



**Groundwater Sample Results,  
Level 4 Laboratory Report, Electronic Data  
Deliverable, Data Validation Report, Sample Location  
Report, SDG 20-1511**

*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**

*GW*

*Batch 20-1511*

*Package DP-20-1388*

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  
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PFAS by DoD QSM 5.3 Table B-15  
GW  
Batch 20-1511  
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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: 2020.11.19  
17:42:21 -05'00'


QC Chemist Approval:



  
Digitally signed by Carla Devine  
Date: 2020.11.20 11:07:57 -05'00'

Project Manager Approval:



  
Digitally signed by Jonathan Thorn  
Date: 2020.11.20 11:24:06 -05'00'

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

## Project No 100142218

### PFAS by DoD QSM 5.3 Table B-15

GW

*Batch 20-1511*


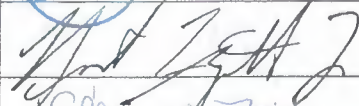






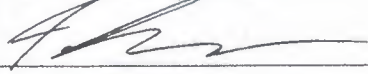





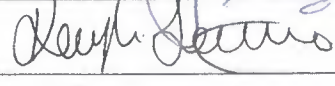
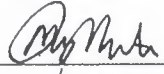
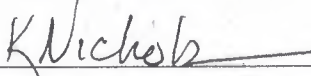

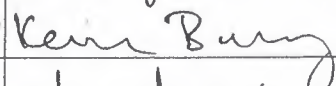
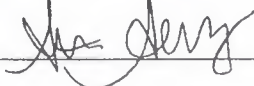
*Package DP-20-1388*

<b>1</b>	<b><i>Work Plan</i></b> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	<b>1</b>
<b>2</b>	<b><i>Tables</i></b> Analytical Data Tables, Qualifier Definitions.	<b>24</b>
<b>3</b>	<b><i>Miscellaneous Documentation</i></b> Case Narrative, Miscellaneous Documentation Form, Quality Control Summary, Example Calculations, Internal Standard Recovery Report, Retention Time Window Report.	<b>40</b>
<b>4</b>	<b><i>Sample Preparation Records</i></b> Sample Preparation Records, Dilution Worksheets, Standard Preparation Records, Certificates Of Analysis, GPC Check Report.	<b>176</b>
<b>5</b>	<b><i>Analytical Calibrations</i></b> Analytical Sequence, Analytical Method, Tune Report, Initial Calibration, Pesticide Degradation Report, RF Summary, Calibration Verifications, Independent Calibration Verification Check.	<b>191</b>
<b>6</b>	<b><i>Analytical Data</i></b> Raw Data Quantification Reports.	<b>277</b>
<b>7</b>	<b><i>Chromatograms</i></b> Sample And Standard Chromatograms.	<b>294</b>
<b>8</b>	<b><i>Unused Data</i></b>	<b>349</b>

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## Master Signature Page

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



### Sample Summary

Client: CH2M  
SDG: 20-1511  
Project/Site: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10  
CTO: 4532

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Receipt Date
DB450PB-FS	Procedural Blank	WATER	11/18/2020	11/18/2020
DB451LCS-FS	Laboratory Control Sample	WATER	11/18/2020	11/18/2020
G1795-FS1	CBD-AOA-MW17-1020	GW	10/20/2020	10/22/2020
G1801-FS1	CBD-SO3-MW02-1020	GW	10/20/2020	10/22/2020
G1802-FS1	CBD-AOA-MW09-1020	GW	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:	<b>5-370-11</b>
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)			



## WORK/QUALITY ASSURANCE PROJECT PLAN

**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

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

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

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



It can be done

## 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 <sup>2</sup> + 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

<b>MQO Application:</b> <i>Universal_LC</i>			
<b>MQO:</b>	<b>Acceptance Criteria:</b>	<b>Qual:</b>	<b>Corrective Action:</b>
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

<b>MQO Application:</b>		<i>Universal_LC</i>	
<b>MQO:</b>	<b>Acceptance Criteria:</b>	<b>Qual:</b>	<b>Corrective Action:</b>
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	Smps
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





### Chain-of-Custody

<b>Client Contact Information</b> Mike Zamboni michael.zamboni@jacobs.com CH2M Jacobs		<b>Project Manager:</b> Caitlin Dronfield Phone: (703) 376-5097 Email: caitlin.dronfield@jacobs.com		<b>Sampling Site:</b> Site 10 (FTA)		<b>Site Information:</b> NRL CBD	
<b>Project Name:</b> Site 10 SI		Normal <input checked="" type="checkbox"/> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>		Turnaround Time (TAT) Requested:		COC #	
<b>Project No.:</b> 708207CH		Time Zone: ET		Preservative: none		Page# 1 of 1	
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: FEAS
CBD-AAA-MW07-1020		10/20/20	1550	Grab	GW	2	X
CBD-AAA-MW06-1020						2	X
CBD-AAA-MW17-1020			1545			2	X
CBD-AAA-MW19-1020			1345			2	X
CBA-AAA-FB05-102020			1240		AQ	2	X
CBA-AAA-EB01-102020-GW			1620		AQ	2	X
CBD-AAA-MW09-1020					GW	2	X
CBD-BKG-MW01-1020			1420			2	X
CBD-BKG-MW02-1020			1525			2	X
CBD-S03-MW02-1020			1200			2	X
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 [Signature]	
Relinquished by (Print/Sign) Craig Myers		Company: AEL		Date/Time: 10/21/2020 1140		Received by (Print/Sign) Brenton Murphy	
Relinquished by (Print/Sign)		Company:		Date/Time:		Received by (Print/Sign)	
Date/Time: 10/21/2020 08:45		Date/Time: 10/22/2020 10:00		Company: AEL		Company: BNO	
Comments:							

Page 1 of 1

ORIGIN ID:NRBA (904) 363-9350  
CRAIG MYERS  
AEL  
8681 SOUTHPOINT PARKWAY

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

JACKSONVILLE, FL 32216  
UNITED STATES US

BILL THIRD PARTY

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

1.4  
Therm. 2

55BL02/M27EB765

(781) 681-5565  
INV  
PO

REF 708207CH.F1FK  
DEPT:



FedEx  
Express

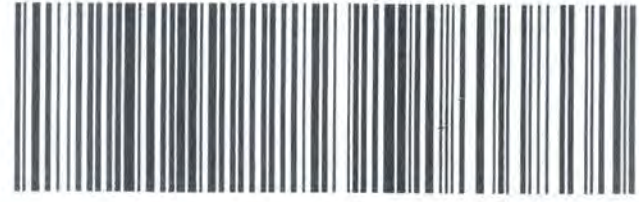


THU - 22 OCT 10:30A  
PRIORITY OVERNIGHT

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: 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: 771814660149COC 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.: UnknownStorage Location: Custody: Refrigerator - R0118 (NA)BDO IDs Assigned: G1802 - G1804Samples 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-201022-02

Battelle Project No: \_\_\_\_\_

Sample Receipt Form Details

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**

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: CH2M / Jacobs						LAB ANALYSIS												Requested Turnaround Time			
Address: Mike Zamboni / michael.zamboni@jacobs.com						Pres Codes													Field Filtered (Y/N)	Note: Rush requests subject to acceptance by the laboratory	
City: _____ State: _____ Zip: _____							Parameters													Due ___/___/___	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Expedited
Sampling Site Address: NRL CBD Site 10						PEAS															Comments
Attn: _____ Email: _____																					
Project Name: Site 10 SI Project # 708207CH																					
Sampler Name/Signature: Carlin Drontfeld																					
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont																
1	CBD-AOA-NW09-1020	10/21/20	0935	GW	2	X															
2	CBD-AOA-MW05-1020		1025	GW	2	X															
3	CBD-AOA <sup>CEBOI</sup> -102120-GW		1035	AQ	2	X												Equipment Blank - Monsoon			
4																					
5																					
6																					
7																					
8																					
9																					
0																					

Matrix Codes*				Pres Codes		Relinquished by		Date	Time	Received by		Date	Time
S	Soil/Solid Sediment	SW	Surface Water	A- none	I- Ice			10/21/20	1400			10/22/20	10:00
GW	Ground Water	SL	Sludge	B- HNO <sub>3</sub>	O- Other								
WW	Waste Water	O	Other (Please Specify)	C- H <sub>2</sub> SO <sub>4</sub>	M- MeOH								
DW	Drinking Water			D- NaOH	N- Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>								
				E- HCl	Z- ZnAc								
QA/QC level with report None ___ 1 ___ 2 ___ 3 ___ See price guide for applicable fees													
FDEP Dry Cleaning <input type="checkbox"/> FDEP UST Pre-Approval <input type="checkbox"/>				Temp Control:									
SFWMD <input type="checkbox"/> ADaPT <input type="checkbox"/> DOT <input type="checkbox"/>				_____ °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**

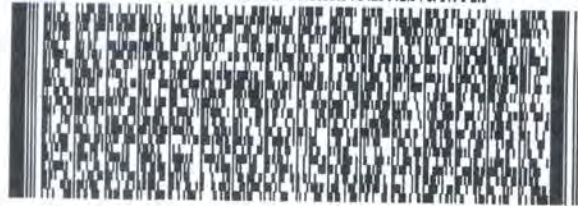
*0.3 therm. 2*

568J2/A27E/B766

(781) 681-5565  
INV  
PO:

REF: 708207CH.FLFS

DEPT:



FRI - 16 OCT 10:30A

PRIORITY OVERNIGHT

TRK# 7718 1466 0149  
0201

**EM XPUA**

02061  
MA-US BOS



# Data Tables



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-FS1  
 Sample Type: SA  
 Collection Date: 10/20/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS  
 % Moisture: NA  
 Matrix: GW  
 Sample Size: 0.235  
 Size Unit-Basis: L

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	9.16 T	G1795-FS1(0)	1.000	11/19/2020	0.561	1.60	5.32
PFHpA	375-85-9	3.10 JT	G1795-FS1(0)	1.000	11/19/2020	0.280	1.06	5.32
PFOA	335-67-1	4.40 JT	G1795-FS1(0)	1.000	11/19/2020	0.544	1.60	5.32
PFNA	375-95-1	2.30 JT	G1795-FS1(0)	1.000	11/19/2020	0.329	1.06	5.32
PFDA	335-76-2	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.151	0.532	5.32
PFUnA	2058-94-8	0.484 JT	G1795-FS1(0)	1.000	11/19/2020	0.233	0.532	5.32
PFDoA	307-55-1	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.204	0.532	5.32
PFTTrDA	72629-94-8	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.164	0.532	5.32
PFTeDA	376-06-7	2.13 UT	G1795-FS1(0)	1.000	11/19/2020	0.780	2.13	5.32
NMeFOSAA	2355-31-9	1.06 UT	G1795-FS1(0)	1.000	11/19/2020	0.372	1.06	5.32
NEtFOSAA	2991-50-6	1.06 UT	G1795-FS1(0)	1.000	11/19/2020	0.532	1.06	5.32
PFBS	375-73-5	1.79 JT	G1795-FS1(0)	1.000	11/19/2020	0.153	0.532	5.32
PFHxS	355-46-4	38.1 T	G1795-FS1(0)	1.000	11/19/2020	0.119	0.426	5.32
PFOS	1763-23-1	10.1 T	G1795-FS1(0)	1.000	11/19/2020	0.465	1.06	5.32
HFPO-DA	13252-13-6	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.264	0.532	5.32
Adona	919005-14-4	1.06 UT	G1795-FS1(0)	1.000	11/19/2020	0.282	1.06	5.32
9CI-PF3ONS	756426-58-1	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.285	0.532	5.32
11Cl-PF3OUdS	763051-92-9	1.06 UT	G1795-FS1(0)	1.000	11/19/2020	0.246	1.06	5.32







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-FS1  
 Sample Type SA  
 Collection Date 10/20/2020  
 Extraction Date 11/18/2020  
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS  
 % Moisture NA  
 Matrix GW  
 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	85.3 T	G1801-FS1(0)	1.000	11/19/2020	0.507	1.44	4.81
PFHpA	375-85-9	46.6 T	G1801-FS1(0)	1.000	11/19/2020	0.253	0.962	4.81
PFOA	335-67-1	102 T	G1801-FS1(0)	1.000	11/19/2020	0.491	1.44	4.81
PFNA	375-95-1	70.1 T	G1801-FS1(0)	1.000	11/19/2020	0.297	0.962	4.81
PFDA	335-76-2	0.481 UT	G1801-FS1(0)	1.000	11/19/2020	0.137	0.481	4.81
PFUnA	2058-94-8	0.500 JT	G1801-FS1(0)	1.000	11/19/2020	0.211	0.481	4.81
PFDoA	307-55-1	0.481 UT	G1801-FS1(0)	1.000	11/19/2020	0.185	0.481	4.81
PFTrDA	72629-94-8	0.481 UT	G1801-FS1(0)	1.000	11/19/2020	0.148	0.481	4.81
PFTeDA	376-06-7	1.92 UT	G1801-FS1(0)	1.000	11/19/2020	0.705	1.92	4.81
NMeFOSAA	2355-31-9	0.962 UT	G1801-FS1(0)	1.000	11/19/2020	0.337	0.962	4.81
NEtFOSAA	2991-50-6	0.962 UT	G1801-FS1(0)	1.000	11/19/2020	0.481	0.962	4.81
PFBS	375-73-5	10.4 T	G1801-FS1(0)	1.000	11/19/2020	0.138	0.481	4.81
PFHxS	355-46-4	340 TD	G1801-FS1-D(3)	12.500	11/19/2020	1.35	4.81	60.1
PFOS	1763-23-1	452 TD	G1801-FS1-D(3)	12.500	11/19/2020	5.25	12.0	60.1
HFPO-DA	13252-13-6	0.481 UT	G1801-FS1(0)	1.000	11/19/2020	0.238	0.481	4.81
Adona	919005-14-4	0.962 UT	G1801-FS1(0)	1.000	11/19/2020	0.255	0.962	4.81
9Cl-PF3ONS	756426-58-1	0.481 UT	G1801-FS1(0)	1.000	11/19/2020	0.258	0.481	4.81
11Cl-PF3OUdS	763051-92-9	0.962 UT	G1801-FS1(0)	1.000	11/19/2020	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 CBD-SO3-MW02-1020

Battelle ID G1801-FS1  
Sample Type SA  
Collection Date 10/20/2020  
Extraction Date 11/18/2020  
Analytical Instrument Sciex 5500 (AC) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	<b>Recovery</b>	<b>Extract ID</b>	<b>Analysis Date</b>
13C5-PFHxA	72	G1801-FS1(0)	11/19/2020
13C4-PFHpA	75	G1801-FS1(0)	11/19/2020
13C8-PFOA	74	G1801-FS1(0)	11/19/2020
13C9-PFNA	67	G1801-FS1(0)	11/19/2020
13C6-PFDA	70	G1801-FS1(0)	11/19/2020
13C7-PFUnA	61	G1801-FS1(0)	11/19/2020
13C2-PFDoA	43 N	G1801-FS1(0)	11/19/2020
13C2-PFTeDA	17 N	G1801-FS1(0)	11/19/2020
d3-MeFOSAA	99 D	G1801-FS1-D(3)	11/19/2020
d5-EtFOSAA	98 D	G1801-FS1-D(3)	11/19/2020
13C3-PFBS	100 D	G1801-FS1-D(3)	11/19/2020
13C3-PFHxS	94 D	G1801-FS1-D(3)	11/19/2020
13C8-PFOS	95 D	G1801-FS1-D(3)	11/19/2020
13C3-HFPO-DA	70	G1801-FS1(0)	11/19/2020



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-FS1  
 Sample Type SA  
 Collection Date 10/21/2020  
 Extraction Date 11/18/2020  
 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	10.5 T	G1802-FS1(0)	1.000	11/19/2020	0.479	1.36	4.55
PFHpA	375-85-9	2.68 JT	G1802-FS1(0)	1.000	11/19/2020	0.239	0.909	4.55
PFOA	335-67-1	8.08 T	G1802-FS1(0)	1.000	11/19/2020	0.465	1.36	4.55
PFNA	375-95-1	0.383 JT	G1802-FS1(0)	1.000	11/19/2020	0.281	0.909	4.55
PFDA	335-76-2	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.129	0.455	4.55
PFUnA	2058-94-8	0.294 JT	G1802-FS1(0)	1.000	11/19/2020	0.199	0.455	4.55
PFDoA	307-55-1	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.175	0.455	4.55
PFTTrDA	72629-94-8	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.140	0.455	4.55
PFTeDA	376-06-7	1.82 UT	G1802-FS1(0)	1.000	11/19/2020	0.666	1.82	4.55
NMeFOSAA	2355-31-9	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.318	0.909	4.55
NEtFOSAA	2991-50-6	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.455	0.909	4.55
PFBS	375-73-5	1.85 JT	G1802-FS1(0)	1.000	11/19/2020	0.131	0.455	4.55
PFHxS	355-46-4	95.2 T	G1802-FS1(0)	1.000	11/19/2020	0.102	0.364	4.55
PFOS	1763-23-1	11.8 T	G1802-FS1(0)	1.000	11/19/2020	0.397	0.909	4.55
HFPO-DA	13252-13-6	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.225	0.455	4.55
Adona	919005-14-4	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.241	0.909	4.55
9Cl-PF3ONS	756426-58-1	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.244	0.455	4.55
11Cl-PF3OUdS	763051-92-9	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.210	0.909	4.55



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-FS1  
 Sample Type: SA  
 Collection Date: 10/21/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	<b>Recovery</b>	<b>Extract ID</b>	<b>Analysis Date</b>
13C5-PFHxA	96	G1802-FS1(0)	11/19/2020
13C4-PFHpA	92	G1802-FS1(0)	11/19/2020
13C8-PFOA	95	G1802-FS1(0)	11/19/2020
13C9-PFNA	93	G1802-FS1(0)	11/19/2020
13C6-PFDA	86	G1802-FS1(0)	11/19/2020
13C7-PFUnA	69	G1802-FS1(0)	11/19/2020
13C2-PFDoA	50	G1802-FS1(0)	11/19/2020
13C2-PFTEdA	19 N	G1802-FS1(0)	11/19/2020
d3-MeFOSAA	78	G1802-FS1(0)	11/19/2020
d5-EtFOSAA	71	G1802-FS1(0)	11/19/2020
13C3-PFBS	102	G1802-FS1(0)	11/19/2020
13C3-PFHxS	96	G1802-FS1(0)	11/19/2020
13C8-PFOS	97	G1802-FS1(0)	11/19/2020
13C3-HFPO-DA	87	G1802-FS1(0)	11/19/2020



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
9Cl-PF3ONS	756426-58-1	0.500 U	0.268	0.500	5.00
11Cl-PF3OUdS	763051-92-9	0.250 J	0.231	1.00	5.00

Analyzed by: Griffith, Lauren

Printed: 11/20/2020

Isotope Dilution

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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



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\_11/18/2020

Sample Type IB

Collection Date NA

Extraction Date NA

Analysis Date 11/18/2020

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	0.256 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	0.161 J	0.144	0.500	5.00
PFHxS	355-46-4	0.400 U	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
9Cl-PF3ONS	756426-58-1	0.500 U	0.268	0.500	5.00
11Cl-PF3OUdS	763051-92-9	1.00 U	0.231	1.00	5.00

Analyzed by: Griffith, Lauren

Printed: 11/20/2020

Isotope Dilution

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**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_11/18/2020
Sample Type	IB
Collection Date	NA
Extraction Date	NA
Analysis Date	11/18/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS
% Moisture	NA
Matrix	Water
Sample Size	0.250
Size Unit-Basis	L

**Surrogate Recoveries (%)**

13C5-PFHxA	95
13C4-PFHpA	111
13C8-PFOA	99
13C9-PFNA	90
13C6-PFDA	97
13C7-PFUnA	105
13C2-PFDoA	96
13C2-PFTeDA	107
d3-MeFOSAA	103
d5-EtFOSAA	109
13C3-PFBS	109
13C3-PFHxS	109
13C8-PFOS	109
13C3-HFPO-DA	95



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

Client ID Procedural Blank

Battelle ID DB450PB-FS  
 Sample Type PB  
 Collection Date 11/18/2020  
 Extraction Date 11/18/2020  
 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)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	1.50 U	DB450PB-FS(0)	1.000	11/19/2020	0.527	1.50	5.00
PFHpA	375-85-9	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.263	1.00	5.00
PFOA	335-67-1	1.50 U	DB450PB-FS(0)	1.000	11/19/2020	0.511	1.50	5.00
PFNA	375-95-1	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.309	1.00	5.00
PFDA	335-76-2	0.500 U	DB450PB-FS(0)	1.000	11/19/2020	0.142	0.500	5.00
PFUnA	2058-94-8	0.252 J	DB450PB-FS(0)	1.000	11/19/2020	0.219	0.500	5.00
PFDoA	307-55-1	0.500 U	DB450PB-FS(0)	1.000	11/19/2020	0.192	0.500	5.00
PFTTrDA	72629-94-8	0.500 U	DB450PB-FS(0)	1.000	11/19/2020	0.154	0.500	5.00
PFTeDA	376-06-7	2.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.733	2.00	5.00
NMeFOSAA	2355-31-9	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.350	1.00	5.00
NEtFOSAA	2991-50-6	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.500	1.00	5.00
PFBS	375-73-5	0.173 J	DB450PB-FS(0)	1.000	11/19/2020	0.144	0.500	5.00
PFHxS	355-46-4	0.400 U	DB450PB-FS(0)	1.000	11/19/2020	0.112	0.400	5.00
PFOS	1763-23-1	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.437	1.00	5.00
HFPO-DA	13252-13-6	0.500 U	DB450PB-FS(0)	1.000	11/19/2020	0.248	0.500	5.00
Adona	919005-14-4	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.265	1.00	5.00
9Cl-PF3ONS	756426-58-1	0.500 U	DB450PB-FS(0)	1.000	11/19/2020	0.268	0.500	5.00
11Cl-PF3OUdS	763051-92-9	1.00 U	DB450PB-FS(0)	1.000	11/19/2020	0.231	1.00	5.00





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 DB451LCS-FS  
 Sample Type LCS  
 Collection Date 11/18/2020  
 Extraction Date 11/18/2020  
 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)	Extract ID	DF	Analysis Date	Target	Recovery	Qual	Control Limits	
									Lower	Upper
PFHxA	307-24-4	32.5	DB451LCS-FS(0)	1.000	11/19/2020	40.4	80		72	129
PFHpA	375-85-9	31.0	DB451LCS-FS(0)	1.000	11/19/2020	40.0	78		72	130
PFOA	335-67-1	36.7	DB451LCS-FS(0)	1.000	11/19/2020	40.0	92		71	133
PFNA	375-95-1	38.5	DB451LCS-FS(0)	1.000	11/19/2020	40.0	96		69	130
PFDA	335-76-2	35.4	DB451LCS-FS(0)	1.000	11/19/2020	40.0	89		71	129
PFUnA	2058-94-8	30.7	DB451LCS-FS(0)	1.000	11/19/2020	40.0	77		69	133
PFDoA	307-55-1	34.3	DB451LCS-FS(0)	1.000	11/19/2020	40.0	86		72	134
PFTTrDA	72629-94-8	39.9	DB451LCS-FS(0)	1.000	11/19/2020	40.0	100		65	144
PFTeDA	376-06-7	36.0	DB451LCS-FS(0)	1.000	11/19/2020	40.0	90		71	132
NMeFOSAA	2355-31-9	28.9	DB451LCS-FS(0)	1.000	11/19/2020	40.0	72		65	136
NEtFOSAA	2991-50-6	37.3	DB451LCS-FS(0)	1.000	11/19/2020	40.0	93		61	135
PFBS	375-73-5	32.8	DB451LCS-FS(0)	1.000	11/19/2020	40.0	82		72	130
PFHxS	355-46-4	40.0	DB451LCS-FS(0)	1.000	11/19/2020	40.4	99		68	131
PFOS	1763-23-1	32.3	DB451LCS-FS(0)	1.000	11/19/2020	40.4	80		65	140
HFPO-DA	13252-13-6	32.2	DB451LCS-FS(0)	1.000	11/19/2020	40.0	81		74	148
Adona	919005-14-4	39.8	DB451LCS-FS(0)	1.000	11/19/2020	40.0	100		61	143
9CI-PF3ONS	756426-58-1	41.4	DB451LCS-FS(0)	1.000	11/19/2020	40.0	104		52	158
11CI-PF3OUdS	763051-92-9	36.4	DB451LCS-FS(0)	1.000	11/19/2020	40.0	91		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	DB451LCS-FS
Sample Type	LCS
Collection Date	11/18/2020
Extraction Date	11/18/2020
Analytical Instrument	Sciex 5500 (AC) LC/MS/MS

<i>Surrogate Recoveries (%)</i>	<b>Recovery</b>	<b>Extract ID</b>	<b>Analysis Date</b>
13C5-PFHxA	99	DB451LCS-FS(0)	11/19/2020
13C4-PFHpA	103	DB451LCS-FS(0)	11/19/2020
13C8-PFOA	88	DB451LCS-FS(0)	11/19/2020
13C9-PFNA	84	DB451LCS-FS(0)	11/19/2020
13C6-PFDA	94	DB451LCS-FS(0)	11/19/2020
13C7-PFUnA	94	DB451LCS-FS(0)	11/19/2020
13C2-PFDoA	94	DB451LCS-FS(0)	11/19/2020
13C2-PFTeDA	95	DB451LCS-FS(0)	11/19/2020
d3-MeFOSAA	114	DB451LCS-FS(0)	11/19/2020
d5-EtFOSAA	84	DB451LCS-FS(0)	11/19/2020
13C3-PFBS	98	DB451LCS-FS(0)	11/19/2020
13C3-PFHxS	88	DB451LCS-FS(0)	11/19/2020
13C8-PFOS	104	DB451LCS-FS(0)	11/19/2020
13C3-HFPO-DA	98	DB451LCS-FS(0)	11/19/2020



## Glossary of Data Qualifiers

Flag:      Application:

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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 20-1511

Project:	CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10	
Client Project Manager:	Michael Zamboni	
Parameters:	PFAS	
Laboratory:	Battelle, Norwell, MA	
Matrix:	GW	
Data Set:	DP-20-1388	
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 re-extracted from SDG 20-1329 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 <sub>3</sub> 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	<p>pH of all samples prior to SPE extraction was verified between 6 and 8.</p> <p>Samples DB450PB-FS (Procedural Blank), DB451LCS-FS (Laboratory Control Sample), G1795-FS1 (CBD-AOA-MW17-1020), G1801-FS1 (CBD-SO3-MW02-1020), and G1802-FS1 (CBD-AOA-MW09-1020) 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.</p> <p>Sample G1801-FS1 (CBD-SO3-MW02-1020) clogged the top filter of the SPE. A new SPE cartridge was conditioned and the remaining sample was moved to the new column. Both SPE were dried and eluted per the SOP. The extracts were combined after cleanup, prior to further processing.</p>
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of



## QA/QC Summary Batch 20-1511

	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	<p>Samples analyzed on Sciex 5500 (AC) LC-MS/MS.</p> <p>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.</p> <p>Adona, 9CI-PF3ONS, and 11CI-PF3OUdS are quantified using 13C2-PFDoA.</p> <p>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.</p> <p>Re-extraction to verify QC exceedances from the initial extraction occurred outside of the 14-day collection to extraction holding time window. This is allowable under QSM 5.3 for corrective actions associated with QC exceedances. All sample results are "T" qualified.</p>

Holding Times	Extraction Date(s)	Analysis Date(s)
	11/18/2020	11/16, 18, and 19/2020

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.

## QA/QC Summary Batch 20-1511

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	<p>Four (4) exceedances noted.</p> <p>Three samples had suppressed or enhanced recoveries for select extracted internal standards. The table below indicates if the extracted internal standard 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.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th><sup>13</sup>C2-PFDoA</th> <th><sup>13</sup>C2-PFTeDA</th> </tr> </thead> <tbody> <tr> <td>G1795-FS1 (CBD-AOA-MW17-1020)</td> <td></td> <td>←</td> </tr> <tr> <td>G1801-FS1 (CBD-SO3-MW02-1020)</td> <td>↓</td> <td>↓</td> </tr> <tr> <td>G1802-FS1 (CBD-AOA-MW09-1020)</td> <td></td> <td>↓</td> </tr> </tbody> </table> <p>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. One sample was re-analyzed for confirmation. The quant report for the confirmation analysis is included in the unused data section of the full data package.</p>		<sup>13</sup> C2-PFDoA	<sup>13</sup> C2-PFTeDA	G1795-FS1 (CBD-AOA-MW17-1020)		←	G1801-FS1 (CBD-SO3-MW02-1020)	↓	↓	G1802-FS1 (CBD-AOA-MW09-1020)		↓
	<sup>13</sup> C2-PFDoA	<sup>13</sup> C2-PFTeDA											
G1795-FS1 (CBD-AOA-MW17-1020)		←											
G1801-FS1 (CBD-SO3-MW02-1020)	↓	↓											
G1802-FS1 (CBD-AOA-MW09-1020)		↓											
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.												
+/- 50% of the area of the L5 calibration point.	<p>No exceedances noted.</p> <p>No comments.</p>												
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 <sup>2</sup> ≥0.99	<p>No exceedances noted.</p> <p>No comments.</p>												
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	<p>No exceedances noted.</p> <p>No comments.</p>												
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	<p>No exceedances noted.</p> <p>No comments.</p>												
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.												
≤ ½ the LOQ	<p>No exceedances noted.</p> <p>No comments.</p>												



Project Client: CH2M  
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10  
 Project Number: 100142218  
 Preparation Batch: 20-1511  
 Data Set: DP-20-1388  
 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)	4	Exceedances for G1801 were confirmed by analysis of a fresh aliquot of the sample. Remaining exceedances are confirmed by the original extractions in SDG-20-1329. LMG 11/19/2020
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**

<b>Project Title:</b>	CTO-4532: NRL Chesapeake Bay Detac	<b>Data Set Number:</b>	DP-20-1388
<b>Project Number:</b>	100142218	<b>Prep Batch Number:</b>	20-1511
<b>Entered By:</b>	Lauren Griffith	<b>Entered On:</b>	11/19/2020
<b>Test Code (Matrix Type):</b>	Master_369B(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).  
LMG 11/19/2020

ADONA, 9CI-PF3ONS and 11CI-PF3OUdS are being quantified off 13C8-PFOA instead of 13C3-HFPO-DA.  
LMG 11/19/2020

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 11/19/2020

**Task Leader Approval:**

**SupervisorApproval:**

**PM Approval:**

Digitally signed by Jonathan Thorn  
Date: 2020.11.19 17:52:41 -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-FS1-D(3)  
 Client Sample ID: CBD-SO3-MW02-1020  
 Sample Size: 0.26  
 Units: L  
 Dilution Factor: 12.500  
 PIV (L): 0.001  
 Target Analyte: PFOS  
 MRM Transition: 499.0 / 80.0  
 Data file: AC\_11162020A\_5-369.wiff  
 Result table: 20-1511  
 Area: 4,091,432.54  
 IS Name: 13C8-PFOS  
 IS Area: 104,174.05  
 IS Amount (ng/L): 1195  
 y-intercept: 0.01946  
 slope: 4.98901

$$\text{Concentration} = \frac{[(4091432.54/104174.05) - 0.01946]}{4.98901} * 1195 * 0.001 * 12.5 / 0.26$$

$$\text{ng/L} = 452.05$$

\*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: 20-1511

Data Set: DP-20-1388

		DB450PB-FS (Procedural Blank)	DB451LCS-FS (Laboratory Control Sample)	G1795-FS1 (CBD-AOA-MW17-1020)	G1801-FS1 (CBD-SO3-MW02-1020)	G1802-FS1 (CBD-AOA-MW09-1020)
PFHxA	307-24-4	-	L	L	L	L
PFHpA	375-85-9	-	L	L	L	L
PFOA	335-67-1	-	L	L	L	L
PFNA	375-95-1	-	L	L	L	L
PFDA	335-76-2	-	L	-	-	-
PFUnA	2058-94-8	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	-	-	-
NEtFOSAA	2991-50-6	-	L/Br	-	-	-
PFBS	375-73-5	L	L	L	L	L
PFHxS	355-46-4	-	L/Br	L/Br	L/Br	L/Br
PFOS	1763-23-1	-	L/Br	L/Br	L/Br	L/Br
HFPO-DA	13252-13-6	-	L	-	-	-
Adona	919005-14-4	-	L	-	-	-
9Cl-PF3ONS	756426-58-1	-	L	-	-	-
11Cl-PF3OUdS	763051-92-9	-	L	-	-	-

"L" :Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Analyzed by: Griffith, Lauren

Printed: 11/20/2020

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		
LE54 CCV	CCV	11/18/20 1:45	-			686,948.66			659,591.10			120,647.50		
LE58 IB	IB	11/18/20 2:06	-			669,620.25			609,144.17			100,756.49		
LE54 CCV	CCV	11/19/20 13:09	-			625,828.27			600,285.18			113,916.44		
DB450PB-FS(0)	Procedural Blank	11/19/20 13:31	-			672,566.07			595,407.57			109,777.33		
DB451LCS-FS(0)	Laboratory Control Sample	11/19/20 13:42	-			661,545.13			607,245.25			114,949.82		
G1795-FS1(0)	CBD-AOA-MW17-1020	11/19/20 13:53	-			666,312.47			614,386.60			121,174.81		
G1802-FS1(0)	CBD-AOA-MW09-1020	11/19/20 14:04	-			649,754.38			643,824.74			107,998.46		
G1801-FS1(0)	CBD-SO3-MW02-1020	11/19/20 14:15	-			686,673.22			652,081.86			98,206.20		
G1801-FS1-D(3)	CBD-SO3-MW02-1020	11/19/20 14:26	-			666,429.42			640,344.58			106,843.02		
LE54 CCV	CCV	11/19/20 14:48	-			580,916.10			598,031.36			113,554.24		
<del>LE54 CCV</del>	<del>CCV</del>	<del>11/19/20 15:11</del>	-			<del>642,632.13</del>			<del>564,349.82</del>			<del>120,323.23</del>		
<del>G1801-FS1(0)</del>	<del>CBD-SO3-MW02-1020</del>	<del>11/19/20 16:49</del>	-			<del>718,269.81</del>			<del>629,688.95</del>			<del>113,200.52</del>		1
<del>LE55 CCV</del>	<del>CCV</del>	<del>11/19/20 17:11</del>	-			<del>580,428.21</del>			<del>558,716.04</del>			<del>104,424.42</del>		

1 Sample was reanalyzed for confirmation only and was not reported. Data is included in the Unused Data section. LMG 11/19/2020

<b>Sample Name</b>	LE56	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:13:35 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511
<b>Sample Comment</b>			

## Results Summary

<b>Analyte</b>	<b>MRM Transition</b>	<b>RT</b>	<b>Asymmetry Factor</b>	<b>Passing Range</b>
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	20-1511
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
PFTrDA_1	663.0 / 619.0	4.22	64	>10
PFTrDA_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

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	20-1511_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 <sup>1</sup>
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

<sup>1</sup> 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

QSM 5.1.1 compliant with Table B-15 requirements

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
<b>PFBA</b>	375-22-4	0.45	1.0	5.0
<b>PFPeA</b>	2706-90-3	0.26	1.0	5.0
<b>PFHxA</b>	307-24-4	0.53	1.5	5.0
<b>PFHpA</b>	375-85-9	0.26	1.0	5.0
<b>PFOA</b>	335-67-1	0.51	1.5	5.0
<b>PFNA</b>	375-95-1	0.31	1.0	5.0
<b>PFDA</b>	335-76-2	0.14	0.5	5.0
<b>PFUnA</b>	2058-94-8	0.22	0.5	5.0
<b>PFDoA</b>	307-55-1	0.19	0.5	5.0
<b>PFTrDA</b>	72629-94-8	0.15	0.5	5.0
<b>PFTeDA</b>	376-06-7	0.73	2.0	5.0
<b>NMeFOSAA</b>	2355-31-9	0.35	1.0	5.0
<b>NEtFOSAA</b>	2991-50-6	0.50	1.0	5.0
PFOSA	754-91-6	0.46	1.0	5.0
<b>PFBS</b>	375-73-5	0.14	0.5	5.0
<b>PFPeS</b>	2706-91-4	0.26	1.0	5.0
<b>PFHxS</b>	355-46-4	0.11	0.4	5.0
<b>PFHpS</b>	375-92-8	0.85	2.0	5.0
<b>PFOS</b>	1763-23-1	0.44	1.0	5.0
<b>PFNS</b>	68259-12-1	0.36	1.0	5.0
<b>PFDS</b>	335-77-3	0.27	1.0	5.0
<b>4:2FTS</b>	747124-72-4	0.50	1.0	5.0
<b>6:2FTS</b>	27619-97-2	0.53	1.5	5.0
<b>8:2FTS</b>	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
<b>HFPO-DA</b>	13252-13-6	0.25	0.5	5.0
<b>Adona</b>	919005-14-4	0.27	1.0	5.0
<b>11CI-PF3OUdS</b>	763051-92-9	0.23	0.5	5.0
<b>9CI-PF3ONS</b>	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 <sup>1</sup>	217.0 / 172.0	NA
13C5-PFPeA	NA	SIS <sup>1</sup>	268.0 / 223.0	NA
13C5-PFHxA	NA	SIS <sup>1</sup>	318.0 / 273.0	NA
13C4-PFHpA	NA	SIS <sup>1</sup>	367.0 / 322.0	NA
13C8-PFOA	NA	SIS <sup>1</sup>	421.0 / 376.0	NA
13C9-PFNA	NA	SIS <sup>1</sup>	472.0 / 427.0	NA
13C6-PFDA	NA	SIS <sup>1</sup>	519.0 / 474.0	NA
13C7-PFUnA	NA	SIS <sup>1</sup>	570.0 / 525.0	NA
13C2-PFDoA	NA	SIS <sup>1</sup>	615.0 / 570.0	NA
13C2-PFTeDA	NA	SIS <sup>1</sup>	715.0 / 670.0	NA
d3-MeFOSAA	NA	SIS <sup>1</sup>	573.0 / 419.0	NA
d5-EtFOSAA	NA	SIS <sup>1</sup>	589.0 / 419.0	NA
13C8-FOSA	NA	SIS <sup>1</sup>	506.0 / 78.0	NA
13C3-PFBS	NA	SIS <sup>1</sup>	302.0 / 99.0	NA
13C3-PFHxS	NA	SIS <sup>1</sup>	402.0 / 99.0	NA
13C8-PFOS	NA	SIS <sup>1</sup>	507.0 / 99.0	NA
13C2-4:2FTS	NA	SIS <sup>1</sup>	329.0 / 81.0	NA
13C2-6:2FTS	NA	SIS <sup>1</sup>	429.0 / 81.0	NA
13C2-8:2FTS	NA	SIS <sup>1</sup>	529.0 / 81.0	NA
<sup>13</sup> C <sub>3</sub> -HFPO-DA	NA	SIS	287.0 / 169.0	NA
13C3-PFBA	NA	IS <sup>2</sup>	216.0 / 172.0	NA
13C2-PFOA	NA	IS <sup>2</sup>	415.0 / 370.0	NA
13C2-PFDA	NA	IS <sup>2</sup>	515.0 / 470.0	NA
13C4-PFOS	NA	IS <sup>2</sup>	503.0 / 99.0	NA

<sup>1</sup> – extracted internal standard (surrogate)

<sup>2</sup> – injection internal standard



## Non-Potable Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF <sup>1</sup>	Sample Size (L)	Sample Equivalent (ng/L) <sup>2</sup>
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

<sup>1</sup> - base level dilution as part of the extraction procedure

<sup>2</sup> - 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

<b>Preventive Maintenance Date:</b>	
<b>Request ID:</b>	
<b>Company Name:</b>	
<b>Instrument ID:</b>	
<b>Instrument Model:</b>	
<b>Instrument Serial Number:</b>	

**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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**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 <sup>-5</sup> Torr)	Acceptance Criteria
<input type="checkbox"/> CAD 0		0.4 to 1.1 x10 <sup>-5</sup> Torr
<input type="checkbox"/> CAD Low		Read Only
<input type="checkbox"/> CAD Medium		Read Only
<input type="checkbox"/> CAD High		Read Only
<input type="checkbox"/> CAD 12		2.4 to 4.5 x10 <sup>-5</sup> Torr

- Check for Front end contamination symptoms. Run Q1 POS PPG using PPG 2e-7for 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-7for 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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**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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# QTRAP 5500

**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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**QTRAP 5500****LC/MS/MS Detector System**

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 ( x 10 <sup>-5</sup> Torr)	Acceptance Criteria
<input type="checkbox"/> CAD 0		0.4 to 1.1 x10 <sup>-5</sup> Torr
<input type="checkbox"/> CAD Low		Read Only
<input type="checkbox"/> CAD Medium		Read Only
<input type="checkbox"/> CAD High		Read Only
<input type="checkbox"/> CAD 12		2.4 to 4.5 x10 <sup>-5</sup> 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 <sup>6</sup>		0.6 to 0.8
Q1 500.380		≥9.0 <sup>6</sup>		0.6 to 0.8
Q1 906.673		≥1.4 <sup>7</sup>		0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673		≥6.8 <sup>7</sup>		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 <sup>6</sup>		0.6 to 0.8
Q3 500.380		≥9.0 <sup>6</sup>		0.6 to 0.8
Q3 906.673		≥1.4 <sup>7</sup>		0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673		≥6.8 <sup>7</sup>		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: \_\_\_\_\_ (≥ 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		$\geq 7.2^{e6}$		<0.35
ER 922.010	0.05		$\geq 2.8^{e6}$		<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05		$\geq 2.4^{e7}$		<0.65
ER 922.010	0.05		$\geq 6.8^{e7}$		<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		$\geq 4.4^{e7}$		<0.35
ER 601.978	0.05		$\geq 5.6^{e7}$		<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05		$\geq 1.2^{e8}$		<0.65
ER 601.978	0.05		$\geq 1.6^{e8}$		<0.65



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# QTRAP 5500

LC/MS/MS Detector System

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		≥2.0 <sup>e</sup> 6		≥6.4 <sup>e</sup> 6

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

Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000		Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input type="checkbox"/> 365	1000		Fragment Intensity		≥1.6x 10 <sup>e</sup> 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.

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-01
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-02
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-03
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-04
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-05
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-06
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-07
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-08
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-09
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-10
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-11
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-12
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-13
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-14
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-15
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-16
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-17
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-18
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-19
LE39	PFAS - DoD Low Level Labelled Extracted Internal Standard	LB74	-	-	200721-20
LE49	PFAS - DoD Second Source LCS/MS Solution	-	-	-	200909-01
LE49	PFAS - DoD Second Source LCS/MS Solution	-	-	-	201006-07
LE49	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-01
LE49	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-02
LE49	PFAS - DoD Second Source LCS/MS Solution	LC24	-	-	200811-03
LE40	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-21
LE40	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-22
LE40	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-23
LE40	PFAS - DoD Internal Standard Spiking Solution	LB75	-	-	200721-24
LE52	PFAS - DoD Calibration L1	LB78	LB75	-	200721-21
LE52	PFAS - DoD Calibration L1	LB78	LB75	-	200721-22
LE52	PFAS - DoD Calibration L1	LB78	LB75	-	200721-23
LE52	PFAS - DoD Calibration L1	LB78	LB75	-	200721-24
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-01
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-02
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-03
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-04
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-05
LE52	PFAS - DoD Calibration L1	LD73	LB74	-	200721-06
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

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
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
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



Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
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
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

Battelle Standard ID	Description	Intermediate Solutions			Battelle Reagent ID (purchased solutions)
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
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

<b>Stock Id: 200811-01</b>							
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
<b>Stock Id: 200811-02</b>							
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
<b>Stock Id: 200811-03</b>							
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: **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-chloroeicosafuoro-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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/10/2020	<b>Expiration Date:</b> 8/11/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-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
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-chloroeicosafuoro-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-octanesulfonate	.10100
perfluoro-1-pentanesulfonate	.10000
Perfluoro-n-butanoic Acid	.10000
Perfluoro-n-decanoic Acid	.10000
Perfluoro-n-dodecanoic acid	.10000
Perfluoro-n-heptanoic Acid	.10000
Perfluoro-n-hexanoic acid	.10100
Perfluoro-n-octanoic Acid	.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:
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-chloroeicosafuoro-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-butanefluoride	500	0.10	---	---	1	5	0.01000
Perfluoro-1-decanesulfonate	500	0.10	---	---	1	5	0.01010
Perfluoro-1-heptanesulfonate	500	0.10	---	---	1	5	0.01000
Perfluoro-1-hexanesulfonate	500	0.10	---	---	1	5	0.01010
Perfluoro-1-nonanesulfonate	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-pentanesulfonate	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-chloroeicosafuoro-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-octanesulfonate	.01010
perfluoro-1-pentanesulfonate	.01000
Perfluoro-n-butanedic Acid	.01000
Perfluoro-n-decanedic Acid	.01000
Perfluoro-n-dodecanedic acid	.01000
Perfluoro-n-heptanedic Acid	.01000
Perfluoro-n-hexanedic acid	.01010
Perfluoro-n-octanedic Acid	.01000
Perfluorononanedic Acid	.01000
Perfluoro-n-pentanedic acid	.01010
Perfluoro-n-tetradecanedic acid	.01000
Perfluoro-n-tridecanedic acid	.01000
Perfluoro-n-undecanedic acid	.01000

**Syringes/Pipettes:**

Stock ID:	Type:	Battelle ID:
LE50	Pipette	B820865811

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 8/11/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

**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-pentanesulfonate	250	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	250	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	250	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic acid	250	0.01	---	---	1	10	0.00025

**Final Concentrations:**

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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-octanedisulfonate	.00025
perfluoro-1-pentanedisulfonate	.00025
Perfluoro-n-butanedisulfonate	.00025
Perfluoro-n-decanedisulfonate	.00025
Perfluoro-n-dodecanedisulfonate	.00025
Perfluoro-n-heptanedisulfonate	.00025
Perfluoro-n-hexanedisulfonate	.00025

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

**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-butanefulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00051
Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00051
Perfluoro-1-nonanesulfonate	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-pentanesulfonate	500	0.01	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00050
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00051
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	500	0.01	---	---	1	10	0.00050

**Final Concentrations:**

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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-butanedisulfonate	.00050
Perfluoro-n-decanedisulfonate	.00050
Perfluoro-n-dodecanedisulfonate	.00050
Perfluoro-n-heptanedisulfonate	.00050
Perfluoro-n-hexanedisulfonate	.00051

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	500	0.10	---	---	1	40	0.00125
13C2-PFTeDA	500	0.10	---	---	1	40	0.00125
13C3-HFPO-DA	500	0.10	---	---	1	40	0.00125
13C3-PFBS	500	0.09	---	---	1	40	0.00116
13C3-PFHxS	500	0.09	---	---	1	40	0.00118
13C4-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFHpA	500	0.10	---	---	1	40	0.00125
13C5-PFHxA	500	0.10	---	---	1	40	0.00125
13C5-PFPeA	500	0.10	---	---	1	40	0.00125
13C6-PFDA	500	0.10	---	---	1	40	0.00125
13C7-PFUnA	500	0.10	---	---	1	40	0.00125
13C8-FOSA	500	0.10	---	---	1	40	0.00125
13C8-PFOA	500	0.10	---	---	1	40	0.00122
13C8-PFOS	500	0.10	---	---	1	40	0.00119
13C9-PFNA	500	0.10	---	---	1	40	0.00125
d3-MeFOSAA	500	0.10	---	---	1	40	0.00125
d5-EtFOSAA	500	0.10	---	---	1	40	0.00125

**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-octanedisulfonate	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-chloroeicosafuoro-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-butanedisulfonate	.00100
Perfluoro-n-decanedisulfonate	.00100
Perfluoro-n-dodecanedisulfonate	.00100
Perfluoro-n-heptanedisulfonate	.00100
Perfluoro-n-hexanedisulfonate	.00101

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	500	0.10	---	---	1	40	0.00125
13C2-PFTeDA	500	0.10	---	---	1	40	0.00125
13C3-HFPO-DA	500	0.10	---	---	1	40	0.00125
13C3-PFBS	500	0.09	---	---	1	40	0.00116
13C3-PFHxS	500	0.09	---	---	1	40	0.00118
13C4-PFBA	500	0.10	---	---	1	40	0.00125
13C4-PFHpA	500	0.10	---	---	1	40	0.00125
13C5-PFHxA	500	0.10	---	---	1	40	0.00125
13C5-PFPeA	500	0.10	---	---	1	40	0.00125
13C6-PFDA	500	0.10	---	---	1	40	0.00125
13C7-PFUnA	500	0.10	---	---	1	40	0.00125
13C8-FOSA	500	0.10	---	---	1	40	0.00125
13C8-PFOA	500	0.10	---	---	1	40	0.00122
13C8-PFOS	500	0.10	---	---	1	40	0.00119
13C9-PFNA	500	0.10	---	---	1	40	0.00125
d3-MeFOSAA	500	0.10	---	---	1	40	0.00125
d5-EtFOSAA	500	0.10	---	---	1	40	0.00125

**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-butanefulfonate	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-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	.00250
13C2-4:2FTS	.00117
13C2-6:2FTS	.00119
13C2-8:2FTS	.00120
13C2-PFDA	.00125
13C2-PFDoA	.00125
13C2-PFOA	.00125
13C2-PFTeDA	.00125
13C3-HFPO-DA	.00125
13C3-PFBA	.00125

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-octanedisulfonate	.00253
perfluoro-1-pentanedisulfonate	.00250
Perfluoro-n-butanedisulfonate	.00250
Perfluoro-n-decanedisulfonate	.00250
Perfluoro-n-dodecanedisulfonate	.00250
Perfluoro-n-heptanedisulfonate	.00250
Perfluoro-n-hexanedisulfonate	.00253

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

**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-butanefulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-decanesulfonate	1000	0.10	---	---	1	10	0.01010
Perfluoro-1-heptanesulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-1-hexanesulfonate	1000	0.10	---	---	1	10	0.01010
Perfluoro-1-nonanesulfonate	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-pentanesulfonate	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-butanoic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-decanoic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-dodecanoic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-heptanoic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-hexanoic acid	1000	0.10	---	---	1	10	0.01010
Perfluoro-n-octanoic Acid	1000	0.10	---	---	1	10	0.01000
Perfluorononanoic Acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-pentanoic acid	1000	0.10	---	---	1	10	0.01010
Perfluoro-n-tetradecanoic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-tridecanoic acid	1000	0.10	---	---	1	10	0.01000
Perfluoro-n-undecanoic acid	1000	0.10	---	---	1	10	0.01000

**Final Concentrations:**

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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-butanedisulfonate	.01000
Perfluoro-n-decanedisulfonate	.01000
Perfluoro-n-dodecanedisulfonate	.01000
Perfluoro-n-heptanedisulfonate	.01000
Perfluoro-n-hexanedisulfonate	.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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

## 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	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-butanefulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-decanesulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-heptanesulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-hexanesulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-nonanesulfonate	2500	0.10	---	---	1	10	0.02525
Perfluoro-1-octanesulfonamide	2500	0.10	---	---	1	10	0.02500
Perfluoro-1-octanesulfonate	2500	0.10	---	---	1	10	0.02525
perfluoro-1-pentanesulfonate	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-butanoic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-decanoic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-dodecanoic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-heptanoic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-hexanoic acid	2500	0.10	---	---	1	10	0.02525
Perfluoro-n-octanoic Acid	2500	0.10	---	---	1	10	0.02500
Perfluorononanoic Acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-pentanoic acid	2500	0.10	---	---	1	10	0.02525
Perfluoro-n-tetradecanoic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-tridecanoic acid	2500	0.10	---	---	1	10	0.02500
Perfluoro-n-undecanoic acid	2500	0.10	---	---	1	10	0.02500

## Final Concentrations:

Analyte:	Conc (ug/mL):
11-chloroeicosafuoro-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-octanesulfonate	.02525
perfluoro-1-pentanesulfonate	.02500
Perfluoro-n-butanoic Acid	.02500
Perfluoro-n-decanoic Acid	.02500
Perfluoro-n-dodecanoic acid	.02500
Perfluoro-n-heptanoic Acid	.02500
Perfluoro-n-hexanoic acid	.02525

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-PFDoA	125	0.10	---	---	1	10	0.00125
13C2-PFTeDA	125	0.10	---	---	1	10	0.00125
13C3-HFPO-DA	125	0.10	---	---	1	10	0.00125
13C3-PFBS	125	0.09	---	---	1	10	0.00116
13C3-PFHxS	125	0.09	---	---	1	10	0.00118
13C4-PFBA	125	0.10	---	---	1	10	0.00125
13C4-PFHpA	125	0.10	---	---	1	10	0.00125
13C5-PFHxA	125	0.10	---	---	1	10	0.00125
13C5-PFPeA	125	0.10	---	---	1	10	0.00125
13C6-PFDA	125	0.10	---	---	1	10	0.00125
13C7-PFUnA	125	0.10	---	---	1	10	0.00125
13C8-FOSA	125	0.10	---	---	1	10	0.00125
13C8-PFOA	125	0.10	---	---	1	10	0.00122
13C8-PFOS	125	0.10	---	---	1	10	0.00119
13C9-PFNA	125	0.10	---	---	1	10	0.00125
d3-MeFOSAA	125	0.10	---	---	1	10	0.00125
d5-EtFOSAA	125	0.10	---	---	1	10	0.00125

**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-butanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	250	0.10	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluorononanoic Acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	250	0.10	---	---	1	10	0.00253
Perfluoro-n-tetradecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	250	0.10	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	250	0.10	---	---	1	10	0.00250

**Final Concentrations:**

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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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-octanedisulfonate	.00253
perfluoro-1-pentanedisulfonate	.00250
Perfluoro-n-butanedisulfonate	.00250
Perfluoro-n-decanedisulfonate	.00250
Perfluoro-n-dodecanedisulfonate	.00250
Perfluoro-n-heptanedisulfonate	.00250
Perfluoro-n-hexanedisulfonate	.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

<b>Solution Prepared By:</b> Bailey, Kevin	<b>Date Prepared:</b> 11/12/2020	<b>Expiration Date:</b> 7/21/2021
<b>Solution Volume :</b> 40 mL X 1 Vials <b>Refrigerator/Freezer No:</b> 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:

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 Val:	Lower Limit:	Upper Limit:
13C4-PFBA	BDO-2105	50.0000	98.00	--	--	<input type="checkbox"/>		

Total Analytes: 1

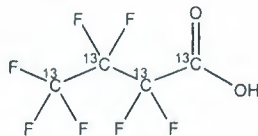
Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
 Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

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

**PRODUCT CODE:** MPFBA **LOT NUMBER:** MPFBA0420  
**COMPOUND:** Perfluoro-n-[1,2,3,4-<sup>13</sup>C<sub>4</sub>]butanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>4</sub>HF<sub>7</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 218.01  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
(1,2,3,4-<sup>13</sup>C<sub>4</sub>)  
**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.

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**Certified By:**   
B.G. Chittim, General Manager **Date:** 05/20/2020  
(mm/dd/yyyy)

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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:	Lower Limit:	Upper Limit:
13C5-PFPeA	BDO-2216	50.0000	98.00	--	--	<input type="checkbox"/>		

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_

Approved on: \_\_\_\_\_

Authorized by: \_\_\_\_\_

Authorized on: \_\_\_\_\_



It can be done

BDO Id:

200721-03

## Reagent Receipt Report

Approved: Authorized: 

Name: M5PFHxA Received: 7/21/2020  
Vendor: Wellington Laboratories Custodian: Schultz, Stephanie  
Catalogue No: M5PFHxA Expires: 4/3/2025  
Type: Solution Consumed: \_\_\_\_\_  
Lot No: M5PFHxA0320 Stored In: VOC Laboratory - R0123  
Quantity: 1 ea mL % Moisture: \_\_\_\_\_  
Description: M5PFHxA

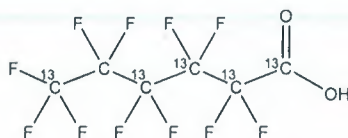
Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C5-PFHxA	BDO-2217	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

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

**PRODUCT CODE:** M5PFHxA      **LOT NUMBER:** M5PFHxA0320  
**COMPOUND:** Perfluoro-n-[1,2,3,4,6-<sup>13</sup>C<sub>5</sub>]hexanoic acid  
**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>5</sub><sup>12</sup>C<sub>1</sub>HF<sub>11</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 319.02  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml      **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
(1,2,3,4,6-<sup>13</sup>C<sub>5</sub>)  
**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

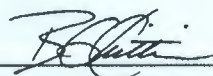
**DOCUMENTATION/ DATA ATTACHED:**

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.

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**Certified By:**       **Date:** 04/15/2020  
B.G. Chittim, General Manager      (mm/dd/yyyy)

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It can be done

BDO Id:

200721-04

## Reagent Receipt Report

Approved: 

AM 07/21/20

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 Val:	Cert Val:	Lower Limit:	Upper Limit:
13C4-PFHpA	BDO-2218	50.0000	98.00	--	--	<input type="checkbox"/>			
Total Analytes:	1								

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_



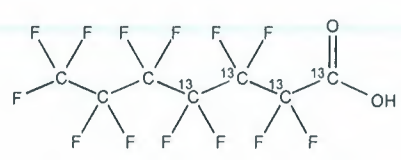


**WELLINGTON**  
LABORATORIES

**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** M4PFHpA      **LOT NUMBER:** M4PFHpA0120  
**COMPOUND:** Perfluoro-n-[1,2,3,4-<sup>13</sup>C<sub>4</sub>]heptanoic acid

**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>4</sub><sup>12</sup>C<sub>3</sub>HF<sub>13</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 368.03  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml      **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
(1,2,3,4-<sup>13</sup>C<sub>4</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 01/08/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 01/08/2025  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

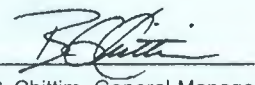
**DOCUMENTATION/ DATA ATTACHED:**

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

**ADDITIONAL INFORMATION:**

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

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

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

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It can be done

BDO Id:

200721-05

## Reagent Receipt Report

Approved:  Number: 

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

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C8-PFOA	BDO-2219	48.9000	97.80	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

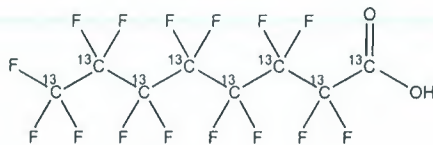
200721-05



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M8PFOA      **LOT NUMBER:** M8PFOA0220  
**COMPOUND:** Perfluoro-n-[<sup>13</sup>C<sub>8</sub>]octanoic acid  
**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>8</sub>H<sub>F</sub><sub>15</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 422.01  
**CONCENTRATION:** 48.9 ± 2.4 µg/ml      **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** 97.8% (M8PFOA)      **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 2.2% (MPFOA [M+4])      (<sup>13</sup>C<sub>8</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 01/23/2020  
**EXPIRY DATE:** (mm/dd/yyyy) 01/23/2025  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

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

### ADDITIONAL INFORMATION:

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

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

Certified By: \_\_\_\_\_

B.G. Chittim, General Manager

Date: 01/24/2020

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-06

## Reagent Receipt Report

Approved: Authorized: 

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

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C9-PFNA	BDO-2221	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

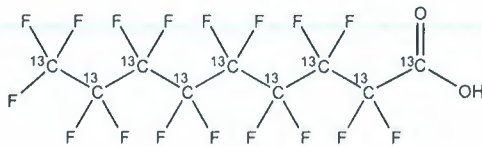


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M9PFNA **LOT NUMBER:** M9PFNA0918  
**COMPOUND:** Perfluoro-n-[<sup>13</sup>C<sub>9</sub>]nonanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>9</sub>HF<sub>17</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 473.01  
**CONCENTRATION:** 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 09/08/2018 (<sup>13</sup>C<sub>9</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 09/08/2023  
**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 <sup>13</sup>C<sub>5</sub><sup>12</sup>C<sub>4</sub>HF<sub>17</sub>O<sub>2</sub> (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)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA  
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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	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

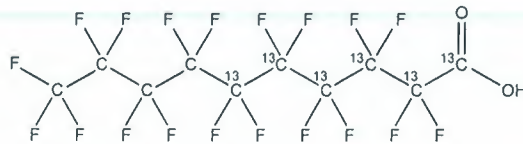
26072-07



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M6PFDA **LOT NUMBER:** M6PFDA0719  
**COMPOUND:** Perfluoro-n-[1,2,3,4,5,6-<sup>13</sup>C<sub>6</sub>]decanoic acid  
**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>6</sub><sup>12</sup>C<sub>4</sub>HF<sub>19</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 520.04  
**CONCENTRATION:** 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2,3,4,5,6-<sup>13</sup>C<sub>6</sub>)  
**LAST TESTED:** (mm/dd/yyyy) 07/25/2019  
**EXPIRY DATE:** (mm/dd/yyyy) 07/25/2024  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

### DOCUMENTATION/ DATA ATTACHED:

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

### ADDITIONAL INFORMATION:

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

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

Certified By: 

B.G. Chittim, General Manager

Date: 07/26/2019

(mm/dd/yyyy)

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It can be done

BDO Id:

200721-08

## Acquisition 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 Val:	Lower Limit:	Upper Limit:
13C7-PFUnA	BDO-2223	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_





WELLINGTON  
LABORATORIES

CERTIFICATE OF ANALYSIS  
DOCUMENTATION

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



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>7</sub><sup>12</sup>C<sub>4</sub>HF<sub>21</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 571.04  
**CONCENTRATION:** 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2,3,4,5,6,7-<sup>13</sup>C<sub>7</sub>)  
**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

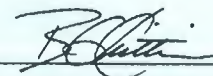
**DOCUMENTATION/ DATA ATTACHED:**

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:**  **Date:** 09/12/2019  
 B.G. Chittim, General Manager (mm/dd/yyyy)

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**It can be done**BDO Id: 200721-09

Reagent Receipt Report

Approved:  Available: 

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:	Lower Limit:	Upper Limit:
13C2-PFDoA	BDO-2112	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

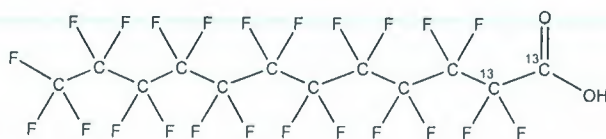
200721-09



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFDoA **LOT NUMBER:** MPFDoA1119  
**COMPOUND:** Perfluoro-n-[1,2-<sup>13</sup>C<sub>2</sub>]dodecanoic acid  
**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>10</sub>HF<sub>23</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 616.08  
**CONCENTRATION:** 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
 (1,2-<sup>13</sup>C<sub>2</sub>)  
**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:

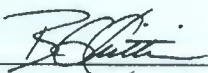
Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### 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 Val:	Lower Limit:	Upper Limit:
13C2-PFTeDA	BDO-2224	50.0000	98.00	--	--	<input type="checkbox"/>		
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-<sup>13</sup>C<sub>2</sub>]tetradecanoic acid  
**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>12</sub>HF<sub>27</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 716.10  
**CONCENTRATION:** 50 ± 2.5 µg/ml      **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
(1,2-<sup>13</sup>C<sub>2</sub>)  
**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)

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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	Cert Val:	Lower Limit:	Upper Limit:
13C2-4:2FTS	BDO-2229	46.7000	98.00	--	--	<input type="checkbox"/>			

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
 Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

200721-11

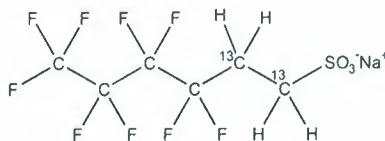


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M2-4:2FTS **LOT NUMBER:** M242FTS0420  
**COMPOUND:** Sodium 1H,1H,2H,2H-perfluoro-[1,2-<sup>13</sup>C<sub>2</sub>]hexane sulfonate

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>4</sub>H<sub>4</sub>F<sub>9</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 352.12  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol  
 46.9 ± 2.3 µg/ml (M2-4:2FTS acid)  
 46.7 ± 2.3 µg/ml (M2-4:2FTS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 04/16/2020 (1,2-<sup>13</sup>C<sub>2</sub>)  
**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 <sup>34</sup>S (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	--	--	<input type="checkbox"/>		

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_



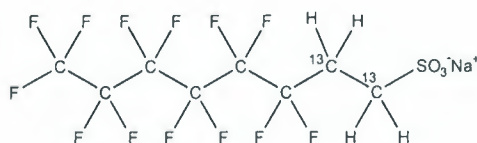


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M2-6:2FTS **LOT NUMBER:** M262FTS0520  
**COMPOUND:** Sodium 1H,1H,2H,2H-perfluoro-[1,2-<sup>13</sup>C<sub>2</sub>]octane sulfonate

**STRUCTURE:** **CAS #:** Not available



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

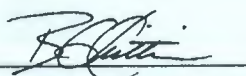
**DOCUMENTATION/ DATA ATTACHED:**

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 <sup>34</sup>S (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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 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



It can be done

BDO Id: 200721-13

Reagent Receipt Report

Approved:  Authorized:

Name: M2-8:2FTS Received: 7/21/2020  
 Vendor: Wellington Laboratories Custodian: Schultz, Stephanie  
 Catalogue No: M2-8:2FTS Expires: 3/18/2025  
 Type: Solution Consumed:  
 Lot No: M282FTS0320 Stored In: VOC Laboratory - R0123  
 Quantity: 1 ea mL % Moisture:  
 Description: M2-8:2FTS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C2-8:2FTS	BDO-2220	47.9000	98.00	--	--	<input type="checkbox"/>		

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
 Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

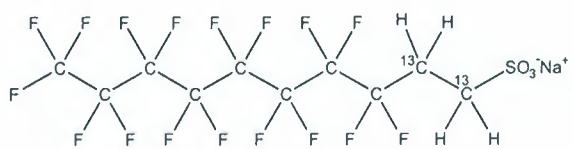


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M2-8:2FTS **LOT NUMBER:** M282FTS0320  
**COMPOUND:** Sodium 1H,1H,2H,2H-perfluoro-[1,2-<sup>13</sup>C<sub>2</sub>]decane sulfonate

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>8</sub>H<sub>4</sub>F<sub>17</sub>SO<sub>3</sub>Na **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% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 03/18/2020 (1,2-<sup>13</sup>C<sub>2</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 03/18/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

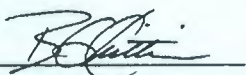
**DOCUMENTATION/ DATA ATTACHED:**

- 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 <sup>34</sup>S (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:

Approved:

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:	Lower Limit:	Upper Limit:
13C3-PFBS	BDO-2226	46.5000	98.00	--	--	<input type="checkbox"/>		

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_

Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

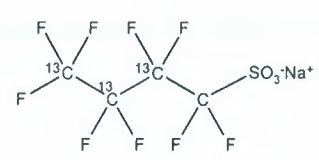


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M3PFBS **LOT NUMBER:** M3PFBS1019  
**COMPOUND:** Sodium perfluoro-1-[2,3,4-<sup>13</sup>C<sub>3</sub>]butanesulfonate

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>3</sub><sup>12</sup>CF<sub>9</sub>SO<sub>3</sub>Na **MOLECULAR WEIGHT:** 325.06  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml (Na salt) **SOLVENT(S):** Methanol  
46.6 ± 2.3 µg/ml (M3PFBS acid)  
46.5 ± 2.3 µg/ml (M3PFBS anion)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 03/17/2020 (2,3,4-<sup>13</sup>C<sub>3</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 03/17/2025  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

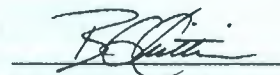
**DOCUMENTATION/ DATA ATTACHED:**

- 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:**  **Date:** 03/18/2020  
B.G. Chittim, General Manager (mm/dd/yyyy)

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

BDO Id:

200721-15

## Reagent Receipt Report

Approved:  

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:	Lower Limit:	Upper Limit:
13C3-PFHxS	BDO-2227	47.3000	98.00	--	--	<input type="checkbox"/>		
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-<sup>13</sup>C<sub>3</sub>]hexanesulfonate  
**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>3</sub><sup>12</sup>C<sub>3</sub>F<sub>13</sub>SO<sub>3</sub>Na **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% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 10/15/2019 (1,2,3-<sup>13</sup>C<sub>3</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 10/15/2024  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

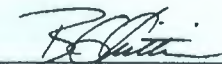
**DOCUMENTATION/ DATA ATTACHED:**

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-<sup>13</sup>C<sub>2</sub>]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:**  **Date:** 10/16/2019  
B.G. Chittim, General Manager (mm/dd/yyyy)

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



It can be done

BDO Id:

200721-16

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	--	--	<input type="checkbox"/>			

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
 Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_



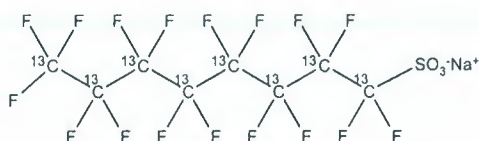
200721-16



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M8PFOS **LOT NUMBER:** M8PFOS0120  
**COMPOUND:** Sodium perfluoro-1-[<sup>13</sup>C<sub>8</sub>]octanesulfonate  
**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>8</sub>F<sub>17</sub>SO<sub>3</sub>Na **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% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 02/21/2020 (<sup>13</sup>C<sub>8</sub>)  
**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-[<sup>13</sup>C<sub>7</sub>]heptanesulfonate (<sup>13</sup>C<sub>7</sub>-PFHpS) and ~ 1.0% of sodium perfluoro-1-[<sup>13</sup>C<sub>8</sub>]octanesulfonate (MPFOS).

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

**Certified By:**   
 B.G. Chittim, General Manager

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

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It can be done

BDO Id:

200721-17

Reagent Receipt Report

Approved: Authorized: 

Name: d3-N-MeFOSAA

Received: 7/21/2020

Vendor: Wellington Laboratories

Custodian: Schultz, Stephanie

Catalogue No: d3-N-MeFOSAA

Expires: 12/2/2024

Type: Solution

Consumed:

Lot No: d3NMeFOSAA1119

Stored In: VOC Laboratory - R0123

Quantity: 1 ea mL % Moisture:

Description: d3-N-MeFOSAA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
d3-MeFOSAA	BDO-1838	50.0000	98.00	--	--	<input type="checkbox"/>			

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_

Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

200721-17

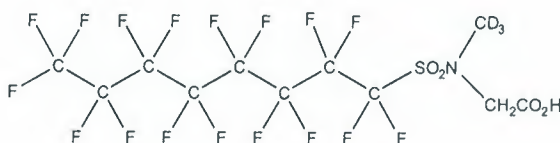


# WELLINGTON LABORATORIES

## 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<sub>11</sub>D<sub>3</sub>H<sub>3</sub>F<sub>17</sub>NO<sub>4</sub>S      **MOLECULAR WEIGHT:** 574.23  
**CONCENTRATION:** 50 ± 2.5 µg/ml      **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥98% <sup>2</sup>H<sub>3</sub>  
**LAST TESTED:** (mm/dd/yyyy) 12/02/2019  
**EXPIRY DATE:** (mm/dd/yyyy) 12/02/2024  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

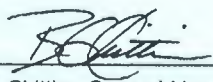
Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### 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  
 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

**It can be done**

BDO Id:

200721-18

## Reagent Receipt Report

Approved: Authorized: 

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

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
d5-EtFOSAA	BDO-1839	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

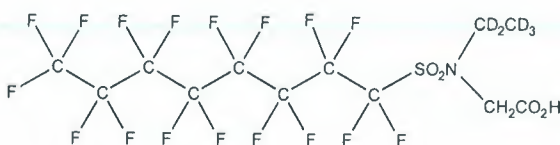
Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

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

**PRODUCT CODE:** d5-N-EtFOSAA      **LOT NUMBER:** d5NEtFOSAA0520  
**COMPOUND:** N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** C<sub>12</sub>D<sub>5</sub>H<sub>3</sub>F<sub>17</sub>NO<sub>4</sub>S  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml

**MOLECULAR WEIGHT:** 590.26  
**SOLVENT(S):** Methanol  
Water (<1%)

**CHEMICAL PURITY:** >98%  
**LAST TESTED:** (mm/dd/yyyy) 05/20/2020

**ISOTOPIC PURITY:** ≥98% <sup>2</sup>H<sub>5</sub>

**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)

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

BDO Id:

200721-19

## Reagent Receipt Report

Approved:  Authorized: 

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

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
13C8-FOSA	BDO-2225	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

200721-19



# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M8FOSA-I      **LOT NUMBER:** M8FOSA0220I  
**COMPOUND:** Perfluoro-1-[<sup>13</sup>C<sub>8</sub>]octanesulfonamide  
**STRUCTURE:**      **CAS #:** 1365803-60-6



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>8</sub>H<sub>2</sub>F<sub>17</sub>NO<sub>2</sub>S      **MOLECULAR WEIGHT:** 507.09  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml      **SOLVENT(S):** Isopropanol  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 02/28/2020      (<sup>13</sup>C<sub>8</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 02/28/2025  
**RECOMMENDED STORAGE:** Refrigerate ampoule

### DOCUMENTATION/ DATA ATTACHED:

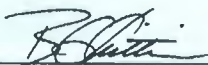
Figure 1: LC/MS Data (TIC and Mass Spectrum)  
 Figure 2: LC/MS/MS Data (Selected MRM Transitions)

### ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.2% of perfluoro-1-[<sup>13</sup>C<sub>8</sub>]octanesulfonamide and ~ 0.03% of perfluoro-1-[<sup>13</sup>C<sub>7</sub>]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: Sub: 

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 Val:	Lower Limit:	Upper Limit:
13C3-HFPO-DA	BDO-2276	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_



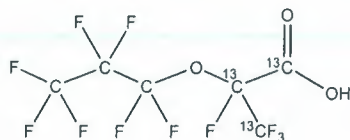


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M3HFPO-DA **LOT NUMBER:** M3HFPODA0520  
**COMPOUND:** 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-<sup>13</sup>C<sub>3</sub>-propanoic acid

**STRUCTURE:** **CAS #:** Not available



<b>MOLECULAR FORMULA:</b>	$^{13}\text{C}_3^{12}\text{C}_3\text{HF}_{11}\text{O}_3$	<b>MOLECULAR WEIGHT:</b>	333.03
<b>CONCENTRATION:</b>	50.0 ± 2.5 µg/ml	<b>SOLVENT(S):</b>	Methanol
<b>CHEMICAL PURITY:</b>	>98%	<b>ISOTOPIC PURITY:</b>	≥99% <sup>13</sup> C ( <sup>13</sup> C <sub>3</sub> )
<b>LAST TESTED:</b> (mm/dd/yyyy)	05/13/2020		
<b>EXPIRY DATE:</b> (mm/dd/yyyy)	05/13/2023		
<b>RECOMMENDED STORAGE:</b>	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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 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	50.0000	98.00	--	--	<input type="checkbox"/>		
Total Analytes:	1							

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

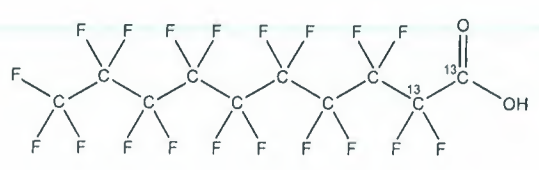


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** MPFDA **LOT NUMBER:** MPFDA0320  
**COMPOUND:** Perfluoro-n-[1,2-<sup>13</sup>C<sub>2</sub>]decanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>8</sub>HF<sub>19</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 516.07  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99% <sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 03/24/2020 (1,2-<sup>13</sup>C<sub>2</sub>)  
**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:**  **Date:** 04/06/2020  
B.G. Chittim, General Manager (mm/dd/yyyy)

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

It can be done

BDO Id:

200721-22

Reagent Receipt Report

Approved: Authorized: 

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	--	--	<input type="checkbox"/>			
Total Analytes:	1								

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

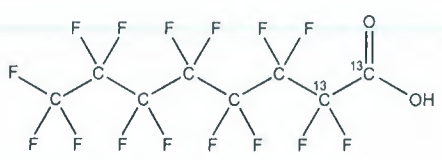


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M2PFOA      **LOT NUMBER:** M2PFOA0120  
**COMPOUND:** Perfluoro-n-[1,2-<sup>13</sup>C<sub>2</sub>]octanoic acid

**STRUCTURE:**      **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>2</sub><sup>12</sup>C<sub>6</sub>HF<sub>15</sub>O<sub>2</sub>      **MOLECULAR WEIGHT:** 416.05  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml      **SOLVENT(S):** Methanol  
Water (<1%)  
**CHEMICAL PURITY:** >98%      **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 01/08/2020      (1,2-<sup>13</sup>C<sub>2</sub>)  
**EXPIRY DATE:** (mm/dd/yyyy) 01/08/2025  
**RECOMMENDED STORAGE:** Store ampoule in a cool, dark place

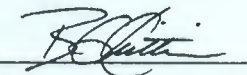
**DOCUMENTATION/ DATA ATTACHED:**

- 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-[<sup>13</sup>C<sub>1</sub>]heptanoic acid (<sup>13</sup>C<sub>1</sub>-PFHpA).

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

**Certified By:**       **Date:** 01/15/2020  
B.G. Chittim, General Manager      (mm/dd/yyyy)

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



It can be done

BDO Id:

200721-23

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 Val:	Cert Val:	Lower Limit:	Upper Limit:
13C3-PFBA	BDO-2231	50.0000	98.00	--	--	<input type="checkbox"/>			

Total Analytes: 1

Notes:

Approved by: \_\_\_\_\_

Approved on: \_\_\_\_\_

Authorized by: \_\_\_\_\_

Authorized on: \_\_\_\_\_

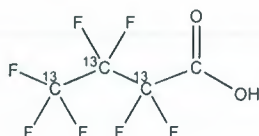


# WELLINGTON LABORATORIES

## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** M3PFBA **LOT NUMBER:** M3PFBA0120  
**COMPOUND:** Perfluoro-n-[2,3,4-<sup>13</sup>C<sub>3</sub>]butanoic acid

**STRUCTURE:** **CAS #:** Not available



**MOLECULAR FORMULA:** <sup>13</sup>C<sub>3</sub><sup>12</sup>CHF<sub>7</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 217.02  
**CONCENTRATION:** 50.0 ± 2.5 µg/ml **SOLVENT(S):** Methanol  
 Water (<1%)  
**CHEMICAL PURITY:** >98% **ISOTOPIC PURITY:** ≥99%<sup>13</sup>C  
**LAST TESTED:** (mm/dd/yyyy) 02/24/2020 (2,3,4-<sup>13</sup>C<sub>3</sub>)  
**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-[<sup>13</sup>C<sub>3</sub>]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-<sup>13</sup>C<sub>4</sub>]butanoic acid due to the naturally occurring isotopic abundance of <sup>13</sup>C 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	--	--	<input type="checkbox"/>			
Total Analytes:	1								

Notes:

Approved by: \_\_\_\_\_ Approved on: \_\_\_\_\_  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_



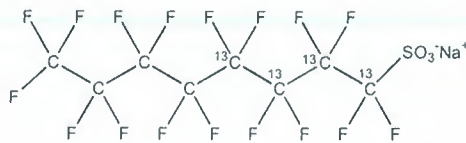


**WELLINGTON**  
LABORATORIES

**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION

**PRODUCT CODE:** MPFOS **LOT NUMBER:** MPFOS0420  
**COMPOUND:** Sodium perfluoro-1-[1,2,3,4-<sup>13</sup>C<sub>4</sub>]octanesulfonate

**STRUCTURE:** **CAS #:** 960315-53-1



<b>MOLECULAR FORMULA:</b>	<sup>13</sup> C <sub>4</sub> <sup>12</sup> C <sub>4</sub> F <sub>17</sub> SO <sub>3</sub> Na	<b>MOLECULAR WEIGHT:</b>	526.08
<b>CONCENTRATION:</b>	50.0 ± 2.5 µg/ml (Na salt) 47.9 ± 2.4 µg/ml (MPFOS acid) 47.8 ± 2.4 µg/ml (MPFOS anion)	<b>SOLVENT(S):</b>	Methanol
<b>CHEMICAL PURITY:</b>	>98%	<b>ISOTOPIC PURITY:</b>	≥99% <sup>13</sup> C (1,2,3,4- <sup>13</sup> C <sub>4</sub> )
<b>LAST TESTED:</b> (mm/dd/yyyy)	04/15/2020		
<b>EXPIRY DATE:</b> (mm/dd/yyyy)	04/15/2025		
<b>RECOMMENDED STORAGE:</b>	Store ampoule in a cool, dark place		

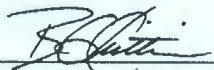
**DOCUMENTATION/ DATA ATTACHED:**

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-<sup>13</sup>C<sub>3</sub>]heptanesulfonate.

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**Certified By:**  **Date:** 04/20/2020  
 B.G. Chittim, General Manager (mm/dd/yyyy)

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**BATTELLE**

It can be done

BDO Id: 200811-01

## Reagent Receipt Report

Approved:  Authorized 

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

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	--	--	<input type="checkbox"/>	50	47.5	52.5

Total Analytes: 1

Notes:

**Approved by:** \_\_\_\_\_ **Approved on:** \_\_\_\_\_  
**Authorized by:** \_\_\_\_\_ **Authorized on:** \_\_\_\_\_



# WELLINGTON LABORATORIES

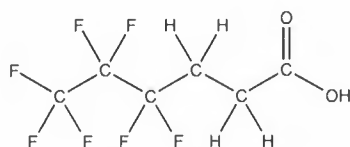
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**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  $^{19}\text{F}$  NMR.

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**Certified By:**   
B.G. Chittim, General Manager

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

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**BATTELLE**

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 Val:	Cert Val:	Lower Limit:	Upper Limit:
3-Perfluoroheptyl propanoic acid	812-70-4	50.0000	98.00	--	--	<input type="checkbox"/>	50	47.5	52.5

Total Analytes: 1

Notes:

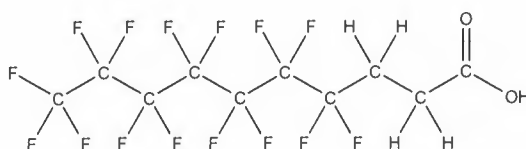
**Approved by:** \_\_\_\_\_ **Approved on:** \_\_\_\_\_  
**Authorized by:** \_\_\_\_\_ **Authorized on:** \_\_\_\_\_



# 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<sub>10</sub>H<sub>5</sub>F<sub>15</sub>O<sub>2</sub> **MOLECULAR WEIGHT:** 442.12  
**CONCENTRATION:** 50.0 ± 2.5 µg/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.

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

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	--	--	<input type="checkbox"/>	50	47.5	52.5

Total Analytes: 1

Notes:

**Approved by:** \_\_\_\_\_ **Approved on:** \_\_\_\_\_  
**Authorized by:** \_\_\_\_\_ **Authorized on:** \_\_\_\_\_



# WELLINGTON LABORATORIES

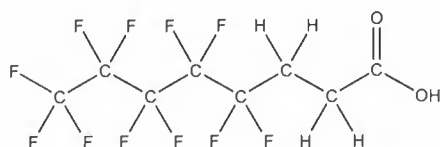
## CERTIFICATE OF ANALYSIS DOCUMENTATION

**PRODUCT CODE:** 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  $^{19}\text{F}$  NMR.

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

**Certified By:**   
B.G. Chittim, General Manager

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

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It can be done

BDO Id: 200909-01

Reagent Receipt Report

Approved:  Authorized

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

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

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 - DOD  
26 components  
Solvent(s): Methanol (1 mM KOH) Lot# 042920 (98%)  
2-Propanol 23214 (2%)  
Expiration Date: 072825  
Recommended Storage: Freezer (0 °C)  
Nominal Concentration (µg/mL): 1.0  
NIST Test ID#: 23050  
5E-05 Balance Uncertainty  
50.0 0.007 Flask Uncertainty

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

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

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50

1. Perfluoro-n-butanolic acid (linear)	99542	110419	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanolic acid	99543	110419	0.02	1.00	0.004	50.7	1.01	0.02	2706-90-3	N/A	N/A
3. Perfluorohexanolic acid	99199	010820	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanolic 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. Perfluorononanolic acid	99200	110419	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanolic 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. Perfluoroundecanolic acid	99205	110419	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosulfurododecanolic acid	99196	010820	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanolic acid	99204	110419	0.02	1.00	0.004	50.1	1.00	0.01	72829-94-8	N/A	N/A
11. Perfluorotetradecanolic 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	754-91-8	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0119	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	brNEIFOSAA0819	0.02	1.00	0.004	50.0	1.00	0.05	00-00-0	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	021820	0.02	1.00	0.004	50.2	1.00	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	99544	011420	0.02	0.98	0.004	51.3	1.00	0.02	830402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)*	99198	091219	0.02	1.00	0.004	50.6	1.01	0.01	355-46-4	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHpS0120	0.021	1.05	0.004	47.6	1.00	0.05	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)*	99201	021820	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS1119	0.021	1.05	0.004	46.0	1.01	0.05	98789-57-2	N/A	N/A
21. Perfluoro-1-decane sulfonic acid	3671	LPFDS0419	0.021	1.05	0.004	48.2	1.01	0.05	2808-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1019	0.0214	1.07	0.004	46.7	1.00	0.05	27819-93-8	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	82FTS0919	0.021	1.05	0.004	47.4	1.00	0.05	27819-94-9	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS0520	0.021	1.05	0.004	47.9	1.01	0.05	27819-96-1	N/A	N/A
25. 2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid	99668	071219	0.020	1.00	0.004	50.1	1.00	0.01	13252-13-6	N/A	N/A
26. 11-Chloroicosasulfuro-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-dioxanonanolic 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	0.15	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	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)*	4162	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)*	4162	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)*	4162	brNMeFOSAA0119	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	brNEIFOSAA0819	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	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)*	4163	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)*	4163	brNEIFOSAA0819	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 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	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorodecane sulfon	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorohexane sulfon	757124-72-4	1.0000	100.00	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorooctane sulfon	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>			
9-chlorohexadecafluoro-3-oxanonane	756426-58-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Adona	919005-14-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Hexafluoropropylene oxide dimer aci	13252-13-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-butanefluoride	375-73-5	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-decanesulfonate	335-77-3	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-nonanesulfonate	68259-12-1	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonate	1763-23-1	1.0100	100.00	--	--	<input type="checkbox"/>			
perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-pentanoic acid	2706-90-3	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 28

## Notes:

**Approved by:** \_\_\_\_\_ **Approved on:** \_\_\_\_\_  
**Authorized by:** \_\_\_\_\_ **Authorized on:** \_\_\_\_\_



CERTIFIED WEIGHT REPORT

Part Number: 64029  
Lot Number: 082620  
Description: PFOA - DOD  
28 components  
Expiration Date: 082625  
Recommended Storage: Freezer (0 °C)  
Nominal Concentration (µg/mL): 1.0  
NIST Test ID#: 23060

Solvent(s):  
Methanol (1 mM KOH) 042920 (98%)  
2-Propanol 23214 (2%)

Lot#  
5E-05 Balance Uncertainty  
0.007 Flask Uncertainty

Formulated By: Benson Cran		082620
		DATE
Reviewed By: Pedro L. Rentas		082620
		DATE

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

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-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. Perfluorooctanoic acid (linear)*	99202	021820	0.02	1.00	0.004	50.3	1.01	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	or-rel 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	or-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. 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	72529-94-8	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 (linear)*	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	LPFHs0120	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	LFFNS1119	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	LFFDS1119	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-tetrafluoropropanoic 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	11ClPF30udS0320	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	9ClPF30NS0420	0.021	1.07	0.004	46.6	1.00	0.05	72606-19-6	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	or-rel 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	or-rel 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	brMeFOSAA0119	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	brMeFOSAA0119	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 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 to ± 0.25% 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 Kaye, C.E., "Guidelines for Establishing and Expressing 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	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorodecane sulfon	39108-34-4	1.0100	100.00	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorohexane sulfon	757124-72-4	1.0000	100.00	--	--	<input type="checkbox"/>			
1H,1H,2H,2H-Perfluorooctane sulfon	27619-97-2	1.0000	100.00	--	--	<input type="checkbox"/>			
9-chlorohexadecafluoro-3-oxanonane	756426-58-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Adona	919005-14-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Hexafluoropropylene oxide dimer aci	13252-13-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	<input type="checkbox"/>			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-butanefluoride	375-73-5	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-decanesulfonate	335-77-3	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-hexanesulfonate	355-46-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-nonanesulfonate	68259-12-1	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-1-octanesulfonate	1763-23-1	1.0100	100.00	--	--	<input type="checkbox"/>			
perfluoro-1-pentanesulfonate	2706-91-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-pentanoic acid	2706-90-3	1.0100	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	<input type="checkbox"/>			

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 (98%)  
23214 (2%)

**5E-05 Balance Uncertainty**  
**0.007 Flask Uncertainty**

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

Volume(s) shown below were combined and diluted to (mL): 50.0

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanolic acid (linear)	99542	110419	0.02	1.00	0.004	50.2	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	99543	110419	0.02	1.00	0.004	50.7	1.01	0.02	2708-90-3	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	335-87-1	N/A	lpr-rat 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	335-78-2	N/A	ort-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	110419	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-6	N/A	N/A
9. Tricosulfurododecanoic acid	99198	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	378-08-7	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)*	4182	brNmFOSAA0119	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)*	4183	brNEIFOSAA0819	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)*	99196	091219	0.02	1.00	0.004	50.6	1.01	0.01	355-48-4	N/A	N/A
18. 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
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	LPFN51119	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	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	3681	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	3682	82FTS0520	0.021	1.05	0.004	47.9	1.01	0.05	27819-98-1	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-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
27. 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	4184	9CIPF3ONS0420	0.021	1.07	0.004	46.6	1.00	0.05	73608-19-6	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	335-87-1	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)*	99196	091219	0.02	1.00	0.004	50.0	1.00	0.01	355-48-4	N/A	N/A
Perfluorohexanesulfonic acid (branched isomer)*	99196	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
Heptadecafluorooclanesulfonic 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	brNmFOSAA0119	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	brNmFOSAA0119	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	brNmFOSAA0119	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	brNmFOSAA0119	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)*	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	0.0006	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. 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**

<b><u>Project Title(s)</u></b>	<b><u>Project No.(s)</u></b>
CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10	100142218
<b>20-1511</b>	
<b>CTO-4532: PFAS in Water</b>	
<b>GW</b>	
SOP Numbers (see workplan for modifications)	
ExtractionSOP No.	5-370

<b>This Batch Contains The Following Samples:</b>
DB450PB-FS DB451LCS-FS G1795-FS1 G1801-FS1 G1802-FS1

Laboratory Preparation Records  
COMPLETE AND VALIDATED

Prep Task Leader: Lauren Griffith

Approved By:	Date	Initials
Denise Schumitz	11/19/2020	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

**20-1511****CTO-4532: PFAS in Water****GW**

Sample ID	Description
DB450PB-FS	Procedural Blank
DB451LCS-FS	Laboratory Control Sample
G1795-FS1	CBD-AOA-MW17-1020
G1801-FS1	CBD-SO3-MW02-1020
G1802-FS1	CBD-AOA-MW09-1020

Samples Assigned By:

Lauren Griffith

Date : November 17, 2020

Comments: RE-EXTRACTS FROM 20-1329



It can be done

**BATTELLE - NORWELL OPERATIONS  
SAMPLE CUSTODY LOG**

**Project Title(s)**

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

**Project No.(s)**

100142218

**20-1511**

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

<b>Requested On/By:</b> 11/18/2020 LMG	<b>Purpose:</b> Sample Preparation
<b>Relinquished On/By:</b> 11/18/2020 MDS	<b>Last Activity:</b> Transfer

<b>Accepted On/By:</b> 11/18/2020 KH	<b>Returned On/To:</b>
<b>Stored In Facility:</b> Sample Preparation	<b>Returned To Facility:</b>
<b>Stored Until:</b>	
<b>Stored Comment:</b> NA	<b>Returned Comment:</b> NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	G1795	2	C	Consumed	NA
2	G1801	2	C	Consumed	NA
3	G1802	2	C	Consumed	NA
<b>Total Samples</b>		3		* "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

**20-1511**

**CTO-4532: PFAS in Water**

**GW**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
DB450PB-FS	Procedural Blank	250.0	NA	--	11/18/20 AW
DB451LCS-FS	Laboratory Control Sample	250.0	NA	--	11/18/20 AW
G1795-FS1	CBD-AOA-MW17-1020	235.0	2	C	11/19/20 KH
G1801-FS1	CBD-SO3-MW02-1020	260.0	2	C	11/19/20 KH
G1802-FS1	CBD-AOA-MW09-1020	275.0	2	C	11/19/20 KH

Comments:

Samples Assigned By:

Lauren Griffith

Date : November 17, 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

**20-1511**

**CTO-4532: PFAS in Water**

**GW**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
DB450PB-FS	LE39	SIS	5	125	11/18/20 KH	KB	NA
DB451LCS-FS	LE39	SIS	5	125	11/18/20 KH	KB	NA
DB451LCS-FS	LE49	LCS/MS	1	100	11/18/20 KH	KB	NA
G1795-FS1	LE39	SIS	5	125	11/18/20 KH	KB	NA
G1801-FS1	LE39	SIS	5	125	11/18/20 KH	KB	NA
G1802-FS1	LE39	SIS	5	125	11/18/20 KH	KB	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
LE39	Pipette	B814657482
LE49	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

**20-1511**

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

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
DB450PB-FS	11/18/20 KH	NA	NA	NEVAP_3	NA	NA	NA	NA
DB451LCS-FS	11/18/20 KH	NA	NA	NEVAP_3	NA	NA	NA	NA
G1795-FS1	11/18/20 KH	NA	NA	NEVAP_3	NA	NA	NA	NA
G1801-FS1	11/18/20 KH	NA	NA	NEVAP_3	NA	NA	NA	NA
G1802-FS1	11/18/20 KH	NA	NA	NEVAP_3	NA	NA	NA	NA

**Solvents/Reagent Preparations:**

Name	ID	Expires	Lot No	Procedure	Comments
pH Indicator Strips 0-14	201111-01	11/11/25	10D4191	NA	
0.5% NH <sub>3</sub> in Methanol (w/v)	RP-201118-4	11/18/20	A0393442	Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol	
0.5% NH <sub>3</sub> in Methanol (w/v)	RP-201118-4	11/18/20	202381	Per 100 mL, 4.25 mL ammonia solution brought to 100 mL with methanol	
Pre-packed SPE Column	RP-201118-7	11/18/20	S308-0117/S20-005135	Pre-packed SPE Column	

**Solvents/Reagents:**

Name	Lot No	Comments
Methanol HPLC (201109-01)	202381	



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

**20-1511**

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

Extract Id	Date	Init.	Comments
DB450PB-FS(0)	11/18/20	AW	NA
DB451LCS-FS(0)	11/18/20	AW	NA
G1795-FS1(0)	11/18/20	AW	NA
G1801-FS1(0)	11/18/20	AW	NA
G1802-FS1(0)	11/18/20	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

**20-1511**

**CTO-4532: PFAS in Water  
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

**20-1511**

**CTO-4532: PFAS in Water  
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
DB450PB-FS(0)	875	125	LE40	125	5	1000	1.000	11/19/20 KB	RPK
DB451LCS-FS(0)	875	125	LE40	125	5	1000	1.000	11/19/20 KB	RPK
G1795-FS1(0)	875	125	LE40	125	5	1000	1.000	11/19/20 KB	RPK
G1801-FS1(0)	875	125	LE40	125	5	1000	1.000	11/19/20 KB	RPK
G1801-FS1-D(3)	885	115	LE40	125	5	1000	12.500	11/19/20 KB	RPK
G1802-FS1(0)	875	125	LE40	125	5	1000	1.000	11/19/20 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

**20-1511**

**CTO-4532: PFAS in Water**

**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-FS1-D(3)	12.5	LE39	SIS	6	115	0	0	11/19/20 KB	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

**20-1511****CTO-4532: PFAS in Water****GW**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
DB450PB-FS	0	--	11/18/2020 11:20:00 AM	NA		NA	NA	1.000	1.000	11/18/20 KH
DB451LCS-FS	0	--	11/18/2020 11:20:00 AM	NA		NA	NA	1.000	1.000	11/18/20 KH
G1795-FS1	0	--	11/18/2020 11:20:00 AM	NA		NA	NA	1.000	1.000	11/18/20 KH
G1801-FS1	0	C	11/18/2020 11:20:00 AM	NA		NA	NA	1.000	1.000	11/18/20 KH
G1801-FS1	2	--	11/19/2020 11:52:00 AM	G1801-FS1	0	1000	920	1.087	1.087	11/19/20 KB
G1801-FS1-D	3	--	11/19/2020 11:52:00 AM	G1801-FS1	0	1000	80	12.500	12.500	11/19/20 KB
G1802-FS1	0	--	11/18/2020 11:20:00 AM	NA		NA	NA	1.000	1.000	11/18/20 KH

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

**20-1511**

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

<b>Purpose:</b> LC-MS/MS TRANSFER		<b>Last Activity:</b> Prep->Inst			
<b>Relinquished On/By:</b> Nov 19 2020 12:35PM KB		<b>Received On/By:</b> Nov 19 2020 12:54PM LMG			
<b>Relinquished From:</b> Sample Preparation: NA		<b>Received Location:</b> LC Laboratory: NA			
<b>Relinquish Comment:</b> NA		<b>Received Comment:</b> NA			
No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	DB450PB-FS(0)	1000	1	Intact	NA
2	DB451LCS-FS(0)	1000	1	Intact	NA
3	G1795-FS1(0)	1000	1	Intact	NA
4	G1801-FS1(0)	1000	1	Intact	NA
5	G1801-FS1-D(3)	1000	12.5	Intact	NA
6	G1802-FS1(0)	1000	1	Intact	NA
<b>Total Extracts:</b>		6			



It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

**Project Title(s)**

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

**Project No.(s)**

100142218

**20-1511****CTO-4532: PFAS in Water****GW**

Sample ID:	Comment:	Date/Initials:
DB450PB-FS	Extraction started at 11:20 AM, manifold 8, ended at 12:21 PM.	11/18/20 KH
DB450PB-FS	Sample was fortified per project plan, poured into a centrifuge bottle and centrifuged at 3500 RPM for 5 minutes. Sample was then poured back into original container for extraction.	11/18/20 AW
DB451LCS-FS	Extraction started at 11:20 AM, manifold 8, ended at 12:20 PM.	11/18/20 KH
DB451LCS-FS	Sample was fortified per project plan, poured into a centrifuge bottle and centrifuged at 3500 RPM for 5 minutes. Sample was then poured back into original container for extraction.	11/18/20 AW
G1795-FS1	Extraction started at 11:20 AM, manifold 1, ended at 12:43 PM.	11/18/20 KH
G1795-FS1	Sample was fortified per project plan, poured into a centrifuge bottle and centrifuged at 3500 RPM for 5 minutes. Sample was then poured back into original container for extraction.	11/18/20 AW
G1801-FS1	Extraction started at 11:20 AM, manifold 1, ended at 2:51 PM.	11/18/20 KH
G1801-FS1	Sample was fortified per project plan, poured into a centrifuge bottle and centrifuged at 3500 RPM for 5 minutes. Sample was then poured back into original container for extraction.	11/18/20 AW
G1801-FS1	Sample clogged filter on column, column was ceased and a secondary column was conditioned and started. Both columns were allowed to dry and eluted per SOP. After carbon clean-up the two tubes of sample were combined into one 50mL tube prior to concentration.	11/18/20 KH
G1802-FS1	Extraction started at 11:20 AM, manifold 1, ended at 2:12 PM.	11/18/20 KH
G1802-FS1	Sample was fortified per project plan, poured into a centrifuge bottle and centrifuged at 3500 RPM for 5 minutes. Sample was then poured back into original container for extraction.	11/18/20 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

**20-1511**

**CTO-4532: PFAS in Water**

**GW**

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Entered By:

On:

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Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:

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# Analytical Calibrations



## Sequence Report

Created with Analyst Reporter  
Printed: 18/11/2020 12:11:03 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



## Sequence Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:28:33 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MEOH		11/18/2020 1:34:09 AM	5-0369.dam	AC_11172020_5-369.wiff
2	LE54 CCV	CCV	11/18/2020 1:45:00 AM	5-0369.dam	AC_11172020_5-369.wiff
3	LE57	L6	11/18/2020 1:55:50 AM	5-0369.dam	AC_11172020_5-369.wiff
4	LE58 IB	IB	11/18/2020 2:06:41 AM	5-0369.dam	AC_11172020_5-369.wiff
5	MEOH		11/18/2020 2:17:32 AM	5-0369.dam	AC_11172020_5-369.wiff
6	<del>DB190PB-FS(0)</del>		<del>11/18/2020 2:28:24 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
7	<del>DB191LCS-FS(0)</del>		<del>11/18/2020 2:39:14 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
8	<del>G2423-FS(0)</del>		<del>11/18/2020 2:50:03 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
9	MEOH		11/18/2020 3:00:53 AM	5-0369.dam	AC_11172020_5-369.wiff
10	<del>LE54-CCV</del>		<del>11/18/2020 3:11:45 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
11	MEOH		11/18/2020 3:22:35 AM	5-0369.dam	AC_11172020_5-369.wiff
12	<del>DB078PB-FS(3)</del>		<del>11/18/2020 3:33:26 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
13	<del>DB079LCS-FS(3)</del>		<del>11/18/2020 3:44:17 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
14	<del>G1938-FS(3)</del>		<del>11/18/2020 3:55:09 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
15	<del>G1939-FS(3)</del>		<del>11/18/2020 4:06:00 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
16	<del>G1940-FS(3)</del>		<del>11/18/2020 4:16:51 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
17	<del>G1943-FS(3)</del>		<del>11/18/2020 4:27:41 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
18	<del>G1944-FS(3)</del>		<del>11/18/2020 4:38:32 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
19	<del>G1946-FS(3)</del>		<del>11/18/2020 4:49:23 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
20	MEOH		11/18/2020 5:00:15 AM	5-0369.dam	AC_11172020_5-369.wiff
21	<del>LE55-CCV</del>		<del>11/18/2020 5:11:05 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
22	<del>G1947MS-FS(3)</del>		<del>11/18/2020 5:21:57 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
23	<del>G1948MSD-FS(3)</del>		<del>11/18/2020 5:32:48 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
24	<del>G1949-FS(3)</del>		<del>11/18/2020 5:43:38 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
25	<del>G1952-FS(3)</del>		<del>11/18/2020 5:54:29 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
26	<del>G1953-FS(3)</del>		<del>11/18/2020 6:05:19 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
27	MEOH		11/18/2020 6:16:10 AM	5-0369.dam	AC_11172020_5-369.wiff
28	<del>LE54-CCV</del>		<del>11/18/2020 6:27:00 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
29	MEOH		11/18/2020 6:37:51 AM	5-0369.dam	AC_11172020_5-369.wiff
30	<del>DB080PB-FS(3)</del>		<del>11/18/2020 6:48:44 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
31	<del>DB081LCS-FS(3)</del>		<del>11/18/2020 6:59:35 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
32	<del>G1954-FS(3)</del>		<del>11/18/2020 7:10:27 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
33	<del>G1955-FS(3)</del>		<del>11/18/2020 7:22:12 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
34	<del>G1959-FS(3)</del>		<del>11/18/2020 7:33:04 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
35	<del>G1962-FS(3)</del>		<del>11/18/2020 7:43:56 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
36	<del>G1963MS-FS(3)</del>		<del>11/18/2020 7:54:47 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
37	<del>G1964MSD-FS(3)</del>		<del>11/18/2020 8:05:37 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
38	MEOH		11/18/2020 8:16:29 AM	5-0369.dam	AC_11172020_5-369.wiff
39	<del>LE55-CCV</del>		<del>11/18/2020 8:27:21 AM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>





## Sequence Report

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Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
40	<del>G1965-FS(3)</del>		11/18/2020 8:38:14 AM	5-0369.dam	AC_11172020_5-369.wiff
41	<del>G1974-FS(3)</del>		11/18/2020 8:49:05 AM	5-0369.dam	AC_11172020_5-369.wiff
42	<del>G1975-FS(3)</del>		11/18/2020 8:59:57 AM	5-0369.dam	AC_11172020_5-369.wiff
43	<del>G1979-FS(3)</del>		11/18/2020 9:10:49 AM	5-0369.dam	AC_11172020_5-369.wiff
44	<del>G1980-FS(3)</del>		11/18/2020 9:21:40 AM	5-0369.dam	AC_11172020_5-369.wiff
8	<del>G2423-FS(0)</del>		11/18/2020 9:32:32 AM	5-0369.dam	AC_11172020_5-369.wiff
45	<del>MEOH</del>		11/18/2020 9:43:26 AM	5-0369.dam	AC_11172020_5-369.wiff
46	<del>LE55-CCV</del>		11/18/2020 9:54:18 AM	5-0369.dam	AC_11172020_5-369.wiff
47	<del>MEOH</del>		11/18/2020 10:05:11 AM	5-0369.dam	AC_11172020_5-369.wiff
48	<del>DB082PB-FS(3)</del>		11/18/2020 10:16:34 AM	5-0369.dam	AC_11172020_5-369.wiff
49	<del>DB083LCS-FS(3)</del>		11/18/2020 10:27:27 AM	5-0369.dam	AC_11172020_5-369.wiff
50	<del>G1968-FS(3)</del>		11/18/2020 10:38:19 AM	5-0369.dam	AC_11172020_5-369.wiff
51	<del>G1969MS-FS(3)</del>		11/18/2020 10:49:11 AM	5-0369.dam	AC_11172020_5-369.wiff
52	<del>G1970MSD-FS(3)</del>		11/18/2020 11:00:03 AM	5-0369.dam	AC_11172020_5-369.wiff
53	<del>G1981-FS(3)</del>		11/18/2020 11:40:18 AM	5-0369.dam	AC_11172020_5-369.wiff
54	<del>G1984-FS(3)</del>		11/18/2020 11:51:10 AM	5-0369.dam	AC_11172020_5-369.wiff
1	<del>G1985-FS(3)</del>		11/18/2020 12:02:01 PM	5-0369.dam	AC_11172020_5-369.wiff
2	<del>MEOH</del>		11/18/2020 12:12:56 PM	5-0369.dam	AC_11172020_5-369.wiff
3	<del>LE54-CCV</del>		11/18/2020 12:23:50 PM	5-0369.dam	AC_11172020_5-369.wiff
4	<del>G1987-FS(3)</del>		11/18/2020 12:34:46 PM	5-0369.dam	AC_11172020_5-369.wiff
5	<del>G1988-FS(3)</del>		11/18/2020 12:45:40 PM	5-0369.dam	AC_11172020_5-369.wiff
6	<del>G1991-FS(3)</del>		11/18/2020 12:56:35 PM	5-0369.dam	AC_11172020_5-369.wiff
7	<del>G1992-FS(3)</del>		11/18/2020 1:07:30 PM	5-0369.dam	AC_11172020_5-369.wiff
8	<del>G1993-FS(3)</del>		11/18/2020 1:18:24 PM	5-0369.dam	AC_11172020_5-369.wiff
9	<del>G1996-FS(3)</del>		11/18/2020 1:29:17 PM	5-0369.dam	AC_11172020_5-369.wiff
10	<del>MEOH</del>		11/18/2020 1:40:12 PM	5-0369.dam	AC_11172020_5-369.wiff
11	<del>LE54-CCV</del>		11/18/2020 1:51:08 PM	5-0369.dam	AC_11172020_5-369.wiff
22	<del>G1947MS-FS(3)</del>		11/18/2020 2:02:04 PM	5-0369.dam	AC_11172020_5-369.wiff
23	<del>G1948MSD-FS(3)</del>		11/18/2020 2:12:58 PM	5-0369.dam	AC_11172020_5-369.wiff
24	<del>G1852-FS D(7)</del>		11/18/2020 2:23:52 PM	5-0369.dam	AC_11172020_5-369.wiff
25	<del>G1865-FS D(7)</del>		11/18/2020 2:34:47 PM	5-0369.dam	AC_11172020_5-369.wiff
26	<del>G1949-FS D(5)</del>		11/18/2020 2:45:43 PM	5-0369.dam	AC_11172020_5-369.wiff
27	<del>G1955-FS D(5)</del>		11/18/2020 2:56:37 PM	5-0369.dam	AC_11172020_5-369.wiff
28	<del>LE55-CCV</del>		11/18/2020 3:07:31 PM	5-0369.dam	AC_11172020_5-369.wiff
10	<del>MEOH</del>		11/18/2020 4:21:00 PM	5-0369.dam	AC_11172020_5-369.wiff
11	<del>LE54-CCV</del>		11/18/2020 4:31:55 PM	5-0369.dam	AC_11172020_5-369.wiff
12	<del>MEOH</del>		11/18/2020 4:42:51 PM	5-0369.dam	AC_11172020_5-369.wiff
13	<del>DB045PB-FS(0)</del>		11/18/2020 4:53:46 PM	5-0369.dam	AC_11172020_5-369.wiff
14	<del>DB046LCS-FS(0)</del>		11/18/2020 5:04:42 PM	5-0369.dam	AC_11172020_5-369.wiff



## Sequence Report

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Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
15	<del>G1916-FS-D(3)</del>		11/18/2020 5:15:38 PM	5-0369.dam	AC_11172020_5-369.wiff
16	<del>G1916-FS-D(5)</del>		11/18/2020 5:26:34 PM	5-0369.dam	AC_11172020_5-369.wiff
17	<del>G1916-FS-D(7)</del>		11/18/2020 5:37:29 PM	5-0369.dam	AC_11172020_5-369.wiff
18	<del>G1916-FS-D(9)</del>		11/18/2020 5:48:24 PM	5-0369.dam	AC_11172020_5-369.wiff
19	MEOH		11/18/2020 5:59:19 PM	5-0369.dam	AC_11172020_5-369.wiff
20	MEOH		11/18/2020 6:10:16 PM	5-0369.dam	AC_11172020_5-369.wiff
21	<del>LE55-CCV</del>		11/18/2020 6:21:12 PM	5-0369.dam	AC_11172020_5-369.wiff
1	MEOH		11/18/2020 6:53:11 PM	5-0369.dam	AC_11172020_5-369.wiff
2	<del>DB428PB-FS(0)</del>		11/18/2020 7:04:04 PM	5-0369.dam	AC_11172020_5-369.wiff
3	<del>DB429LCS-FS(0)</del>		11/18/2020 7:14:58 PM	5-0369.dam	AC_11172020_5-369.wiff
4	<del>G2028-FS(0)</del>		11/18/2020 7:25:54 PM	5-0369.dam	AC_11172020_5-369.wiff
5	<del>G2023-FS1(0)</del>		11/18/2020 7:36:51 PM	5-0369.dam	AC_11172020_5-369.wiff
6	<del>G2031-FS1(0)</del>		11/18/2020 7:47:45 PM	5-0369.dam	AC_11172020_5-369.wiff
7	<del>G2033-FS1(0)</del>		11/18/2020 7:58:39 PM	5-0369.dam	AC_11172020_5-369.wiff
8	<del>G2033-FS1-D(3)</del>		11/18/2020 8:09:34 PM	5-0369.dam	AC_11172020_5-369.wiff
9	MEOH		11/18/2020 8:20:29 PM	5-0369.dam	AC_11172020_5-369.wiff
10	<del>LE54-CCV</del>		11/18/2020 8:31:22 PM	5-0369.dam	AC_11172020_5-369.wiff
11	<del>G2034-FS1(0)</del>		11/18/2020 8:42:18 PM	5-0369.dam	AC_11172020_5-369.wiff
12	<del>G2035-FS1(0)</del>		11/18/2020 8:53:13 PM	5-0369.dam	AC_11172020_5-369.wiff
13	<del>G2036-FS1(0)</del>		11/18/2020 9:04:07 PM	5-0369.dam	AC_11172020_5-369.wiff
14	<del>G2036-FS1-D(3)</del>		11/18/2020 9:15:03 PM	5-0369.dam	AC_11172020_5-369.wiff
15	MEOH		11/18/2020 9:25:58 PM	5-0369.dam	AC_11172020_5-369.wiff
16	<del>LE55-CCV</del>		11/18/2020 9:36:52 PM	5-0369.dam	AC_11172020_5-369.wiff
17	MEOH		11/18/2020 9:47:47 PM	5-0369.dam	AC_11172020_5-369.wiff
18	<del>DB192PB-FS(0)</del>		11/18/2020 9:58:41 PM	5-0369.dam	AC_11172020_5-369.wiff
19	<del>DB193LCS-FS(0)</del>		11/18/2020 10:09:36 PM	5-0369.dam	AC_11172020_5-369.wiff
20	<del>LE64-1</del>		11/18/2020 10:20:30 PM	5-0369.dam	AC_11172020_5-369.wiff
21	<del>LE64-2</del>		11/18/2020 10:31:27 PM	5-0369.dam	AC_11172020_5-369.wiff
22	<del>G2424-FS(0)</del>		11/18/2020 10:42:23 PM	5-0369.dam	AC_11172020_5-369.wiff
23	<del>G2425-FS(0)</del>		11/18/2020 10:53:19 PM	5-0369.dam	AC_11172020_5-369.wiff
24	<del>G2426-FS(0)</del>		11/18/2020 11:04:13 PM	5-0369.dam	AC_11172020_5-369.wiff
25	<del>G2427-FS(0)</del>		11/18/2020 11:15:08 PM	5-0369.dam	AC_11172020_5-369.wiff
26	MEOH		11/18/2020 11:26:02 PM	5-0369.dam	AC_11172020_5-369.wiff
27	<del>LE54-CCV</del>		11/18/2020 11:36:57 PM	5-0369.dam	AC_11172020_5-369.wiff
34	MEOH		11/19/2020 7:51:30 AM	5-0369.dam	AC_11172020_5-369.wiff
35	<del>LE55-CCV</del>		11/19/2020 8:02:25 AM	5-0369.dam	AC_11172020_5-369.wiff
18	<del>DB192PB-FS(0)</del>		11/19/2020 8:13:22 AM	5-0369.dam	AC_11172020_5-369.wiff
19	<del>DB193LCS-FS(0)</del>		11/19/2020 8:24:16 AM	5-0369.dam	AC_11172020_5-369.wiff
22	<del>G2424-FS(0)</del>		11/19/2020 8:35:12 AM	5-0369.dam	AC_11172020_5-369.wiff



## Sequence Report

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Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
23	<del>G2425-FS(0)</del>		<del>11/19/2020 8:46:07 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
24	<del>G2426-FS(0)</del>		<del>11/19/2020 8:57:02 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
25	<del>G2427-FS(0)</del>		<del>11/19/2020 9:07:58 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
26	MEOH		11/19/2020 9:18:53 AM	5-0369.dam	AC_11172020_5-369.wiff
20	LE64-3		11/19/2020 9:29:51 AM	5-0369.dam	AC_11172020_5-369.wiff
21	LE64-4		11/19/2020 9:40:46 AM	5-0369.dam	AC_11172020_5-369.wiff
27	<del>LE54-CCV</del>		<del>11/19/2020 9:51:45 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
28	<del>G2428-FS(0)</del>		<del>11/19/2020 10:02:40 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
29	<del>G2429-FS(0)</del>		<del>11/19/2020 10:13:35 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
30	<del>G2430-FS(0)</del>		<del>11/19/2020 10:25:02 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
31	<del>G2431-FS(0)</del>		<del>11/19/2020 10:35:58 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
32	<del>G2431MS-FS(0)</del>		<del>11/19/2020 10:46:54 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
33	<del>G2431MSD-FS(0)</del>		<del>11/19/2020 10:57:50 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
34	MEOH		11/19/2020 11:08:46 AM	5-0369.dam	AC_11172020_5-369.wiff
35	<del>LE55-CCV</del>		<del>11/19/2020 11:19:42 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
36	MEOH		11/19/2020 11:30:38 AM	5-0369.dam	AC_11172020_5-369.wiff
37	<del>DB221PB-FS(0)</del>		<del>11/19/2020 11:41:34 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
38	<del>DB222LCS-FS(0)</del>		<del>11/19/2020 11:52:31 AM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
39	<del>G2454-FS(0)</del>		<del>11/19/2020 12:03:56 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
40	<del>G2455-FS(0)</del>		<del>11/19/2020 12:14:53 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
41	<del>G2456-FS(0)</del>		<del>11/19/2020 12:25:50 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
42	<del>G2453-FS-D(3)</del>		<del>11/19/2020 12:36:46 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
43	<del>G2453-FS(0)</del>		<del>11/19/2020 12:47:42 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
44	MEOH		11/19/2020 12:58:38 PM	5-0369.dam	AC_11172020_5-369.wiff
45	LE54-CCV	CCV	11/19/2020 1:09:34 PM	5-0369.dam	AC_11172020_5-369.wiff
23	MEOH		11/19/2020 1:20:32 PM	5-0369.dam	AC_11172020_5-369.wiff
24	DB450PB-FS(0)	Procedural Blank	11/19/2020 1:31:29 PM	5-0369.dam	AC_11172020_5-369.wiff
25	DB451LCS-FS(0)	Laboratory Control Sample	11/19/2020 1:42:27 PM	5-0369.dam	AC_11172020_5-369.wiff
26	G1795-FS1(0)	CBD-AOA-MW17-1020	11/19/2020 1:53:25 PM	5-0369.dam	AC_11172020_5-369.wiff
27	G1802-FS1(0)	CBD-AOA-MW09-1020	11/19/2020 2:04:24 PM	5-0369.dam	AC_11172020_5-369.wiff
28	G1801-FS1(0)	CBD-SO3-MW02-1020	11/19/2020 2:15:20 PM	5-0369.dam	AC_11172020_5-369.wiff
29	G1801-FS1-D(3)	CBD-SO3-MW02-1020	11/19/2020 2:26:18 PM	5-0369.dam	AC_11172020_5-369.wiff
30	MEOH		11/19/2020 2:37:17 PM	5-0369.dam	AC_11172020_5-369.wiff
31	LE54-CCV	CCV	11/19/2020 2:48:15 PM	5-0369.dam	AC_11172020_5-369.wiff
30	MEOH		11/19/2020 3:00:12 PM	5-0369.dam	AC_11172020_5-369.wiff
31	<del>LE54-CCV</del>	<del>CCV</del>	<del>11/19/2020 3:11:09 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
32	MEOH		11/19/2020 3:22:06 PM	5-0369.dam	AC_11172020_5-369.wiff
33	<del>DB452PB-FS(0)</del>		<del>11/19/2020 3:33:03 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>
34	<del>DB453LCS-FS(0)</del>		<del>11/19/2020 3:44:01 PM</del>	5-0369.dam	<del>AC_11172020_5-369.wiff</del>



## Sequence Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:28:33 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	<del>35</del>	<del>G1843 FS1(0)</del>	<del>11/19/2020 3:54:58 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>36</del>	<del>G1852 FS1(0)</del>	<del>11/19/2020 4:05:56 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>37</del>	<del>G1852 FS1-D(3)</del>	<del>11/19/2020 4:16:53 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>38</del>	<del>G1852 FS1-D(5)</del>	<del>11/19/2020 4:27:52 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>39</del>	<del>G1852 FS1-D(7)</del>	<del>11/19/2020 4:38:51 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
2	<del>28</del>	<del>G1801 FS1(0)</del>	<del>11/19/2020 4:49:50 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>40</del>	<del>MEOH</del>	<del>11/19/2020 5:00:50 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>
	<del>41</del>	<del>LE55 CCV</del>	<del>11/19/2020 5:11:49 PM</del>	<del>5-0369.dam</del>	<del>AC_11172020_5-369.wiff</del>

1 Samples do not apply to this batch. LMG 11/19/2020

2 Sample was reanalyzed for confirmation only and was not reported. Data is included in the Unused Data section. LMG 11/19/2020



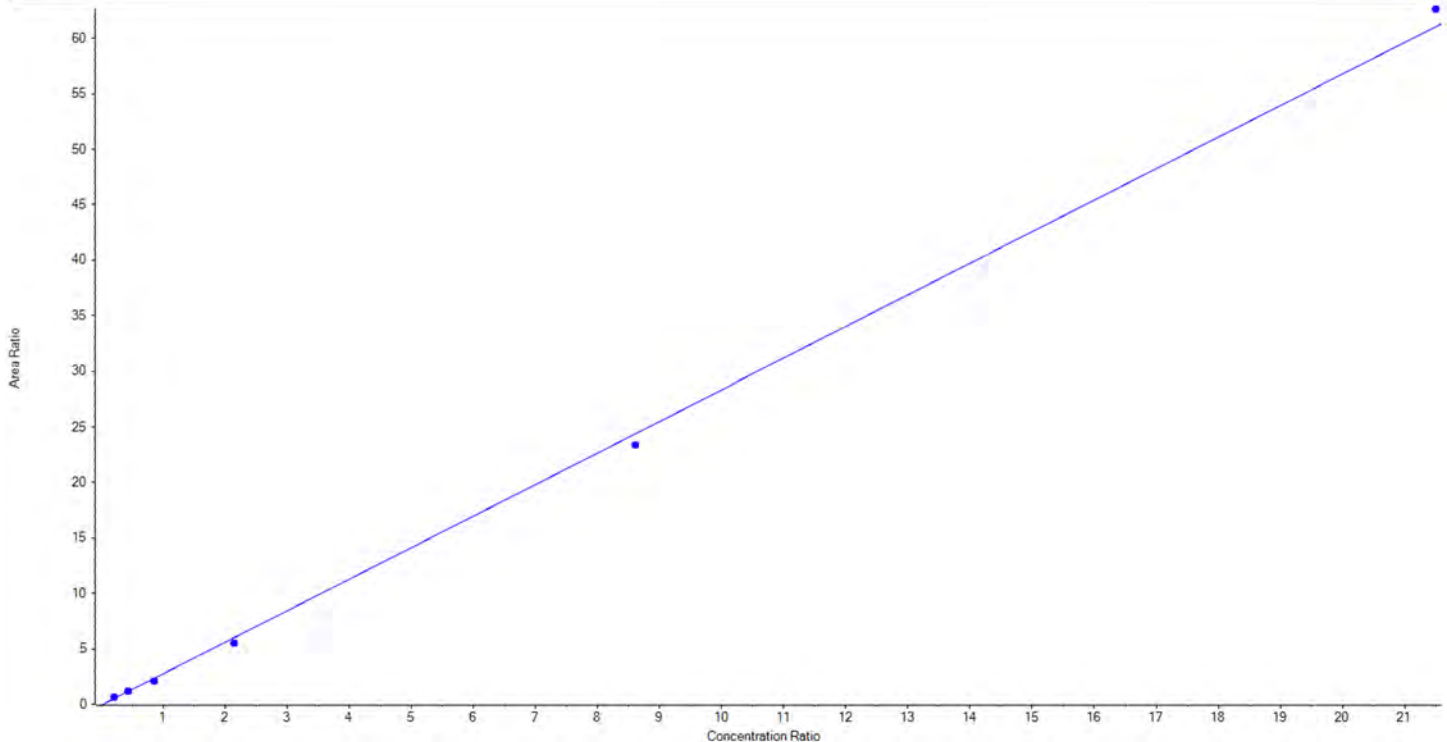
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFBS_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	298.9 / 80.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-PFBS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





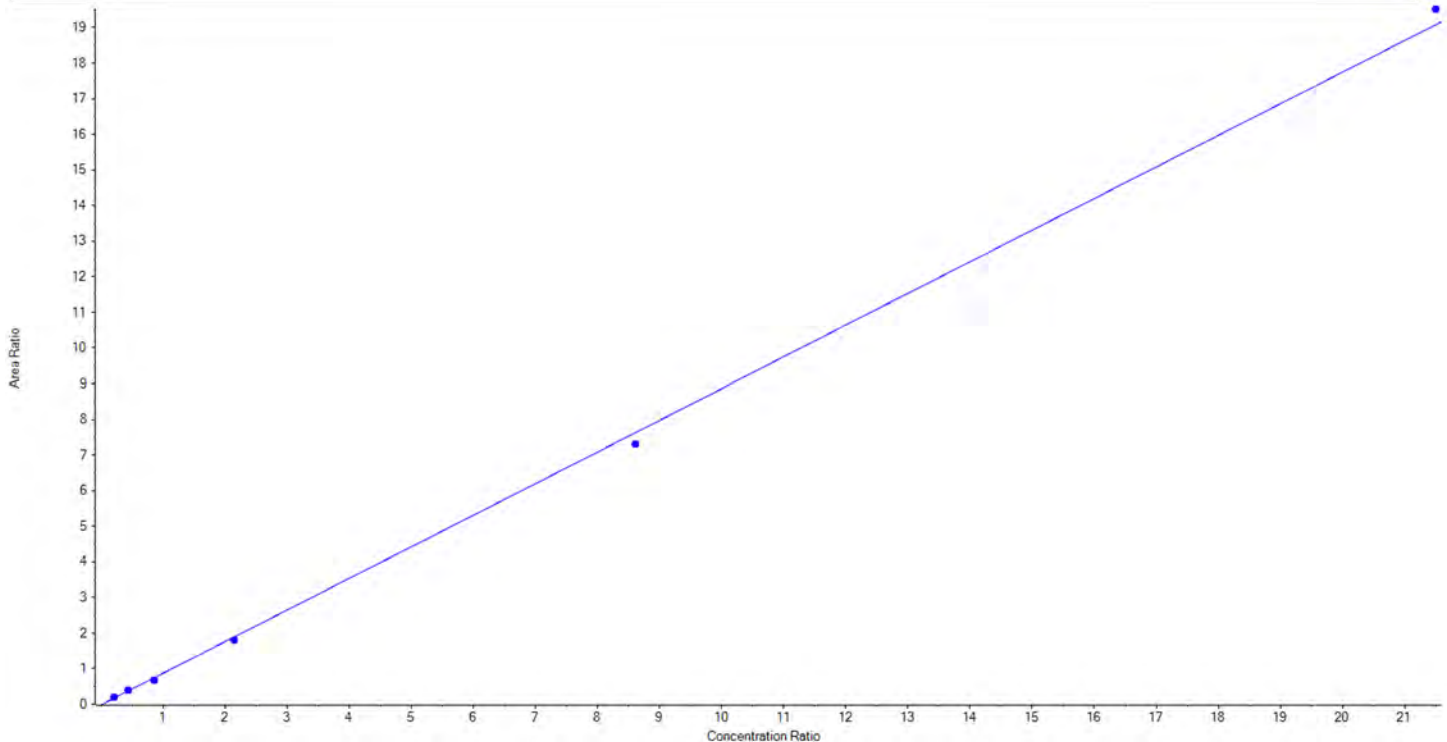
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFBS_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	298.9 / 99.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-PFBS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





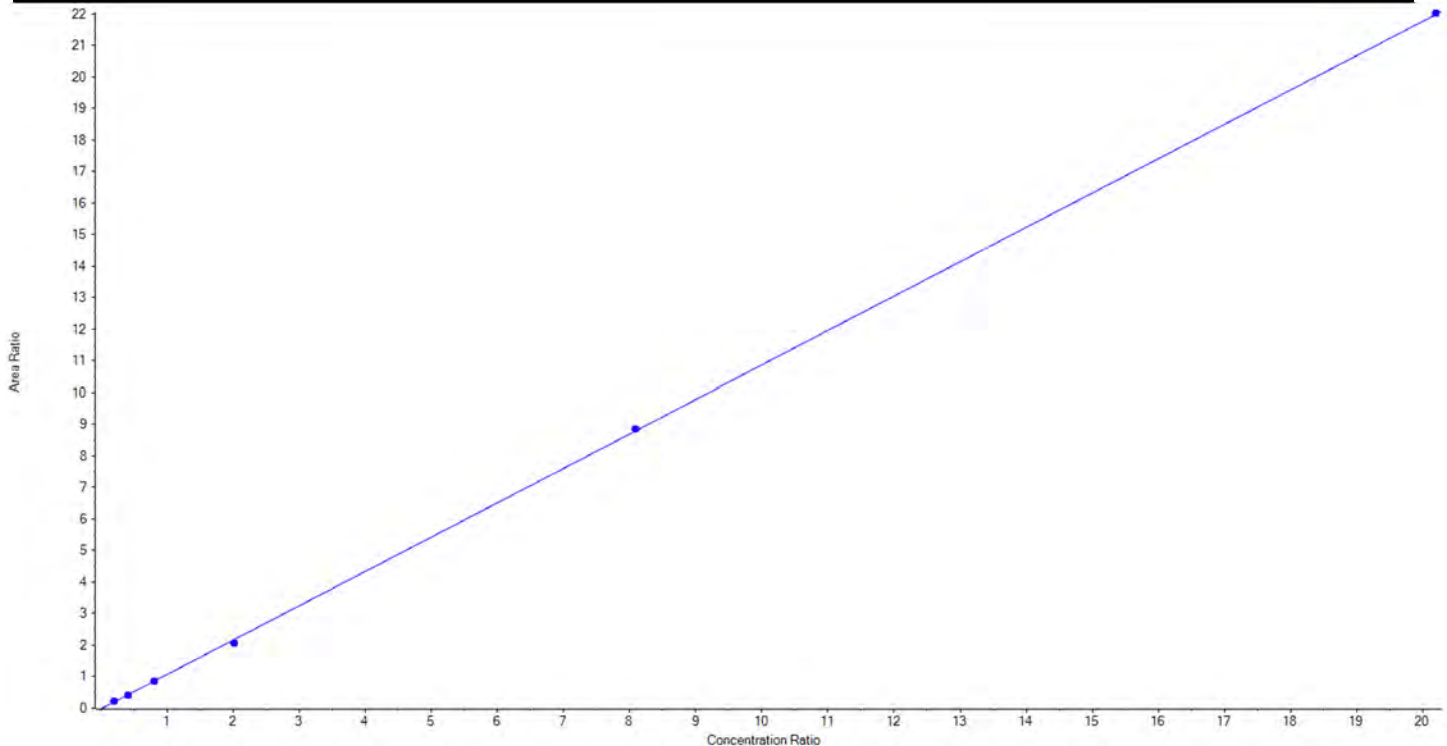
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFHxA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	313.0 / 269.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C5-PFHxA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.08922 x + -0.01688$  ( $r = 0.99985$ ) (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





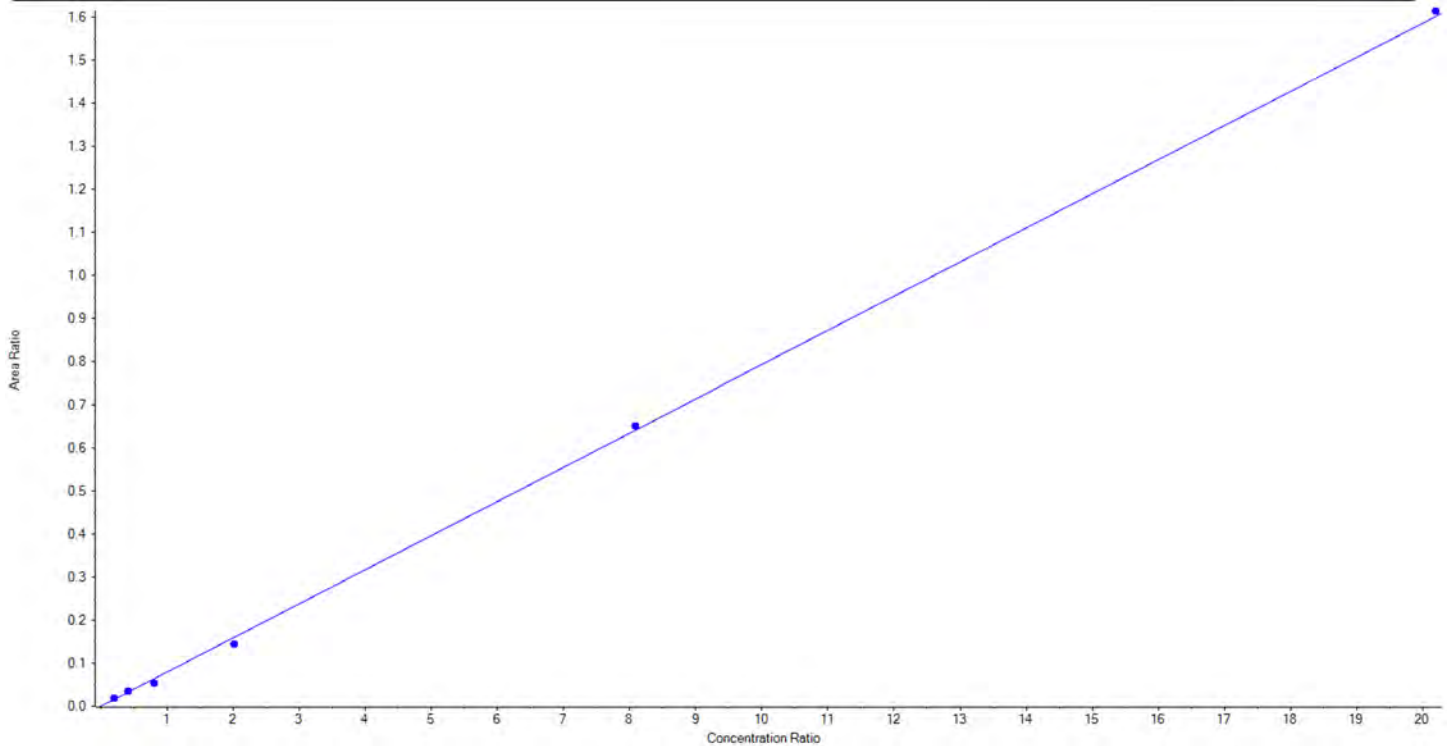
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFHxA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	313.0 / 119.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C5-PFHxA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 0.07931 x + 2.81729e-4$  ( $r = 0.99906$ ) (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







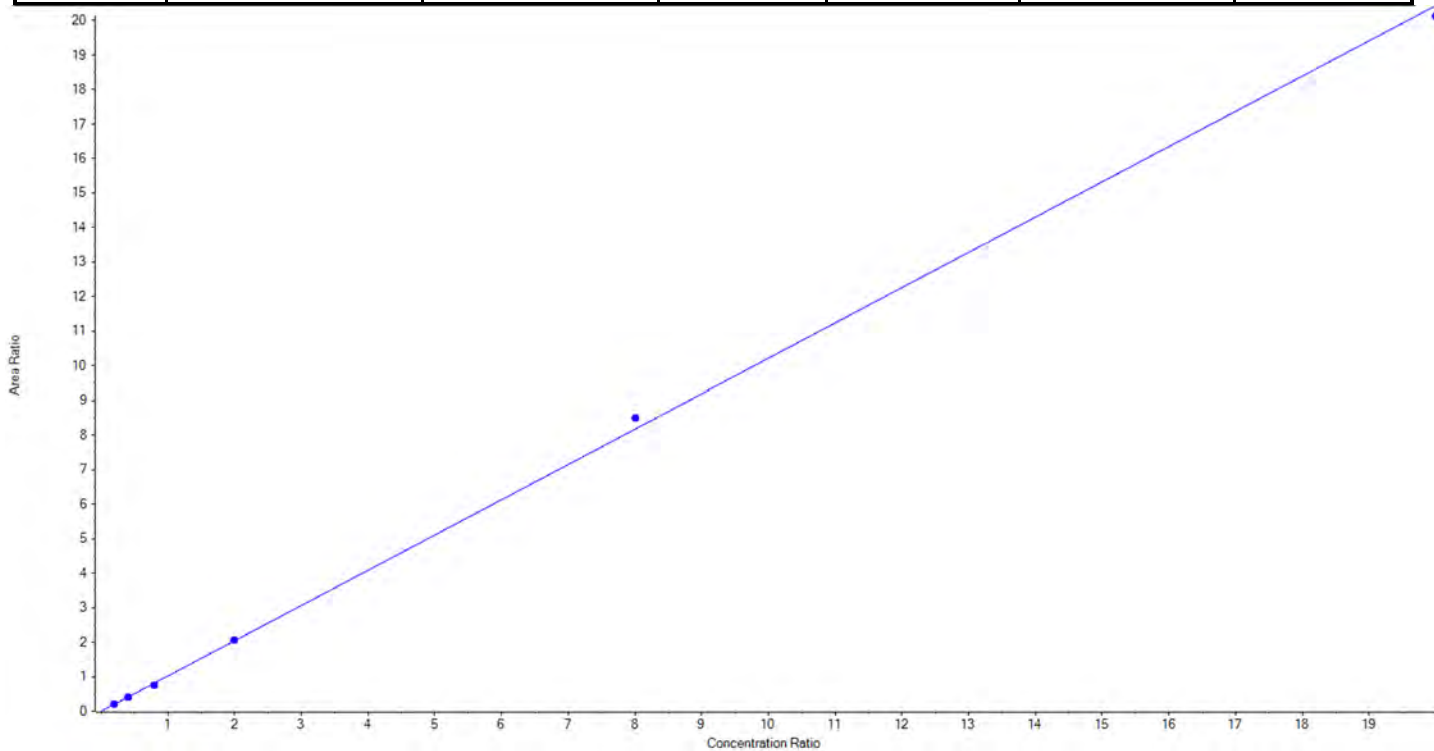
Calibration Summary Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFHpA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	363.0 / 319.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C4-PFHpA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





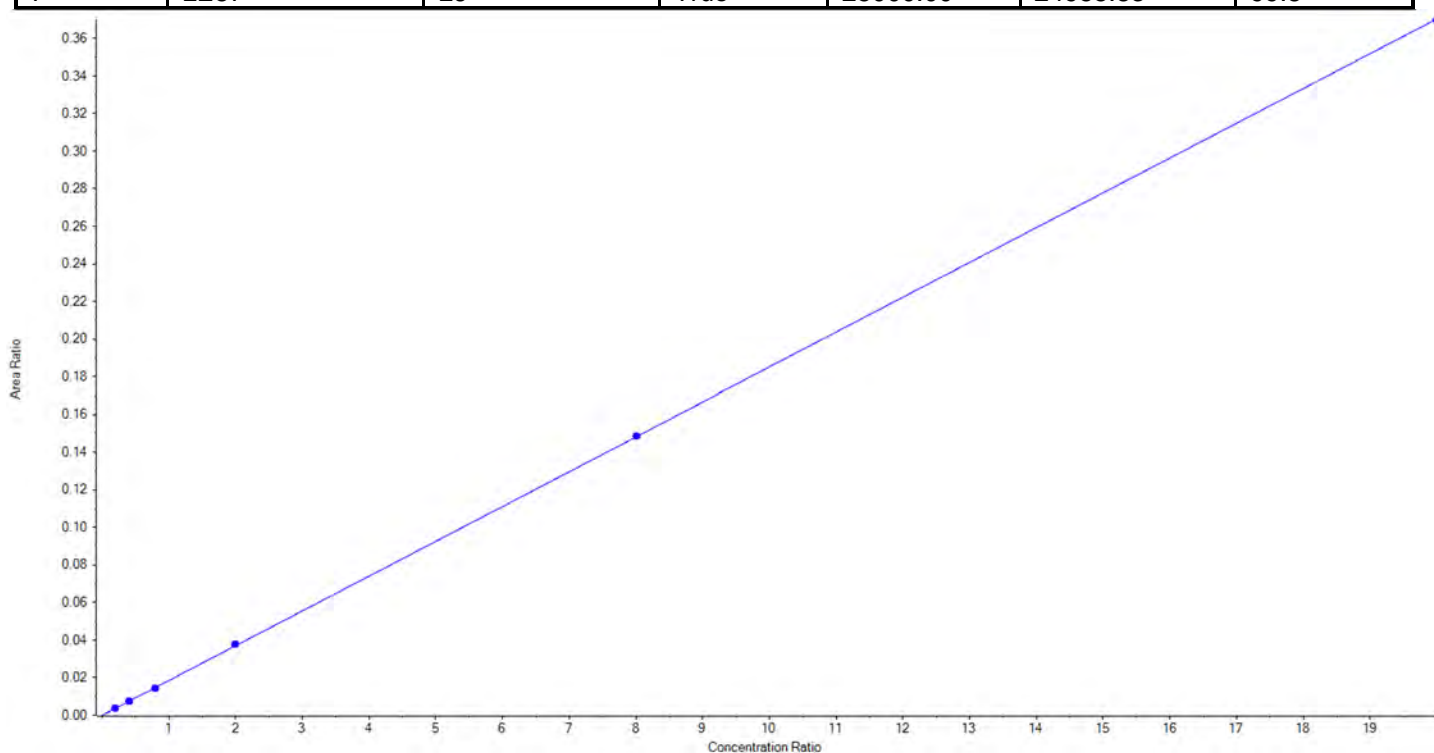
## Calibration Summary Report

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Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFHpA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	363.0 / 169.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C4-PFHpA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 0.01852 x + -5.18806e-5$  ( $r = 0.99997$ ) (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





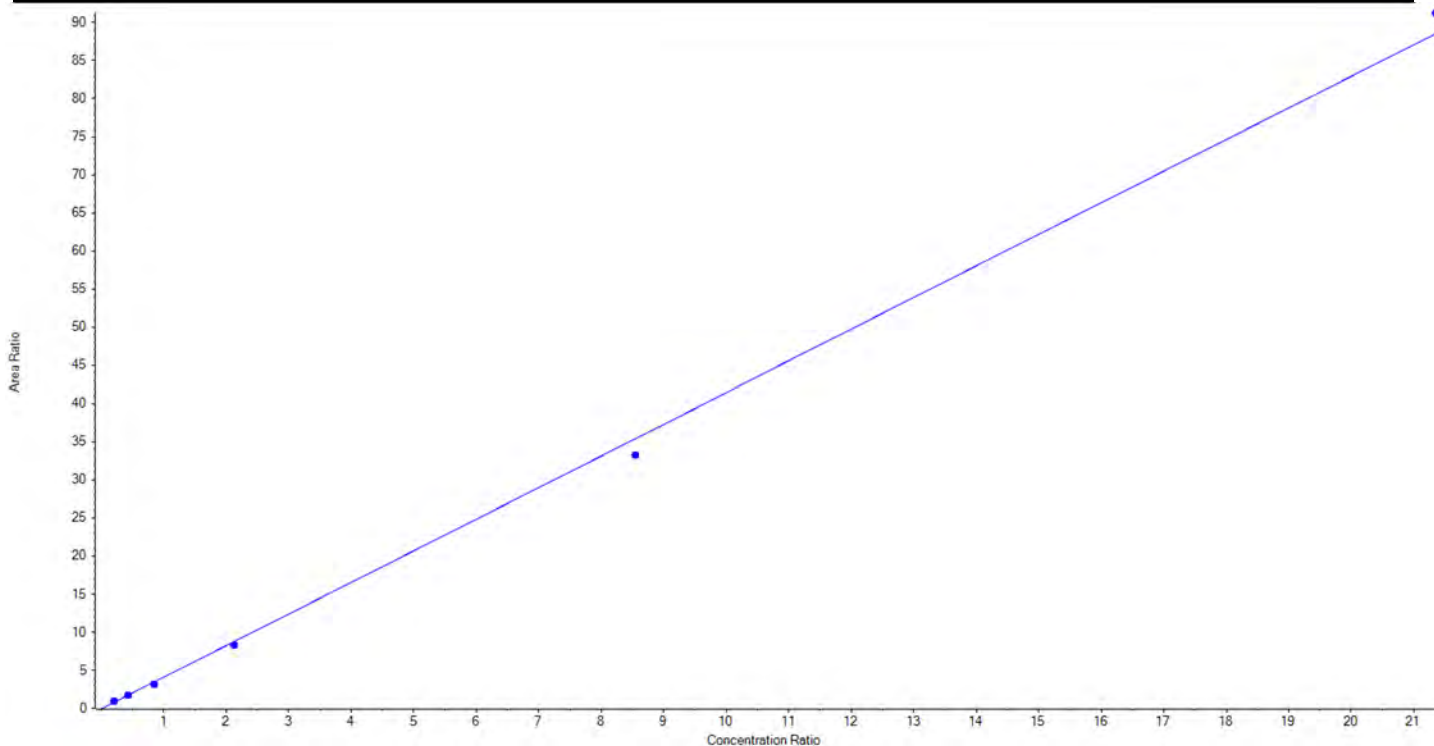
Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFHxS_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	399.0 / 80.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-PFHxS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





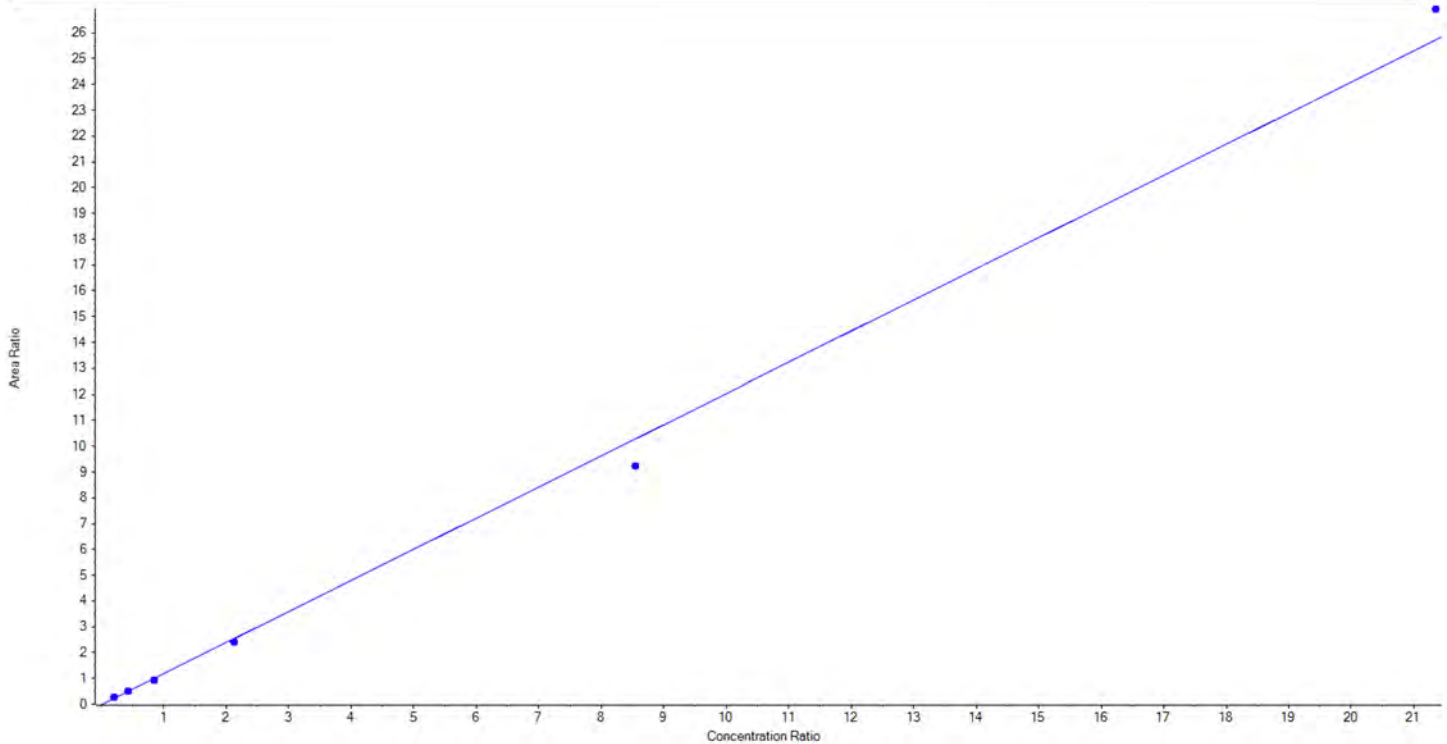
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFHxS_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	399.0 / 99.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-PFHxS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.20557 x + -0.02425$  ( $r = 0.99747$ ) (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





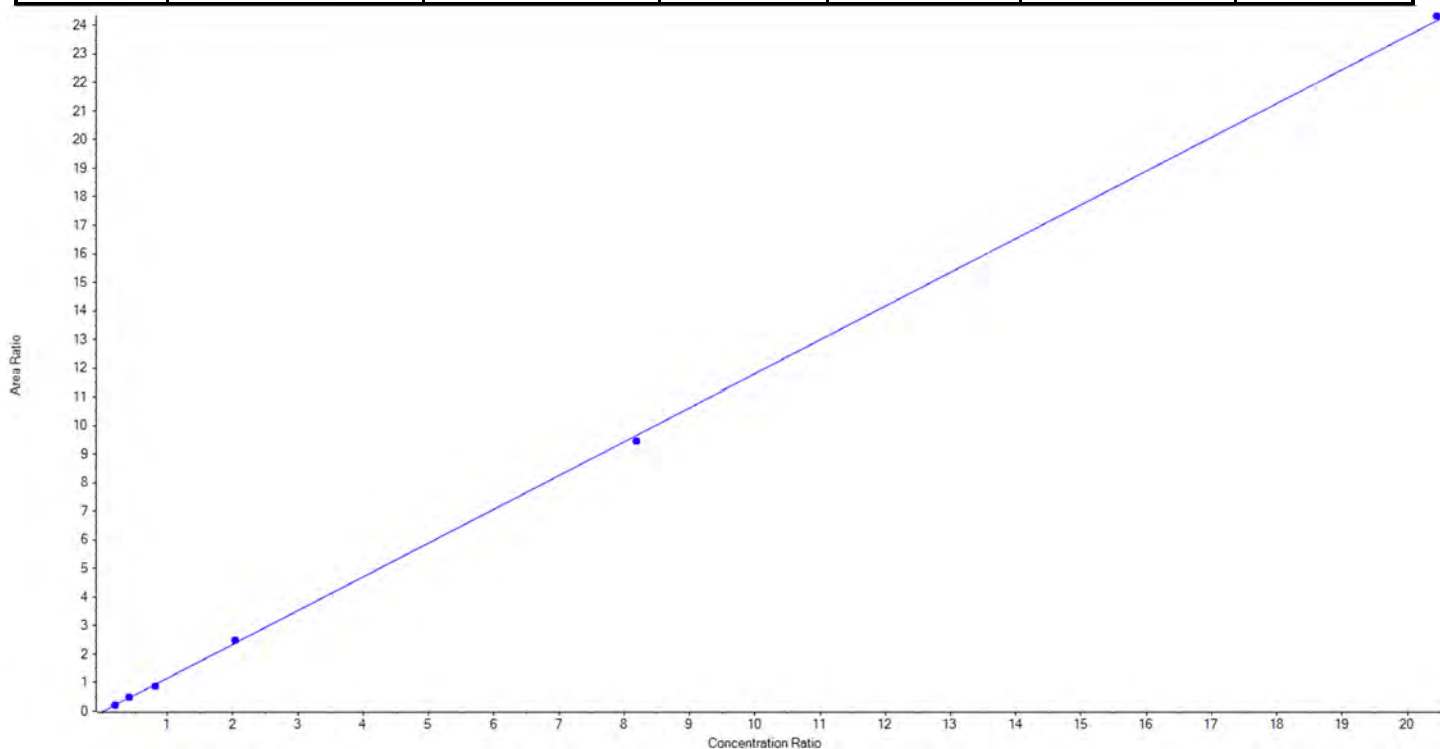
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFOA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	413.0 / 369.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





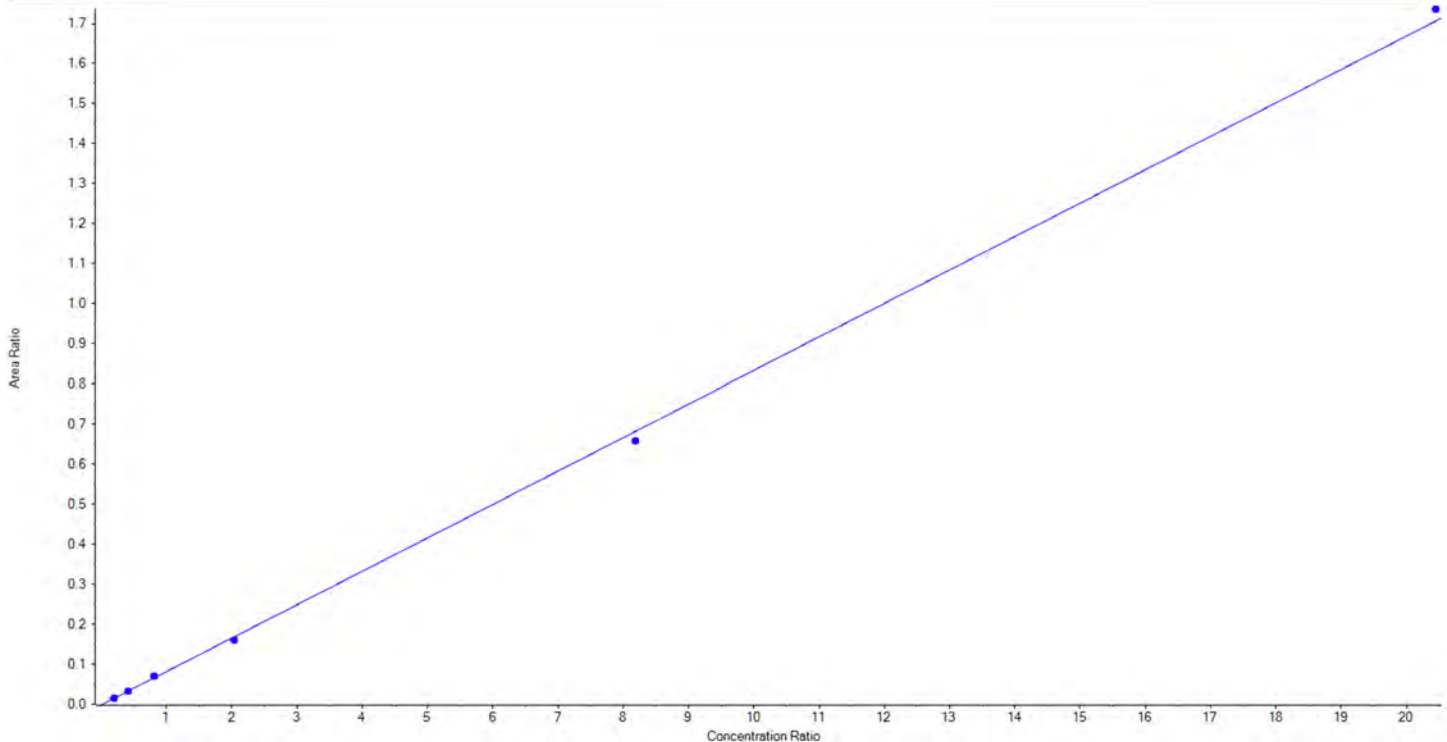
## Calibration Summary Report

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Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFOA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	413.0 / 169.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





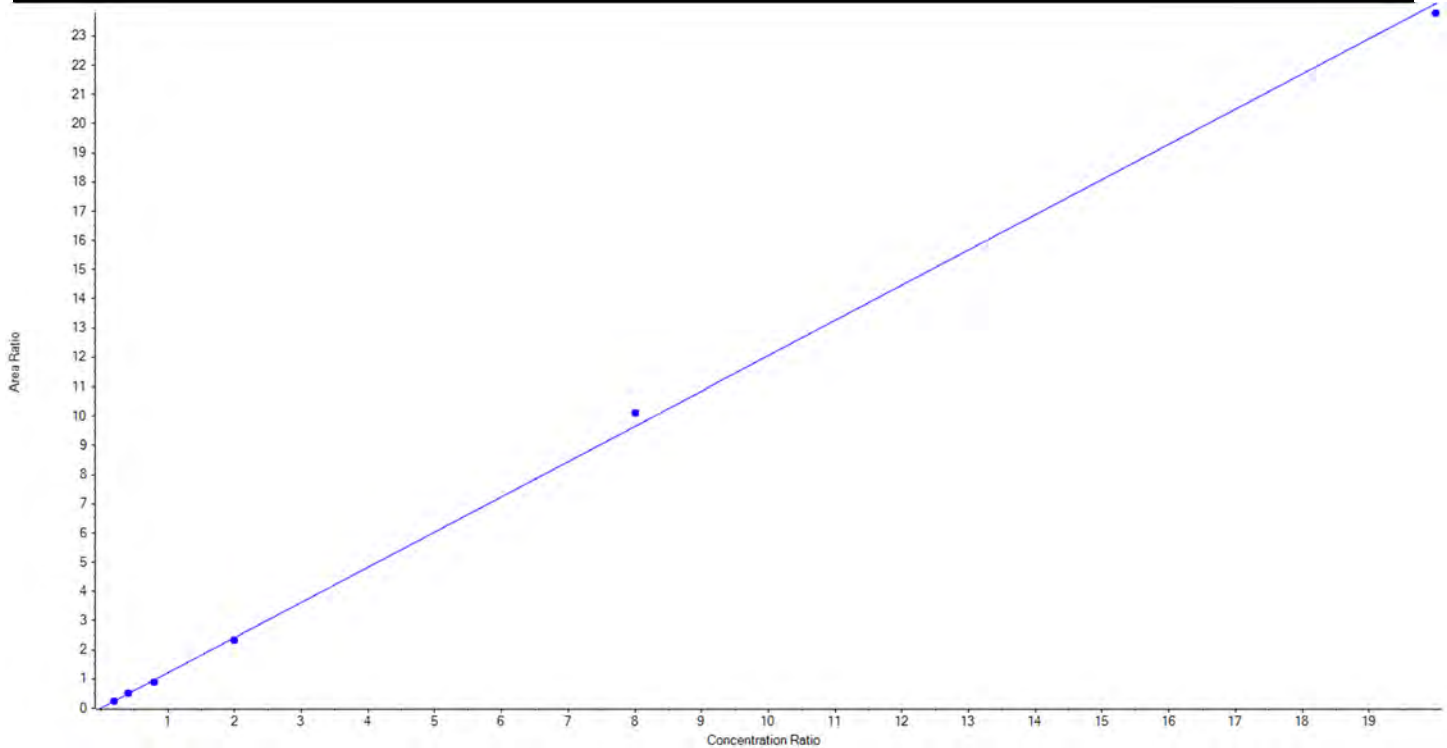
## Calibration Summary Report

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Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFNA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	463.0 / 419.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C9-PFNA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





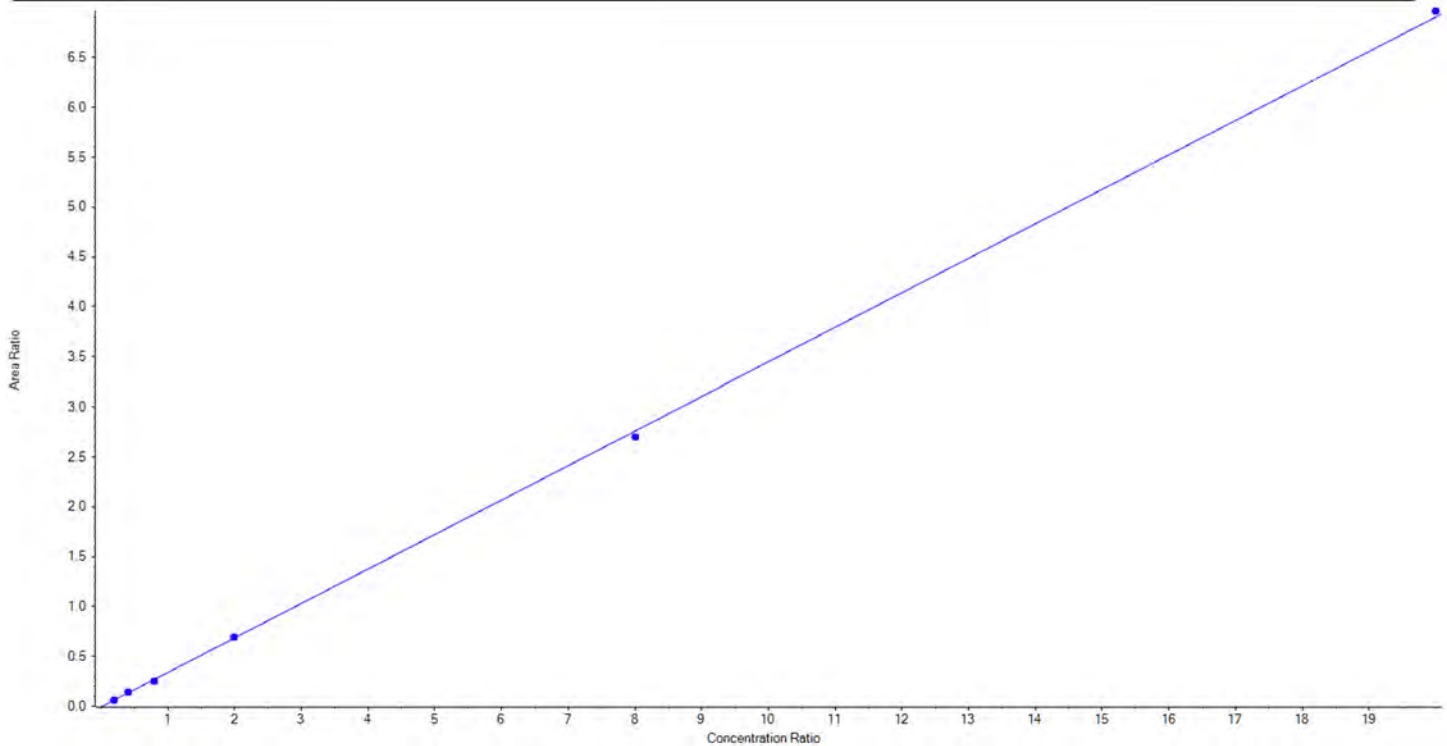
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFNA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	463.0 / 219.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C9-PFNA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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







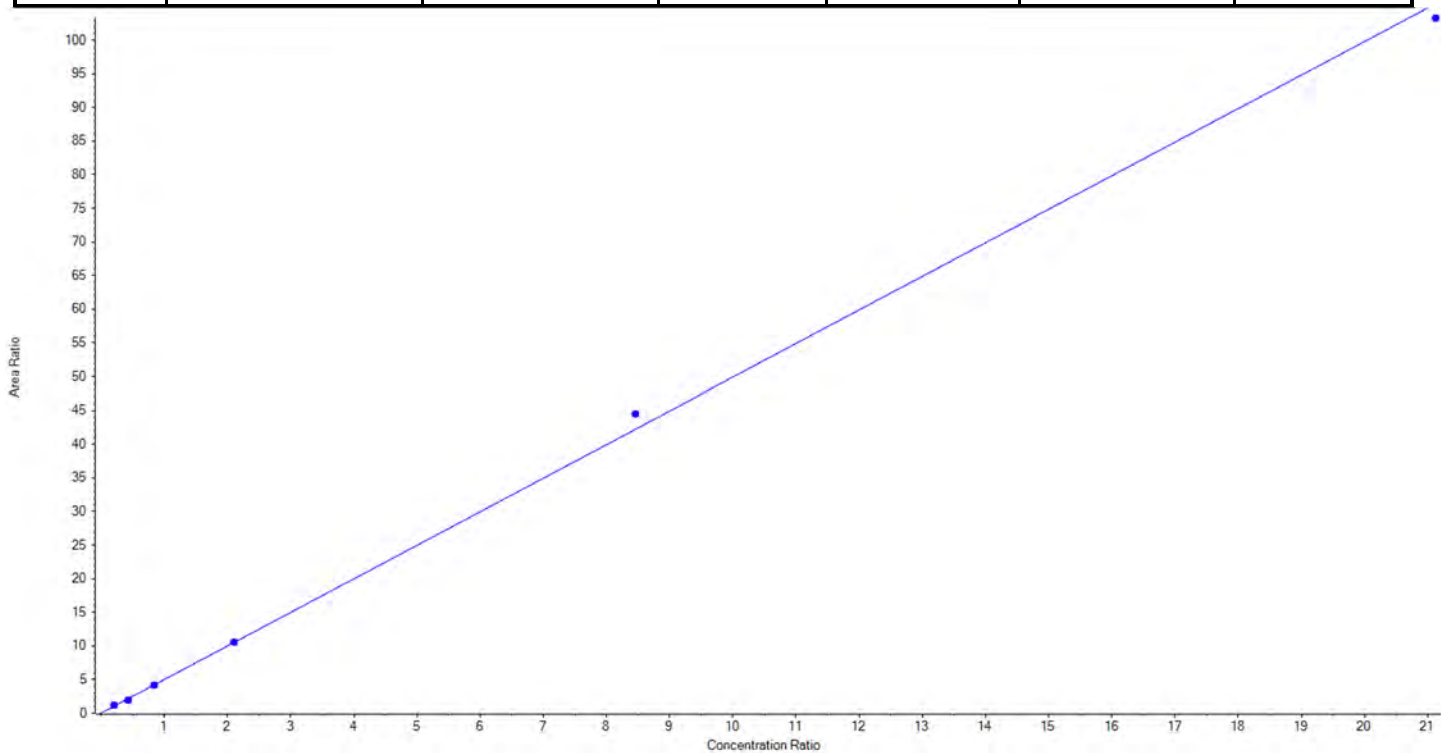
Calibration Summary Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFOS_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	499.0 / 80.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 4.98901 x + 0.01946$  (r = 0.99935) (weighting: 1 / x) r<sup>2</sup>: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





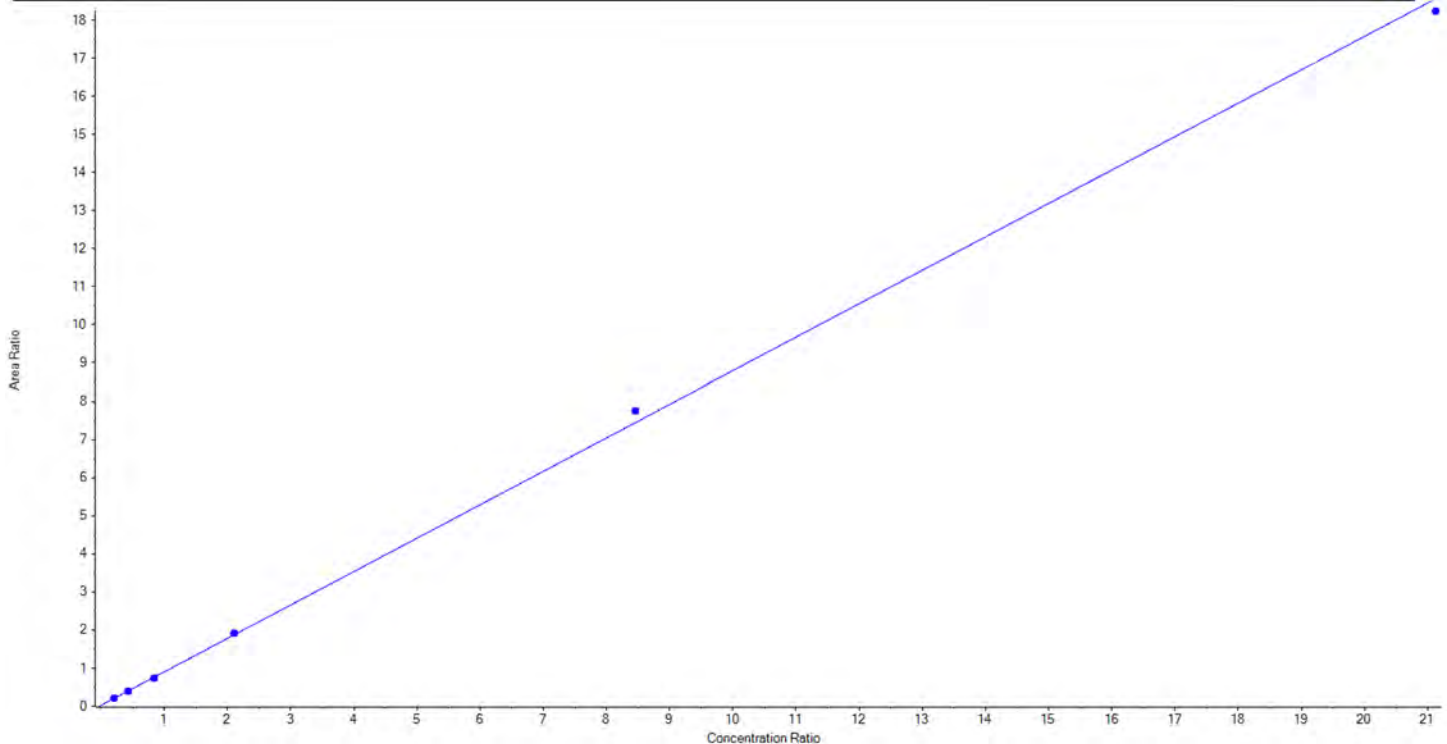
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFOS_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	499.0 / 99.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





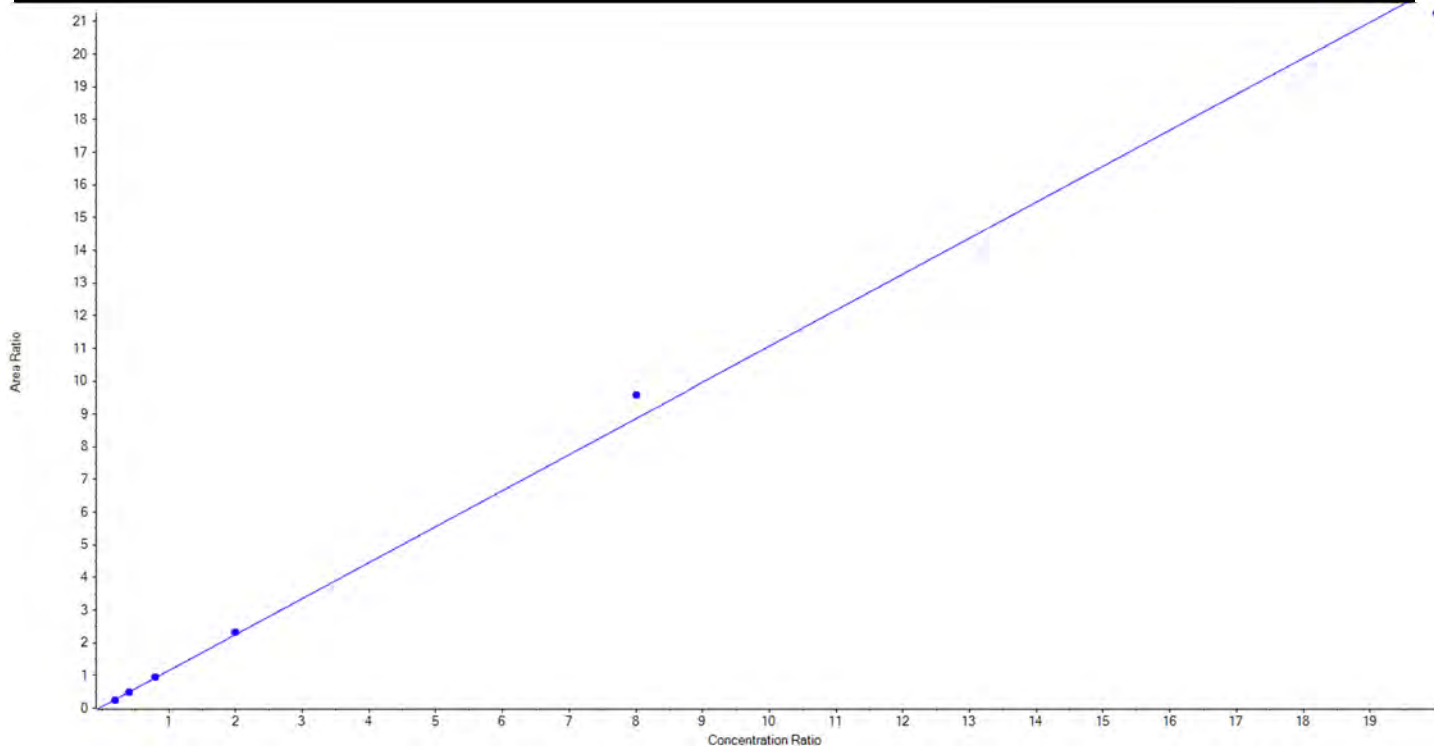
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFDA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	513.0 / 469.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C6-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.10161 x + 0.05032$  ( $r = 0.99838$ ) (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





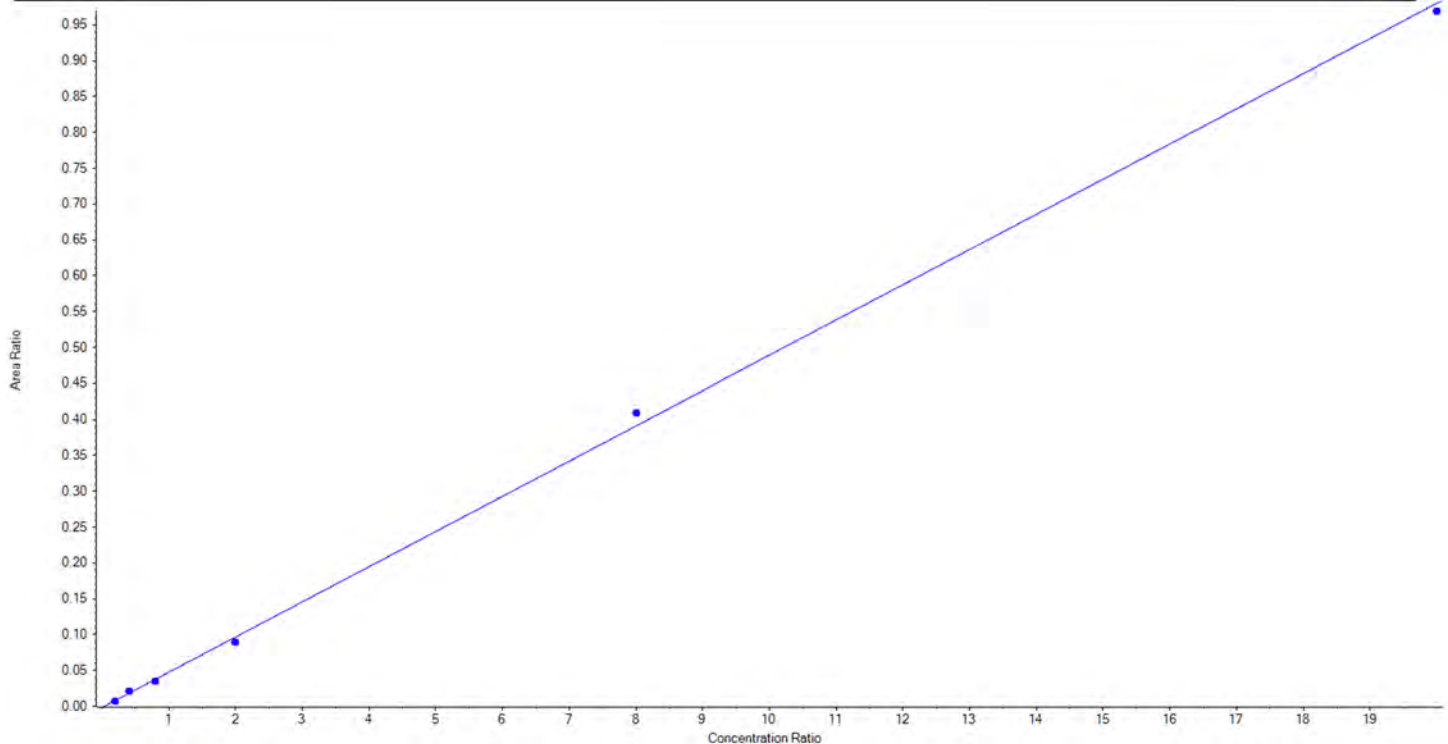
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	PFDA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	513.0 / 219.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C6-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





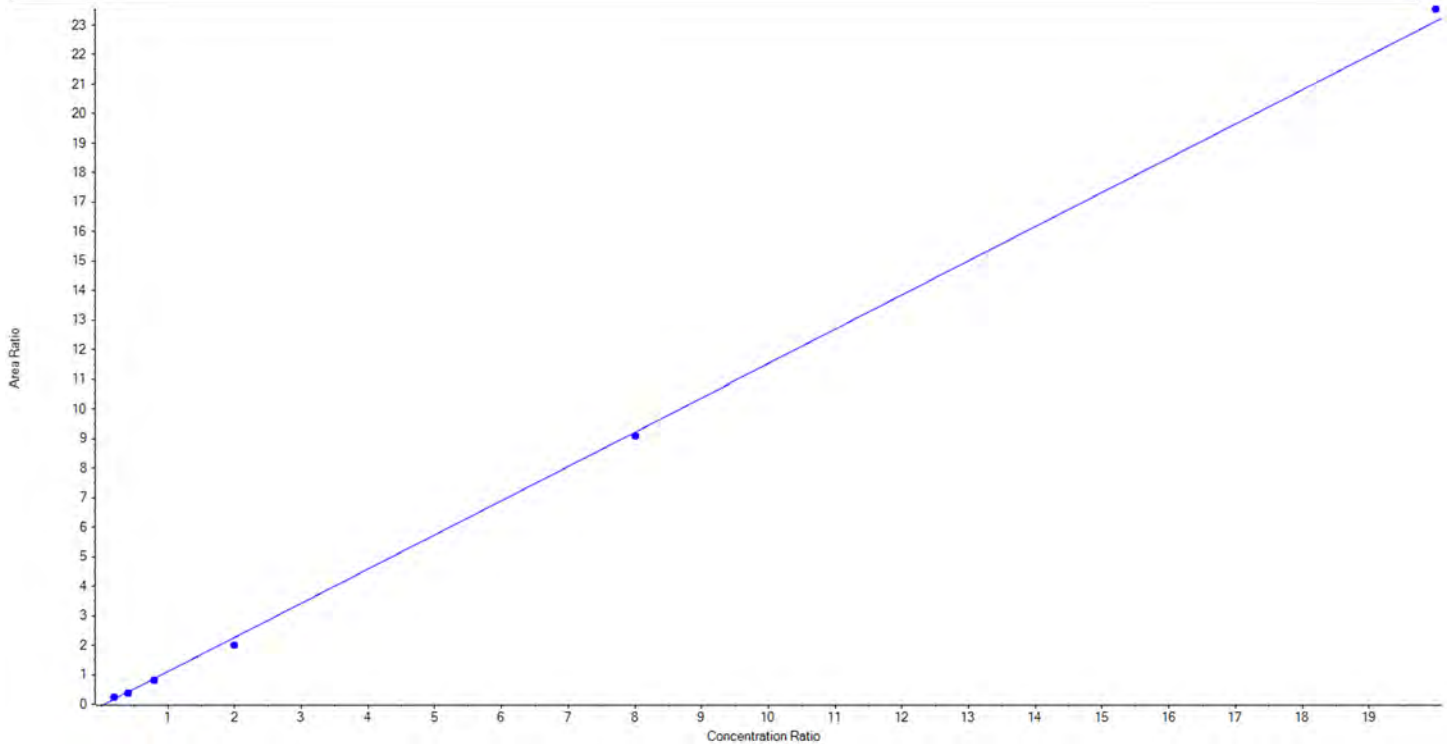
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFUnA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	563.0 / 519.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C7-PFUnA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.15901 x + -0.05501$  ( $r = 0.99918$ ) (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





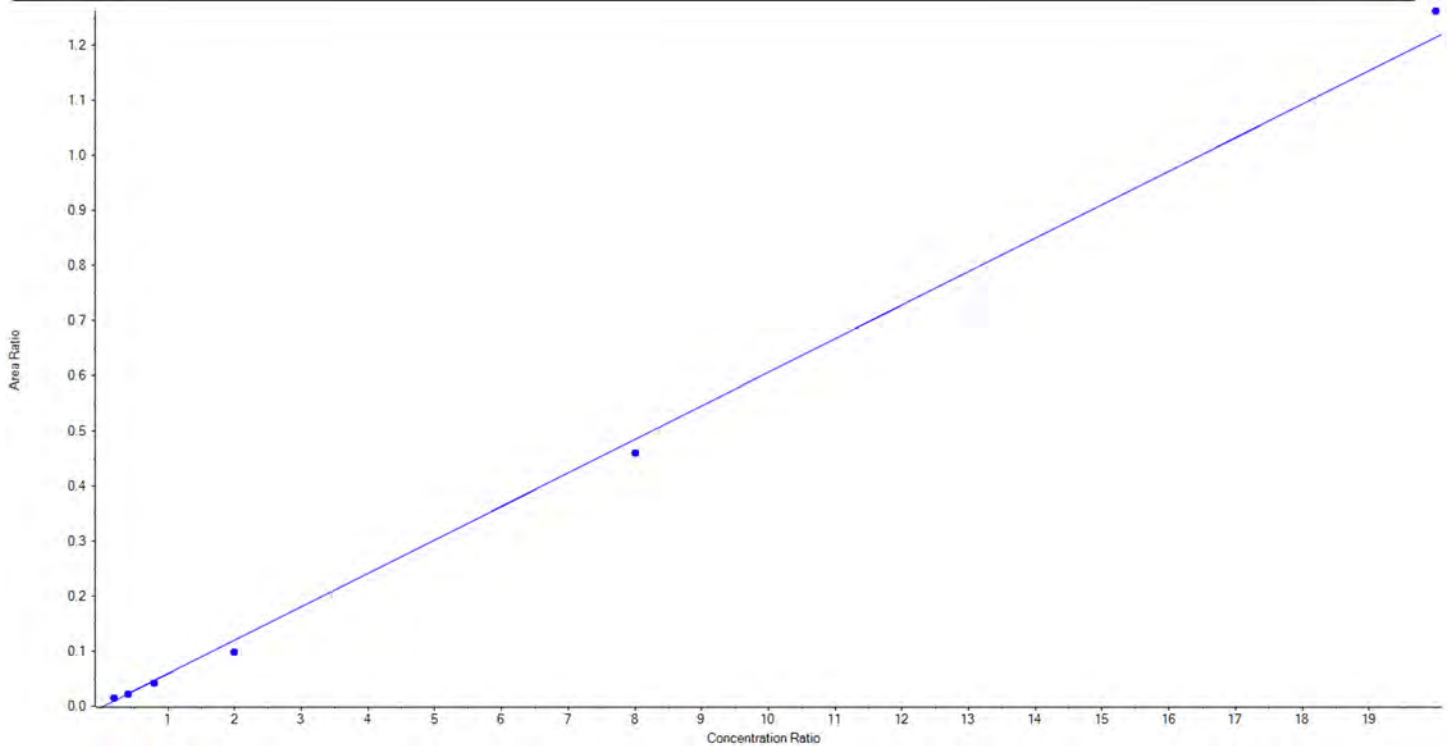
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFUnA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	563.0 / 269.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C7-PFUnA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





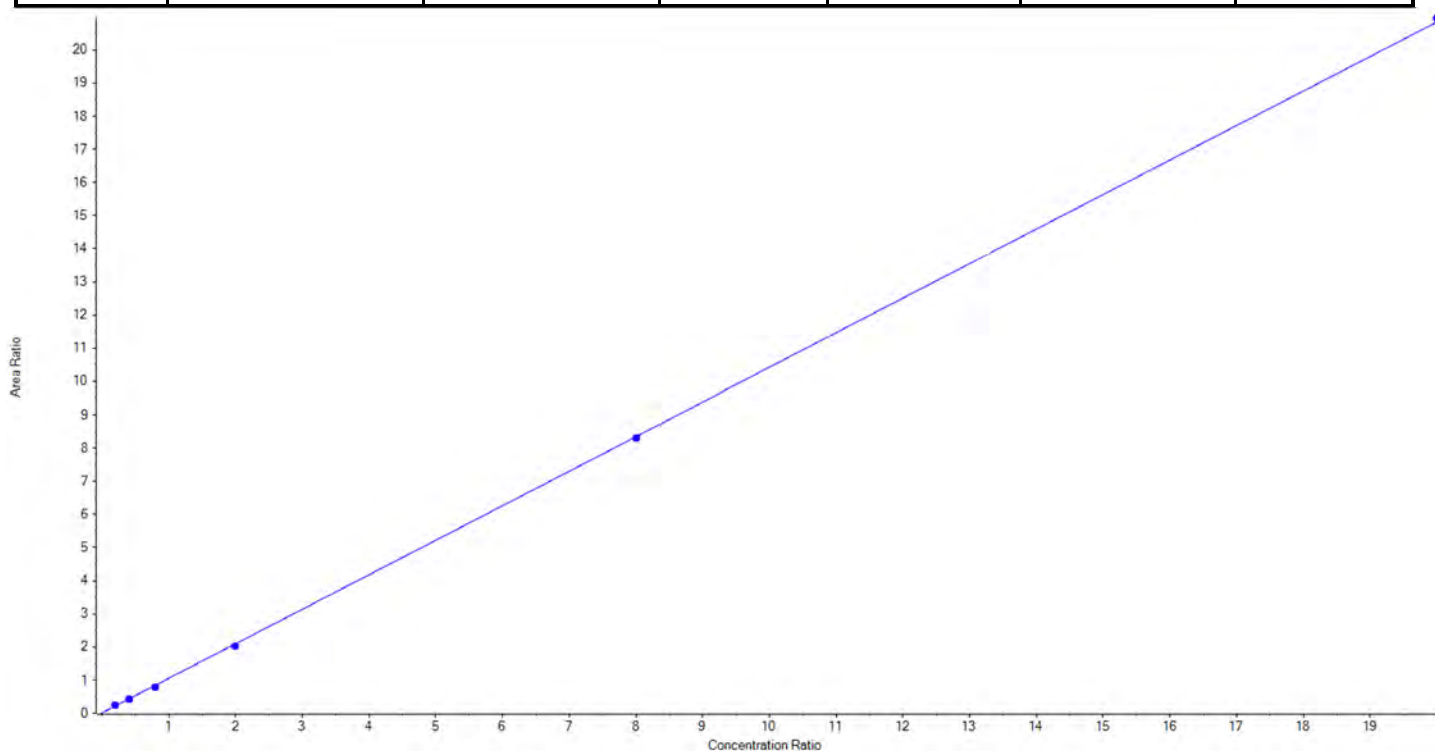
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFDoA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	613.0 / 569.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFDoA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





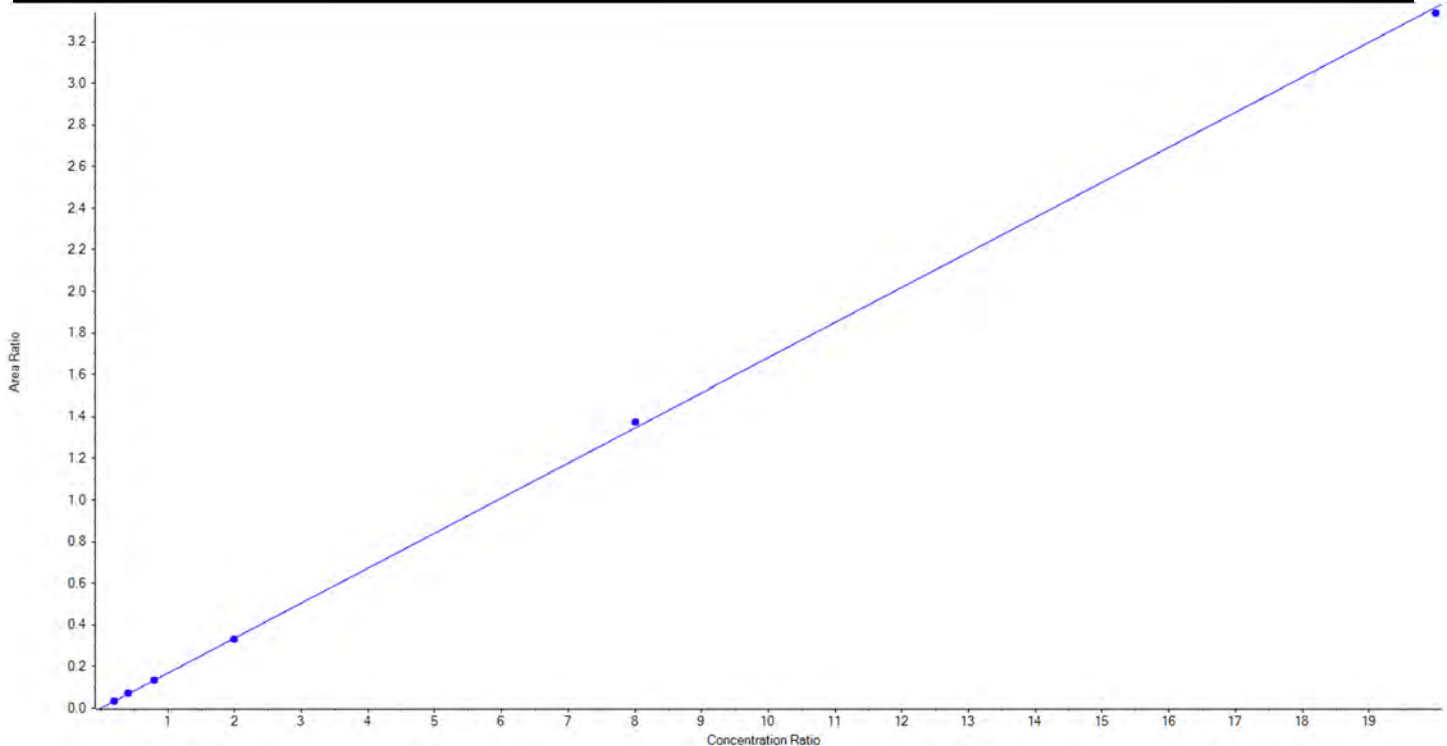
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFDoA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	613.0 / 319.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFDoA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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







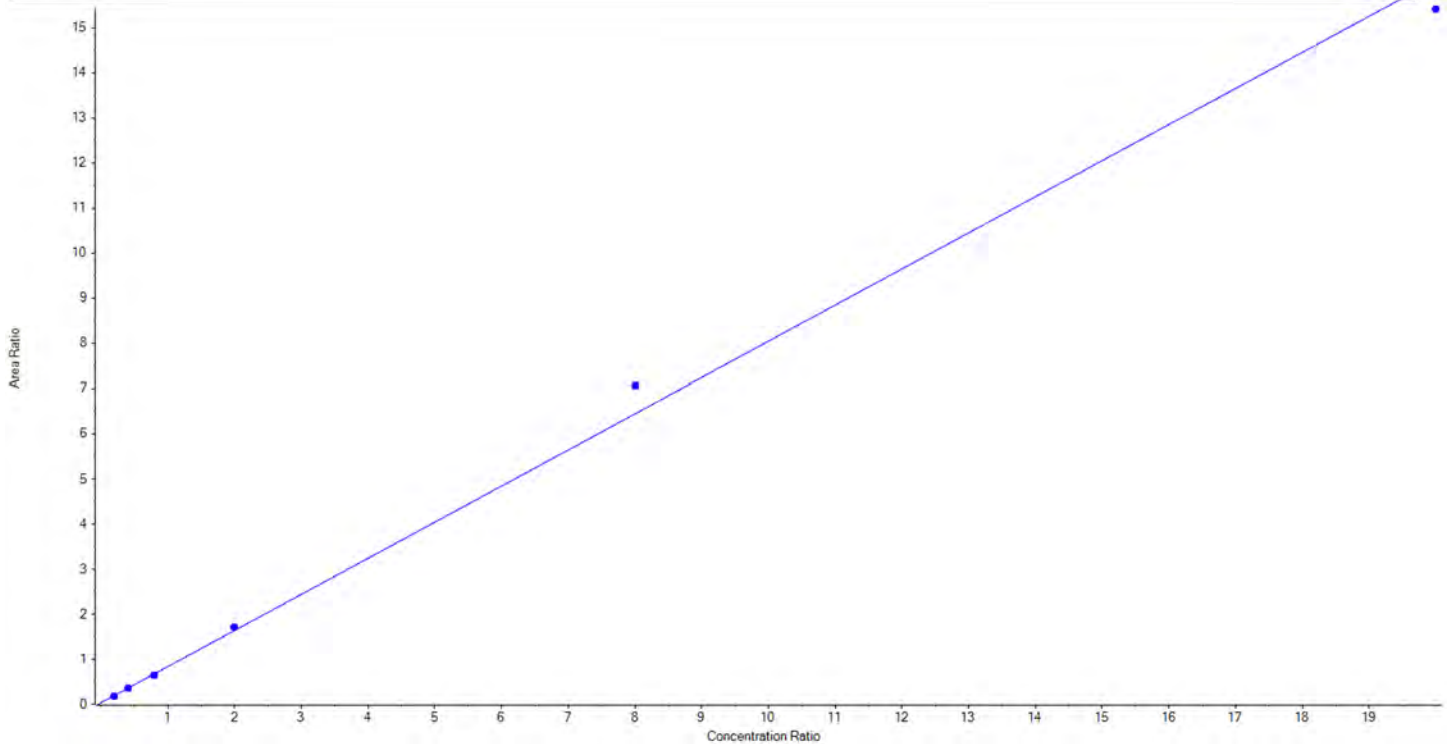
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFTrDA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	663.0 / 619.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFTeDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





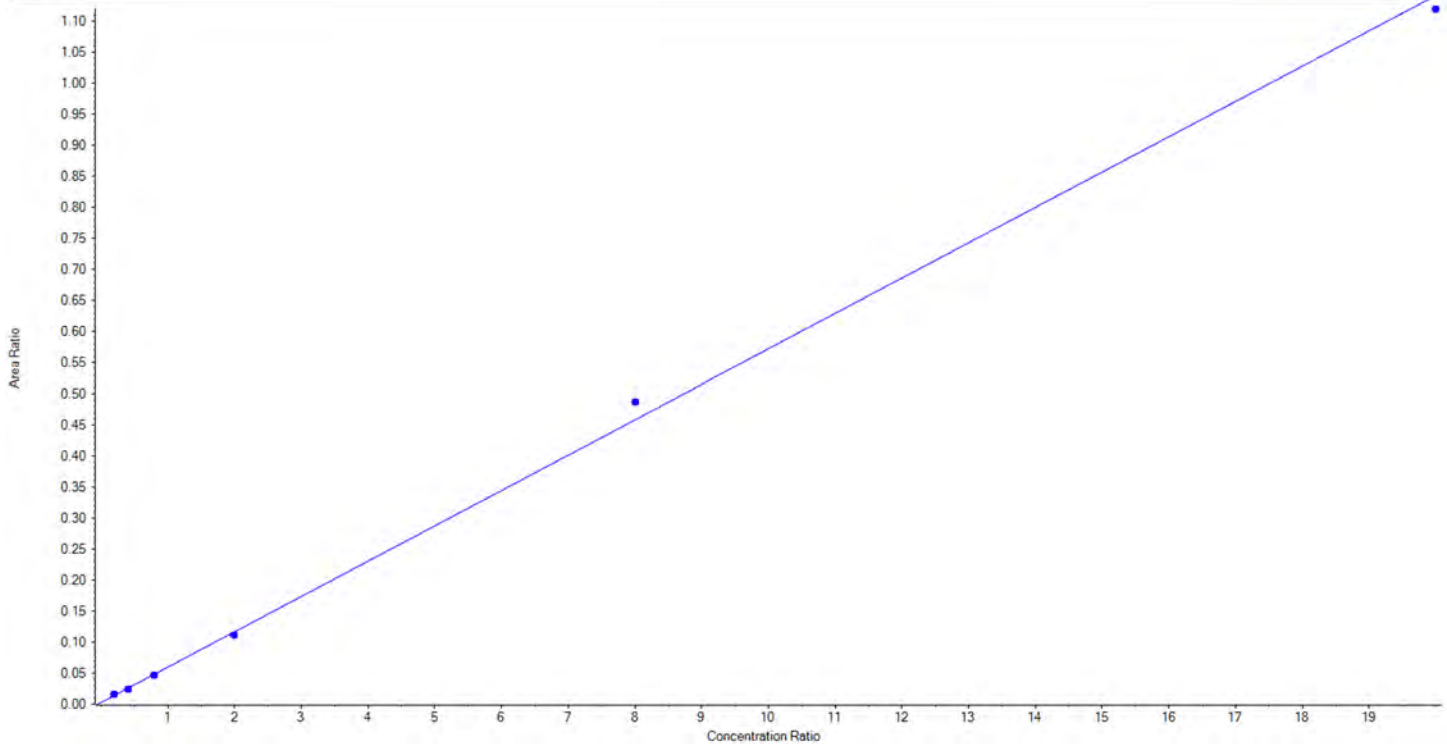
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFTrDA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	663.0 / 169.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFTeDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 0.05694 x + 0.00287$  ( $r = 0.99917$ ) (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





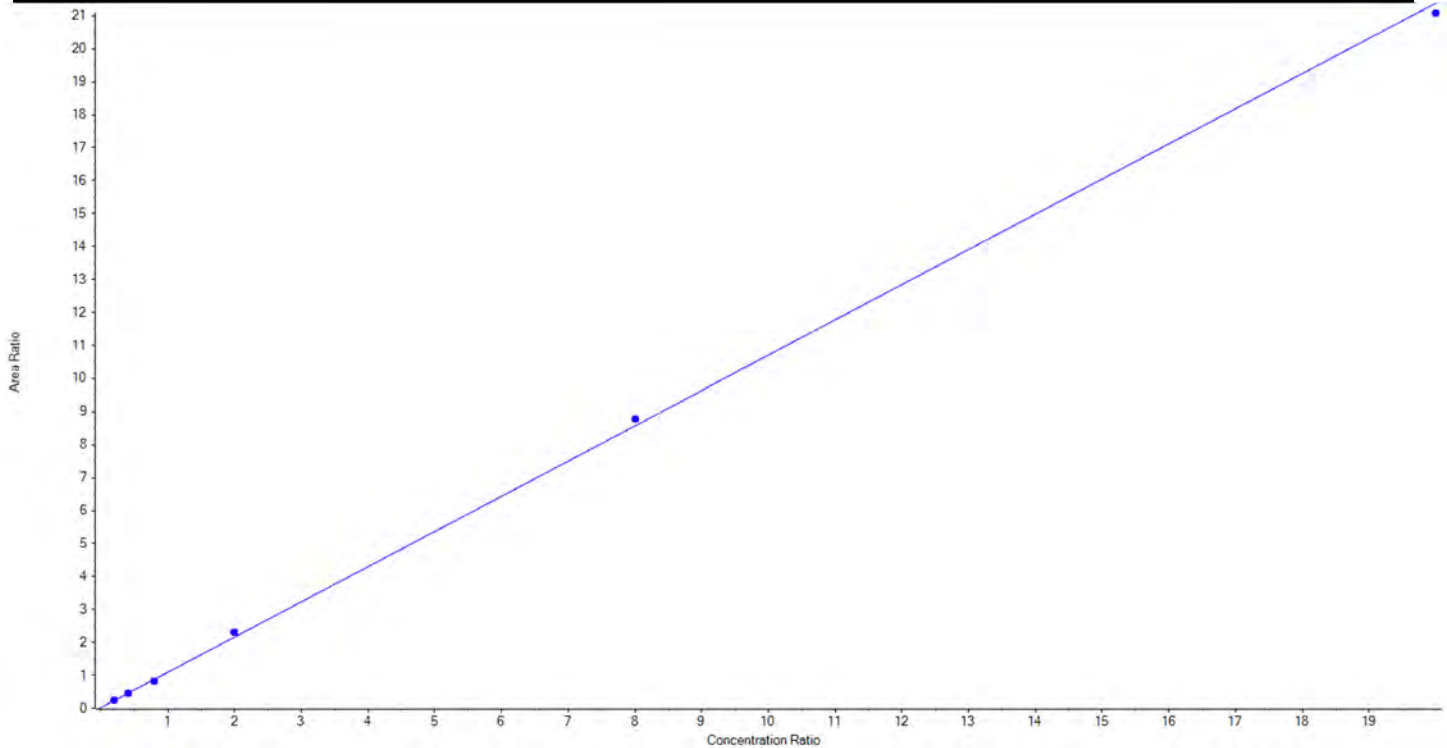
## Calibration Summary Report

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<b>Analyte Name</b>	PFTeDA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	713.0 / 669.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFTeDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





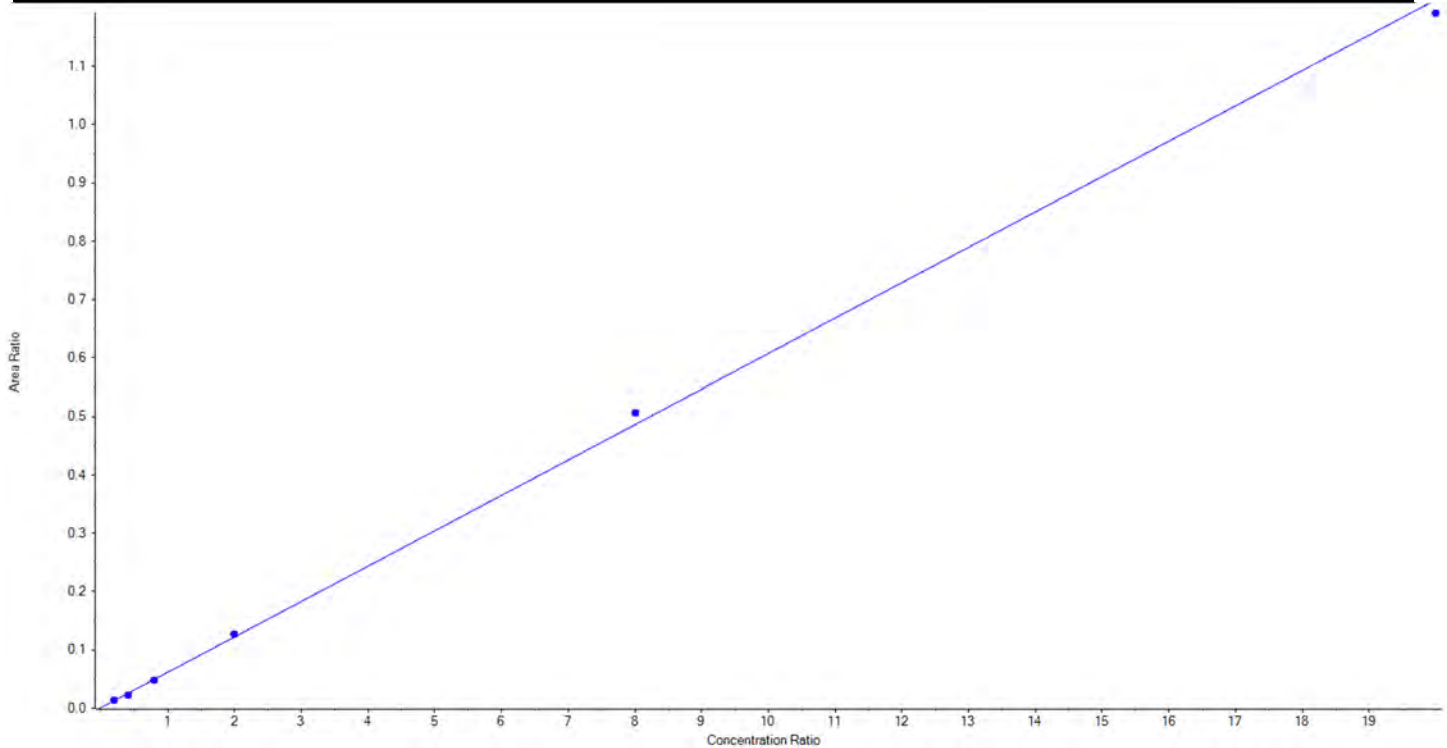
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFTeDA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	713.0 / 169.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C2-PFTeDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





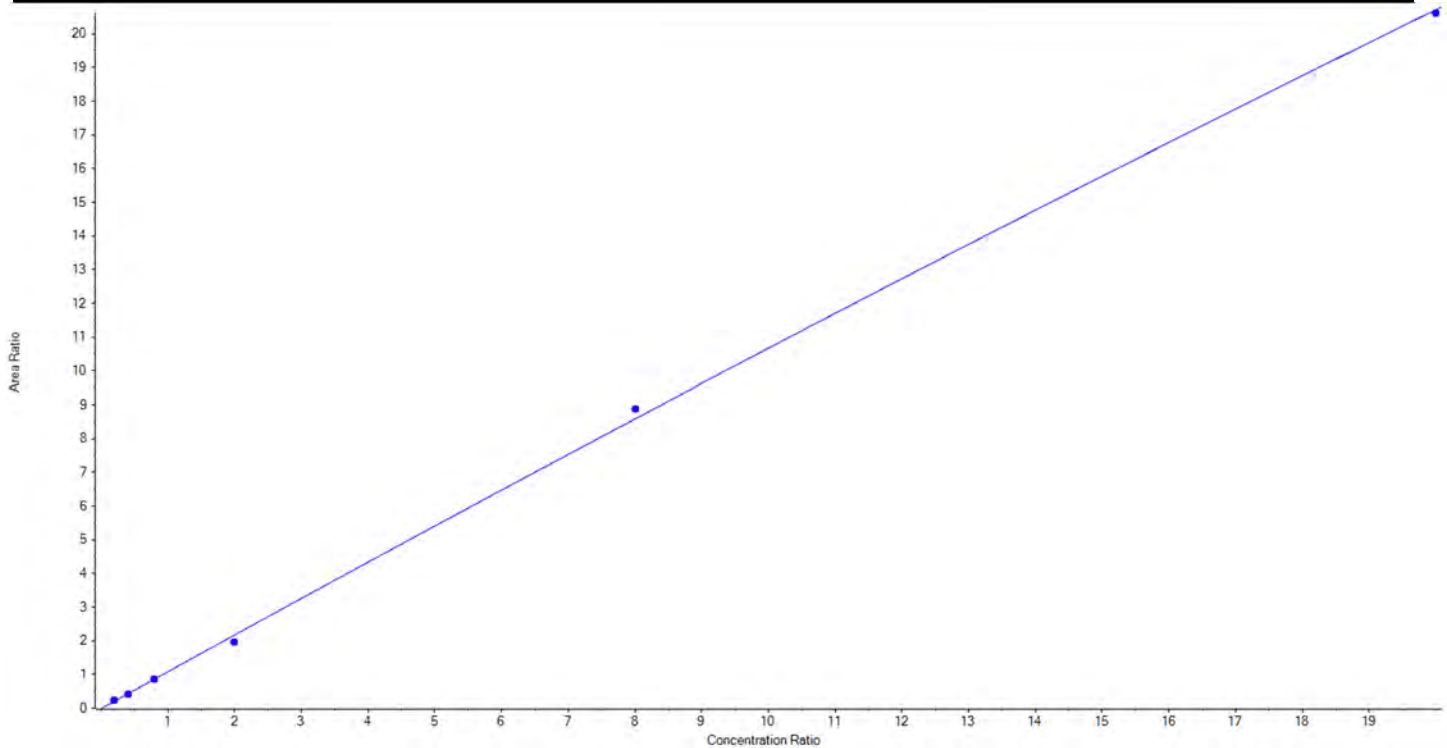
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	NMeFOSAA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	570.0 / 419.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





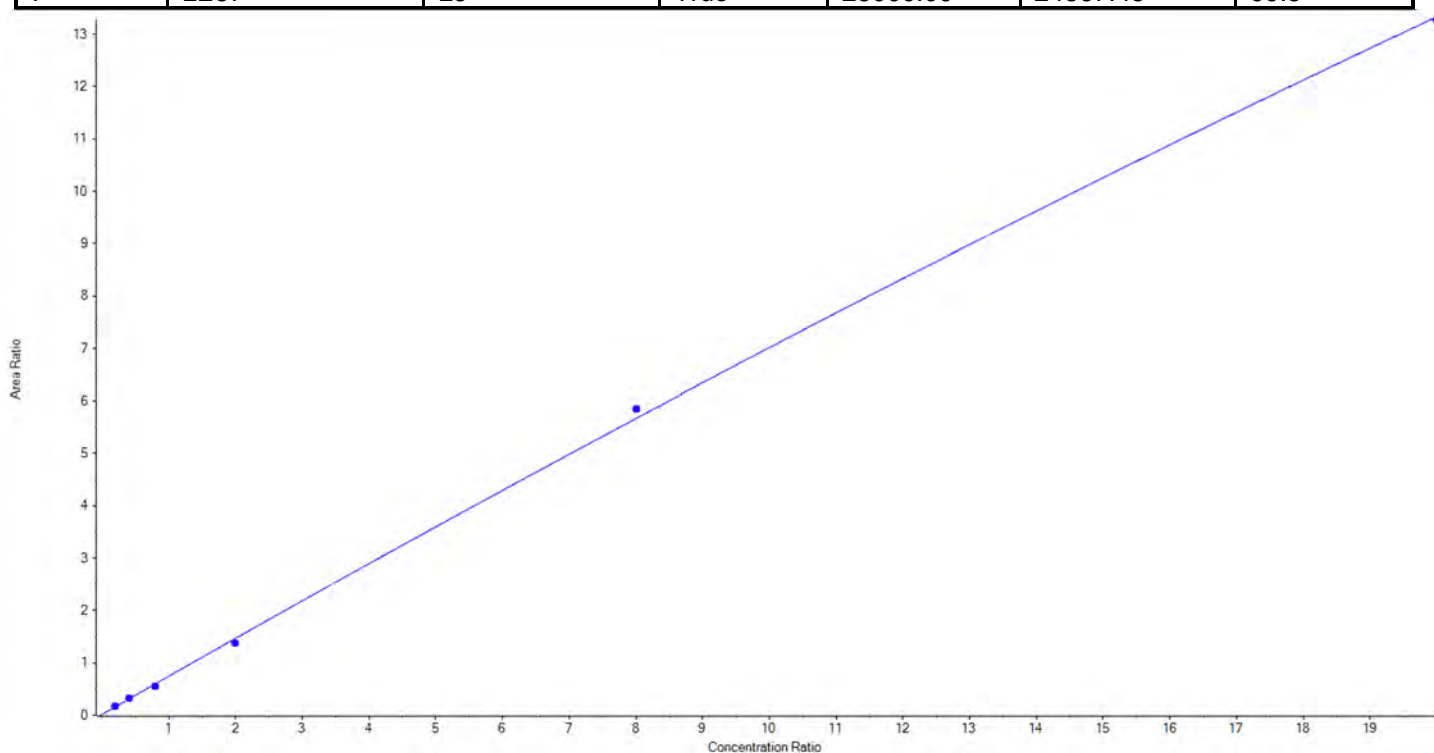
## Calibration Summary Report

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<b>Analyte Name</b>	NMeFOSAA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	570.0 / 512.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





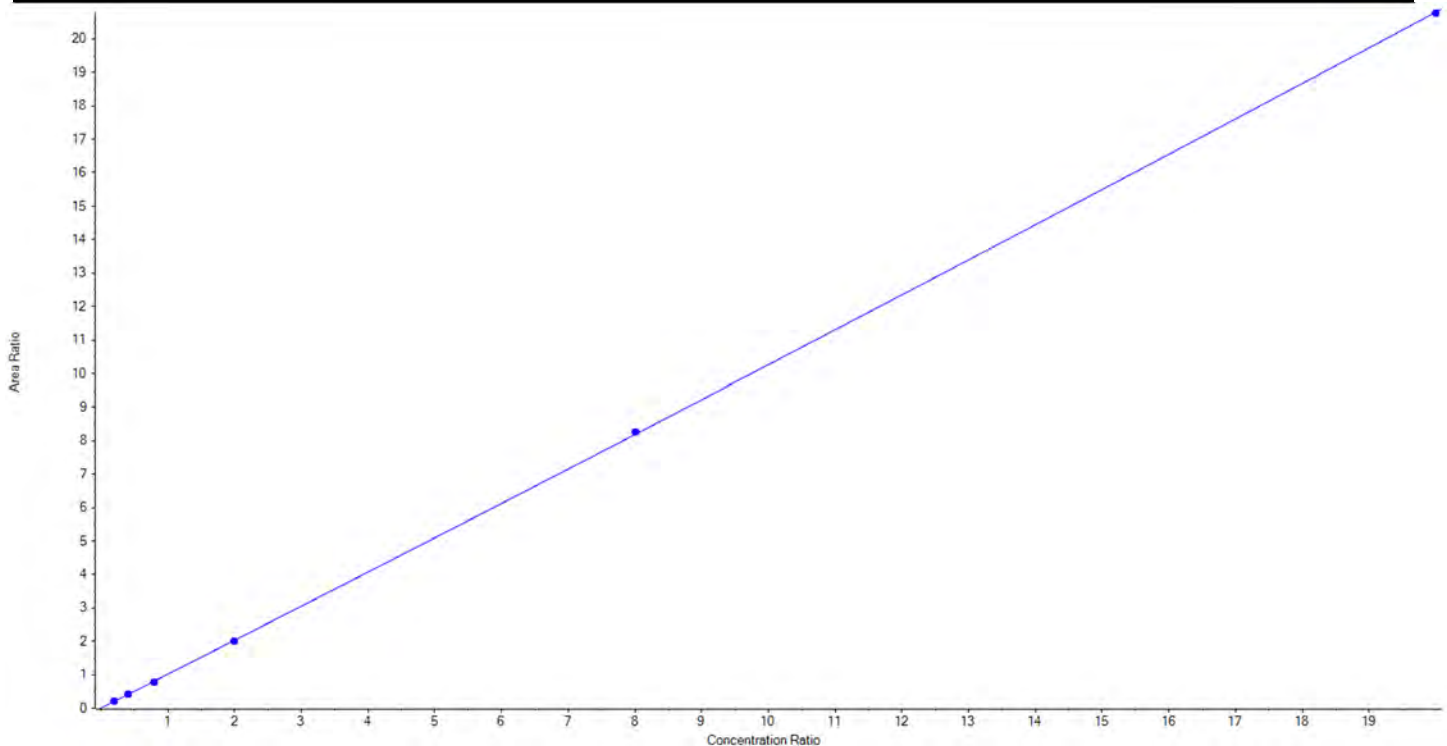
## Calibration Summary Report

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<b>Analyte Name</b>	NEtFOSAA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	584.0 / 419.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	d5-EtFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





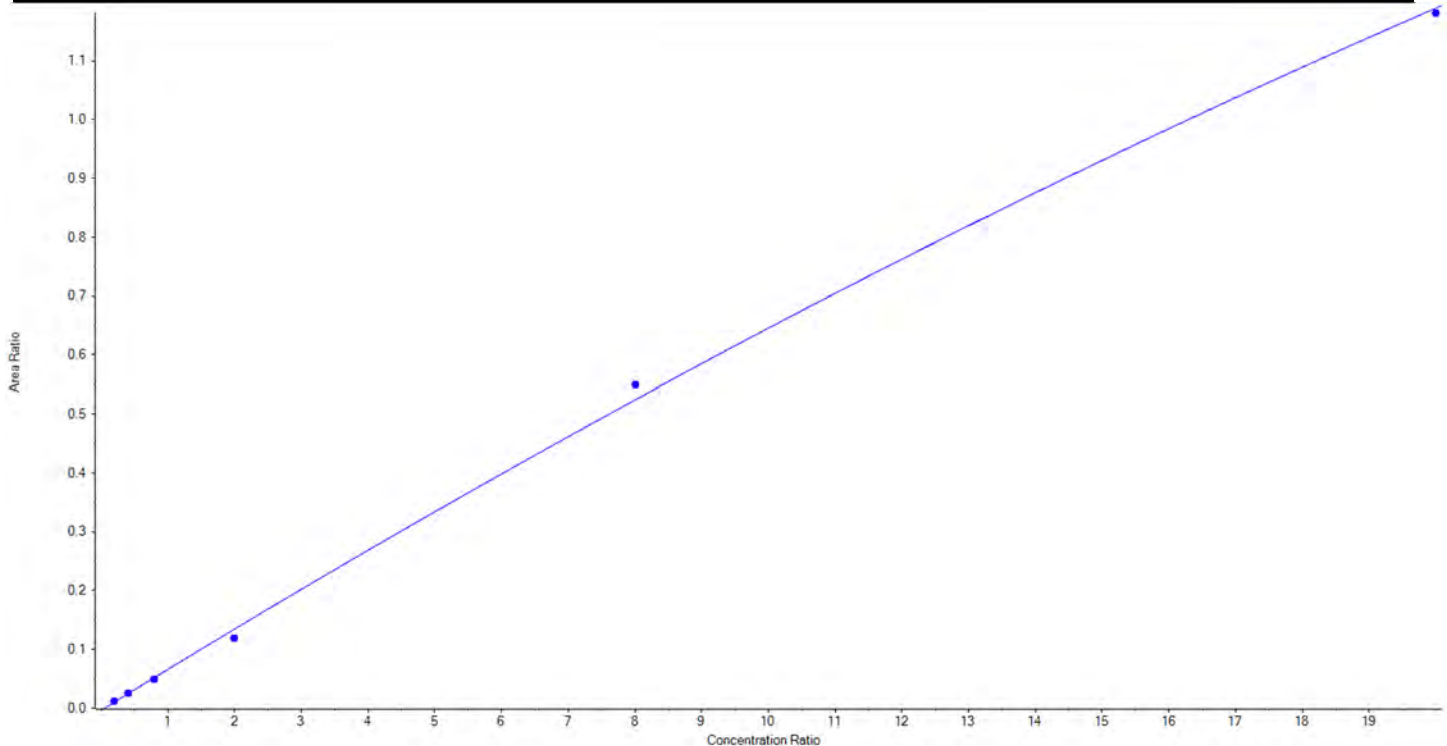
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<b>Analyte Name</b>	NEtFOSAA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	584.0 / 483.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	d5-EtFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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







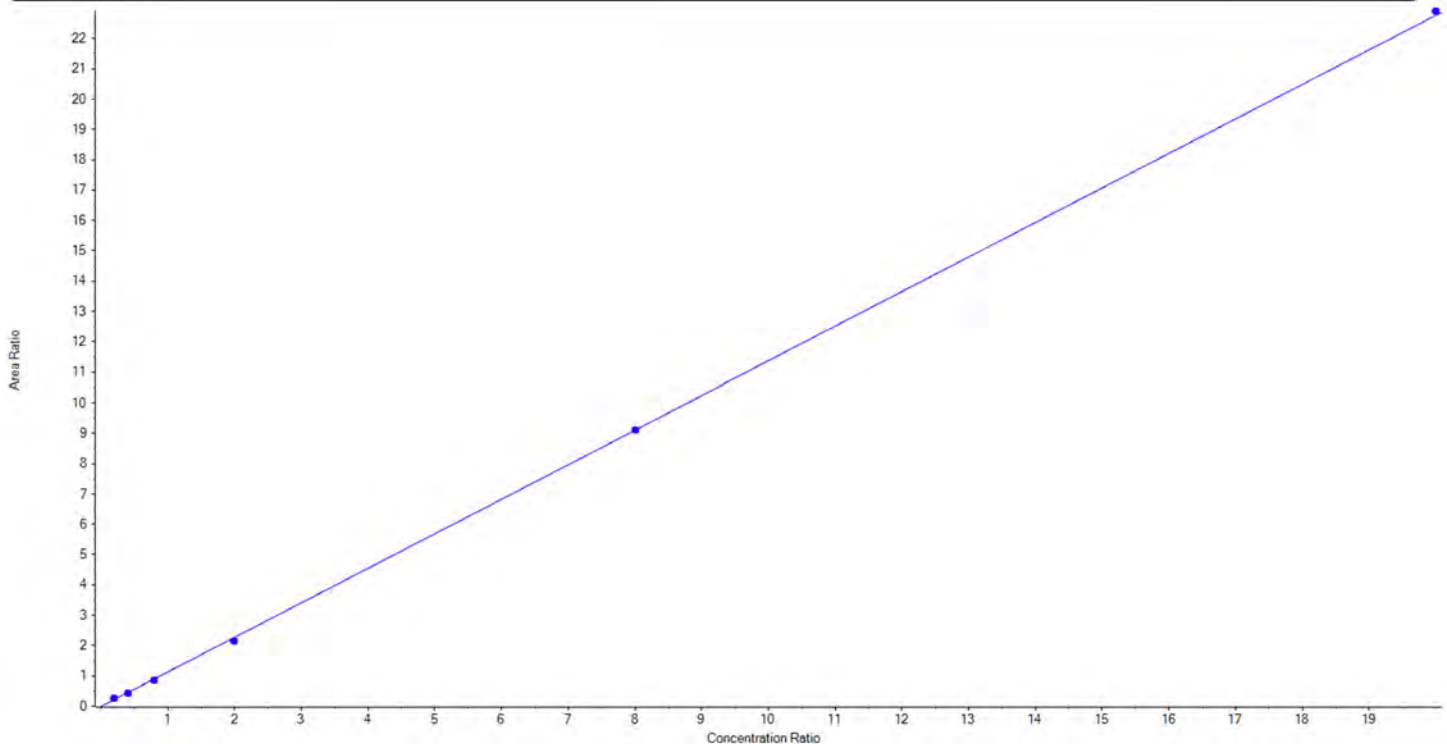
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	HFPO-DA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	285.0 / 169.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-HFPO-DA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





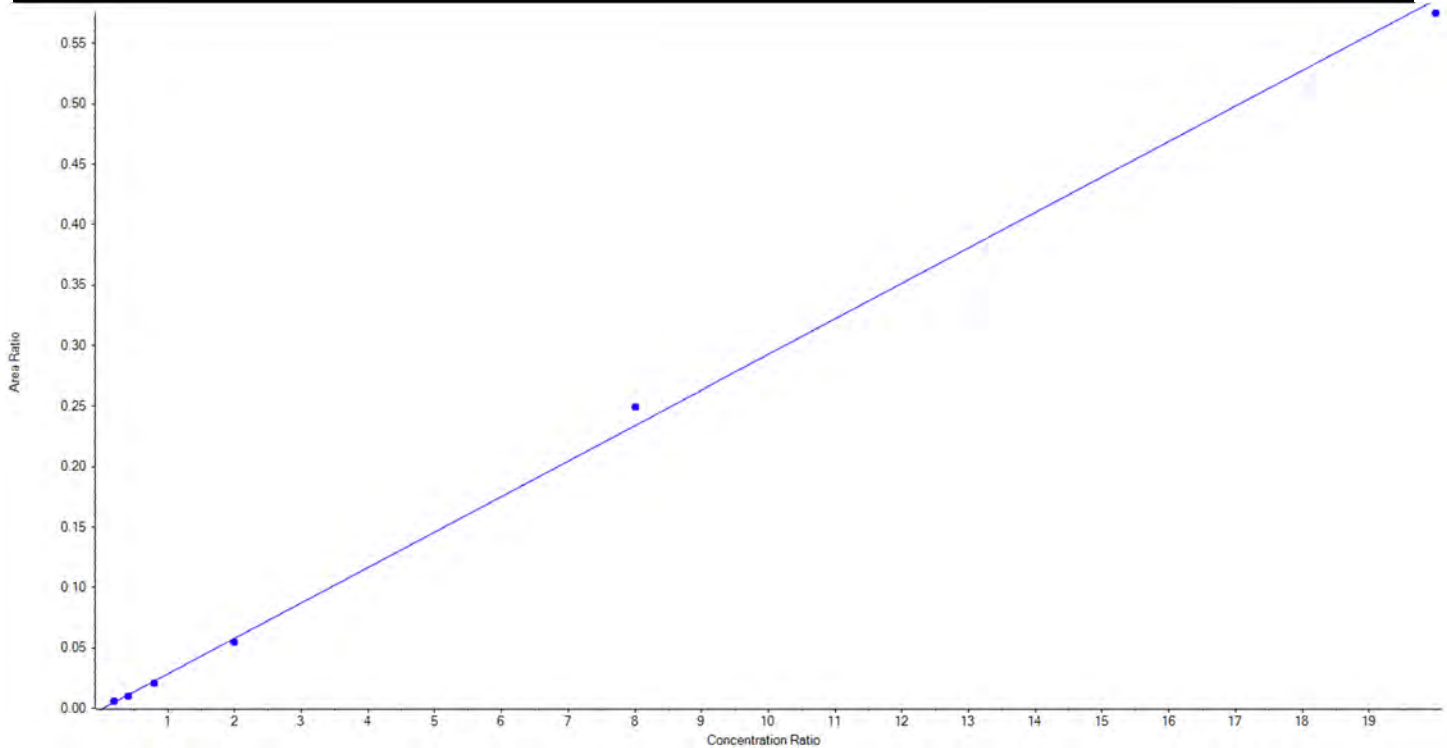
## Calibration Summary Report

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Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	HFPO-DA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	285.0 / 118.8	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C3-HFPO-DA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





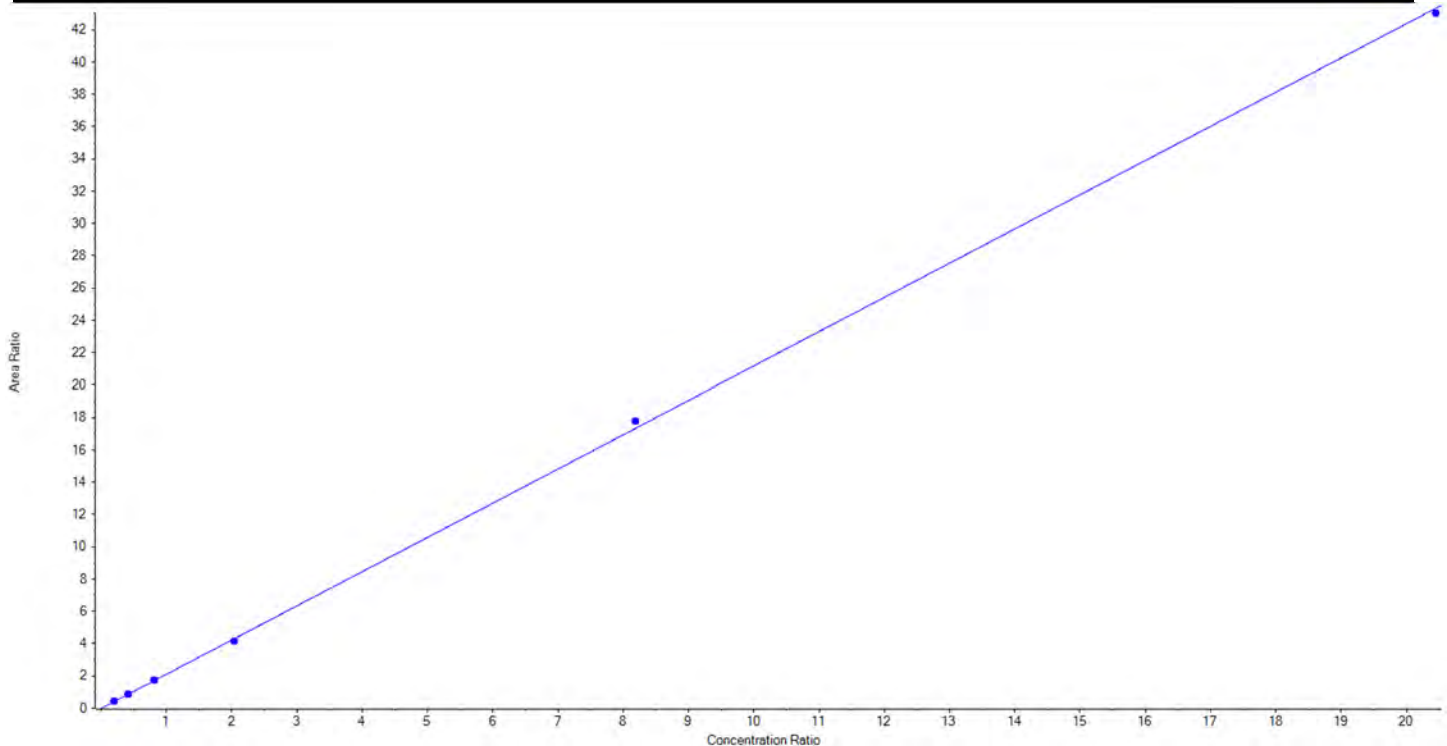
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	ADONA_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	377.0 / 251.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 2.11974 x + -0.01872$  ( $r = 0.99981$ ) (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





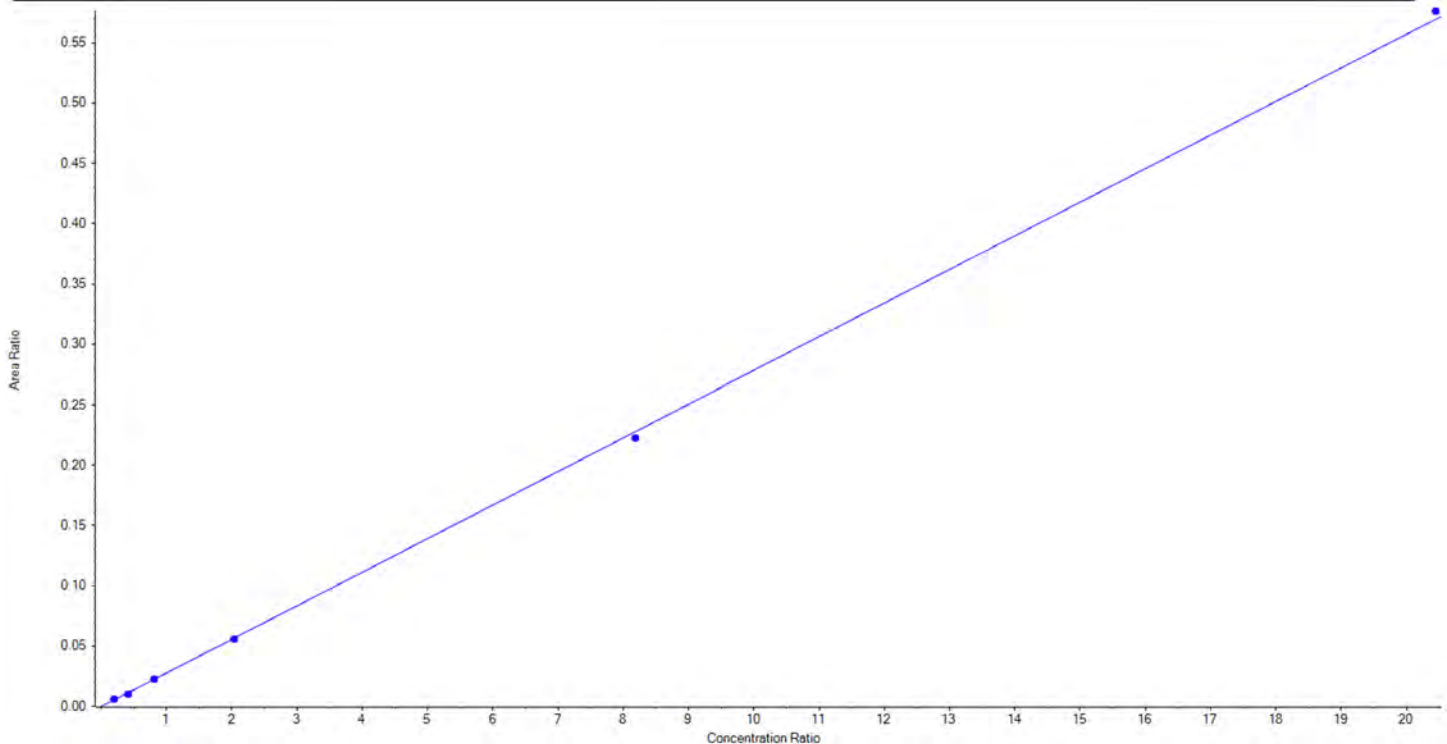
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	ADONA_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	377.0 / 85.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

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





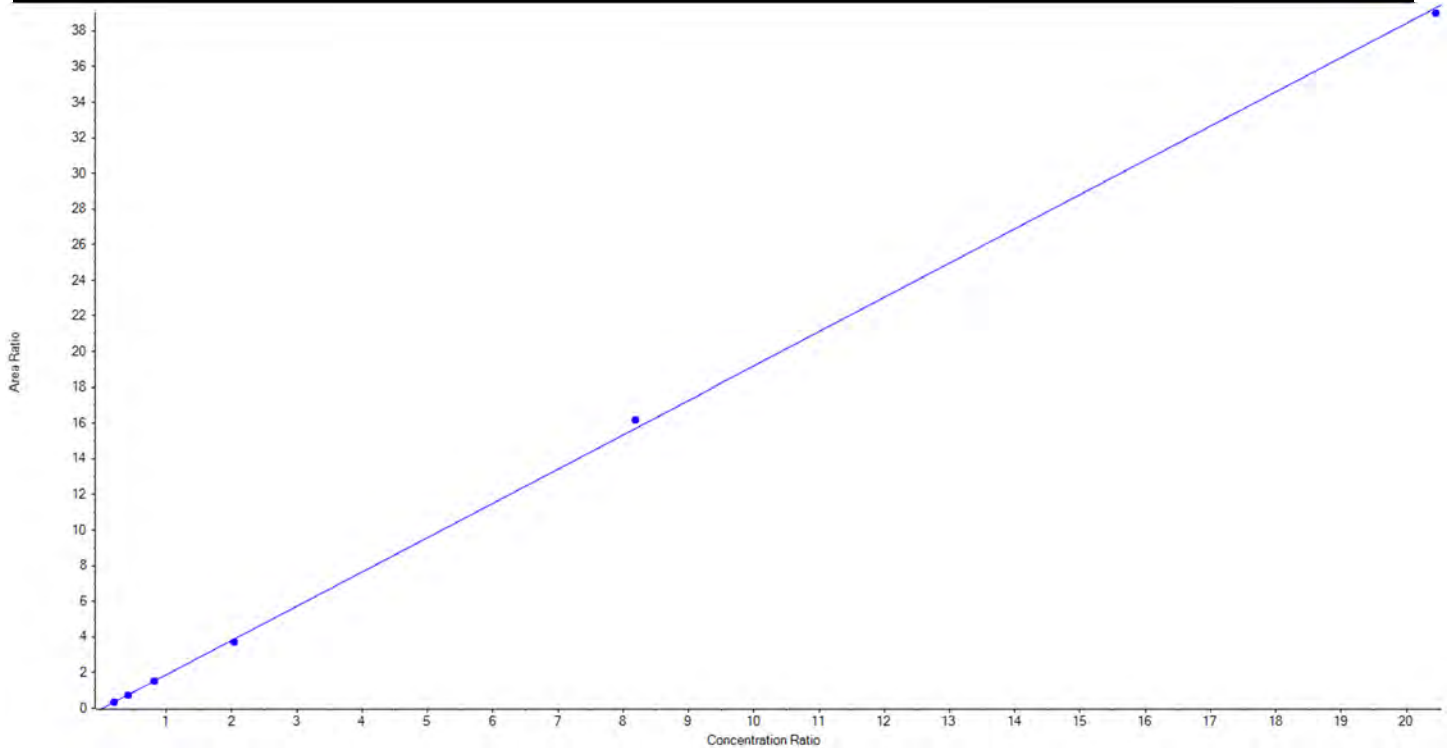
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	9CI-PF3ONS_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	531.0 / 351.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.92345 x + -0.04298$  ( $r = 0.99977$ ) (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





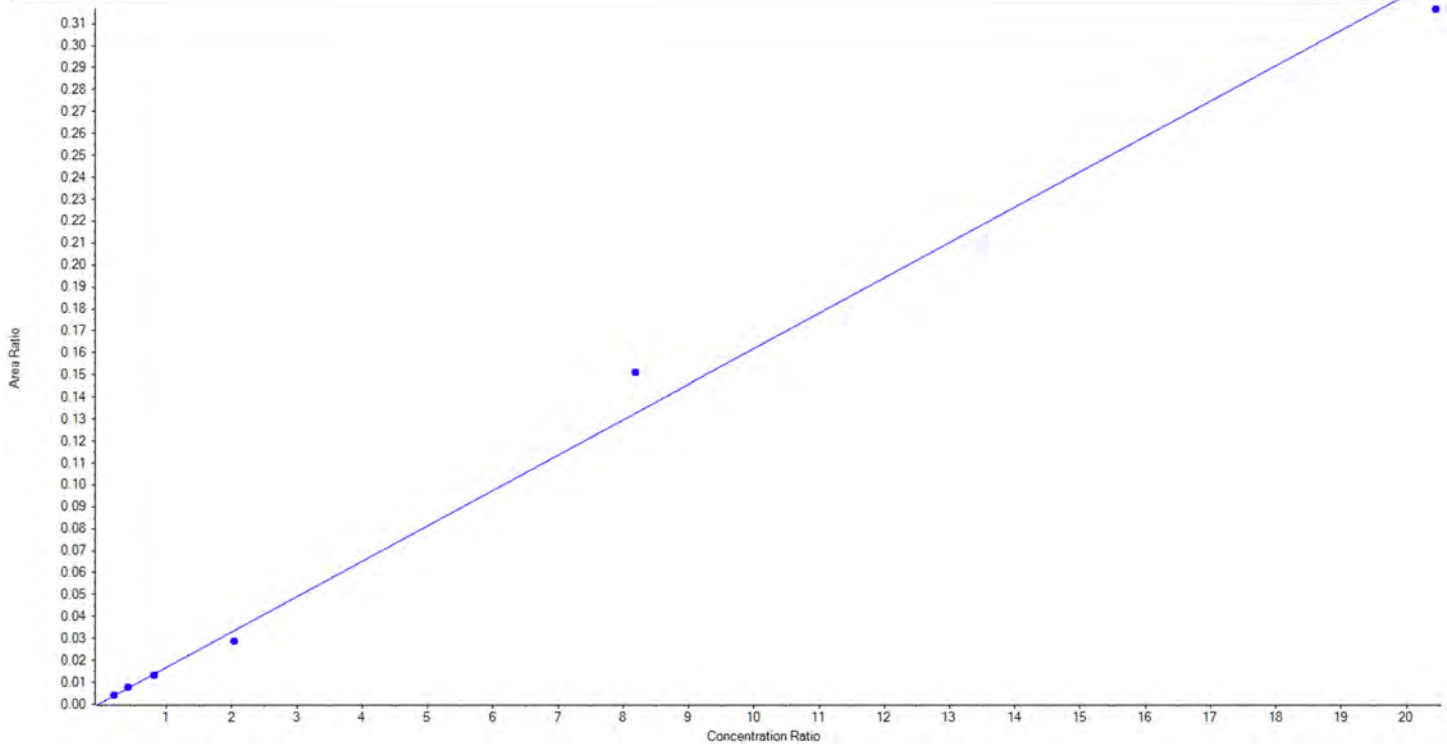
## Calibration Summary Report

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Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	9CI-PF3ONS_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	531.0 / 83.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 0.01612 x + 6.35009e-4$  ( $r = 0.99568$ ) (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





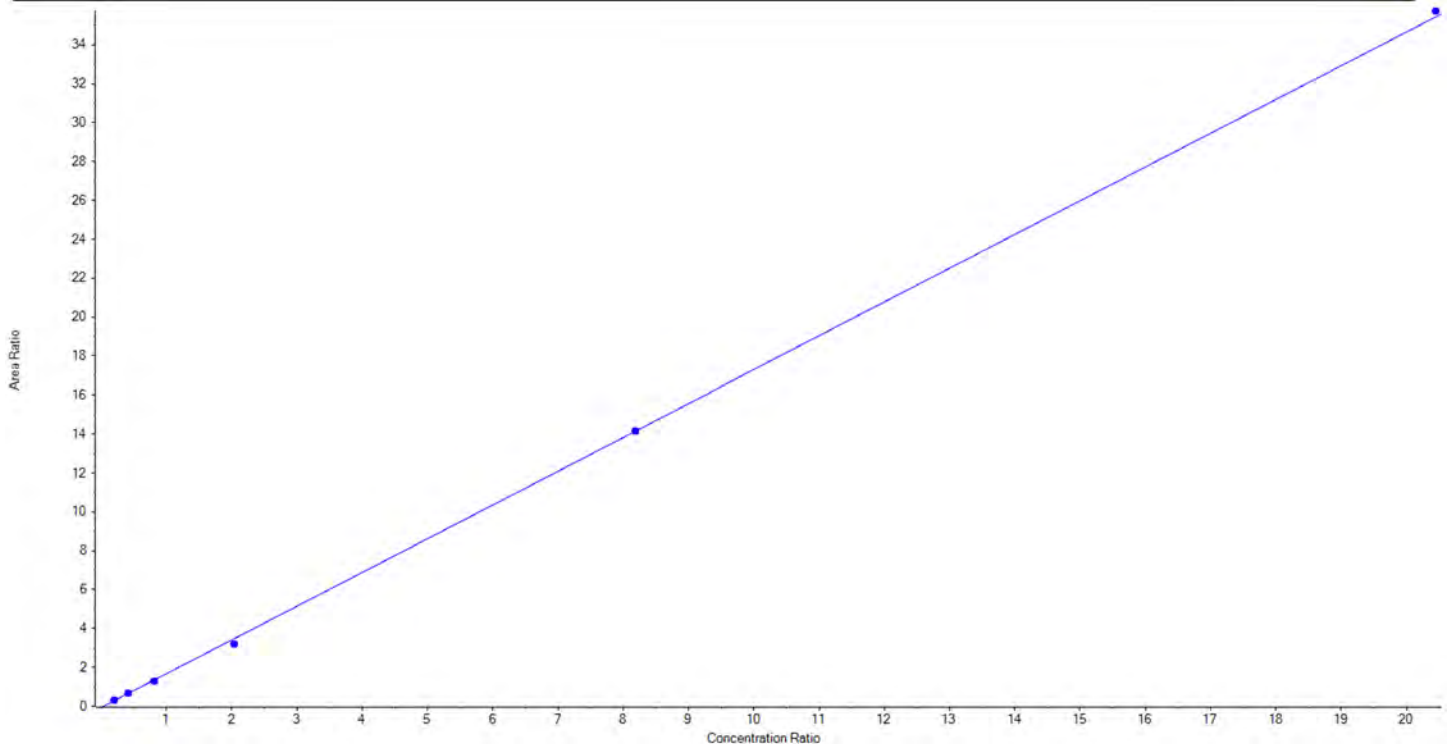
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	11Cl-pf3OUdS_1	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	631.0 / 451.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.73623 x + -0.06540$  ( $r = 0.99966$ ) (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





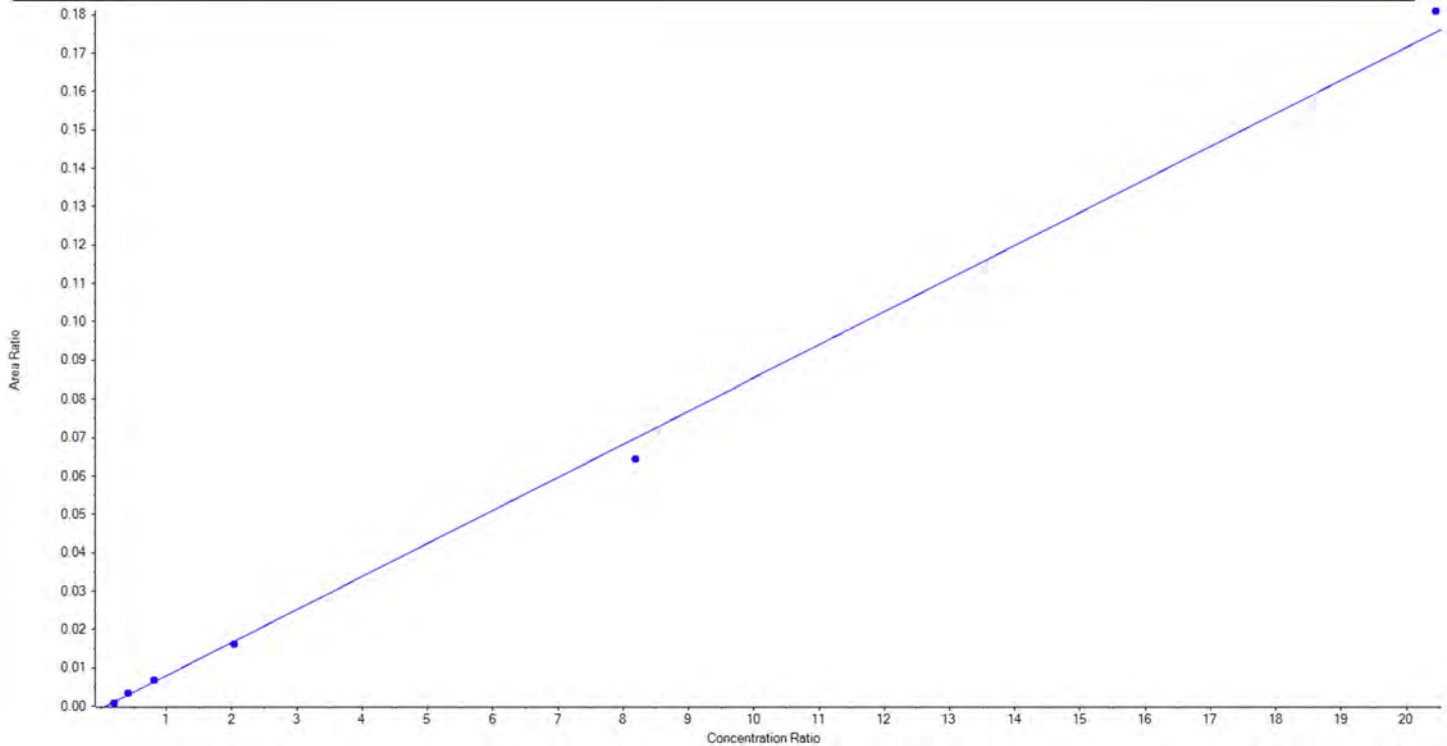
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:07 PM

<b>Analyte Name</b>	11Cl-pf3OUdS_2	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	631.0 / 83.0	<b>Result Table</b>	20-1511
<b>Internal Standard</b>	13C8-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 0.00861 x + -6.50065e-4$  ( $r = 0.99831$ ) (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







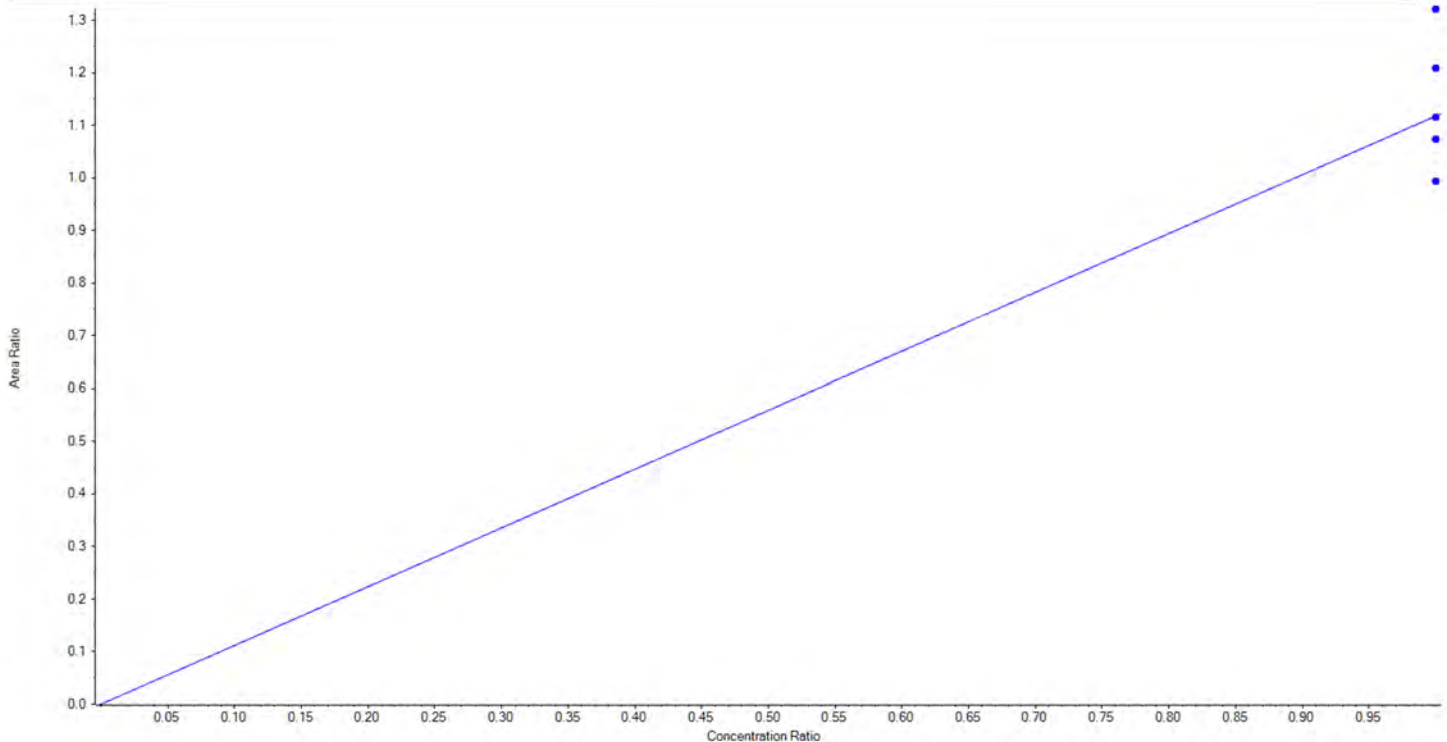
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C2-PFDoA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	615.0 / 570.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





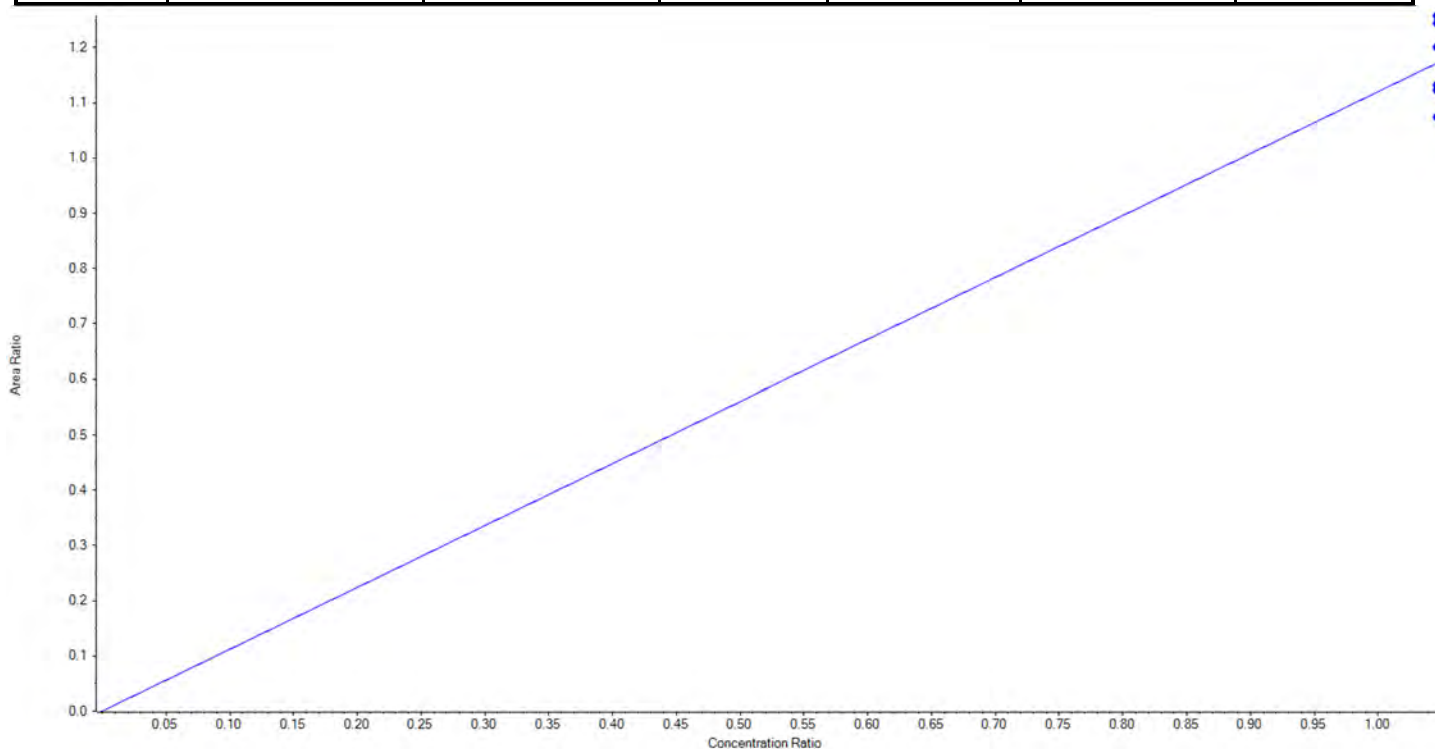
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	d3-MeFOSAA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	573.0 / 419.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	5-0369.dam

Regression Equation:  $y = 1.11999 x$  (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





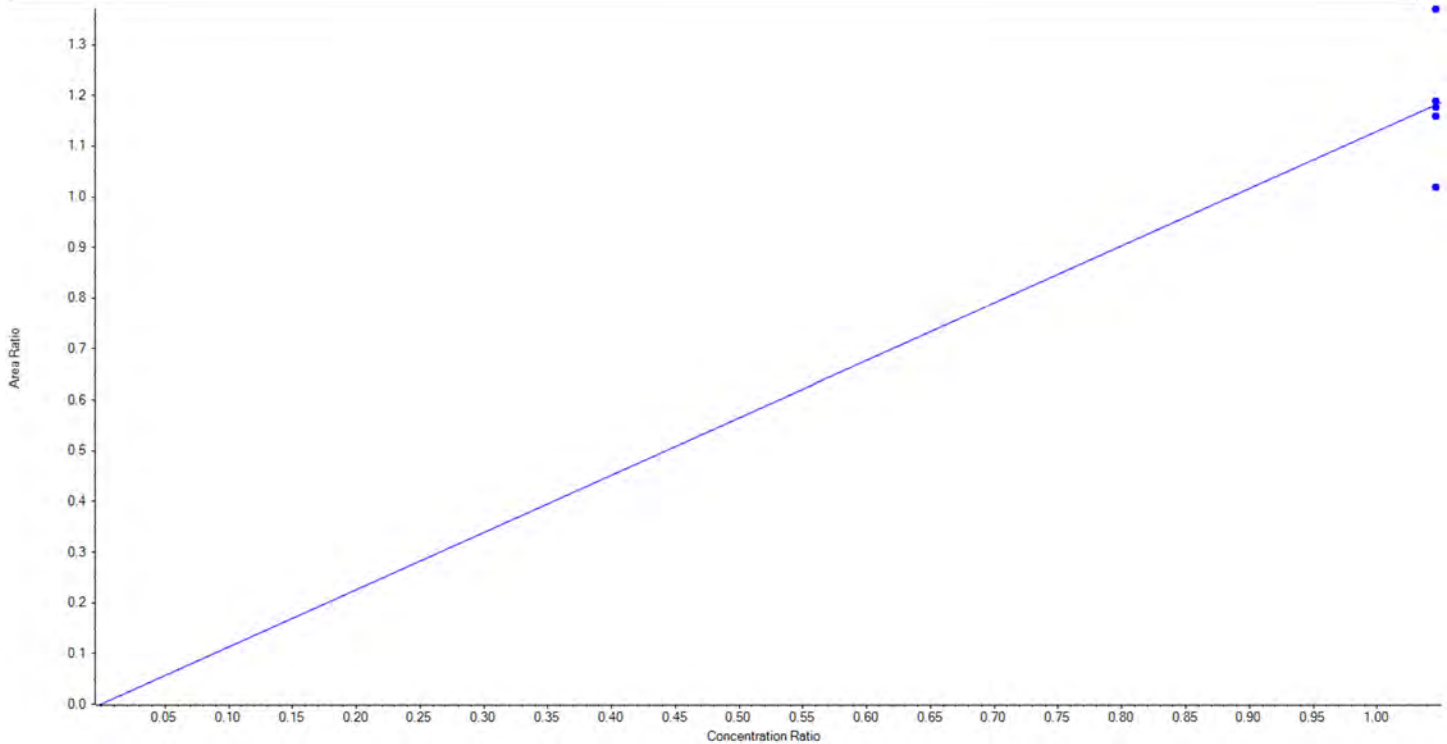
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	d5-EtFOSAA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	589.0 / 419.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





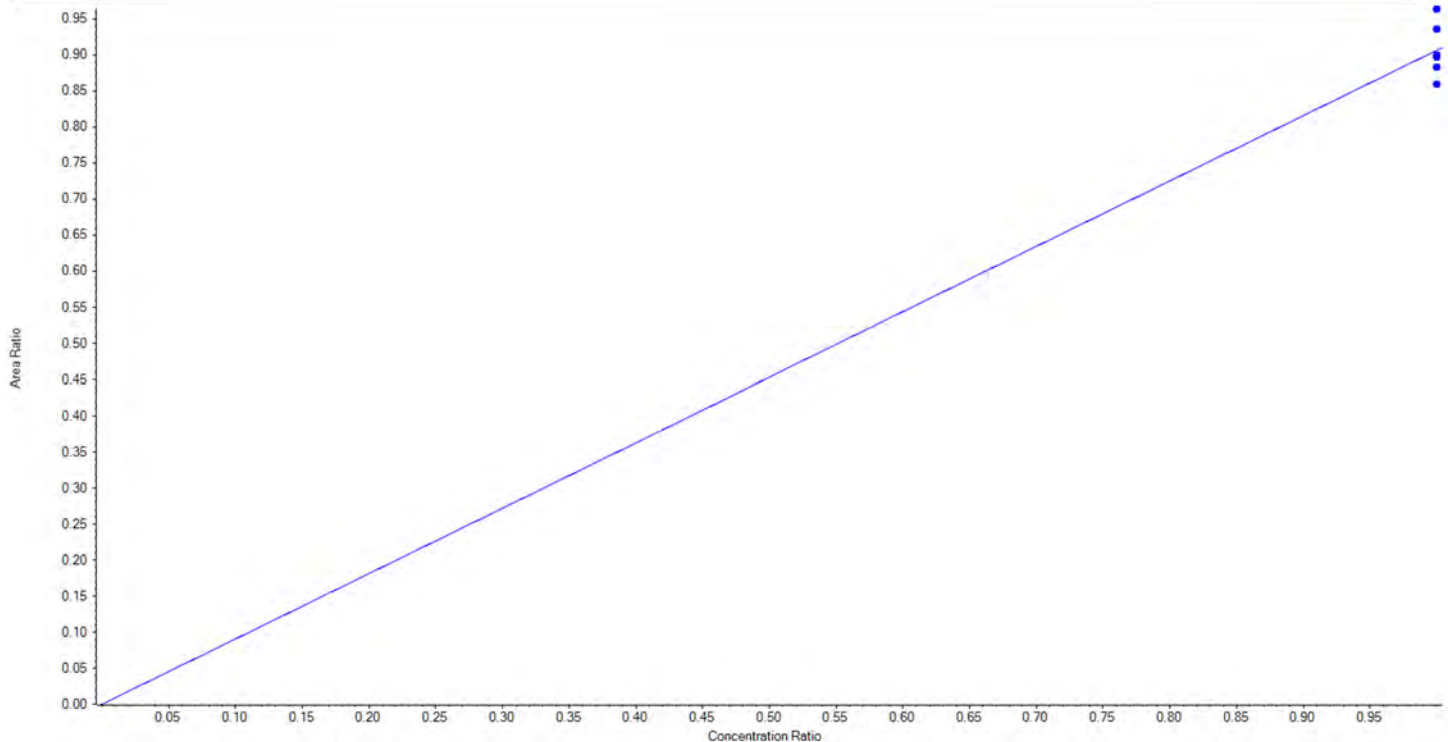
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C5-PFHxA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	318.0 / 273.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





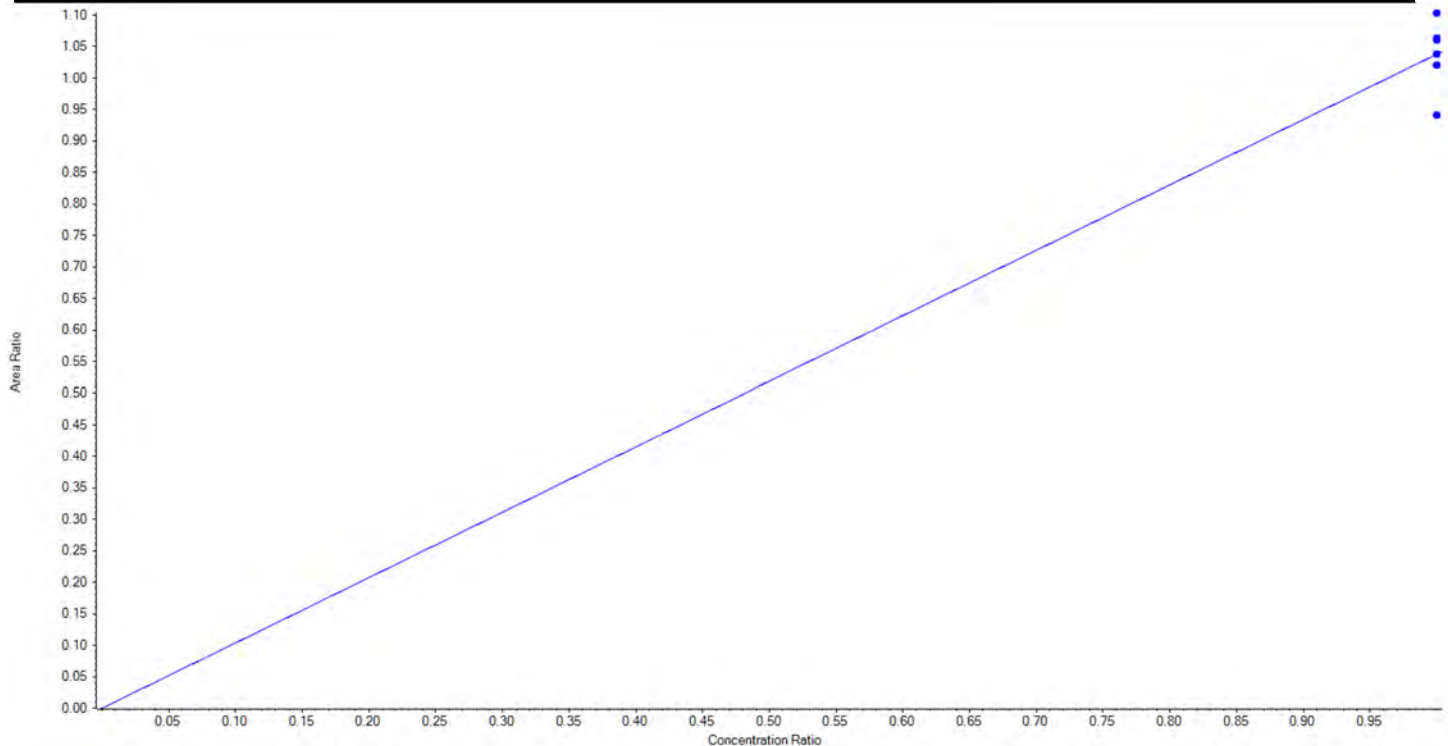
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C4-PFHpA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	367.0 / 322.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





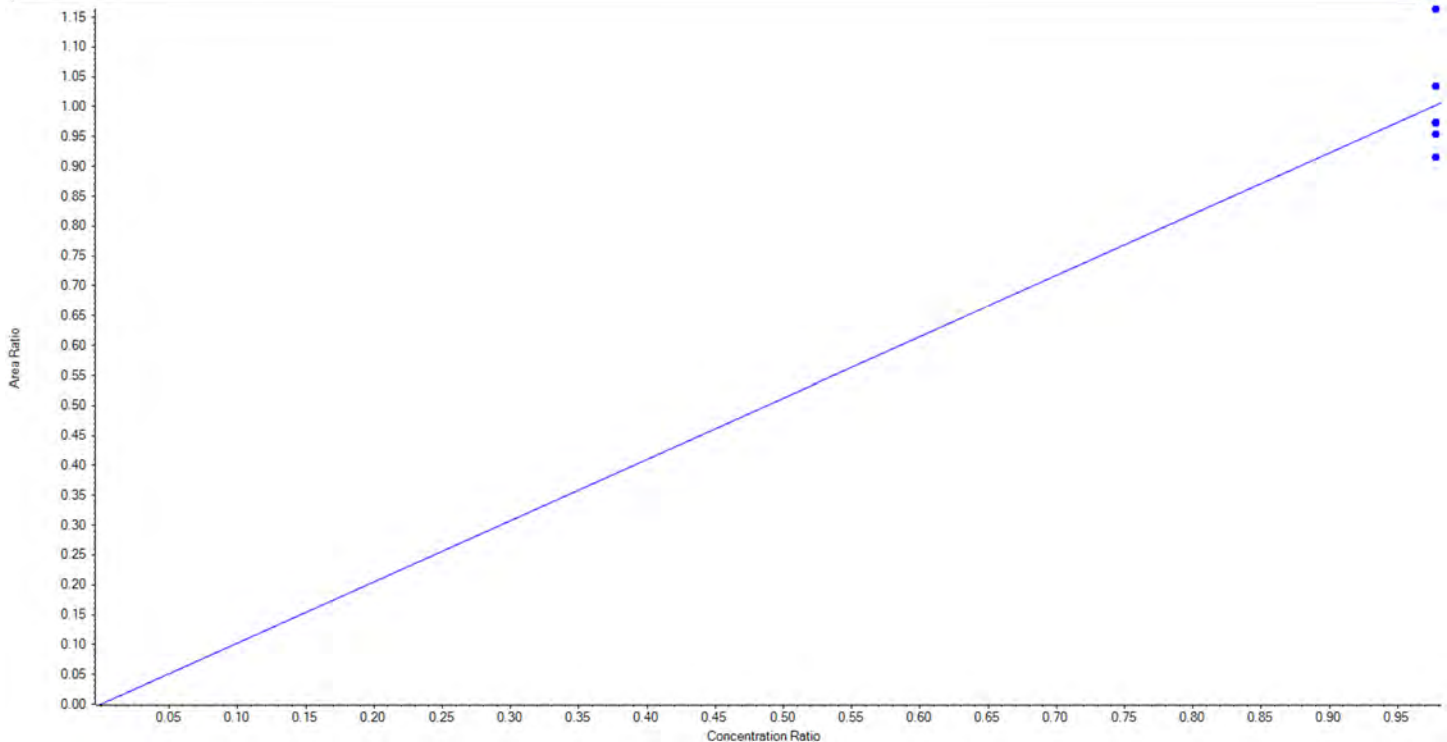
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C8-PFOA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	421.0 / 376.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





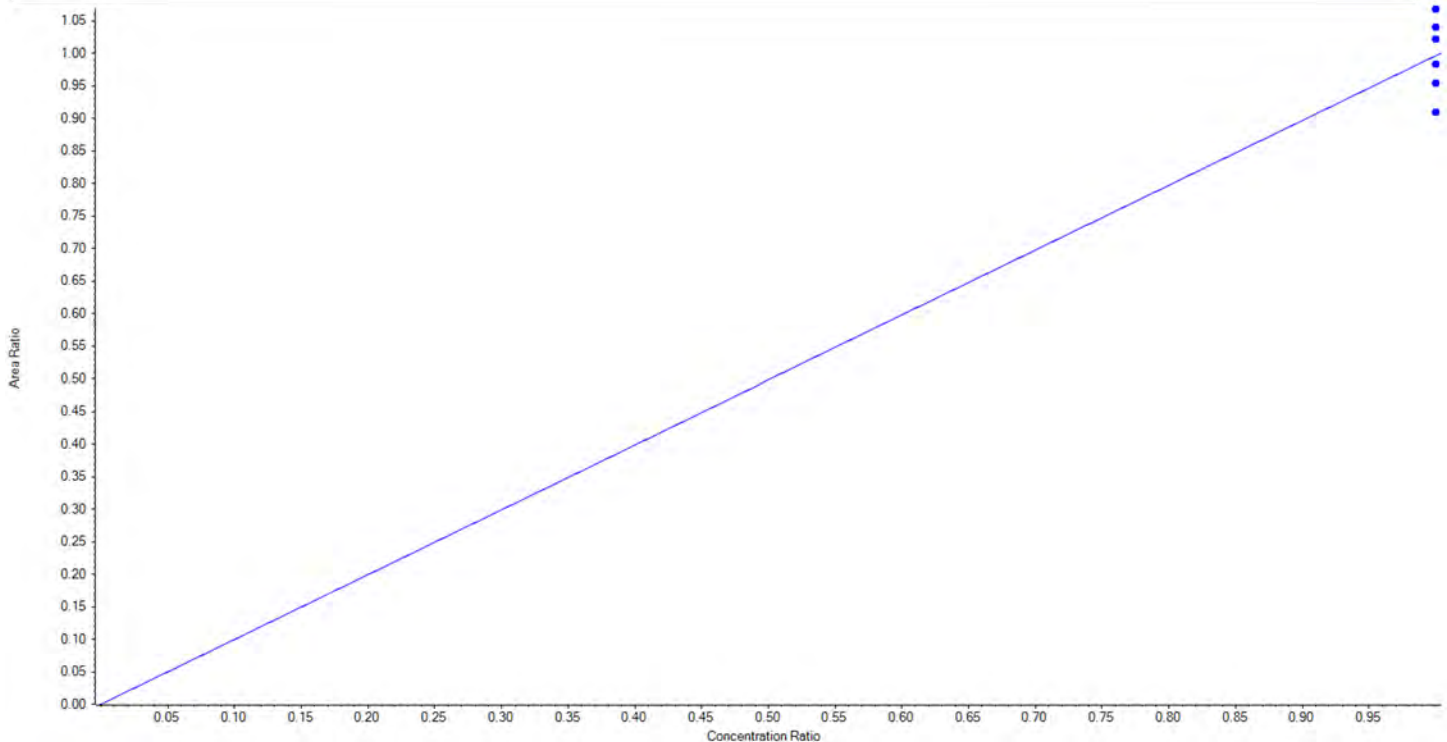
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C9-PFNA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	472.0 / 427.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





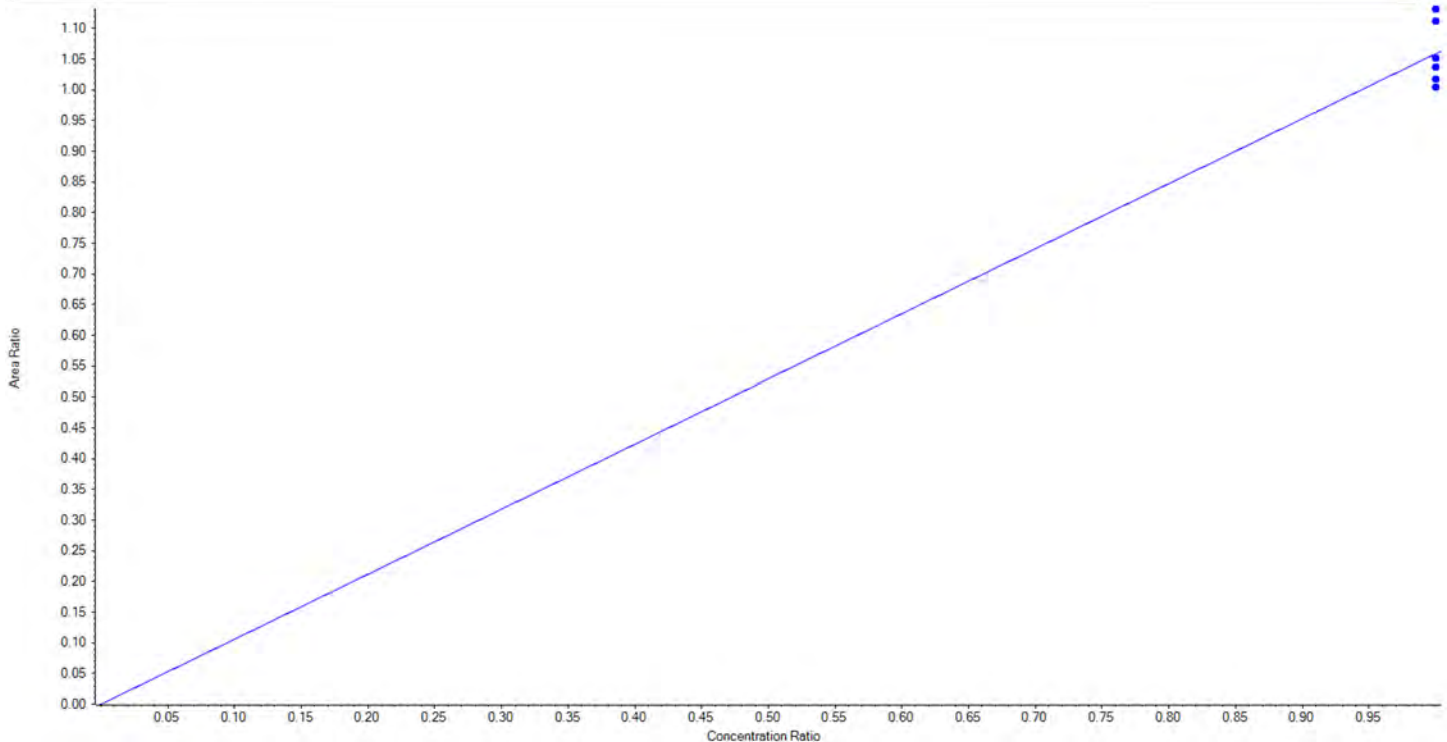
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C6-PFDA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	519.0 / 474.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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







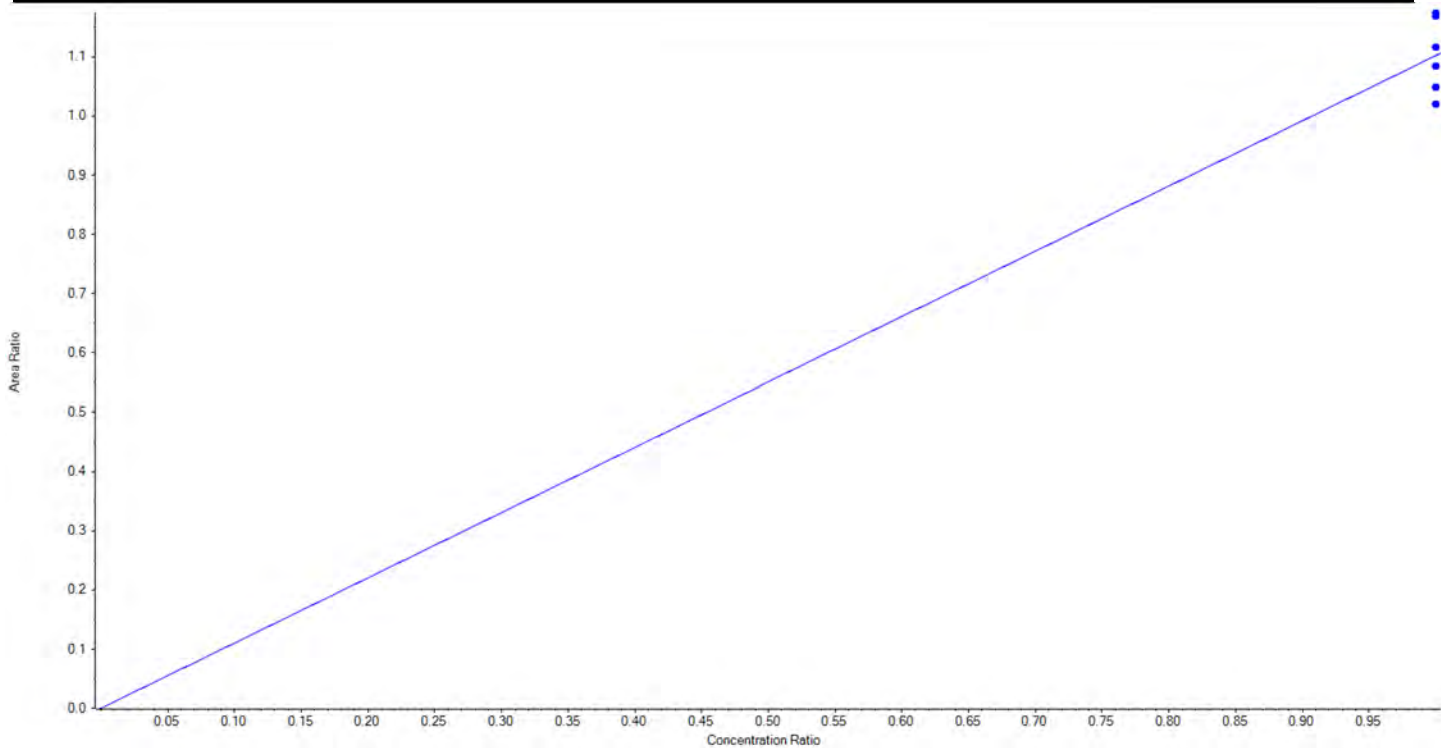
Calibration Summary Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C7-PFUnA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	570.0 / 525.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





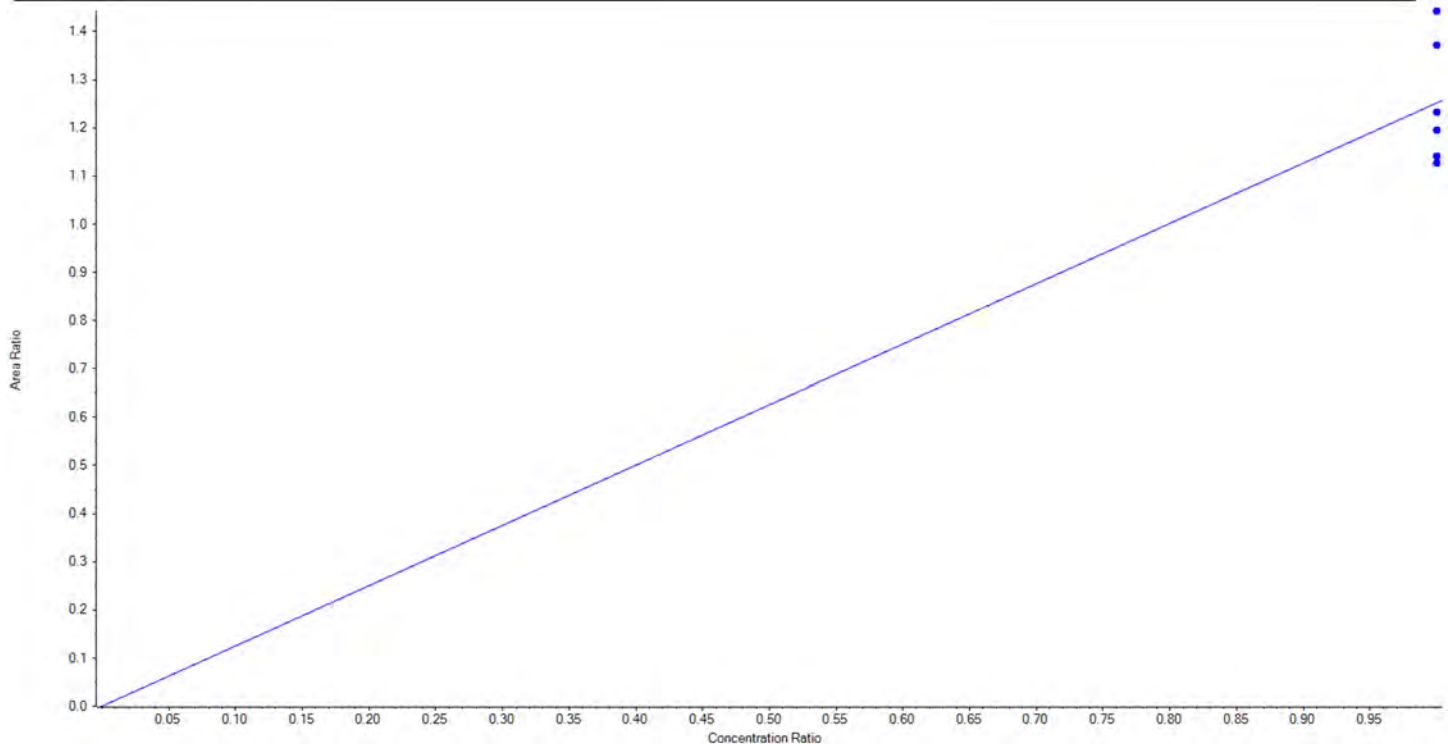
## Calibration Summary Report

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Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C2-PFTeDA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	715.0 / 670.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFDA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





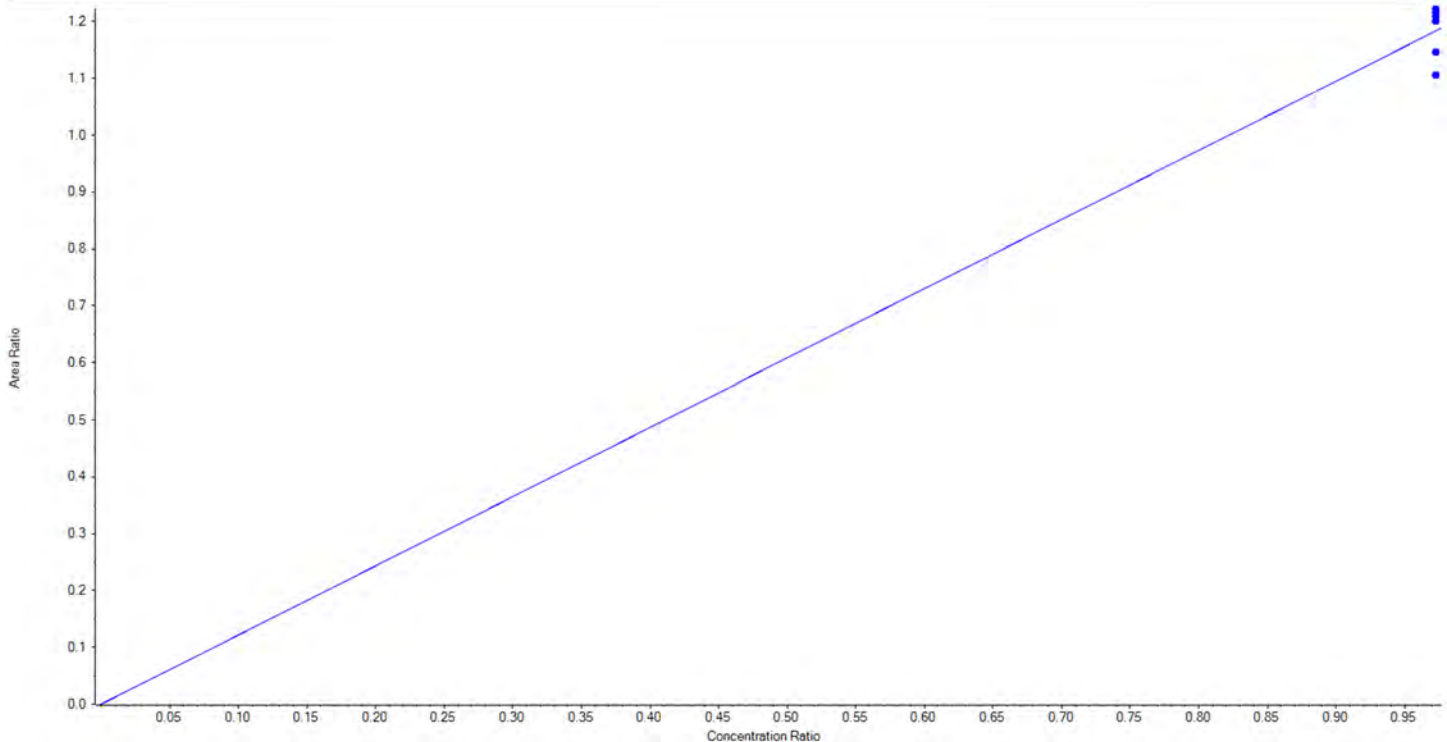
## Calibration Summary Report

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Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C3-PFBS	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	302.0 / 99.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





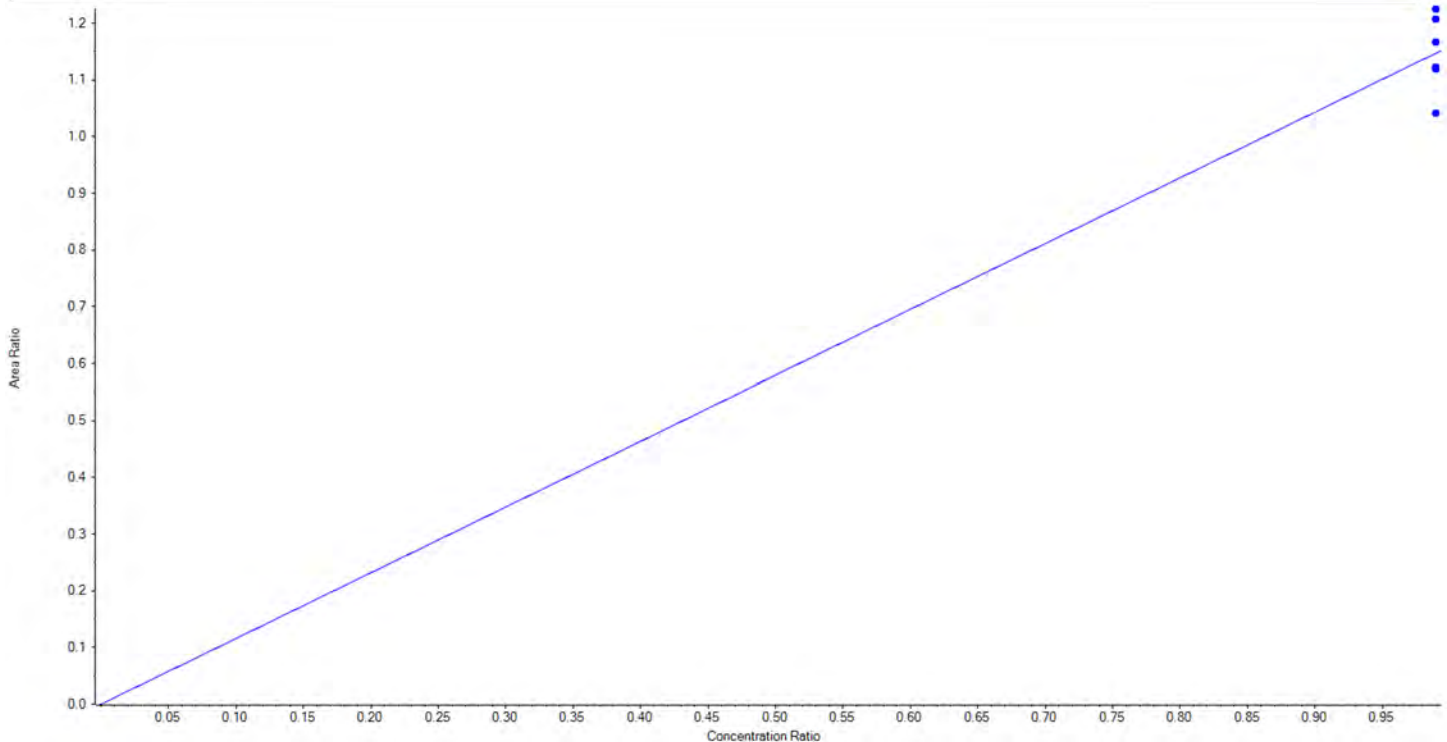
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C3-PFHxS	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	402.0 / 99.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





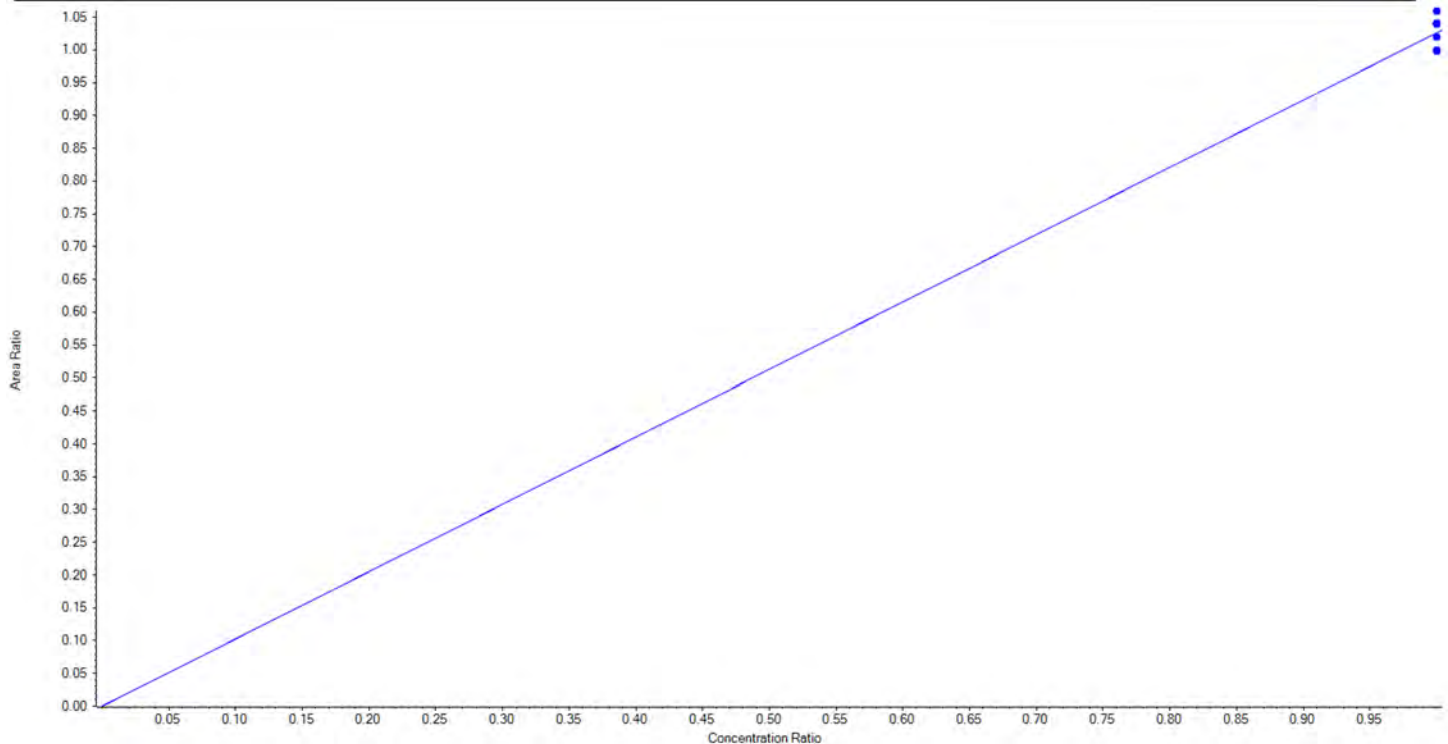
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C8-PFOS	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	507.0 / 99.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





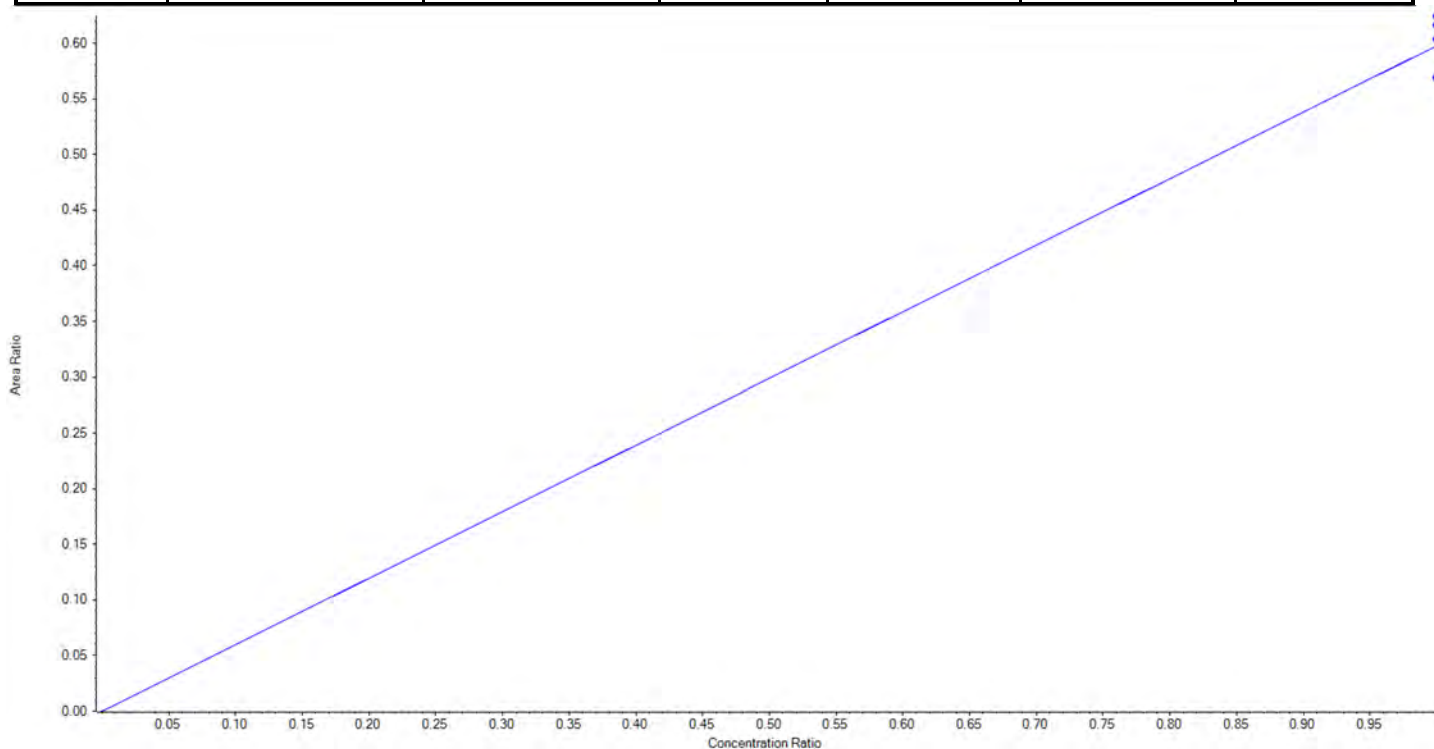
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:08 PM

<b>Analyte Name</b>	13C3-HFPO-DA	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>MRM Transition</b>	287.0 / 169.0	<b>Result Table</b>	20-1511_SIS
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Acquisition Method</b>	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





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	20-1511
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-PFTeDA	881063.08	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	13529.12	274.10	804.3	False	13C2-PFTeDA	881063.08	1250.00	PFTTrDA	0.082	0.072	✓
PFTeDA_1	713.0 / 669.0	4.43	208523.27	247.81	1991.4	False	13C2-PFTeDA	881063.08	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	12148.88	262.04	1459.6	False	13C2-PFTeDA	881063.08	1250.00	PFTeDA	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	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	262894.27	265.30	2952.6	False	13C8-PFOA	844238.08	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	722.56	213.85	325.6	False	13C8-PFOA	844238.08	1222.50	11Cl-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	20-1511
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	20-1511
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	✓
NEiFOSAA_1	584.0 / 419.0	3.71	108222.66	950.97	7105.0	False	d5-EiFOSAA	139841.04	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.71	6884.27	946.25	6233.2	False	d5-EiFOSAA	139841.04	1250.00	NEiFOSAA	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	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	932116.12	954.62	3566.0	False	13C8-PFOA	722356.84	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	4913.38	1058.21	1904.8	False	13C8-PFOA	722356.84	1222.50	11Cl-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	20-1511
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	✓
NEiFOSAA_1	584.0 / 419.0	3.71	265854.19	2453.76	5457.6	False	d5-EtFOSAA	133274.10	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.71	15852.94	2212.54	10741.1	False	d5-EtFOSAA	133274.10	1250.00	NEiFOSAA	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	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	2701868.25	2395.09	3283.1	False	13C8-PFOA	725259.83	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	20834.83	2130.10	968.0	False	13C8-PFOA	725259.83	1222.50	9CI-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	20-1511
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	✓
PFDoA_1	613.0 / 569.0	3.98	6327767.11	9969.05	4876.7	False	13C2-PFDoA	760747.07	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	1046944.19	10222.95	5232.5	False	13C2-PFDoA	760747.07	1250.00	PFDoA	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	10222.32	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	✓
9CI-PF3ONS_1	531.0 / 351.0	3.25	11625862.44	10299.93	4998.8	False	13C8-PFOA	719304.47	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.25	108656.02	11405.70	3601.9	False	13C8-PFOA	719304.47	1222.50	9CI-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	20-1511
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-PFTTeDA	870400.93	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	974607.36	24520.08	7550.5	False	13C2-PFTTeDA	870400.93	1250.00	PFTTrDA	0.073	0.072	✓
PFTTeDA_1	713.0 / 669.0	4.43	18352753.50	24646.52	22771.0	False	13C2-PFTTeDA	870400.93	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	4.43	1036930.38	24528.47	26851.0	False	13C2-PFTTeDA	870400.93	1250.00	PFTTeDA	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	✓
NEiFOSAA_1	584.0 / 419.0	3.71	2489771.49	24967.98	3604.3	False	d5-EiFOSAA	119847.81	1250.00	NEiFOSAA			
NEiFOSAA_2	584.0 / 483.0	3.71	141562.82	24787.80	8109.3	False	d5-EiFOSAA	119847.81	1250.00	NEiFOSAA	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	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	23648899.61	25206.99	6254.5	False	13C8-PFOA	661797.25	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	119753.50	25788.37	7356.7	False	13C8-PFOA	661797.25	1222.50	11Cl-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	20-1511_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	20-1511_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	20-1511_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	20-1511_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	20-1511_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	20-1511_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	20-1511
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
PFTrDA_1	663.0 / 619.0	4.22	2420.51	2500.00	96.82
PFTrDA_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	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 1:45:00 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
Sample Comment			

**Results Summary**

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	884.21	1000.00	88.42
PFBS_2	298.9 / 99.0	1.56	883.52	1000.00	88.35
PFHxA_1	313.0 / 269.0	1.89	997.50	1010.00	98.76
PFHxA_2	313.0 / 119.0	1.89	1082.72	1010.00	107.20
PFHpA_1	363.0 / 319.0	2.28	1038.99	1000.00	103.90
PFHpA_2	363.0 / 169.0	2.28	1188.91	1000.00	118.89
PFHxS_1	399.0 / 80.0	2.30	899.75	1010.00	89.08
PFHxS_2	399.0 / 99.0	2.30	890.20	1010.00	88.14
PFOA_1	413.0 / 369.0	2.68	943.82	1000.00	94.38
PFOA_2	413.0 / 169.0	2.68	970.34	1000.00	97.03
PFNA_1	463.0 / 419.0	3.05	903.92	1000.00	90.39
PFNA_2	463.0 / 219.0	3.05	988.06	1000.00	98.81
PFOS_1	499.0 / 80.0	3.05	959.12	1010.00	94.96
PFOS_2	499.0 / 99.0	3.05	949.30	1010.00	93.99
PFDA_1	513.0 / 469.0	3.39	1039.51	1000.00	103.95
PFDA_2	513.0 / 219.0	3.39	769.34	1000.00	76.93
PFUnA_1	563.0 / 519.0	3.69	865.85	1000.00	86.58
PFUnA_2	563.0 / 269.0	3.68	846.51	1000.00	84.65
PFDoA_1	613.0 / 569.0	3.95	949.41	1000.00	94.94
PFDoA_2	613.0 / 319.0	3.95	937.74	1000.00	93.77
PFTrDA_1	663.0 / 619.0	4.19	899.23	1000.00	89.92
PFTrDA_2	663.0 / 169.0	4.19	876.44	1000.00	87.64
PFTeDA_1	713.0 / 669.0	4.40	946.28	1000.00	94.63
PFTeDA_2	713.0 / 169.0	4.40	973.24	1000.00	97.32
NMeFOSAA_1	570.0 / 419.0	3.53	909.03	1000.00	90.90
NMeFOSAA_2	570.0 / 512.0	3.54	914.19	1000.00	91.42
NEtFOSAA_1	584.0 / 419.0	3.69	1039.64	1000.00	103.96
NEtFOSAA_2	584.0 / 483.0	3.69	992.60	1000.00	99.26
HFPO-DA_1	285.0 / 169.0	1.99	918.85	1000.00	91.89
HFPO-DA_2	285.0 / 118.8	1.99	877.88	1000.00	87.79
ADONA_1	377.0 / 251.0	2.31	992.90	1000.00	99.29
ADONA_2	377.0 / 85.0	2.31	837.87	1000.00	83.79
9Cl-PF3ONS_1	531.0 / 351.0	3.23	1006.35	1000.00	100.63
9Cl-PF3ONS_2	531.0 / 83.0	3.23	1083.21	1000.00	108.32
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	949.91	1000.00	94.99
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	1262.66	1000.00	126.27

Sample Name	LE54 CCV	Injection Vial	45
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:09:34 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
Sample Comment			

**Results Summary**

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	941.85	1000.00	94.19
PFBS_2	298.9 / 99.0	1.56	1003.20	1000.00	100.32
PFHxA_1	313.0 / 269.0	1.89	969.81	1010.00	96.02
PFHxA_2	313.0 / 119.0	1.89	917.14	1010.00	90.81
PFHpA_1	363.0 / 319.0	2.29	993.03	1000.00	99.30
PFHpA_2	363.0 / 169.0	2.28	839.70	1000.00	83.97
PFHxS_1	399.0 / 80.0	2.30	969.53	1010.00	95.99
PFHxS_2	399.0 / 99.0	2.30	993.65	1010.00	98.38
PFOA_1	413.0 / 369.0	2.68	905.06	1000.00	90.51
PFOA_2	413.0 / 169.0	2.67	987.05	1000.00	98.70
PFNA_1	463.0 / 419.0	3.05	994.89	1000.00	99.49
PFNA_2	463.0 / 219.0	3.05	1026.80	1000.00	102.68
PFOS_1	499.0 / 80.0	3.05	992.94	1010.00	98.31
PFOS_2	499.0 / 99.0	3.05	1071.52	1010.00	106.09
PFDA_1	513.0 / 469.0	3.38	1009.44	1000.00	100.94
PFDA_2	513.0 / 219.0	3.38	1019.89	1000.00	101.99
PFUnA_1	563.0 / 519.0	3.68	964.99	1000.00	96.50
PFUnA_2	563.0 / 269.0	3.68	983.17	1000.00	98.32
PFDoA_1	613.0 / 569.0	3.95	1036.95	1000.00	103.69
PFDoA_2	613.0 / 319.0	3.95	1079.32	1000.00	107.93
PFTrDA_1	663.0 / 619.0	4.18	920.72	1000.00	92.07
PFTrDA_2	663.0 / 169.0	4.18	977.44	1000.00	97.74
PFTeDA_1	713.0 / 669.0	4.39	956.95	1000.00	95.70
PFTeDA_2	713.0 / 169.0	4.39	986.22	1000.00	98.62
NMeFOSAA_1	570.0 / 419.0	3.53	954.72	1000.00	95.47
NMeFOSAA_2	570.0 / 512.0	3.53	928.73	1000.00	92.87
NEtFOSAA_1	584.0 / 419.0	3.68	1068.72	1000.00	106.87
NEtFOSAA_2	584.0 / 483.0	3.69	1025.63	1000.00	102.56
HFPO-DA_1	285.0 / 169.0	1.99	990.43	1000.00	99.04
HFPO-DA_2	285.0 / 118.8	1.99	1058.59	1000.00	105.86
ADONA_1	377.0 / 251.0	2.31	992.70	1000.00	99.27
ADONA_2	377.0 / 85.0	2.31	1004.53	1000.00	100.45
9Cl-PF3ONS_1	531.0 / 351.0	3.22	996.52	1000.00	99.65
9Cl-PF3ONS_2	531.0 / 83.0	3.23	963.71	1000.00	96.37
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	1023.12	1000.00	102.31
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	1012.24	1000.00	101.22

Sample Name	LE54 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:48:15 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
Sample Comment			

**Results Summary**

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	898.89	1000.00	89.89
PFBS_2	298.9 / 99.0	1.56	964.21	1000.00	96.42
PFHxA_1	313.0 / 269.0	1.89	962.22	1010.00	95.27
PFHxA_2	313.0 / 119.0	1.89	949.15	1010.00	93.97
PFHpA_1	363.0 / 319.0	2.29	979.38	1000.00	97.94
PFHpA_2	363.0 / 169.0	2.29	722.92	1000.00	72.29
PFHxS_1	399.0 / 80.0	2.31	977.30	1010.00	96.76
PFHxS_2	399.0 / 99.0	2.31	896.54	1010.00	88.77
PFOA_1	413.0 / 369.0	2.68	1049.61	1000.00	104.96
PFOA_2	413.0 / 169.0	2.68	1045.57	1000.00	104.56
PFNA_1	463.0 / 419.0	3.06	1071.26	1000.00	107.13
PFNA_2	463.0 / 219.0	3.05	1069.36	1000.00	106.94
PFOS_1	499.0 / 80.0	3.05	1062.50	1010.00	105.20
PFOS_2	499.0 / 99.0	3.05	1072.31	1010.00	106.17
PFDA_1	513.0 / 469.0	3.39	970.39	1000.00	97.04
PFDA_2	513.0 / 219.0	3.39	833.68	1000.00	83.37
PFUnA_1	563.0 / 519.0	3.69	945.43	1000.00	94.54
PFUnA_2	563.0 / 269.0	3.69	847.64	1000.00	84.76
PFDoA_1	613.0 / 569.0	3.95	1030.84	1000.00	103.08
PFDoA_2	613.0 / 319.0	3.95	981.91	1000.00	98.19
PFTrDA_1	663.0 / 619.0	4.19	896.50	1000.00	89.65
PFTrDA_2	663.0 / 169.0	4.19	916.47	1000.00	91.65
PFTeDA_1	713.0 / 669.0	4.40	979.04	1000.00	97.90
PFTeDA_2	713.0 / 169.0	4.39	958.78	1000.00	95.88
NMeFOSAA_1	570.0 / 419.0	3.54	879.36	1000.00	87.94
NMeFOSAA_2	570.0 / 512.0	3.54	940.72	1000.00	94.07
NEtFOSAA_1	584.0 / 419.0	3.69	994.05	1000.00	99.40
NEtFOSAA_2	584.0 / 483.0	3.68	865.33	1000.00	86.53
HFPO-DA_1	285.0 / 169.0	2.00	985.81	1000.00	98.58
HFPO-DA_2	285.0 / 118.8	2.00	1044.18	1000.00	104.42
ADONA_1	377.0 / 251.0	2.32	964.40	1000.00	96.44
ADONA_2	377.0 / 85.0	2.32	1092.69	1000.00	109.27
9Cl-PF3ONS_1	531.0 / 351.0	3.23	989.25	1000.00	98.92
9Cl-PF3ONS_2	531.0 / 83.0	3.23	907.53	1000.00	90.75
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	1070.43	1000.00	107.04
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	906.04	1000.00	90.60

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	20-1511_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	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 1:45:00 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS
Sample Comment			

**Results Summary**

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.95	1137.92	1250.00	91.03
d3-MeFOSAA	573.0 / 419.0	3.53	1130.29	1250.00	90.42
d5-EtFOSAA	589.0 / 419.0	3.68	1162.19	1250.00	92.98
13C5-PFHxA	318.0 / 273.0	1.88	1190.51	1250.00	95.24
13C4-PFHpA	367.0 / 322.0	2.27	1192.67	1250.00	95.41
13C8-PFOA	421.0 / 376.0	2.66	1271.79	1222.50	104.03
13C9-PFNA	472.0 / 427.0	3.03	1227.85	1250.00	98.23
13C6-PFDA	519.0 / 474.0	3.37	1235.14	1250.00	98.81
13C7-PFUnA	570.0 / 525.0	3.67	1346.54	1250.00	107.72
13C2-PFTeDA	715.0 / 670.0	4.39	1257.22	1250.00	100.58
13C3-PFBS	302.0 / 99.0	1.55	1145.99	1162.50	98.58
13C3-PFHxS	402.0 / 99.0	2.29	1256.67	1182.50	106.27
13C8-PFOS	507.0 / 99.0	3.03	1179.71	1195.00	98.72
13C3-HFPO-DA	287.0 / 169.0	1.99	1246.68	1250.00	99.73

Sample Name	LE54 CCV	Injection Vial	45
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:09:34 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.94	1107.84	1250.00	88.63
d3-MeFOSAA	573.0 / 419.0	3.52	1190.25	1250.00	95.22
d5-EtFOSAA	589.0 / 419.0	3.67	1225.69	1250.00	98.06
13C5-PFHxA	318.0 / 273.0	1.88	1188.24	1250.00	95.06
13C4-PFHpA	367.0 / 322.0	2.27	1248.81	1250.00	99.91
13C8-PFOA	421.0 / 376.0	2.66	1221.04	1222.50	99.88
13C9-PFNA	472.0 / 427.0	3.03	1212.03	1250.00	96.96
13C6-PFDA	519.0 / 474.0	3.37	1210.38	1250.00	96.83
13C7-PFUnA	570.0 / 525.0	3.67	1197.63	1250.00	95.81
13C2-PFTeDA	715.0 / 670.0	4.38	1251.57	1250.00	100.13
13C3-PFBS	302.0 / 99.0	1.55	1024.97	1162.50	88.17
13C3-PFHxS	402.0 / 99.0	2.29	1103.63	1182.50	93.33
13C8-PFOS	507.0 / 99.0	3.03	1129.55	1195.00	94.52
13C3-HFPO-DA	287.0 / 169.0	1.99	1156.98	1250.00	92.56

Sample Name	LE54 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:48:15 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.95	1112.77	1250.00	89.02
d3-MeFOSAA	573.0 / 419.0	3.53	1217.86	1250.00	97.43
d5-EtFOSAA	589.0 / 419.0	3.68	1198.46	1250.00	95.88
13C5-PFHxA	318.0 / 273.0	1.88	1310.41	1250.00	104.83
13C4-PFHpA	367.0 / 322.0	2.28	1401.92	1250.00	112.15
13C8-PFOA	421.0 / 376.0	2.67	1289.79	1222.50	105.50
13C9-PFNA	472.0 / 427.0	3.04	1271.19	1250.00	101.69
13C6-PFDA	519.0 / 474.0	3.38	1237.77	1250.00	99.02
13C7-PFUnA	570.0 / 525.0	3.67	1232.64	1250.00	98.61
13C2-PFTeDA	715.0 / 670.0	4.39	1263.99	1250.00	101.12
13C3-PFBS	302.0 / 99.0	1.55	1039.76	1162.50	89.44
13C3-PFHxS	402.0 / 99.0	2.30	1081.75	1182.50	91.48
13C8-PFOS	507.0 / 99.0	3.03	1083.06	1195.00	90.63
13C3-HFPO-DA	287.0 / 169.0	2.00	1232.96	1250.00	98.64

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	20-1511
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	✓

Sample Name	LE54 CCV	Injection Vial	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 1:45:00 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	291199.15	884.21	48225.9	False	13C3-PFBS	140735.23	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	92829.25	883.52	4147.4	False	13C3-PFBS	140735.23	1162.50	PFBS	0.319	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	505458.13	997.50	928.6	False	13C5-PFHxA	593040.38	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	40904.72	1082.72	728.9	False	13C5-PFHxA	593040.38	1250.00	PFHxA	0.081	0.075	✓
PFHpA_1	363.0 / 319.0	2.28	576609.92	1038.99	1054.0	False	13C4-PFHpA	680298.71	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	11950.90	1188.91	822.7	False	13C4-PFHpA	680298.71	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.30	452496.63	899.75	5498.8	False	13C3-PFHxS	147051.14	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	129893.71	890.20	1105.0	False	13C3-PFHxS	147051.14	1182.50	PFHxS	0.287	0.290	✓
PFOA_1	413.0 / 369.0	2.68	635408.24	943.82	1015.4	False	13C8-PFOA	716189.26	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	46032.04	970.34	3605.2	False	13C8-PFOA	716189.26	1222.50	PFOA	0.072	0.071	✓
PFNA_1	463.0 / 419.0	3.05	590662.80	903.92	772.4	False	13C9-PFNA	672414.04	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	179321.09	988.06	1901.2	False	13C9-PFNA	672414.04	1250.00	PFNA	0.304	0.276	✓
PFOS_1	499.0 / 80.0	3.05	491730.10	959.12	1092.9	False	13C8-PFOS	122208.80	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.05	88242.53	949.30	21432.1	False	13C8-PFOS	122208.80	1195.00	PFOS	0.179	0.182	✓
PFDA_1	513.0 / 469.0	3.39	666876.29	1039.51	1362.4	False	13C6-PFDA	690042.72	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.39	19718.95	769.34	4107.9	False	13C6-PFDA	690042.72	1250.00	PFDA	0.030	0.040	✓
PFUnA_1	563.0 / 519.0	3.69	585581.83	865.85	1437.7	False	13C7-PFUnA	783064.90	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.68	30766.76	846.51	2779.4	False	13C7-PFUnA	783064.90	1250.00	PFUnA	0.053	0.054	✓
PFDoA_1	613.0 / 569.0	3.95	539424.53	949.41	2368.5	False	13C2-PFDoA	671034.85	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.95	84811.17	937.74	2487.0	False	13C2-PFDoA	671034.85	1250.00	PFDoA	0.157	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.19	507363.58	899.23	2823.1	False	13C2-PFTeDA	830487.66	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.19	35537.49	876.44	1722.3	False	13C2-PFTeDA	830487.66	1250.00	PFTTrDA	0.070	0.072	✓
PFTeDA_1	713.0 / 669.0	4.40	692228.50	946.28	6077.3	False	13C2-PFTeDA	830487.66	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	40112.61	973.24	4367.2	False	13C2-PFTeDA	830487.66	1250.00	PFTeDA	0.058	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.53	100501.94	909.03	5236.6	False	d3-MeFOSAA	128333.67	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	70551.57	914.19	38609.3	False	d3-MeFOSAA	128333.67	1250.00	NMeFOSAA	0.702	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.69	112355.12	1039.64	11314.2	False	d5-EtFOSAA	132834.89	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.69	6880.86	992.60	1317.4	False	d5-EtFOSAA	132834.89	1250.00	NEtFOSAA	0.061	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.99	339804.90	918.85	2973.1	False	13C3-HFPO-DA	409553.40	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.99	8069.16	877.88	1019.0	False	13C3-HFPO-DA	409553.40	1250.00	HFPO-DA	0.024	0.025	✓
ADONA_1	377.0 / 251.0	2.31	1219601.40	992.90	3555.7	False	13C8-PFOA	716189.26	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.31	13428.31	837.87	16522250.5	False	13C8-PFOA	716189.26	1222.50	ADONA	0.011	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.23	1103197.10	1006.35	2066.9	False	13C8-PFOA	716189.26	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.23	10686.04	1083.21	904.8	False	13C8-PFOA	716189.26	1222.50	9CI-PF3ONS	0.010	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	919370.32	949.91	3484.6	False	13C8-PFOA	716189.26	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	5902.52	1262.66	75359.9	True	13C8-PFOA	716189.26	1222.50	11Cl-PF3OUdS	0.006	0.005	✓

Sample Name	LE54 CCV	Injection Vial	45
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:09:34 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	262673.78	941.85	5679.0	False	13C3-PFBS	118850.66	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	89260.38	1003.20	74009.0	False	13C3-PFBS	118850.66	1162.50	PFBS	0.340	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	446598.27	969.81	961.8	False	13C5-PFHxA	539247.83	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	31529.58	917.14	532.1	False	13C5-PFHxA	539247.83	1250.00	PFHxA	0.071	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	525653.50	993.03	1081.1	False	13C4-PFHpA	648943.78	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.28	8041.79	839.70	1046.0	False	13C4-PFHpA	648943.78	1250.00	PFHpA	0.015	0.018	✓
PFHxS_1	399.0 / 80.0	2.30	405084.54	969.53	2216.7	False	13C3-PFHxS	121938.25	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	120571.74	993.65	1745.5	False	13C3-PFHxS	121938.25	1182.50	PFHxS	0.298	0.290	✓
PFOA_1	413.0 / 369.0	2.68	532277.71	905.06	1098.3	False	13C8-PFOA	626430.12	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.67	40977.99	987.05	839.2	False	13C8-PFOA	626430.12	1222.50	PFOA	0.077	0.071	✓
PFNA_1	463.0 / 419.0	3.05	584208.29	994.89	1013.6	False	13C9-PFNA	604692.23	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	167737.47	1026.80	1603.8	False	13C9-PFNA	604692.23	1250.00	PFNA	0.287	0.276	✓
PFOS_1	499.0 / 80.0	3.05	460153.44	992.94	696.4	False	13C8-PFOS	110483.73	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.05	89689.07	1071.52	4941.0	False	13C8-PFOS	110483.73	1195.00	PFOS	0.195	0.182	✓
PFDA_1	513.0 / 469.0	3.38	578437.36	1009.44	1357.5	False	13C6-PFDA	615408.40	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.38	23641.51	1019.89	12142.4	False	13C6-PFDA	615408.40	1250.00	PFDA	0.041	0.040	✓
PFUnA_1	563.0 / 519.0	3.68	532263.76	964.99	1496.8	False	13C7-PFUnA	633846.97	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.68	29118.21	983.17	3467.1	False	13C7-PFUnA	633846.97	1250.00	PFUnA	0.055	0.054	✓
PFDoA_1	613.0 / 569.0	3.95	521305.54	1036.95	1794.3	False	13C2-PFDoA	594559.26	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.95	86475.98	1079.32	2372.0	False	13C2-PFDoA	594559.26	1250.00	PFDoA	0.166	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.18	470031.93	920.72	3081.4	False	13C2-PFTeDA	752417.91	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.18	35658.27	977.44	1138.3	False	13C2-PFTeDA	752417.91	1250.00	PFTTrDA	0.076	0.072	✓
PFTeDA_1	713.0 / 669.0	4.39	634015.28	956.95	4977.4	False	13C2-PFTeDA	752417.91	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	36815.81	986.22	2306.9	False	13C2-PFTeDA	752417.91	1250.00	PFTeDA	0.058	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.53	104391.67	954.72	2131.1	False	d3-MeFOSAA	126814.35	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.53	70791.43	928.73	5306.8	False	d3-MeFOSAA	126814.35	1250.00	NMeFOSAA	0.678	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.68	112440.41	1068.72	9289.6	False	d5-EtFOSAA	129328.82	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.69	6936.07	1025.63	472.4	False	d5-EtFOSAA	129328.82	1250.00	NEtFOSAA	0.062	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.99	309870.90	990.43	3173.9	False	13C3-HFPO-DA	346269.18	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.99	8291.64	1058.59	74855.1	False	13C3-HFPO-DA	346269.18	1250.00	HFPO-DA	0.027	0.025	✓
ADONA_1	377.0 / 251.0	2.31	1066536.28	992.70	3688.3	False	13C8-PFOA	626430.12	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.31	14125.43	1004.53	7160.8	False	13C8-PFOA	626430.12	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.22	955252.99	996.52	2339.6	False	13C8-PFOA	626430.12	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.23	8359.50	963.71	323022.3	False	13C8-PFOA	626430.12	1222.50	9CI-PF3ONS	0.009	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	869275.23	1023.12	3705.3	False	13C8-PFOA	626430.12	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	4058.12	1012.24	930.5	False	13C8-PFOA	626430.12	1222.50	11Cl-PF3OUdS	0.005	0.005	✓

Sample Name	LE54 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:48:15 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	252988.23	898.89	8398.5	False	13C3-PFBS	120182.87	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	86680.51	964.21	5573.4	False	13C3-PFBS	120182.87	1162.50	PFBS	0.343	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	453514.40	962.22	963.7	False	13C5-PFHxA	552010.19	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	33396.67	949.15	863.1	False	13C5-PFHxA	552010.19	1250.00	PFHxA	0.074	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	540203.68	979.38	1152.1	False	13C4-PFHpA	676224.28	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	7209.48	722.92	357.5	False	13C4-PFHpA	676224.28	1250.00	PFHpA	0.013	0.018	✓
PFHxS_1	399.0 / 80.0	2.31	399041.69	977.30	2221.2	False	13C3-PFHxS	119140.54	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	106008.94	896.54	1430.0	False	13C3-PFHxS	119140.54	1182.50	PFHxS	0.266	0.290	✓
PFOA_1	413.0 / 369.0	2.68	607801.12	1049.61	1008.8	False	13C8-PFOA	614214.16	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	42635.30	1045.57	895.2	False	13C8-PFOA	614214.16	1222.50	PFOA	0.070	0.071	✓
PFNA_1	463.0 / 419.0	3.06	612094.63	1071.26	822.8	False	13C9-PFNA	588694.33	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	170227.04	1069.36	1902.5	False	13C9-PFNA	588694.33	1250.00	PFNA	0.278	0.276	✓
PFOS_1	499.0 / 80.0	3.05	470478.78	1062.50	774.4	False	13C8-PFOS	105599.76	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.05	85785.44	1072.31	4045.0	False	13C8-PFOS	105599.76	1195.00	PFOS	0.182	0.182	✓
PFDA_1	513.0 / 469.0	3.39	567734.35	970.39	1356.3	False	13C6-PFDA	626972.00	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.39	19500.73	833.68	976.1	False	13C6-PFDA	626972.00	1250.00	PFDA	0.034	0.040	✓
PFUnA_1	563.0 / 519.0	3.69	533980.06	945.43	1366.4	False	13C7-PFUnA	649928.05	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.69	25571.42	847.64	928.7	False	13C7-PFUnA	649928.05	1250.00	PFUnA	0.048	0.054	✓
PFDoA_1	613.0 / 569.0	3.95	518632.39	1030.84	2175.6	False	13C2-PFDoA	594961.86	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.95	78733.74	981.91	2452.4	False	13C2-PFDoA	594961.86	1250.00	PFDoA	0.152	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.19	461163.16	896.50	3279.6	False	13C2-PFTeDA	757034.13	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.19	33774.76	916.47	1071.1	False	13C2-PFTeDA	757034.13	1250.00	PFTTrDA	0.073	0.072	✓
PFTeDA_1	713.0 / 669.0	4.40	652191.96	979.04	5116.0	False	13C2-PFTeDA	757034.13	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	36033.73	958.78	3178.5	False	13C2-PFTeDA	757034.13	1250.00	PFTeDA	0.055	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.54	99169.43	879.36	420782.9	False	d3-MeFOSAA	130981.90	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.54	74033.30	940.72	36017.1	False	d3-MeFOSAA	130981.90	1250.00	NMeFOSAA	0.747	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.69	103654.97	994.05	557782.9	False	d5-EtFOSAA	128152.53	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.68	5733.15	865.33	4120.8	False	d5-EtFOSAA	128152.53	1250.00	NEtFOSAA	0.055	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.00	305079.56	985.81	4879.6	False	13C3-HFPO-DA	342526.55	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.00	8086.09	1044.18	1430.4	False	13C3-HFPO-DA	342526.55	1250.00	HFPO-DA	0.027	0.025	✓
ADONA_1	377.0 / 251.0	2.32	1015600.06	964.40	3074.6	False	13C8-PFOA	614214.16	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.32	15084.30	1092.69	3783.1	False	13C8-PFOA	614214.16	1222.50	ADONA	0.015	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.23	929596.10	989.25	2398.5	False	13C8-PFOA	614214.16	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.23	7741.43	907.53	208350.2	False	13C8-PFOA	614214.16	1222.50	9CI-PF3ONS	0.008	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	893598.46	1070.43	3516.1	False	13C8-PFOA	614214.16	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	3519.61	906.04	1273.8	False	13C8-PFOA	614214.16	1222.50	11Cl-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	20-1511_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	2
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 1:45:00 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.95	671034.85	1137.92	7001.7	False	13C2-PFDA	659591.10	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	127807.24	1130.29	2648.2	False	13C4-PFOS	120647.50	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	132488.77	1162.19	2316.1	False	13C4-PFOS	120647.50	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	593040.38	1190.51	5968.0	False	13C2-PFOA	686948.66	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	680298.71	1192.67	14107.6	False	13C2-PFOA	686948.66	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	716189.26	1271.79	3394.1	False	13C2-PFOA	686948.66	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	672414.04	1227.85	5540.9	False	13C2-PFOA	686948.66	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	690042.72	1235.14	16284.9	False	13C2-PFDA	659591.10	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	783064.90	1346.54	7597.1	False	13C2-PFDA	659591.10	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.39	830487.66	1257.22	17530.9	False	13C2-PFDA	659591.10	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	140735.23	1145.99	9166.0	False	13C4-PFOS	120647.50	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	147051.14	1256.67	331597.4	False	13C4-PFOS	120647.50	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	122208.80	1179.71	1623.0	False	13C4-PFOS	120647.50	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	409553.40	1246.68	3218.9	False	13C2-PFOA	686948.66	1250.00		N/A	N/A	✓

Sample Name	LE54 CCV	Injection Vial	45
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:09:34 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	594559.26	1107.84	6625.5	False	13C2-PFDA	600285.18	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.52	127078.11	1190.25	2363.7	False	13C4-PFOS	113916.44	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.67	131932.49	1225.69	2944.5	False	13C4-PFOS	113916.44	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	539247.83	1188.24	5124.5	False	13C2-PFOA	625828.27	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	648943.78	1248.81	6134.3	False	13C2-PFOA	625828.27	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	626430.12	1221.04	52923.2	False	13C2-PFOA	625828.27	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	604692.23	1212.03	5165.9	False	13C2-PFOA	625828.27	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	615408.40	1210.38	4571.5	False	13C2-PFDA	600285.18	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	633846.97	1197.63	7882.9	False	13C2-PFDA	600285.18	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	752417.91	1251.57	19133.5	False	13C2-PFDA	600285.18	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	118850.66	1024.97	13951.6	False	13C4-PFOS	113916.44	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	121938.25	1103.63	44442.2	False	13C4-PFOS	113916.44	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	110483.73	1129.55	2834.0	False	13C4-PFOS	113916.44	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	346269.18	1156.98	5240.7	False	13C2-PFOA	625828.27	1250.00		N/A	N/A	✓

Sample Name	LE54 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:48:15 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.95	594961.86	1112.77	7011.9	False	13C2-PFDA	598031.36	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	129612.97	1217.86	2229.0	False	13C4-PFOS	113554.24	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	128590.74	1198.46	1967.0	False	13C4-PFOS	113554.24	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	552010.19	1310.41	6652.8	False	13C2-PFOA	580916.10	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.28	676224.28	1401.92	7976.9	False	13C2-PFOA	580916.10	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.67	614214.16	1289.79	60694.2	False	13C2-PFOA	580916.10	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.04	588694.33	1271.19	8537.1	False	13C2-PFOA	580916.10	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.38	626972.00	1237.77	8949.2	False	13C2-PFDA	598031.36	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	649928.05	1232.64	6707.0	False	13C2-PFDA	598031.36	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.39	757034.13	1263.99	11058.2	False	13C2-PFDA	598031.36	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	120182.87	1039.76	170913.3	False	13C4-PFOS	113554.24	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.30	119140.54	1081.75	20548.9	False	13C4-PFOS	113554.24	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	105599.76	1083.06	2582.2	False	13C4-PFOS	113554.24	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.00	342526.55	1232.96	6817.7	False	13C2-PFOA	580916.10	1250.00		N/A	N/A	✓

# Raw Analytical Data

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	20-1511
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	✓
PFTTrDA_1	663.0 / 619.0	4.22	13538.06	< 0	194.7	False	13C2-PFTeDA	851170.33	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.22	1288.59	< 0	110.8	False	13C2-PFTeDA	851170.33	1250.00	PFTTrDA	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	
9Cl-PF3ONS_1	531.0 / 351.0	3.25	14038.74	40.62	138.8	False	13C8-PFOA	671115.83	1222.50	9Cl-PF3ONS			
9Cl-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	671115.83	1222.50	9Cl-PF3ONS	N/A	0.009	
11Cl-pf3OUdS_1	631.0 / 451.0	3.84	15685.23	62.50	288.3	False	13C8-PFOA	671115.83	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.84	199.59	134.55	51.0	False	13C8-PFOA	671115.83	1222.50	11Cl-PF3OUdS	0.013	0.005	

Sample Name	LE58 IB	Injection Vial	4
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 2:06:41 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	618.67	40.13	42.0	False	13C3-PFBS	130444.59	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	643.75	26.54	50.4	False	13C3-PFBS	130444.59	1162.50	PFBS	1.041	0.320	
PFHxA_1	313.0 / 269.0	1.89	2234.89	23.84	11.7	False	13C5-PFHxA	575264.86	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	575264.86	1250.00	PFHxA	N/A	0.075	
PFHpA_1	363.0 / 319.0	2.28	4780.57	9.70	23.0	False	13C4-PFHpA	772530.28	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	332.72	32.56	21.9	False	13C4-PFHpA	772530.28	1250.00	PFHpA	0.070	0.018	
PFHxS_1	399.0 / 80.0	2.32	1845.30	27.20	41.5	True	13C3-PFHxS	126177.82	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	1251.02	33.51	43.2	False	13C3-PFHxS	126177.82	1182.50	PFHxS	0.678	0.290	
PFOA_1	413.0 / 369.0	2.67	2677.03	31.00	12.3	False	13C8-PFOA	666283.11	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	666283.11	1222.50	PFOA	N/A	0.071	
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	602939.72	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	602939.72	1250.00	PFNA	N/A	0.276	✓
PFOS_1	499.0 / 80.0	3.01	10389.67	17.34	46.0	False	13C8-PFOS	113136.77	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.92	1533.28	< 0	94.5	True	13C8-PFOS	113136.77	1195.00	PFOS	0.148	0.182	✓
PFDA_1	513.0 / 469.0	3.40	3654.64	< 0	14.9	False	13C6-PFDA	623162.42	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	623162.42	1250.00	PFDA	N/A	0.040	
PFUnA_1	563.0 / 519.0	3.69	3037.97	63.99	25.9	False	13C7-PFUnA	702533.32	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	False	13C7-PFUnA	702533.32	1250.00	PFUnA	N/A	0.054	
PFDoA_1	613.0 / 569.0	3.95	4168.39	< 0	43.1	False	13C2-PFDoA	653984.37	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.96	540.14	4.90	28.1	False	13C2-PFDoA	653984.37	1250.00	PFDoA	0.130	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.18	4232.84	< 0	67.7	False	13C2-PFTeDA	812710.69	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	812710.69	1250.00	PFTTrDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.40	10206.40	< 0	169.9	False	13C2-PFTeDA	812710.69	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	419.95	< 0	82.3	False	13C2-PFTeDA	812710.69	1250.00	PFTeDA	0.041	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.54	1304.15	29.65	165826.6	False	d3-MeFOSAA	122394.23	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	122394.23	1250.00	NMeFOSAA	N/A	0.698	
NEtFOSAA_1	584.0 / 419.0	3.68	2466.05	19.26	17156.0	False	d5-EtFOSAA	129716.31	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	129716.31	1250.00	NEtFOSAA	N/A	0.060	
HFPO-DA_1	285.0 / 169.0	2.02	1475.48	12.13	34.8	True	13C3-HFPO-DA	379734.46	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	379734.46	1250.00	HFPO-DA	N/A	0.025	
ADONA_1	377.0 / 251.0	2.31	6736.63	16.63	74.9	False	13C8-PFOA	666283.11	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	False	13C8-PFOA	666283.11	1222.50	ADONA	N/A	0.013	
9CI-PF3ONS_1	531.0 / 351.0	3.23	4777.29	31.88	40.4	False	13C8-PFOA	666283.11	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	666283.11	1222.50	9CI-PF3ONS	N/A	0.009	
11Cl-pf3OUdS_1	631.0 / 451.0	3.78	3670.82	49.92	59.4	False	13C8-PFOA	666283.11	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	666283.11	1222.50	11Cl-PF3OUdS	N/A	0.005	

Sample Name	DB450PB-FS(0)	Injection Vial	24
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:31:29 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	1748.09	43.35	124.1	False	13C3-PFBS	138668.89	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	933.06	28.89	64.5	False	13C3-PFBS	138668.89	1162.50	PFBS	0.534	0.320	
PFHxA_1	313.0 / 269.0	1.88	8815.15	37.22	49.1	False	13C5-PFHxA	566912.01	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.91	327.39	4.66	7.6	False	13C5-PFHxA	566912.01	1250.00	PFHxA	0.037	0.075	
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	688249.75	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	688249.75	1250.00	PFHpA	N/A	0.018	✓
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	121345.29	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFHxS	121345.29	1182.50	PFHxS	N/A	0.290	✓
PFOA_1	413.0 / 369.0	2.66	7679.02	40.39	30.3	False	13C8-PFOA	586101.54	1222.50	PFOA			
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	586101.54	1222.50	PFOA	N/A	0.071	
PFNA_1	463.0 / 419.0	3.07	3421.87	< 0	13.8	False	13C9-PFNA	616624.85	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.07	938.28	29.00	31.5	False	13C9-PFNA	616624.85	1250.00	PFNA	0.274	0.276	✓
PFOS_1	499.0 / 80.0	2.94	6326.17	7.28	23.2	False	13C8-PFOS	126873.03	1195.00	PFOS			
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	True	13C8-PFOS	126873.03	1195.00	PFOS	N/A	0.182	
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	647500.08	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	647500.08	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	3.66	2211.80	63.06	20.6	False	13C7-PFUnA	639644.29	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	96.68	42.03	26.5	False	13C7-PFUnA	639644.29	1250.00	PFUnA	0.044	0.054	✓
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	608099.06	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	608099.06	1250.00	PFDoA	N/A	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.19	792.59	< 0	18.1	False	13C2-PFTTeDA	701069.58	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTTeDA	701069.58	1250.00	PFTTrDA	N/A	0.072	
PFTTeDA_1	713.0 / 669.0	4.42	3252.80	< 0	51.1	False	13C2-PFTTeDA	701069.58	1250.00	PFTTeDA			
PFTTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTTeDA	701069.58	1250.00	PFTTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	122902.94	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	122902.94	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	131031.18	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	131031.18	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	370098.59	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	370098.59	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	586101.54	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	586101.54	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	586101.54	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	586101.54	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	586101.54	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	586101.54	1222.50	11Cl-PF3OUdS	N/A	0.005	✓

Sample Name	DB451LCS-FS(0)	Injection Vial	25
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:42:27 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	2675135.10	8200.01	19139.1	False	13C3-PFBS	134013.62	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	834898.77	8175.28	14692.5	False	13C3-PFBS	134013.62	1162.50	PFBS	0.312	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	4215982.55	8131.03	3114.8	False	13C5-PFHxA	596462.75	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	302585.24	7991.48	3089.0	False	13C5-PFHxA	596462.75	1250.00	PFHxA	0.072	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	4469542.88	7750.78	3186.3	False	13C4-PFHpA	705626.43	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	92891.17	8886.63	10531.4	False	13C4-PFHpA	705626.43	1250.00	PFHpA	0.021	0.018	✓
PFHxS_1	399.0 / 80.0	2.30	4053824.08	9991.74	5225.8	False	13C3-PFHxS	115861.21	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	1164701.12	9883.95	9039.3	False	13C3-PFHxS	115861.21	1182.50	PFHxS	0.287	0.290	✓
PFOA_1	413.0 / 369.0	2.68	5151338.49	9165.92	2361.4	False	13C8-PFOA	582575.43	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	348762.11	8790.00	2112.6	False	13C8-PFOA	582575.43	1222.50	PFOA	0.068	0.071	✓
PFNA_1	463.0 / 419.0	3.05	5123726.94	9635.34	3560.7	False	13C9-PFNA	551154.32	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	1434550.78	9437.56	4844.4	False	13C9-PFNA	551154.32	1250.00	PFNA	0.280	0.276	✓
PFOS_1	499.0 / 80.0	3.04	4153141.20	8069.94	2670.8	False	13C8-PFOS	123199.47	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.04	793549.59	8740.50	4799.3	False	13C8-PFOS	123199.47	1195.00	PFOS	0.191	0.182	✓
PFDA_1	513.0 / 469.0	3.38	4758006.14	8849.95	2876.1	False	13C6-PFDA	606139.24	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.38	197559.76	8341.22	4681.9	False	13C6-PFDA	606139.24	1250.00	PFDA	0.042	0.040	✓
PFUnA_1	563.0 / 519.0	3.68	4459893.08	7687.40	3757.4	False	13C7-PFUnA	630570.04	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.68	225696.09	7395.88	2771.4	False	13C7-PFUnA	630570.04	1250.00	PFUnA	0.051	0.054	✓
PFDoA_1	613.0 / 569.0	3.95	4550625.64	8581.01	5912.6	False	13C2-PFDoA	635429.30	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.95	752902.15	8801.48	6027.4	False	13C2-PFDoA	635429.30	1250.00	PFDoA	0.165	0.159	✓
PFTeDA_1	663.0 / 619.0	4.18	4657707.71	9974.46	6119.8	False	13C2-PFTeDA	724685.37	1250.00	PFTeDA			
PFTeDA_2	663.0 / 169.0	4.18	336476.85	10130.68	3785.1	False	13C2-PFTeDA	724685.37	1250.00	PFTeDA	0.072	0.072	✓
PFTeDA_1	713.0 / 669.0	4.39	5589096.49	8996.51	15622.3	False	13C2-PFTeDA	724685.37	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	317474.20	9005.86	10317.5	False	13C2-PFTeDA	724685.37	1250.00	PFTeDA	0.057	0.056	✓
NMeFOSAA_1	570.0 / 419.0	3.53	954553.07	7223.96	18861.9	False	d3-MeFOSAA	153039.82	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.53	657470.62	7501.38	4630.1	False	d3-MeFOSAA	153039.82	1250.00	NMeFOSAA	0.689	0.698	✓
NEtFOSAA_1	584.0 / 419.0	3.68	859369.13	9331.62	4931.0	False	d5-EtFOSAA	112562.84	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.68	54790.23	9248.96	35364.3	False	d5-EtFOSAA	112562.84	1250.00	NEtFOSAA	0.064	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.00	2833487.10	8052.95	8849.1	False	13C3-HFPO-DA	386710.89	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	1.99	74452.95	8237.98	8210.3	False	13C3-HFPO-DA	386710.89	1250.00	HFPO-DA	0.026	0.025	✓
ADONA_1	377.0 / 251.0	2.31	10044593.99	9954.45	12906.8	False	13C8-PFOA	582575.43	1222.50	ADONA			
ADONA_2	377.0 / 85.0	2.31	128503.92	9691.24	9497.9	False	13C8-PFOA	582575.43	1222.50	ADONA	0.013	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.22	9451632.63	10338.85	6877.5	False	13C8-PFOA	582575.43	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	3.22	91285.42	11833.03	8375.7	False	13C8-PFOA	582575.43	1222.50	9CI-PF3ONS	0.010	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.81	7483702.28	9090.98	9056.1	False	13C8-PFOA	582575.43	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	3.81	35718.26	8798.77	7613.9	False	13C8-PFOA	582575.43	1222.50	11Cl-PF3OUdS	0.005	0.005	✓



Sample Name	G1795-FS1(0)	Injection Vial	26
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:53:25 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	1.56	126342.38	420.33	309.7	False	13C3-PFBS	135181.75	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.56	42831.21	434.84	359.1	False	13C3-PFBS	135181.75	1162.50	PFBS	0.339	0.320	✓
PFHxA_1	313.0 / 269.0	1.88	929595.85	2153.33	393.9	True	13C5-PFHxA	499923.74	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	66607.50	2095.58	289.9	False	13C5-PFHxA	499923.74	1250.00	PFHxA	0.072	0.075	✓
PFHpA_1	363.0 / 319.0	2.28	347484.67	728.48	179.1	True	13C4-PFHpA	585236.66	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	9697.41	1121.63	64.9	True	13C4-PFHpA	585236.66	1250.00	PFHpA	0.028	0.018	
PFHxS_1	399.0 / 80.0	2.30	3740584.65	8948.35	1309.7	False	13C3-PFHxS	119406.56	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	1077609.56	8875.78	1875.8	False	13C3-PFHxS	119406.56	1182.50	PFHxS	0.288	0.290	✓
PFOA_1	413.0 / 369.0	2.67	589929.57	1034.23	396.7	False	13C8-PFOA	605252.16	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	40130.02	1000.04	161.1	True	13C8-PFOA	605252.16	1222.50	PFOA	0.068	0.071	✓
PFNA_1	463.0 / 419.0	3.05	317588.97	541.55	465.7	False	13C9-PFNA	600290.86	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	83366.83	525.80	716.8	False	13C9-PFNA	600290.86	1250.00	PFNA	0.262	0.276	✓
PFOS_1	499.0 / 80.0	3.05	1110798.34	2364.10	604.5	False	13C8-PFOS	112322.41	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.05	210139.57	2514.31	2715.5	False	13C8-PFOS	112322.41	1195.00	PFOS	0.189	0.182	✓
PFDA_1	513.0 / 469.0	3.38	17497.55	< 0	61.9	False	13C6-PFDA	607305.18	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.37	658.13	69.26	33.3	False	13C6-PFDA	607305.18	1250.00	PFDA	0.038	0.040	✓
PFUnA_1	563.0 / 519.0	3.68	24515.19	113.77	153.2	False	13C7-PFUnA	485695.43	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.70	1433.92	99.60	40.5	False	13C7-PFUnA	485695.43	1250.00	PFUnA	0.058	0.054	✓
PFDoA_1	613.0 / 569.0	3.94	1990.74	< 0	15.9	False	13C2-PFDoA	359254.48	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.96	957.00	18.56	27.8	False	13C2-PFDoA	359254.48	1250.00	PFDoA	0.481	0.159	✓
PFTTrDA_1	663.0 / 619.0	4.18	2714.36	< 0	45.7	False	13C2-PFTeDA	213872.73	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	213872.73	1250.00	PFTTrDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.42	2480.06	< 0	50.1	False	13C2-PFTeDA	213872.73	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	213872.73	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	101252.58	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	101252.58	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	106838.60	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	106838.60	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.99	3153.77	19.24	28.3	False	13C3-HFPO-DA	304395.71	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	304395.71	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	605252.16	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	605252.16	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	605252.16	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	605252.16	1222.50	9CI-PF3ONS	N/A	0.009	✓
11Cl-pf3OUdS_1	631.0 / 451.0	3.80	969.10	47.17	26.3	False	13C8-PFOA	605252.16	1222.50	11Cl-pf3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	605252.16	1222.50	11Cl-pf3OUdS	N/A	0.005	



Sample Name	G1802-FS1(0)	Injection Vial	27
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:04:24 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	149592.74	508.25	211.7	False	13C3-PFBS	130122.37	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	42358.88	446.21	741.4	False	13C3-PFBS	130122.37	1162.50	PFBS	0.283	0.320	✓
PFHxA_1	313.0 / 269.0	1.88	1425481.42	2896.40	990.3	False	13C5-PFHxA	568606.78	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	74296.30	2055.05	806.4	False	13C5-PFHxA	568606.78	1250.00	PFHxA	0.052	0.075	✓
PFHpA_1	363.0 / 319.0	2.27	374812.35	737.36	324.7	False	13C4-PFHpA	623635.22	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.27	5848.22	636.29	204.3	True	13C4-PFHpA	623635.22	1250.00	PFHpA	0.016	0.018	✓
PFHxS_1	399.0 / 80.0	2.31	10931706.76	26172.89	2350.8	False	13C3-PFHxS	119105.21	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	3167480.36	26108.80	3807.8	False	13C3-PFHxS	119105.21	1182.50	PFHxS	0.290	0.290	✓
PFOA_1	413.0 / 369.0	2.67	1312552.49	2222.90	555.9	True	13C8-PFOA	617742.86	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	73556.89	1772.24	167.8	True	13C8-PFOA	617742.86	1222.50	PFOA	0.056	0.071	✓
PFNA_1	463.0 / 419.0	3.06	65488.47	105.43	38.6	True	13C9-PFNA	603056.83	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.06	17624.75	129.20	66.4	True	13C9-PFNA	603056.83	1250.00	PFNA	0.269	0.276	✓
PFOS_1	499.0 / 80.0	2.93	1454392.76	3234.80	741.6	False	13C8-PFOS	107538.15	1195.00	PFOS			
PFOS_2	499.0 / 99.0	2.99	179922.61	2244.91	1502.2	False	13C8-PFOS	107538.15	1195.00	PFOS	0.124	0.182	✓
PFDA_1	513.0 / 469.0	3.36	19430.96	< 0	65.3	False	13C6-PFDA	589333.94	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.39	124.78	47.05	4.8	False	13C6-PFDA	589333.94	1250.00	PFDA	0.006	0.040	
PFUnA_1	563.0 / 519.0	3.68	9759.18	80.90	44.1	True	13C7-PFUnA	487842.15	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.67	544.61	61.87	65.1	False	13C7-PFUnA	487842.15	1250.00	PFUnA	0.056	0.054	✓
PFDoA_1	613.0 / 569.0	3.96	2138.00	< 0	31.2	False	13C2-PFDoA	359955.82	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	3.98	587.00	10.88	41.1	False	13C2-PFDoA	359955.82	1250.00	PFDoA	0.275	0.159	✓
PFTrDA_1	663.0 / 619.0	4.17	2969.50	< 0	47.6	False	13C2-PFTeDA	149893.92	1250.00	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.14	1025.27	87.15	42.5	False	13C2-PFTeDA	149893.92	1250.00	PFTrDA	0.345	0.072	
PFTeDA_1	713.0 / 669.0	4.41	2422.49	< 0	51.8	False	13C2-PFTeDA	149893.92	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	357.35	27.01	28.0	False	13C2-PFTeDA	149893.92	1250.00	PFTeDA	0.148	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	98688.83	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	98688.83	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	91116.68	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	91116.68	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	1.99	989.30	11.05	20.0	False	13C3-HFPO-DA	340493.24	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	340493.24	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	617742.86	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	617742.86	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	617742.86	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	617742.86	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	617742.86	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	617742.86	1222.50	11Cl-PF3OUdS	N/A	0.005	✓



Sample Name	G1801-FS1(0)	Injection Vial	28
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:15:20 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	825068.92	2695.39	2120.2	False	13C3-PFBS	126957.00	1162.50	PFBS			
PFBS_2	298.9 / 99.0	1.57	276055.73	2866.44	4096.7	False	13C3-PFBS	126957.00	1162.50	PFBS	0.335	0.320	✓
PFHxA_1	313.0 / 269.0	1.89	8606908.91	22169.63	2144.7	False	13C5-PFHxA	445925.55	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	1.89	558295.96	19729.16	2684.9	False	13C5-PFHxA	445925.55	1250.00	PFHxA	0.065	0.075	✓
PFHpA_1	363.0 / 319.0	2.29	5310599.79	12110.57	1646.1	False	13C4-PFHpA	536528.57	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	2.29	104898.02	13196.42	1323.9	False	13C4-PFHpA	536528.57	1250.00	PFHpA	0.020	0.018	✓
PFHxS_1	399.0 / 80.0	2.31	36879303.63	93063.97	4323.7	False	13C3-PFHxS	112932.96	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.31	10625163.15	92307.04	6129.3	False	13C3-PFHxS	112932.96	1182.50	PFHxS	0.288	0.290	✓
PFOA_1	413.0 / 369.0	2.68	13094117.22	26626.85	2602.4	False	13C8-PFOA	508778.66	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.68	878125.18	25285.75	2230.4	True	13C8-PFOA	508778.66	1222.50	PFOA	0.067	0.071	✓
PFNA_1	463.0 / 419.0	3.05	8046133.85	18235.71	2888.2	False	13C9-PFNA	457479.92	1250.00	PFNA			
PFNA_2	463.0 / 219.0	3.05	1967176.85	15576.20	3462.0	False	13C9-PFNA	457479.92	1250.00	PFNA	0.244	0.276	✓
PFOS_1	499.0 / 80.0	2.93	50136543.08	124125.46	4153.7	False	13C8-PFOS	96745.40	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.02	6915721.85	97348.56	3628.6	False	13C8-PFOS	96745.40	1195.00	PFOS	0.138	0.182	✓
PFDA_1	513.0 / 469.0	3.38	11413.56	< 0	53.2	False	13C6-PFDA	484439.24	1250.00	PFDA			
PFDA_2	513.0 / 219.0	3.39	586.53	72.49	47.1	True	13C6-PFDA	484439.24	1250.00	PFDA	0.051	0.040	✓
PFUnA_1	563.0 / 519.0	3.68	28848.80	129.91	166.3	False	13C7-PFUnA	440852.16	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	3.69	1352.43	101.98	85.5	False	13C7-PFUnA	440852.16	1250.00	PFUnA	0.047	0.054	✓
PFDoA_1	613.0 / 569.0	3.95	2689.94	< 0	23.1	False	13C2-PFDoA	316478.28	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	316478.28	1250.00	PFDoA	N/A	0.159	
PFTrDA_1	663.0 / 619.0	4.16	2078.71	< 0	38.5	False	13C2-PFTeDA	142150.87	1250.00	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	142150.87	1250.00	PFTrDA	N/A	0.072	
PFTeDA_1	713.0 / 669.0	4.44	12718.48	75.54	276.7	True	13C2-PFTeDA	142150.87	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	142150.87	1250.00	PFTeDA	N/A	0.056	
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	82864.26	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	82864.26	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	89038.59	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	89038.59	1250.00	NEtFOSAA	N/A	0.060	✓
HFPO-DA_1	285.0 / 169.0	2.00	6485.04	32.50	103.9	False	13C3-HFPO-DA	289042.54	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	2.01	320.50	86.05	33.7	False	13C3-HFPO-DA	289042.54	1250.00	HFPO-DA	0.049	0.025	
ADONA_1	377.0 / 251.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	508778.66	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	508778.66	1222.50	ADONA	N/A	0.013	✓
9CI-PF3ONS_1	531.0 / 351.0	3.24	1228.18	28.85	22.5	False	13C8-PFOA	508778.66	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	508778.66	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	508778.66	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	508778.66	1222.50	11Cl-PF3OUdS	N/A	0.005	✓

Sample Name	G1801-FS1-D(3)	Injection Vial	29
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:26:18 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511
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	126175.08	1162.50	PFBS			
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	True	13C3-PFBS	126175.08	1162.50	PFBS	N/A	0.320	✓
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	552887.02	1250.00	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	True	13C5-PFHxA	552887.02	1250.00	PFHxA	N/A	0.075	✓
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	701583.50	1250.00	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	True	13C4-PFHpA	701583.50	1250.00	PFHpA	N/A	0.018	✓
PFHxS_1	399.0 / 80.0	2.30	2834163.58	7064.98	2914.1	False	13C3-PFHxS	114668.56	1182.50	PFHxS			
PFHxS_2	399.0 / 99.0	2.30	828557.29	7111.17	3709.8	False	13C3-PFHxS	114668.56	1182.50	PFHxS	0.292	0.290	✓
PFOA_1	413.0 / 369.0	2.68	1127765.75	1924.74	1047.7	False	13C8-PFOA	614159.54	1222.50	PFOA			
PFOA_2	413.0 / 169.0	2.67	82112.17	1986.24	643.1	False	13C8-PFOA	614159.54	1222.50	PFOA	0.073	0.071	✓
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	618662.27	1250.00	PFNA			
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	True	13C9-PFNA	618662.27	1250.00	PFNA	N/A	0.276	✓
PFOS_1	499.0 / 80.0	2.93	4091432.54	9402.73	2088.6	False	13C8-PFOS	104174.05	1195.00	PFOS			
PFOS_2	499.0 / 99.0	3.02	622662.70	8108.33	5205.6	False	13C8-PFOS	104174.05	1195.00	PFOS	0.152	0.182	✓
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	624040.12	1250.00	PFDA			
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	True	13C6-PFDA	624040.12	1250.00	PFDA	N/A	0.040	✓
PFUnA_1	563.0 / 519.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	629525.75	1250.00	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	True	13C7-PFUnA	629525.75	1250.00	PFUnA	N/A	0.054	✓
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	627380.16	1250.00	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	True	13C2-PFDoA	627380.16	1250.00	PFDoA	N/A	0.159	✓
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	705617.65	1250.00	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	705617.65	1250.00	PFTTrDA	N/A	0.072	✓
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	705617.65	1250.00	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	True	13C2-PFTeDA	705617.65	1250.00	PFTeDA	N/A	0.056	✓
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	124662.18	1250.00	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	True	d3-MeFOSAA	124662.18	1250.00	NMeFOSAA	N/A	0.698	✓
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	122925.75	1250.00	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	True	d5-EtFOSAA	122925.75	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	366286.77	1250.00	HFPO-DA			
HFPO-DA_2	285.0 / 118.8	N/A	N/A	N/A	N/A	True	13C3-HFPO-DA	366286.77	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	614159.54	1222.50	ADONA			
ADONA_2	377.0 / 85.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	614159.54	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	614159.54	1222.50	9CI-PF3ONS			
9CI-PF3ONS_2	531.0 / 83.0	N/A	N/A	N/A	N/A	True	13C8-PFOA	614159.54	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	614159.54	1222.50	11Cl-PF3OUdS			
11Cl-pf3OUdS_2	631.0 / 83.0	N/A	N/A	N/A	N/A	False	13C8-PFOA	614159.54	1222.50	11Cl-PF3OUdS	N/A	0.005	✓



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	20-1511_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	LE58 IB	Injection Vial	4
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/18/2020 2:06:41 AM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	653984.37	1200.85	7350.2	False	13C2-PFDA	609144.17	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	122125.64	1293.26	6666.7	False	13C4-PFOS	100756.49	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.67	129170.55	1356.77	2188.3	False	13C4-PFOS	100756.49	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	575264.86	1184.71	5130.5	False	13C2-PFOA	669620.25	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	772530.28	1389.42	6694.7	False	13C2-PFOA	669620.25	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	666283.11	1213.78	6281.6	False	13C2-PFOA	669620.25	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	602939.72	1129.48	4560.5	False	13C2-PFOA	669620.25	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	623162.42	1207.80	4548.9	False	13C2-PFDA	609144.17	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	702533.32	1308.10	5160.0	False	13C2-PFDA	609144.17	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	812710.69	1332.20	14235.5	False	13C2-PFDA	609144.17	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	130444.59	1271.89	14375.7	False	13C4-PFOS	100756.49	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	126177.82	1291.16	3929641.9	False	13C4-PFOS	100756.49	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	113136.77	1307.75	3117.4	False	13C4-PFOS	100756.49	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	379734.46	1185.82	5412.5	False	13C2-PFOA	669620.25	1250.00		N/A	N/A	✓

Sample Name	DB450PB-FS(0)	Injection Vial	24
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:31:29 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	608099.06	1142.35	8917.5	False	13C2-PFDA	595407.57	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.52	122907.38	1194.59	2686.3	False	13C4-PFOS	109777.33	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.67	133715.71	1289.10	2064.1	False	13C4-PFOS	109777.33	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.87	566912.01	1162.39	5816.0	False	13C2-PFOA	672566.07	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	688249.75	1232.41	9061.5	False	13C2-PFOA	672566.07	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	586101.54	1063.04	12551.9	False	13C2-PFOA	672566.07	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	616624.85	1150.06	7012.3	False	13C2-PFOA	672566.07	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	647500.08	1283.93	3926.5	False	13C2-PFDA	595407.57	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	639644.29	1218.48	5114.7	False	13C2-PFDA	595407.57	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	701069.58	1175.71	15982.3	False	13C2-PFDA	595407.57	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	138668.89	1240.97	27884.7	False	13C4-PFOS	109777.33	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	121345.29	1139.67	1952566.0	False	13C4-PFOS	109777.33	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	126873.03	1346.01	1513.7	False	13C4-PFOS	109777.33	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	370098.59	1150.67	5613.0	False	13C2-PFOA	672566.07	1250.00		N/A	N/A	✓

Sample Name	DB451LCS-FS(0)	Injection Vial	25
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:42:27 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	635429.30	1170.42	7316.1	False	13C2-PFDA	607245.25	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	152999.16	1420.15	1587.3	False	13C4-PFOS	114949.82	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	114396.04	1053.22	1842.4	False	13C4-PFOS	114949.82	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	596462.75	1243.36	6058.0	False	13C2-PFOA	661545.13	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	705626.43	1284.58	6125.7	False	13C2-PFOA	661545.13	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	582575.43	1074.25	38279.2	False	13C2-PFOA	661545.13	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	551154.32	1045.07	5128.1	False	13C2-PFOA	661545.13	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	606139.24	1178.48	11546.4	False	13C2-PFDA	607245.25	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	630570.04	1177.78	7533.5	False	13C2-PFDA	607245.25	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	724685.37	1191.62	15751.6	False	13C2-PFDA	607245.25	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	134013.62	1145.35	24145.0	False	13C4-PFOS	114949.82	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	115861.21	1039.20	10017.4	False	13C4-PFOS	114949.82	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	123199.47	1248.23	2549.8	False	13C4-PFOS	114949.82	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	386710.89	1222.35	4321.4	False	13C2-PFOA	661545.13	1250.00		N/A	N/A	✓



Sample Name	G1795-FS1(0)	Injection Vial	26
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:53:25 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.95	359254.48	654.03	8540.4	False	13C2-PFDA	614386.60	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	100228.78	882.54	1901.4	False	13C4-PFOS	121174.81	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	107370.78	937.76	2270.3	False	13C4-PFOS	121174.81	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	499923.74	1034.66	1721.4	False	13C2-PFOA	666312.47	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	585236.66	1057.79	2292.0	False	13C2-PFOA	666312.47	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	605252.16	1108.08	2730.3	False	13C2-PFOA	666312.47	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	600290.86	1130.10	3378.7	False	13C2-PFOA	666312.47	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	607305.18	1167.02	12207.7	False	13C2-PFDA	614386.60	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	485695.43	896.64	4505.6	False	13C2-PFDA	614386.60	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.39	213872.73	347.59	9473.9	False	13C2-PFDA	614386.60	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	135181.75	1095.98	2312.8	False	13C4-PFOS	121174.81	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	119406.56	1015.98	1406.6	False	13C4-PFOS	121174.81	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	112322.41	1079.56	1122.3	False	13C4-PFOS	121174.81	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	304395.71	955.27	1845.4	False	13C2-PFOA	666312.47	1250.00		N/A	N/A	✓

Sample Name	G1802-FS1(0)	Injection Vial	27
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:04:24 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	359955.82	625.35	4847.5	False	13C2-PFDA	643824.74	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	98289.67	971.05	2212.3	False	13C4-PFOS	107998.46	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	91153.99	893.25	1820.7	False	13C4-PFOS	107998.46	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	568606.78	1206.80	3602.6	False	13C2-PFOA	649754.38	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	623635.22	1155.92	2923.3	False	13C2-PFOA	649754.38	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.67	617742.86	1159.76	3545.2	False	13C2-PFOA	649754.38	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	603056.83	1164.24	3743.9	False	13C2-PFOA	649754.38	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	589333.94	1080.71	3113.0	False	13C2-PFDA	643824.74	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	487842.15	859.42	4862.4	False	13C2-PFDA	643824.74	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	149893.92	232.47	7612.5	False	13C2-PFDA	643824.74	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	130122.37	1183.67	3685.7	False	13C4-PFOS	107998.46	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	119105.21	1137.06	1692.7	False	13C4-PFOS	107998.46	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	107538.15	1159.68	1270.1	False	13C4-PFOS	107998.46	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	2.00	340493.24	1095.79	2559.6	False	13C2-PFOA	649754.38	1250.00		N/A	N/A	✓

Sample Name	G1801-FS1(0)	Injection Vial	28
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:15:20 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.95	316478.28	542.85	5724.1	False	13C2-PFDA	652081.86	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	82064.16	891.59	1427.2	False	13C4-PFOS	98206.20	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	90960.91	980.24	2035.0	False	13C4-PFOS	98206.20	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	445925.55	895.54	3322.4	False	13C2-PFOA	686673.22	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	536528.57	941.00	4251.4	False	13C2-PFOA	686673.22	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.67	508778.66	903.84	2767.7	False	13C2-PFOA	686673.22	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	457479.92	835.71	7288.0	False	13C2-PFOA	686673.22	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	484439.24	877.11	4204.1	False	13C2-PFDA	652081.86	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	440852.16	766.81	4265.2	False	13C2-PFDA	652081.86	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	142150.87	217.67	7538.0	False	13C2-PFDA	652081.86	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	126957.00	1270.03	3658.9	False	13C4-PFOS	98206.20	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	112932.96	1185.64	1792.9	False	13C4-PFOS	98206.20	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	96745.40	1147.32	1228.7	False	13C4-PFOS	98206.20	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	289042.54	880.19	3328.0	False	13C2-PFOA	686673.22	1250.00		N/A	N/A	✓

Sample Name	G1801-FS1-D(3)	Injection Vial	29
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:26:18 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	627380.16	1095.87	6014.7	False	13C2-PFDA	640344.58	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	124157.23	1239.88	1887.7	False	13C4-PFOS	106843.02	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.67	123093.77	1219.29	1720.1	False	13C4-PFOS	106843.02	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	552887.02	1144.08	4683.6	False	13C2-PFOA	666429.42	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	701583.50	1267.86	6382.2	False	13C2-PFOA	666429.42	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	614159.54	1124.19	9364.6	False	13C2-PFOA	666429.42	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	618662.27	1164.48	7889.8	False	13C2-PFOA	666429.42	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	624040.12	1150.57	6419.4	False	13C2-PFDA	640344.58	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	629525.75	1115.05	6915.6	False	13C2-PFDA	640344.58	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	705617.65	1100.30	17377.6	False	13C2-PFDA	640344.58	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.55	126175.08	1160.17	6973.1	False	13C4-PFOS	106843.02	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	114668.56	1106.54	19465.4	False	13C4-PFOS	106843.02	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	104174.05	1135.55	2998.9	False	13C4-PFOS	106843.02	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	366286.77	1149.30	4778.0	False	13C2-PFOA	666429.42	1250.00		N/A	N/A	✓

# Chromatograms



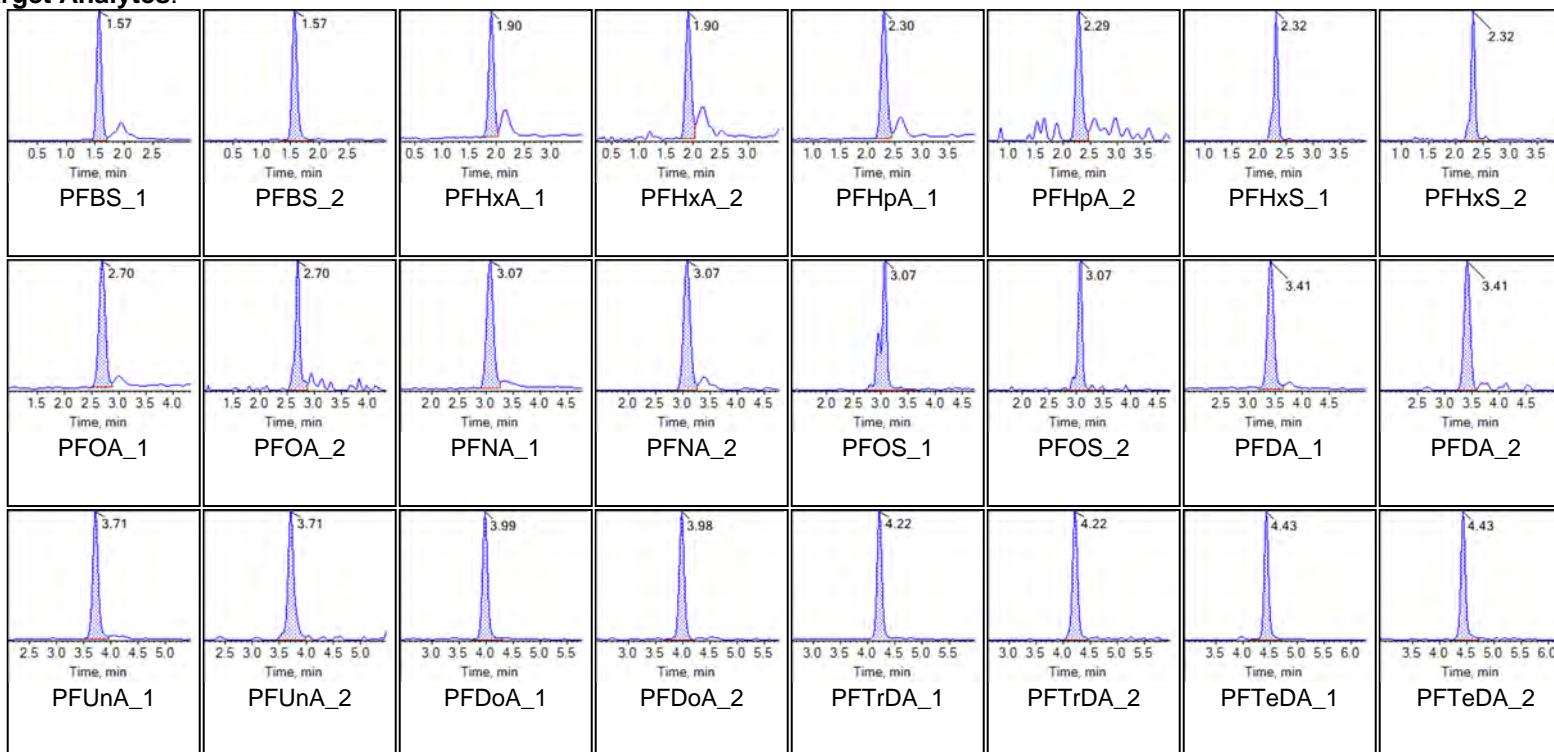
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE52	<b>Injection Vial</b>	2
<b>Sample ID</b>	L1	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

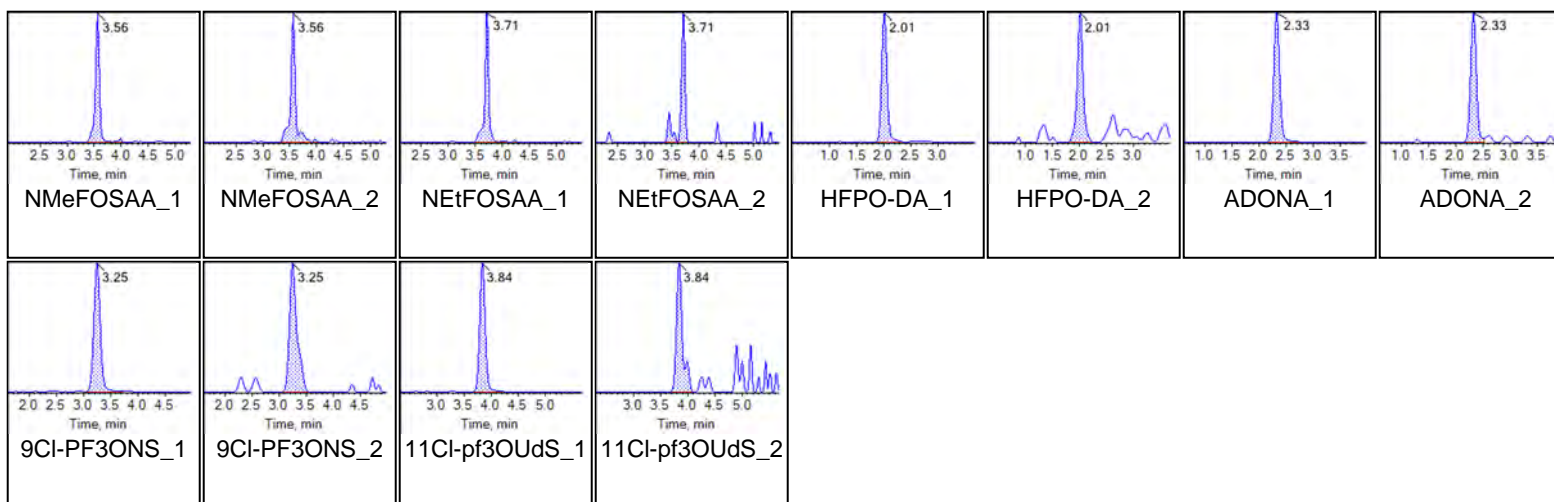
## Chromatograms

## Target Analytes:

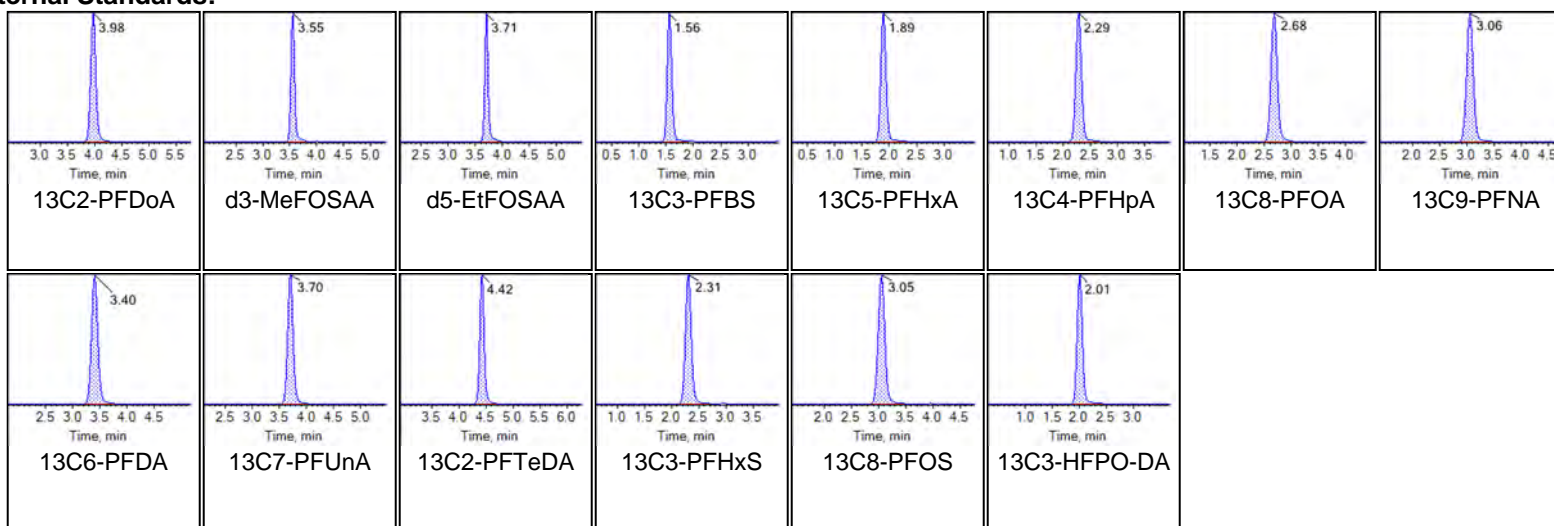




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





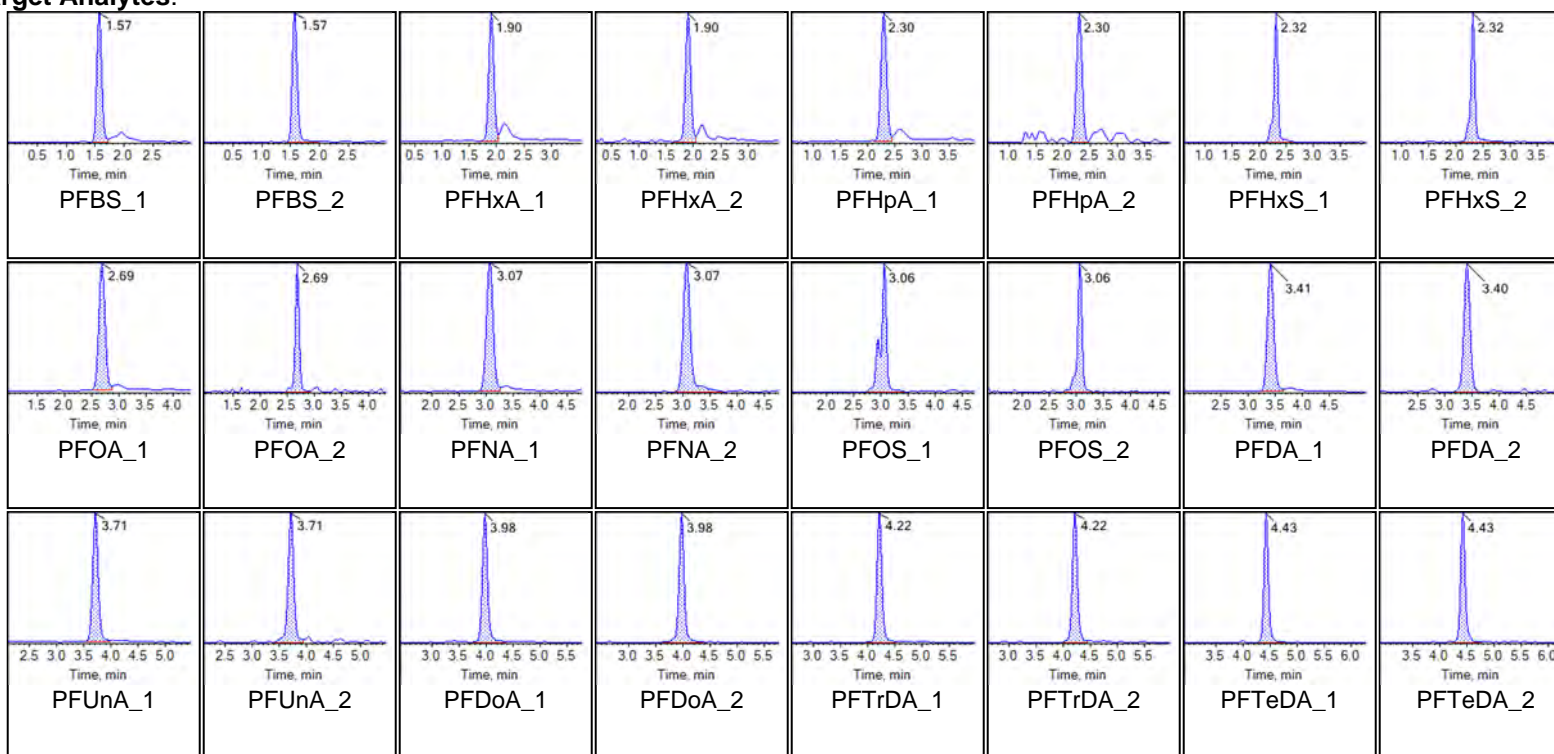
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 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	20-1511

## Chromatograms

## Target Analytes:

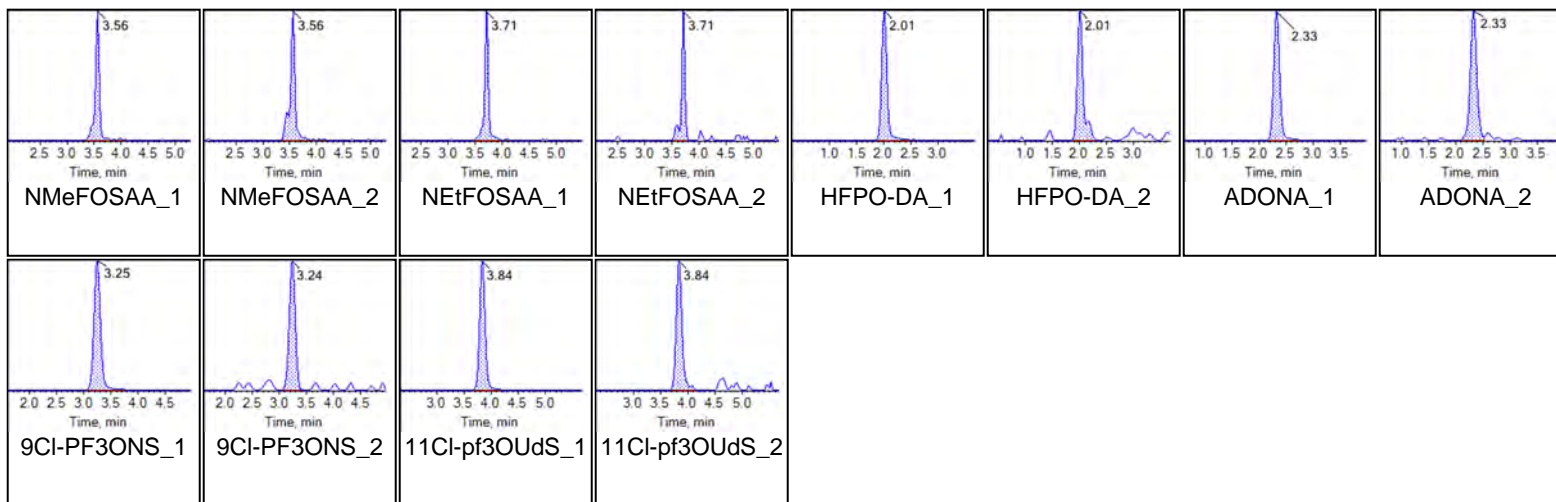




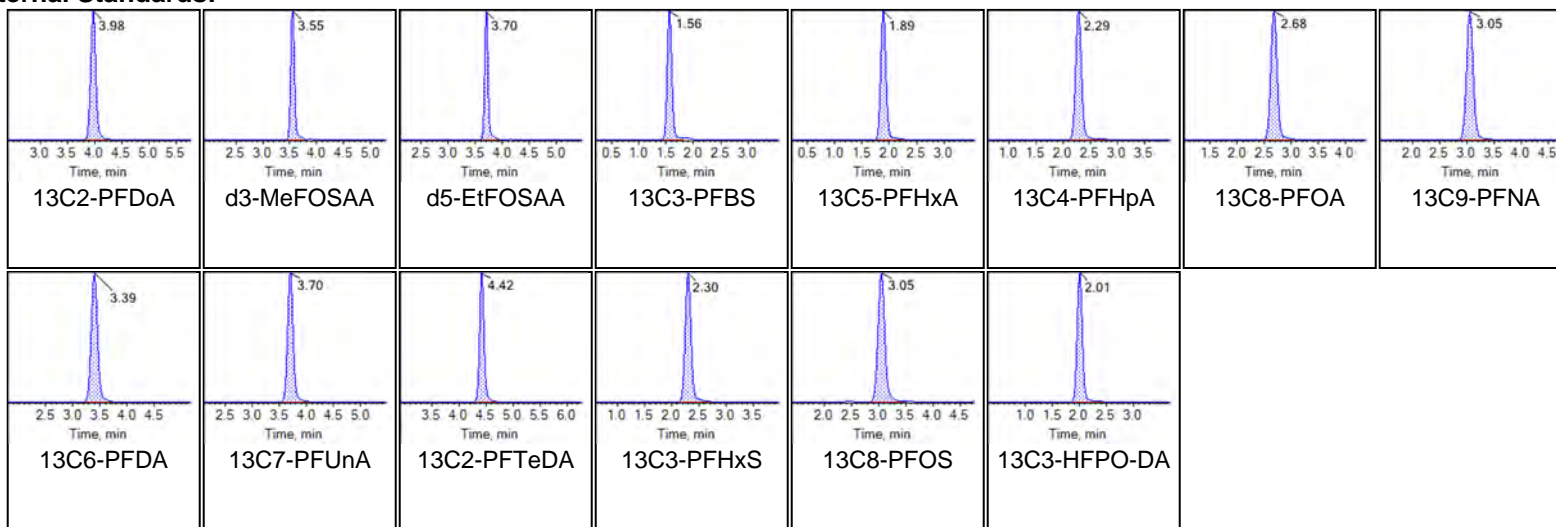


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





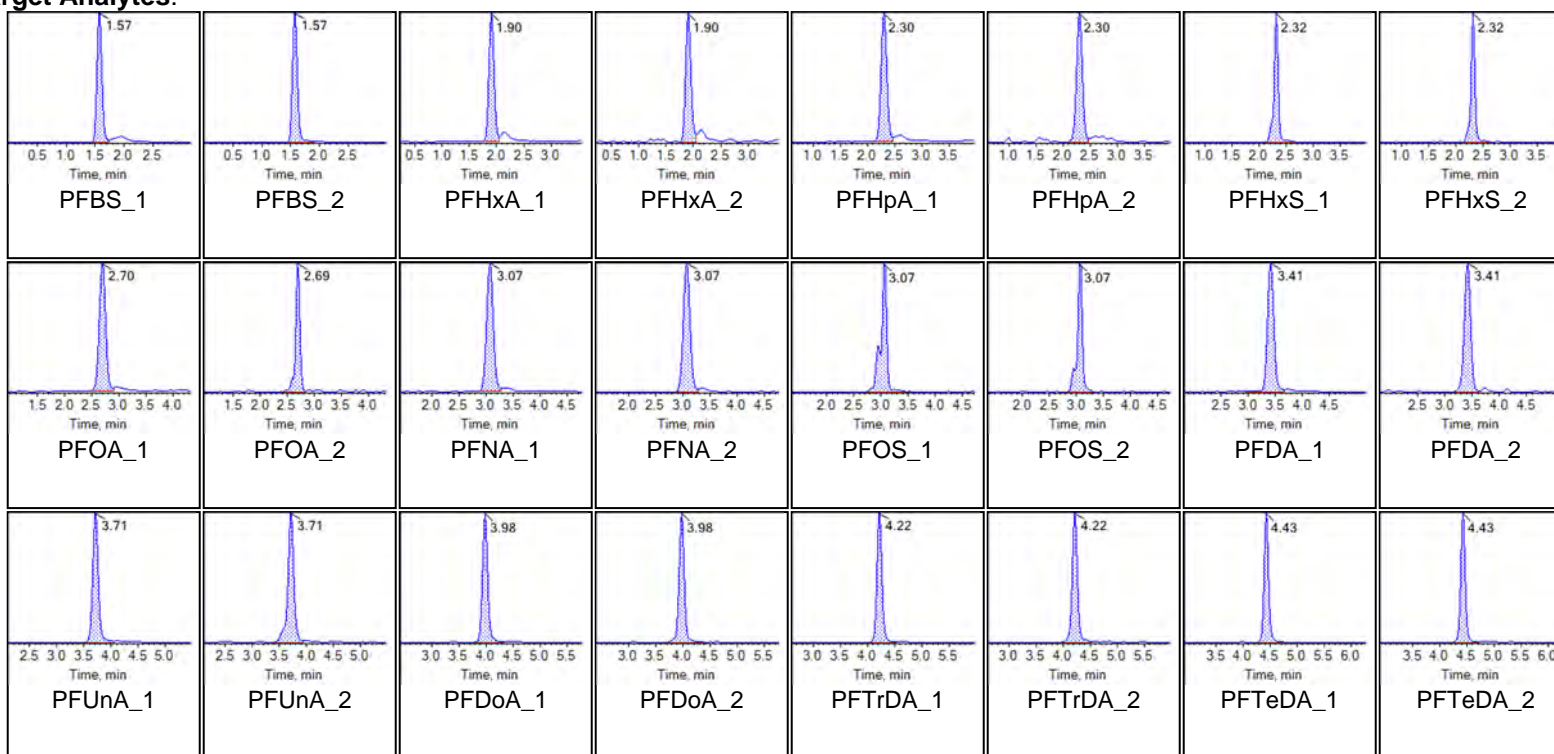
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 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	20-1511

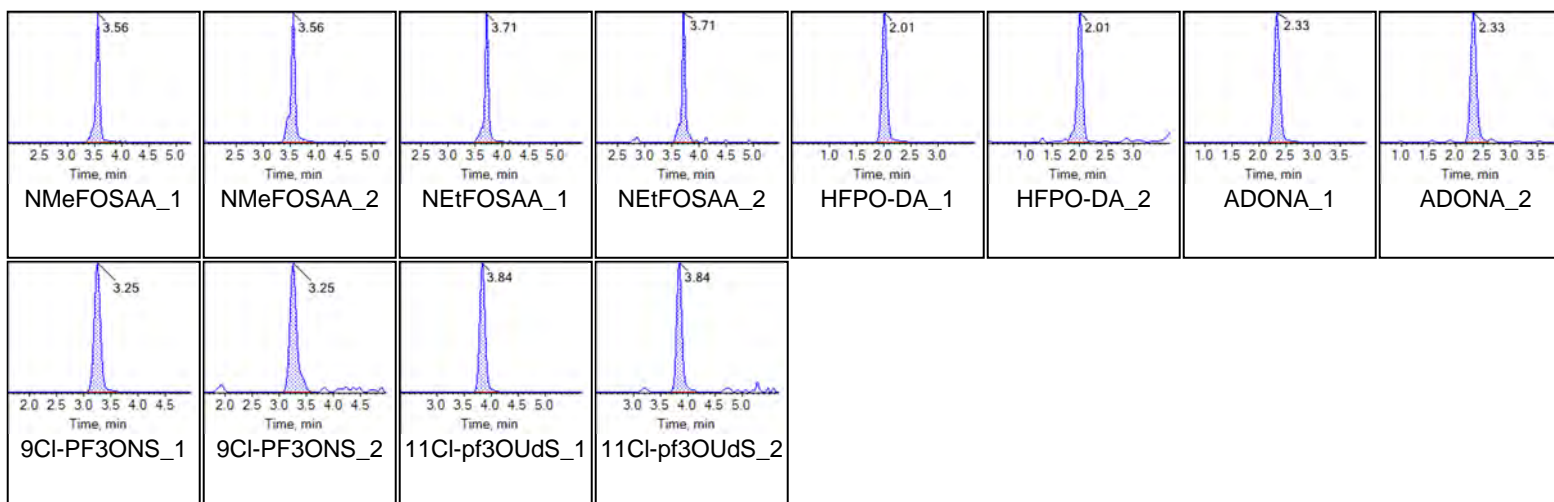
## Chromatograms

## Target Analytes:

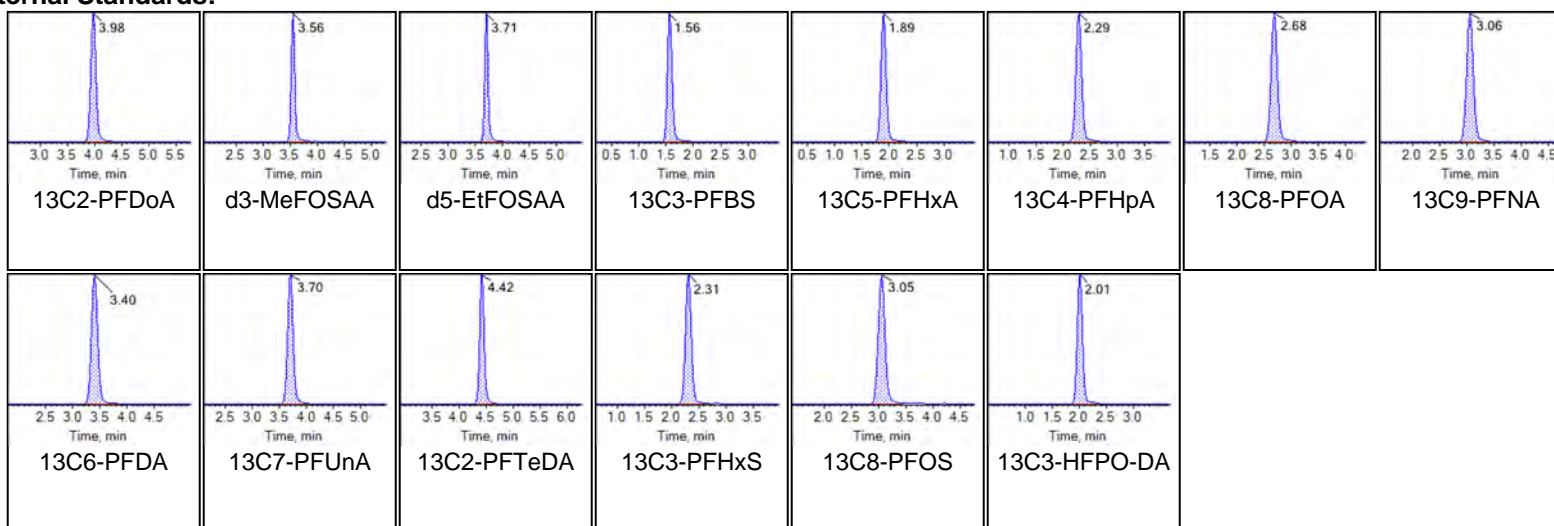




## Chromatogram Report

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Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





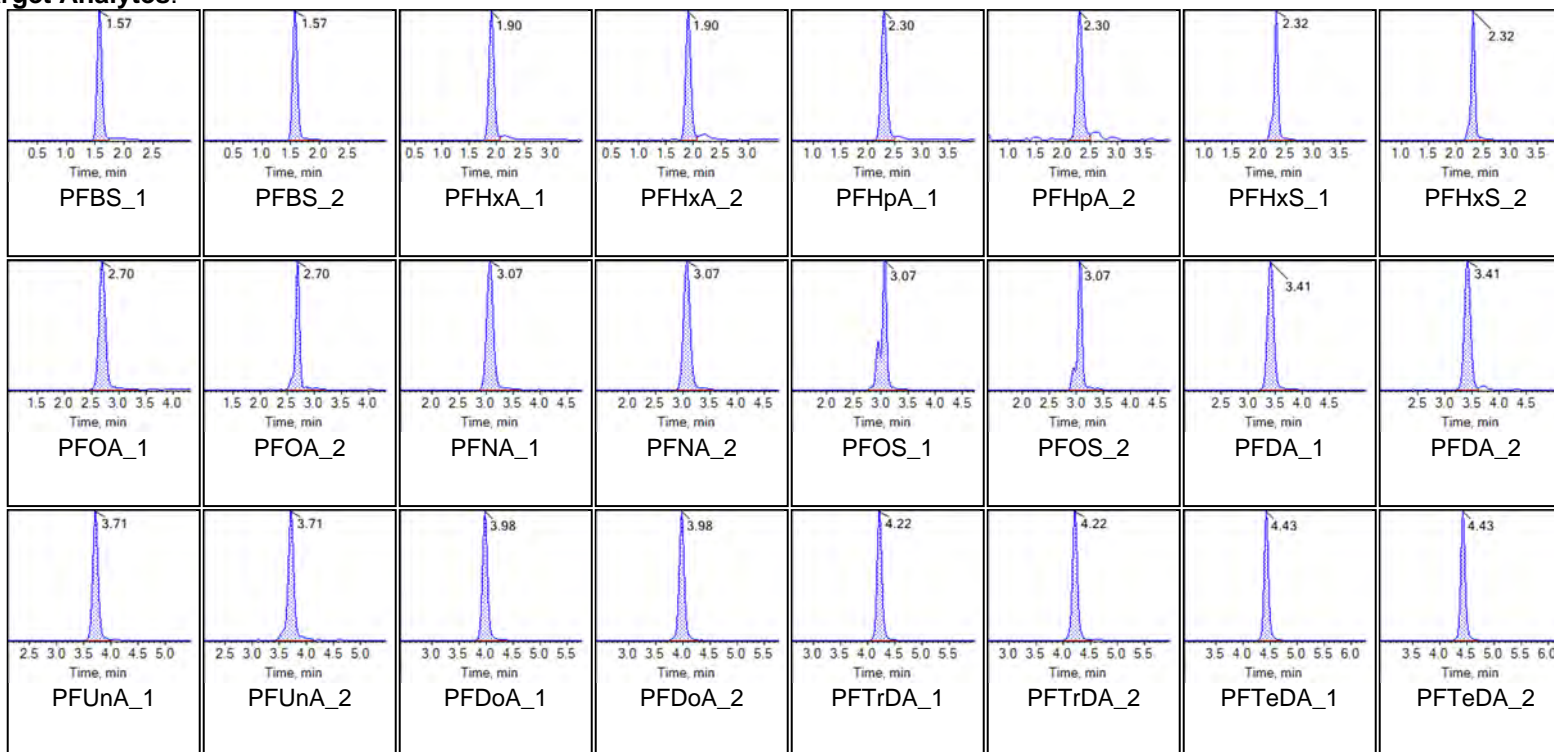
Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE55	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:02:43 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

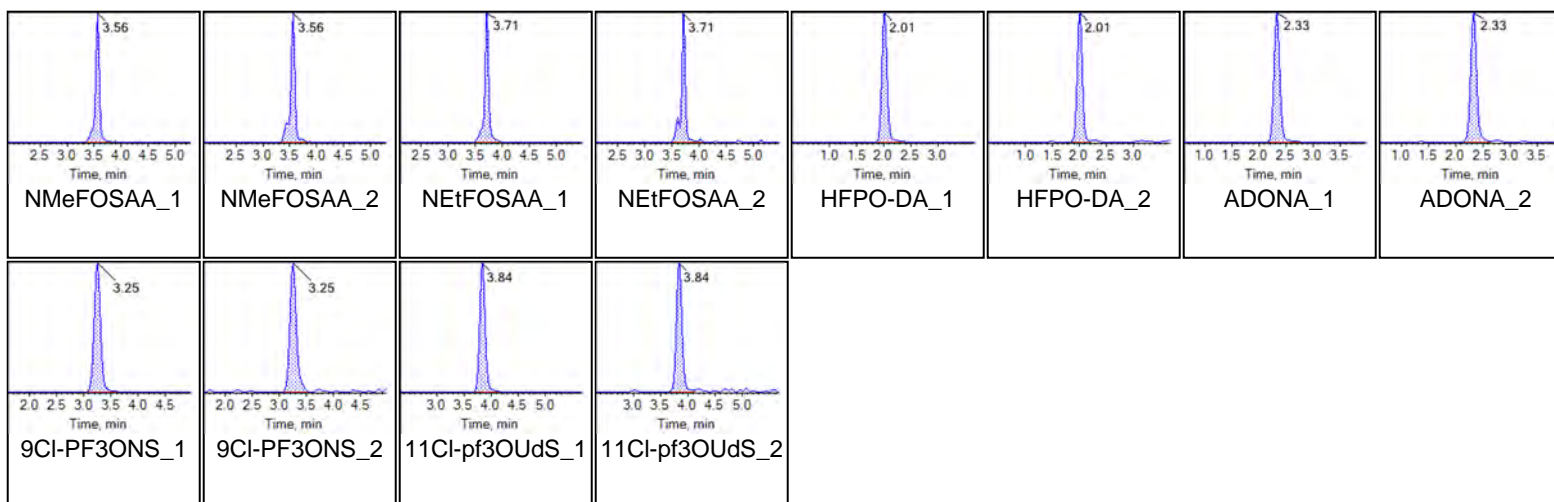
**Chromatograms**

**Target Analytes:**

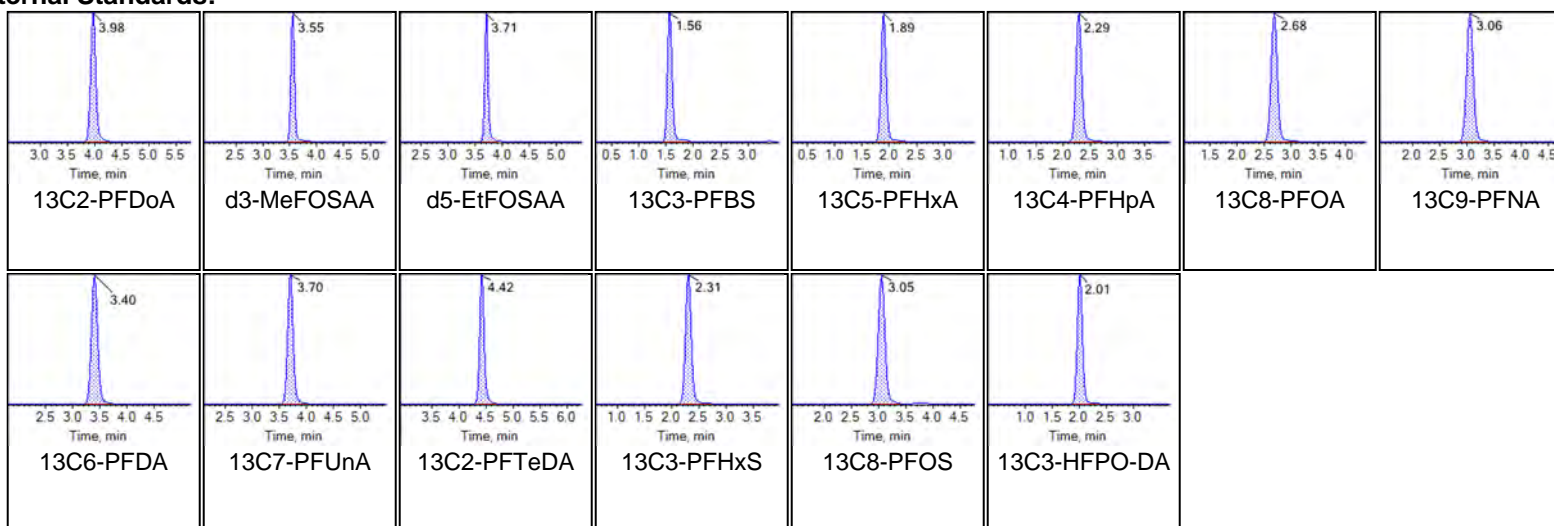




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





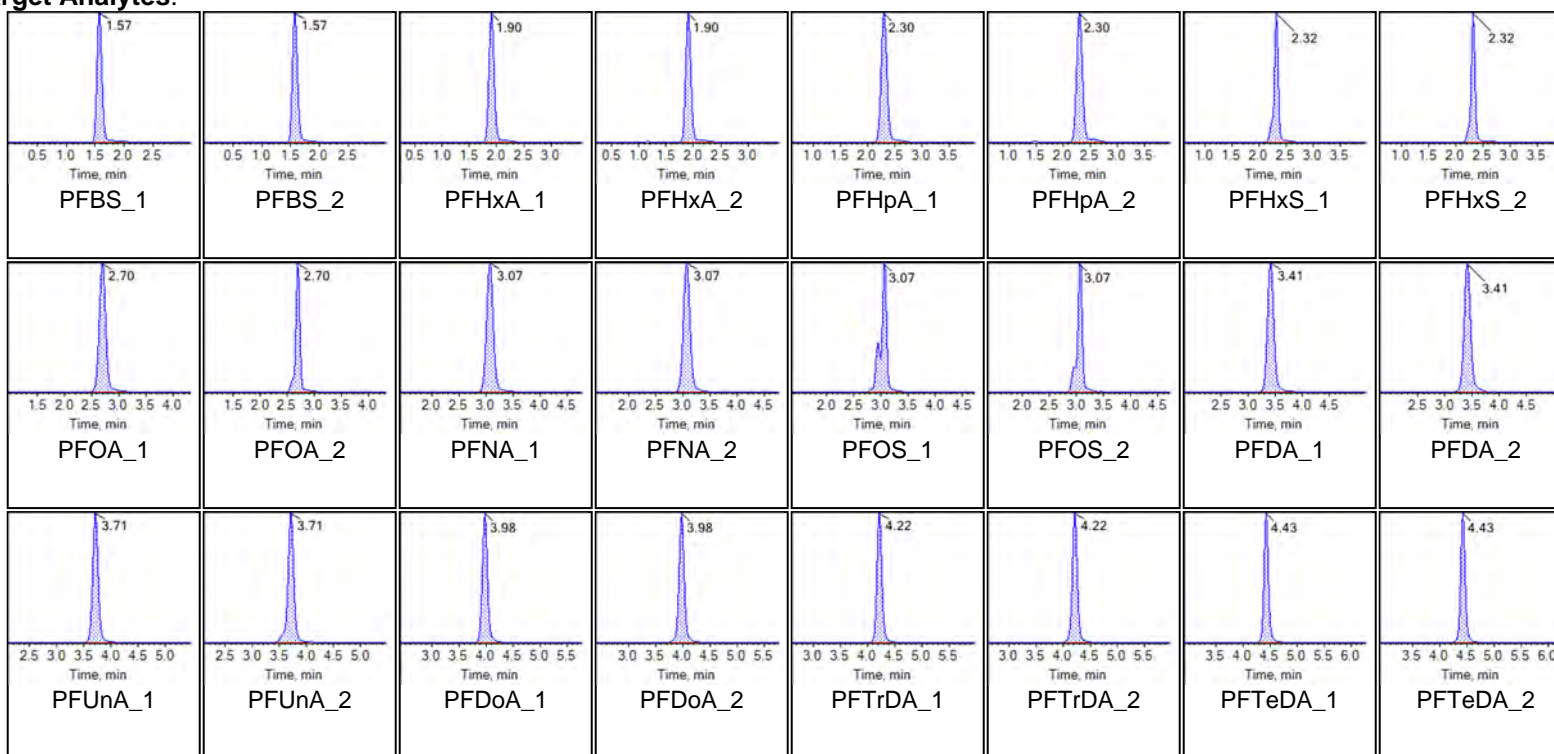
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE56	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:13:35 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

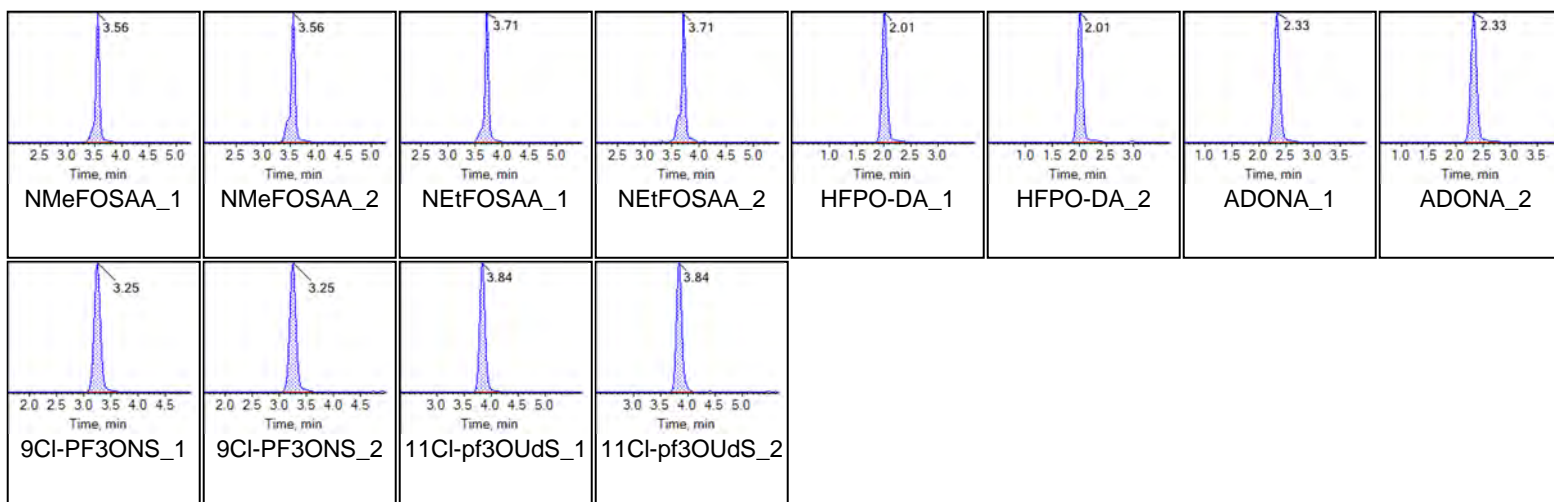
## Chromatograms

## Target Analytes:

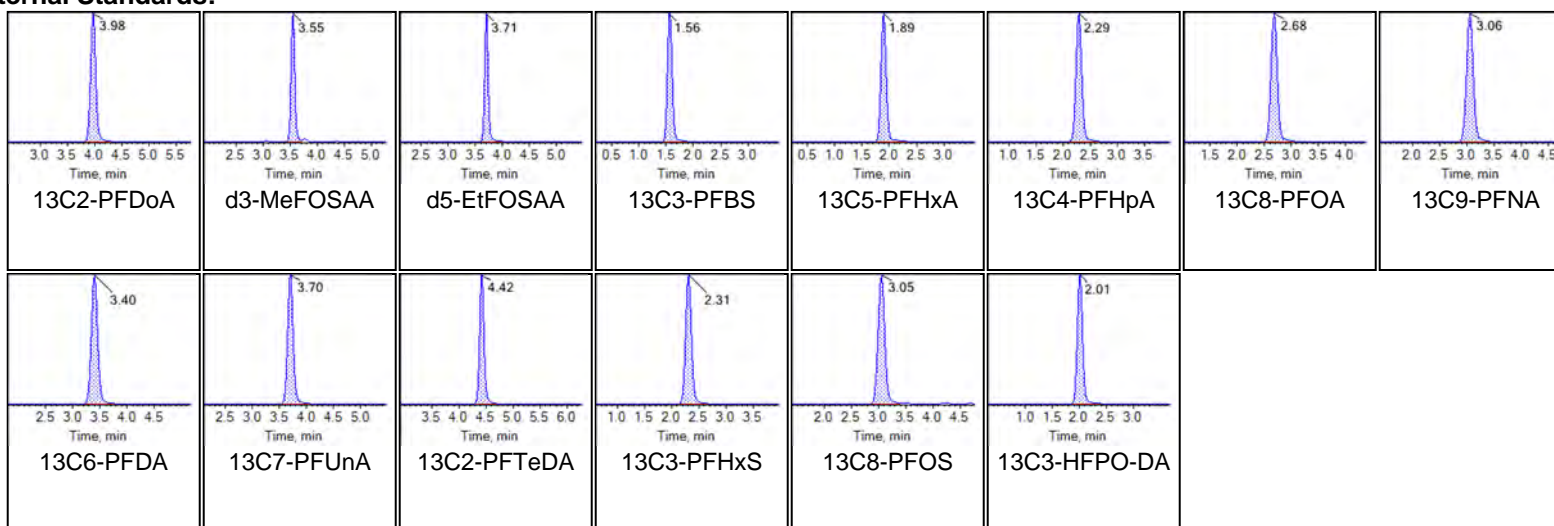




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





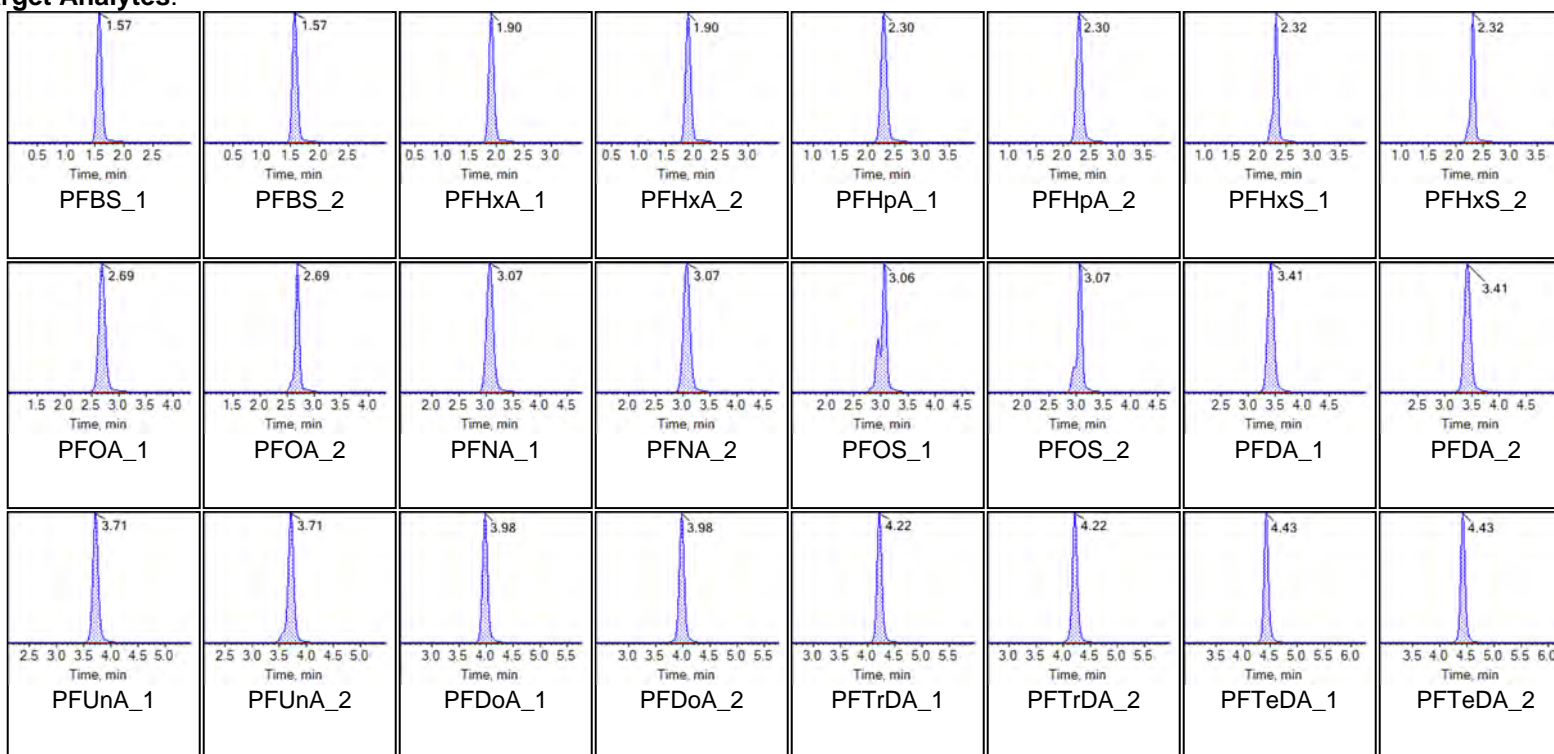
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 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	20-1511

## Chromatograms

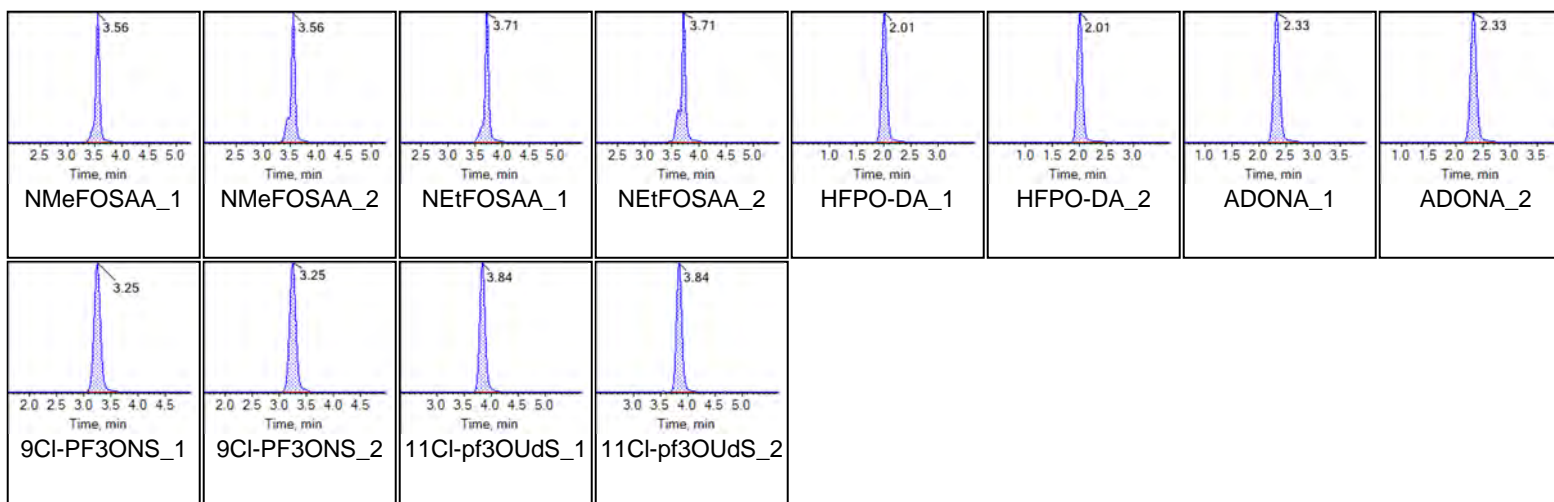
## Target Analytes:



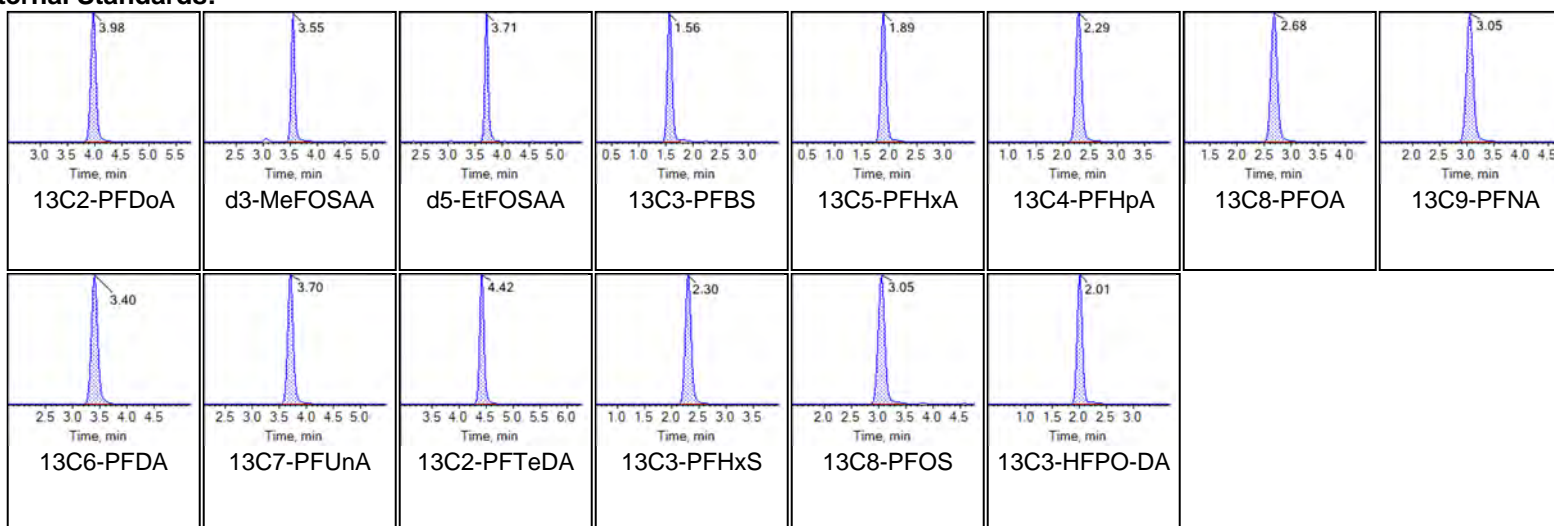




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





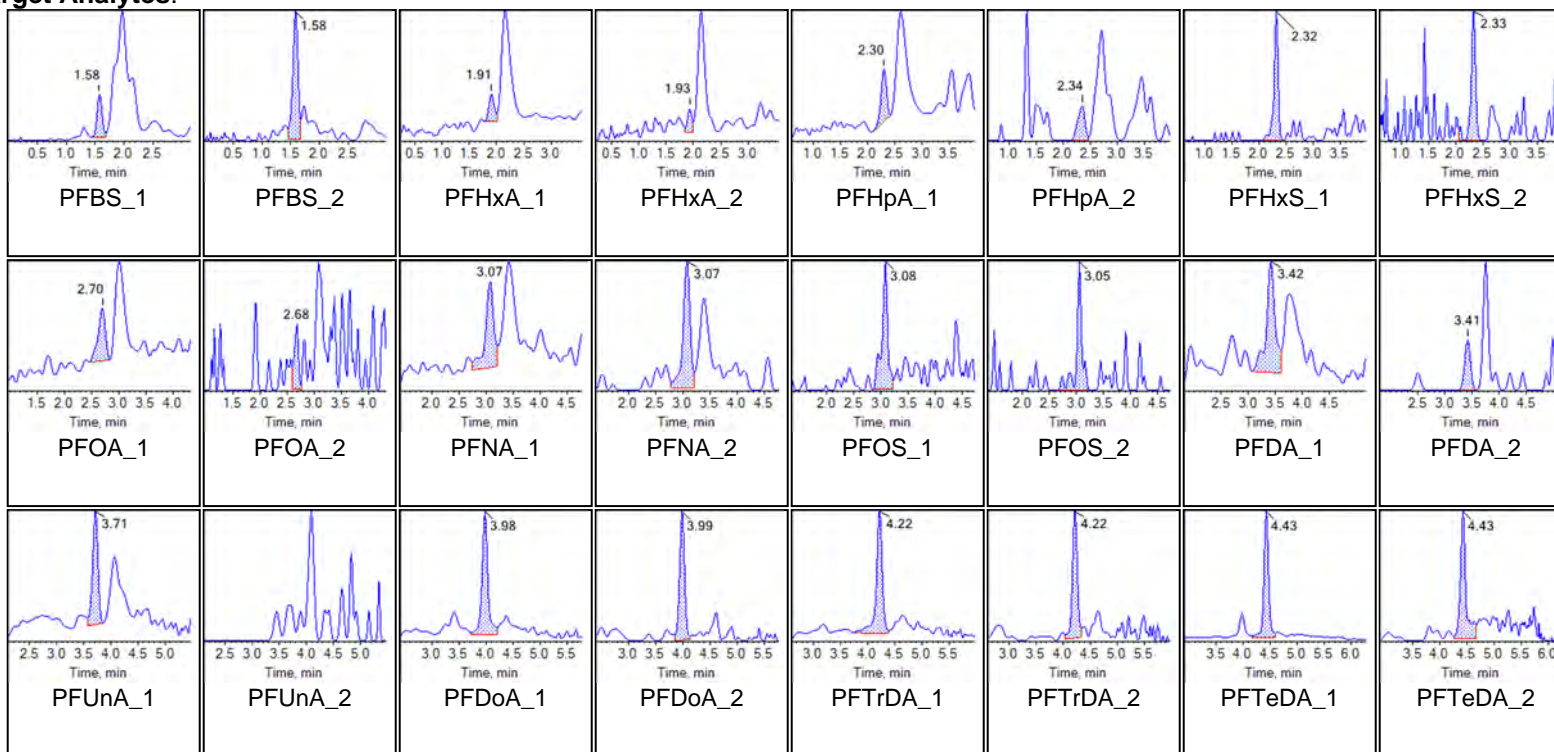
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 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	20-1511

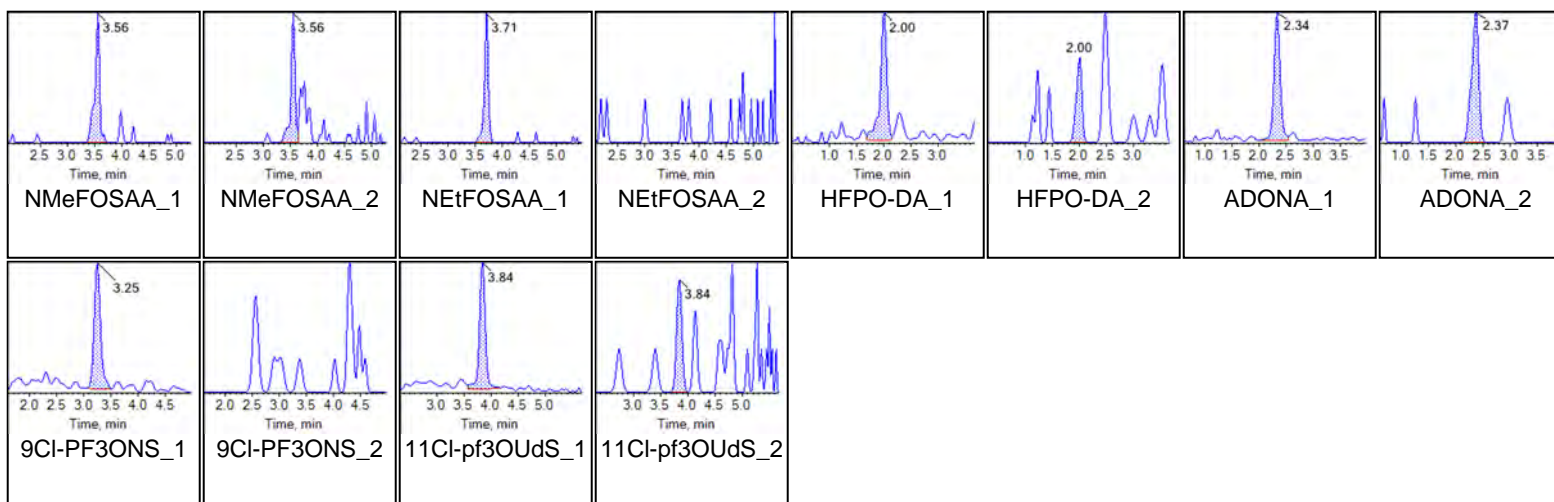
## Chromatograms

## Target Analytes:

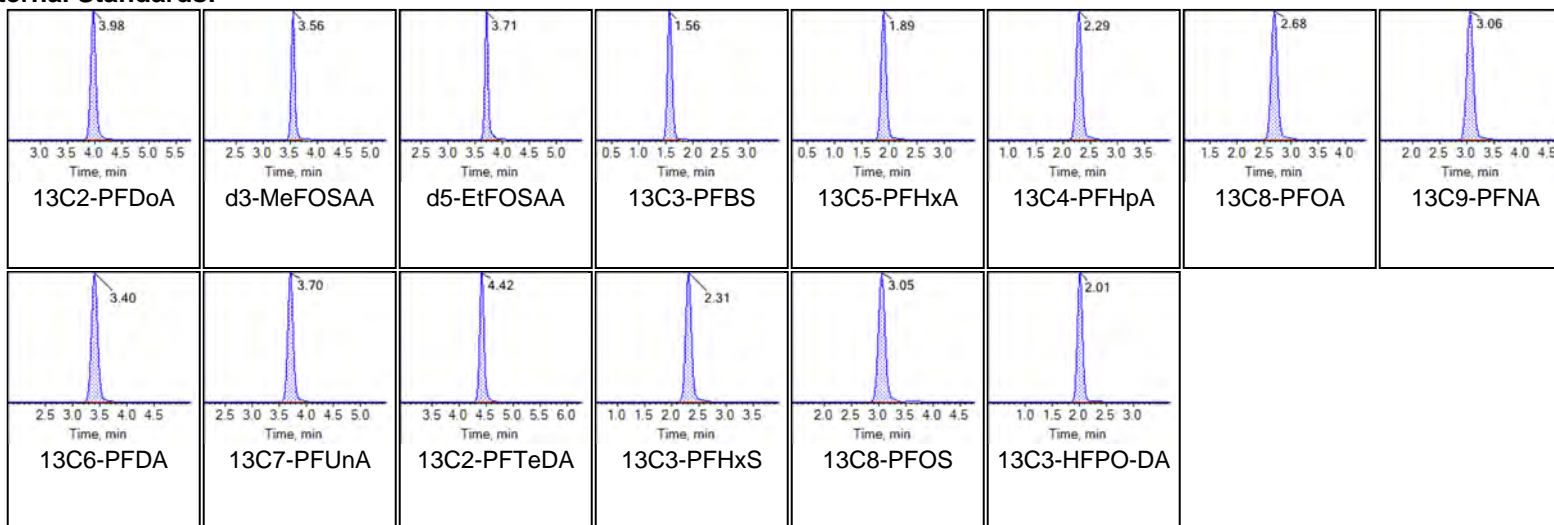




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





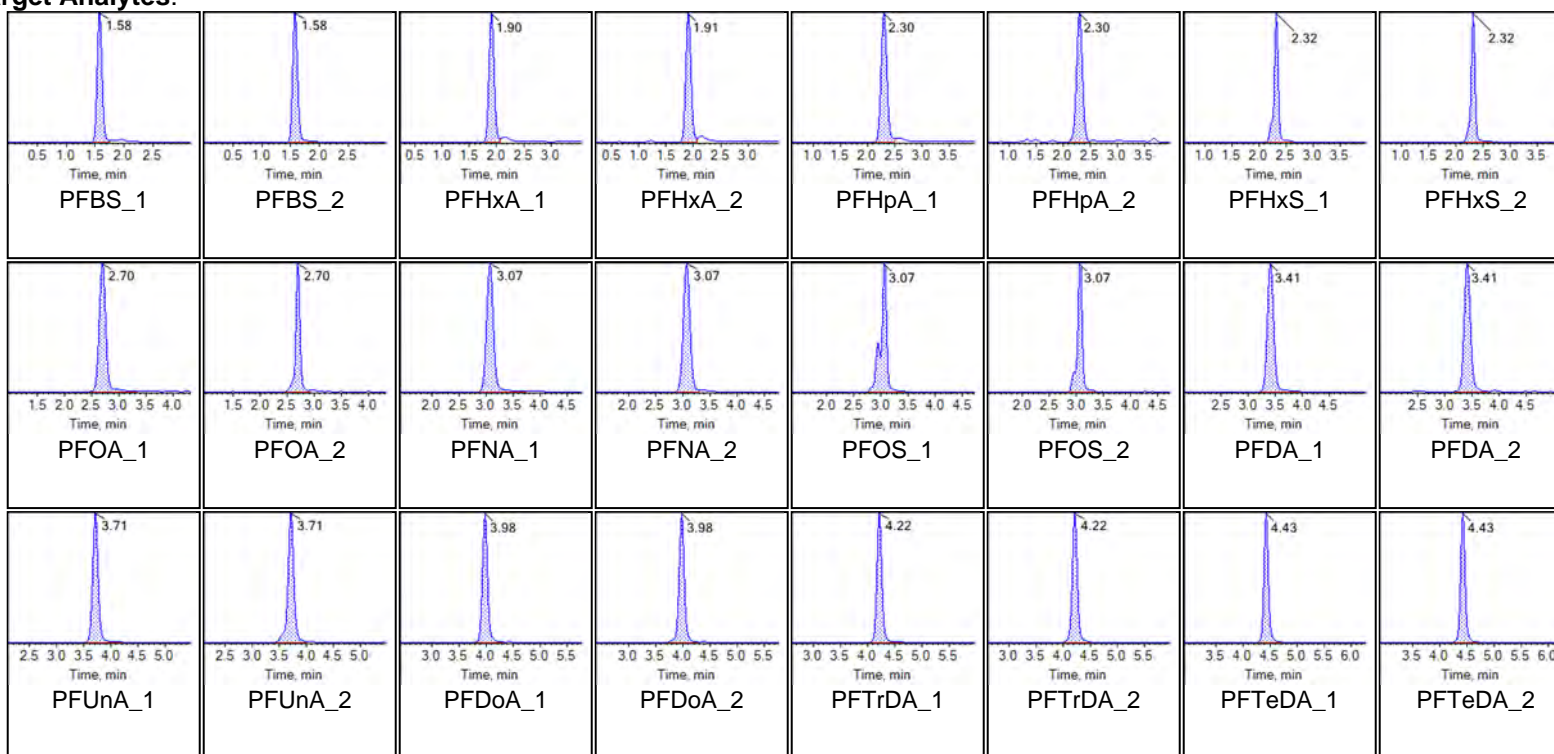
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 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	20-1511

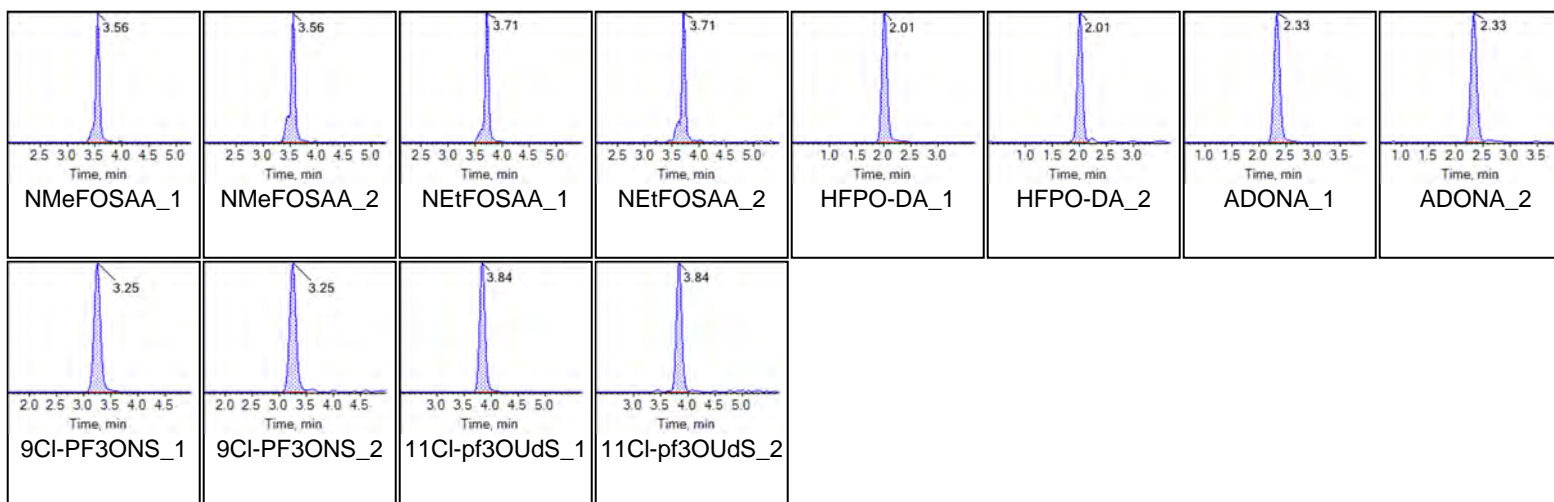
## Chromatograms

## Target Analytes:

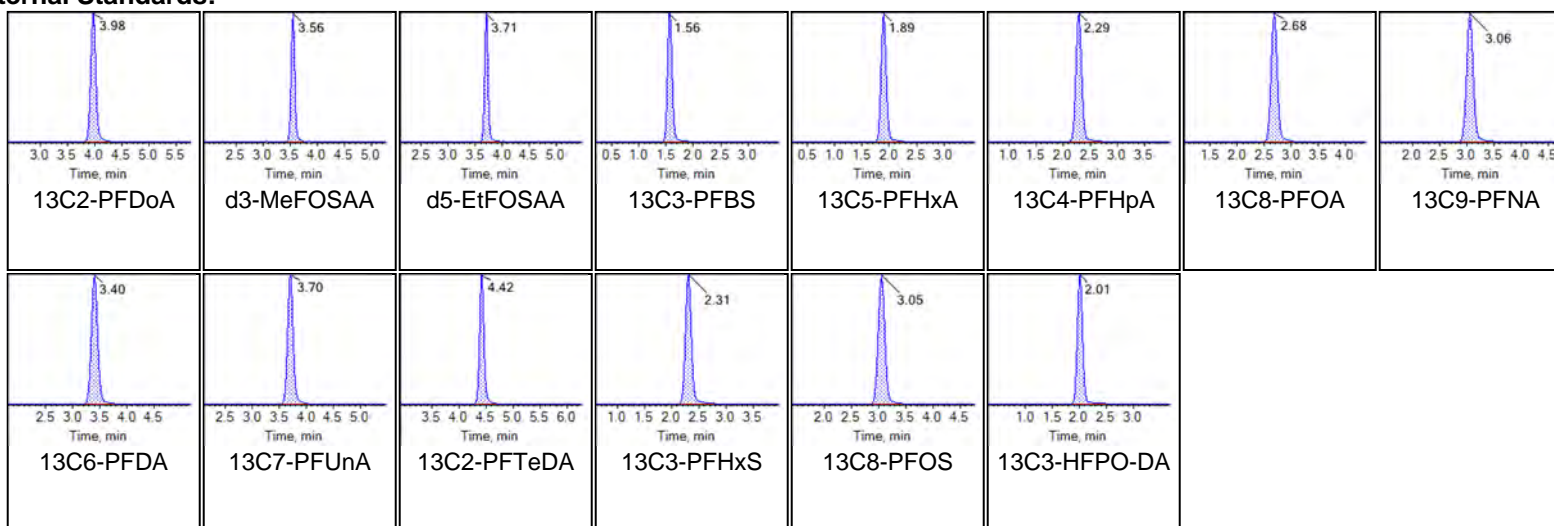




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





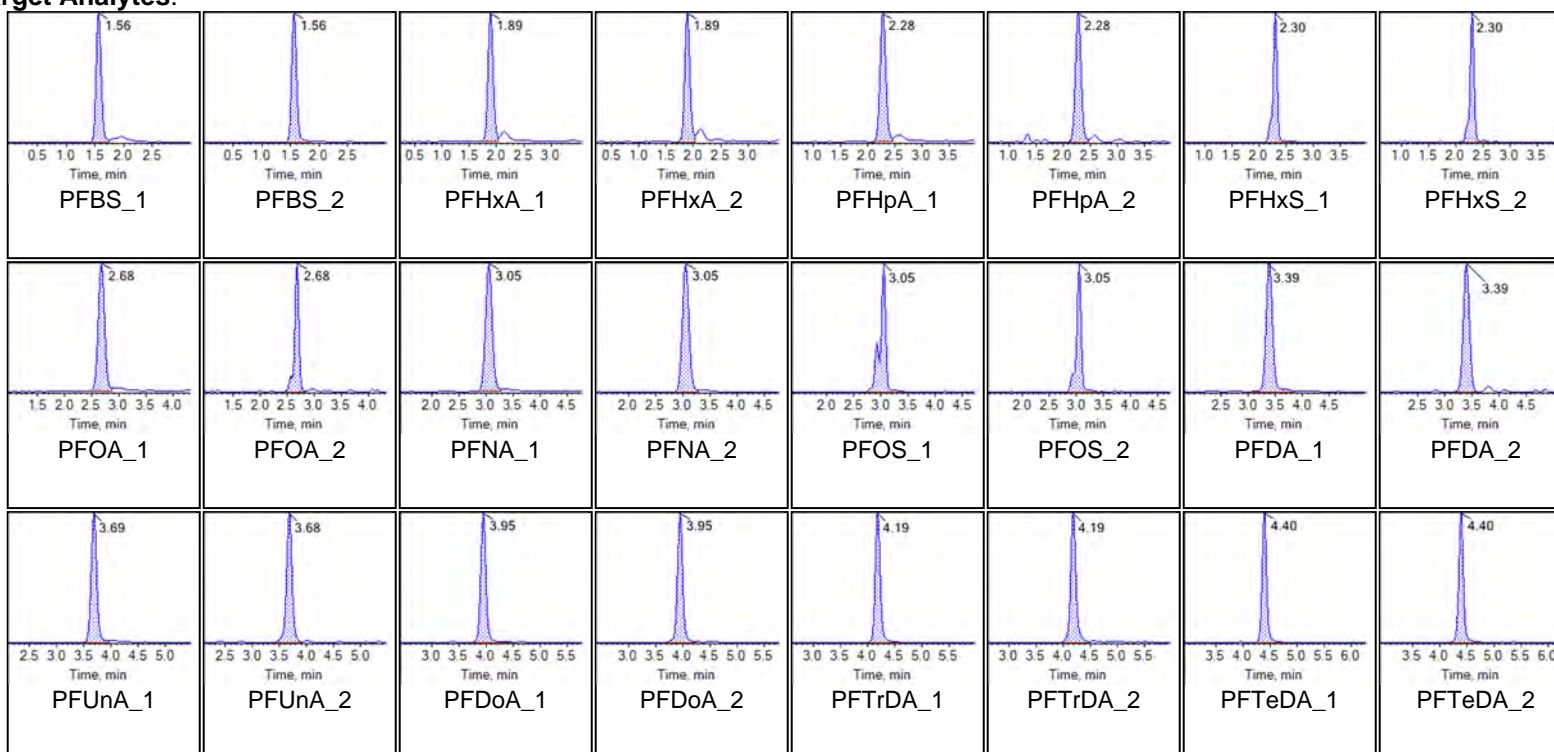
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	2
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/18/2020 1:45:00 AM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

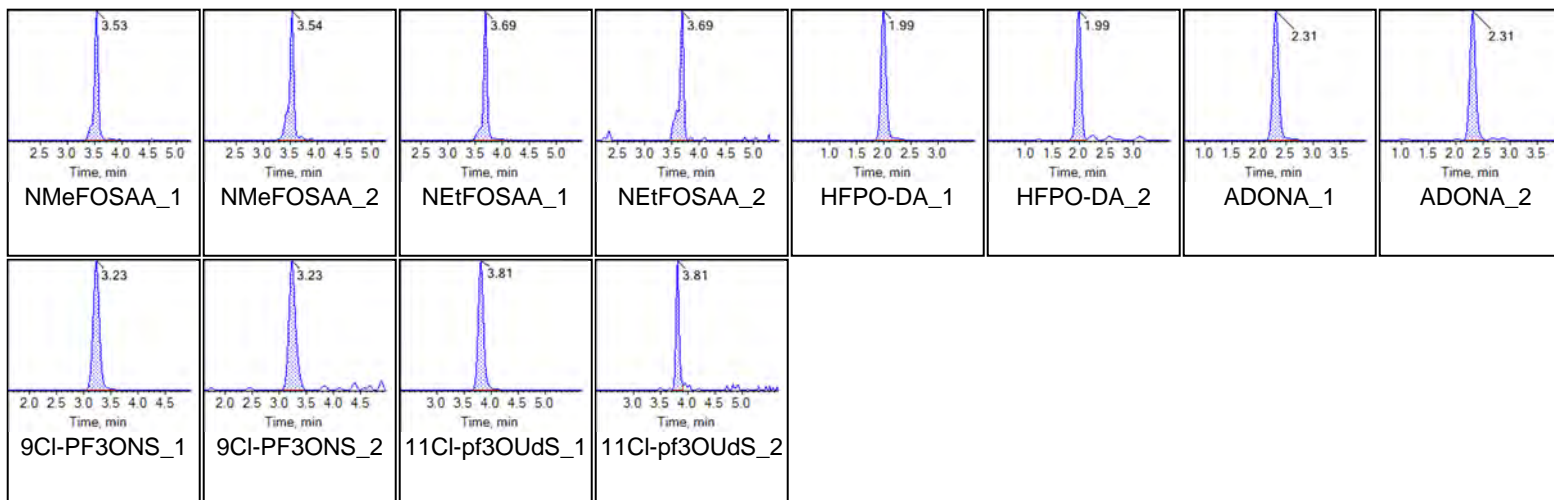
## Chromatograms

## Target Analytes:

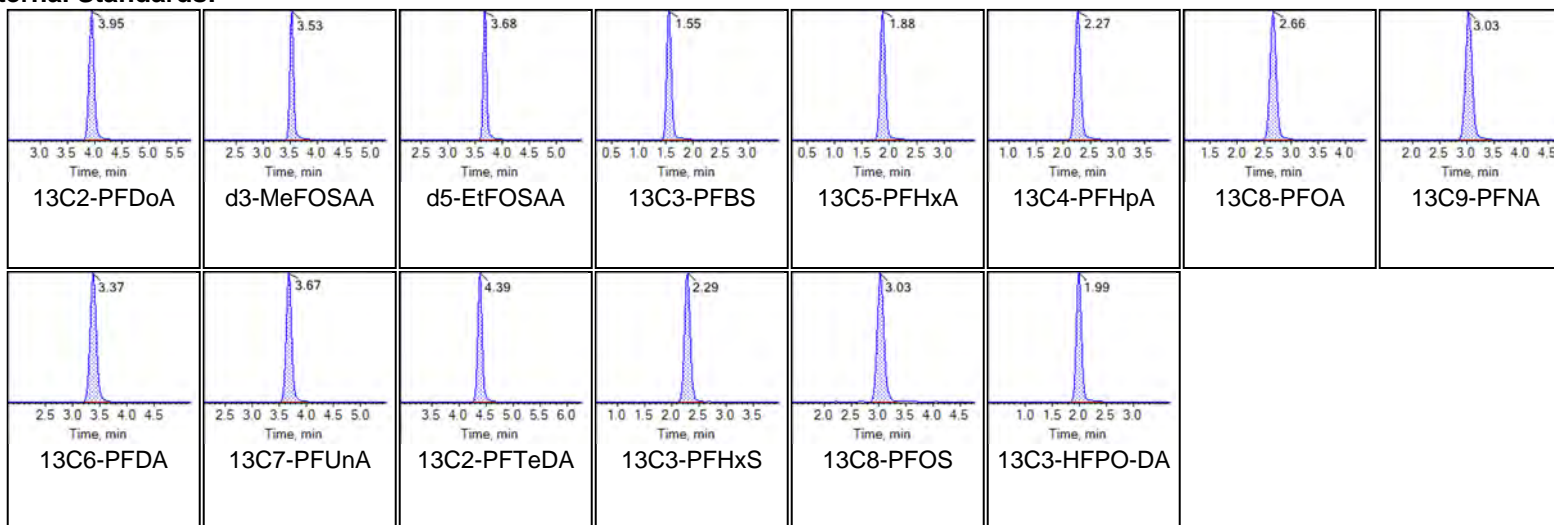




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





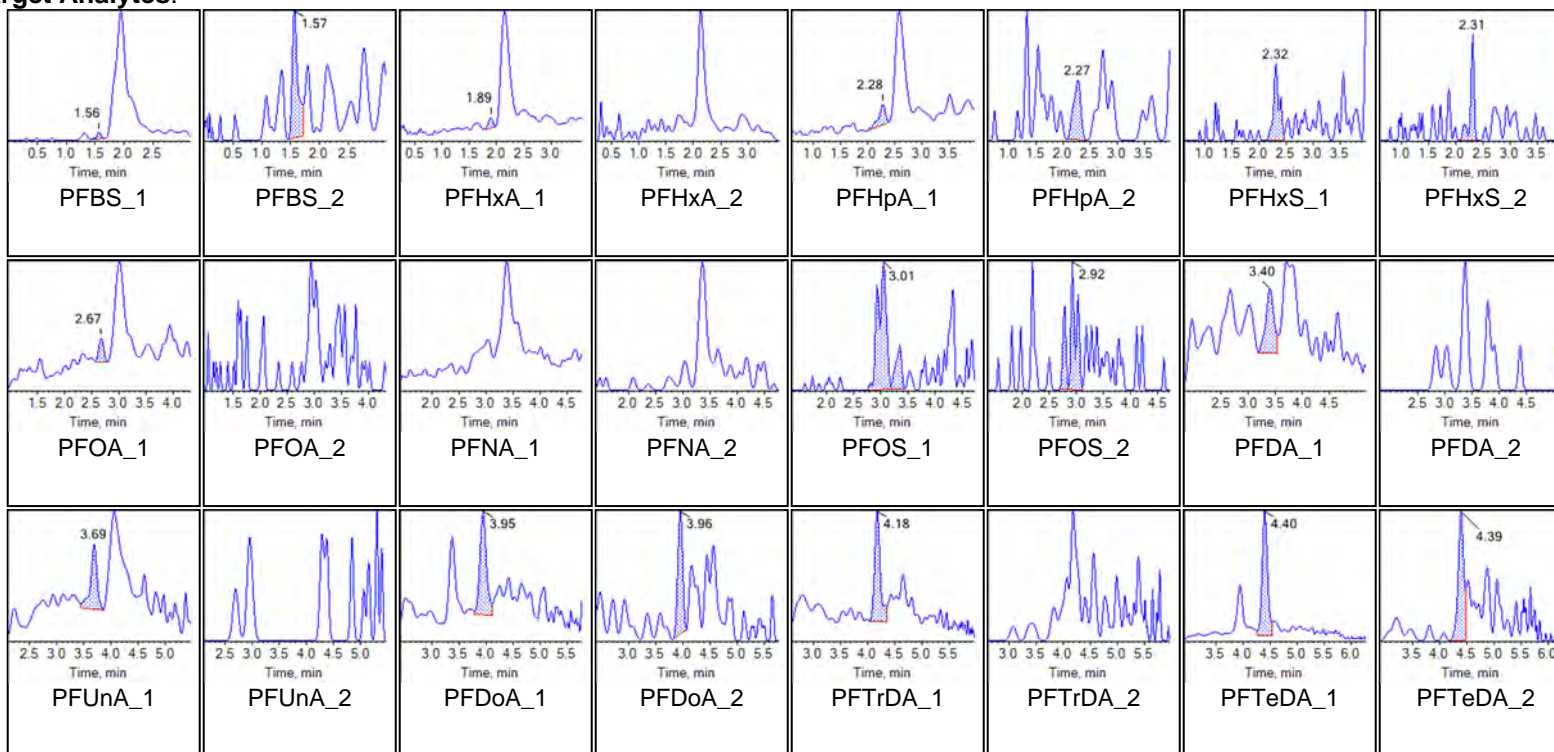
Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE58 IB	<b>Injection Vial</b>	4
<b>Sample ID</b>	IB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/18/2020 2:06:41 AM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

**Chromatograms**

**Target Analytes:**

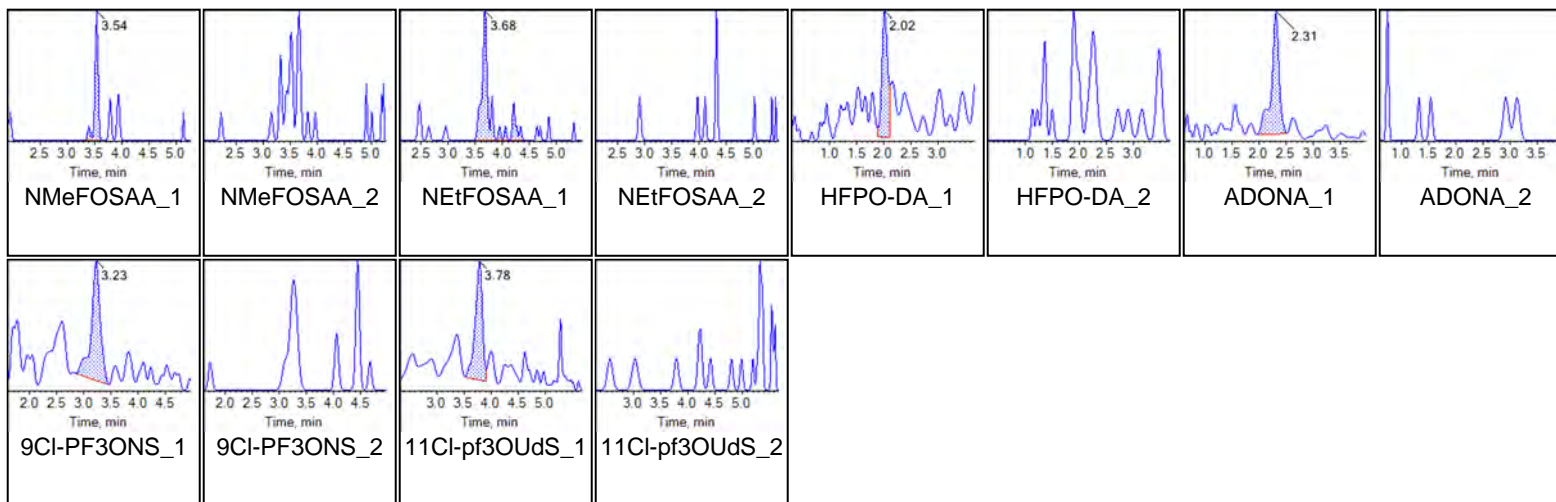




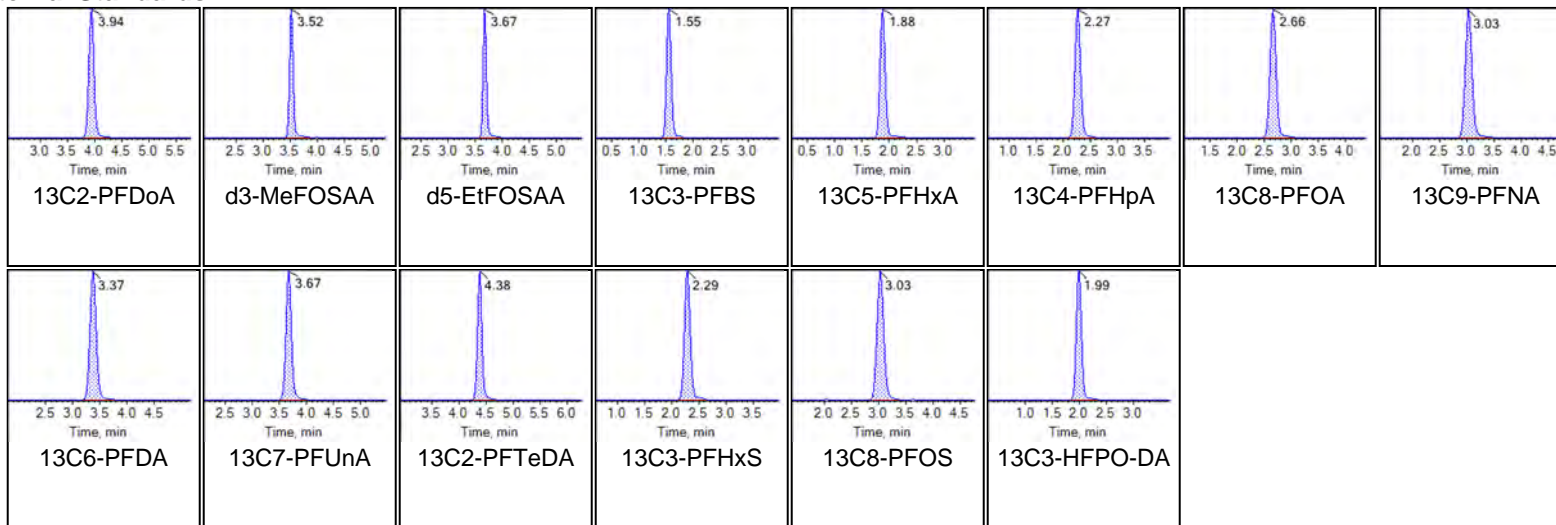


Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM



Internal Standards:





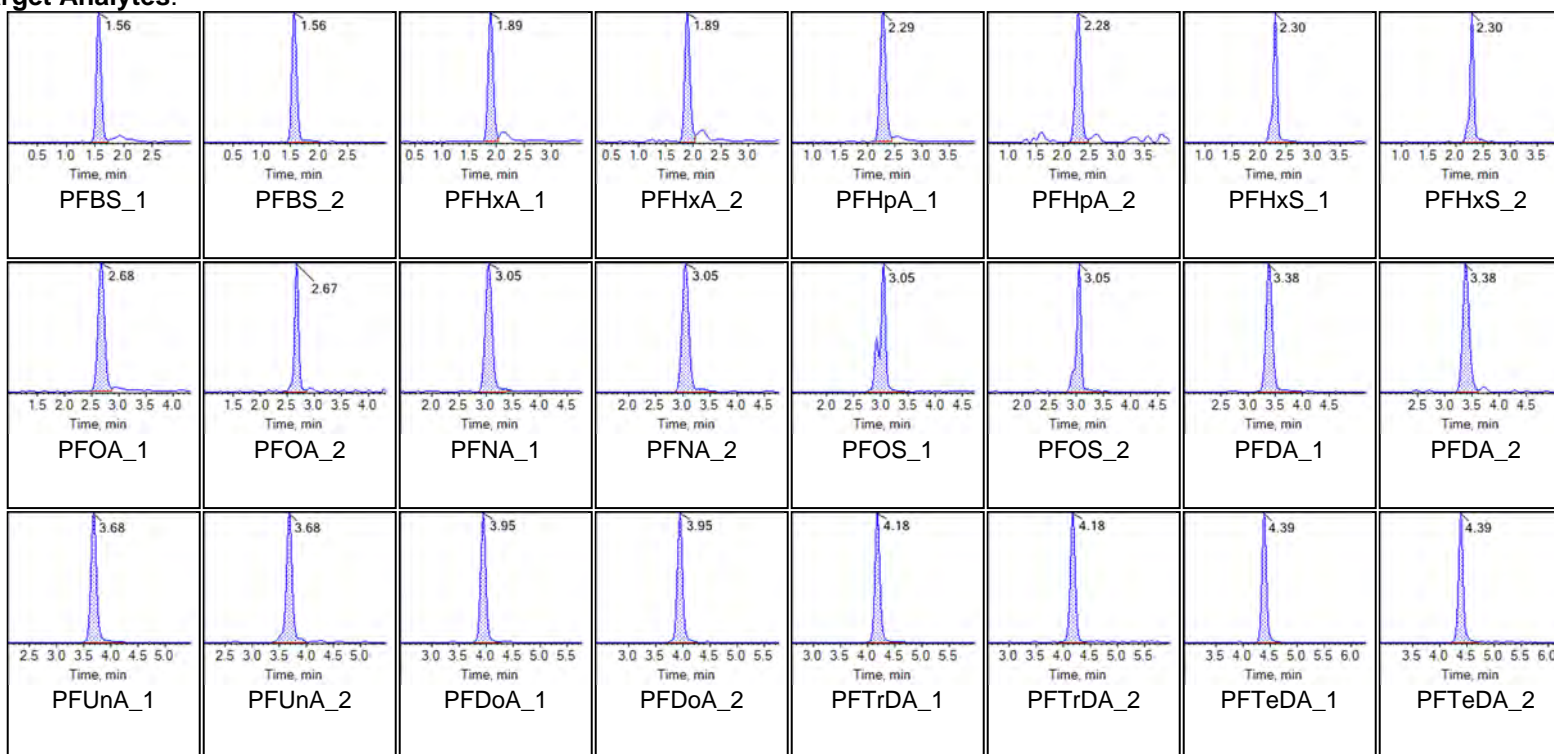
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	45
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:09:34 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

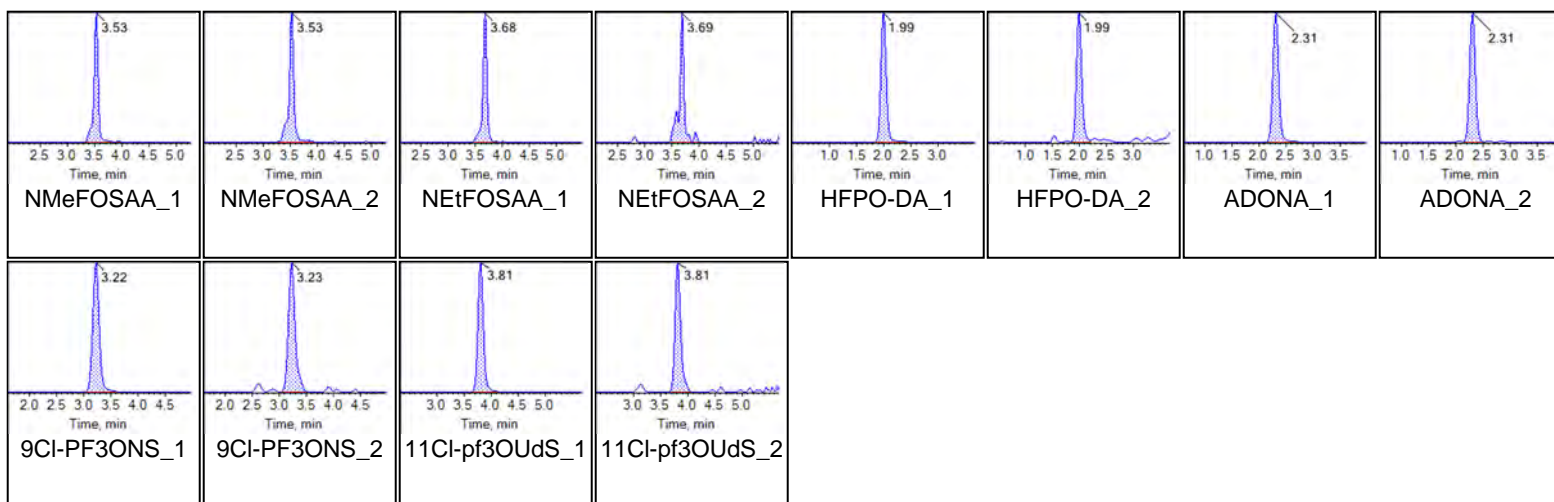
## Chromatograms

## Target Analytes:

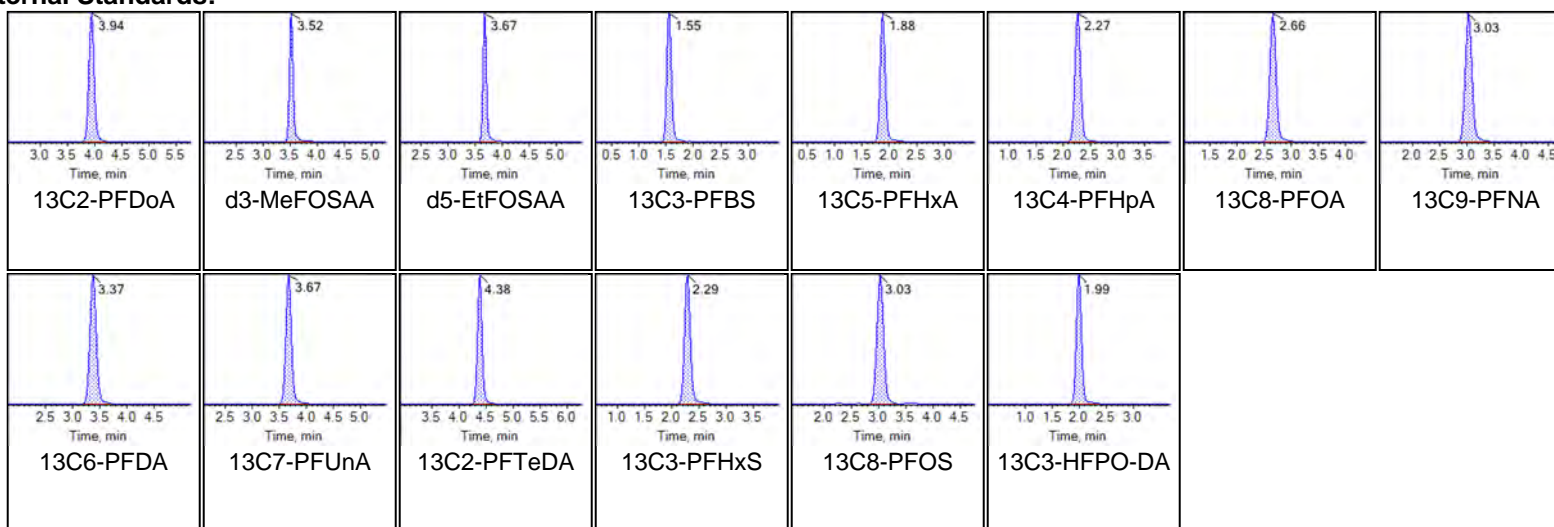




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





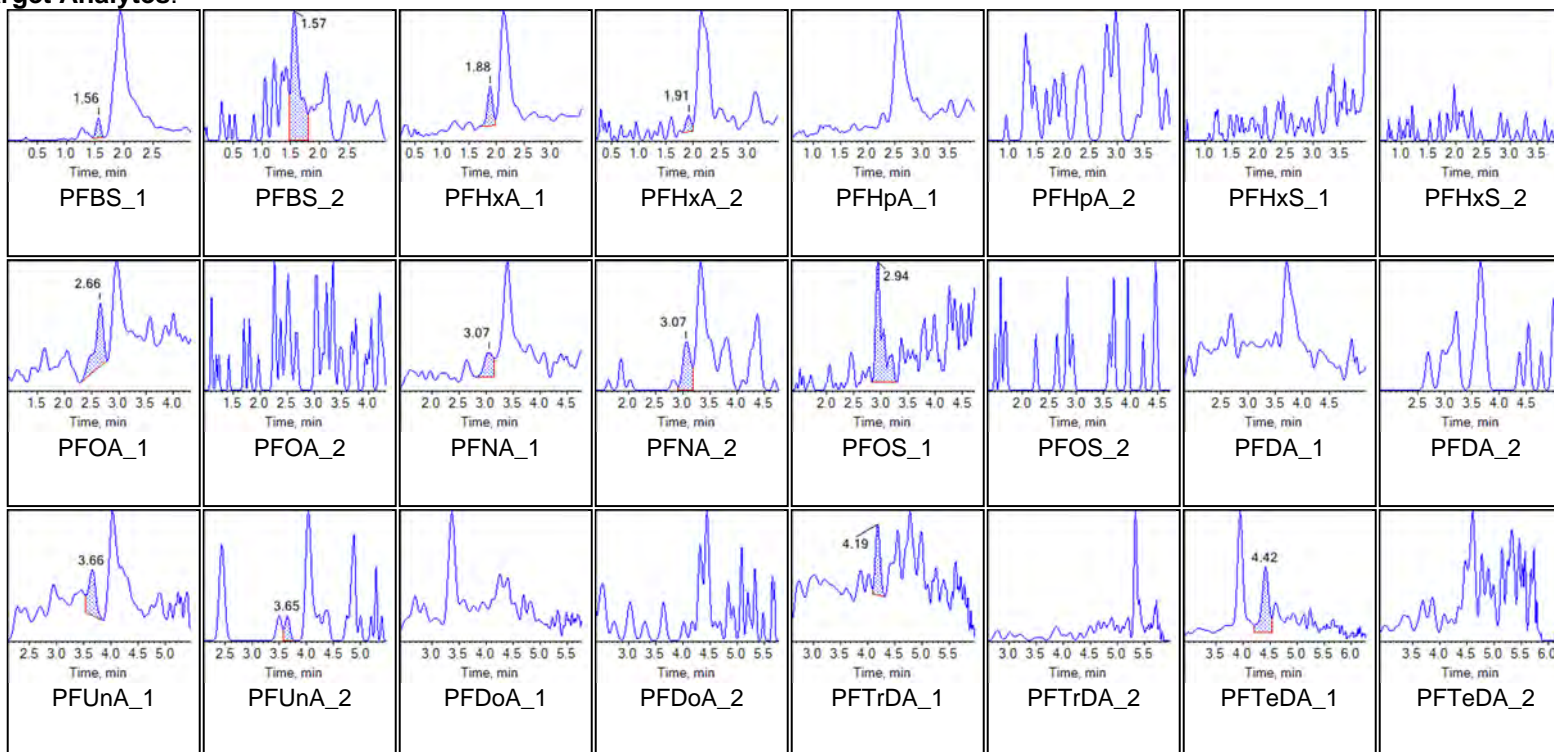
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	DB450PB-FS(0)	<b>Injection Vial</b>	24
<b>Sample ID</b>	Procedural Blank	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:31:29 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

## Chromatograms

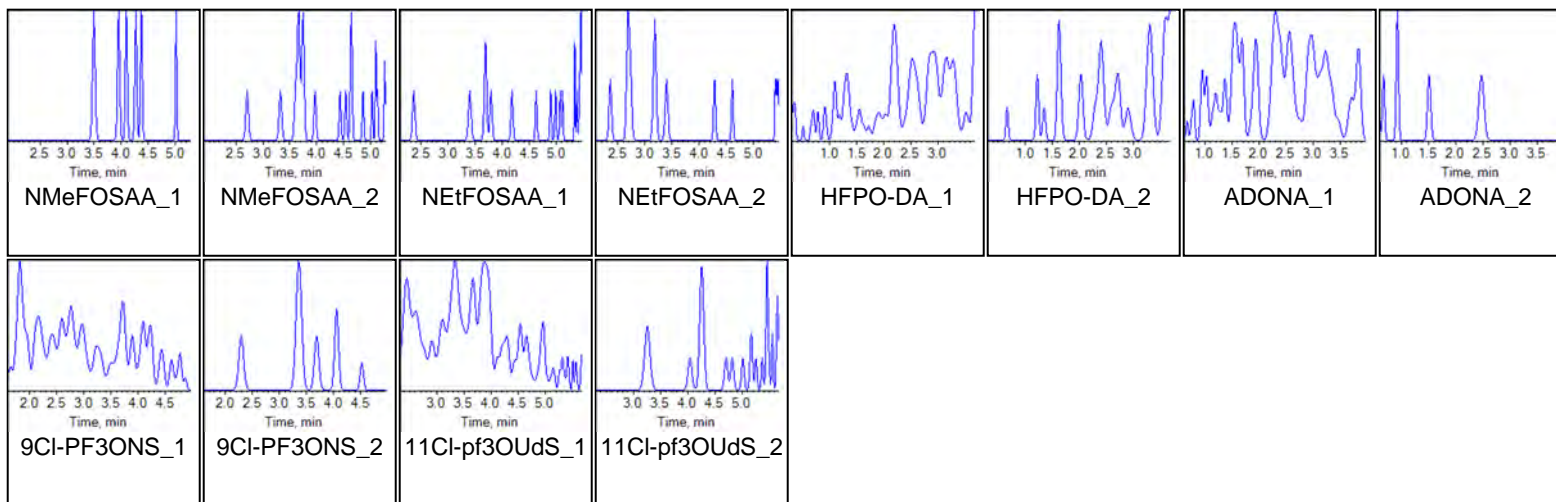
## Target Analytes:



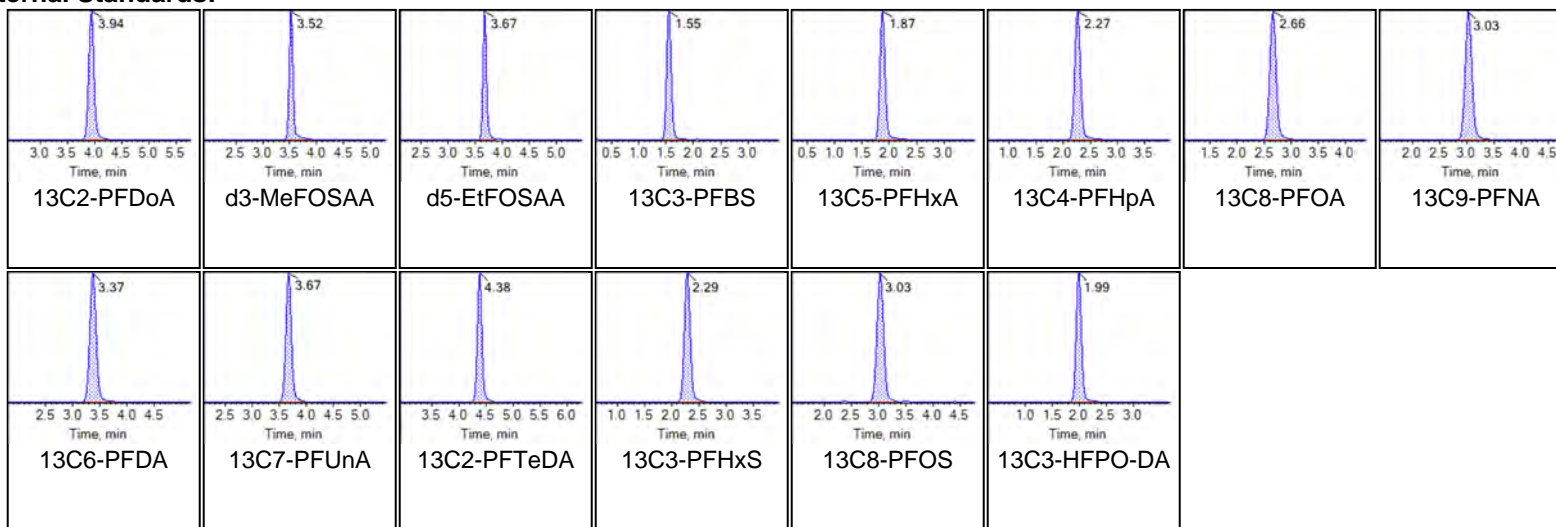


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





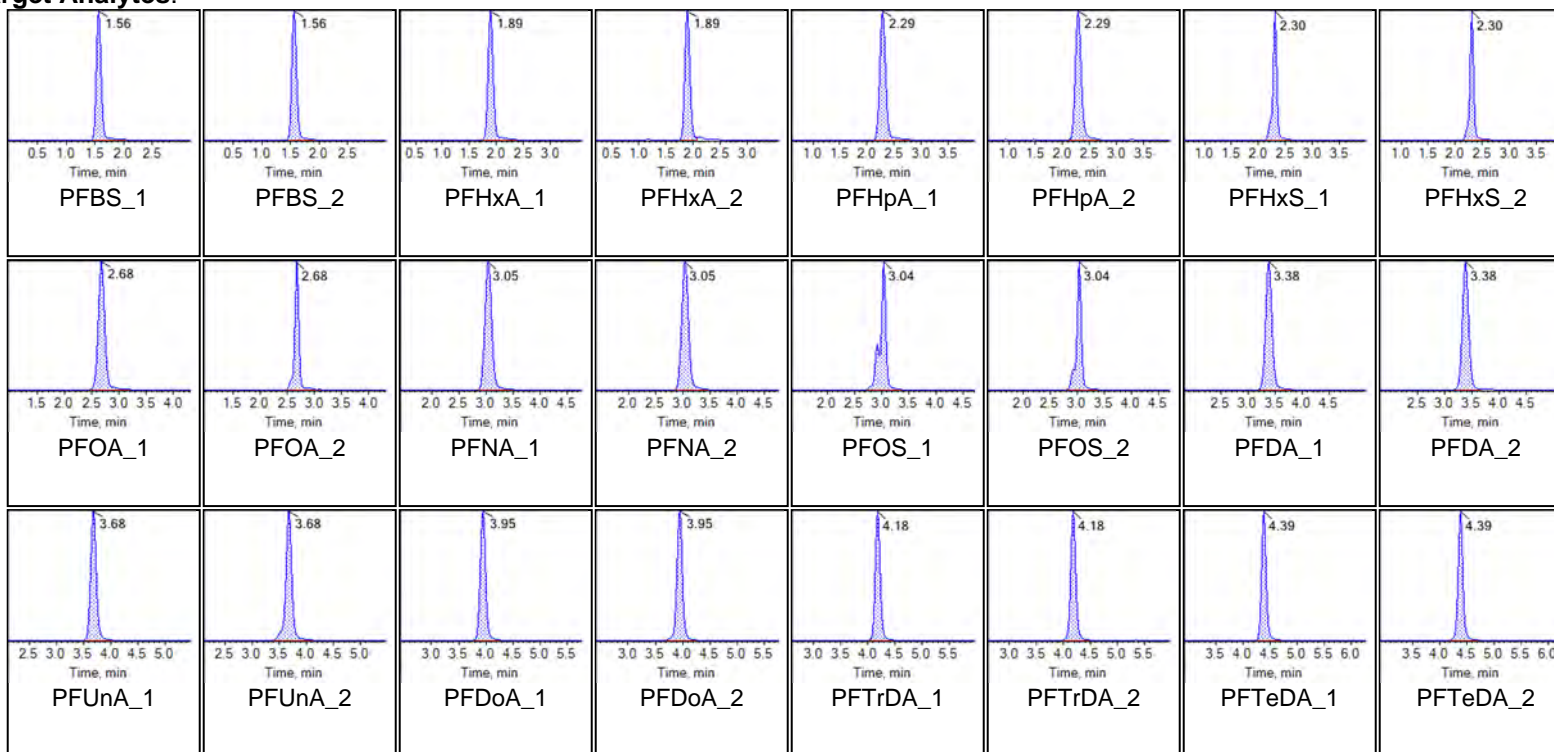
Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	DB451LCS-FS(0)	<b>Injection Vial</b>	25
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:42:27 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

**Chromatograms**

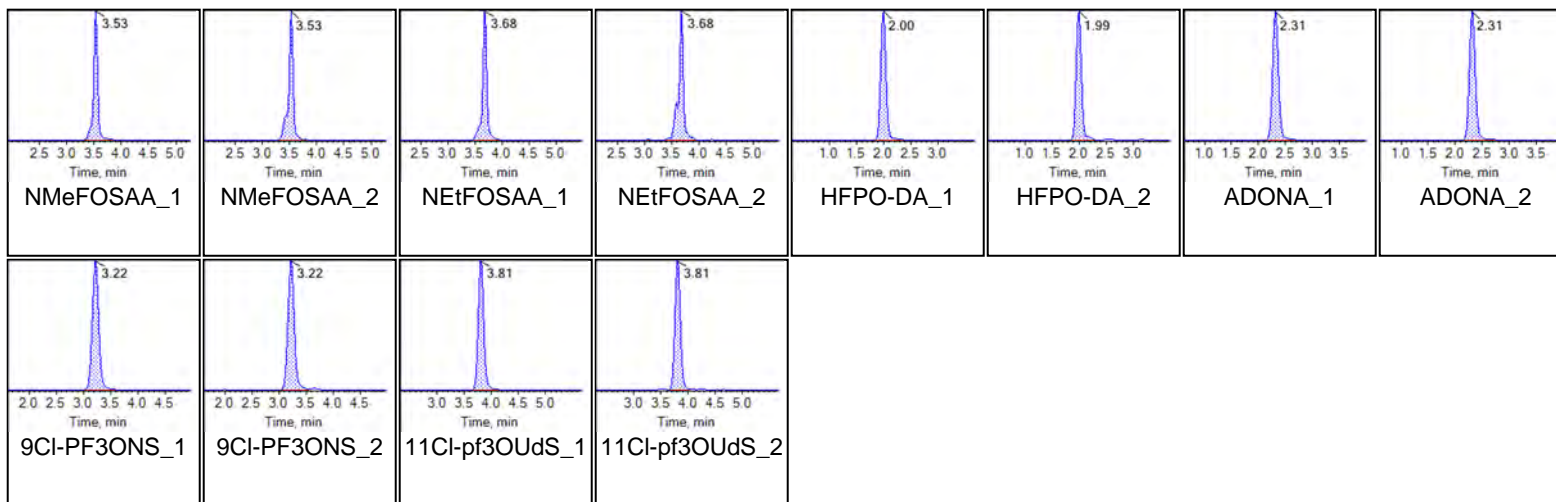
**Target Analytes:**



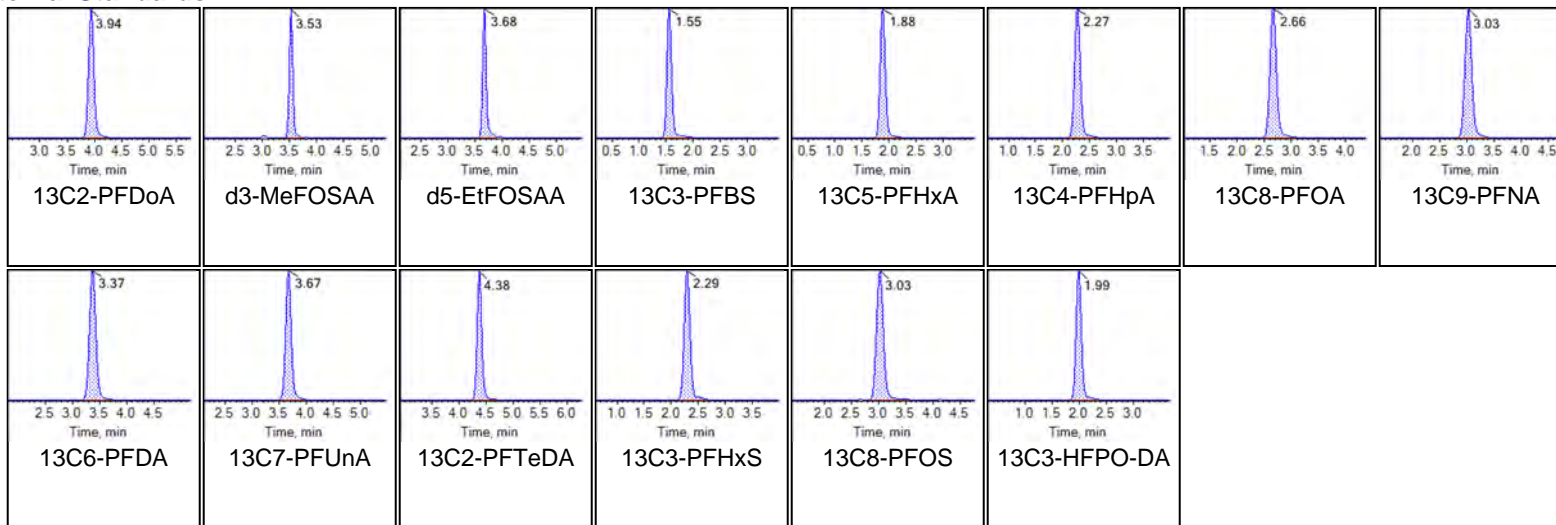


Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM



Internal Standards:





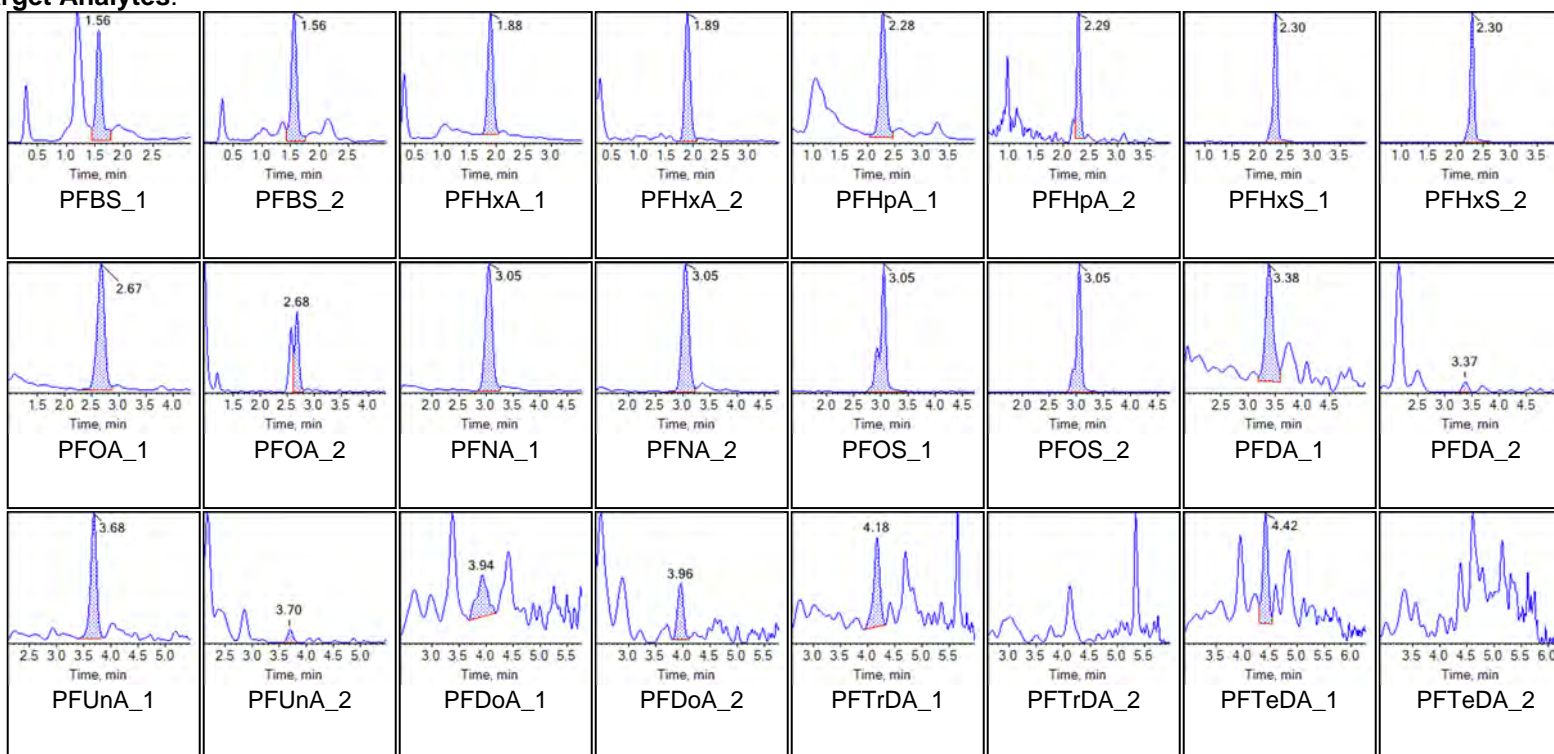
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

Sample Name	G1795-FS1(0)	Injection Vial	26
Sample ID	CBD-AOA-MW17-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 1:53:25 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511

## Chromatograms

## Target Analytes:

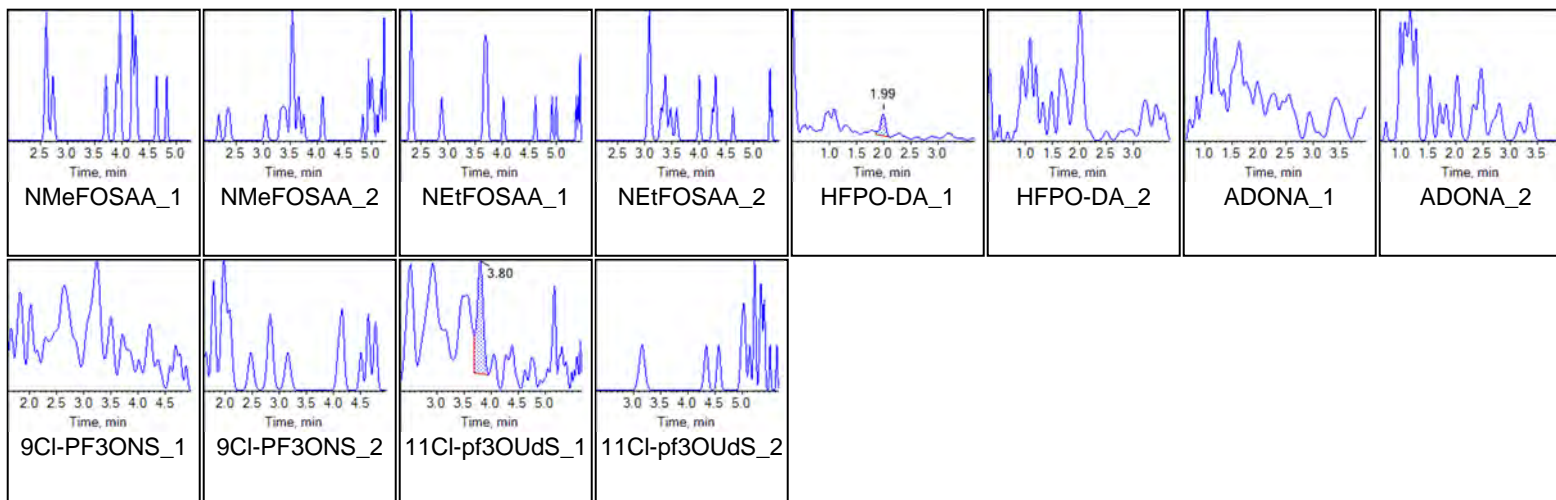




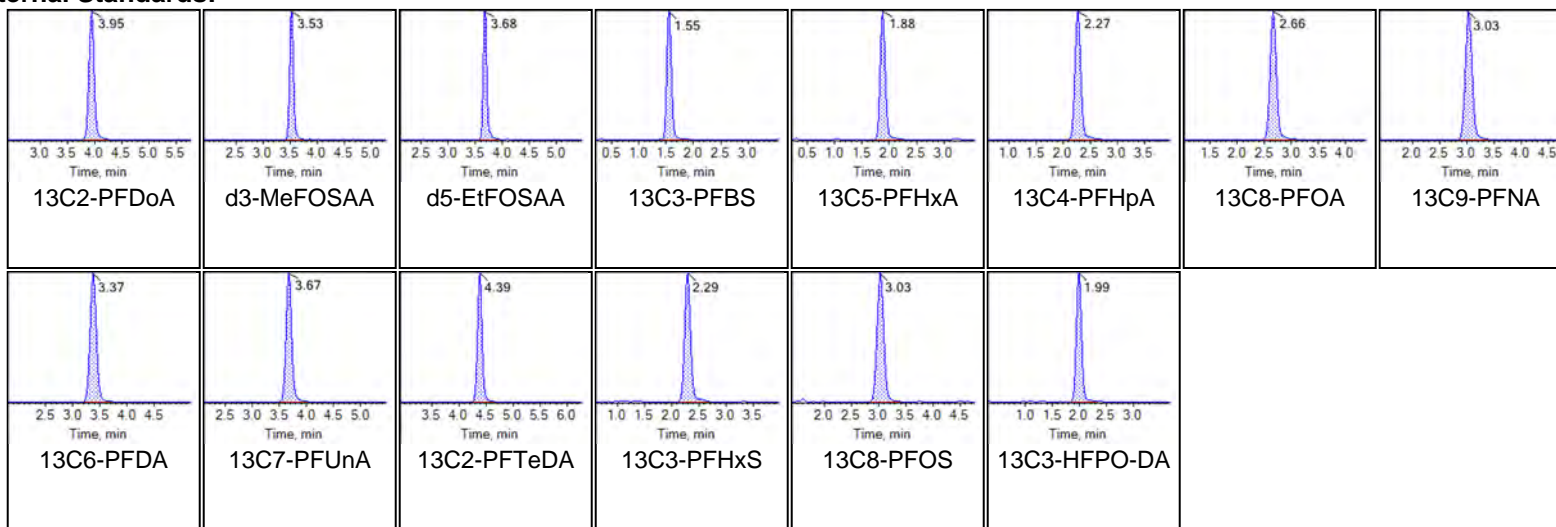


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





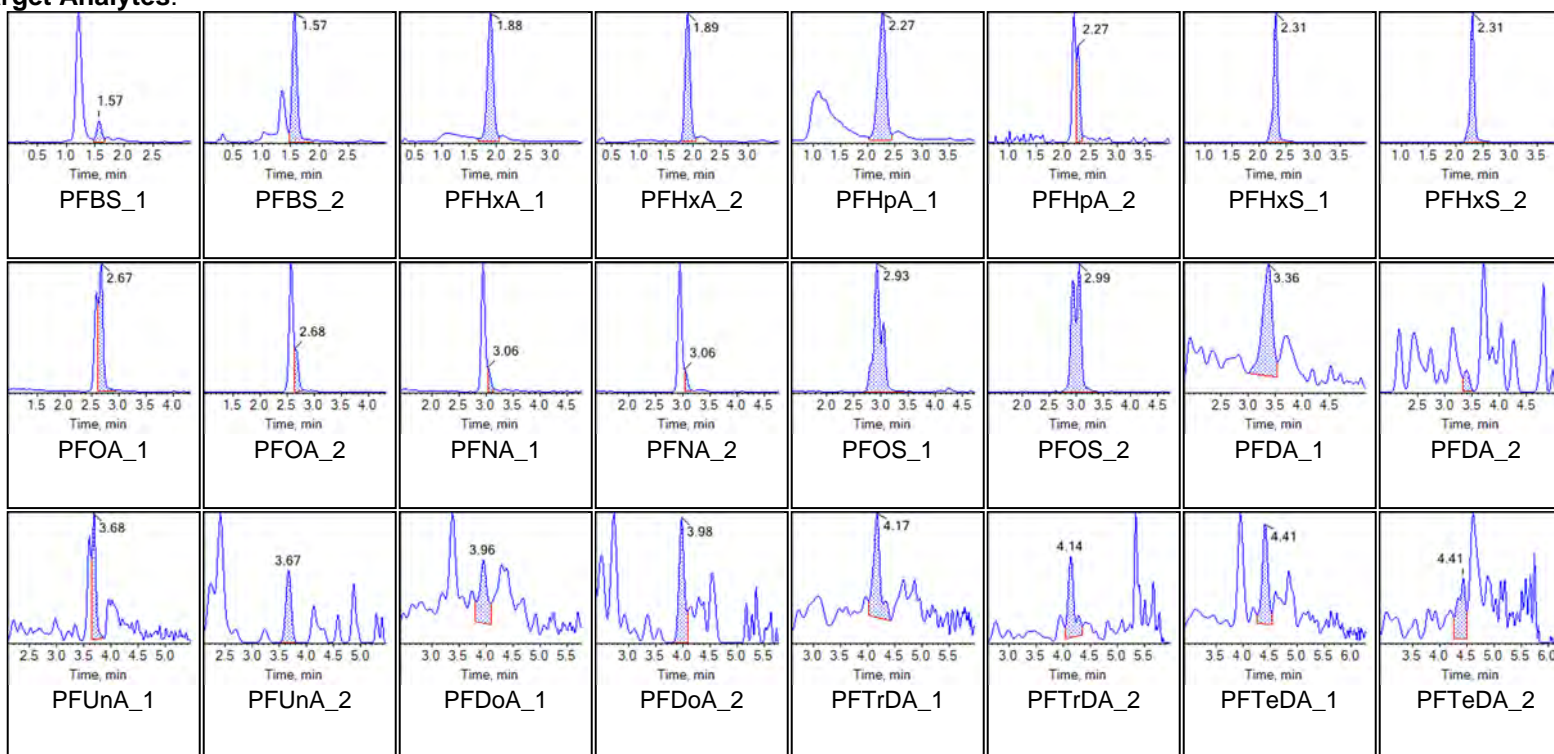
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

Sample Name	G1802-FS1(0)	Injection Vial	27
Sample ID	CBD-AOA-MW09-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 2:04:24 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511

## Chromatograms

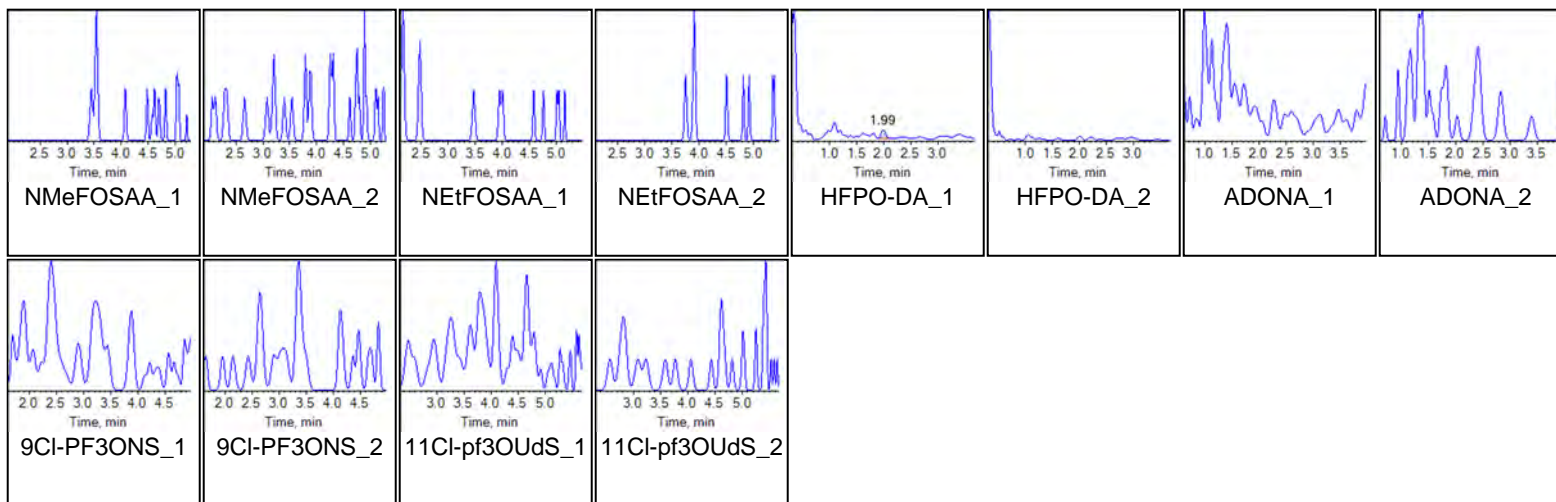
## Target Analytes:



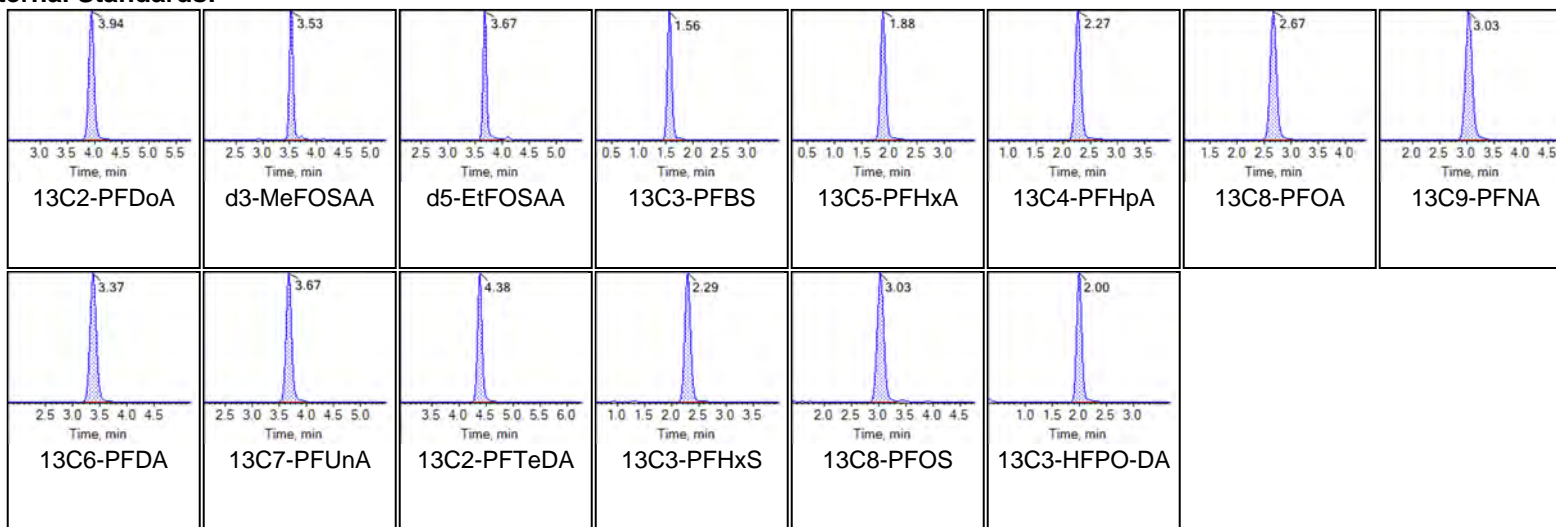


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





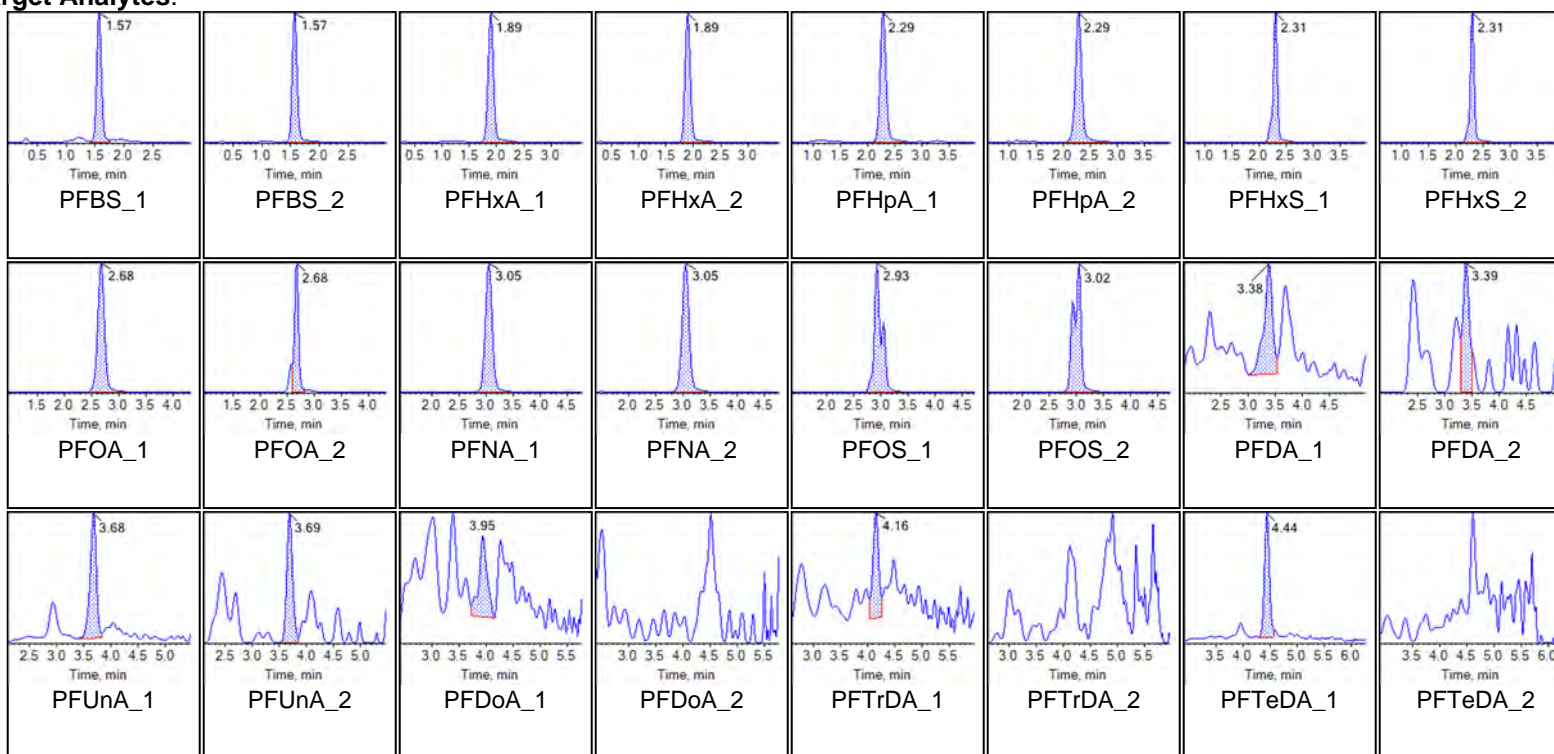
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	G1801-FS1(0)	<b>Injection Vial</b>	28
<b>Sample ID</b>	CBD-SO3-MW02-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:15:20 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

## Chromatograms

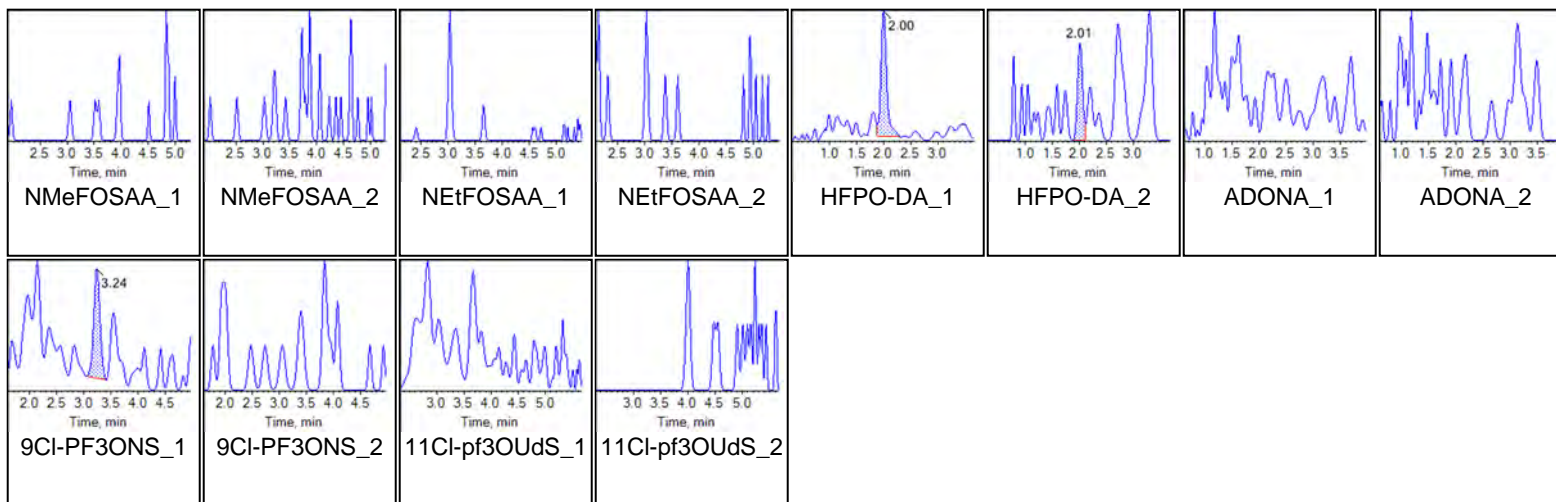
## Target Analytes:



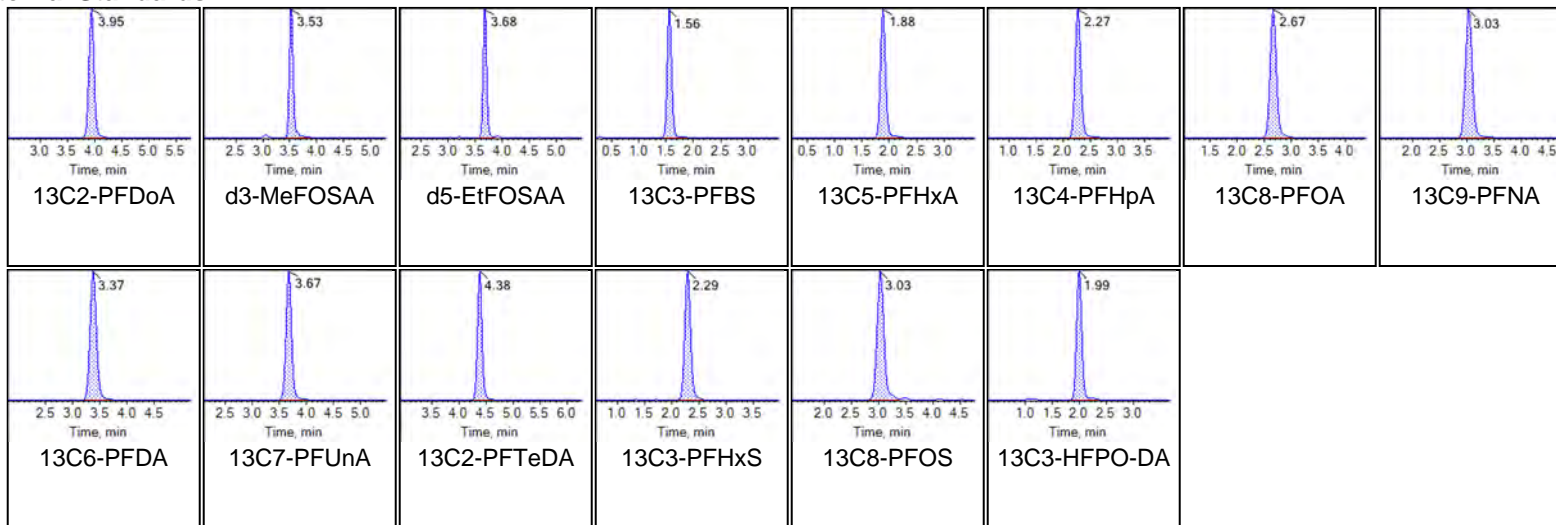


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





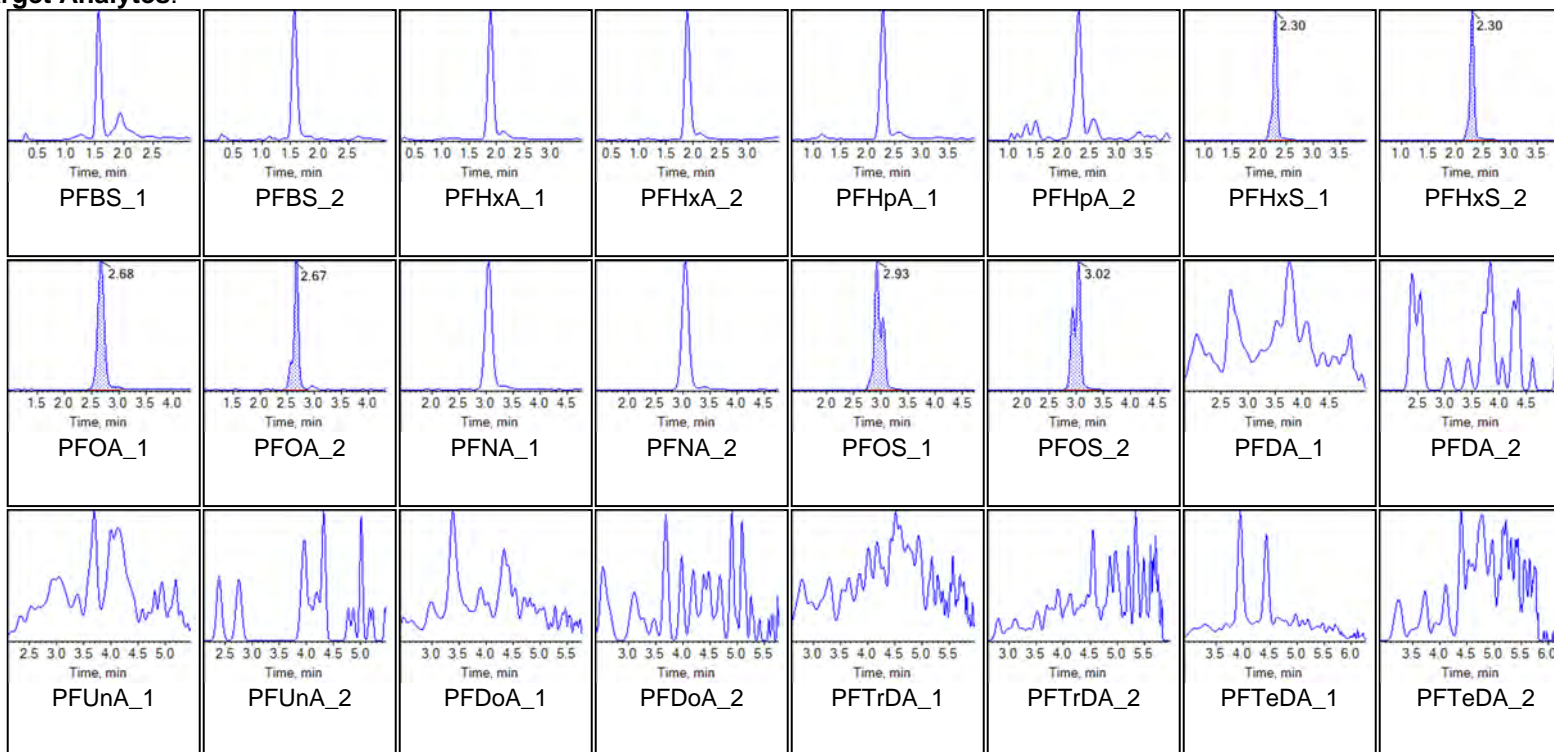
Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	G1801-FS1-D(3)	<b>Injection Vial</b>	29
<b>Sample ID</b>	CBD-SO3-MW02-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:26:18 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

**Chromatograms**

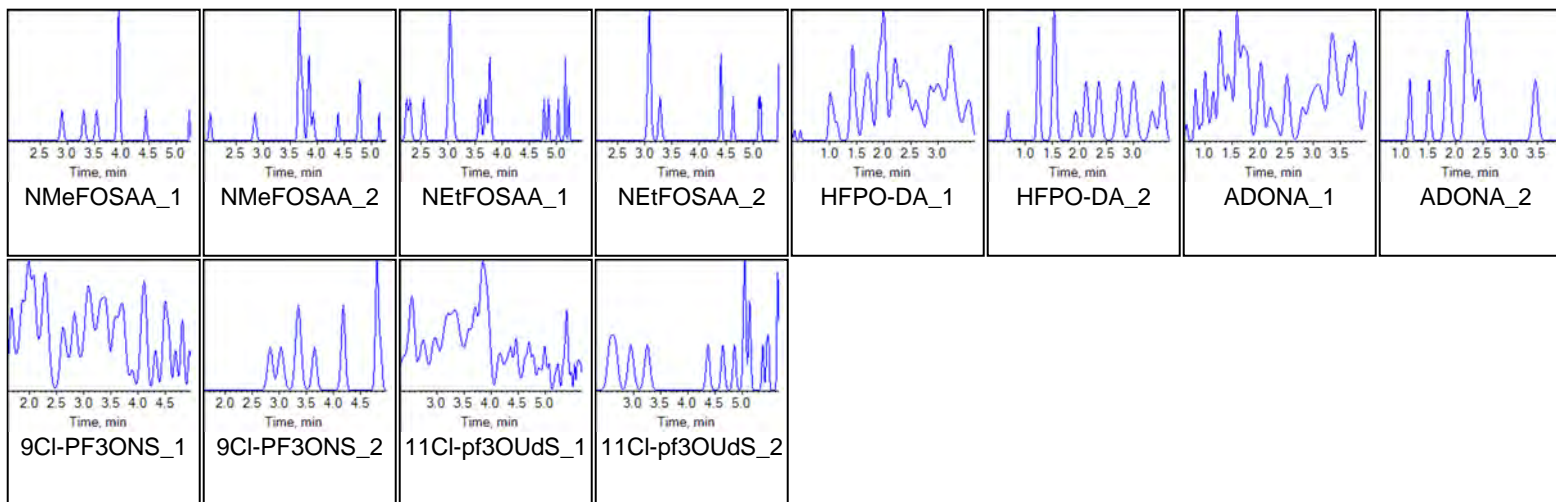
Target Analytes:



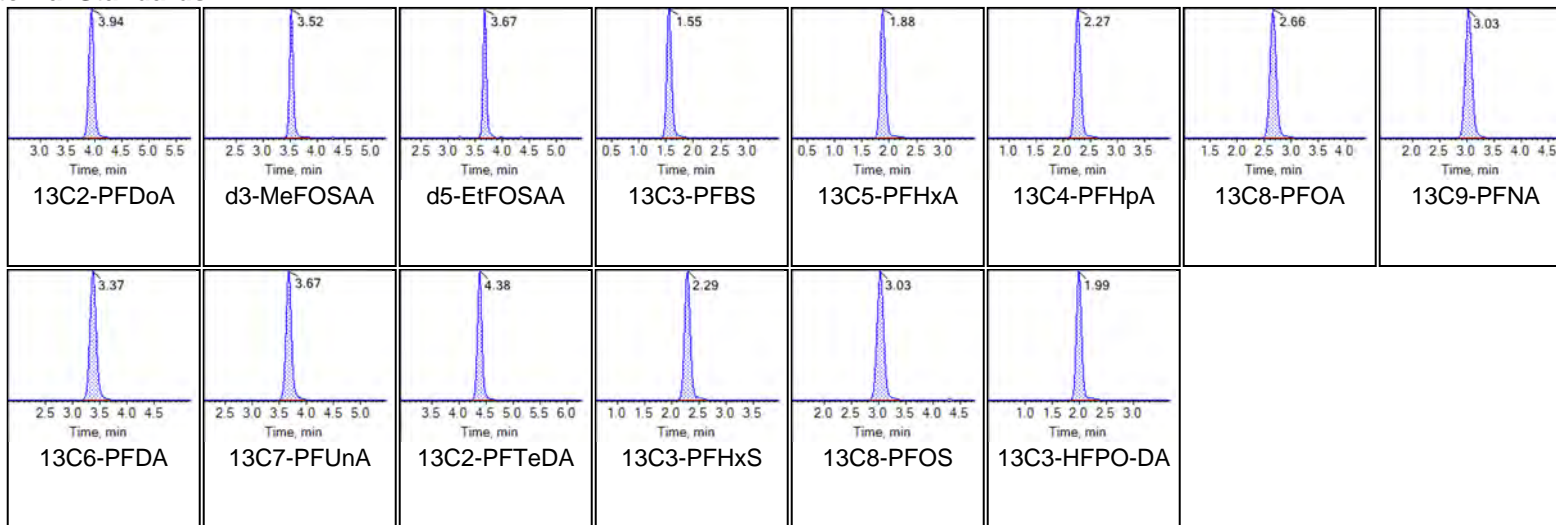


Chromatogram Report

Created with Analyst Reporter  
 Printed: 19/11/2020 5:38:18 PM



Internal Standards:





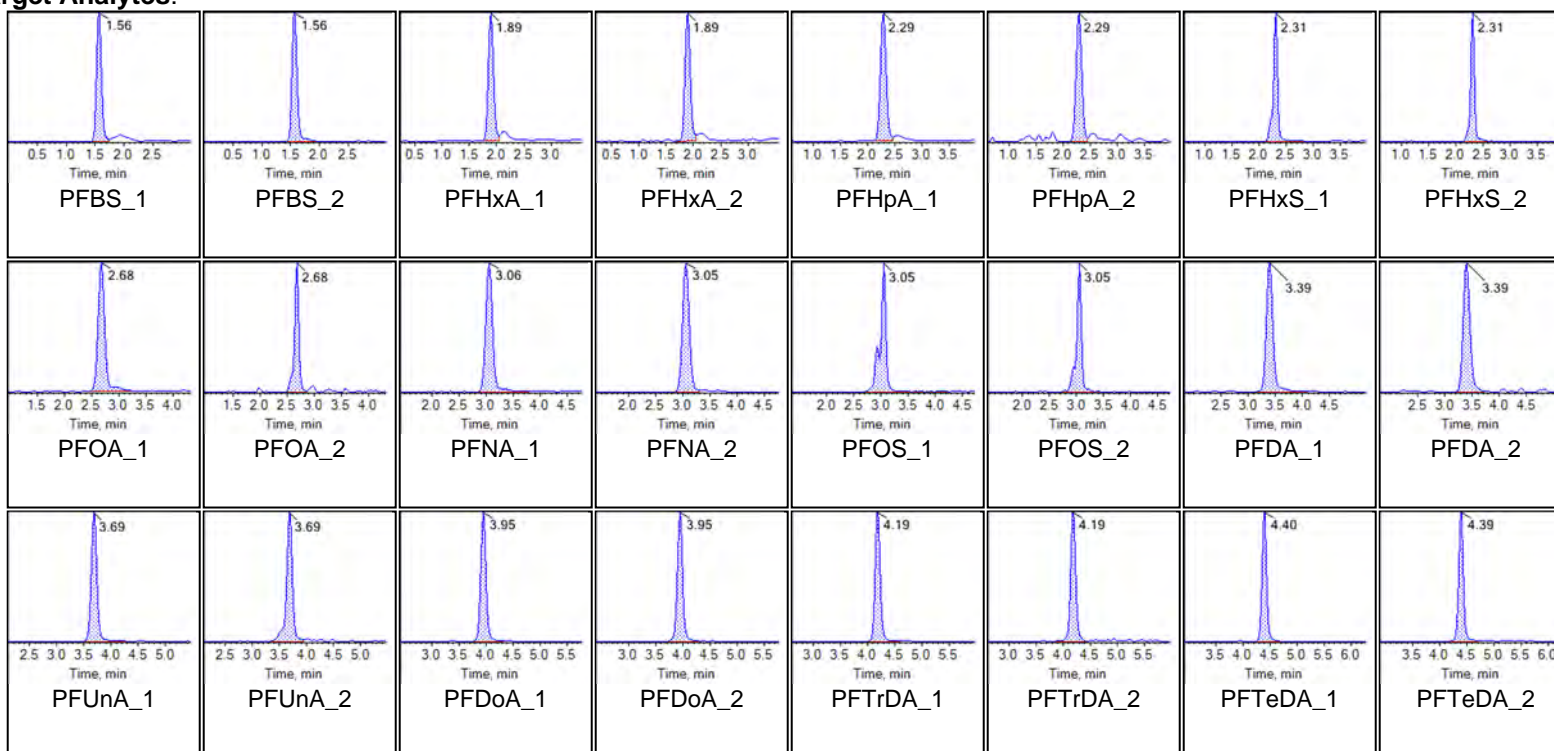
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	31
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:48:15 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511

## Chromatograms

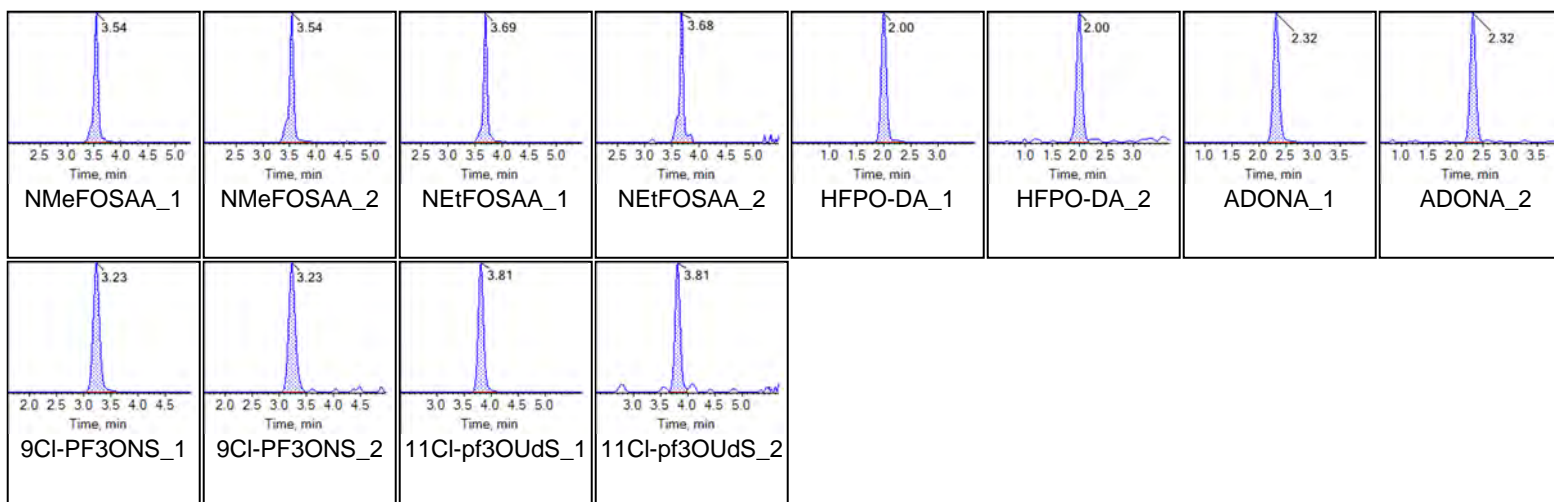
## Target Analytes:



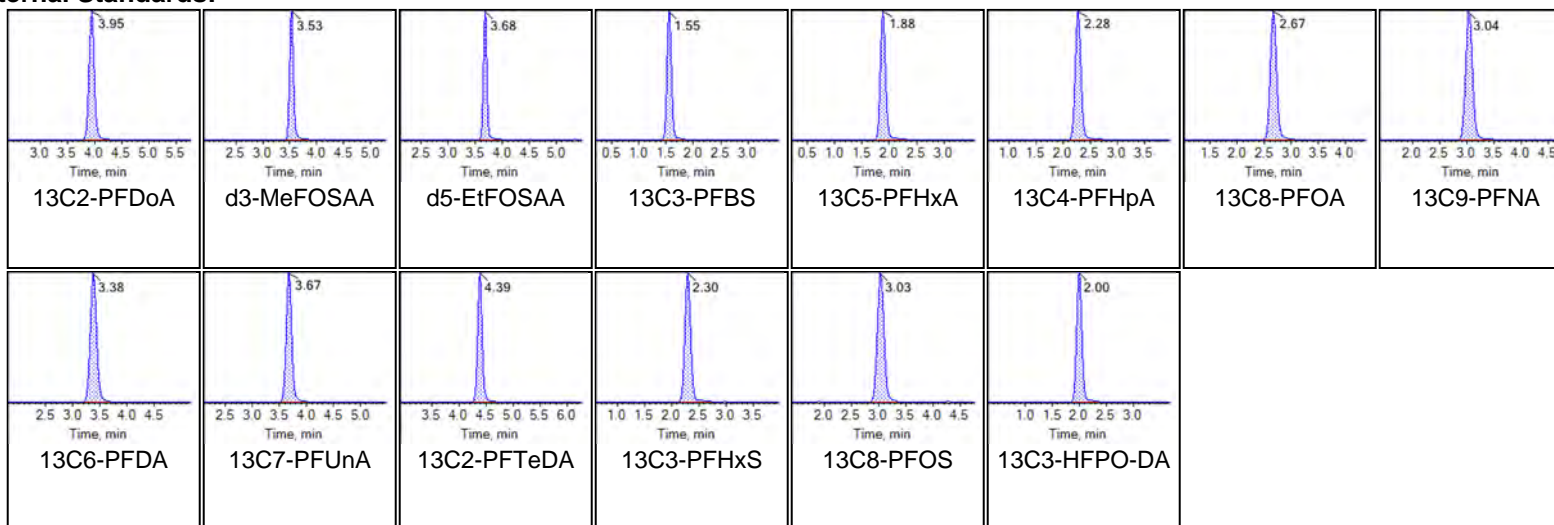




## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:18 PM

## Internal Standards:





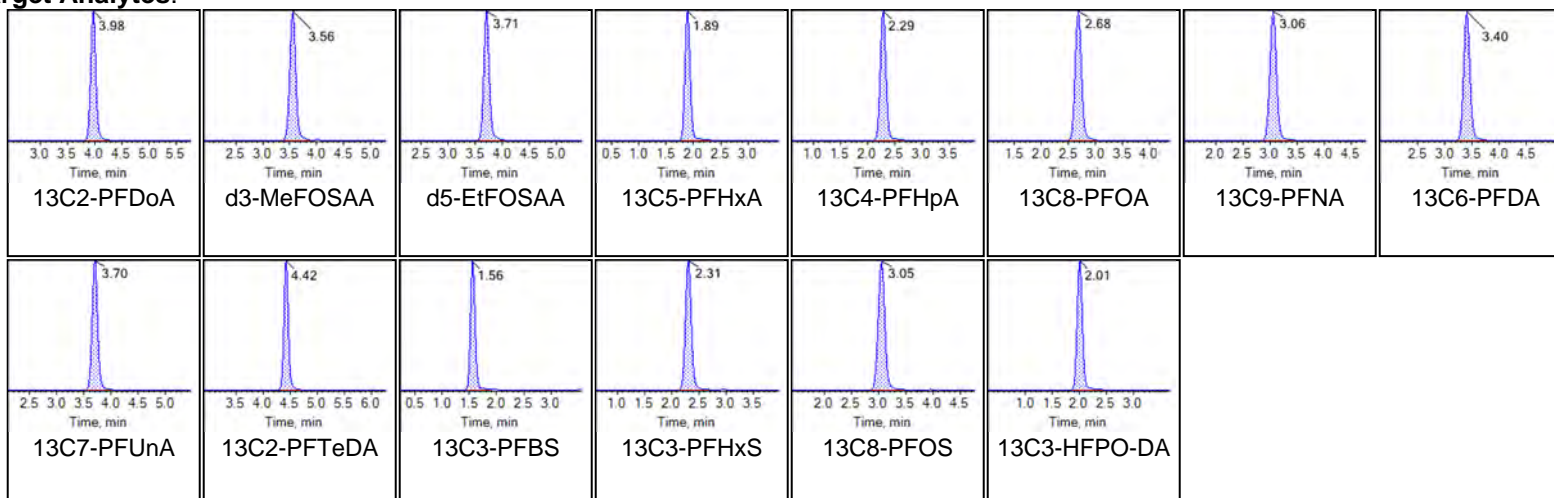
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

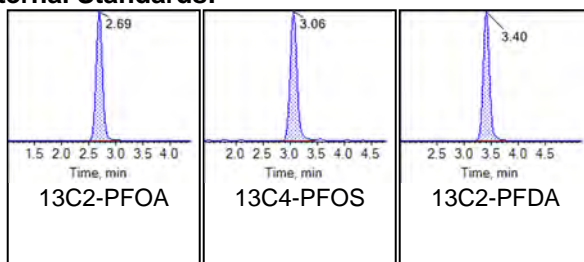
<b>Sample Name</b>	LE52	<b>Injection Vial</b>	2
<b>Sample ID</b>	L1	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 7:30:10 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





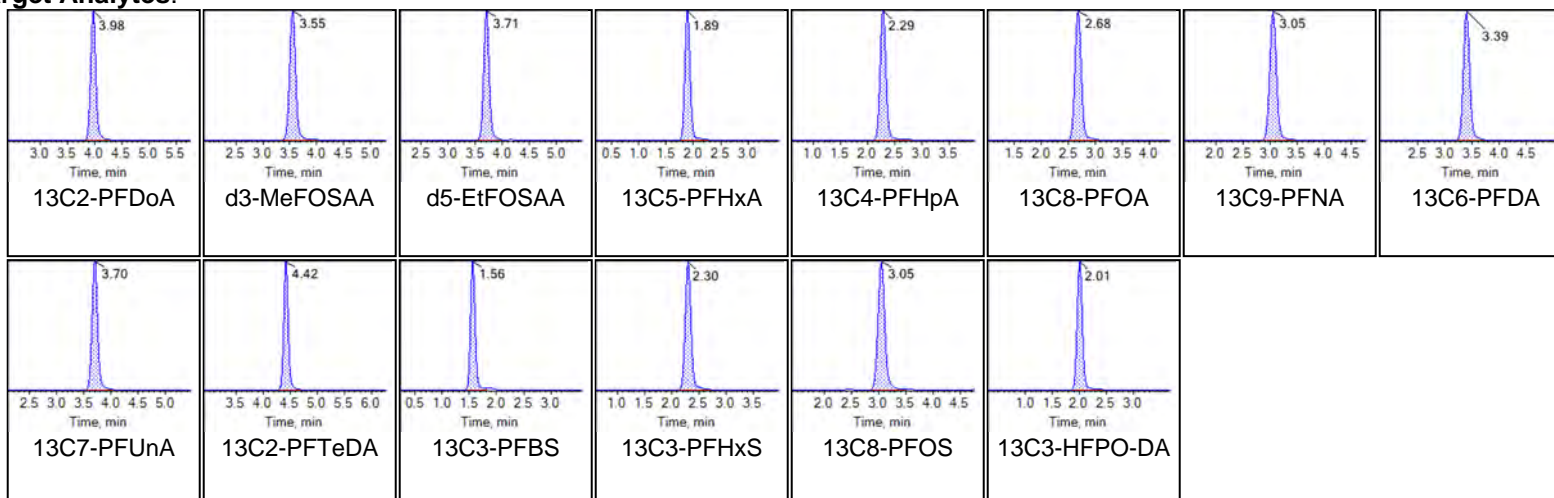
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

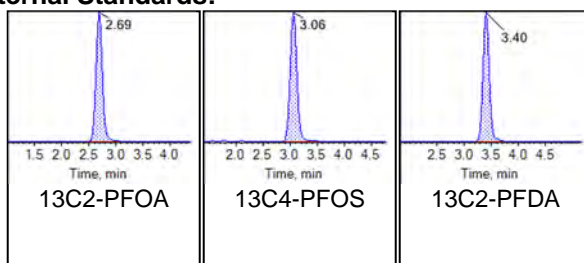
Sample Name	LE53	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:41:00 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





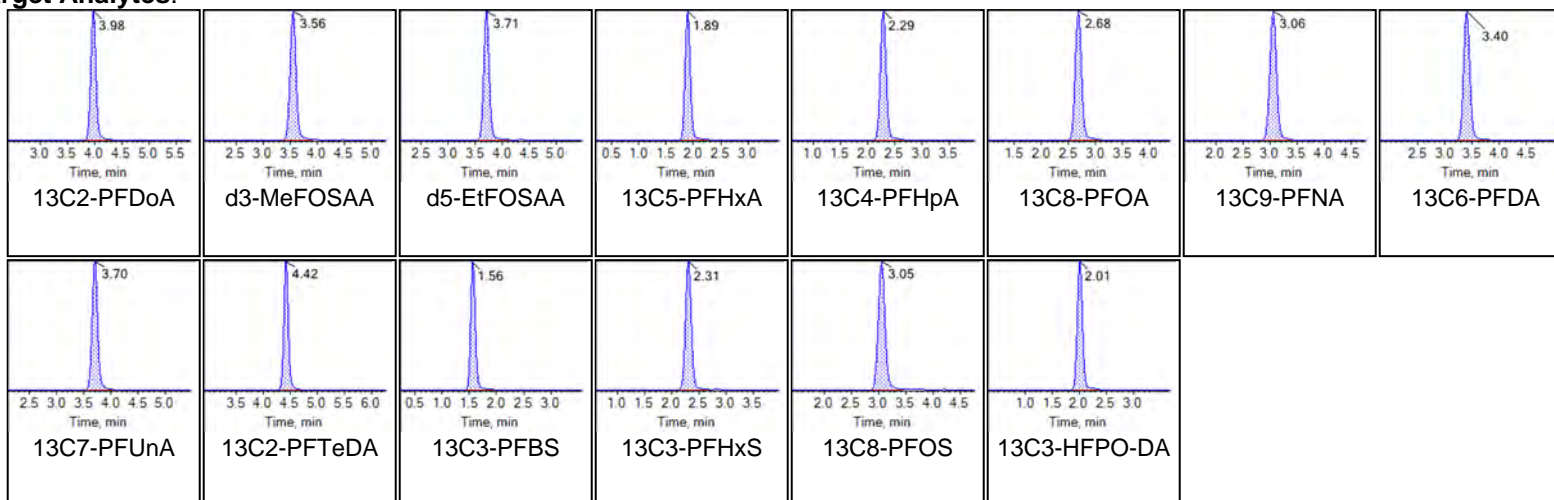
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

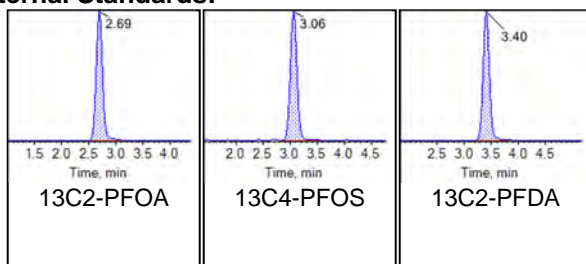
Sample Name	LE54	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 7:51:52 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





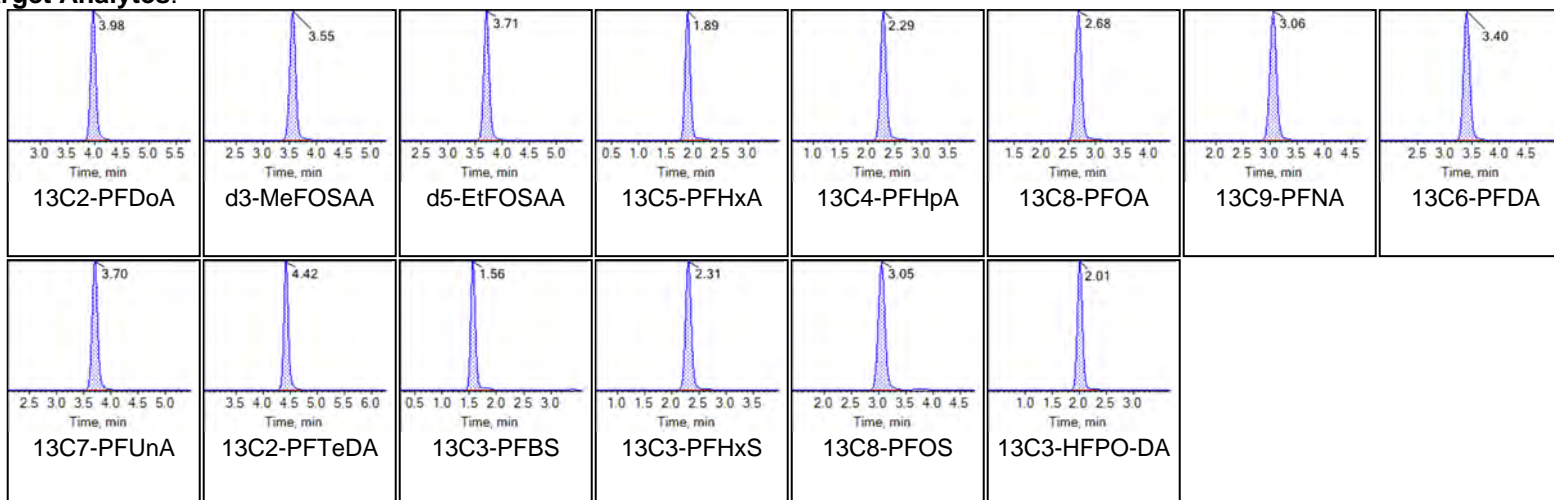
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

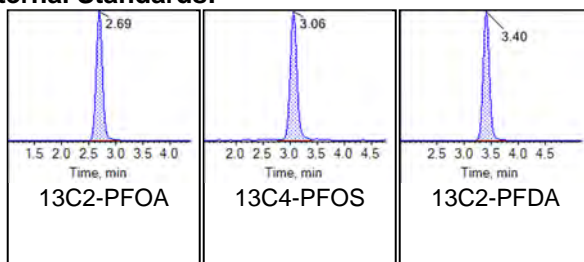
<b>Sample Name</b>	LE55	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:02:43 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





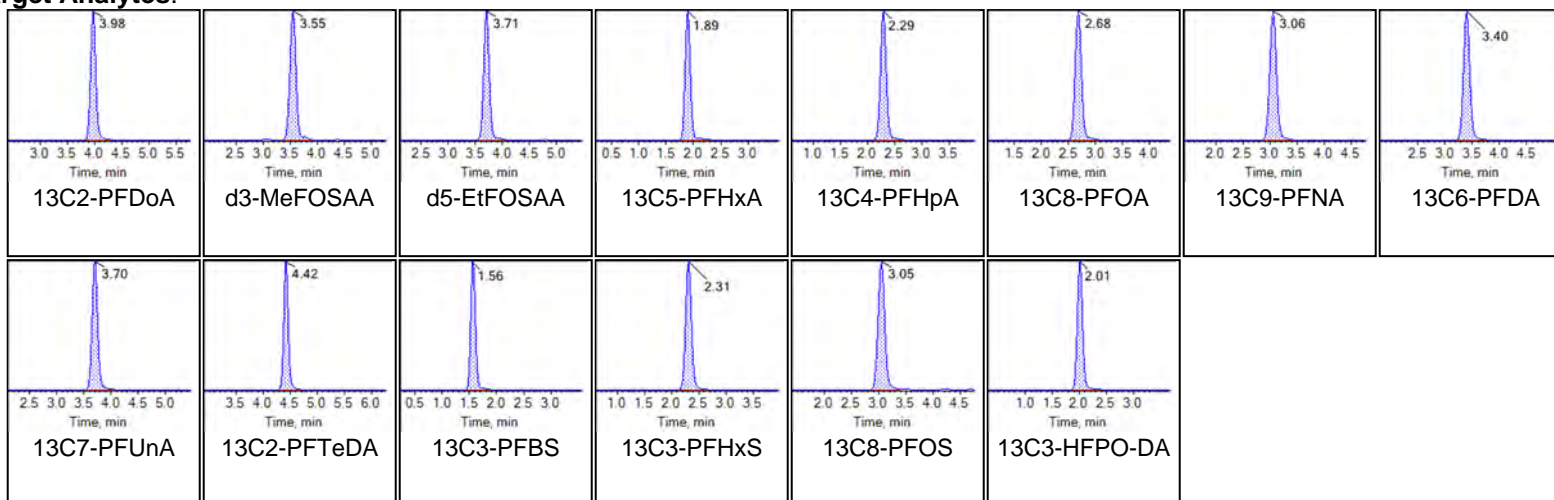
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

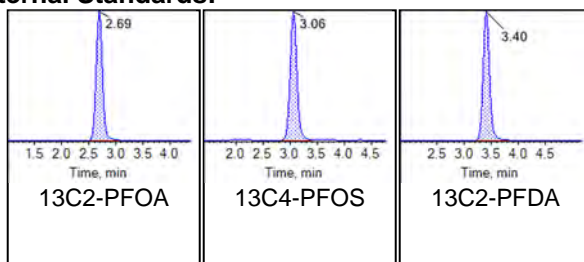
<b>Sample Name</b>	LE56	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:13:35 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





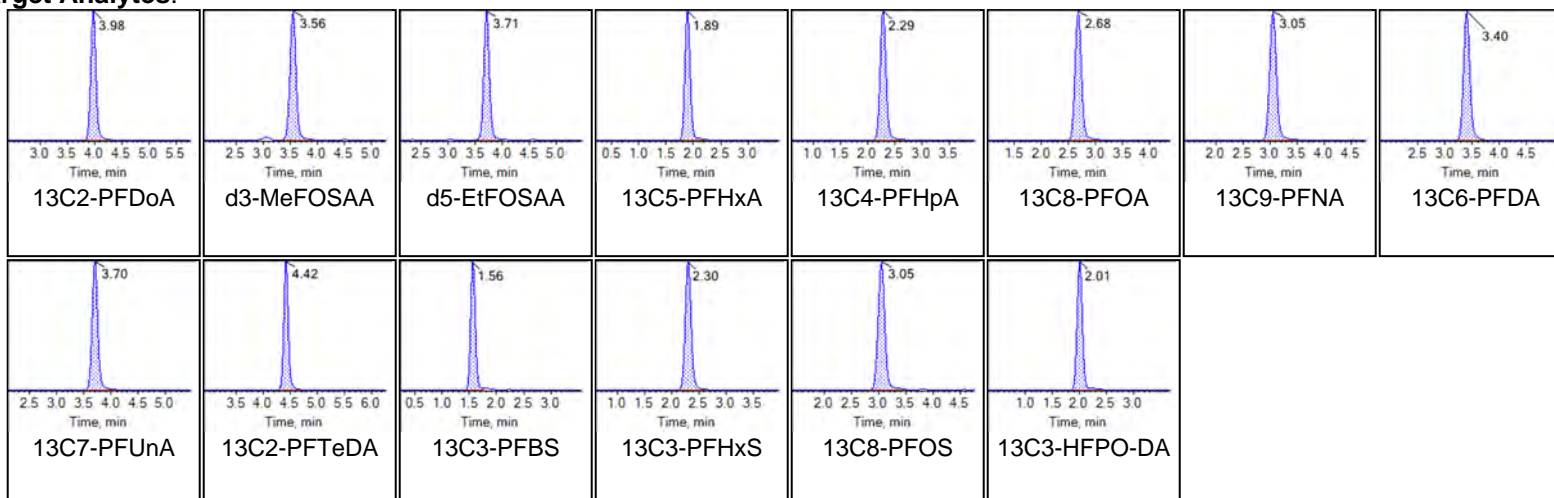
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

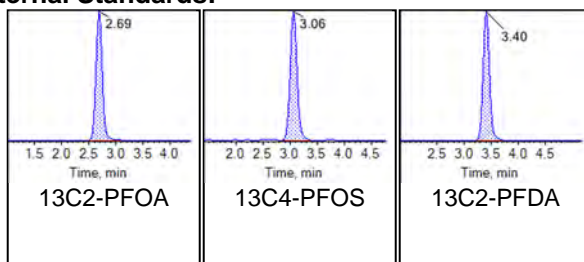
<b>Sample Name</b>	LE57	<b>Injection Vial</b>	7
<b>Sample ID</b>	L6	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/16/2020 8:24:27 PM	<b>Data File</b>	AC_11162020A_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





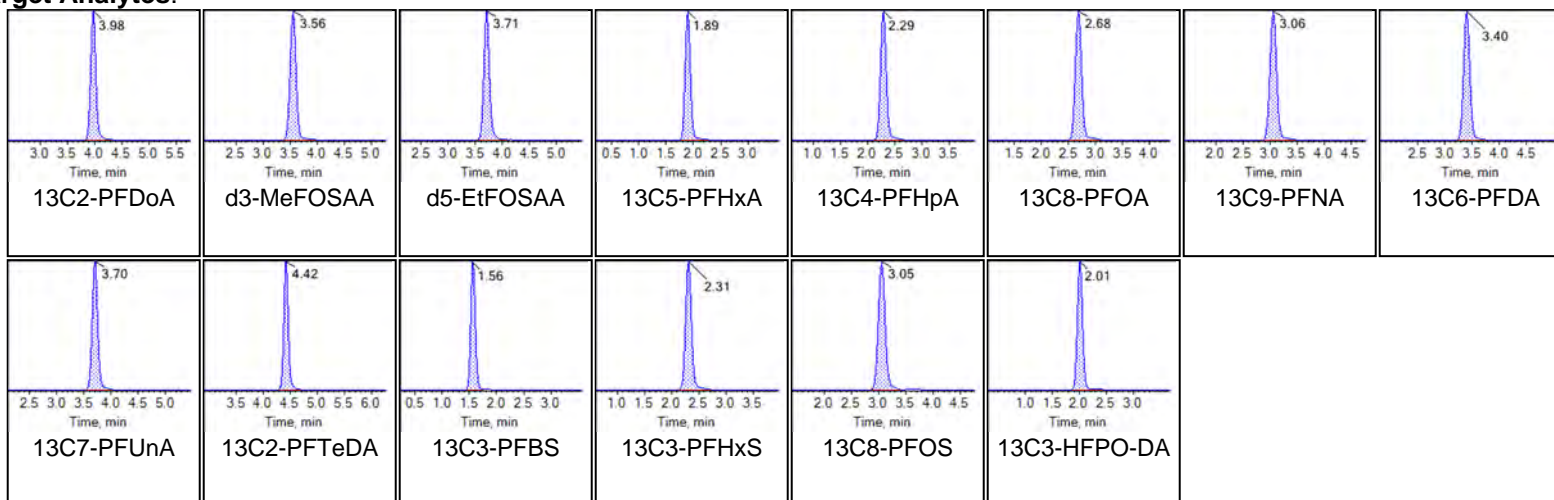
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

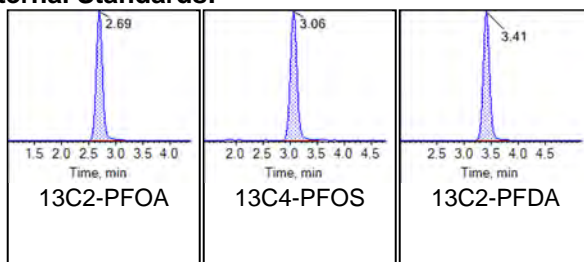
Sample Name	LE58 IB	Injection Vial	8
Sample ID	IB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:35:18 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:







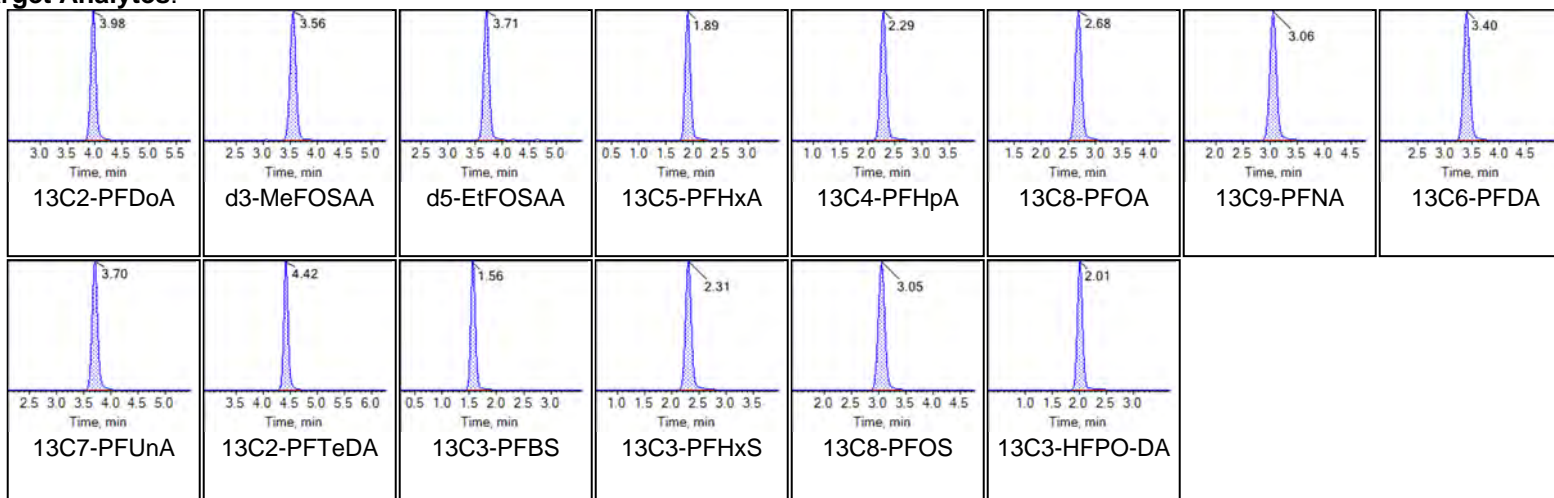
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

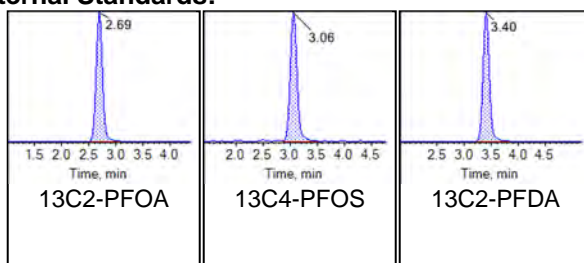
Sample Name	LE59 ICC	Injection Vial	9
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	11/16/2020 8:46:09 PM	Data File	AC_11162020A_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





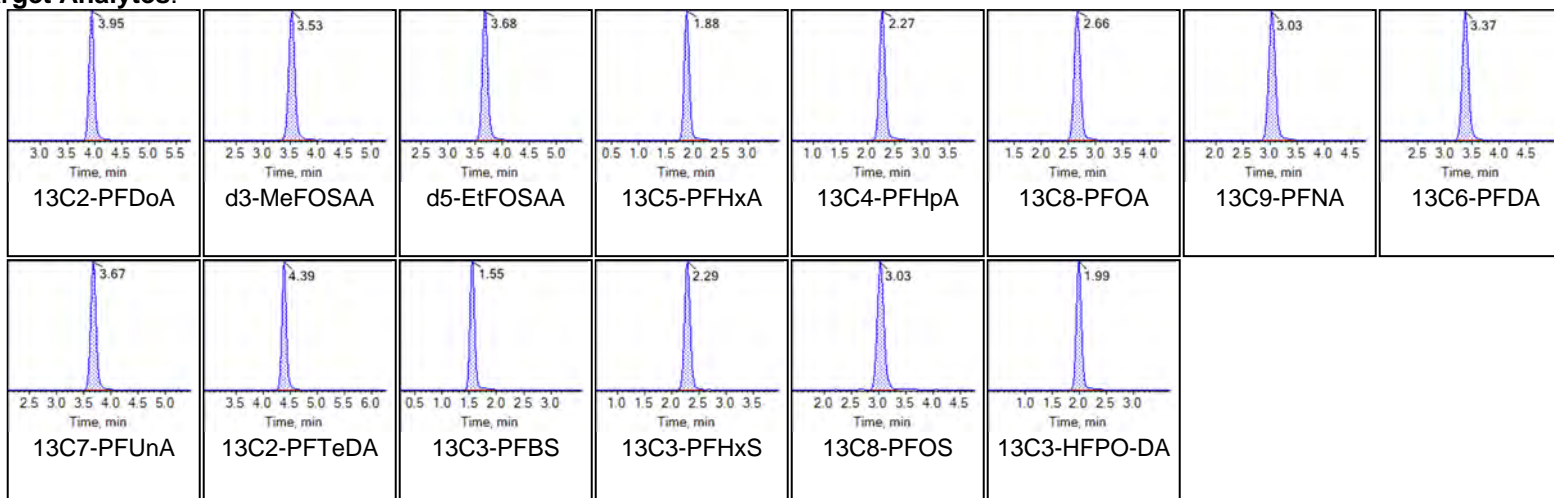
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

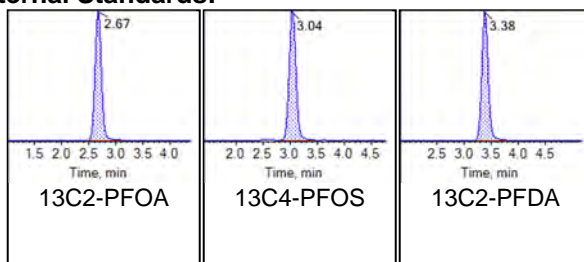
<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	2
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/18/2020 1:45:00 AM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





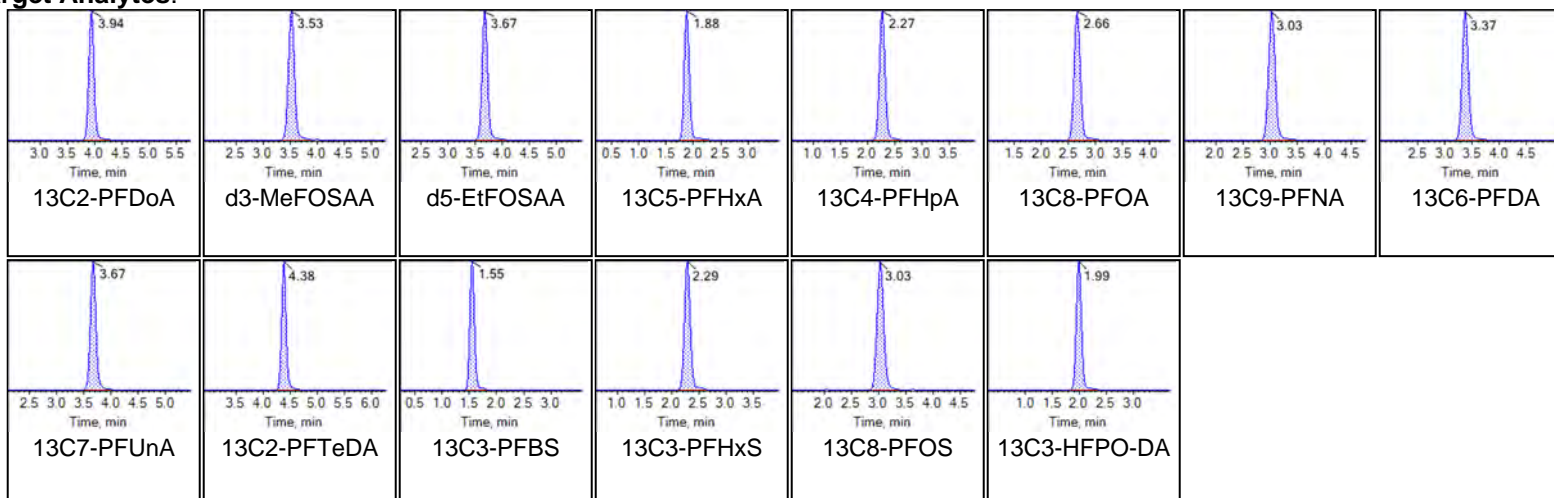
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

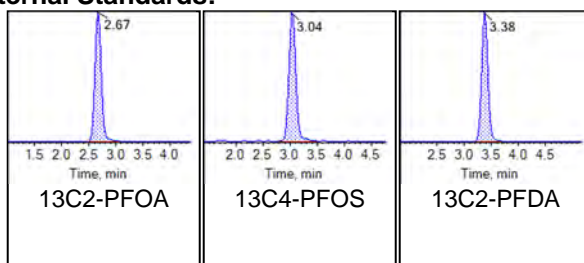
<b>Sample Name</b>	LE58 IB	<b>Injection Vial</b>	4
<b>Sample ID</b>	IB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/18/2020 2:06:41 AM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



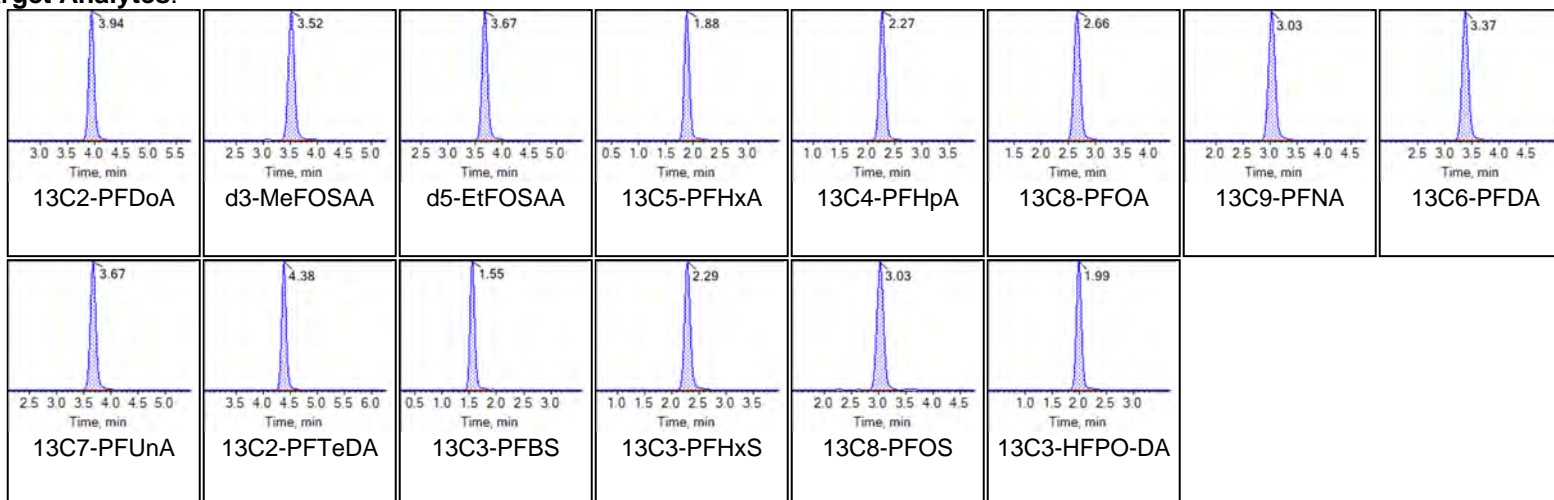
## Internal Standards:



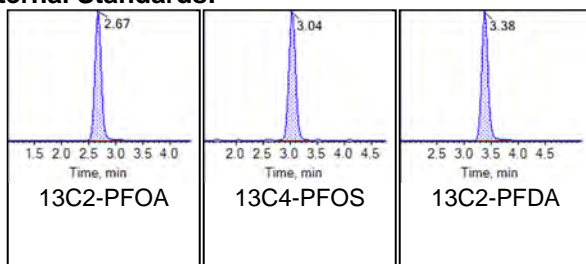
<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	45
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:09:34 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

### Target Analytes:



### Internal Standards:





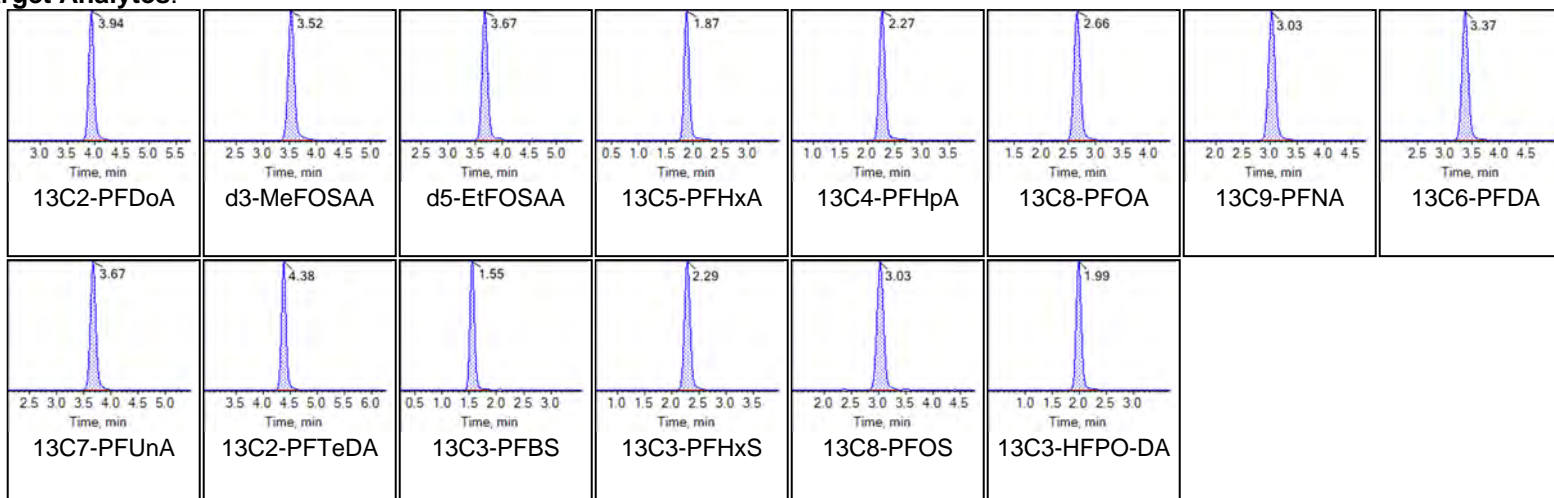
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

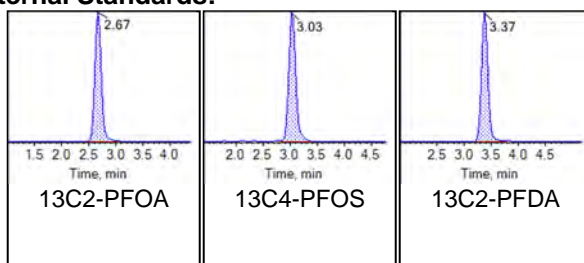
<b>Sample Name</b>	DB450PB-FS(0)	<b>Injection Vial</b>	24
<b>Sample ID</b>	Procedural Blank	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:31:29 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





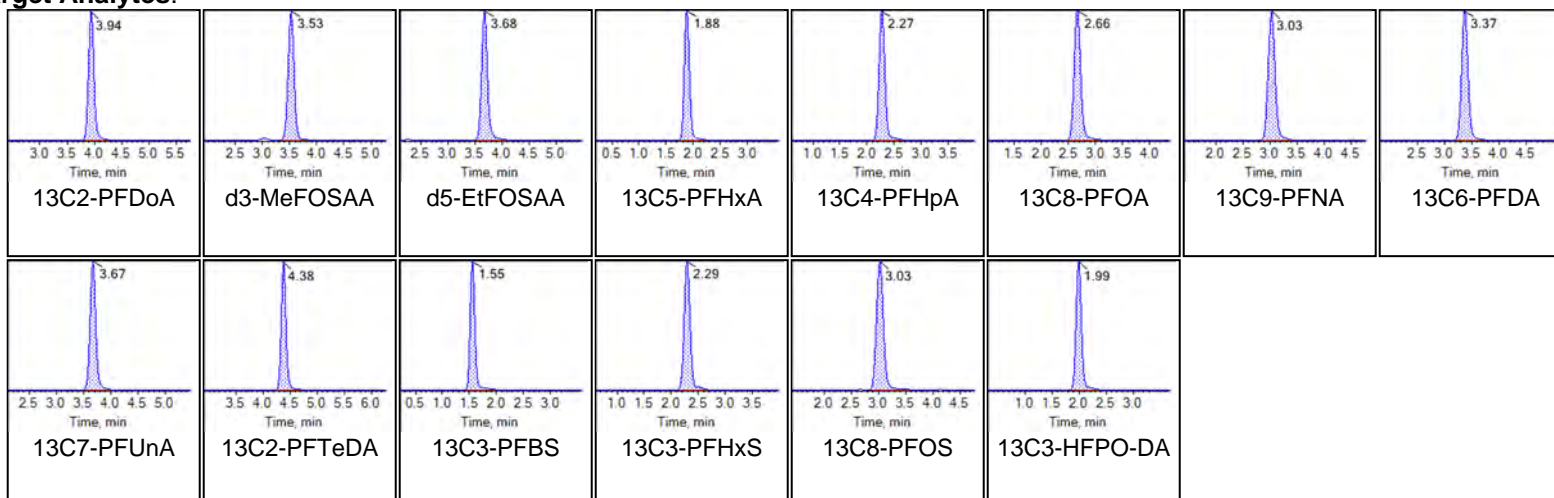
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

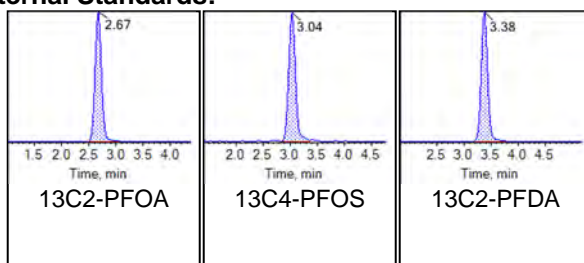
<b>Sample Name</b>	DB451LCS-FS(0)	<b>Injection Vial</b>	25
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:42:27 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





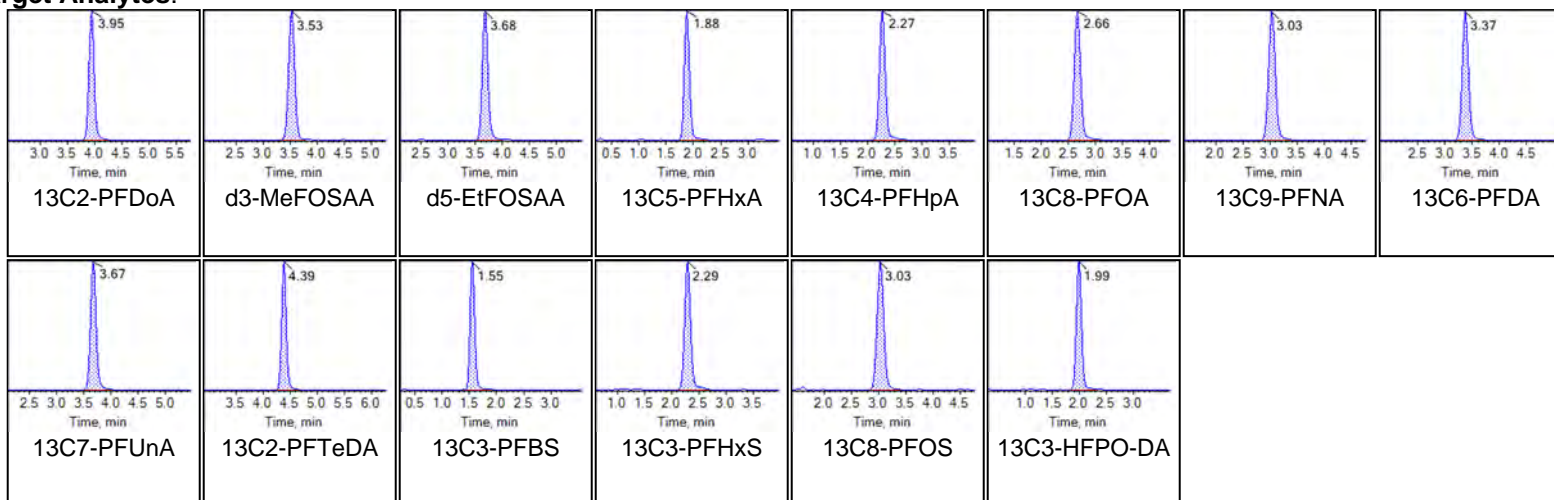
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

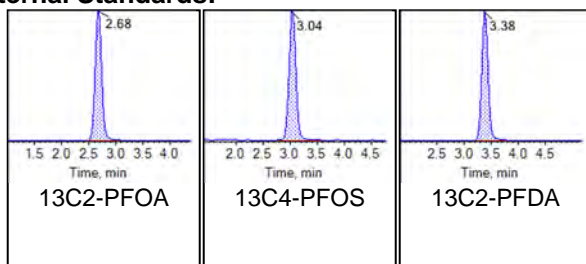
<b>Sample Name</b>	G1795-FS1(0)	<b>Injection Vial</b>	26
<b>Sample ID</b>	CBD-AOA-MW17-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 1:53:25 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



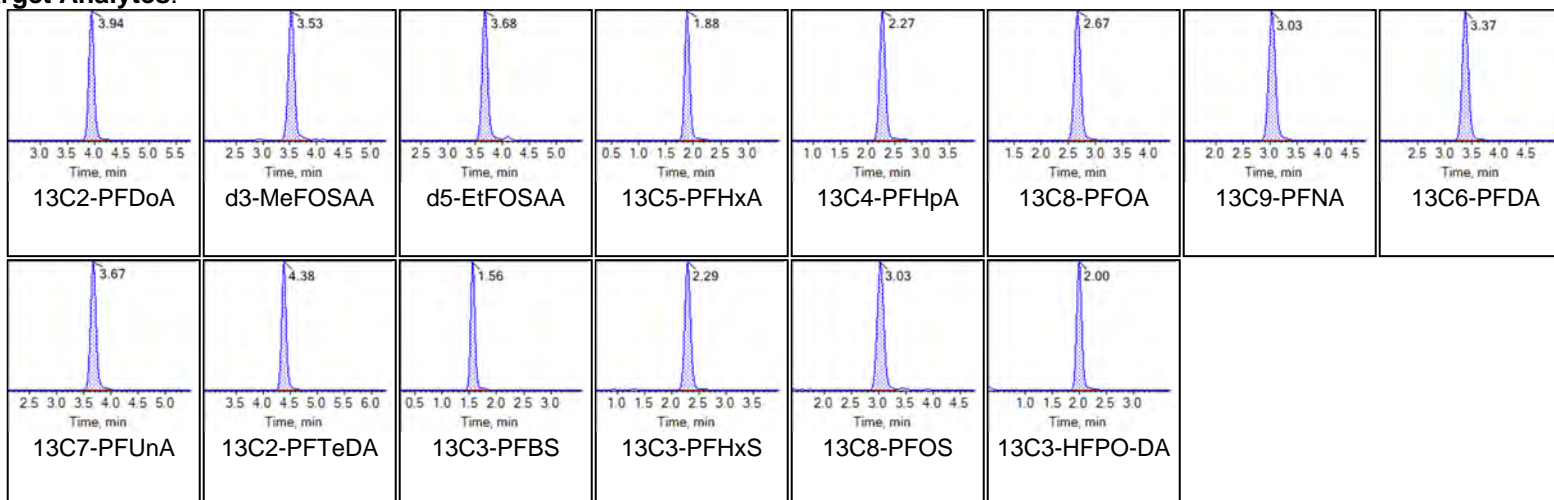
## Internal Standards:



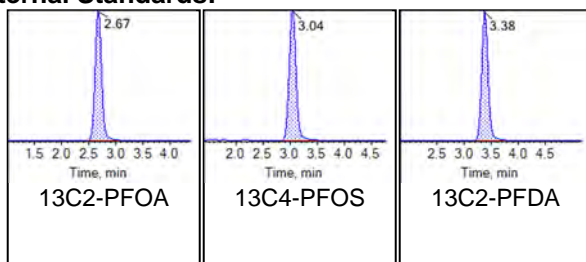
<b>Sample Name</b>	G1802-FS1(0)	<b>Injection Vial</b>	27
<b>Sample ID</b>	CBD-AOA-MW09-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:04:24 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

### Target Analytes:



### Internal Standards:







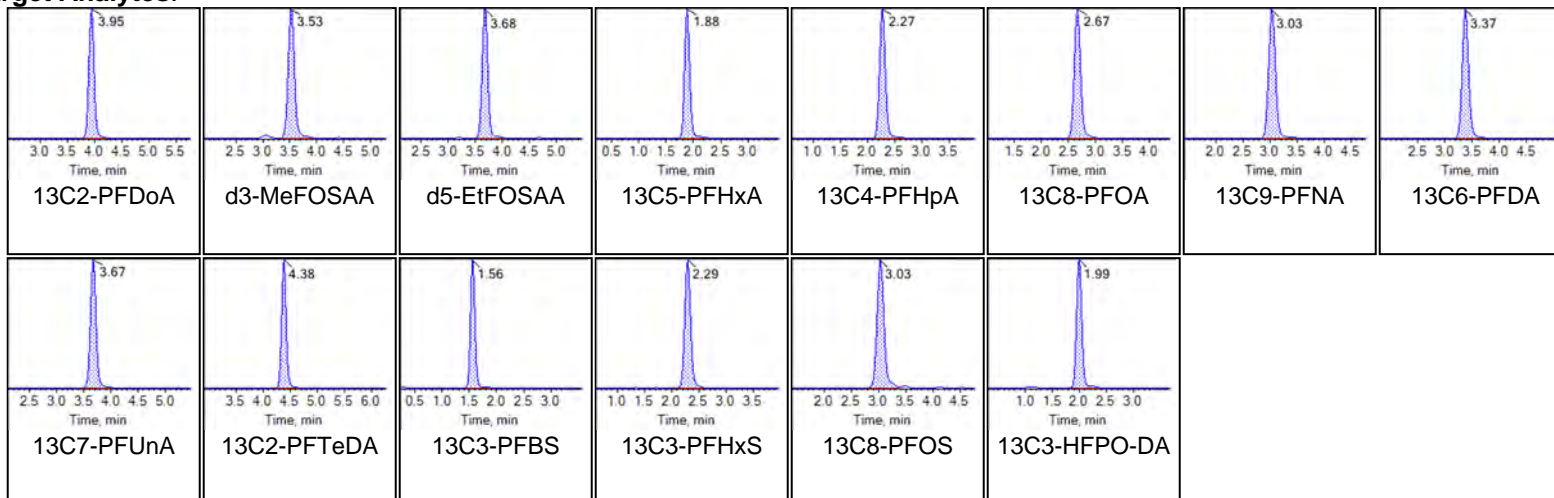
## Chromatogram Report

Created with Analyst Reporter  
Printed: 19/11/2020 5:38:10 PM

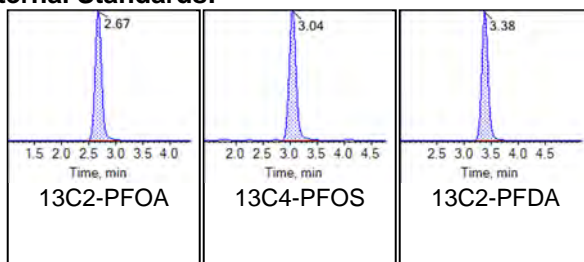
<b>Sample Name</b>	G1801-FS1(0)	<b>Injection Vial</b>	28
<b>Sample ID</b>	CBD-SO3-MW02-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:15:20 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





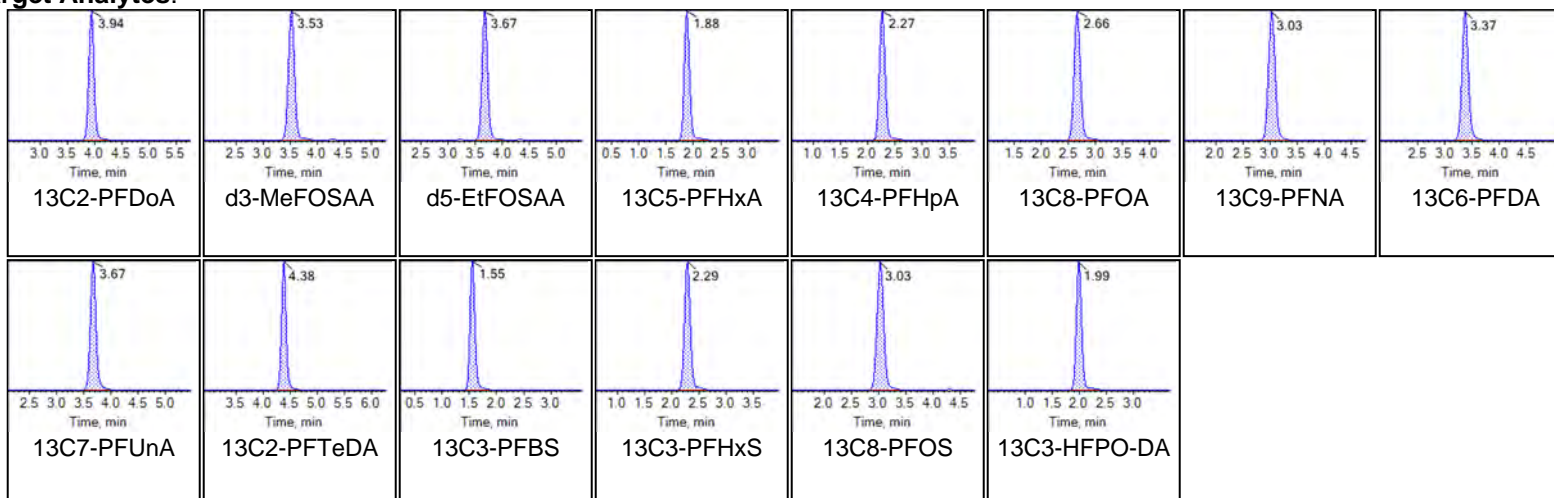
## Chromatogram Report

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Printed: 19/11/2020 5:38:10 PM

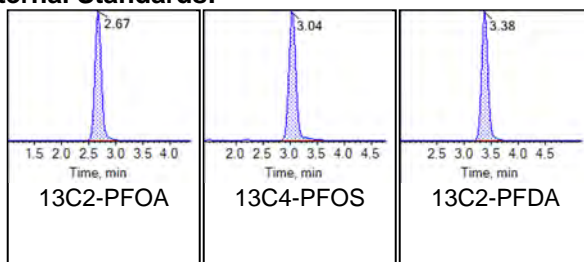
<b>Sample Name</b>	G1801-FS1-D(3)	<b>Injection Vial</b>	29
<b>Sample ID</b>	CBD-SO3-MW02-1020	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:26:18 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:





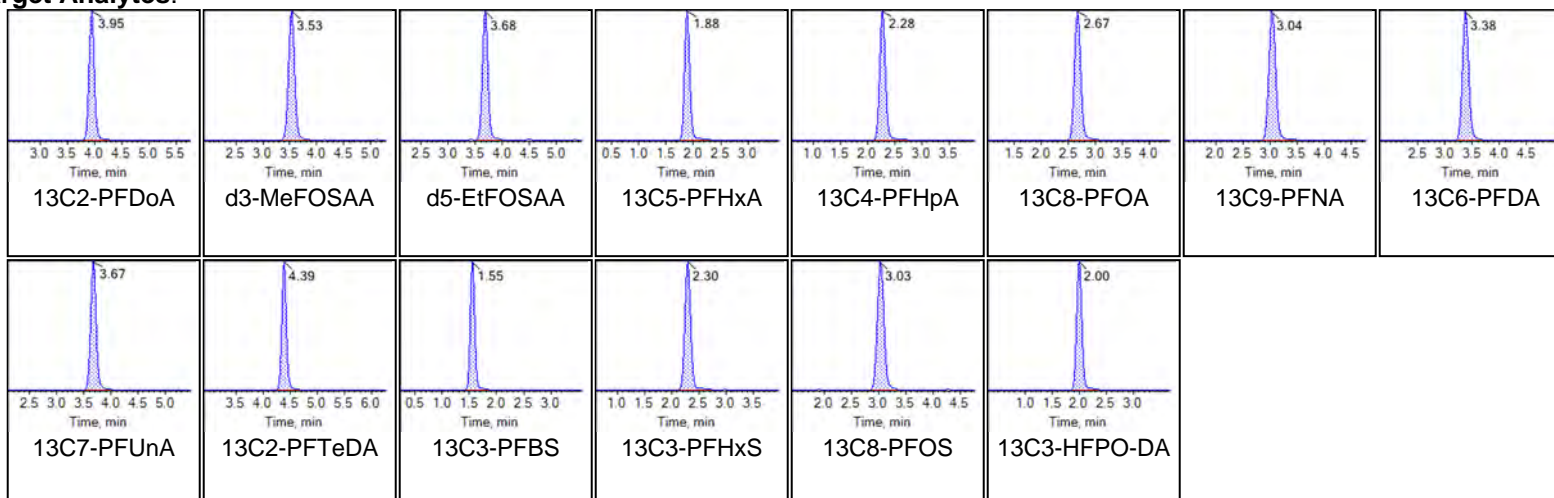
## Chromatogram Report

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Printed: 19/11/2020 5:38:10 PM

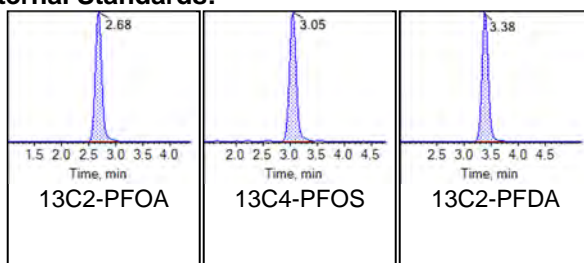
<b>Sample Name</b>	LE54 CCV	<b>Injection Vial</b>	31
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	11/19/2020 2:48:15 PM	<b>Data File</b>	AC_11172020_5-369.wiff
<b>Acquisition Method</b>	5-0369.dam	<b>Result Table</b>	20-1511_SIS

## Chromatograms

## Target Analytes:



## Internal Standards:



# Unused Data

Sample Name	G1801-FS1(0)	Injection Vial	28
Sample ID	CBD-SO3-MW02-1020	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	11/19/2020 4:49:50 PM	Data File	AC_11172020_5-369.wiff
Acquisition Method	5-0369.dam	Result Table	20-1511_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	3.94	312172.88	554.51	4654.9	False	13C2-PFDA	629688.95	1250.00				
d3-MeFOSAA	573.0 / 419.0	3.53	77076.29	726.48	1049.4	False	13C4-PFOS	113200.52	1195.00		N/A	N/A	✓
d5-EtFOSAA	589.0 / 419.0	3.68	91146.29	852.13	1814.9	False	13C4-PFOS	113200.52	1195.00		N/A	N/A	✓
13C5-PFHxA	318.0 / 273.0	1.88	436643.09	838.32	2742.9	False	13C2-PFOA	718269.81	1250.00		N/A	N/A	✓
13C4-PFHpA	367.0 / 322.0	2.27	532036.70	892.07	3944.2	False	13C2-PFOA	718269.81	1250.00		N/A	N/A	✓
13C8-PFOA	421.0 / 376.0	2.66	523489.75	889.06	2967.7	False	13C2-PFOA	718269.81	1250.00		N/A	N/A	✓
13C9-PFNA	472.0 / 427.0	3.03	485908.45	848.59	14780.3	False	13C2-PFOA	718269.81	1250.00		N/A	N/A	✓
13C6-PFDA	519.0 / 474.0	3.37	497519.12	932.82	4495.8	False	13C2-PFDA	629688.95	1250.00		N/A	N/A	✓
13C7-PFUnA	570.0 / 525.0	3.67	433166.15	780.23	4690.1	False	13C2-PFDA	629688.95	1250.00		N/A	N/A	✓
13C2-PFTeDA	715.0 / 670.0	4.38	138202.99	219.15	5895.4	False	13C2-PFDA	629688.95	1250.00		N/A	N/A	✓
13C3-PFBS	302.0 / 99.0	1.56	127126.03	1103.27	3036.4	False	13C4-PFOS	113200.52	1195.00		N/A	N/A	✓
13C3-PFHxS	402.0 / 99.0	2.29	117528.17	1070.44	1851.9	False	13C4-PFOS	113200.52	1195.00		N/A	N/A	✓
13C8-PFOS	507.0 / 99.0	3.03	96883.55	996.77	1229.1	False	13C4-PFOS	113200.52	1195.00		N/A	N/A	✓
13C3-HFPO-DA	287.0 / 169.0	1.99	292219.65	850.72	4189.8	False	13C2-PFOA	718269.81	1250.00		N/A	N/A	✓



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
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	1.5	1.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	1.5	1.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	0.5	0.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.25	0.25	NG L	J	J	J
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.5	0.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.5	0.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	2	2	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	0.17	0.17	NG L	J	J	J
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.4	0.4	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	0.5	0.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	1	1	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.5	0.5	NG L	U	U	U
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C5-PFHxA	BDO-2217	93	93	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C4-PFHpA	BDO-2218	99	99	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C8-PFOA	BDO-2219	87	87	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C9-PFNA	BDO-2221	92	92	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C6-PFDA	BDO-2222	103	103	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C7-PFUnA	BDO-2223	97	97	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C2-PFDoA	BDO-2112	91	91	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C2-PFTEdA	BDO-2224	94	94	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			d3-MeFOSAA	BDO-1838	96	96	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			d5-EtFOSAA	BDO-1839	103	103	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C3-PFBS	BDO-2226	107	107	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C3-PFHxS	BDO-2227	96	96	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C8-PFOS	BDO-2228	113	113	PCT_REC			
		20201118	11:20:00	20201119	13:31:29	DB450PB-FS	1	1			13C3-HFPO-DA	BDO-2276	92	92	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorohexanoic Acid (PFHxA)	307-24-4	80	80	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluoroheptanoic acid (PFHpA)	375-85-9	78	78	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorooctanoic acid (PFOA)	335-67-1	92	92	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorononanoic acid (PFNA)	375-95-1	96	96	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorodecanoic Acid (PFDA)	335-76-2	89	89	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	77	77	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorododecanoic Acid (PFDoA)	307-55-1	86	86	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	100	100	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	90	90	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	72	72	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			N-Ethyl Perfluorooctanesulfonamidoacetic Acid (EtFOSAA)	2991-50-6	93	93	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5	82	82	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorohexanesulfonic acid (PFHxS)	355-46-4	99	99	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1	80	80	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	13252-13-6	81	81	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	100	100	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	91	91	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	104	104	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C5-PFHxA	BDO-2217	99	99	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C4-PFHpA	BDO-2218	103	103	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C8-PFOA	BDO-2219	88	88	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C9-PFNA	BDO-2221	84	84	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C6-PFDA	BDO-2222	94	94	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C7-PFUnA	BDO-2223	94	94	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C2-PFDoA	BDO-2112	94	94	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C2-PFTEdA	BDO-2224	95	95	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			d3-MeFOSAA	BDO-1838	114	114	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			d5-EtFOSAA	BDO-1839	84	84	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C3-PFBS	BDO-2226	98	98	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C3-PFHxS	BDO-2227	88	88	PCT_REC			
		20201118	11:20:00	20201119	13:42:27	DB451LCS-FS	1	1			13C8-PFOS	BDO-2228	104	104	PCT_REC			
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			13C3-HFPO-DA	BDO-2276	98	98	PCT_REC			
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorohexanoic Acid (PFHxA)	307-24-4	9.16	9.16	NG L	T	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluoroheptanoic acid (PFHpA)	375-85-9	3.1	3.1	NG L	JT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorooctanoic acid (PFOA)	335-67-1	4.4	4.4	NG L	JT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorononanoic acid (PFNA)	375-95-1	2.3	2.3	NG L	JT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorodecanoic Acid (PFDA)	335-76-2	0.53	0.53	NG L	UT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluoroundecanoic Acid (PFUnA)	2058-94-8	0.53	0.48	NG L	JT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorododecanoic Acid (PFDoA)	307-55-1	0.53	0.53	NG L	UT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorotridecanoic Acid (PFTeDA)	72629-94-8	0.53	0.53	NG L	UT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			Perfluorotetradecanoic Acid (PFTeDA)	376-06-7	2.13	2.13	NG L	UT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:25	G1795-FS1	1	2			N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	2355-31-9	1.06	1.06	NG L	UT	Exclude	Exclude
		20201118	11:20:00	20201119	13:53:2													











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

Client: CH2M HILL, Inc., Herndon, Virginia  
 SDG: 20-1511  
 Laboratory: Battelle Norwell Operations, Norwell, Massachusetts  
 Site: Naval Research Laboratory (NRL), Chesapeake Beach, Maryland  
 Date: January 11, 2021

PFAS			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CBD-AOA-MW17-1020	G1795-FS1	Water
2	CBD-SO3-MW02-1020	G1801-FS1	Water
3	CBD-AOA-MW09-1020	G1802-FS1	Water

A Stage 2B/4 data validation was performed on the analytical data for three water samples 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 serious deficiencies of data. 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.

- Several compounds were qualified (X) in two samples due to grossly exceeded holding times.

The remaining 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**

- EDS Samples 1 and 2 were extracted outside of the 14-day holding time at 29 days. The results were qualified (J/X) since they were analyzed at 29 days and grossly exceeded holding times.
- EDS Sample 3 was extracted outside of the 14-day holding time at 28 days. The results were qualified as estimated (J/UJ).

### 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 exhibited the following contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
DB450PB-FS	PFUnA	0.252	U	1, 2, 3
	PFBS	0.173	None	Associated Samples >10X

### Field QC Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
CBD-AOA-EB01-102020-GW	PFUnA	0.266	None	Associated Samples ND
CBD-AOA-EB01-102120-GW	PFUnA	0.284	None	Associated Samples ND
CBD-AOA-FB05-102020	None - ND	-	-	-

### Surrogate Spike Recoveries

- Several samples exhibited surrogate percent recoveries outside of QC limits. However, the samples were previously qualified due to being re-extracted outside of holding times. See summary forms behind Form Is for specifics.

### 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.
- These samples were re-extracted outside of holding times from SDG 20-1329 to verify surrogate recovery deficiencies. Use the original analysis results in SDG 20-1329 for reporting purposes.

**Field Duplicate Sample Precision**

- Field duplicate samples were not collected.

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

Signed: Nancy Weaver Dated: 1/14/21  
Nancy Weaver  
Senior Chemist

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-MW17-1020

Battelle ID: G1795-FS1  
 Sample Type: SA  
 Collection Date: 10/20/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS  
 % Moisture: NA  
 Matrix: GW  
 Sample Size: 0.235  
 Size Unit-Basis: L

*Use original results in 20-1329*

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	9.16 JT	G1795-FS1(0)	1.000	11/19/2020	0.561	1.60	5.32
PFHpA	<del>375-85-9</del>	<del>3.10 JT</del>	G1795-FS1(0)	1.000	11/19/2020	<del>0.280</del>	<del>1.06</del>	<del>5.32</del>
PFOA	335-67-1	4.40 JT	G1795-FS1(0)	1.000	11/19/2020	0.544	1.60	5.32
PFNA	<del>375-95-1</del>	<del>2.30 JT</del>	G1795-FS1(0)	1.000	<del>11/19/2020</del>	<del>0.329</del>	<del>1.06</del>	<del>5.32</del>
PFDA	335-76-2	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.151	0.532	5.32
PFUnA	<del>2058-94-8</del>	<del>0.484 JT</del>	G1795-FS1(0)	1.000	<del>11/19/2020</del>	<del>0.248</del>	<del>0.532</del>	<del>5.32</del>
PFDoA	307-55-1	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.204	0.532	5.32
PFTtDA	<del>72629-94-8</del>	<del>0.532 UT</del>	G1795-FS1(0)	1.000	11/19/2020	<del>0.164</del>	<del>0.532</del>	<del>5.32</del>
PFTeDA	376-06-7	2.13 UT	G1795-FS1(0)	1.000	11/19/2020	0.780	2.13	5.32
NMeFOSAA	<del>2355-31-9</del>	<del>1.06 UT</del>	G1795-FS1(0)	1.000	<del>11/19/2020</del>	<del>0.372</del>	<del>1.06</del>	<del>5.32</del>
NEtFOSAA	2991-50-6	1.06 UT	G1795-FS1(0)	1.000	11/19/2020	0.532	1.06	5.32
PFBS	<del>375-73-5</del>	<del>1.79 JT</del>	G1795-FS1(0)	1.000	11/19/2020	<del>0.153</del>	<del>0.532</del>	<del>5.32</del>
PFHxS	355-46-4	38.1 JT	G1795-FS1(0)	1.000	11/19/2020	0.119	0.426	5.32
PFOS	<del>1763-23-1</del>	<del>10.1 JT</del>	G1795-FS1(0)	1.000	11/19/2020	<del>0.465</del>	<del>1.06</del>	<del>5.32</del>
HFPO-DA	13252-13-6	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.264	0.532	5.32
Adona	<del>919005-14-4</del>	<del>1.06 UT</del>	G1795-FS1(0)	1.000	<del>11/19/2020</del>	<del>0.282</del>	<del>1.06</del>	<del>5.32</del>
9CI-PF3ONS	756426-58-1	0.532 UT	G1795-FS1(0)	1.000	11/19/2020	0.285	0.532	5.32
11CI-PF3OUds	<del>763051-92-9</del>	<del>1.06 UT</del>	G1795-FS1(0)	1.000	11/19/2020	<del>0.246</del>	<del>1.06</del>	<del>5.32</del>

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*Nov 11/11/21*



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-FS1  
 Sample Type: SA  
 Collection Date: 10/20/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS

*use original*

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	83	G1795-FS1(0)	11/19/2020
13C4-PFHpA	85	G1795-FS1(0)	11/19/2020
13C8-PFOA	91	G1795-FS1(0)	11/19/2020
13C9-PFNA	90	G1795-FS1(0)	11/19/2020
13C6-PFDA	93	G1795-FS1(0)	11/19/2020
13C7-PFUnA	72	G1795-FS1(0)	11/19/2020
13C2-PFDoA	52	G1795-FS1(0)	11/19/2020
13C2-PFteDA	28	G1795-FS1(0)	11/19/2020
d3-MeFOSAA	71	G1795-FS1(0)	11/19/2020
d5-EtFOSAA	75	G1795-FS1(0)	11/19/2020
13C3-PFBS	94	G1795-FS1(0)	11/19/2020
13C3-PFHtS	86	G1795-FS1(0)	11/19/2020
13C8-PFOS	90	G1795-FS1(0)	11/19/2020
13C3-HFPO-DA	76	G1795-FS1(0)	11/19/2020

*MW 11/21*



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-FS1  
 Sample Type: SA  
 Collection Date: 10/20/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS  
 % Moisture: NA  
 Matrix: GW  
 Sample Size: 0.260  
 Size Unit-Basis: L

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Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	85.3	G1801-FS1(0)	1.000	11/19/2020	0.507	1.44	4.81
PFHpA	375-85-9	46.6	G1801-FS1(0)	1.000	11/19/2020	0.253	0.962	4.81
PFOA	335-67-1	102	G1801-FS1(0)	1.000	11/19/2020	0.491	1.44	4.81
PFNA	375-95-1	70.1	G1801-FS1(0)	1.000	11/19/2020	0.297	0.962	4.81
PFDA	335-76-2	0.481	G1801-FS1(0)	1.000	11/19/2020	0.137	0.481	4.81
PFUnA	2058-94-8	0.500	G1801-FS1(0)	1.000	11/19/2020	0.211	0.481	4.81
PFDoA	307-55-1	0.481	G1801-FS1(0)	1.000	11/19/2020	0.185	0.481	4.81
PFTrDA	72629-94-8	0.481	G1801-FS1(0)	1.000	11/19/2020	0.148	0.481	4.81
PFTeDA	376-06-7	1.92	G1801-FS1(0)	1.000	11/19/2020	0.705	1.92	4.81
NMeFOSAA	2355-31-9	0.962	G1801-FS1(0)	1.000	11/19/2020	0.337	0.962	4.81
NEtFOSAA	2991-50-6	0.962	G1801-FS1(0)	1.000	11/19/2020	0.481	0.962	4.81
PFBS	375-73-5	10.4	G1801-FS1(0)	1.000	11/19/2020	0.138	0.481	4.81
PFHxS	355-46-4	340	G1801-FS1-D(3)	12.500	11/19/2020	1.35	4.81	60.1
PFOS	1763-23-1	452	G1801-FS1-D(3)	12.500	11/19/2020	5.25	12.0	60.1
HFPO-DA	13252-13-6	0.481	G1801-FS1(0)	1.000	11/19/2020	0.238	0.481	4.81
Adona	919005-14-4	0.962	G1801-FS1(0)	1.000	11/19/2020	0.255	0.962	4.81
9CI-PF3ONS	756426-58-1	0.481	G1801-FS1(0)	1.000	11/19/2020	0.258	0.481	4.81
11CI-PF3OUdS	763051-92-9	0.962	G1801-FS1(0)	1.000	11/19/2020	0.222	0.962	4.81

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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-FS1  
 Sample Type: SA  
 Collection Date: 10/20/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	72	G1801-FS1(0)	11/19/2020
<b>13C4-PFHpA</b>	<b>75</b>	<b>G1801-FS1(0)</b>	<b>11/19/2020</b>
13C8-PFOA	74	G1801-FS1(0)	11/19/2020
<b>13C9-PFNA</b>	<b>67</b>	<b>G1801-FS1(0)</b>	<b>11/19/2020</b>
13C6-PFDA	70	G1801-FS1(0)	11/19/2020
<b>13C7-PFUnA</b>	<b>61</b>	<b>G1801-FS1(0)</b>	<b>11/19/2020</b>
13C2-PFDoA	43	G1801-FS1(0)	11/19/2020
<b>13C2-PFTeDA</b>	<b>17</b>	<b>G1801-FS1(0)</b>	<b>11/19/2020</b>
d3-MeFOSAA	99	G1801-FS1-D(3)	11/19/2020
d5-EtFOSAA	98	G1801-FS1-D(3)	11/19/2020
13C3-PFBS	100	G1801-FS1-D(3)	11/19/2020
<b>13C3-PFHhS</b>	<b>94</b>	<b>G1801-FS1-D(3)</b>	<b>11/19/2020</b>
13C8-PFOS	95	G1801-FS1-D(3)	11/19/2020
<b>13C3-HFPO-DA</b>	<b>70</b>	<b>G1801-FS1(0)</b>	<b>11/19/2020</b>

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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-FS1  
 Sample Type: SA  
 Collection Date: 10/21/2020  
 Extraction Date: 11/18/2020  
 Analytical Instrument: Sciex 5500 (AC) LC/MS/MS  
 % Moisture: NA  
 Matrix: GW  
 Sample Size: 0.275  
 Size Unit-Basis: L

3  
 Use original in 20-1329

Analyte	CAS No.	Result (ng/L)	Extract ID	DF	Analysis Date	DL	LOD	LOQ
PFHxA	307-24-4	10.5 T	G1802-FS1(0)	1.000	11/19/2020	0.479	1.36	4.55
PFHpA	375-85-9	2.68 JT	G1802-FS1(0)	1.000	11/19/2020	0.239	0.909	4.55
PFOA	335-67-1	8.08 T	G1802-FS1(0)	1.000	11/19/2020	0.465	1.36	4.55
PFNA	375-95-1	0.383 JT	G1802-FS1(0)	1.000	11/19/2020	0.281	0.909	4.55
PFDA	335-76-2	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.129	0.455	4.55
PFUnA	2058-94-8	0.294 JT	G1802-FS1(0)	1.000	11/19/2020	0.199	0.455	4.55
PFDoA	307-55-1	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.175	0.455	4.55
PFTrDA	72629-94-8	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.140	0.455	4.55
PFTeDA	376-06-7	1.82 UT	G1802-FS1(0)	1.000	11/19/2020	0.666	1.82	4.55
NMeFOSAA	2355-31-9	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.318	0.909	4.55
NEtFOSAA	2991-50-6	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.455	0.909	4.55
PFBS	375-73-5	1.85 JT	G1802-FS1(0)	1.000	11/19/2020	0.131	0.455	4.55
PFHxS	355-46-4	95.2 T	G1802-FS1(0)	1.000	11/19/2020	0.102	0.364	4.55
PFOS	1763-23-1	11.8 T	G1802-FS1(0)	1.000	11/19/2020	0.397	0.909	4.55
HFPO-DA	13252-13-6	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.225	0.455	4.55
Adona	919005-14-4	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.241	0.909	4.55
9Cl-PF3ONS	756426-58-1	0.455 UT	G1802-FS1(0)	1.000	11/19/2020	0.244	0.455	4.55
11Cl-PF3OUdS	763051-92-9	0.909 UT	G1802-FS1(0)	1.000	11/19/2020	0.210	0.909	4.55

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Analyzed by: Griffith, Lauren  
 Printed: 11/20/2020

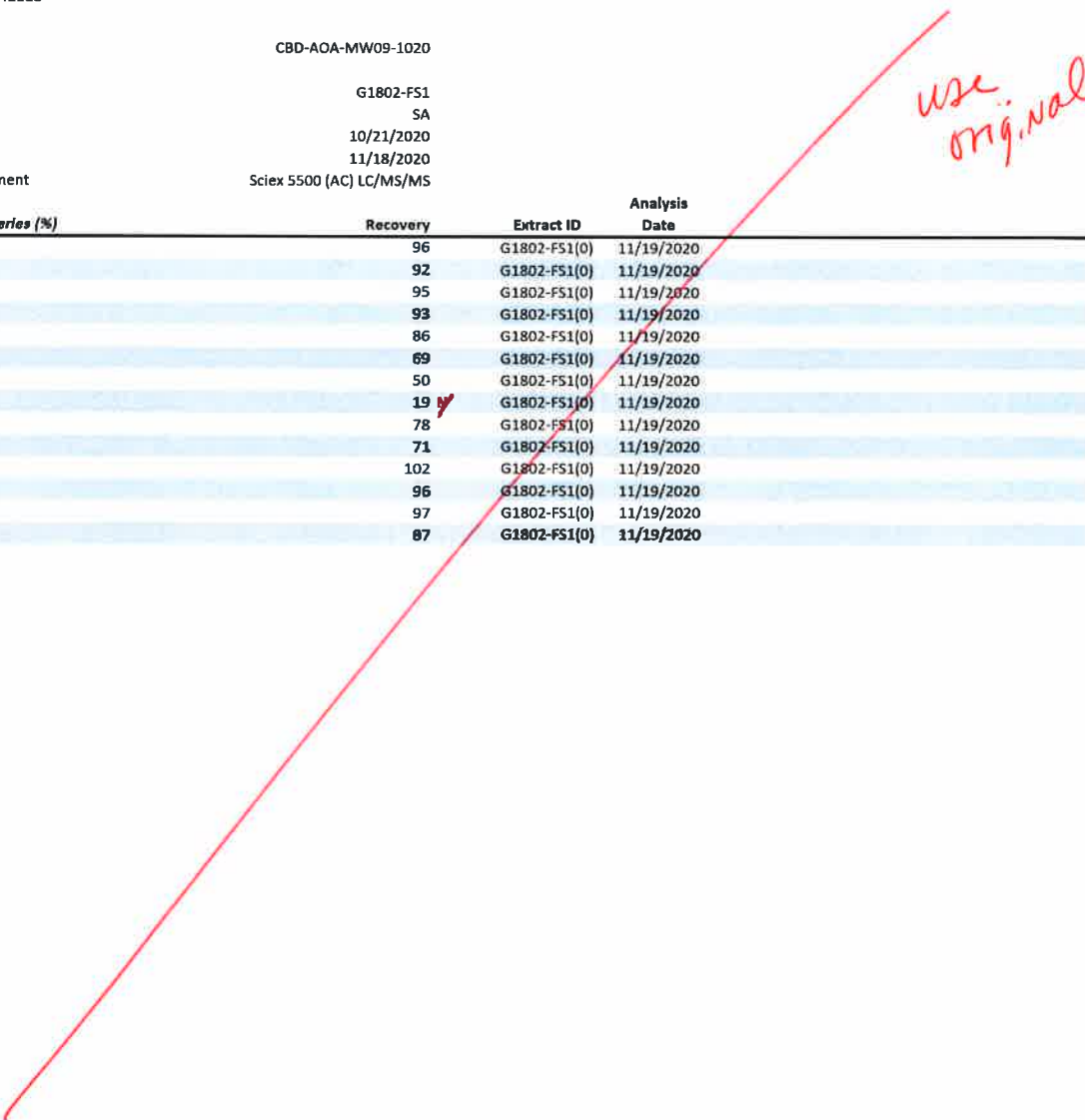


Project Client: CH2M  
 Project Name: CTO-4532: NRL Chesapeake Bay Detachment (NRL-CBD) Site 10  
 Project No.: 100142218

Client ID CBD-AOA-MW09-1020  
 Battelle ID G1802-FS1  
 Sample Type SA  
 Collection Date 10/21/2020  
 Extraction Date 11/18/2020  
 Analytical Instrument Sciex 5500 (AC) LC/MS/MS

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 use original

Surrogate Recoveries (%)	Recovery	Extract ID	Analysis Date
13C5-PFHxA	96	G1802-FS1(0)	11/19/2020
<b>13C4-PFHpA</b>	<b>92</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>
13C8-PFOA	95	G1802-FS1(0)	11/19/2020
<b>13C9-PFNA</b>	<b>93</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>
13C6-PFDA	86	G1802-FS1(0)	11/19/2020
<b>13C7-PFUa</b>	<b>69</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>
13C2-PFDoA	50	G1802-FS1(0)	11/19/2020
<b>13C2-PFTeDA</b>	<b>19</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>
d3-MeFOSAA	78	G1802-FS1(0)	11/19/2020
d5-EtFOSAA	71	G1802-FS1(0)	11/19/2020
13C3-PFBS	102	G1802-FS1(0)	11/19/2020
<b>13C3-PFHxS</b>	<b>96</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>
13C8-PFOS	97	G1802-FS1(0)	11/19/2020
<b>13C3-MFPO-DA</b>	<b>87</b>	<b>G1802-FS1(0)</b>	<b>11/19/2020</b>



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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
CBD-AOA-MW09	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1511	1446109.48	361231.95	Perfluoroalkyl Compounds	CBD-AOA-MW09-1020	WG	Ground water	21-Oct-20
CBD-AOA-MW17	SITE 00010	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1511	1445305.28	362203.16	Perfluoroalkyl Compounds	CBD-AOA-MW17-1020	WG	Ground water	20-Oct-20
CBD-S03-MW02	SITE 00003	CHESAPEAKE_BEACH_NRL	WLM	Monitoring well	20-1511	1445432.3	361200.02	Perfluoroalkyl Compounds	CBD-S03-MW02-1020	WG	Ground water	20-Oct-20