



**Groundwater Sample Results,
Level 4 Laboratory Report, Electronic Data
Deliverable, Data Validation Report, Sample Location
Report, SDG 20-1329**

NRL

Chesapeake, Bay Detachment, MD

October 2021

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

Project No 100142218

PFAS by DoD QSM 5.3 Table B-15

AQ, GW

Batch 20-1329

Package DP-20-1205

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
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Submitted to:
CH2M
5701 Cleveland Street
Virginia Beach, VA 23462 USA

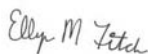
NELAP Accreditation Number: E87856 (Florida Department of Health)

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

Analyst Approval:


Digitally signed by
Lauren Griffith
Date: 2020.11.17
17:39:27 -05'00'

QC Chemist Approval:



Digitally signed by Ellyn M. Fitch
Date: 2020.11.18 16:19:13 -05'00'

Project Manager Approval:



Digitally signed by Jonathan Thorn
Date: 2020.11.18 16:30:51 -05'00'

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

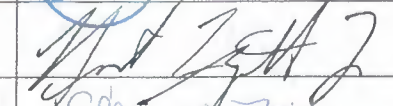
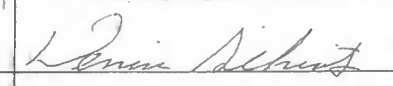
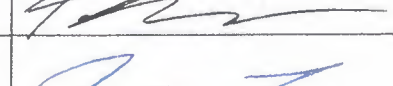
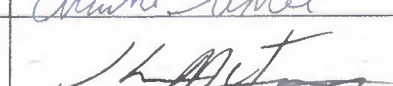
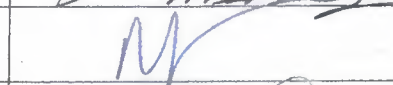
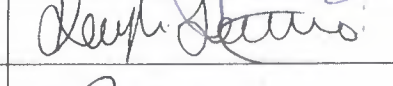
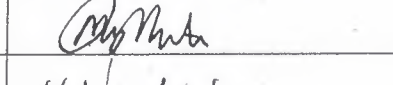
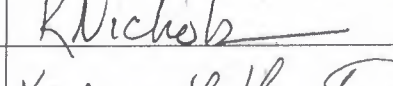
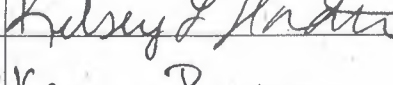
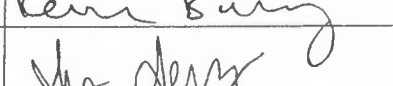
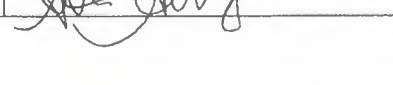
AQ, GW

Batch 20-1329

Package DP-20-1205

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 Schmitz		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 Schmitz		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: 20-1329
 Project/Site: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
 CTO: 4532

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
DB009PB-FS	Procedural Blank	WATER	10/23/2020	10/23/2020
DB010LCS-FS	Laboratory Control Sample	WATER	10/23/2020	10/23/2020
G1794-FS	CBD-AOA-MW07-1020	GW	10/20/2020	10/22/2020
G1795-FS	CBD-AOA-MW17-1020	GW	10/20/2020	10/22/2020
G1796-FS	CBD-AOA-MW19-1020	GW	10/20/2020	10/22/2020
G1797-FS	CBD-AOA-FB05-102020	AQ	10/20/2020	10/22/2020
G1798-FS	CBD-AOA-EB01-102020-GW	AQ	10/20/2020	10/22/2020
G1799-FS	CBD-BKG-MW01-1020	GW	10/20/2020	10/22/2020
G1800-FS	CBD-BKG-MW02-1020	GW	10/20/2020	10/22/2020
G1801-FS	CBD-SO3-MW02-1020	GW	10/20/2020	10/22/2020
G1802-FS	CBD-AOA-MW09-1020	GW	10/21/2020	10/22/2020
G1803-FS	CBD-AOA-MW05-1020	GW	10/21/2020	10/22/2020
G1804-FS	CBD-AOA-EB01-102120-GW	AQ	10/21/2020	10/22/2020

Work Plan



WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: CTO-4532: PFAS in Water
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(L)-02
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 10/29/2020

2.0 SCOPE OF WORK

Overview: Analysis of non-potable water for PFAS.
Matrix: Water

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:
51	20	3

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	No	NA	
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:	250 ml
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 Low Level Labelled Extracted Internal Standard (SIS)	LC22 SIS	~ 1.13 - 1.25 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	~ 7.5 ng	75 uL	Vary spikes 25 (LCS only), 50, 75, 100, 125 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	3	12	NA
Sample Preparation	9	3	27	NA
Instrument Analysis	10	3	30	NA
Quality Control Review	3	3	9	NA
Quality Assurance Review	1	3	3	NA

7.0 STAFF DEVELOPMENT

None anticipated.



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-201005-02

Status: Pending

Description: Site 10 SI

Range: G1071-G1072

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1071	CBD-AOA-EB01-100220-SO	10/02/2020 2:10 pm	AQ	R0119 (NA)			
2	G1072	CBD-AOA-FB01-100220	10/02/2020 2:00 pm	AQ	R0119 (NA)			

Shipment: SHP-201012-02

Status: Pending

Description: Site 10

Range: G1524-G1525

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1524	CBD-AOA-FB02-100920	10/09/2020 1:00 pm	AQ	R0119 (NA)			
2	G1525	CBD-AOA-EB02-100920-SO	10/09/2020 1:10 pm	AQ	R0119 (NA)			

Shipment: SHP-201014-03

Status: Pending

Description: Site 10 SI

Range: G1644-G1668

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1644	CBD-AOA-SW07-1020	10/13/2020 10:00 am	SW	R0119 (NA)			
2	G1645	CBD-AOA-SW05-1020	10/13/2020 10:20 am	SW	R0119 (NA)			
3	G1646	CBD-AOA-SW03-1020	10/13/2020 10:35 am	SW	R0119 (NA)			
4	G1647	CBD-AOA-SW04-1020	10/13/2020 10:40 am	SW	R0119 (NA)			
5	G1651	CBD-AOA-SW02-1020	10/13/2020 11:30 am	SW	R0119 (NA)			
6	G1652	CBD-AOA-SW02P-1020	10/13/2020 11:35 am	SW	R0119 (NA)			
7	G1654	CBD-AOA-SW01-1020	10/13/2020 12:00 pm	SW	R0119 (NA)			
8	G1655	CBD-AOA-FB03-101320	10/13/2020 12:20 pm	AQ	R0119 (NA)			
9	G1656	CBD-AOA-EB01-101320-SW	10/13/2020 12:25 pm	AQ	R0119 (NA)			
10	G1657	CBD-AOA-EB01-101320-SD	10/13/2020 12:30 pm	AQ	R0119 (NA)			
11	G1658	CBD-AOA-SW08-1020	10/13/2020 1:00 pm	SW	R0119 (NA)			
12	G1661	CBD-AOA-SW06-1020	10/13/2020 1:25 pm	SW	R0119 (NA)			
13	G1663	CBD-AOA-SW11-1020	10/13/2020 2:00 pm	SW	R0119 (NA)			
14	G1664	CBD-AOA-SW11P-1020	10/13/2020 2:05 pm	SW	R0119 (NA)			
15	G1665	CBD-AOA-SW10-1020	10/13/2020 2:10 pm	SW	R0119 (NA)			
16	G1666	CBD-AOA-SW10-1020-MS	10/13/2020 2:10 pm	SW	R0119 (NA)			



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201014-03

Status: Pending

Description: Site 10 SI

Range: G1644-G1668

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
17	G1667	CBD-AOA-SW10-1020-SD	10/13/2020 2:10 pm	SW	R0119 (NA)			
18	G1668	CBD-AOA-SW09-1020	10/13/2020 2:25 pm	SW	R0119 (NA)			

Shipment: SHP-201016-02

Status: Pending

Description: Site 10 SI

Range: G1696-G1702

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1696	CBD-HVG-GW10-1020	10/14/2020 3:15 pm	GW	R0119 (NA)			
2	G1697	CBD-HVG-GW09-1020	10/14/2020 3:30 pm	GW	R0119 (NA)			
3	G1698	CBD-EB01-101420-GW	10/14/2020 3:40 pm	AQ	R0119 (NA)			
4	G1699	CBD-AOA-MW10-1020	10/15/2020 10:25 am	GW	R0119 (NA)			
5	G1700	CBD-BKG-MW03-1020	10/15/2020 2:00 pm	GW	R0119 (NA)			
6	G1701	CBD-SO4-MW01-1020	10/15/2020 3:25 pm	GW	R0119 (NA)			
7	G1702	CBD-SO4-MW01P-1020	10/15/2020 3:30 pm	GW	R0119 (NA)			

Shipment: SHP-201019-01

Status: Pending

Description: Site 10 SI

Range: G1707-G1709

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1707	CBD-AOA-MW15-1020	10/16/2020 10:40 am	GW	R0119 (NA)			
2	G1708	CBD-AOA-MW16-1020	10/16/2020 12:05 pm	GW	R0119 (NA)			MS/MSD
3	G1709	CBD-FB04-101620	10/16/2020 12:10 pm	AQ	R0119 (NA)			

Shipment: SHP-201020-04

Status: Pending

Description: Site 10 SI

Range: G1765-G1775

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1765	CBD-AOA-MW04-1020	10/19/2020 10:20 am	GW	R0119 (NA)			
2	G1766	CBD-AOA-MW01-1020	10/19/2020 10:35 am	GW	R0119 (NA)			
3	G1767	CBD-AOA-MW01P-1020	10/19/2020 10:40 am	GW	R0119 (NA)			
4	G1768	CBD-AOA-MW03-1020	10/19/2020 11:35 am	GW	R0119 (NA)			



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Shipment: SHP-201020-04

Status: Pending

Description: Site 10 SI

Range: G1765-G1775

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
5	G1769	CBD-AOA-MW08-1020	10/19/2020 12:55 pm	GW	R0119 (NA)			
6	G1770	CBD-AOA-MW08-1020-MS	10/19/2020 12:55 pm	GW	R0119 (NA)			
7	G1771	CBD-AOA-MW08-1020-SD	10/19/2020 12:55 pm	GW	R0119 (NA)			
8	G1772	CBD-AOA-MW02-1020	10/19/2020 1:10 pm	GW	R0119 (NA)			
9	G1773	CBD-AOA-MW18-1020	10/19/2020 2:35 pm	GW	R0119 (NA)			
10	G1774	CBD-AOA-EB01-101920-GW	10/19/2020 4:00 pm	AQ	R0119 (NA)			
11	G1775	CBD-SO3-MW01-1020	10/19/2020 3:20 pm	GW	R0119 (NA)			

Shipment: SHP-201022-01

Status: Pending

Description: Site 10 SI

Range: G1794-G1801

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1794	CBD-AOA-MW07-1020	10/20/2020 3:50 pm	GW	R0118 (NA)			
2	G1795	CBD-AOA-MW17-1020	10/20/2020 3:45 pm	GW	R0118 (NA)			
3	G1796	CBD-AOA-MW19-1020	10/20/2020 1:45 pm	GW	R0118 (NA)			
4	G1797	CBD-AOA-FB05-102020	10/20/2020 12:40 pm	AQ	R0118 (NA)			Field Blank - GW this week
5	G1798	CBD-AOA-EB01-102020-GW	10/20/2020 4:20 pm	AQ	R0118 (NA)			Equipment Blank - monsoon pump
6	G1799	CBD-BKG-MW01-1020	10/20/2020 2:20 pm	GW	R0118 (NA)			
7	G1800	CBD-BKG-MW02-1020	10/20/2020 3:25 pm	GW	R0118 (NA)			
8	G1801	CBD-SO3-MW02-1020	10/20/2020 12:00 pm	GW	R0118 (NA)			

Shipment: SHP-201022-02

Status: Pending

Description: Site 10 SI

Range: G1802-G1804

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G1802	CBD-AOA-MW09-1020	10/21/2020 9:35 am	GW	R0119 (NA)			
2	G1803	CBD-AOA-MW05-1020	10/21/2020 10:25 am	GW	R0119 (NA)			
3	G1804	CBD-AOA-EB01-102120-GW	10/21/2020 10:35 am	AQ	R0119 (NA)			Equipment Blank - monsoon



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-201029-03
Status: Pending
Description: Site 10 SI
Range: G2203-G2212
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	G2203	CBD-AOA-MW06-1020	10/27/2020 10:00 am	GW	R0119 (NA)			
2	G2204	CBD-AOA-EB01-102720-GW	10/27/2020 10:10 am	AQ	R0119 (NA)			
3	G2205	CBD-AOA-MW12-1020	10/28/2020 1:45 pm	GW	R0119 (NA)			
4	G2206	CBD-AOA-MW11-1020	10/28/2020 3:30 pm	GW	R0119 (NA)			
5	G2207	CBD-AOA-MW11P-1020	10/28/2020 3:35 pm	GW	R0119 (NA)			
6	G2208	CBD-AOA-FB01-102820	10/28/2020 3:55 pm	AQ	R0119 (NA)			
7	G2209	CBD-AOA-EB01-102820-GW	10/28/2020 4:40 pm	AQ	R0119 (NA)			
8	G2210	CBD-AOA-MW14-1020	10/28/2020 4:35 pm	GW	R0119 (NA)			
9	G2211	CBD-AOA-MW13-1020	10/28/2020 5:10 pm	GW	R0119 (NA)			
10	G2212	CBD-AOA-IW01-102820	10/28/2020 5:30 pm	AQ	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:	L - Liquid Samples, like water or sea water, 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/L	Unit Conversion: (none)	Sample: 14	DL_Flag: U
Weight Basis:	LIQUID	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-butanedisulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanedisulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanedisulfonate	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-201022-01

It can be done

Battelle Project No: _____

Sample Receipt Form

Approved: ☐ Authorized: ☐Project Number: 708207CHClient: JacobsReceived by: Murphy, BrentonDate/Time Received: Thursday, October 22, 2020 10:00 AMNo. of Shipping Containers: 1**SHIPMENT**Method of Delivery: Commercial CarrierTracking Number: 771863567366COC Forms: ☒ Shipped with samples ☐ No Forms**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smgs
1 of 1	Cardboard Box	771863567366	Custody Seals	Intact	Intact	Therm_2	1.4	8

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): 1.4 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 - R0118 (NA)BDO IDs Assigned: G1794 - G1801

Samples logged in by:

Murphy, BrentonDate/Time: 10/22/2020 10:00 AM

Approved By:

Approved On: _____

Authorized By:

Authorized On: _____



It can be done

ShpNo SHP-201022-01

Battelle Project No: _____

Sample Receipt Form Details

Approved: ☐ Authorized ☐Project Number: 708207CHClient: JacobsReceived by: Murphy, BrentonDate/Time Received: Thursday, October 22, 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:
G1794	CBD-AOA-MW07-1020	10/20/20 15:50	10/22/20 12:11	2	GW	1.4	NA	NA	NA	R0118 (NA)			
G1795	CBD-AOA-MW17-1020	10/20/20 15:45	10/22/20 12:11	2	GW	1.4	NA	NA	NA	R0118 (NA)			
G1796	CBD-AOA-MW19-1020	10/20/20 13:45	10/22/20 12:11	2	GW	1.4	NA	NA	NA	R0118 (NA)			
G1797	CBD-AOA-FB05-102020	10/20/20 12:40	10/22/20 12:11	2	AQ	1.4	NA	NA	NA	R0118 (NA)			
G1798	CBD-AOA-EB01-102020-GW	10/20/20 16:20	10/22/20 12:12	2	AQ	1.4	NA	NA	NA	R0118 (NA)			Field Blank - GW this w
G1799	CBD-BKG-MW01-1020	10/20/20 14:20	10/22/20 12:13	2	GW	1.4	NA	NA	NA	R0118 (NA)			Equipment Blank - mon
G1800	CBD-BKG-MW02-1020	10/20/20 15:25	10/22/20 12:14	2	GW	1.4	NA	NA	NA	R0118 (NA)			
G1801	CBD-SO3-MW02-1020	10/20/20 12:00	10/22/20 12:14	2	GW	1.4	NA	NA	NA	R0118 (NA)			

Total Samples: 8

 BATTELLE It can be done		Chain-of-Custody											
Client Contact Information Mike Zamboni michaela.zamboni@jacobs.com CH2M Jacobs		Project Manager: Sample Information (print name): Caitlin Dronfield Phone: (703) 376-5097 Email: caitlin.dronfield@jacobs.com				Sampling Site: Site 10 (FTA)				Site Information: NRL CBD			
		Turnaround Time (TAT) Requested:				Preservative: COC #							
Project Name: Site 10 SI		Normal ☒ Priority ☐ RUSH ☐								Page# 1 of 1			
Project No.: 708207CH		Time Zone: ET				Analysis: FEAS							
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.								
CBD-AOA-MW07-1020	10/20/20	1550	Grab	GW	2	X						61794	
CBD-AOA-MW06-1020					2	X							
CBD-AOA-MW17-1020		1545			2	X						5	
CBD-AOA-MW19-1020		1345			2	X						6	
CBA-AOA-FB05-102020		1240		AQ	2	X						7	
CBA-AOA-EB01-102020-GW		1620		AQ	2	X						8	
CBD-AOA-MW09-1020				GW	2	X							
CBD-BKG-MW01-1020		1420			2	X						9	
CBD-BKG-MW02-1020		1525			2	X						800	
CBD-S03-MW02-1020		1200			2	X						1	
Receipt Temperature: (°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:			
Relinquished by (Print/Sign): Caitlin Dronfield		Company: CH2M Jacobs		Date/Time: 10/20/20 1900		Received by (Print/Sign): Amanda		Company: AEL		Date/Time: 10/21/2020 08:45			
Relinquished by (Print/Sign): Craig Myers		Company: AEL		Date/Time: 10/21/2020 1140		Received by (Print/Sign): Brenton Murphy		Company: BNO		Date/Time: 10/22/2020 10:00			
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:			
Comments:													

Page 1 of 1

ORIGIN ID:NRBA (904) 363-9350
 CRAIG MYERS
 AEL
 6681 SOUTHPOINT PARKWAY

JACKSONVILLE, FL 32216
 UNITED STATES US

SHIP DATE: 21OCT20
 ACTWGT: 31.60 LB
 CAD: 110369072/INET4280
 DIMS: 19x17x19 IN

BILL THIRD PARTY

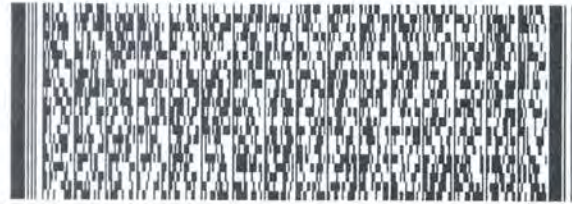
TO **SAMPLE RECEIVING**
BATTELLE
141 LONGWATER DRIVE
SUITE 202
NORWELL MA 02061

1:4
 therm. 2

(781) 681-5565
 INV
 PO

REF 708207CH.FI.FK

DEPT:



THU - 22 OCT 10:30A
 PRIORITY OVERNIGHT

TRK#
 0201 7718 6356 7366

XE XPUA

02061
 MA-US BOS



ShpNo **SHP-201022-02**

It can be done

Battelle Project No: _____

Sample Receipt Form

Approved: ☐ Authorized: ☐

Project Number: 708207CH

Client: Jacobs

Received by: Murphy, Brenton

Date/Time Received: Thursday, October 22, 2020 10:00 AM

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

Method of Delivery: Commercial Carrier

Tracking Number: 771814660149

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

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	771814660149	Custody Seals	Intact	Intact	Therm_2	0.3	3

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): 0.3 Temperature Blank used ☒ Yes ☐ No

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

Samples Acidified: ☐ Yes ☐ No ☒ UnknownInitial 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 - R0118 (NA)

BDO IDs Assigned: G1802 - G1804

Samples logged in by: Murphy, Brenton

Date/Time: 10/22/2020 10:00 AM

Approved By: _____

Approved On: _____

Authorized By: _____

Authorized On: _____



It can be done

ShpNo SHP-201022-02

Battelle Project No: _____

Sample Receipt Form Details

Approved: ☐ Authorized: ☐Project Number: 708207CHClient: JacobsReceived by: Murphy, BrentonDate/Time Received: Thursday, October 22, 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:
G1802	CBD-AOA-MW09-1020	10/21/20 9:35	10/22/20 12:27	2	GW	0.3	NA	NA	NA	R0119 (NA)			
G1803	CBD-AOA-MW05-1020	10/21/20 10:25	10/22/20 12:27	2	GW	0.3	NA	NA	NA	R0119 (NA)			
G1804	CBD-AOA-EB01-102120-GW	10/21/20 10:35	10/22/20 12:27	2	AQ	0.3	NA	NA	NA	R0119 (NA)			Equipment Blank - mon

Total Samples: 3

Company Name <u>CH2M / Jacobs</u>						LAB ANALYSIS												Requested Turnaround Time			
Address <u>Mike Zamboni / michael.zamboni@jacobs.com</u>						Pres Codes	I												Field Filtered (Y/N)	Note: Rush requests subject to acceptance by the laboratory	
City _____ State _____ Zip _____																				☒ Standard	
Sampling Site Address <u>NRL CBD Site 10</u>																				☐ Expedited	
Attn: _____ Email _____																				Due <u> </u> / <u> </u> / <u> </u>	
Project Name <u>Site 10 SI</u> Project # <u>708207CH</u>																					
Sampler Name/Signature <u>Carlin Drantfeld</u>																					
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont	Parameters	PEAS													Comments	
1	CBD-AOA-MW09-1020	10/21/20	0935	GW	2		X														
2	CBD-AOA-MW05-1020		1025	GW	2		X														
3	CBD-AOA- 22 -102120-GW		1035	AQ	2		X													Equipment Blank - Monsoon	
4																					
5																					
6																					
7																					
8																					
9																					
0																					

Matrix Codes*

S Soil/Solid Sediment

GW Ground Water

WW Waste Water

DW Drinking Water

SW Surface Water

SL Sludge

O Other (Please Specify)

Pres Codes

A- none

B- HNO₃

C- H₂SO₄

D- NaOH

E- HCl

I- Ice

O- Other

M- MeOH

N- Na₂S₂O₃

Z- ZnAc

Relinquished by [Signature]

Date 10/21/20

Time 1400

Received by B. V. V.

Date 10/22/20

Time 10:00

QA/QC level with report

None 1 2 3 See price guide for applicable fees

FDEP Dry Cleaning ☐

FDEP UST Pre-Approval ☐

SFWMD ☐

ADaPT ☐

DOT ☐

Temp Control: °C

Page 1 of 1

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

SHIP DATE: 15OCT20
 ACTWGT: 50.00 LB
 CAD: 103931050/NET4280
 DIMS: 16x24x18 IN
 BILL THIRD PARTY

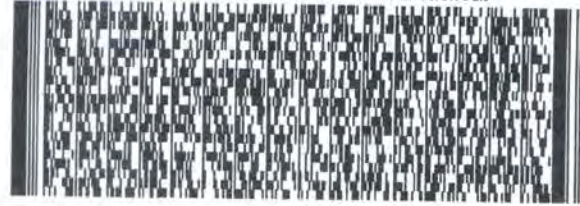
TO **ATTN: SAMPLE RECEIVING**
BATTELLE
141 LONGWATER DRIVE
SUITE 202
NORWELL MA 02061

0.3 therm. 2
 56B.12/12/16/766

(781) 681-5565
 INV
 PO:

REF: 706207CH.FLFS

DEPT:



FedEx
 Express



FRI - 16 OCT 10:30A

PRIORITY OVERNIGHT

TRK#
 0201

7718 1466 0149

EM XPUA

02061
 MA-US BOS



Data Tables

Client ID CBD-AOA-MW07-1020

Battelle ID	G1794-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS
% Moisture	NA
Matrix	GW
Sample Size	0.275

Analyzed by: Griffith, Lauren
Printed: 11/18/2020

Client ID	CBD-AOA-MW07-1020
Battelle ID	G1794-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Analyzed by: Griffith, Lauren
Printed: 11/18/2020

Battelle ID	G1795-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS
% Moisture	NA
Matrix	GW
Sample Size	0.270

Analyzed by: Griffith, Lauren
Printed: 11/18/2020



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

Client ID CBD-AOA-MW17-1020

Battelle ID	G1795-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			99	G1795-FS(0)	11/16/2020
13C4-PFHpA			91	G1795-FS(0)	11/16/2020
13C8-PFOA			94	G1795-FS(0)	11/16/2020
13C9-PFNA			95	G1795-FS(0)	11/16/2020
13C6-PFDA			86	G1795-FS(0)	11/16/2020
13C7-PFUnA			75	G1795-FS(0)	11/16/2020
13C2-PFDoA			57	G1795-FS(0)	11/16/2020
13C2-PFTeDA			23 N	G1795-FS(0)	11/16/2020
d3-MeFOSAA			77	G1795-FS(0)	11/16/2020
d5-EtFOSAA			69	G1795-FS(0)	11/16/2020
13C3-PFBS			100	G1795-FS(0)	11/16/2020
13C3-PFHxS			104	G1795-FS(0)	11/16/2020
13C8-PFOS			100	G1795-FS(0)	11/16/2020
13C3-HFPO-DA			89	G1795-FS(0)	11/16/2020

Client ID	CBD-AOA-MW19-1020
Battelle ID	G1796-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Analyzed by: Griffith, Lauren
Printed: 11/18/2020



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

[illegible]

Battelle ID G1797-FS

Sample Type	SA
-------------	----

Collection Date 10/20/2020

Extraction Date 10/23/2020

Analytical Instrument Sciex 5500 (AC) LC/MS/MS

% Moisture	NA
------------	----

Matrix AQ

Sample Size	0.265
-------------	-------

Size Unit-Basis L

Size Unit-Basis	L			Analysis				
Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	1.42 U	G1797-FS(0)	1.000	11/16/2020	0.497	1.42	4.72
PFHpA	375-85-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.248	0.943	4.72
PFOA	335-67-1	1.42 U	G1797-FS(0)	1.000	11/16/2020	0.482	1.42	4.72
PFNA	375-95-1	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.292	0.943	4.72
PFDA	335-76-2	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.134	0.472	4.72
PFUnA	2058-94-8	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.207	0.472	4.72
PFDaA	307-55-1	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.181	0.472	4.72
PFTTrDA	72629-94-8	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.145	0.472	4.72
PFTeDA	376-06-7	1.89 U	G1797-FS(0)	1.000	11/16/2020	0.692	1.89	4.72
NMeFOSAA	2355-31-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.330	0.943	4.72
NEtFOSAA	2991-50-6	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.472	0.943	4.72
PFBS	375-73-5	0.149 J	G1797-FS(0)	1.000	11/16/2020	0.136	0.472	4.72
PFHxS	355-46-4	0.111 J	G1797-FS(0)	1.000	11/16/2020	0.106	0.377	4.72
PFOS	1763-23-1	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.412	0.943	4.72
HFPO-DA	13252-13-6	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.234	0.472	4.72
Adona	919005-14-4	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.250	0.943	4.72
9CI-PF3ONS	756426-58-1	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.253	0.472	4.72
11CI-PF3OUdS	763051-92-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.218	0.943	4.72



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

Client ID CBD-AOA-FB05-102020

Battelle ID	G1797-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			84	G1797-FS(0)	11/16/2020
13C4-PFHpA			88	G1797-FS(0)	11/16/2020
13C8-PFOA			88	G1797-FS(0)	11/16/2020
13C9-PFNA			86	G1797-FS(0)	11/16/2020
13C6-PFDA			88	G1797-FS(0)	11/16/2020
13C7-PFUnA			90	G1797-FS(0)	11/16/2020
13C2-PFDoA			80	G1797-FS(0)	11/16/2020
13C2-PFTeDA			84	G1797-FS(0)	11/16/2020
d3-MeFOSAA			103	G1797-FS(0)	11/16/2020
d5-EtFOSAA			104	G1797-FS(0)	11/16/2020
13C3-PFBS			78	G1797-FS(0)	11/16/2020
13C3-PFHxS			79	G1797-FS(0)	11/16/2020
13C8-PFOS			80	G1797-FS(0)	11/16/2020
13C3-HFPO-DA			84	G1797-FS(0)	11/16/2020



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

[illegible]

Battelle ID	G1798-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			86	G1798-FS(0)	11/16/2020
13C4-PFHpA			83	G1798-FS(0)	11/16/2020
13C8-PFOA			85	G1798-FS(0)	11/16/2020
13C9-PFNA			82	G1798-FS(0)	11/16/2020
13C6-PFDA			97	G1798-FS(0)	11/16/2020
13C7-PFUnA			96	G1798-FS(0)	11/16/2020
13C2-PFDoA			69	G1798-FS(0)	11/16/2020
13C2-PFTeDA			51	G1798-FS(0)	11/16/2020
d3-MeFOSAA			81	G1798-FS(0)	11/16/2020
d5-EtFOSAA			115	G1798-FS(0)	11/16/2020
13C3-PFBS			86	G1798-FS(0)	11/16/2020
13C3-PFHxS			93	G1798-FS(0)	11/16/2020
13C8-PFOS			101	G1798-FS(0)	11/16/2020
13C3-HFPO-DA			80	G1798-FS(0)	11/16/2020

Battelle ID	G1799-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS
% Moisture	NA
Matrix	GW
Sample Size	0.270

L20-1329 Master 369B.xlsm

Client ID	CBD-BKG-MW01-1020
Battelle ID	G1799-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Analyzed by: Griffith, Lauren
Printed: 11/18/2020



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

Client ID CBD-BKG-MW02-1020

Battelle ID G1800-FS

Sample Type	SA
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Collection Date 10/20/2020

Extraction Date 10/23/2020

Analytical Instrument Sciex 5500 (AC) LC/MS/MS

% Moisture	NA
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Matrix GW

Sample Size	0.270
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Size Unit-Basis L

Size Unit-Basis	L			Analysis				
Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	1.39 U	G1800-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-85-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	0.988 J	G1800-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-95-1	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.234 J	G1800-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDaA	307-55-1	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTTrDA	72629-94-8	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1800-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	0.999 J	G1800-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	17.5	G1800-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	2.25 J	G1800-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9CI-PF3ONS	756426-58-1	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11CI-PF3OUdS	763051-92-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.214	0.926	4.63

Client ID	CBD-BKG-MW02-1020
Battelle ID	G1800-FS
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Analysis	
			Recovery	Extract ID Date
13C5-PFHxA		84	G1800-FS(0)	11/16/2020
13C4-PFHpA		90	G1800-FS(0)	11/16/2020
13C8-PFOA		90	G1800-FS(0)	11/16/2020
13C9-PFNA		87	G1800-FS(0)	11/16/2020
13C6-PFDA		84	G1800-FS(0)	11/16/2020
13C7-PFUnA		88	G1800-FS(0)	11/16/2020
13C2-PFDoA		77	G1800-FS(0)	11/16/2020
13C2-PFTeDA		85	G1800-FS(0)	11/16/2020
d3-MeFOSAA		76	G1800-FS(0)	11/16/2020
d5-EtFOSAA		85	G1800-FS(0)	11/16/2020
13C3-PFBS		88	G1800-FS(0)	11/16/2020
13C3-PFHxS		90	G1800-FS(0)	11/16/2020
13C8-PFOS		94	G1800-FS(0)	11/16/2020
13C3-HFPO-DA		80	G1800-FS(0)	11/16/2020



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

Client ID CBD-SO3-MW02-1020

Battelle ID	G1801-F5
Sample Type	SA
Collection Date	10/20/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)		Analysis	
		Recovery	Extract ID Date
13C5-PFHxA		87	G1801-FS(0) 11/16/2020
13C4-PFHpA		87	G1801-FS(0) 11/16/2020
13C8-PFOA		85	G1801-FS(0) 11/16/2020
13C9-PFNA		82	G1801-FS(0) 11/16/2020
13C6-PFDA		79	G1801-FS(0) 11/16/2020
13C7-PFUnA		79	G1801-FS(0) 11/16/2020
13C2-PFDoA		72	G1801-FS(0) 11/16/2020
13C2-PFTeDA		46 N	G1801-FS(0) 11/16/2020
d3-MeFOSAA		89 D	G1801-FS-D(3) 11/17/2020
d5-EtFOSAA		96 D	G1801-FS-D(3) 11/17/2020
13C3-PFBS		96 D	G1801-FS-D(3) 11/17/2020
13C3-PFHxS		97 D	G1801-FS-D(3) 11/17/2020
13C8-PFOS		96 D	G1801-FS-D(3) 11/17/2020
13C3-HFPO-DA		83	G1801-FS(0) 11/16/2020



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

Client ID CBD-AOA-MW09-1020

Battelle ID G1802-FS
Sample Type SA
Collection Date 10/21/2020
Extraction Date 10/23/2020
Analytical Instrument Sciex 5500 (AC) LC/MS/MS
% Moisture NA
Matrix GW
Sample Size 0.270
Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	8.96	G1802-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-85-9	2.01 J	G1802-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	9.05	G1802-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-95-1	0.440 J	G1802-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.286 J	G1802-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDoA	307-55-1	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTTrDA	72629-94-8	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1802-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	1.88 J	G1802-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	75.1	G1802-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	15.6	G1802-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9CI-PF3ONS	756426-58-1	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11CI-PF3OUdS	763051-92-9	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.214	0.926	4.63



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

Client ID CBD-AOA-MW09-1020

Battelle ID	G1802-F5
Sample Type	SA
Collection Date	10/21/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			86	G1802-FS(0)	11/16/2020
13C4-PFHpA			85	G1802-FS(0)	11/16/2020
13C8-PFOA			87	G1802-FS(0)	11/16/2020
13C9-PFNA			78	G1802-FS(0)	11/16/2020
13C6-PFDA			78	G1802-FS(0)	11/16/2020
13C7-PFUnA			65	G1802-FS(0)	11/16/2020
13C2-PFDoA			58	G1802-FS(0)	11/16/2020
13C2-PFTeDA			13 N	G1802-FS(0)	11/16/2020
d3-MeFOSAA			63	G1802-FS(0)	11/16/2020
d5-EtFOSAA			67	G1802-FS(0)	11/16/2020
13C3-PFBS			88	G1802-FS(0)	11/16/2020
13C3-PFHxS			92	G1802-FS(0)	11/16/2020
13C8-PFOS			87	G1802-FS(0)	11/16/2020
13C3-HFPO-DA			80	G1802-FS(0)	11/16/2020



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

Client ID CBD-AOA-MW05-1020

Battelle ID G1803-FS

Sample Type	SA
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Collection Date 10/21/2020

Extraction Date 10/23/2020

Analytical Instrument Sciex 5500 (AC) LC/MS/MS

% Moisture	NA
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Matrix GW

Sample Size	0.265
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Size Unit-Basis L

Size Unit-Basis		L	Analysis					
Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Date	DL	LOD	LOQ
PFHxA	307-24-4	0.828 J	G1803-FS(0)	1.000	11/17/2020	0.497	1.42	4.72
PFHpA	375-85-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.248	0.943	4.72
PFOA	335-67-1	1.42 U	G1803-FS(0)	1.000	11/17/2020	0.482	1.42	4.72
PFNA	375-95-1	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.292	0.943	4.72
PFDA	335-76-2	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.134	0.472	4.72
PFUnA	2058-94-8	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.207	0.472	4.72
PFDaA	307-55-1	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.181	0.472	4.72
PFTTrDA	72629-94-8	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.145	0.472	4.72
PFTeDA	376-06-7	1.89 U	G1803-FS(0)	1.000	11/17/2020	0.692	1.89	4.72
NMeFOSAA	2355-31-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.330	0.943	4.72
NEtFOSAA	2991-50-6	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.472	0.943	4.72
PFBS	375-73-5	0.933 J	G1803-FS(0)	1.000	11/17/2020	0.136	0.472	4.72
PFHxS	355-46-4	3.51 J	G1803-FS(0)	1.000	11/17/2020	0.106	0.377	4.72
PFOS	1763-23-1	0.710 J	G1803-FS(0)	1.000	11/17/2020	0.412	0.943	4.72
HFPO-DA	13252-13-6	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.234	0.472	4.72
Adona	919005-14-4	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.250	0.943	4.72
9CI-PF3ONS	756426-58-1	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.253	0.472	4.72
11CI-PF3OUdS	763051-92-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.218	0.943	4.72



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

Client ID CBD-AOA-MW05-1020

Battelle ID	G1803-FS
Sample Type	SA
Collection Date	10/21/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)			Recovery	Extract ID	Analysis Date
13C5-PFHxA			83	G1803-FS(0)	11/17/2020
13C4-PFHpA			86	G1803-FS(0)	11/17/2020
13C8-PFOA			86	G1803-FS(0)	11/17/2020
13C9-PFNA			90	G1803-FS(0)	11/17/2020
13C6-PFDA			86	G1803-FS(0)	11/17/2020
13C7-PFUnA			81	G1803-FS(0)	11/17/2020
13C2-PFDoA			73	G1803-FS(0)	11/17/2020
13C2-PFTeDA			51	G1803-FS(0)	11/17/2020
d3-MeFOSAA			75	G1803-FS(0)	11/17/2020
d5-EtFOSAA			78	G1803-FS(0)	11/17/2020
13C3-PFBS			77	G1803-FS(0)	11/17/2020
13C3-PFHxS			84	G1803-FS(0)	11/17/2020
13C8-PFOS			72	G1803-FS(0)	11/17/2020
13C3-HFPO-DA			81	G1803-FS(0)	11/17/2020

Battelle ID	G1804-FS
Sample Type	SA
Collection Date	10/21/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS
% Moisture	NA
Matrix	AQ
Sample Size	0.245
Size Unit-Basis	L

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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-EB01-102120-GW

Battelle ID	G1804-FS
Sample Type	SA
Collection Date	10/21/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)		Analysis	
		Recovery	Extract ID Date
13C5-PFHxA		92	G1804-FS(0) 11/16/2020
13C4-PFHpA		92	G1804-FS(0) 11/16/2020
13C8-PFOA		91	G1804-FS(0) 11/16/2020
13C9-PFNA		89	G1804-FS(0) 11/16/2020
13C6-PFDA		93	G1804-FS(0) 11/16/2020
13C7-PFUnA		88	G1804-FS(0) 11/16/2020
13C2-PFDoA		87	G1804-FS(0) 11/16/2020
13C2-PFTeDA		67	G1804-FS(0) 11/16/2020
d3-MeFOSAA		108	G1804-FS(0) 11/16/2020
d5-EtFOSAA		108	G1804-FS(0) 11/16/2020
13C3-PFBS		98	G1804-FS(0) 11/16/2020
13C3-PFHxS		101	G1804-FS(0) 11/16/2020
13C8-PFOS		93	G1804-FS(0) 11/16/2020
13C3-HFPO-DA		89	G1804-FS(0) 11/16/2020



It can be done

Project Client: CH2M

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

Project No.: 100142218

Client ID LE58 IB

Battelle ID LE58 IB_11/16/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/16/2020

Analytical Instrument Sciex 5500 (AC) LC/MS/MS

% Moisture NA

Matrix Water

Sample Size 0.250

Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	DL	LOD	LOQ
PFHxA	307-24-4	1.50 U	0.527	1.50	5.00
PFHpA	375-85-9	1.00 U	0.263	1.00	5.00
PFOA	335-67-1	1.50 U	0.511	1.50	5.00
PFNA	375-95-1	1.00 U	0.309	1.00	5.00
PFDA	335-76-2	0.500 U	0.142	0.500	5.00
PFUnA	2058-94-8	0.294 J	0.219	0.500	5.00
PFDoA	307-55-1	0.500 U	0.192	0.500	5.00
PFTTrDA	72629-94-8	0.500 U	0.154	0.500	5.00
PFTeDA	376-06-7	2.00 U	0.733	2.00	5.00
NMeFOSAA	2355-31-9	1.00 U	0.350	1.00	5.00
NEtFOSAA	2991-50-6	1.00 U	0.500	1.00	5.00
PFBS	375-73-5	0.201 J	0.144	0.500	5.00
PFHxS	355-46-4	0.140 J	0.112	0.400	5.00
PFOS	1763-23-1	1.00 U	0.437	1.00	5.00
HFPO-DA	13252-13-6	0.500 U	0.248	0.500	5.00
Adona	919005-14-4	1.00 U	0.265	1.00	5.00
9CI-PF3ONS	756426-58-1	0.500 U	0.268	0.500	5.00
11CI-PF3OUdS	763051-92-9	0.250 J	0.231	1.00	5.00

Analyzed by: Griffith, Lauren

Printed: 11/18/2020

Isotope Dilution

L20-1329_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 LE58 IB

Battelle ID LE58 IB_11/16/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/16/2020

Analytical Instrument Sciex 5500 (AC) LC/MS/MS

% Moisture NA

Matrix Water

Sample Size 0.250

Size Unit-Basis L

Surrogate Recoveries (%)

13C5-PFHxA	98
13C4-PFHpA	97
13C8-PFOA	96
13C9-PFNA	98
13C6-PFDA	104
13C7-PFUnA	97
13C2-PFDoA	96
13C2-PFTeDA	103
d3-MeFOSAA	93
d5-EtFOSAA	98
13C3-PFBS	92
13C3-PFHxS	101
13C8-PFOS	102
13C3-HFPO-DA	99

Analyzed by: Griffith, Lauren

Printed: 11/18/2020

Isotope Dilution

L20-1329_Master_369B.xlsm



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

Client ID		Procedural Blank						
Battelle ID		DB009PB-FS						
Sample Type		PB						
Collection Date		10/23/2020						
Extraction Date		10/23/2020						
Analytical Instrument		Sciex 5500 (AC) LC/MS/MS						
% Moisture		NA						
Matrix		WATER						
Sample Size		0.260						
Size Unit-Basis		L						
Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.44 U	DB009PB-FS(0)	1.000	11/16/2020	0.507	1.44	4.81
PFHpA	375-85-9	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.253	0.962	4.81
PFOA	335-67-1	1.44 U	DB009PB-FS(0)	1.000	11/16/2020	0.491	1.44	4.81
PFNA	375-95-1	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.297	0.962	4.81
PFDA	335-76-2	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.137	0.481	4.81
PFUnA	2058-94-8	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.211	0.481	4.81
PFDaA	307-55-1	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.185	0.481	4.81
PFTTrDA	72629-94-8	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.148	0.481	4.81
PFTeDA	376-06-7	1.92 U	DB009PB-FS(0)	1.000	11/16/2020	0.705	1.92	4.81
NMeFOSAA	2355-31-9	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.337	0.962	4.81
NEtFOSAA	2991-50-6	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.481	0.962	4.81
PFBS	375-73-5	0.166 J	DB009PB-FS(0)	1.000	11/16/2020	0.138	0.481	4.81
PFHxS	355-46-4	0.115 J	DB009PB-FS(0)	1.000	11/16/2020	0.108	0.385	4.81
PFOS	1763-23-1	0.661 J	DB009PB-FS(0)	1.000	11/16/2020	0.420	0.962	4.81
HFPO-DA	13252-13-6	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.238	0.481	4.81
Adona	919005-14-4	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.255	0.962	4.81
9Cl-PF3ONS	756426-58-1	0.481 U	DB009PB-FS(0)	1.000	11/16/2020	0.258	0.481	4.81
11Cl-PF3OUdS	763051-92-9	0.962 U	DB009PB-FS(0)	1.000	11/16/2020	0.222	0.962	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	DB009PB-FS
Sample Type	PB
Collection Date	10/23/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	Recovery	Extract ID	Analysis Date
13C5-PFHxA	81	DB009PB-FS(0)	11/16/2020
13C4-PFHpA	81	DB009PB-FS(0)	11/16/2020
13C8-PFOA	82	DB009PB-FS(0)	11/16/2020
13C9-PFNA	86	DB009PB-FS(0)	11/16/2020
13C6-PFDA	89	DB009PB-FS(0)	11/16/2020
13C7-PFUnA	81	DB009PB-FS(0)	11/16/2020
13C2-PFDoA	76	DB009PB-FS(0)	11/16/2020
13C2-PFTeDA	86	DB009PB-FS(0)	11/16/2020
d3-MeFOSAA	83	DB009PB-FS(0)	11/16/2020
d5-EtFOSAA	82	DB009PB-FS(0)	11/16/2020
13C3-PFBS	87	DB009PB-FS(0)	11/16/2020
13C3-PFHxS	81	DB009PB-FS(0)	11/16/2020
13C8-PFOS	84	DB009PB-FS(0)	11/16/2020
13C3-HFPO-DA	76	DB009PB-FS(0)	11/16/2020



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 DB010LCS-FS
Sample Type LCS
Collection Date 10/23/2020
Extraction Date 10/23/2020
Analytical Instrument Sciex 5500 (AC) LC/MS/MS
% Moisture NA
Matrix WATER
Sample Size 0.255
Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	Target	Recovery	Qual	Control Limits	
									Lower	Upper
PFHxA	307-24-4	36.4	DB010LCS-FS(0)	1.000	11/16/2020	39.6	92		72	129
PFHpA	375-85-9	34.0	DB010LCS-FS(0)	1.000	11/16/2020	39.2	87		72	130
PFOA	335-67-1	35.6	DB010LCS-FS(0)	1.000	11/16/2020	39.2	91		71	133
PFNA	375-95-1	30.0	DB010LCS-FS(0)	1.000	11/16/2020	39.2	77		69	130
PFDA	335-76-2	37.2	DB010LCS-FS(0)	1.000	11/16/2020	39.2	95		71	129
PFUnA	2058-94-8	33.0	DB010LCS-FS(0)	1.000	11/16/2020	39.2	84		69	133
PFDoA	307-55-1	35.3	DB010LCS-FS(0)	1.000	11/16/2020	39.2	90		72	134
PFTTrDA	72629-94-8	31.6	DB010LCS-FS(0)	1.000	11/16/2020	39.2	81		65	144
PFTeDA	376-06-7	37.1	DB010LCS-FS(0)	1.000	11/16/2020	39.2	95		71	132
NMeFOSAA	2355-31-9	32.6	DB010LCS-FS(0)	1.000	11/16/2020	39.2	83		65	136
NEtFOSAA	2991-50-6	32.8	DB010LCS-FS(0)	1.000	11/16/2020	39.2	84		61	135
PFBS	375-73-5	35.0	DB010LCS-FS(0)	1.000	11/16/2020	39.2	89		72	130
PFHxS	355-46-4	37.8	DB010LCS-FS(0)	1.000	11/16/2020	39.6	95		68	131
PFOS	1763-23-1	32.5	DB010LCS-FS(0)	1.000	11/16/2020	39.6	82		65	140
HFPO-DA	13252-13-6	34.2	DB010LCS-FS(0)	1.000	11/16/2020	39.2	87		74	148
Adona	919005-14-4	36.6	DB010LCS-FS(0)	1.000	11/16/2020	39.2	93		61	143
9CI-PF3ONS	756426-58-1	36.3	DB010LCS-FS(0)	1.000	11/16/2020	39.2	93		52	158
11CI-PF3OUdS	763051-92-9	31.5	DB010LCS-FS(0)	1.000	11/16/2020	39.2	80		59	147



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	DB010LCS-FS
Sample Type	LCS
Collection Date	10/23/2020
Extraction Date	10/23/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	Recovery	Extract ID	Analysis Date
13C5-PFHxA	88	DB010LCS-FS(0)	11/16/2020
13C4-PFHpA	88	DB010LCS-FS(0)	11/16/2020
13C8-PFOA	86	DB010LCS-FS(0)	11/16/2020
13C9-PFNA	99	DB010LCS-FS(0)	11/16/2020
13C6-PFDA	89	DB010LCS-FS(0)	11/16/2020
13C7-PFUnA	78	DB010LCS-FS(0)	11/16/2020
13C2-PFDoA	80	DB010LCS-FS(0)	11/16/2020
13C2-PFTeDA	92	DB010LCS-FS(0)	11/16/2020
d3-MeFOSAA	85	DB010LCS-FS(0)	11/16/2020
d5-EtFOSAA	89	DB010LCS-FS(0)	11/16/2020
13C3-PFBS	85	DB010LCS-FS(0)	11/16/2020
13C3-PFHxS	81	DB010LCS-FS(0)	11/16/2020
13C8-PFOS	91	DB010LCS-FS(0)	11/16/2020
13C3-HFPO-DA	91	DB010LCS-FS(0)	11/16/2020



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 20-1329

Project:	CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10
Client Project Manager:	Michael Zamboni
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	AQ, GW
Data Set:	DP-20-1205
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.3 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
10/20/2020	10/22/2020	1.4
10/21/2020	10/22/2020	0.3

Corrective Actions	None.
Sample Storage	The samples were stored refrigerated until extraction.
Related samples	Samples G1795-FS (CBD-AOA-MW17-1020), G1801-FS (CBD-SO3-MW02-1020), and G1802-FS (CBD-AOA-MW09-1020) re-extracted in SDG 20-1511 to verify the 13C2-PFTeDA recovery.

	METHOD SUMMARIES
Sample Preparation	Water samples were fortified with surrogates in the original sample container from the field. The water was extracted using a weak-anion exchange (WAX) solid phase extraction (SPE) cartridge. 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 G1794-FS (CBD-AOA-MW07-1020), G1796-FS (CBD-AOA-MW19-1020), G1798-FS (CBD-AOA-EB01-102020-GW), G1799-FS (CBD-BKG-MW01-1020), G1800-FS (CBD-BKG-MW02-1020), G1803-FS (CBD-AOA-MW05-1020), and G1804-FS (CBD-AOA-EB01-102120-GW) contained particulates. Samples DB009PB-FS (Procedural Blank), DB010LCS-FS (Laboratory Control Sample), G1795-FS (CBD-AOA-MW17-1020), G1801-FS (CBD-SO3-MW02-1020), G1802-FS (CBD-AOA-MW09-1020), and G1803-FS (CBD-AOA-MW05-1020) were fortified with extracted internal standards, shaken, and transferred to a new HDPE bottle. The samples were centrifuged at 3,500 RPM for five minutes. The supernatant was then decanted back into the original sample container prior to extraction. This procedure was performed due to the level of particulate matter present in the field samples centrifuged.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration

QA/QC Summary Batch 20-1329

	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/L concentrations to three (3) significant figures.
Analysis Comments	Samples analyzed on Sciex 5500 (AC) LC-MS/MS. MeFOSAA, EtFOSAA, PFHxS, and PFOS in the LCS, and field samples when detected, were found and reported as a combination of the linear and branched isomers. Adona, 9CI-PF3ONS, and 11CI-PF3OUdS are quantified using 13C2-PFDoA. Due to the potential contribution of high concentration of native compounds to labelled analogs, in cases where the native PFOA and PFOS are reported from a dilution, the extracted internal standards reported from 13C2-PFOA and 13C4-PFOS are reported from the same dilution level. In all other cases, the extracted internal standard is reported from the same dilution level as the native compound.

Holding Times	Extraction Date(s)	Analysis Date(s)
	10/23/2020	11/16 – 17/2020

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
$\leq \frac{1}{2}$ 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	Project specific MS/MSD not included in this data set.
	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	Three (3) exceedances noted.
	Three samples had suppressed or enhanced recoveries for select extracted internal standards. The table below indicates if the extracted internal standard

QA/QC Summary

Batch 20-1329

	was within +/- 50% of the area of the L5 calibration point ("P") or if the area showed suppression ("↓") or enhancement ("↑") for these extracted internal standards. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td><td>PFTeDA</td></tr> <tr> <td>G1795-FS (CBD-AOA-MW17-1020)</td><td>↓</td></tr> <tr> <td>G1801-FS (CBD-SO3-MW02-1020)</td><td>↓</td></tr> <tr> <td>G1802-FS (CBD-AOA-MW09-1020)</td><td>↓</td></tr> </table> The remaining extracted internal standards in each impacted sample, fortified from the same solution, pass all criteria, suggesting that the suppression is matrix related to these analytes only. The sample extracts were re-analyzed for confirmation. The quant report for the confirmation analysis is included in the unused data section of the full data package. One sample passed criteria in the reanalysis and was reported from that reanalysis. The quant report from the original run is included in the unused data section of the full data package.		PFTeDA	G1795-FS (CBD-AOA-MW17-1020)	↓	G1801-FS (CBD-SO3-MW02-1020)	↓	G1802-FS (CBD-AOA-MW09-1020)	↓
	PFTeDA								
G1795-FS (CBD-AOA-MW17-1020)	↓								
G1801-FS (CBD-SO3-MW02-1020)	↓								
G1802-FS (CBD-AOA-MW09-1020)	↓								

Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
+/- 50% of the area of the L5 calibration point.	No exceedances noted.
	No comments.

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, $R^2 \geq 0.99$	No exceedances noted.
	No comments.

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.
	The following secondary transitions are outside of criteria: · PFHpA in LE54 CCV (11/16/2020 22:45:34) · EtFOSAA in LE54 CCV (11/17/2020 15:52:10) The secondary transition is monitored solely for peak identification, not quantification. There is no impact on the reported data.

QA/QC Summary
Batch 20-1329

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ 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: 20-1329
 Data Set: DP-20-1205
 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	NA	None
Matrix Spike / Matrix Spike Duplicate Precision	NA	None
Extracted Internal Standard Analytes (Surrogates)	3	Exceedances were confirmed by analysis of a fresh aliquot of the samples. G1795, G1801 and G1802 will be re-extracted in SDG-20-1511. LMG 11/17/2020
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-20-1205
Project Number:	100142218	Prep Batch Number:	20-1329
Entered By:	Lauren Griffith	Entered On:	11/17/2020
Test Code (Matrix Type):	Master_369B(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
LMG 11/17/2020

ADONA, 9CI-PF3ONS and 11CI-PF3OUdS are being quantified off 13C8-PFOA instead of 13C3-HFPO-DA.
LMG 11/17/2020

Due to the potential contribution of high concentration of native compounds to labelled analogs, in cases where the native PFOA and PFOS are reported from a dilution, the extracted internal standards reported from 13C2-PFOA and 13C4-PFOS are reported from the same dilution level. In all other cases, the extracted internal standard is reported from the same dilution level as the native compound.
LMG 11/17/2020

The following secondary transitions are outside of criteria:

PFHpA in LE54 CCV (11/16/2020 22:45:34)

NEtFOSAA in LE54 CCV (11/17/2020 15:52:10)

The secondary transition is monitored solely for peak identification, not quantification. There is no impact on the reported data.
LMG 11/17/2020

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan Thorn
Date: 2020.11.18 12:43:21 -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: G1801-FS-D(3)
 Client Sample ID: CBD-SO3-MW02-1020
 Sample Size: 0.25
 Units: L
 Dilution Factor: 12.500
 PIV (L): 0.001
 Target Analyte: PFHxS
 MRM Transition: 399.0 / 80.0
 Data file: AC_11162020A_5-369.wiff
 Result table: 20-1329
 Area: 2,538,130.59
 IS Name: 13C3-PFHxS
 IS Area: 144,205.80
 IS Amount (ng/L): 1182.5
 y-intercept: -0.08085
 slope: 4.15039

$$\text{Concentration} = \frac{[(2538130.59/144205.8) - -0.08085]}{4.15039} * 1182.5 * 0.001 * 12.5 / 0.25$$

$$\text{ng/L} = 251.89$$

*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: 20-1329

Data Set: DP-20-1205

		DB009PB-FS (Procedural Blank)	DB010LCS-FS (Laboratory Control Sample)	G1794-FS (CBD-AOA-MW07-1020)	G1795-FS (CBD-AOA-MW17-1020)	G1796-FS (CBD-AOA-MW19-1020)	G1797-FS (CBD-AOA-FB05-102020)	G1798-FS (CBD-AOA-EB01-102020-GW)	G1799-FS (CBD-BKG-MW01-1020)	G1800-FS (CBD-BKG-MW02-1020)	G1801-FS (CBD-SO3-MW02-1020)	G1802-FS (CBD-AOA-MW09-1020)	G1803-FS (CBD-AOA-MW05-1020)	G1804-FS (CBD-AOA-EB01-102120-GW)
PfHxA	307-24-4	-	L	L	L	L	-	-	L	-	L	L	L	-
PfHpA	375-85-9	-	L	L	L	L	-	-	L	-	L	L	-	-
PFOA	335-67-1	-	L	-	L	L	-	-	L	L	L	L	-	-
PFNA	375-95-1	-	L	-	L	L	-	-	-	-	L	L	-	-
PFDA	335-76-2	-	L	-	-	-	-	-	-	-	-	-	-	-
PFUnA	2058-94-8	-	L	L	L	-	-	L	L	L	L	L	-	L
PFDoA	307-55-1	-	L	-	-	-	-	-	-	-	-	-	-	-
PFTTrDA	72629-94-8	-	L	-	-	-	-	-	-	-	-	-	-	-
PFTeDA	376-06-7	-	L	-	-	-	-	-	-	-	-	-	-	-
NMeFOSAA	2355-31-9	-	L/Br	-	-	-	-	-	-	-	-	-	-	-
NeFOSAA	2991-50-6	-	L/Br	-	-	-	-	-	-	-	-	-	-	-
PFBS	375-73-5	L	L	L	L	L	L	L	L	L	L	L	L	L
PfHxS	355-46-4	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	L/Br	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	L/Br	L/Br	L/Br	L/Br
HFPO-DA	13252-13-6	-	L	-	-	-	-	-	-	-	-	-	-	-
Adona	919005-14-4	-	L	-	-	-	-	-	-	-	-	-	-	-
9CI-PF3ONS	756426-58-1	-	L	-	-	-	-	-	-	-	-	-	-	-
11CI-PF3OUdS	763051-92-9	-	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
LE56	L5	11/16/20 20:13	-	738,413.66	629,576.08	120,055.60
		Lower	-	369,206.83	314,788.04	60,027.80
		Upper	-	1,107,620.49	944,364.12	180,083.40

Sample Name	Sample ID	Analysis Date	13C3-PFBA	Qual	User	13C2-PFOA	Qual	User	13C2-PFDA	Qual	User	13C4-PFOS	Qual	User
LE52	L1	11/16/20 19:30	-			725,727.96			714,825.27			122,867.56		
LE53	L2	11/16/20 19:41	-			694,896.92			715,904.50			125,391.34		
LE54	L3	11/16/20 19:51	-			743,339.13			707,202.96			120,131.81		
LE55	L4	11/16/20 20:02	-			759,747.88			710,252.98			114,774.74		
LE56	L5	11/16/20 20:13	-			738,413.66			629,576.08			120,055.60		
LE57	L6	11/16/20 20:24	-			722,730.45			603,390.30			118,423.08		
LE58 IB	IB	11/16/20 20:35	-			698,519.33			657,804.95			118,861.81		
LE59 ICC	ICC	11/16/20 20:46	-			753,761.37			638,116.26			127,723.90		
DB009PB-FS(0)	Procedural Blank	11/16/20 21:18	-			939,282.48			869,913.94			162,155.49		
DB010LCS-FS(0)	Laboratory Control Sample	11/16/20 21:29	-			735,723.92			690,935.26			127,349.19		
G1797-FS(0)	CBD-AOA-FB05-102020	11/16/20 21:40	-			799,650.64			757,542.93			144,959.16		
G1798-FS(0)	CBD-AOA-EB01-102020-GW	11/16/20 21:51	-			856,647.61			774,784.61			136,607.64		
G1804-FS(0)	CBD-AOA-EB01-102120-GW	11/16/20 22:02	-			841,399.00			840,694.76			132,444.96		
G1794-FS(0)	CBD-AOA-MW07-1020	11/16/20 22:13	-			861,522.09			812,505.56			147,369.46		
G1795-FS(0)	CBD-AOA-MW17-1020	11/16/20 22:23	-			752,823.19			664,839.94			116,386.79		
LE54 CCV	CCV	11/16/20 22:45	-			701,634.68			695,074.45			113,373.88		
G1796-FS(0)	CBD-AOA-MW19-1020	11/16/20 22:56	-			792,776.58			794,035.21			138,730.90		
G1799-FS(0)	CBD-BKG-MW01-1020	11/16/20 23:07	-			792,334.87			704,859.38			145,517.68		
G1800-FS(0)	CBD-BKG-MW02-1020	11/16/20 23:18	-			843,889.74			773,766.09			134,666.60		
G1801-FS(0)	CBD-SO3-MW02-1020	11/16/20 23:29	-			763,297.54			710,843.80			118,111.34		
G1802-FS(0)	CBD-AOA-MW09-1020	11/16/20 23:39	-			678,731.53			588,642.44			114,094.34		
G1803-FS(0)	CBD-AOA-MW05-1020	11/16/20 23:50	-			806,772.10			770,280.69			155,362.21	1	
LE55 CCV	CCV	11/17/20 0:12	-			762,511.03			696,896.33			132,745.36		
LE54 CCV	CCV	11/17/20 10:46	-			587,808.58			595,448.44			104,833.29		
G1795-FS(0)	CBD-AOA-MW17-1020	11/17/20 11:18	-			738,890.26			638,951.33			117,359.11	2	
G1801-FS(0)	CBD-SO3-MW02-1020	11/17/20 11:29	-			635,316.14			644,304.60			105,418.48	2	
G1802-FS(0)	CBD-AOA-MW09-1020	11/17/20 11:40	-			643,264.66			518,650.95			114,651.98	2	
G1803-FS(0)	CBD-AOA-MW05-1020	11/17/20 11:51	-			753,395.71			690,311.05			140,269.45		
LE55 CCV	CCV	11/17/20 12:35	-			693,634.85			629,117.32			133,758.12		
LE55 CCV	CCV	11/17/20 14:13	-			684,756.41			619,484.74			114,518.11		
G1801-FS-D(3)	CBD-SO3-MW02-1020	11/17/20 14:35	-			771,027.97			720,682.64			129,459.38		
LE54 CCV	CCV	11/17/20 15:52	-			700,847.90			667,828.18			120,959.61		

1 Sample was reanalyzed due to a surrogate exceedance. The reanalysis was acceptable and was reported. Data is included in the Unused Data section.

LMG 11/17/2020

2 Sample was reanalyzed for confirmation only and was not reported. Data is included in the Unused Data section. LMG 11/17/2020

Sample Name	LE56	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:13:35 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.57	1.23	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.90	1.26	0.8 – 1.5

Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS 1	298.9 / 80.0	1.57	72	>10
PFBS 2	298.9 / 99.0	1.57	75	>10
PFHxA 1	313.0 / 269.0	1.90	64	>10
PFHxA 2	313.0 / 119.0	1.90	44	>10
PFHpA 1	363.0 / 319.0	2.30	65	>10
PFHpA 2	363.0 / 169.0	2.30	52	>10
PFHxS 1	399.0 / 80.0	2.32	49	>10
PFHxS 2	399.0 / 99.0	2.32	68	>10
PFOA 1	413.0 / 369.0	2.69	58	>10
PFOA 2	413.0 / 169.0	2.69	56	>10
PFNA 1	463.0 / 419.0	3.07	53	>10
PFNA 2	463.0 / 219.0	3.07	40	>10
PFOS 1	499.0 / 80.0	3.06	86	>10
PFOS 2	499.0 / 99.0	3.07	70	>10
PFDA 1	513.0 / 469.0	3.41	66	>10
PFDA 2	513.0 / 219.0	3.41	38	>10
PFUnA 1	563.0 / 519.0	3.71	89	>10
PFUnA 2	563.0 / 269.0	3.71	46	>10
PFDoA 1	613.0 / 569.0	3.98	68	>10
PFDoA 2	613.0 / 319.0	3.98	67	>10
PFTDA 1	663.0 / 619.0	4.22	64	>10
PFTDA 2	663.0 / 169.0	4.22	45	>10
PFTeDA 1	713.0 / 669.0	4.43	93	>10
PFTeDA 2	713.0 / 169.0	4.43	53	>10
NMeFOSAA 1	570.0 / 419.0	3.56	84	>10
NMeFOSAA 2	570.0 / 512.0	3.56	87	>10
NEtFOSAA 1	584.0 / 419.0	3.71	82	>10
NEtFOSAA 2	584.0 / 483.0	3.71	46	>10
HFPO-DA 1	285.0 / 169.0	2.01	81	>10
HFPO-DA 2	285.0 / 118.8	2.01	38	>10
ADONA 1	377.0 / 251.0	2.33	63	>10
ADONA 2	377.0 / 85.0	2.33	48	>10
9Cl-PF3ONS 1	531.0 / 351.0	3.25	53	>10
9Cl-PF3ONS 2	531.0 / 83.0	3.25	29	>10
11Cl-pf3OUdS 1	631.0 / 451.0	3.84	53	>10
11Cl-pf3OUdS 2	631.0 / 83.0	3.84	36	>10



Mass Spectral Acquisition Rate
Report

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Created with Analyst Reporter
Printed: 17/11/2020 2:01:05 PM

Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.98	46	>10
d3-MeFOSAA	573.0 / 419.0	3.56	40	>10
d5-EtFOSAA	589.0 / 419.0	3.71	31	>10
13C5-PFHxA	318.0 / 273.0	1.89	53	>10
13C4-PFHpA	367.0 / 322.0	2.29	48	>10
13C8-PFOA	421.0 / 376.0	2.68	48	>10
13C9-PFNA	472.0 / 427.0	3.05	36	>10
13C6-PFDA	519.0 / 474.0	3.40	42	>10
13C7-PFUnA	570.0 / 525.0	3.70	44	>10
13C2-PFTeDA	715.0 / 670.0	4.42	58	>10
13C3-PFBS	302.0 / 99.0	1.56	27	>10
13C3-PFHxS	402.0 / 99.0	2.30	37	>10
13C8-PFOS	507.0 / 99.0	3.05	35	>10
13C3-HFPO-DA	287.0 / 169.0	2.01	50	>10



Precision and Bias at the LOQ for PFAS in non-potable Water

Analyte	CAS No.	Average (ng/L)	ST DEV	2 Sigma	n ¹
PFBA	375-22-4	11.00	0.9226	1.85	14
PFPeA	2706-90-3	9.81	0.7228	1.45	11
PFHxA	307-24-4	9.88	1.1365	2.27	43
PFHpA	375-85-9	9.76	0.9225	1.85	43
PFOA	335-67-1	9.93	1.3923	2.78	44
PFNA	375-95-1	9.71	1.1236	2.25	43
PFDA	335-76-2	9.51	0.9842	1.97	43
PFUnA	2058-94-8	9.55	0.9267	1.85	43
PFDoA	307-55-1	10.22	0.9055	1.81	43
PFTTrDA	72629-94-8	9.93	1.2752	2.55	43
PFTeDA	376-06-7	10.39	0.9707	1.94	43
NMeFOSAA	2355-31-9	10.02	1.5564	3.11	43
NEtFOSAA	2991-50-6	9.55	1.4218	2.84	43
PFOSA	754-91-6	10.06	0.8394	1.68	11
PFBS	375-73-5	9.63	1.1816	2.36	43
PFPeS	2706-91-4	9.88	0.9203	1.84	5
PFHxS	355-46-4	9.90	1.1346	2.27	43
PFHpS	375-92-8	10.13	1.0851	2.17	11
PFOS	1763-23-1	9.78	1.2383	2.48	44
PFNS	68259-12-1	9.45	1.0923	2.18	5
PFDS	335-77-3	9.55	1.3140	2.63	11
4:2FTS	757124-72-4	10.38	1.7353	3.47	6
6:2FTS	27619-97-2	10.08	1.1871	2.37	12
8:2FTS	39108-34-4	9.59	1.4345	2.87	12
HFPO-DA	13252-13-6	10.92	1.4420	2.88	25
Adona	919005-14-4	10.38	1.4862	2.97	25
11Cl-PF3OUdS	763051-92-9	9.80	1.5701	3.14	25
9Cl-PF3ONS	756426-58-1	9.52	1.0952	2.19	25

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 NON-POTABLE WATER

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QSM 5.1.1 compliant with Table B-15 requirements

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.45	1.0	5.0
PFPeA	2706-90-3	0.26	1.0	5.0
PFHxA	307-24-4	0.53	1.5	5.0
PFHpA	375-85-9	0.26	1.0	5.0
PFOA	335-67-1	0.51	1.5	5.0
PFNA	375-95-1	0.31	1.0	5.0
PFDA	335-76-2	0.14	0.5	5.0
PFUnA	2058-94-8	0.22	0.5	5.0
PFDoA	307-55-1	0.19	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.73	2.0	5.0
NMeFOSAA	2355-31-9	0.35	1.0	5.0
NEtFOSAA	2991-50-6	0.50	1.0	5.0
PFOSA	754-91-6	0.46	1.0	5.0
PFBS	375-73-5	0.14	0.5	5.0
PFPeS	2706-91-4	0.26	1.0	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-92-8	0.85	2.0	5.0
PFOS	1763-23-1	0.44	1.0	5.0
PFNS	68259-12-1	0.36	1.0	5.0
PFDS	335-77-3	0.27	1.0	5.0
4:2FTS	747124-72-4	0.50	1.0	5.0
6:2FTS	27619-97-2	0.53	1.5	5.0
8:2FTS	39108-34-4	0.60	2.0	5.0
3:3 FTCA	356-02-5	1.32	3.0	5.0
5:3 FTCA	914637-49-3	1.59	3.0	5.0
7:3 FTCA	812-70-4	1.40	3.0	5.0
HFPO-DA	13252-13-6	0.25	0.5	5.0
Adona	919005-14-4	0.27	1.0	5.0
11CI-PF3OUdS	763051-92-9	0.23	0.5	5.0
9CI-PF3ONS	756426-58-1	0.27	1.0	5.0

Analytes on ELAP QSM 5.1.1 Scope of accreditation

MDL calculated based on 40 CFR 136 (2017)

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



Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF ¹	Sample Size (L)	Sample Equivalent (ng/L) ²
125	1	1	0.250	0.5
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
10,000	1	1	0.250	40.0
25,000	1	1	0.250	100.0

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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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

QTRAP 5500 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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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

- ☐ Consult Customer concerning the unit overall performance.
☐ Check Logbook for Services recently performed.
☐ Check Vacuum Pressure:

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
☐ CAD 0		0.4 to 1.1 x10 ⁻⁵ Torr
☐ CAD Low		Read Only
☐ CAD Medium		Read Only
☐ CAD High		Read Only
☐ CAD 12		2.4 to 4.5 x10 ⁻⁵ Torr

- ☐ Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7 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-7 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

Pre PM PPG Test: Perform each of the following tests. Optimize ion source position only. The specifications listed for these Pre PM tests are guidelines only, not required to be met.

- ☐ Perform Q1 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

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

- ☐ Perform Q3 POS using POS PPG 2e-7M. Scan Rate 10 Da/s. Record 10 mca.

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

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USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
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Phone: 1.866.854.7988

QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

☐ Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : _____ (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3		Read Only		Read Only
MS/MS 195.1		Read Only		Read Only

☐ Perform Q1 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636		Read Only		Read Only

☐ Perform Q3 NEG using NEG PPG 3e-5M. Scan Rate 10 Da/s. Record 10 mca.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636		Read Only		Read Only

☐ Perform Product Ion scan using NEG PPG 3e-5M. Record 10 mca.

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10		Read Only		Read Only

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LC/MS/MS Detector System

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

- ☐ Check Cooling Fans for Turbo Pumps while MS is ON.
- ☐ Check QJet and QPS tuning voltage for reference.
- ☐ Record AC input Voltage while MS is OFF: _____ (200-240VAC).
If Out-of-Range, notify customer.

- ☐ Clean Interface
 - ☐ Curtain Plate
 - ☐ Orifice Plate
 - ☐ QJet
 - ☐ Q0 Rods.

- ☐ Replace Roughing Pump Oil.
- ☐ Inspect Oil Exhaust Filter, if Applicable. ☐ N/A
- ☐ Clean and inspect built-in divert valve if used. ☐ N/A
- ☐ Check Multiplier Voltage, optimize if necessary.
- ☐ Replace four Air Filters at the bottom of the mass spectrometer.

- ☐ Pump down overnight if possible. ☐ N/A

- ☐ Perform Maintenance on Turbo V source.

- ☐ Replace Electrode, if necessary. ☐ N/A
- ☐ Check Turbo heaters resistances.
- ☐ Check if Temperature is reached at 500C with TIS Probe installed.
- ☐ Check if Temperature is reached at 500C with APCI Probe installed. ☐ N/A

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Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

- ☐ Set-up Sample for Infusion.
☐ Check spray and adjust sprayer's position of the TIS source.
☐ Check Vacuum Pressure:

CAD Settings	Vacuum Reading ($\times 10^{-5}$ Torr)	Acceptance Criteria
☐ CAD 0		0.4 to 1.1×10^{-5} Torr
☐ CAD Low		Read Only
☐ CAD Medium		Read Only
☐ CAD High		Read Only
☐ CAD 12		2.4 to 4.5×10^{-5} Torr

- ☐ Perform Q1 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133		≥1.2 ⁶		0.6 to 0.8
Q1 500.380		≥9.0 ⁶		0.6 to 0.8
Q1 906.673		≥1.4 ⁷		0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673		≥6.8 ⁷		0.6 to 0.8

- ☐ Perform Q3 POS using POS PPG 2e-7M. Mass calibrate to less than 0.1 amu.

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133		≥1.2 ^{e6}		0.6 to 0.8
Q3 500.380		≥9.0 ^{e6}		0.6 to 0.8
Q3 906.673		≥1.4 ^{e7}		0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673		≥6.8 ^{e7}		0.6 to 0.8

- ☐ Perform "Product of 609.3" POS and record product ion 195.1 using Reserpine 0.167pmol/uL. Record 10 mca. Calculate Transmission efficiency comparing Q1POS 609 intensity.

Transmission Efficiency: $(\geq 10.0\%)$

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3		N/A		Read Only
MS/MS 195.1		N/A		Read Only

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Appendix ZEFPM003-2L

☐ Perform Q1 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10		$\geq 1.0^{e7}$		0.6 to 0.8
Q1 933.636	1000	50		$\geq 4.0^{e7}$		0.6 to 0.8

☐ Perform Q3 NEG using NEG PPG 3e-5M. Mass calibrate to less than 0.1 amu.

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10		$\geq 8.0^{e6}$		0.6 to 0.8
Q3 933.636	1000	50		$\geq 4.0^{e7}$		0.6 to 0.8

☐ Perform Product Ion scan using NEG PPG 3e-5M.

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10		Read Only		Read Only

☐ Perform ER POS 118.087 and 922.01 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05		≥7.2 ^{e6}		<0.35
ER 922.010	0.05		≥2.8 ^{e6}		<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		≥2.4 ^{e7}		<0.65
ER 922.010	0.05		≥6.8 ^{e7}		<0.65

☐ Perform ER NEG 431.982 and 601.978 using ESI Tuning Mix 1:100 in ES Tuning Dilution Solvent. Apply suggested Scan Rate and Record number of MCA. Mass calibrate to less than 0.1 amu.

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05		≥4.4 ^{e7}		<0.35
ER 601.978	0.05		≥5.6 ^{e7}		<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05		≥1.2 ^{e8}		<0.65
ER 601.978	0.05		≥1.6 ^{e8}		<0.65

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Appendix ZEFPM003-2L

- ☐ Perform EPI POS 397.2 using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000		$\geq 2.0 \times 10^6$		$\geq 6.4 \times 10^6$

- ☐ Perform MS3 POS full scan Fragmentation ON & OFF using Reserpine 0.167pmol/uL. Record 20 mca.

Mass	Scan Rate (Da/s)	Fragmentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000		Contains only 397.2	N/A	N/A
☐ 236 OR ☐ 365	1000		Fragment Intensity		$\geq 1.6 \times 10^6$

REVIEW:

- ☐ Attach all spectrums printouts to this procedure.
- ☐ If any parameter setting access modes were changed during the PM, ensure 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
- ☐ Update Service Work Order status
- ☐ Fill and replace PM Label.

END OF PREVENTIVE MAINTENANCE CHECKLIST

Document history:

06 OCT 2016: Appendix ZEFPM003-2L: Removed requirements to fit Manufacturer's testing criteria.

[illegible]

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-07
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-08
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-09
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-10
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-11
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-12
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-13
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-14
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-15
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-16
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-17
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-18
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-19
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-20
LE52	PFAS - DoD Calibration L1	LE51	LE50	LC24	200811-01
LE52	PFAS - DoD Calibration L1	LE51	LE50	LC24	200811-02
LE52	PFAS - DoD Calibration L1	LE51	LE50	LC24	200811-03
LE52	PFAS - DoD Calibration L1	LE51	LE50	-	200914-01
LE53	PFAS - DoD Calibration L2	LB78	LB75	-	200721-21
LE53	PFAS - DoD Calibration L2	LB78	LB75	-	200721-22
LE53	PFAS - DoD Calibration L2	LB78	LB75	-	200721-23
LE53	PFAS - DoD Calibration L2	LB78	LB75	-	200721-24
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-01
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-02
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-03
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-04
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-05
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-06
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-07
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-08
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-09
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-10
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-11
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-12
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-13
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-14
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-15
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-16
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-17
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-18
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-19
LE53	PFAS - DoD Calibration L2	LD73	LB74	-	200721-20
LE53	PFAS - DoD Calibration L2	LE51	LE50	LC24	200811-01
LE53	PFAS - DoD Calibration L2	LE51	LE50	LC24	200811-02
LE53	PFAS - DoD Calibration L2	LE51	LE50	LC24	200811-03
LE53	PFAS - DoD Calibration L2	LE51	LE50	-	200914-01
LE54	PFAS - DoD Calibration L3	LB78	LB75	-	200721-21
LE54	PFAS - DoD Calibration L3	LB78	LB75	-	200721-22
LE54	PFAS - DoD Calibration L3	LB78	LB75	-	200721-23
LE54	PFAS - DoD Calibration L3	LB78	LB75	-	200721-24
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-01
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-02
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-03
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-04
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-05
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-06
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-07
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-08

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-09
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-10
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-11
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-12
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-13
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-14
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-15
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-16
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-17
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-18
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-19
LE54	PFAS - DoD Calibration L3	LD73	LB74	-	200721-20
LE54	PFAS - DoD Calibration L3	LE50	LC24	-	200811-01
LE54	PFAS - DoD Calibration L3	LE50	LC24	-	200811-02
LE54	PFAS - DoD Calibration L3	LE50	LC24	-	200811-03
LE54	PFAS - DoD Calibration L3	LE50	-	-	200914-01
LE55	PFAS - DoD Calibration L4	LB78	LB75	-	200721-21
LE55	PFAS - DoD Calibration L4	LB78	LB75	-	200721-22
LE55	PFAS - DoD Calibration L4	LB78	LB75	-	200721-23
LE55	PFAS - DoD Calibration L4	LB78	LB75	-	200721-24
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-01
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-02
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-03
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-04
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-05
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-06
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-07
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-08
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-09
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-10
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-11
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-12
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-13
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-14
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-15
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-16
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-17
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-18
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-19
LE55	PFAS - DoD Calibration L4	LD73	LB74	-	200721-20
LE55	PFAS - DoD Calibration L4	LE50	LC24	-	200811-01
LE55	PFAS - DoD Calibration L4	LE50	LC24	-	200811-02
LE55	PFAS - DoD Calibration L4	LE50	LC24	-	200811-03
LE55	PFAS - DoD Calibration L4	LE50	-	-	200914-01
LE56	PFAS - DoD Calibration L5	LB78	LB75	-	200721-21
LE56	PFAS - DoD Calibration L5	LB78	LB75	-	200721-22
LE56	PFAS - DoD Calibration L5	LB78	LB75	-	200721-23
LE56	PFAS - DoD Calibration L5	LB78	LB75	-	200721-24
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-01
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-02
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-03
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-04
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-05
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-06
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-07
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-08
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-09
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-10

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-11
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-12
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-13
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-14
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-15
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-16
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-17
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-18
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-19
LE56	PFAS - DoD Calibration L5	LD73	LB74	-	200721-20
LE56	PFAS - DoD Calibration L5	LE50	LC24	-	200811-01
LE56	PFAS - DoD Calibration L5	LE50	LC24	-	200811-02
LE56	PFAS - DoD Calibration L5	LE50	LC24	-	200811-03
LE56	PFAS - DoD Calibration L5	LE50	-	-	200914-01
LE57	PFAS - DoD Calibration L6	LB78	LB75	-	200721-21
LE57	PFAS - DoD Calibration L6	LB78	LB75	-	200721-22
LE57	PFAS - DoD Calibration L6	LB78	LB75	-	200721-23
LE57	PFAS - DoD Calibration L6	LB78	LB75	-	200721-24
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-01
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-02
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-03
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-04
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-05
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-06
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-07
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-08
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-09
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-10
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-11
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-12
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-13
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-14
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-15
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-16
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-17
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-18
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-19
LE57	PFAS - DoD Calibration L6	LD73	LB74	-	200721-20
LE57	PFAS - DoD Calibration L6	LE50	LC24	-	200811-01
LE57	PFAS - DoD Calibration L6	LE50	LC24	-	200811-02
LE57	PFAS - DoD Calibration L6	LE50	LC24	-	200811-03
LE57	PFAS - DoD Calibration L6	LE50	-	-	200914-01
LE59	PFAS - DoD ICC	LB78	LB75	-	200721-21
LE59	PFAS - DoD ICC	LB78	LB75	-	200721-22
LE59	PFAS - DoD ICC	LB78	LB75	-	200721-23
LE59	PFAS - DoD ICC	LB78	LB75	-	200721-24
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-01
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-02
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-03
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-04
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-05
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-06
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-07
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-08
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-09
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-10
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-11
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-12

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-13
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-14
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-15
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-16
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-17
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-18
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-19
LE59	PFAS - DoD ICC	LD73	LB74	-	200721-20
LE59	PFAS - DoD ICC	LE49	LC24	-	200811-01
LE59	PFAS - DoD ICC	LE49	LC24	-	200811-02
LE59	PFAS - DoD ICC	LE49	LC24	-	200811-03
LE59	PFAS - DoD ICC	LE49	-	-	200909-01
LE59	PFAS - DoD ICC	LE49	-	-	201006-07



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: 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: LD44

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

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	2000	0.93	---	---	1	200	0.00934
13C2-6:2FTS	2000	0.95	---	---	1	200	0.00950
13C2-8:2FTS	2000	0.96	---	---	1	200	0.00958
13C2-PFDoA	2000	1.00	---	---	1	200	0.01000
13C2-PFTeDA	2000	1.00	---	---	1	200	0.01000
13C3-HFPO-DA	2000	1.00	---	---	1	200	0.01000
13C3-PFBS	2000	0.93	---	---	1	200	0.00930
13C3-PFHxS	2000	0.95	---	---	1	200	0.00946
13C4-PFBA	2000	1.00	---	---	1	200	0.01000
13C4-PFHpA	2000	1.00	---	---	1	200	0.01000
13C5-PFHxA	2000	1.00	---	---	1	200	0.01000
13C5-PFPeA	2000	1.00	---	---	1	200	0.01000
13C6-PFDA	2000	1.00	---	---	1	200	0.01000
13C7-PFUnA	2000	1.00	---	---	1	200	0.01000
13C8-FOSA	2000	1.00	---	---	1	200	0.01000
13C8-PFOA	2000	0.98	---	---	1	200	0.00978
13C8-PFOS	2000	0.96	---	---	1	200	0.00956
13C9-PFNA	2000	1.00	---	---	1	200	0.01000
d3-MeFOSAA	2000	1.00	---	---	1	200	0.01000
d5-EtFOSAA	2000	1.00	---	---	1	200	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00934
13C2-6:2FTS	.00950
13C2-8:2FTS	.00958
13C2-PFDoA	.01000
13C2-PFTeDA	.01000
13C3-HFPO-DA	.01000
13C3-PFBS	.00930
13C3-PFHxS	.00946
13C4-PFBA	.01000
13C4-PFHpA	.01000
13C5-PFHxA	.01000
13C5-PFPeA	.01000
13C6-PFDA	.01000

Solution Prepared By: Bailey, Kevin

Date Prepared:

10/6/2020

Expiration Date:

7/21/2021

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

Comment: 96/4 methanol/milli-q water (RP-201006-13)

Approved By: Schumitz, Denise

Date: 10/7/2020 8:51:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD44

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

13C7-PFUnA	.01000
13C8-FOSA	.01000
13C8-PFOA	.00978
13C8-PFOS	.00956
13C9-PFNA	.01000
d3-MeFOSAA	.01000
d5-EtFOSAA	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB74	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 10/6/2020 **Expiration Date:** 7/21/2021

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

Comment: 96/4 methanol/milli-q water (RP-201006-13)

Approved By: Schumitz, Denise **Date:** 10/7/2020 8:51:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LD73

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

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: **LE39**

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

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	2000	0.93	---	---	1	200	0.00934
13C2-6:2FTS	2000	0.95	---	---	1	200	0.00950
13C2-8:2FTS	2000	0.96	---	---	1	200	0.00958
13C2-PFDoA	2000	1.00	---	---	1	200	0.01000
13C2-PFTeDA	2000	1.00	---	---	1	200	0.01000
13C3-HFPO-DA	2000	1.00	---	---	1	200	0.01000
13C3-PFBS	2000	0.93	---	---	1	200	0.00930
13C3-PFHxS	2000	0.95	---	---	1	200	0.00946
13C4-PFBA	2000	1.00	---	---	1	200	0.01000
13C4-PFHpA	2000	1.00	---	---	1	200	0.01000
13C5-PFHxA	2000	1.00	---	---	1	200	0.01000
13C5-PFPeA	2000	1.00	---	---	1	200	0.01000
13C6-PFDA	2000	1.00	---	---	1	200	0.01000
13C7-PFUnA	2000	1.00	---	---	1	200	0.01000
13C8-FOSA	2000	1.00	---	---	1	200	0.01000
13C8-PFOA	2000	0.98	---	---	1	200	0.00978
13C8-PFOS	2000	0.96	---	---	1	200	0.00956
13C9-PFNA	2000	1.00	---	---	1	200	0.01000
d3-MeFOSAA	2000	1.00	---	---	1	200	0.01000
d5-EtFOSAA	2000	1.00	---	---	1	200	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00934
13C2-6:2FTS	.00950
13C2-8:2FTS	.00958
13C2-PFDoA	.01000
13C2-PFTeDA	.01000
13C3-HFPO-DA	.01000
13C3-PFBS	.00930
13C3-PFHxS	.00946
13C4-PFBA	.01000
13C4-PFHpA	.01000
13C5-PFHxA	.01000
13C5-PFPeA	.01000
13C6-PFDA	.01000

Solution Prepared By: Bailey, Kevin Date Prepared: 11/4/2020 Expiration Date: 7/21/2021

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

Comment: 96/4 methanol/milli-q water (RP-201104-11)

Approved By: Schumitz, Denise Date: 11/5/2020 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LE39**

Description: PFAS - DoD Low Level Labelled Extracted Internal Standard

13C7-PFUnA	.01000
13C8-FOSA	.01000
13C8-PFOA	.00978
13C8-PFOS	.00956
13C9-PFNA	.01000
d3-MeFOSAA	.01000
d5-EtFOSAA	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB74	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/4/2020 **Expiration Date:** 7/21/2021

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

Comment: 96/4 methanol/milli-q water (RP-201104-11)

Approved By: Schumitz, Denise **Date:** 11/5/2020 10:09:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE40

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:** 11/4/2020 **Expiration Date:** 7/21/2021

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

Comment: 96/4 methanol/milli-q (RP-201104-12)

Approved By: Schumitz, Denise **Date:** 11/5/2020 10:54:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE49

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	0	1.00	1	100.000	1	10	0.00000
1H,1H,2H,2H-Perfluorodecane sulfonate	0	1.01	1	100.000	1	10	0.00000
1H,1H,2H,2H-Perfluorohexane sulfonate	0	1.00	1	100.000	1	10	0.00000
1H,1H,2H,2H-Perfluorooctane sulfonate	0	1.00	1	100.000	1	10	0.00000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	0	1.00	1	100.000	1	10	0.00000
Adona	0	1.00	1	100.000	1	10	0.00000
Hexafluoropropylene oxide dimer acid	0	1.00	1	100.000	1	10	0.00000
N-ethylperfluoro-octanesulfonamidoacetic acid	0	1.00	1	100.000	1	10	0.00000
N-methylperfluoro-1-octanesulfonamidoacetic acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-1-butanefluoride	0	1.00	1	100.000	1	10	0.00000
Perfluoro-1-decanesulfonate	0	1.01	1	100.000	1	10	0.00000
Perfluoro-1-heptanesulfonate	0	1.00	1	100.000	1	10	0.00000
Perfluoro-1-hexanesulfonate	0	1.01	1	100.000	1	10	0.00000
Perfluoro-1-nonanesulfonate	0	1.01	1	100.000	1	10	0.00000
Perfluoro-1-octanesulfonamide	0	1.00	1	100.000	1	10	0.00000
Perfluoro-1-octanesulfonate	0	1.01	1	100.000	1	10	0.00000
perfluoro-1-pentanesulfonate	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-butanoic Acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-decanoic Acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-dodecanoic acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-heptanoic Acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-hexanoic acid	0	1.01	1	100.000	1	10	0.00000
Perfluoro-n-octanoic Acid	0	1.00	1	100.000	1	10	0.00000
Perfluorononanoic Acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-pentanoic acid	0	1.01	1	100.000	1	10	0.00000
Perfluoro-n-tetradecanoic acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-tridecanoic acid	0	1.00	1	100.000	1	10	0.00000
Perfluoro-n-undecanoic acid	0	1.00	1	100.000	1	10	0.00000

Stock Id: 201006-07

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	1000	1.00	1	100.000	1	10	0.10000
1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	10	0.10100
1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	10	0.10000
1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	10	0.10000

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/10/2020

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-201110-)

Approved By: Schumitz, Denise

Date: 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE49

Description: PFAS - DoD Second Source LCS/MS Solution

9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	1000	1.00	1	100.000	1	10	0.10000
Adona	1000	1.00	1	100.000	1	10	0.10000
Hexafluoropropylene oxide dimer acid	1000	1.00	1	100.000	1	10	0.10000
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	10	0.10000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-1-butanefluoride	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	10	0.10100
Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	10	0.10100
Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	10	0.10100
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-1-octanesulfonate	1000	1.01	1	100.000	1	10	0.10100
perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	10	0.10100
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	10	0.10000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-pentanoic acid	1000	1.01	1	100.000	1	10	0.10100
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	10	0.10000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	10	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	200	5.00	---	---	1	10	0.10000
3-Perfluoropentyl propanoic acid	200	5.00	---	---	1	10	0.10000
3-perfluoropropyl propanoic Acid	200	5.00	---	---	1	10	0.10000

Final Concentrations:

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

Solution Prepared By: Bailey, Kevin	Date Prepared: 11/10/2020	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-201110-)		

Approved By: Schumitz, Denise **Date:** 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE49

Description: PFAS - DoD Second Source LCS/MS Solution

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-heptadisulfonate	.10000
Perfluoro-1-hexadisulfonate	.10100
Perfluoro-1-nonadisulfonate	.10100
Perfluoro-1-octanesulfonamide	.10000
Perfluoro-1-octanesulfonate	.10100
perfluoro-1-pentadisulfonate	.10000
Perfluoro-n-butanedisulfonate	.10000
Perfluoro-n-decanedisulfonate	.10000
Perfluoro-n-dodecanedisulfonate	.10000
Perfluoro-n-heptadisulfonate	.10000
Perfluoro-n-hexadisulfonate	.10100
Perfluoro-n-octadisulfonate	.10000
Perfluorononanoic Acid	.10000
Perfluoro-n-pentanoic acid	.10100
Perfluoro-n-tetradecanoic acid	.10000
Perfluoro-n-tridecanoic acid	.10000
Perfluoro-n-undecanoic acid	.10000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
200909-01	Pipette	B820865811
201006-07	Pipette	B820865811
LC24	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/10/2020 **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-201110-)

Approved By: Schumitz, Denise **Date:** 11/11/2020 1:05:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE50

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: 11/12/2020	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-201112-3)		

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE50

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	B820865811
LC24	Pipette	B820865811

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-3)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE51

Description: PFAS - DoD Low ICAL Stock

Stock Id: LE50

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: 11/12/2020	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-201112-3)		

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE51

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:
LE50	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-3)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:15:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE52

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: 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-PFDaA	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

Stock Id: LE51

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	0.01	---	---	1	10	0.00025
1H,1H,2H,2H-Perfluorodecane sulfonate	250	0.01	---	---	1	10	0.00025
1H,1H,2H,2H-Perfluorohexane sulfonate	250	0.01	---	---	1	10	0.00025
1H,1H,2H,2H-Perfluorooctane sulfonate	250	0.01	---	---	1	10	0.00025
3-Perfluoroheptyl propanoic acid	250	0.01	---	---	1	10	0.00025

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

3-Perfluoropentyl propanoic acid	250	0.01	---	---	1	10	0.00025
3-perfluoropropyl propanoic Acid	250	0.01	---	---	1	10	0.00025
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	250	0.01	---	---	1	10	0.00025
Adona	250	0.01	---	---	1	10	0.00025
Hexafluoropropylene oxide dimer acid	250	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	250	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-1-butanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-1-decanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-1-heptanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-1-nonanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	250	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	250	0.01	---	---	1	10	0.00025
perfluoro-1-pentanedisulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-n-butanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-decanedic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanedic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-octanedic Acid	250	0.01	---	---	1	10	0.00025
Perfluorononanedic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanedic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanedic acid	250	0.01	---	---	1	10	0.00025

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.00025
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:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

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	.00025
1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
3-Perfluoroheptyl propanoic acid	.00025
3-Perfluoropentyl propanoic acid	.00025
3-perfluoropropyl propanoic Acid	.00025
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.00025
Adona	.00025
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
Hexafluoropropylene oxide dimer acid	.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanedisulfonate	.00025
Perfluoro-1-decanedisulfonate	.00025
Perfluoro-1-heptanedisulfonate	.00025
Perfluoro-1-hexanedisulfonate	.00025
Perfluoro-1-nonanedisulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
perfluoro-1-pentanesulfonate	.00025
Perfluoro-n-butanoic Acid	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE52

Description: PFAS - DoD Calibration L1

Perfluoro-n-octanoic Acid	.00025
Perfluorononanoic Acid	.00025
Perfluoro-n-pentanoic acid	.00025
Perfluoro-n-tetradecanoic acid	.00025
Perfluoro-n-tridecanoic acid	.00025
Perfluoro-n-undecanoic acid	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LD73	Pipette	B814657482
LE51	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒Standard Laboratory ID Number: **LE53**

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: 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-PFDaA	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

Stock Id: LE51

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	500	0.01	---	---	1	10	0.00050
1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00051
1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00050
1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00050
3-Perfluoroheptyl propanoic acid	500	0.01	---	---	1	10	0.00050

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

3-Perfluoropentyl propanoic acid	500	0.01	---	---	1	10	0.00050
3-perfluoropropyl propanoic Acid	500	0.01	---	---	1	10	0.00050
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	500	0.01	---	---	1	10	0.00050
Adona	500	0.01	---	---	1	10	0.00050
Hexafluoropropylene oxide dimer acid	500	0.01	---	---	1	10	0.00050
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-1-butanedisulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-1-decanedisulfonate	500	0.01	---	---	1	10	0.00051
Perfluoro-1-heptanedisulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-1-hexanedisulfonate	500	0.01	---	---	1	10	0.00051
Perfluoro-1-nonanedisulfonate	500	0.01	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00051
perfluoro-1-pentanedisulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-n-butanedic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-decanedic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-dodecanedic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-heptanedic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-hexanedic acid	500	0.01	---	---	1	10	0.00051
Perfluoro-n-octanedic Acid	500	0.01	---	---	1	10	0.00050
Perfluorononanedic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-pentanedic acid	500	0.01	---	---	1	10	0.00051
Perfluoro-n-tetradecanedic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-tridecanedic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-undecanedic acid	500	0.01	---	---	1	10	0.00050

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.00050
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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

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	.00051
1H,1H,2H,2H-Perfluorohexane sulfonate	.00050
1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
3-Perfluoroheptyl propanoic acid	.00050
3-Perfluoropentyl propanoic acid	.00050
3-perfluoropropyl propanoic Acid	.00050
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.00050
Adona	.00050
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
Hexafluoropropylene oxide dimer acid	.00050
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanedisulfonate	.00050
Perfluoro-1-decanedisulfonate	.00051
Perfluoro-1-heptanedisulfonate	.00050
Perfluoro-1-hexanedisulfonate	.00051
Perfluoro-1-nonanedisulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanedisulfonate	.00051
perfluoro-1-pentanedisulfonate	.00050
Perfluoro-n-butanedic acid	.00050
Perfluoro-n-decanedic acid	.00050
Perfluoro-n-dodecanedic acid	.00050
Perfluoro-n-heptanedic acid	.00050
Perfluoro-n-hexanedic acid	.00051

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE53

Description: PFAS - DoD Calibration L2

Perfluoro-n-octanoic Acid	.00050
Perfluorononanoic Acid	.00050
Perfluoro-n-pentanoic acid	.00051
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LD73	Pipette	B814657482
LE51	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE54

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: 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-PFDaA	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

Stock Id: LE50

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	400	0.10	---	---	1	40	0.00100
1H,1H,2H,2H-Perfluorodecane sulfonate	400	0.10	---	---	1	40	0.00101
1H,1H,2H,2H-Perfluorohexane sulfonate	400	0.10	---	---	1	40	0.00100
1H,1H,2H,2H-Perfluorooctane sulfonate	400	0.10	---	---	1	40	0.00100
3-Perfluoroheptyl propanoic acid	400	0.10	---	---	1	40	0.00100

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020 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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

3-Perfluoropentyl propanoic acid	400	0.10	---	---	1	40	0.00100
3-perfluoropropyl propanoic Acid	400	0.10	---	---	1	40	0.00100
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	400	0.10	---	---	1	40	0.00100
Adona	400	0.10	---	---	1	40	0.00100
Hexafluoropropylene oxide dimer acid	400	0.10	---	---	1	40	0.00100
N-ethylperfluoro-octanesulfonamidoacetic acid	400	0.10	---	---	1	40	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	400	0.10	---	---	1	40	0.00100
Perfluoro-1-butanedisulfonate	400	0.10	---	---	1	40	0.00100
Perfluoro-1-decanedisulfonate	400	0.10	---	---	1	40	0.00101
Perfluoro-1-heptanedisulfonate	400	0.10	---	---	1	40	0.00100
Perfluoro-1-hexanedisulfonate	400	0.10	---	---	1	40	0.00101
Perfluoro-1-nonanedisulfonate	400	0.10	---	---	1	40	0.00101
Perfluoro-1-octanesulfonamide	400	0.10	---	---	1	40	0.00100
Perfluoro-1-octanesulfonate	400	0.10	---	---	1	40	0.00101
perfluoro-1-pentanedisulfonate	400	0.10	---	---	1	40	0.00100
Perfluoro-n-butanedioic Acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-decanedioic Acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-dodecanedioic acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-heptanedioic Acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-hexanedioic acid	400	0.10	---	---	1	40	0.00101
Perfluoro-n-octanedioic Acid	400	0.10	---	---	1	40	0.00100
Perfluorononanedioic Acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-pentanedioic acid	400	0.10	---	---	1	40	0.00101
Perfluoro-n-tetradecanedioic acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-tridecanedioic acid	400	0.10	---	---	1	40	0.00100
Perfluoro-n-undecanedioic acid	400	0.10	---	---	1	40	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.00100
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:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

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	.00101
1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
3-Perfluoroheptyl propanoic acid	.00100
3-Perfluoropentyl propanoic acid	.00100
3-perfluoropropyl propanoic Acid	.00100
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.00100
Adona	.00100
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
Hexafluoropropylene oxide dimer acid	.00100
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanedisulfonate	.00100
Perfluoro-1-decanedisulfonate	.00101
Perfluoro-1-heptanedisulfonate	.00100
Perfluoro-1-hexanedisulfonate	.00101
Perfluoro-1-nonanedisulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanedisulfonate	.00101
perfluoro-1-pentanedisulfonate	.00100
Perfluoro-n-butanedic acid	.00100
Perfluoro-n-decanedic acid	.00100
Perfluoro-n-dodecanedic acid	.00100
Perfluoro-n-heptanedic acid	.00100
Perfluoro-n-hexanedic acid	.00101

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE54

Description: PFAS - DoD Calibration L3

Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00101
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B820865811
LD73	Pipette	B820865811
LE50	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE55

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: 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-PFDaA	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

Stock Id: LE50

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	1000	0.10	---	---	1	40	0.00250
1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.10	---	---	1	40	0.00253
1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.10	---	---	1	40	0.00250
1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.10	---	---	1	40	0.00250
3-Perfluoroheptyl propanoic acid	1000	0.10	---	---	1	40	0.00250

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

3-Perfluoropentyl propanoic acid	1000	0.10	---	---	1	40	0.00250
3-perfluoropropyl propanoic Acid	1000	0.10	---	---	1	40	0.00250
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	1000	0.10	---	---	1	40	0.00250
Adona	1000	0.10	---	---	1	40	0.00250
Hexafluoropropylene oxide dimer acid	1000	0.10	---	---	1	40	0.00250
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.10	---	---	1	40	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-1-butanefluoride	1000	0.10	---	---	1	40	0.00250
Perfluoro-1-decanesulfonate	1000	0.10	---	---	1	40	0.00253
Perfluoro-1-heptanesulfonate	1000	0.10	---	---	1	40	0.00250
Perfluoro-1-hexanesulfonate	1000	0.10	---	---	1	40	0.00253
Perfluoro-1-nonanesulfonate	1000	0.10	---	---	1	40	0.00253
Perfluoro-1-octanesulfonamide	1000	0.10	---	---	1	40	0.00250
Perfluoro-1-octanesulfonate	1000	0.10	---	---	1	40	0.00253
perfluoro-1-pentanesulfonate	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-butanoic Acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-decanoic Acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-dodecanoic acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-heptanoic Acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-hexanoic acid	1000	0.10	---	---	1	40	0.00253
Perfluoro-n-octanoic Acid	1000	0.10	---	---	1	40	0.00250
Perfluorononanoic Acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-pentanoic acid	1000	0.10	---	---	1	40	0.00253
Perfluoro-n-tetradecanoic acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-tridecanoic acid	1000	0.10	---	---	1	40	0.00250
Perfluoro-n-undecanoic acid	1000	0.10	---	---	1	40	0.00250

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

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-octanesulfonate	.00253
perfluoro-1-pentanesulfonate	.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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE55

Description: PFAS - DoD Calibration L4

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	B820865811
LD73	Pipette	B820865811
LE50	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE56

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: 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-PFDaA	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

Stock Id: LE50

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	1000	0.10	---	---	1	10	0.01000
1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.10	---	---	1	10	0.01010
1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.10	---	---	1	10	0.01000
1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.10	---	---	1	10	0.01000
3-Perfluoroheptyl propanoic acid	1000	0.10	---	---	1	10	0.01000

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE56

Description: PFAS - DoD Calibration L5

3-Perfluoropentyl propanoic acid	1000	0.10	---	---	1	10	0.01000
3-perfluoropropyl propanoic Acid	1000	0.10	---	---	1	10	0.01000
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	1000	0.10	---	---	1	10	0.01000
Adona	1000	0.10	---	---	1	10	0.01000
Hexafluoropropylene oxide dimer acid	1000	0.10	---	---	1	10	0.01000
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.10	---	---	1	10	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-butanedisulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-decanedisulfonate	1000	0.10	---	---	1	10	0.01010
Perfluoro-1-heptanedisulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-hexanedisulfonate	1000	0.10	---	---	1	10	0.01010
Perfluoro-1-nonanedisulfonate	1000	0.10	---	---	1	10	0.01010
Perfluoro-1-octanesulfonamide	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-octanesulfonate	1000	0.10	---	---	1	10	0.01010
perfluoro-1-pentanedisulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-butanedic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-decanedic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-dodecanedic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-heptanedic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-hexanedic acid	1000	0.10	---	---	1	10	0.01010
Perfluoro-n-octanedic Acid	1000	0.10	---	---	1	10	0.01000
Perfluorononanedic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-pentanedic acid	1000	0.10	---	---	1	10	0.01010
Perfluoro-n-tetradecanedic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-tridecanedic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-undecanedic acid	1000	0.10	---	---	1	10	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.01000
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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE56

Description: PFAS - DoD Calibration L5

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	.01010
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
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
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-butanoic Acid	.01000
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01010

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE56

Description: PFAS - DoD Calibration L5

Perfluoro-n-octanoic Acid	.01000
Perfluorononanoic Acid	.01000
Perfluoro-n-pentanoic acid	.01010
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LD73	Pipette	B814657482
LE50	Pipette	B820865811

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **LE57**

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: 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-PFDaA	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

Stock Id: LE50

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	2500	0.10	---	---	1	10	0.02500
1H,1H,2H,2H-Perfluorodecane sulfonate	2500	0.10	---	---	1	10	0.02525
1H,1H,2H,2H-Perfluorohexane sulfonate	2500	0.10	---	---	1	10	0.02500
1H,1H,2H,2H-Perfluorooctane sulfonate	2500	0.10	---	---	1	10	0.02500
3-Perfluoroheptyl propanoic acid	2500	0.10	---	---	1	10	0.02500

Solution Prepared By: Bailey, Kevin Date Prepared: 11/12/2020 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-201112-19)

Approved By: Schumitz, Denise Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

3-Perfluoropentyl propanoic acid	2500	0.10	---	---	1	10	0.02500
3-perfluoropropyl propanoic Acid	2500	0.10	---	---	1	10	0.02500
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic aci	2500	0.10	---	---	1	10	0.02500
Adona	2500	0.10	---	---	1	10	0.02500
Hexafluoropropylene oxide dimer acid	2500	0.10	---	---	1	10	0.02500
N-ethylperfluoro-octanesulfonamidoacetic acid	2500	0.10	---	---	1	10	0.02500
N-methylperfluoro-1-octanesulfonamidoacetic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-butanedisulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-decanedisulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-heptanedisulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-hexanedisulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-nonanedisulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-octanesulfonamide	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-octanedisulfonate	2500	0.10	---	---	1	10	0.02525
perfluoro-1-pentanedisulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-butanedic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-decanedic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-dodecanedic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-heptanedic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-hexanedic acid	2500	0.10	---	---	1	10	0.02525
Perfluoro-n-octanedic Acid	2500	0.10	---	---	1	10	0.02500
Perfluorononanedic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-pentanedic acid	2500	0.10	---	---	1	10	0.02525
Perfluoro-n-tetradecanedic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-tridecanedic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-undecanedic acid	2500	0.10	---	---	1	10	0.02500

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	.02500
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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

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	.02525
1H,1H,2H,2H-Perfluorohexane sulfonate	.02500
1H,1H,2H,2H-Perfluorooctane sulfonate	.02500
3-Perfluoroheptyl propanoic acid	.02500
3-Perfluoropentyl propanoic acid	.02500
3-perfluoropropyl propanoic Acid	.02500
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	.02500
Adona	.02500
d3-MeFOSAA	.00125
d5-EtFOSAA	.00125
Hexafluoropropylene oxide dimer acid	.02500
N-ethylperfluoro-octanesulfonamidoacetic acid	.02500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02500
Perfluoro-1-butanedisulfonate	.02500
Perfluoro-1-decanedisulfonate	.02525
Perfluoro-1-heptanedisulfonate	.02500
Perfluoro-1-hexanedisulfonate	.02525
Perfluoro-1-nonanedisulfonate	.02525
Perfluoro-1-octanesulfonamide	.02500
Perfluoro-1-octanedisulfonate	.02525
perfluoro-1-pentanedisulfonate	.02500
Perfluoro-n-butanedic Acid	.02500
Perfluoro-n-decanedic Acid	.02500
Perfluoro-n-dodecanedic acid	.02500
Perfluoro-n-heptanedic Acid	.02500
Perfluoro-n-hexanedic acid	.02525

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE57

Description: PFAS - DoD Calibration L6

Perfluoro-n-octanoic Acid	.02500
Perfluorononanoic Acid	.02500
Perfluoro-n-pentanoic acid	.02525
Perfluoro-n-tetradecanoic acid	.02500
Perfluoro-n-tridecanoic acid	.02500
Perfluoro-n-undecanoic acid	.02500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
LB78	Pipette	B814657482
LD73	Pipette	B814657482
LE50	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE59

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: 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-PFDaA	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

Stock Id: LE49

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

Solution Prepared By: Bailey, Kevin

Date Prepared:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE59

Description: PFAS - DoD ICC

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-butanedisulfonate	250	0.10	---	---	1	10	0.00250
Perfluoro-1-decanedisulfonate	250	0.10	---	---	1	10	0.00253
Perfluoro-1-heptanedisulfonate	250	0.10	---	---	1	10	0.00250
Perfluoro-1-hexanedisulfonate	250	0.10	---	---	1	10	0.00253
Perfluoro-1-nonanedisulfonate	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-pentanedisulfonate	250	0.10	---	---	1	10	0.00250
Perfluoro-n-butanedic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-decanedic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-dodecanedic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-heptanedic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-hexanedic acid	250	0.10	---	---	1	10	0.00253
Perfluoro-n-octanedic Acid	250	0.10	---	---	1	10	0.00250
Perfluorononanedic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-pentanedic acid	250	0.10	---	---	1	10	0.00253
Perfluoro-n-tetradecanedic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-tridecanedic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-undecanedic acid	250	0.10	---	---	1	10	0.00250

Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafluoro-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:

11/12/2020

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-201112-19)

Approved By: Schumitz, Denise

Date: 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE59

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-octanesulfonate	.00253
perfluoro-1-pentanesulfonate	.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:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: LE59

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
LD73	Pipette	B814657482
LE49	Pipette	B814657482

Solution Prepared By: Bailey, Kevin **Date Prepared:** 11/12/2020 **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-201112-19)

Approved By: Schumitz, Denise **Date:** 11/13/2020 1:16:00 PM



It can be done

BDO Id:

200721-01

Reagent Receipt Report

Approved: ☐A. 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:**

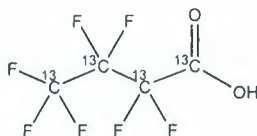
MPFBA

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

05/13/2020

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)

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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

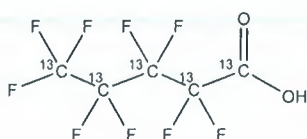
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

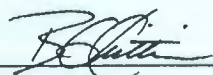
DOCUMENTATION/ DATA ATTACHED:

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)

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BATTELLE

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 Units:	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: _____

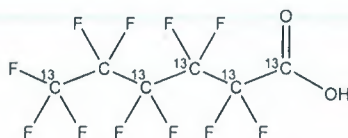
200721-03



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
 (1,2,3,4,6-¹³C₅)
LAST TESTED: (mm/dd/yyyy) 04/03/2020
EXPIRY DATE: (mm/dd/yyyy) 04/03/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

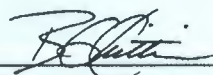
DOCUMENTATION/ DATA ATTACHED:

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: _____

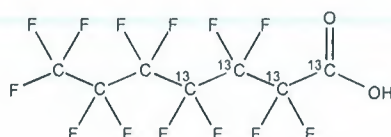
Authorized by: _____ Authorized on: _____



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

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



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

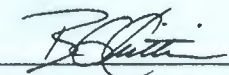
DOCUMENTATION/ DATA ATTACHED:

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)

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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	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:

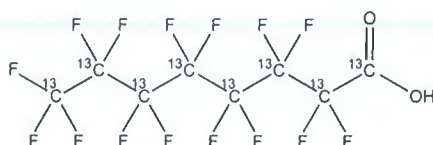
M8PFOA

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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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 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: _____

260721-07



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

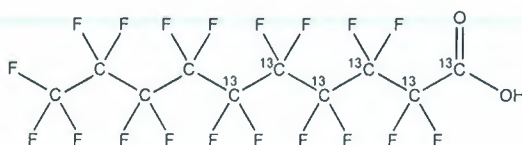
M6PFDA

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)

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

BDO Id:

200721-08

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: ¹³C₇¹²C₄H₂₁O₂ **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

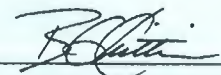
DOCUMENTATION/ DATA ATTACHED:

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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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:

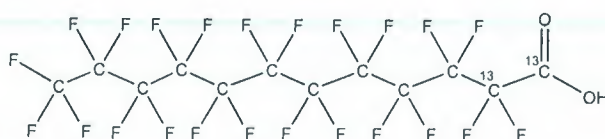
200721-09



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

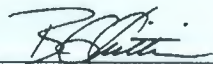
DOCUMENTATION/ DATA ATTACHED:

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)

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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 Units:	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
 Water (<1%)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥99% ¹³C
 (1,2-¹³C₂)
LAST TESTED: (mm/dd/yyyy) 11/14/2019
EXPIRY DATE: (mm/dd/yyyy) 11/14/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

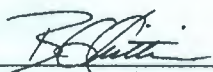
Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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

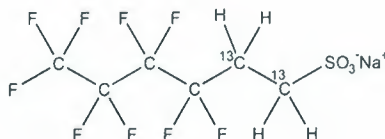


WELLINGTON LABORATORIES

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
LAST TESTED: (mm/dd/yyyy)	04/16/2020		(1,2- ¹³ C ₂)
EXPIRY DATE: (mm/dd/yyyy)	04/16/2025		
RECOMMENDED STORAGE:	Refrigerate ampoule		

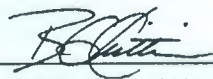
DOCUMENTATION/ DATA ATTACHED:

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)

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It can be done

BDO Id:

200721-12

Reagent Receipt Report

Approved: ☐ ☐

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

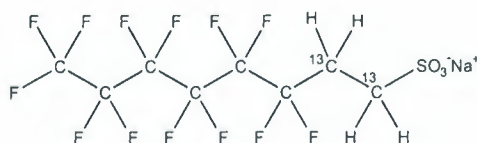


WELLINGTON LABORATORIES

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:	¹³ C ₂ ¹² C ₆ H ₄ F ₁₃ SO ₃ Na	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% ¹³ C
LAST TESTED: (mm/dd/yyyy)	05/20/2020		(1,2- ¹³ C ₂)
EXPIRY DATE: (mm/dd/yyyy)	05/20/2025		
RECOMMENDED STORAGE:	Refrigerate ampoule		

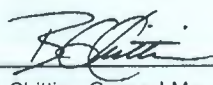
DOCUMENTATION/ DATA ATTACHED:

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: ☐ ☐

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:	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 Val:	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:

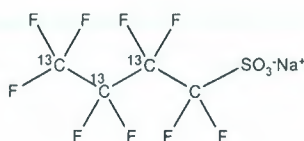
M3PFBS1019

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.

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:

200721-15

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: _____

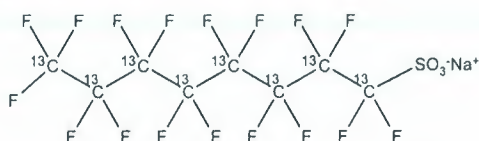
200721-16



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOS **LOT NUMBER:** M8PFOS0120
COMPOUND: Sodium perfluoro-1-[¹³C₈]octanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: ¹³C₈F₁₇SO₃Na **MOLECULAR WEIGHT:** 530.05
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol
 47.9 ± 2.4 µg/ml (M8PFOS acid)
 47.8 ± 2.4 µg/ml (M8PFOS anion)
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** >99% ¹³C
LAST TESTED: (mm/dd/yyyy) 02/21/2020 (¹³C₈)
EXPIRY DATE: (mm/dd/yyyy) 02/21/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

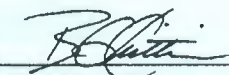
DOCUMENTATION/ DATA ATTACHED:

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-[¹³C₇]heptanesulfonate (¹³C₇-PFHpS) and ~ 1.0% of sodium perfluoro-1-[¹³C₈]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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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	Cert Val:	Lower Limit:	Upper Limit:
d5-EtFOSAA	BDO-1839	50.0000	98.00	--	--	☐			

Total Analytes: 1

Notes:

Approved by: _____ Approved on: _____

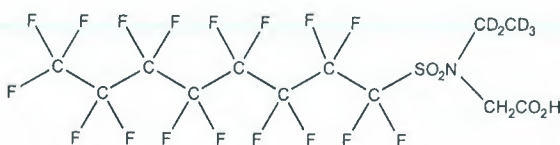
Authorized by: _____ Authorized on: _____



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: C₁₂D₅H₃F₁₇NO₄S **MOLECULAR WEIGHT:** 590.26
CONCENTRATION: 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥98% ²H₅
LAST TESTED: (mm/dd/yyyy) 05/20/2020
EXPIRY DATE: (mm/dd/yyyy) 05/20/2025
RECOMMENDED STORAGE: Refrigerate ampoule

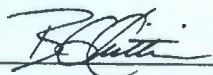
DOCUMENTATION/ DATA ATTACHED:

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	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)

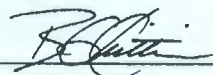
DOCUMENTATION/ DATA ATTACHED:

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: _____

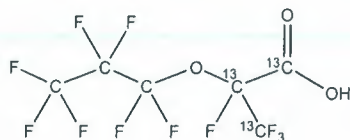


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CERTIFICATE OF ANALYSIS DOCUMENTATION

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:	$^{13}\text{C}_3^{12}\text{C}_3\text{HF}_{11}\text{O}_3$	MOLECULAR WEIGHT:	333.03
CONCENTRATION:	50.0 ± 2.5 µg/ml	SOLVENT(S):	Methanol
CHEMICAL PURITY:	>98%	ISOTOPIC PURITY:	≥99% ¹³ C
LAST TESTED: (mm/dd/yyyy)	05/13/2020		(¹³ C ₃)
EXPIRY DATE: (mm/dd/yyyy)	05/13/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

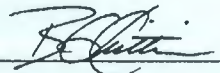
DOCUMENTATION/ DATA ATTACHED:

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.
- 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



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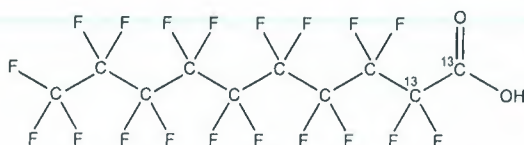
CERTIFICATE OF ANALYSIS DOCUMENTATION

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)

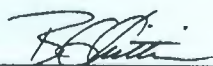
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

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)

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It can be done

BDO Id:

200721-22

Reagent Receipt Report

Approved: ☐

BDO-2107



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: _____

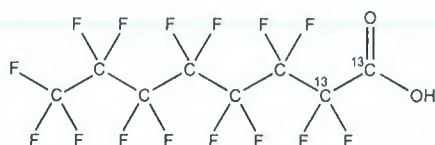
200721-22



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

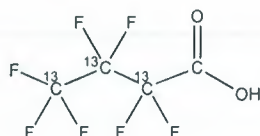
CERTIFICATE OF ANALYSIS DOCUMENTATION

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: _____

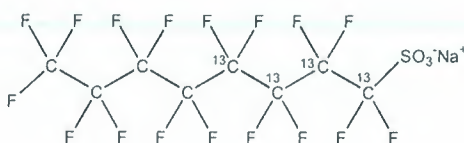
200721-24



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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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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: _____	Approved on: _____
Authorized by: _____	Authorized on: _____



WELLINGTON LABORATORIES

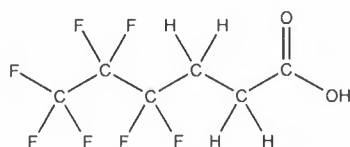
CERTIFICATE OF ANALYSIS DOCUMENTATION

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:

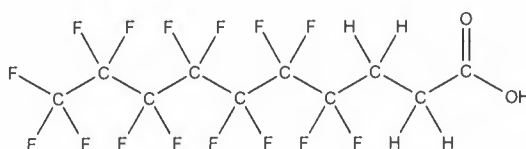
FHpPA0320

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

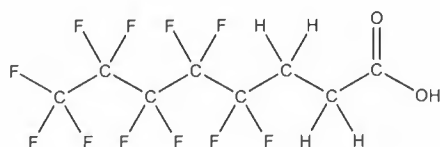
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

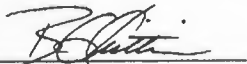
DOCUMENTATION/ DATA ATTACHED:

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)

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: 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-butanefulfonate	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-butanoic 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.

50.0 5E-05 Balance Uncertainty
0.007 Flask Uncertainty

Formulated By: Benson Chan		072820
		DATE
Reviewed By: Pedro L. Rentes		072820
		DATE

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-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	48.0	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	48.7	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.1

- 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 Val:	Lower Limit:	Upper Limit:
11-chloroeicosafuoro-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-butanoic 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**

Volumetric(s) shown below were combined and diluted to (mL):
Note: All assigned values are anion concentrations.

Formulated By: <i>Benson Cran</i>	082620
DATE	
Reviewed By: <i>Pedro L. Renteria</i>	082620
DATE	

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	11CIPF30U050320	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	9CIPF30NS0420	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 sample, 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).



It can be done

BDO Id: 201006-07

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name:	PFOA DOD	Received:	10/6/2020
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-chloroeicosafuoro-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-butanoic 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:	_____



201006-07

CERTIFIED WEIGHT REPORT

Part Number: 64029
Lot Number: 072820
Description: PFOA - DOD
28 components
Expiration Date: 072825
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 23060

Solvent(s): Methanol (1 mM KOH)
2-Propanol
Lot# 042920 (96%)
23214 (2%)

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

Note: All assigned values are anion concentrations.

Note: All assigned values are anion concentrations.										SDS Information		
Compound	Part	Lot	Dilution	Initial	Uncertainty	Initial	Final	Expanded	Solvent Safety Info. On Attached pg.)			
	Number	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Uncertainty (+/-) µg/mL	CAS#	OSHA PEL (TWA)	LD50	
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	
Perfluoro-n-pentanoic acid	99543	110419	0.02	1.00	0.004	50.7	1.01	0.02	2708-90-3	N/A	N/A	
Perfluorohexanoic acid	99199	010820	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A	
Perfluoroheptanoic acid	99197	071219	0.02	1.00	0.004	50.1	1.00	0.01	376-85-9	N/A	N/A	
Perfluorooctanoic acid (branched)*	99202	021820	0.02	1.00	0.004	50.3	1.01	0.01	335-87-1	N/A	lpr-rat 189mg/kg	
Perfluorononanoic acid	99200	110419	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A	
Perfluorodecanoic acid	99195	110419	0.02	1.00	0.004	50.1	1.00	0.01	335-78-2	N/A	ori-rat 57mg/kg	
Perfluoroundecanoic acid	99205	110419	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-6	N/A	N/A	
Tricosulfurorododecanoic acid	99198	010820	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A	
Perfluorotridecanoic acid	99204	110419	0.02	1.00	0.004	50.1	1.00	0.01	72829-94-8	N/A	N/A	
Perfluorotetradecanoic acid	99203	120319	0.02	1.00	0.004	50.1	1.00	0.01	378-08-7	N/A	N/A	
Perfluoro-1-octanesulfonamide	3677	FOSA0420I	0.02	1.00	0.004	50.0	1.00	0.05	754-91-8	N/A	N/A	
N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4182	brNMeFOSAA0119	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A	
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4183	brNEIFOSAA0819	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A	
Perfluorobutanesulfonic acid	99194	021820	0.02	1.00	0.004	50.2	1.00	0.01	375-73-5	N/A	N/A	
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	
Perfluorohexanesulfonic acid (branched)*	99198	091219	0.02	1.00	0.004	50.6	1.01	0.01	355-48-4	N/A	N/A	
Perfluoro-1-heptanesulfonic acid	3672	LPFHpS0120	0.021	1.05	0.004	47.8	1.00	0.05	375-92-8	N/A	N/A	
Heptadecafluorooctanesulfonic acid (branched)*	99201	021820	0.02	1.00	0.004	50.2	1.00	0.01	1783-23-1	N/A	N/A	
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	
Perfluoro-1-decanesulfonic acid	3671	LPFDS0419	0.021	1.05	0.004	48.2	1.01	0.05	2808-15-7	N/A	N/A	
1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1019	0.0214	1.07	0.004	48.7	1.00	0.05	27819-93-8	N/A	N/A	
1H,1H,2H,2H-Perfluorooctane sulfonic acid	3681	82FTS0919	0.021	1.05	0.004	47.4	1.00	0.05	27819-94-9	N/A	N/A	
1H,1H,2H,2H-Perfluorodecane sulfonic acid	3682	82FTS0520	0.021	1.05	0.004	47.9	1.01	0.05	27819-98-1	N/A	N/A	
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	
11-Chloroicosasulfuro-3-oxaundecane-1-sulfonic acid	4185	11CIPF3OUdS0320	0.021	1.06	0.004	47.1	1.00	0.05	83329-89-9	N/A	N/A	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	4184	9CIPF3ONS0420	0.021	1.07	0.004	48.6	1.00	0.05	73608-19-6	N/A	N/A	
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	335-87-1	N/A	lpr-rat 189mg/kg	
Perfluorooctanoic acid (branched isomer)*	99202	021820	0.02	1.00	0.004	6.0	0.12	0.002	335-87-1	N/A	lpr-rat 189mg/kg	
Perfluorohexanesulfonic acid (linear)*	99198	091219	0.02	1.00	0.004	50.0	1.00	0.01	355-48-4	N/A	N/A	
Perfluorohexanesulfonic acid (branched isomer)*	99198	091219	0.02	1.00	0.004	0.6	0.01	0.0002	355-48-4	N/A	N/A	
Heptadecafluorooctanesulfonic acid (linear)*	99201	021820	0.02	1.00	0.004	38.2	0.78	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)*	4182	brNMeFOSAA0119	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)*	4182	brNMeFOSAA0119	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)*	4152	brNMeFOSAA0119	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)*	4182	brNMeFOSAA0119	0.02	1.00	0.004	0.3	0.005	0.00028	00-00-0	N/A	N/A	
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4183	brNEIFOSAA0819	0.02	1.00	0.004	38.2	0.72	0.04	2991-50-6	N/A	N/A	
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4183	brNEIFOSAA0819	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)*	4183	brNEIFOSAA0819	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)*	4183	brNEIFOSAA0819	0.02	1.00	0.004	0.8	0.012	0.0008	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. 1.2.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

- 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 caps 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).

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

20-1329**CTO-4532: PFAS in Water****AQ, GW**

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:

DB009PB-FS	G1798-FS	G1804-FS
DB010LCS-FS	G1799-FS	
G1794-FS	G1800-FS	
G1795-FS	G1801-FS	
G1796-FS	G1802-FS	
G1797-FS	G1803-FS	

Laboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Allison Wamness

Approved By:	Date	Initials
Denise Schumitz	11/18/2020	DMS



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

Project Title(s)

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

Project No.(s)

100142218

20-1329**CTO-4532: PFAS in Water****AQ, GW**

Sample ID	Description
DB009PB-FS	Procedural Blank
DB010LCS-FS	Laboratory Control Sample
G1794-FS	CBD-AOA-MW07-1020
G1795-FS	CBD-AOA-MW17-1020
G1796-FS	CBD-AOA-MW19-1020
G1797-FS	CBD-AOA-FB05-102020
G1798-FS	CBD-AOA-EB01-102020-GW
G1799-FS	CBD-BKG-MW01-1020
G1800-FS	CBD-BKG-MW02-1020
G1801-FS	CBD-SO3-MW02-1020
G1802-FS	CBD-AOA-MW09-1020
G1803-FS	CBD-AOA-MW05-1020
G1804-FS	CBD-AOA-EB01-102120-GW

Samples Assigned By:

Jonathan Thorn

Date : October 22, 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

20-1329

**CTO-4532: PFAS in Water
AQ, GW**

Requested On/By: 10/23/2020 AW Relinquished On/By: 10/23/2020 MDS	Purpose: Sample Preparation Last Activity: Transfer
Accepted On/By: 10/23/2020 AW Stored In Facility: Sample Preparation Stored Until: Stored Comment: NA	Returned On/To: Returned To Facility: Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	G1794	1	C	Consumed	NA
2	G1795	1	C	Consumed	NA
3	G1796	1	C	Consumed	NA
4	G1797	1	C	Consumed	NA
5	G1798	1	C	Consumed	NA
6	G1799	1	C	Consumed	NA
7	G1800	1	C	Consumed	NA
8	G1801	1	C	Consumed	NA
9	G1802	1	C	Consumed	NA
10	G1803	1	C	Consumed	NA
11	G1804	1	C	Consumed	NA
Total Samples		11	* "C" = Consumed Container		



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

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

Project No.(s)

100142218

20-1329

CTO-4532: PFAS in Water

AQ, GW

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
DB009PB-FS	Procedural Blank	260.0	NA	--	10/23/20 AW
DB010LCS-FS	Laboratory Control Sample	255.0	NA	--	10/23/20 AW
G1794-FS	CBD-AOA-MW07-1020	275.0	1	C	10/23/20 AW
G1795-FS	CBD-AOA-MW17-1020	270.0	1	C	10/23/20 AW
G1796-FS	CBD-AOA-MW19-1020	275.0	1	C	10/23/20 AW
G1797-FS	CBD-AOA-FB05-102020	265.0	1	C	10/23/20 AW
G1798-FS	CBD-AOA-EB01-102020-GW	265.0	1	C	10/23/20 AW
G1799-FS	CBD-BKG-MW01-1020	270.0	1	C	10/23/20 AW
G1800-FS	CBD-BKG-MW02-1020	270.0	1	C	10/23/20 AW
G1801-FS	CBD-SO3-MW02-1020	250.0	1	C	10/23/20 AW
G1802-FS	CBD-AOA-MW09-1020	270.0	1	C	10/23/20 AW
G1803-FS	CBD-AOA-MW05-1020	265.0	1	C	10/23/20 AW
G1804-FS	CBD-AOA-EB01-102120-GW	245.0	1	C	10/23/20 AW

Comments:

Samples Assigned By:

Jonathan Thorn

Date : October 22, 2020

* - "C" = Sample is Consumed



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

20-1329

CTO-4532: PFAS in Water

AQ, GW

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
DB009PB-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
DB010LCS-FS	LD43	LCS/MS	1	100	10/23/20 AW	RPK	NA
DB010LCS-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1794-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1795-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1796-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1797-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1798-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1799-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1800-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1801-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1802-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1803-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA
G1804-FS	LD44	SIS	5	125	10/23/20 AW	RPK	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LD43	Pipette	B814657482
LD44	Pipette	B814657482



It can be done

BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

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

Project No.(s)

100142218

20-1329**CTO-4532: PFAS in Water****AQ, GW**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
DB009PB-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
DB010LCS-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1794-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1795-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1796-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1797-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1798-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1799-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1800-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1801-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1802-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1803-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA
G1804-FS	10/23/20 AW	NA	NA	NEVAP_3	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
pH Indicator Strips 0-14	200923-01	09/23/25	10D0401	NA	
0.5% NH3 in Methanol (w/v)	RP-201023-4	10/23/20	A0409799	Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol	
0.5% NH3 in Methanol (w/v)	RP-201023-4	10/23/20	202167	Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol	
Pre-packed SPE Column	RP-201023-5	10/23/20	S308-0116/S20-004413	Pre-packed SPE Column	

Solvents/Reagents:

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



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

20-1329

**CTO-4532: PFAS in Water
AQ, GW**

Extract Id	Date	Init.	Comments
DB009PB-FS(0)	10/23/20	AW	NA
DB010LCS-FS(0)	10/23/20	AW	NA
G1794-FS(0)	10/23/20	AW	NA
G1795-FS(0)	10/23/20	AW	NA
G1796-FS(0)	10/23/20	AW	NA
G1797-FS(0)	10/23/20	AW	NA
G1798-FS(0)	10/23/20	AW	NA
G1799-FS(0)	10/23/20	AW	NA
G1800-FS(0)	10/23/20	AW	NA
G1801-FS(0)	10/23/20	AW	NA
G1802-FS(0)	10/23/20	AW	NA
G1803-FS(0)	10/23/20	AW	NA
G1804-FS(0)	10/23/20	AW	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

20-1329

**CTO-4532: PFAS in Water
AQ, GW**

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

20-1329

CTO-4532: PFAS in Water

AQ, GW

(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
DB009PB-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
DB010LCS-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1794-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1795-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1796-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1797-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1798-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1799-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1800-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1801-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1801-FS-D(3)	885	115	LE40	125	2	1000	12.500	11/17/20 LMG	RPK
G1802-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1803-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK
G1804-FS(0)	875	125	LE40	125	4	1000	1.000	11/16/20 KB	RPK

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LE39	Pipette	B814657482
LE40	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 EXTRACT SPIKE FORM

Project Title(s)

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

Project No.(s)

100142218

20-1329

CTO-4532: PFAS in Water

AQ, GW

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
G1801-FS-D(3)	12.5	LE39	SIS	4	115	0	0	11/17/20 LMG	RPK

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LE39	Pipette	B814657482
LE40	Pipette	B814657482



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

20-1329

CTO-4532: PFAS in Water

AQ, GW

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
DB009PB-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
DB010LCS-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1794-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1795-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1796-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1797-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1798-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1799-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1800-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1801-FS	0	C	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1801-FS	2	--	11/17/2020 9:04:00 AM	G1801-FS	0	1000	920	1.087	1.087	11/17/20 LMG
G1801-FS-D	3	--	11/17/2020 9:04:00 AM	G1801-FS	0	1000	80	12.500	12.500	11/17/20 LMG
G1802-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW
G1803-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW

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

20-1329

CTO-4532: PFAS in Water

AQ, GW

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
G1804-FS	0	--	10/23/2020 10:40:00 AM	NA		NA	NA	1.000	1.000	10/23/20 AW

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

20-1329

**CTO-4532: PFAS in Water
AQ, GW**

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Nov 16 2020 4:13PM RPK		Received On/By: Nov 16 2020 5:37PM LMG	
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	DB009PB-FS(0)	1000	1	Intact	NA
2	DB010LCS-FS(0)	1000	1	Intact	NA
3	G1794-FS(0)	1000	1	Intact	NA
4	G1795-FS(0)	1000	1	Intact	NA
5	G1796-FS(0)	1000	1	Intact	NA
6	G1797-FS(0)	1000	1	Intact	NA
7	G1798-FS(0)	1000	1	Intact	NA
8	G1799-FS(0)	1000	1	Intact	NA
9	G1800-FS(0)	1000	1	Intact	NA
10	G1801-FS(0)	1000	1	Intact	NA
11	G1802-FS(0)	1000	1	Intact	NA
12	G1803-FS(0)	1000	1	Intact	NA
13	G1804-FS(0)	1000	1	Intact	NA

Total Extracts: 13

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Nov 17 2020 10:42AM LMG		Received On/By: Nov 17 2020 10:43AM LMG	
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	G1801-FS-D(3)	1000	12.5	Intact	NA

Total Extracts: 1



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

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

Project No.(s)

100142218

20-1329

CTO-4532: PFAS in Water

AQ, GW

Sample ID:	Comment:	Date/Initials:
DB009PB-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
DB009PB-FS	Extraction started at 10:40 AM, manifold 2, ended 11:50 AM	10/23/20 AW
DB010LCS-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
DB010LCS-FS	Extraction started at 10:40 AM, manifold 2, ended 11:50 AM	10/23/20 AW
G1794-FS	Extraction started at 10:40 AM, manifold 5, ended 12:20 PM	10/23/20 AW
G1794-FS	Sample contained particulates	10/23/20 AW
G1795-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
G1795-FS	Extraction started at 10:40 AM, manifold 5, ended 12:06 PM	10/23/20 AW
G1796-FS	Extraction started at 10:40 AM, manifold 5, ended 11:49 PM	10/23/20 AW
G1796-FS	Sample contained particulates	10/23/20 AW
G1797-FS	Extraction started at 10:40 AM, manifold 2, ended 12:00 PM	10/23/20 AW
G1798-FS	Extraction started at 10:40 AM, manifold 2, ended 12:15 PM	10/23/20 AW
G1798-FS	Sample contained particulates	10/23/20 AW
G1799-FS	Extraction started at 10:40 AM, manifold 5, ended 12:05 PM	10/23/20 AW
G1799-FS	Sample contained particulates	10/23/20 AW
G1800-FS	Extraction started at 10:40 AM, manifold 5, ended 12:22 PM	10/23/20 AW
G1800-FS	Sample contained particulates	10/23/20 AW
G1801-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
G1801-FS	Extraction started at 10:40 AM, manifold 5, ended 12:46 PM	10/23/20 AW
G1802-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
G1802-FS	Extraction started at 10:40 AM, manifold 5, ended 1:07 PM	10/23/20 AW



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

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

Project No.(s)

100142218

20-1329

CTO-4532: PFAS in Water

AQ, GW

Sample ID:	Comment:	Date/Initials:
G1803-FS	Sample was fortified per project plan, and was poured into a centrifuge bottle and centrifuged at 3500 RPM, for 5 minutes and then poured back into original sample container.	10/23/20 AW
G1803-FS	Extraction started at 10:40 AM, manifold 5, ended 12:25 PM	10/23/20 AW
G1803-FS	Sample contained particulates	10/23/20 AW
G1804-FS	Extraction started at 10:40 AM, manifold 2, ended 11:48 PM	10/23/20 AW
G1804-FS	Sample contained particulates	10/23/20 AW



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

20-1329

CTO-4532: PFAS in Water

AQ, GW

Entered By:

On:

Task Leader Approval:

On:

Supervisor Approval:

On:

PM Approval:

On:

Analytical Calibrations



Sequence Report

Created with Analyst Reporter
Printed: 17/11/2020 5:23:28 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MEOH		11/16/2020 7:19:19 PM	5-0369.dam	AC_11162020A_5-369.wiff
2	LE52	L1	11/16/2020 7:30:10 PM	5-0369.dam	AC_11162020A_5-369.wiff
3	LE53	L2	11/16/2020 7:41:00 PM	5-0369.dam	AC_11162020A_5-369.wiff
4	LE54	L3	11/16/2020 7:51:52 PM	5-0369.dam	AC_11162020A_5-369.wiff
5	LE55	L4	11/16/2020 8:02:43 PM	5-0369.dam	AC_11162020A_5-369.wiff
6	LE56	L5	11/16/2020 8:13:35 PM	5-0369.dam	AC_11162020A_5-369.wiff
7	LE57	L6	11/16/2020 8:24:27 PM	5-0369.dam	AC_11162020A_5-369.wiff
8	LE58 IB	IB	11/16/2020 8:35:18 PM	5-0369.dam	AC_11162020A_5-369.wiff
9	LE59 ICC	ICC	11/16/2020 8:46:09 PM	5-0369.dam	AC_11162020A_5-369.wiff
10	LE25 BRANCHED	Branched Standard	11/16/2020 8:57:00 PM	5-0369.dam	AC_11162020A_5-369.wiff
11	MEOH		11/16/2020 9:07:52 PM	5-0369.dam	AC_11162020A_5-369.wiff
12	DB009PB-FS(0)	Procedural Blank	11/16/2020 9:18:42 PM	5-0369.dam	AC_11162020A_5-369.wiff
13	DB010LCS-FS(0)	Laboratory Control Sample	11/16/2020 9:29:34 PM	5-0369.dam	AC_11162020A_5-369.wiff
14	G1797-FS(0)	CBD-AOA-FB05-102020	11/16/2020 9:40:25 PM	5-0369.dam	AC_11162020A_5-369.wiff
15	G1798-FS(0)	CBD-AOA-EB01-102020-GW	11/16/2020 9:51:18 PM	5-0369.dam	AC_11162020A_5-369.wiff
16	G1804-FS(0)	CBD-AOA-EB01-102120-GW	11/16/2020 10:02:10 PM	5-0369.dam	AC_11162020A_5-369.wiff
17	G1794-FS(0)	CBD-AOA-MW07-1020	11/16/2020 10:13:01 PM	5-0369.dam	AC_11162020A_5-369.wiff
18	G1795-FS(0)	CBD-AOA-MW17-1020	11/16/2020 10:23:52 PM	5-0369.dam	AC_11162020A_5-369.wiff
19	MEOH		11/16/2020 10:34:42 PM	5-0369.dam	AC_11162020A_5-369.wiff
20	LE54 CCV	CCV	11/16/2020 10:45:34 PM	5-0369.dam	AC_11162020A_5-369.wiff
21	G1796-FS(0)	CBD-AOA-MW19-1020	11/16/2020 10:56:25 PM	5-0369.dam	AC_11162020A_5-369.wiff
22	G1799-FS(0)	CBD-BKG-MW01-1020	11/16/2020 11:07:17 PM	5-0369.dam	AC_11162020A_5-369.wiff
23	G1800-FS(0)	CBD-BKG-MW02-1020	11/16/2020 11:18:09 PM	5-0369.dam	AC_11162020A_5-369.wiff
24	G1801-FS(0)	CBD-SO3-MW02-1020	11/16/2020 11:29:01 PM	5-0369.dam	AC_11162020A_5-369.wiff
25	G1802-FS(0)	CBD-AOA-MW09-1020	11/16/2020 11:39:50 PM	5-0369.dam	AC_11162020A_5-369.wiff
26	G1803-FS(0)	CBD-AOA-MW05-1020	11/16/2020 11:50:43 PM	5-0369.dam	AC_11162020A_5-369.wiff
27	MEOH		11/17/2020 12:01:34 AM	5-0369.dam	AC_11162020A_5-369.wiff
28	LE55 CCV	CCV	11/17/2020 12:12:26 AM	5-0369.dam	AC_11162020A_5-369.wiff
29	MEOH		11/17/2020 12:23:19 AM	5-0369.dam	AC_11162020A_5-369.wiff
30	DB013PB-FS(0)		11/17/2020 12:34:11 AM	5-0369.dam	AC_11162020A_5-369.wiff
31	DB014LCS-FS(0)		11/17/2020 12:45:05 AM	5-0369.dam	AC_11162020A_5-369.wiff
32	G1814-FS(0)		11/17/2020 12:55:58 AM	5-0369.dam	AC_11162020A_5-369.wiff
33	G1815-FS(0)		11/17/2020 1:06:50 AM	5-0369.dam	AC_11162020A_5-369.wiff
34	G1820-FS(0)		11/17/2020 1:17:41 AM	5-0369.dam	AC_11162020A_5-369.wiff
35	G1824-FS(0)		11/17/2020 1:28:33 AM	5-0369.dam	AC_11162020A_5-369.wiff
36	G1827-FS(0)		11/17/2020 1:39:24 AM	5-0369.dam	AC_11162020A_5-369.wiff
37	MEOH		11/17/2020 1:50:16 AM	5-0369.dam	AC_11162020A_5-369.wiff
38	LE54 CCV		11/17/2020 2:01:09 AM	5-0369.dam	AC_11162020A_5-369.wiff
39	G1828-FS(0)		11/17/2020 2:12:02 AM	5-0369.dam	AC_11162020A_5-369.wiff



Sequence Report

Created with Analyst Reporter
Printed: 17/11/2020 5:23:28 PM

1
↓
4
3
↓
4
1
1

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
40	G1833-FS(0)		11/17/2020 2:22:54 AM	5-0369.dam	AC_11162020A_5-369.wiff
41	G1834MS-FS(0)		11/17/2020 2:33:48 AM	5-0369.dam	AC_11162020A_5-369.wiff
42	G1835MSD-FS(0)		11/17/2020 2:44:39 AM	5-0369.dam	AC_11162020A_5-369.wiff
43	G1841-FS(0)		11/17/2020 2:55:31 AM	5-0369.dam	AC_11162020A_5-369.wiff
44	G1842-FS(0)		11/17/2020 3:06:24 AM	5-0369.dam	AC_11162020A_5-369.wiff
45	G1843-FS(0)		11/17/2020 3:17:17 AM	5-0369.dam	AC_11162020A_5-369.wiff
46	MEOH		11/17/2020 3:28:08 AM	5-0369.dam	AC_11162020A_5-369.wiff
47	LE55-CCV		11/17/2020 3:39:00 AM	5-0369.dam	AC_11162020A_5-369.wiff
48	MEOH		11/17/2020 3:49:53 AM	5-0369.dam	AC_11162020A_5-369.wiff
49	DB015PB-FS(0)		11/17/2020 4:00:45 AM	5-0369.dam	AC_11162020A_5-369.wiff
50	DB016LCS-FS(0)		11/17/2020 4:11:38 AM	5-0369.dam	AC_11162020A_5-369.wiff
51	G1844-FS(0)		11/17/2020 4:22:29 AM	5-0369.dam	AC_11162020A_5-369.wiff
52	G1848-FS(0)		11/17/2020 4:33:22 AM	5-0369.dam	AC_11162020A_5-369.wiff
53	G1849-FS(0)		11/17/2020 4:44:14 AM	5-0369.dam	AC_11162020A_5-369.wiff
54	G1870-FS(0)		11/17/2020 4:55:05 AM	5-0369.dam	AC_11162020A_5-369.wiff
1	G1852-FS(0)		11/17/2020 5:05:58 AM	5-0369.dam	AC_11162020A_5-369.wiff
2	MEOH		11/17/2020 5:16:51 AM	5-0369.dam	AC_11162020A_5-369.wiff
3	LE54-CCV		11/17/2020 5:27:46 AM	5-0369.dam	AC_11162020A_5-369.wiff
4	G1855-FS(0)		11/17/2020 5:38:39 AM	5-0369.dam	AC_11162020A_5-369.wiff
5	G1859MS-FS(0)		11/17/2020 5:49:34 AM	5-0369.dam	AC_11162020A_5-369.wiff
6	G1860MSD-FS(0)		11/17/2020 6:00:27 AM	5-0369.dam	AC_11162020A_5-369.wiff
7	G1865-FS(0)		11/17/2020 6:11:22 AM	5-0369.dam	AC_11162020A_5-369.wiff
8	G1871-FS(0)		11/17/2020 6:22:17 AM	5-0369.dam	AC_11162020A_5-369.wiff
9	G1872-FS(0)		11/17/2020 6:33:11 AM	5-0369.dam	AC_11162020A_5-369.wiff
10	MEOH		11/17/2020 6:44:05 AM	5-0369.dam	AC_11162020A_5-369.wiff
11	LE55-CCV		11/17/2020 6:55:00 AM	5-0369.dam	AC_11162020A_5-369.wiff
1	MEOH		11/17/2020 10:34:26 AM	5-0369.dam	AC_11162020A_5-369.wiff
2	LE54-CCV	CCV	11/17/2020 10:46:04 AM	5-0369.dam	AC_11162020A_5-369.wiff
3	MEOH		11/17/2020 10:56:58 AM	5-0369.dam	AC_11162020A_5-369.wiff
4	4 DB009PB-FS(0)	Procedural Blank	11/17/2020 11:07:50 AM	5-0369.dam	AC_11162020A_5-369.wiff
3	5 G1795-FS(0)	CBD-AOA-MW17-1020	11/17/2020 11:18:44 AM	5-0369.dam	AC_11162020A_5-369.wiff
	6 G1801-FS(0)	CBD-SO3-MW02-1020	11/17/2020 11:29:39 AM	5-0369.dam	AC_11162020A_5-369.wiff
	7 G1802-FS(0)	CBD-AOA-MW09-1020	11/17/2020 11:40:32 AM	5-0369.dam	AC_11162020A_5-369.wiff
	8 G1803-FS(0)	CBD-AOA-MW05-1020	11/17/2020 11:51:28 AM	5-0369.dam	AC_11162020A_5-369.wiff
4	9 G1804-FS(0)	CBD-AOA-EB01-102120-GW	11/17/2020 12:02:21 PM	5-0369.dam	AC_11162020A_5-369.wiff
1	10 G1843-FS(0)		11/17/2020 12:13:13 PM	5-0369.dam	AC_11162020A_5-369.wiff
	11 MEOH		11/17/2020 12:24:07 PM	5-0369.dam	AC_11162020A_5-369.wiff
	12 LE55-CCV	CCV	11/17/2020 12:35:01 PM	5-0369.dam	AC_11162020A_5-369.wiff
1	13 G1833-FS(0)		11/17/2020 12:45:55 PM	5-0369.dam	AC_11162020A_5-369.wiff



Sequence Report

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Printed: 17/11/2020 5:23:28 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
14	G1834MS FS(0)		11/17/2020 12:56:49 PM	5-0369.dam	AC_11162020A_5-369.wiff
15	G1835MSD FS(0)		11/17/2020 1:07:44 PM	5-0369.dam	AC_11162020A_5-369.wiff
16	G1859MS FS(0)		11/17/2020 1:18:38 PM	5-0369.dam	AC_11162020A_5-369.wiff
17	G1860MSD FS(0)		11/17/2020 1:29:34 PM	5-0369.dam	AC_11162020A_5-369.wiff
18	G1855 FS(0)		11/17/2020 1:40:27 PM	5-0369.dam	AC_11162020A_5-369.wiff
19	G1865 FS(0)		11/17/2020 1:51:21 PM	5-0369.dam	AC_11162020A_5-369.wiff
20	MEOH		11/17/2020 2:02:16 PM	5-0369.dam	AC_11162020A_5-369.wiff
21	LE55 CCV	CCV	11/17/2020 2:13:10 PM	5-0369.dam	AC_11162020A_5-369.wiff
22	MEOH		11/17/2020 2:24:57 PM	5-0369.dam	AC_11162020A_5-369.wiff
23	G1801-FS-D(3)	CBD-SO3-MW02-1020	11/17/2020 2:35:51 PM	5-0369.dam	AC_11162020A_5-369.wiff
24	G1827 FS D(3)		11/17/2020 2:46:45 PM	5-0369.dam	AC_11162020A_5-369.wiff
25	G1833 FS D(3)		11/17/2020 2:57:40 PM	5-0369.dam	AC_11162020A_5-369.wiff
26	G1834MS FS D(3)		11/17/2020 3:08:33 PM	5-0369.dam	AC_11162020A_5-369.wiff
27	G1835MSD FS D(3)		11/17/2020 3:19:27 PM	5-0369.dam	AC_11162020A_5-369.wiff
28	G1852 FS D(3)		11/17/2020 3:30:21 PM	5-0369.dam	AC_11162020A_5-369.wiff
29	MEOH		11/17/2020 3:41:15 PM	5-0369.dam	AC_11162020A_5-369.wiff
30	LE54 CCV	CCV	11/17/2020 3:52:10 PM	5-0369.dam	AC_11162020A_5-369.wiff

1 Samples do not apply to this batch. LMG 11/17/2020

2 Sample was reanalyzed due to a surrogate exceedance. The reanalysis was acceptable and was reported. LMG 11/17/2020

3 Sample was reanalyzed for confirmation only and was not reported. LMG 11/17/2020

4 Sample did not actually require reanalysis and was not reported. LMG 11/17/2020



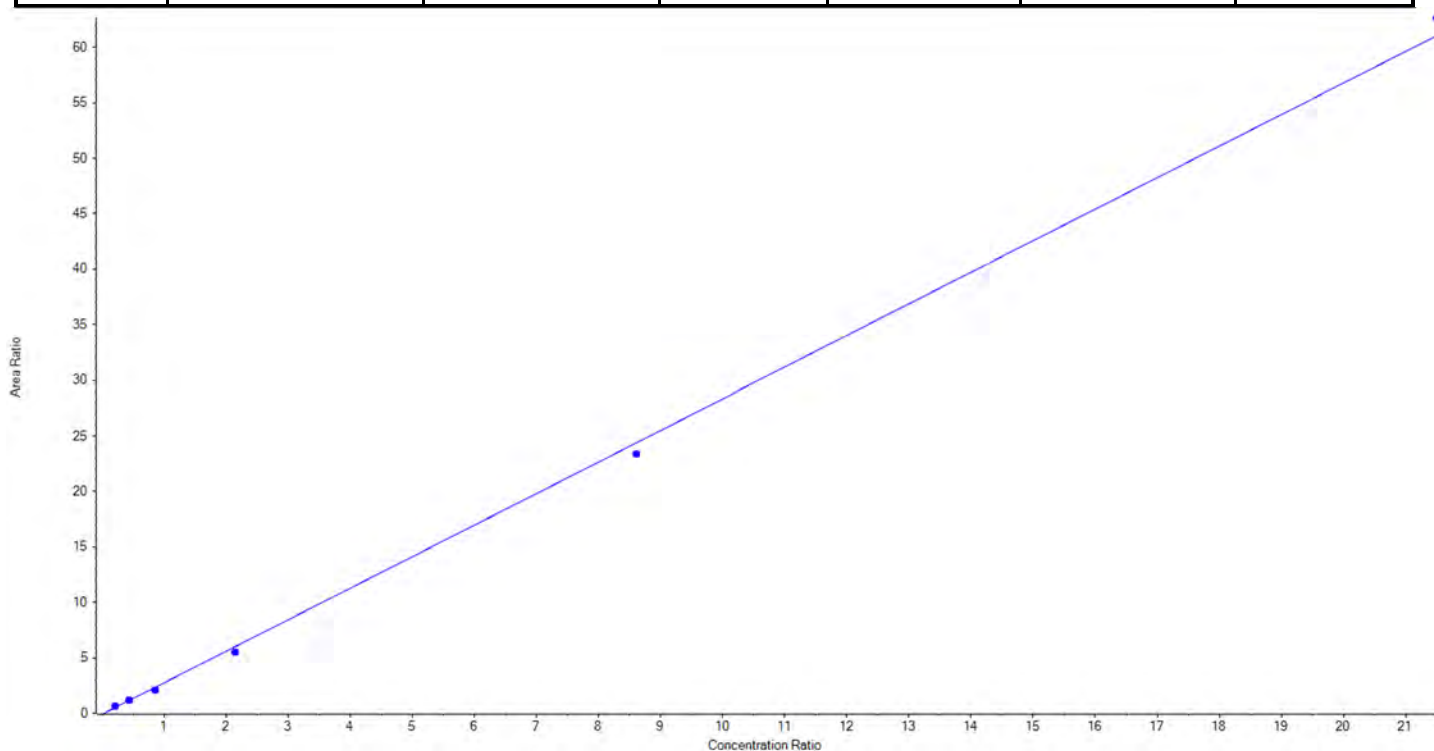
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Created with Analyst Reporter
Printed: 17/11/2020 5:33:17 PM

Analyte Name	PFBS_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	298.9 / 80.0	Result Table	20-1329
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.84317 x + -0.09341$ ($r = 0.99901$) (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	LE52	L1	True	250.00	297.55	119.0
3	LE53	L2	True	500.00	504.37	100.9
4	LE54	L3	True	1000.00	896.98	89.7
5	LE55	L4	True	2500.00	2292.52	91.7
6	LE56	L5	True	10000.00	9611.92	96.1
7	LE57	L6	True	25000.00	25646.66	102.6





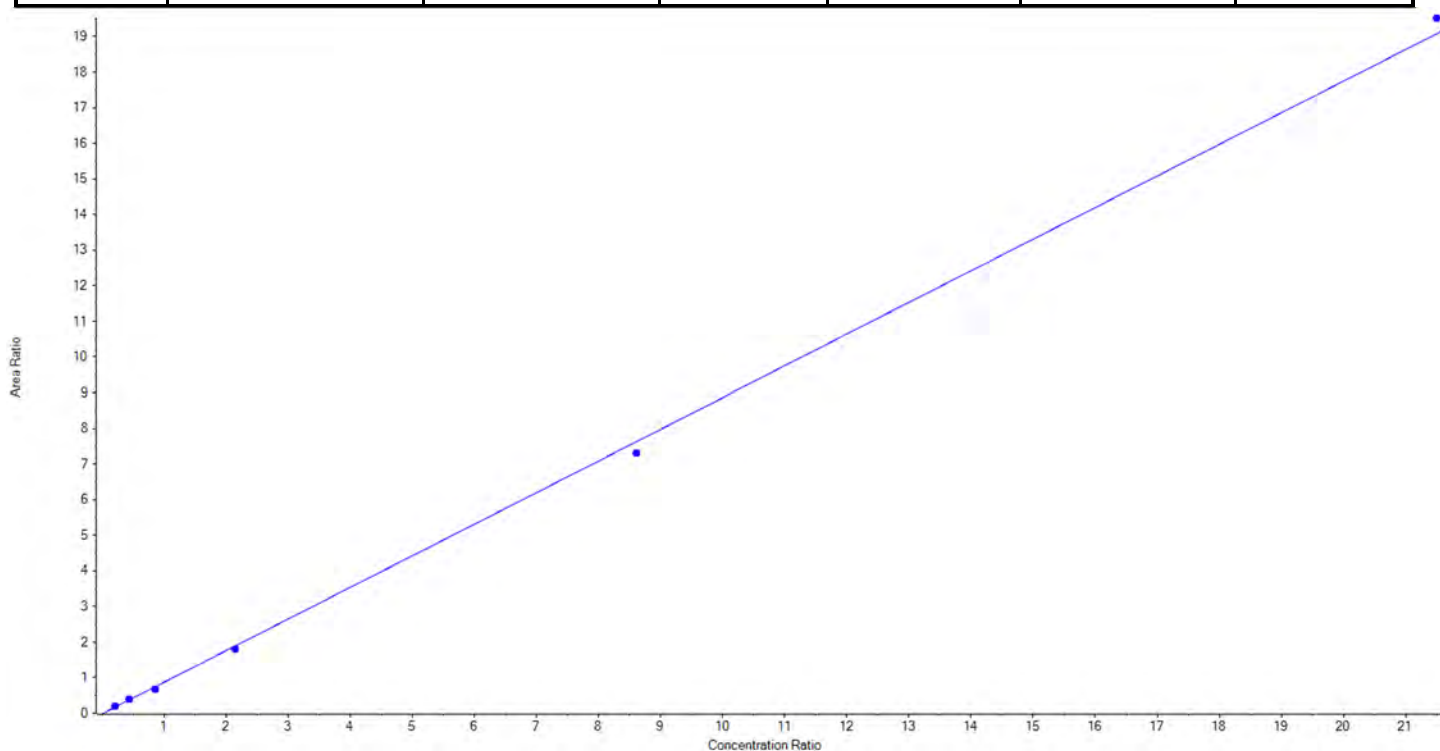
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Analyte Name	PFBS_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	298.9 / 99.0	Result Table	20-1329
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.88806 x + -0.01534$ ($r = 0.99924$) (weighting: $1 / x$) $r^2: 0.9985$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	274.24	109.7
3	LE53	L2	True	500.00	537.04	107.4
4	LE54	L3	True	1000.00	889.99	89.0
5	LE55	L4	True	2500.00	2394.56	95.8
6	LE56	L5	True	10000.00	9582.61	95.8
7	LE57	L6	True	25000.00	25571.55	102.3





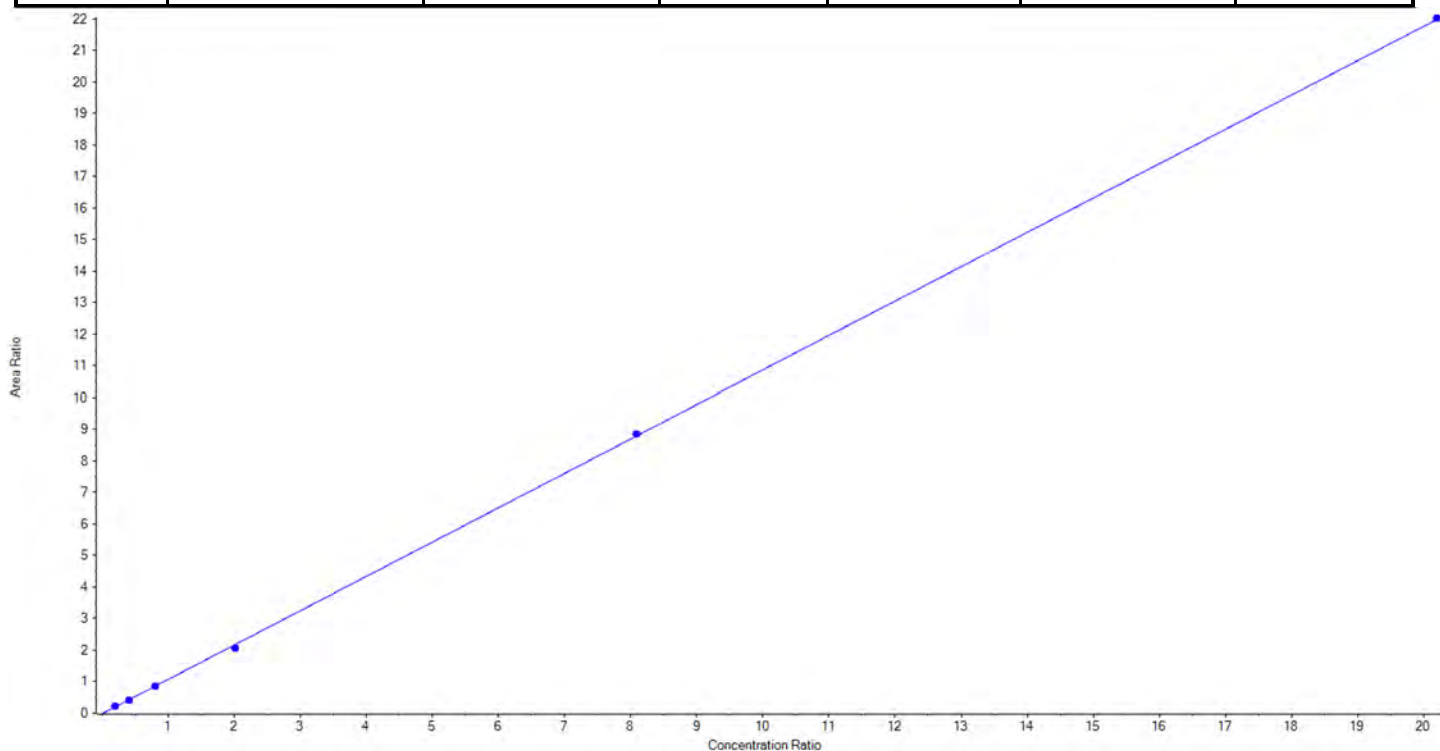
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Analyte Name	PFHxA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	313.0 / 269.0	Result Table	20-1329
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.08922x + -0.01688$ ($r = 0.99985$) (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	LE52	L1	True	252.50	275.31	109.0
3	LE53	L2	True	505.00	483.95	95.8
4	LE54	L3	True	1010.00	1002.82	99.3
5	LE55	L4	True	2525.00	2393.59	94.8
6	LE56	L5	True	10100.00	10185.55	100.9
7	LE57	L6	True	25250.00	25301.28	100.2





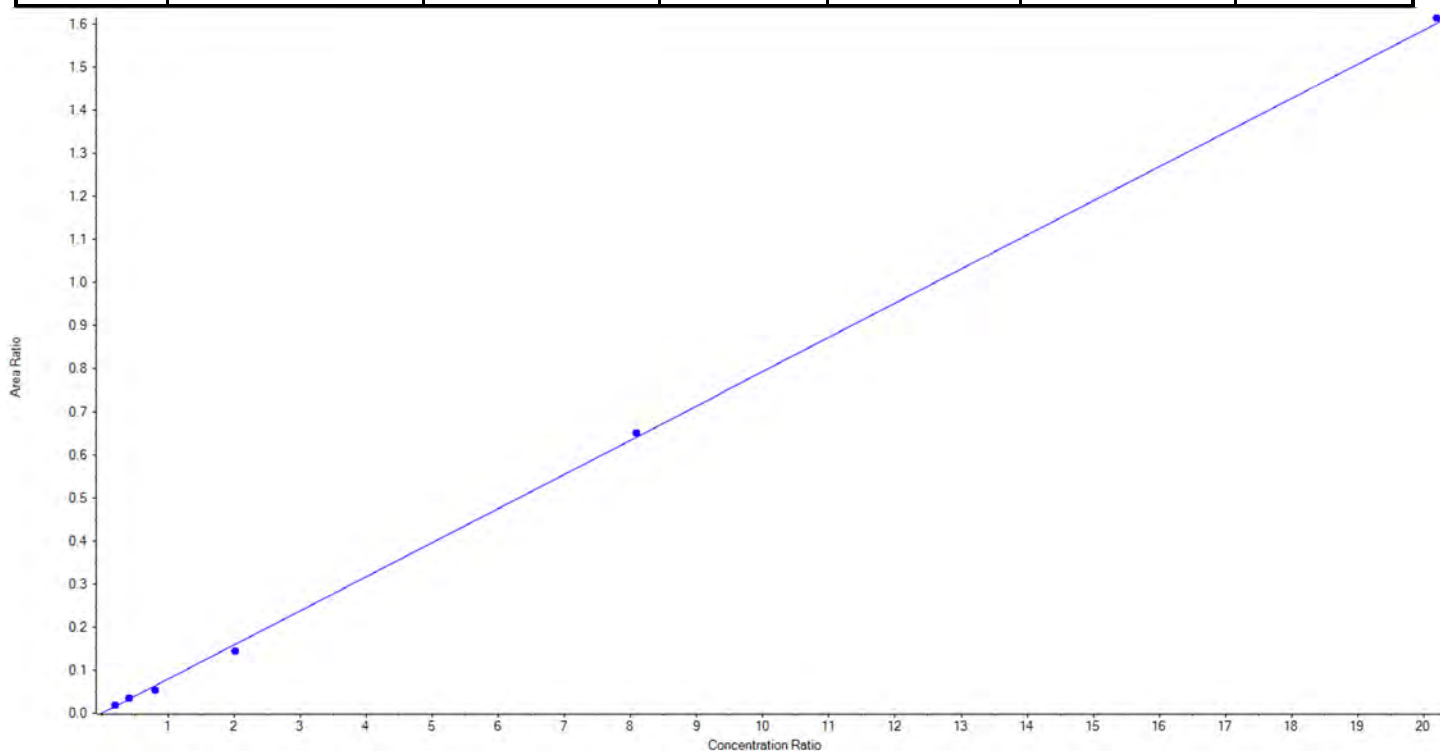
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Analyte Name	PFHxA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	313.0 / 119.0	Result Table	20-1329
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.07931x + 2.81729e-4$ ($r = 0.99906$) (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	LE52	L1	True	252.50	296.92	117.6
3	LE53	L2	True	505.00	535.41	106.0
4	LE54	L3	True	1010.00	856.08	84.8
5	LE55	L4	True	2525.00	2256.09	89.4
6	LE56	L5	True	10100.00	10251.02	101.5
7	LE57	L6	True	25250.00	25446.98	100.8





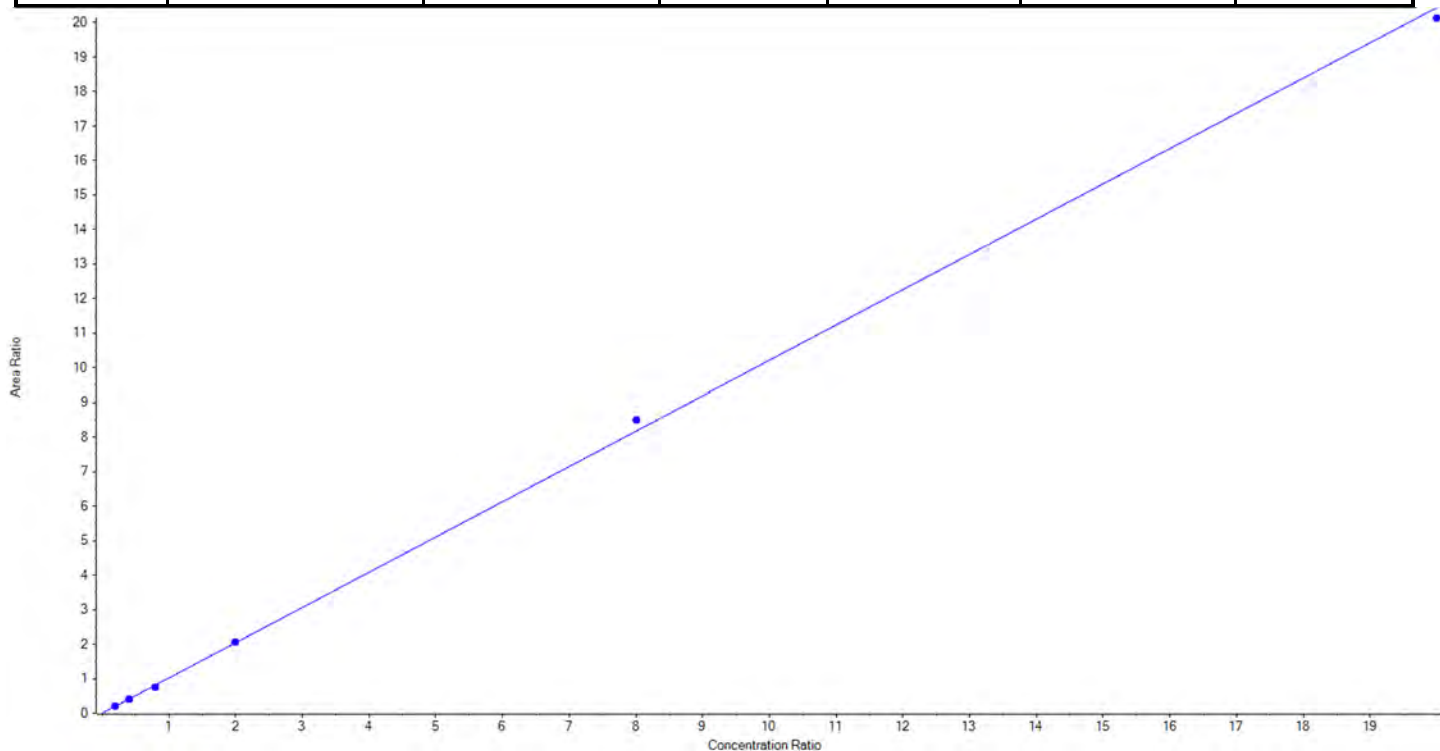
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Analyte Name	PFHpA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	363.0 / 319.0	Result Table	20-1329
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02182x + -0.00174$ ($r = 0.99963$) (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	LE52	L1	True	250.00	254.01	101.6
3	LE53	L2	True	500.00	503.48	100.7
4	LE54	L3	True	1000.00	938.36	93.8
5	LE55	L4	True	2500.00	2536.11	101.4
6	LE56	L5	True	10000.00	10391.14	103.9
7	LE57	L6	True	25000.00	24626.90	98.5





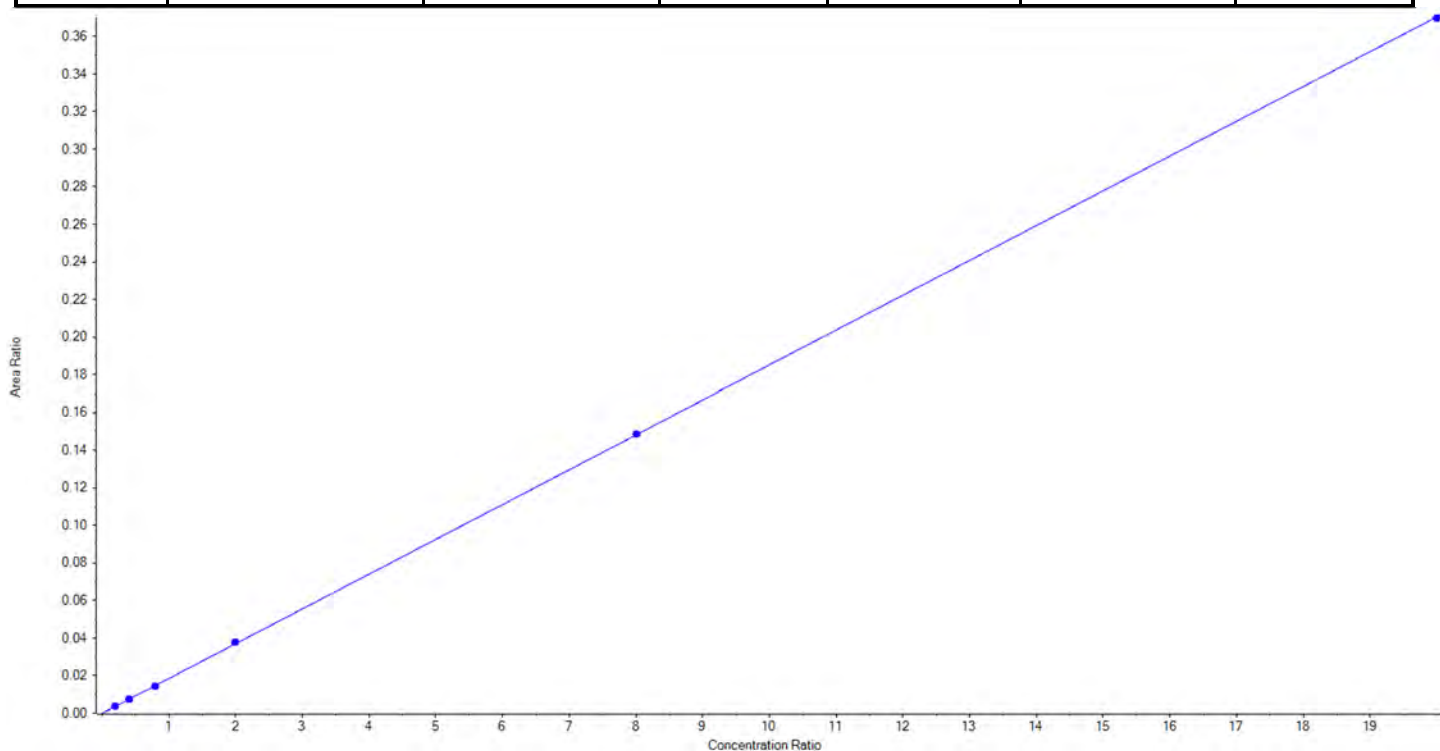
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Analyte Name	PFHpA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	363.0 / 169.0	Result Table	20-1329
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01852x + -5.18806e-5$ ($r = 0.99997$) (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	LE52	L1	True	250.00	245.04	98.0
3	LE53	L2	True	500.00	516.00	103.2
4	LE54	L3	True	1000.00	971.85	97.2
5	LE55	L4	True	2500.00	2538.74	101.6
6	LE56	L5	True	10000.00	10022.54	100.2
7	LE57	L6	True	25000.00	24955.83	99.8





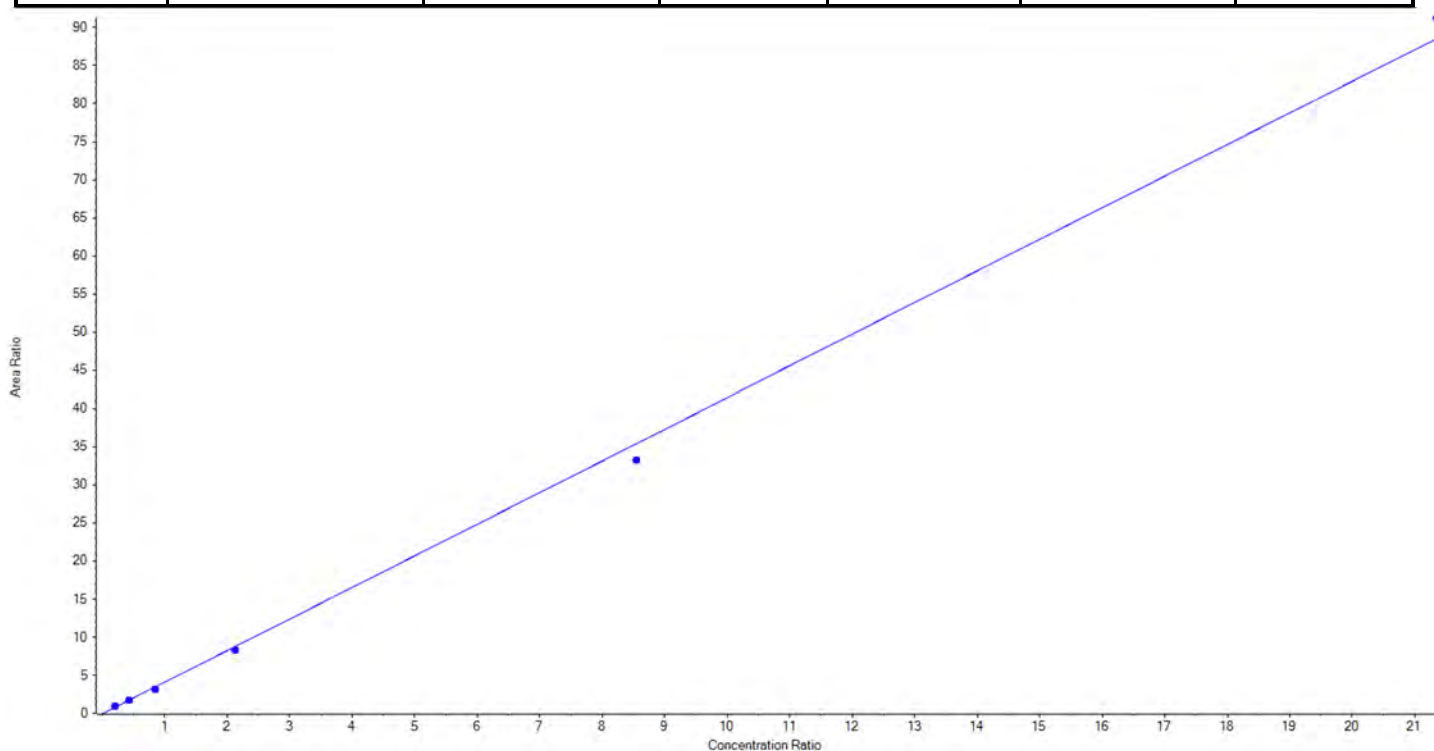
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Analyte Name	PFHxS_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	399.0 / 80.0	Result Table	20-1329
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.15039x - 0.08085$ ($r = 0.99889$) (weighting: $1/x$) $r^2: 0.9978$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	252.50	287.49	113.9
3	LE53	L2	True	505.00	516.16	102.2
4	LE54	L3	True	1010.00	929.86	92.1
5	LE55	L4	True	2525.00	2393.46	94.8
6	LE56	L5	True	10100.00	9497.84	94.0
7	LE57	L6	True	25250.00	26017.69	103.0





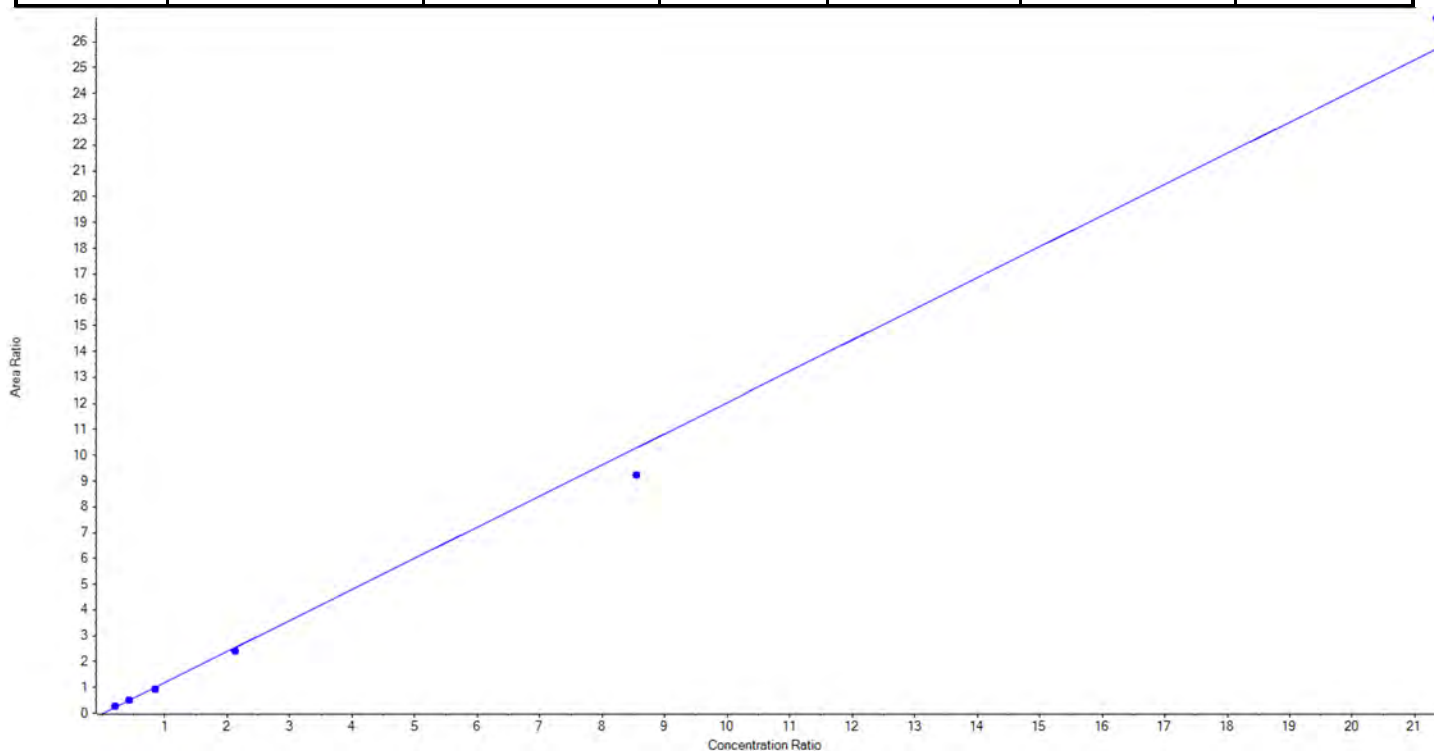
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Analyte Name	PFHxS_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	399.0 / 99.0	Result Table	20-1329
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.20557x - 0.02425$ ($r = 0.99747$) (weighting: $1/x$) $r^2: 0.9949$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	252.50	289.94	114.8
3	LE53	L2	True	505.00	527.19	104.4
4	LE54	L3	True	1010.00	926.13	91.7
5	LE55	L4	True	2525.00	2384.39	94.4
6	LE56	L5	True	10100.00	9089.50	90.0
7	LE57	L6	True	25250.00	26425.35	104.7





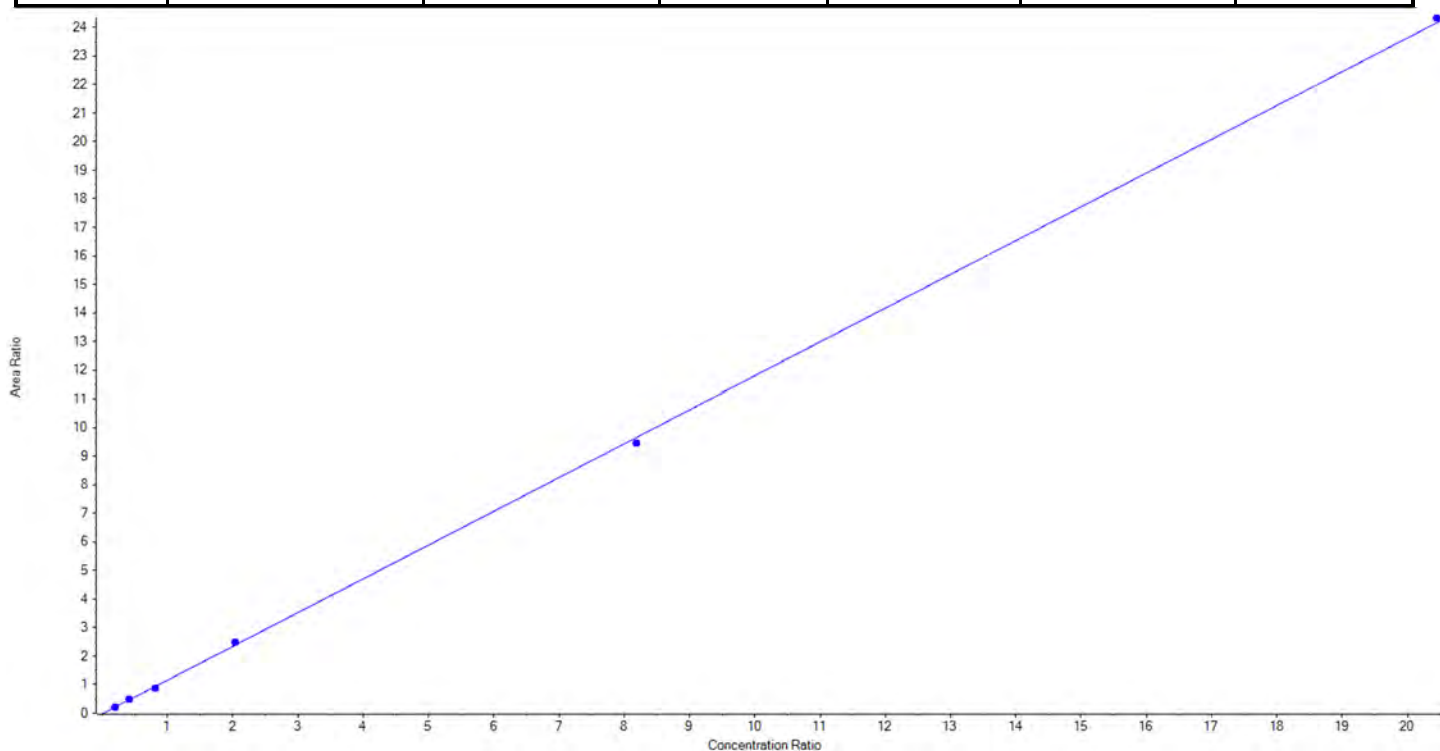
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Analyte Name	PFOA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	413.0 / 369.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.18281x + -0.02597$ ($r = 0.99980$) (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	LE52	L1	True	250.00	254.11	101.6
3	LE53	L2	True	500.00	516.61	103.3
4	LE54	L3	True	1000.00	930.63	93.1
5	LE55	L4	True	2500.00	2583.30	103.3
6	LE56	L5	True	10000.00	9796.35	98.0
7	LE57	L6	True	25000.00	25169.01	100.7





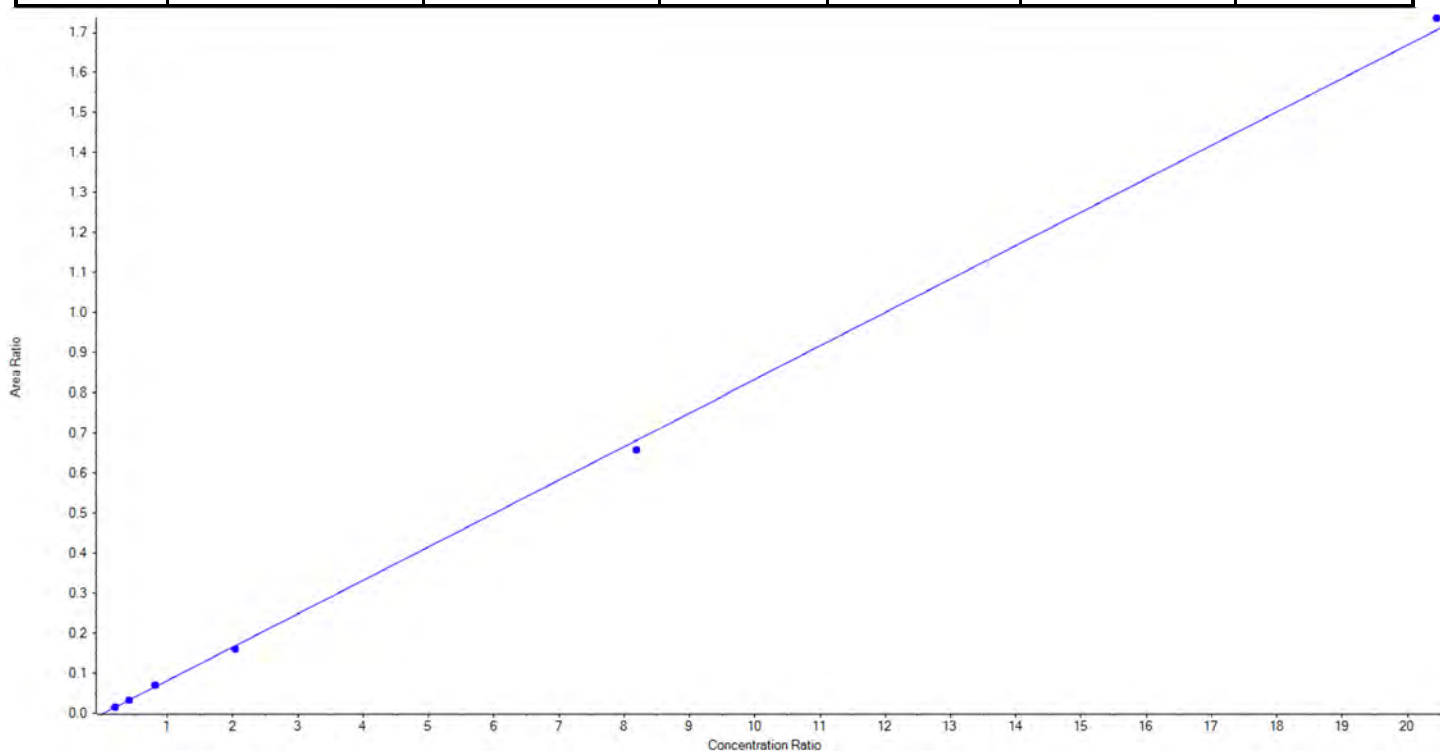
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Analyte Name	PFOA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	413.0 / 169.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.08354 x + -0.00204$ ($r = 0.99957$) (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	LE52	L1	True	250.00	262.11	104.8
3	LE53	L2	True	500.00	489.34	97.9
4	LE54	L3	True	1000.00	1044.52	104.5
5	LE55	L4	True	2500.00	2364.00	94.6
6	LE56	L5	True	10000.00	9652.93	96.5
7	LE57	L6	True	25000.00	25437.11	101.8





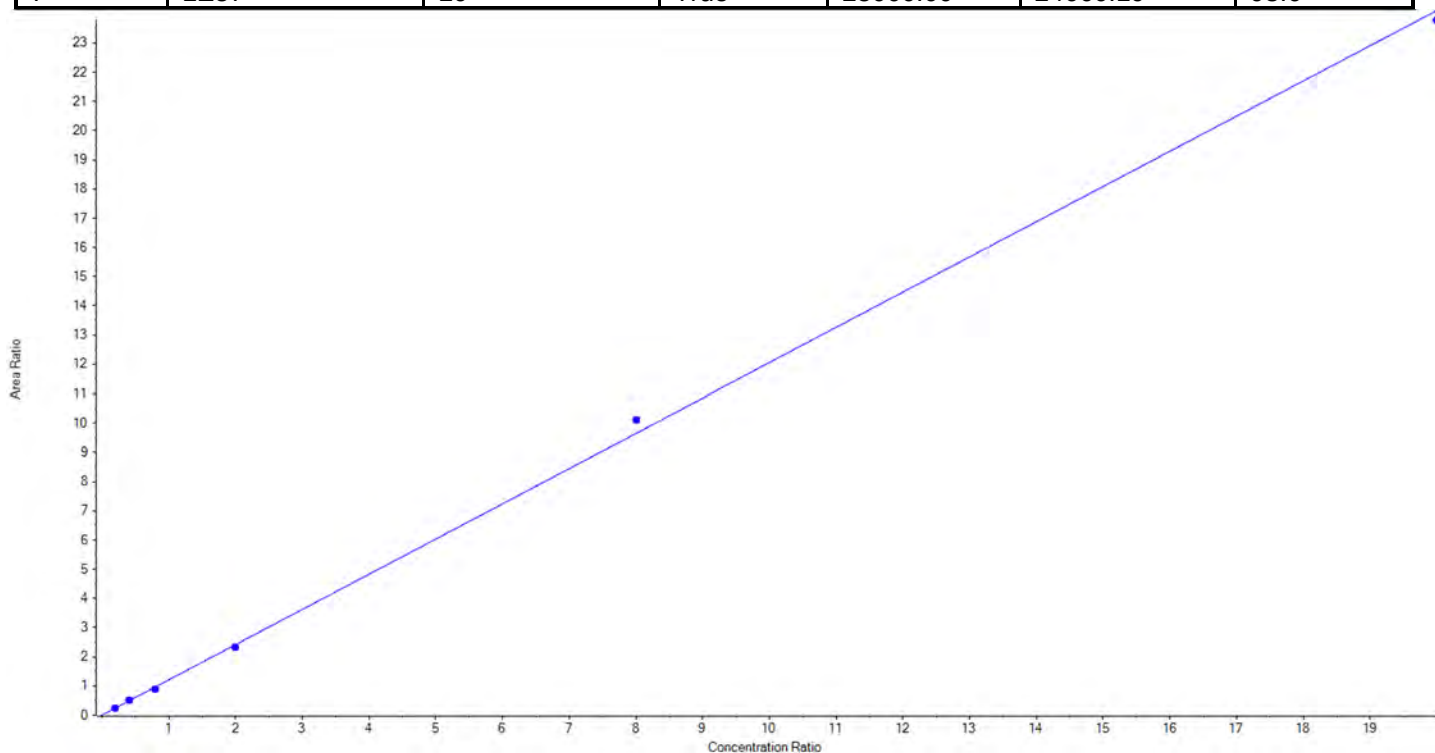
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Analyte Name	PFNA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	463.0 / 419.0	Result Table	20-1329
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.20512x + 0.00695$ ($r = 0.99938$) (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	LE52	L1	True	250.00	252.88	101.2
3	LE53	L2	True	500.00	542.34	108.5
4	LE54	L3	True	1000.00	903.16	90.3
5	LE55	L4	True	2500.00	2416.92	96.7
6	LE56	L5	True	10000.00	10474.50	104.8
7	LE57	L6	True	25000.00	24660.19	98.6





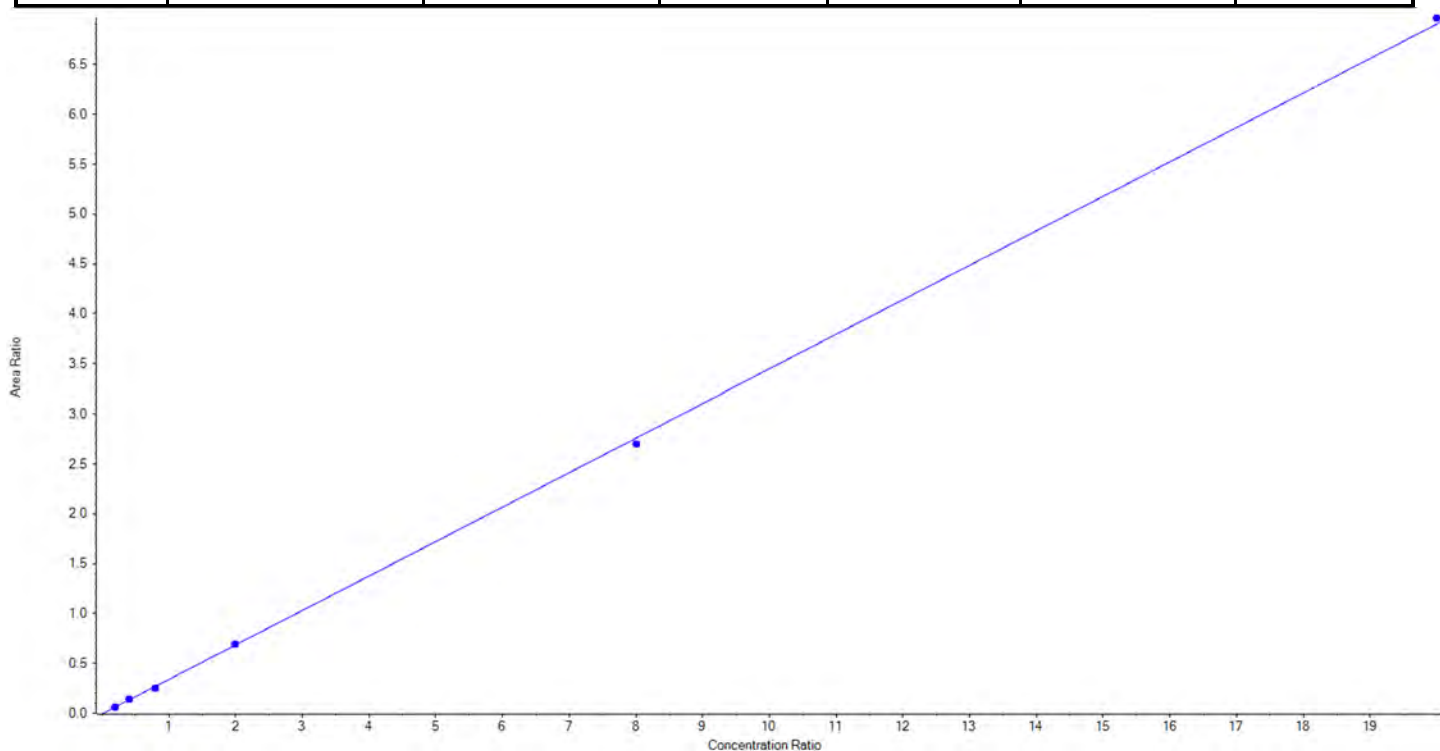
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Analyte Name	PFNA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	463.0 / 219.0	Result Table	20-1329
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.34560 x + -0.00650$ ($r = 0.99981$) (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	LE52	L1	True	250.00	251.68	100.7
3	LE53	L2	True	500.00	535.05	107.0
4	LE54	L3	True	1000.00	928.76	92.9
5	LE55	L4	True	2500.00	2513.07	100.5
6	LE56	L5	True	10000.00	9805.63	98.1
7	LE57	L6	True	25000.00	25215.81	100.9





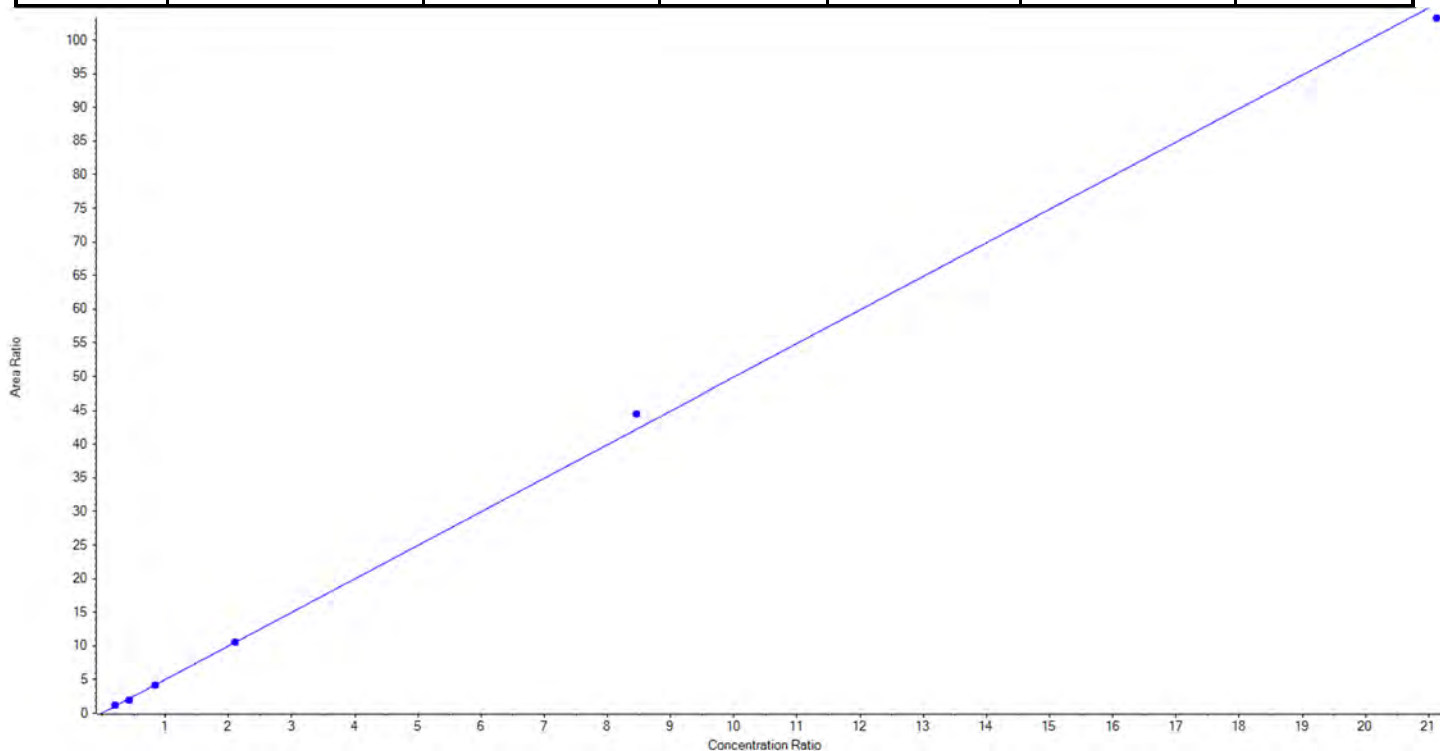
Calibration Summary Report

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Printed: 17/11/2020 5:33:17 PM

Analyte Name	PFOS_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	499.0 / 80.0	Result Table	20-1329
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 4.98901x + 0.01946$ ($r = 0.99935$) (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	LE52	L1	True	252.50	266.16	105.4
3	LE53	L2	True	505.00	471.63	93.4
4	LE54	L3	True	1010.00	988.44	97.9
5	LE55	L4	True	2525.00	2520.50	99.8
6	LE56	L5	True	10100.00	10660.38	105.6
7	LE57	L6	True	25250.00	24735.39	98.0





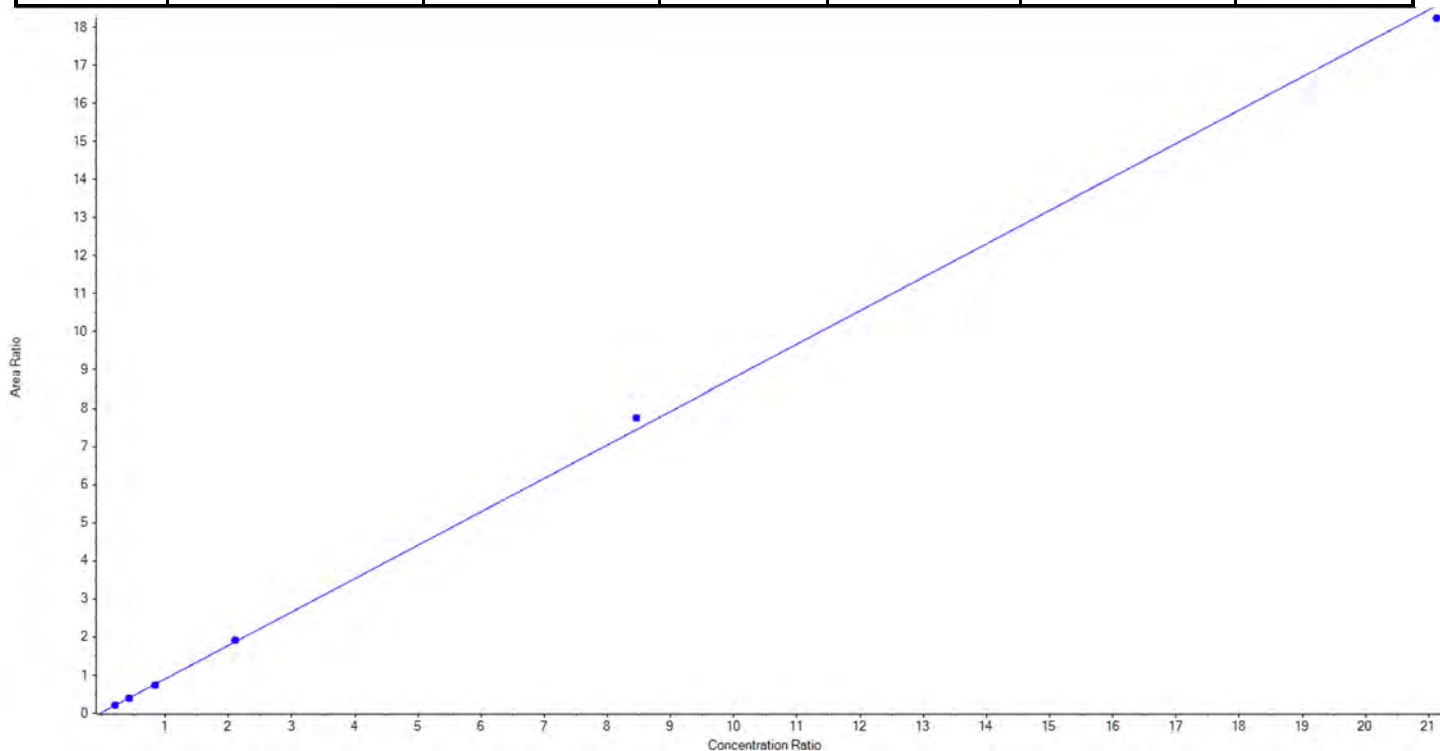
Calibration Summary Report

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Printed: 17/11/2020 5:33:17 PM

Analyte Name	PFOS_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	499.0 / 99.0	Result Table	20-1329
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.87719x + 0.02524$ ($r = 0.99959$) (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	LE52	L1	True	252.50	254.31	100.7
3	LE53	L2	True	505.00	492.29	97.5
4	LE54	L3	True	1010.00	977.24	96.8
5	LE55	L4	True	2525.00	2591.34	102.6
6	LE56	L5	True	10100.00	10521.72	104.2
7	LE57	L6	True	25250.00	24805.59	98.2





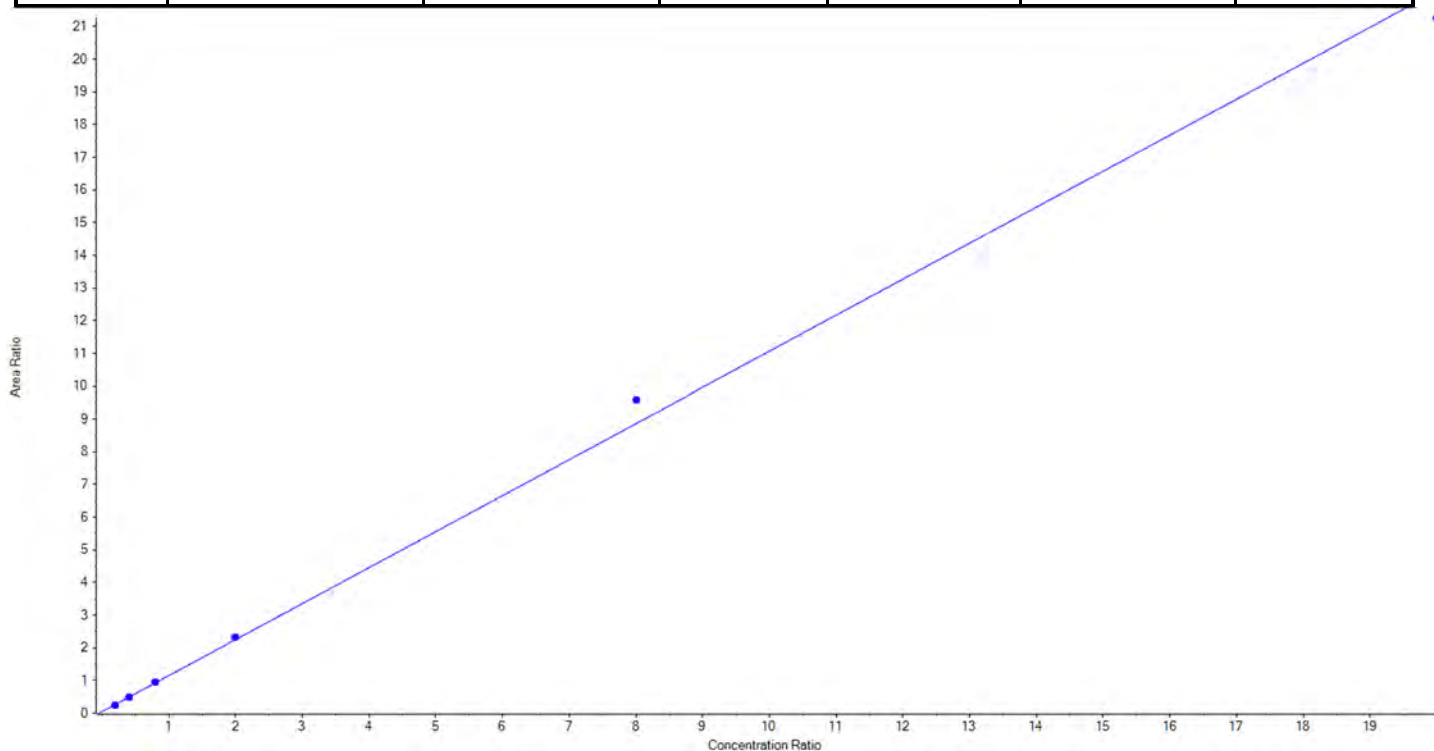
Calibration Summary Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:17 PM

Analyte Name	PFDA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	513.0 / 469.0	Result Table	20-1329
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.10161x + 0.05032$ ($r = 0.99838$) (weighting: $1/x$) $r^2: 0.9968$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	223.88	89.6
3	LE53	L2	True	500.00	492.05	98.4
4	LE54	L3	True	1000.00	1034.82	103.5
5	LE55	L4	True	2500.00	2598.78	104.0
6	LE56	L5	True	10000.00	10833.59	108.3
7	LE57	L6	True	25000.00	24066.87	96.3





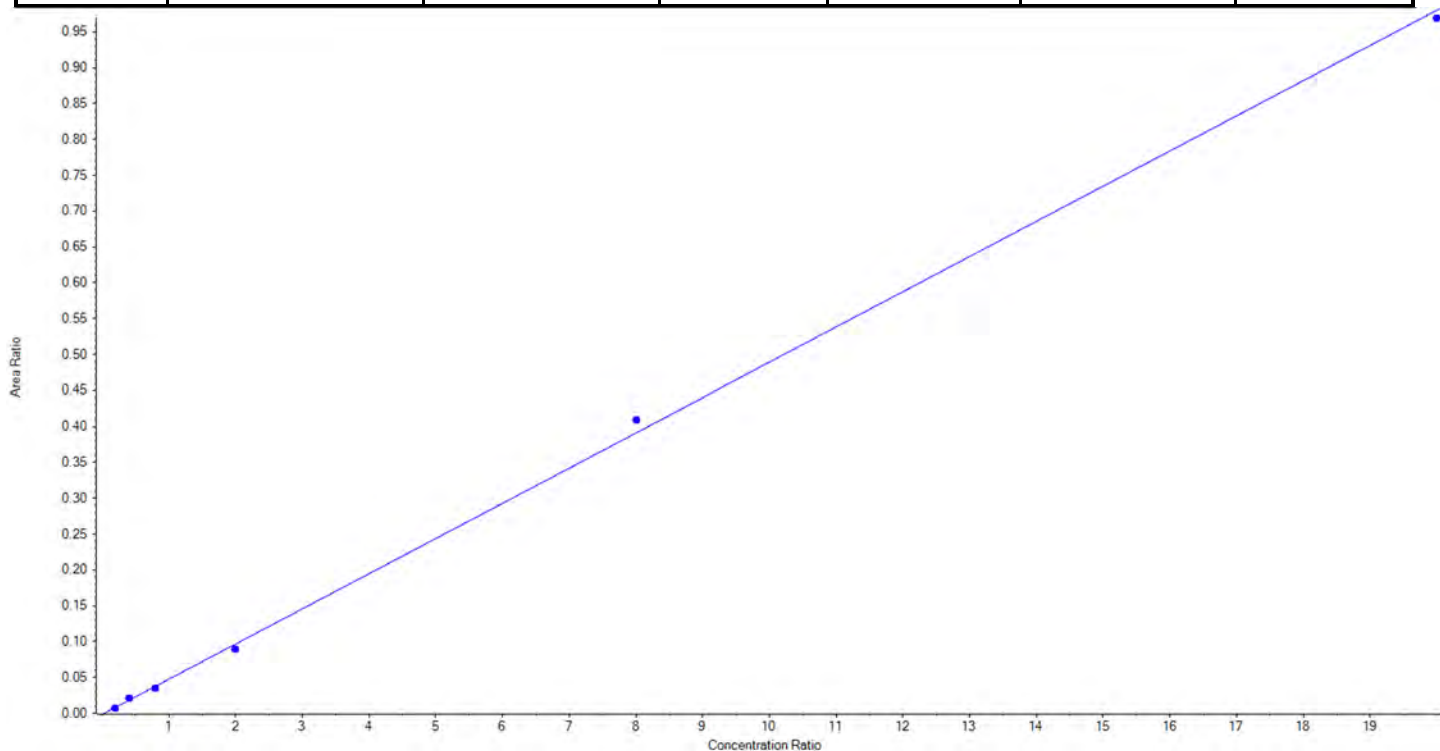
Calibration Summary Report

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Analyte Name	PFDA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	513.0 / 219.0	Result Table	20-1329
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04909x + -0.00164$ ($r = 0.99922$) (weighting: $1/x$) $r^2: 0.9984$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	231.59	92.6
3	LE53	L2	True	500.00	582.28	116.5
4	LE54	L3	True	1000.00	948.47	94.9
5	LE55	L4	True	2500.00	2317.45	92.7
6	LE56	L5	True	10000.00	10447.26	104.5
7	LE57	L6	True	25000.00	24722.95	98.9





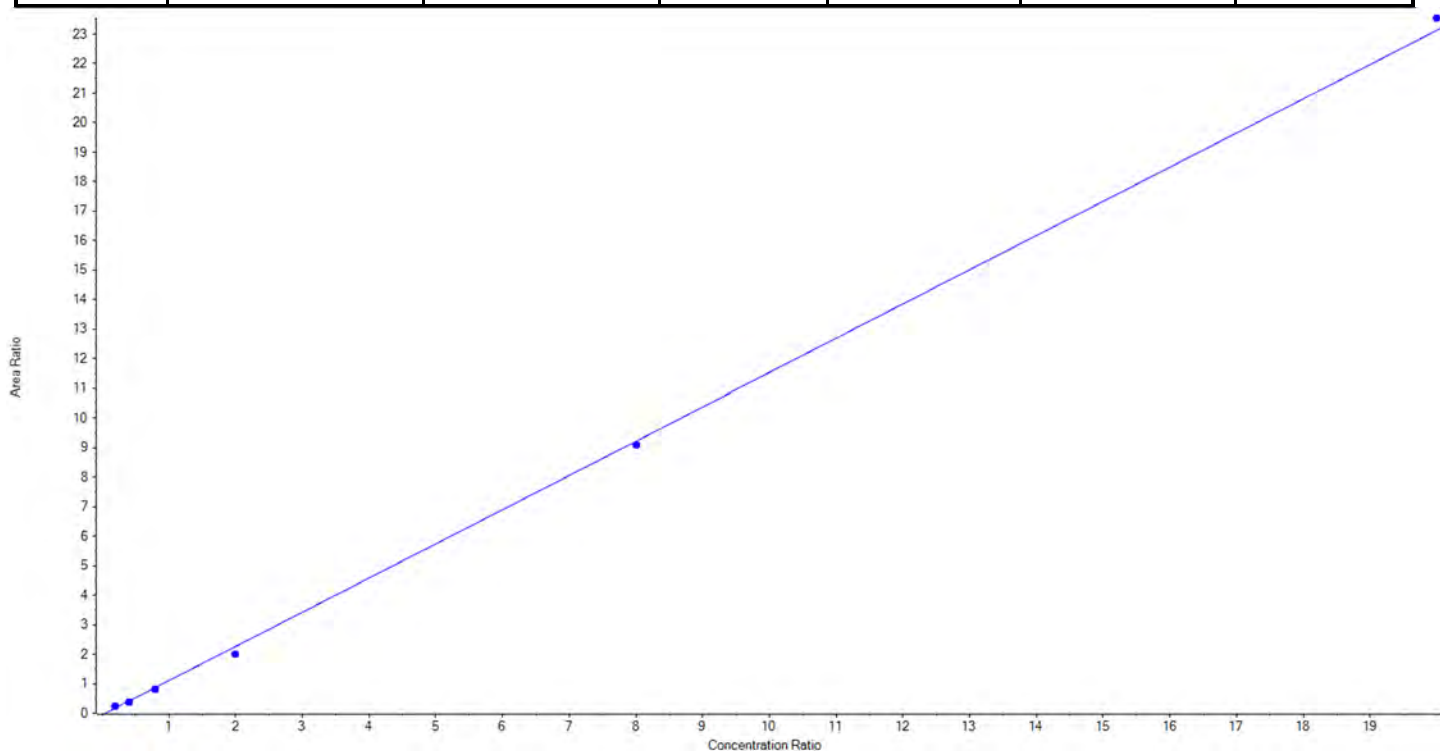
Calibration Summary Report

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Analyte Name	PFUnA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	563.0 / 519.0	Result Table	20-1329
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.15901x + -0.05501$ ($r = 0.99918$) (weighting: $1/x$) $r^2: 0.9984$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	302.36	120.9
3	LE53	L2	True	500.00	478.88	95.8
4	LE54	L3	True	1000.00	940.56	94.1
5	LE55	L4	True	2500.00	2221.43	88.9
6	LE56	L5	True	10000.00	9856.96	98.6
7	LE57	L6	True	25000.00	25449.81	101.8





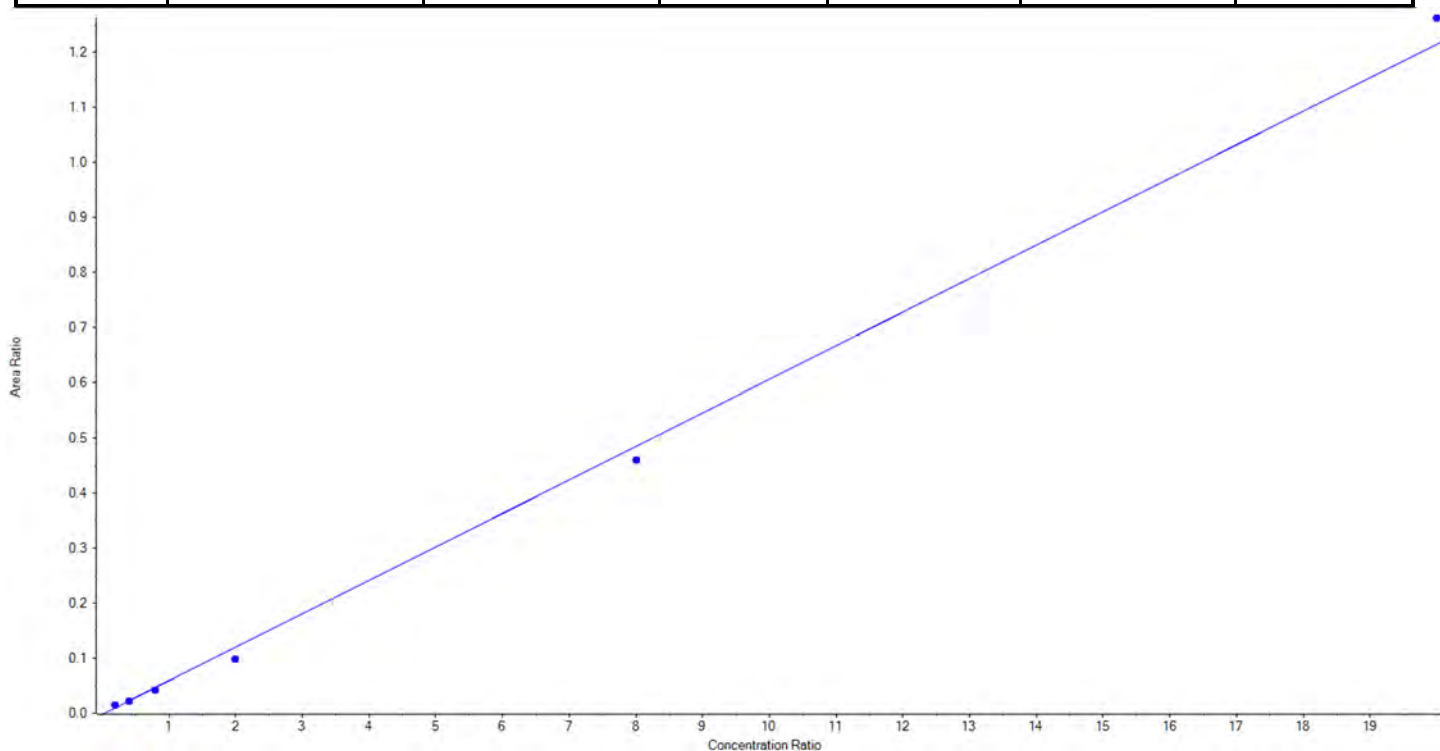
Calibration Summary Report

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Analyte Name	PFUnA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	563.0 / 269.0	Result Table	20-1329
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06081x + -0.00189$ ($r = 0.99753$) (weighting: $1/x$) $r^2: 0.9951$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	324.93	130.0
3	LE53	L2	True	500.00	491.46	98.3
4	LE54	L3	True	1000.00	901.58	90.2
5	LE55	L4	True	2500.00	2071.13	82.9
6	LE56	L5	True	10000.00	9481.73	94.8
7	LE57	L6	True	25000.00	25979.18	103.9





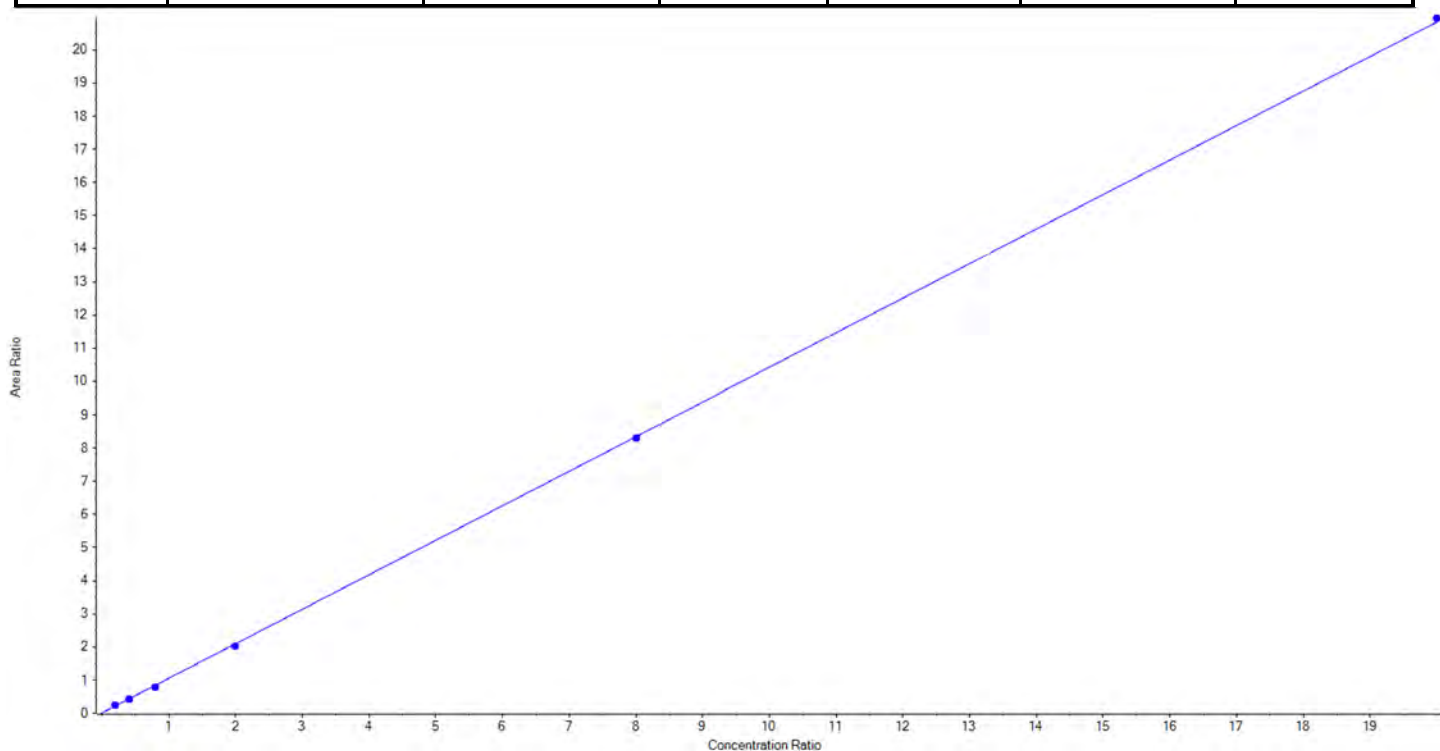
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Analyte Name	PFDaA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	613.0 / 569.0	Result Table	20-1329
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.04133x + 0.01295$ ($r = 0.99987$) (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	LE52	L1	True	250.00	272.07	108.8
3	LE53	L2	True	500.00	500.92	100.2
4	LE54	L3	True	1000.00	935.24	93.5
5	LE55	L4	True	2500.00	2430.10	97.2
6	LE56	L5	True	10000.00	9969.05	99.7
7	LE57	L6	True	25000.00	25142.62	100.6





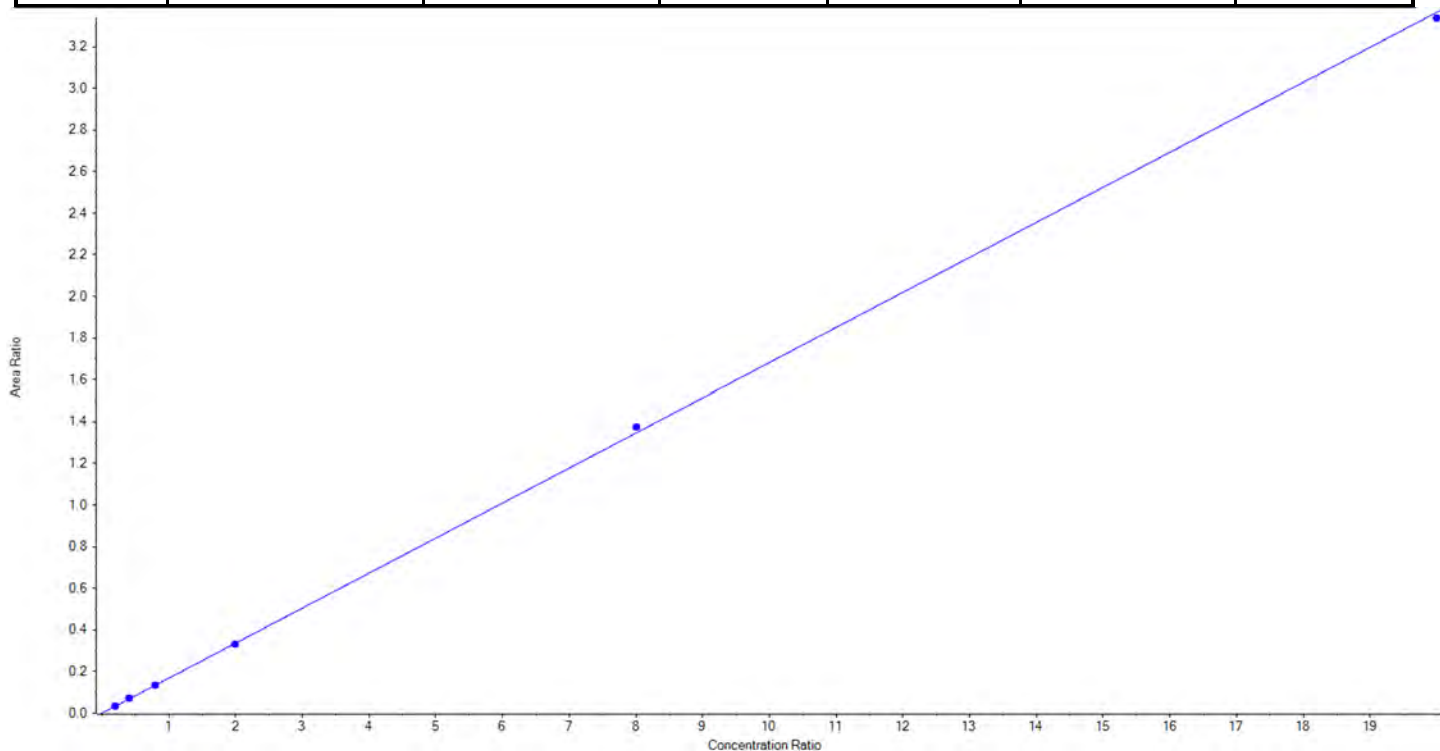
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Analyte Name	PFDaA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	613.0 / 319.0	Result Table	20-1329
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.16825x + 1.66061e-4$ ($r = 0.99987$) (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	LE52	L1	True	250.00	236.95	94.8
3	LE53	L2	True	500.00	525.06	105.0
4	LE54	L3	True	1000.00	997.85	99.8
5	LE55	L4	True	2500.00	2475.65	99.0
6	LE56	L5	True	10000.00	10222.95	102.2
7	LE57	L6	True	25000.00	24791.53	99.2





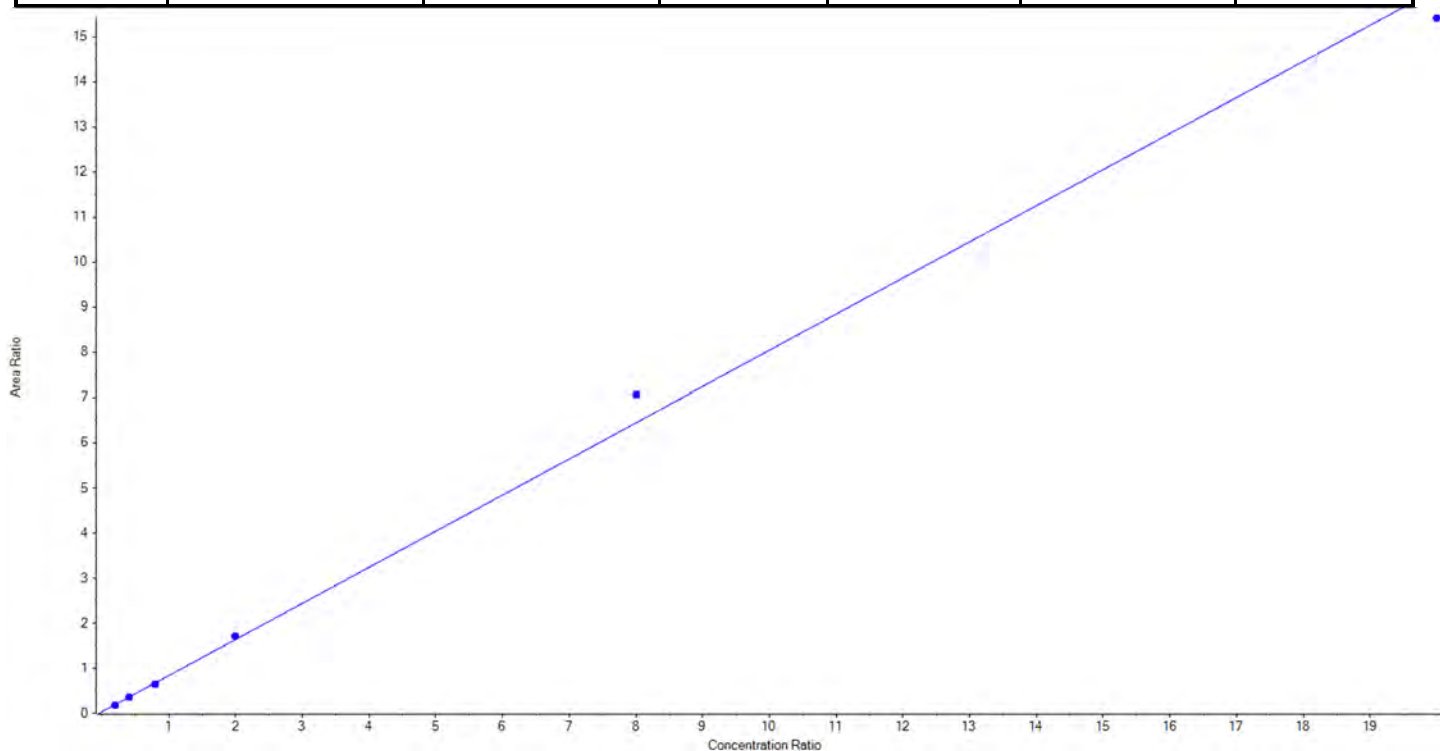
Calibration Summary Report

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Analyte Name	PFTTrDA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	663.0 / 619.0	Result Table	20-1329
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.80112x + 0.03461$ ($r = 0.99796$) (weighting: $1/x$) $r^2: 0.9959$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	237.99	95.2
3	LE53	L2	True	500.00	503.67	100.7
4	LE54	L3	True	1000.00	938.60	93.9
5	LE55	L4	True	2500.00	2616.80	104.7
6	LE56	L5	True	10000.00	10954.26	109.5
7	LE57	L6	True	25000.00	23998.67	96.0





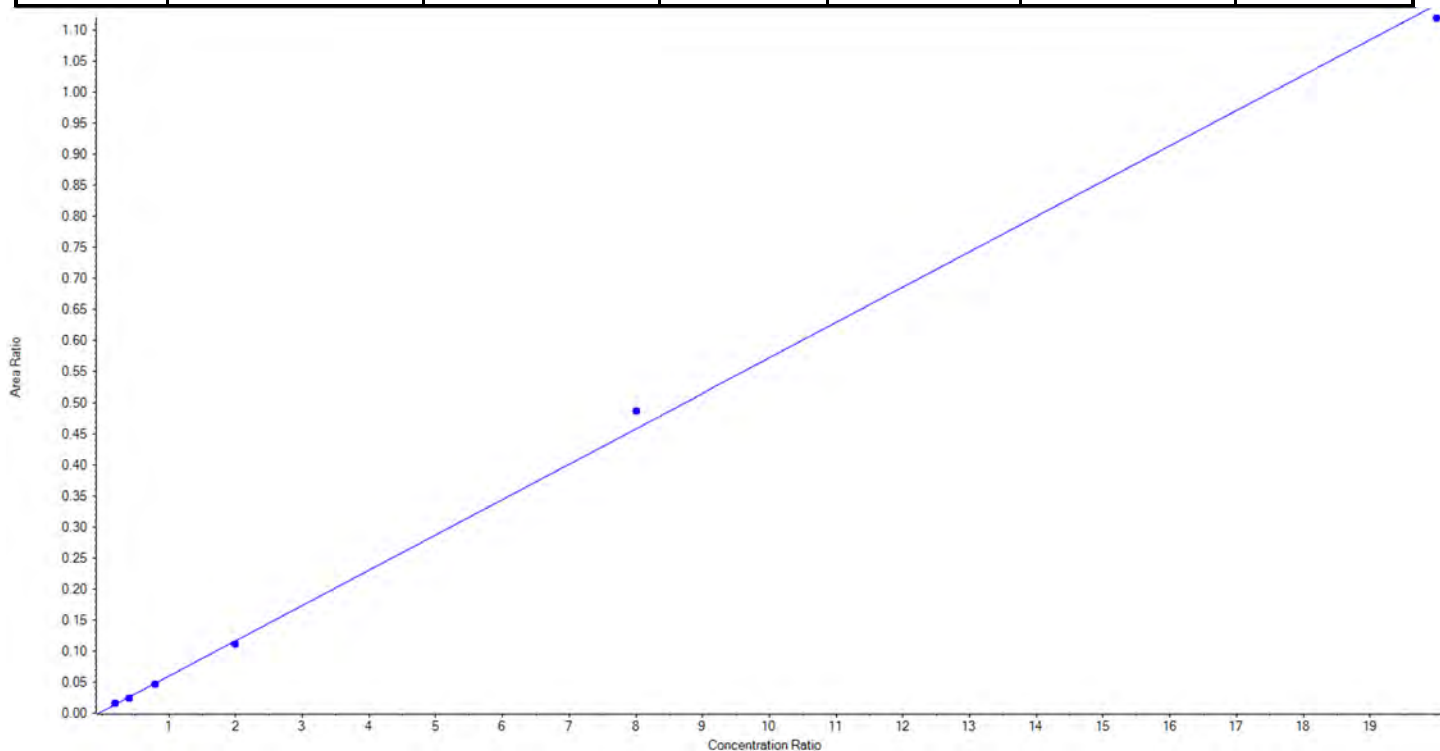
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Analyte Name	PFTTrDA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	663.0 / 169.0	Result Table	20-1329
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05694x + 0.00287$ ($r = 0.99917$) (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	LE52	L1	True	250.00	274.10	109.6
3	LE53	L2	True	500.00	464.31	92.9
4	LE54	L3	True	1000.00	972.88	97.3
5	LE55	L4	True	2500.00	2398.14	95.9
6	LE56	L5	True	10000.00	10620.49	106.2
7	LE57	L6	True	25000.00	24520.08	98.1





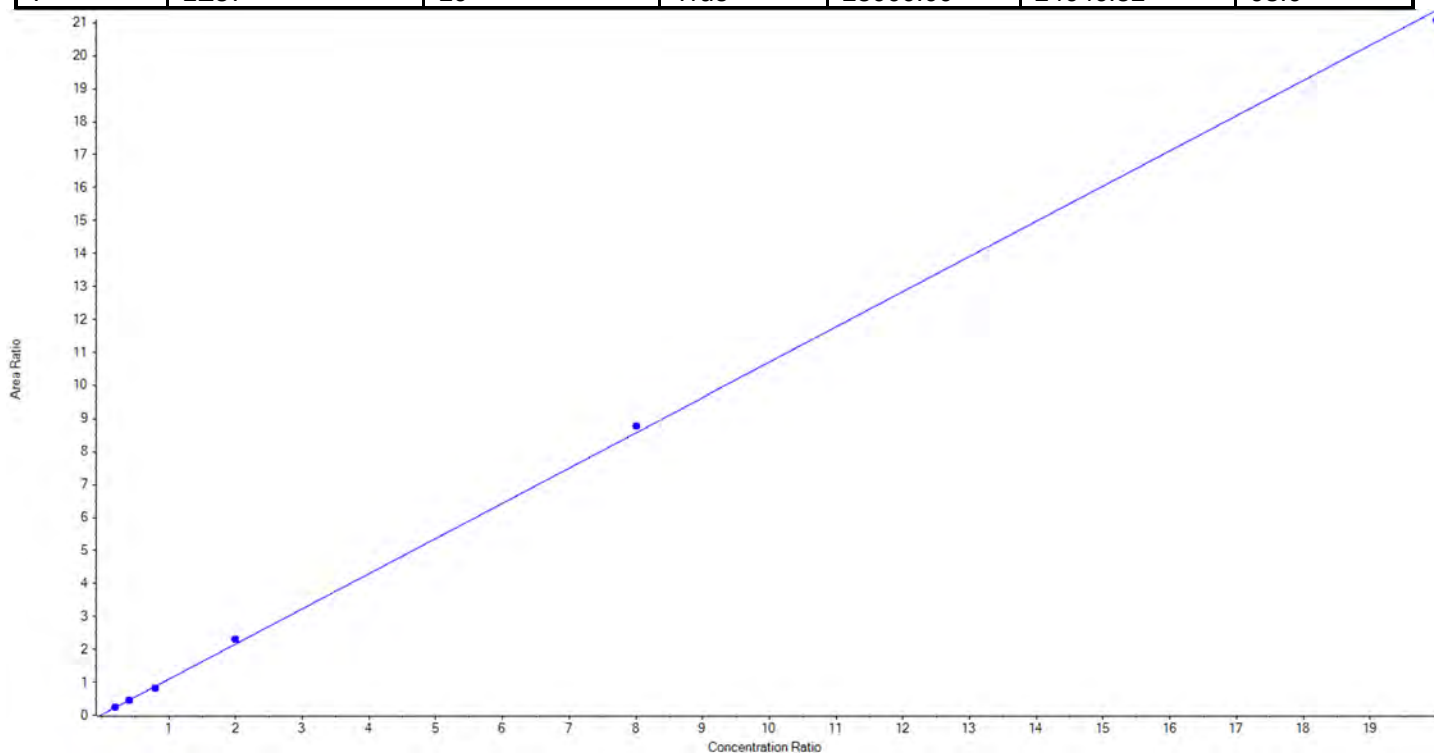
Calibration Summary Report

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Analyte Name	PFTeDA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	713.0 / 669.0	Result Table	20-1329
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.06813x + 0.02492$ ($r = 0.99962$) (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	LE52	L1	True	250.00	247.81	99.1
3	LE53	L2	True	500.00	498.43	99.7
4	LE54	L3	True	1000.00	935.42	93.5
5	LE55	L4	True	2500.00	2661.48	106.5
6	LE56	L5	True	10000.00	10260.34	102.6
7	LE57	L6	True	25000.00	24646.52	98.6





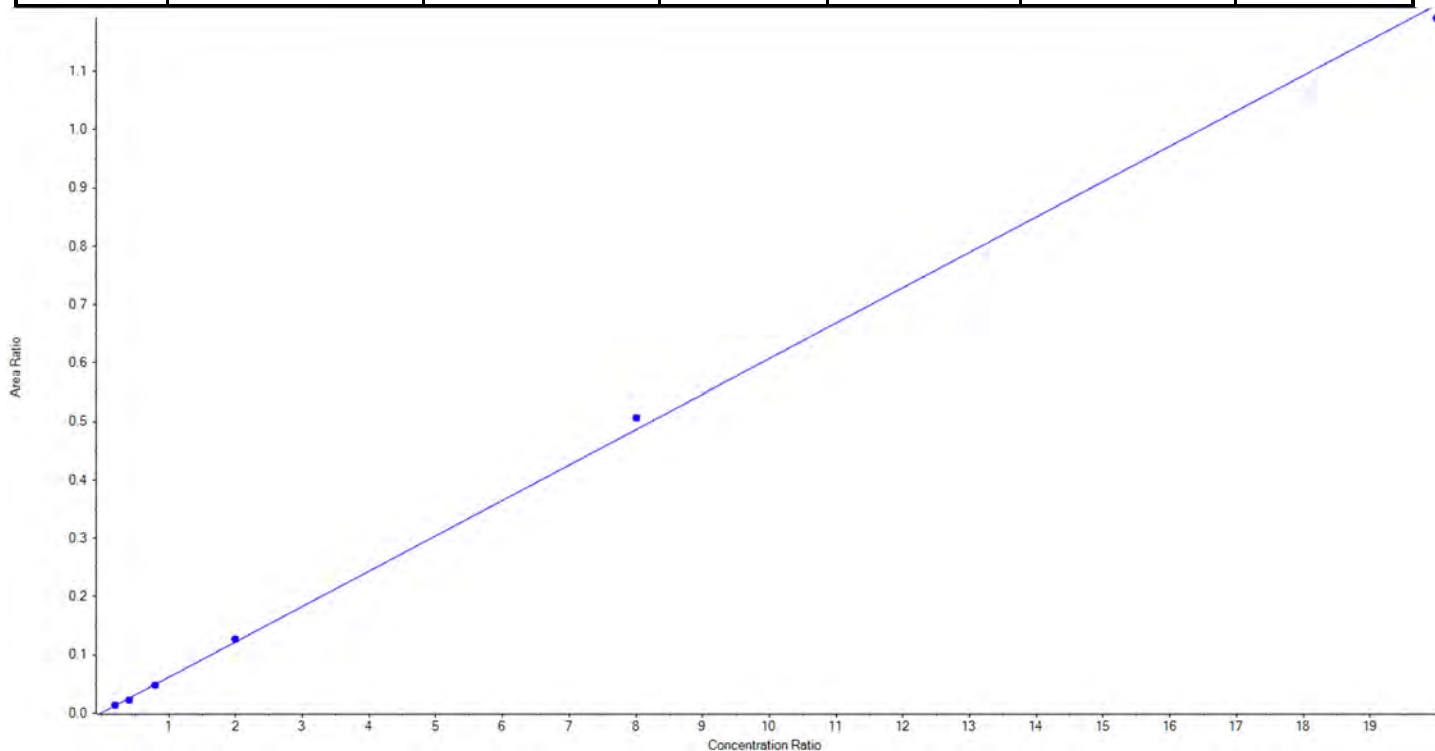
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Analyte Name	PFTeDA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	713.0 / 169.0	Result Table	20-1329
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.06066x + 0.00107$ ($r = 0.99948$) (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	LE52	L1	True	250.00	262.04	104.8
3	LE53	L2	True	500.00	453.92	90.8
4	LE54	L3	True	1000.00	981.73	98.2
5	LE55	L4	True	2500.00	2595.88	103.8
6	LE56	L5	True	10000.00	10427.97	104.3
7	LE57	L6	True	25000.00	24528.47	98.1





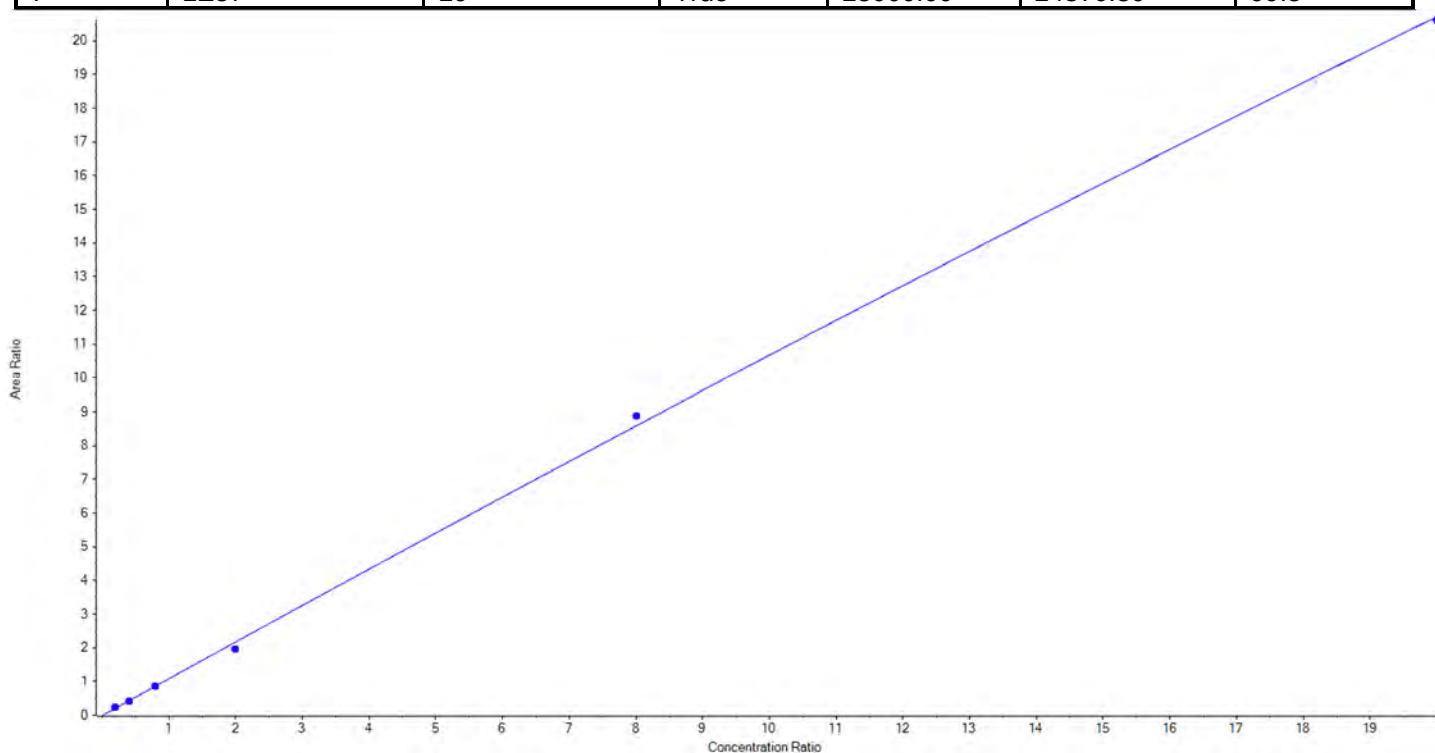
Calibration Summary Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:17 PM

Analyte Name	NMeFOSAA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	570.0 / 419.0	Result Table	20-1329
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -0.00320 x^2 + 1.10045 x + -0.01544$ ($r = 0.99940$) (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	LE52	L1	True	250.00	274.25	109.7
3	LE53	L2	True	500.00	485.76	97.2
4	LE54	L3	True	1000.00	996.78	99.7
5	LE55	L4	True	2500.00	2259.29	90.4
6	LE56	L5	True	10000.00	10362.64	103.6
7	LE57	L6	True	25000.00	24870.80	99.5





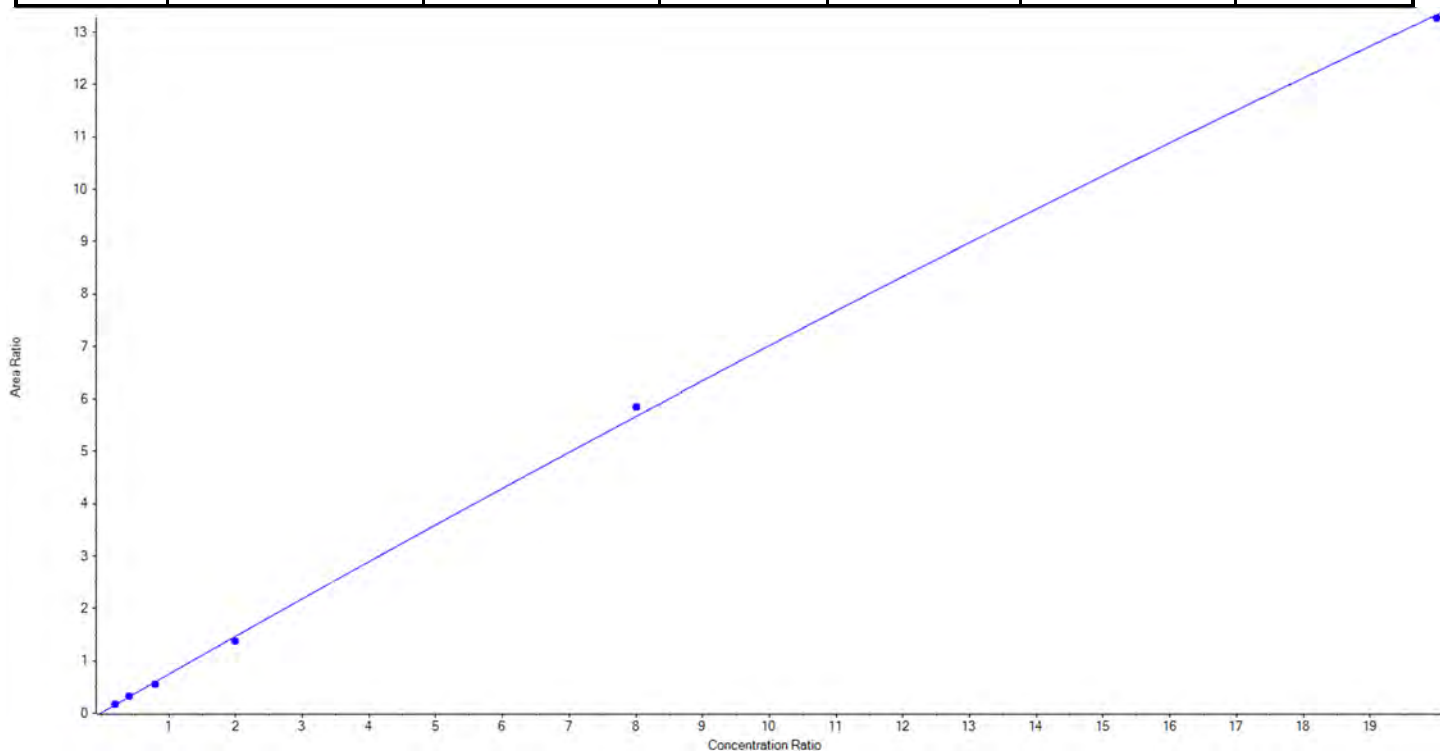
Calibration Summary Report

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Printed: 17/11/2020 5:33:17 PM

Analyte Name	NMeFOSAA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	570.0 / 512.0	Result Table	20-1329
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -0.00339 x^2 + 0.73376 x + 0.01493$ ($r = 0.99948$) (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	LE52	L1	True	250.00	272.94	109.2
3	LE53	L2	True	500.00	513.49	102.7
4	LE54	L3	True	1000.00	920.88	92.1
5	LE55	L4	True	2500.00	2328.24	93.1
6	LE56	L5	True	10000.00	10344.98	103.5
7	LE57	L6	True	25000.00	24867.45	99.5





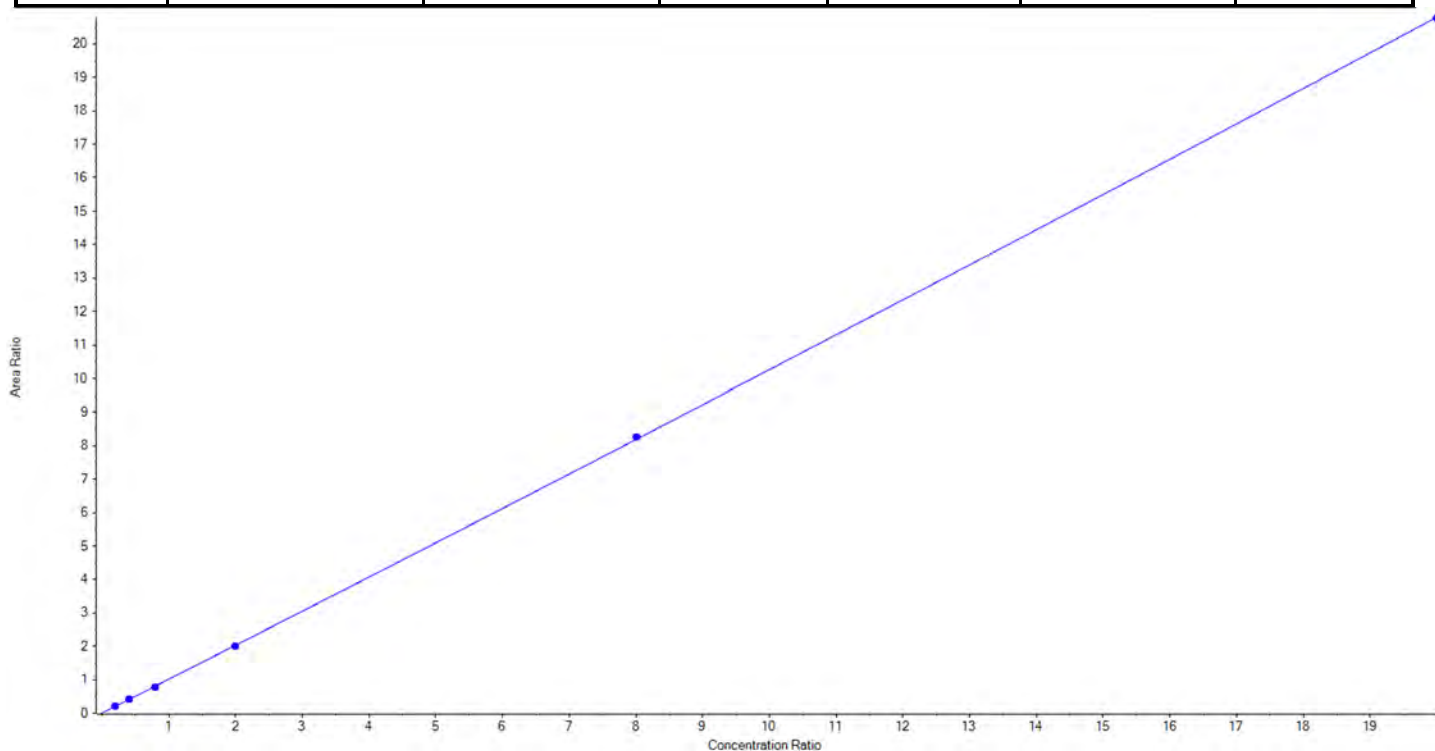
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NEtFOSAA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	584.0 / 419.0	Result Table	20-1329
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.00141 x^2 + 1.01167 x + 0.00343$ ($r = 0.99991$) (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	LE52	L1	True	250.00	249.68	99.9
3	LE53	L2	True	500.00	530.17	106.0
4	LE54	L3	True	1000.00	950.97	95.1
5	LE55	L4	True	2500.00	2453.76	98.2
6	LE56	L5	True	10000.00	10097.37	101.0
7	LE57	L6	True	25000.00	24967.98	99.9





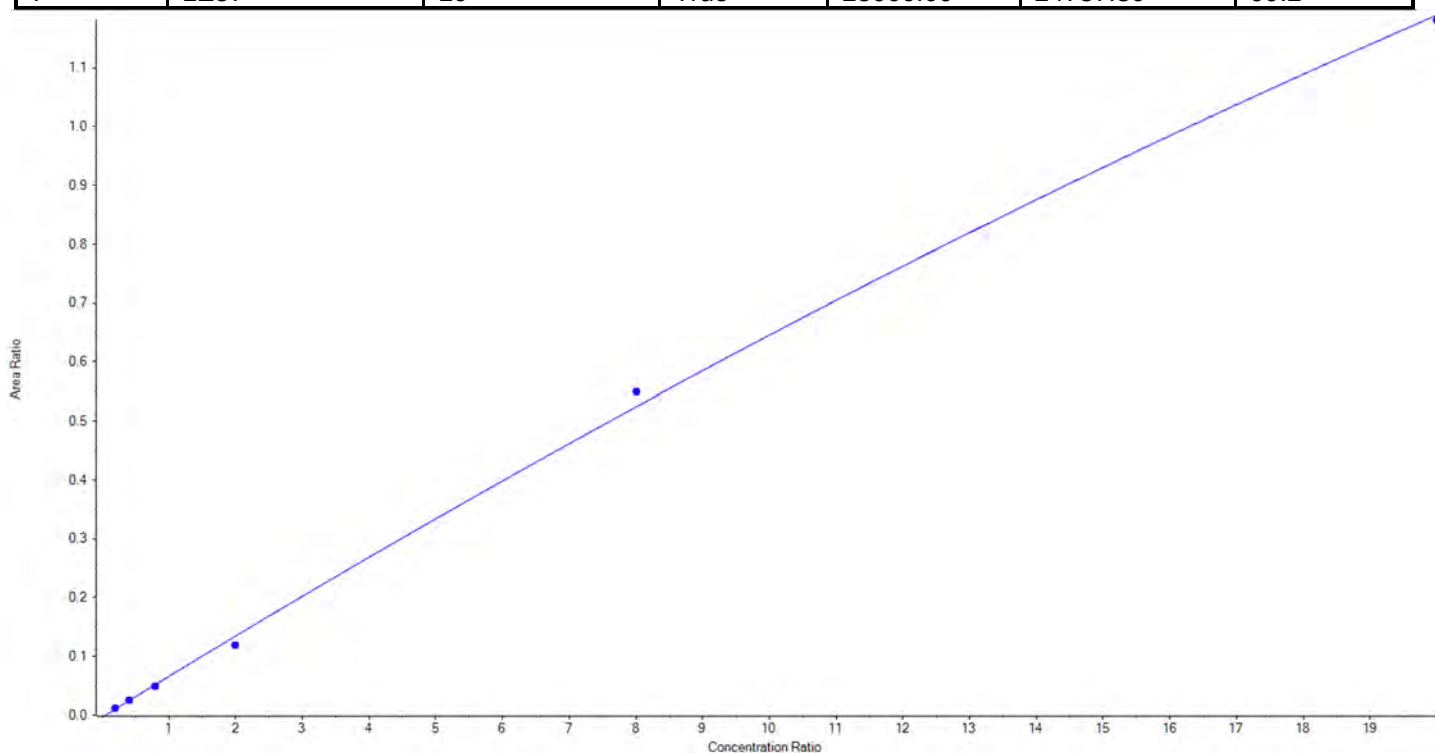
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Analyte Name	NEtFOSAA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	584.0 / 483.0	Result Table	20-1329
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -5.24695e-4 x^2 + 0.07015 x + -0.00357$ ($r = 0.99891$) (weighting: $1 / x$) $r^2: 0.9978$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	278.28	111.3
3	LE53	L2	True	500.00	506.74	101.4
4	LE54	L3	True	1000.00	946.25	94.6
5	LE55	L4	True	2500.00	2212.54	88.5
6	LE56	L5	True	10000.00	10509.04	105.1
7	LE57	L6	True	25000.00	24787.80	99.2





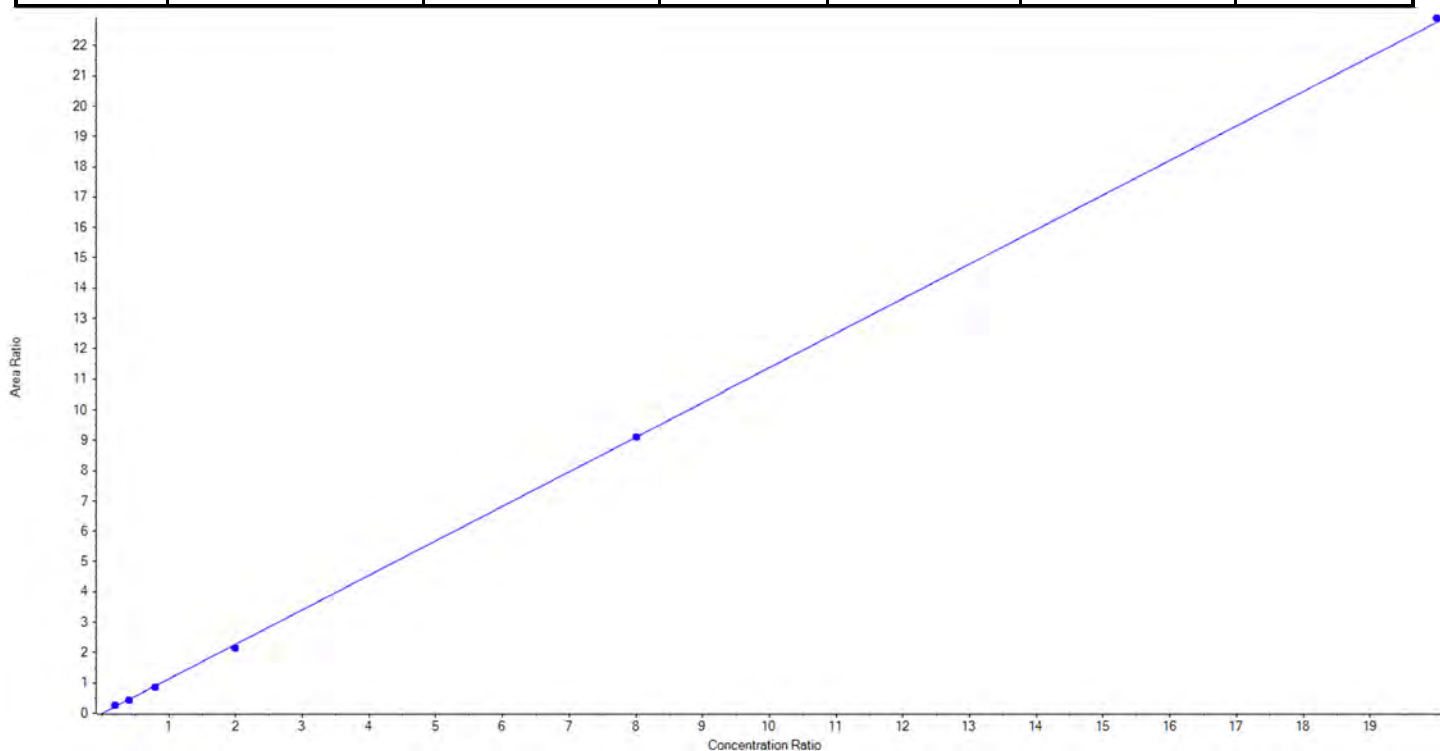
Calibration Summary Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:17 PM

Analyte Name	HFPO-DA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	285.0 / 169.0	Result Table	20-1329
Internal Standard	13C3-HFPO-DA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.13845x + -0.00716$ ($r = 0.99976$) (weighting: $1/x$) $r^2: 0.9995$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	283.44	113.4
3	LE53	L2	True	500.00	482.57	96.5
4	LE54	L3	True	1000.00	949.68	95.0
5	LE55	L4	True	2500.00	2357.49	94.3
6	LE56	L5	True	10000.00	10022.32	100.2
7	LE57	L6	True	25000.00	25154.50	100.6





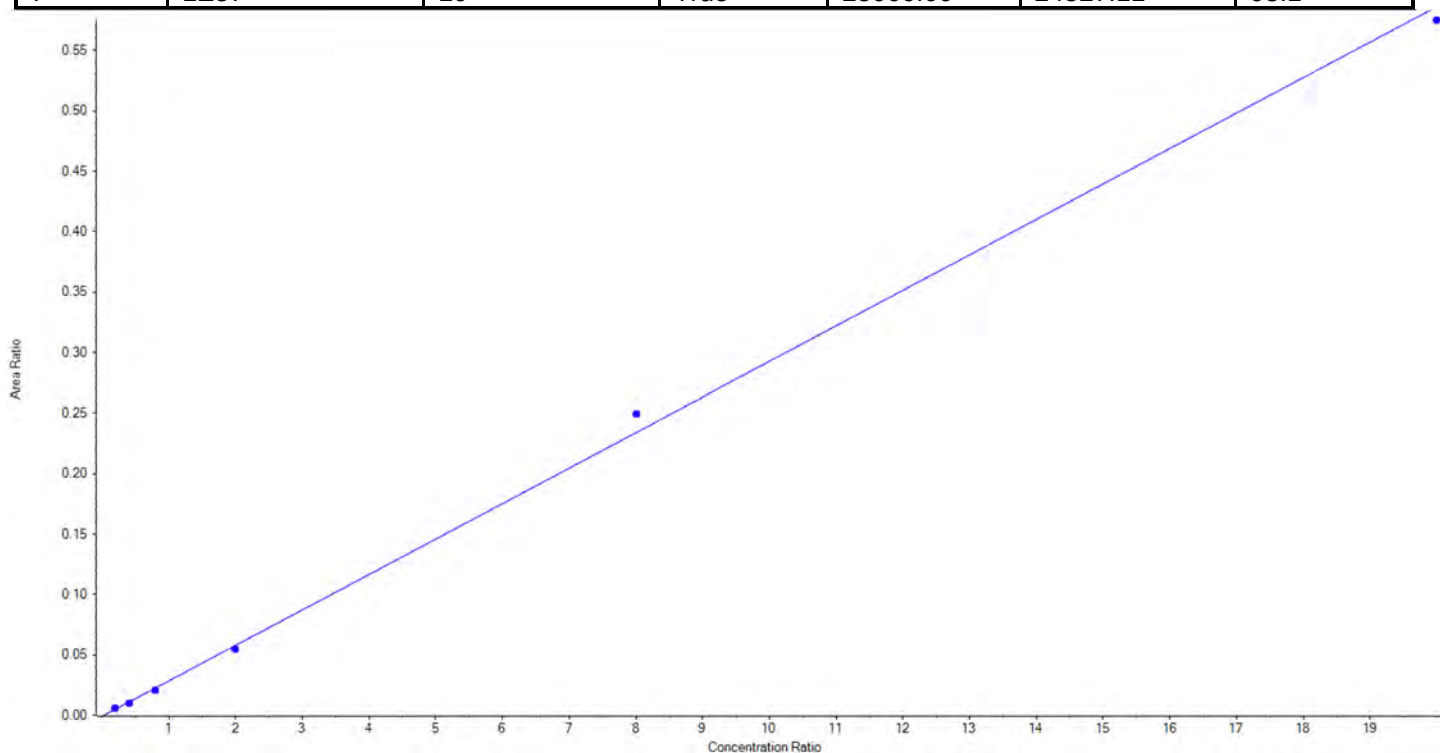
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Printed: 17/11/2020 5:33:17 PM

Analyte Name	HFPO-DA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	285.0 / 118.8	Result Table	20-1329
Internal Standard	13C3-HFPO-DA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.02935x + -9.11656e-4$ ($r = 0.99895$) (weighting: $1/x$) $r^2: 0.9979$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	280.99	112.4
3	LE53	L2	True	500.00	478.99	95.8
4	LE54	L3	True	1000.00	924.16	92.4
5	LE55	L4	True	2500.00	2363.08	94.5
6	LE56	L5	True	10000.00	10675.67	106.8
7	LE57	L6	True	25000.00	24527.11	98.1





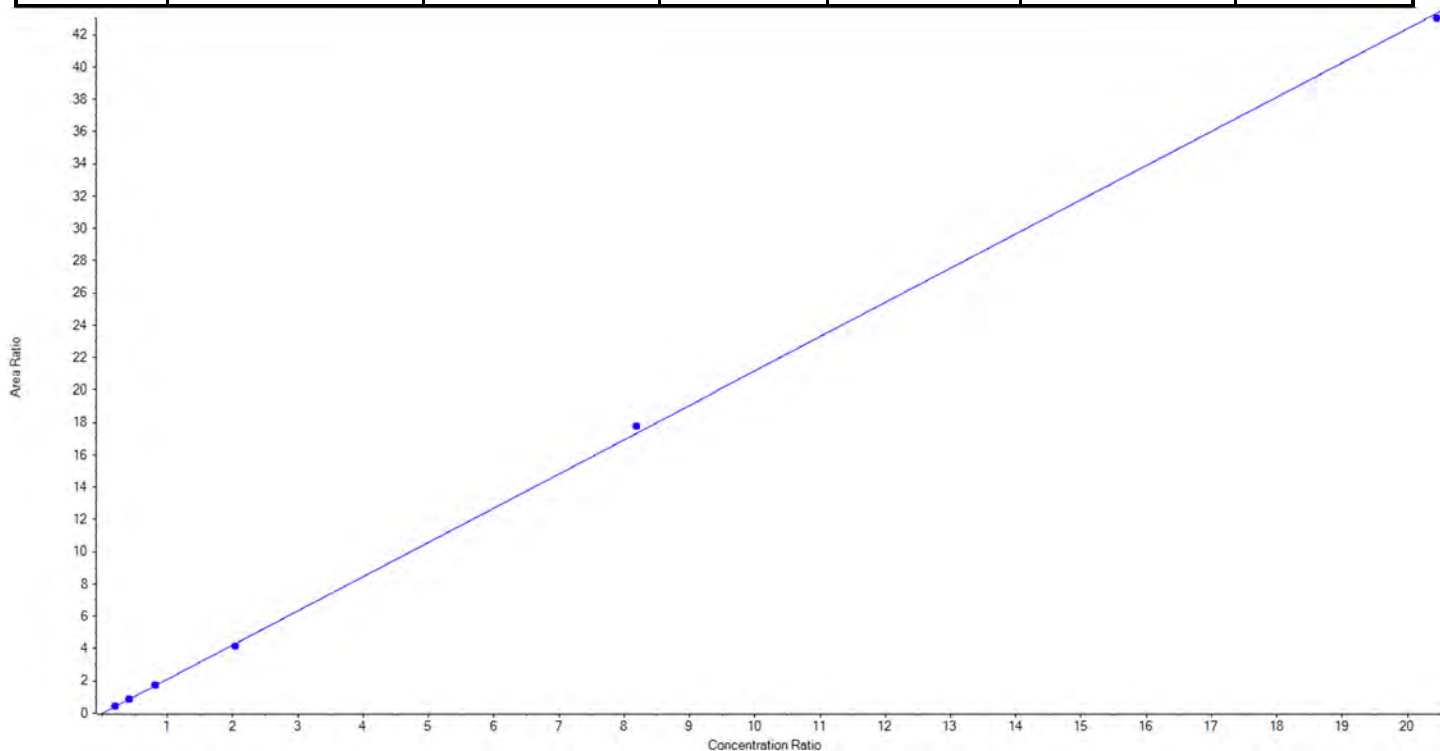
Calibration Summary Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:17 PM

Analyte Name	ADONA_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	377.0 / 251.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.11974x + -0.01872$ ($r = 0.99981$) (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	LE52	L1	True	250.00	247.75	99.1
3	LE53	L2	True	500.00	513.08	102.6
4	LE54	L3	True	1000.00	1005.89	100.6
5	LE55	L4	True	2500.00	2394.30	95.8
6	LE56	L5	True	10000.00	10261.32	102.6
7	LE57	L6	True	25000.00	24827.66	99.3





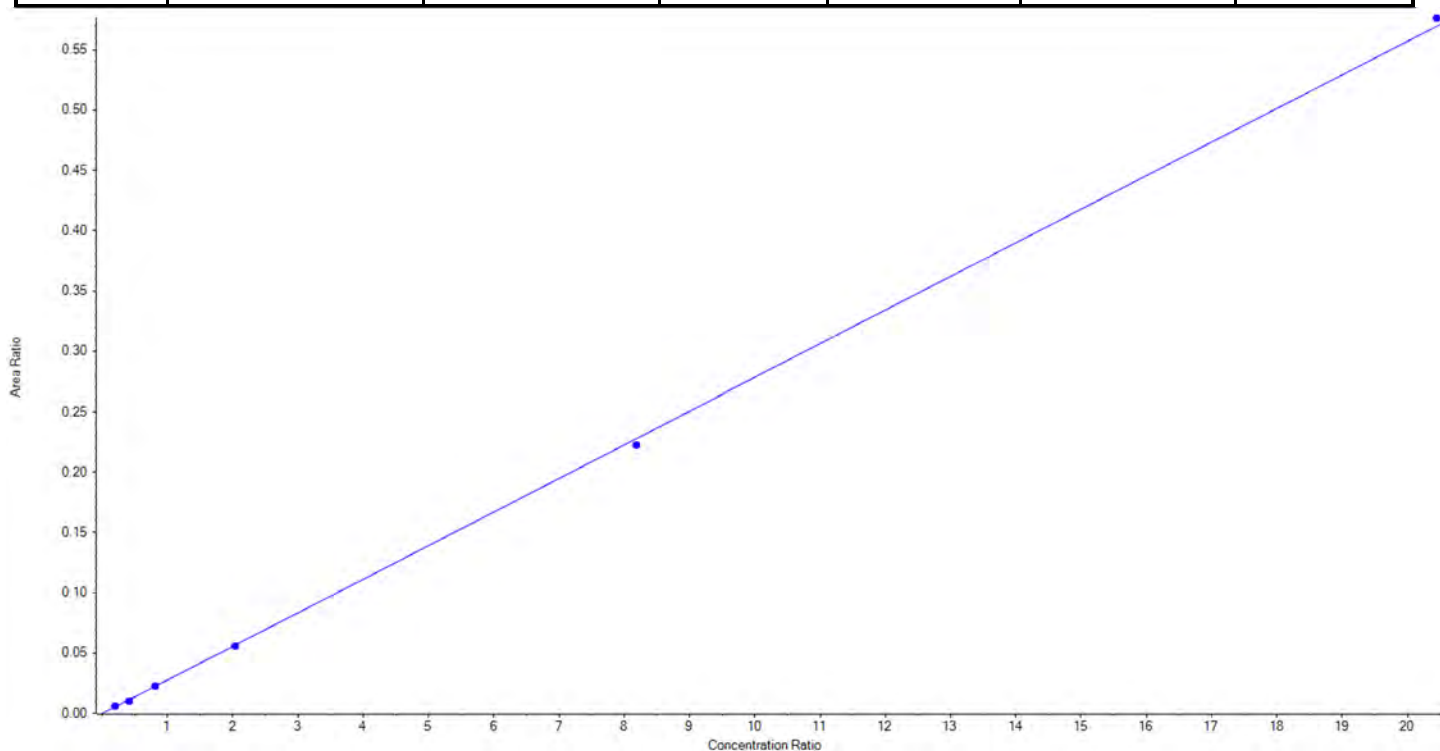
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Analyte Name	ADONA_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	377.0 / 85.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.02787x + -3.51125e-4$ ($r = 0.99977$) (weighting: $1/x$) $r^2: 0.9995$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	277.75	111.1
3	LE53	L2	True	500.00	460.71	92.1
4	LE54	L3	True	1000.00	999.60	100.0
5	LE55	L4	True	2500.00	2448.17	97.9
6	LE56	L5	True	10000.00	9769.48	97.7
7	LE57	L6	True	25000.00	25294.29	101.2





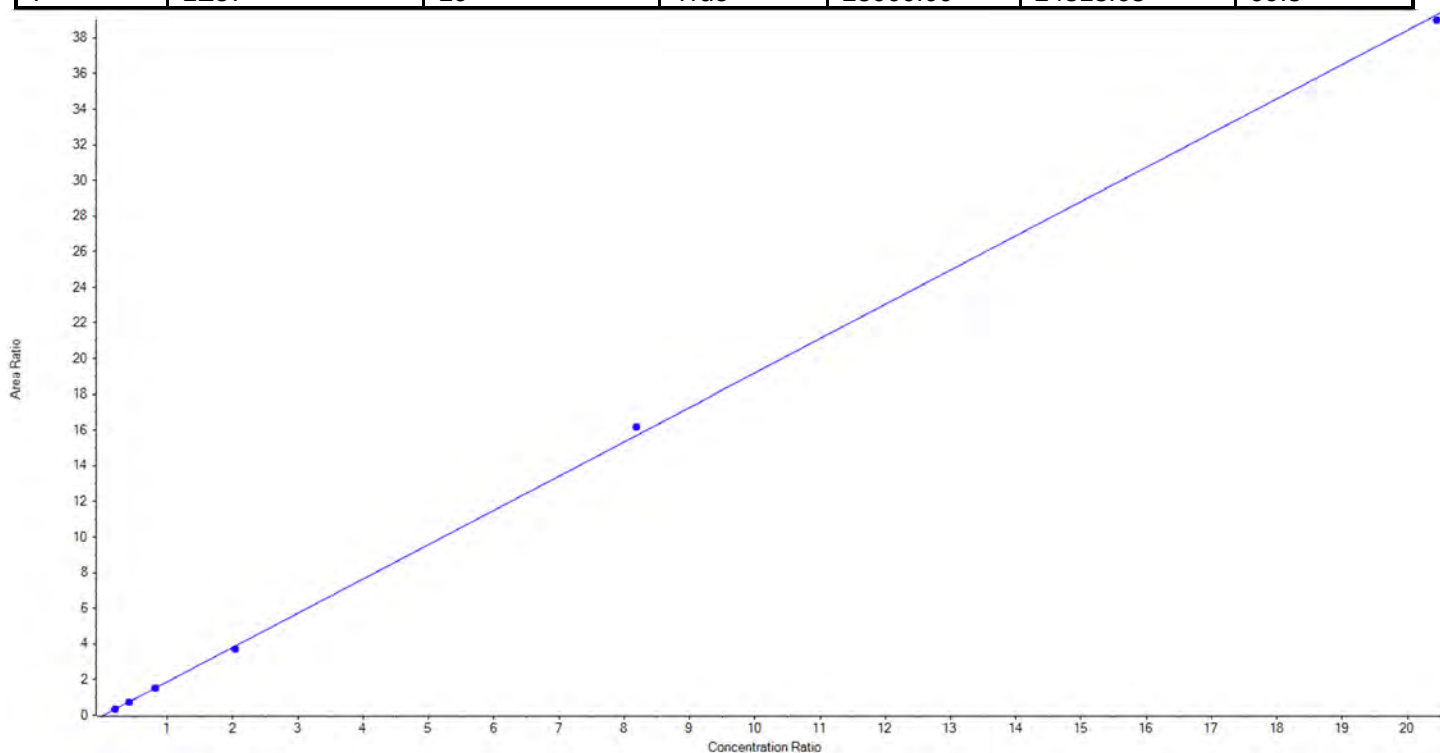
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Analyte Name	9CI-PF3ONS_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	531.0 / 351.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.92345x + -0.04298$ ($r = 0.99977$) (weighting: $1/x$) $r^2: 0.9995$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	256.95	102.8
3	LE53	L2	True	500.00	507.23	101.5
4	LE54	L3	True	1000.00	977.17	97.7
5	LE55	L4	True	2500.00	2395.09	95.8
6	LE56	L5	True	10000.00	10299.93	103.0
7	LE57	L6	True	25000.00	24813.63	99.3





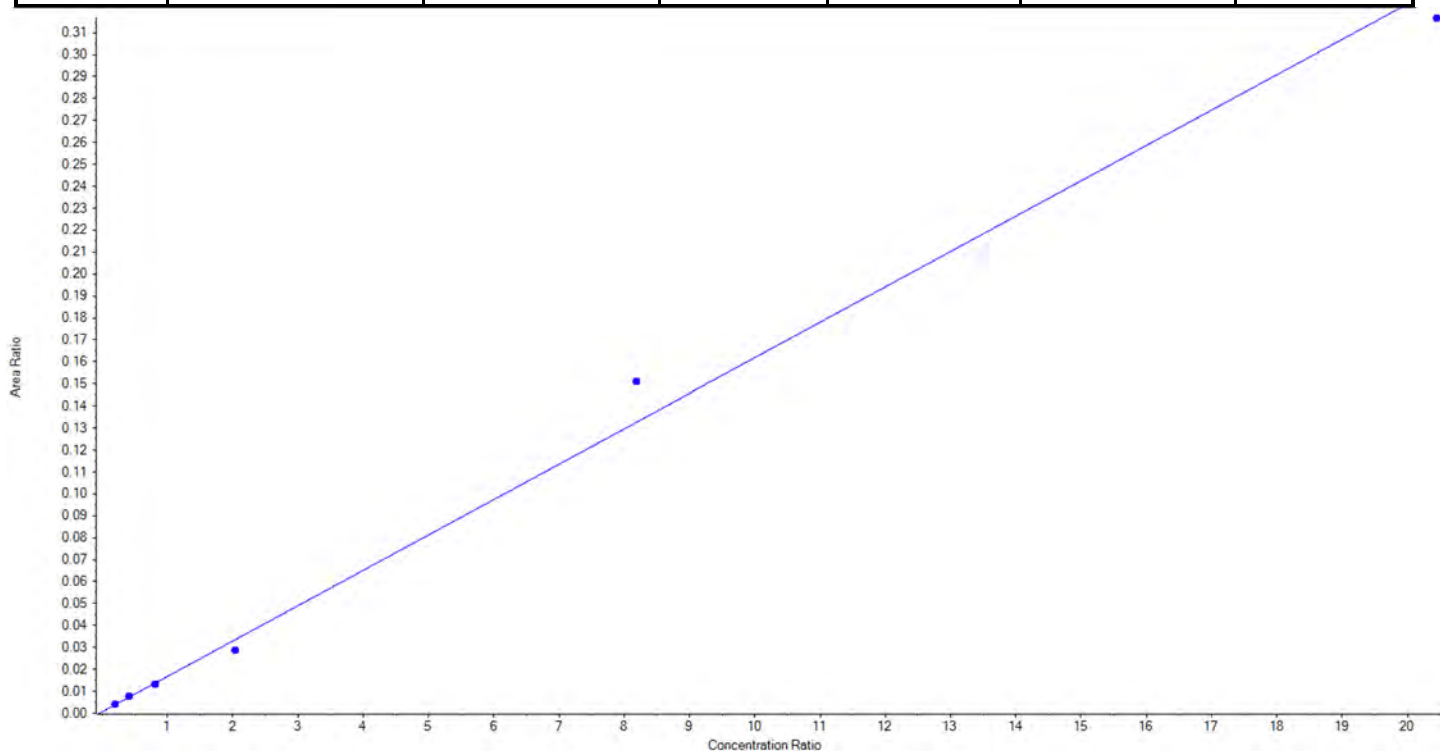
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Analyte Name	9CI-PF3ONS_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	531.0 / 83.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01612x + 6.35009e-4$ ($r = 0.99568$) (weighting: $1/x$) $r^2: 0.9914$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	252.85	101.1
3	LE53	L2	True	500.00	538.37	107.7
4	LE54	L3	True	1000.00	960.77	96.1
5	LE55	L4	True	2500.00	2130.10	85.2
6	LE56	L5	True	10000.00	11405.70	114.1
7	LE57	L6	True	25000.00	23962.22	95.9





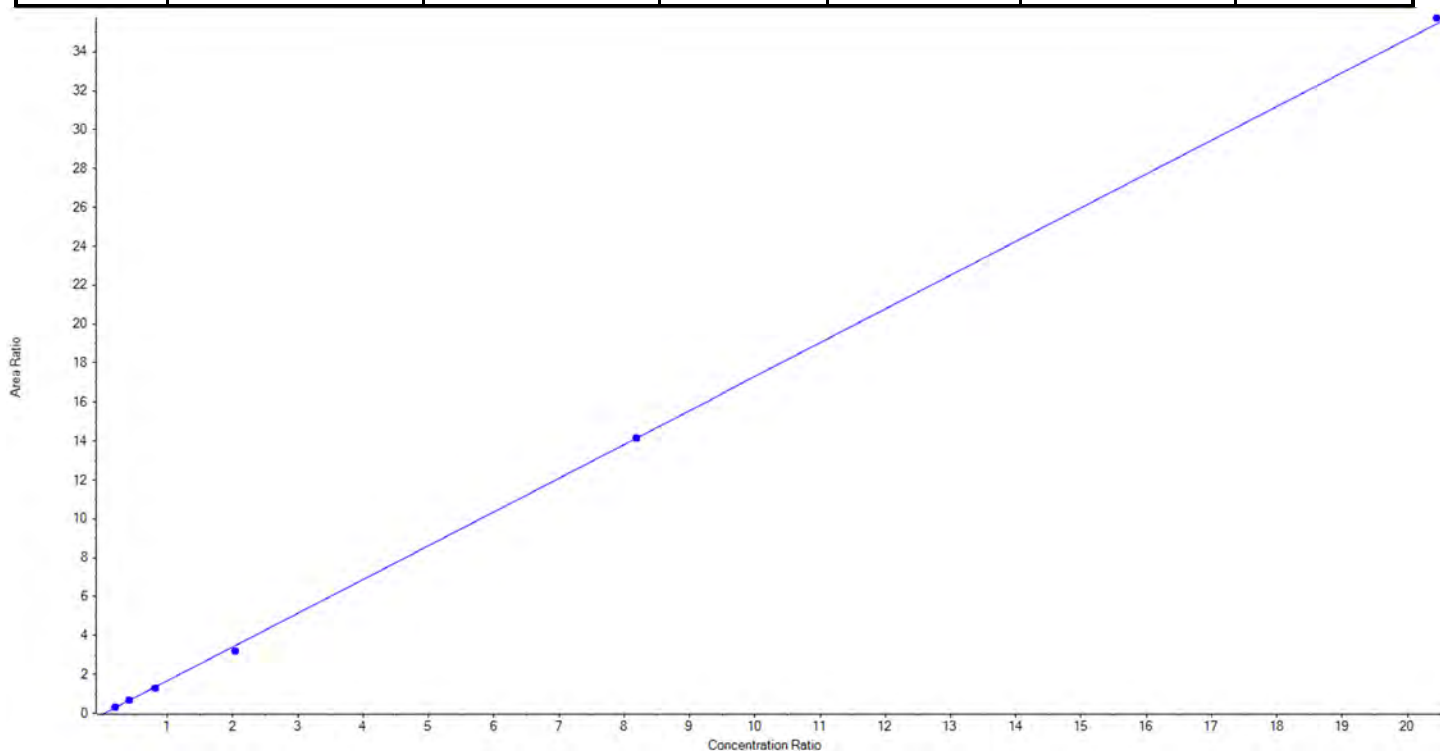
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Analyte Name	11Cl-pf3OUdS_1	Data File	AC_11162020A_5-369.wiff
MRM Transition	631.0 / 451.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.73623x + -0.06540$ ($r = 0.99966$) (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	LE52	L1	True	250.00	265.30	106.1
3	LE53	L2	True	500.00	529.47	105.9
4	LE54	L3	True	1000.00	954.62	95.5
5	LE55	L4	True	2500.00	2291.93	91.7
6	LE56	L5	True	10000.00	10001.68	100.0
7	LE57	L6	True	25000.00	25206.99	100.8





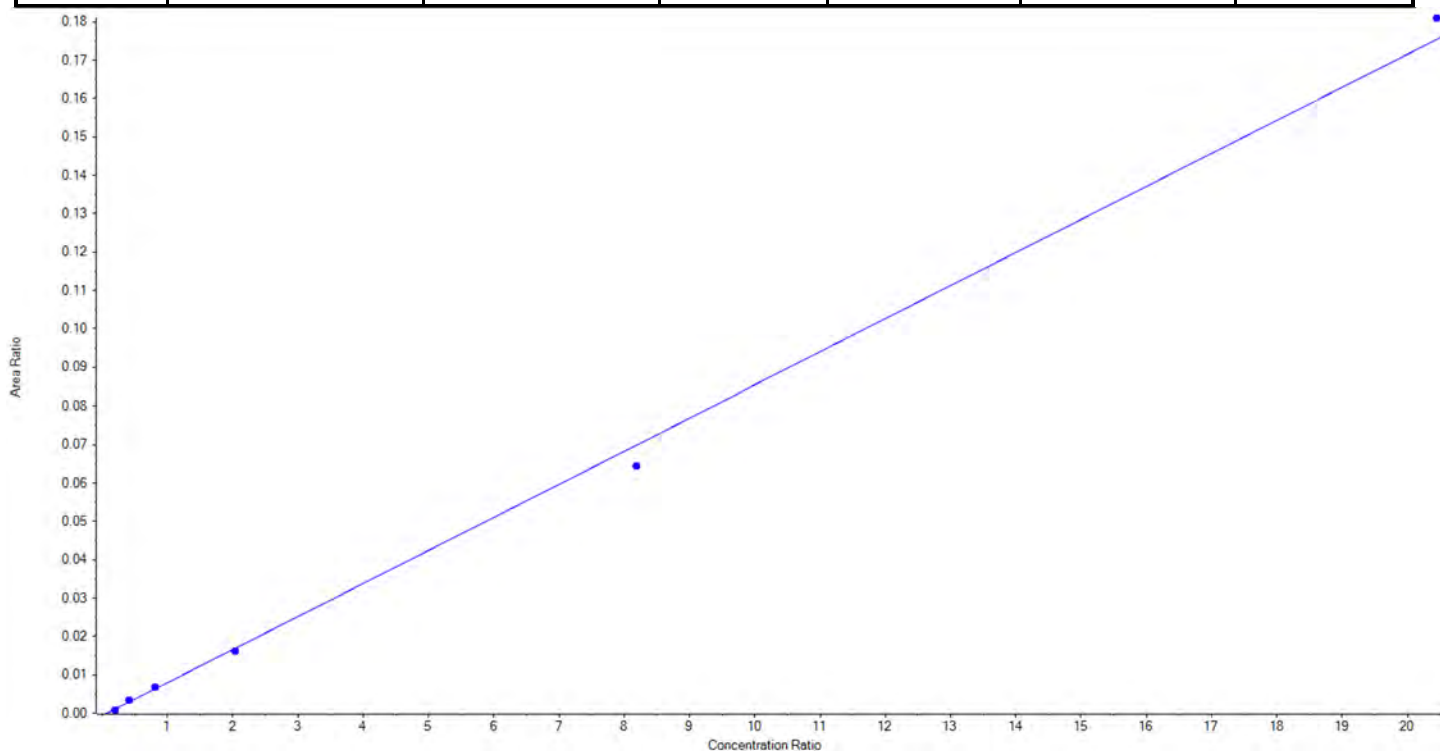
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Analyte Name	11Cl-pf3OUdS_2	Data File	AC_11162020A_5-369.wiff
MRM Transition	631.0 / 83.0	Result Table	20-1329
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.00861x + -6.50065e-4$ ($r = 0.99831$) (weighting: $1/x$) $r^2: 0.9966$

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	250.00	213.85	85.5
3	LE53	L2	True	500.00	591.18	118.2
4	LE54	L3	True	1000.00	1058.21	105.8
5	LE55	L4	True	2500.00	2375.52	95.0
6	LE56	L5	True	10000.00	9222.87	92.2
7	LE57	L6	True	25000.00	25788.37	103.2





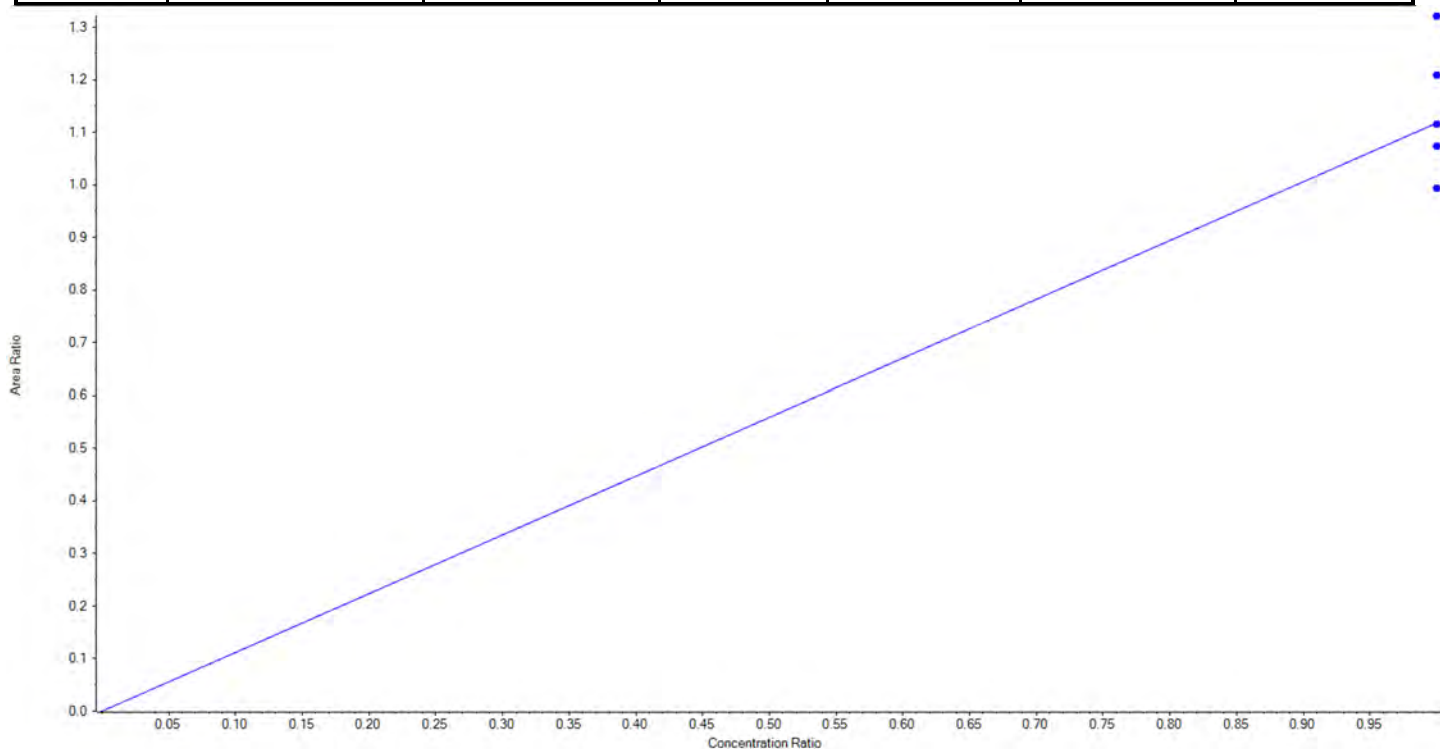
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Analyte Name	13C2-PFDaA	Data File	AC_11162020A_5-369.wiff
MRM Transition	615.0 / 570.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.11756 x$ (std. dev. = 0.12824) (weighting: None) r^2 :N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1246.73	99.7
3	LE53	L2	True	1250.00	1201.63	96.1
4	LE54	L3	True	1250.00	1111.10	88.9
5	LE55	L4	True	1250.00	1111.53	88.9
6	LE56	L5	True	1250.00	1351.55	108.1
7	LE57	L6	True	1250.00	1477.46	118.2





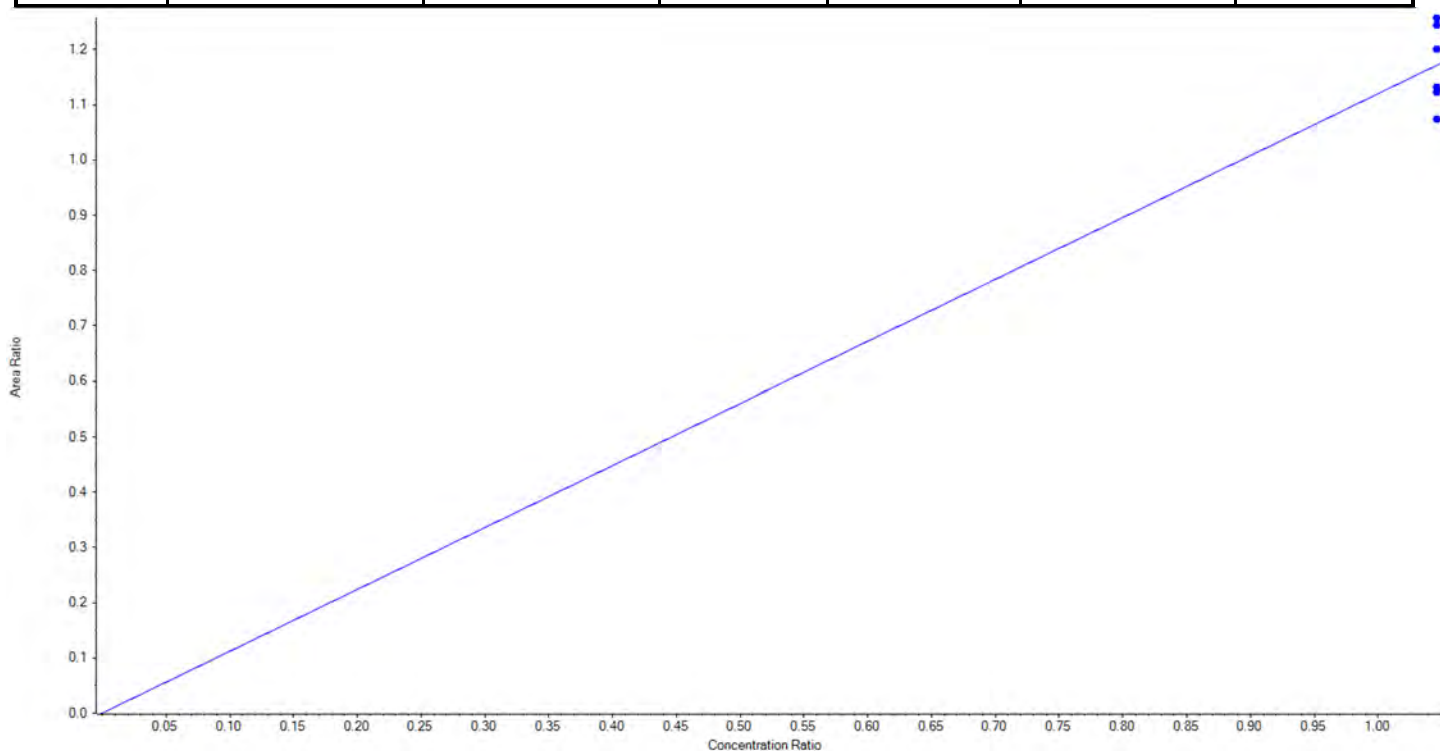
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Analyte Name	d3-MeFOSAA	Data File	AC_11162020A_5-369.wiff
MRM Transition	573.0 / 419.0	Result Table	20-1329_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.11999x$ (std. dev. = 0.06979) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1340.96	107.3
3	LE53	L2	True	1250.00	1327.03	106.2
4	LE54	L3	True	1250.00	1146.74	91.7
5	LE55	L4	True	1250.00	1197.65	95.8
6	LE56	L5	True	1250.00	1280.19	102.4
7	LE57	L6	True	1250.00	1207.42	96.6





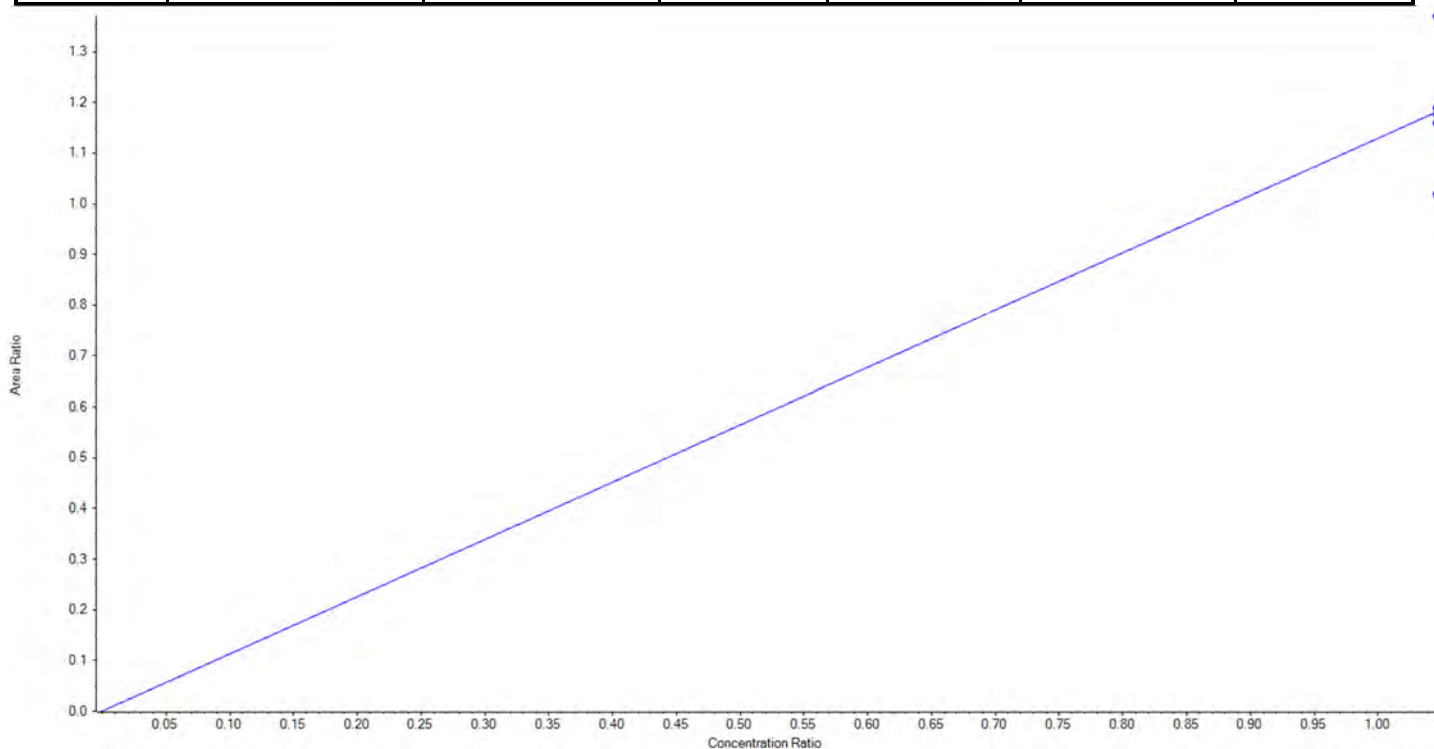
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Analyte Name	d5-EtFOSAA	Data File	AC_11162020A_5-369.wiff
MRM Transition	589.0 / 419.0	Result Table	20-1329_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.12915 x$ (std. dev. = 0.10722) (weighting: None) r^2 :N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1450.11	116.0
3	LE53	L2	True	1250.00	1257.40	100.6
4	LE54	L3	True	1250.00	1244.43	99.6
5	LE55	L4	True	1250.00	1244.76	99.6
6	LE56	L5	True	1250.00	1225.62	98.1
7	LE57	L6	True	1250.00	1077.68	86.2





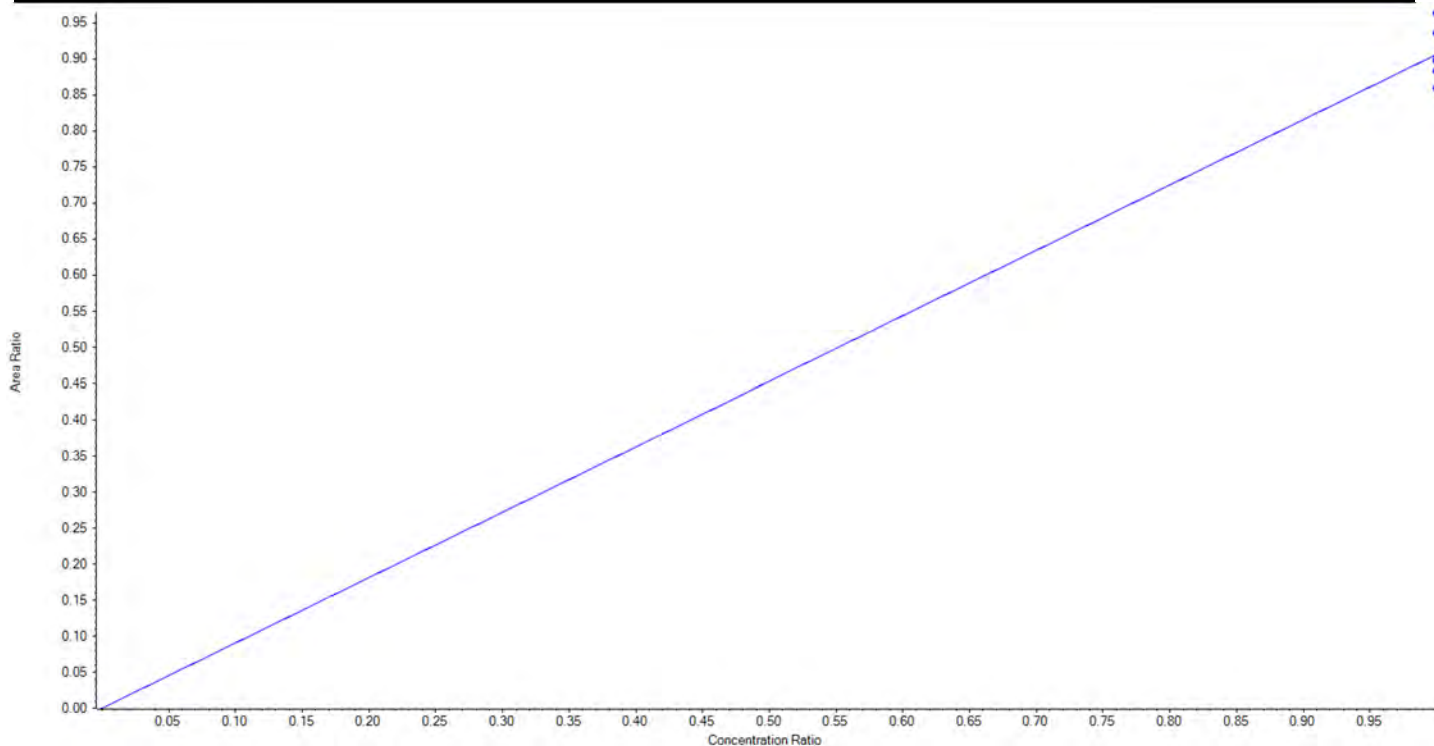
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Analyte Name	13C5-PFHxA	Data File	AC_11162020A_5-369.wiff
MRM Transition	318.0 / 273.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.90644 x$ (std. dev. = 0.03744) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1290.94	103.3
3	LE53	L2	True	1250.00	1328.82	106.3
4	LE54	L3	True	1250.00	1186.13	94.9
5	LE55	L4	True	1250.00	1216.92	97.4
6	LE56	L5	True	1250.00	1239.79	99.2
7	LE57	L6	True	1250.00	1237.41	99.0





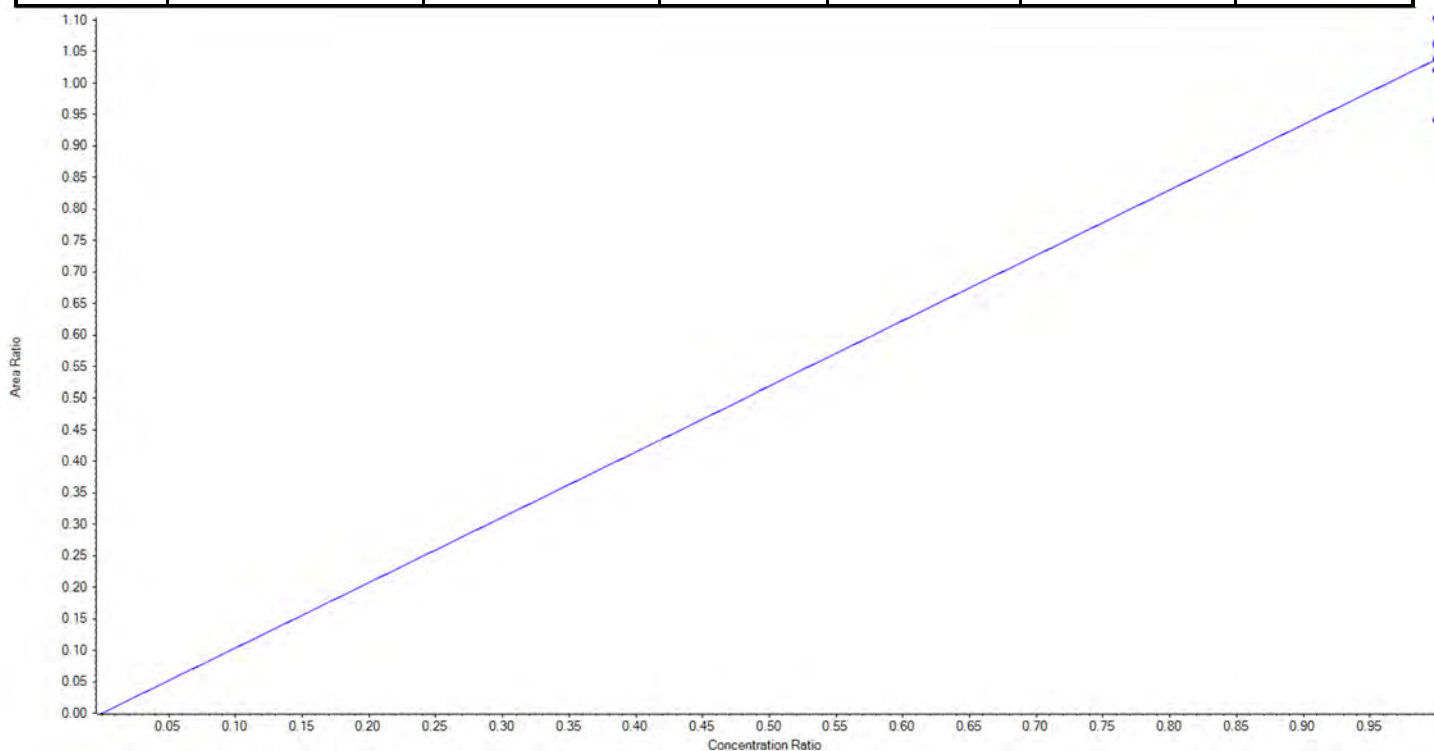
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Analyte Name	13C4-PFHpA	Data File	AC_11162020A_5-369.wiff
MRM Transition	367.0 / 322.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.03792 x$ (std. dev. = 0.05478) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1328.64	106.3
3	LE53	L2	True	1250.00	1281.21	102.5
4	LE54	L3	True	1250.00	1249.31	100.0
5	LE55	L4	True	1250.00	1134.11	90.7
6	LE56	L5	True	1250.00	1277.31	102.2
7	LE57	L6	True	1250.00	1229.42	98.4





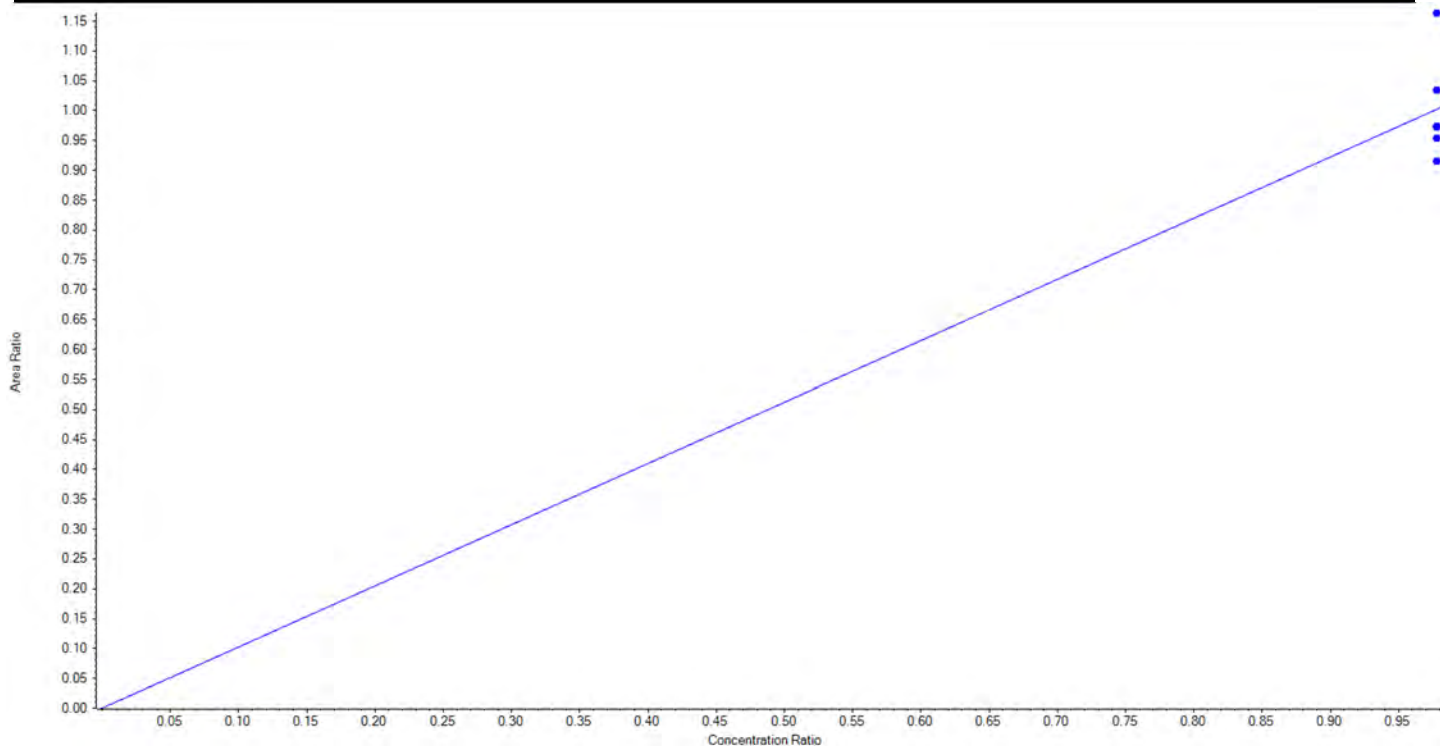
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Analyte Name	13C8-PFOA	Data File	AC_11162020A_5-369.wiff
MRM Transition	421.0 / 376.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02471 x$ (std. dev. = 0.08960) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1222.50	1419.06	116.1
3	LE53	L2	True	1222.50	1260.71	103.1
4	LE54	L3	True	1222.50	1185.43	97.0
5	LE55	L4	True	1222.50	1164.49	95.3
6	LE56	L5	True	1222.50	1188.29	97.2
7	LE57	L6	True	1222.50	1117.02	91.4





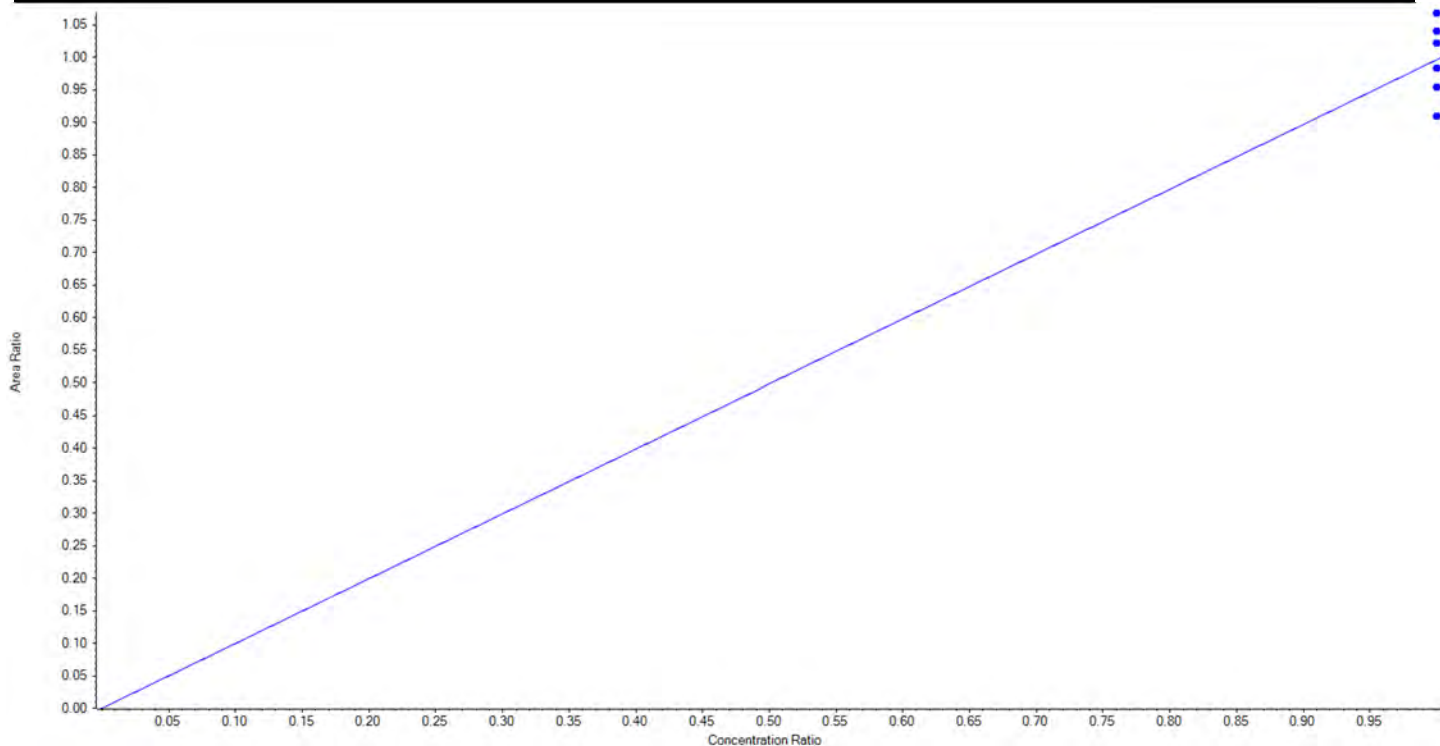
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Analyte Name	13C9-PFNA	Data File	AC_11162020A_5-369.wiff
MRM Transition	472.0 / 427.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.99650 x$ (std. dev. = 0.05871) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1339.88	107.2
3	LE53	L2	True	1250.00	1305.48	104.4
4	LE54	L3	True	1250.00	1282.25	102.6
5	LE55	L4	True	1250.00	1197.69	95.8
6	LE56	L5	True	1250.00	1233.91	98.7
7	LE57	L6	True	1250.00	1140.78	91.3





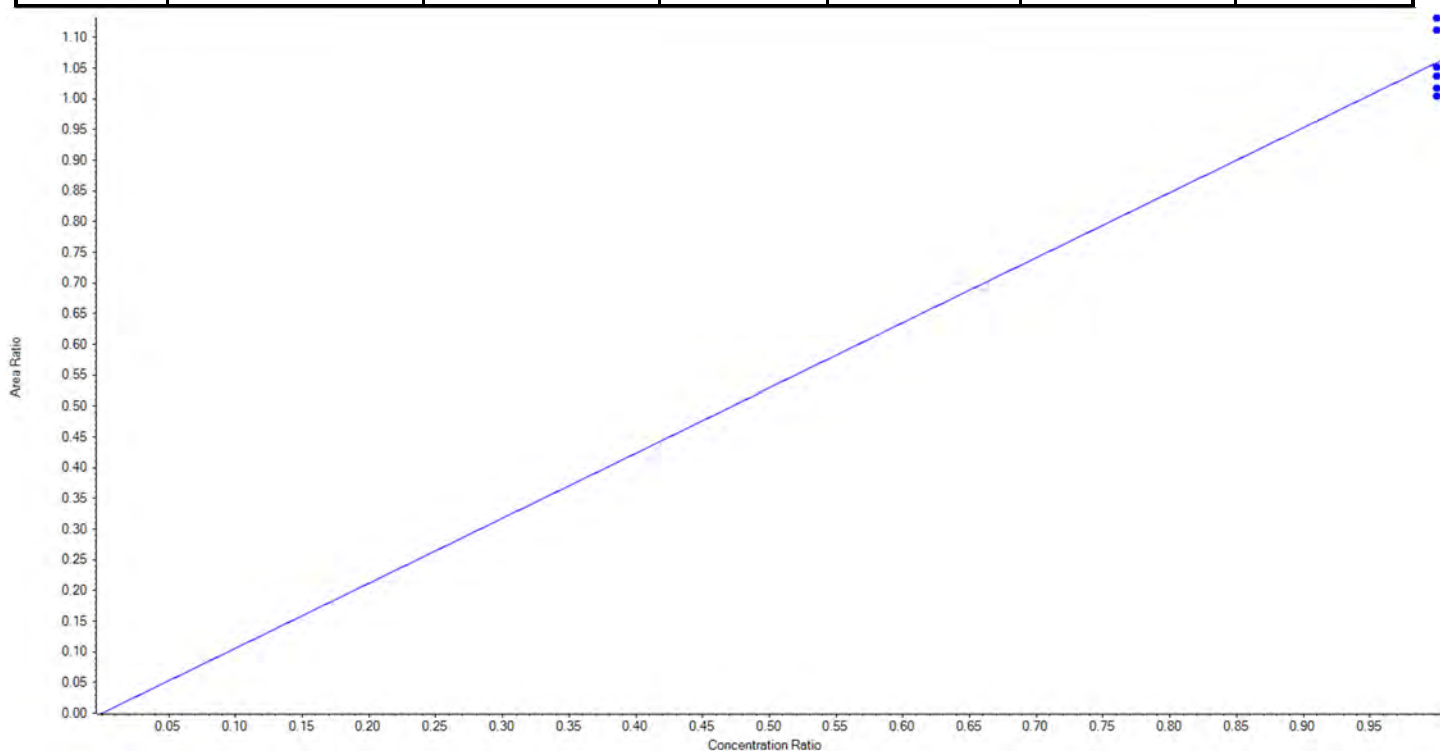
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Analyte Name	13C6-PFDA	Data File	AC_11162020A_5-369.wiff
MRM Transition	519.0 / 474.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.05876 x$ (std. dev. = 0.05180) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1200.53	96.0
3	LE53	L2	True	1250.00	1241.02	99.3
4	LE54	L3	True	1250.00	1185.96	94.9
5	LE55	L4	True	1250.00	1223.41	97.9
6	LE56	L5	True	1250.00	1313.38	105.1
7	LE57	L6	True	1250.00	1335.70	106.9





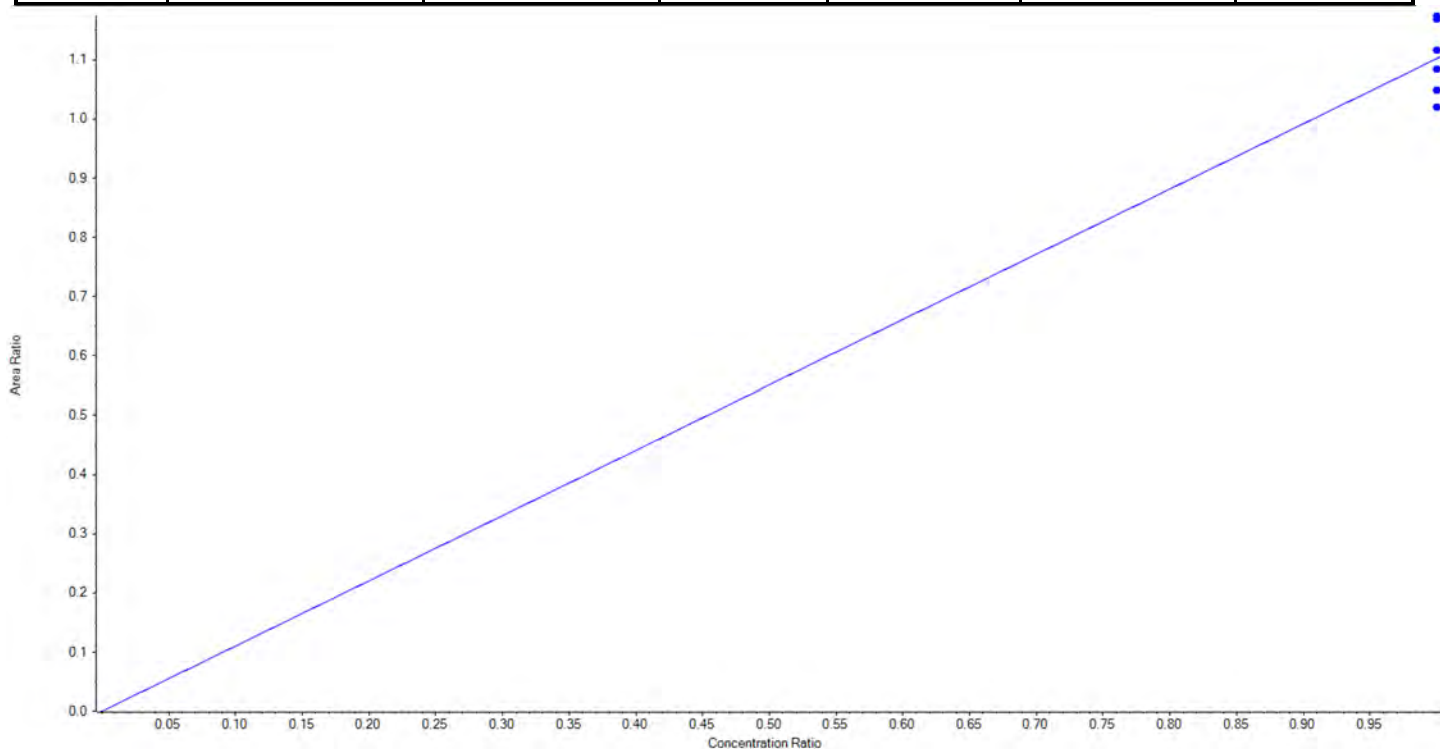
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Analyte Name	13C7-PFUnA	Data File	AC_11162020A_5-369.wiff
MRM Transition	570.0 / 525.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.10208 x$ (std. dev. = 0.06280) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1325.91	106.1
3	LE53	L2	True	1250.00	1266.42	101.3
4	LE54	L3	True	1250.00	1229.56	98.4
5	LE55	L4	True	1250.00	1189.62	95.2
6	LE56	L5	True	1250.00	1331.46	106.5
7	LE57	L6	True	1250.00	1157.04	92.6





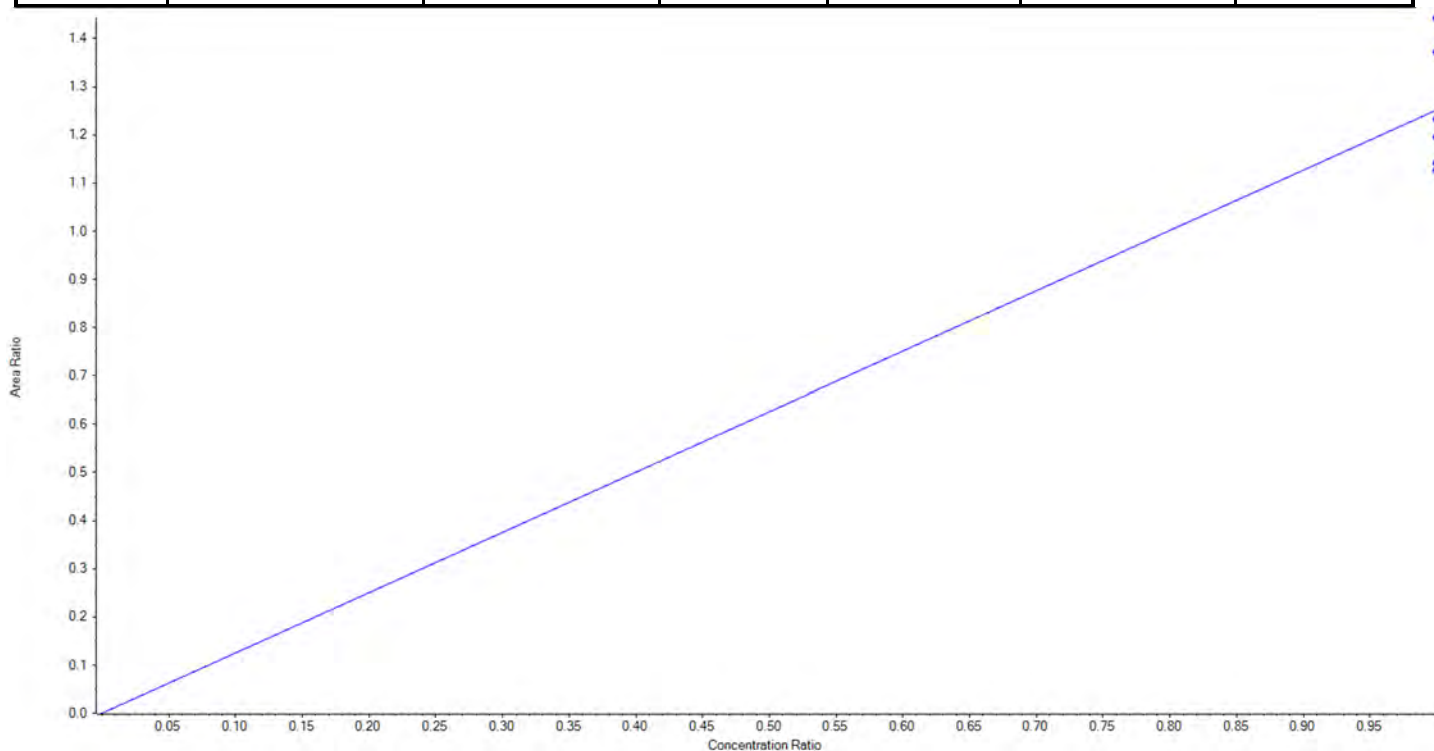
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Analyte Name	13C2-PFTeDA	Data File	AC_11162020A_5-369.wiff
MRM Transition	715.0 / 670.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.25186 x$ (std. dev. = 0.12828) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1230.72	98.5
3	LE53	L2	True	1250.00	1193.53	95.5
4	LE54	L3	True	1250.00	1140.27	91.2
5	LE55	L4	True	1250.00	1124.72	90.0
6	LE56	L5	True	1250.00	1370.38	109.6
7	LE57	L6	True	1250.00	1440.37	115.2





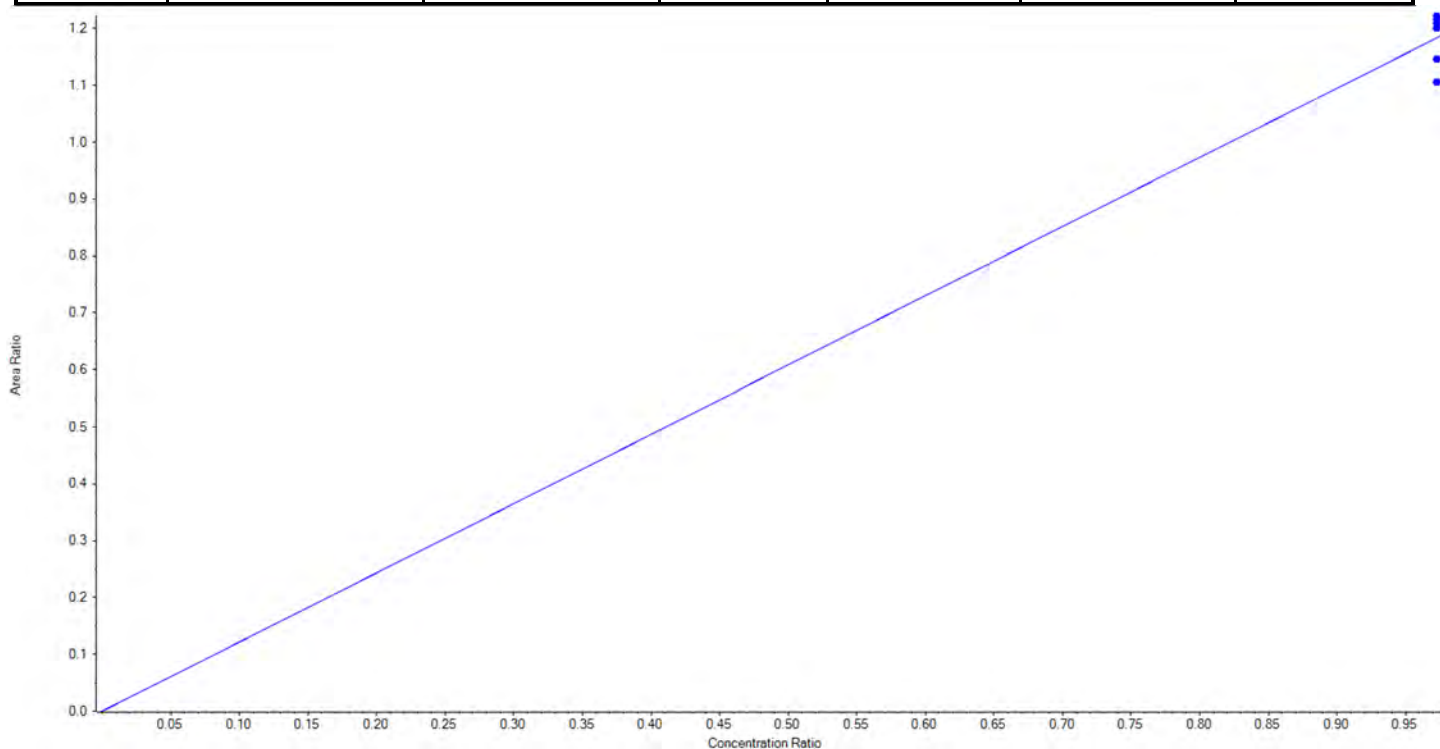
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Analyte Name	13C3-PFBS	Data File	AC_11162020A_5-369.wiff
MRM Transition	302.0 / 99.0	Result Table	20-1329_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.21639 x$ (std. dev. = 0.04833) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1162.50	1178.98	101.4
3	LE53	L2	True	1162.50	1086.02	93.4
4	LE54	L3	True	1162.50	1188.35	102.2
5	LE55	L4	True	1162.50	1200.27	103.3
6	LE56	L5	True	1162.50	1195.67	102.9
7	LE57	L6	True	1162.50	1125.71	96.8





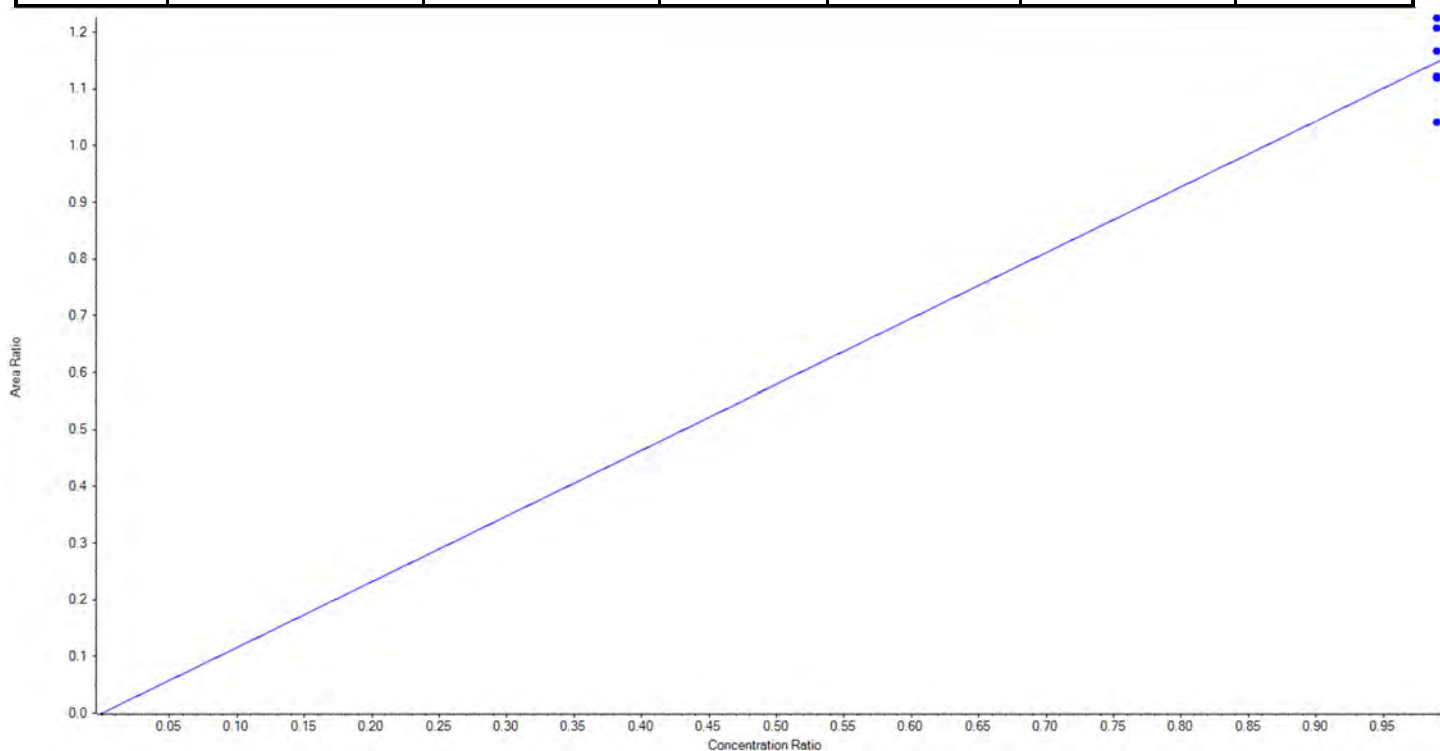
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Analyte Name	13C3-PFHxS	Data File	AC_11162020A_5-369.wiff
MRM Transition	402.0 / 99.0	Result Table	20-1329_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.15904 x$ (std. dev. = 0.06779) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1182.50	1202.75	101.7
3	LE53	L2	True	1182.50	1154.20	97.6
4	LE54	L3	True	1182.50	1157.02	97.9
5	LE55	L4	True	1182.50	1244.32	105.2
6	LE56	L5	True	1182.50	1262.80	106.8
7	LE57	L6	True	1182.50	1073.92	90.8





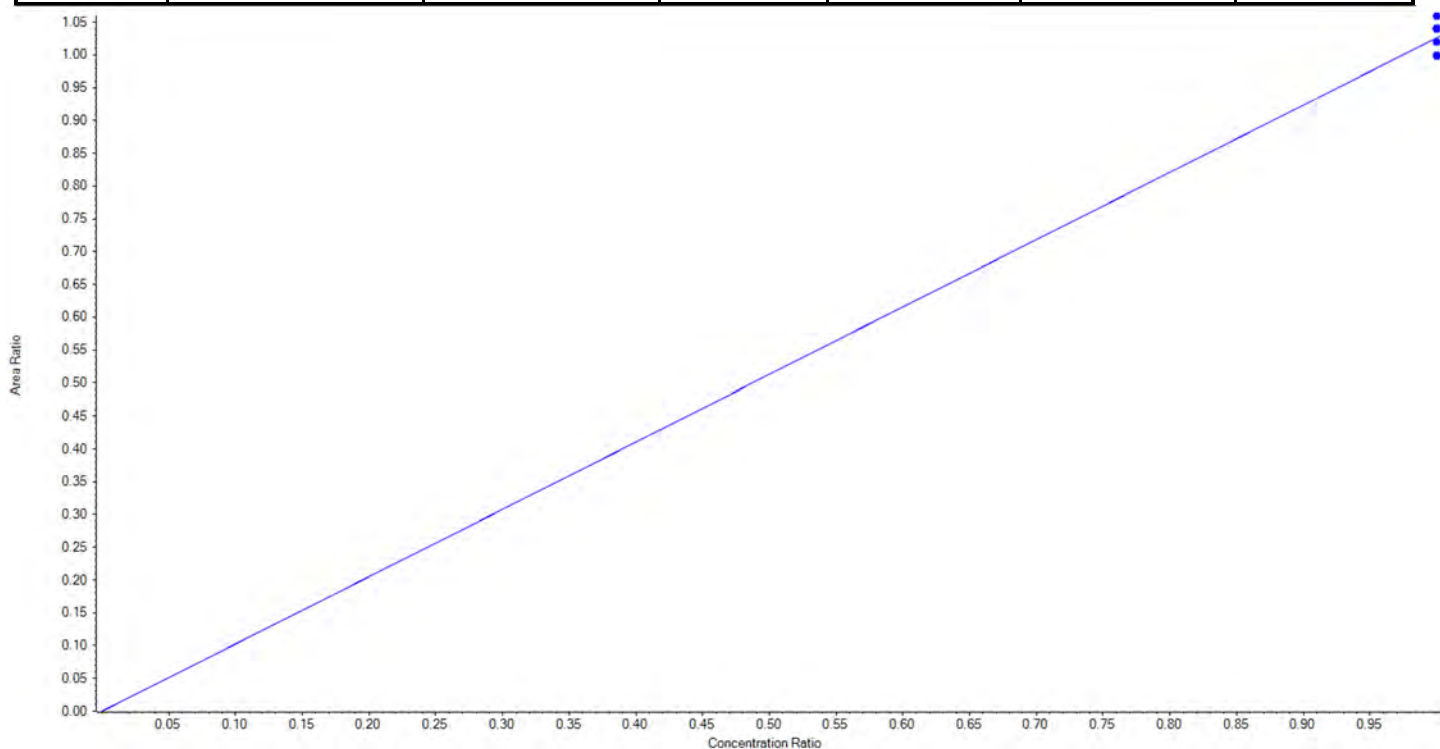
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Analyte Name	13C8-PFOS	Data File	AC_11162020A_5-369.wiff
MRM Transition	507.0 / 99.0	Result Table	20-1329_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.02607 x$ (std. dev. = 0.02472) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1195.00	1233.56	103.2
3	LE53	L2	True	1195.00	1213.02	101.5
4	LE54	L3	True	1195.00	1162.10	97.3
5	LE55	L4	True	1195.00	1210.22	101.3
6	LE56	L5	True	1195.00	1187.01	99.3
7	LE57	L6	True	1195.00	1164.08	97.4





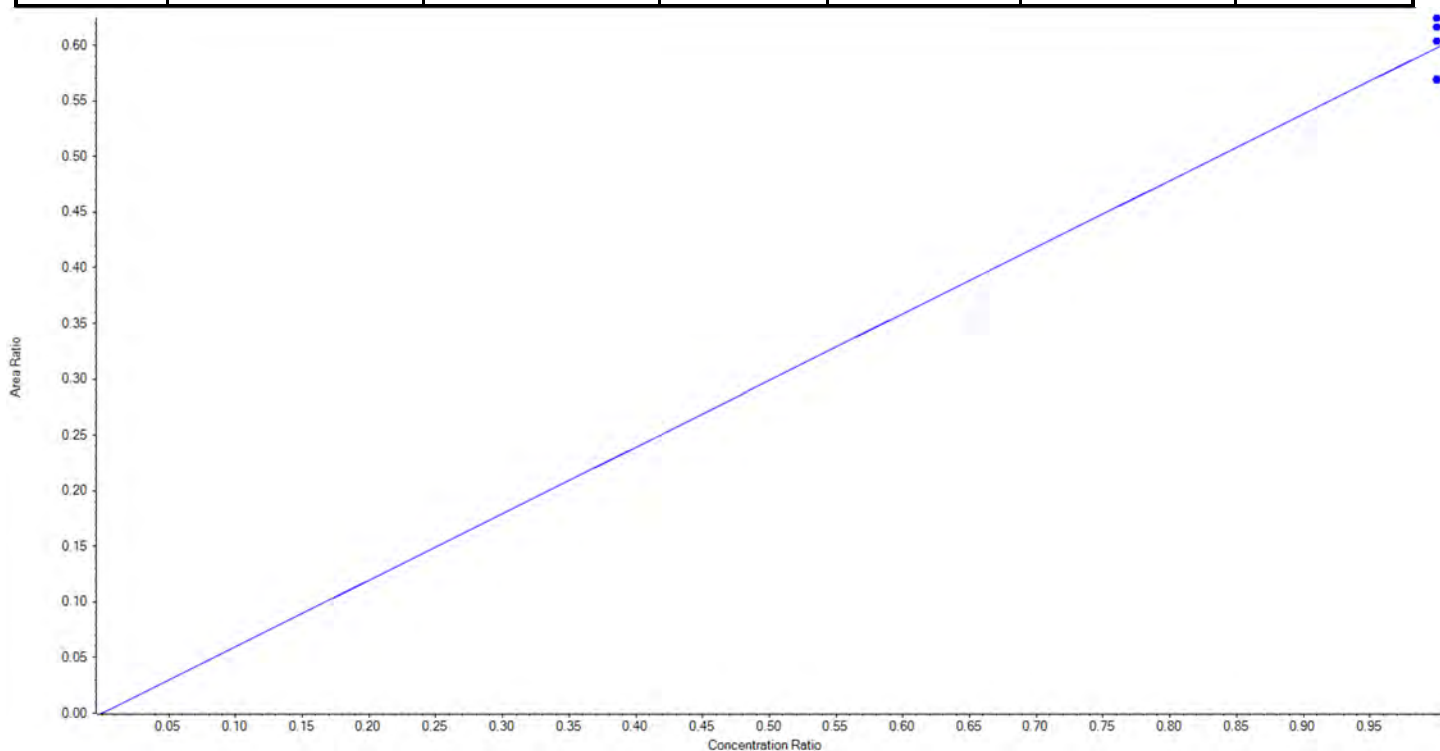
Calibration Summary Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:15 PM

Analyte Name	13C3-HFPO-DA	Data File	AC_11162020A_5-369.wiff
MRM Transition	287.0 / 169.0	Result Table	20-1329_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.59778 x$ (std. dev. = 0.02365) (weighting: None) r^2 : N/A

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	LE52	L1	True	1250.00	1289.20	103.1
3	LE53	L2	True	1250.00	1305.58	104.5
4	LE54	L3	True	1250.00	1190.70	95.3
5	LE55	L4	True	1250.00	1188.77	95.1
6	LE56	L5	True	1250.00	1262.65	101.0
7	LE57	L6	True	1250.00	1263.09	101.1



[illegible]



Sample Name	LE52	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	93531.74	297.55	2983.4	False	13C3-PFBS	147451.57	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	28629.38	274.24	1711.2	False	13C3-PFBS	147451.57	1162.50	PFBS	0.306	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	151509.01	275.31	375.4	False	13C5-PFHxA	679370.53	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	12989.44	296.92	244.9	False	13C5-PFHxA	679370.53	1250.00	PFHxA	0.086	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	164849.62	254.01	368.3	False	13C4-PFHpA	800636.65	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	2865.89	245.04	148.2	False	13C4-PFHpA	800636.65	1250.00	PFHpA	0.017	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	133037.75	287.49	1330.3	False	13C3-PFHxS	143331.10	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	38893.24	289.94	455.7	False	13C3-PFHxS	143331.10	1182.50	PFHxS	0.292	0.290	✓
PFOA_1	413.0 / 369.0	2.70	185637.29	254.11	437.3	False	13C8-PFOA	844238.08	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	13401.19	262.11	750.7	False	13C8-PFOA	844238.08	1222.50	PFOA	0.072	0.071	✓
PFNA_1	463.0 / 419.0	3.07	194382.95	252.88	490.3	False	13C9-PFNA	775187.51	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	48904.83	251.68	971.5	False	13C9-PFNA	775187.51	1250.00	PFNA	0.252	0.276	✓
PFOS_1	499.0 / 80.0	3.07	147142.29	266.16	506.8	False	13C8-PFOS	130138.37	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	27577.65	254.31	6549.7	False	13C8-PFOS	130138.37	1195.00	PFOS	0.187	0.182	✓
PFDA_1	513.0 / 469.0	3.41	179992.28	223.88	514.3	False	13C6-PFDA	726875.81	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	5421.38	231.59	10181.8	False	13C6-PFDA	726875.81	1250.00	PFDA	0.030	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	188299.62	302.36	739.8	False	13C7-PFUnA	835637.00	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	11627.45	324.93	584.4	False	13C7-PFUnA	835637.00	1250.00	PFUnA	0.062	0.054	✓
PFDoA_1	613.0 / 569.0	3.99	190904.93	272.07	1122.5	False	13C2-PFDoA	796770.12	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	25545.12	236.95	785.4	False	13C2-PFDoA	796770.12	1250.00	PFDoA	0.134	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	164878.41	237.99	1537.9	False	13C2-PFTTeDA	881063.08	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	13529.12	274.10	804.3	False	13C2-PFTTeDA	881063.08	1250.00	PFTTrDA	0.082	0.072	✓
PFTTeDA_1	713.0 / 669.0	4.43	208523.27	247.81	1991.4	False	13C2-PFTTeDA	881063.08	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.43	12148.88	262.04	1459.6	False	13C2-PFTTeDA	881063.08	1250.00	PFTTeDA	0.058	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	35114.54	274.25	21247.2	False	d3-MeFOSAA	155486.76	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	27208.73	272.94	99793.5	False	d3-MeFOSAA	155486.76	1250.00	NMeFOSAA	0.775	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	34537.34	249.68	246910.3	False	d5-EtFOSAA	168016.88	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	2019.11	278.28	1639.7	False	d5-EtFOSAA	168016.88	1250.00	NEtFOSAA	0.058	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	112300.41	283.44	2202.7	False	13C3-HFPO-DA	447431.75	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	2544.34	280.99	2437.3	False	13C3-HFPO-DA	447431.75	1250.00	HFPO-DA	0.023	0.025	✓
ADONA_1	377.0 / 251.0	2.33	346861.18	247.75	2262.7	False	13C8-PFOA	844238.08	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	5049.07	277.75	405.5	False	13C8-PFOA	844238.08	1222.50	ADONA	0.015	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	305019.74	256.95	1292.4	False	13C8-PFOA	844238.08	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	3351.35	252.85	16395.8	False	13C8-PFOA	844238.08	1222.50	9CI-PF3ONS	0.011	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.84	262894.27	265.30	2952.6	False	13C8-PFOA	844238.08	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.84	722.56	213.85	325.6	False	13C8-PFOA	844238.08	1222.50	11CI-pf3OUdS	0.003	0.005	✓



Sample Name	LE53	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:41:00 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	158041.63	504.37	4075.6	False	13C3-PFBS	138614.92	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	54741.28	537.04	3505.4	False	13C3-PFBS	138614.92	1162.50	PFBS	0.346	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	271065.41	483.95	545.5	False	13C5-PFHxA	669599.13	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	22934.20	535.41	462.8	False	13C5-PFHxA	669599.13	1250.00	PFHxA	0.085	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	302969.03	503.48	560.2	False	13C4-PFHpA	739256.56	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	5614.63	516.00	401.2	False	13C4-PFHpA	739256.56	1250.00	PFHpA	0.019	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	242953.75	516.16	1687.3	False	13C3-PFHxS	140371.47	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	72042.07	527.19	683.4	False	13C3-PFHxS	140371.47	1182.50	PFHxS	0.297	0.290	✓
PFOA_1	413.0 / 369.0	2.69	340312.64	516.61	589.3	False	13C8-PFOA	718163.81	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	22552.32	489.34	619.5	False	13C8-PFOA	718163.81	1222.50	PFOA	0.066	0.071	✓
PFNA_1	463.0 / 419.0	3.07	383167.90	542.34	849.9	False	13C9-PFNA	723199.90	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	102285.83	535.05	1243.9	False	13C9-PFNA	723199.90	1250.00	PFNA	0.267	0.276	✓
PFOS_1	499.0 / 80.0	3.06	259695.10	471.63	742.3	False	13C8-PFOS	130600.46	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	50490.44	492.29	3370.2	False	13C8-PFOS	130600.46	1195.00	PFOS	0.194	0.182	✓
PFDA_1	513.0 / 469.0	3.41	364188.60	492.05	877.8	False	13C6-PFDA	752523.26	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	15976.46	582.28	968.4	False	13C6-PFDA	752523.26	1250.00	PFDA	0.044	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	310951.28	478.88	877.0	False	13C7-PFUnA	799348.47	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	17598.89	491.46	872.5	False	13C7-PFUnA	799348.47	1250.00	PFUnA	0.057	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	330906.54	500.92	1566.3	False	13C2-PFDoA	769104.56	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	54483.40	525.06	2072.7	False	13C2-PFDoA	769104.56	1250.00	PFDoA	0.165	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	305848.09	503.67	2353.4	False	13C2-PFTeDA	855727.68	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	20553.81	464.31	1372.2	False	13C2-PFTeDA	855727.68	1250.00	PFTTrDA	0.067	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	385786.14	498.43	3610.8	False	13C2-PFTeDA	855727.68	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	19767.27	453.92	2142.4	False	13C2-PFTeDA	855727.68	1250.00	PFTeDA	0.051	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	63737.89	485.76	1209.3	False	d3-MeFOSAA	154811.30	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	48886.34	513.49	17067.5	False	d3-MeFOSAA	154811.30	1250.00	NMeFOSAA	0.767	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	64381.25	530.17	9063.8	False	d5-EtFOSAA	148767.12	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	3686.18	506.74	988.7	False	d5-EtFOSAA	148767.12	1250.00	NEtFOSAA	0.057	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	187580.25	482.57	2717.8	False	13C3-HFPO-DA	433868.70	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	4484.36	478.99	3888.8	False	13C3-HFPO-DA	433868.70	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.33	625476.61	513.08	2625.7	False	13C8-PFOA	718163.81	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	7290.59	460.71	27748.8	False	13C8-PFOA	718163.81	1222.50	ADONA	0.012	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	542265.16	507.23	2218.4	False	13C8-PFOA	718163.81	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.24	5555.10	538.37	612.2	False	13C8-PFOA	718163.81	1222.50	9CI-PF3ONS	0.010	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	493074.51	529.47	2980.9	False	13C8-PFOA	718163.81	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	2522.92	591.18	211815.8	False	13C8-PFOA	718163.81	1222.50	11Cl-pf3OUdS	0.005	0.005	✓

Sample Name	LE54	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:51:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	305210.03	896.98	2528222.4	False	13C3-PFBS	145313.12	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	96567.34	889.99	10660.5	False	13C3-PFBS	145313.12	1162.50	PFBS	0.316	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	547901.67	1002.82	827.3	False	13C5-PFHxA	639359.98	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	34906.29	856.08	543.7	False	13C5-PFHxA	639359.98	1250.00	PFHxA	0.064	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	590144.08	938.36	1029.3	False	13C4-PFHpA	771104.66	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	11065.73	971.85	1674.2	False	13C4-PFHpA	771104.66	1250.00	PFHpA	0.019	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	429081.51	929.86	2516.3	False	13C3-PFHxS	134811.63	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	124020.67	926.13	1158.4	False	13C3-PFHxS	134811.63	1182.50	PFHxS	0.289	0.290	✓
PFOA_1	413.0 / 369.0	2.70	631657.78	930.63	947.4	False	13C8-PFOA	722356.84	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	50089.93	1044.52	1152.2	False	13C8-PFOA	722356.84	1222.50	PFOA	0.079	0.071	✓
PFNA_1	463.0 / 419.0	3.07	666913.30	903.16	994.0	False	13C9-PFNA	759850.26	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	190180.61	928.76	1363.5	False	13C9-PFNA	759850.26	1250.00	PFNA	0.285	0.276	✓
PFOS_1	499.0 / 80.0	3.07	496989.73	988.44	1353.7	False	13C8-PFOS	119869.73	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	89012.76	977.24	1490.0	False	13C8-PFOS	119869.73	1195.00	PFOS	0.179	0.182	✓
PFDA_1	513.0 / 469.0	3.41	683610.61	1034.82	1232.8	False	13C6-PFDA	710392.98	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	25297.85	948.47	1467.2	False	13C6-PFDA	710392.98	1250.00	PFDA	0.037	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	626419.25	940.56	1240.0	False	13C7-PFUnA	766651.92	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	32175.96	901.58	1085.4	False	13C7-PFUnA	766651.92	1250.00	PFUnA	0.051	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	556436.56	935.24	1968.9	False	13C2-PFDoA	702514.56	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	94474.32	997.85	2336.8	False	13C2-PFDoA	702514.56	1250.00	PFDoA	0.170	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	513761.11	938.60	3302.7	False	13C2-PFTTeDA	807603.28	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	38105.75	972.88	1859.4	False	13C2-PFTTeDA	807603.28	1250.00	PFTTrDA	0.074	0.072	✓
PFTTeDA_1	713.0 / 669.0	4.43	665656.48	935.42	5635.0	False	13C2-PFTTeDA	807603.28	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.43	39340.18	981.73	3696.9	False	13C2-PFTTeDA	807603.28	1250.00	PFTTeDA	0.059	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	111862.27	996.78	49592.0	False	d3-MeFOSAA	130066.07	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	72011.22	920.88	32582.4	False	d3-MeFOSAA	130066.07	1250.00	NMeFOSAA	0.644	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	108222.66	950.97	7105.0	False	d5-EtFOSAA	139841.04	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	6884.27	946.25	6233.2	False	d5-EtFOSAA	139841.04	1250.00	NEtFOSAA	0.064	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	363074.65	949.68	3275.8	False	13C3-HFPO-DA	423275.55	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	8799.49	924.16	6607.8	False	13C3-HFPO-DA	423275.55	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.33	1246376.72	1005.89	3870.2	False	13C8-PFOA	722356.84	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	16207.26	999.60	27775.6	False	13C8-PFOA	722356.84	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	1079535.40	977.17	2175.7	False	13C8-PFOA	722356.84	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	9611.69	960.77	702.9	False	13C8-PFOA	722356.84	1222.50	9CI-PF3ONS	0.009	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.84	932116.12	954.62	3566.0	False	13C8-PFOA	722356.84	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.84	4913.38	1058.21	1904.8	False	13C8-PFOA	722356.84	1222.50	11CI-PF3OUdS	0.005	0.005	✓

Sample Name	LE55	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:02:43 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	773135.31	2292.52	9250.0	False	13C3-PFBS	140225.94	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	254358.87	2394.56	13050.2	False	13C3-PFBS	140225.94	1162.50	PFBS	0.329	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1387023.76	2393.59	1383.8	False	13C5-PFHxA	670437.19	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	96153.17	2256.09	1060.9	False	13C5-PFHxA	670437.19	1250.00	PFHxA	0.069	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	1481981.09	2536.11	1554.5	False	13C4-PFHpA	715447.21	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	26880.01	2538.74	734.5	False	13C4-PFHpA	715447.21	1250.00	PFHpA	0.018	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1152449.29	2393.46	5524.3	False	13C3-PFHxS	138518.26	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	333367.33	2384.39	2157.3	False	13C3-PFHxS	138518.26	1182.50	PFHxS	0.289	0.290	✓
PFOA_1	413.0 / 369.0	2.70	1793895.73	2583.30	1539.7	False	13C8-PFOA	725259.83	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	115688.61	2364.00	1212.1	False	13C8-PFOA	725259.83	1222.50	PFOA	0.064	0.071	✓
PFNA_1	463.0 / 419.0	3.07	1695347.16	2416.92	1558.0	False	13C9-PFNA	725407.18	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	499312.63	2513.07	3063.4	False	13C9-PFNA	725407.18	1250.00	PFNA	0.295	0.276	✓
PFOS_1	499.0 / 80.0	3.07	1257341.87	2520.50	1736.6	False	13C8-PFOS	119266.15	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	229873.78	2591.34	2945.6	False	13C8-PFOS	119266.15	1195.00	PFOS	0.183	0.182	✓
PFDA_1	513.0 / 469.0	3.41	1722647.55	2598.78	1758.7	False	13C6-PFDA	735986.41	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	65776.75	2317.45	2502.4	False	13C6-PFDA	735986.41	1250.00	PFDA	0.038	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	1493399.03	2221.43	2109.7	False	13C7-PFUnA	744944.56	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	73652.02	2071.13	2012.2	False	13C7-PFUnA	744944.56	1250.00	PFUnA	0.049	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	1438017.38	2430.10	2967.9	False	13C2-PFDoA	705816.75	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	235316.45	2475.65	2939.3	False	13C2-PFDoA	705816.75	1250.00	PFDoA	0.164	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	1369412.19	2616.80	5395.1	False	13C2-PFTeDA	800026.31	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	89684.77	2398.14	3100.3	False	13C2-PFTeDA	800026.31	1250.00	PFTTrDA	0.065	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	1839387.46	2661.48	10335.5	False	13C2-PFTeDA	800026.31	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	101634.66	2595.88	6702.7	False	13C2-PFTeDA	800026.31	1250.00	PFTeDA	0.055	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	254790.73	2259.29	10249347.2	False	d3-MeFOSAA	129791.67	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	177795.26	2328.24	2949.6	False	d3-MeFOSAA	129791.67	1250.00	NMeFOSAA	0.698	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	265854.19	2453.76	5457.6	False	d5-EtFOSAA	133274.10	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	15852.94	2212.54	10741.1	False	d5-EtFOSAA	133274.10	1250.00	NEtFOSAA	0.060	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	924278.26	2357.49	5126.1	False	13C3-HFPO-DA	431916.65	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	23572.70	2363.08	734.6	False	13C3-HFPO-DA	431916.65	1250.00	HFPO-DA	0.026	0.025	✓
ADONA_1	377.0 / 251.0	2.33	2997386.20	2394.30	6956.1	False	13C8-PFOA	725259.83	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	40222.50	2448.17	4139696.1	False	13C8-PFOA	725259.83	1222.50	ADONA	0.013	0.013	✓
9Cl-PF3ONS_1	531.0 / 351.0	3.25	2701868.25	2395.09	3283.1	False	13C8-PFOA	725259.83	1222.50	9Cl-PF3ONS			
9Cl-PF3ONS_2	531.0 / 83.0	3.25	20834.83	2130.10	968.0	False	13C8-PFOA	725259.83	1222.50	9Cl-PF3ONS	0.008	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	2313346.47	2291.93	5125.1	False	13C8-PFOA	725259.83	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	11660.99	2375.52	762.1	False	13C8-PFOA	725259.83	1222.50	11Cl-PF3OUdS	0.005	0.005	✓

Sample Name	LE56	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:13:35 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	3421271.75	9611.92	34976.0	False	13C3-PFBS	146115.60	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	1067381.27	9582.61	20142.9	False	13C3-PFBS	146115.60	1162.50	PFBS	0.312	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	5880822.84	10185.55	3863.6	False	13C5-PFHxA	663857.09	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	431942.13	10251.02	3850.4	False	13C5-PFHxA	663857.09	1250.00	PFHxA	0.073	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	6651018.58	10391.14	3885.9	False	13C4-PFHpA	783161.64	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	116281.61	10022.54	11469.1	False	13C4-PFHpA	783161.64	1250.00	PFHpA	0.017	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	4889944.84	9497.84	8290.6	False	13C3-PFHxS	147043.40	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	1359062.72	9089.50	4210.5	False	13C3-PFHxS	147043.40	1182.50	PFHxS	0.278	0.290	✓
PFOA_1	413.0 / 369.0	2.70	6799092.52	9796.35	3057.1	False	13C8-PFOA	719304.47	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	473033.81	9652.93	1925.5	False	13C8-PFOA	719304.47	1222.50	PFOA	0.070	0.071	✓
PFNA_1	463.0 / 419.0	3.07	7340137.31	10474.50	3254.9	False	13C9-PFNA	726358.54	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	1964491.29	9805.63	4259.1	False	13C9-PFNA	726358.54	1250.00	PFNA	0.268	0.276	✓
PFOS_1	499.0 / 80.0	3.07	5448223.01	10660.38	2612.7	False	13C8-PFOS	122361.73	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	948141.78	10521.72	2895.5	False	13C8-PFOS	122361.73	1195.00	PFOS	0.174	0.182	✓
PFDA_1	513.0 / 469.0	3.41	6721989.60	10833.59	3336.3	False	13C6-PFDA	700363.38	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	286194.77	10447.26	5560.3	False	13C6-PFDA	700363.38	1250.00	PFDA	0.043	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	6713932.71	9856.96	3764.7	False	13C7-PFUnA	739059.70	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	339526.02	9481.73	3606.9	False	13C7-PFUnA	739059.70	1250.00	PFUnA	0.051	0.054	✓
PFDaA_1	613.0 / 569.0	3.98	6327767.11	9969.05	4876.7	False	13C2-PFDaA	760747.07	1250.00	PFDaA			
PFDaA_2	613.0 / 319.0	3.98	1046944.19	10222.95	5232.5	False	13C2-PFDaA	760747.07	1250.00	PFDaA	0.165	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	6095958.24	10954.26	7809.0	False	13C2-PFTeDA	864042.05	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	420457.85	10620.49	5741.6	False	13C2-PFTeDA	864042.05	1250.00	PFTTrDA	0.069	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	7596993.00	10260.34	16258.7	False	13C2-PFTeDA	864042.05	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	438150.21	10427.97	12092.1	False	13C2-PFTeDA	864042.05	1250.00	PFTeDA	0.058	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	1253558.43	10362.64	5598.2	False	d3-MeFOSAA	141050.09	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	825858.11	10344.98	4701.9	False	d3-MeFOSAA	141050.09	1250.00	NMeFOSAA	0.659	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	1145323.30	10097.37	5074.5	False	d5-EtFOSAA	138528.61	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	76067.13	10509.04	249099.7	False	d5-EtFOSAA	138528.61	1250.00	NEtFOSAA	0.066	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	4066759.15	10022.32	11293.2	False	13C3-HFPO-DA	445879.14	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	111366.90	10675.67	1755.1	False	13C3-HFPO-DA	445879.14	1250.00	HFPO-DA	0.027	0.025	✓
ADONA_1	377.0 / 251.0	2.33	12784773.02	10261.32	12758.4	False	13C8-PFOA	719304.47	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	159946.38	9769.48	55726526.2	False	13C8-PFOA	719304.47	1222.50	ADONA	0.013	0.013	✓
9Cl-PF3ONS_1	531.0 / 351.0	3.25	11625862.44	10299.93	4998.8	False	13C8-PFOA	719304.47	1222.50	9Cl-PF3ONS			
9Cl-PF3ONS_2	531.0 / 83.0	3.25	108656.02	11405.70	3601.9	False	13C8-PFOA	719304.47	1222.50	9Cl-PF3ONS	0.009	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	10170459.88	10001.68	6437.9	False	13C8-PFOA	719304.47	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	46249.47	9222.87	2975.6	False	13C8-PFOA	719304.47	1222.50	11Cl-PF3OUdS	0.005	0.005	✓



Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	8498889.59	25646.66	106974.0	False	13C3-PFBS	135696.43	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	2648709.79	25571.55	23551.2	False	13C3-PFBS	135696.43	1162.50	PFBS	0.312	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	14286740.72	25301.28	5774.0	False	13C5-PFHxA	648510.74	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	1047189.13	25446.98	4612.3	False	13C5-PFHxA	648510.74	1250.00	PFHxA	0.073	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	14851292.61	24626.90	5598.4	False	13C4-PFHpA	737784.63	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	272818.75	24955.83	3461.9	False	13C4-PFHpA	737784.63	1250.00	PFHpA	0.018	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	11254040.31	26017.69	9831.9	False	13C3-PFHxS	123349.25	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	3320153.56	26425.35	6512.4	False	13C3-PFHxS	123349.25	1182.50	PFHxS	0.295	0.290	✓
PFOA_1	413.0 / 369.0	2.69	16098792.33	25169.01	4213.4	False	13C8-PFOA	661797.25	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	1149072.98	25437.11	4833.5	False	13C8-PFOA	661797.25	1222.50	PFOA	0.071	0.071	✓
PFNA_1	463.0 / 419.0	3.07	15631130.02	24660.19	4011.9	False	13C9-PFNA	657273.58	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	4578039.96	25215.81	5513.4	False	13C9-PFNA	657273.58	1250.00	PFNA	0.293	0.276	✓
PFOS_1	499.0 / 80.0	3.06	12225760.55	24735.39	4155.1	False	13C8-PFOS	118366.39	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	2158260.36	24805.59	3408.4	False	13C8-PFOS	118366.39	1195.00	PFOS	0.177	0.182	✓
PFDA_1	513.0 / 469.0	3.41	14513118.16	24066.87	3930.9	False	13C6-PFDA	682641.77	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	661655.41	24722.95	3812.8	False	13C6-PFDA	682641.77	1250.00	PFDA	0.046	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	14491054.99	25449.81	3505.9	False	13C7-PFUnA	615535.02	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	776818.49	25979.18	4418.6	False	13C7-PFUnA	615535.02	1250.00	PFUnA	0.054	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	16704513.27	25142.62	5574.6	False	13C2-PFDoA	797030.91	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	2659835.42	24791.53	5259.9	False	13C2-PFDoA	797030.91	1250.00	PFDoA	0.159	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	13417480.89	23998.67	8212.7	False	13C2-PFTeDA	870400.93	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	974607.36	24520.08	7550.5	False	13C2-PFTeDA	870400.93	1250.00	PFTTrDA	0.073	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	18352753.50	24646.52	22771.0	False	13C2-PFTeDA	870400.93	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	1036930.38	24528.47	26851.0	False	13C2-PFTeDA	870400.93	1250.00	PFTeDA	0.056	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	2779401.25	24870.80	4007.4	False	d3-MeFOSAA	134842.19	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	1789253.27	24867.45	3908.1	False	d3-MeFOSAA	134842.19	1250.00	NMeFOSAA	0.644	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	2489771.49	24967.98	3604.3	False	d5-EtFOSAA	119847.81	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	141562.82	24787.80	8109.3	False	d5-EtFOSAA	119847.81	1250.00	NEtFOSAA	0.057	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	9998339.06	25154.50	17226.5	False	13C3-HFPO-DA	436559.93	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	251031.72	24527.11	137965.6	False	13C3-HFPO-DA	436559.93	1250.00	HFPO-DA	0.025	0.025	✓
ADONA_1	377.0 / 251.0	2.33	28477765.13	24827.66	18831.4	False	13C8-PFOA	661797.25	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	381380.41	25294.29	1174000.8	False	13C8-PFOA	661797.25	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	25808835.97	24813.63	5393.6	False	13C8-PFOA	661797.25	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	209562.48	23962.22	6426.5	False	13C8-PFOA	661797.25	1222.50	9CI-PF3ONS	0.008	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.84	23648899.61	25206.99	6254.5	False	13C8-PFOA	661797.25	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.84	119753.50	25788.37	7356.7	False	13C8-PFOA	661797.25	1222.50	11CI-PF3OUdS	0.005	0.005	✓



Sample Name	LE52	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	796770.12	1246.73	10855.4	False	13C2-PFDA	714825.27	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	154419.46	1340.96	6433.9	False	13C4-PFOS	122867.56	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	168353.75	1450.11	2756.0	False	13C4-PFOS	122867.56	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	679370.53	1290.94	5578.4	False	13C2-PFOA	725727.96	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	800636.65	1328.64	12070.3	False	13C2-PFOA	725727.96	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	844238.08	1419.06	10757.5	False	13C2-PFOA	725727.96	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	775187.51	1339.88	47979.9	False	13C2-PFOA	725727.96	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	726875.81	1200.53	5196.3	False	13C2-PFDA	714825.27	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	835637.00	1325.91	5142.6	False	13C2-PFDA	714825.27	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	881063.08	1230.72	16281.4	False	13C2-PFDA	714825.27	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	147451.57	1178.98	7549.2	False	13C4-PFOS	122867.56	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	143331.10	1202.75	5819.0	False	13C4-PFOS	122867.56	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	130138.37	1233.56	2342.6	False	13C4-PFOS	122867.56	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	447431.75	1289.20	5777.6	False	13C2-PFOA	725727.96	1250.00		N/A	N/A	✓

Sample Name	LE53	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:41:00 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	769104.56	1201.63	6012.6	False	13C2-PFDA	715904.50	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	155953.20	1327.03	2996.7	False	13C4-PFOS	125391.34	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	148979.28	1257.40	2494.9	False	13C4-PFOS	125391.34	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	669599.13	1328.82	7253.8	False	13C2-PFOA	694896.92	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	739256.56	1281.21	6445.6	False	13C2-PFOA	694896.92	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	718163.81	1260.71	42298.8	False	13C2-PFOA	694896.92	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	723199.90	1305.48	7482.5	False	13C2-PFOA	694896.92	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	752523.26	1241.02	6680.6	False	13C2-PFDA	715904.50	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	799348.47	1266.42	4420.6	False	13C2-PFDA	715904.50	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	855727.68	1193.53	13778.2	False	13C2-PFDA	715904.50	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	138614.92	1086.02	16816.1	False	13C4-PFOS	125391.34	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	140371.47	1154.20	15253.6	False	13C4-PFOS	125391.34	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	130600.46	1213.02	2903.3	False	13C4-PFOS	125391.34	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	433868.70	1305.58	7622.1	False	13C2-PFOA	694896.92	1250.00		N/A	N/A	✓

Sample Name	LE54	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:51:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	702514.56	1111.10	8768.5	False	13C2-PFDA	707202.96	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	129113.31	1146.74	1788.4	False	13C4-PFOS	120131.81	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	141257.57	1244.43	2073.1	False	13C4-PFOS	120131.81	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	639359.98	1186.13	5241.3	False	13C2-PFOA	743339.13	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	771104.66	1249.31	5689.6	False	13C2-PFOA	743339.13	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	722356.84	1185.43	7873.1	False	13C2-PFOA	743339.13	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	759850.26	1282.25	4146.0	False	13C2-PFOA	743339.13	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	710392.98	1185.96	4053.1	False	13C2-PFDA	707202.96	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	766651.92	1229.56	5033.2	False	13C2-PFDA	707202.96	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	807603.28	1140.27	13502.9	False	13C2-PFDA	707202.96	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	145313.12	1188.35	15045.9	False	13C4-PFOS	120131.81	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	134811.63	1157.02	1420.5	False	13C4-PFOS	120131.81	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	119869.73	1162.10	2112.9	False	13C4-PFOS	120131.81	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	423275.55	1190.70	6979.4	False	13C2-PFOA	743339.13	1250.00		N/A	N/A	✓



Sample Name	LE55	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:02:43 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	705816.75	1111.53	8403.3	False	13C2-PFDA	710252.98	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	128832.27	1197.65	1966.2	False	13C4-PFOS	114774.74	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	134994.13	1244.76	2521.8	False	13C4-PFOS	114774.74	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	670437.19	1216.92	5996.5	False	13C2-PFOA	759747.88	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	715447.21	1134.11	13151.5	False	13C2-PFOA	759747.88	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	725259.83	1164.49	8318.6	False	13C2-PFOA	759747.88	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	725407.18	1197.69	4669.2	False	13C2-PFOA	759747.88	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	735986.41	1223.41	5069.3	False	13C2-PFDA	710252.98	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	744944.56	1189.62	4014.9	False	13C2-PFDA	710252.98	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	800026.31	1124.72	13118.3	False	13C2-PFDA	710252.98	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	140225.94	1200.27	27508.7	False	13C4-PFOS	114774.74	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	138518.26	1244.32	1565.2	False	13C4-PFOS	114774.74	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	119266.15	1210.22	1472.3	False	13C4-PFOS	114774.74	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	431916.65	1188.77	5774.0	False	13C2-PFOA	759747.88	1250.00		N/A	N/A	✓



Sample Name	LE56	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:13:35 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	760747.07	1351.55	8669.5	False	13C2-PFDA	629576.08	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	144047.42	1280.19	2245.1	False	13C4-PFOS	120055.60	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	139034.90	1225.62	2340.5	False	13C4-PFOS	120055.60	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	663857.09	1239.79	5517.3	False	13C2-PFOA	738413.66	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	783161.64	1277.31	9614.6	False	13C2-PFOA	738413.66	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	719304.47	1188.29	9291.0	False	13C2-PFOA	738413.66	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	726358.54	1233.91	4138.3	False	13C2-PFOA	738413.66	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	700363.38	1313.38	3399.4	False	13C2-PFDA	629576.08	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	739059.70	1331.46	6272.0	False	13C2-PFDA	629576.08	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	864042.05	1370.38	15310.5	False	13C2-PFDA	629576.08	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	146115.60	1195.67	14270.4	False	13C4-PFOS	120055.60	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	147043.40	1262.80	21510.4	False	13C4-PFOS	120055.60	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	122361.73	1187.01	1389.8	False	13C4-PFOS	120055.60	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	445879.14	1262.65	3448.3	False	13C2-PFOA	738413.66	1250.00		N/A	N/A	✓

Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.98	797030.91	1477.46	8725.9	False	13C2-PFDA	603390.30	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	134011.63	1207.42	1706.0	False	13C4-PFOS	118423.08	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	120589.82	1077.68	1707.5	False	13C4-PFOS	118423.08	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	648510.74	1237.41	6106.5	False	13C2-PFOA	722730.45	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	737784.63	1229.42	9391.6	False	13C2-PFOA	722730.45	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	661797.25	1117.02	4636.6	False	13C2-PFOA	722730.45	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	657273.58	1140.78	3041.6	False	13C2-PFOA	722730.45	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	682641.77	1335.70	3746.1	False	13C2-PFDA	603390.30	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	615535.02	1157.04	3202.3	False	13C2-PFDA	603390.30	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	870400.93	1440.37	15424.7	False	13C2-PFDA	603390.30	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	135696.43	1125.71	5764.7	False	13C4-PFOS	118423.08	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	123349.25	1073.92	3678111.5	False	13C4-PFOS	118423.08	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	118366.39	1164.08	1614.5	False	13C4-PFOS	118423.08	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	436559.93	1263.09	4192.0	False	13C2-PFOA	722730.45	1250.00		N/A	N/A	✓

Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.58	2303.19	2500.00	92.13
PFBS 2	298.9 / 99.0	1.58	2262.62	2500.00	90.50
PFHxA 1	313.0 / 269.0	1.90	2259.51	2525.00	89.49
PFHxA 2	313.0 / 119.0	1.91	2119.40	2525.00	83.94
PFHpA 1	363.0 / 319.0	2.30	2160.08	2500.00	86.40
PFHpA 2	363.0 / 169.0	2.30	2472.56	2500.00	98.90
PFHxS 1	399.0 / 80.0	2.32	2494.98	2525.00	98.81
PFHxS 2	399.0 / 99.0	2.32	2601.07	2525.00	103.01
PFOA 1	413.0 / 369.0	2.70	2335.26	2500.00	93.41
PFOA 2	413.0 / 169.0	2.70	2212.71	2500.00	88.51
PFNA 1	463.0 / 419.0	3.07	2210.57	2500.00	88.42
PFNA 2	463.0 / 219.0	3.07	2166.77	2500.00	86.67
PFOS 1	499.0 / 80.0	3.07	2081.02	2525.00	82.42
PFOS 2	499.0 / 99.0	3.07	2184.45	2525.00	86.51
PFDA 1	513.0 / 469.0	3.41	2495.60	2500.00	99.82
PFDA 2	513.0 / 219.0	3.41	2544.47	2500.00	101.78
PFUnA 1	563.0 / 519.0	3.71	2221.86	2500.00	88.87
PFUnA 2	563.0 / 269.0	3.71	2188.94	2500.00	87.56
PFDoA 1	613.0 / 569.0	3.98	2412.71	2500.00	96.51
PFDoA 2	613.0 / 319.0	3.98	2360.90	2500.00	94.44
PFTTrDA 1	663.0 / 619.0	4.22	2420.51	2500.00	96.82
PFTTrDA 2	663.0 / 169.0	4.22	2358.57	2500.00	94.34
PFTeDA 1	713.0 / 669.0	4.43	2491.41	2500.00	99.66
PFTeDA 2	713.0 / 169.0	4.43	2412.63	2500.00	96.51
NMeFOSAA 1	570.0 / 419.0	3.56	2426.17	2500.00	97.05
NMeFOSAA 2	570.0 / 512.0	3.56	2339.86	2500.00	93.59
NEtFOSAA 1	584.0 / 419.0	3.71	2377.27	2500.00	95.09
NEtFOSAA 2	584.0 / 483.0	3.71	2614.73	2500.00	104.59
HFPO-DA 1	285.0 / 169.0	2.01	2378.18	2500.00	95.13
HFPO-DA 2	285.0 / 118.8	2.01	2075.95	2500.00	83.04
ADONA 1	377.0 / 251.0	2.33	2352.90	2500.00	94.12
ADONA 2	377.0 / 85.0	2.33	2389.56	2500.00	95.58
9Cl-PF3ONS 1	531.0 / 351.0	3.25	2305.24	2500.00	92.21
9Cl-PF3ONS 2	531.0 / 83.0	3.25	2623.49	2500.00	104.94
11Cl-pf3OUdS 1	631.0 / 451.0	3.84	2266.35	2500.00	90.65
11Cl-pf3OUdS 2	631.0 / 83.0	3.84	2206.62	2500.00	88.26

Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:45:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	922.17	1000.00	92.22
PFBS_2	298.9 / 99.0	1.57	980.44	1000.00	98.04
PFHxA_1	313.0 / 269.0	1.90	1064.47	1010.00	105.39
PFHxA_2	313.0 / 119.0	1.90	1032.55	1010.00	102.23
PFHpA_1	363.0 / 319.0	2.30	999.16	1000.00	99.92
PFHpA_2	363.0 / 169.0	2.31	1431.98	1000.00	143.20
PFHxS_1	399.0 / 80.0	2.32	1046.87	1010.00	103.65
PFHxS_2	399.0 / 99.0	2.32	1040.16	1010.00	102.99
PFOA_1	413.0 / 369.0	2.70	924.79	1000.00	92.48
PFOA_2	413.0 / 169.0	2.69	858.46	1000.00	85.85
PFNA_1	463.0 / 419.0	3.07	959.37	1000.00	95.94
PFNA_2	463.0 / 219.0	3.07	886.24	1000.00	88.62
PFOS_1	499.0 / 80.0	3.06	895.52	1010.00	88.66
PFOS_2	499.0 / 99.0	3.06	807.91	1010.00	79.99
PFDA_1	513.0 / 469.0	3.41	1063.59	1000.00	106.36
PFDA_2	513.0 / 219.0	3.40	790.04	1000.00	79.00
PFUnA_1	563.0 / 519.0	3.71	938.94	1000.00	93.89
PFUnA_2	563.0 / 269.0	3.71	894.30	1000.00	89.43
PFDoA_1	613.0 / 569.0	3.98	976.24	1000.00	97.62
PFDoA_2	613.0 / 319.0	3.98	954.39	1000.00	95.44
PFTTrDA_1	663.0 / 619.0	4.21	902.71	1000.00	90.27
PFTTrDA_2	663.0 / 169.0	4.21	943.97	1000.00	94.40
PFTeDA_1	713.0 / 669.0	4.42	956.41	1000.00	95.64
PFTeDA_2	713.0 / 169.0	4.42	1014.26	1000.00	101.43
NMeFOSAA_1	570.0 / 419.0	3.56	1058.15	1000.00	105.81
NMeFOSAA_2	570.0 / 512.0	3.56	1034.55	1000.00	103.45
NEtFOSAA_1	584.0 / 419.0	3.71	867.99	1000.00	86.80
NEtFOSAA_2	584.0 / 483.0	3.71	762.87	1000.00	76.29
HFPO-DA_1	285.0 / 169.0	2.01	1065.22	1000.00	106.52
HFPO-DA_2	285.0 / 118.8	2.01	1035.85	1000.00	103.59
ADONA_1	377.0 / 251.0	2.33	946.25	1000.00	94.62
ADONA_2	377.0 / 85.0	2.32	905.21	1000.00	90.52
9Cl-PF3ONS_1	531.0 / 351.0	3.25	919.35	1000.00	91.93
9Cl-PF3ONS_2	531.0 / 83.0	3.25	731.37	1000.00	73.14
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	946.05	1000.00	94.61
11Cl-pf3OUdS_2	631.0 / 83.0	3.83	786.17	1000.00	78.62

Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:12:26 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	2211.93	2500.00	88.48
PFBS_2	298.9 / 99.0	1.57	2249.29	2500.00	89.97
PFHxA_1	313.0 / 269.0	1.90	2398.36	2525.00	94.98
PFHxA_2	313.0 / 119.0	1.90	2297.96	2525.00	91.01
PFHpA_1	363.0 / 319.0	2.30	2412.89	2500.00	96.52
PFHpA_2	363.0 / 169.0	2.30	2766.62	2500.00	110.66
PFHxS_1	399.0 / 80.0	2.32	2600.96	2525.00	103.01
PFHxS_2	399.0 / 99.0	2.32	2653.17	2525.00	105.08
PFOA_1	413.0 / 369.0	2.69	2262.83	2500.00	90.51
PFOA_2	413.0 / 169.0	2.69	2354.53	2500.00	94.18
PFNA_1	463.0 / 419.0	3.06	2408.68	2500.00	96.35
PFNA_2	463.0 / 219.0	3.06	2287.16	2500.00	91.49
PFOS_1	499.0 / 80.0	3.06	2301.73	2525.00	91.16
PFOS_2	499.0 / 99.0	3.06	2452.07	2525.00	97.11
PFDA_1	513.0 / 469.0	3.40	2589.59	2500.00	103.58
PFDA_2	513.0 / 219.0	3.40	2363.00	2500.00	94.52
PFUnA_1	563.0 / 519.0	3.70	2394.43	2500.00	95.78
PFUnA_2	563.0 / 269.0	3.70	2568.69	2500.00	102.75
PFDoA_1	613.0 / 569.0	3.97	2389.89	2500.00	95.60
PFDoA_2	613.0 / 319.0	3.97	2397.48	2500.00	95.90
PFTDA_1	663.0 / 619.0	4.21	2365.26	2500.00	94.61
PFTDA_2	663.0 / 169.0	4.20	2416.86	2500.00	96.67
PFTeDA_1	713.0 / 669.0	4.41	2403.71	2500.00	96.15
PFTeDA_2	713.0 / 169.0	4.41	2377.47	2500.00	95.10
NMeFOSAA_1	570.0 / 419.0	3.55	2325.79	2500.00	93.03
NMeFOSAA_2	570.0 / 512.0	3.55	2281.03	2500.00	91.24
NEtFOSAA_1	584.0 / 419.0	3.70	2300.40	2500.00	92.02
NEtFOSAA_2	584.0 / 483.0	3.70	2289.06	2500.00	91.56
HFPO-DA_1	285.0 / 169.0	2.01	2415.02	2500.00	96.60
HFPO-DA_2	285.0 / 118.8	2.01	2132.68	2500.00	85.31
ADONA_1	377.0 / 251.0	2.33	2489.69	2500.00	99.59
ADONA_2	377.0 / 85.0	2.33	2269.72	2500.00	90.79
9Cl-PF3ONS_1	531.0 / 351.0	3.24	2359.29	2500.00	94.37
9Cl-PF3ONS_2	531.0 / 83.0	3.24	2125.85	2500.00	85.03
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	2326.14	2500.00	93.05
11Cl-pf3OUdS_2	631.0 / 83.0	3.83	1967.02	2500.00	78.68

Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 10:46:04 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS 1	298.9 / 80.0	1.58	931.40	1000.00	93.14
PFBS 2	298.9 / 99.0	1.58	961.14	1000.00	96.11
PFHxA 1	313.0 / 269.0	1.91	1006.88	1010.00	99.69
PFHxA 2	313.0 / 119.0	1.91	987.18	1010.00	97.74
PFHpA 1	363.0 / 319.0	2.31	974.81	1000.00	97.48
PFHpA 2	363.0 / 169.0	2.31	1114.37	1000.00	111.44
PFHxS 1	399.0 / 80.0	2.33	1139.65	1010.00	112.84
PFHxS 2	399.0 / 99.0	2.33	1153.21	1010.00	114.18
PFOA 1	413.0 / 369.0	2.71	905.27	1000.00	90.53
PFOA 2	413.0 / 169.0	2.71	889.72	1000.00	88.97
PFNA 1	463.0 / 419.0	3.09	1000.19	1000.00	100.02
PFNA 2	463.0 / 219.0	3.09	1030.43	1000.00	103.04
PFOS 1	499.0 / 80.0	3.08	1024.80	1010.00	101.47
PFOS 2	499.0 / 99.0	3.08	1078.77	1010.00	106.81
PFDA 1	513.0 / 469.0	3.43	952.15	1000.00	95.22
PFDA 2	513.0 / 219.0	3.42	1061.45	1000.00	106.14
PFUnA 1	563.0 / 519.0	3.73	960.00	1000.00	96.00
PFUnA 2	563.0 / 269.0	3.73	903.38	1000.00	90.34
PFDoA 1	613.0 / 569.0	4.00	988.49	1000.00	98.85
PFDoA 2	613.0 / 319.0	4.00	961.92	1000.00	96.19
PFTTrDA 1	663.0 / 619.0	4.24	1031.74	1000.00	103.17
PFTTrDA 2	663.0 / 169.0	4.24	922.90	1000.00	92.29
PFTeDA 1	713.0 / 669.0	4.45	1000.24	1000.00	100.02
PFTeDA 2	713.0 / 169.0	4.45	992.90	1000.00	99.29
NMeFOSAA 1	570.0 / 419.0	3.57	919.15	1000.00	91.91
NMeFOSAA 2	570.0 / 512.0	3.58	1019.56	1000.00	101.96
NEtFOSAA 1	584.0 / 419.0	3.73	1098.34	1000.00	109.83
NEtFOSAA 2	584.0 / 483.0	3.73	718.56	1000.00	71.86
HFPO-DA 1	285.0 / 169.0	2.02	1069.06	1000.00	106.91
HFPO-DA 2	285.0 / 118.8	2.02	1156.07	1000.00	115.61
ADONA 1	377.0 / 251.0	2.34	1125.23	1000.00	112.52
ADONA 2	377.0 / 85.0	2.34	1258.00	1000.00	125.80
9Cl-PF3ONS 1	531.0 / 351.0	3.26	951.75	1000.00	95.18
9Cl-PF3ONS 2	531.0 / 83.0	3.26	934.11	1000.00	93.41
11Cl-pf3OUdS 1	631.0 / 451.0	3.85	1035.41	1000.00	103.54
11Cl-pf3OUdS 2	631.0 / 83.0	3.85	1173.58	1000.00	117.36

Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:35:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	2181.36	2500.00	87.25
PFBS_2	298.9 / 99.0	1.57	2293.04	2500.00	91.72
PFHxA_1	313.0 / 269.0	1.90	2434.58	2525.00	96.42
PFHxA_2	313.0 / 119.0	1.90	2279.05	2525.00	90.26
PFHpA_1	363.0 / 319.0	2.31	2488.56	2500.00	99.54
PFHpA_2	363.0 / 169.0	2.31	2380.18	2500.00	95.21
PFHxS_1	399.0 / 80.0	2.32	2495.05	2525.00	98.81
PFHxS_2	399.0 / 99.0	2.32	2382.30	2525.00	94.35
PFOA_1	413.0 / 369.0	2.70	2321.18	2500.00	92.85
PFOA_2	413.0 / 169.0	2.70	2181.60	2500.00	87.26
PFNA_1	463.0 / 419.0	3.07	2387.44	2500.00	95.50
PFNA_2	463.0 / 219.0	3.07	2346.72	2500.00	93.87
PFOS_1	499.0 / 80.0	3.07	2419.49	2525.00	95.82
PFOS_2	499.0 / 99.0	3.07	2466.17	2525.00	97.67
PFDA_1	513.0 / 469.0	3.41	2460.03	2500.00	98.40
PFDA_2	513.0 / 219.0	3.41	2284.90	2500.00	91.40
PFUnA_1	563.0 / 519.0	3.71	2227.25	2500.00	89.09
PFUnA_2	563.0 / 269.0	3.71	2116.09	2500.00	84.64
PFDoA_1	613.0 / 569.0	3.98	2633.33	2500.00	105.33
PFDoA_2	613.0 / 319.0	3.98	2581.00	2500.00	103.24
PFTDA_1	663.0 / 619.0	4.21	2476.18	2500.00	99.05
PFTDA_2	663.0 / 169.0	4.21	2399.78	2500.00	95.99
PFTeDA_1	713.0 / 669.0	4.42	2462.54	2500.00	98.50
PFTeDA_2	713.0 / 169.0	4.42	2439.90	2500.00	97.60
NMeFOSAA_1	570.0 / 419.0	3.56	2353.48	2500.00	94.14
NMeFOSAA_2	570.0 / 512.0	3.56	2371.71	2500.00	94.87
NEtFOSAA_1	584.0 / 419.0	3.71	2474.01	2500.00	98.96
NEtFOSAA_2	584.0 / 483.0	3.71	2054.51	2500.00	82.18
HFPO-DA_1	285.0 / 169.0	2.01	2538.00	2500.00	101.52
HFPO-DA_2	285.0 / 118.8	2.01	2694.52	2500.00	107.78
ADONA_1	377.0 / 251.0	2.33	2506.86	2500.00	100.27
ADONA_2	377.0 / 85.0	2.33	2443.49	2500.00	97.74
9Cl-PF3ONS_1	531.0 / 351.0	3.25	2329.49	2500.00	93.18
9Cl-PF3ONS_2	531.0 / 83.0	3.24	2370.72	2500.00	94.83
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	2222.93	2500.00	88.92
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	2406.34	2500.00	96.25

Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:13:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	2302.67	2500.00	92.11
PFBS_2	298.9 / 99.0	1.56	2359.69	2500.00	94.39
PFHxA_1	313.0 / 269.0	1.90	2357.93	2525.00	93.38
PFHxA_2	313.0 / 119.0	1.90	2387.41	2525.00	94.55
PFHpA_1	363.0 / 319.0	2.30	2697.58	2500.00	107.90
PFHpA_2	363.0 / 169.0	2.30	3189.10	2500.00	127.56
PFHxS_1	399.0 / 80.0	2.32	2532.26	2525.00	100.29
PFHxS_2	399.0 / 99.0	2.32	2564.52	2525.00	101.56
PFOA_1	413.0 / 369.0	2.69	2362.73	2500.00	94.51
PFOA_2	413.0 / 169.0	2.69	2078.64	2500.00	83.15
PFNA_1	463.0 / 419.0	3.06	2208.01	2500.00	88.32
PFNA_2	463.0 / 219.0	3.06	2134.31	2500.00	85.37
PFOS_1	499.0 / 80.0	3.06	2692.36	2525.00	106.63
PFOS_2	499.0 / 99.0	3.06	2622.04	2525.00	103.84
PFDA_1	513.0 / 469.0	3.40	2800.59	2500.00	112.02
PFDA_2	513.0 / 219.0	3.40	2675.01	2500.00	107.00
PFUnA_1	563.0 / 519.0	3.70	2282.63	2500.00	91.31
PFUnA_2	563.0 / 269.0	3.70	2123.73	2500.00	84.95
PFDoA_1	613.0 / 569.0	3.97	2440.95	2500.00	97.64
PFDoA_2	613.0 / 319.0	3.97	2414.23	2500.00	96.57
PFTDA_1	663.0 / 619.0	4.20	2345.18	2500.00	93.81
PFTDA_2	663.0 / 169.0	4.20	2455.81	2500.00	98.23
PFTeDA_1	713.0 / 669.0	4.41	2461.25	2500.00	98.45
PFTeDA_2	713.0 / 169.0	4.41	2407.24	2500.00	96.29
NMeFOSAA_1	570.0 / 419.0	3.55	2307.46	2500.00	92.30
NMeFOSAA_2	570.0 / 512.0	3.55	2274.66	2500.00	90.99
NEtFOSAA_1	584.0 / 419.0	3.70	2332.75	2500.00	93.31
NEtFOSAA_2	584.0 / 483.0	3.70	2154.52	2500.00	86.18
HFPO-DA_1	285.0 / 169.0	2.00	2422.11	2500.00	96.88
HFPO-DA_2	285.0 / 118.8	2.00	2345.96	2500.00	93.84
ADONA_1	377.0 / 251.0	2.32	2458.93	2500.00	98.36
ADONA_2	377.0 / 85.0	2.32	2379.12	2500.00	95.16
9Cl-PF3ONS_1	531.0 / 351.0	3.24	2318.23	2500.00	92.73
9Cl-PF3ONS_2	531.0 / 83.0	3.24	2626.89	2500.00	105.08
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	2385.51	2500.00	95.42
11Cl-pf3OUdS_2	631.0 / 83.0	3.83	2077.24	2500.00	83.09

Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.57	922.41	1000.00	92.24
PFBS_2	298.9 / 99.0	1.57	881.29	1000.00	88.13
PFHxA_1	313.0 / 269.0	1.90	910.24	1010.00	90.12
PFHxA_2	313.0 / 119.0	1.90	881.01	1010.00	87.23
PFHpA_1	363.0 / 319.0	2.30	993.77	1000.00	99.38
PFHpA_2	363.0 / 169.0	2.30	859.81	1000.00	85.98
PFHxS_1	399.0 / 80.0	2.32	952.99	1010.00	94.36
PFHxS_2	399.0 / 99.0	2.32	970.09	1010.00	96.05
PFOA_1	413.0 / 369.0	2.69	965.55	1000.00	96.56
PFOA_2	413.0 / 169.0	2.69	798.85	1000.00	79.88
PFNA_1	463.0 / 419.0	3.06	1007.89	1000.00	100.79
PFNA_2	463.0 / 219.0	3.06	936.28	1000.00	93.63
PFOS_1	499.0 / 80.0	3.06	1138.15	1010.00	112.69
PFOS_2	499.0 / 99.0	3.06	1113.46	1010.00	110.24
PFDA_1	513.0 / 469.0	3.40	915.99	1000.00	91.60
PFDA_2	513.0 / 219.0	3.40	937.07	1000.00	93.71
PFUnA_1	563.0 / 519.0	3.70	992.62	1000.00	99.26
PFUnA_2	563.0 / 269.0	3.70	1005.89	1000.00	100.59
PFDoA_1	613.0 / 569.0	3.97	924.50	1000.00	92.45
PFDoA_2	613.0 / 319.0	3.97	1017.92	1000.00	101.79
PFTTrDA_1	663.0 / 619.0	4.21	955.78	1000.00	95.58
PFTTrDA_2	663.0 / 169.0	4.21	958.78	1000.00	95.88
PFTeDA_1	713.0 / 669.0	4.41	981.56	1000.00	98.16
PFTeDA_2	713.0 / 169.0	4.41	984.85	1000.00	98.49
NMeFOSAA_1	570.0 / 419.0	3.55	863.22	1000.00	86.32
NMeFOSAA_2	570.0 / 512.0	3.55	814.28	1000.00	81.43
NEtFOSAA_1	584.0 / 419.0	3.70	877.49	1000.00	87.75
NEtFOSAA_2	584.0 / 483.0	3.71	621.26	1000.00	62.13
HFPO-DA_1	285.0 / 169.0	2.00	1004.07	1000.00	100.41
HFPO-DA_2	285.0 / 118.8	2.01	954.97	1000.00	95.50
ADONA_1	377.0 / 251.0	2.32	999.73	1000.00	99.97
ADONA_2	377.0 / 85.0	2.32	1037.61	1000.00	103.76
9Cl-PF3ONS_1	531.0 / 351.0	3.24	901.91	1000.00	90.19
9Cl-PF3ONS_2	531.0 / 83.0	3.24	1155.51	1000.00	115.55
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	923.64	1000.00	92.36
11Cl-pf3OUdS_2	631.0 / 83.0	3.82	797.70	1000.00	79.77

Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.98	1240.17	1250.00	99.21
d3-MeFOSAA	573.0 / 419.0	3.56	1058.20	1250.00	84.66
d5-EtFOSAA	589.0 / 419.0	3.71	1102.76	1250.00	88.22
13C5-PFHxA	318.0 / 273.0	1.89	1189.22	1250.00	95.14
13C4-PFHpA	367.0 / 322.0	2.29	1156.55	1250.00	92.52
13C8-PFOA	421.0 / 376.0	2.68	1160.01	1222.50	94.89
13C9-PFNA	472.0 / 427.0	3.06	1181.05	1250.00	94.48
13C6-PFDA	519.0 / 474.0	3.40	1296.40	1250.00	103.71
13C7-PFUnA	570.0 / 525.0	3.70	1237.95	1250.00	99.04
13C2-PFTeDA	715.0 / 670.0	4.42	1280.97	1250.00	102.48
13C3-PFBS	302.0 / 99.0	1.56	1074.22	1162.50	92.41
13C3-PFHxS	402.0 / 99.0	2.31	1058.10	1182.50	89.48
13C8-PFOS	507.0 / 99.0	3.05	1192.70	1195.00	99.81
13C3-HFPO-DA	287.0 / 169.0	2.01	1150.14	1250.00	92.01

Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:45:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	1083.59	1250.00	86.69
d3-MeFOSAA	573.0 / 419.0	3.55	1173.62	1250.00	93.89
d5-EtFOSAA	589.0 / 419.0	3.70	1360.12	1250.00	108.81
13C5-PFHxA	318.0 / 273.0	1.89	1149.55	1250.00	91.96
13C4-PFHpA	367.0 / 322.0	2.29	1213.00	1250.00	97.04
13C8-PFOA	421.0 / 376.0	2.68	1231.95	1222.50	100.77
13C9-PFNA	472.0 / 427.0	3.05	1184.34	1250.00	94.75
13C6-PFDA	519.0 / 474.0	3.39	1110.81	1250.00	88.86
13C7-PFUnA	570.0 / 525.0	3.69	1158.05	1250.00	92.64
13C2-PFTeDA	715.0 / 670.0	4.41	1119.34	1250.00	89.55
13C3-PFBS	302.0 / 99.0	1.56	1193.14	1162.50	102.64
13C3-PFHxS	402.0 / 99.0	2.31	1140.22	1182.50	96.42
13C8-PFOS	507.0 / 99.0	3.05	1314.54	1195.00	110.00
13C3-HFPO-DA	287.0 / 169.0	2.01	1157.49	1250.00	92.60

Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:12:26 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.96	1125.59	1250.00	90.05
d3-MeFOSAA	573.0 / 419.0	3.55	995.09	1250.00	79.61
d5-EtFOSAA	589.0 / 419.0	3.70	1128.48	1250.00	90.28
13C5-PFHxA	318.0 / 273.0	1.89	1207.22	1250.00	96.58
13C4-PFHpA	367.0 / 322.0	2.28	1183.96	1250.00	94.72
13C8-PFOA	421.0 / 376.0	2.68	1172.76	1222.50	95.93
13C9-PFNA	472.0 / 427.0	3.05	1192.55	1250.00	95.40
13C6-PFDA	519.0 / 474.0	3.39	1151.27	1250.00	92.10
13C7-PFUnA	570.0 / 525.0	3.69	1132.00	1250.00	90.56
13C2-PFTeDA	715.0 / 670.0	4.41	1223.50	1250.00	97.88
13C3-PFBS	302.0 / 99.0	1.56	1059.59	1162.50	91.15
13C3-PFHxS	402.0 / 99.0	2.30	1020.15	1182.50	86.27
13C8-PFOS	507.0 / 99.0	3.04	1077.33	1195.00	90.15
13C3-HFPO-DA	287.0 / 169.0	2.01	1200.91	1250.00	96.07

Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 10:46:04 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.99	1164.04	1250.00	93.12
d3-MeFOSAA	573.0 / 419.0	3.57	1196.60	1250.00	95.73
d5-EtFOSAA	589.0 / 419.0	3.72	1175.38	1250.00	94.03
13C5-PFHxA	318.0 / 273.0	1.90	1153.97	1250.00	92.32
13C4-PFHpA	367.0 / 322.0	2.30	1265.76	1250.00	101.26
13C8-PFOA	421.0 / 376.0	2.70	1190.23	1222.50	97.36
13C9-PFNA	472.0 / 427.0	3.07	1174.68	1250.00	93.97
13C6-PFDA	519.0 / 474.0	3.41	1192.61	1250.00	95.41
13C7-PFUnA	570.0 / 525.0	3.71	1154.05	1250.00	92.32
13C2-PFTeDA	715.0 / 670.0	4.44	1114.43	1250.00	89.15
13C3-PFBS	302.0 / 99.0	1.57	1073.77	1162.50	92.37
13C3-PFHxS	402.0 / 99.0	2.32	1003.68	1182.50	84.88
13C8-PFOS	507.0 / 99.0	3.07	1090.95	1195.00	91.29
13C3-HFPO-DA	287.0 / 169.0	2.02	1178.81	1250.00	94.30

Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:35:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.97	1183.44	1250.00	94.68
d3-MeFOSAA	573.0 / 419.0	3.55	1000.54	1250.00	80.04
d5-EtFOSAA	589.0 / 419.0	3.70	1104.22	1250.00	88.34
13C5-PFHxA	318.0 / 273.0	1.89	1204.15	1250.00	96.33
13C4-PFHpA	367.0 / 322.0	2.29	1284.46	1250.00	102.76
13C8-PFOA	421.0 / 376.0	2.68	1235.41	1222.50	101.06
13C9-PFNA	472.0 / 427.0	3.06	1265.47	1250.00	101.24
13C6-PFDA	519.0 / 474.0	3.40	1334.87	1250.00	106.79
13C7-PFUnA	570.0 / 525.0	3.70	1276.88	1250.00	102.15
13C2-PFTeDA	715.0 / 670.0	4.41	1303.44	1250.00	104.27
13C3-PFBS	302.0 / 99.0	1.56	1006.81	1162.50	86.61
13C3-PFHxS	402.0 / 99.0	2.31	1012.18	1182.50	85.60
13C8-PFOS	507.0 / 99.0	3.05	1055.95	1195.00	88.36
13C3-HFPO-DA	287.0 / 169.0	2.01	1158.36	1250.00	92.67

Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:13:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.96	1229.09	1250.00	98.33
d3-MeFOSAA	573.0 / 419.0	3.55	1215.74	1250.00	97.26
d5-EtFOSAA	589.0 / 419.0	3.69	1276.10	1250.00	102.09
13C5-PFHxA	318.0 / 273.0	1.89	1268.10	1250.00	101.45
13C4-PFHpA	367.0 / 322.0	2.29	1223.19	1250.00	97.86
13C8-PFOA	421.0 / 376.0	2.68	1246.30	1222.50	101.95
13C9-PFNA	472.0 / 427.0	3.05	1333.18	1250.00	106.65
13C6-PFDA	519.0 / 474.0	3.39	1230.80	1250.00	98.46
13C7-PFUnA	570.0 / 525.0	3.69	1254.48	1250.00	100.36
13C2-PFTeDA	715.0 / 670.0	4.40	1375.73	1250.00	110.06
13C3-PFBS	302.0 / 99.0	1.55	1154.29	1162.50	99.29
13C3-PFHxS	402.0 / 99.0	2.30	1151.51	1182.50	97.38
13C8-PFOS	507.0 / 99.0	3.05	1193.95	1195.00	99.91
13C3-HFPO-DA	287.0 / 169.0	2.00	1220.48	1250.00	97.64

Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.96	1127.98	1250.00	90.24
d3-MeFOSAA	573.0 / 419.0	3.54	1257.89	1250.00	100.63
d5-EtFOSAA	589.0 / 419.0	3.69	1339.48	1250.00	107.16
13C5-PFHxA	318.0 / 273.0	1.89	1221.30	1250.00	97.70
13C4-PFHpA	367.0 / 322.0	2.28	1177.07	1250.00	94.17
13C8-PFOA	421.0 / 376.0	2.68	1217.11	1222.50	99.56
13C9-PFNA	472.0 / 427.0	3.05	1170.14	1250.00	93.61
13C6-PFDA	519.0 / 474.0	3.39	1299.55	1250.00	103.96
13C7-PFUnA	570.0 / 525.0	3.69	1187.68	1250.00	95.01
13C2-PFTeDA	715.0 / 670.0	4.41	1144.71	1250.00	91.58
13C3-PFBS	302.0 / 99.0	1.56	1097.18	1162.50	94.38
13C3-PFHxS	402.0 / 99.0	2.30	1096.51	1182.50	92.73
13C8-PFOS	507.0 / 99.0	3.04	1037.73	1195.00	86.84
13C3-HFPO-DA	287.0 / 169.0	2.00	1176.43	1250.00	94.11



Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	773652.01	2303.19	10125.3	False	13C3-PFBS	139658.78	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	239253.28	2262.62	7397.5	False	13C3-PFBS	139658.78	1162.50	PFBS	0.309	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1268829.73	2259.51	1298.1	False	13C5-PFHxA	650014.66	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	87587.37	2119.40	1011.0	False	13C5-PFHxA	650014.66	1250.00	PFHxA	0.069	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	1276897.27	2160.08	1583.2	False	13C4-PFHpA	723857.44	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	26486.14	2472.56	880.9	False	13C4-PFHpA	723857.44	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1137243.11	2494.98	8323.6	False	13C3-PFHxS	131076.89	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	344414.60	2601.07	2299.9	False	13C3-PFHxS	131076.89	1182.50	PFHxS	0.303	0.290	✓
PFOA_1	413.0 / 369.0	2.70	1600900.66	2335.26	1472.9	False	13C8-PFOA	716777.87	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	106925.00	2212.71	1943.2	False	13C8-PFOA	716777.87	1222.50	PFOA	0.067	0.071	✓
PFNA_1	463.0 / 419.0	3.07	1517439.76	2210.57	1674.5	False	13C9-PFNA	709693.75	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	420547.09	2166.77	3197.9	False	13C9-PFNA	709693.75	1250.00	PFNA	0.277	0.276	✓
PFOS_1	499.0 / 80.0	3.07	1138951.32	2081.02	1807.3	False	13C8-PFOS	130800.82	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	213038.64	2184.45	1897.5	False	13C8-PFOS	130800.82	1195.00	PFOS	0.187	0.182	✓
PFDA_1	513.0 / 469.0	3.41	1576307.41	2495.60	1717.0	False	13C6-PFDA	700686.01	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	68868.78	2544.47	3057.8	False	13C6-PFDA	700686.01	1250.00	PFDA	0.044	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	1396513.85	2221.86	1870.1	False	13C7-PFUnA	696475.72	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	72852.01	2188.94	2812.5	False	13C7-PFUnA	696475.72	1250.00	PFUnA	0.052	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	1431245.66	2412.71	2782.8	False	13C2-PFDoA	707521.67	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	224956.21	2360.90	3377.4	False	13C2-PFDoA	707521.67	1250.00	PFDoA	0.157	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.22	1298264.93	2420.51	5133.0	False	13C2-PFTTeDA	818626.16	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	90294.43	2358.57	3524.3	False	13C2-PFTTeDA	818626.16	1250.00	PFTTrDA	0.070	0.072	✓
PFTTeDA_1	713.0 / 669.0	4.43	1763182.96	2491.41	9114.2	False	13C2-PFTTeDA	818626.16	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.43	96718.46	2412.63	5166.4	False	13C2-PFTTeDA	818626.16	1250.00	PFTTeDA	0.055	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	267163.66	2426.17	15445.1	False	d3-MeFOSAA	126714.61	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	174429.29	2339.86	60882.5	False	d3-MeFOSAA	126714.61	1250.00	NMeFOSAA	0.653	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	256420.28	2377.27	5975.3	False	d5-EtFOSAA	132685.17	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	18691.20	2614.73	2498694.6	False	d5-EtFOSAA	132685.17	1250.00	NEtFOSAA	0.073	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	895012.66	2378.18	5516.3	False	13C3-HFPO-DA	414589.23	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	19831.76	2075.95	3484261.5	False	13C3-HFPO-DA	414589.23	1250.00	HFPO-DA	0.022	0.025	✓
ADONA_1	377.0 / 251.0	2.33	2910883.94	2352.90	7897.9	False	13C8-PFOA	716777.87	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	38794.52	2389.56	1362.3	False	13C8-PFOA	716777.87	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	2568938.27	2305.24	2633.1	False	13C8-PFOA	716777.87	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	25255.30	2623.49	47858.9	False	13C8-PFOA	716777.87	1222.50	9CI-PF3ONS	0.010	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	2260247.86	2266.35	4745.4	False	13C8-PFOA	716777.87	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	10672.09	2206.62	1158.9	False	13C8-PFOA	716777.87	1222.50	11Cl-PF3OUdS	0.005	0.005	✓



PFAS QC Sample Quant Report

Created with Analyst Reporter
Printed: 17/11/2020 5:35:11 PM

Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:45:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	297685.19	922.17	11789.3	False	13C3-PFBS	137691.78	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	101016.53	980.44	4006.3	False	13C3-PFBS	137691.78	1162.50	PFBS	0.339	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	532630.17	1064.47	980.8	False	13C5-PFHxA	584879.66	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	38480.28	1032.55	688.6	False	13C5-PFHxA	584879.66	1250.00	PFHxA	0.072	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	575967.32	999.16	1092.7	False	13C4-PFHpA	706686.44	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	14960.04	1431.98	665.6	False	13C4-PFHpA	706686.44	1250.00	PFHpA	0.026	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	450558.50	1046.87	4338.8	False	13C3-PFHxS	125381.25	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	129920.49	1040.16	1210.7	False	13C3-PFHxS	125381.25	1182.50	PFHxS	0.288	0.290	✓
PFOA_1	413.0 / 369.0	2.70	615617.27	924.79	931.4	False	13C8-PFOA	708585.82	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	40125.44	858.46	484.7	False	13C8-PFOA	708585.82	1222.50	PFOA	0.065	0.071	✓
PFNA_1	463.0 / 419.0	3.07	617327.36	959.37	1063.4	False	13C9-PFNA	662451.89	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	158016.74	886.24	1723.3	False	13C9-PFNA	662451.89	1250.00	PFNA	0.256	0.276	✓
PFOS_1	499.0 / 80.0	3.06	480916.13	895.52	1788.0	False	13C8-PFOS	127966.09	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	79118.90	807.91	1278.4	False	13C8-PFOS	127966.09	1195.00	PFOS	0.165	0.182	✓
PFDA_1	513.0 / 469.0	3.41	645892.73	1063.59	1162.0	False	13C6-PFDA	653968.31	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	19219.83	790.04	21427.4	False	13C6-PFDA	653968.31	1250.00	PFDA	0.030	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	578805.09	938.94	1407.2	False	13C7-PFUnA	709682.67	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	29533.68	894.30	2878.5	False	13C7-PFUnA	709682.67	1250.00	PFUnA	0.051	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	556353.64	976.24	2450.7	False	13C2-PFDoA	673374.31	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	86615.63	954.39	2681.4	False	13C2-PFDoA	673374.31	1250.00	PFDoA	0.156	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	477762.55	902.71	2099.6	False	13C2-PFTTrDA	779185.57	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.21	35738.79	943.97	1317.0	False	13C2-PFTTrDA	779185.57	1250.00	PFTTrDA	0.075	0.072	✓
PFTTeDA_1	713.0 / 669.0	4.42	656211.84	956.41	5280.8	False	13C2-PFTTeDA	779185.57	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.42	39185.77	1014.26	4944.2	False	13C2-PFTTeDA	779185.57	1250.00	PFTTeDA	0.060	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	113829.21	1058.15	1942.2	False	d3-MeFOSAA	124565.93	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	77217.81	1034.55	4339.6	False	d3-MeFOSAA	124565.93	1250.00	NMeFOSAA	0.678	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	102500.49	867.99	10318.8	False	d5-EtFOSAA	145060.89	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	5663.63	762.87	8336.8	False	d5-EtFOSAA	145060.89	1250.00	NEtFOSAA	0.055	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	374014.07	1065.22	3382.9	False	13C3-HFPO-DA	388383.56	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	9092.74	1035.85	273.8	False	13C3-HFPO-DA	388383.56	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.33	1149335.53	946.25	4774.2	False	13C8-PFOA	708585.82	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.32	14373.51	905.21	1497.6	False	13C8-PFOA	708585.82	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	994495.12	919.35	2454.9	False	13C8-PFOA	708585.82	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	7284.66	731.37	6827.5	False	13C8-PFOA	708585.82	1222.50	9CI-PF3ONS	0.007	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	905728.79	946.05	3243.0	False	13C8-PFOA	708585.82	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.83	3462.28	786.17	872.3	False	13C8-PFOA	708585.82	1222.50	11Cl-pf3OUdS	0.004	0.005	✓



Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:12:26 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	761165.16	2211.93	11277.8	False	13C3-PFBS	143173.47	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	243816.25	2249.29	6249.0	False	13C3-PFBS	143173.47	1162.50	PFBS	0.320	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1383747.46	2398.36	1411.2	False	13C5-PFHxA	667513.31	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	97507.20	2297.96	1204.9	False	13C5-PFHxA	667513.31	1250.00	PFHxA	0.070	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	1477257.25	2412.89	1511.6	False	13C4-PFHpA	749616.47	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	30695.29	2766.62	959.0	False	13C4-PFHpA	749616.47	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1188415.26	2600.96	7878.2	False	13C3-PFHxS	131344.11	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	352092.50	2653.17	3154.0	False	13C3-PFHxS	131344.11	1182.50	PFHxS	0.296	0.290	✓
PFOA_1	413.0 / 369.0	2.69	1585910.20	2262.83	1259.5	False	13C8-PFOA	733066.98	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	116459.71	2354.53	1874.1	False	13C8-PFOA	733066.98	1222.50	PFOA	0.073	0.071	✓
PFNA_1	463.0 / 419.0	3.06	1688451.80	2408.68	1797.4	False	13C9-PFNA	724919.22	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	453697.91	2287.16	3111.7	False	13C9-PFNA	724919.22	1250.00	PFNA	0.269	0.276	✓
PFOS_1	499.0 / 80.0	3.06	1182374.79	2301.73	2154.8	False	13C8-PFOS	122793.42	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	224119.18	2452.07	2206.3	False	13C8-PFOS	122793.42	1195.00	PFOS	0.190	0.182	✓
PFDA_1	513.0 / 469.0	3.40	1585084.79	2589.59	1352.8	False	13C6-PFDA	679564.44	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	61949.85	2363.00	6086.2	False	13C6-PFDA	679564.44	1250.00	PFDA	0.039	0.040	✓
PFUnA_1	563.0 / 519.0	3.70	1505915.36	2394.43	2647.4	False	13C7-PFUnA	695534.78	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	85603.59	2568.69	3216.6	False	13C7-PFUnA	695534.78	1250.00	PFUnA	0.057	0.054	✓
PFDoA_1	613.0 / 569.0	3.97	1405335.06	2389.89	2778.7	False	13C2-PFDoA	701305.04	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	226432.95	2397.48	3520.3	False	13C2-PFDoA	701305.04	1250.00	PFDoA	0.161	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	1324004.48	2365.26	5192.7	False	13C2-PFTeDA	853922.25	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.20	96454.83	2416.86	3291.6	False	13C2-PFTeDA	853922.25	1250.00	PFTTrDA	0.073	0.072	✓
PFTeDA_1	713.0 / 669.0	4.41	1775210.67	2403.71	9737.5	False	13C2-PFTeDA	853922.25	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	99431.67	2377.47	6177.1	False	13C2-PFTeDA	853922.25	1250.00	PFTeDA	0.056	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.55	251829.37	2325.79	75683.2	False	d3-MeFOSAA	124606.80	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	167298.77	2281.03	6782.1	False	d3-MeFOSAA	124606.80	1250.00	NMeFOSAA	0.664	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.70	262665.43	2300.40	20023.5	False	d5-EtFOSAA	140461.85	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	17294.87	2289.06	505.6	False	d5-EtFOSAA	140461.85	1250.00	NEtFOSAA	0.066	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	960059.03	2415.02	5271.7	False	13C3-HFPO-DA	437914.03	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	21530.86	2132.68	13960.0	False	13C3-HFPO-DA	437914.03	1250.00	HFPO-DA	0.022	0.025	✓
ADONA_1	377.0 / 251.0	2.33	3150906.56	2489.69	6287.9	False	13C8-PFOA	733066.98	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	37673.28	2269.72	3646.0	False	13C8-PFOA	733066.98	1222.50	ADONA	0.012	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.24	2689666.40	2359.29	3927.7	False	13C8-PFOA	733066.98	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.24	21018.11	2125.85	754956.4	False	13C8-PFOA	733066.98	1222.50	9CI-PF3ONS	0.008	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	2373861.62	2326.14	4824.6	False	13C8-PFOA	733066.98	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.83	9677.76	1967.02	1143.4	False	13C8-PFOA	733066.98	1222.50	11Cl-pf3OUdS	0.004	0.005	✓



Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 10:46:04 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	250308.17	931.40	36616.6	False	13C3-PFBS	114581.24	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	82372.20	961.14	2839.3	False	13C3-PFBS	114581.24	1162.50	PFBS	0.329	0.320	✓
PFHxA_1	313.0 / 269.0	1.91	423255.44	1006.88	907.6	False	13C5-PFHxA	491879.54	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	30945.79	987.18	706.7	False	13C5-PFHxA	491879.54	1250.00	PFHxA	0.073	0.075	✓
PFHpA_1	363.0 / 319.0	2.31	491217.69	974.81	992.4	False	13C4-PFHpA	617789.96	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	10170.37	1114.37	307.3	False	13C4-PFHpA	617789.96	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.33	399958.89	1139.65	5136.3	False	13C3-PFHxS	102052.08	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	117508.76	1153.21	771.3	False	13C3-PFHxS	102052.08	1182.50	PFHxS	0.294	0.290	✓
PFOA_1	413.0 / 369.0	2.71	487443.88	905.27	682.7	False	13C8-PFOA	573527.35	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.71	33702.78	889.72	2544.5	False	13C8-PFOA	573527.35	1222.50	PFOA	0.069	0.071	✓
PFNA_1	463.0 / 419.0	3.09	534623.43	1000.19	663.3	False	13C9-PFNA	550457.69	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.09	153246.91	1030.43	1442.9	False	13C9-PFNA	550457.69	1250.00	PFNA	0.287	0.276	✓
PFOS_1	499.0 / 80.0	3.08	422052.58	1024.80	1203.9	False	13C8-PFOS	98199.85	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.08	80239.42	1078.77	5512.5	False	13C8-PFOS	98199.85	1195.00	PFOS	0.190	0.182	✓
PFDA_1	513.0 / 469.0	3.43	534988.10	952.15	830.1	False	13C6-PFDA	601488.12	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.42	24088.35	1061.45	26601.3	False	13C6-PFDA	601488.12	1250.00	PFDA	0.045	0.040	✓
PFUnA_1	563.0 / 519.0	3.73	505957.52	960.00	1191.7	False	13C7-PFUnA	605862.05	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.73	25480.55	903.38	1645.4	False	13C7-PFUnA	605862.05	1250.00	PFUnA	0.050	0.054	✓
PFDoA_1	613.0 / 569.0	4.00	518321.01	988.49	1894.5	False	13C2-PFDoA	619687.05	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	80338.50	961.92	3069.1	False	13C2-PFDoA	619687.05	1250.00	PFDoA	0.155	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.24	462443.82	1031.74	3220.4	False	13C2-PFTeDA	664574.01	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.24	29844.26	922.90	1747.9	False	13C2-PFTeDA	664574.01	1250.00	PFTTrDA	0.065	0.072	✓
PFTeDA_1	713.0 / 669.0	4.45	584573.99	1000.24	4229.1	False	13C2-PFTeDA	664574.01	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.45	32733.11	992.90	3449.8	False	13C2-PFTeDA	664574.01	1250.00	PFTeDA	0.056	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.57	93648.88	919.15	1885.0	False	d3-MeFOSAA	118243.08	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.58	72265.96	1019.56	37917.4	False	d3-MeFOSAA	118243.08	1250.00	NMeFOSAA	0.772	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.73	102847.08	1098.34	61237.4	False	d5-EtFOSAA	115113.14	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.73	4210.63	718.56	705497.0	False	d5-EtFOSAA	115113.14	1250.00	NEtFOSAA	0.041	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.02	320268.50	1069.06	5965.6	False	13C3-HFPO-DA	331369.17	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.02	8693.37	1156.07	1323.9	False	13C3-HFPO-DA	331369.17	1250.00	HFPO-DA	0.027	0.025	✓
ADONA_1	377.0 / 251.0	2.34	1108262.52	1125.23	3896.4	False	13C8-PFOA	573527.35	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.34	16246.53	1258.00	867.8	False	13C8-PFOA	573527.35	1222.50	ADONA	0.015	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.26	834182.80	951.75	2233.9	False	13C8-PFOA	573527.35	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.26	7429.66	934.11	487.2	False	13C8-PFOA	573527.35	1222.50	9CI-PF3ONS	0.009	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.85	805881.30	1035.41	3157.1	False	13C8-PFOA	573527.35	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.85	4367.00	1173.58	2070.9	False	13C8-PFOA	573527.35	1222.50	11Cl-pf3OUdS	0.005	0.005	✓



PFAS QC Sample Quant Report

Created with Analyst Reporter
Printed: 17/11/2020 5:35:11 PM

Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:35:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	718514.00	2181.36	22622.1	False	13C3-PFBS	137078.71	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	238019.36	2293.04	7729.7	False	13C3-PFBS	137078.71	1162.50	PFBS	0.331	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1274676.66	2434.58	1317.2	False	13C5-PFHxA	605674.92	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	87747.58	2279.05	1066.5	False	13C5-PFHxA	605674.92	1250.00	PFHxA	0.069	0.075	✓
PFHpA_1	363.0 / 319.0	2.31	1503637.48	2488.56	1220.6	False	13C4-PFHpA	739783.24	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	26056.09	2380.18	9827.4	False	13C4-PFHpA	739783.24	1250.00	PFHpA	0.017	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1139324.67	2495.05	4011.1	False	13C3-PFHxS	131312.97	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	315746.97	2382.30	4250.7	False	13C3-PFHxS	131312.97	1182.50	PFHxS	0.277	0.290	✓
PFOA_1	413.0 / 369.0	2.70	1559385.26	2321.18	1098.3	False	13C8-PFOA	702474.64	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	103298.14	2181.60	2003.1	False	13C8-PFOA	702474.64	1222.50	PFOA	0.066	0.071	✓
PFNA_1	463.0 / 419.0	3.07	1615522.12	2387.44	1662.6	False	13C9-PFNA	699760.12	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	449474.87	2346.72	3607.9	False	13C9-PFNA	699760.12	1250.00	PFNA	0.278	0.276	✓
PFOS_1	499.0 / 80.0	3.07	1227377.13	2419.49	2117.0	False	13C8-PFOS	121275.16	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	222603.63	2466.17	2945.2	False	13C8-PFOS	121275.16	1195.00	PFOS	0.181	0.182	✓
PFDA_1	513.0 / 469.0	3.41	1577901.40	2460.03	1375.2	False	13C6-PFDA	711303.75	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	62661.51	2284.90	4251.6	False	13C6-PFDA	711303.75	1250.00	PFDA	0.040	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	1423651.43	2227.25	2208.5	False	13C7-PFUnA	708247.08	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	71573.15	2116.09	1479.4	False	13C7-PFUnA	708247.08	1250.00	PFUnA	0.050	0.054	✓
PFDaA_1	613.0 / 569.0	3.98	1468852.52	2633.33	3565.8	False	13C2-PFDaA	665635.95	1250.00	PFDaA			
PFDaA_2	613.0 / 319.0	3.98	231359.32	2581.00	4009.3	False	13C2-PFDaA	665635.95	1250.00	PFDaA	0.158	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	1331704.10	2476.18	5249.6	False	13C2-PFTeDA	821236.11	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.21	92123.89	2399.78	3066.7	False	13C2-PFTeDA	821236.11	1250.00	PFTTrDA	0.069	0.072	✓
PFTeDA_1	713.0 / 669.0	4.42	1748546.08	2462.54	10262.7	False	13C2-PFTeDA	821236.11	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	98113.49	2439.90	7677.4	False	13C2-PFTeDA	821236.11	1250.00	PFTeDA	0.056	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	257882.50	2353.48	772755.1	False	d3-MeFOSAA	126097.38	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	175896.13	2371.71	9212.2	False	d3-MeFOSAA	126097.38	1250.00	NMeFOSAA	0.682	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	279913.48	2474.01	16381.6	False	d5-EtFOSAA	139172.30	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	15351.84	2054.51	15544.9	False	d5-EtFOSAA	139172.30	1250.00	NEtFOSAA	0.055	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	885433.35	2538.00	5711.8	False	13C3-HFPO-DA	384244.11	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	23961.40	2694.52	678.1	False	13C3-HFPO-DA	384244.11	1250.00	HFPO-DA	0.027	0.025	✓
ADONA_1	377.0 / 251.0	2.33	3040330.03	2506.86	5156.0	False	13C8-PFOA	702474.64	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	38883.97	2443.49	15883479.1	False	13C8-PFOA	702474.64	1222.50	ADONA	0.013	0.013	✓
9Cl-PF3ONS_1	531.0 / 351.0	3.25	2544482.49	2329.49	4327.8	False	13C8-PFOA	702474.64	1222.50	9Cl-PF3ONS			
9Cl-PF3ONS_2	531.0 / 83.0	3.24	22409.54	2370.72	149102.9	False	13C8-PFOA	702474.64	1222.50	9Cl-PF3ONS	0.009	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	2171827.32	2222.93	4716.0	False	13C8-PFOA	702474.64	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	11447.13	2406.34	19951.9	False	13C8-PFOA	702474.64	1222.50	11Cl-PF3OUdS	0.005	0.005	✓



Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:13:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	745198.60	2302.67	9821.7	False	13C3-PFBS	134553.33	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	240485.34	2359.69	8013.1	False	13C3-PFBS	134553.33	1162.50	PFBS	0.323	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1283134.63	2357.93	1071.1	False	13C5-PFHxA	629678.42	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	95554.08	2387.41	998.4	False	13C5-PFHxA	629678.42	1250.00	PFHxA	0.074	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	1532420.32	2697.58	1479.3	False	13C4-PFHpA	695478.44	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	32832.85	3189.10	6539.8	False	13C4-PFHpA	695478.44	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1126420.36	2532.26	3451.3	False	13C3-PFHxS	127900.42	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	331301.04	2564.52	1588.3	False	13C3-PFHxS	127900.42	1182.50	PFHxS	0.294	0.290	✓
PFOA_1	413.0 / 369.0	2.69	1581118.23	2362.73	1077.7	False	13C8-PFOA	699596.43	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	97952.14	2078.64	977.0	False	13C8-PFOA	699596.43	1222.50	PFOA	0.062	0.071	✓
PFNA_1	463.0 / 419.0	3.06	1554285.38	2208.01	1765.4	False	13C9-PFNA	727767.34	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	424724.77	2134.31	2687.4	False	13C9-PFNA	727767.34	1250.00	PFNA	0.273	0.276	✓
PFOS_1	499.0 / 80.0	3.06	1321903.09	2692.36	1662.0	False	13C8-PFOS	117400.33	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	228923.17	2622.04	1413.8	False	13C8-PFOS	117400.33	1195.00	PFOS	0.173	0.182	✓
PFDA_1	513.0 / 469.0	3.40	1626435.58	2800.59	1549.4	False	13C6-PFDA	645807.63	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	66785.41	2675.01	2627.1	False	13C6-PFDA	645807.63	1250.00	PFDA	0.041	0.040	✓
PFUnA_1	563.0 / 519.0	3.70	1412453.43	2282.63	2134.5	False	13C7-PFUnA	685170.57	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	69495.69	2123.73	2168.3	False	13C7-PFUnA	685170.57	1250.00	PFUnA	0.049	0.054	✓
PFDoA_1	613.0 / 569.0	3.97	1393054.72	2440.95	2751.8	False	13C2-PFDoA	680727.29	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	221323.69	2414.23	3767.3	False	13C2-PFDoA	680727.29	1250.00	PFDoA	0.159	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.20	1312389.79	2345.18	5142.6	False	13C2-PFTeDA	853514.20	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.20	97922.83	2455.81	3303.9	False	13C2-PFTeDA	853514.20	1250.00	PFTTrDA	0.075	0.072	✓
PFTeDA_1	713.0 / 669.0	4.41	1816332.61	2461.25	9069.6	False	13C2-PFTeDA	853514.20	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	100617.05	2407.24	7834.9	False	13C2-PFTeDA	853514.20	1250.00	PFTeDA	0.055	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.55	262916.23	2307.46	87407.4	False	d3-MeFOSAA	131128.34	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	175572.53	2274.66	5328.5	False	d3-MeFOSAA	131128.34	1250.00	NMeFOSAA	0.668	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.70	257539.01	2332.75	14163.7	False	d5-EtFOSAA	135809.33	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.70	15723.91	2154.52	1651.4	False	d5-EtFOSAA	135809.33	1250.00	NEtFOSAA	0.061	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.00	878790.34	2422.11	5188.4	False	13C3-HFPO-DA	399667.19	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.00	21652.02	2345.96	5986706.3	False	13C3-HFPO-DA	399667.19	1250.00	HFPO-DA	0.025	0.025	✓
ADONA_1	377.0 / 251.0	2.32	2969725.25	2458.93	5803.3	False	13C8-PFOA	699596.43	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.32	37698.04	2379.12	7983.0	False	13C8-PFOA	699596.43	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.24	2521668.63	2318.23	4109.1	False	13C8-PFOA	699596.43	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.24	24681.24	2626.89	23721.6	False	13C8-PFOA	699596.43	1222.50	9CI-PF3ONS	0.010	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.83	2324460.22	2385.51	4651.0	False	13C8-PFOA	699596.43	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.83	9778.90	2077.24	10074.6	False	13C8-PFOA	699596.43	1222.50	11CI-PF3OUdS	0.004	0.005	✓

Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	292139.64	922.41	4475.2	False	13C3-PFBS	135090.20	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	88875.31	881.29	5154.4	False	13C3-PFBS	135090.20	1162.50	PFBS	0.304	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	481824.55	910.24	842.3	False	13C5-PFHxA	620688.09	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	34868.57	881.01	590.4	False	13C5-PFHxA	620688.09	1250.00	PFHxA	0.072	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	555259.15	993.77	908.7	False	13C4-PFHpA	684981.50	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	8692.51	859.81	1939.4	False	13C4-PFHpA	684981.50	1250.00	PFHpA	0.016	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	419889.00	952.99	4767.4	False	13C3-PFHxS	128642.23	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	124110.59	970.09	1826.8	False	13C3-PFHxS	128642.23	1182.50	PFHxS	0.296	0.290	✓
PFOA_1	413.0 / 369.0	2.69	635094.36	965.55	714.3	False	13C8-PFOA	699263.53	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	36749.05	798.85	880.5	False	13C8-PFOA	699263.53	1222.50	PFOA	0.058	0.071	✓
PFNA_1	463.0 / 419.0	3.06	639822.72	1007.89	1167.2	False	13C9-PFNA	653777.01	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	164992.36	936.28	1896.4	False	13C9-PFNA	653777.01	1250.00	PFNA	0.258	0.276	✓
PFOS_1	499.0 / 80.0	3.06	514226.11	1138.15	1651.9	False	13C8-PFOS	107778.69	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	90810.47	1113.46	29200.4	False	13C8-PFOS	107778.69	1195.00	PFOS	0.177	0.182	✓
PFDA_1	513.0 / 469.0	3.40	630396.51	915.99	772.1	False	13C6-PFDA	735095.88	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	25848.60	937.07	32393.0	False	13C6-PFDA	735095.88	1250.00	PFDA	0.041	0.040	✓
PFUnA_1	563.0 / 519.0	3.70	605147.84	992.62	1450.4	False	13C7-PFUnA	699305.30	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	32898.22	1005.89	1123.0	False	13C7-PFUnA	699305.30	1250.00	PFUnA	0.054	0.054	✓
PFDoA_1	613.0 / 569.0	3.97	527417.94	924.50	1891.8	False	13C2-PFDoA	673484.57	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	92389.18	1017.92	2349.7	False	13C2-PFDoA	673484.57	1250.00	PFDoA	0.175	0.159	✓
PFTeDA_1	663.0 / 619.0	4.21	495475.18	955.78	2692.5	False	13C2-PFTeDA	765606.52	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	4.21	35632.40	958.78	2448.9	False	13C2-PFTeDA	765606.52	1250.00	PFTeDA	0.072	0.072	✓
PFTeDA_1	713.0 / 669.0	4.41	661227.86	981.56	4959.4	False	13C2-PFTeDA	765606.52	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	37410.38	984.85	4038.0	False	13C2-PFTeDA	765606.52	1250.00	PFTeDA	0.057	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.55	106686.79	863.22	1476.8	False	d3-MeFOSAA	143594.68	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	70573.88	814.28	1018.0	False	d3-MeFOSAA	143594.68	1250.00	NMeFOSAA	0.662	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.70	108899.62	877.49	360043.4	False	d5-EtFOSAA	152455.10	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	4750.76	621.26	1048.7	False	d5-EtFOSAA	152455.10	1250.00	NEtFOSAA	0.044	0.060	✓
HFPO_1	285.0 / 169.0	2.00	357744.96	1004.07	3657.3	False	13C3-HFPO-DA	394295.16	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	8482.26	954.97	97209.5	False	13C3-HFPO-DA	394295.16	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.32	1199065.43	999.73	4014.6	False	13C8-PFOA	699263.53	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.32	16295.00	1037.61	25662.3	False	13C8-PFOA	699263.53	1222.50	ADONA	0.014	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.24	962229.92	901.91	2558.9	False	13C8-PFOA	699263.53	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.24	11100.25	1155.51	217493.8	False	13C8-PFOA	699263.53	1222.50	9CI-PF3ONS	0.012	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.83	871551.44	923.64	3433.1	False	13C8-PFOA	699263.53	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.82	3473.48	797.70	356094.5	False	13C8-PFOA	699263.53	1222.50	11CI-PF3OUdS	0.004	0.005	✓



Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	707521.67	1240.17	7069.1	False	13C2-PFDA	638116.26	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	126674.14	1058.20	2651.9	False	13C4-PFOS	127723.90	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	133087.12	1102.76	1788.3	False	13C4-PFOS	127723.90	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	650014.66	1189.22	4604.3	False	13C2-PFOA	753761.37	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	723857.44	1156.55	8744.1	False	13C2-PFOA	753761.37	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	716777.87	1160.01	4712.3	False	13C2-PFOA	753761.37	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	709693.75	1181.05	3959.8	False	13C2-PFOA	753761.37	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	700686.01	1296.40	9084.7	False	13C2-PFDA	638116.26	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	696475.72	1237.95	4447.0	False	13C2-PFDA	638116.26	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	818626.16	1280.97	16687.7	False	13C2-PFDA	638116.26	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	139658.78	1074.22	5856.8	False	13C4-PFOS	127723.90	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	131076.89	1058.10	7404.1	False	13C4-PFOS	127723.90	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	130800.82	1192.70	3260.7	False	13C4-PFOS	127723.90	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	414589.23	1150.14	5102.1	False	13C2-PFOA	753761.37	1250.00		N/A	N/A	✓



Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:45:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	673374.31	1083.59	6079.6	False	13C2-PFDA	695074.45	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	124705.70	1173.62	2782.2	False	13C4-PFOS	113373.88	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	145705.03	1360.12	2731.7	False	13C4-PFOS	113373.88	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	584879.66	1149.55	5840.8	False	13C2-PFOA	701634.68	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	706686.44	1213.00	12490.4	False	13C2-PFOA	701634.68	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	708585.82	1231.95	12096.3	False	13C2-PFOA	701634.68	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	662451.89	1184.34	22191.2	False	13C2-PFOA	701634.68	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	653968.31	1110.81	6459.5	False	13C2-PFDA	695074.45	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	709682.67	1158.05	6861.3	False	13C2-PFDA	695074.45	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	779185.57	1119.34	14973.8	False	13C2-PFDA	695074.45	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	137691.78	1193.14	14304.8	False	13C4-PFOS	113373.88	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	125381.25	1140.22	974322.6	False	13C4-PFOS	113373.88	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	127966.09	1314.54	1888.7	False	13C4-PFOS	113373.88	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	388383.56	1157.49	7534.2	False	13C2-PFOA	701634.68	1250.00		N/A	N/A	✓



Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:12:26 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.96	701305.04	1125.59	5200.4	False	13C2-PFDA	696896.33	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	123802.81	995.09	2354.1	False	13C4-PFOS	132745.36	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	141546.23	1128.48	2411.1	False	13C4-PFOS	132745.36	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	667513.31	1207.22	7825.8	False	13C2-PFOA	762511.03	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.28	749616.47	1183.96	13399.5	False	13C2-PFOA	762511.03	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	733066.98	1172.76	12870.0	False	13C2-PFOA	762511.03	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	724919.22	1192.55	162410.5	False	13C2-PFOA	762511.03	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	679564.44	1151.27	8488.9	False	13C2-PFDA	696896.33	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	695534.78	1132.00	5576.0	False	13C2-PFDA	696896.33	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	853922.25	1223.50	15146.3	False	13C2-PFDA	696896.33	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	143173.47	1059.59	105220.1	False	13C4-PFOS	132745.36	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	131344.11	1020.15	7333.2	False	13C4-PFOS	132745.36	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.04	122793.42	1077.33	2486.8	False	13C4-PFOS	132745.36	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	437914.03	1200.91	6052.7	False	13C2-PFOA	762511.03	1250.00		N/A	N/A	✓



Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 10:46:04 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.99	619687.05	1164.04	9021.6	False	13C2-PFDA	595448.44	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.57	117569.43	1196.60	3066.3	False	13C4-PFOS	104833.29	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.72	116429.34	1175.38	1635.5	False	13C4-PFOS	104833.29	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	491879.54	1153.97	5837.4	False	13C2-PFOA	587808.58	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.30	617789.96	1265.76	421283.6	False	13C2-PFOA	587808.58	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.70	573527.35	1190.23	1166328.0	False	13C2-PFOA	587808.58	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.07	550457.69	1174.68	1112855.4	False	13C2-PFOA	587808.58	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.41	601488.12	1192.61	7828.2	False	13C2-PFDA	595448.44	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.71	605862.05	1154.05	4221.9	False	13C2-PFDA	595448.44	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.44	664574.01	1114.43	13171.5	False	13C2-PFDA	595448.44	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	114581.24	1073.77	17884.4	False	13C4-PFOS	104833.29	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.32	102052.08	1003.68	10672278.0	False	13C4-PFOS	104833.29	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.07	98199.85	1090.95	1839.6	False	13C4-PFOS	104833.29	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.02	331369.17	1178.81	26624.7	False	13C2-PFOA	587808.58	1250.00		N/A	N/A	✓



Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:35:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	665635.95	1183.44	6004.0	False	13C2-PFDA	629117.32	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	125430.73	1000.54	2115.3	False	13C4-PFOS	133758.12	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	139559.59	1104.22	1970.5	False	13C4-PFOS	133758.12	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	605674.92	1204.15	6432.1	False	13C2-PFOA	693634.85	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	739783.24	1284.46	6676.6	False	13C2-PFOA	693634.85	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	702474.64	1235.41	208679.1	False	13C2-PFOA	693634.85	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	699760.12	1265.47	7449.2	False	13C2-PFOA	693634.85	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	711303.75	1334.87	7481.5	False	13C2-PFDA	629117.32	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	708247.08	1276.88	6969.3	False	13C2-PFDA	629117.32	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	821236.11	1303.44	15622.5	False	13C2-PFDA	629117.32	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	137078.71	1006.81	65573.1	False	13C4-PFOS	133758.12	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	131312.97	1012.18	1469.1	False	13C4-PFOS	133758.12	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	121275.16	1055.95	38490.4	False	13C4-PFOS	133758.12	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	384244.11	1158.36	6671.7	False	13C2-PFOA	693634.85	1250.00		N/A	N/A	✓



Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:13:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.96	680727.29	1229.09	6221.1	False	13C2-PFDA	619484.74	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	130485.88	1215.74	2066.5	False	13C4-PFOS	114518.11	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.69	138083.43	1276.10	2128.8	False	13C4-PFOS	114518.11	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	629678.42	1268.10	6448.8	False	13C2-PFOA	684756.41	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	695478.44	1223.19	7153.4	False	13C2-PFOA	684756.41	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	699596.43	1246.30	7436.7	False	13C2-PFOA	684756.41	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	727767.34	1333.18	6377.9	False	13C2-PFOA	684756.41	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	645807.63	1230.80	5513.8	False	13C2-PFDA	619484.74	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	685170.57	1254.48	4557.4	False	13C2-PFDA	619484.74	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.40	853514.20	1375.73	18566.5	False	13C2-PFDA	619484.74	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	134553.33	1154.29	8996.2	False	13C4-PFOS	114518.11	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	127900.42	1151.51	1005640.7	False	13C4-PFOS	114518.11	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	117400.33	1193.95	2708.8	False	13C4-PFOS	114518.11	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.00	399667.19	1220.48	5148.4	False	13C2-PFOA	684756.41	1250.00		N/A	N/A	✓



Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.96	673484.57	1127.98	7800.7	False	13C2-PFDA	667828.18	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.54	142604.09	1257.89	2136.9	False	13C4-PFOS	120959.61	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.69	153095.27	1339.48	2325.9	False	13C4-PFOS	120959.61	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	620688.09	1221.30	7382.8	False	13C2-PFOA	700847.90	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.28	684981.50	1177.07	6989.5	False	13C2-PFOA	700847.90	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	699263.53	1217.11	4797.7	False	13C2-PFOA	700847.90	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	653777.01	1170.14	5129.0	False	13C2-PFOA	700847.90	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	735095.88	1299.55	4216.0	False	13C2-PFDA	667828.18	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	699305.30	1187.68	6348.0	False	13C2-PFDA	667828.18	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	765606.52	1144.71	14110.2	False	13C2-PFDA	667828.18	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	135090.20	1097.18	73411.6	False	13C4-PFOS	120959.61	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	128642.23	1096.51	3723788.4	False	13C4-PFOS	120959.61	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.04	107778.69	1037.73	1909.5	False	13C4-PFOS	120959.61	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.00	394295.16	1176.43	5876.6	False	13C2-PFOA	700847.90	1250.00		N/A	N/A	✓

Raw Analytical Data

Sample Name	LE58 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:35:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	3866.24	50.37	161.8	False	13C3-PFBS	129860.48	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	2023.81	40.48	153.8	False	13C3-PFBS	129860.48	1162.50	PFBS	0.523	0.320	
PFHxA_1	313.0 / 269.0	1.91	7358.34	32.98	31.2	False	13C5-PFHxA	620766.49	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.93	488.99	7.98	14.8	False	13C5-PFHxA	620766.49	1250.00	PFHxA	0.066	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	9507.35	18.76	35.0	False	13C4-PFHpA	699613.12	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.34	345.42	36.82	26.8	False	13C4-PFHpA	699613.12	1250.00	PFHpA	0.036	0.018	
PFHxS_1	399.0 / 80.0	2.32	5799.09	35.00	424.3	True	13C3-PFHxS	138133.19	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	1806.78	36.61	32.2	True	13C3-PFHxS	138133.19	1182.50	PFHxS	0.312	0.290	✓
PFOA_1	413.0 / 369.0	2.70	9468.91	41.43	31.4	False	13C8-PFOA	671115.83	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	437.31	39.36	12.7	True	13C8-PFOA	671115.83	1222.50	PFOA	0.046	0.071	✓
PFNA_1	463.0 / 419.0	3.07	11435.19	10.27	45.7	False	13C9-PFNA	678656.07	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	3846.43	44.00	73.7	False	13C9-PFNA	678656.07	1250.00	PFNA	0.336	0.276	✓
PFOS_1	499.0 / 80.0	3.08	8951.95	12.56	37.6	True	13C8-PFOS	124506.38	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.05	2383.15	< 0	216.2	False	13C8-PFOS	124506.38	1195.00	PFOS	0.266	0.182	✓
PFDA_1	513.0 / 469.0	3.42	15419.95	< 0	50.3	False	13C6-PFDA	723212.04	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	395.35	55.58	304.1	False	13C6-PFDA	723212.04	1250.00	PFDA	0.026	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	9226.40	73.53	82.6	False	13C7-PFUnA	700738.90	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	700738.90	1250.00	PFUnA	N/A	0.054	
PFDoA_1	613.0 / 569.0	3.98	16041.38	11.71	164.8	False	13C2-PFDoA	706605.43	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.99	2558.60	25.67	138.5	False	13C2-PFDoA	706605.43	1250.00	PFDoA	0.160	0.159	✓
PFTeDA_1	663.0 / 619.0	4.22	13538.06	< 0	194.7	False	13C2-PFTeDA	851170.33	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	4.22	1288.59	< 0	110.8	False	13C2-PFTeDA	851170.33	1250.00	PFTeDA	0.095	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	22287.16	1.48	344.4	False	13C2-PFTeDA	851170.33	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	864.40	< 0	153.3	False	13C2-PFTeDA	851170.33	1250.00	PFTeDA	0.039	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	3156.96	45.57	627.3	False	d3-MeFOSAA	127979.20	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	2717.00	10.73	10350.7	True	d3-MeFOSAA	127979.20	1250.00	NMeFOSAA	0.861	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	3580.55	28.24	937.0	False	d5-EtFOSAA	136256.81	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	136256.81	1250.00	NEtFOSAA	N/A	0.060	
HFPO-DA_1	285.0 / 169.0	2.00	7071.41	26.59	123.3	False	13C3-HFPO-DA	414489.96	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.00	325.91	72.31	7087.0	False	13C3-HFPO-DA	414489.96	1250.00	HFPO-DA	0.046	0.025	
ADONA_1	377.0 / 251.0	2.34	20823.65	28.69	217.6	False	13C8-PFOA	671115.83	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.37	465.61	45.84	645.5	False	13C8-PFOA	671115.83	1222.50	ADONA	0.022	0.013	
9CI-PF3ONS_1	531.0 / 351.0	3.25	14038.74	40.62	138.8	False	13C8-PFOA	671115.83	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	671115.83	1222.50	9CI-PF3ONS	N/A	0.009	
11CI-pf3OUdS_1	631.0 / 451.0	3.84	15685.23	62.50	288.3	False	13C8-PFOA	671115.83	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.84	199.59	134.55	51.0	False	13C8-PFOA	671115.83	1222.50	11CI-pf3OUdS	0.013	0.005	

Sample Name	DB009PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:18:42 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	1992.77	43.09	87.5	False	13C3-PFBS	166558.20	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	1041.45	28.27	55.2	False	13C3-PFBS	166558.20	1162.50	PFBS	0.523	0.320	
PFHxA_1	313.0 / 269.0	1.90	9775.73	35.54	37.0	False	13C5-PFHxA	694152.89	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	599.13	9.16	11.3	True	13C5-PFHxA	694152.89	1250.00	PFHxA	0.061	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	2870.78	6.57	12.3	False	13C4-PFHpA	790550.34	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	790550.34	1250.00	PFHpA	N/A	0.018	
PFHxS_1	399.0 / 80.0	2.33	3571.77	29.82	40.2	True	13C3-PFHxS	150075.72	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	2108.68	37.57	28.3	True	13C3-PFHxS	150075.72	1182.50	PFHxS	0.590	0.290	
PFOA_1	413.0 / 369.0	2.70	5832.33	34.63	20.4	False	13C8-PFOA	773984.16	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	437.30	38.09	10.3	True	13C8-PFOA	773984.16	1222.50	PFOA	0.075	0.071	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	808758.78	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	808758.78	1250.00	PFNA	N/A	0.276	✓
PFOS_1	499.0 / 80.0	3.06	103507.96	171.95	344.5	True	13C8-PFOS	140378.24	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	16885.12	129.48	297.6	False	13C8-PFOS	140378.24	1195.00	PFOS	0.163	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	823668.31	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	823668.31	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	773500.69	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	773500.69	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	3137.10	< 0	24.8	False	13C2-PFDoA	741766.22	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	82.61	< 0	6.4	False	13C2-PFDoA	741766.22	1250.00	PFDoA	0.026	0.159	✓
PFTeDA_1	663.0 / 619.0	4.21	1281.66	< 0	25.5	False	13C2-PFTeDA	932172.66	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	932172.66	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.43	2809.14	< 0	46.7	False	13C2-PFTeDA	932172.66	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	932172.66	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	158391.18	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	158391.18	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	156212.96	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	156212.96	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	427107.95	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	427107.95	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	773984.16	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:35:15 PM

Sample Name	DB010LCS-FS(0)	Injection Vial	13
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:29:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	2797621.66	8934.69	41365.8	False	13C3-PFBS	128575.91	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	858545.48	8760.93	17659.1	False	13C3-PFBS	128575.91	1162.50	PFBS	0.307	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	4712400.24	9288.64	3072.0	False	13C5-PFHxA	583432.43	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	347719.02	9389.37	3295.7	False	13C5-PFHxA	583432.43	1250.00	PFHxA	0.074	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	4781301.70	8664.49	2497.3	False	13C4-PFHpA	675223.07	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	92372.49	9234.78	1981.2	False	13C4-PFHpA	675223.07	1250.00	PFHpA	0.019	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	3985463.05	9634.72	7891.3	False	13C3-PFHxS	118138.51	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	1196307.89	9956.30	3688.0	False	13C3-PFHxS	118138.51	1182.50	PFHxS	0.300	0.290	✓
PFOA_1	413.0 / 369.0	2.69	5557410.07	9086.57	2304.4	False	13C8-PFOA	634003.49	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	378961.99	8776.43	1981.7	False	13C8-PFOA	634003.49	1222.50	PFOA	0.068	0.071	✓
PFNA_1	463.0 / 419.0	3.07	5345661.73	7643.85	3001.3	False	13C9-PFNA	724701.31	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	1543102.49	7724.91	4092.8	False	13C9-PFNA	724701.31	1250.00	PFNA	0.289	0.276	✓
PFOS_1	499.0 / 80.0	3.06	4103244.73	8290.07	2997.9	False	13C8-PFOS	118489.08	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	740293.93	8477.03	2861.0	False	13C8-PFOS	118489.08	1195.00	PFOS	0.180	0.182	✓
PFDA_1	513.0 / 469.0	3.41	5466878.29	9492.63	3129.2	False	13C6-PFDA	649575.31	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.41	230676.35	9084.45	7790.3	False	13C6-PFDA	649575.31	1250.00	PFDA	0.042	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	4593357.91	8422.32	3315.7	False	13C7-PFUnA	592368.89	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	254124.99	8856.77	2862.5	False	13C7-PFUnA	592368.89	1250.00	PFUnA	0.055	0.054	✓
PFDoA_1	613.0 / 569.0	3.98	4613130.72	8990.80	4938.1	False	13C2-PFDoA	614847.59	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	742421.48	8969.51	7160.7	False	13C2-PFDoA	614847.59	1250.00	PFDoA	0.161	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	4120650.97	8052.90	5633.6	False	13C2-PFTeDA	793090.37	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.21	288184.25	7914.61	5963.1	False	13C2-PFTeDA	793090.37	1250.00	PFTTrDA	0.070	0.072	✓
PFTeDA_1	713.0 / 669.0	4.42	6428890.21	9457.22	17556.4	False	13C2-PFTeDA	793090.37	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	368554.65	9554.47	15586.6	False	13C2-PFTeDA	793090.37	1250.00	PFTeDA	0.057	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.56	910025.24	8301.62	8713.8	False	d3-MeFOSAA	127245.62	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.56	653311.90	9022.25	5460.1	False	d3-MeFOSAA	127245.62	1250.00	NMeFOSAA	0.718	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.71	910850.21	8361.03	4010.5	False	d5-EtFOSAA	133291.61	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.71	58077.02	8233.26	5647007.4	False	d5-EtFOSAA	133291.61	1250.00	NEtFOSAA	0.064	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.01	3176247.84	8709.07	8100.0	False	13C3-HFPO-DA	400802.69	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	76192.56	8134.55	3760.6	False	13C3-HFPO-DA	400802.69	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.33	10250680.81	9335.33	9966.9	False	13C8-PFOA	634003.49	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.33	123824.96	8582.65	23075.9	False	13C8-PFOA	634003.49	1222.50	ADONA	0.012	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	9202429.77	9252.60	5663.1	False	13C8-PFOA	634003.49	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	80727.76	9606.61	6248.9	False	13C8-PFOA	634003.49	1222.50	9CI-PF3ONS	0.009	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.83	7187271.44	8028.08	7171.5	False	13C8-PFOA	634003.49	1222.50	11CI-PF3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	3.83	34938.61	7917.90	2363.4	False	13C8-PFOA	634003.49	1222.50	11CI-PF3OUdS	0.005	0.005	✓

Sample Name	G1797-FS(0)	Injection Vial	14
Sample ID	CBD-AOA-FB05-102020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:40:25 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	455.51	39.58	17.1	False	13C3-PFBS	134044.28	1162.50	PFBS			
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	134044.28	1162.50	PFBS	N/A	0.320	
PFHxA_1	313.0 / 269.0	1.91	17993.23	53.14	52.3	True	13C5-PFHxA	611497.49	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	1493.62	34.06	32.8	False	13C5-PFHxA	611497.49	1250.00	PFHxA	0.083	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	3560.59	8.10	15.3	False	13C4-PFHpA	730165.71	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	730165.71	1250.00	PFHpA	N/A	0.018	
PFHxS_1	399.0 / 80.0	2.32	2934.47	29.40	76.8	False	13C3-PFHxS	131261.31	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	2943.98	45.78	22.3	False	13C3-PFHxS	131261.31	1182.50	PFHxS	1.003	0.290	
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	PFOA	N/A	0.071	✓
PFNA_1	463.0 / 419.0	3.07	2841.68	< 0	15.4	True	13C9-PFNA	687006.48	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	687006.48	1250.00	PFNA	N/A	0.276	
PFOS_1	499.0 / 80.0	3.06	33577.71	62.90	122.2	True	13C8-PFOS	119050.34	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.04	9544.84	74.84	632.0	False	13C8-PFOS	119050.34	1195.00	PFOS	0.284	0.182	
PFDA_1	513.0 / 469.0	3.43	2972.10	< 0	15.3	False	13C6-PFDA	701814.26	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	701814.26	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	753998.39	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	753998.39	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	3.99	3780.83	< 0	33.9	False	13C2-PFDoA	675154.22	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	231.28	1.31	12.2	False	13C2-PFDoA	675154.22	1250.00	PFDoA	0.061	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	3080.72	< 0	47.4	False	13C2-PFTeDA	794878.30	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	794878.30	1250.00	PFTTrDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.43	10232.83	< 0	139.4	False	13C2-PFTeDA	794878.30	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	794878.30	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	175862.09	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	175862.09	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	178023.97	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	178023.97	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.98	991.79	10.56	17.1	False	13C3-HFPO-DA	403327.07	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	403327.07	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.83	3143.17	49.20	56.7	False	13C8-PFOA	702274.15	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	702274.15	1222.50	11Cl-PF3OUdS	N/A	0.005	

Sample Name	G1798-FS(0)	Injection Vial	15
Sample ID	CBD-AOA-EB01-102020-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:51:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	757.87	40.43	26.4	False	13C3-PFBS	138675.98	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	1792.65	37.00	62.6	False	13C3-PFBS	138675.98	1162.50	PFBS	2.365	0.320	
PFHxA_1	313.0 / 269.0	1.91	8619.08	34.17	12.2	False	13C5-PFHxA	668500.10	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.95	1367.58	27.80	21.1	False	13C5-PFHxA	668500.10	1250.00	PFHxA	0.159	0.075	
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	742251.73	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	742251.73	1250.00	PFHpA	N/A	0.018	✓
PFHxS_1	399.0 / 80.0	2.33	2651.87	28.24	15.5	False	13C3-PFHxS	145164.37	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	145164.37	1182.50	PFHxS	N/A	0.290	
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	PFOA	N/A	0.071	✓
PFNA_1	463.0 / 419.0	3.07	9702.06	7.07	29.7	False	13C9-PFNA	704602.15	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	4282.27	45.48	74.5	False	13C9-PFNA	704602.15	1250.00	PFNA	0.441	0.276	
PFOS_1	499.0 / 80.0	3.07	376755.18	634.19	460.9	False	13C8-PFOS	141258.39	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	13982.83	100.47	1323.8	True	13C8-PFOS	141258.39	1195.00	PFOS	0.037	0.182	
PFDA_1	513.0 / 469.0	3.43	5793.67	< 0	29.1	False	13C6-PFDA	798025.40	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	798025.40	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	3.70	8444.84	70.47	48.9	False	13C7-PFUnA	817679.28	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	812.49	59.34	34.8	False	13C7-PFUnA	817679.28	1250.00	PFUnA	0.096	0.054	
PFDoA_1	613.0 / 569.0	3.97	1053.79	< 0	12.0	False	13C2-PFDoA	596268.52	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	289.67	2.38	23.4	False	13C2-PFDoA	596268.52	1250.00	PFDoA	0.275	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.21	5435.27	< 0	89.2	False	13C2-PFTeDA	491965.52	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.20	324.01	< 0	24.1	False	13C2-PFTeDA	491965.52	1250.00	PFTTrDA	0.060	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	2822.17	< 0	38.2	False	13C2-PFTeDA	491965.52	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	491965.52	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	130381.09	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	130381.09	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	184599.49	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	184599.49	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	409616.16	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	409616.16	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	ADONA	N/A	0.013	✓
9Cl-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	9Cl-PF3ONS			
9Cl-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	9Cl-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.82	2358.10	48.34	63.9	False	13C8-PFOA	724982.60	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724982.60	1222.50	11Cl-PF3OUdS	N/A	0.005	

Sample Name	G1804-FS(0)	Injection Vial	16
Sample ID	CBD-AOA-EB01-102120-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:02:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	2000.90	43.54	73.3	False	13C3-PFBS	152932.65	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	2044.55	37.58	73.6	False	13C3-PFBS	152932.65	1162.50	PFBS	1.022	0.320	
PFHxA_1	313.0 / 269.0	1.90	15069.94	44.13	23.7	False	13C5-PFHxA	698529.69	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	794.39	13.48	18.1	False	13C5-PFHxA	698529.69	1250.00	PFHxA	0.053	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	5828.87	10.99	18.7	False	13C4-PFHpA	805484.00	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	805484.00	1250.00	PFHpA	N/A	0.018	
PFHxS_1	399.0 / 80.0	2.32	10627.98	42.85	48.2	False	13C3-PFHxS	152800.30	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	3212.84	44.41	77.0	False	13C3-PFHxS	152800.30	1182.50	PFHxS	0.302	0.290	✓
PFOA_1	413.0 / 369.0	2.69	13685.46	45.27	45.0	False	13C8-PFOA	767643.99	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.71	1436.22	57.20	21.2	False	13C8-PFOA	767643.99	1222.50	PFOA	0.105	0.071	✓
PFNA_1	463.0 / 419.0	3.07	14117.51	12.47	44.7	False	13C9-PFNA	743885.98	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	4777.99	46.73	61.0	False	13C9-PFNA	743885.98	1250.00	PFNA	0.338	0.276	✓
PFOS_1	499.0 / 80.0	3.06	617089.63	1166.94	427.5	True	13C8-PFOS	126160.01	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	43697.27	437.48	2789.0	False	13C8-PFOS	126160.01	1195.00	PFOS	0.071	0.182	
PFDA_1	513.0 / 469.0	3.40	4617.02	< 0	20.2	False	13C6-PFDA	826324.58	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	826324.58	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	3.71	7695.72	69.54	38.0	False	13C7-PFUnA	812790.60	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	621.56	54.64	34.3	False	13C7-PFUnA	812790.60	1250.00	PFUnA	0.081	0.054	✓
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	814348.87	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	814348.87	1250.00	PFDoA	N/A	0.159	✓
PFTeDA_1	663.0 / 619.0	4.21	3072.24	< 0	38.0	False	13C2-PFTeDA	709718.90	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	709718.90	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.44	9282.27	< 0	112.5	False	13C2-PFTeDA	709718.90	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	709718.90	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	169034.97	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	169034.97	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	166467.54	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	166467.54	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.02	1407.23	11.32	33.9	False	13C3-HFPO-DA	446465.57	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	446465.57	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	767643.99	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	767643.99	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	767643.99	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	767643.99	1222.50	9CI-PF3ONS	N/A	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	3.84	905.06	46.88	25.4	False	13C8-PFOA	767643.99	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	767643.99	1222.50	11CI-pf3OUdS	N/A	0.005	

Sample Name	G1794-FS(0)	Injection Vial	17
Sample ID	CBD-AOA-MW07-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:13:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	231687.27	673.85	731.3	False	13C3-PFBS	149029.53	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	65109.34	591.98	987.2	False	13C3-PFBS	149029.53	1162.50	PFBS	0.281	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	456110.01	783.78	250.9	False	13C5-PFHxA	684761.66	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	21882.34	499.24	237.3	False	13C5-PFHxA	684761.66	1250.00	PFHxA	0.048	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	98834.70	145.72	107.0	False	13C4-PFHpA	842014.53	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.31	1973.20	161.63	53.3	True	13C4-PFHpA	842014.53	1250.00	PFHpA	0.020	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1032316.95	2003.31	833.0	False	13C3-PFHxS	148525.01	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	286306.41	1914.56	1099.4	False	13C3-PFHxS	148525.01	1182.50	PFHxS	0.277	0.290	✓
PFOA_1	413.0 / 369.0	2.69	67278.07	122.87	68.9	True	13C8-PFOA	724156.91	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	4456.36	119.87	10.5	True	13C8-PFOA	724156.91	1222.50	PFOA	0.066	0.071	✓
PFNA_1	463.0 / 419.0	3.06	6508.92	1.62	17.9	False	13C9-PFNA	764697.89	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	764697.89	1250.00	PFNA	N/A	0.276	
PFOS_1	499.0 / 80.0	3.07	615602.04	1082.93	647.3	False	13C8-PFOS	135578.16	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	111077.64	1081.75	1571.1	False	13C8-PFOS	135578.16	1195.00	PFOS	0.180	0.182	✓
PFDA_1	513.0 / 469.0	3.40	5951.51	< 0	19.9	False	13C6-PFDA	802170.25	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	802170.25	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	3.70	13145.04	77.93	50.3	True	13C7-PFUnA	762227.32	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.72	445.67	50.94	18.1	False	13C7-PFUnA	762227.32	1250.00	PFUnA	0.034	0.054	✓
PFDoA_1	613.0 / 569.0	3.96	4169.48	< 0	35.7	False	13C2-PFDoA	711389.84	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	4.00	441.78	3.38	28.8	False	13C2-PFDoA	711389.84	1250.00	PFDoA	0.106	0.159	✓
PFTeDA_1	663.0 / 619.0	4.19	7539.76	< 0	110.1	False	13C2-PFTeDA	826181.18	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	4.17	871.00	< 0	63.4	True	13C2-PFTeDA	826181.18	1250.00	PFTeDA	0.116	0.072	
PFTeDA_1	713.0 / 669.0	4.42	2550.38	< 0	47.2	False	13C2-PFTeDA	826181.18	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	181.39	< 0	23.4	False	13C2-PFTeDA	826181.18	1250.00	PFTeDA	0.071	0.056	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	151421.04	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	151421.04	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	151574.20	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	151574.20	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.02	747.33	9.62	17.0	False	13C3-HFPO-DA	465700.06	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	465700.06	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	724156.91	1222.50	11Cl-pf3OUdS	N/A	0.005	✓

Sample Name	G1795-FS(0)	Injection Vial	18
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:23:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.59	143749.35	465.53	359.0	False	13C3-PFBS	137539.25	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	43267.87	431.88	295.6	False	13C3-PFBS	137539.25	1162.50	PFBS	0.301	0.320	✓
PFHxA_1	313.0 / 269.0	1.91	858577.86	1481.97	289.3	False	13C5-PFHxA	673672.74	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	45750.19	1065.96	316.0	False	13C5-PFHxA	673672.74	1250.00	PFHxA	0.053	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	223707.63	386.51	137.4	False	13C4-PFHpA	711970.95	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	5285.70	504.47	43.0	True	13C4-PFHpA	711970.95	1250.00	PFHpA	0.024	0.018	✓
PFHxS_1	399.0 / 80.0	2.33	3682592.73	7553.40	1537.1	False	13C3-PFHxS	139331.63	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.33	1023439.61	7228.56	1462.6	False	13C3-PFHxS	139331.63	1182.50	PFHxS	0.278	0.290	✓
PFOA_1	413.0 / 369.0	2.69	453270.78	689.92	297.1	False	13C8-PFOA	706528.84	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.70	16299.54	367.41	81.2	True	13C8-PFOA	706528.84	1222.50	PFOA	0.036	0.071	✓
PFNA_1	463.0 / 419.0	3.07	284727.94	405.77	398.3	False	13C9-PFNA	715125.79	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	73683.49	396.17	518.2	False	13C9-PFNA	715125.79	1250.00	PFNA	0.259	0.276	✓
PFOS_1	499.0 / 80.0	3.07	1300741.32	2610.13	825.9	False	13C8-PFOS	119153.47	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	241051.42	2721.62	2159.0	False	13C8-PFOS	119153.47	1195.00	PFOS	0.185	0.182	✓
PFDA_1	513.0 / 469.0	3.41	21811.80	< 0	66.1	False	13C6-PFDA	605216.09	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.40	129.08	47.09	8.5	False	13C6-PFDA	605216.09	1250.00	PFDA	0.006	0.040	
PFUnA_1	563.0 / 519.0	3.71	25252.97	108.61	124.1	False	13C7-PFUnA	552708.81	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.71	1238.58	84.98	34.8	False	13C7-PFUnA	552708.81	1250.00	PFUnA	0.049	0.054	✓
PFDoA_1	613.0 / 569.0	3.96	3733.50	< 0	33.4	False	13C2-PFDoA	426462.45	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	663.39	10.32	24.2	False	13C2-PFDoA	426462.45	1250.00	PFDoA	0.178	0.159	✓
PFTeDA_1	663.0 / 619.0	4.21	4189.97	< 0	56.0	False	13C2-PFTeDA	194810.00	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	194810.00	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.43	3316.18	< 0	40.1	False	13C2-PFTeDA	194810.00	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	178.39	< 0	21.3	False	13C2-PFTeDA	194810.00	1250.00	PFTeDA	0.054	0.056	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	106228.04	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	106228.04	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	94258.31	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	94258.31	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	399284.96	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	399284.96	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	9CI-PF3ONS	N/A	0.009	✓
11CI-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	706528.84	1222.50	11CI-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1796-FS(0)	Injection Vial	21
Sample ID	CBD-AOA-MW19-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:56:25 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	153820.46	496.61	932.3	False	13C3-PFBS	137197.34	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	47671.12	474.92	1088.3	False	13C3-PFBS	137197.34	1162.50	PFBS	0.310	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1704194.00	3316.87	1011.8	False	13C5-PFHxA	593101.33	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	106514.90	2826.21	807.3	False	13C5-PFHxA	593101.33	1250.00	PFHxA	0.063	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	818034.96	1509.52	549.1	False	13C4-PFHpA	663873.60	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	21824.39	2221.82	540.3	False	13C4-PFHpA	663873.60	1250.00	PFHpA	0.027	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	7252768.44	16233.17	2698.2	False	13C3-PFHxS	127476.20	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	2114687.90	16295.19	2921.4	False	13C3-PFHxS	127476.20	1182.50	PFHxS	0.292	0.290	✓
PFOA_1	413.0 / 369.0	2.69	4217544.44	6509.31	1130.5	False	13C8-PFOA	672440.76	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	211988.62	4642.94	675.1	True	13C8-PFOA	672440.76	1222.50	PFOA	0.050	0.071	✓
PFNA_1	463.0 / 419.0	3.07	212899.97	329.95	201.8	True	13C9-PFNA	654960.03	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	59637.78	352.84	190.8	True	13C9-PFNA	654960.03	1250.00	PFNA	0.280	0.276	✓
PFOS_1	499.0 / 80.0	2.98	2927840.08	5812.80	1228.4	False	13C8-PFOS	120549.86	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	418226.52	4691.91	5082.4	False	13C8-PFOS	120549.86	1195.00	PFOS	0.143	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	677362.16	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	677362.16	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	730617.59	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	730617.59	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	3.96	3373.85	< 0	28.0	False	13C2-PFDoA	649638.65	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.95	430.80	3.69	23.5	False	13C2-PFDoA	649638.65	1250.00	PFDoA	0.128	0.159	✓
PFTeDA_1	663.0 / 619.0	4.19	2805.08	< 0	33.6	False	13C2-PFTeDA	771503.40	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	771503.40	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.43	10909.43	< 0	137.0	False	13C2-PFTeDA	771503.40	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	771503.40	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	150574.47	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	150574.47	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	169603.60	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	169603.60	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.99	925.15	10.55	16.5	False	13C3-HFPO-DA	377962.86	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	377962.86	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	672440.76	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1799-FS(0)	Injection Vial	22
Sample ID	CBD-BKG-MW01-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:07:17 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.57	85463.58	320.96	694.1	False	13C3-PFBS	123578.14	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	23625.01	270.34	522.7	False	13C3-PFBS	123578.14	1162.50	PFBS	0.276	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	217052.26	469.64	186.2	False	13C5-PFHxA	553217.77	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	10962.68	307.90	101.6	False	13C5-PFHxA	553217.77	1250.00	PFHxA	0.051	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	74120.45	136.71	67.7	True	13C4-PFHpA	673733.59	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	1360.96	139.81	20.9	False	13C4-PFHpA	673733.59	1250.00	PFHpA	0.018	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	1593563.00	3650.48	973.2	False	13C3-PFHxS	125164.28	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	461288.51	3638.72	1312.1	False	13C3-PFHxS	125164.28	1182.50	PFHxS	0.289	0.290	✓
PFOA_1	413.0 / 369.0	2.68	226438.69	378.72	145.5	False	13C8-PFOA	665112.04	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	10782.18	267.04	73.1	True	13C8-PFOA	665112.04	1222.50	PFOA	0.048	0.071	✓
PFNA_1	463.0 / 419.0	3.05	31542.01	45.36	52.5	False	13C9-PFNA	622366.21	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	7807.58	68.87	48.0	False	13C9-PFNA	622366.21	1250.00	PFNA	0.248	0.276	✓
PFOS_1	499.0 / 80.0	3.00	1403535.56	2907.88	658.4	False	13C8-PFOS	115426.06	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	213824.44	2489.27	1238.3	False	13C8-PFOS	115426.06	1195.00	PFOS	0.152	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	623170.88	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	623170.88	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	3859.91	65.64	20.0	False	13C7-PFUnA	660136.63	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	660136.63	1250.00	PFUnA	N/A	0.054	
PFDoA_1	613.0 / 569.0	3.97	2134.69	< 0	21.9	False	13C2-PFDoA	624786.31	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.97	379.94	3.28	14.6	False	13C2-PFDoA	624786.31	1250.00	PFDoA	0.178	0.159	✓
PFTeDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	678021.44	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	678021.44	1250.00	PFTeDA	N/A	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	13004.02	< 0	154.4	False	13C2-PFTeDA	678021.44	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	678021.44	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	114356.67	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	114356.67	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	119534.32	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	119534.32	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	361132.95	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	361132.95	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	665112.04	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1800-FS(0)	Injection Vial	23
Sample ID	CBD-BKG-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:18:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	79332.10	269.84	782.3	False	13C3-PFBS	140030.31	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	26577.94	268.54	657.6	False	13C3-PFBS	140030.31	1162.50	PFBS	0.335	0.320	✓
PFHxA_1	313.0 / 269.0	1.88	22970.24	60.65	43.5	False	13C5-PFHxA	638684.12	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	1033.63	21.07	18.1	False	13C5-PFHxA	638684.12	1250.00	PFHxA	0.045	0.075	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	790975.60	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	790975.60	1250.00	PFHpA	N/A	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	2291029.86	4730.25	1512.5	False	13C3-PFHxS	138668.76	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	654701.20	4654.76	1626.2	False	13C3-PFHxS	138668.76	1182.50	PFHxS	0.286	0.290	✓
PFOA_1	413.0 / 369.0	2.68	176223.05	266.86	207.6	False	13C8-PFOA	758854.66	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	10190.74	226.33	88.1	True	13C8-PFOA	758854.66	1222.50	PFOA	0.058	0.071	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	734287.28	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	734287.28	1250.00	PFNA	N/A	0.276	✓
PFOS_1	499.0 / 80.0	3.06	333115.55	608.41	462.2	False	13C8-PFOS	130147.22	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	63896.45	634.45	1097.3	False	13C8-PFOS	130147.22	1195.00	PFOS	0.192	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	691238.95	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	691238.95	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	3.71	2730.87	63.24	18.2	False	13C7-PFUnA	752405.33	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.73	84.93	41.24	7.2	False	13C7-PFUnA	752405.33	1250.00	PFUnA	0.031	0.054	✓
PFDoA_1	613.0 / 569.0	3.97	1891.73	< 0	19.7	False	13C2-PFDoA	665891.07	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	665891.07	1250.00	PFDoA	N/A	0.159	
PFTeDA_1	663.0 / 619.0	4.23	3095.53	< 0	35.9	False	13C2-PFTeDA	823956.22	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	823956.22	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.43	13336.89	< 0	182.8	False	13C2-PFTeDA	823956.22	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	52.10	< 0	8.0	False	13C2-PFTeDA	823956.22	1250.00	PFTeDA	0.004	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	115053.53	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	115053.53	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	135350.76	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	135350.76	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	403788.60	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	403788.60	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	758854.66	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1801-FS(0)	Injection Vial	24
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:29:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	800584.99	2532.75	2322.1	False	13C3-PFBS	131221.44	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	277114.37	2784.50	3870.7	False	13C3-PFBS	131221.44	1162.50	PFBS	0.346	0.320	✓
PFHxA_1	313.0 / 269.0	1.91	9113433.23	17424.04	2745.2	False	13C5-PFHxA	600911.02	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	679853.61	17827.94	2845.4	False	13C5-PFHxA	600911.02	1250.00	PFHxA	0.075	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	5696815.61	10139.17	1539.0	False	13C4-PFHpA	687477.66	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	119415.61	11724.62	1544.8	False	13C4-PFHpA	687477.66	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	34785695.70	77157.04	4232.9	False	13C3-PFHxS	128489.28	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	9973884.95	76162.48	5813.6	False	13C3-PFHxS	128489.28	1182.50	PFHxS	0.287	0.290	✓
PFOA_1	413.0 / 369.0	2.69	14816351.78	23538.22	1957.3	False	13C8-PFOA	651324.61	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	913129.74	20544.78	1961.8	True	13C8-PFOA	651324.61	1222.50	PFOA	0.062	0.071	✓
PFNA_1	463.0 / 419.0	3.07	9118347.82	15170.36	2976.8	False	13C9-PFNA	623150.62	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	2460045.97	14302.07	3364.6	False	13C9-PFNA	623150.62	1250.00	PFNA	0.270	0.276	✓
PFOS_1	499.0 / 80.0	2.95	48184960.92	111552.22	3580.9	False	13C8-PFOS	103459.00	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.04	6867366.64	90392.52	5208.7	False	13C8-PFOS	103459.00	1195.00	PFOS	0.143	0.182	✓
PFDA_1	513.0 / 469.0	3.39	13390.68	< 0	43.6	False	13C6-PFDA	594029.70	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	594029.70	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	3.70	35619.93	121.12	161.7	False	13C7-PFUnA	621678.63	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.68	1351.09	83.59	75.9	False	13C7-PFUnA	621678.63	1250.00	PFUnA	0.038	0.054	✓
PFDoA_1	613.0 / 569.0	3.97	4757.56	< 0	32.6	False	13C2-PFDoA	570483.30	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.94	638.19	7.08	20.4	False	13C2-PFDoA	570483.30	1250.00	PFDoA	0.134	0.159	✓
PFTeDA_1	663.0 / 619.0	4.20	7453.26	< 0	103.3	False	13C2-PFTeDA	413512.26	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	4.17	569.02	< 0	31.8	False	13C2-PFTeDA	413512.26	1250.00	PFTeDA	0.076	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	12912.56	7.38	98.9	False	13C2-PFTeDA	413512.26	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	413512.26	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	122392.35	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	122392.35	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	118059.27	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	118059.27	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.02	8554.11	32.56	211.0	False	13C3-HFPO-DA	380355.12	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.02	571.46	102.81	336.3	False	13C3-HFPO-DA	380355.12	1250.00	HFPO-DA	0.067	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	651324.61	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	651324.61	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.26	744.30	28.05	12.2	False	13C8-PFOA	651324.61	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	651324.61	1222.50	9CI-PF3ONS	N/A	0.009	
11CI-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	651324.61	1222.50	11CI-pf3OUdS			
11CI-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	651324.61	1222.50	11CI-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1802-FS(0)	Injection Vial	25
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:39:50 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	135654.52	506.63	574.1	False	13C3-PFBS	118406.33	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	42716.77	492.33	750.7	False	13C3-PFBS	118406.33	1162.50	PFBS	0.315	0.320	✓
PFHxA_1	313.0 / 269.0	1.90	1101579.22	2417.86	675.4	False	13C5-PFHxA	527075.85	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	59173.99	1765.11	584.4	False	13C5-PFHxA	527075.85	1250.00	PFHxA	0.054	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	263247.58	542.68	281.8	False	13C4-PFHpA	595750.90	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.30	2811.08	321.90	53.2	True	13C4-PFHpA	595750.90	1250.00	PFHpA	0.011	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	8549140.00	20267.29	2286.1	False	13C3-PFHxS	120318.60	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	2406436.88	19641.56	3080.5	False	13C3-PFHxS	120318.60	1182.50	PFHxS	0.281	0.290	✓
PFOA_1	413.0 / 369.0	2.65	1386731.80	2442.58	634.3	True	13C8-PFOA	593303.26	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	59332.56	1493.19	213.2	True	13C8-PFOA	593303.26	1222.50	PFOA	0.043	0.071	✓
PFNA_1	463.0 / 419.0	3.07	64428.01	118.89	37.0	True	13C9-PFNA	529945.09	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	17753.47	144.67	80.7	True	13C9-PFNA	529945.09	1250.00	PFNA	0.276	0.276	✓
PFOS_1	499.0 / 80.0	3.00	1792882.03	4204.09	793.8	False	13C8-PFOS	102035.57	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.06	258853.41	3421.66	1242.3	False	13C8-PFOS	102035.57	1195.00	PFOS	0.144	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	484788.75	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	484788.75	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	3.70	6997.24	77.14	24.7	True	13C7-PFUnA	423734.81	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	423734.81	1250.00	PFUnA	N/A	0.054	
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	379137.20	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	379137.20	1250.00	PFDoA	N/A	0.159	✓
PFTeDA_1	663.0 / 619.0	4.23	2643.79	< 0	36.9	False	13C2-PFTeDA	94633.50	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	94633.50	1250.00	PFTeDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.44	3350.48	12.27	69.0	False	13C2-PFTeDA	94633.50	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	94633.50	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	85593.24	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	85593.24	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	89869.06	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	89869.06	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	324894.76	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	324894.76	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	593303.26	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Sample Name	G1803-FS(0)	Injection Vial	8
Sample ID	CBD-AOA-MW05-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:51:28 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	1.58	65545.47	247.19	351.9	False	13C3-PFBS	128230.80	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.58	16841.05	192.00	383.3	False	13C3-PFBS	128230.80	1162.50	PFBS	0.257	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	98445.46	219.38	82.7	False	13C5-PFHxA	564864.86	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.90	4670.29	125.88	51.8	False	13C5-PFHxA	564864.86	1250.00	PFHxA	0.047	0.075	✓
PFHpA_1	363.0 / 319.0	2.30	28296.56	53.51	46.9	False	13C4-PFHpA	673725.66	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.32	700.36	73.65	12.0	True	13C4-PFHpA	673725.66	1250.00	PFHpA	0.025	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	429404.74	930.07	547.0	False	13C3-PFHxS	134881.79	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	127004.34	947.36	651.0	False	13C3-PFHxS	134881.79	1182.50	PFHxS	0.296	0.290	✓
PFOA_1	413.0 / 369.0	2.67	36666.16	85.50	63.6	False	13C8-PFOA	646073.78	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.69	2167.85	78.92	23.8	True	13C8-PFOA	646073.78	1222.50	PFOA	0.059	0.071	✓
PFNA_1	463.0 / 419.0	3.07	9579.59	7.51	26.0	False	13C9-PFNA	675146.02	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	2416.89	36.45	21.8	True	13C9-PFNA	675146.02	1250.00	PFNA	0.252	0.276	✓
PFOS_1	499.0 / 80.0	3.01	83129.71	188.21	113.8	False	13C8-PFOS	103240.02	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.07	11864.46	122.18	879.8	False	13C8-PFOS	103240.02	1195.00	PFOS	0.143	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	632724.19	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	632724.19	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	612198.59	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	612198.59	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	562077.04	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	562077.04	1250.00	PFDoA	N/A	0.159	✓
PFTeDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	438505.36	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	438505.36	1250.00	PFTeDA	N/A	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	14116.84	8.51	190.5	False	13C2-PFTeDA	438505.36	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	438505.36	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	123639.17	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	123639.17	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	129320.35	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	129320.35	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.00	869.55	10.47	21.3	False	13C3-HFPO-DA	366401.90	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	366401.90	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	646073.78	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:35:15 PM

Sample Name	G1801-FS-D(3)	Injection Vial	23
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:35:51 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329
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	147369.70	1162.50	PFBS			
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	147369.70	1162.50	PFBS	N/A	0.320	✓
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	659238.69	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	659238.69	1250.00	PFHxA	N/A	0.075	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	753979.20	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	753979.20	1250.00	PFHpA	N/A	0.018	✓
PFHxS_1	399.0 / 80.0	2.32	2538130.59	5037.72	4326.4	False	13C3-PFHxS	144205.80	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.32	719082.26	4914.85	2552.3	False	13C3-PFHxS	144205.80	1182.50	PFHxS	0.283	0.290	✓
PFOA_1	413.0 / 369.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	PFOA	N/A	0.071	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	683778.01	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	683778.01	1250.00	PFNA	N/A	0.276	✓
PFOS_1	499.0 / 80.0	2.94	3444390.88	6463.74	2530.9	False	13C8-PFOS	127546.63	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.03	505567.82	5365.53	2796.8	False	13C8-PFOS	127546.63	1195.00	PFOS	0.147	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	686748.47	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	686748.47	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	777411.32	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	777411.32	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	667844.81	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	667844.81	1250.00	PFDoA	N/A	0.159	✓
PFTeDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	807147.17	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	807147.17	1250.00	PFTeDA	N/A	0.072	✓
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	807147.17	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	807147.17	1250.00	PFTeDA	N/A	0.056	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	136280.78	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	136280.78	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	146393.38	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	146393.38	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	411905.37	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	411905.37	1250.00	HFPO-DA	N/A	0.025	✓
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	766756.32	1222.50	11Cl-pf3OUdS	N/A	0.005	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:35:11 PM

Sample Name	LE58 IB	Injection Vial	8
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:35:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.98	706605.43	1201.49	7176.9	False	13C2-PFDA	657804.95	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	130050.87	1167.41	4587.0	False	13C4-PFOS	118861.81	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	138037.63	1229.05	1627.4	False	13C4-PFOS	118861.81	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	620766.49	1225.53	6041.1	False	13C2-PFOA	698519.33	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	699613.12	1206.22	7327.8	False	13C2-PFOA	698519.33	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	671115.83	1172.01	9094.7	False	13C2-PFOA	698519.33	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	678656.07	1218.72	4773.1	False	13C2-PFOA	698519.33	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	723212.04	1298.02	5975.9	False	13C2-PFDA	657804.95	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	700738.90	1208.24	4553.2	False	13C2-PFDA	657804.95	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	851170.33	1292.03	15349.3	False	13C2-PFDA	657804.95	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	129860.48	1073.32	19256.0	False	13C4-PFOS	118861.81	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	138133.19	1198.19	17918254.1	False	13C4-PFOS	118861.81	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	124506.38	1219.95	3473.6	False	13C4-PFOS	118861.81	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	414489.96	1240.80	6165.8	False	13C2-PFOA	698519.33	1250.00		N/A	N/A	✓

Sample Name	DB009PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:18:42 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	741766.22	953.74	7062.9	False	13C2-PFDA	869913.94	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	157166.58	1034.14	2215.0	False	13C4-PFOS	162155.49	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	156681.04	1022.59	2358.2	False	13C4-PFOS	162155.49	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	694152.89	1019.13	5514.2	False	13C2-PFOA	939282.48	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	790550.34	1013.63	9555.9	False	13C2-PFOA	939282.48	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	773984.16	1005.19	8966.4	False	13C2-PFOA	939282.48	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	808758.78	1080.08	4325.7	False	13C2-PFOA	939282.48	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	823668.31	1117.87	5573.2	False	13C2-PFDA	869913.94	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	773500.69	1008.51	4611.4	False	13C2-PFDA	869913.94	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	932172.66	1069.98	18204.3	False	13C2-PFDA	869913.94	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	166558.20	1009.09	61355.2	False	13C4-PFOS	162155.49	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	150075.72	954.22	124134.9	False	13C4-PFOS	162155.49	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	140378.24	1008.23	2352.0	False	13C4-PFOS	162155.49	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	427107.95	950.84	4069.6	False	13C2-PFOA	939282.48	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:35:11 PM

Sample Name	DB010LCS-FS(0)	Injection Vial	13
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:29:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	614847.59	995.34	6789.9	False	13C2-PFDA	690935.26	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	126158.93	1057.00	2071.8	False	13C4-PFOS	127349.19	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	133849.83	1112.34	1943.5	False	13C4-PFOS	127349.19	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	583432.43	1093.57	7697.1	False	13C2-PFOA	735723.92	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	675223.07	1105.29	16793.0	False	13C2-PFOA	735723.92	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	634003.49	1051.21	6086.8	False	13C2-PFOA	735723.92	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	724701.31	1235.60	3851.6	False	13C2-PFOA	735723.92	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	649575.31	1109.96	5561.0	False	13C2-PFDA	690935.26	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	592368.89	972.41	4122.6	False	13C2-PFDA	690935.26	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	793090.37	1146.14	18023.1	False	13C2-PFDA	690935.26	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	128575.91	991.88	3951.2	False	13C4-PFOS	127349.19	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	118138.51	956.46	5816.5	False	13C4-PFOS	127349.19	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	118489.08	1083.61	3000.8	False	13C4-PFOS	127349.19	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	400802.69	1139.15	3511.8	False	13C2-PFOA	735723.92	1250.00		N/A	N/A	✓



Sample Name	G1797-FS(0)	Injection Vial	14
Sample ID	CBD-AOA-FB05-102020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:40:25 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.98	675154.22	996.86	5959.3	False	13C2-PFDA	757542.93	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.56	174640.56	1285.44	2850.7	False	13C4-PFOS	144959.16	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.71	178754.28	1305.05	1910.5	False	13C4-PFOS	144959.16	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	611497.49	1054.55	5198.8	False	13C2-PFOA	799650.64	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	730165.71	1099.68	4430.2	False	13C2-PFOA	799650.64	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	702274.15	1071.32	6634.8	False	13C2-PFOA	799650.64	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	687006.48	1077.69	7395.2	False	13C2-PFOA	799650.64	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	701814.26	1093.78	5160.1	False	13C2-PFDA	757542.93	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	753998.39	1128.91	6140.2	False	13C2-PFDA	757542.93	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	794878.30	1047.72	13026.8	False	13C2-PFDA	757542.93	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	134044.28	908.44	3229.8	False	13C4-PFOS	144959.16	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	131261.31	933.60	3938.0	False	13C4-PFOS	144959.16	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	119050.34	956.48	1418.3	False	13C4-PFOS	144959.16	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	403327.07	1054.69	6498.9	False	13C2-PFOA	799650.64	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

Created with Analyst Reporter
Printed: 17/11/2020 5:35:11 PM

Sample Name	G1798-FS(0)	Injection Vial	15
Sample ID	CBD-AOA-EB01-102020-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:51:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	596268.52	860.80	5131.7	False	13C2-PFDA	774784.61	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.54	129846.70	1014.16	3768.4	False	13C4-PFOS	136607.64	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	186084.57	1441.62	3130.4	False	13C4-PFOS	136607.64	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	668500.10	1076.15	4674.2	False	13C2-PFOA	856647.61	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	742251.73	1043.51	6520.3	False	13C2-PFOA	856647.61	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	724982.60	1032.37	5694.3	False	13C2-PFOA	856647.61	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	704602.15	1031.75	10274.0	False	13C2-PFOA	856647.61	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	798025.40	1216.05	10600.3	False	13C2-PFDA	774784.61	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	817679.28	1197.01	5614.5	False	13C2-PFDA	774784.61	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	491965.52	634.03	13807.3	False	13C2-PFDA	774784.61	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	138675.98	997.29	5561.6	False	13C4-PFOS	136607.64	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	145164.37	1095.61	8368.9	False	13C4-PFOS	136607.64	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	141258.39	1204.29	1876.4	False	13C4-PFOS	136607.64	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	409616.16	999.87	3287.6	False	13C2-PFOA	856647.61	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1804-FS(0)	Injection Vial	16
Sample ID	CBD-AOA-EB01-102120-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:02:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	814348.87	1083.46	6021.3	False	13C2-PFDA	840694.76	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	167825.53	1352.00	51427.8	False	13C4-PFOS	132444.96	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	168275.98	1344.63	2451.2	False	13C4-PFOS	132444.96	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	698529.69	1144.87	7044.7	False	13C2-PFOA	841399.00	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	805484.00	1152.92	10203.9	False	13C2-PFOA	841399.00	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	767643.99	1112.93	4540.2	False	13C2-PFOA	841399.00	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	743885.98	1109.01	7715.3	False	13C2-PFOA	841399.00	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	826324.58	1160.45	3711.6	False	13C2-PFDA	840694.76	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	812790.60	1096.57	6231.0	False	13C2-PFDA	840694.76	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	709718.90	842.95	17508.0	False	13C2-PFDA	840694.76	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	152932.65	1134.39	6497.0	False	13C4-PFOS	132444.96	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	152800.30	1189.49	6141.2	False	13C4-PFOS	132444.96	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	126160.01	1109.38	1534.7	False	13C4-PFOS	132444.96	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	446465.57	1109.57	3391.6	False	13C2-PFOA	841399.00	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:35:11 PM

Sample Name	G1794-FS(0)	Injection Vial	17
Sample ID	CBD-AOA-MW07-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:13:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	711389.84	979.31	6743.4	False	13C2-PFDA	812505.56	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	150192.37	1087.41	2908.9	False	13C4-PFOS	147369.46	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	152633.48	1096.12	2022.8	False	13C4-PFOS	147369.46	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	684761.66	1096.09	2394.9	False	13C2-PFOA	861522.09	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	842014.53	1177.06	3767.7	False	13C2-PFOA	861522.09	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	724156.91	1025.36	3965.6	False	13C2-PFOA	861522.09	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	764697.89	1113.41	4108.8	False	13C2-PFOA	861522.09	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	802170.25	1165.61	5111.1	False	13C2-PFDA	812505.56	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	762227.32	1064.03	4668.9	False	13C2-PFDA	812505.56	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	826181.18	1015.32	22495.8	False	13C2-PFDA	812505.56	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	149029.53	993.48	3301.1	False	13C4-PFOS	147369.46	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	148525.01	1039.11	2213.1	False	13C4-PFOS	147369.46	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	135578.16	1071.46	1443.6	False	13C4-PFOS	147369.46	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	465700.06	1130.33	3416.8	False	13C2-PFOA	861522.09	1250.00		N/A	N/A	✓



Sample Name	G1795-FS(0)	Injection Vial	18
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:23:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.97	426462.45	717.47	6761.5	False	13C2-PFDA	664839.94	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	105536.31	967.50	1735.6	False	13C4-PFOS	116386.79	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	94501.57	859.31	1361.2	False	13C4-PFOS	116386.79	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	673672.74	1234.04	2672.5	False	13C2-PFOA	752823.19	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.30	711970.95	1138.98	2294.1	False	13C2-PFOA	752823.19	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	706528.84	1144.85	2693.8	False	13C2-PFOA	752823.19	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	715125.79	1191.58	2759.1	False	13C2-PFOA	752823.19	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	605216.09	1074.75	4797.1	False	13C2-PFDA	664839.94	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	552708.81	942.92	4050.8	False	13C2-PFDA	664839.94	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	194810.00	292.58	7491.9	False	13C2-PFDA	664839.94	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.58	137539.25	1160.96	2012.4	False	13C4-PFOS	116386.79	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	139331.63	1234.29	1544.6	False	13C4-PFOS	116386.79	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	119153.47	1192.33	1094.6	False	13C4-PFOS	116386.79	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.02	399284.96	1109.06	2798.2	False	13C2-PFOA	752823.19	1250.00		N/A	N/A	✓



Sample Name	G1796-FS(0)	Injection Vial	21
Sample ID	CBD-AOA-MW19-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:56:25 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	649638.65	915.11	5102.9	False	13C2-PFDA	794035.21	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	149058.95	1146.40	2507.2	False	13C4-PFOS	138730.90	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	172615.36	1316.81	2051.0	False	13C4-PFOS	138730.90	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	593101.33	1031.69	2910.1	False	13C2-PFOA	792776.58	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	663873.60	1008.51	3165.3	False	13C2-PFOA	792776.58	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	672440.76	1034.70	3538.8	False	13C2-PFOA	792776.58	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	654960.03	1036.33	2758.0	False	13C2-PFOA	792776.58	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	677362.16	1007.15	4101.0	False	13C2-PFDA	794035.21	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	730617.59	1043.63	5863.3	False	13C2-PFDA	794035.21	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	771503.40	970.18	13957.1	False	13C2-PFDA	794035.21	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	137197.34	971.56	3235.1	False	13C4-PFOS	138730.90	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	127476.20	947.39	1674.1	False	13C4-PFOS	138730.90	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	120549.86	1012.01	2067.6	False	13C4-PFOS	138730.90	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	377962.86	996.93	3077.5	False	13C2-PFOA	792776.58	1250.00		N/A	N/A	✓



Sample Name	G1799-FS(0)	Injection Vial	22
Sample ID	CBD-BKG-MW01-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:07:17 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	624786.31	991.45	5413.3	False	13C2-PFDA	704859.38	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	113526.05	832.40	1971.1	False	13C4-PFOS	145517.68	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	120134.90	873.71	2065.4	False	13C4-PFOS	145517.68	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	553217.77	962.85	2970.9	False	13C2-PFOA	792334.87	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	673733.59	1024.06	4082.7	False	13C2-PFOA	792334.87	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	665112.04	1023.99	3637.8	False	13C2-PFOA	792334.87	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	622366.21	985.30	3246.3	False	13C2-PFOA	792334.87	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	623170.88	1043.80	7923.1	False	13C2-PFDA	704859.38	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	660136.63	1062.25	5092.3	False	13C2-PFDA	704859.38	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	678021.44	960.49	10899.5	False	13C2-PFDA	704859.38	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	123578.14	834.30	3063.1	False	13C4-PFOS	145517.68	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	125164.28	886.82	1878.6	False	13C4-PFOS	145517.68	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	115426.06	923.81	1294.7	False	13C4-PFOS	145517.68	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	361132.95	953.07	3437.3	False	13C2-PFOA	792334.87	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1800-FS(0)	Injection Vial	23
Sample ID	CBD-BKG-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:18:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.96	665891.07	962.57	5313.4	False	13C2-PFDA	773766.09	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.54	119313.65	945.33	1850.3	False	13C4-PFOS	134666.60	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	135225.18	1062.71	2099.2	False	13C4-PFOS	134666.60	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	638684.12	1043.69	3211.2	False	13C2-PFOA	843889.74	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	790975.60	1128.82	3959.9	False	13C2-PFOA	843889.74	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	758854.66	1096.94	3938.3	False	13C2-PFOA	843889.74	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	734287.28	1091.47	3468.9	False	13C2-PFOA	843889.74	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	691238.95	1054.71	6070.4	False	13C2-PFDA	773766.09	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	752405.33	1102.90	4079.2	False	13C2-PFDA	773766.09	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	823956.22	1063.28	12534.6	False	13C2-PFDA	773766.09	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	140030.31	1021.55	3378.5	False	13C4-PFOS	134666.60	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	138668.76	1061.67	1676.3	False	13C4-PFOS	134666.60	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	130147.22	1125.56	1323.4	False	13C4-PFOS	134666.60	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	403788.60	1000.54	3790.4	False	13C2-PFOA	843889.74	1250.00		N/A	N/A	✓



Sample Name	G1801-FS(0)	Injection Vial	24
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:29:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.97	570483.30	897.65	6266.7	False	13C2-PFDA	710843.80	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	121897.69	1101.18	1711.8	False	13C4-PFOS	118111.34	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	120401.62	1078.84	1555.4	False	13C4-PFOS	118111.34	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	600911.02	1085.65	2848.2	False	13C2-PFOA	763297.54	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	687477.66	1084.70	5027.6	False	13C2-PFOA	763297.54	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	651324.61	1040.91	3512.2	False	13C2-PFOA	763297.54	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	623150.62	1024.08	3493.4	False	13C2-PFOA	763297.54	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	594029.70	986.62	5983.3	False	13C2-PFDA	710843.80	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	621678.63	991.94	4839.8	False	13C2-PFDA	710843.80	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	413512.26	580.86	10509.8	False	13C2-PFDA	710843.80	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	131221.44	1091.46	3639.6	False	13C4-PFOS	118111.34	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	128489.28	1121.62	3690.4	False	13C4-PFOS	118111.34	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	103459.00	1020.16	1467.4	False	13C4-PFOS	118111.34	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	380355.12	1041.99	2819.3	False	13C2-PFOA	763297.54	1250.00		N/A	N/A	✓



Sample Name	G1802-FS(0)	Injection Vial	25
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:39:50 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	379137.20	720.42	8105.2	False	13C2-PFDA	588642.44	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	84982.25	794.72	1853.2	False	13C4-PFOS	114094.34	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	90434.35	838.85	1756.3	False	13C4-PFOS	114094.34	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	527075.85	1070.90	2980.4	False	13C2-PFOA	678731.53	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	595750.90	1057.09	3429.9	False	13C2-PFOA	678731.53	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	593303.26	1066.33	3541.7	False	13C2-PFOA	678731.53	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	529945.09	979.41	2618.1	False	13C2-PFOA	678731.53	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	484788.75	972.33	3819.5	False	13C2-PFDA	588642.44	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	423734.81	816.47	4958.5	False	13C2-PFDA	588642.44	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	94633.50	160.53	3783.4	False	13C2-PFDA	588642.44	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	118406.33	1019.55	2973.6	False	13C4-PFOS	114094.34	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	120318.60	1087.27	2291.0	False	13C4-PFOS	114094.34	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	102035.57	1041.55	1760.6	False	13C4-PFOS	114094.34	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	324894.76	1000.95	2287.5	False	13C2-PFOA	678731.53	1250.00		N/A	N/A	✓



Sample Name	G1803-FS(0)	Injection Vial	8
Sample ID	CBD-AOA-MW05-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:51:28 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	562077.04	910.73	5619.6	False	13C2-PFDA	690311.05	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	122940.86	935.16	9248.8	False	13C4-PFOS	140269.45	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	129125.44	974.24	2593.4	False	13C4-PFOS	140269.45	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	564864.86	1033.94	3249.7	False	13C2-PFOA	753395.71	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	673725.66	1076.97	3894.9	False	13C2-PFOA	753395.71	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	646073.78	1046.09	3724.6	False	13C2-PFOA	753395.71	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	675146.02	1124.11	5015.1	False	13C2-PFOA	753395.71	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	632724.19	1082.14	5043.5	False	13C2-PFDA	690311.05	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	612198.59	1005.87	6090.4	False	13C2-PFDA	690311.05	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	438505.36	634.28	12721.7	False	13C2-PFDA	690311.05	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	128230.80	898.10	3482.6	False	13C4-PFOS	140269.45	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	134881.79	991.43	2184.2	False	13C4-PFOS	140269.45	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	103240.02	857.19	1617.8	False	13C4-PFOS	140269.45	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	366401.90	1016.95	2926.6	False	13C2-PFOA	753395.71	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1801-FS-D(3)	Injection Vial	23
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:35:51 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.96	667844.81	1036.51	7307.1	False	13C2-PFDA	720682.64	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.54	135568.03	1117.32	2882.9	False	13C4-PFOS	129459.38	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	146881.89	1200.74	2076.8	False	13C4-PFOS	129459.38	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.89	659238.69	1179.08	7155.8	False	13C2-PFOA	771027.97	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	753979.20	1177.70	6702.7	False	13C2-PFOA	771027.97	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	766756.32	1213.10	250544.8	False	13C2-PFOA	771027.97	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	683778.01	1112.44	6086.1	False	13C2-PFOA	771027.97	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	686748.47	1125.04	5884.9	False	13C2-PFDA	720682.64	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	777411.32	1223.50	5605.3	False	13C2-PFDA	720682.64	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.40	807147.17	1118.31	17749.1	False	13C2-PFDA	720682.64	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	147369.70	1118.33	22233.6	False	13C4-PFOS	129459.38	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	144205.80	1148.47	36306.7	False	13C4-PFOS	129459.38	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.04	127546.63	1147.43	3432.6	False	13C4-PFOS	129459.38	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.00	411905.37	1117.11	5403.9	False	13C2-PFOA	771027.97	1250.00		N/A	N/A	✓

Chromatograms



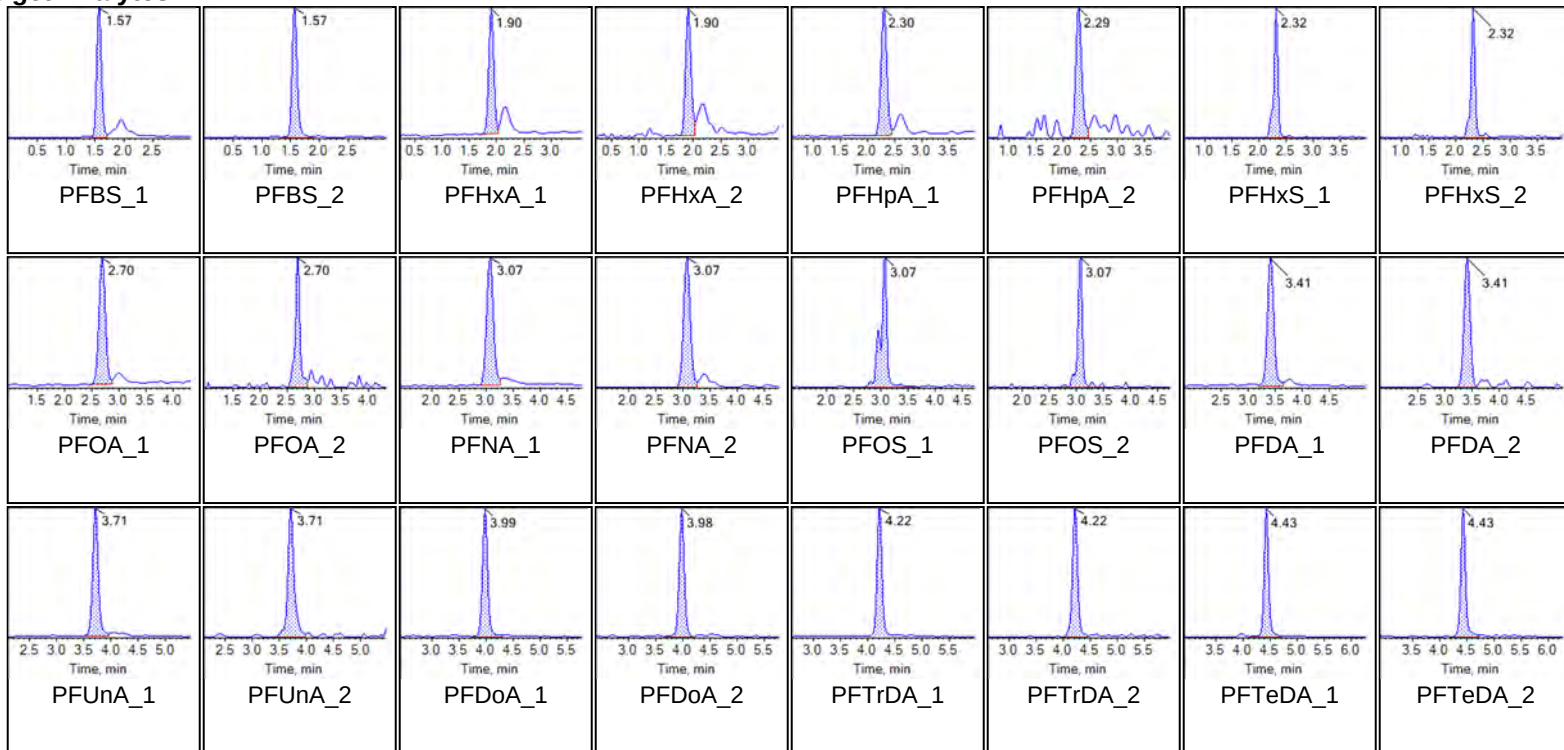
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE52	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:30:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

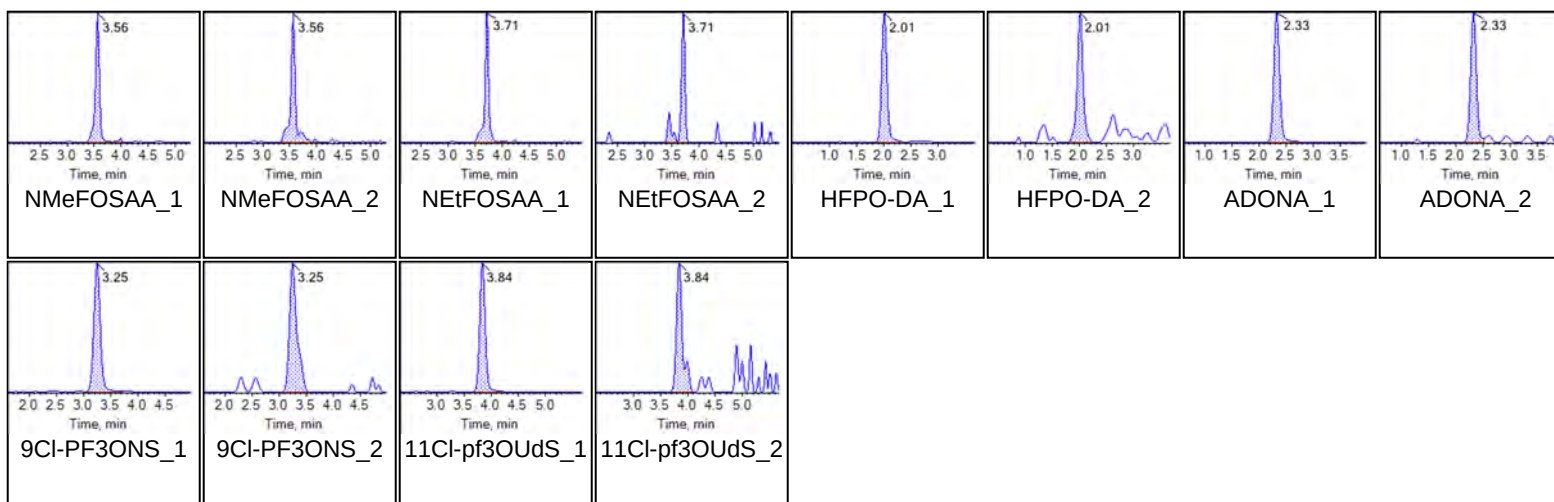
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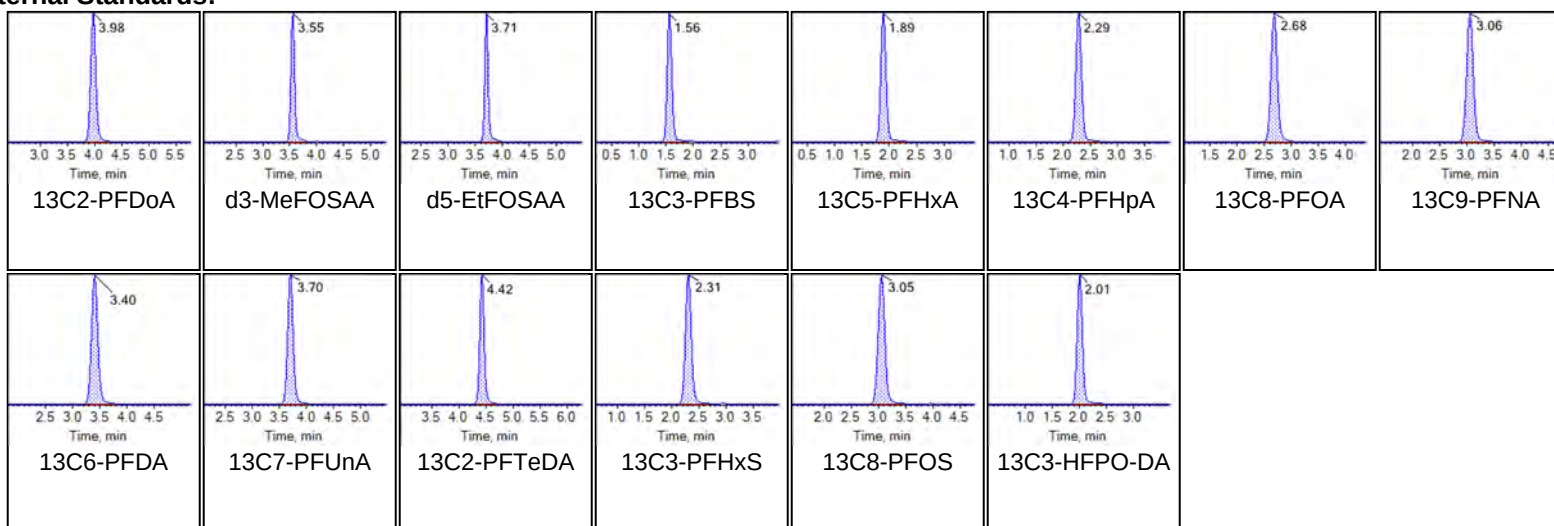


Chromatogram Report

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Internal Standards:





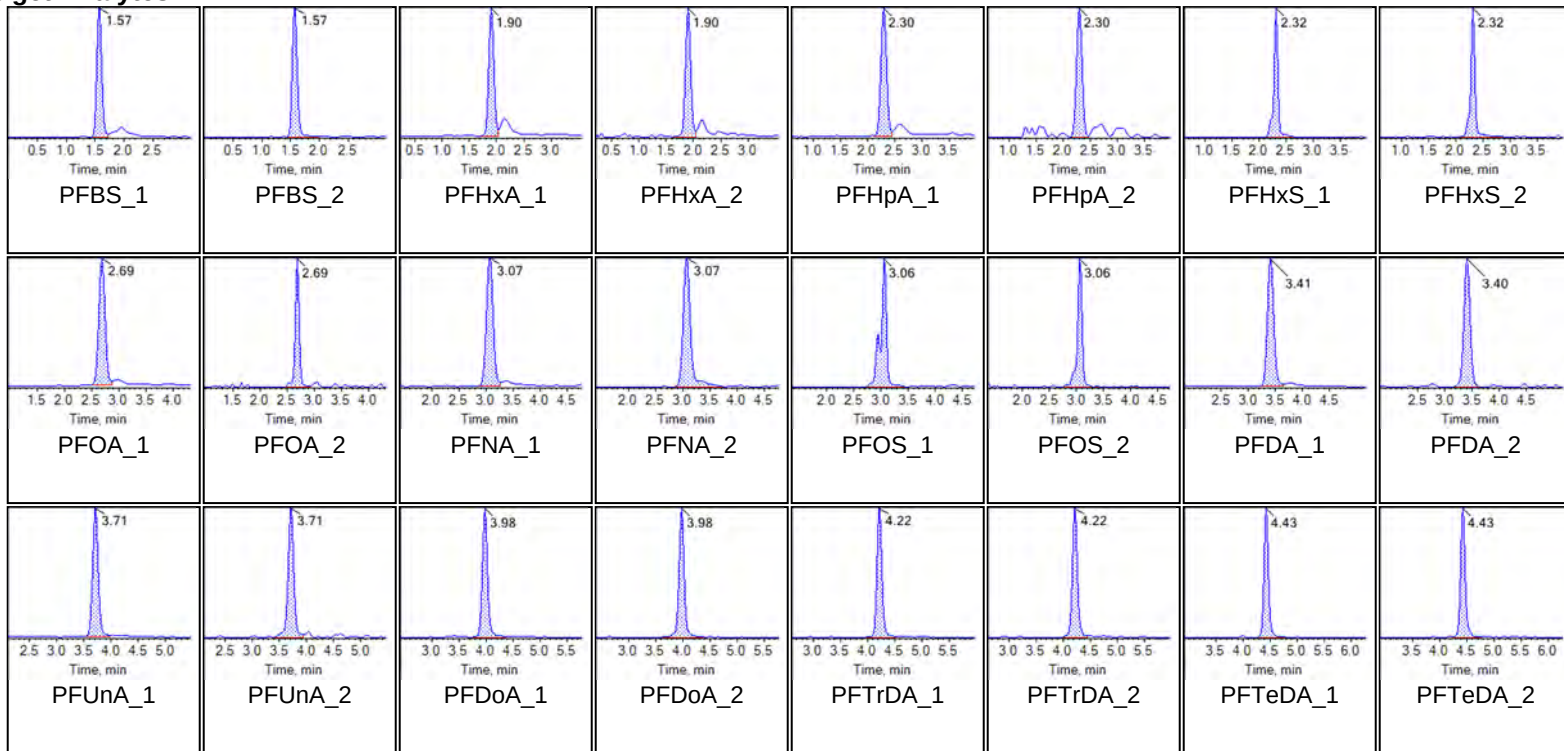
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE53	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:41:00 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

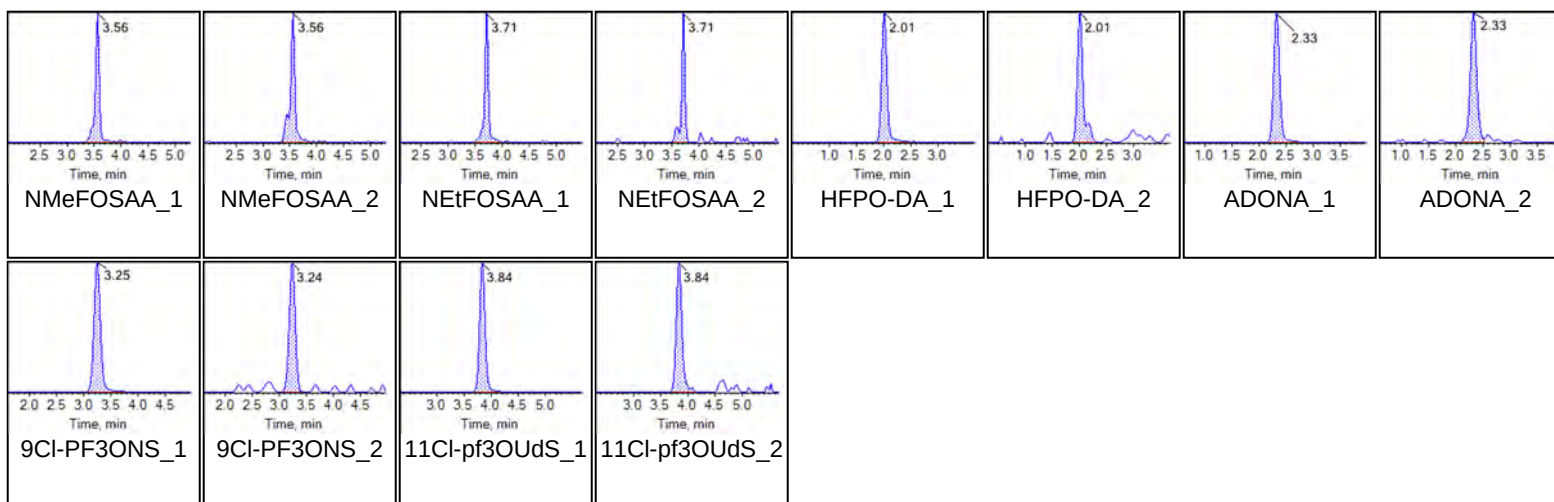
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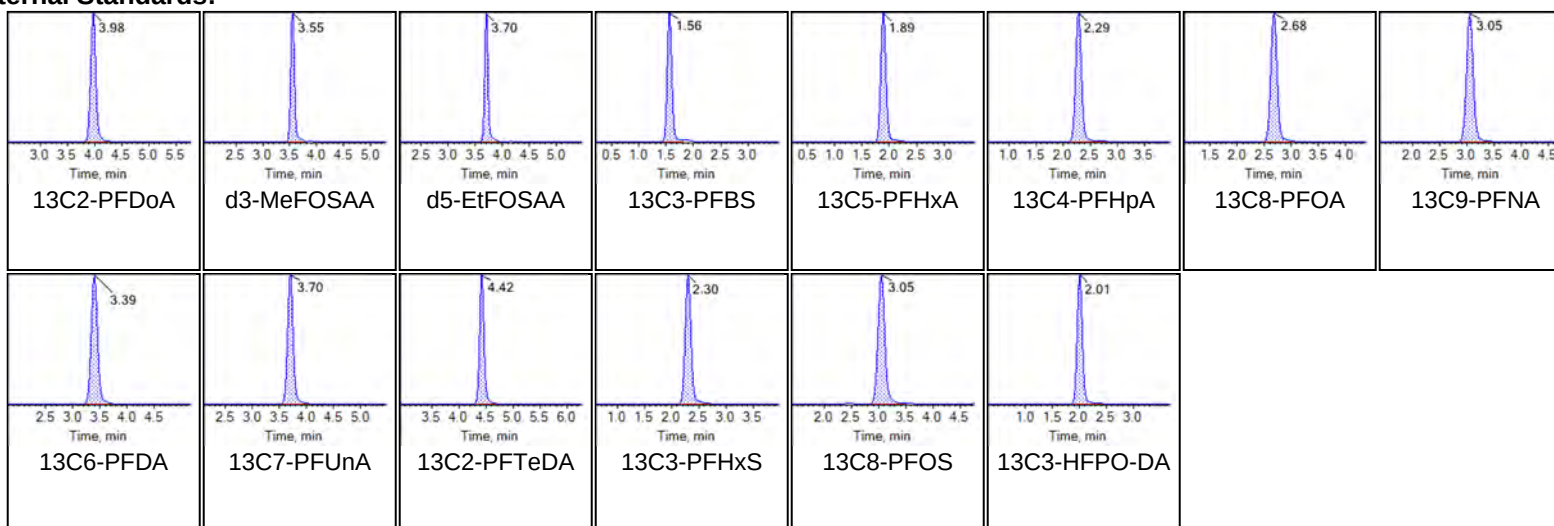


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Internal Standards:





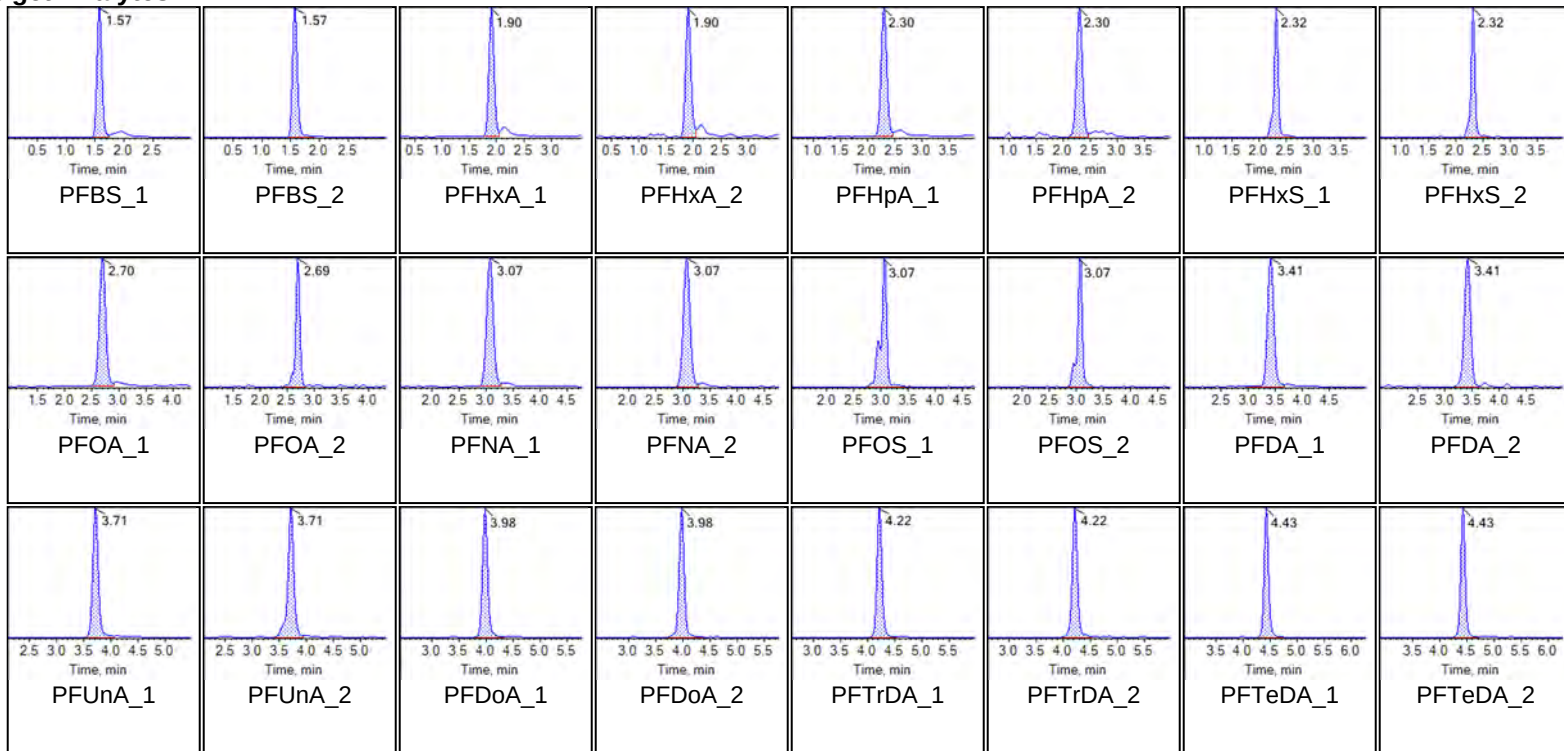
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE54	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:51:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

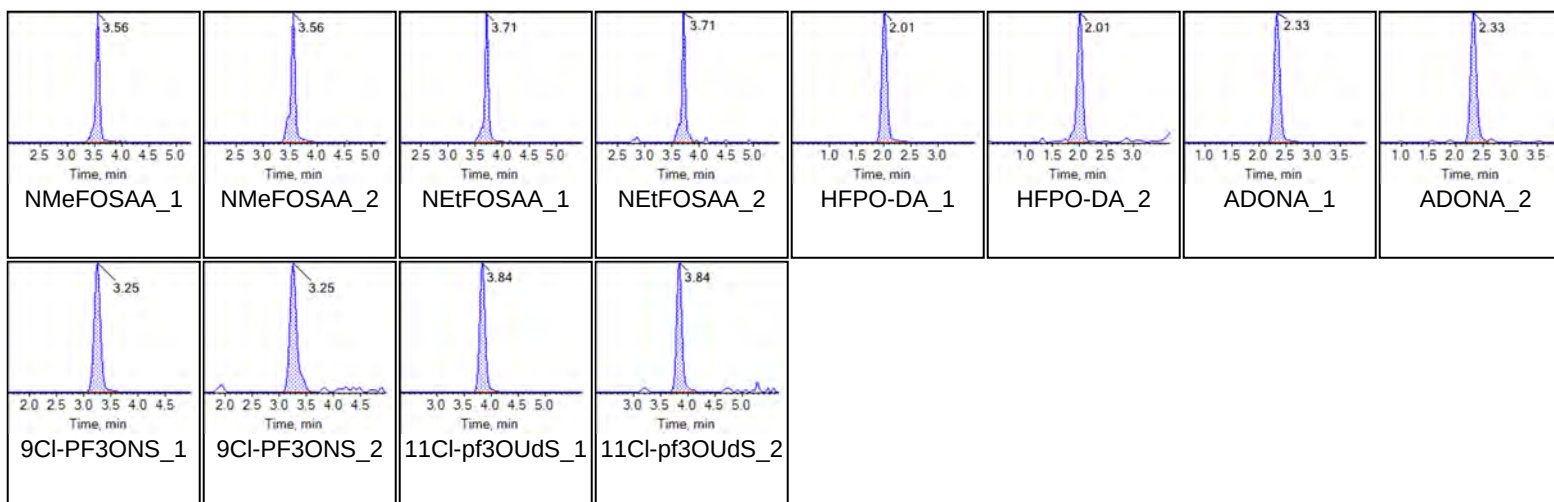
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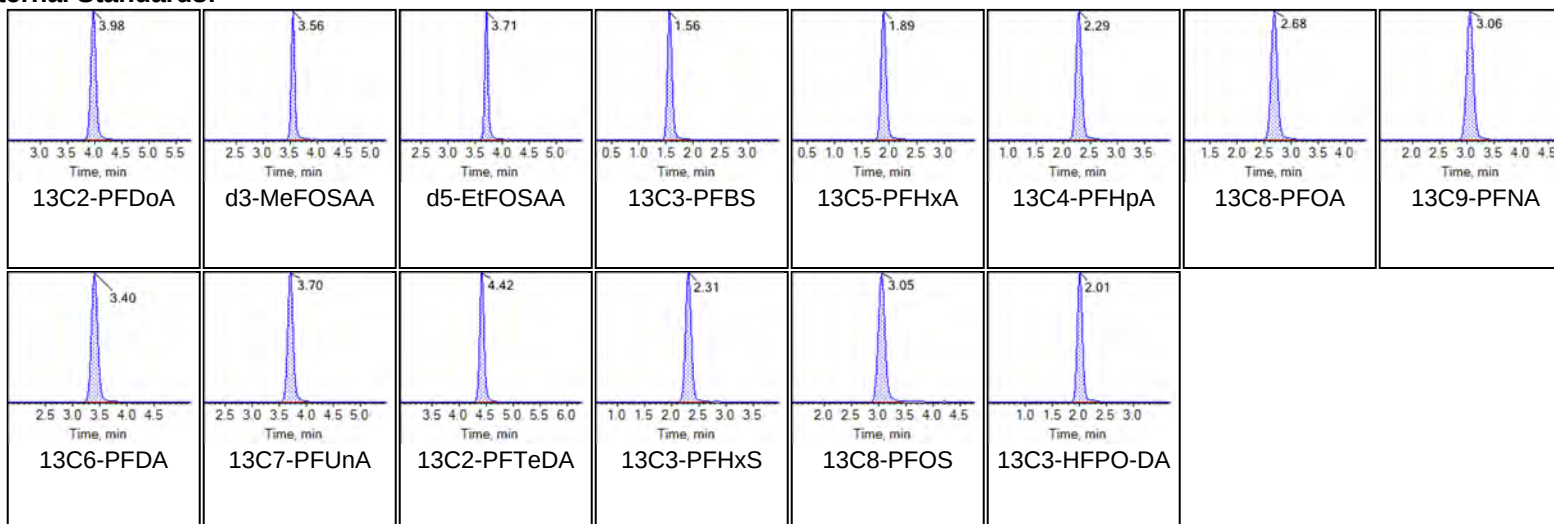


Chromatogram Report

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Internal Standards:





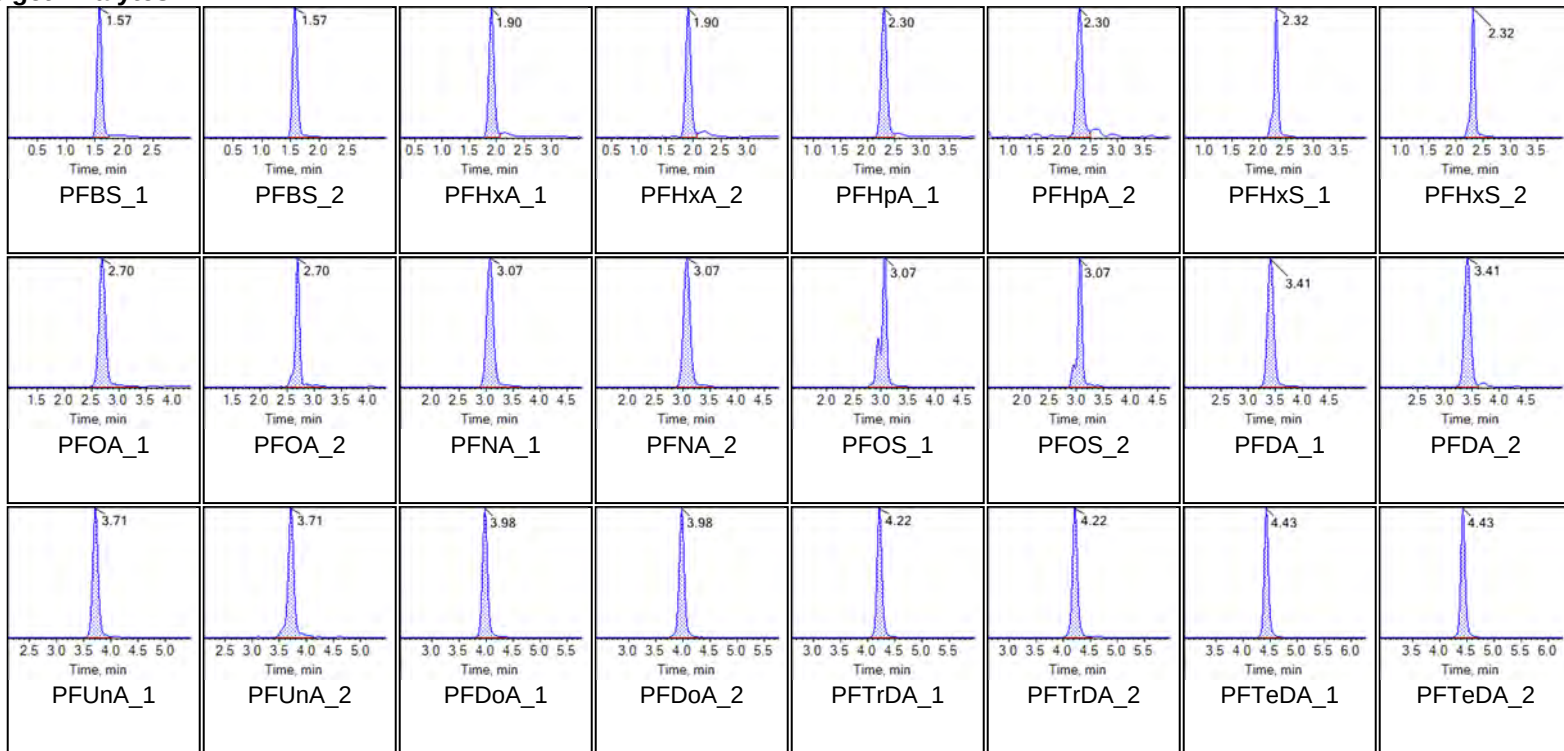
Chromatogram Report

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Sample Name	LE55	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:02:43 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

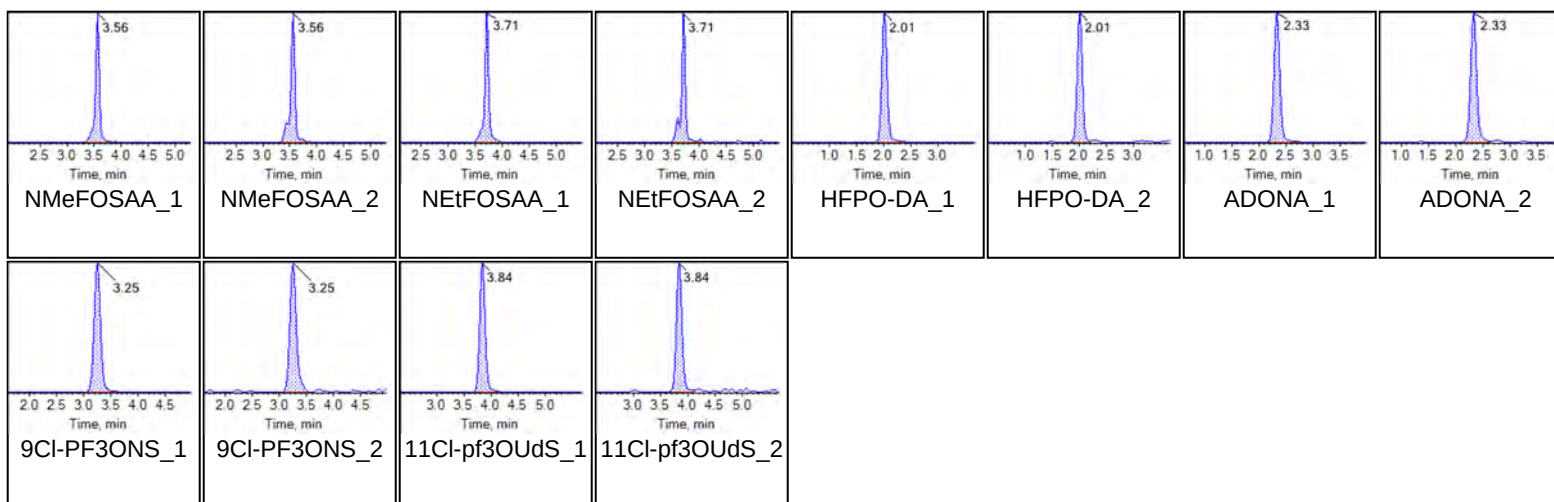
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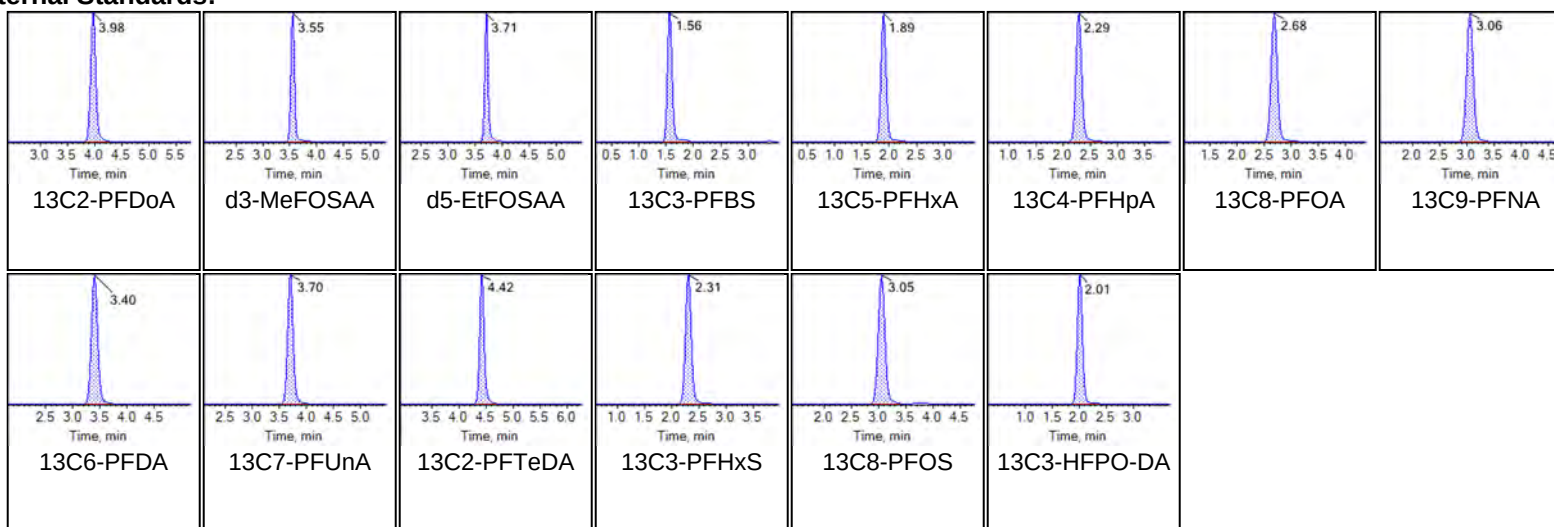


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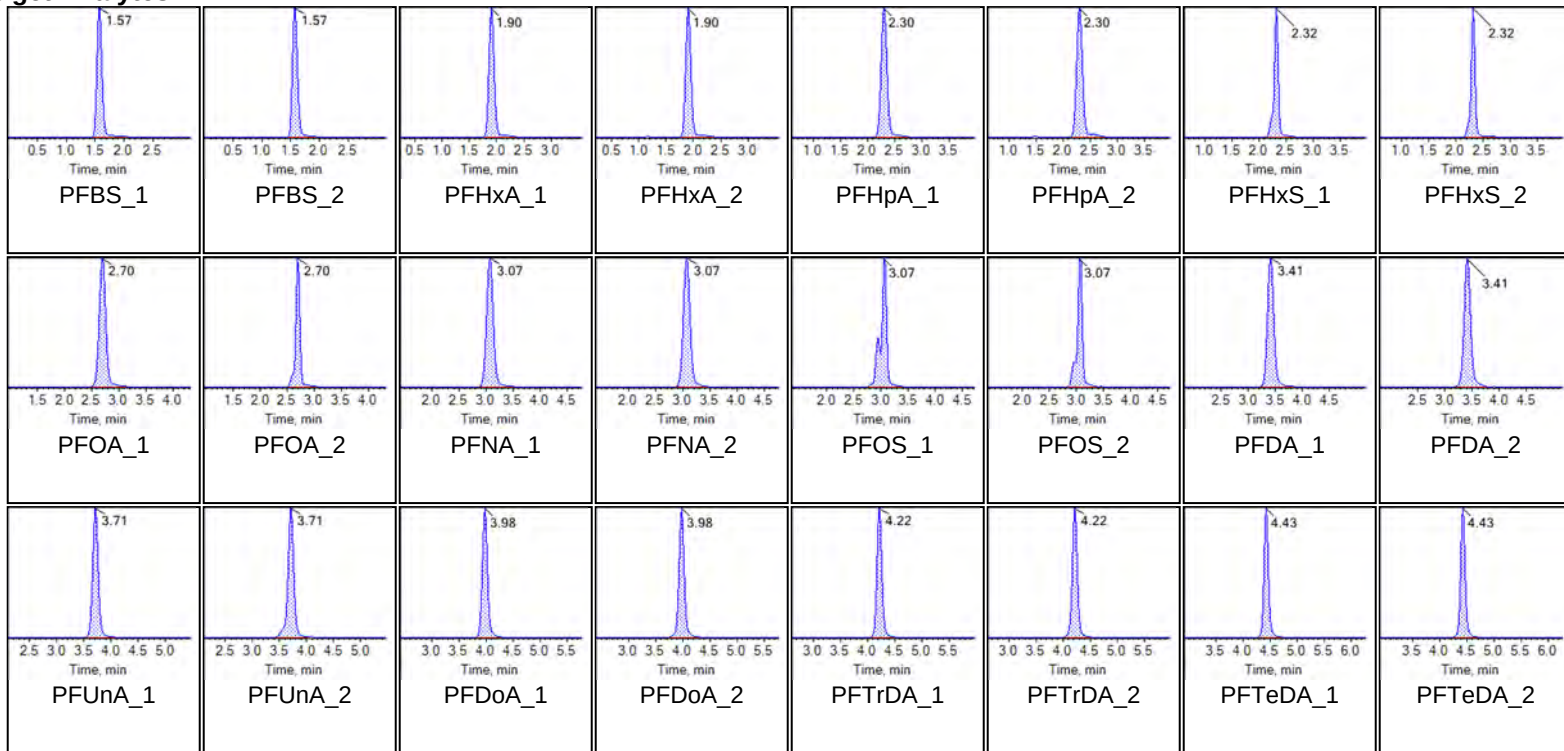
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE56	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:13:35 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

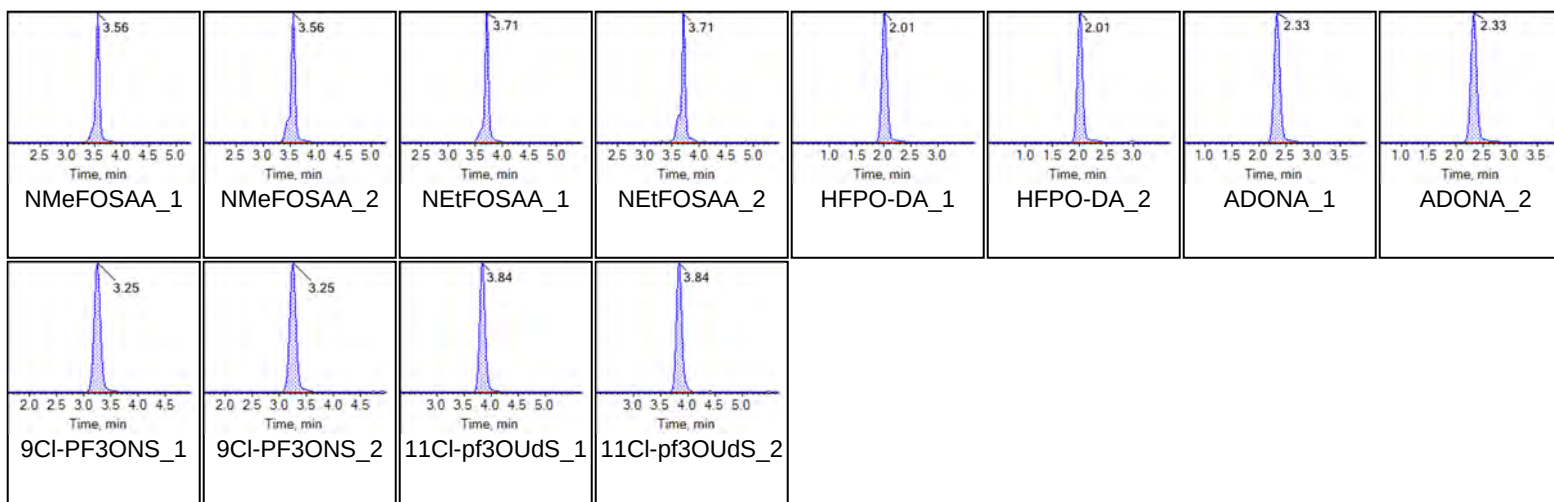
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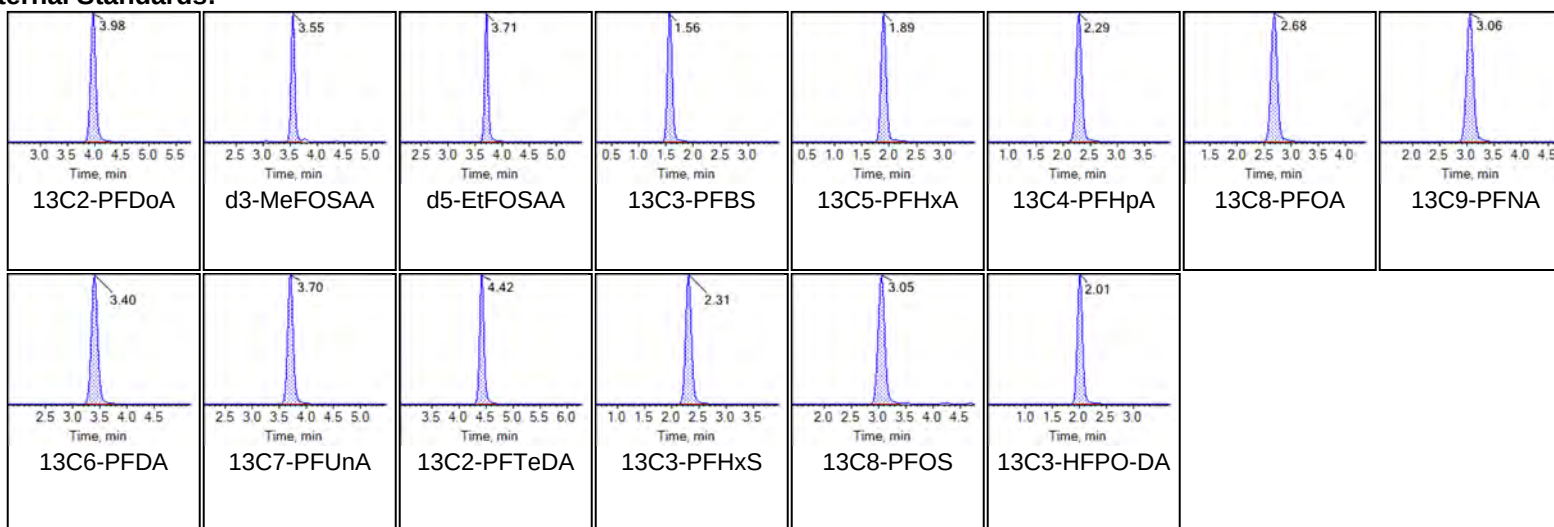


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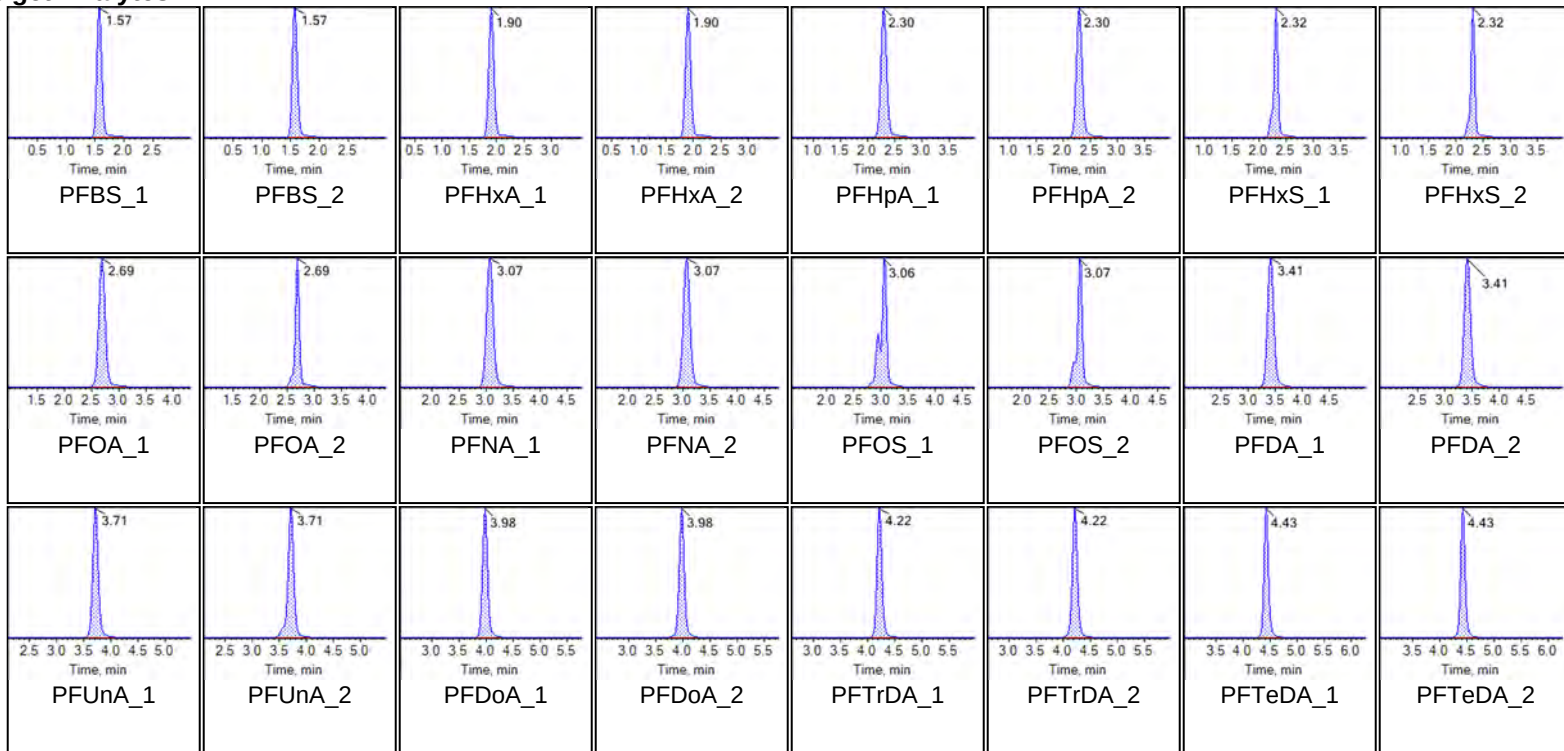
Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM

Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

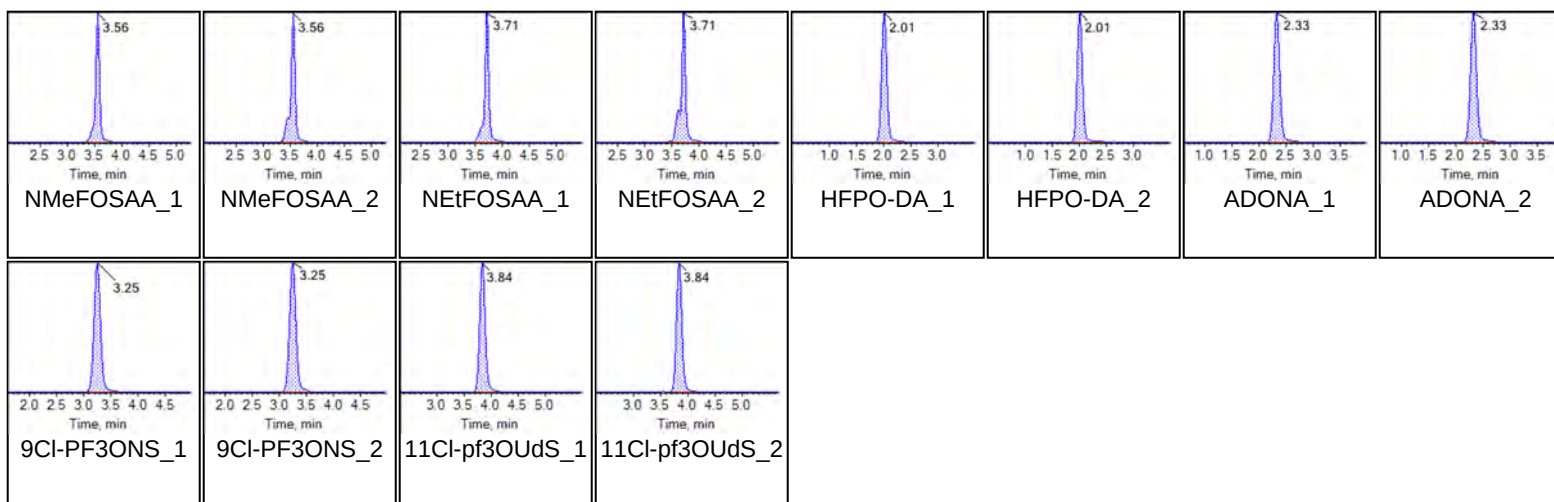
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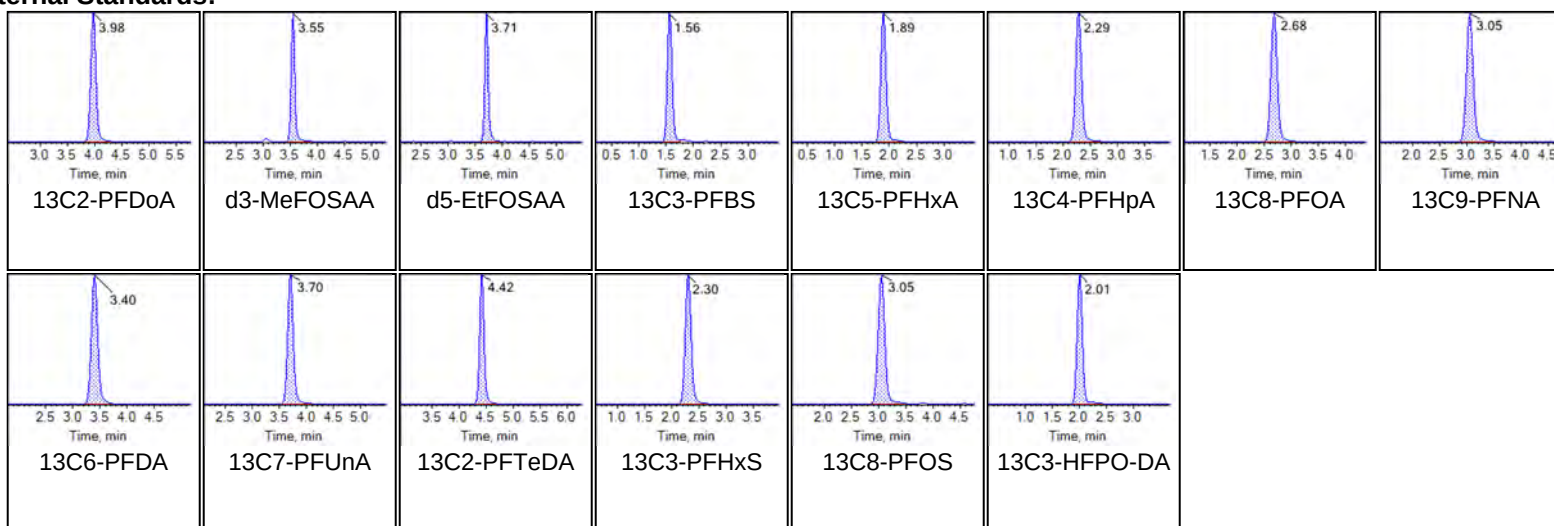


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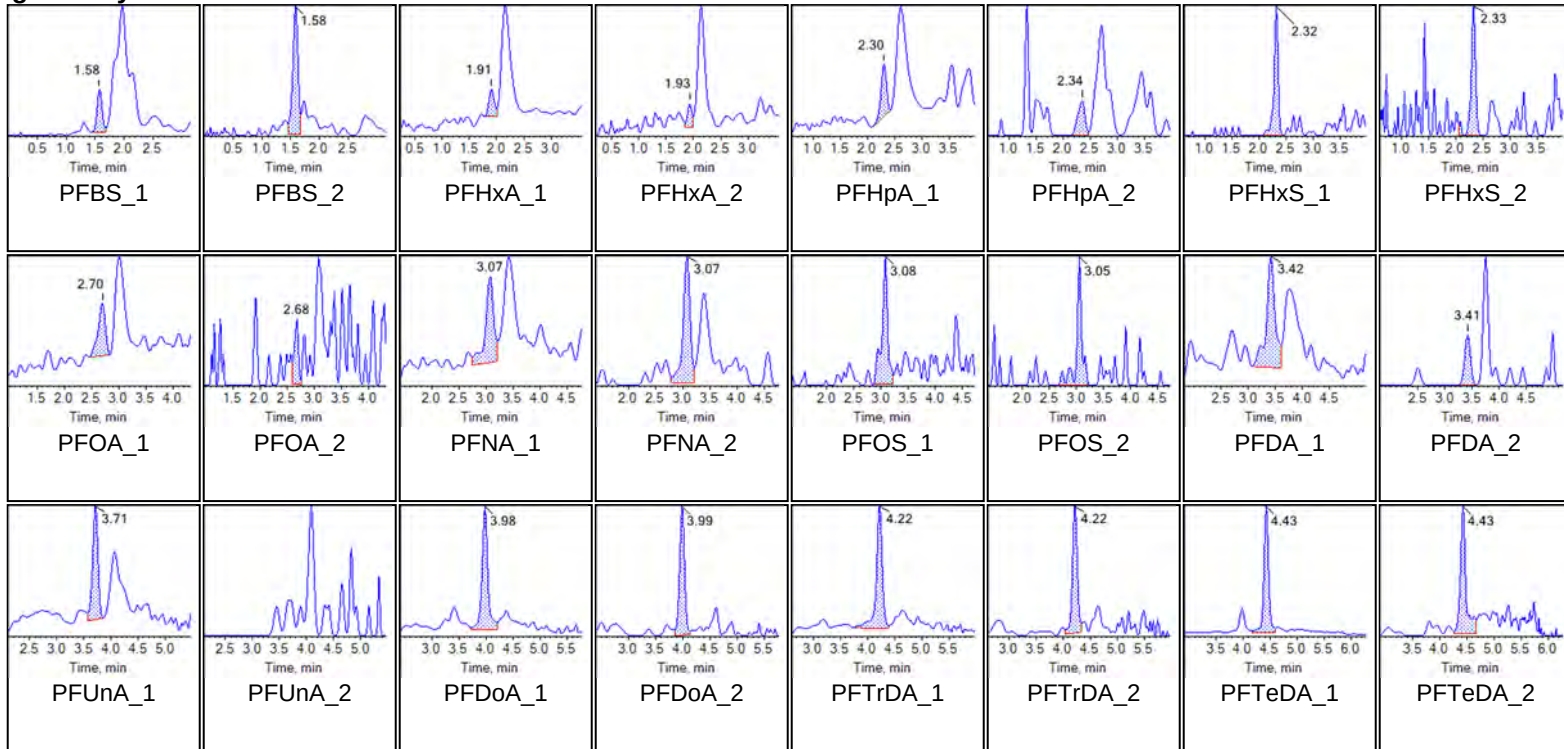
Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM

Sample Name	LE58 IB	Injection Vial	8
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:35:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

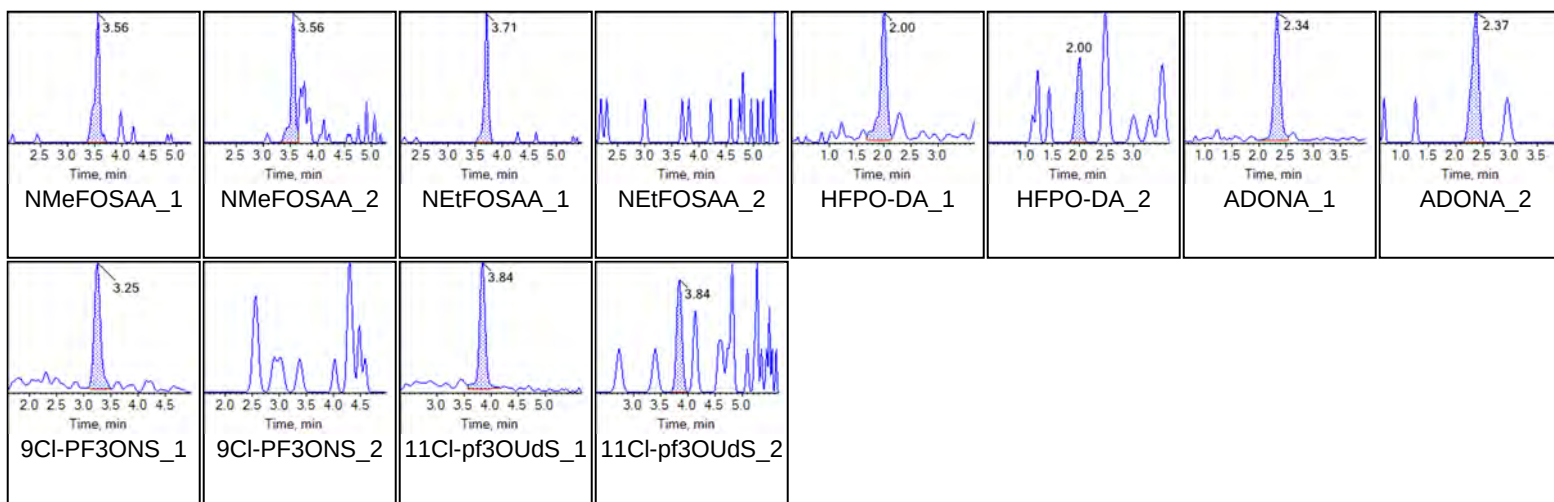
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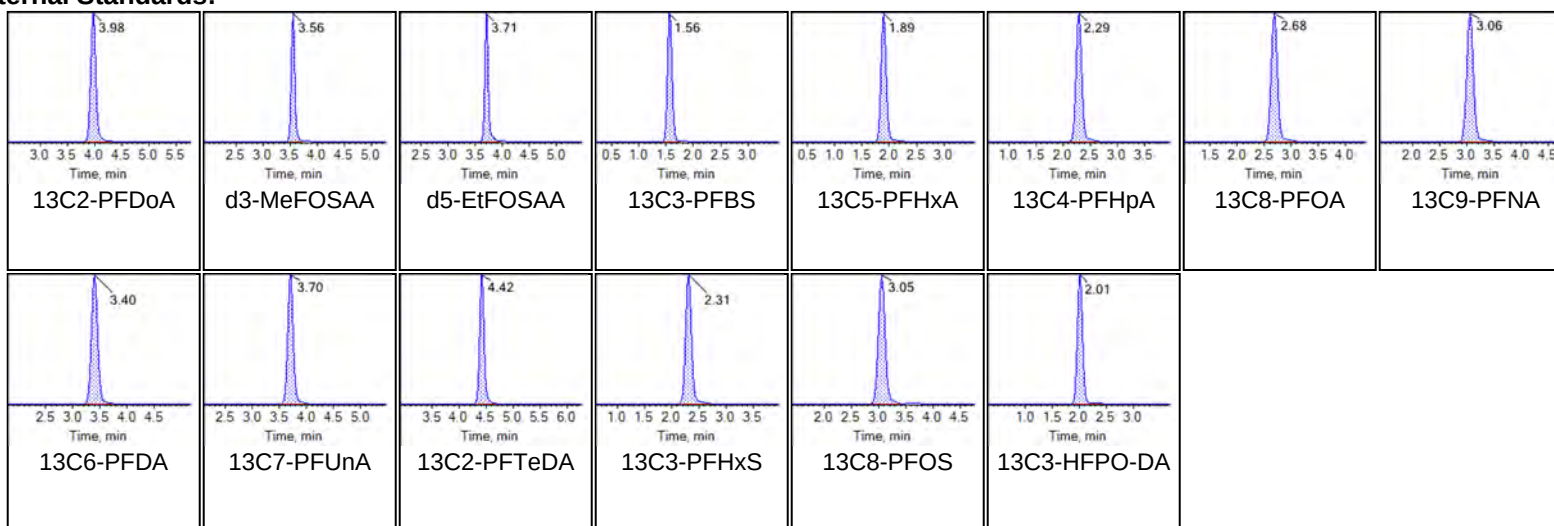


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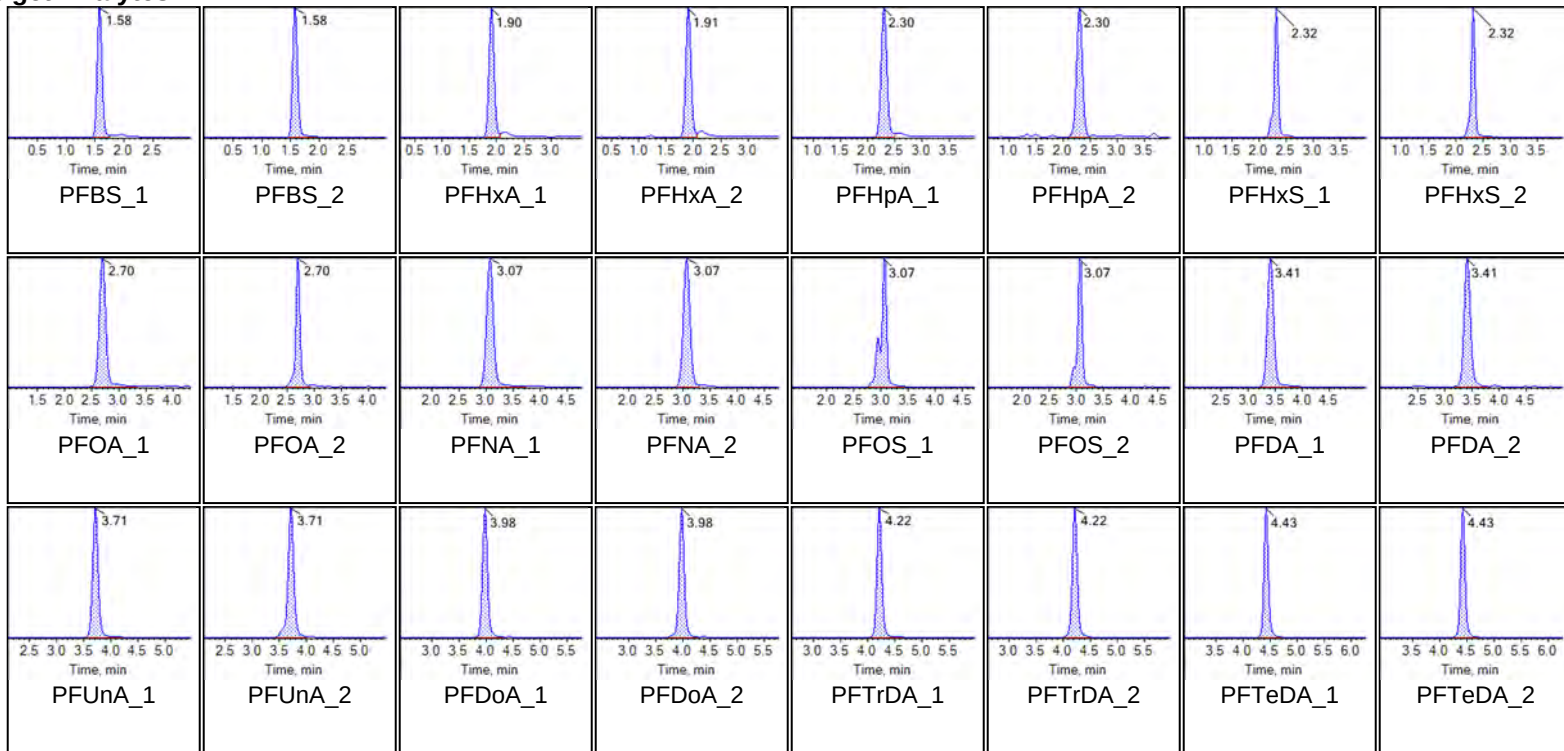
Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM

Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

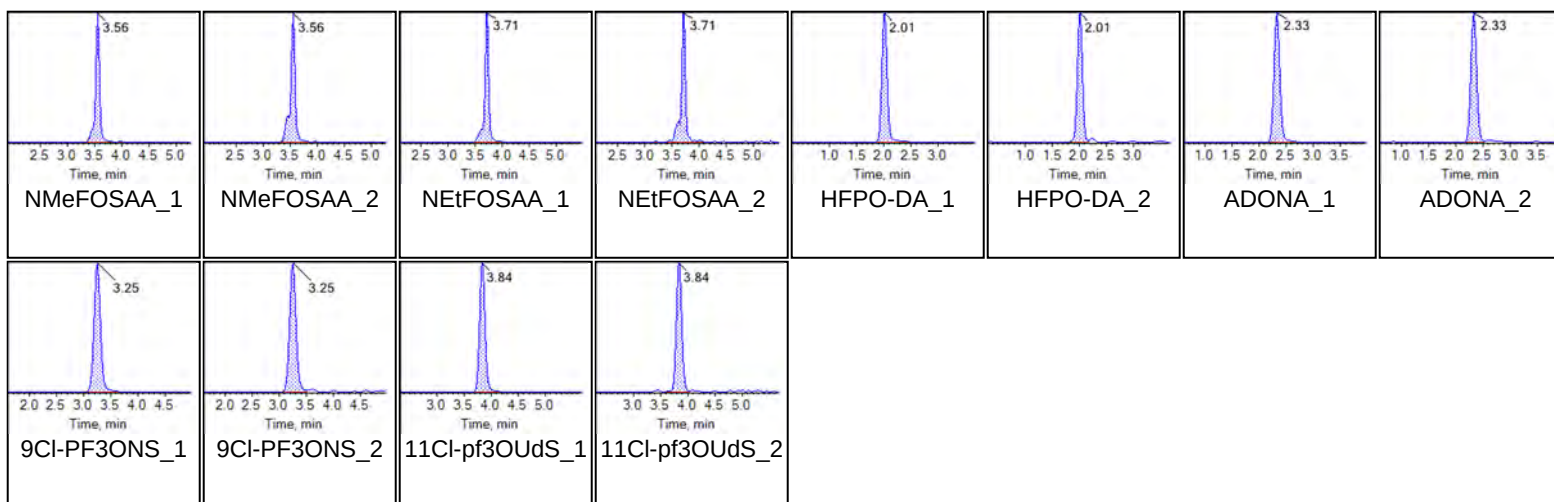
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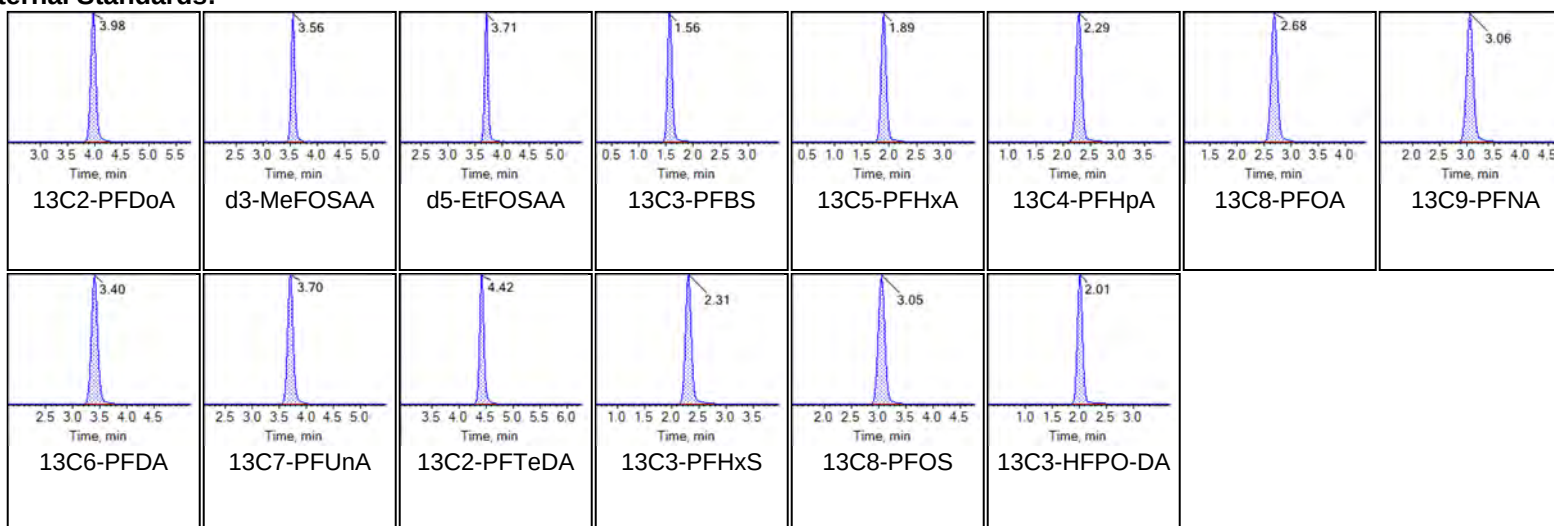


Chromatogram Report

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Internal Standards:





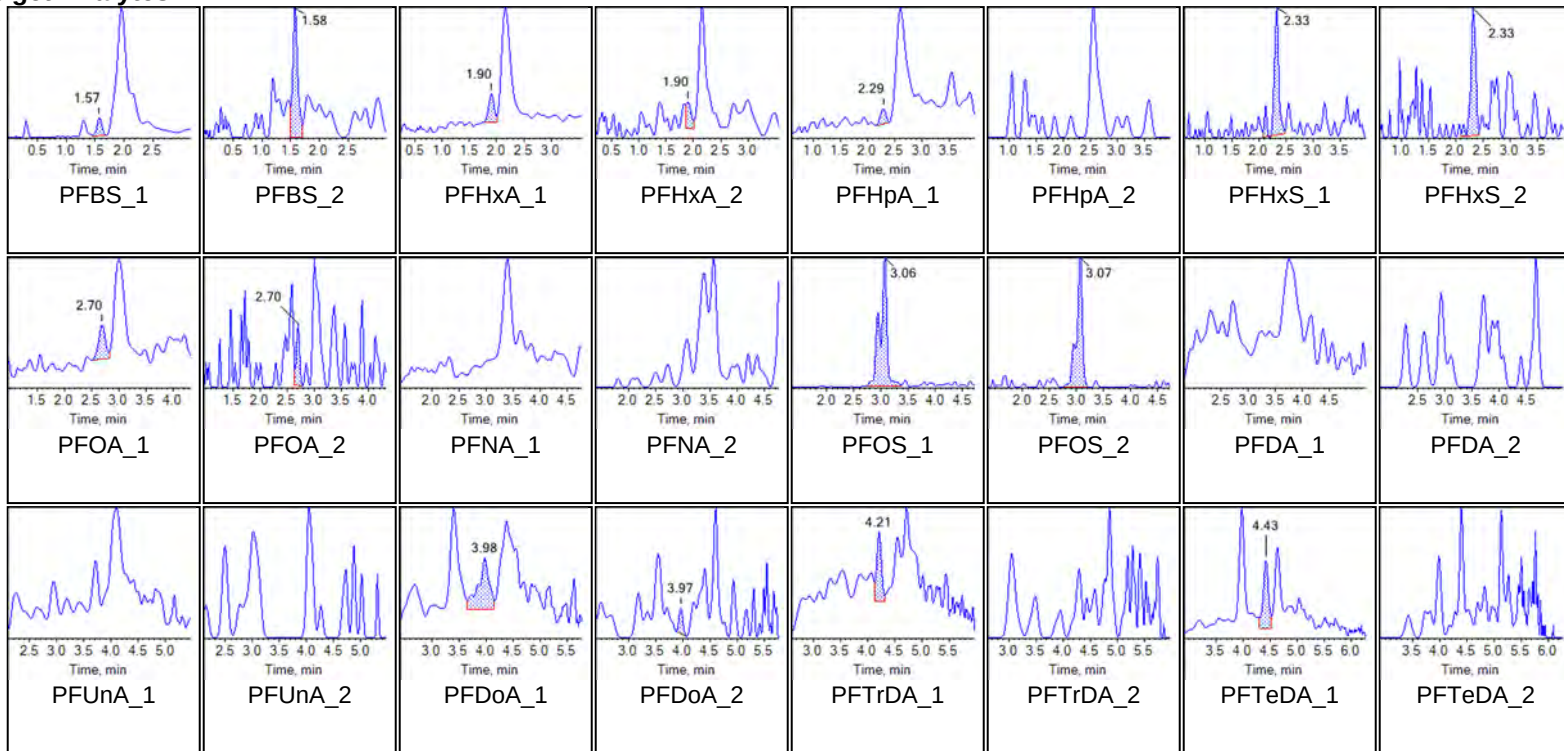
Chromatogram Report

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Sample Name	DB009PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:18:42 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

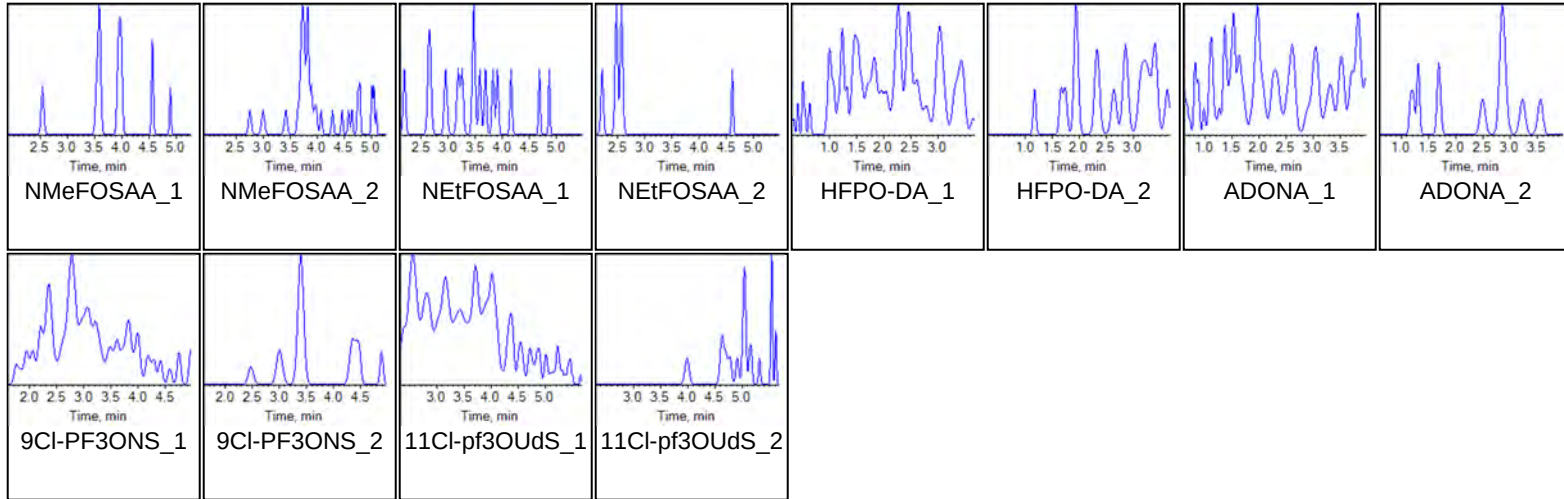
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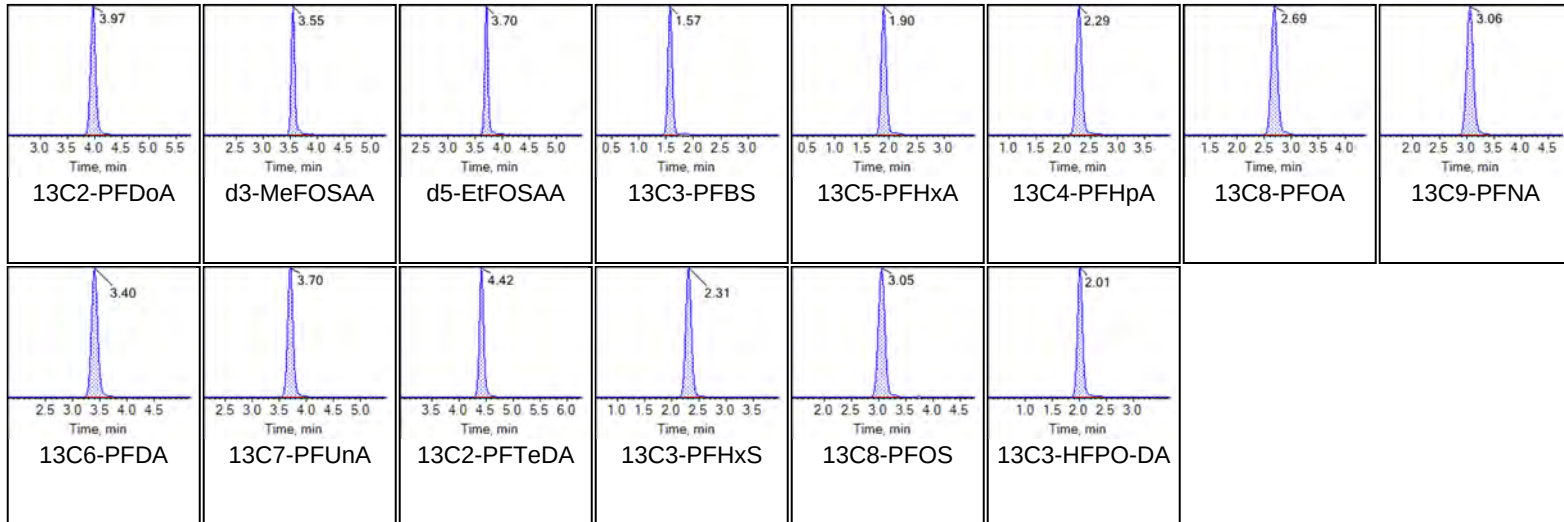


Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM



Internal Standards:





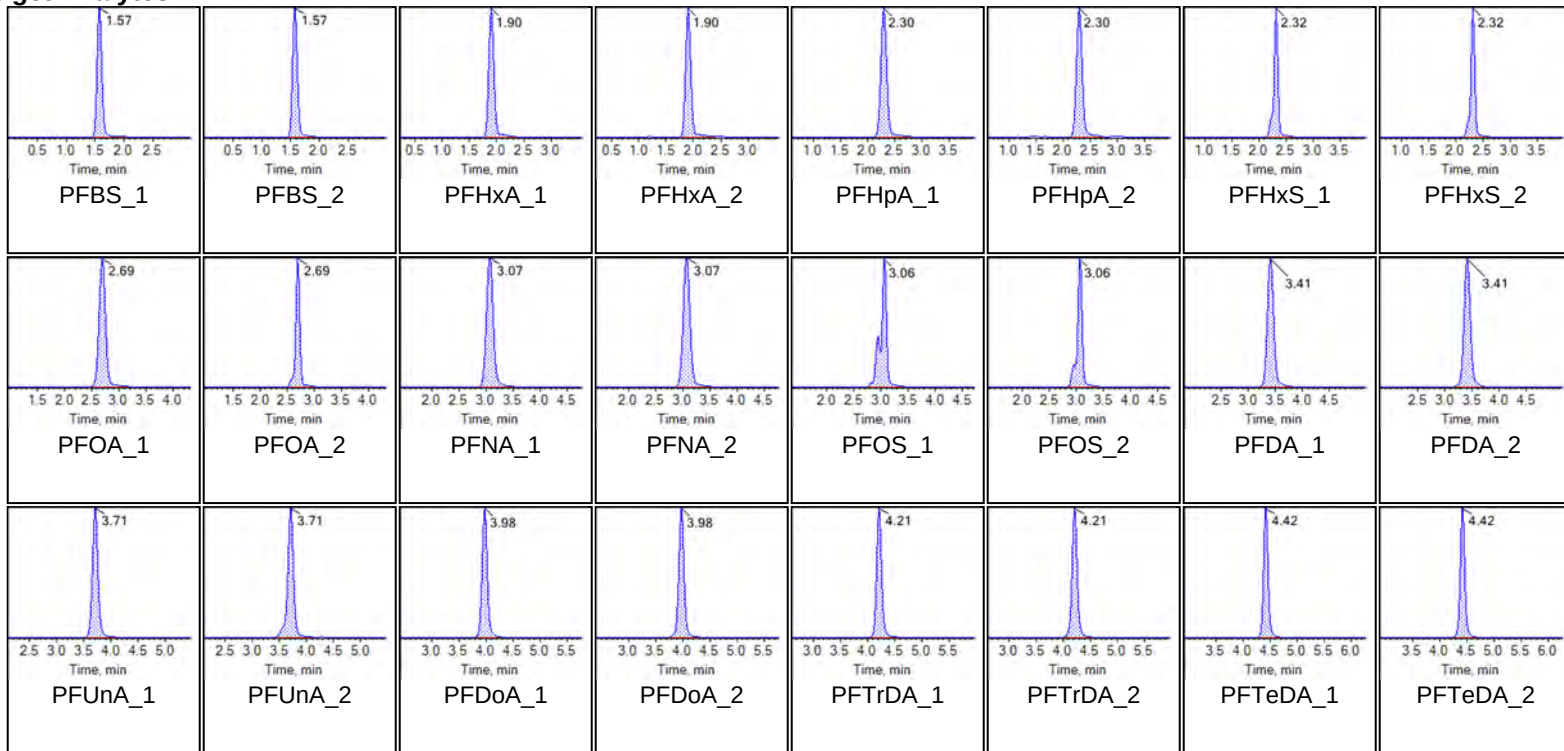
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	DB010LCS-FS(0)	Injection Vial	13
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:29:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

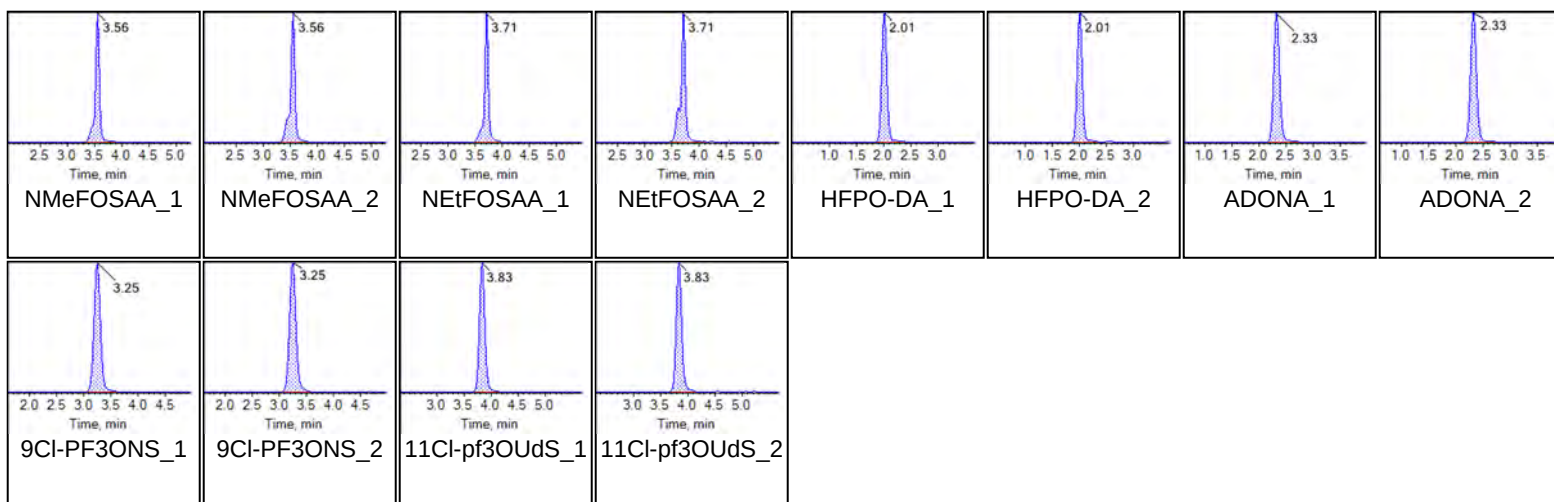
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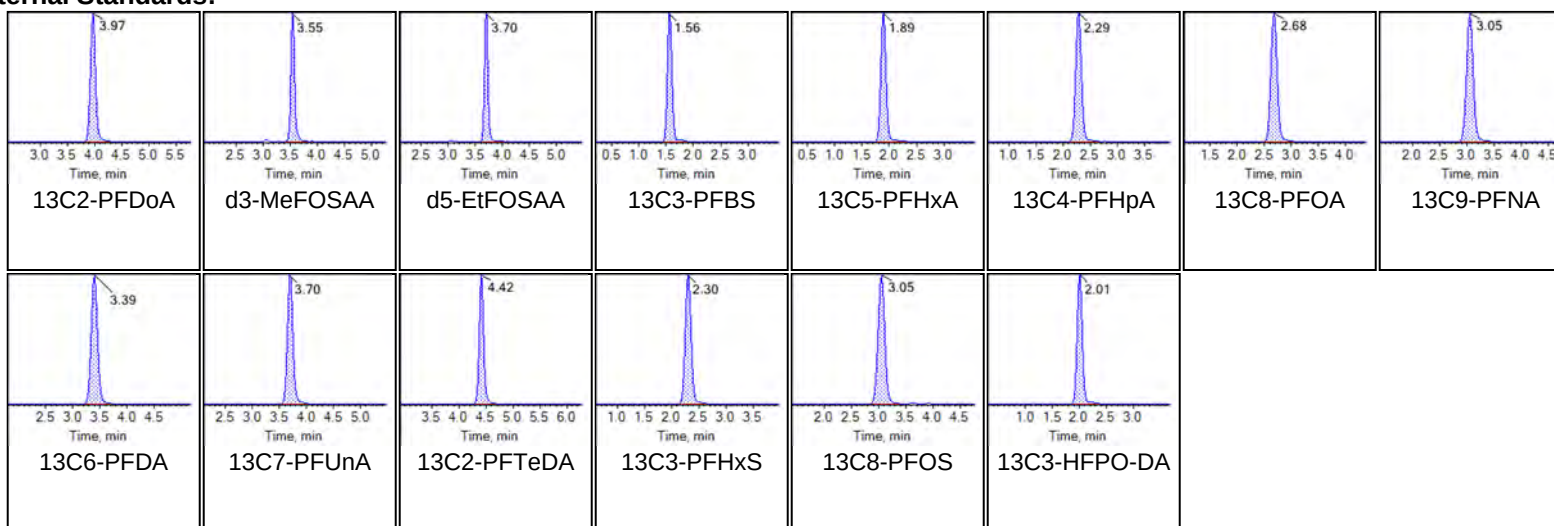


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





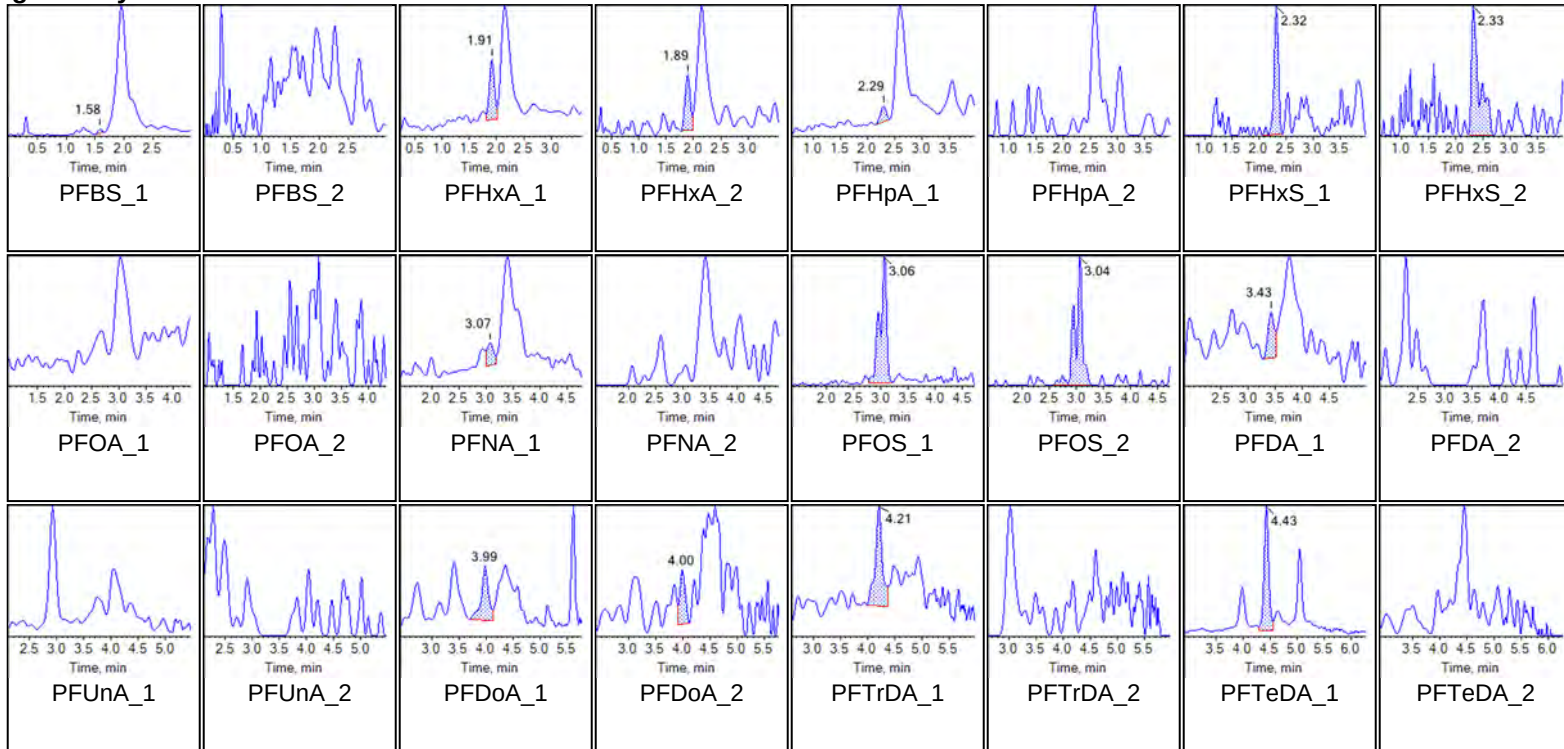
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1797-FS(0)	Injection Vial	14
Sample ID	CBD-AOA-FB05-102020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:40:25 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

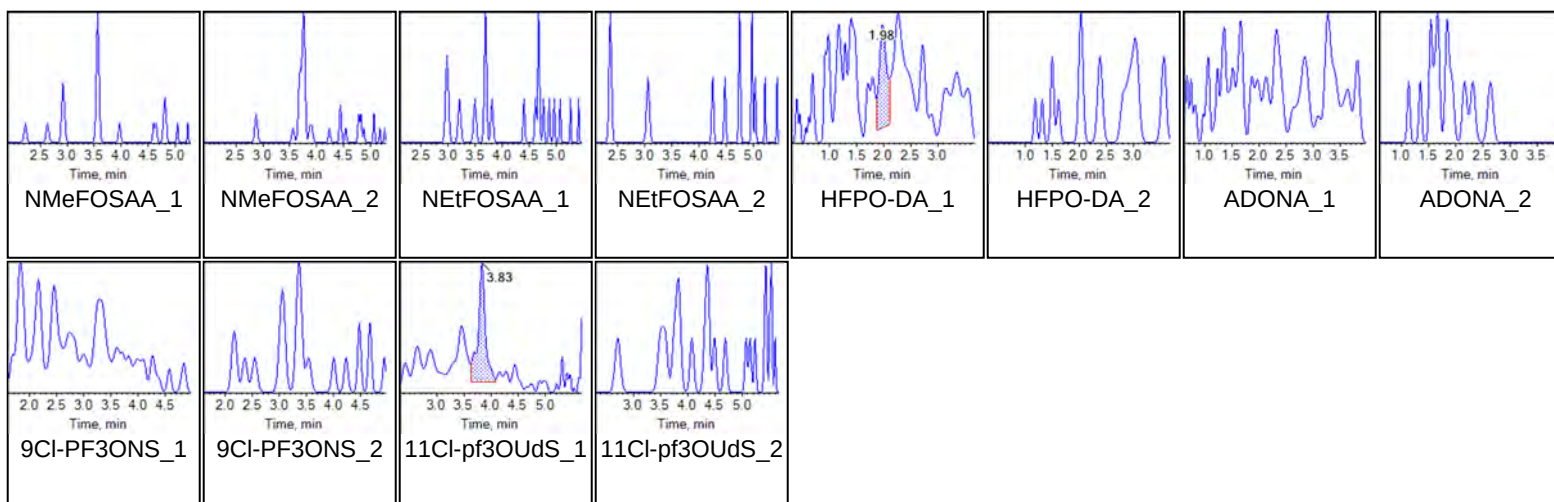
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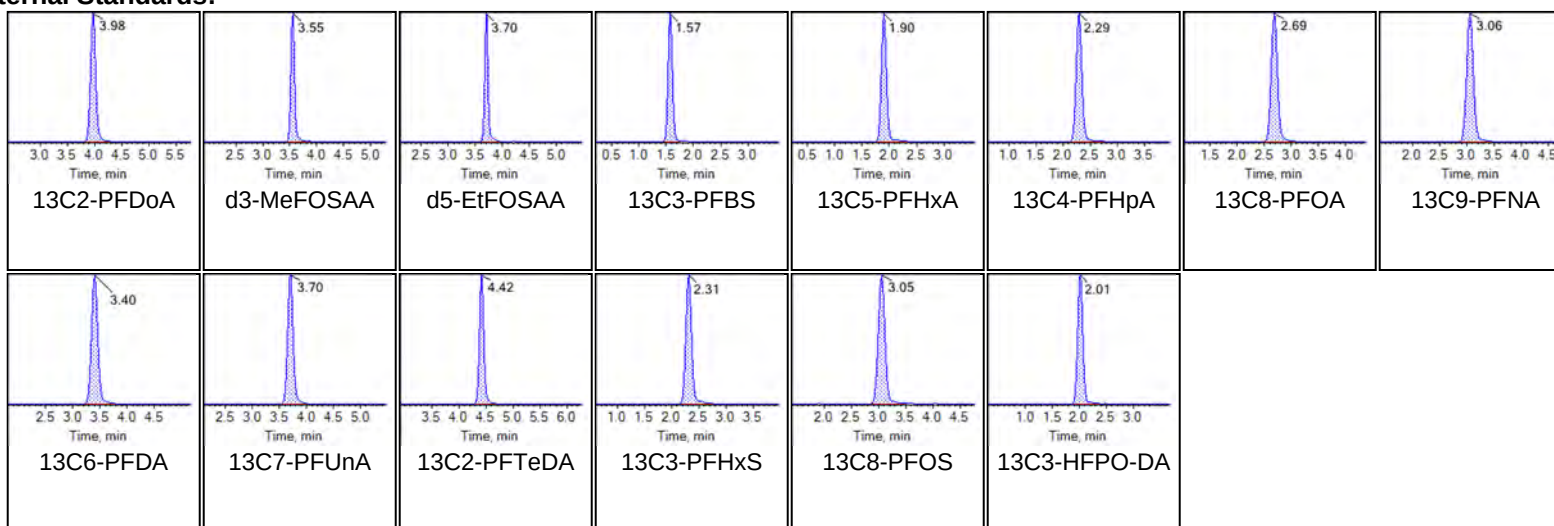


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





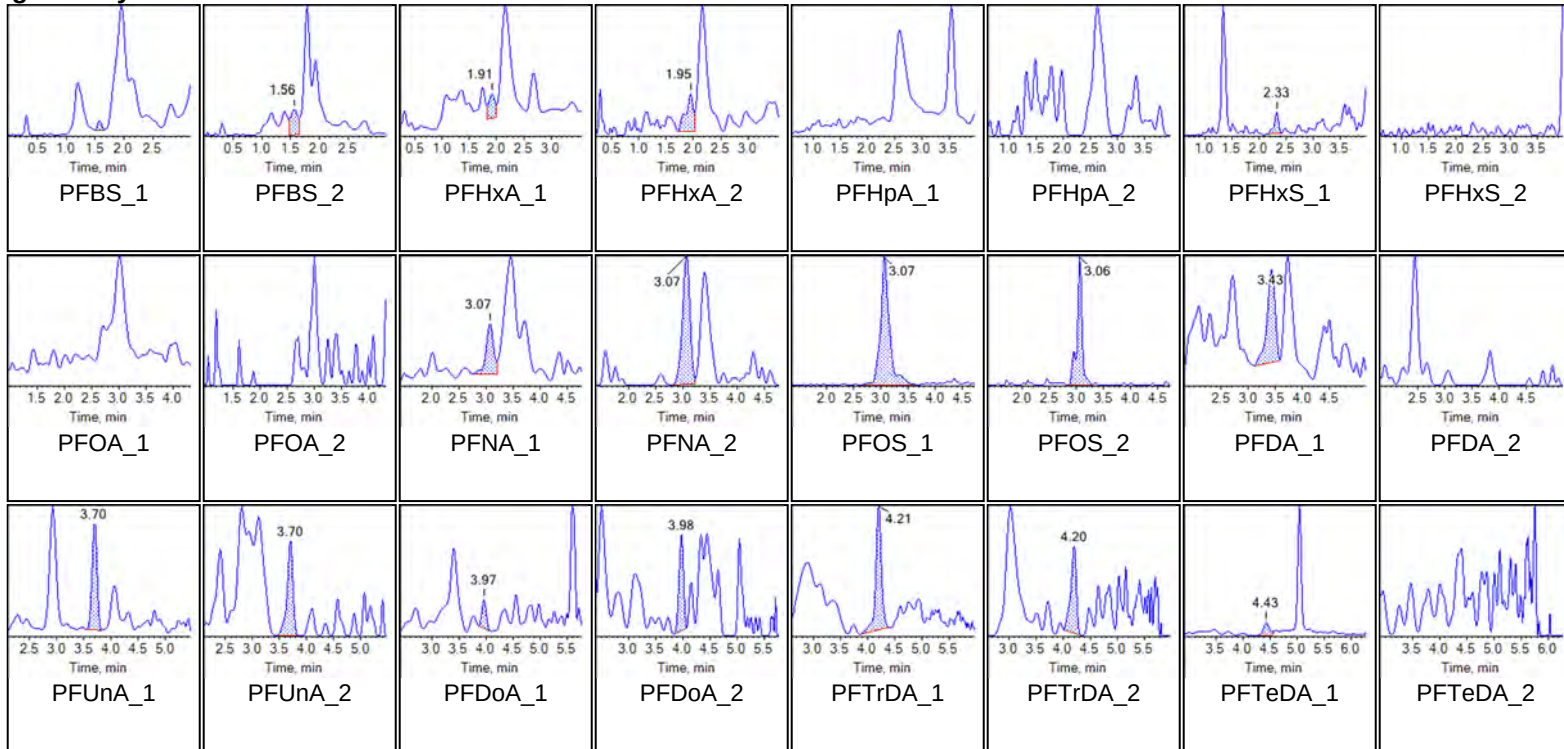
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1798-FS(0)	Injection Vial	15
Sample ID	CBD-AOA-EB01-102020-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 9:51:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

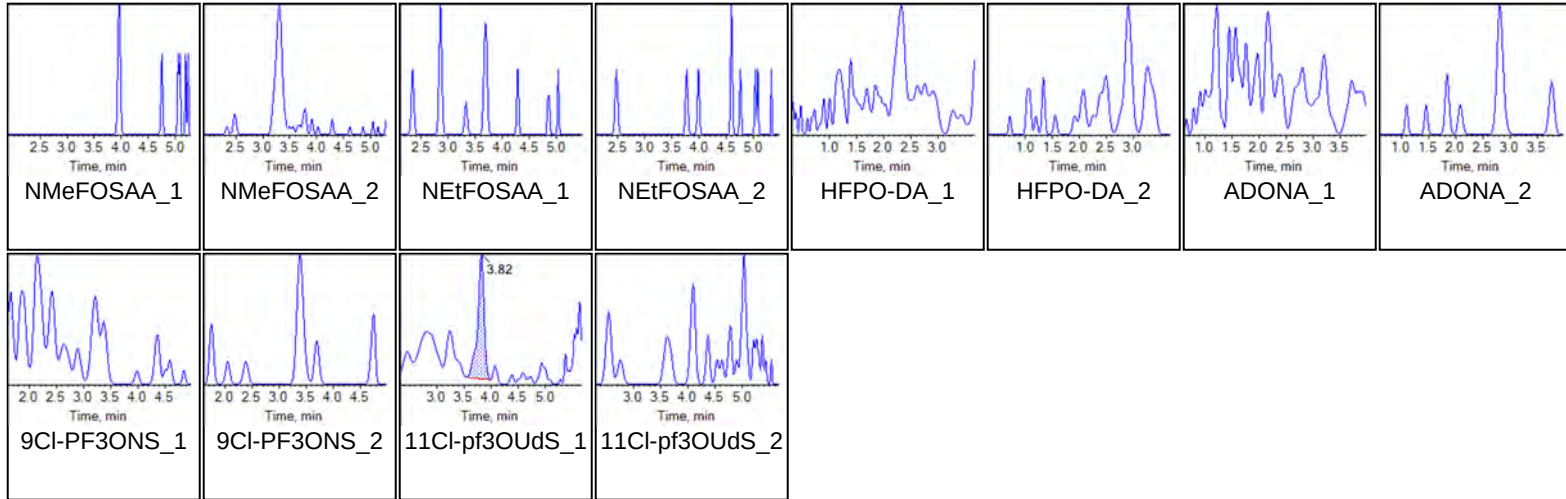
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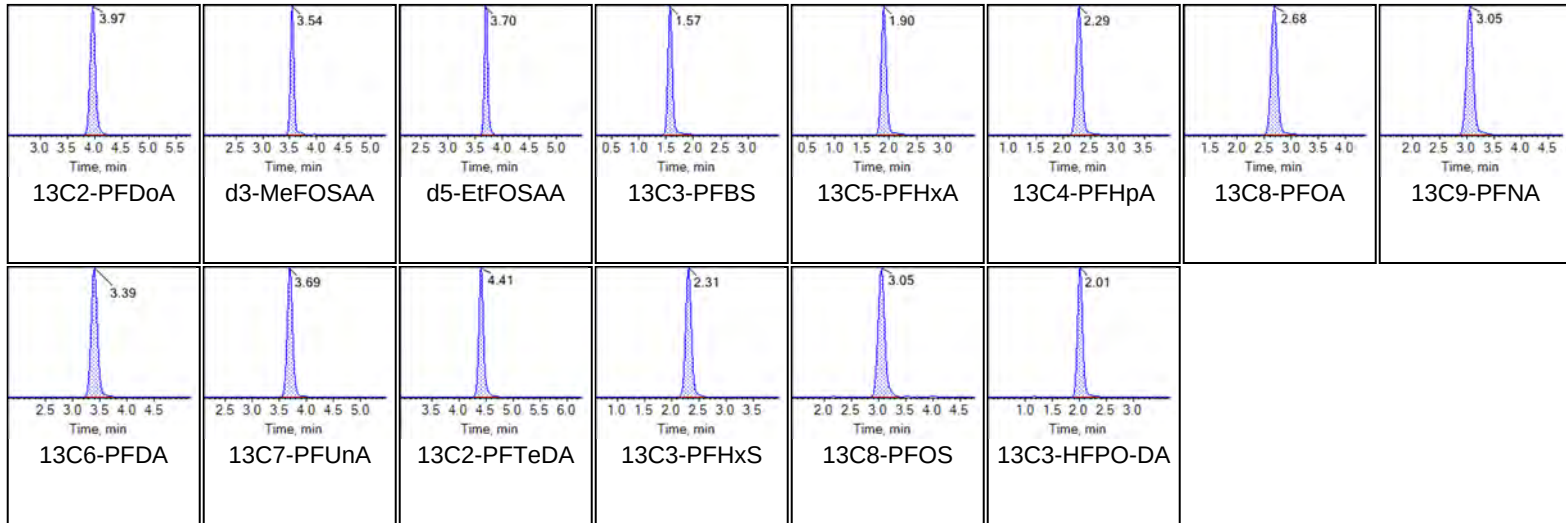


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Printed: 17/11/2020 5:33:42 PM



Internal Standards:





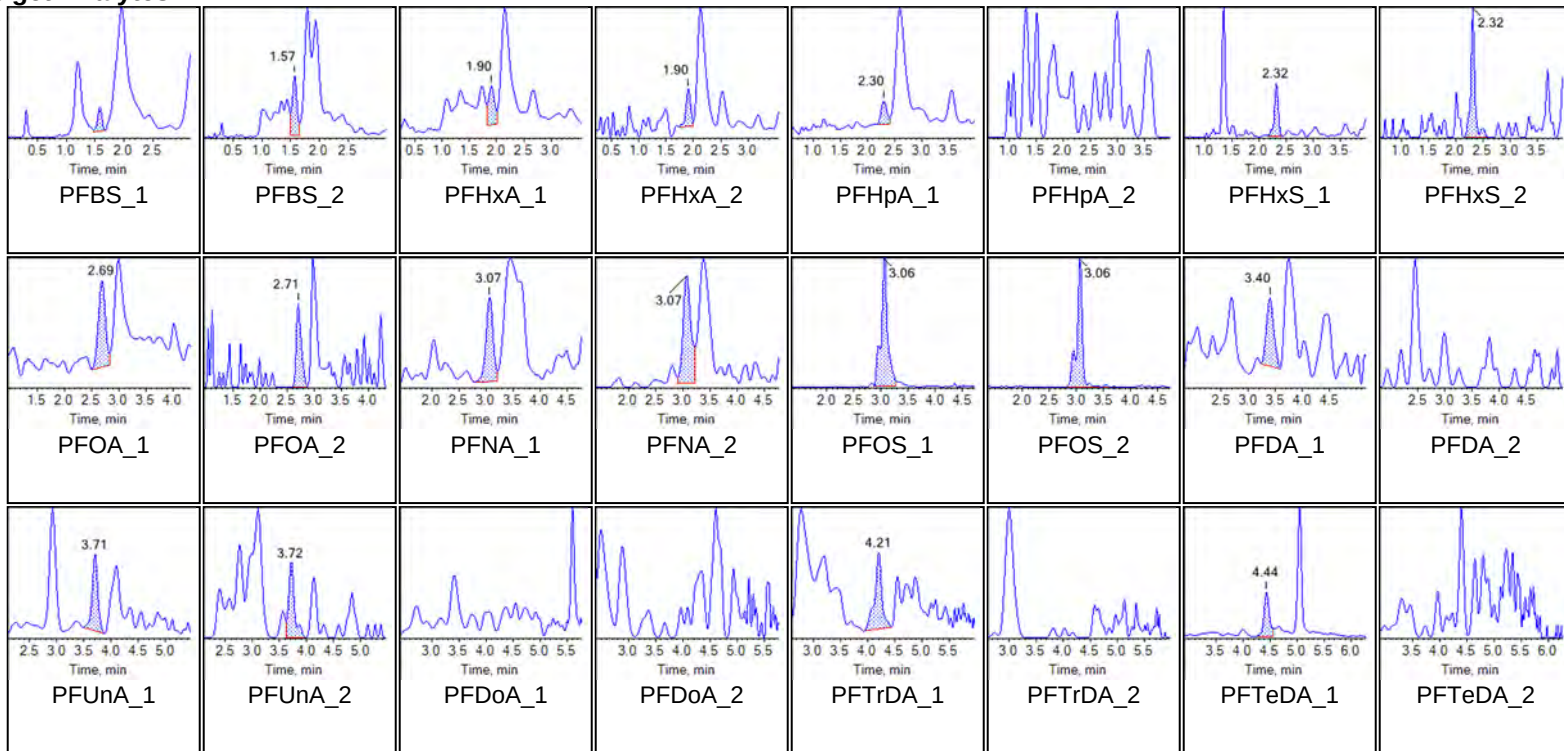
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1804-FS(0)	Injection Vial	16
Sample ID	CBD-AOA-EB01-102120-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:02:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

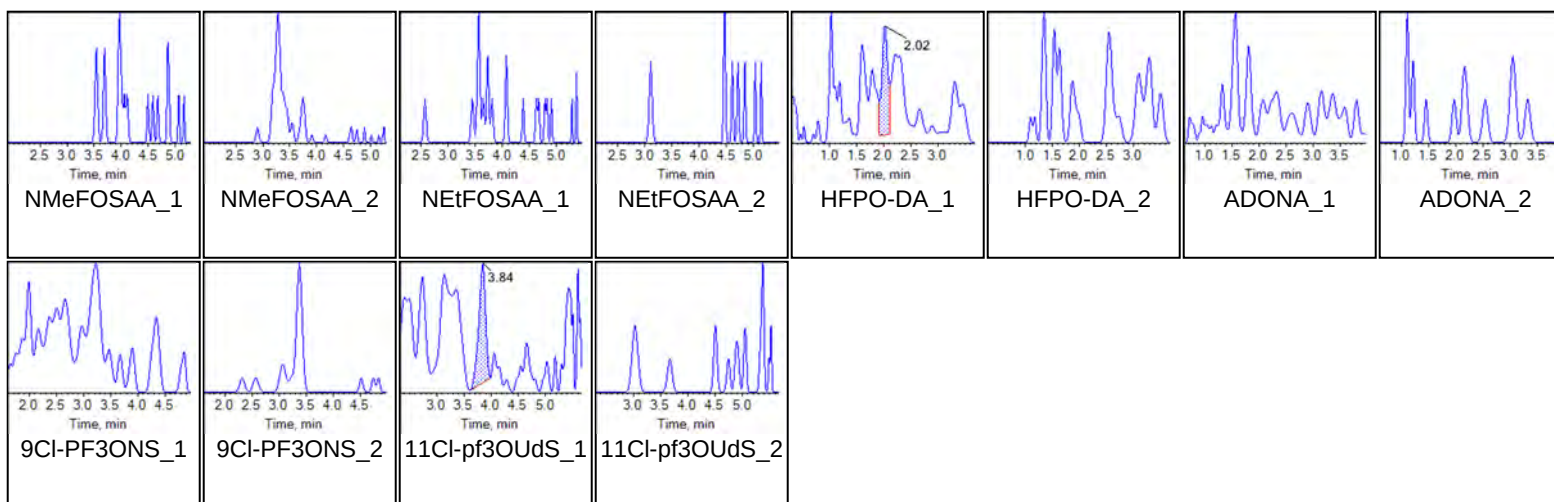
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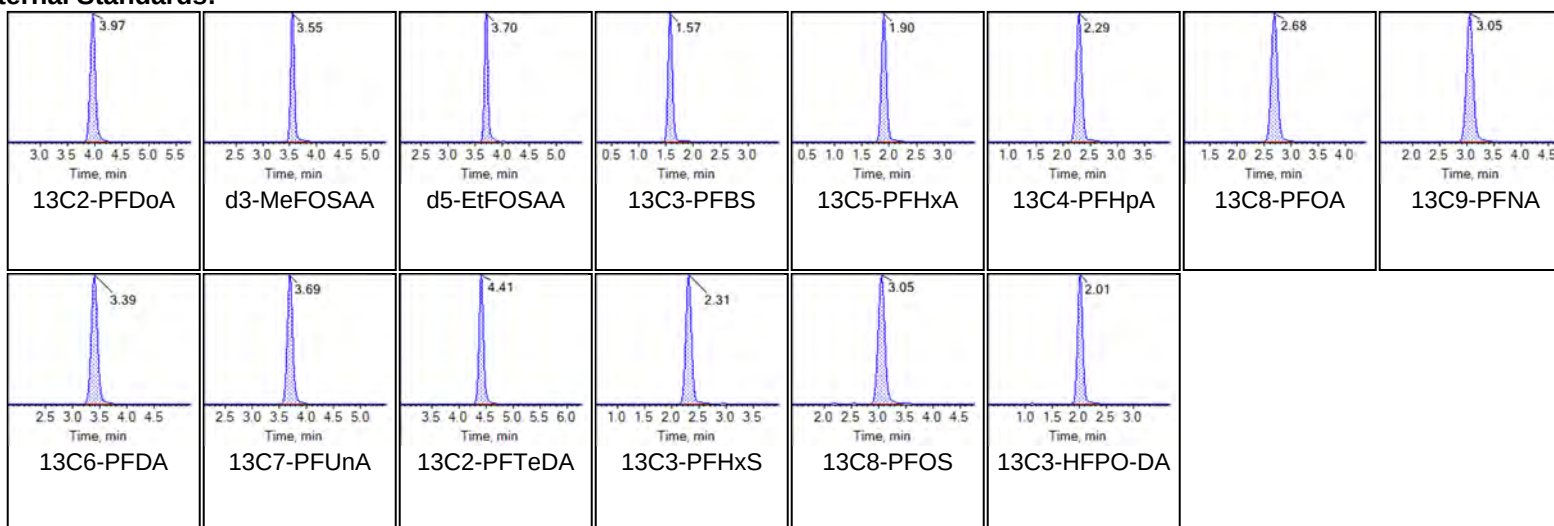


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





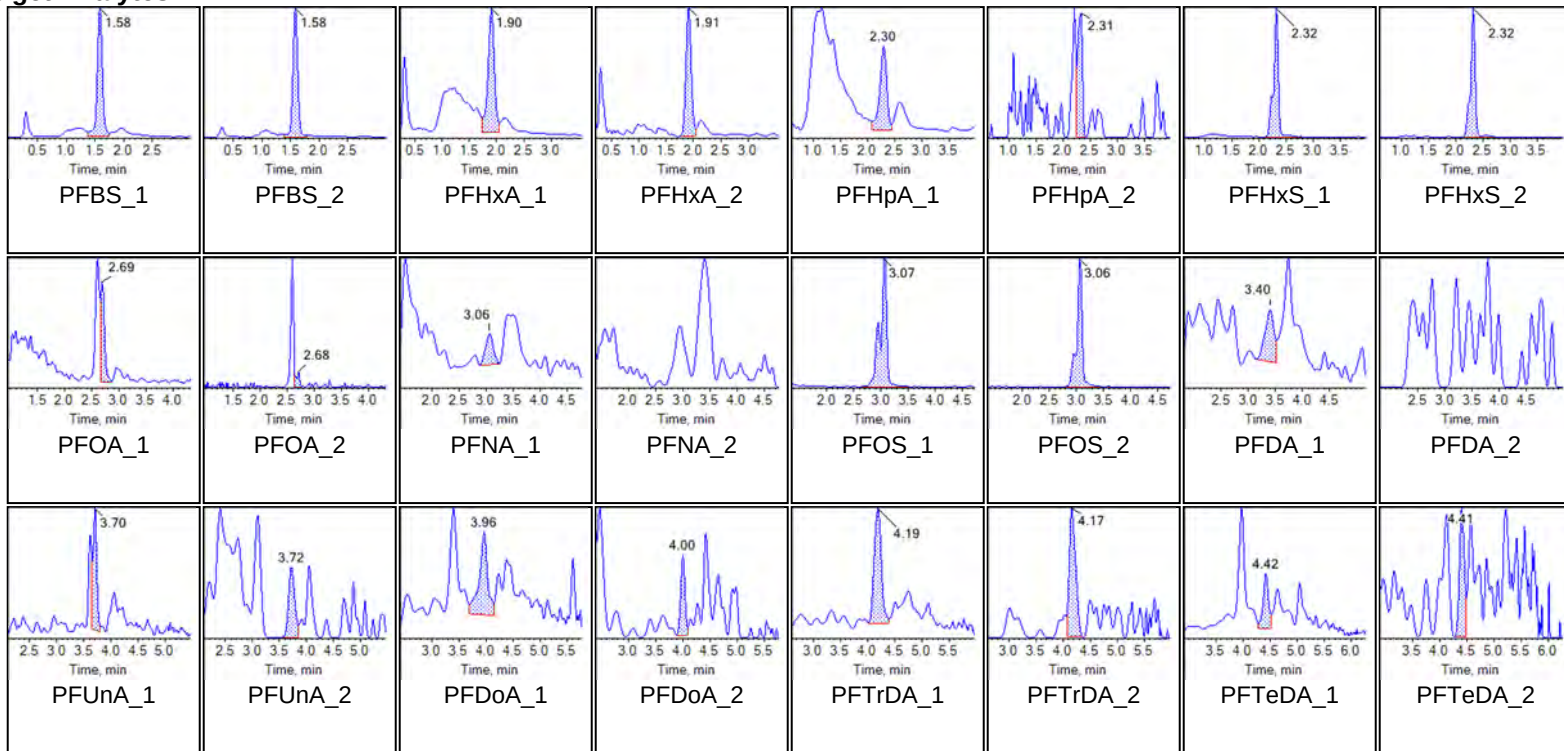
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1794-FS(0)	Injection Vial	17
Sample ID	CBD-AOA-MW07-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:13:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

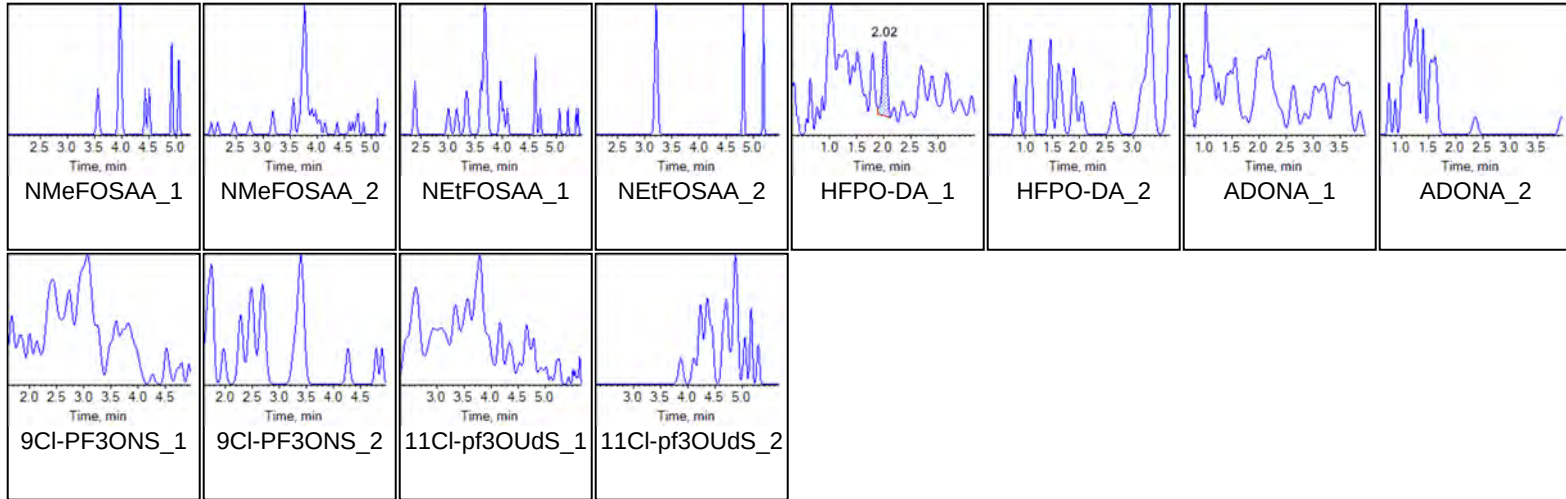
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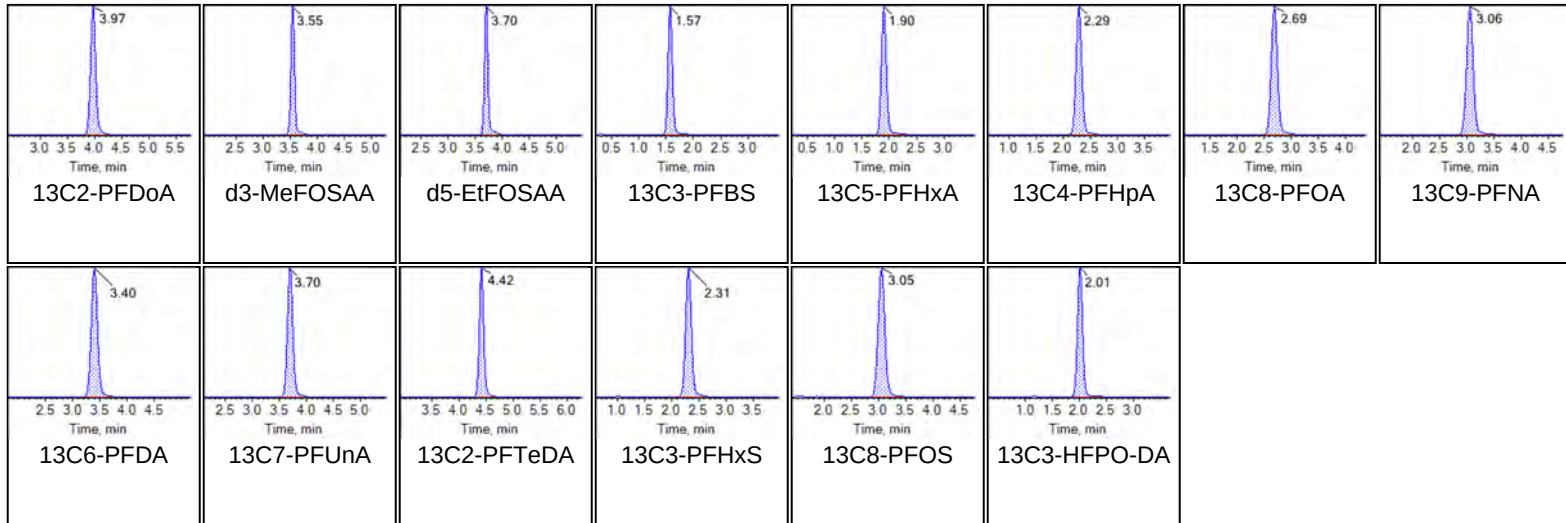


Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM



Internal Standards:





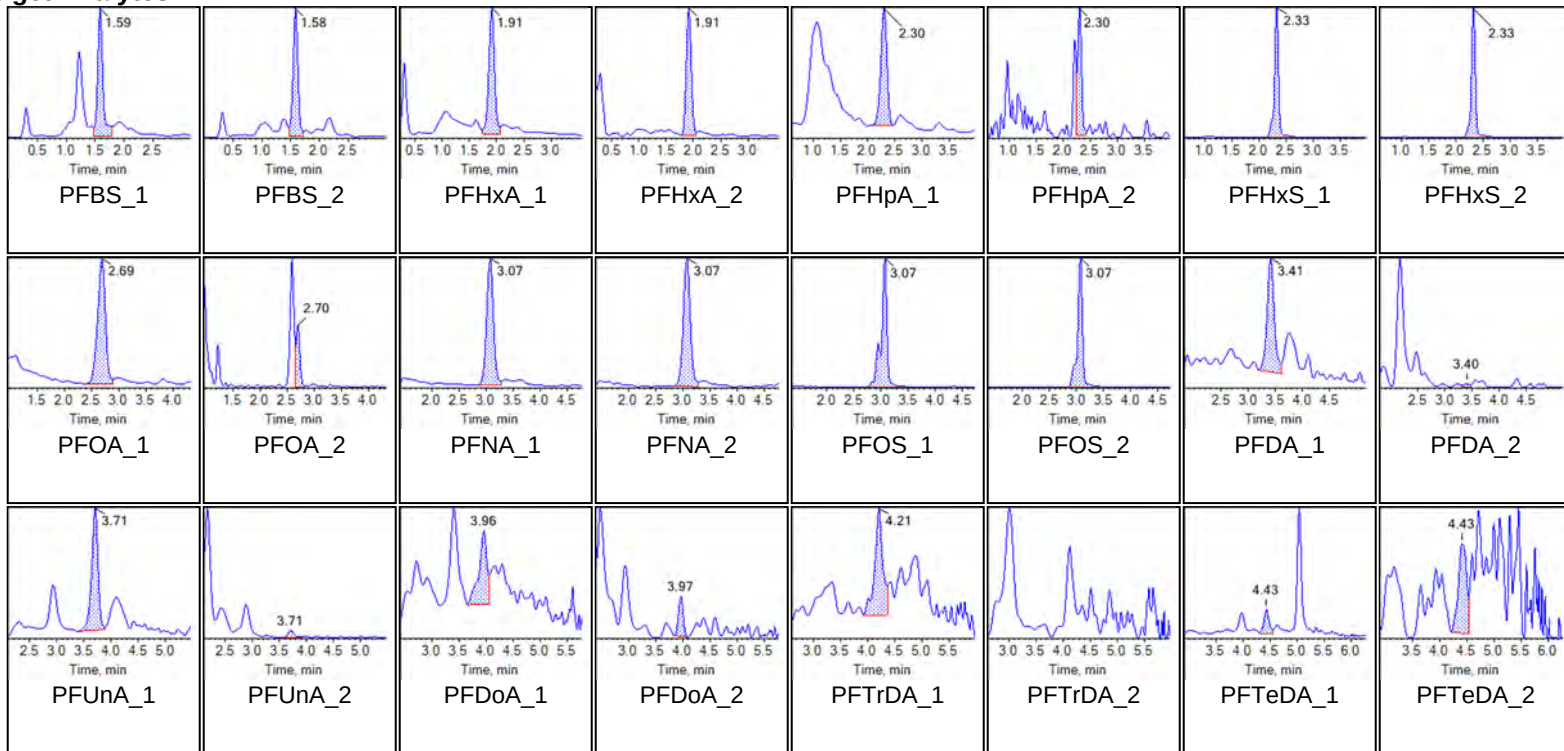
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1795-FS(0)	Injection Vial	18
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:23:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

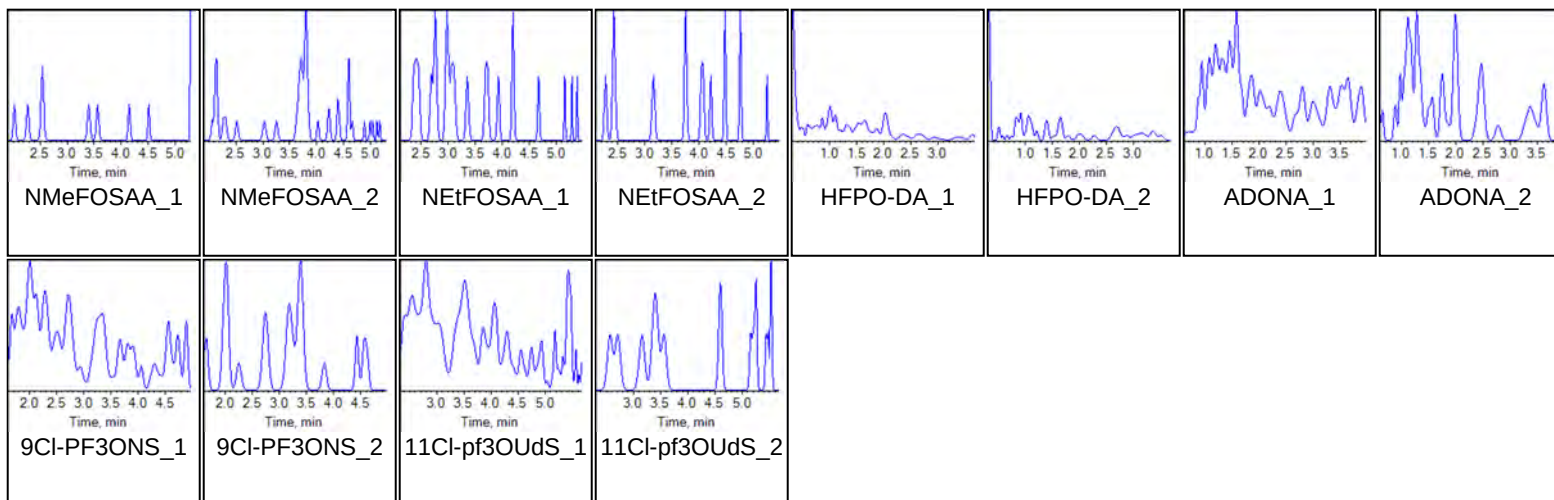
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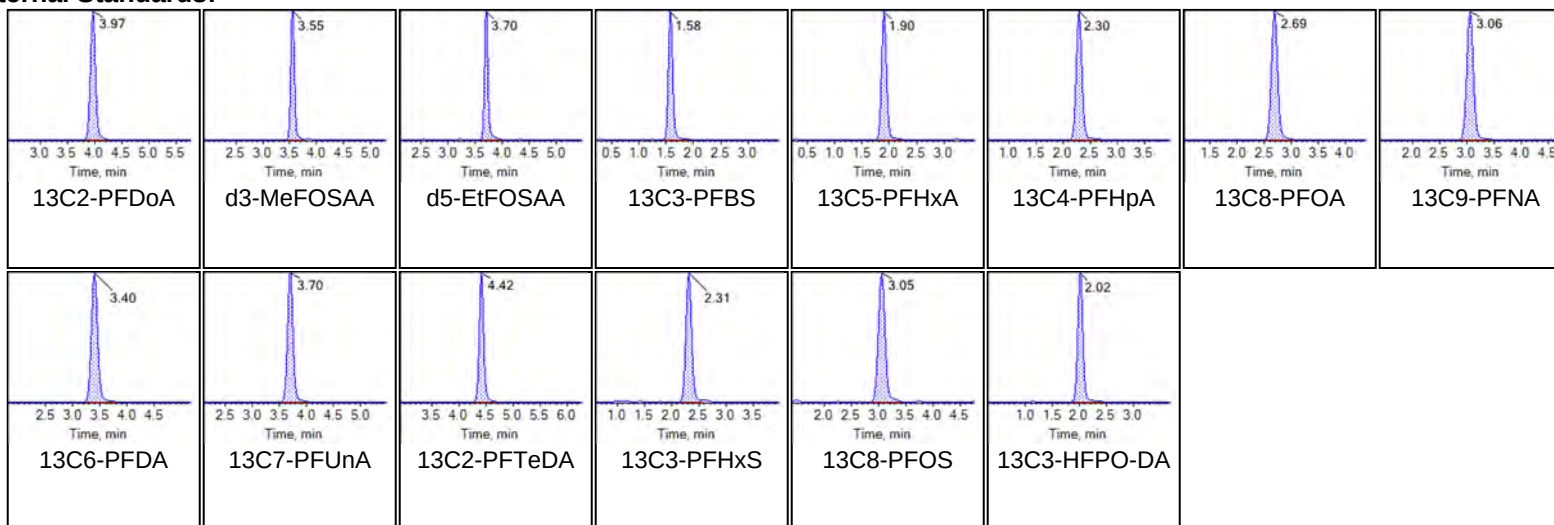


Chromatogram Report

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Internal Standards:





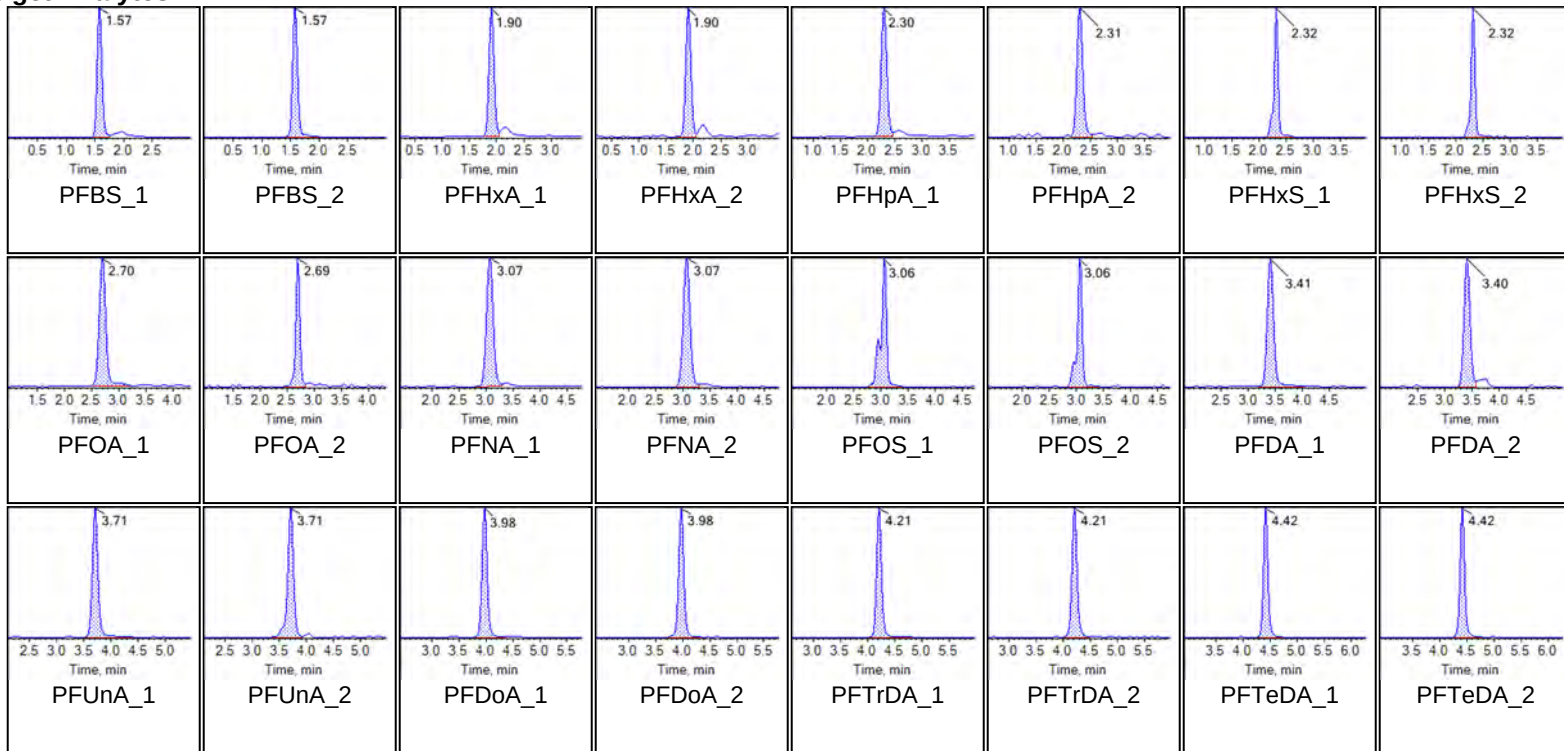
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:45:34 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

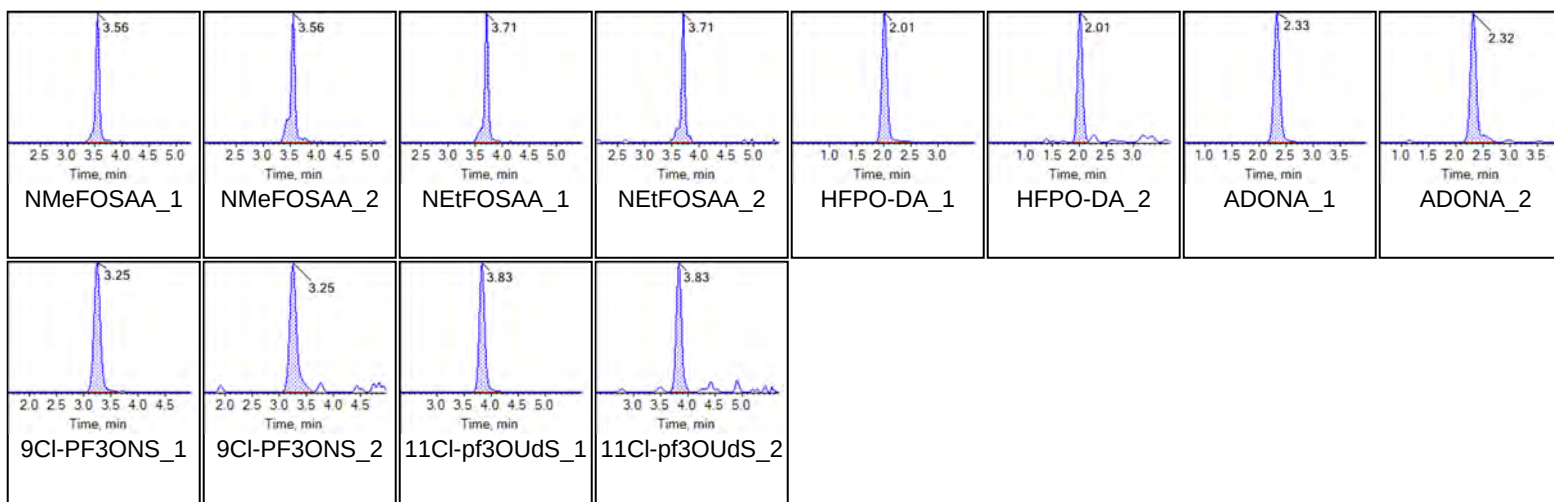
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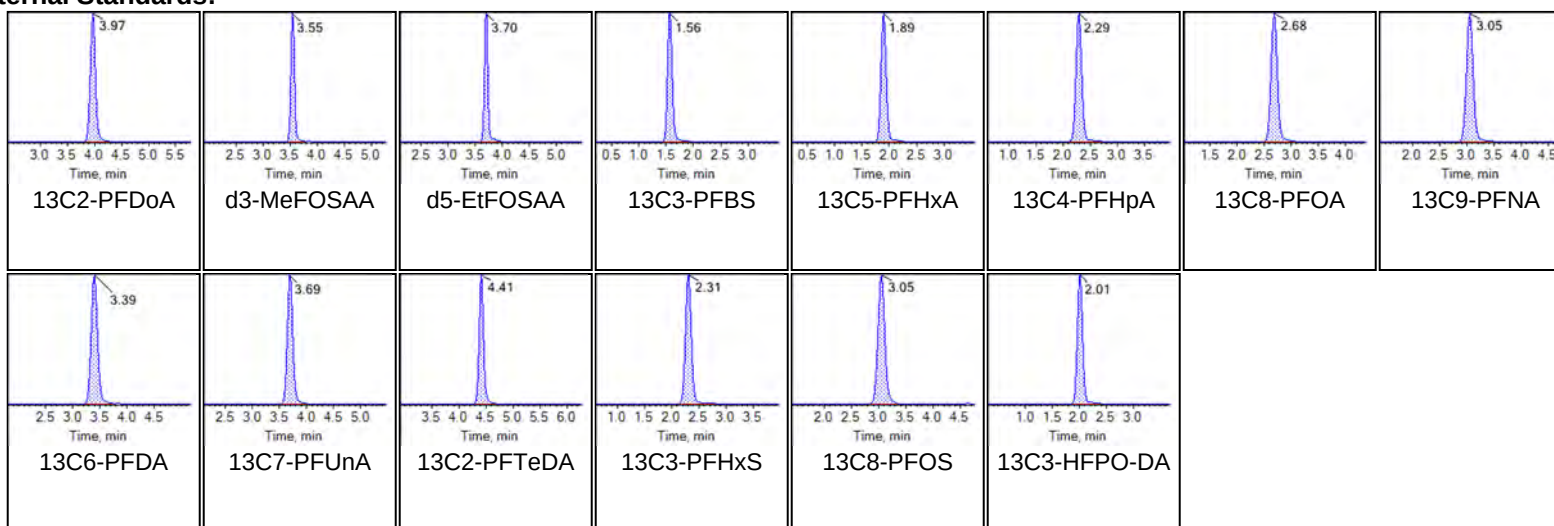


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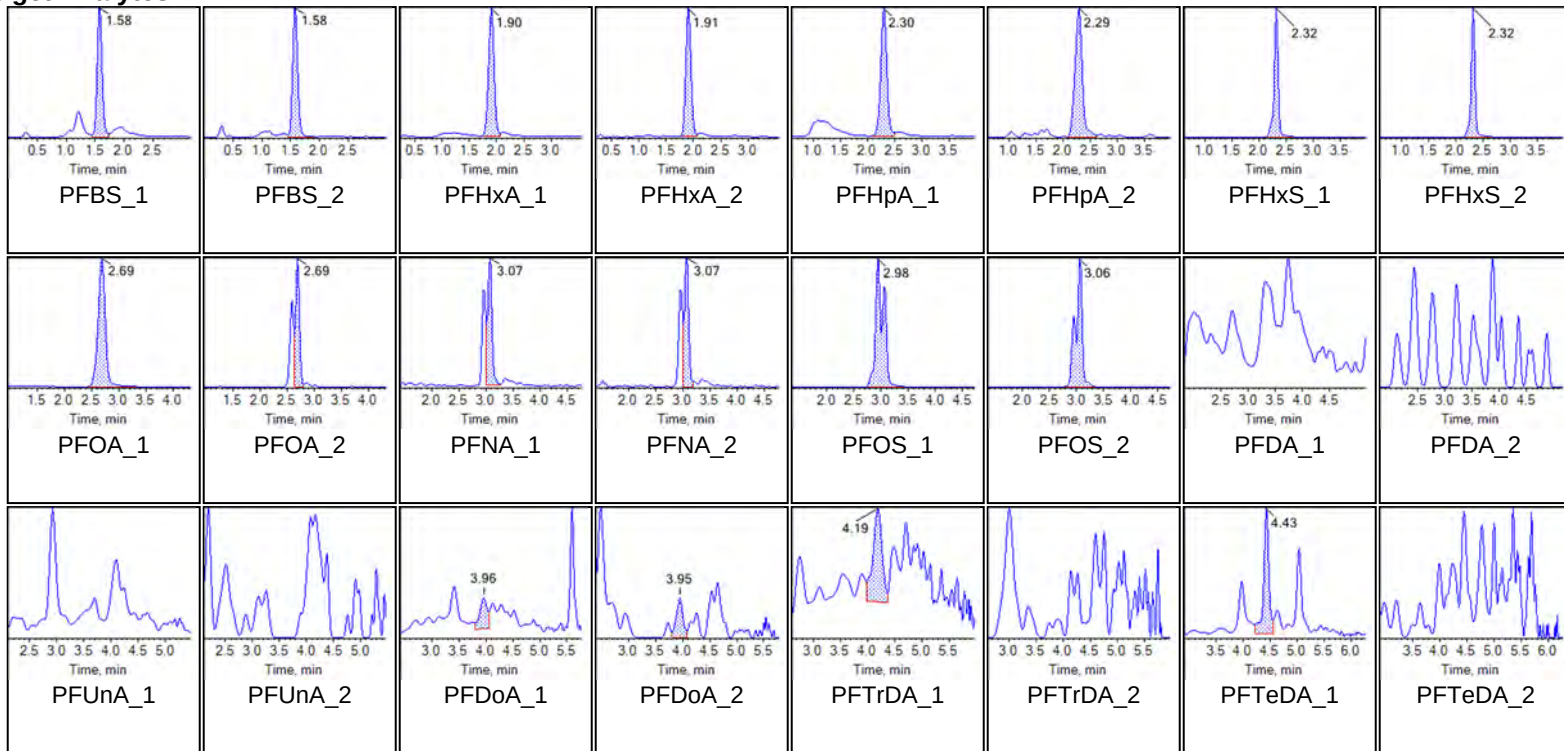
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Sample Name	G1796-FS(0)	Injection Vial	21
Sample ID	CBD-AOA-MW19-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

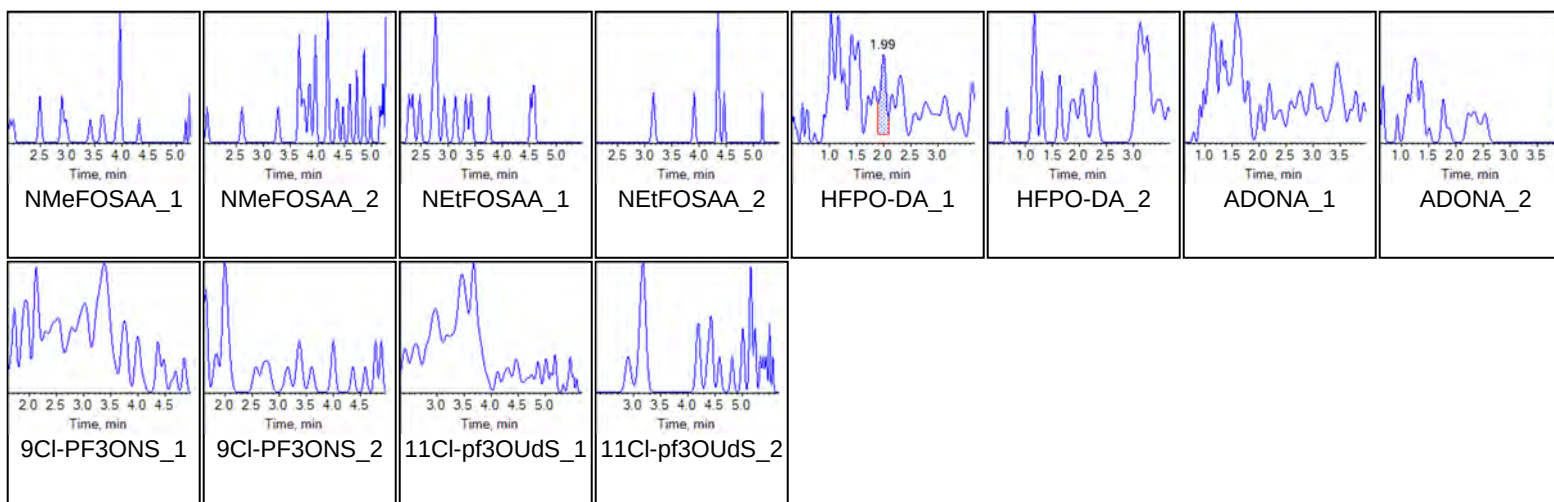
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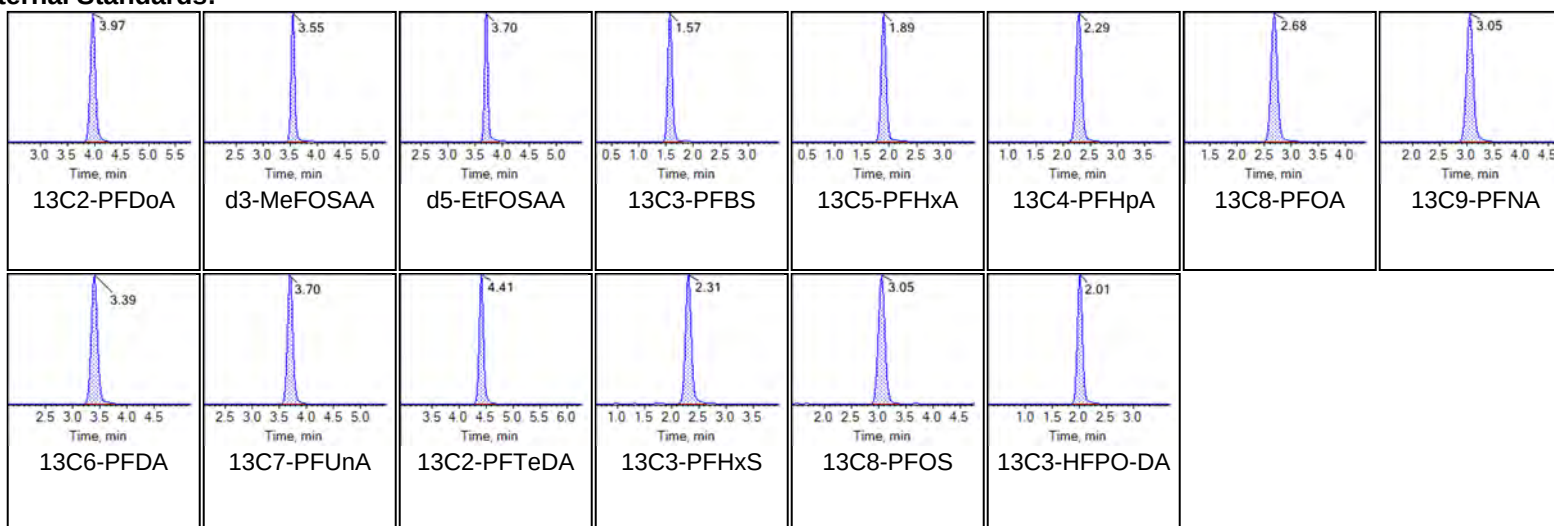


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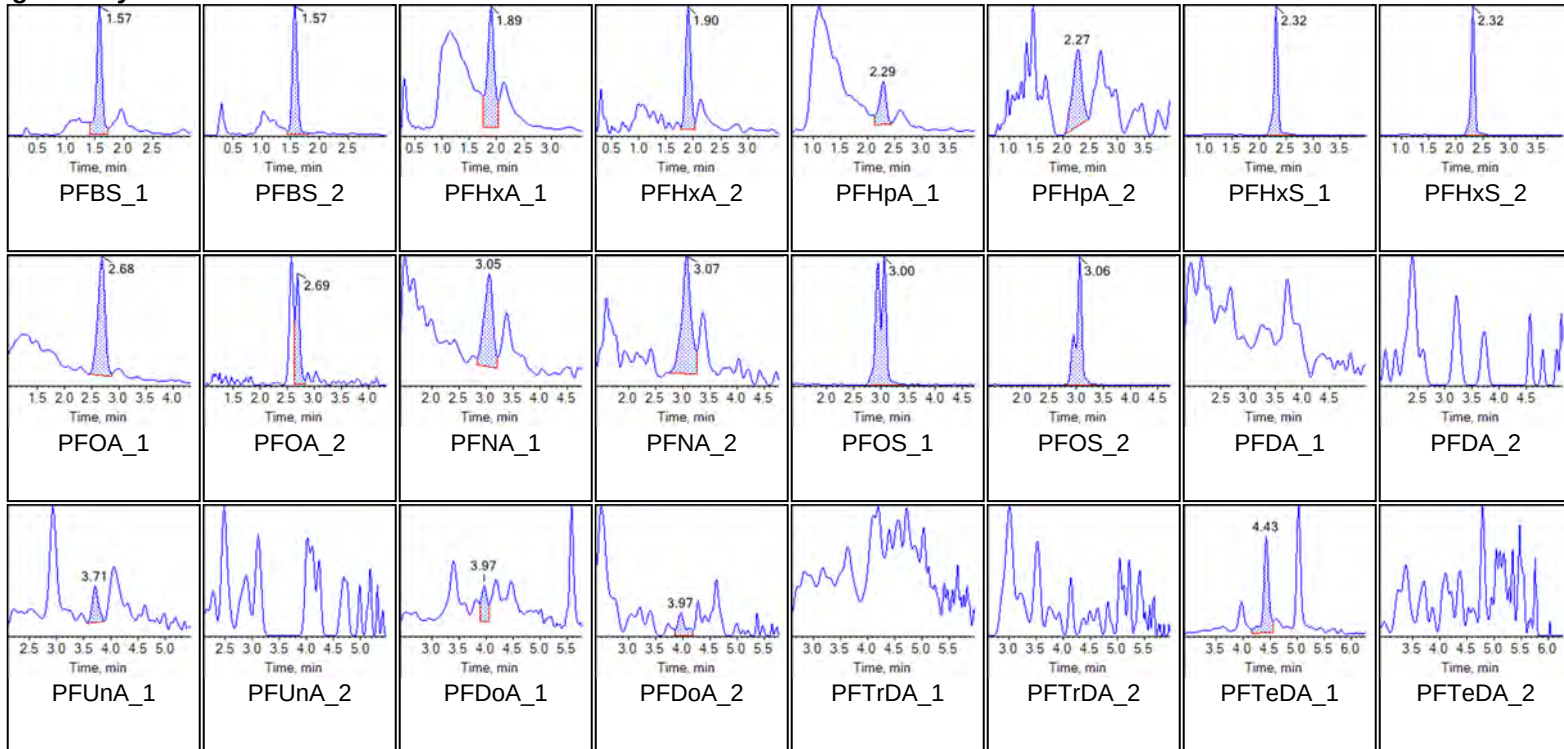
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1799-FS(0)	Injection Vial	22
Sample ID	CBD-BKG-MW01-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:07:17 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

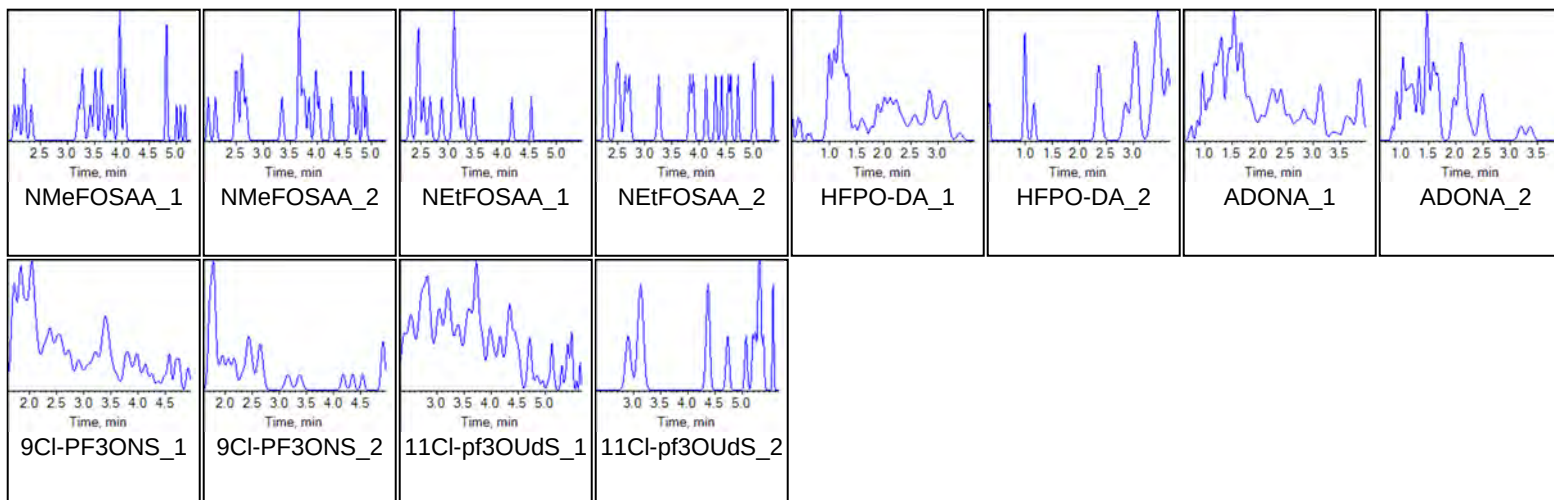
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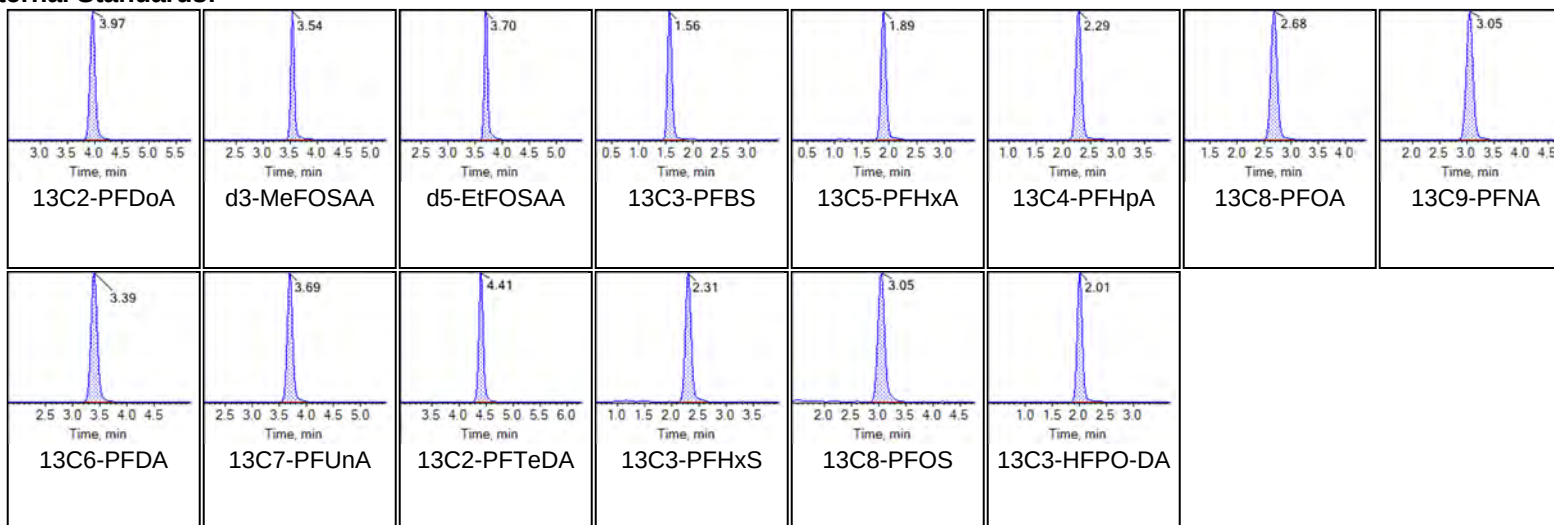


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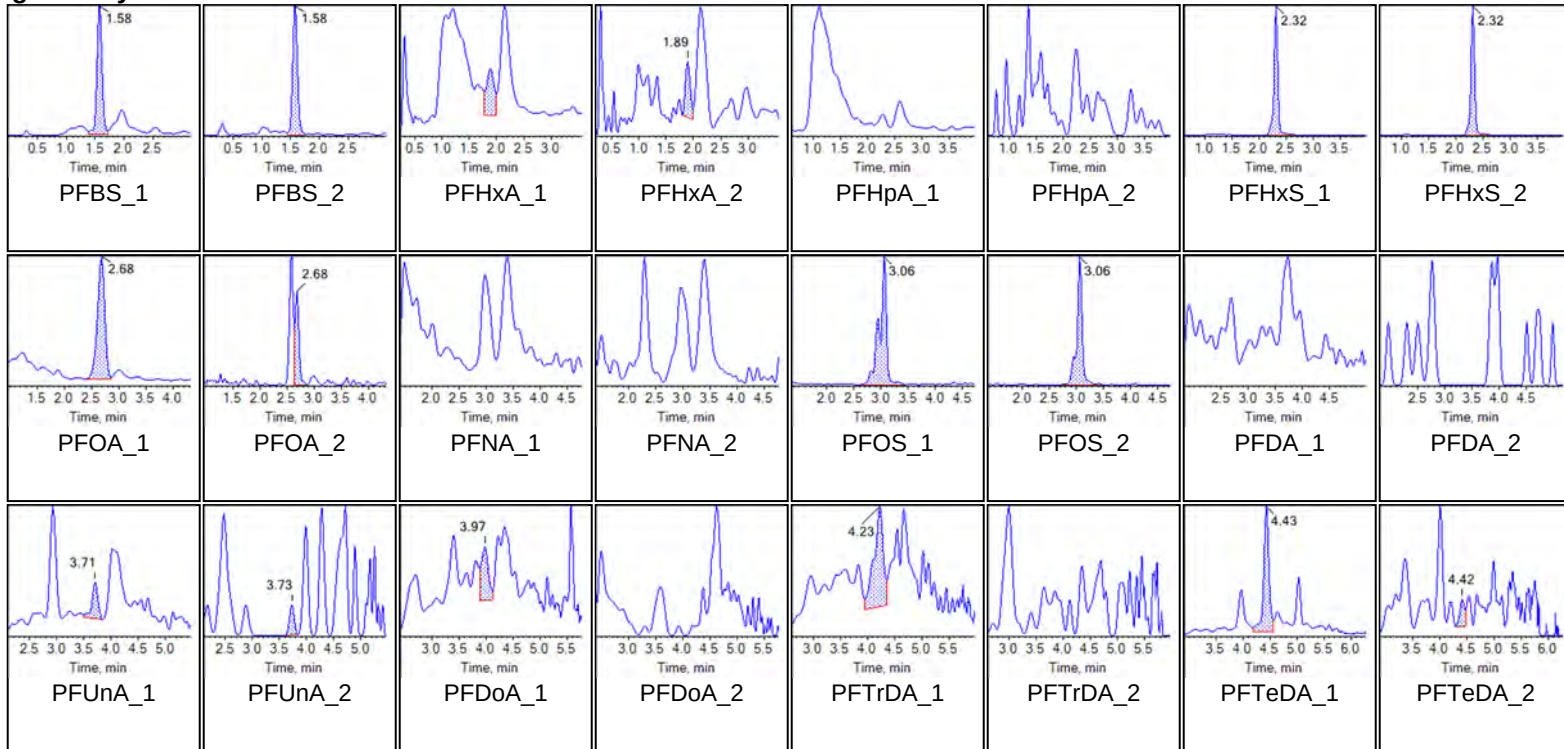
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Sample Name	G1800-FS(0)	Injection Vial	23
Sample ID	CBD-BKG-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

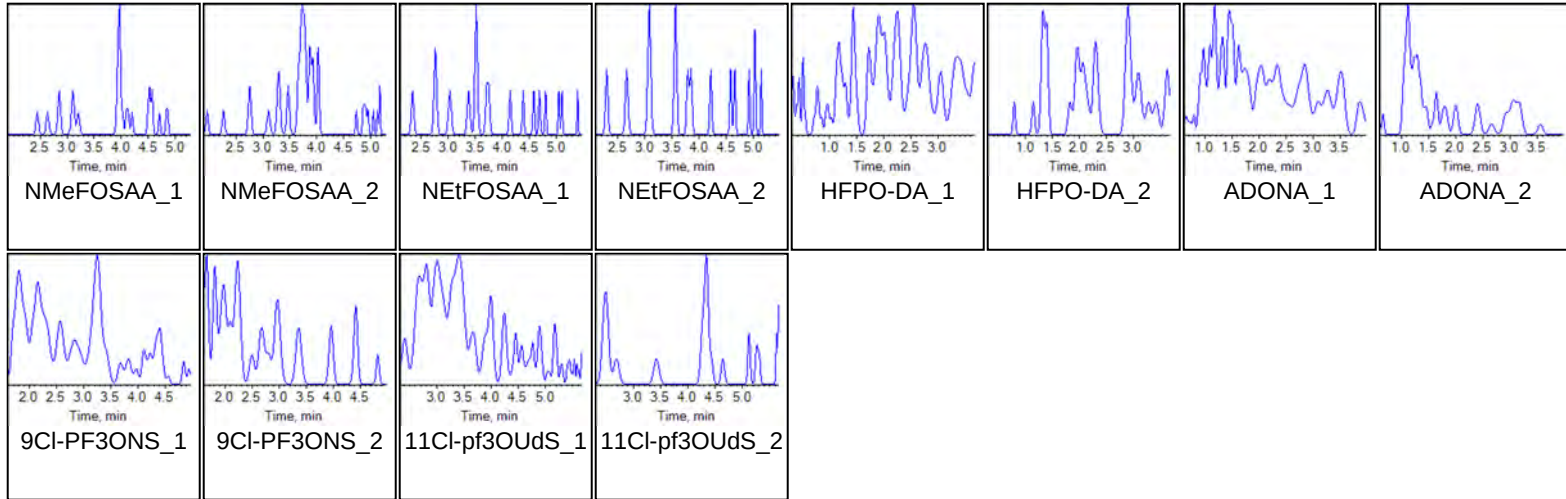
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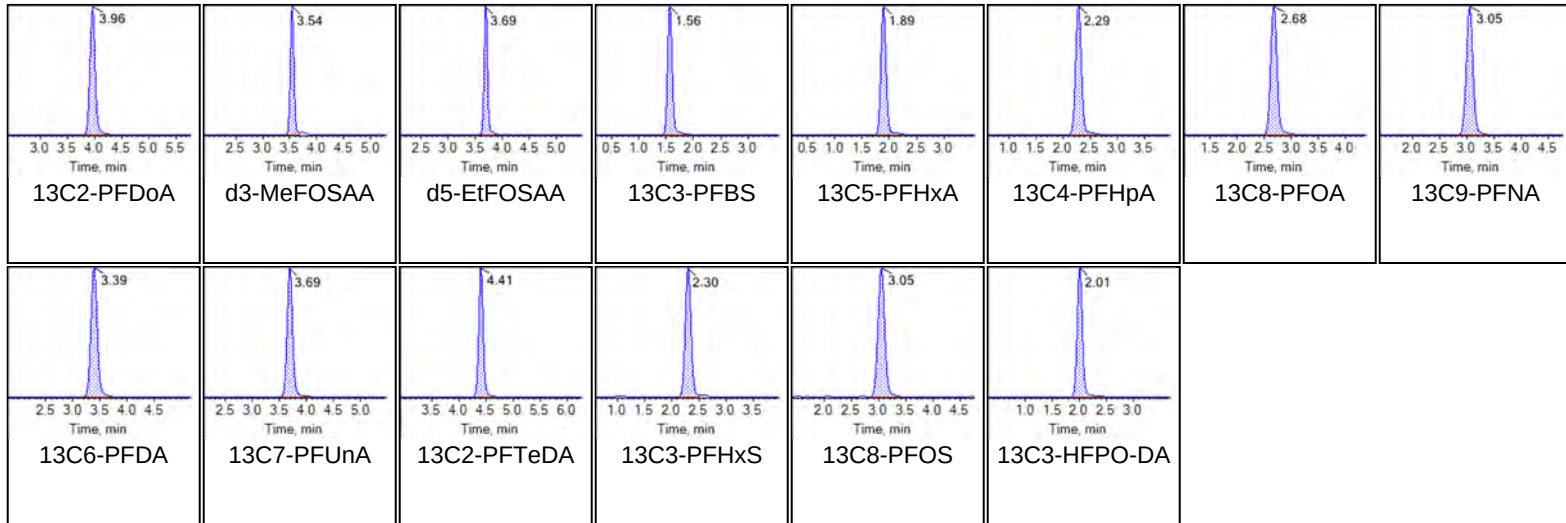


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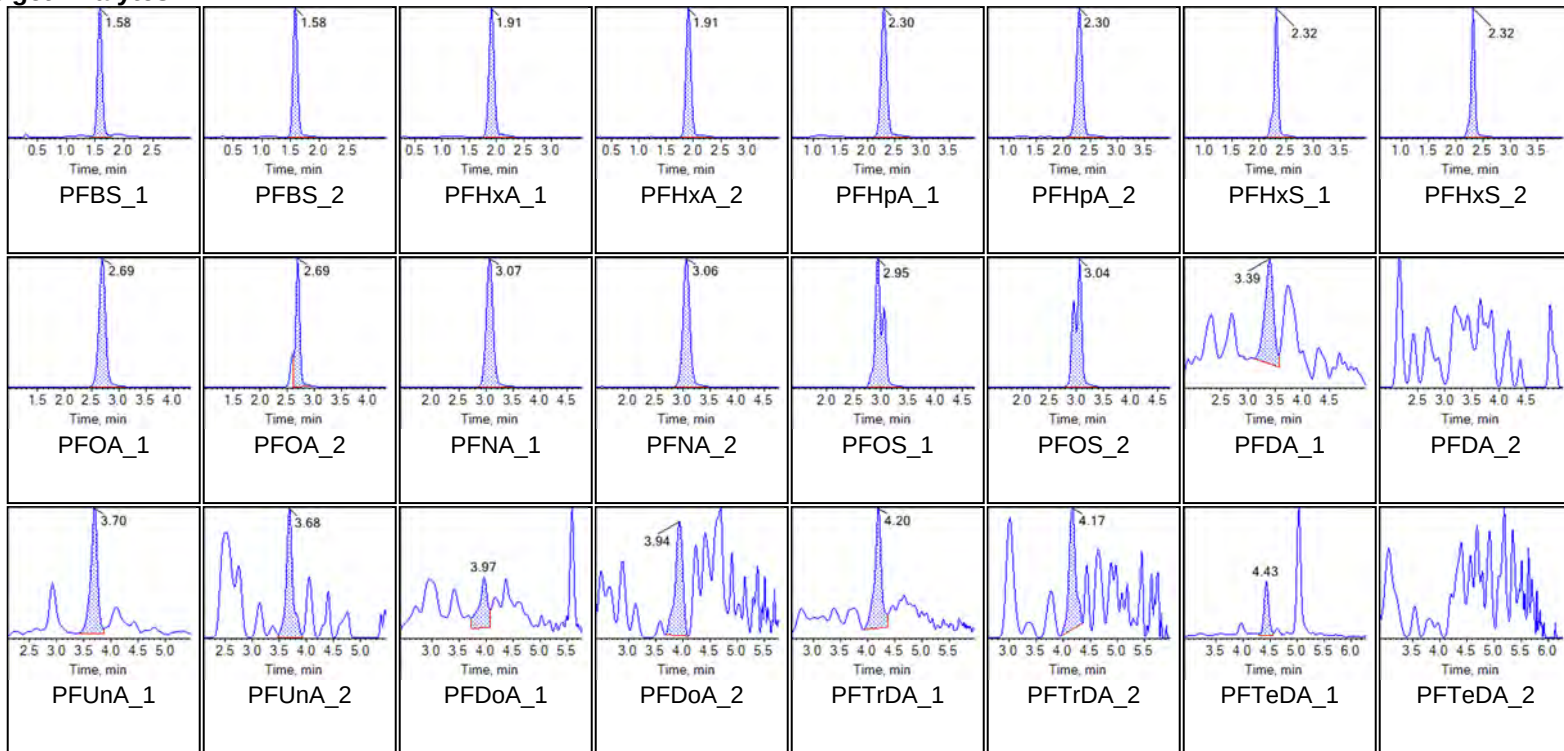
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1801-FS(0)	Injection Vial	24
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:29:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

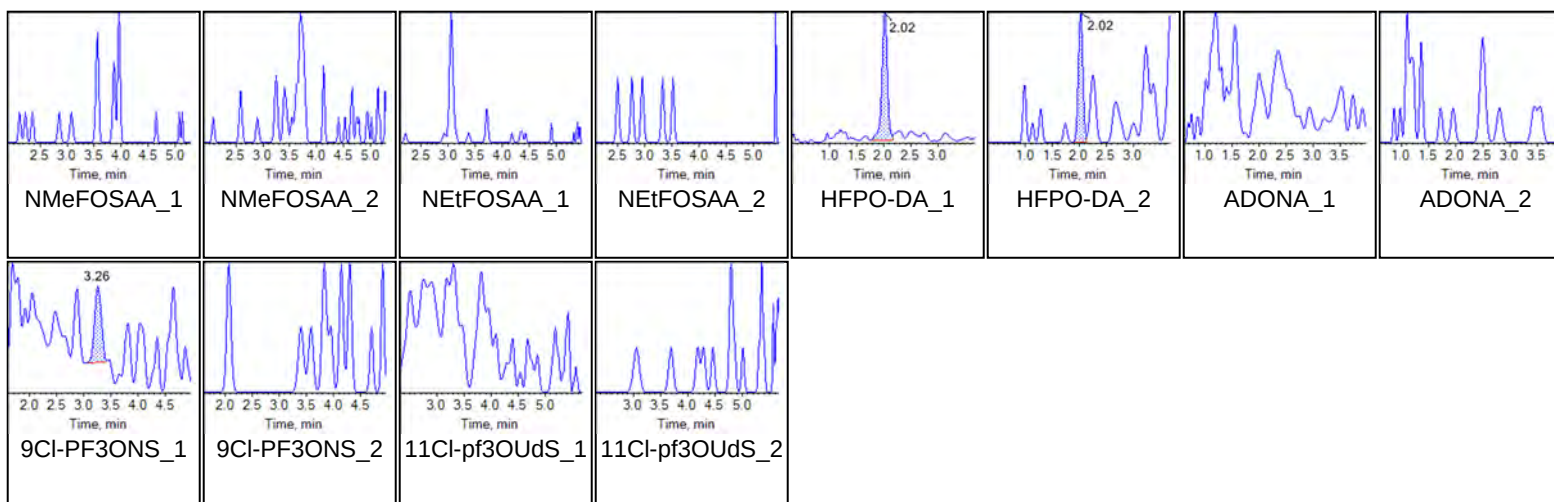
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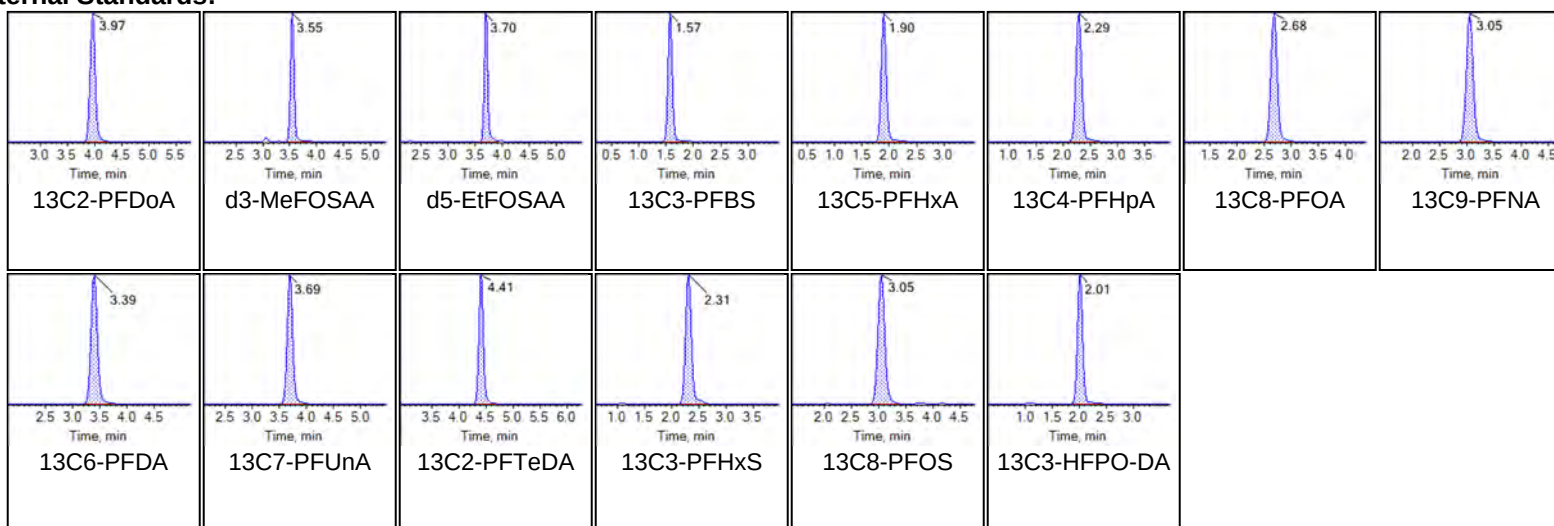


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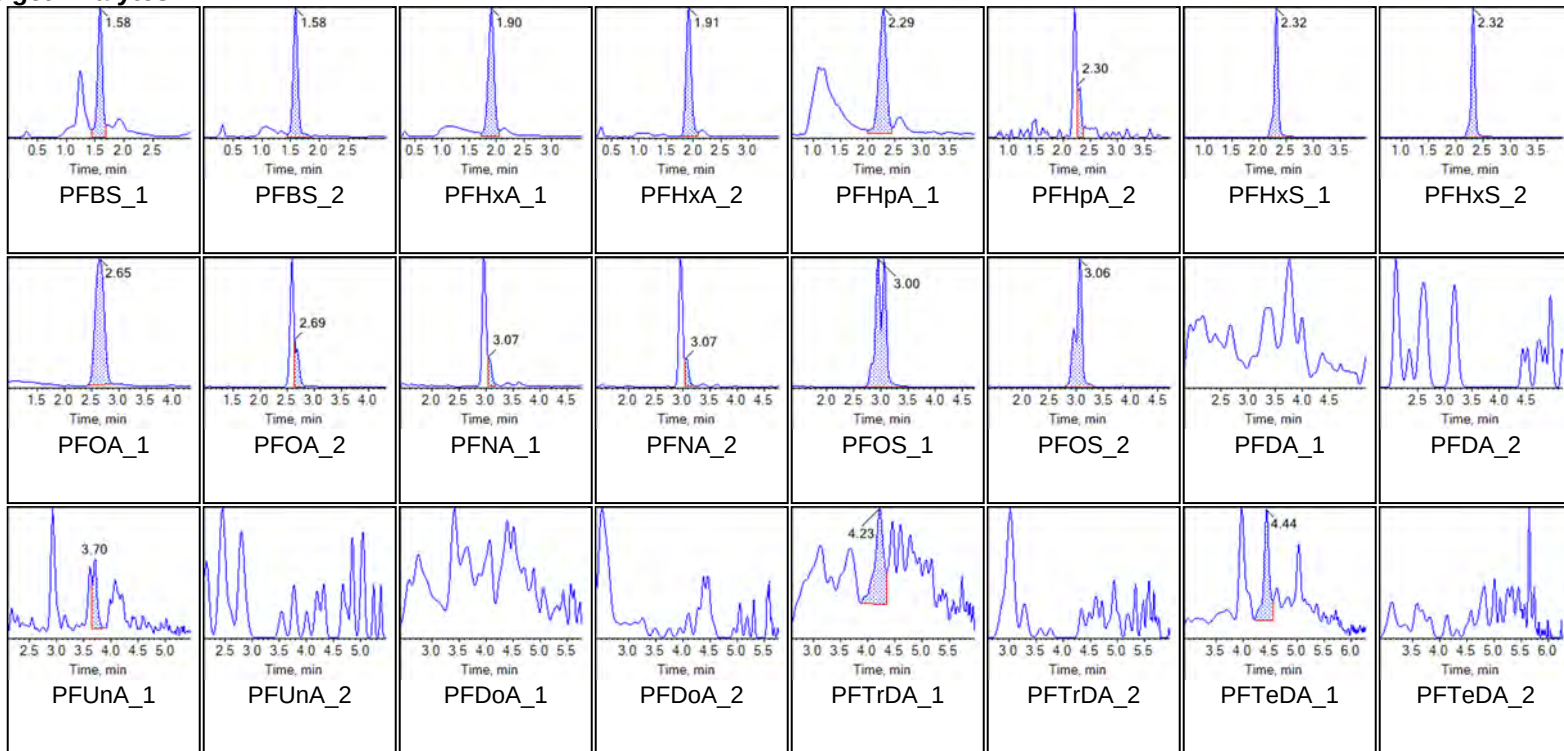
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1802-FS(0)	Injection Vial	25
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:39:50 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

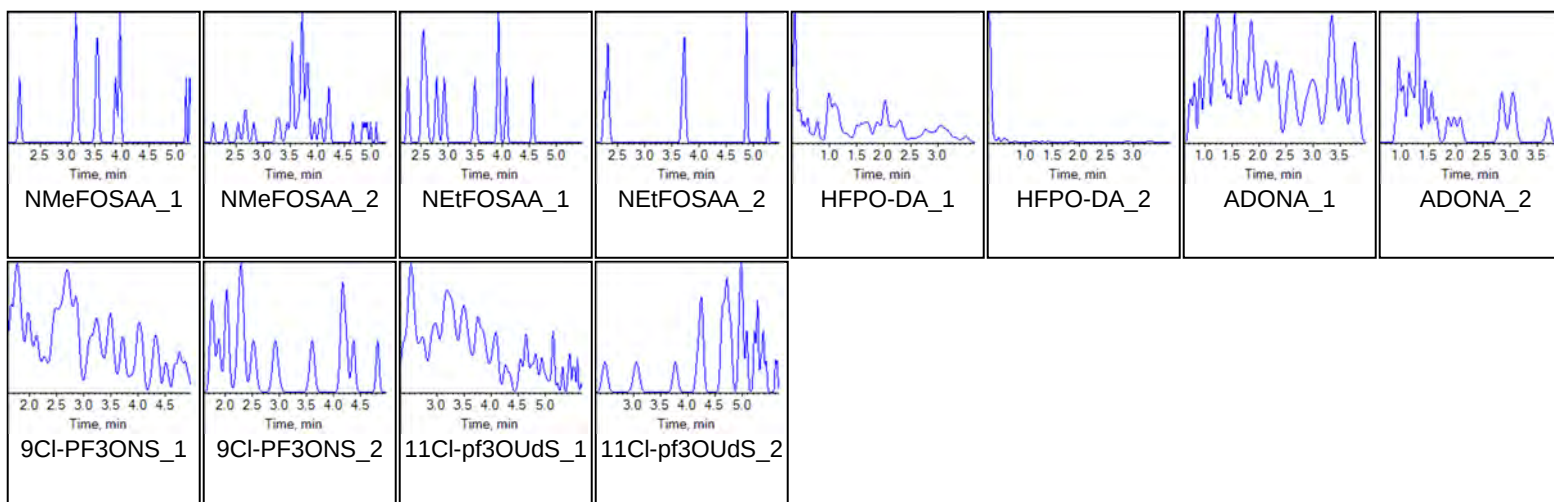
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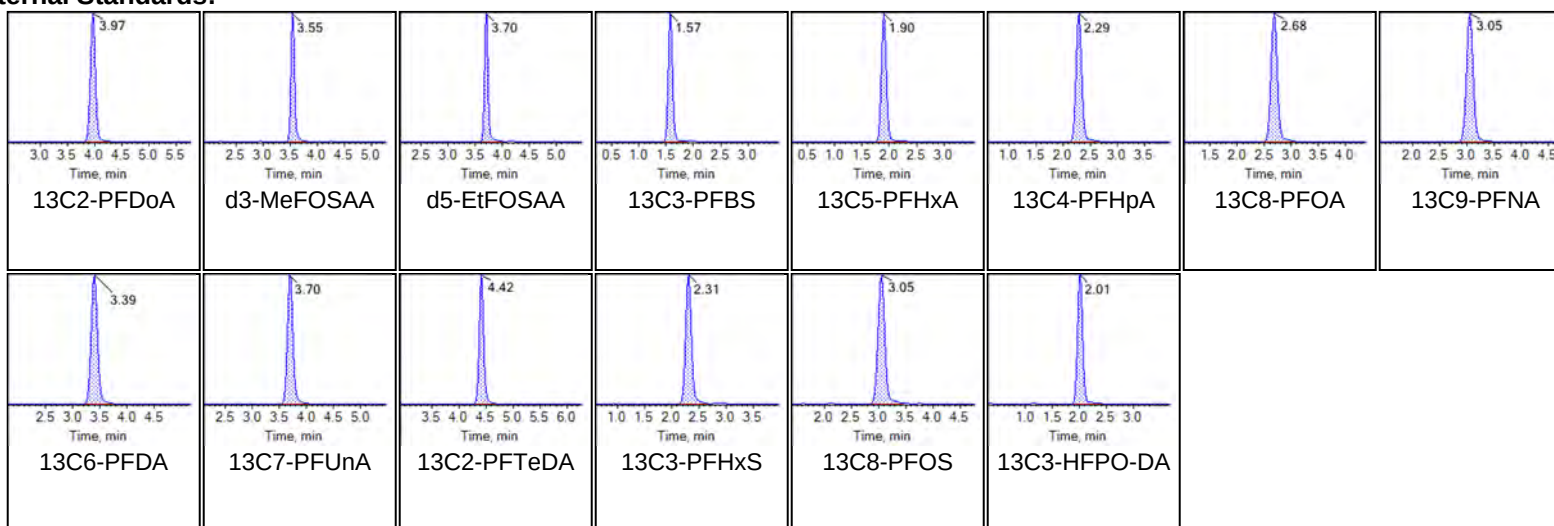


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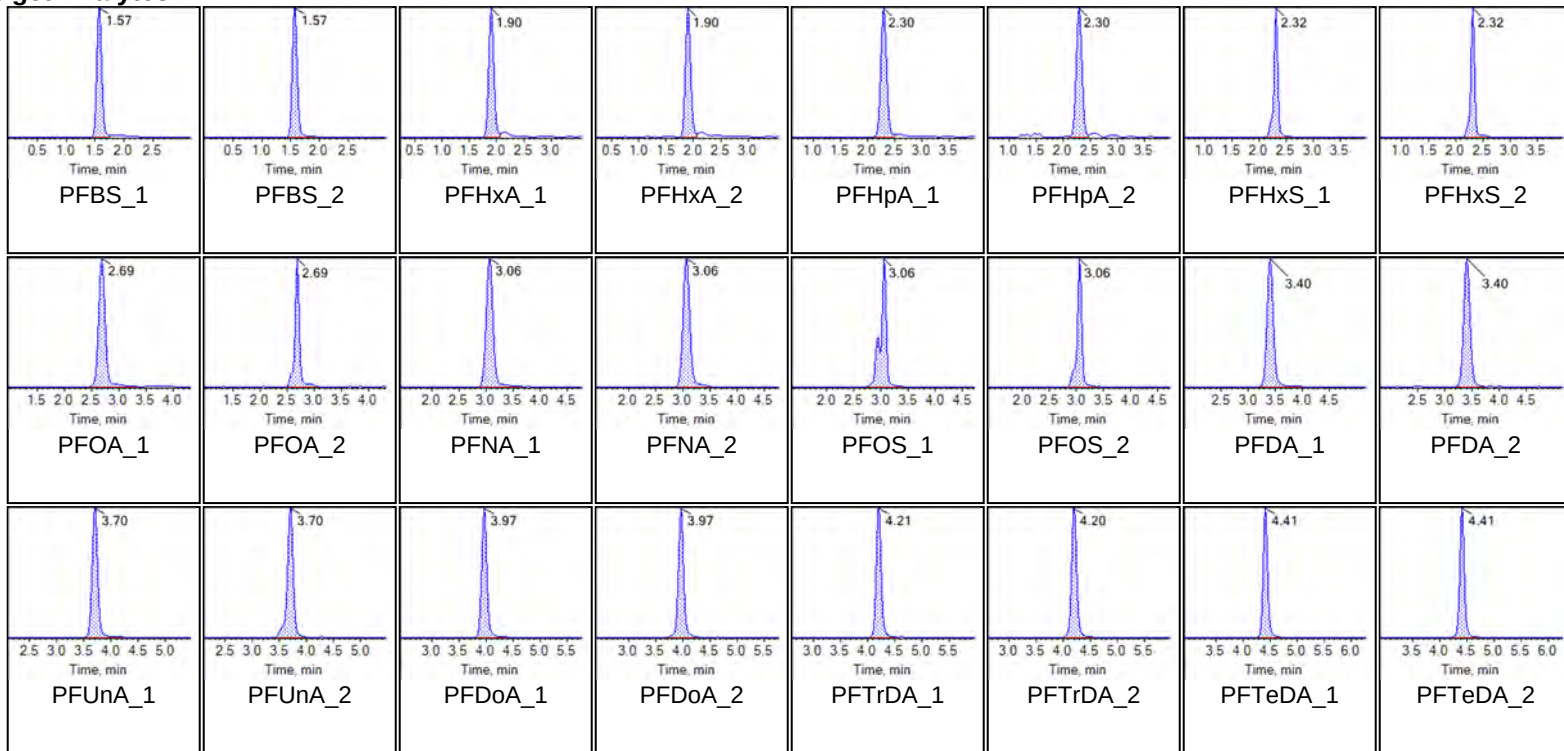
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

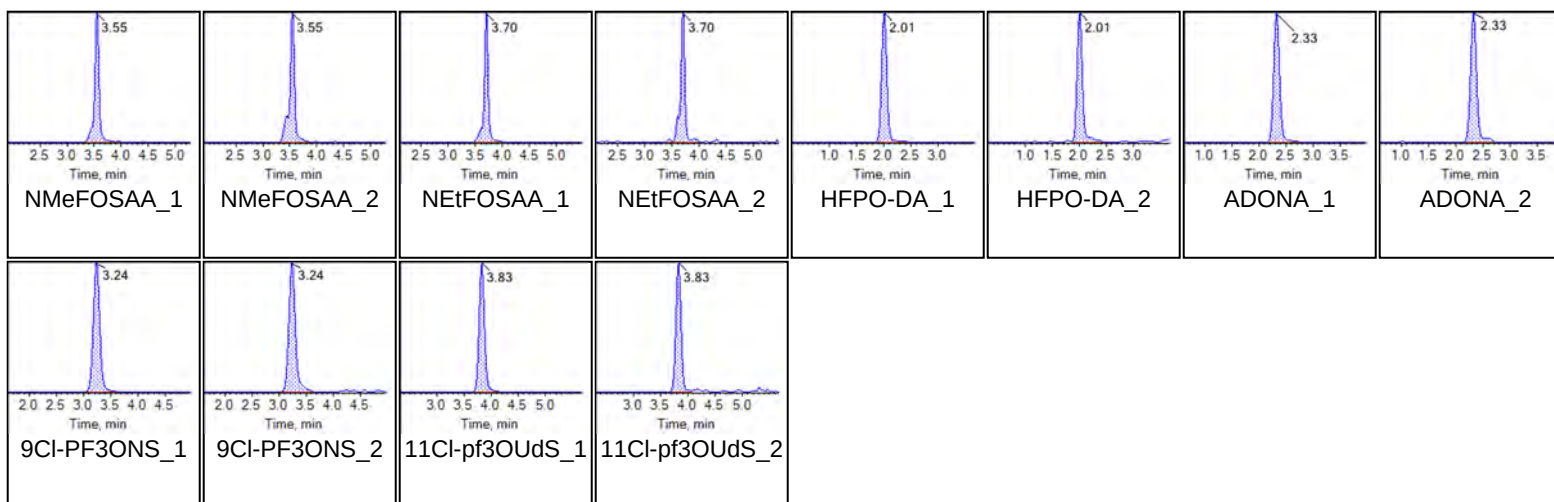
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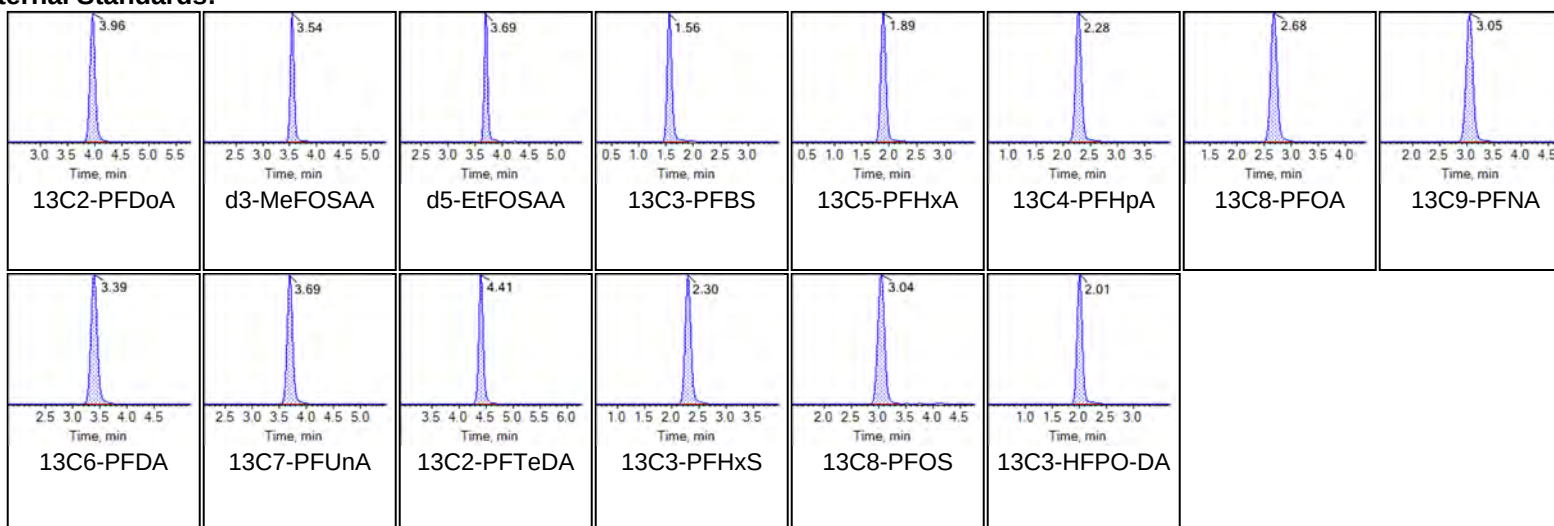


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Printed: 17/11/2020 5:33:42 PM



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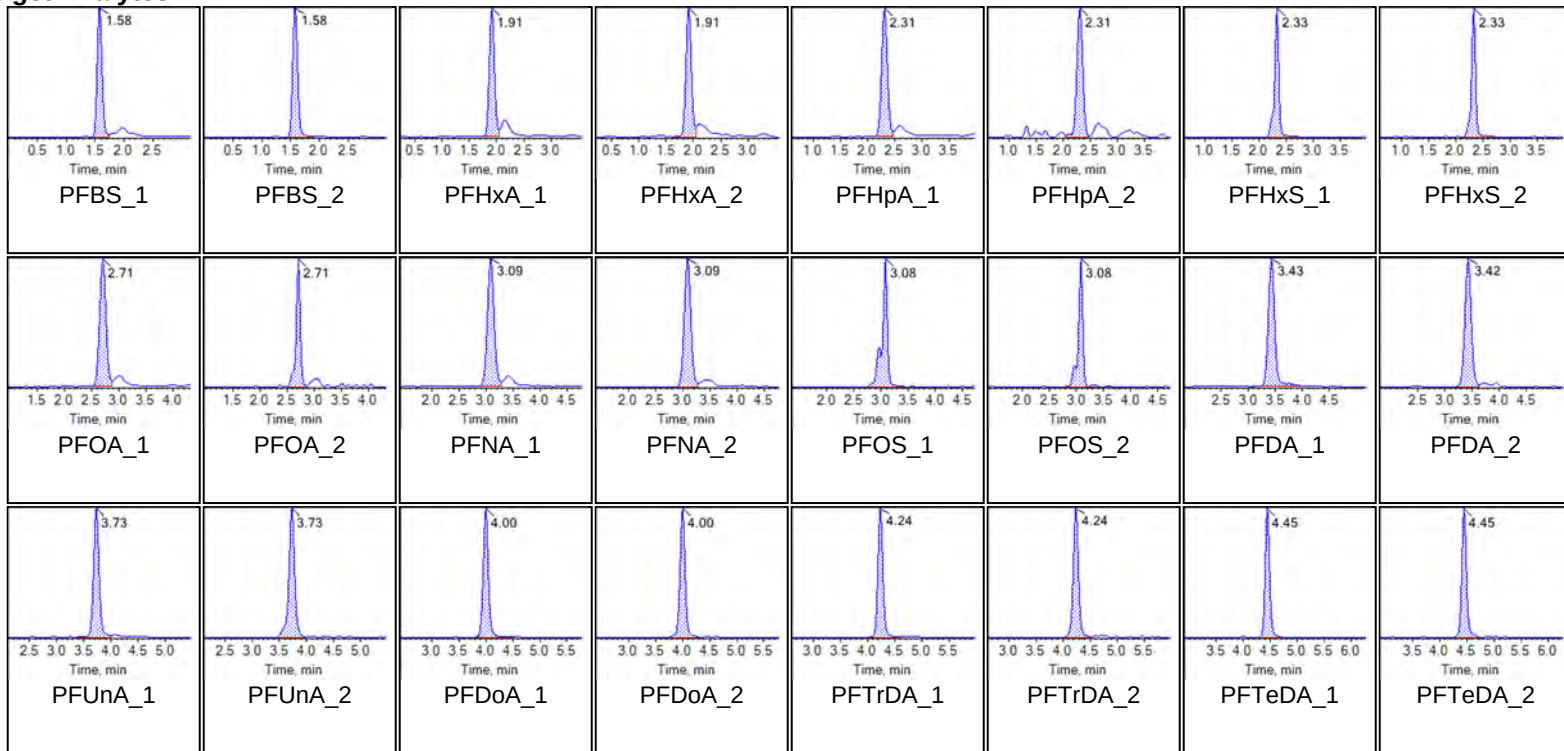
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

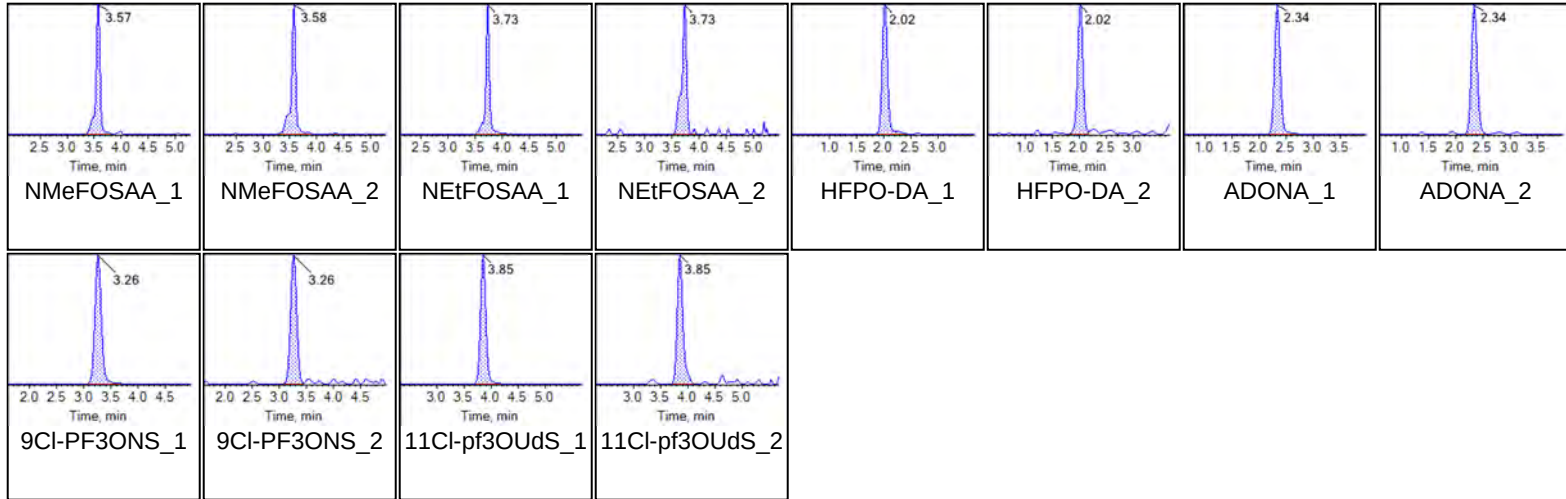
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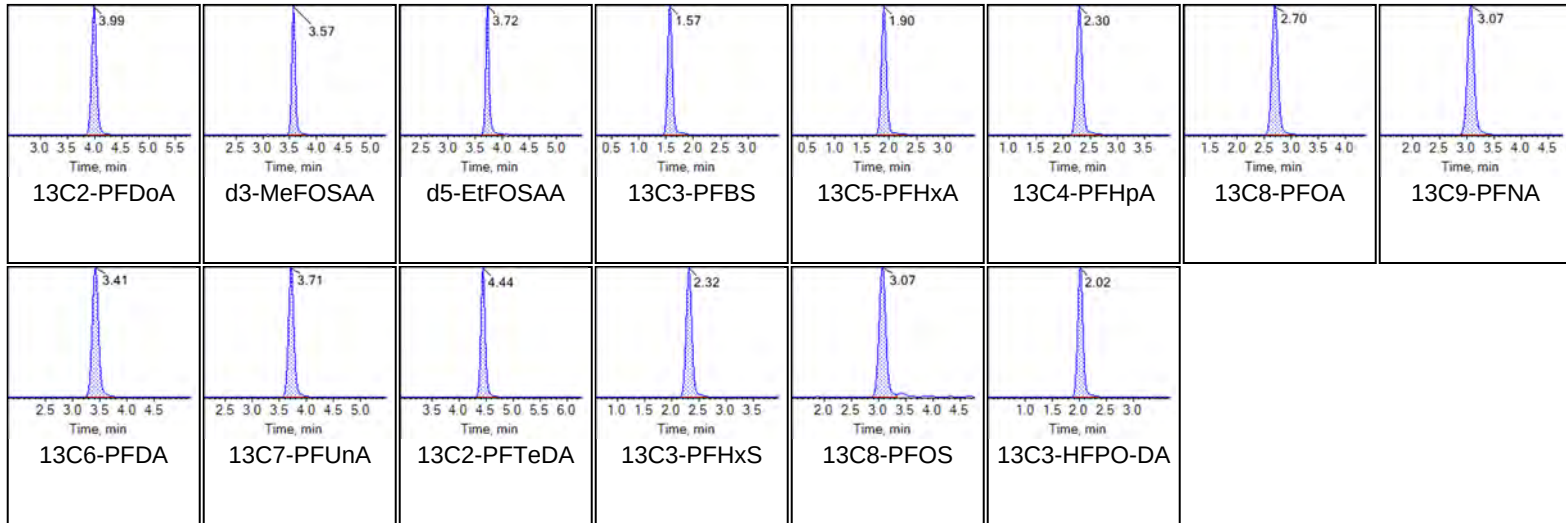


Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM



Internal Standards:





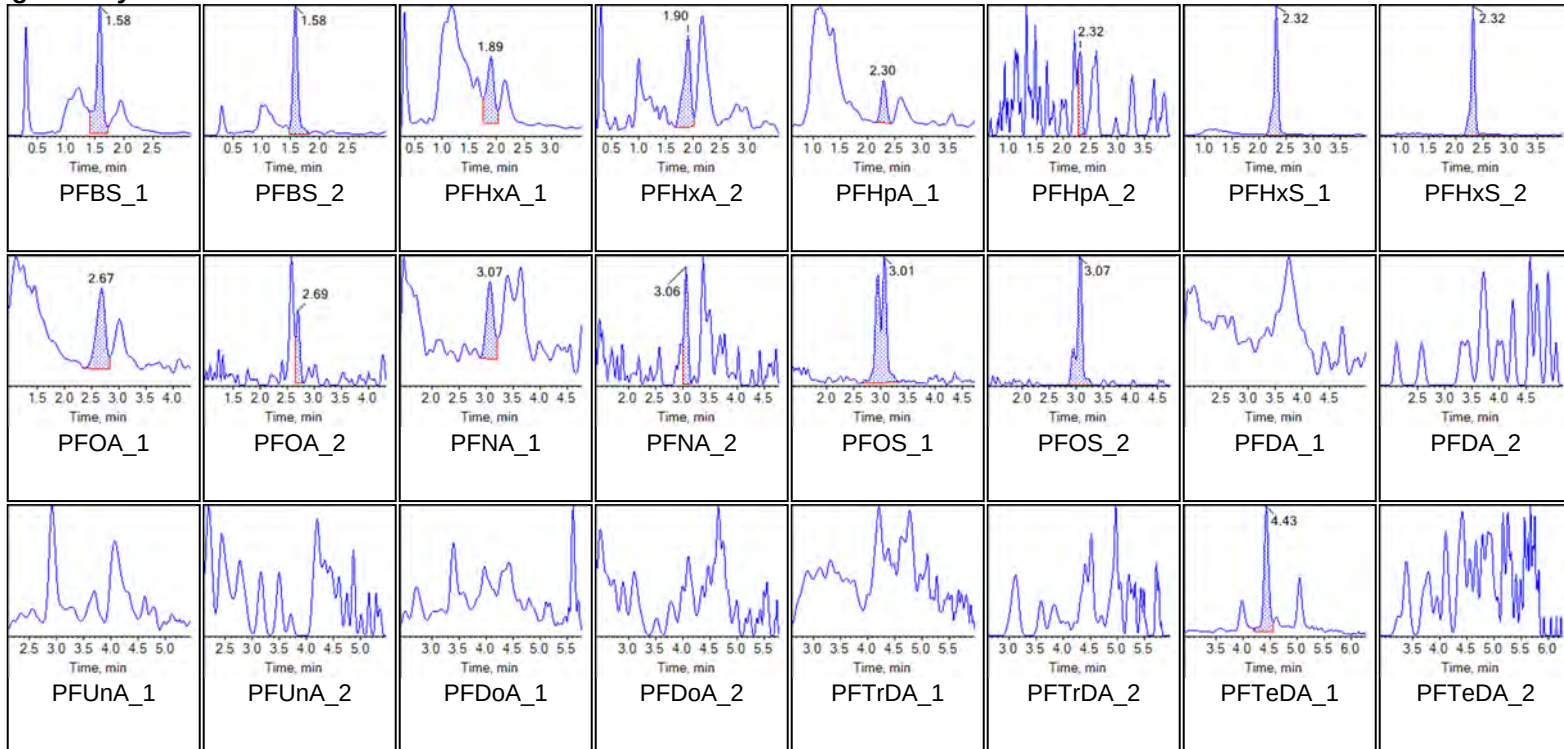
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	G1803-FS(0)	Injection Vial	8
Sample ID	CBD-AOA-MW05-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

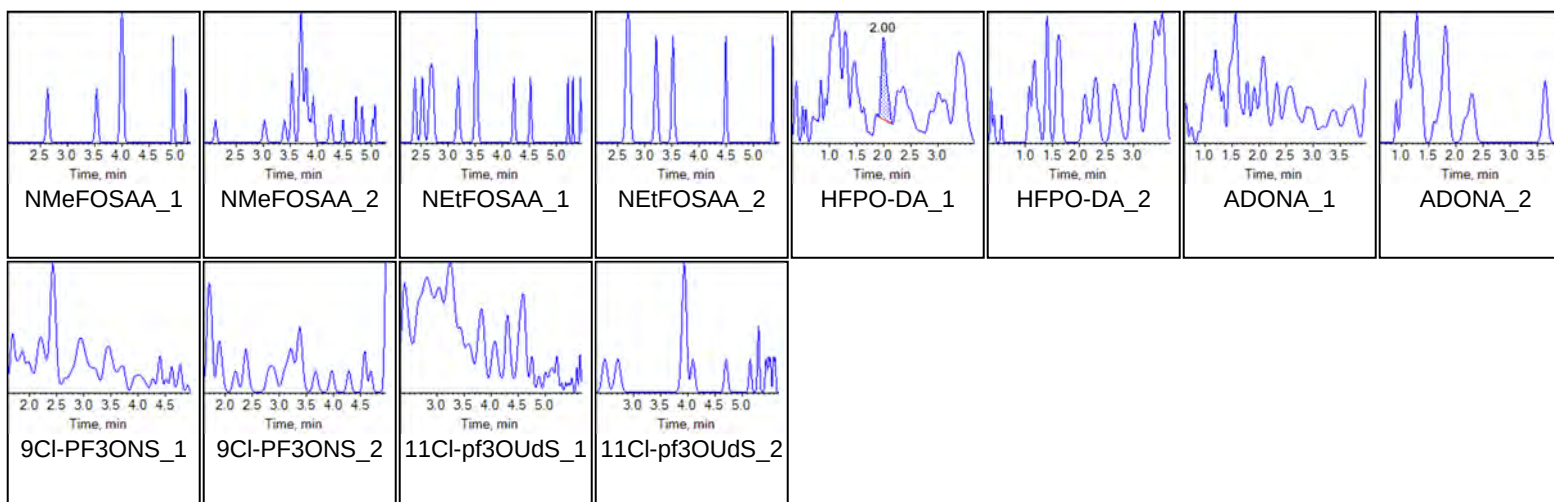
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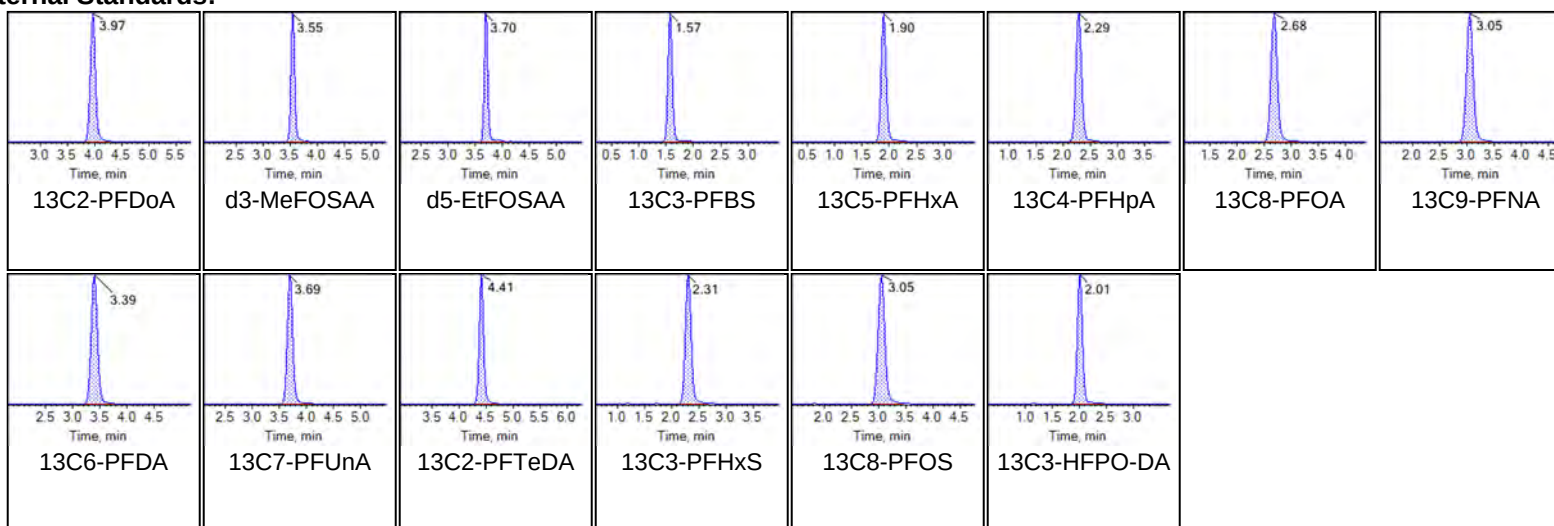


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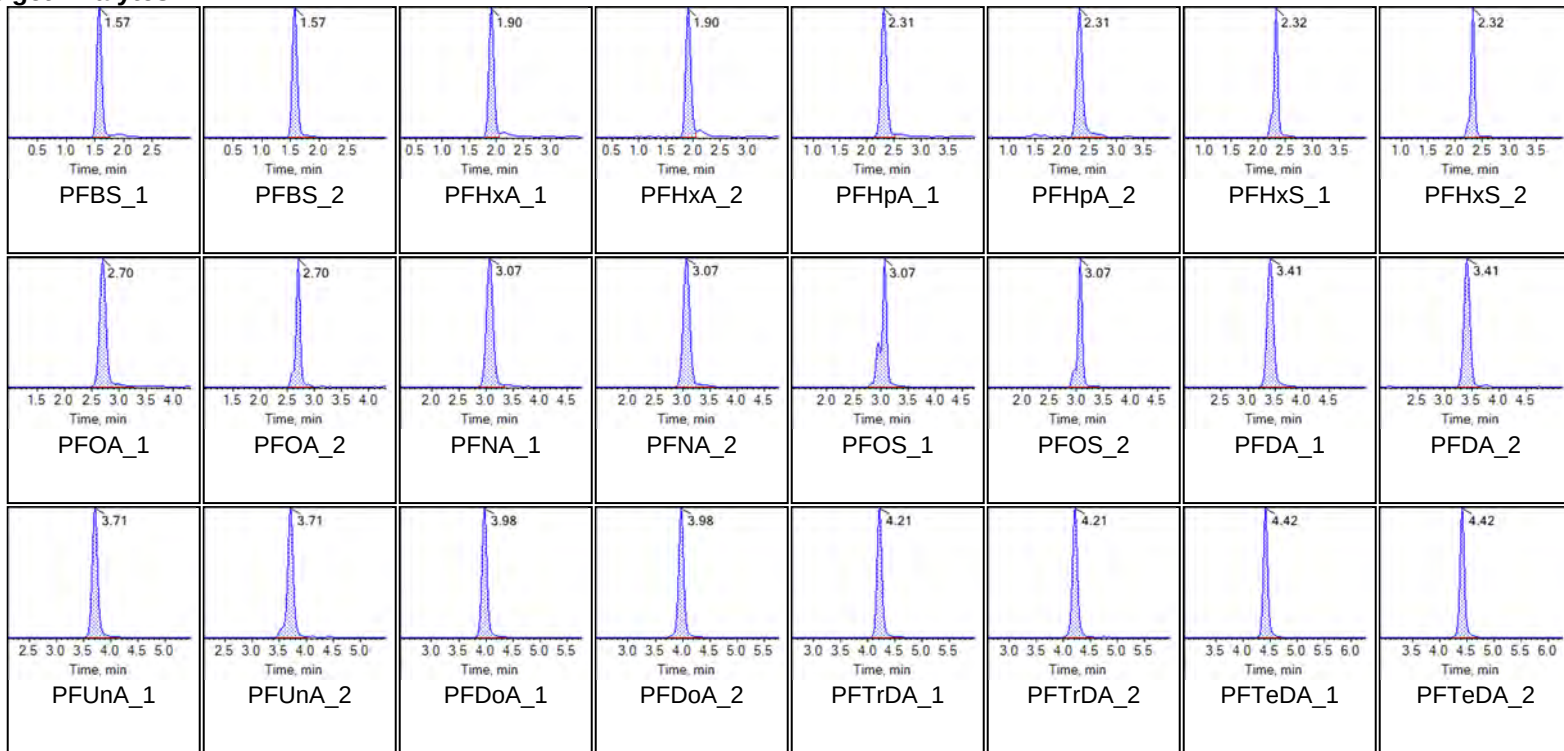
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

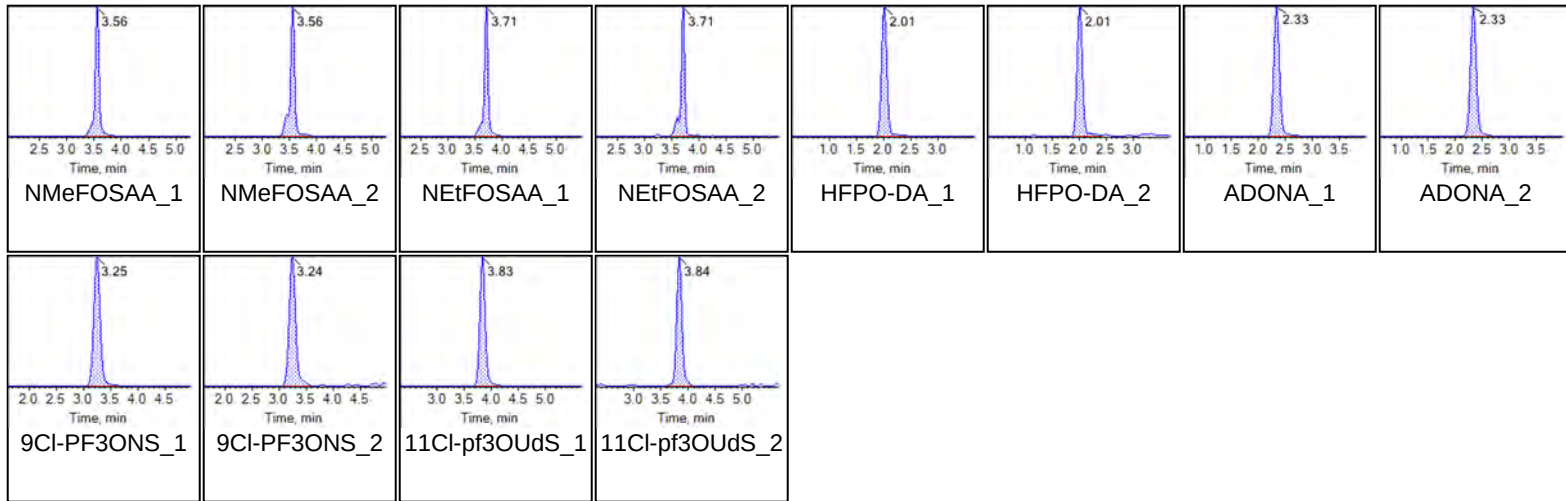
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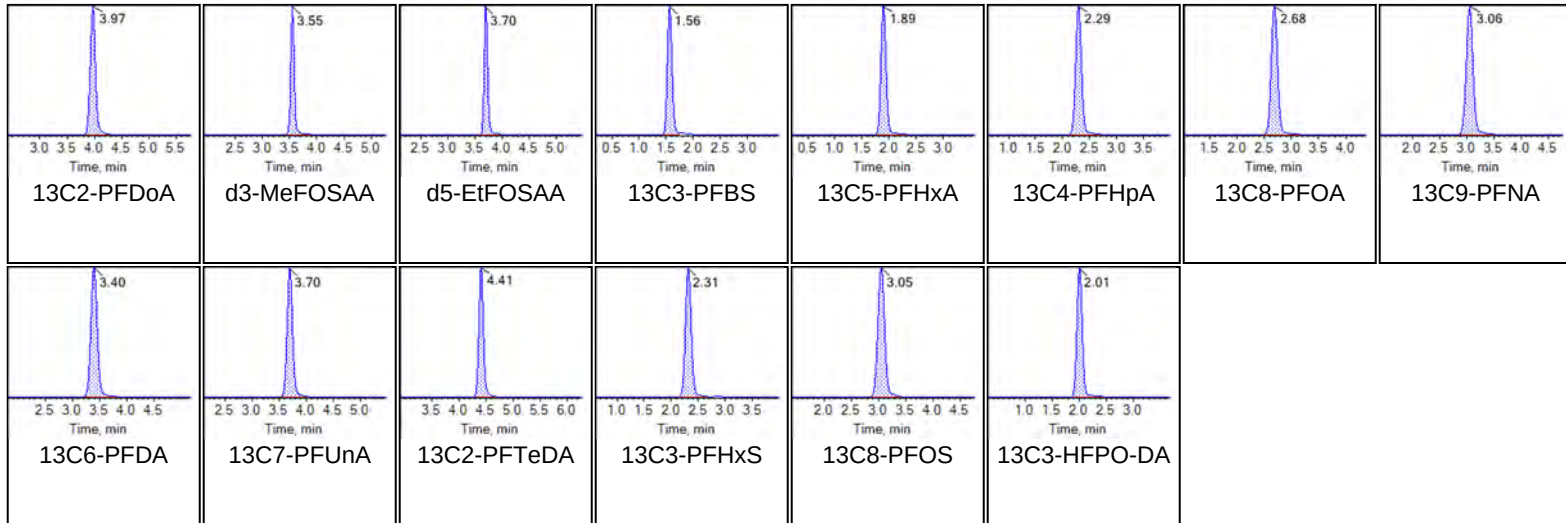


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





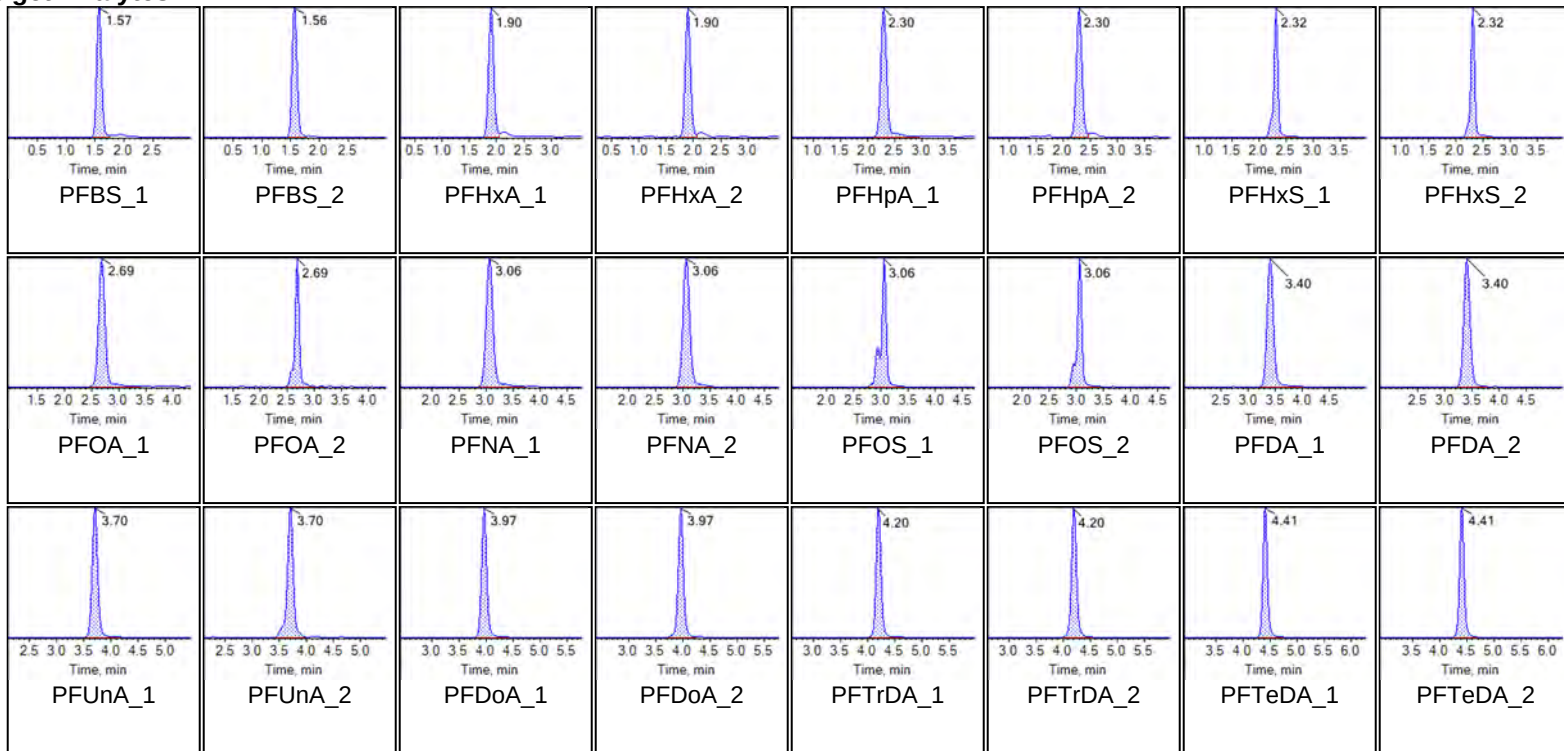
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

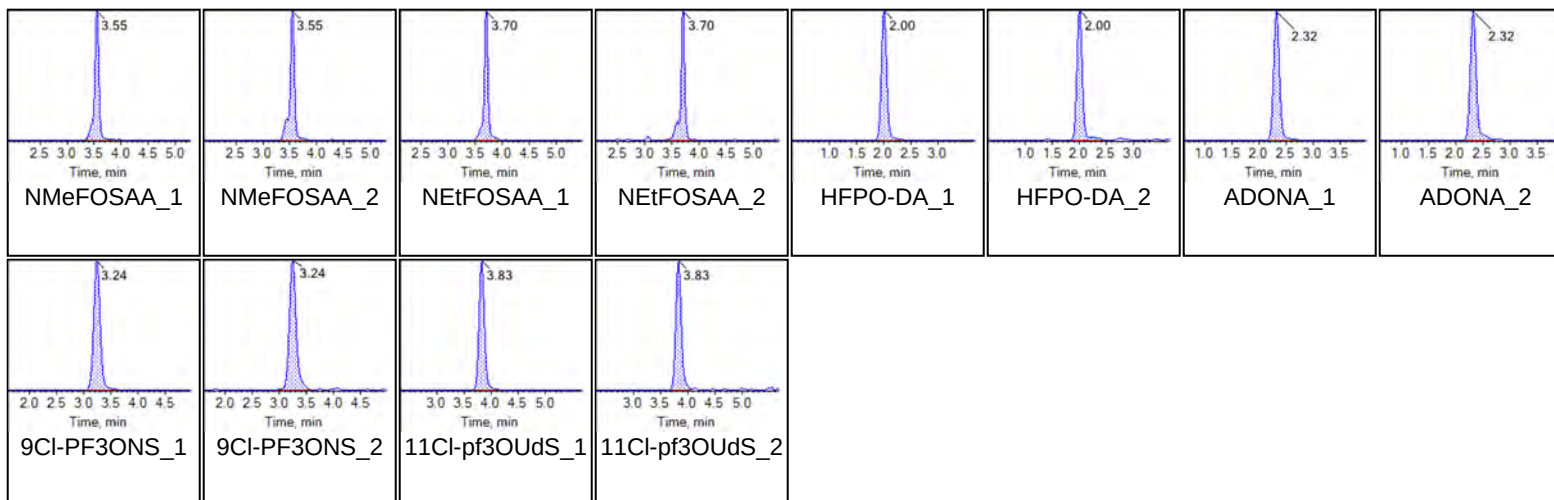
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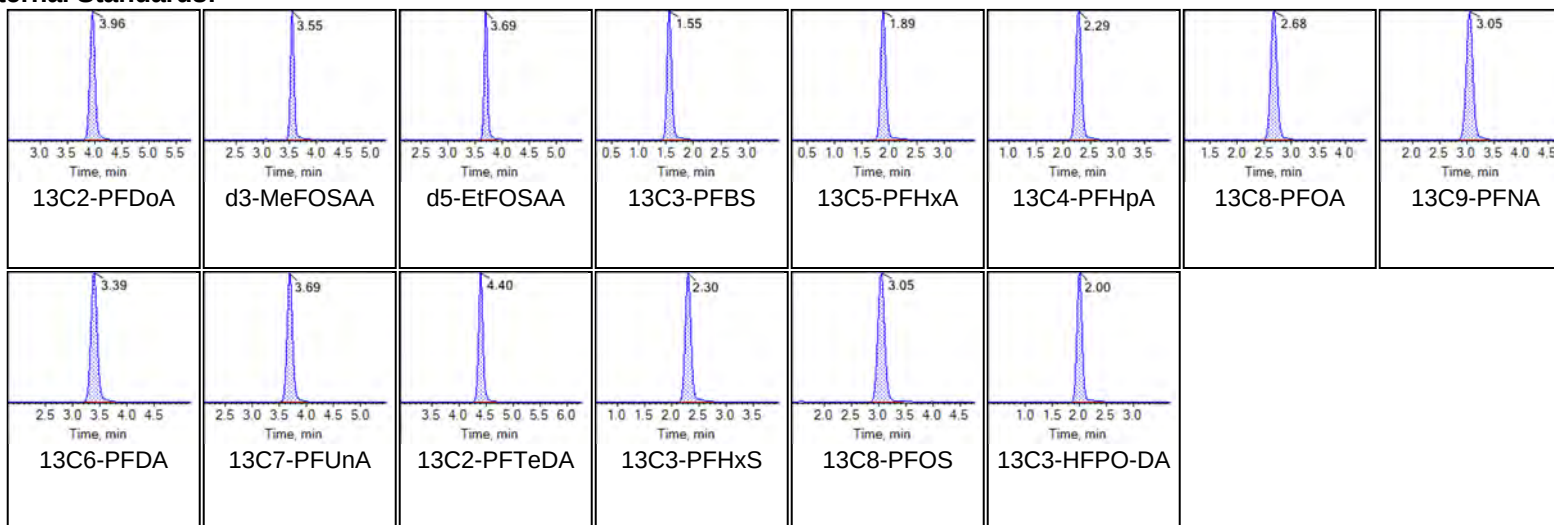


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





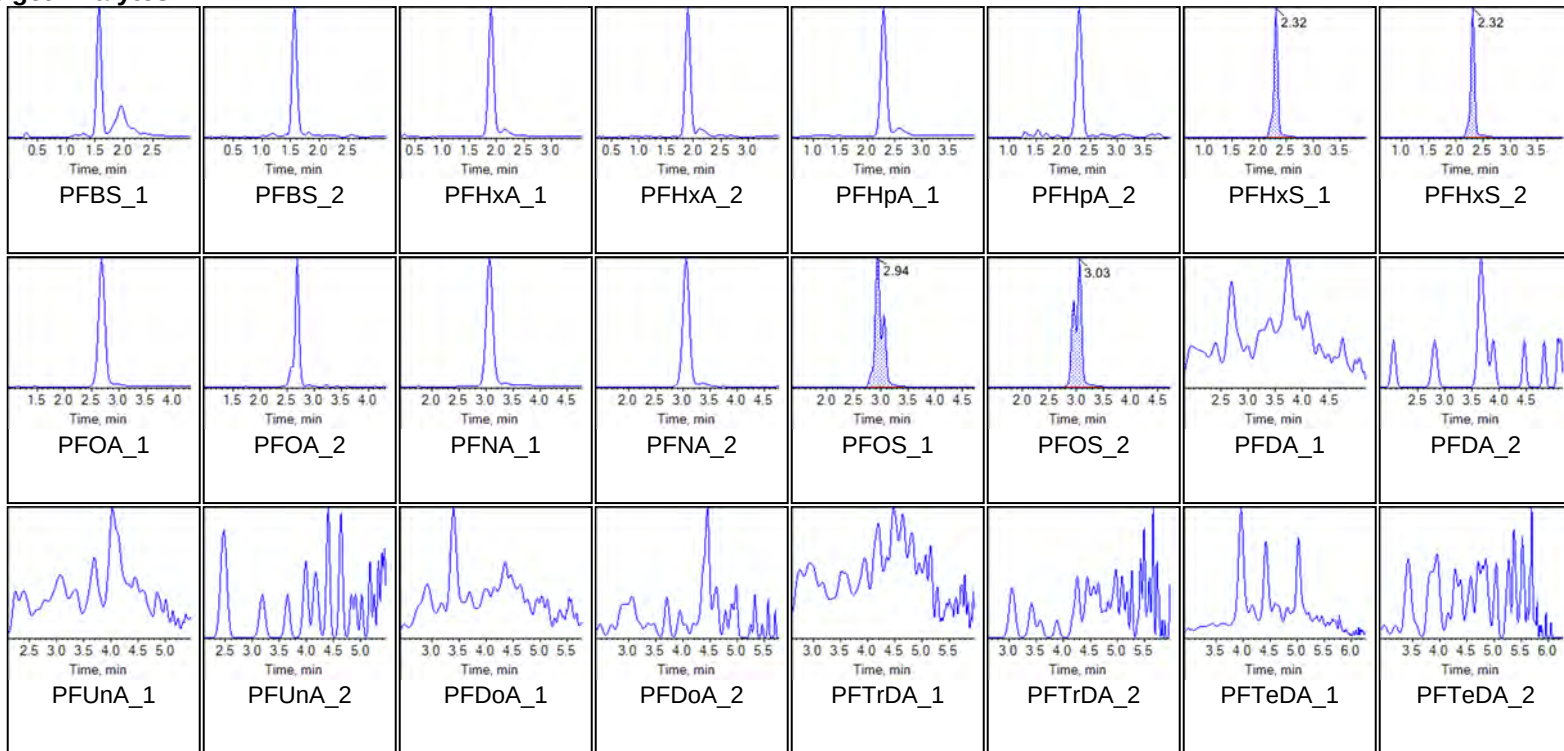
Chromatogram Report

Created with Analyst Reporter
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Sample Name	G1801-FS-D(3)	Injection Vial	23
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

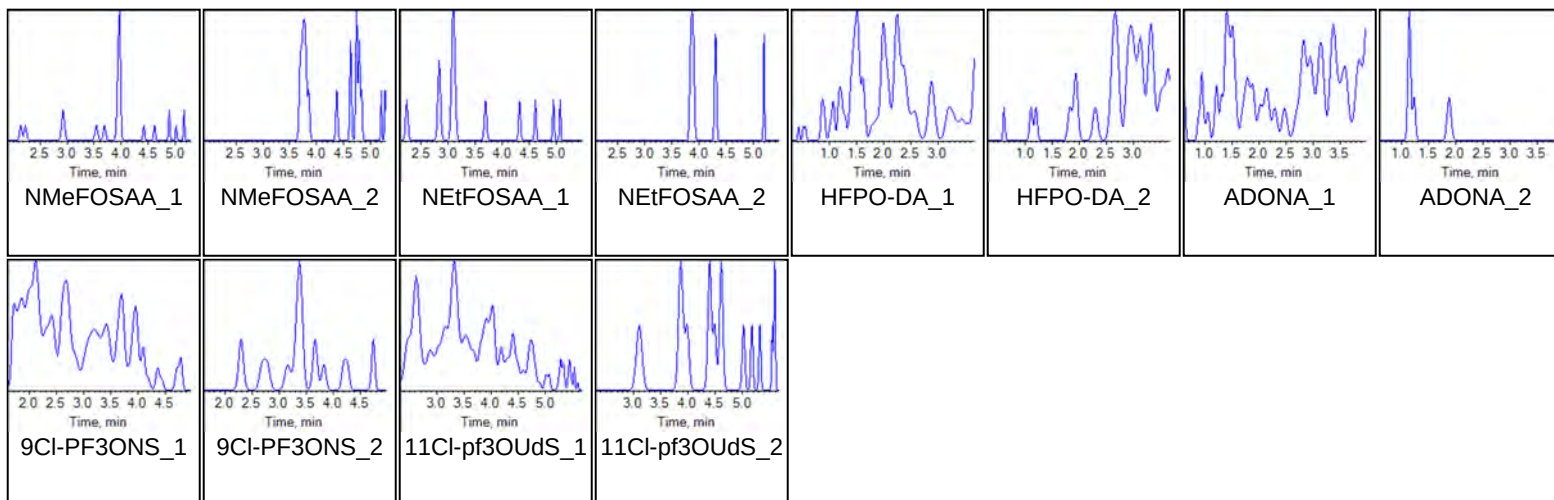
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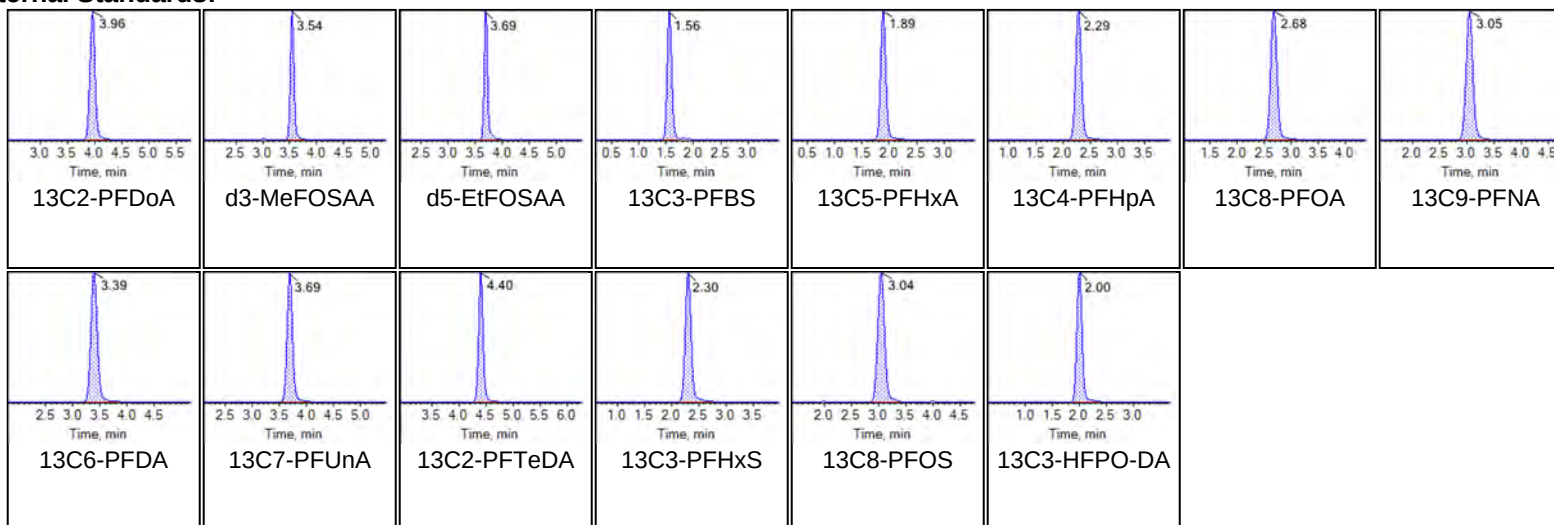


Chromatogram Report

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Printed: 17/11/2020 5:33:42 PM



Internal Standards:





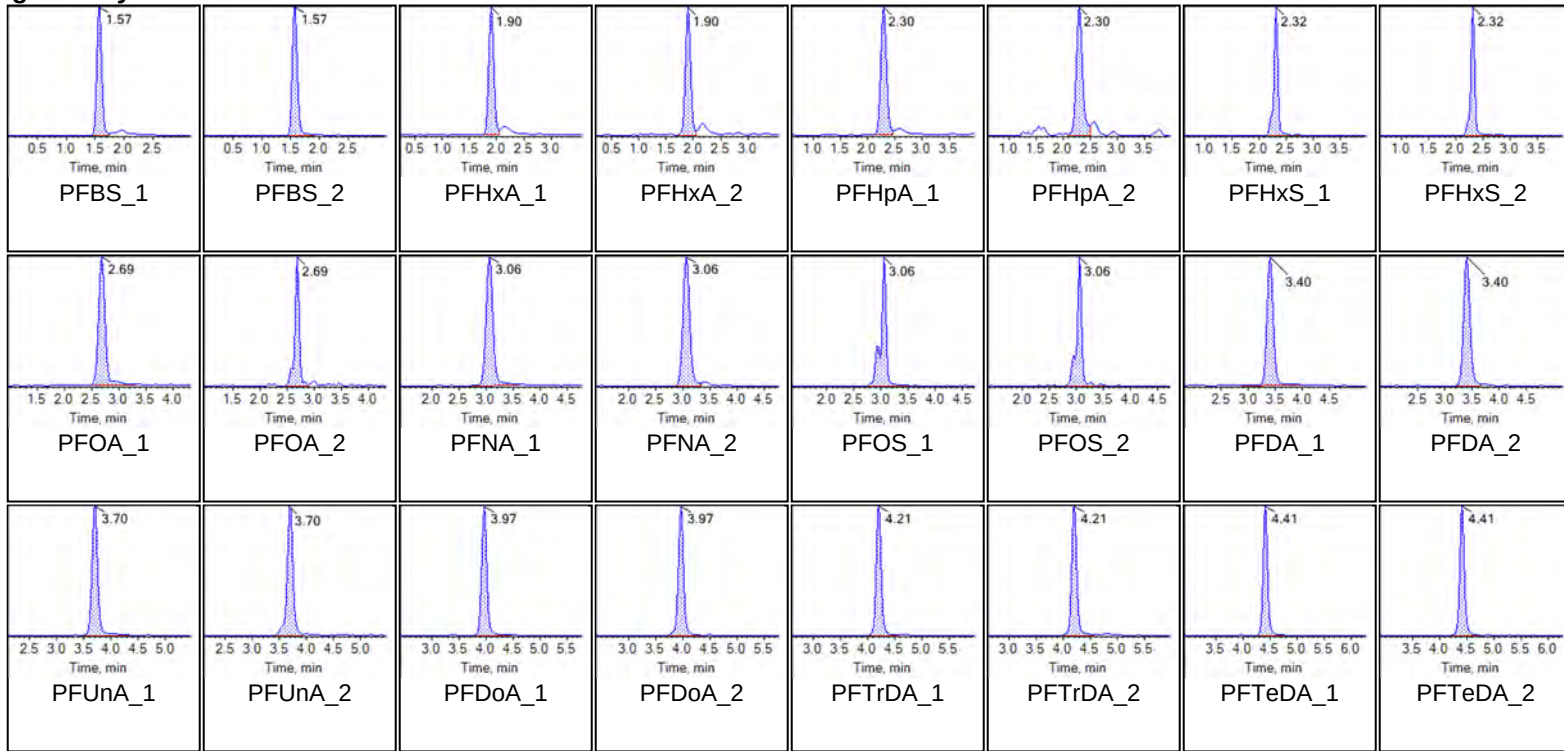
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM

Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329

Chromatograms

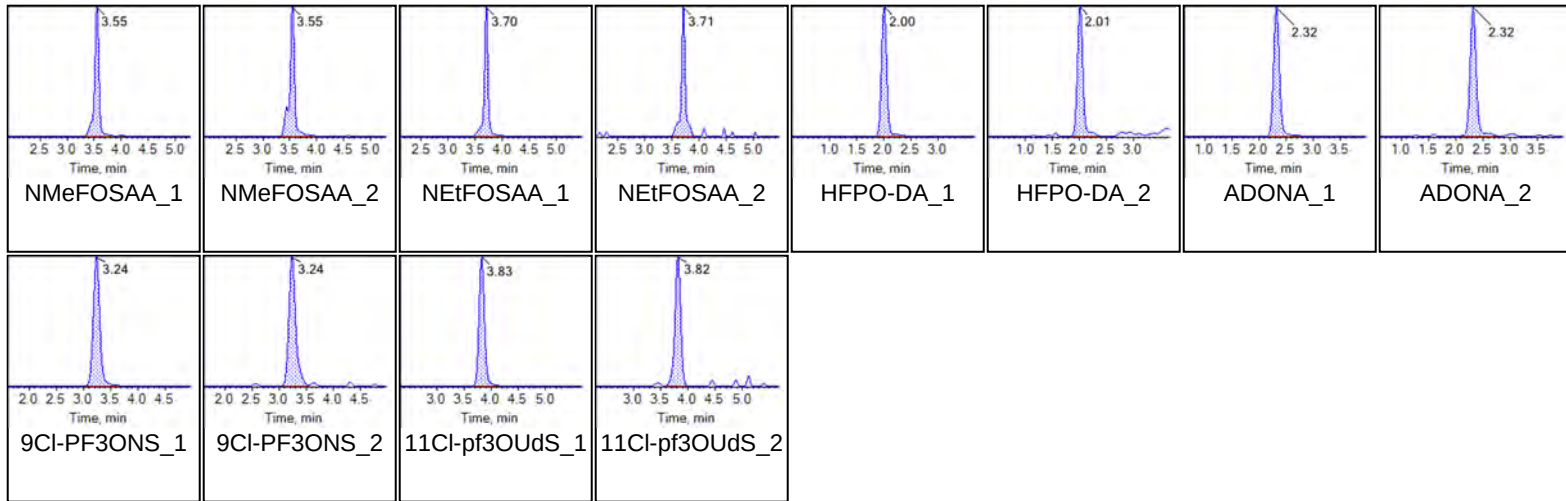
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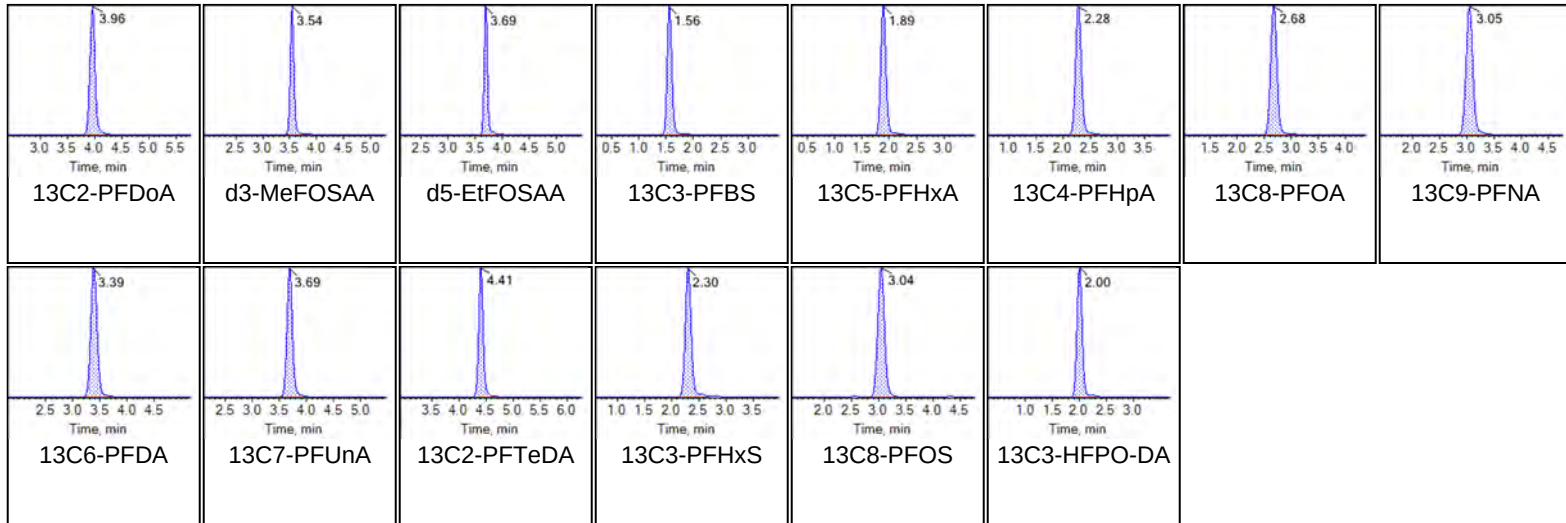


Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:42 PM



Internal Standards:





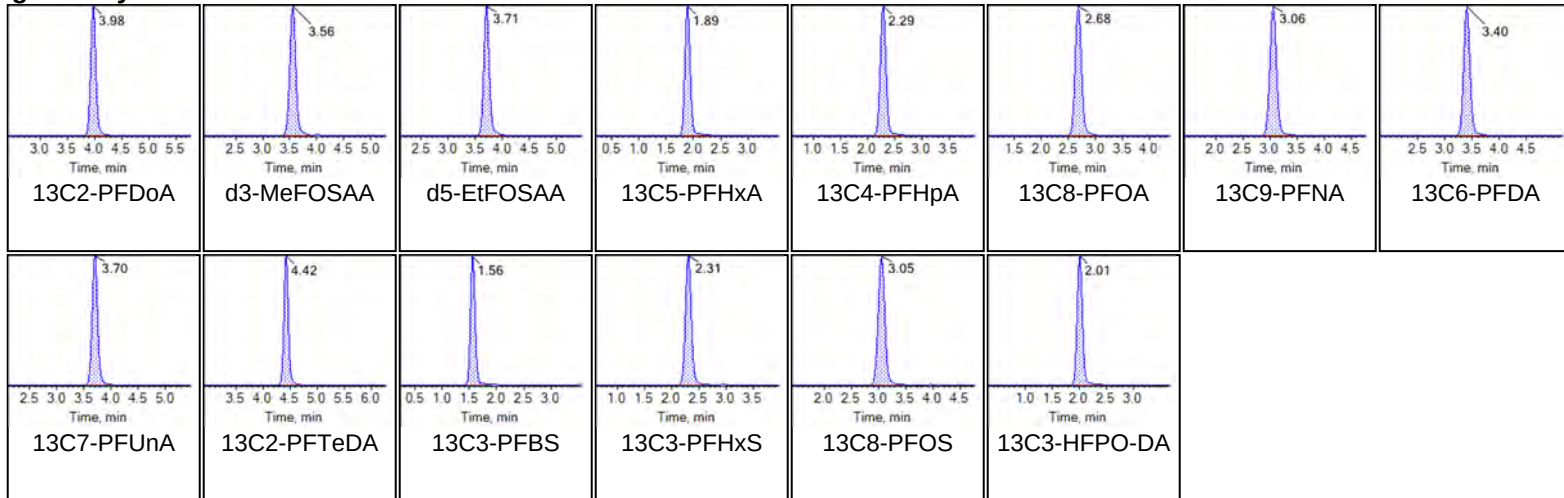
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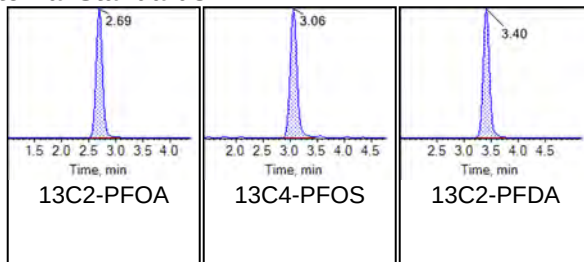
Sample Name	LE52	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
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Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





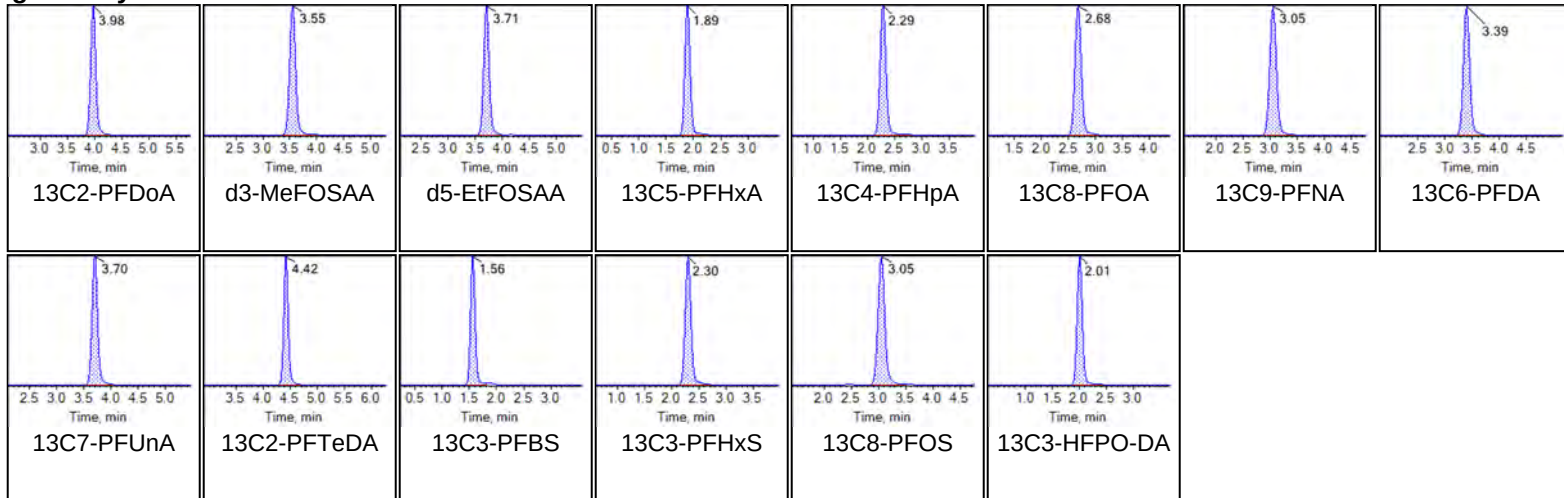
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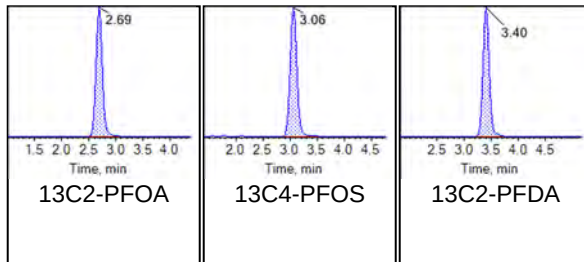
Sample Name	LE53	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





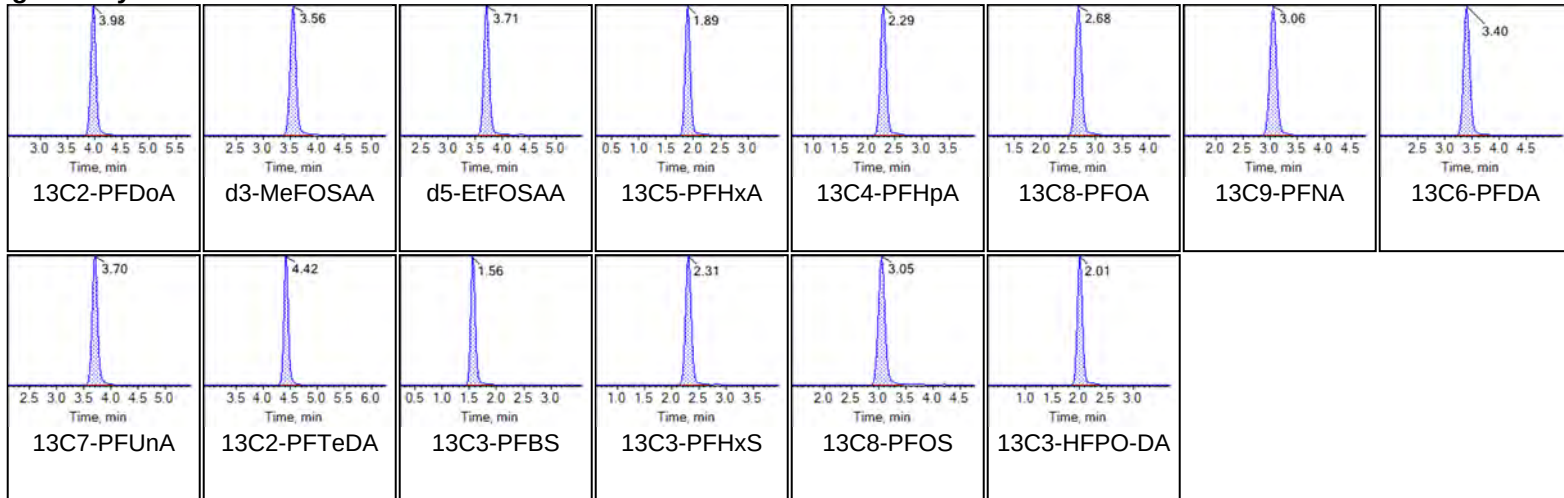
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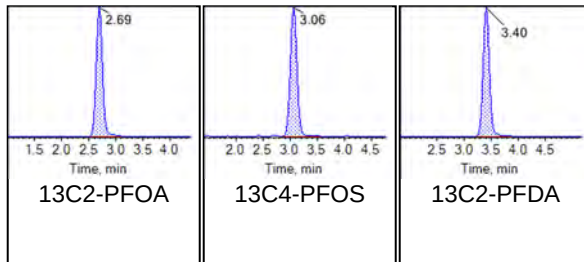
Sample Name	LE54	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:51:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





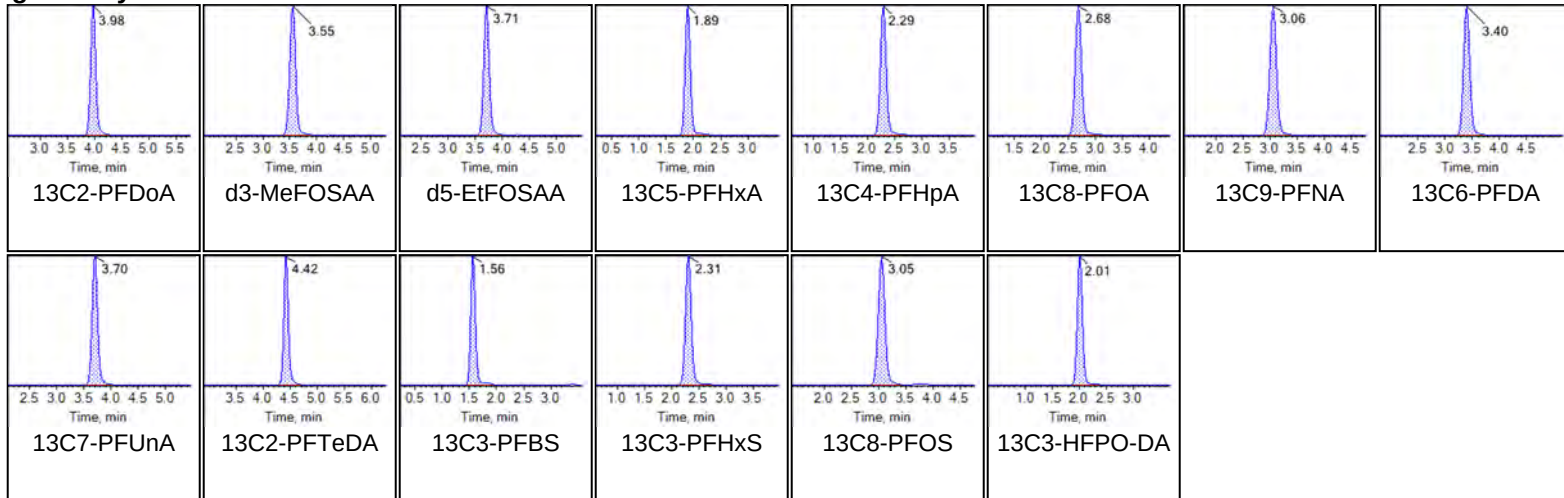
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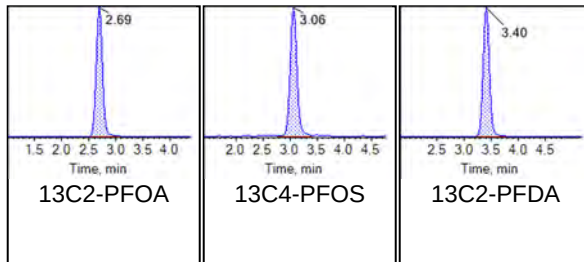
Sample Name	LE55	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:02:43 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





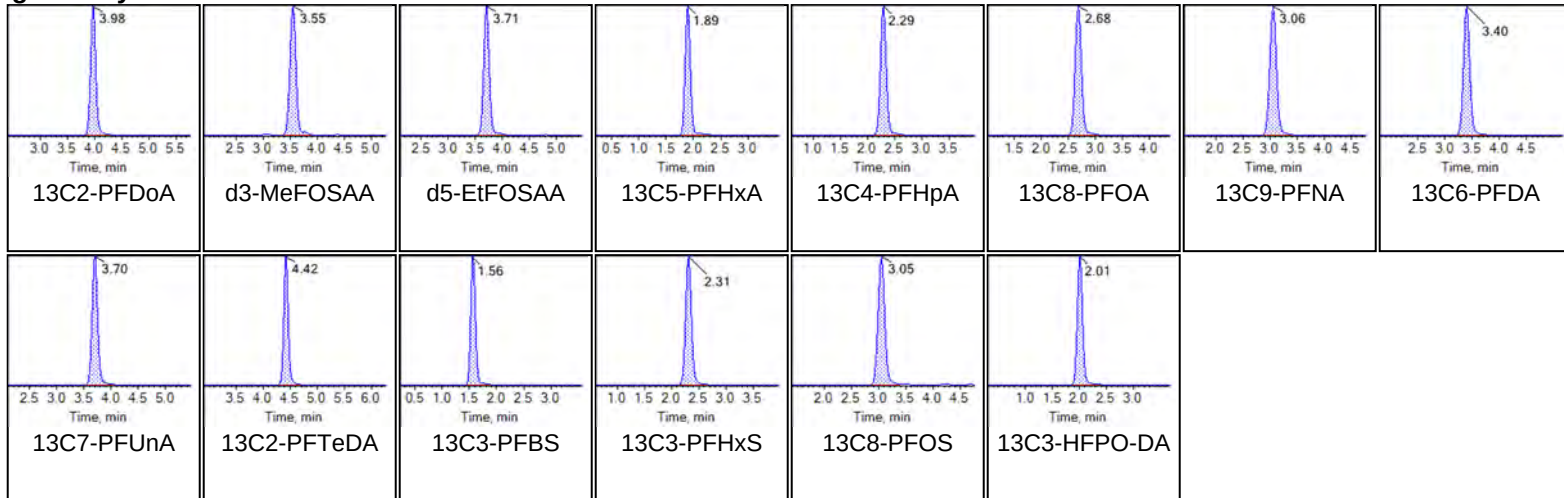
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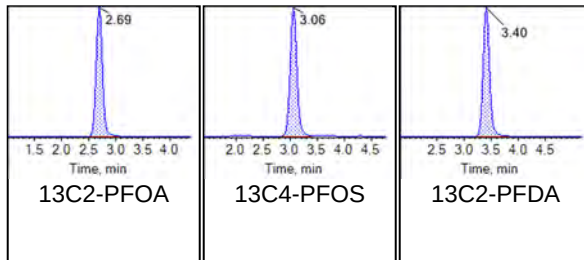
Sample Name	LE56	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





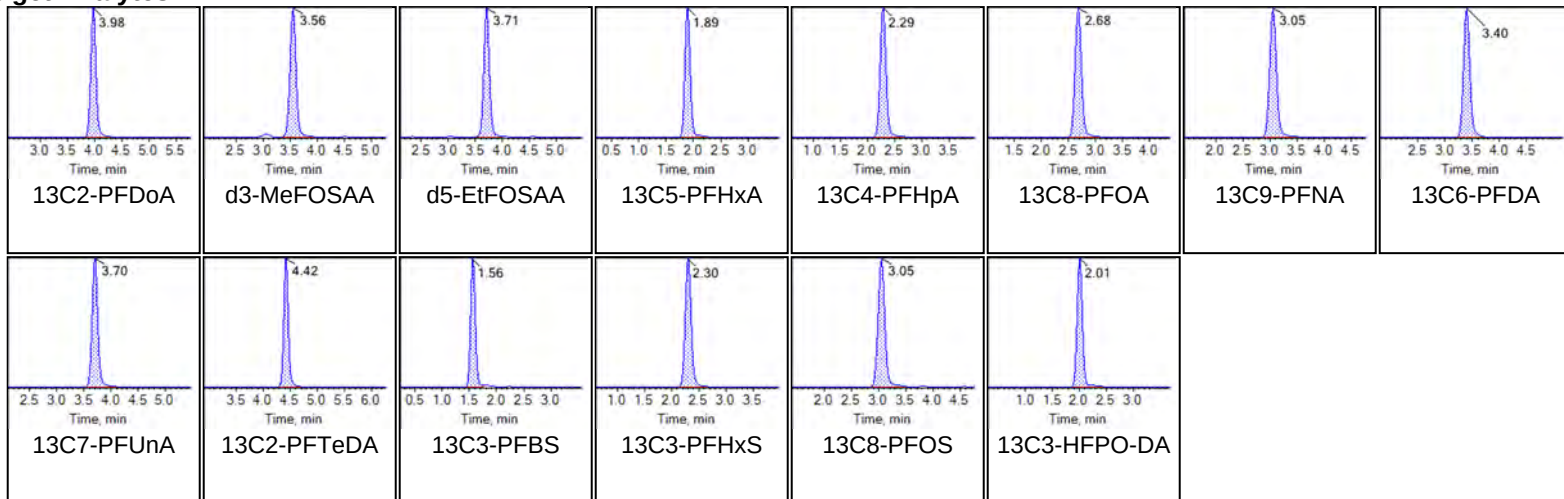
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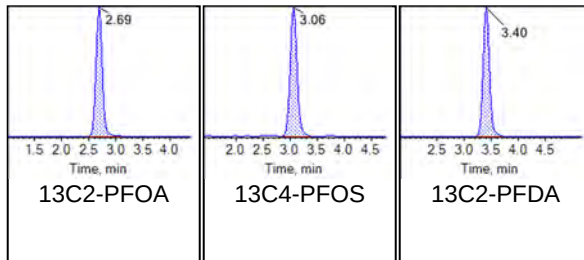
Sample Name	LE57	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:24:27 PM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





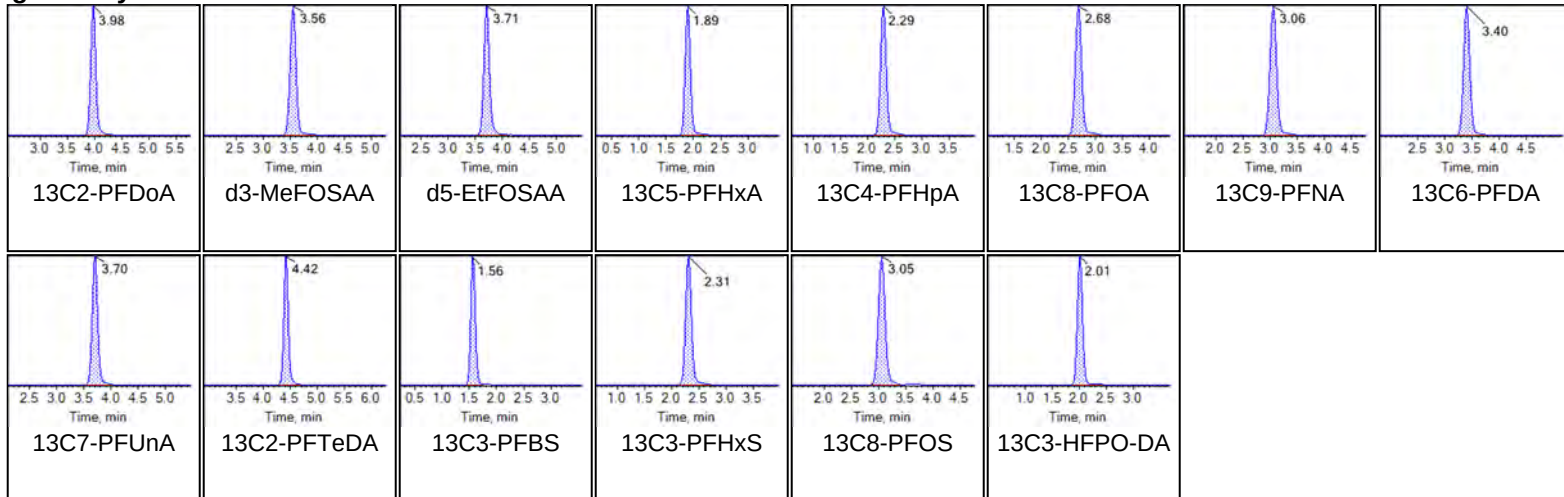
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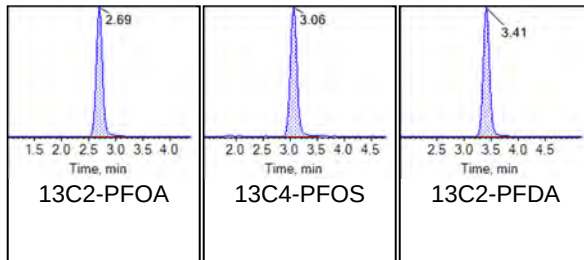
Sample Name	LE58 IB	Injection Vial	8
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





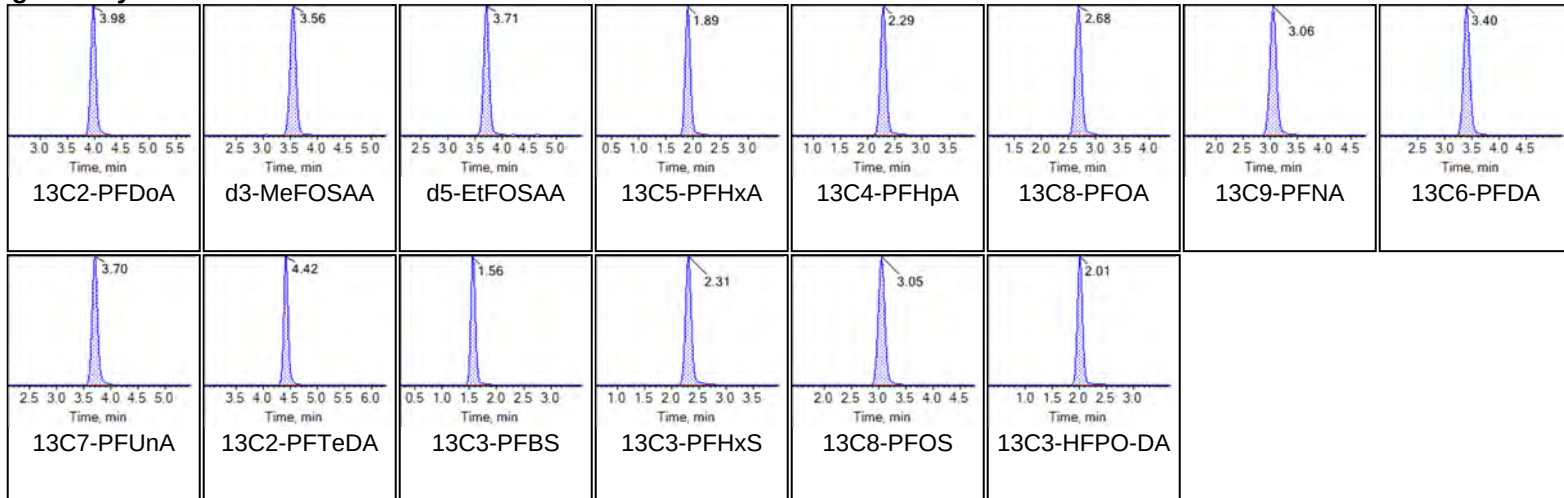
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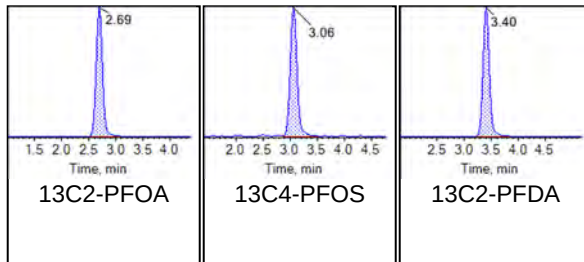
Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





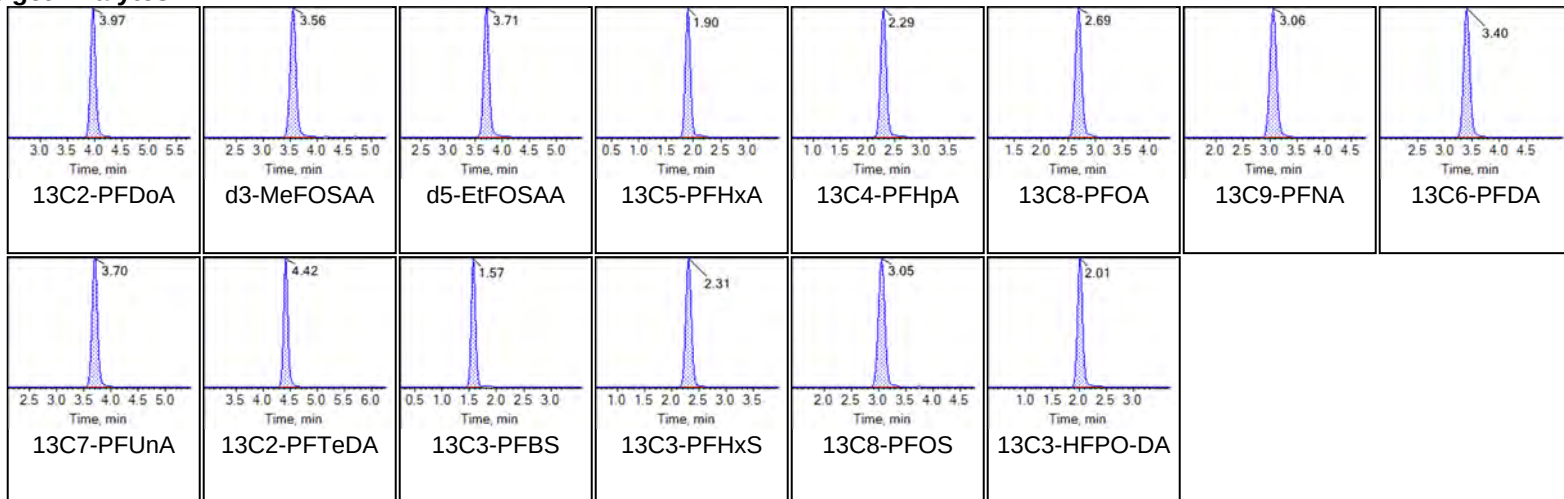
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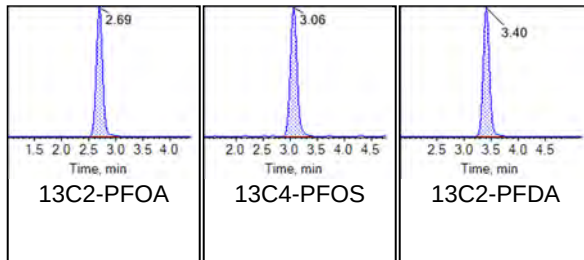
Sample Name	DB009PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
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Chromatograms

Target Analytes:



Internal Standards:





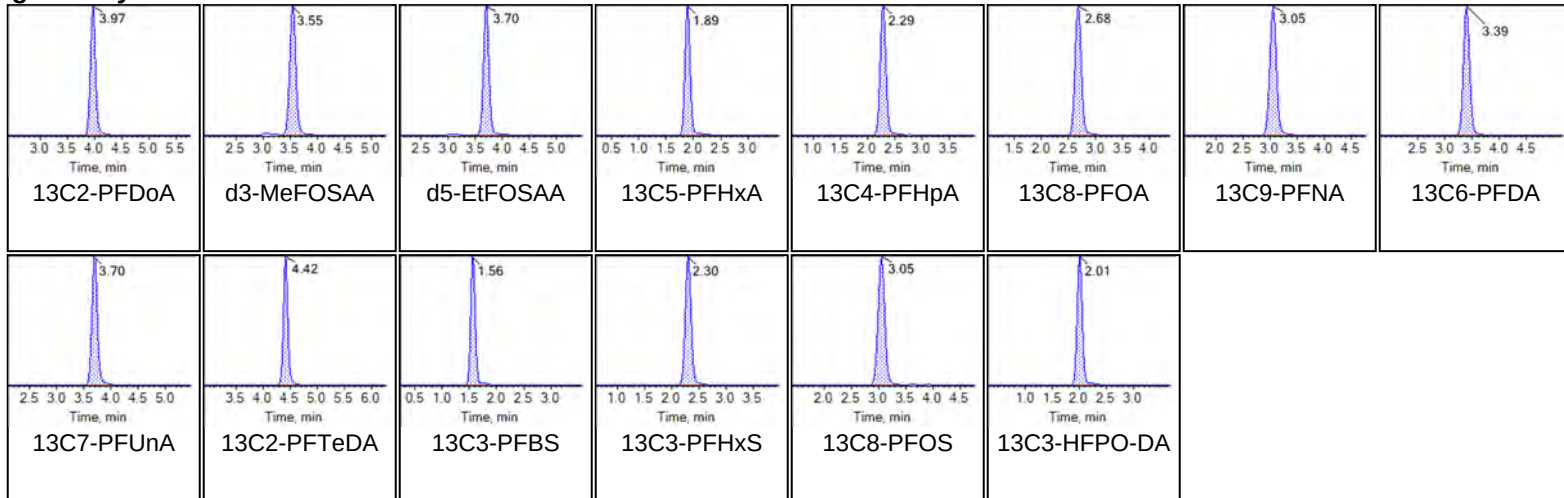
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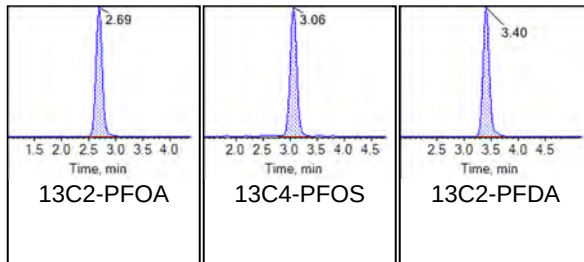
Sample Name	DB010LCS-FS(0)	Injection Vial	13
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





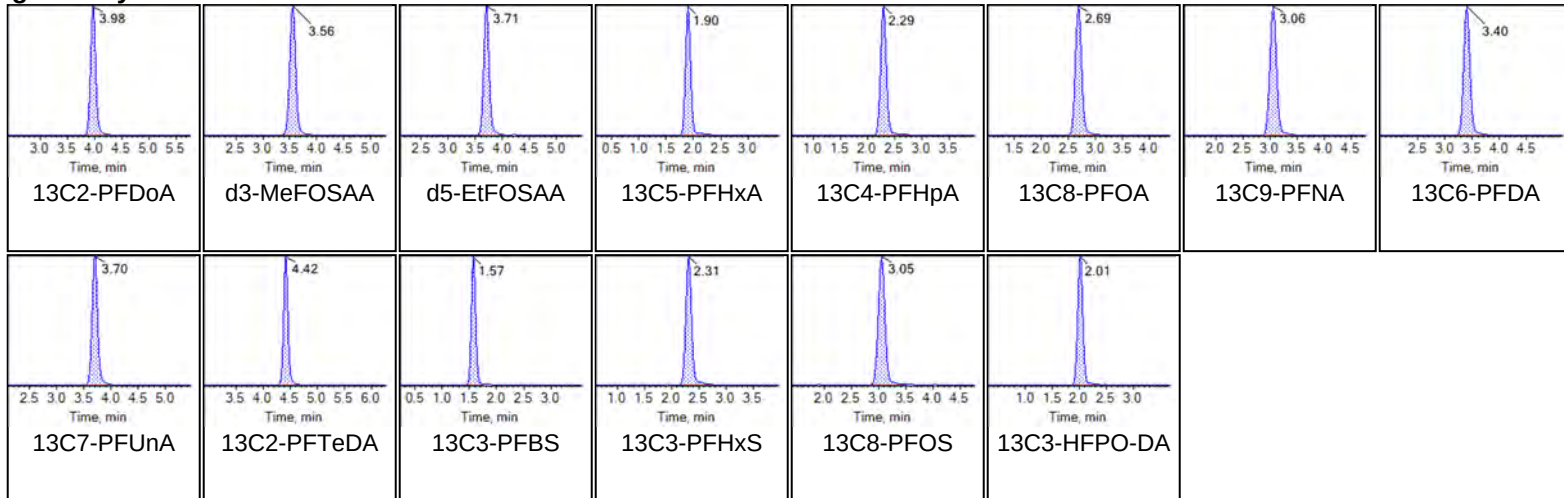
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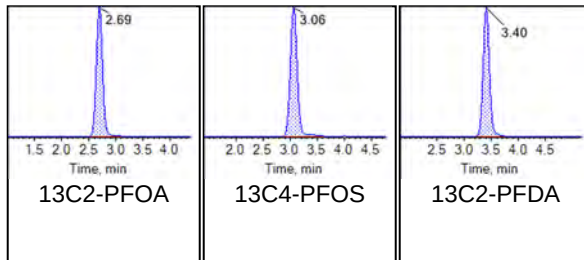
Sample Name	G1797-FS(0)	Injection Vial	14
Sample ID	CBD-AOA-FB05-102020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





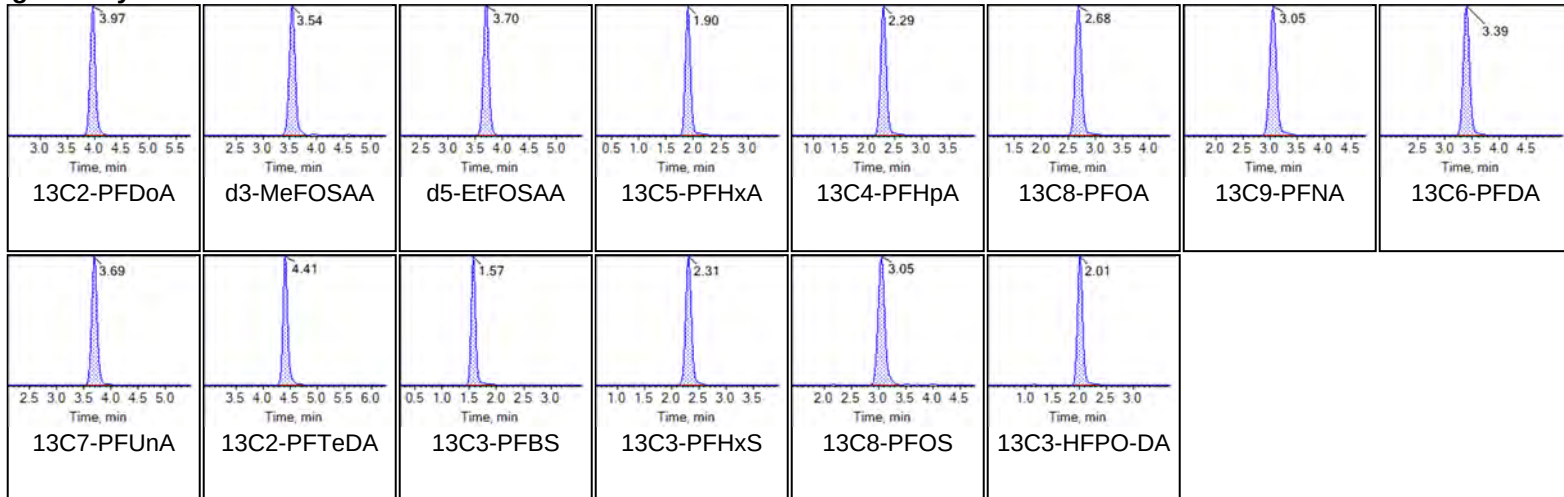
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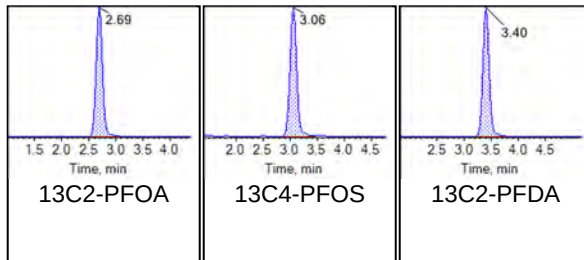
Sample Name	G1798-FS(0)	Injection Vial	15
Sample ID	CBD-AOA-EB01-102020-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





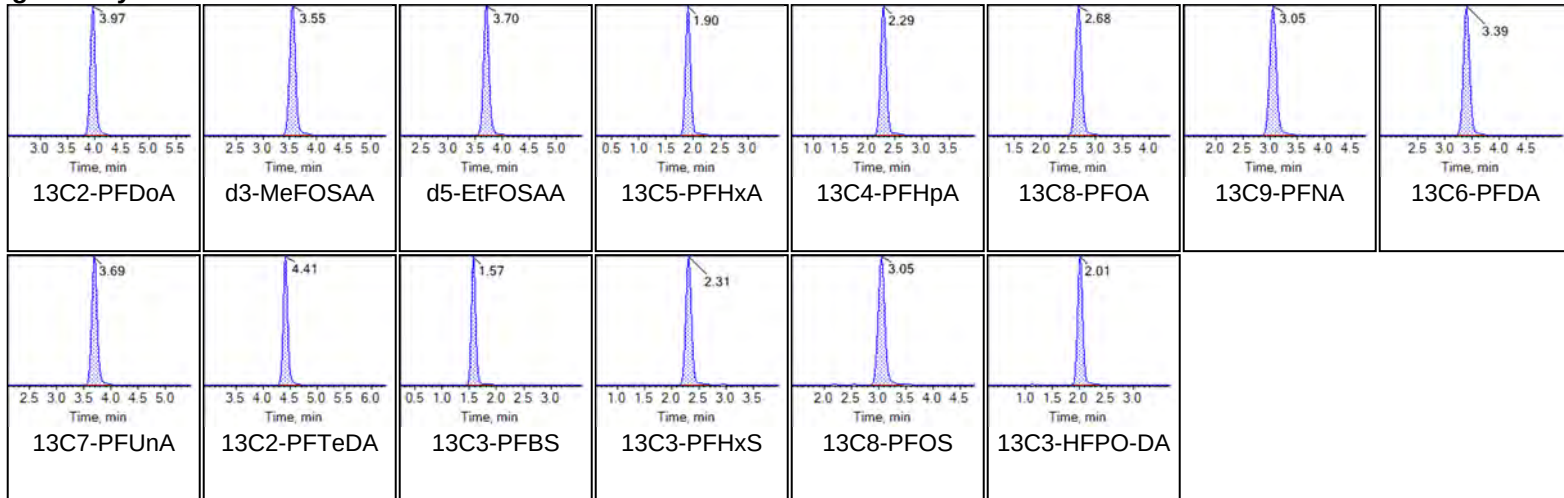
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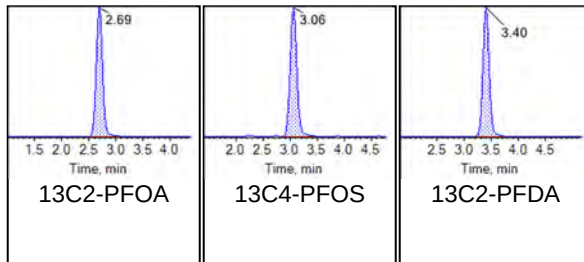
Sample Name	G1804-FS(0)	Injection Vial	16
Sample ID	CBD-AOA-EB01-102120-GW	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:02:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





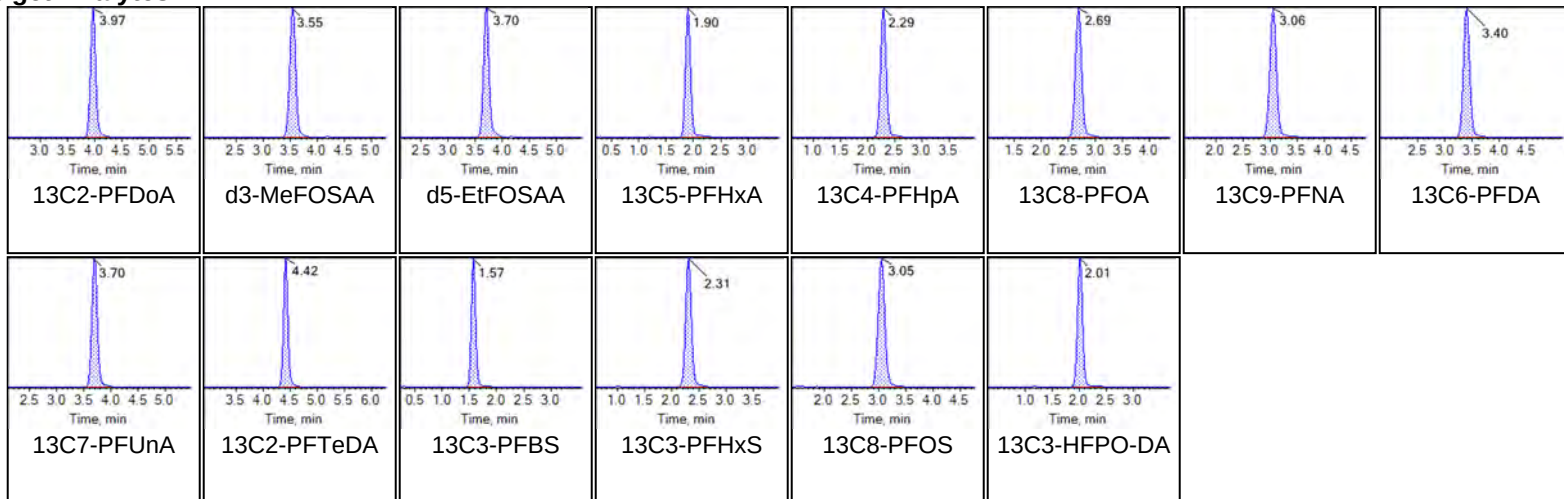
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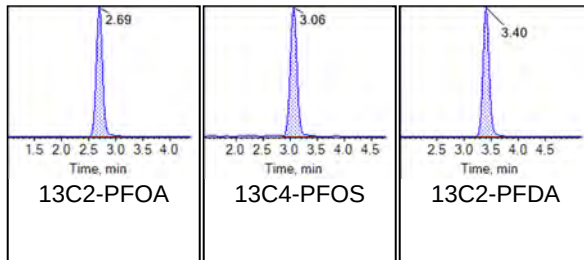
Sample Name	G1794-FS(0)	Injection Vial	17
Sample ID	CBD-AOA-MW07-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 10:13:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





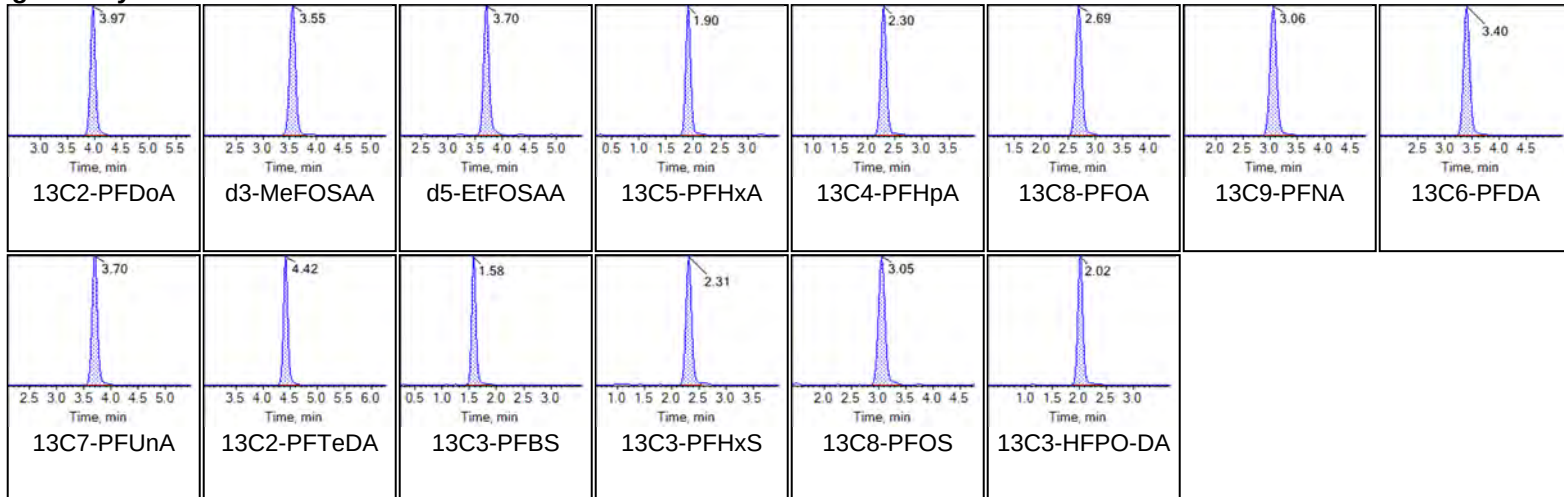
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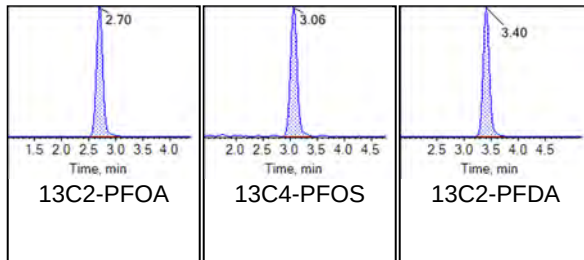
Sample Name	G1795-FS(0)	Injection Vial	18
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





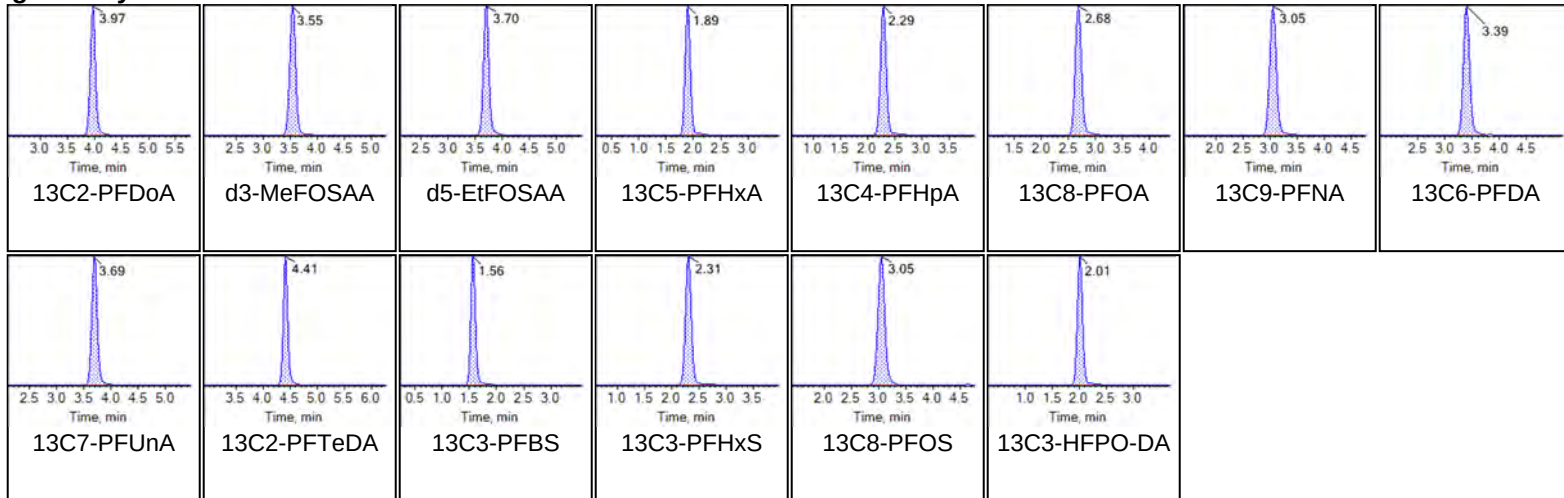
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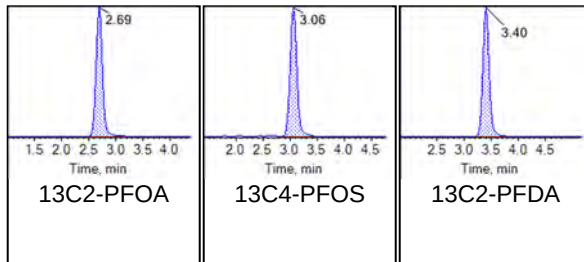
Sample Name	LE54 CCV	Injection Vial	20
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





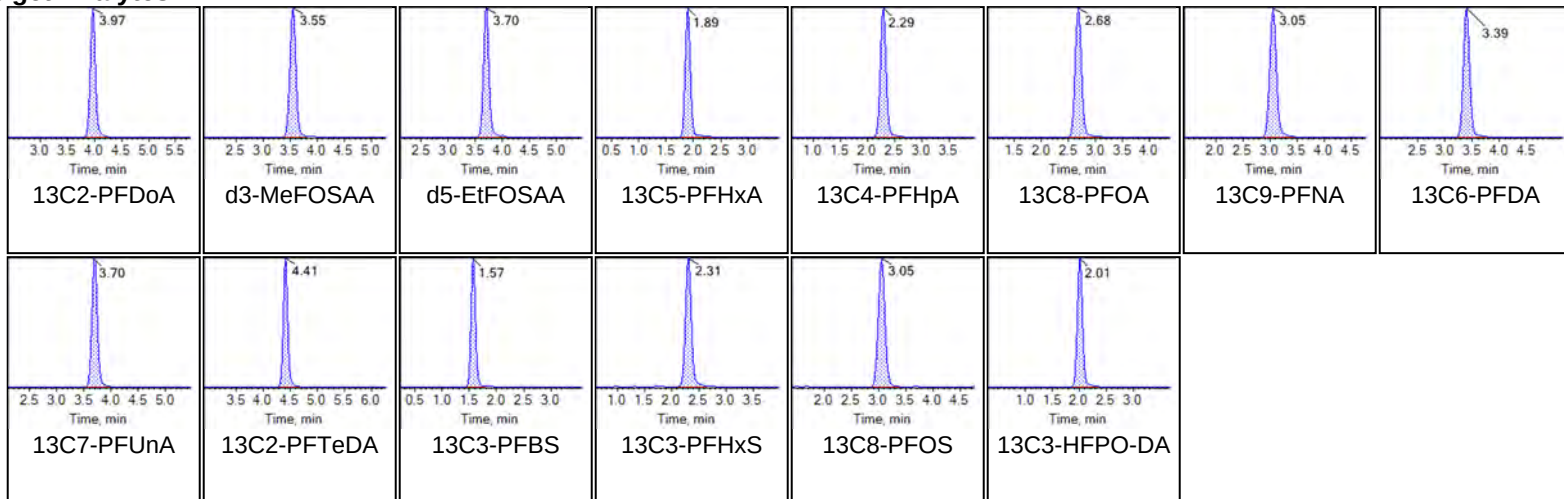
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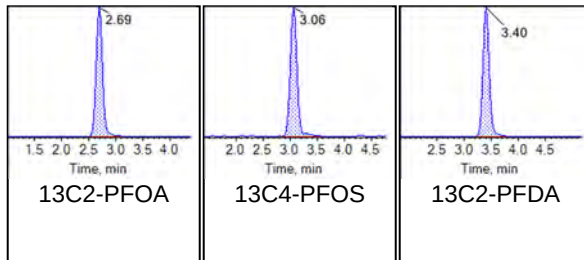
Sample Name	G1796-FS(0)	Injection Vial	21
Sample ID	CBD-AOA-MW19-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





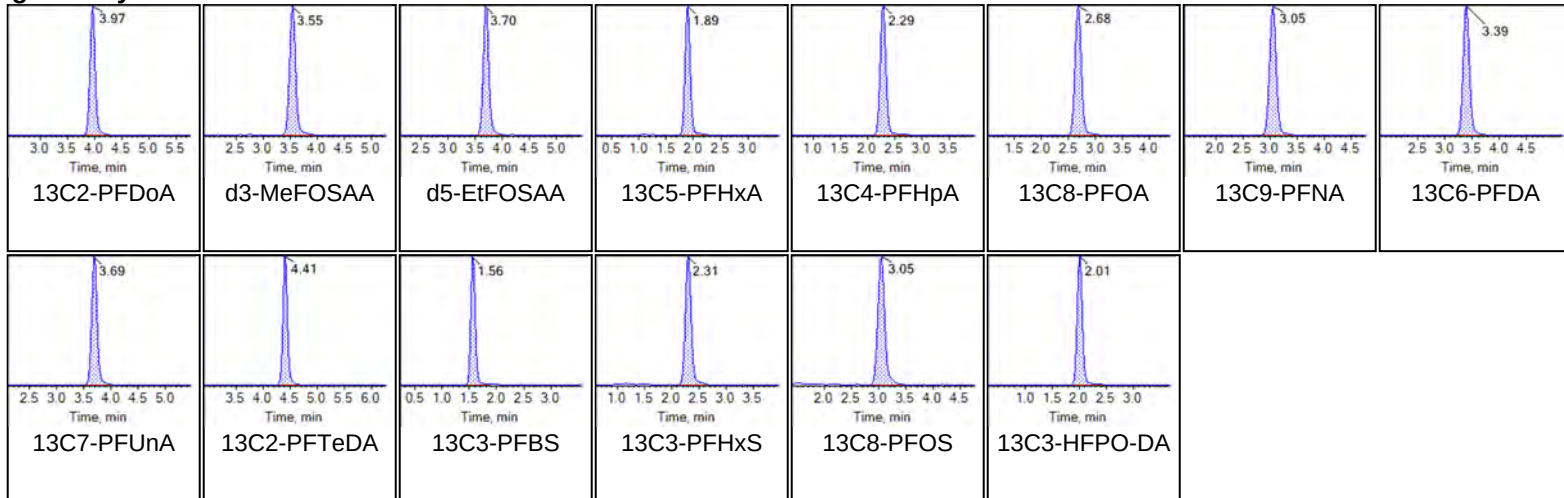
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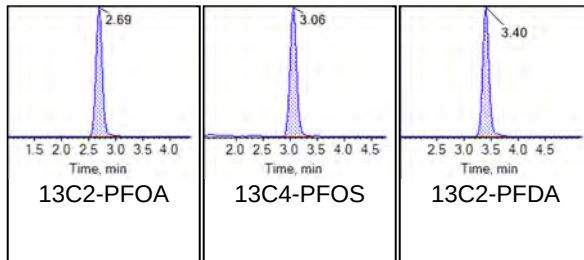
Sample Name	G1799-FS(0)	Injection Vial	22
Sample ID	CBD-BKG-MW01-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





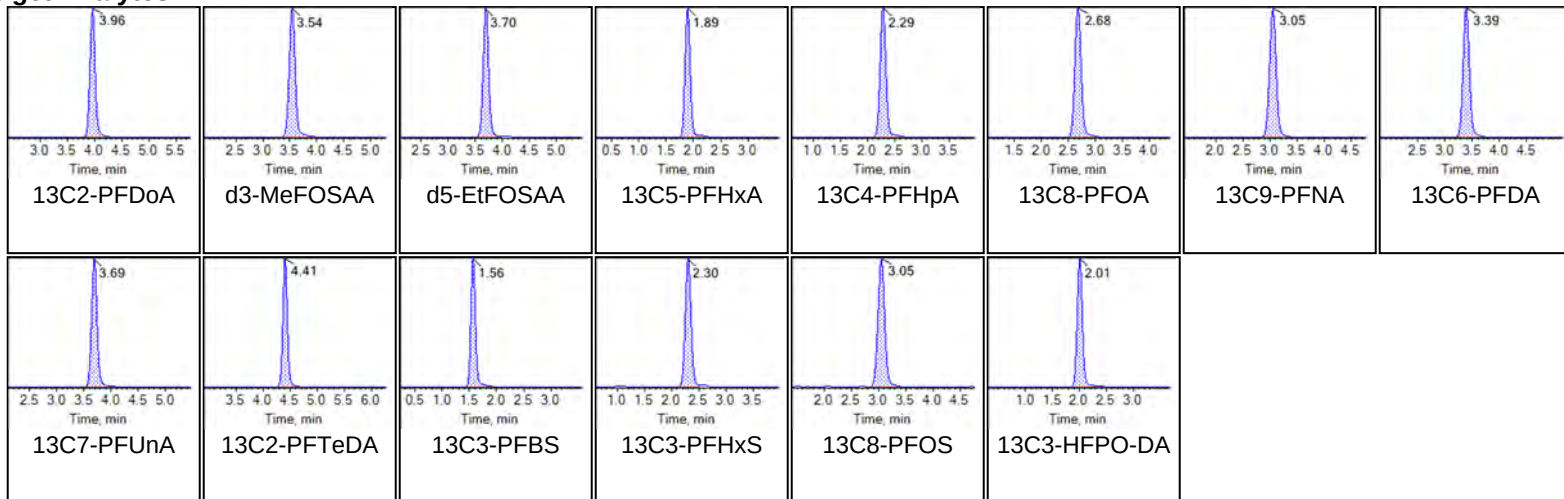
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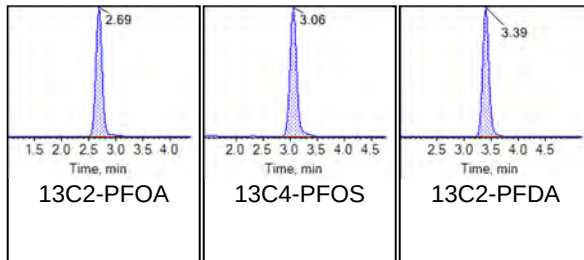
Sample Name	G1800-FS(0)	Injection Vial	23
Sample ID	CBD-BKG-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
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Chromatograms

Target Analytes:



Internal Standards:





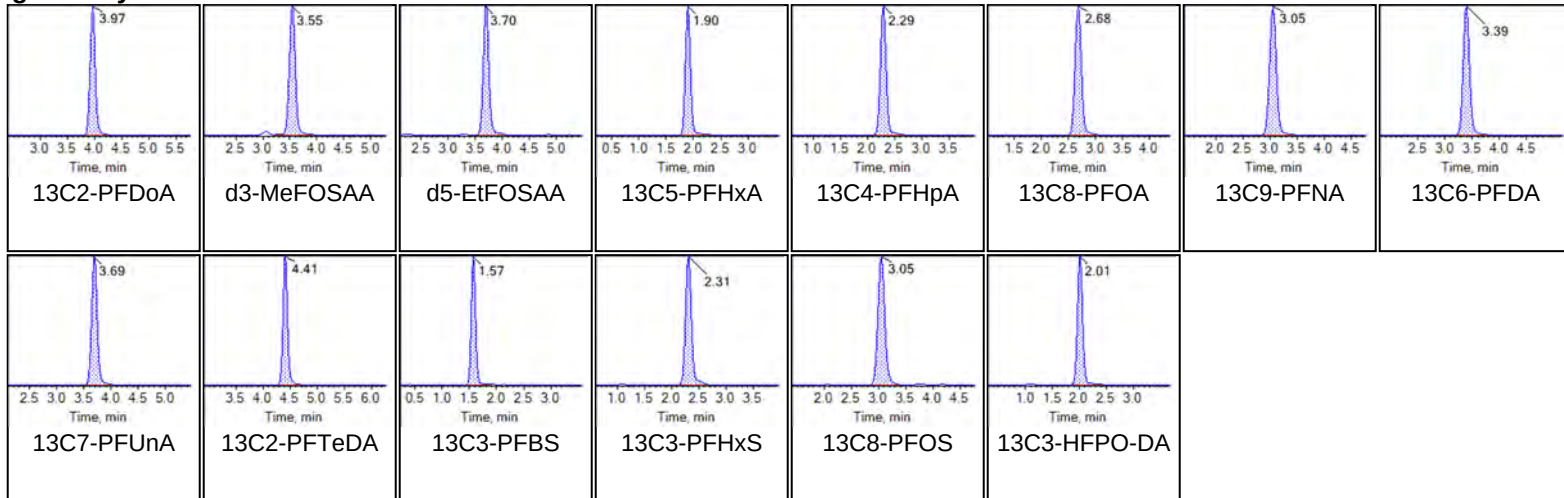
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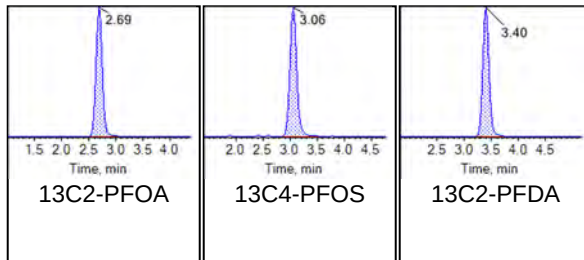
Sample Name	G1801-FS(0)	Injection Vial	24
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:29:01 PM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





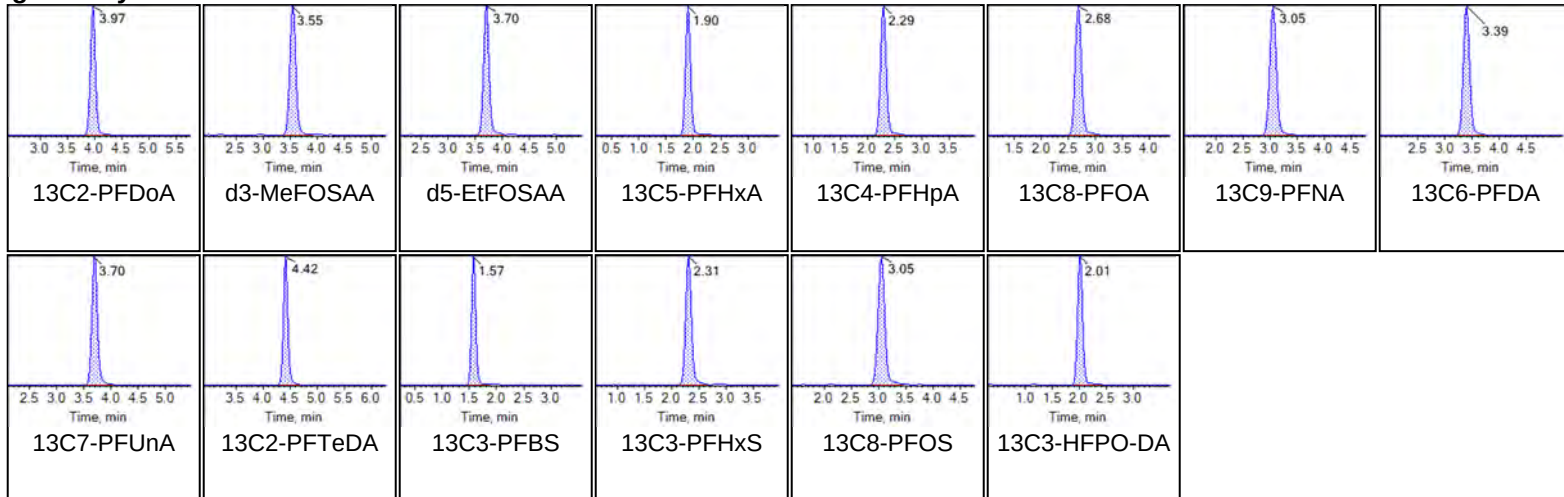
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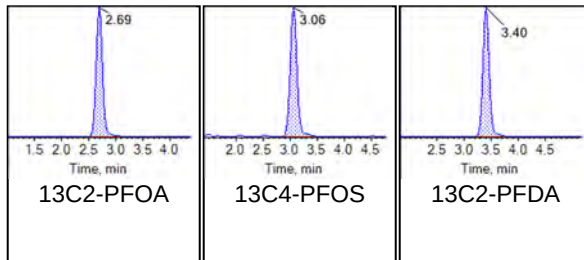
Sample Name	G1802-FS(0)	Injection Vial	25
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:39:50 PM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





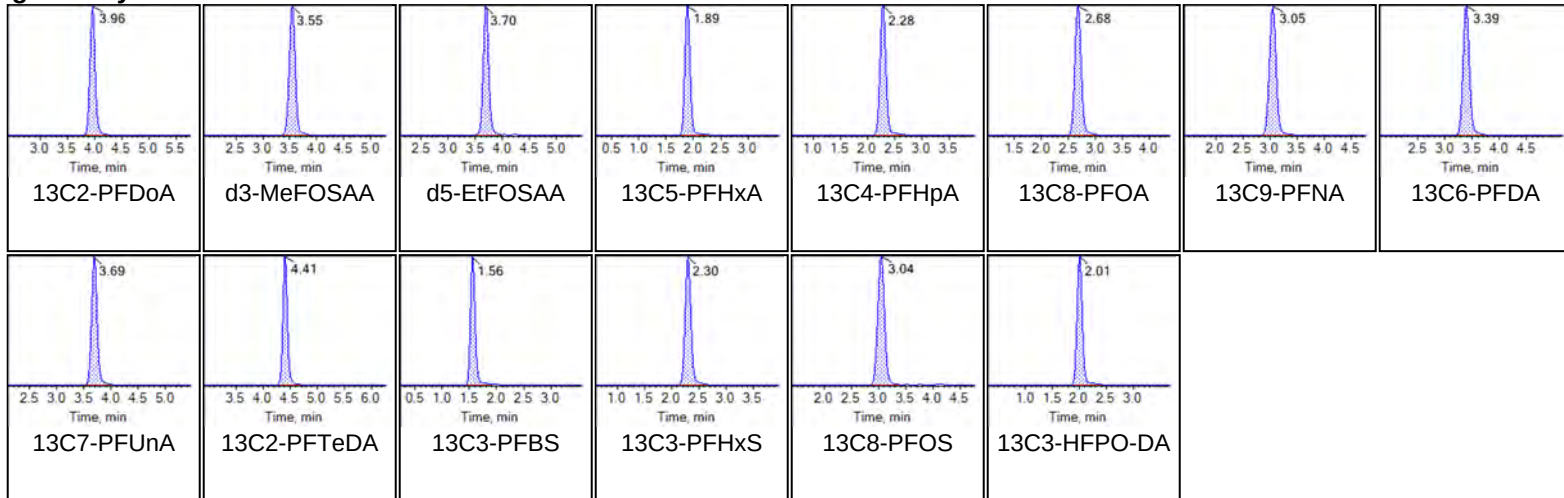
Chromatogram Report

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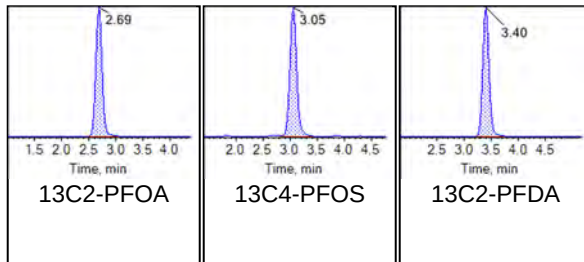
Sample Name	LE55 CCV	Injection Vial	28
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:12:26 AM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





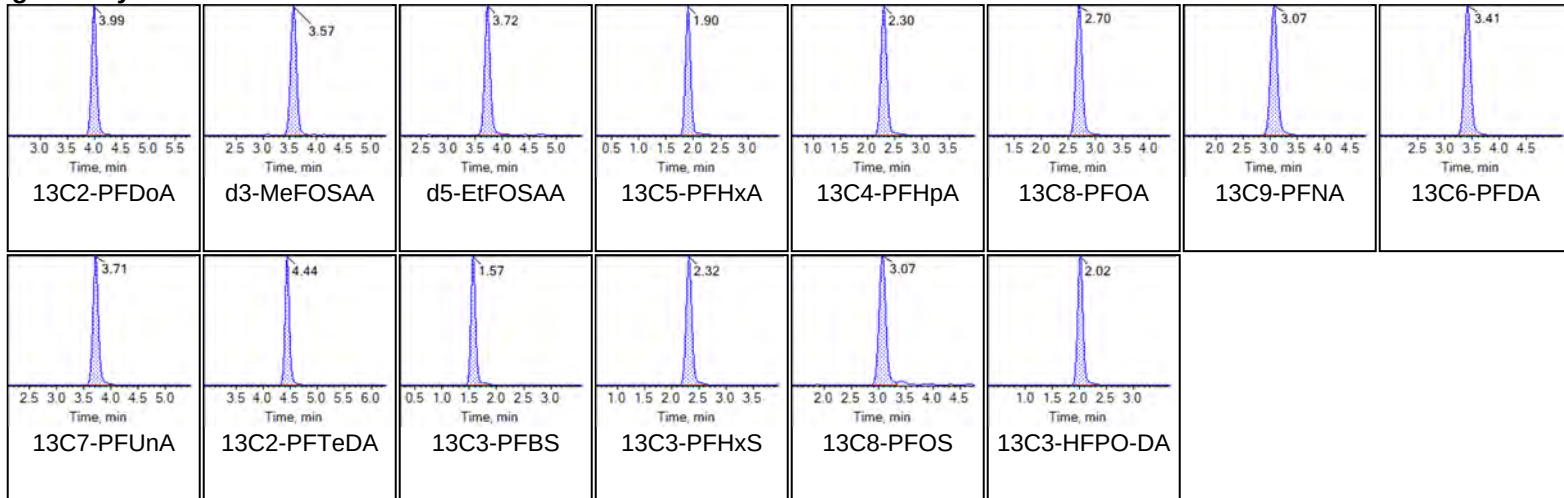
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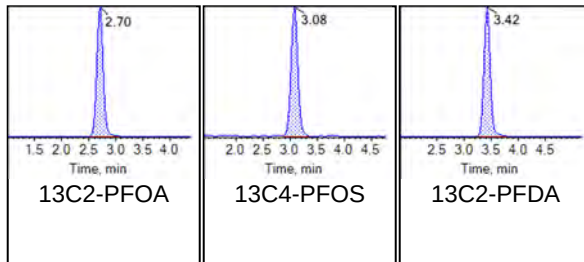
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Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 10:46:04 AM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





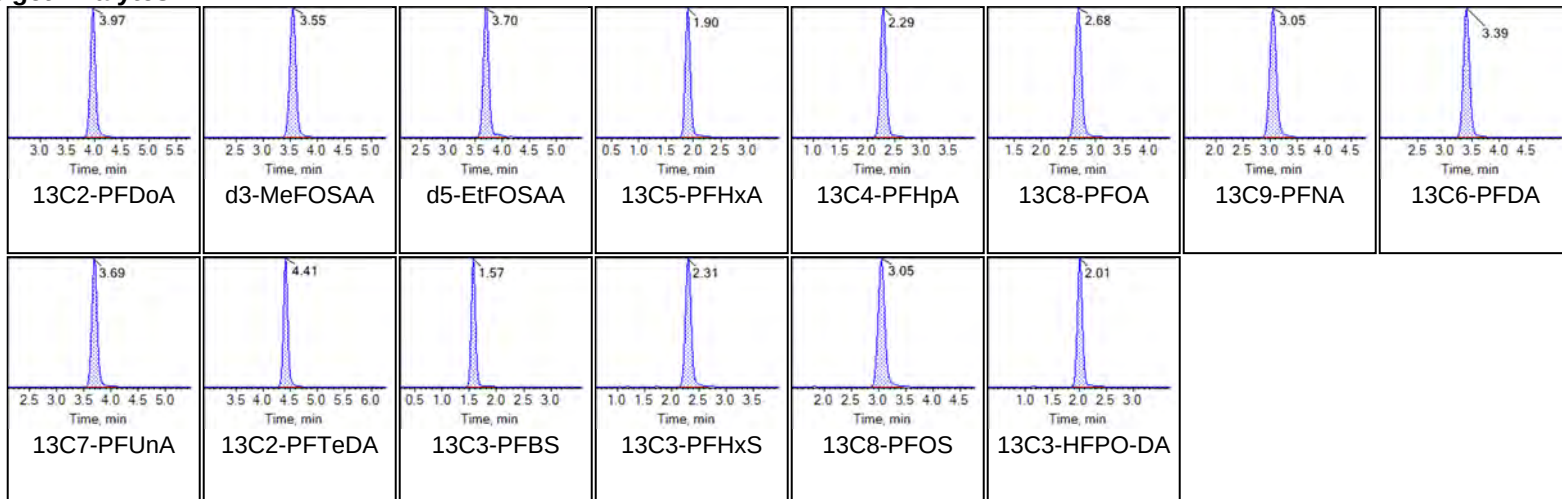
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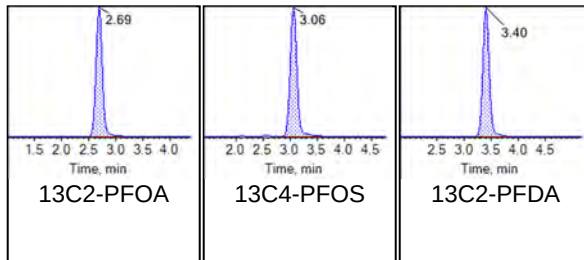
Sample Name	G1803-FS(0)	Injection Vial	8
Sample ID	CBD-AOA-MW05-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:51:28 AM	Data File	AC_11162020A_5-369.wiff
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Chromatograms

Target Analytes:



Internal Standards:





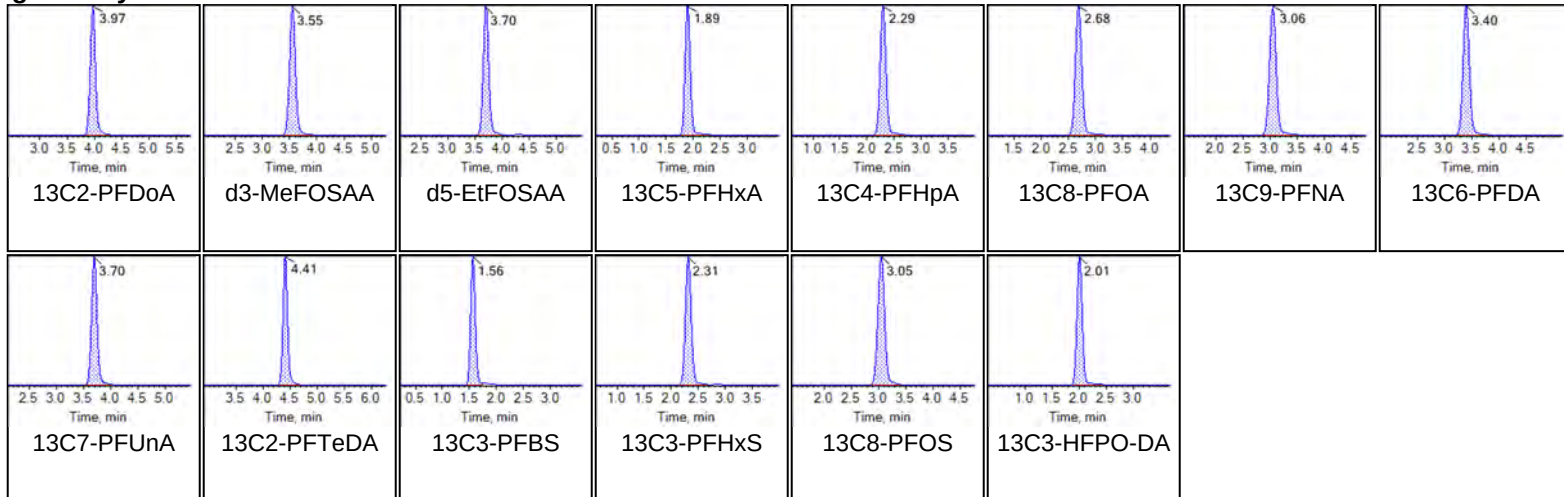
Chromatogram Report

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Printed: 17/11/2020 5:33:21 PM

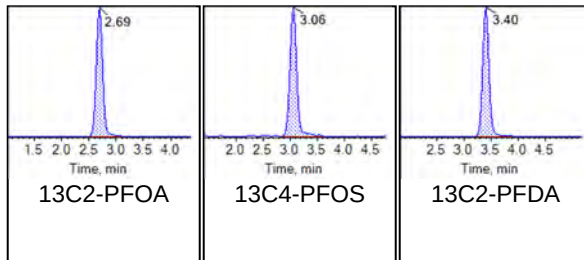
Sample Name	LE55 CCV	Injection Vial	12
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 12:35:01 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





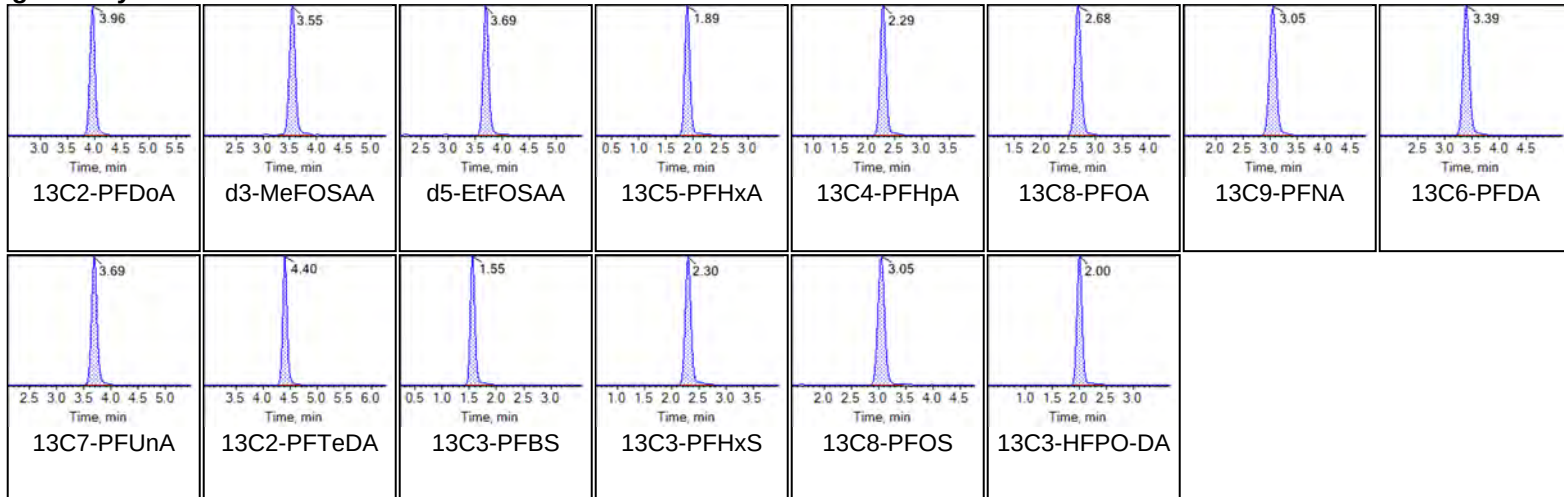
Chromatogram Report

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Printed: 17/11/2020 5:33:21 PM

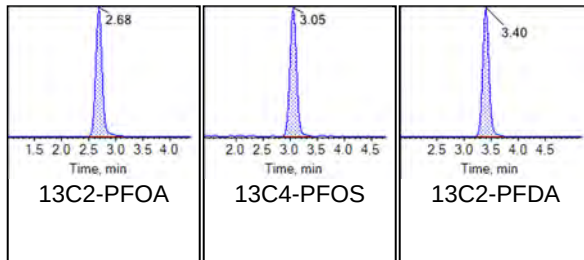
Sample Name	LE55 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:13:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





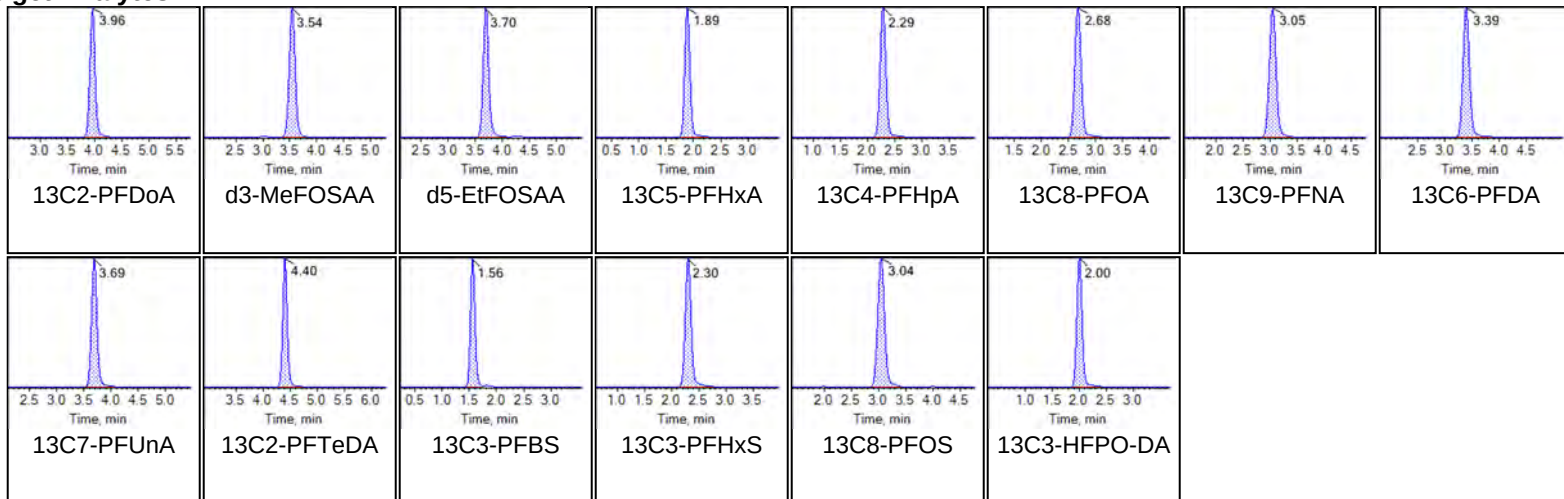
Chromatogram Report

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Printed: 17/11/2020 5:33:21 PM

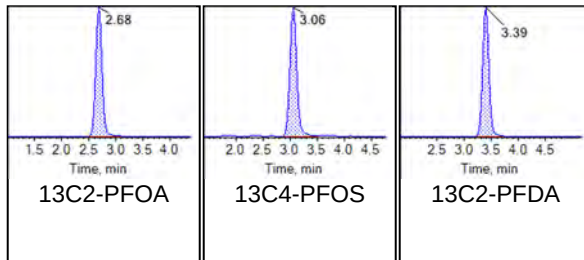
Sample Name	G1801-FS-D(3)	Injection Vial	23
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 2:35:51 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_SIS

Chromatograms

Target Analytes:



Internal Standards:





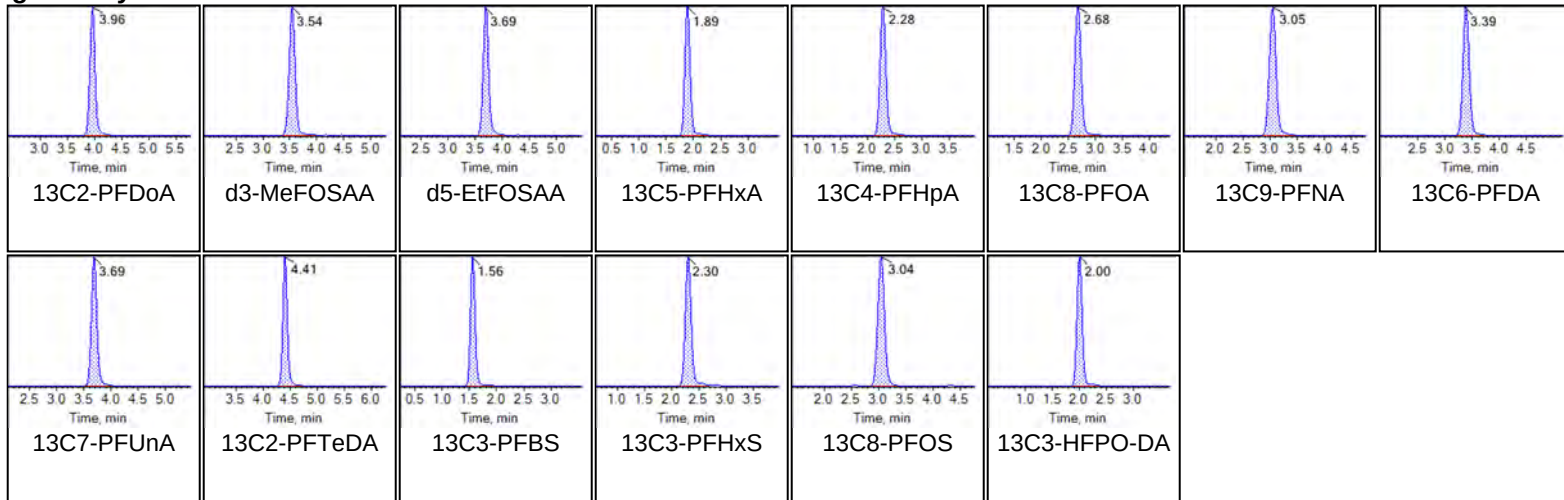
Chromatogram Report

Created with Analyst Reporter
Printed: 17/11/2020 5:33:21 PM

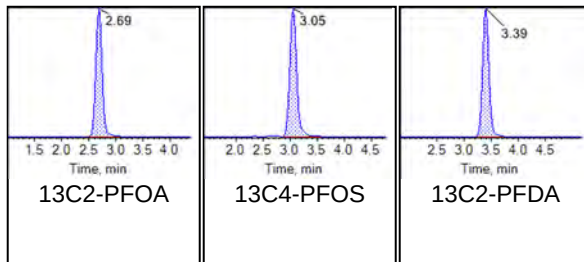
Sample Name	LE54 CCV	Injection Vial	30
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 3:52:10 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 SIS

Chromatograms

Target Analytes:



Internal Standards:



Unused Data



PFAS Sample Quant Report

Created with Analyst Reporter
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Sample Name	G1803-FS(0)	Injection Vial	26
Sample ID	CBD-AOA-MW05-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 11:50:43 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.97	597757.21	867.88	4795.4	False	13C2-PFDA	770380.69	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	126342.51	867.67	2198.2	False	13C4-PFOS	155363.21	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	135602.11	923.71	2676.3	False	13C4-PFOS	155363.21	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	658257.67	1125.17	2969.0	False	13C2-PFOA	806772.10	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	726218.28	1084.08	3750.5	False	13C2-PFOA	806772.10	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	712801.17	1077.78	3831.6	False	13C2-PFOA	806772.10	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	663695.25	1031.93	3938.0	False	13C2-PFOA	806772.10	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	677596.83	1038.44	4843.7	False	13C2-PFDA	770380.69	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.69	634419.11	934.04	4730.3	False	13C2-PFDA	770380.69	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.41	452994.92	587.14	13998.7	False	13C2-PFDA	770380.69	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	144315.24	912.56	3131.2	False	13C4-PFOS	155363.21	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	143690.39	953.56	2322.6	False	13C4-PFOS	155363.21	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	113988.87	854.49	1505.5	False	13C4-PFOS	155363.21	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	396242.99	1027.02	3494.3	False	13C2-PFOA	806772.10	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Sample Name	G1795-FS(0)	Injection Vial	5
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:18:44 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	380837.14	666.67	7033.2	False	13C2-PFDA	638951.33	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	99436.58	904.03	1922.7	False	13C4-PFOS	117359.11	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	106519.63	960.57	1965.7	False	13C4-PFOS	117359.11	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	553629.64	1033.27	2073.5	False	13C2-PFOA	738890.26	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	665674.06	1084.99	3407.2	False	13C2-PFOA	738890.26	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.68	645336.18	1065.41	4408.5	False	13C2-PFOA	738890.26	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.05	630047.00	1069.61	3837.7	False	13C2-PFOA	738890.26	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.39	612689.84	1132.11	5818.9	False	13C2-PFDA	638951.33	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	538992.57	956.78	5470.9	False	13C2-PFDA	638951.33	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	191728.47	299.62	9358.3	False	13C2-PFDA	638951.33	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	126520.49	1059.11	2461.2	False	13C4-PFOS	117359.11	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	113243.22	994.87	1395.6	False	13C4-PFOS	117359.11	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	105671.71	1048.66	947.4	False	13C4-PFOS	117359.11	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	352921.38	998.77	2177.9	False	13C2-PFOA	738890.26	1250.00		N/A	N/A	✓



PFAS Sample Quant Report

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Printed: 17/11/2020 5:20:47 PM

Sample Name	G1801-FS(0)	Injection Vial	6
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:29:39 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329_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	3.97	474576.18	823.86	4412.6	False	13C2-PFDA	644304.60	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	101630.68	1028.63	1853.3	False	13C4-PFOS	105418.48	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	104246.47	1046.55	1965.7	False	13C4-PFOS	105418.48	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	515459.63	1118.86	4311.7	False	13C2-PFOA	635316.14	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	569993.04	1080.50	3652.1	False	13C2-PFOA	635316.14	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	559676.91	1074.63	5248.5	False	13C2-PFOA	635316.14	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	531860.63	1050.12	3328.3	False	13C2-PFOA	635316.14	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	535801.62	981.81	4488.6	False	13C2-PFDA	644304.60	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	520831.72	916.86	4657.8	False	13C2-PFDA	644304.60	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	371467.79	575.68	8711.0	False	13C2-PFDA	644304.60	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.57	116614.30	1086.75	2451.8	False	13C4-PFOS	105418.48	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.31	108195.24	1058.19	4017.4	False	13C4-PFOS	105418.48	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	95339.37	1053.29	1636.2	False	13C4-PFOS	105418.48	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	352075.87	1158.81	4094.5	False	13C2-PFOA	635316.14	1250.00		N/A	N/A	✓



Sample Name	G1802-FS(0)	Injection Vial	7
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/17/2020 11:40:32 AM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1329 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	3.97	305574.88	659.00	6811.3	False	13C2-PFDA	518650.95	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.55	78797.56	733.30	1355.8	False	13C4-PFOS	114651.98	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.70	86709.78	800.39	2743.3	False	13C4-PFOS	114651.98	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.90	471246.44	1010.25	3054.3	False	13C2-PFOA	643264.66	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.29	542064.26	1014.86	2596.0	False	13C2-PFOA	643264.66	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.69	533126.29	1011.00	3058.9	False	13C2-PFOA	643264.66	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.06	456492.60	890.18	3028.7	False	13C2-PFOA	643264.66	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.40	453810.96	1033.03	3957.2	False	13C2-PFDA	518650.95	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.70	397159.28	868.53	4038.2	False	13C2-PFDA	518650.95	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.42	76753.20	147.77	4433.7	False	13C2-PFDA	518650.95	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.58	110339.96	945.47	2870.1	False	13C4-PFOS	114651.98	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.32	100633.73	904.97	1576.0	False	13C4-PFOS	114651.98	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.05	90270.45	916.97	992.3	False	13C4-PFOS	114651.98	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.01	289849.48	942.21	2743.6	False	13C2-PFOA	643264.66	1250.00		N/A	N/A	✓

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
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23/2020
N6247016D9000	4532		CHESAPEAKE BEACH NRL	DB009PB-FS	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	BLK	W	4	10/23/2020 10:40	10/23

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
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-244	1.44	1.44	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.44	1.44	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.92	1.92	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.16	0.16	NG L	J	J	J
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.11	0.11	NG L	J	J	J
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.66	0.66	NG L	J	J	J
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			11-chlorooicosafluoro-3-oxadecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	0.96	0.96	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.48	0.48	NG L	U	U	U
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C5-PFHxA	BDO-2217	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C4-PFHpA	BDO-2218	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C8-PFOA	BDO-2219	82	82	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C9-PFNA	BDO-2221	86	86	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C6-PFDA	BDO-2222	89	89	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C7-PFUnA	BDO-2223	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C2-PFDoA	BDO-2112	76	76	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C2-PFTeDA	BDO-2224	86	86	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			d3-MeFOSAA	BDO-1838	83	83	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			d5-EtFOSAA	BDO-1839	82	82	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C3-PFBS	BDO-2226	87	87	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C3-PFHxS	BDO-2227	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C8-PFOS	BDO-2228	84	84	PCT_REC			
		20201023	10:40:00	20201116	21:18:42	DB009PB-FS	1	1			13C3-HFPO-DA	BDO-2276	76	76	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-244	92	92	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	87	87	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	91	91	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	77	77	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	95	95	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	84	84	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	90	90	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	95	95	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	83	83	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	84	84	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	89	89	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	95	95	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	82	82	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	87	87	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	93	93	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			11-chlorooicosafluoro-3-oxadecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	93	93	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	80	80	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C5-PFHxA	BDO-2217	88	88	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C4-PFHpA	BDO-2218	88	88	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C8-PFOA	BDO-2219	86	86	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C9-PFNA	BDO-2221	99	99	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C6-PFDA	BDO-2222	89	89	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C7-PFUnA	BDO-2223	78	78	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C2-PFDoA	BDO-2112	80	80	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C2-PFTeDA	BDO-2224	92	92	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			d3-MeFOSAA	BDO-1838	85	85	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			d5-EtFOSAA	BDO-1839	89	89	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C3-PFBS	BDO-2226	85	85	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C3-PFHxS	BDO-2227	81	81	PCT_REC			
		20201023	10:40:00	20201116	21:29:34	DB010LCS-FS	1	1			13C8-PFOS	BDO-2228	91	91	PCT_REC			
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-244	2.85	2.85	NG L	J	J	J
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.53	0.53	NG L	J	J	J
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.36	1.36	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.45	0.28	NG L	J	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.82	1.82	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:13:01	G1794-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	2.					

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						20171116				5.3	0.5	1.44	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.25	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.49	1.44	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.29	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.13	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.21	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.18	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.14	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.7	1.92	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.33	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.48	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.13	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.1	0.38	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.42	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.23	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.25	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.22	0.96	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.25	0.48	4.81	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION		

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	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRI	CBD-AQA-MW17-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 15:45</	

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
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	2.56	2.56	NG L	J	J	J
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	1.5	1.5	NG L	J	J	J
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorodecanoic acid (PFDA)	335-76-2	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.46	0.4	NG L	J	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorododecanoic acid (PFDoA)	307-55-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.85	1.85	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.72	1.72	NG L	J	J	J
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	28	28	NG L			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	9.67	9.67	NG L			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	763051-92-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C5-PFHxA	BDO-2217	99	99	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C4-PFHpA	BDO-2218	91	91	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C8-PFOA	BDO-2219	94	94	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C9-PFNA	BDO-2221	95	95	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C6-PFDA	BDO-2222	86	86	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C7-PFUnA	BDO-2223	75	75	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C2-PFDoA	BDO-2112	57	57	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C2-PFTeDA	BDO-2224	23	23	PCT_REC	N		
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			d3-MeFOSAA	BDO-1838	77	77	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			d5-EtFOSAA	BDO-1839	69	69	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C3-PFBS	BDO-2226	100	100	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C3-PFHxS	BDO-2227	104	104	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C8-PFOS	BDO-2228	100	100	PCT_REC			
		20201023	10:40:00	20201116	22:23:52	G1795-FS	1	1			13C3-HFPO-DA	BDO-2276	89	89	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	12.1	12.1	NG L			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	5.49	5.49	NG L			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	23.7	23.7	NG L			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	1.2	1.2	NG L	J	J	J
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.82	1.82	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.81	1.81	NG L	J	J	J
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	59	59	NG L			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	21.1	21.1	NG L			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	763051-92-9	0.9	0.9	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	0.45	0.45	NG L	U	U	U
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C5-PFHxA	BDO-2217	82	82	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C4-PFHpA	BDO-2218	81	81	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C8-PFOA	BDO-2219	84	84	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C9-PFNA	BDO-2221	83	83	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C6-PFDA	BDO-2222	80	80	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C7-PFUnA	BDO-2223	84	84	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C2-PFDoA	BDO-2112	73	73	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C2-PFTeDA	BDO-2224	78	78	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			d3-MeFOSAA	BDO-1838	92	92	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			d5-EtFOSAA	BDO-1839	105	105	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C3-PFBS	BDO-2226	83	83	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C3-PFHxS	BDO-2227	80	80	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C8-PFOS	BDO-2228	85	85	PCT_REC			
		20201023	10:40:00	20201116	22:56:25	G1796-FS	1	1			13C3-HFPO-DA	BDO-2276	80	80	PCT_REC			
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	1.42	1.42	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.42	1.42	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.89	1.89	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.47	0.14	NG L	J	U	U
		20201023	10:40:00	20201116	21:40:25	G1797-FS	1	1			Perfluorohexanesulf							

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						20171116				5.3	0.47	1.39	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.28	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.13	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	EBL			5.3	0.2	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.17	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.14	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	SSL			5.3	0.67	1.85	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.32	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.46	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.13	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.1	0.37	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.4	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.23	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.24	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.21	0.92	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.24	0.46	4.63	20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP			150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3				20-1329	DP-20-1205	FULL VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR	SLSP	150		150	50	20171116				5.3								

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 NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 16:20	10/23/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102020-GW	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL_NOR	BATTEL									

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
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.26	0.26	NG L	J	J	J
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.89	1.89	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.47	0.15	NG L	J	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.37	0.1	NG L	J	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	2.39	2.39	NG L	J	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C5-PFHxA	BDO-2217	86	86			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C4-PFHpA	BDO-2218	83	83			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C8-PFOA	BDO-2219	85	85			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C9-PFNA	BDO-2221	82	82			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C6-PFDA	BDO-2222	97	97			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C7-PFUnA	BDO-2223	96	96			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C2-PFDoA	BDO-2212	69	69			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C2-PFTEdA	BDO-2224	51	51			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			d3-MeFOSAA	BDO-1838	81	81			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			d5-EtFOSAA	BDO-1839	115	115			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C3-PFBS	BDO-2226	86	86			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C3-PFHxS	BDO-2227	93	93			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C8-PFOS	BDO-2228	101	101			PCT REC	
		20201023	10:40:00	20201116	21:51:18	G1798-FS	1	1			13C3-HFPO-DA	BDO-2276	80	80			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	1.74	1.74	NG L	J	J	J
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.5	0.5	NG L	J	J	J
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.4	1.4	NG L	J	J	J
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.46	0.24	NG L	J	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.85	1.85	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.19	1.19	NG L	J	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	13.5	13.5	NG L	L		
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	10.8	10.8	NG L	L		
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF30UdS)	763051-92-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C5-PFHxA	BDO-2217	77	77			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C4-PFHpA	BDO-2218	82	82			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C8-PFOA	BDO-2219	84	84			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C9-PFNA	BDO-2221	79	79			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C6-PFDA	BDO-2222	84	84			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C7-PFUnA	BDO-2223	85	85			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C2-PFDoA	BDO-2112	79	79			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C2-PFTEdA	BDO-2224	77	77			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			d3-MeFOSAA	BDO-1838	67	67			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			d5-EtFOSAA	BDO-1839	70	70			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C3-PFBS	BDO-2226	72	72			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C3-PFHxS	BDO-2227	75	75			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C8-PFOS	BDO-2228	77	77			PCT REC	
		20201023	10:40:00	20201116	23:07:17	G1799-FS	1	1			13C3-HFPO-DA	BDO-2276	76	76			PCT REC	
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	1.39	1.39	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	0.98	0.98	NG L	J	J	J
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.46	0.23	NG L	J	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.85	1.85	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.99	0.99	NG L	J	U	U
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	17.5	17.5	NG L	L		
		20201023	10:40:00	20201116	23:18:09	G1800-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	2.25	2.25	NG L	J	U	U
		20201023	10:40:00	20201116	23:18:09</													

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						20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.13	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.2	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.18	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.14	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.69	1.89	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.33	0.94	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.47	0.94	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	MBL			5.3	0.13	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	MBL			5.3	0.1	0.37	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	MBL			5.3	0.41	0.94	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.23	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.25	0.94	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.21	0.94	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.25	0.47	4.72	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA	

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 NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00	10/23/2020
N624701609000	4532		CHESAPEAKE BEACH NRL	CBD-S03-MW02-1020	NONE	PFAS	PFAS QSM5.3	PFOAS	BMSL NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/20/2020 12:00</	

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
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.5	0.5	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	0.5	0.5	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	2	2	NG L	U	UJ	UJ
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	1	1	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	1	1	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	10.1	10.1	NG L			
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	252	252	NG L	D		
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			Perfluorooctane Sulfonate (PFOS)	1763-23-1	323	323	NG L	D		
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.5	0.5	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	1	1	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	1	1	NG L	U		
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.5	0.5	NG L	U	U	U
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C5-PFHxA	BDO-2217	87	87			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C4-PFHpA	BDO-2218	87	87			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C8-PFOA	BDO-2219	85	85			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C9-PFNA	BDO-2221	82	82			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C6-PFDA	BDO-2222	79	79			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C7-PFUnA	BDO-2223	79	79			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C2-PFDoA	BDO-2112	72	72			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C2-PFTeDA	BDO-2224	46	46			PCT_REC	N
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			d3-MeFOSAA	BDO-1838	89	89			PCT_REC	
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			d5-EtFOSAA	BDO-1839	96	96			PCT_REC	
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			13C3-PFB5	BDO-2226	96	96			PCT_REC	
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			13C3-PFHxS	BDO-2227	97	97			PCT_REC	
		20201023	10:40:00	20201117	14:35:51	G1801-FS	12.5	3			13C8-PFOS	BDO-2228	96	96			PCT_REC	
		20201023	10:40:00	20201116	23:29:01	G1801-FS	1	1			13C3-HFPO-DA	BDO-2276	83	83			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	8.96	8.96	NG L			
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	2.01	2.01	NG L	J	J	J
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	9.05	9.05	NG L			
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.44	0.44	NG L	J	J	J
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.46	0.28	NG L	J	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.85	1.85	NG L	U	UJ	UJ
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.92	0.92	NG L	U	U	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	1.88	1.88	NG L	J	J	J
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	75.1	75.1	NG L			
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	15.6	15.6	NG L			
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	0.92	0.92	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.46	0.46	NG L	U	U	U
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C5-PFHxA	BDO-2217	86	86			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C4-PFHpA	BDO-2218	85	85			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C8-PFOA	BDO-2219	87	87			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C9-PFNA	BDO-2221	78	78			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C6-PFDA	BDO-2222	78	78			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C7-PFUnA	BDO-2223	65	65			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C2-PFDoA	BDO-2112	58	58			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C2-PFTeDA	BDO-2224	13	13			PCT_REC	N
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			d3-MeFOSAA	BDO-1838	63	63			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			d5-EtFOSAA	BDO-1839	67	67			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C3-PFB5	BDO-2226	88	88			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C3-PFHxS	BDO-2227	92	92			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C8-PFOS	BDO-2228	87	87			PCT_REC	
		20201023	10:40:00	20201116	23:39:50	G1802-FS	1	1			13C3-HFPO-DA	BDO-2276	80	80			PCT_REC	
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	0.82	0.82	NG L	J	J	J
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.42	1.42	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	1.89	1.89	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.93	0.93	NG L	J	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	3.51	3.51	NG L	J	J	J
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	0.94	0.71	NG L	J	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.47	0.47	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.94	0.94	NG L	U	U	U
		20201023	10:40:00	20201117	11:51:28	G1803-FS	1	1										

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						20171116				5.3	0.19	0.5	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.15	0.5	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116	SSL			5.3	0.73	2	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.35	1	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.5	1	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.14	0.5	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	1.4	5	62.5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	5.46	12.5	62.5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.24	0.5	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.26	1	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.23	1	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.26	0.5	5	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
SURR		SLSP		150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.48	1.39	4.63	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.24	0.92	4.63	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG						20171116				5.3	0.47	1.39	4.63	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
TRG																		

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
M6247016D90900	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020
	4532		CHESAPEAKE BEACH NRL	CBD-AQA-E801-102120-GW	NONE	PFAS	PFAS QSM5.3	PFQOAS	BMSL_NOR	BATTELLE, NORWELL, MA	NONE	N	METHOD	000	REG	W	4	10/21/2020 10:35	10/22/2020

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
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	2.04	2.04	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	1.02	1.02	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	1.02	1.02	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.51	0.17	NG_L	J	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.40	0.17	NG_L	J	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	4.76	4.76	NG_L	J	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.51	0.51	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	1.02	1.02	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	1.02	1.02	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.51	0.51	NG_L	U	U	U
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C5-PFHxA	BDO-2217	92	92	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C4-PFHpA	BDO-2218	92	92	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C8-PFOA	BDO-2219	91	91	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C9-PFNA	BDO-2221	89	89	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C6-PFDA	BDO-2222	93	93	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C7-PFUnA	BDO-2223	88	88	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C2-PFDoA	BDO-2112	87	87	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C2-PFTeDA	BDO-2224	67	67	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			d3-MeFOSAA	BDO-1838	108	108	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			d5-EtFOSAA	BDO-1839	108	108	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C3-PFBS	BDO-2226	98	98	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C3-PFHxS	BDO-2227	101	101	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C8-PFOS	BDO-2228	93	93	PCT_REC			
		20201023	10:40:00	20201116	22:02:10	G1804-FS	1	1			13C3-HFPO-DA	BDO-2276	89	89	PCT_REC			

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					20171116				5.3	0.74	2.04	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.35	1.02	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.51	1.02	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116	MBL			5.3	0.14	0.51	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116	MBL			5.3	0.11	0.4	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116	MBL			5.3	0.44	1.02	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.25	0.51	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.27	1.02	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.23	1.02	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	TRG					20171116				5.3	0.27	0.51	5.1	20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115
	SURR		SLSP	150	50	20171116				5.3				20-1329	DP-20-1205	FULL_VALIDATION	ENVIRONMENTAL DATA SERVICES INC	20210115

**DATA VALIDATION SUMMARY REPORT
NAVAL RESEARCH LABORATORY, MARYLAND**

Client: CH2M HILL, Inc., Herndon, Virginia
SDG: 20-1329
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-MW07-1020	G1794-FS	Water
2	CBD-AOA-MW17-1020	G1795-FS	Water
3	CBD-AOA-MW19-1020	G1796-FS	Water
4	CBD-AOA-FB05-102020	G1797-FS	Water
5	CBD-AOA-EB01-102020-GW	G1798-FS	Water
6	CBD-BKG-MW01-1020	G1799-FS	Water
7	CBD-BKG-MW02-1020	G1800-FS	Water
8	CBD-SO3-MW02-1020	G1801-FS	Water
9	CBD-AOA-MW09-1020	G1802-FS	Water
10	CBD-AOA-MW05-1020	G1803-FS	Water
11	CBD-AOA-EB01-102120-GW	G1804-FS	Water

A Stage 2B/4 data validation was performed on the analytical data for eight water samples, two aqueous equipment blank samples, and one aqueous field blank sample collected on October 20-21, 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 as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

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 water samples and analyzed within 28 days.

LC/MS Tuning

- All criteria were met.

Initial Calibration

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

Continuing Calibration

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

Method Blank

- The method blanks were free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
DB009PB-FS	PFBS	0.166	U	4, 5, 6, 7, 10, 11
	PFHxS	0.115	U	4, 5, 11
	PFOS	0.661	U	1, 5, 7, 10, 11

Field QC Blank

- Field QC sample results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-AOA-FB05-102020	None - ND	-	-	-
CBD-AOA-EB01-102020-GW	PFUnA	0.266	U	1, 2, 6, 7, 8
CBD-AOA-EB01-102120-GW	PFUnA	0.284	U	9

Surrogate Spike Recoveries

- Several samples exhibited surrogates outside of QC limits. See summary pages behind Form Is for specifics. All associated compounds were qualified estimated (J/UJ).

Laboratory Fortified Blank (LFB)

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

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

- MS/MSD samples were not analyzed.

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

- Several compounds were analyzed at a dilution due to high concentrations of target compounds. The reporting limits were adjusted accordingly. No action was required.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

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

Signed:

Nancy Weaver
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-MW07-1020

Battelle ID G1794-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.275
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	2.85 J	G1794-FS(0)	1.000	11/16/2020	0.479	1.36	4.55
PFHxA	375-65-9	0.530 J	G1794-FS(0)	1.000	11/16/2020	0.239	0.909	4.55
PFOA	335-67-1	1.36 U	G1794-FS(0)	1.000	11/16/2020	0.465	1.36	4.55
PFNA	375-45-1	0.909 U	G1794-FS(0)	1.000	11/16/2020	0.281	0.909	4.55
PFDA	335-76-2	0.455 U	G1794-FS(0)	1.000	11/16/2020	0.129	0.455	4.55
PFUnA	2058-94-8	0.283 J	G1794-FS(0)	1.000	11/16/2020	0.199	0.455	4.55
PFDoA	307-55-1	0.455 U	G1794-FS(0)	1.000	11/16/2020	0.175	0.455	4.55
PFTroA	72629-94-8	0.455 U	G1794-FS(0)	1.000	11/16/2020	0.140	0.455	4.55
PFTeDA	376-06-7	1.82 U	G1794-FS(0)	1.000	11/16/2020	0.666	1.82	4.55
NMeFOSAA	2355-31-9	0.909 U	G1794-FS(0)	1.000	11/16/2020	0.318	0.909	4.55
NEtFOSAA	2991-50-6	0.909 U	G1794-FS(0)	1.000	11/16/2020	0.455	0.909	4.55
PFBS	375-73-5	2.45 J	G1794-FS(0)	1.000	11/16/2020	0.131	0.455	4.55
PFHxS	355-46-4	7.28	G1794-FS(0)	1.000	11/16/2020	0.102	0.364	4.55
PFOS	1763-23-1	3.94 J	G1794-FS(0)	1.000	11/16/2020	0.397	0.909	4.55
HFPO-DA	13252-13-6	0.455 U	G1794-FS(0)	1.000	11/16/2020	0.225	0.455	4.55
Adona	919005-14-4	0.909 U	G1794-FS(0)	1.000	11/16/2020	0.241	0.909	4.55
9CI-PF3ONS	756426-58-1	0.455 U	G1794-FS(0)	1.000	11/16/2020	0.244	0.455	4.55
11CI-PF3OUDS	763051-92-9	0.909 U	G1794-FS(0)	1.000	11/16/2020	0.210	0.909	4.55

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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-MW17-1020

Battelle ID G1795-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	5.49	G1795-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-85-9	1.43 J	G1795-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	2.56 J	G1795-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-95-1	1.50 J	G1795-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDoA	307-55-1	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTTrDA	72629-94-8	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1795-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1795-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1795-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	1.72 J	G1795-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	28.0	G1795-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	9.67	G1795-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1795-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9CI-PF3ONS	756426-58-1	0.463 U	G1795-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11CI-PF3OUds	763051-92-9	0.926 U	G1795-FS(0)	1.000	11/16/2020	0.214	0.926	4.63

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2

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

Client ID CBD-AOA-MW17-1020
 Battelle ID G1795-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	99	G1795-FS(0)	11/16/2020
13C4-PFHpA	91	G1795-FS(0)	11/16/2020
13C8-PFOA	94	G1795-FS(0)	11/16/2020
13C9-PFNA	95	G1795-FS(0)	11/16/2020
13C6-PFDA	86	G1795-FS(0)	11/16/2020
13C7-PFUnA	75	G1795-FS(0)	11/16/2020
13C2-PFDoA	57	G1795-FS(0)	11/16/2020
13C2-PFTeDA	23	G1795-FS(0)	11/16/2020
d3-MeFOSAA	77	G1795-FS(0)	11/16/2020
d5-EtFOSAA	69	G1795-FS(0)	11/16/2020
13C3-PFBS	100	G1795-FS(0)	11/16/2020
13C3-PFHxS	104	G1795-FS(0)	11/16/2020
13C8-PFOS	100	G1795-FS(0)	11/16/2020
13C3-HFPO-DA	89	G1795-FS(0)	11/16/2020

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Analyzed by: Griffith, Lauren
 Printed: 11/18/2020



3

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

Client ID CBD-AOA-MW19-1020

Battelle ID G1796-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.275
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	12.1	G1796-FS(0)	1.000	11/16/2020	0.479	1.36	4.55
PFHpA	375-85-9	5.49	G1796-FS(0)	1.000	11/16/2020	0.239	0.909	4.55
PFOA	335-67-1	23.7	G1796-FS(0)	1.000	11/16/2020	0.465	1.36	4.55
PFNA	375-95-1	1.20 J	G1796-FS(0)	1.000	11/16/2020	0.281	0.909	4.55
PFDA	335-76-2	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.129	0.455	4.55
PFUnA	2058-94-8	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.199	0.455	4.55
PFDoA	307-55-1	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.175	0.455	4.55
PFTeDA	72629-94-8	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.140	0.455	4.55
PFTeDA	376-06-7	1.82 U	G1796-FS(0)	1.000	11/16/2020	0.666	1.82	4.55
NMeFOSAA	2355-31-9	0.909 U	G1796-FS(0)	1.000	11/16/2020	0.318	0.909	4.55
NEtFOSAA	2991-50-6	0.909 U	G1796-FS(0)	1.000	11/16/2020	0.455	0.909	4.55
PFBS	375-73-5	1.81 J	G1796-FS(0)	1.000	11/16/2020	0.131	0.455	4.55
PFHxS	355-46-4	59.0	G1796-FS(0)	1.000	11/16/2020	0.102	0.364	4.55
PFOS	1763-23-1	21.1	G1796-FS(0)	1.000	11/16/2020	0.397	0.909	4.55
HFPO-DA	13252-13-6	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.225	0.455	4.55
Adona	919005-14-4	0.909 U	G1796-FS(0)	1.000	11/16/2020	0.241	0.909	4.55
9Cl-PF3ONS	756426-58-1	0.455 U	G1796-FS(0)	1.000	11/16/2020	0.244	0.455	4.55
11Cl-PF3OUdS	763051-92-9	0.909 U	G1796-FS(0)	1.000	11/16/2020	0.210	0.909	4.55

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Analyzed by: Griffith, Lauren
 Printed: 11/18/2020



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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-FB05-102020

Battelle ID G1797-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix AQ
 Sample Size 0.265
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.42 U	G1797-FS(0)	1.000	11/16/2020	0.497	1.42	4.72
PFHpA	375-85-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.248	0.943	4.72
PFOA	335-67-1	1.42 U	G1797-FS(0)	1.000	11/16/2020	0.482	1.42	4.72
PFNA	375-95-1	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.292	0.943	4.72
PFDA	335-76-2	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.134	0.472	4.72
PFUnA	2058-94-8	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.207	0.472	4.72
PFDoA	307-55-1	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.181	0.472	4.72
PFTeDA	72629-94-8	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.145	0.472	4.72
PFTeDA	376-06-7	1.89 U	G1797-FS(0)	1.000	11/16/2020	0.692	1.89	4.72
NMeFOSAA	2355-31-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.330	0.943	4.72
NEtFOSAA	2991-50-6	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.472	0.943	4.72
PFBS	375-73-5	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.136	0.472	4.72
PFHxS	355-46-4	0.377 U	G1797-FS(0)	1.000	11/16/2020	0.106	0.377	4.72
PFOS	1763-23-1	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.412	0.943	4.72
HFPO-DA	13252-13-6	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.234	0.472	4.72
Adona	919005-14-4	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.250	0.943	4.72
9CI-PF3ONS	756426-58-1	0.472 U	G1797-FS(0)	1.000	11/16/2020	0.253	0.472	4.72
11CI-PF3OUds	763051-92-9	0.943 U	G1797-FS(0)	1.000	11/16/2020	0.218	0.943	4.72

0.472 U
 0.377 U

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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-EB01-102020-GW

Battelle ID G1798-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix AQ
 Sample Size 0.265
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.42 U	G1798-FS(0)	1.000	11/16/2020	0.497	1.42	4.72
PFHpA	375-85-9	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.248	0.943	4.72
PFOA	335-67-1	1.42 U	G1798-FS(0)	1.000	11/16/2020	0.482	1.42	4.72
PFNA	375-95-1	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.292	0.943	4.72
PFDA	335-76-2	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.134	0.472	4.72
PFUnA	2058-94-8	0.266 J	G1798-FS(0)	1.000	11/16/2020	0.207	0.472	4.72
PFDoA	307-55-1	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.181	0.472	4.72
PFTtDA	72629-94-8	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.145	0.472	4.72
PFTeDA	376-06-7	1.89 U	G1798-FS(0)	1.000	11/16/2020	0.692	1.89	4.72
NMeFOSAA	2355-31-9	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.330	0.943	4.72
NEtFOSAA	2991-50-6	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.472	0.943	4.72
PFBS	375-73-5	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.136	0.472	4.72
PFHxS	355-46-4	0.377 U	G1798-FS(0)	1.000	11/16/2020	0.106	0.377	4.72
PFOS	1763-23-1	2.39 U	G1798-FS(0)	1.000	11/16/2020	0.412	0.943	4.72
HFPO-DA	13252-13-6	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.234	0.472	4.72
Adona	919005-14-4	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.250	0.943	4.72
9CI-PF3ONS	756426-58-1	0.472 U	G1798-FS(0)	1.000	11/16/2020	0.253	0.472	4.72
11CI-PF3OUdS	763051-92-9	0.943 U	G1798-FS(0)	1.000	11/16/2020	0.218	0.943	4.72

0.472 U
 0.377 U

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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-BKG-MW01-1020

Battelle ID G1799-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.74 J	G1799-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-83-9	0.506 J	G1799-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	1.40 J	G1799-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-93-1	0.926 U	G1799-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1799-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.243 U	G1799-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDoA	307-55-1	0.463 U	G1799-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTtDA	72629-94-8	0.463 U	G1799-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1799-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1799-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1799-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	1.19 U	G1799-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	13.5	G1799-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	10.8	G1799-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1799-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1799-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9Cl-PF3ONS	756426-58-1	0.463 U	G1799-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11Cl-PF3OUdS	763051-92-9	0.926 U	G1799-FS(0)	1.000	11/16/2020	0.214	0.926	4.63

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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-BKG-MW02-1020

Battelle ID G1800-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.39 U	G1800-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-85-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	0.988 J	G1800-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-95-1	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDoA	307-55-1	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTeDA	72829-94-8	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1800-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	0.999 U	G1800-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	17.5	G1800-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	2.25 U	G1800-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9Cl-PF3ONS	756426-58-1	0.463 U	G1800-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11Cl-PF3OUdS	763051-92-9	0.926 U	G1800-FS(0)	1.000	11/16/2020	0.214	0.926	4.63

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Analyzed by: Griffith, Lauren
 Printed: 11/18/2020



8

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

Client ID CBD-SO3-MW02-1020

Battelle ID G1801-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.250
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	69.7	G1801-FS(0)	1.000	11/16/2020	0.527	1.50	5.00
PFHpA	379-85-9	40.6	G1801-FS(0)	1.000	11/16/2020	0.263	1.00	3.00
PFOA	335-67-1	94.2	G1801-FS(0)	1.000	11/16/2020	0.511	1.50	5.00
PFNA	375-95-1	60.7	G1801-FS(0)	1.000	11/16/2020	0.309	1.00	5.00
PFDA	335-76-2	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.142	0.500	5.00
PFUnA	2058-94-8	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.219	0.500	5.00
PFDoA	307-55-1	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.192	0.500	5.00
PFTeDA	72829-94-8	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.154	0.500	5.00
PFTeDA	376-06-7	2.00 U	G1801-FS(0)	1.000	11/16/2020	0.733	2.00	5.00
NMeFOSAA	2355-31-9	1.00 U	G1801-FS(0)	1.000	11/16/2020	0.350	1.00	5.00
NEtFOSAA	2991-50-6	1.00 U	G1801-FS(0)	1.000	11/16/2020	0.500	1.00	5.00
PFBS	375-73-5	10.1	G1801-FS(0)	1.000	11/16/2020	0.144	0.500	5.00
PFHxS	355-46-4	252	G1801-FS-D(3)	12.500	11/17/2020	1.40	5.00	62.5
PFOS	1763-23-1	323	G1801-FS-D(3)	12.500	11/17/2020	5.46	12.5	62.5
HFPO-DA	13252-13-6	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.248	0.500	5.00
Adona	919005-14-4	1.00 U	G1801-FS(0)	1.000	11/16/2020	0.265	1.00	5.00
9CI-PF3ONS	756426-58-1	0.500 U	G1801-FS(0)	1.000	11/16/2020	0.268	0.500	5.00
11CI-PF3OUDS	763051-92-9	1.00 U	G1801-FS(0)	1.000	11/16/2020	0.231	1.00	5.00

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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-SO3-MW02-1020
 Battelle ID G1801-FS
 Sample Type SA
 Collection Date 10/20/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sclex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	87	G1801-FS(0)	11/16/2020
13C4-PFHpA	87	G1801-FS(0)	11/16/2020
13C8-PFOA	85	G1801-FS(0)	11/16/2020
13C9-PFNA	82	G1801-FS(0)	11/16/2020
13C6-PFDA	79	G1801-FS(0)	11/16/2020
13C7-PFUnA	79	G1801-FS(0)	11/16/2020
13C2-PFDoA	72	G1801-FS(0)	11/16/2020
13C2-PFTeDA	46	G1801-FS(0)	11/16/2020
d3-MeFOSAA	89	G1801-FS-D(3)	11/17/2020
d5-EtFOSAA	98	G1801-FS-D(3)	11/17/2020
13C3-PFBS	96	G1801-FS-D(3)	11/17/2020
13C3-PFHxS	97	G1801-FS-D(3)	11/17/2020
13C8-PFOS	96	G1801-FS-D(3)	11/17/2020
13C3-HFPO-DA	83	G1801-FS(0)	11/16/2020

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Analyzed by: Griffith, Lauren
 Printed: 11/18/2020



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

Client ID CBD-AOA-MW09-1020

Battelle ID G1802-FS
 Sample Type SA
 Collection Date 10/21/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.270
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	8.96	G1802-FS(0)	1.000	11/16/2020	0.488	1.39	4.63
PFHpA	375-85-9	2.01 J	G1802-FS(0)	1.000	11/16/2020	0.244	0.926	4.63
PFOA	335-67-1	9.05	G1802-FS(0)	1.000	11/16/2020	0.473	1.39	4.63
PFNA	375-95-1	0.440 J	G1802-FS(0)	1.000	11/16/2020	0.286	0.926	4.63
PFDA	335-76-2	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.131	0.463	4.63
PFUnA	2058-94-8	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.203	0.463	4.63
PFDoA	307-55-1	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.178	0.463	4.63
PFTrDA	72629-94-8	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.143	0.463	4.63
PFTeDA	376-06-7	1.85 U	G1802-FS(0)	1.000	11/16/2020	0.679	1.85	4.63
NMeFOSAA	2355-31-9	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.324	0.926	4.63
NEtFOSAA	2991-50-6	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.463	0.926	4.63
PFBS	375-73-5	1.88 J	G1802-FS(0)	1.000	11/16/2020	0.133	0.463	4.63
PFHxS	355-46-4	75.1	G1802-FS(0)	1.000	11/16/2020	0.104	0.370	4.63
PFOS	1763-23-1	15.6	G1802-FS(0)	1.000	11/16/2020	0.405	0.926	4.63
HFPO-DA	13252-13-6	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.230	0.463	4.63
Adona	919005-14-4	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.245	0.926	4.63
9CI-PF3ONS	756426-58-1	0.463 U	G1802-FS(0)	1.000	11/16/2020	0.248	0.463	4.63
11CI-PF3OUdS	763051-92-9	0.926 U	G1802-FS(0)	1.000	11/16/2020	0.214	0.926	4.63

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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-MW09-1020

Battelle ID G1802-FS

Sample Type	SA
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Collection Date 10/21/2020

Extraction Date	10/23/2020
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Analytical Instrument Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	86	G1802-FS(0)	11/16/2020
13C4-PFHpA	85	G1802-FS(0)	11/16/2020
13C8-PFOA	87	G1802-FS(0)	11/16/2020
13C9-PFNA	78	G1802-FS(0)	11/16/2020
13C6-PFDA	78	G1802-FS(0)	11/16/2020
13C7-PFUnA	65	G1802-FS(0)	11/16/2020
13C2-PFOoA	58	G1802-FS(0)	11/16/2020
13C2-PFtDA	13	G1802-FS(0)	11/16/2020
d3-MeFOSAA	63	G1802-FS(0)	11/16/2020
d5-EtFOSAA	67	G1802-FS(0)	11/16/2020
13C3-PFBS	88	G1802-FS(0)	11/16/2020
13C3-PFHxS	92	G1802-FS(0)	11/16/2020
13C8-PFOS	87	G1802-FS(0)	11/16/2020
13C3-HFPO-DA	80	G1802-FS(0)	11/16/2020

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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-MW05-1020

Battelle ID G1803-FS
 Sample Type SA
 Collection Date 10/21/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix GW
 Sample Size 0.265
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	0.828 J	G1803-FS(0)	1.000	11/17/2020	0.497	1.42	4.72
PFHpA	375-85-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.248	0.943	4.72
PFOA	335-67-1	1.42 U	G1803-FS(0)	1.000	11/17/2020	0.482	1.42	4.72
PFNA	375-95-1	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.292	0.943	4.72
PFDA	335-76-2	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.134	0.472	4.72
PFUnA	2058-94-8	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.207	0.472	4.72
PFDoA	307-55-1	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.181	0.472	4.72
PFTeDA	72829-94-8	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.145	0.472	4.72
PFTeDA	376-06-7	1.89 U	G1803-FS(0)	1.000	11/17/2020	0.692	1.89	4.72
NMeFOSAA	2355-31-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.330	0.943	4.72
NEtFOSAA	2991-50-6	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.472	0.943	4.72
PFBS	375-73-5	0.933 U	G1803-FS(0)	1.000	11/17/2020	0.136	0.472	4.72
PFHxS	355-46-4	3.51 J	G1803-FS(0)	1.000	11/17/2020	0.106	0.377	4.72
PFOS	1763-23-1	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.412	0.943	4.72
HFPO-DA	13252-13-6	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.234	0.472	4.72
Adona	919005-14-4	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.250	0.943	4.72
9Cl-PF3ONS	756426-58-1	0.472 U	G1803-FS(0)	1.000	11/17/2020	0.253	0.472	4.72
11Cl-PF3OUds	763051-92-9	0.943 U	G1803-FS(0)	1.000	11/17/2020	0.218	0.943	4.72

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 Printed: 11/18/2020



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

Client ID CBD-AOA-EB01-102120-GW

Battelle ID G1804-FS
 Sample Type SA
 Collection Date 10/21/2020
 Extraction Date 10/23/2020
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS
 % Moisture NA
 Matrix AQ
 Sample Size 0.245
 Size Unit-Basis L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.53 U	G1804-FS(0)	1.000	11/16/2020	0.538	1.53	5.10
PFHpA	375-85-9	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.268	1.02	5.10
PFOA	335-67-1	1.53 U	G1804-FS(0)	1.000	11/16/2020	0.521	1.53	5.10
PFNA	375-95-1	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.315	1.02	5.10
PFDA	335-76-2	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.145	0.510	5.10
PFUnA	2058-94-8	0.284 J	G1804-FS(0)	1.000	11/16/2020	0.223	0.510	5.10
PFDoA	307-55-1	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.196	0.510	5.10
PFTTrDA	72629-94-8	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.157	0.510	5.10
PFTeDA	376-06-7	2.04 U	G1804-FS(0)	1.000	11/16/2020	0.748	2.04	5.10
NMeFOSAA	2355-31-9	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.357	1.02	5.10
NEtFOSAA	2991-50-6	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.510	1.02	5.10
PFBS	375-73-5	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.147	0.510	5.10
PFHxS	355-46-4	0.408 U	G1804-FS(0)	1.000	11/16/2020	0.114	0.408	5.10
PFOS	1763-23-1	4.76 U	G1804-FS(0)	1.000	11/16/2020	0.446	1.02	5.10
HFPO-DA	13252-13-6	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.253	0.510	5.10
Adona	919005-14-4	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.270	1.02	5.10
9CI-PF3ONS	756426-58-1	0.510 U	G1804-FS(0)	1.000	11/16/2020	0.273	0.510	5.10
11CI-PF3OUds	763051-92-9	1.02 U	G1804-FS(0)	1.000	11/16/2020	0.236	1.02	5.10

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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
		CHESAPEAKE_BEACH_NRL			20-1329			Perfluoroalkyl Compounds	CBD-AOA-EB01-102020-GW	WQ	Water for QC samples	20-Oct-20
		CHESAPEAKE_BEACH_NRL			20-1329			Perfluoroalkyl Compounds	CBD-AOA-EB01-102120-GW	WQ	Water for QC samples	21-Oct-20
		CHESAPEAKE_BEACH_NRL			20-1329			Perfluoroalkyl Compounds	CBD-AOA-FB05-102020	WQ	Water for QC samples	20-Oct-20
CBD-AOA-MW05	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1445593.6	362627.8	Perfluoroalkyl Compounds	CBD-AOA-MW05-1020	WG	Ground water	21-Oct-20
CBD-AOA-MW07	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1446020.4	362145.5	Perfluoroalkyl Compounds	CBD-AOA-MW07-1020	WG	Ground water	20-Oct-20
CBD-AOA-MW09	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1446109.5	361232	Perfluoroalkyl Compounds	CBD-AOA-MW09-1020	WG	Ground water	21-Oct-20
CBD-AOA-MW17	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1445305.3	362203.2	Perfluoroalkyl Compounds	CBD-AOA-MW17-1020	WG	Ground water	20-Oct-20
CBD-AOA-MW19	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1446186.5	361682.2	Perfluoroalkyl Compounds	CBD-AOA-MW19-1020	WG	Ground water	20-Oct-20
CBD-BKG-MW01	BACKGROU ND	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1444453.2	362084.3	Perfluoroalkyl Compounds	CBD-BKG-MW01-1020	WG	Ground water	20-Oct-20
CBD-BKG-MW02	BACKGROU ND	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1444545.5	361458.8	Perfluoroalkyl Compounds	CBD-BKG-MW02-1020	WG	Ground water	20-Oct-20
CBD-S03-MW02	SITE 00003	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1329	1445432.3	361200	Perfluoroalkyl Compounds	CBD-S03-MW02-1020	WG	Ground water	20-Oct-20