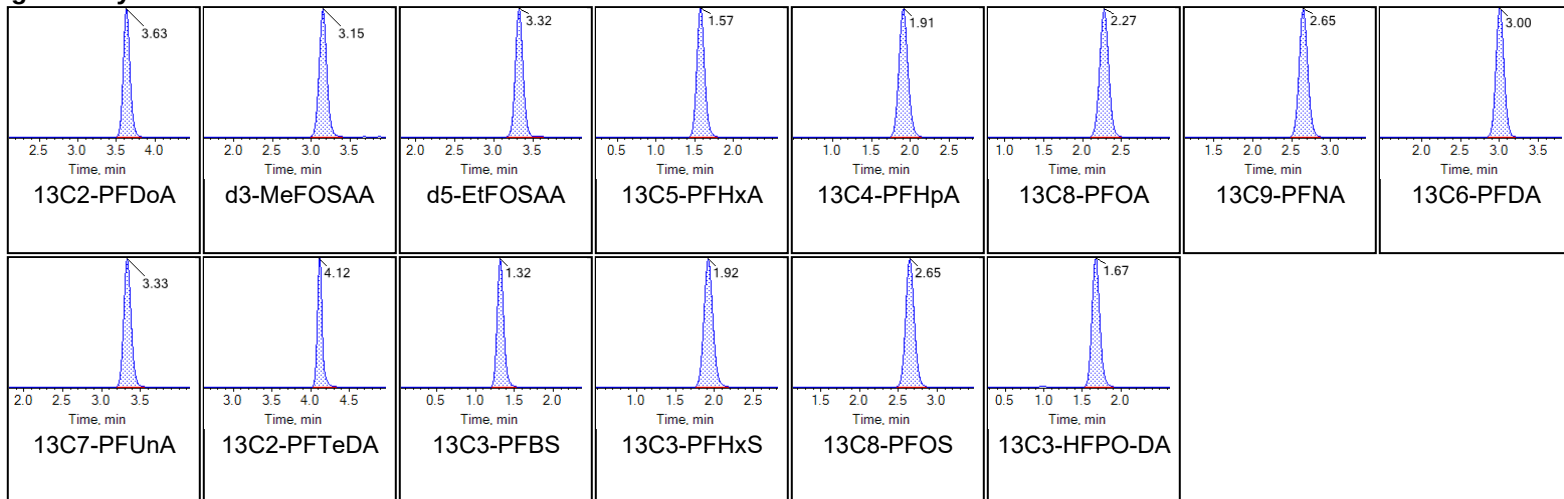
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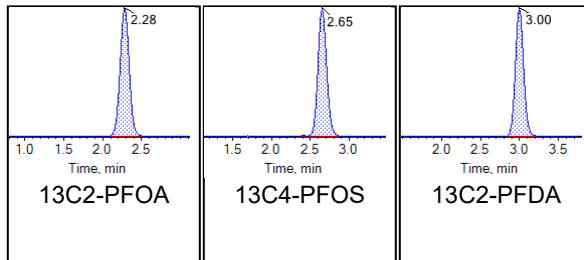
Sample Name	G1660-FS(3)	Injection Vial	28
Sample ID	CBD-AOA-SD08P-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 9:56:12 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





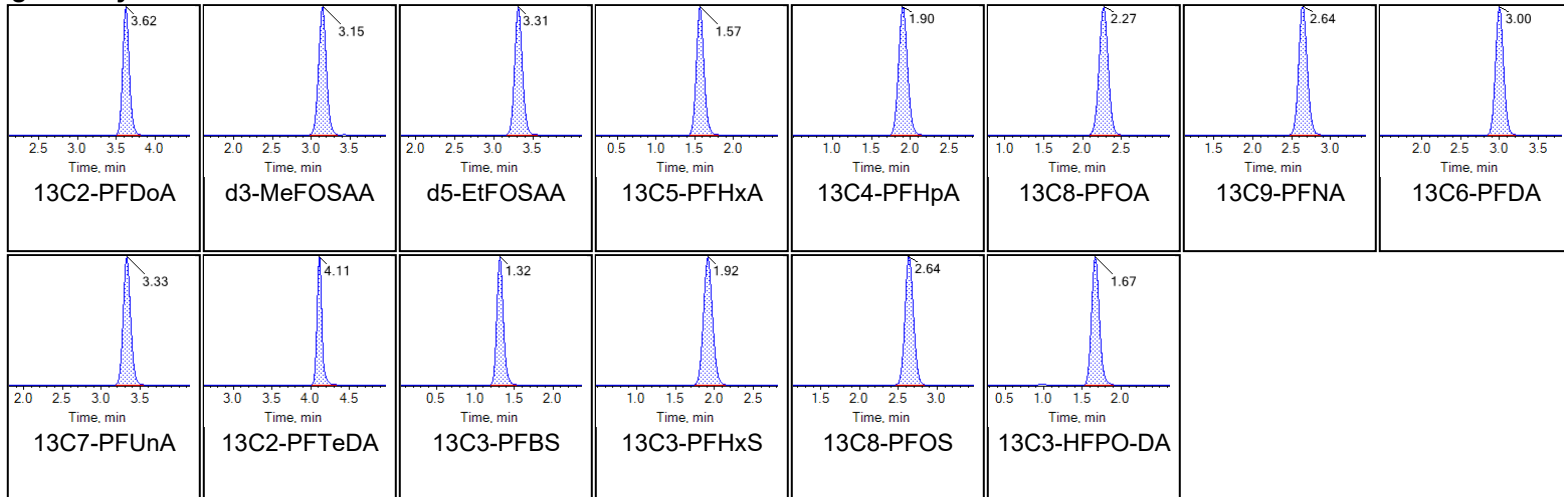
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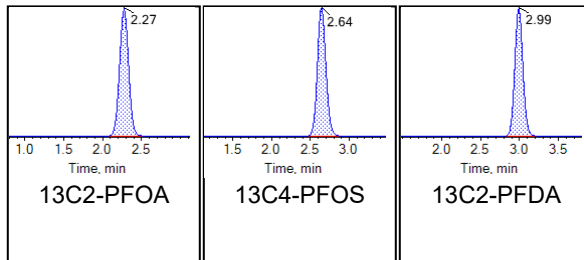
Sample Name	G1662-FS(3)	Injection Vial	29
Sample ID	CBD-AOA-SD06-000H	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:06:40 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:





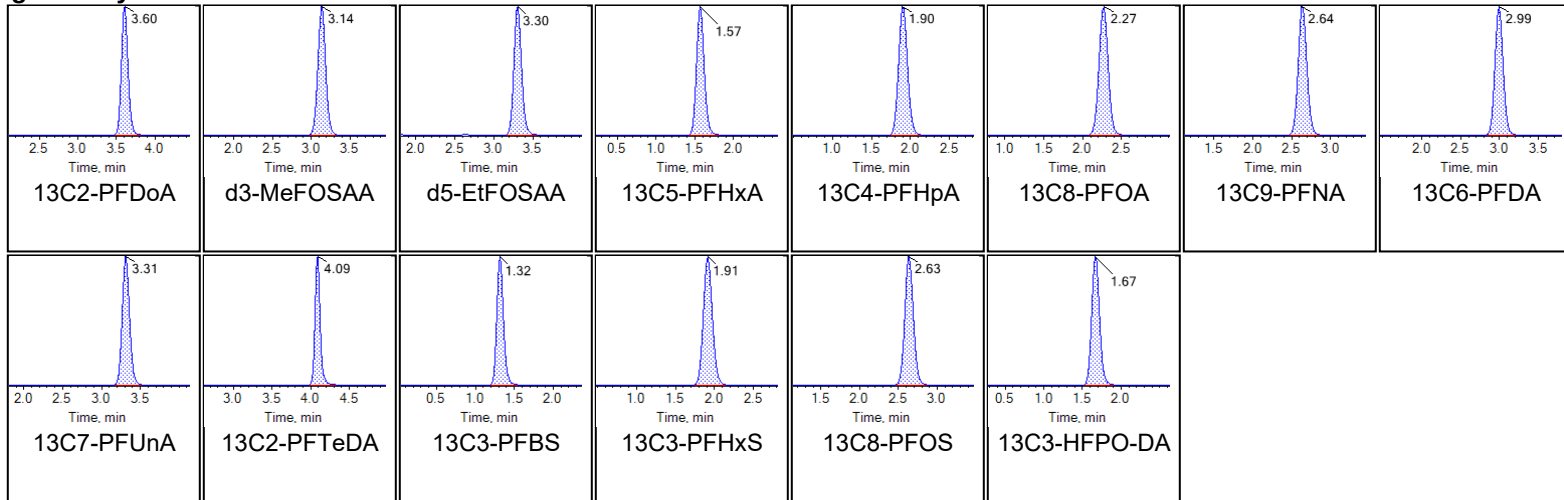
Chromatogram Report

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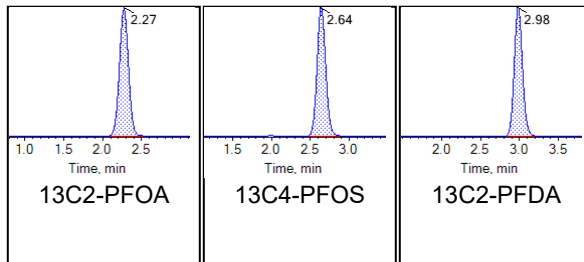
Sample Name	LD77 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	Triple Quad 6500+ Low Mass
Acquisition Date	11/2/2020 10:17:09 PM	Data File	AE_11022020_5-369.wiff
Acquisition Method	5-369.dam	Result Table	20-1297_SIS

Chromatograms

Target Analytes:



Internal Standards:



Contract ID	DO CTO Number	Phase	Installation ID	Sample Name	CH2M Code	Analysis Group	Analytical Method	PRC Code	Lab Code	Lab Name	Leachate Method	SAMPLE BASIS	Extraction Method	Result Type	Lab QC Type	SAMPLE MEDIUM	QC Level	DateTime Collected	Date Received
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
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N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020
N624701609000	4532		CHEESAPEAKE BEACH_NRL	DAB899B-FS	NONE	PFAS	PFAS_QSM5.3	PFAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	NONE	DRY	METHOD	000	BLK_SD	4	10/20/2020 00:00	10/20/2020

Leachate_Date	Leachate_Time	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	Final_Flag
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorohexanoic Acid (PFHxA)	307-244	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	1.44	1.44	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorononanoic acid (PFNA)	375-95-1	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	2.4	2.4	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	2.4	2.4	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	1.92	1.92	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	1.44	1.44	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.96	0.96	NG G	U	U	U
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C5-PFHxA	BDO-2217	72	72	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C4-PFHpA	BDO-2218	75	75	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C8-PFOA	BDO-2219	76	76	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C9-PFNA	BDO-2221	88	88	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C6-PFDA	BDO-2222	94	94	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C7-PFUnA	BDO-2223	85	85	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C2-PFDoA	BDO-2112	89	89	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C2-PFTeDA	BDO-2224	97	97	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			d3-MeFOSAA	BDO-1838	95	95	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			d5-EtFOSAA	BDO-1839	86	86	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C3-PFBS	BDO-2226	112	112	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C3-PFHxS	BDO-2227	105	105	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C8-PFOS	BDO-2228	98	98	PCT_REC			
		20201020	00:00:00	20201102	20:42:56	DA889PB-FS	10	1			13C3-HFPO-DA	BDO-2276	74	74	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorohexanoic Acid (PFHxA)	307-244	102	102	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	101	101	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorooctanoic acid (PFOA)	335-67-1	103	103	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorononanoic acid (PFNA)	375-95-1	106	106	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorodecanoic Acid (PFDA)	335-76-2	117	117	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	93	93	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	106	106	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	109	109	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	108	108	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	101	101	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	100	100	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	110	110	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	109	109	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	106	106	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	89	89	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	94	94	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	94	94	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	99	99	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C5-PFHxA	BDO-2217	74	74	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C4-PFHpA	BDO-2218	75	75	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C8-PFOA	BDO-2219	77	77	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C9-PFNA	BDO-2221	82	82	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C6-PFDA	BDO-2222	77	77	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C7-PFUnA	BDO-2223	74	74	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C2-PFDoA	BDO-2112	76	76	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C2-PFTeDA	BDO-2224	81	81	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			d3-MeFOSAA	BDO-1838	91	91	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			d5-EtFOSAA	BDO-1839	77	77	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C3-PFBS	BDO-2226	98	98	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C3-PFHxS	BDO-2227	92	92	PCT_REC			
		20201020	00:00:00	20201102	20:53:24	DA890LCS-FS	10	1			13C8-PFOS	BDO-2228	84	84	PCT_REC			
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		13C3-HFPO-DA	BDO-2276	76	76	PCT_REC			
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorohexanoic Acid (PFHxA)	307-244	2.65	2.65	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluoroheptanoic acid (PFHpA)	375-85-9	1.99	1.99	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorooctanoic acid (PFOA)	335-67-1	2.65	2.65	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorononanoic acid (PFNA)	375-95-1	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorodecanoic Acid (PFDA)	335-76-2	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorododecanoic Acid (PFDoA)	307-55-1	2.65	2.65	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	3.31	3.31	NG G	U	U	U
		20201020	00:00:00	20201102	21:03:52	G1648-FS	10	1	22.42		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	3.31					

GC Column Type	Analysis Result Type	Result Narrative	QC Control Limit Code	QC Accuracy Upper	QC Accuracy Lower	Control Limit Date	QC Narrative	MDL	Detection Limit	QSM Version	DL	LOD	LOQ	SDG	Analysis Batch	Validation QC	Validator Name	Val Date
TRG										5.3	0.68	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.48	1.44	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.58	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.47	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.44	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.43	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.58	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.26	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	1.04	2.4	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.98	2.4	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.71	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.33	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.77	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.66	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.61	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.79	1.92	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.5	1.44	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG										5.3	0.46	0.96	4.81	20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1297	DP-20-1177	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	202101

Contract ID	DO CTO Number	Phase	Installation ID	Sample Name	CH2M Code	Analysis Group	Analysis Method	PRC Code	Lab Code	Lab Name	Leachate Method	SAMPLE BASIS	Extraction Method	Result Type	Lab Qc Type	SAMPLE MEDIUM	QC Level	DateTime Collected	Date Received
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB0-A0A-S004-000H-MS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	MS	SD	4	10/13/2020 10:45	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CB															

Leachate_Date	Leachate_Time	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	Final_Flag
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorooctanoic acid (PFOA)	335-67-1	113	113	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorononanoic acid (PFNA)	375-95-1	104	104	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorodecanoic Acid (PFDA)	335-76-2	108	108	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	98	98	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorododecanoic Acid (PFDoA)	307-55-1	108	108	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	106	106	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	108	108	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	99	99	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	105	105	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorobutanesulfonic acid (PFBS)	375-73-5	111	111	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorohexanesulfonic acid (PFHxS)	355-46-4	114	114	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluorooctane Sulfonate (PFOS)	1763-23-1	94	94	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	86	86	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	103	103	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	106	106	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	112	112	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C5-PFHxA	BDO-2217	71	71	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C4-PFHpA	BDO-2218	77	77	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C8-PFOA	BDO-2219	67	67	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C9-PFNA	BDO-2221	85	85	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C6-PFDA	BDO-2222	85	85	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C7-PFUnA	BDO-2223	79	79	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C2-PFDoA	BDO-2112	82	82	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C2-PFTeDA	BDO-2224	89	89	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		d3-MeFOSAA	BDO-1838	94	94	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		d5-EtFOSAA	BDO-1839	84	84	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C3-PFBS	BDO-2226	105	105	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C3-PFHxS	BDO-2227	92	92	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C8-PFOS	BDO-2228	93	93	PCT_REC			
		20201020	00:00:00	20201102	21:14:20	G1649MS-FS	10	1	20.81		13C3-HFPO-DA	BDO-2276	78	78	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorohexanoic Acid (PFHxA)	307-24-4	105	105	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluoroheptanoic acid (PFHpA)	375-85-9	113	113	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorooctanoic acid (PFOA)	335-67-1	97	97	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorononanoic acid (PFNA)	375-95-1	107	107	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorodecanoic Acid (PFDA)	335-76-2	113	113	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	99	99	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorododecanoic Acid (PFDoA)	307-55-1	107	107	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	102	102	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	102	102	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	106	106	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	103	103	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorobutanesulfonic acid (PFBS)	375-73-5	112	112	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorohexanesulfonic acid (PFHxS)	355-46-4	108	108	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluorooctane Sulfonate (PFOS)	1763-23-1	102	102	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	93	93	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	96	96	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	100	100	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	100	100	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C5-PFHxA	BDO-2217	62	62	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C4-PFHpA	BDO-2218	61	61	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C8-PFOA	BDO-2219	66	66	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C9-PFNA	BDO-2221	88	88	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C6-PFDA	BDO-2222	79	79	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C7-PFUnA	BDO-2223	79	79	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C2-PFDoA	BDO-2112	79	79	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C2-PFTeDA	BDO-2224	89	89	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		d3-MeFOSAA	BDO-1838	95	95	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		d5-EtFOSAA	BDO-1839	85	85	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C3-PFBS	BDO-2226	101	101	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C3-PFHxS	BDO-2227	101	101	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C8-PFOS	BDO-2228	95	95	PCT_REC			
		20201020	00:00:00	20201102	21:24:48	G1650MSD-FS	10	1	22.45		13C3-HFPO-DA	BDO-2276	63	63	PCT_REC			
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorohexanoic Acid (PFHxA)	307-24-4	3.81	3.81	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluoroheptanoic acid (PFHpA)	375-85-9	2.86	2.86	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorooctanoic acid (PFOA)	335-67-1	3.81	3.81	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorononanoic acid (PFNA)	375-95-1	1.9	1.9	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorodecanoic Acid (PFDA)	335-76-2	1.9	1.9	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	1.9	1.9	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorododecanoic Acid (PFDoA)	307-55-1	3.81	3.81	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	1.9	1.9	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	4.76	4.76	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-FS	10	1	48.56		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	4.76	4.76	NG_G	U	U	U
		20201020	00:00:00	20201102	21:35:16	G1653-F												

GC Column Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validation_QC	Validator_Name	Val_Date
TRG			LSA	133	69	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	129	72	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	133	69	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	136	64	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	135	69	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	139	66	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	133	69	20171116				5.3		3.38	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	144	63	20171116				5.3		3.38	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	139	61	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	128	72	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	130	67	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	136	68	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	153	71	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	139	61	20171116				5.3		2.7	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	160	40	20171116				5.3		2.03	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG			LSA	140	60	20171116				5.3		1.35	6.76	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
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SURR			SLSP	150	50	20171116				5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR			SLSP	150	50	20171116				5.3				20-1297	DP-20-1177	FULL_VALIDATION		

Contract ID	DO CTO Number	Phase	Installation ID	Sample Name	CH2M Code	Analysis Group	Analytical Method	PRC Code	Lab Code	Lab Name	Leachate Method	SAMPLE BASIS	Extraction Method	Result Type	Lab QC type	SAMPLE MEDIUM	QC Level	DateTime Collected	Date Received
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
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N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
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N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PFQAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	DRY	METHOD	000	REG	SD	4	10/13/2020 13:10	10/14/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-S008-000H	NONE	PFAS	PFAS QSM5.3	PF											

Leachate_Date	Leachate_Time	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	Final_Flag
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorodecanoic Acid (PFDA)	335-76-2	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	1.24	1.24	NG G	J	J	J
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorododecanoic Acid (PFDoA)	307-55-1	2.63	2.63	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	1.1	1.1	NG G	J	J	J
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	3.29	3.29	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	3.29	3.29	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	2.63	2.63	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorohexanesulfonic acid (PFHxS)	355-46-4	2.63	2.63	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluorooctane Sulfonate (PFOS)	1763-23-1	7.49	7.49	NG G			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	2.63	2.63	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	2.63	2.63	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	1.97	1.97	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	1.32	1.32	NG G	U	U	U
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C5-PFHxA	BDO-2217	71	71	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C4-PFHpA	BDO-2218	72	72	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C8-PFOA	BDO-2219	76	76	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C9-PFNA	BDO-2221	96	96	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C6-PFDA	BDO-2222	88	88	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C7-PFUnA	BDO-2223	82	82	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C2-PFDoA	BDO-2112	88	88	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C2-PFTeDA	BDO-2224	91	91	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		d3-MeFOSAA	BDO-1838	95	95	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		d5-EtFOSAA	BDO-1839	93	93	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C3-PFBS	BDO-2226	104	104	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C3-PFHxS	BDO-2227	101	101	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C8-PFOS	BDO-2228	109	109	PCT REC			
		20201020	00:00:00	20201102	21:45:44	G1659-FS	10	1	19.26		13C3-HFPO-DA	BDO-2276	68	68	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorohexanoic Acid (PFHxA)	307-24-4	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluoroheptanoic acid (PFHpA)	375-85-9	1.81	1.81	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorooctanoic acid (PFOA)	335-67-1	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorononanoic acid (PFNA)	375-95-1	1.2	1.2	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorodecanoic Acid (PFDA)	335-76-2	1.2	1.2	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	1.11	1.11	NG G	J	J	J
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorododecanoic Acid (PFDoA)	307-55-1	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.97	0.97	NG G	J	J	J
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	3.01	3.01	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	3.01	3.01	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.2	1.2	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorohexanesulfonic acid (PFHxS)	355-46-4	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluorooctane Sulfonate (PFOS)	1763-23-1	6.1	6.1	NG G			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	2.41	2.41	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	1.81	1.81	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	1.2	1.2	NG G	U	U	U
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C5-PFHxA	BDO-2217	66	66	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C4-PFHpA	BDO-2218	67	67	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C8-PFOA	BDO-2219	71	71	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C9-PFNA	BDO-2221	92	92	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C6-PFDA	BDO-2222	83	83	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C7-PFUnA	BDO-2223	80	80	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C2-PFDoA	BDO-2112	80	80	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C2-PFTeDA	BDO-2224	89	89	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		d3-MeFOSAA	BDO-1838	96	96	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		d5-EtFOSAA	BDO-1839	92	92	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C3-PFBS	BDO-2226	104	104	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C3-PFHxS	BDO-2227	103	103	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C8-PFOS	BDO-2228	101	101	PCT REC			
		20201020	00:00:00	20201102	21:56:12	G1660-FS	10	1	19.72		13C3-HFPO-DA	BDO-2276	67	67	PCT REC			
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorohexanoic Acid (PFHxA)	307-24-4	2.7	2.7	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluoroheptanoic acid (PFHpA)	375-85-9	2.03	2.03	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorooctanoic acid (PFOA)	335-67-1	2.7	2.7	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorononanoic acid (PFNA)	375-95-1	1.19	1.19	NG G	J	J	J
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorodecanoic Acid (PFDA)	335-76-2	1.35	1.35	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluoroundecanoic Acid (PFUnA)	2058-94-8	3.39	3.39	NG G	J	J	J
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorododecanoic Acid (PFDoA)	307-55-1	2.7	2.7	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	5.23	5.23	NG G	J	J	J
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	3.38	3.38	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	3.38	3.38	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS	10	1	24.08		N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	2.7	2.7	NG G	U	U	U
		20201020	00:00:00	20201102	22:06:40	G1662-FS												

GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validation_QC	Validator_Name	Val_Date	
	TRG										5.3	0.6	1.32	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.6	1.32	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.8	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.36	1.32	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	1.42	3.29	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	1.34	3.29	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.98	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.46	1.32	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	1.06	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.91	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.84	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	1.09	2.63	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.68	1.97	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG										5.3	0.63	1.32	6.58	20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
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	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
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	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
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	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116					5.3				20-1297	DP-20-1177	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115

**DATA VALIDATION SUMMARY REPORT
NAVAL RESEARCH LABORATORY, MARYLAND**

Client: CH2M HILL, Inc., Herndon, Virginia
SDG: 20-1297
Laboratory: Battelle Norwell Operations, Norwell, Massachusetts
Site: Naval Research Laboratory (NRL), Chesapeake Beach, Maryland
Date: January 10, 2021

PFAS			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CBD-AOA-SD04-000H	G1648-FS	Sediment
1MS	CBD-AOA-SD04-000HMS	G1649-FS	Sediment
1MSD	CBD-AOA-SD04-000HMSD	G1650-FS	Sediment
2	CBD-AOA-SD02-000H	G1653-FS	Sediment
3	CBD-AOA-SD08-000H	G1659-FS	Sediment
4	CBD-AOA-SD08P-000H	G1660-FS	Sediment
5	CBD-AOA-SD06-000H	G1662-FS	Sediment

A Stage 2B/4 data validation was performed on the analytical data for five sediment samples collected on October 13, 2020 by CH2M HILL at the Naval Research Laboratory Site 10 Fire Testing Area in Maryland. The samples were analyzed under the Analysis of Poly and Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS).

Specific method references are as follows:

Analysis
PFAS

Method References
Battelle SOP 5-369-08

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Final Sampling and Analysis Plan Site 10 Fire Testing Area Site Inspection, Naval Research Laboratory, August 2020, and the DoD Final General Data Validation Guidelines, November 2019, including the following Module:

- The Department of Defense (DoD) Data Validation Guidelines Module 3, Data Validation Procedure for Per- and Polyfluoroalkyl Substances Analysis by Quality Systems Manual for Environmental Laboratories (QSM) Table B-15, May 2020;
- 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
- Laboratory Fortified Blank (LFB)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Stage 2B/4) 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 serious deficiencies of data.

The data are acceptable for the intended purposes. There were no qualifications.

Per- and Polyfluoroalkyl Substances (PFAS)

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 sediment 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) criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-AOA-EB01-101320-SD	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate percent recoveries (%R).

Laboratory Fortified Blank (LFB)

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

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

- The MS/MSD 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 results are summarized below. The precision was acceptable.

Compound	CBD-AOA-SD08-000H ng/g	CBD-AOA-SD08P-000H ng/g	RPD	Qualifier
PFUnA	1.24	1.11	11%	None
PFTTrDA	1.10	0.975	12%	
PFOS	7.49	6.10	20%	

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

Signed: Nancy Weaver
Nancy Weaver
Senior Chemist

Dated: 1/14/21

Qualifier	Definition
U	The analyte was not detected and was reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.
J	The reported result was an estimated value with an unknown bias.
J+	The result was an estimated quantity, but the result may be biased high.
J-	The result was an estimated quantity, but the result may be biased low.
N	The analysis indicates the presence of an analyte for which there was presumptive evidence to make a "tentative identification."
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value was the estimated concentration in the sample.
UJ	The analyte was not detected and was reported as less than the LOD or as defined by the customer. However, the associated numerical value is approximate.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-SD04-000H

Battelle ID G1648-FS
 Sample Type SA
 Collection Date 10/13/2020
 Extraction Date 10/20/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture 22.42
 Matrix SD
 Sample Size 1.51
 Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	2.65 U	G1648-FS(3)	10.000	11/2/2020	0.936	2.65	6.62
PFHpA	375-85-9	1.99 U	G1648-FS(3)	10.000	11/2/2020	0.670	1.99	6.62
PFOA	335-67-1	2.65 U	G1648-FS(3)	10.000	11/2/2020	0.804	2.65	6.62
PFNA	375-95-1	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.650	1.32	6.62
PFDA	335-76-2	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.613	1.32	6.62
PFUnA	2058-94-8	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.605	1.32	6.62
PFDoA	307-55-1	2.65 U	G1648-FS(3)	10.000	11/2/2020	0.811	2.65	6.62
PFTTrDA	72629-94-8	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.371	1.32	6.62
PFTeDA	376-06-7	3.31 U	G1648-FS(3)	10.000	11/2/2020	1.43	3.31	6.62
NMeFOSAA	2355-31-9	3.31 U	G1648-FS(3)	10.000	11/2/2020	1.35	3.31	6.62
NEtFOSAA	2991-50-6	2.65 U	G1648-FS(3)	10.000	11/2/2020	0.991	2.65	6.62
PFBS	375-73-5	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.464	1.32	6.62
PFHxS	355-46-4	2.65 U	G1648-FS(3)	10.000	11/2/2020	1.07	2.65	6.62
PFOS	1763-23-1	1.63 J	G1648-FS(3)	10.000	11/2/2020	0.917	2.65	6.62
HFPO-DA	13252-13-6	2.65 U	G1648-FS(3)	10.000	11/2/2020	0.849	2.65	6.62
Adona	919005-14-4	2.65 U	G1648-FS(3)	10.000	11/2/2020	1.10	2.65	6.62
9CI-PF3ONS	756426-58-1	1.32 U	G1648-FS(3)	10.000	11/2/2020	0.638	1.32	6.62
11CI-PF3OUdS	763051-92-9	1.99 U	G1648-FS(3)	10.000	11/2/2020	0.694	1.99	6.62

mw 11/10/21

Analyzed by: Schultz, Stephanie
 Printed: 11/9/2020



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Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-SD02-000H

Battelle ID G1653-FS
 Sample Type SA
 Collection Date 10/13/2020
 Extraction Date 10/20/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture 48.56
 Matrix SD
 Sample Size 1.05
 Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.35	3.81	9.52
PFHpA	375-85-9	2.86 U	G1653-FS(3)	10.000	11/2/2020	0.964	2.86	9.52
PFOA	335-67-1	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.16	3.81	9.52
PFNA	375-95-1	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.935	1.90	9.52
PFDA	335-76-2	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.882	1.90	9.52
PFUnA	2058-94-8	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.870	1.90	9.52
PFDoA	307-55-1	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.17	3.81	9.52
PFTrDA	72629-94-8	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.533	1.90	9.52
PFTeDA	376-06-7	4.76 U	G1653-FS(3)	10.000	11/2/2020	2.06	4.76	9.52
NMeFOSAA	2355-31-9	4.76 U	G1653-FS(3)	10.000	11/2/2020	1.94	4.76	9.52
NeFOSAA	2991-50-6	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.42	3.81	9.52
PFBS	375-73-5	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.667	1.90	9.52
PFHxS	355-46-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.54	3.81	9.52
PFOS	1763-23-1	2.64 J	G1653-FS(3)	10.000	11/2/2020	1.32	3.81	9.52
HFPO-DA	13252-13-6	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.22	3.81	9.52
Adona	919005-14-4	3.81 U	G1653-FS(3)	10.000	11/2/2020	1.58	3.81	9.52
9CI-PF3ONS	756426-58-1	1.90 U	G1653-FS(3)	10.000	11/2/2020	0.918	1.90	9.52
11CI-PF3OUdS	763051-92-9	2.86 U	G1653-FS(3)	10.000	11/2/2020	0.998	2.86	9.52

NW110121

Analyzed by: Schultz, Stephanie
 Printed: 11/9/2020



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Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-SD08-000H

Battelle ID G1659-FS
 Sample Type SA
 Collection Date 10/13/2020
 Extraction Date 10/20/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture 19.26
 Matrix SD
 Sample Size 1.52
 Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.930	2.63	6.58
PFHpA	375-85-9	1.97 U	G1659-FS(3)	10.000	11/2/2020	0.666	1.97	6.58
PFOA	335-67-1	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.799	2.63	6.58
PFNA	375-95-1	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.646	1.32	6.58
PFDA	335-76-2	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.609	1.32	6.58
PFUnA	2058-94-8	1.24 J	G1659-FS(3)	10.000	11/2/2020	0.601	1.32	6.58
PFDoA	307-55-1	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.805	2.63	6.58
PFTiDA	72629-94-8	1.10 J	G1659-FS(3)	10.000	11/2/2020	0.368	1.32	6.58
PFTeDA	376-06-7	3.29 U	G1659-FS(3)	10.000	11/2/2020	1.42	3.29	6.58
NMeFOSAA	2355-31-9	3.29 U	G1659-FS(3)	10.000	11/2/2020	1.34	3.29	6.58
NEtFOSAA	2991-50-6	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.984	2.63	6.58
PFBS	375-73-5	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.461	1.32	6.58
PFHxS	355-46-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	1.06	2.63	6.58
PFOS	1763-23-1	7.49	G1659-FS(3)	10.000	11/2/2020	0.911	2.63	6.58
HFPO-DA	13252-13-6	2.63 U	G1659-FS(3)	10.000	11/2/2020	0.843	2.63	6.58
Adona	919005-14-4	2.63 U	G1659-FS(3)	10.000	11/2/2020	1.09	2.63	6.58
9CI-PF3ONS	756426-58-1	1.32 U	G1659-FS(3)	10.000	11/2/2020	0.634	1.32	6.58
11CI-PF3OUdS	763051-92-9	1.97 U	G1659-FS(3)	10.000	11/2/2020	0.689	1.97	6.58

11/11/21

Analyzed by: Schultz, Stephanie
 Printed: 11/9/2020



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Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

Client ID CBD-AOA-SD08P-000H

Battelle ID G1660-FS
 Sample Type SA
 Collection Date 10/13/2020
 Extraction Date 10/20/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture 19.72
 Matrix SD
 Sample Size 1.66
 Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.852	2.41	6.02
PFHpA	375-85-9	1.81 U	G1660-FS(3)	10.000	11/2/2020	0.610	1.81	6.02
PFOA	335-67-1	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.731	2.41	6.02
PFNA	375-95-1	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.592	1.20	6.02
PFDA	335-76-2	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.558	1.20	6.02
PFUnA	2058-94-8	1.11 J	G1660-FS(3)	10.000	11/2/2020	0.551	1.20	6.02
PFDoA	307-55-1	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.737	2.41	6.02
PFTrDA	72629-94-8	0.975 J	G1660-FS(3)	10.000	11/2/2020	0.337	1.20	6.02
PFTeDA	376-06-7	3.01 U	G1660-FS(3)	10.000	11/2/2020	1.30	3.01	6.02
NMeFOSAA	2355-31-9	3.01 U	G1660-FS(3)	10.000	11/2/2020	1.23	3.01	6.02
NeFOSAA	2991-50-6	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.901	2.41	6.02
PFBS	375-73-5	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.422	1.20	6.02
PFHxS	355-46-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.973	2.41	6.02
PFOS	1763-23-1	6.10	G1660-FS(3)	10.000	11/2/2020	0.834	2.41	6.02
HFPO-DA	13252-13-6	2.41 U	G1660-FS(3)	10.000	11/2/2020	0.772	2.41	6.02
Adona	919005-14-4	2.41 U	G1660-FS(3)	10.000	11/2/2020	1.00	2.41	6.02
9CI-PF3ONS	756426-58-1	1.20 U	G1660-FS(3)	10.000	11/2/2020	0.581	1.20	6.02
11CI-PF3OUdS	763051-92-9	1.81 U	G1660-FS(3)	10.000	11/2/2020	0.631	1.81	6.02



Project Client: CH2M
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 Project No.: 100142218

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Client ID CBD-AOA-SD06-000H

Battelle ID G1662-FS
 Sample Type SA
 Collection Date 10/13/2020
 Extraction Date 10/20/2020
 Analytical Instrument Sciex 6500+ (AE) LC/MS/MS
 % Moisture 24.08
 Matrix SD
 Sample Size 1.48
 Size Unit-Basis g

Analyte	CAS No.	Result (ng/g_Dry)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.955	2.70	6.76
PFHpA	375-85-9	2.03 U	G1662-FS(3)	10.000	11/2/2020	0.684	2.03	6.76
PFOA	335-67-1	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.820	2.70	6.76
PFNA	375-95-1	1.19 J	G1662-FS(3)	10.000	11/2/2020	0.664	1.35	6.76
PFDA	335-76-2	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.626	1.35	6.76
PFUnA	2058-94-8	3.39 J	G1662-FS(3)	10.000	11/2/2020	0.618	1.35	6.76
PFDoA	307-55-1	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.827	2.70	6.76
PFTrDA	72629-94-8	5.23 J	G1662-FS(3)	10.000	11/2/2020	0.378	1.35	6.76
PFTeDA	376-06-7	3.38 U	G1662-FS(3)	10.000	11/2/2020	1.46	3.38	6.76
NMeFOSAA	2355-31-9	3.38 U	G1662-FS(3)	10.000	11/2/2020	1.38	3.38	6.76
NEtFOSAA	2991-50-6	2.70 U	G1662-FS(3)	10.000	11/2/2020	1.01	2.70	6.76
PFBS	375-73-5	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.473	1.35	6.76
PFHxS	355-46-4	1.40 J	G1662-FS(3)	10.000	11/2/2020	1.09	2.70	6.76
PFOS	1763-23-1	34.9	G1662-FS(3)	10.000	11/2/2020	0.935	2.70	6.76
HFPO-DA	13252-13-6	2.70 U	G1662-FS(3)	10.000	11/2/2020	0.866	2.70	6.76
Adona	919005-14-4	2.70 U	G1662-FS(3)	10.000	11/2/2020	1.12	2.70	6.76
9CI-PF3ONS	756426-58-1	1.35 U	G1662-FS(3)	10.000	11/2/2020	0.651	1.35	6.76
11CI-PF3OUdS	763051-92-9	2.03 U	G1662-FS(3)	10.000	11/2/2020	0.708	2.03	6.76

100142218
 Analyzed by: Schultz, Stephanie
 Printed: 11/9/2020

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESCRIPTION	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
CBD-AOA-SWSD02	SITE 00010	CHESAPEAKE_BEACH_NRL	SWSD	Surface Water/Sediment	20-1297	1445382.26	360845.6	Perfluoroalkyl Compounds	CBD-AOA-SD02-000H	SE	Sediment	13-Oct-20
CBD-AOA-SWSD04	SITE 00010	CHESAPEAKE_BEACH_NRL	SWSD	Surface Water/Sediment	20-1297	1445697.63	360641.15	Perfluoroalkyl Compounds	CBD-AOA-SD04-000H	SE	Sediment	13-Oct-20
CBD-AOA-SWSD06	SITE 00010	CHESAPEAKE_BEACH_NRL	SWSD	Surface Water/Sediment	20-1297	1445768.61	362342.14	Perfluoroalkyl Compounds	CBD-AOA-SD06-000H	SE	Sediment	13-Oct-20
CBD-AOA-SWSD08	SITE 00010	CHESAPEAKE_BEACH_NRL	SWSD	Surface Water/Sediment	20-1297	1445958.45	362658.46	Perfluoroalkyl Compounds	CBD-AOA-SD08-000H	SE	Sediment	13-Oct-20
CBD-AOA-SWSD08	SITE 00010	CHESAPEAKE_BEACH_NRL	SWSD	Surface Water/Sediment	20-1297	1445958.45	362658.46	Perfluoroalkyl Compounds	CBD-AOA-SD08P-000H	SE	Sediment	13-Oct-20