



**Groundwater Sample Results,
Level 4 Laboratory Report, Electronic Data Deliverable,
Data Validation Report, and the Sample Location Report,
SDG 18-0351**

*Naval Air Station Jacksonville
Jacksonville, Florida*

July 2019

N00207_004431
NAS JACKSONVILLE, FL
SSIC 5000-33c

**LABORATORY DATA PACKAGE 18-0351 REVISION 01 NAS JACKSONVILLE
FL**

06/12/2018
BATTELLE

Approved for public release: distribution unlimited.

CTO-SE0375: Naval Air Station Jacksonville
Project No 100119154-SE0375
PFAS by DoD QSM 5.1 Table B-15
GW QC
Batch 18-0351
Package DP-18-0142

Submitted to:
Tetra Tech
661 Anderson Drive Foster Plaza 7
Pittsburgh, PA 15220 USA

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

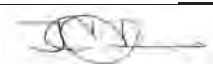


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NELAP Accreditation Number: E87856 (Florida Department of Health)
DoD-ELAP Accreditation Number: 91667

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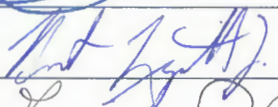
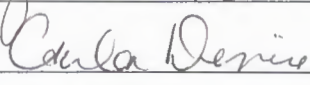
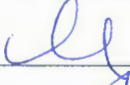
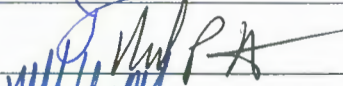
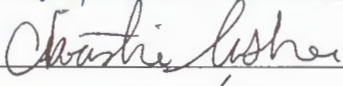
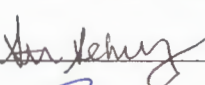
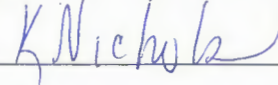
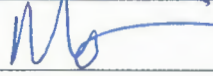
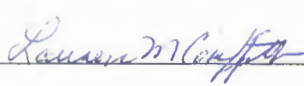
Analyst Approval:		Lauren Griffith 2018.06.12 11:39:53 -04'00'
QC Chemist Approval:		Digitally signed by devinec@battelle.org DN: cn=devinec@battelle.org Date: 2018.06.12 11:22:15 -04'00'
Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.06.12 12:40:58 -04'00'

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It can be done

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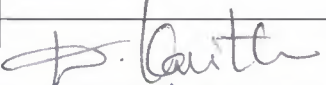
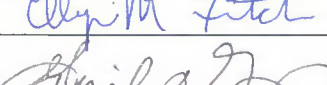
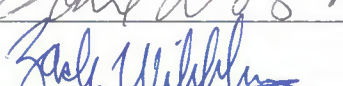
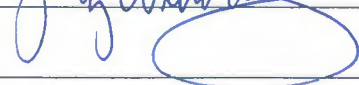
1	<i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
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Signature Page

Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRO	4/4/18
Denise Schmitz		DMS	4/4/18
Charles Keummeay		CKM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mena			4/4/2018
Christie Usher		CU	4/4/18
Kevin Maternay		KM	4/4/18
Stephanie Schultz		SAS	4/4/18
Jordan Tower		JCT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimico H Brown		CB	4/4/18
Matt Schumitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

Signature Page

Battelle 2018 (2 of 2)
Signature Page

Name (Printed)	Signature	Initials	Date
KAVITHA DASU		KD	04/04/18
Kayla Lamarre		KAL	04/04/18
Weidong Li		W.L	04/04/18
Tracy W Stender		Tracy	04/04/18
Ellyn M Fitch		EF	12-April-2018
Gail DeRuzzo		GD	4/18/18
Zachary Willenberg		Z/W	4/20/18

Work Plan



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WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: Non-Potable Water PFAS Analysis
Project Number: 100119154-SE0375
Client: Tetra Tech
 661 Anderson Drive Foster Plaza 7
 Pittsburgh, PA 15220
 USA
Client Contact Information: Mark Peterson
 NA
 (904) 636-6125(V)
 (904) 636-6165(F)
 mark.peterson@tetrattech.com
Effective Date of QAPP: 5/23/2018
Version Number: 100119154-SE0375(L)-01
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 6/8/2018

2.0 SCOPE OF WORK

Overview: PFAS analysis of groundwater and surface water samples collected from NAS Station Jacksonville.
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 in refrigerator.
Sub_Sampling: None
Procedures: NA
Contact: NA
Comment: NA
Archiving: Dispose of remaining samples 6 months after delivery of final data. Notify client prior to disposal of samples.
Disposal: Dispose of samples in the appropriate waste stream.



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

10 groundwater samples, 4 surface water samples, and the associated FRB samples. Matrices will be extracted in separate batches.

Samples Expected:	Samples Per Batch:	Batches Expected:
15	20	1

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	background sample will be identified on the COC
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	background sample will be identified on the COC

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-370-06
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:	FRB samples will only be extracted and analyzed if the associated field samples have results above the LOQ.

Table 2: SIS and LCS/MS Spiking Level

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Low Level Labelled	JV83 SIS	~ 0.100 ng	50 uL	NA



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Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
Extracted Internal Standards (SIS)					
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 7.5 ng	150 uL	MS/MSD samples
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 2.50 ng	50 uL	LCS sample

2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 500

Table 3: RIS Spiking Level

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DoD Internal Standard Spiking Solution	JW02	RIS	~ 0.050 ng	25 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: **5-369-06**
- SOP_Title: *Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)*
- Deviations: None
- Comments: Follow QSM 5.1 Table B-15 requirements.



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WORK/QUALITY ASSURANCE PROJECT PLAN

2.2. DELIVERABLES

Deliverables Due:	6/8/2018
LIMS Reports:	No
Histograms:	No
Excel Tables:	Yes
EICs:	No
Chromatograms:	No
EDDs:	Yes
Comments:	• 14-day TAT • Level IV validation package, compliant with QSM Table B-15. • Tetra Tech EDD format.

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
Stephanie A. Schultz	Sample Preparation	NA
Denise M. Schumitz	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.



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WORK/QUALITY ASSURANCE PROJECT PLAN

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	05/25/2018	05/25/2018	0	NA
Sample Preparation	05/25/2018	05/30/2018	5	NA
Instrument Analysis	05/30/2018	06/05/2018	6	NA
Quality Control Review	06/05/2018	06/06/2018	1	NA
Quality Assurance Review	06/06/2018	06/08/2018	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	2	1	2	Hours are for full batch of 20 samples
Sample Preparation	8	1	8	Hours are for full batch of 20 samples
Instrument Analysis	8	1	8	Hours are for full batch of 20 samples
Quality Control Review	3	1	3	Hours are for full batch of 20 samples
Quality Assurance Review	1	1	1	Hours are for full batch of 20 samples

7.0 STAFF DEVELOPMENT

None anticipated



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WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-180525-01

Status: Approved

Description: SEO 375

Range: J6241-J6254

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6241	FFTA-FD01-052418	05/24/2018 11:00 am	SW DUP	R0119 (NA)		
2	J6242	FFTA-SW01-052418	05/24/2018 11:00 am	SW	R0119 (NA)		
3	J6245	FFTA-FB01-052418	05/24/2018 11:20 am	GW QC	R0119 (NA)		
4	J6246	FFTA-EB01-052418	05/24/2018 11:30 am	GW QC	R0119 (NA)		
5	J6247	FFTA-EB02-052418	05/24/2018 11:40 am	GW QC	R0119 (NA)		
6	J6248	DRMO-MW11-052418	05/24/2018 2:05 pm	GW	R0119 (NA)		
7	J6249	DRMO-FB02-052418	05/24/2018 2:00 pm	GW QC	R0119 (NA)		
8	J6250	PSC51-MW14D-052418	05/24/2018 4:10 pm	GW	R0119 (NA)		
9	J6251	PSC51-FB03-052418	05/24/2018 4:15 pm	GW QC	R0119 (NA)		
10	J6252	PSC51-MW13S-052418	05/24/2018 4:55 pm	GW	R0119 (NA)		MS-MSD
11	J6253	DRMO-MW2-052418	05/24/2018 2:55 pm	GW	R0119 (NA)		
12	J6254	DRMO-FD03-052418	05/24/2018 2:05 pm	GW DUP	R0119 (NA)		



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Attachment 2: Test Codes

Project Test Code Name:	Master_369
SOP Reference:	5-369 - Analysis of Perfluoroalkyl Substances in Environmental Samples by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS)
Description:	PFAS by DoD QSM 5.1 Table B-15
Matrix:	L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting			Holding Times (days)	Data Flags
Result Units:	ng/L	Unit Conversion: (none)	Sample: 14	DL_Flag: U
Weight Basis:	LIQUID	Result Format: Fixed Digits	Frozen: 40	RL_Flag: J
Standard Basis:	SIS	# of Figures/Digits: 2	Extract: 28	PB_Flag: B
Oil Weight Basis:	No	Oil Weight Source: Oil Weight		DIL_Flag: D
U-Value Substitution:	U-Flag=MD	Histograms: No		HT_Flag: T
ECD_Reporting:	No			

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T		13C5-PFHxA	No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T		13C4-PFHpA	No	No
3	Perfluoro-n-octanoic Acid	PFOA	T		13C8-PFOA	No	No
4	Perfluorononanoic Acid	PFNA	T		13C9-PFNA	No	No
5	Perfluoro-n-decanoic Acid	PFDA	T		13C6-PFDA	No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T		13C7-PFUnA	No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T		13C2-PFDoA	No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T		13C2-PFTeDA	No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T		13C2-PFTeDA	No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T		N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T		N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	No	No
12	Perfluoro-1-butanedisulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanedisulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanedisulfonate	PFOS	T		13C8-PFOS	No	No
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



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Attachment 2: Test Codes

Project Test Code Name: Master_369

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
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	N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	d3-MeFOSAA	SIS	13C4-PFOS		No	No
10	N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	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
Total Analytes:		27					

Subtract Peaks:

None

Sum Peaks:

None



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Attachment 2: Test Codes

Project Test Code Name: Master_369

ICAL Acceptance Criteria:

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

Continuing Calibration Verification Criteria:**CCV Name:** 5-369

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

Independent Calibration Verification:**ICC Name:** 5-369

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

Mass Discrimination Criteria:*None***Degradation Check Criteria:***None*



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Attachment 3: Method Quality Objectives

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



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Attachment 3: Method Quality Objectives

MQO Application	Universal_LC		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-369-6: 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	5-369-6: 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	5-369-6: 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-180525-01

Battelle Project No:

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Sample Receipt Form

Approved: ☐ Authorized: ☐

Project Number: NAS JAX PFAS

Client: Tetrattech

Received by: Schumitz, Matt

Date/Time Received: Friday, May 25, 2018 10:30 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier

Tracking Number: 8115 9773 0019

COC Forms: ☒ Shipped with samples ☐ No Forms

Cooler(s)/Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	8115 9773 0019	Tape	Intact	Intact	Therm_2	0.7	14

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): 0.7 Temperature Blank used ☒ Yes ☐ No

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

Samples Acidified: ☐ Yes ☐ No ☒ UnknownInitial pH 5-9?: ☐ Yes ☐ No ☒ NA

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

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

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

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

Individual sample deviations noted on sample log

Samples Containers:

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

Storage Location: Custody: Refrigerator - R0119 (NA)

BDO IDs Assigned: J6241 - J6254

Samples logged in by: Schumitz, Matt

Date/Time: 05/25/2018 10:30 AM

Approved By:

Approved On:

Authorized By:

Authorized On:



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ShpNo: SHP-180525-01

Battelle Project No: _____

Report Corrective Actions

Corrective Action No: 1 of 1

Authorized ☐ Approved: ☐

COC Client: Tetrattech

COC Project: SEO 375

COC Date: 5/25/2018 10:44

Description of Problem:		Explanation:
Client Id	Other	The client reached out to the project manager on the morning of 5/25/18 to make him aware that the samples were inbound. While he was on the phone he told him that there were errors with the ID's from the COC to the sample labels and to go by the ID's on the COC.

Documentation of project manager notification

Sample Custodian Schumitz, Matt Date: 5/25/2018 11:05:00 A

Laboratory Manager: Thorn, Jonathan Date: 5/25/2018 2:07:00 PM

Project Manager: Thorn, Jonathan Date: 5/25/2018 2:07:00 PM

Documentation of client notification (should be completed by project manager within 24 hrs):

On _____ I contacted _____ at _____

Results of communication with client (Describe any corrective action directed by the client):

Date this form was received back to the custodian: _____

Reference Number: _____



It can be done

ShpNo SHP-180525-01

Battelle Project No: 154-SE0375

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: NAS JAX PFAS Client: Tetrattech

Received by: Schumitz, Matt Date / Time Received: Friday, May 25, 2018 10:30 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:
J6241	FFTA-FD01-052418	05/24/18 11:00	05/25/18 10:54	2	SW DUP	0.7	NA	NA	NA	R0119 (NA)			
J6242	FFTA-SW01-052418	05/24/18 11:00	05/25/18 10:54	2	SW	0.7	NA	NA	NA	R0119 (NA)			
J6243	FFTA-SD01-052418	05/24/18 11:10	05/25/18 10:54	1	SD	0.7	NA	NA	NA	F0117 (NA)			
J6244	FFTA-FD02-052418	05/24/18 11:10	05/25/18 10:54	1	SD DUP	0.7	NA	NA	NA	F0117 (NA)			
J6245	FFTA-FB01-052418	05/24/18 11:20	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6246	FFTA-EB01-052418	05/24/18 11:30	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6247	FFTA-EB02-052418	05/24/18 11:40	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6248	DRMO-MW11-052418	05/24/18 14:05	05/25/18 10:56	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J6249	DRMO-FB02-052418	05/24/18 14:00	05/25/18 10:56	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6250	PSC51-MW14D-052418	05/24/18 16:10	05/25/18 10:56	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J6251	PSC51-FB03-052418	05/24/18 16:15	05/25/18 10:57	2	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6252	PSC51-MW13S-052418	05/24/18 16:55	05/25/18 10:57	3	GW	0.7	NA	NA	NA	R0119 (NA)			MS-MSD
J6253	DRMO-MW2-052418	05/24/18 14:55	05/25/18 10:58	1	GW	0.7	NA	NA	NA	R0119 (NA)			
J6254	DRMO-FD03-052418	05/24/18 14:05	05/25/18 10:58	1	GW DUP	0.7	NA	NA	NA	R0119 (NA)			

Total Samples: 14



Chain-of-Custody

Client Contact Information		Project Manager: <u>Mark Peterson</u>		Sampling Site: <u>NAS JAY</u>		Site Information: <u>DRMO, FFTA, PSC 51</u>	
		Sampler Information (print name): <u>David Siefken</u>		Preservative		COC #	
		Phone: <u>941-334-7260</u>					
		Email: <u>David.Siefken@TetraTech</u>		Analysis		Page#	
		Turnaround Time (TAT) Requested:					
Project Name: <u>SEO 375</u>		Normal ☐		PEAS			
Project No.: <u>NAS JAY PFAS</u>		Priority ☐					
		RUSH ☐					
Sample Identification		2018		Matrix		Total # of	
		Sample Date	Sample Time	Type	Matrix	Cont.	
J6241	FFTA - FDO1 - 052418	5/24	1100	SW		2	
J6242	FFTA - SW01 - 052418	5/24	1100	SW		2	
J6243	FFTA - SD01 - 052418		1110	SD		1	
J6244	FFTA - FDO2 - 052418		1110	SD		1	
J6245	FFTA - FB01 - 052418		1120	GW		1	
J6246	FFTA - EB01 - 052418		1130			1	
J6247	FFTA - EB02 - 052418		1140			1	
J6248	DRMO - MW11 - 052418		1405			3	MS/MSD
J6249	DRMO - FB02 - 052418		1400			1	
J6250	PSC51 - MW14D - 052418		1610			2	
J6251	PSC51 - FB03 - 052418		1615			2	
J6252	PSC51 - MW13S - 052418		1655			3	MS/MSD
J6253	DRMO - MW2 - 052418		1455			1	
Receipt Temperature: (°C)		Samples Intact: <u>Yes</u> - No		Samples on Ice: <u>Yes</u> - No		Receipt Comments:	
0.7							
Relinquished by (Print/Sign): <u>David Siefken</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>5-24-18 1830</u>		Received by (Print/Sign): <u>M</u>	
		Company:		Date/Time:		Company: <u>Battelle</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Company:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Company:	
Comments:							

Chain-of-Custody

Form NAL-056 | Rev1 | 1/23/2017 | Page 1 of 1

ORIGIN ID:NRBA (904) 636-6125
DISTRIBUTION
TETRA TECH INC
8640 PHILIPS HWY STE 16

JACKSONVILLE, FL 32256
UNITED STATES US

SHIP DATE: 24MAY18
ACTWGT: 54.30 LB
CAD: 006994659/SSFE1904
DIMS: 23x13x14 IN

BILL THIRD PARTY

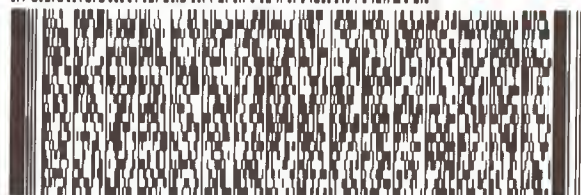
TO **SAMPLE MGMT**
BATTELLE
141 LONGWATER DR
STE 202
NORWELL MA 02061

(781) 681-5588

REF: 112608005-SE0375

INU:

DEPT:



FedEx
Express



TRK# 8115 9773 0019
0215

FRI - 25 MAY 10:30A
PRIORITY OVERNIGHT

XE XPUA

AHS RES
02061

MA-US BOS



☐ Acct No to Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

total Packages Total Weight

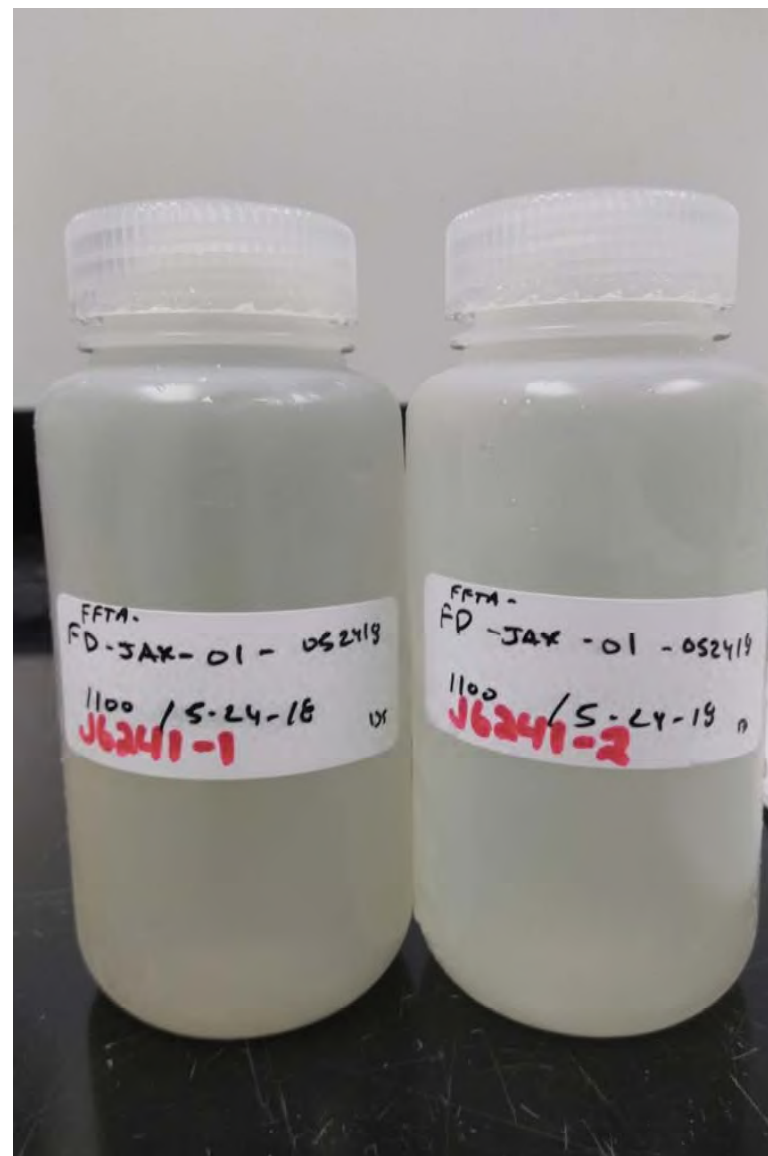
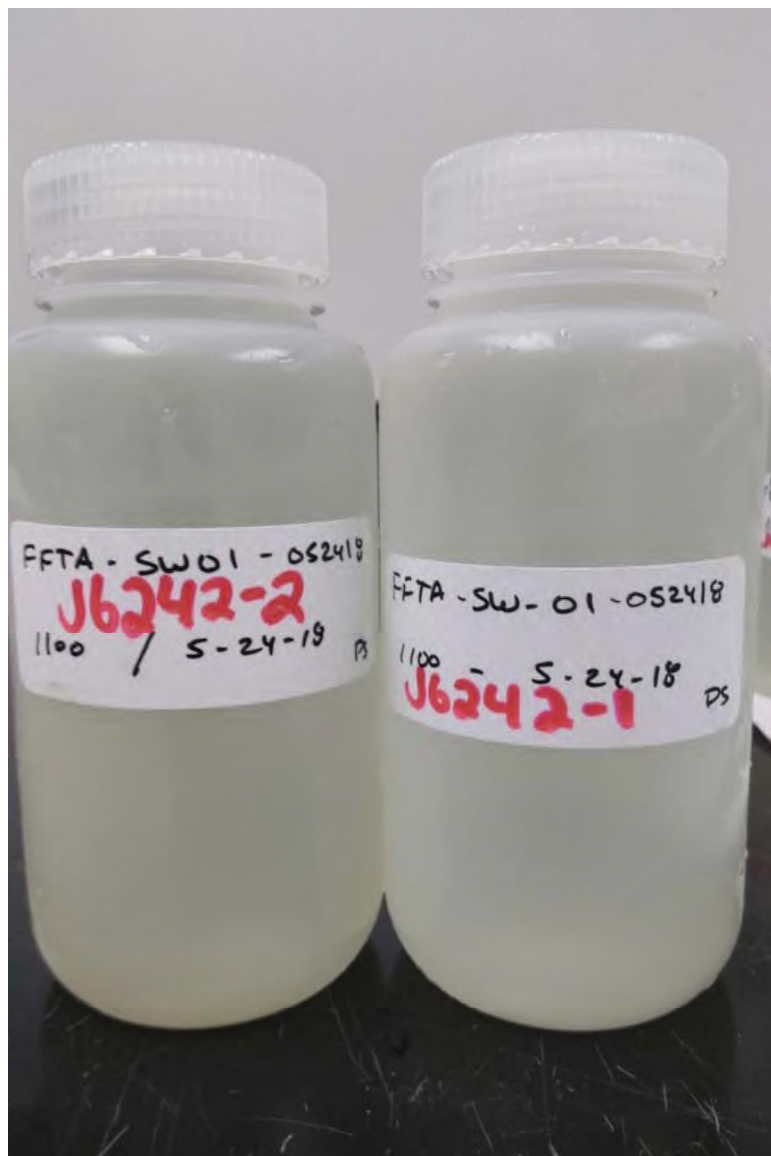
lbs.

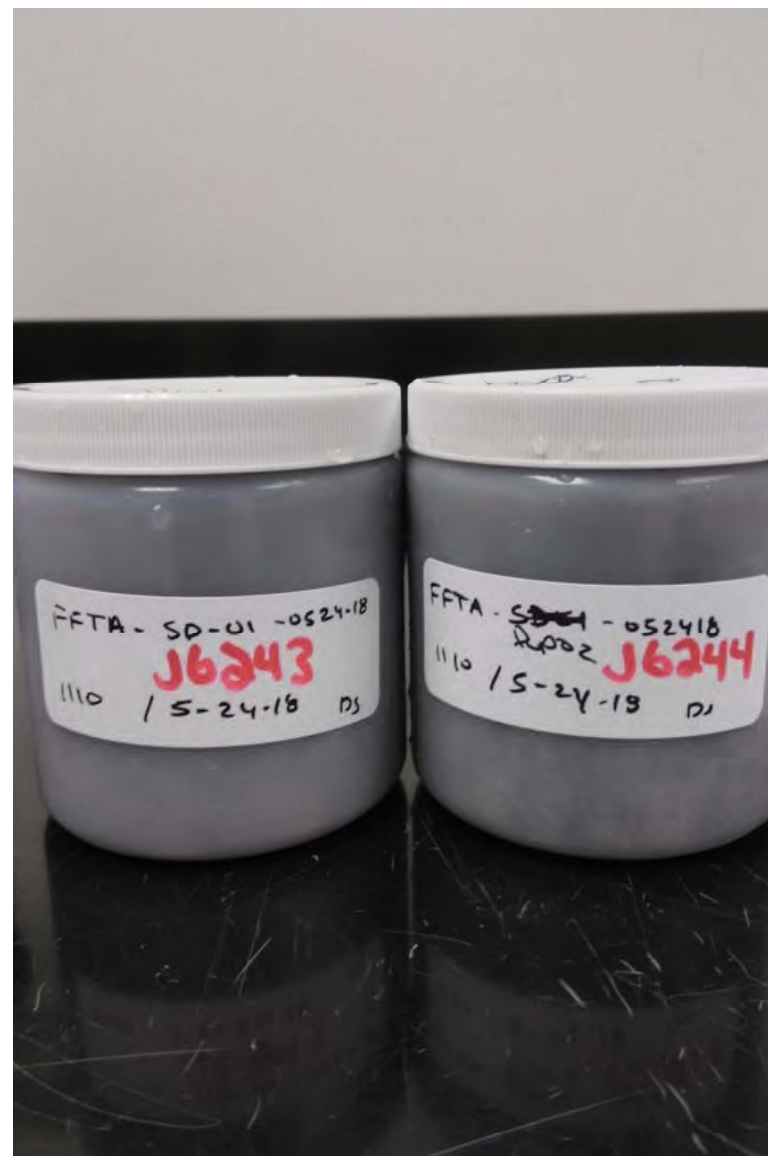
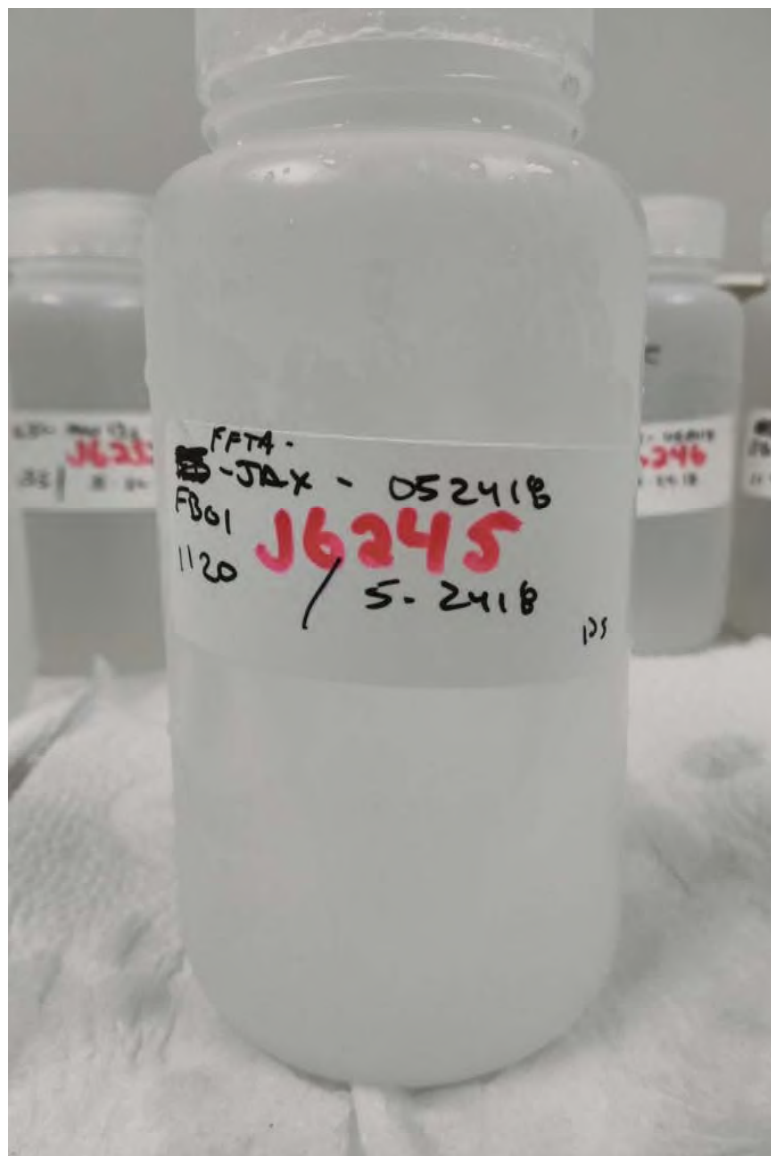
Credit Card Auth.

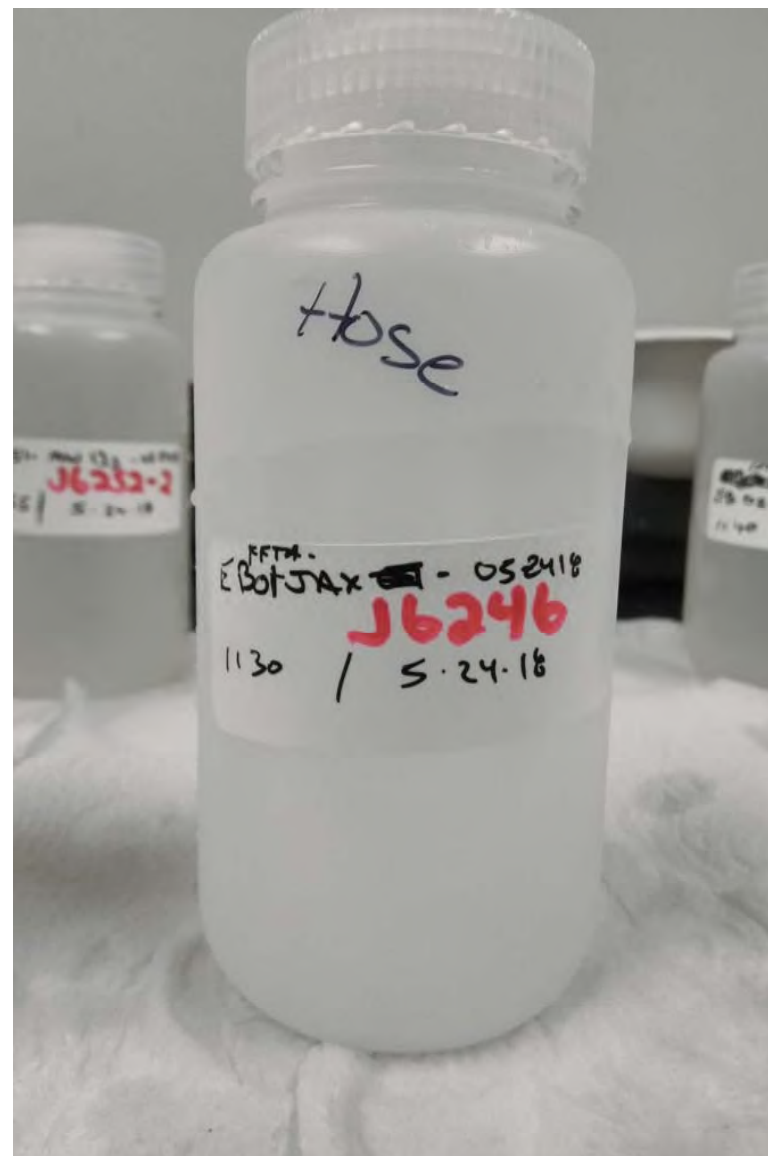
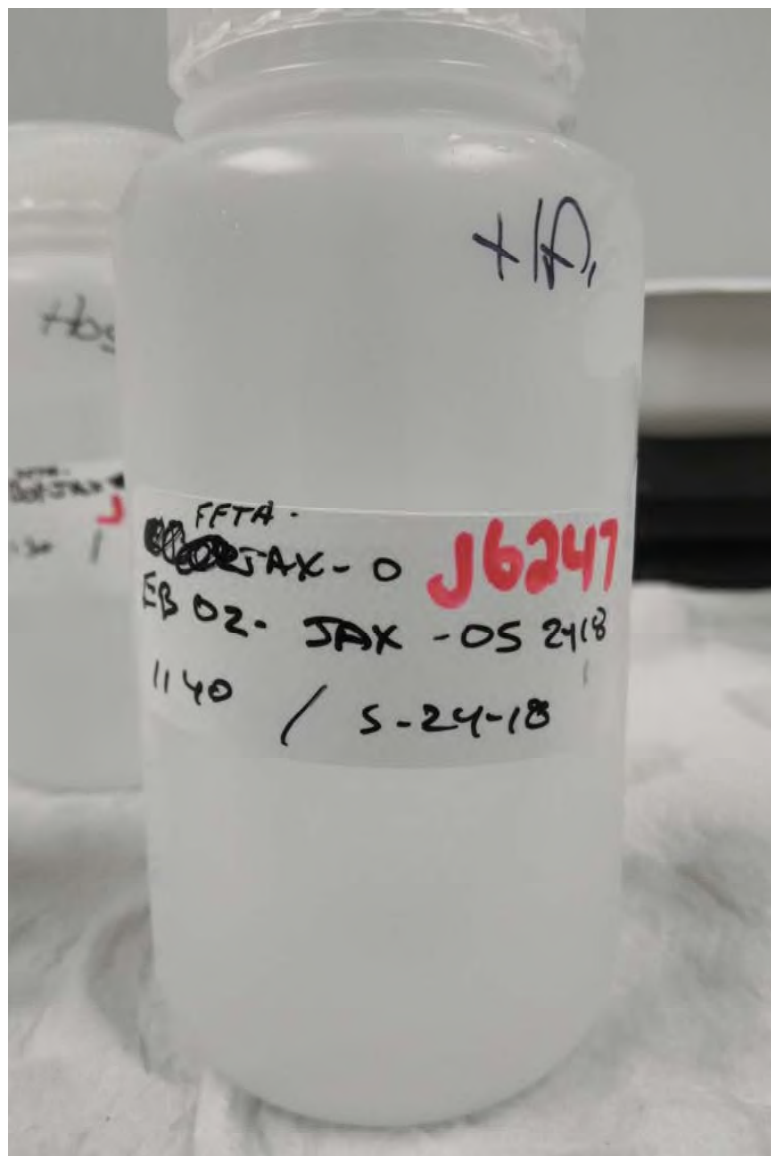
Liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

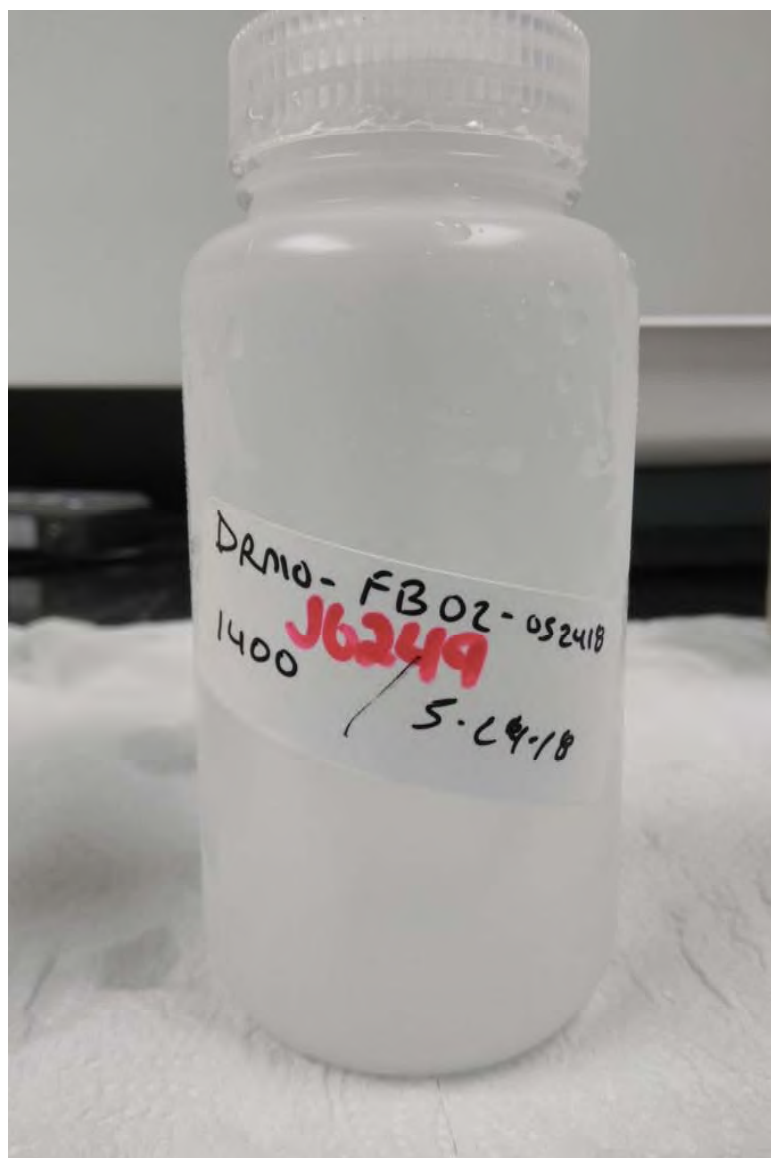


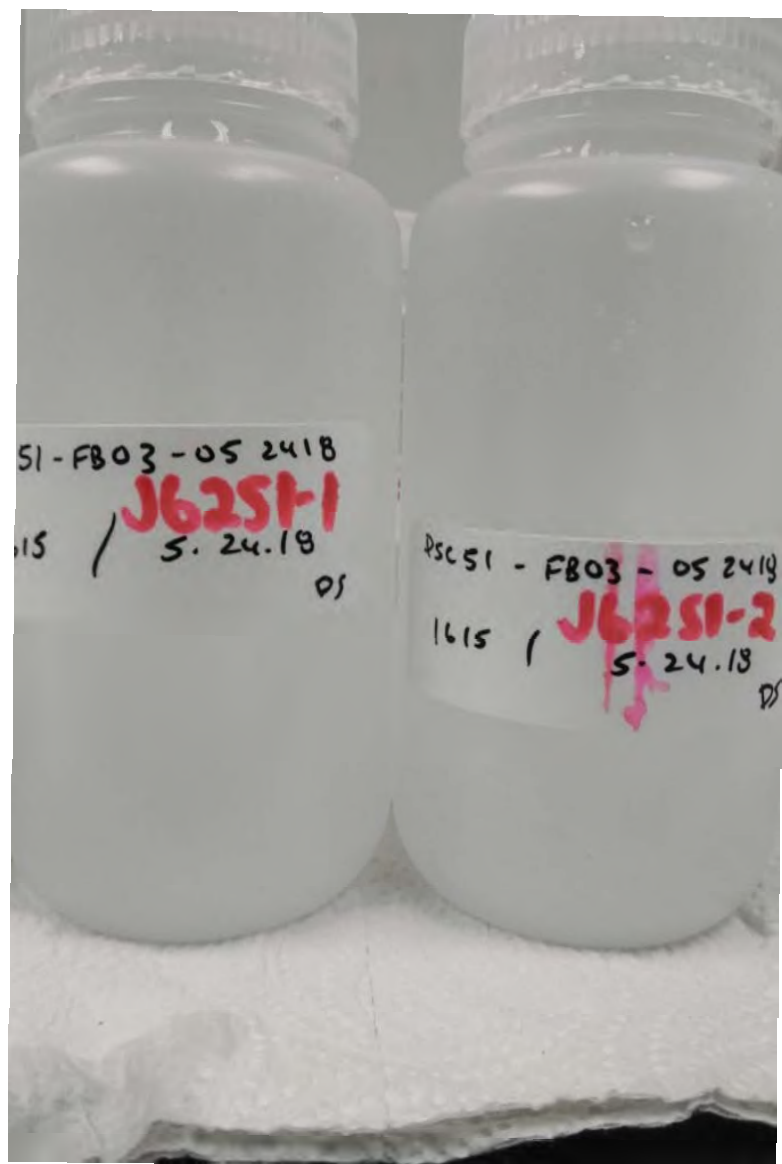
Date 5/15 • Part #183134 • ©1994-2015 FedEx • PRINTED IN U.S.A. SRM

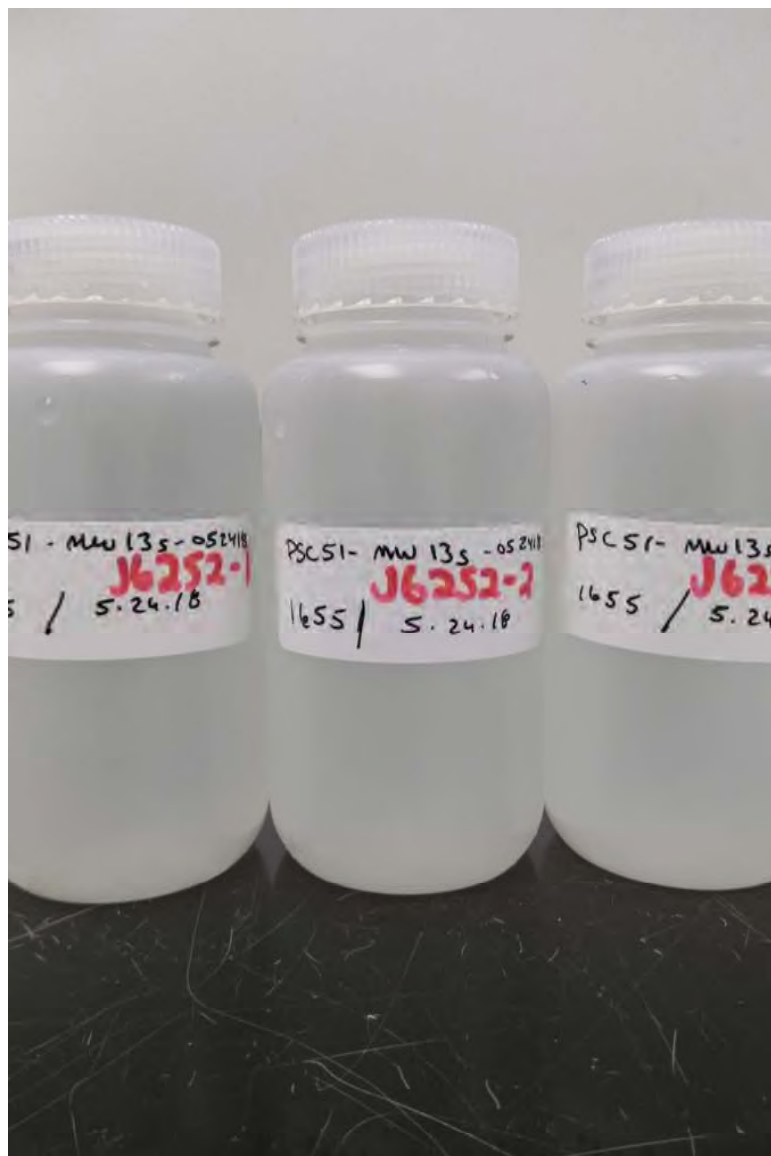


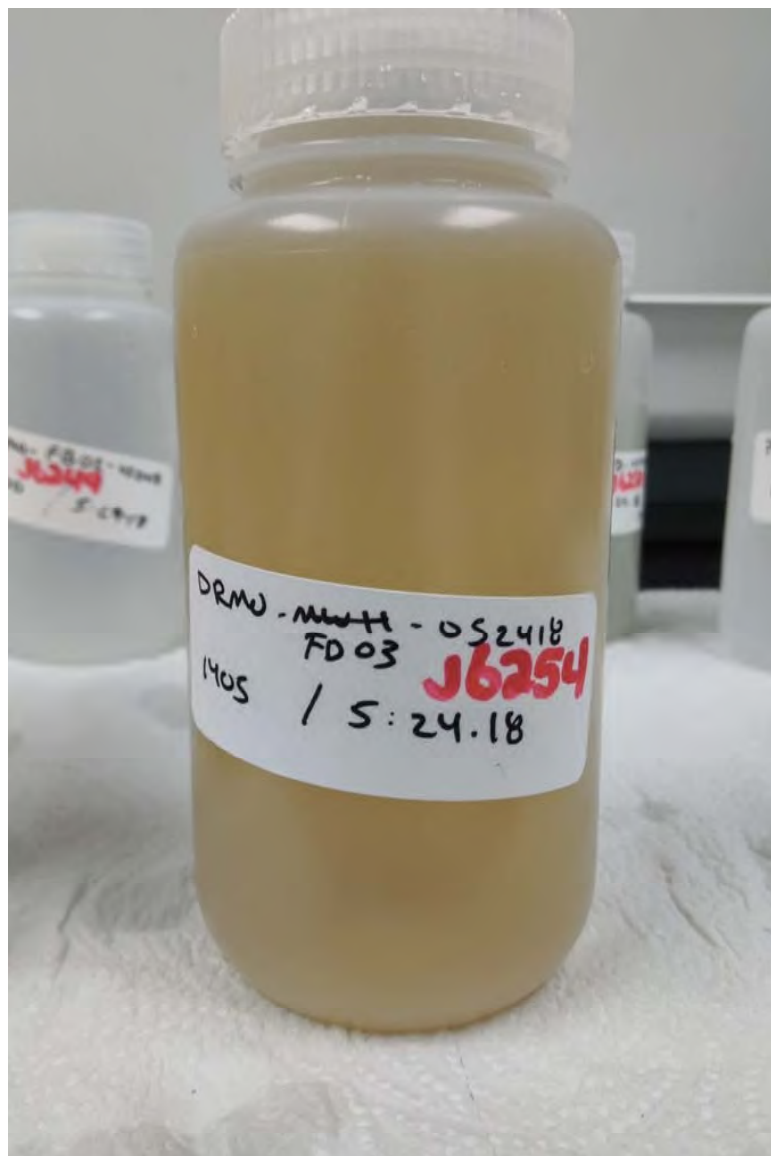












Data Tables



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID FFTA-FB01-052418

Battelle ID J6245-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

Units	ng/L	MDL	LOD	LOQ
PFHxA	2.17 J	0.16	0.43	4.31
PFHpA	0.43 U	0.14	0.43	4.31
PFOA	0.26 J	0.16	0.43	4.31
PFNA	0.86 U	0.22	0.86	4.31
PFDA	0.43 U	0.14	0.43	4.31
PFUnA	0.86 U	0.25	0.86	4.31
PFDoA	0.43 U	0.16	0.43	4.31
PFTTrDA	0.43 U	0.13	0.43	4.31
PFTeDA	0.86 U	0.22	0.86	4.31
NMeFOSAA	1.72 U	0.48	1.72	4.31
NEtFOSAA	0.86 U	0.42	0.86	4.31
PFBS	0.16 J	0.11	0.43	4.31
PFHxS	0.73 J	0.09	0.34	4.31
PFOS	7.04 B	0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	139
13C4-PFHpA	142
13C8-PFOA	141
13C9-PFNA	139
13C6-PFDA	115
13C7-PFUnA	100
13C2-PFDoA	92
13C2-PFTeDA	81
d3-MeFOSAA	88
d5-EtFOSAA	79
13C3-PFBS	128
13C3-PFHxS	127
13C8-PFOS	96



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID DRMO-FB02-052418

Battelle ID J6249-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

	ng/L	MDL	LOD	LOQ
PFHxA	4.01 J	0.16	0.43	4.31
PFHpA	0.36 J	0.14	0.43	4.31
PFOA	0.92 J	0.16	0.43	4.31
PFNA	0.86 U	0.22	0.86	4.31
PFDA	0.43 U	0.14	0.43	4.31
PFUnA	0.86 U	0.25	0.86	4.31
PFDoA	0.43 U	0.16	0.43	4.31
PFTTrDA	0.43 U	0.13	0.43	4.31
PFTeDA	0.86 U	0.22	0.86	4.31
NMeFOSAA	1.72 U	0.48	1.72	4.31
NEtFOSAA	0.86 U	0.42	0.86	4.31
PFBS	1.35 J	0.11	0.43	4.31
PFHxS	6.94	0.09	0.34	4.31
PFOS	67.52	0.16	0.43	4.31

Surrogate Recoveries (%)

13C5-PFHxA	105
13C4-PFHpA	97
13C8-PFOA	102
13C9-PFNA	100
13C6-PFDA	95
13C7-PFUnA	96
13C2-PFDoA	83
13C2-PFTeDA	56
d3-MeFOSAA	79
d5-EtFOSAA	91
13C3-PFBS	95
13C3-PFHxS	113
13C8-PFOS	84



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID PSC51-FB03-052418

Battelle ID J6251-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.285
 Size Unit-Basis L
 Units ng/L

Units	ng/L	MDL	LOD	LOQ
PFHxA	1.20 J	0.17	0.44	4.39
PFHpA	0.44 U	0.14	0.44	4.39
PFOA	0.24 J	0.16	0.44	4.39
PFNA	0.88 U	0.23	0.88	4.39
PFDA	0.44 U	0.14	0.44	4.39
PFUnA	0.88 U	0.25	0.88	4.39
PFDoA	0.44 U	0.16	0.44	4.39
PFTrDA	0.44 U	0.13	0.44	4.39
PFTeDA	0.88 U	0.22	0.88	4.39
NMeFOSAA	1.75 U	0.49	1.75	4.39
NEtFOSAA	0.88 U	0.43	0.88	4.39
PFBS	0.44 U	0.11	0.44	4.39
PFHxS	0.56 J	0.10	0.35	4.39
PFOS	5.26 B	0.17	0.44	4.39

Surrogate Recoveries (%)

13C5-PFHxA	95
13C4-PFHpA	93
13C8-PFOA	95
13C9-PFNA	85
13C6-PFDA	109
13C7-PFUnA	86
13C2-PFDoA	68
13C2-PFTeDA	58
d3-MeFOSAA	83
d5-EtFOSAA	102
13C3-PFBS	97
13C3-PFHxS	104
13C8-PFOS	91



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JV05 IB			
Battelle ID	JV05 IB_06/07/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	06/07/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	Water			
Sample Size	0.250			
Size Unit-Basis	NA			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.19	0.50	5.00
PFHpA	0.50 U	0.16	0.50	5.00
PFOA	0.50 U	0.18	0.50	5.00
PFNA	1.00 U	0.26	1.00	5.00
PFDA	0.50 U	0.16	0.50	5.00
PFUnA	1.00 U	0.29	1.00	5.00
PFDaA	0.50 U	0.18	0.50	5.00
PFTeDA	0.50 U	0.15	0.50	5.00
PFTeDA	1.00 U	0.25	1.00	5.00
NMeFOSAA	2.00 U	0.56	2.00	5.00
NEtFOSAA	1.00 U	0.49	1.00	5.00
PFBS	0.50 U	0.13	0.50	5.00
PFHxS	0.40 U	0.11	0.40	5.00
PFOS	0.50 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	76
13C4-PFHpA	76
13C8-PFOA	79
13C9-PFNA	79
13C6-PFDA	77
13C7-PFUnA	72
13C2-PFDaA	70
13C2-PFTeDA	69
d3-MeFOSAA	69
d5-EtFOSAA	61
13C3-PFBS	65
13C3-PFHxS	61
13C8-PFOS	64



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID

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

MDL

LOD

LOQ

PFHxA

PFHpA

PFOA

PFNA

PFDA

PFUnA

PFDaA

PFTeDA

PFTeDA

NMeFOSAA

NEtFOSAA

PFBS

PFHxS

PFOS

Surrogate Recoveries (%)

13C5-PFHxA

13C4-PFHpA

13C8-PFOA

13C9-PFNA

13C6-PFDA

13C7-PFUnA

13C2-PFDaA

13C2-PFTeDA

d3-MeFOSAA

d5-EtFOSAA

13C3-PFBS

13C3-PFHxS

13C8-PFOS



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID

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

MDL

LOD

LOQ

PFHxA

PFHpA

PFOA

PFNA

PFDA

PFUnA

PFDaA

PFTeDA

PFTeDA

NMeFOSAA

NEtFOSAA

PFBS

PFHxS

PFOS

Surrogate Recoveries (%)

13C5-PFHxA

13C4-PFHpA

13C8-PFOA

13C9-PFNA

13C6-PFDA

13C7-PFUnA

13C2-PFDaA

13C2-PFTeDA

d3-MeFOSAA

d5-EtFOSAA

13C3-PFBS

13C3-PFHxS

13C8-PFOS



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Procedural Blank			
Battelle ID	CQ896PB-FS			
Sample Type	PB			
Collection Date	06/05/2018			
Extraction Date	06/05/2018			
Analysis Date	06/07/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	WATER			
Sample Size	0.250			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	2.64 JN	0.19	0.50	5.00
PFHpA	0.50 U	0.16	0.50	5.00
PFOA	0.25 J	0.18	0.50	5.00
PFNA	1.00 U	0.26	1.00	5.00
PFDA	0.50 U	0.16	0.50	5.00
PFUnA	1.00 U	0.29	1.00	5.00
PFDaA	0.50 U	0.18	0.50	5.00
PFTeDA	0.50 U	0.15	0.50	5.00
PFTeDA	1.00 U	0.25	1.00	5.00
NMeFOSAA	2.00 U	0.56	2.00	5.00
NEtFOSAA	1.00 U	0.49	1.00	5.00
PFBS	0.50 U	0.13	0.50	5.00
PFHxS	0.30 J	0.11	0.40	5.00
PFOS	2.60 JN	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	107
13C8-PFOA	117
13C9-PFNA	115
13C6-PFDA	104
13C7-PFUnA	101
13C2-PFDaA	73
13C2-PFTeDA	58
d3-MeFOSAA	102
d5-EtFOSAA	108
13C3-PFBS	107
13C3-PFHxS	113
13C8-PFOS	88



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Laboratory Control Sample					
Battelle ID	CQ897LCS-FS					
Sample Type	LCS					
Collection Date	06/05/2018					
Extraction Date	06/05/2018					
Analysis Date	06/07/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	11.62 B	10.10	115		51	137
PFHpA	10.09	10.00	101		48	136
PFOA	10.66	10.00	107		49	141
PFNA	8.90	10.00	89		58	122
PFDA	9.09	10.00	91		59	135
PFUnA	9.77	10.00	98		64	134
PFDoA	10.34	10.00	103		75	131
PFTTrDA	10.13	10.00	101		42	148
PFTeDA	9.07	10.00	91		42	158
NMeFOSAA	9.13	10.00	91		50	146
NEtFOSAA	9.09	10.00	91		51	131
PFBS	10.21	10.10	101		56	134
PFHxS	15.00	10.10	149	N	52	128
PFOS	58.59	10.00	586	N	40	144

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	113
13C8-PFOA	116
13C9-PFNA	120
13C6-PFDA	129
13C7-PFUnA	115
13C2-PFDoA	105
13C2-PFTeDA	90
d3-MeFOSAA	103
d5-EtFOSAA	112
13C3-PFBS	120
13C3-PFHxS	127
13C8-PFOS	101



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
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 Method detection limit (MDL) value, Limit of Detection (LOD) reported

Miscellaneous Documentation



Norwell Operations
 141 Longwater Drive, Suite 202
 Norwell, Massachusetts 02061
 Telephone: 781-681-5400

July 13th, 2018

This data package has been revised to include the following updates to the reporting format:

- Use of LOD values for non-detected values (in place of the MDL value that was used in the original report).
- Use of sample specific MDL, LOD, and LOQ values (adjusted for dilution and sample size variations as compared to the MDL, LOD, and LOQ studies)

In addition to non-detect ("U" qualified) data changing to use the sample specific LOD value (not included in the table below), the information in the following table changed from the original report to the new report. The reason for these changes is the variation in sample size for individual samples when using sample specific values. This table includes information on all SDG updated and resubmitted on 7/13/2018.

SDG	Lab Sample ID	Client ID	Analyte	New Result	New Qual	Old Result	Old Qual
18-0338	J6254-FS	DRMO-FD03-052418	PFHxS	88.82	JD	88.82	D
18-0339	J6243-FS	FFTA-SD01-052418	PFHxA	91.86	JD	91.86	D
18-0339	J6243-FS	FFTA-SD01-052418	PFHxS	83.16	JD	83.16	D
18-0339	J6243MS-FS	FFTA-SD01-052418	PFHxS	116.65	JD	116.65	D
18-0339	J6244-FS	FFTA-FD02-052418	PFHxA	94.05	JD	94.05	D
18-0339	J6244-FS	FFTA-FD02-052418	PFTTrDA	70.55	JD	70.55	D
18-0339	J6244-FS	FFTA-FD02-052418	PFHxS	82.28	JD	82.28	D
18-0340	J6241-FS	FFTA-FD01-052418	PFD0A	112.74	JD	112.74	D

The original data tables have been moved to the unused data section of this complete data package.

QA/QC Summary
Batch 18-0351

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW QC
Data Set:	DP-18-0142
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
5/24/2018	5/25/2018	0.7

Corrective Actions	None – client contacted project manager to verify client IDs and matrices prior to arrival of shipment.
Sample Storage	The samples were stored refrigerated until extraction.
Related samples	Related field blank is extracted and reported in SDGs 18-0338 (ground water), 18-0339 (sediment), and 18-0340 (surface water).

	METHOD SUMMARIES
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were split and concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	None.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. The confirmation ion ratio was above 50% RPD for the following samples and analytes: Procedural blank – PFHpA, PFUnA, and PFTrDA (all detected below the MDL). FFTA-FB01-052418 (J6245) - PFHpA, PFOA, PFDA, PFUnA, PFTeDA, and NeFOSAA (all detected below the MDL, except PFOA which was detected below the LOD). DRMO-FB02-052418 (J6249) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFHpA which was detected below the LOD and PFOA which was below the LOQ). PSC51-FB03-052418 (J6251) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFOA which was detected below the LOD).

QA/QC Summary

Batch 18-0351

	The results for PFHxA, PFHxS, and PFOS were impacted by water samples extracted prior to these FRB samples on the same manifold. The manifold, including all valves, were cleaned between batches, however, the water samples extracted prior to these appear to be heavily impacted by AFFF (samples required 1:1,000,000-fold dilutions). The samples that caused the issues were extracted on 6/4 and did not impact the extraction of batches 18-0338, 18-0339, and 18-0340. The samples in question were not part of the SE0375 project. A review of the FRB samples compared to the associated field samples indicate that the concentrations found in the related field samples would not have been influenced by the associated FRB if the contamination in the FRB samples was real and not an artifact of the likely contamination from the extraction manifold mentioned above. A comparison of the results for the field samples, procedural blanks, instrument blanks, and associated field reagent blank samples for PFHxA, PFHxS, and PFOS is presented below.
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Sample	Batch	Matrix	Extraction Date	Units	PFHxA	PFHxS	PFOS
Instrument Blank	18-0338	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
CQ855PB-FS	18-0338	Water	5/29/2018	ng/L	0.19 U	0.11 U	0.19 U
FFTA-EB01-052418	18-0338	GW QC	5/29/2018	ng/L	0.19 U	0.11 U	0.89 J
FFTA-EB02-052418	18-0338	GW QC	5/29/2018	ng/L	0.19 U	0.11 U	0.19 U
DRMO-MW11-052418	18-0338	GW	5/29/2018	ng/L	41.4	116.13 D	670.42 D
PSC51-MW14D-052418	18-0338	GW	5/29/2018	ng/L	0.19 U	0.30 J	0.35 J
PSC51-MW13S-052418	18-0338	GW	5/29/2018	ng/L	0.19 U	0.72 J	1.12 J
DRMO-MW2-052418	18-0338	GW	5/29/2018	ng/L	6.93	12.15	98.11 D
DRMO-FD03-052418	18-0338	GW DUP	5/29/2018	ng/L	38.54	88.82 D	376.44 D
Instrument Blank	18-0339	NA	NA	ng/g	0.33 U	0.22 U	0.27 U
Instrument Blank	18-0339	NA	NA	ng/g	0.33 U	0.22 U	0.27 U
CQ857PB-FS	18-0339	Sediment	5/29/2018	ng/g	0.33 U	0.22 U	0.27 U
FFTA-SD01-052418	18-0339	SD	5/29/2018	ng/g	91.86 D	83.16 D	2235.14 D
FFTA-FD02-052418	18-0339	SD DUP	5/29/2018	ng/g	94.05 D	82.28 D	2003.63 D
Instrument Blank	18-0340	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
Instrument Blank	18-0340	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
Instrument Blank	18-0340	NA	NA	ng/L	-	-	0.19 U
CQ859PB-FS	18-0340	Water	5/30/2018	ng/L	0.19 U	0.11 U	0.64 J
FFTA-FD01-052418	18-0340	SW DUP	5/30/2018	ng/L	966433.72 D	909907.10 D	13500909.99 D
FFTA-SW01-052418	18-0340	SW	5/30/2018	ng/L	756130.79 D	585921.79 D	5706313.82 D
Instrument Blank	18-0351	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
CQ896PB-FS	18-0351	Water	6/5/2018	ng/L	2.64 JN	0.30 J	2.60 JN
FFTA-FB01-052418	18-0351	GW QC	6/5/2018	ng/L	2.17 J	0.73 J	7.04 B
DRMO-FB02-052418	18-0351	GW QC	6/5/2018	ng/L	4.01 J	6.94	67.52
PSC51-FB03-052418	18-0351	GW QC	6/5/2018	ng/L	1.20 J	0.56 J	5.26 B

Holding Times	Extraction Date(s)	Analysis Date(s)
	6/5/2018	6/7/2018

QA/QC Summary Batch 18-0351

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 Samples >10x PB	2 exceedances noted for PB hits $\leq \frac{1}{2}$ the LOQ. 3 sample exceedances for samples >10x PB. PFHxA and PFOS are greater than $\frac{1}{2}$ the LOQ in the blank, the most likely cause of these exceedances is the AFFF sample mentioned above in the analysis comments. Similarly, PFOS is B flagged in the sample FFTA-FB01-052418 and sample PSC51-FB03-052418. PFHxA is B flagged in the LCS sample. Instrument blank was clean, and all other analytes are below the MDL or LOD in the PB, two bottles were not collected for FRB samples for re-extraction.
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	2 exceedances noted. PFHxS and PFOS are over-recovered, indicating high bias at the LOQ (LCS was spiked as an LOQ sample). Likely cause is detailed in the analysis comments above. Samples could not be re-extracted.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, $R^2 \geq 0.99$	No exceedances noted. No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted. No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted. No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.

QA/QC Summary
Batch 18-0351

$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project Number: 100119154-SE0375
 Preparation Batch: 18-0351
 Data Set: DP-18-0142
 Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	2	Contamination of the extraction manifold from previous samples likely for analytes typically found at high levels in AFFF. Re-extraction could not be done as additional sample was not available.
PB Measurement Quality Objective	3	Contamination of the extraction manifold from previous samples likely for analytes typically found at high levels in AFFF. Re-extraction could not be done as additional sample was not available.
Laboratory Control Sample	2	Contamination of the extraction manifold from previous samples likely for analytes typically found at high levels in AFFF. Re-extraction could not be done as additional sample was not available.
Matrix Spike / Matrix Spike Duplicate Recovery	0	None
Matrix Spike / Matrix Spike Duplicate Precision	0	None
Extracted Internal Standard Analytes (Surrogates)	0	None
Instrument Calibration	0	None
Instrument Blank	0	None
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-SE0375: Naval Air Station Jackson	Data Set Number:	DP-18-0142
Project Number:	100119154-SE0375	Prep Batch Number:	18-0351
Entered By:	Denise Schumitz	Entered On:	06/11/2018
Test Code (Matrix Type):	Master_369(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 6/11/2018

JV20 is not being used in method 18-0351_SIS for d3-MeFOSAA, d5-EtFOSAA and 13C3-PFHxS. There is no impact on the data once this point is removed from the calibration.
DMS 6/11/2018

JV20 and JV21 are not being used in method 18-0351_BASE for PFOS and PFDoA. There is no impact on the data once these points are removed from the calibration.
DMS 6/11/2018

JV28 is not being used in method 18-0351_BASE for NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/11/2018

JV20 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOS and NEtFOSAA.
DMS 6/11/2018

JV05 IB in method 18-0351_BASE has an ion ratios of >50% for PFHpA and NEtFOSAA.
DMS 6/11/2018

CQ896PB in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFUnA and PFTeDA.
DMS 6/11/2018

J6245 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFTeDA and NEtFOSAA.
DMS 6/11/2018

J6249 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFDoA and PFTeDA.
DMS 6/11/2018

J6251 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFDoA and PFTeDA..
DMS 6/11/2018

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan
Thorn
Date: 2018.06.12 09:29:38 -04'00'



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: J6249-FS(3)
 Client Sample ID: DRMO-FB02-052418
 Sample Size: 0.29
 Units: L
 Dilution Factor: 2
 PIV (L): 0.0005
 Target Analyte: PFBS
 MRM Transition: 298.9 / 80.0
 Data file: 6072018.wiff
 Result table: 18-0351_Base
 Area: 120,511.85
 IS Name: 13C3-PFBS
 IS Area: 15,386.63
 IS Amount (ng/L): 92.9
 y-intercept: 0.04421
 slope: 1.84377

$$\text{Concentration} = \frac{[(120511.85/15386.63) - 0.04421]}{1.84377} * 92.9 * 0.0005 * 2 / 0.29$$

ng/L = 1.35



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Preparation Batch: 18-0351

Data Set: DP-18-0142

	CQ896PB-FS (Procedural Blank)	CQ897LCS-FS (Laboratory Control Sample)	J6245-FS (FFTA-FB01-052418)	J6249-FS (DRMO-FB02-052418)	J6251-FS (PSC51-FB03-052418)
PFHxA	L	L	-	-	-
PFHpA	-	L	-	-	-
PFOA	-	L	-	-	-
PFNA	-	L	-	-	-
PFDA	-	L	-	-	-
PFUnA	-	L	-	-	-
PFDoA	-	L	-	-	-
PFTTrDA	-	L	-	-	-
PFTeDA	-	L	-	-	-
NMeFOSAA	-	L	-	-	-
NEtFOSAA	-	L	-	-	-
PFBS	-	L	-	-	-
PFHxS	-	L	-	L	-
PFOS	L/Br	L/Br	L/Br	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C2-PFOA	64,200.44	32,100.22	96,300.66

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C2-PFOA	57,353.19	32,100.22	96,300.66	
JV21	L2	6/7/18 20:43	13C2-PFOA	49,109.84	32,100.22	96,300.66	
JV22	L3	6/7/18 20:53	13C2-PFOA	62,846.02	32,100.22	96,300.66	
JV23	L4	6/7/18 21:04	13C2-PFOA	70,044.68	32,100.22	96,300.66	
JV24	L5	6/7/18 21:15	13C2-PFOA	64,200.44	32,100.22	96,300.66	
JV25	L6	6/7/18 21:25	13C2-PFOA	55,104.55	32,100.22	96,300.66	
JV26	L7	6/7/18 21:36	13C2-PFOA	58,364.38	32,100.22	96,300.66	
JV27	L8	6/7/18 21:47	13C2-PFOA	65,699.95	32,100.22	96,300.66	
JV28	L9	6/7/18 21:57	13C2-PFOA	74,209.03	32,100.22	96,300.66	
JV05 IB	Instrument Blank	6/7/18 22:08	13C2-PFOA	66,887.41	32,100.22	96,300.66	
JW32 ICC	ICC	6/7/18 22:19	13C2-PFOA	48,616.94	32,100.22	96,300.66	
CQ896PB-FS(3)		6/7/18 22:51	13C2-PFOA	60,613.40	32,100.22	96,300.66	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C2-PFOA	47,583.82	32,100.22	96,300.66	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C2-PFOA	45,403.95	32,100.22	96,300.66	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C2-PFOA	39,469.34	32,100.22	96,300.66	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C2-PFOA	52,054.12	32,100.22	96,300.66	
JV25 CCV	CCV	6/7/18 23:55	13C2-PFOA	54,204.67	32,100.22	96,300.66	



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C2-PFDA	69,743.01	34,871.51	104,614.52

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C2-PFDA	59,557.03	34,871.51	104,614.52	
JV21	L2	6/7/18 20:43	13C2-PFDA	54,456.09	34,871.51	104,614.52	
JV22	L3	6/7/18 20:53	13C2-PFDA	69,075.44	34,871.51	104,614.52	
JV23	L4	6/7/18 21:04	13C2-PFDA	68,842.20	34,871.51	104,614.52	
JV24	L5	6/7/18 21:15	13C2-PFDA	69,743.01	34,871.51	104,614.52	
JV25	L6	6/7/18 21:25	13C2-PFDA	62,623.00	34,871.51	104,614.52	
JV26	L7	6/7/18 21:36	13C2-PFDA	60,533.01	34,871.51	104,614.52	
JV27	L8	6/7/18 21:47	13C2-PFDA	63,218.27	34,871.51	104,614.52	
JV28	L9	6/7/18 21:57	13C2-PFDA	77,714.45	34,871.51	104,614.52	
JV05 IB	Instrument Blank	6/7/18 22:08	13C2-PFDA	75,273.77	34,871.51	104,614.52	
JW32 ICC	ICC	6/7/18 22:19	13C2-PFDA	47,103.14	34,871.51	104,614.52	
CQ896PB-FS(3)		6/7/18 22:51	13C2-PFDA	68,345.06	34,871.51	104,614.52	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C2-PFDA	45,862.67	34,871.51	104,614.52	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C2-PFDA	45,612.23	34,871.51	104,614.52	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C2-PFDA	45,317.99	34,871.51	104,614.52	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C2-PFDA	48,684.31	34,871.51	104,614.52	
JV25 CCV	CCV	6/7/18 23:55	13C2-PFDA	64,356.53	34,871.51	104,614.52	



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C4-PFOS	17,621.34	8,810.67	26,432.01

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C4-PFOS	11,468.96	8,810.67	26,432.01	
JV21	L2	6/7/18 20:43	13C4-PFOS	12,130.72	8,810.67	26,432.01	
JV22	L3	6/7/18 20:53	13C4-PFOS	14,221.94	8,810.67	26,432.01	
JV23	L4	6/7/18 21:04	13C4-PFOS	15,596.73	8,810.67	26,432.01	
JV24	L5	6/7/18 21:15	13C4-PFOS	17,621.34	8,810.67	26,432.01	
JV25	L6	6/7/18 21:25	13C4-PFOS	14,878.58	8,810.67	26,432.01	
JV26	L7	6/7/18 21:36	13C4-PFOS	16,218.32	8,810.67	26,432.01	
JV27	L8	6/7/18 21:47	13C4-PFOS	15,802.34	8,810.67	26,432.01	
JV28	L9	6/7/18 21:57	13C4-PFOS	15,001.44	8,810.67	26,432.01	
JV05 IB	Instrument Blank	6/7/18 22:08	13C4-PFOS	18,935.15	8,810.67	26,432.01	
JW32 ICC	ICC	6/7/18 22:19	13C4-PFOS	12,740.39	8,810.67	26,432.01	
CQ896PB-FS(3)		6/7/18 22:51	13C4-PFOS	14,803.76	8,810.67	26,432.01	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C4-PFOS	12,283.28	8,810.67	26,432.01	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C4-PFOS	12,748.45	8,810.67	26,432.01	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C4-PFOS	10,353.88	8,810.67	26,432.01	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C4-PFOS	12,230.79	8,810.67	26,432.01	
JV25 CCV	CCV	6/7/18 23:55	13C4-PFOS	13,482.21	8,810.67	26,432.01	

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 9:36:37 PM	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.55	22	>10
PFBS_2	298.9 / 99.0	1.55	18	>10
PFHxA_1	313.0 / 269.0	1.83	19	>10
PFHxA_2	313.0 / 119.0	1.83	18	>10
PFHpA_1	363.0 / 319.0	2.20	27	>10
PFHpA_2	363.0 / 169.0	2.20	22	>10
PFHxS_1	399.0 / 80.0	2.21	22	>10
PFHxS_2	399.0 / 99.0	2.22	24	>10
PFOA_1	413.0 / 369.0	2.58	26	>10
PFOA_2	413.0 / 169.0	2.58	27	>10
PFNA_1	463.0 / 419.0	2.95	24	>10
PFNA_2	463.0 / 219.0	2.95	28	>10
PFOS_1	499.0 / 80.0	2.94	28	>10
PFOS_2	499.0 / 99.0	2.94	28	>10
PFDA_1	513.0 / 469.0	3.30	30	>10
PFDA_2	513.0 / 219.0	3.30	27	>10
PFUnA_1	563.0 / 519.0	3.62	31	>10
PFUnA_2	563.0 / 269.0	3.62	40	>10
PFDaA_1	613.0 / 569.0	3.90	30	>10
PFDaA_2	613.0 / 319.0	3.90	34	>10
PFTTrDA_1	663.0 / 619.0	4.15	36	>10
PFTTrDA_2	663.0 / 169.0	4.15	30	>10
PFTeDA_1	713.0 / 669.0	4.38	41	>10
PFTeDA_2	713.0 / 169.0	4.37	35	>10
NMeFOSAA_1	570.0 / 419.0	3.45	38	>10
NMeFOSAA_2	570.0 / 512.0	3.45	29	>10
NEtFOSAA_1	584.0 / 419.0	3.61	32	>10
NEtFOSAA_2	584.0 / 483.0	3.61	35	>10

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 9:36:37 PM	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.89	27	>10
d3-MeFOSAA	573.0 / 419.0	3.45	24	>10
d5-EtFOSAA	589.0 / 419.0	3.60	35	>10
13C5-PFHxA	318.0 / 273.0	1.82	22	>10
13C4-PFHpA	367.0 / 322.0	2.19	35	>10
13C8-PFOA	421.0 / 376.0	2.57	39	>10
13C9-PFNA	472.0 / 427.0	2.94	32	>10
13C6-PFDA	519.0 / 474.0	3.28	27	>10
13C7-PFUnA	570.0 / 525.0	3.60	29	>10
13C2-PFTeDA	715.0 / 670.0	4.37	36	>10
13C3-PFBS	302.0 / 99.0	1.53	24	>10
13C3-PFHxS	402.0 / 99.0	2.21	28	>10
13C8-PFOS	507.0 / 99.0	2.93	18	>10



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

Analyte	CAS No.	Average (ng/L)	ST DEV	3 Sigma	n
PFBA	375-22-4	12.44	2.29	6.87	10
PFPeA	2706-90-3	10.77	1.61	4.83	8
PFHxA	307-24-4	10.31	1.32	3.96	22
PFHpA	375-85-9	9.87	1.78	5.34	22
PFOA	335-67-1	10.49	1.51	4.53	23
PFNA	375-95-1	10.02	1.23	3.69	22
PFDA	335-76-2	10.35	1.50	4.50	22
PFUnA	2058-94-8	10.40	1.41	4.23	22
PFDoA	307-55-1	11.29	1.20	3.60	22
PFTTrDA	72629-94-8	11.80	1.59	4.77	22
PFTeDA	376-06-7	11.41	2.17	6.51	22
NMeFOSAA	2355-31-9	10.78	1.97	5.91	22
NEtFOSAA	2991-50-6	9.99	1.79	5.37	22
PFOSA	754-91-6	9.08	0.00	0.00	2
PFBS	375-73-5	10.65	1.55	4.65	23
PFPeS	BDO-2114	9.60	1.07	3.21	3
PFHxS	355-46-4	10.04	1.70	5.10	22
PFHpS	375-99-6	11.00	1.02	3.06	8
PFOS	1763-23-1	10.26	1.52	4.56	23
PFNS	98789-57-2	8.81	0.35	1.05	3
PFDS	2806-15-7	10.24	1.97	5.91	8
4:2FTS	BDO-2205	11.24	1.16	3.48	8
6:2FTS	27619-97-2	12.37	3.07	9.21	8
8:2FTS	39108-34-4	12.30	2.64	7.92	8

BATTELLE DETECTION LIMITS FOR PFAS IN NON-POTABLE WATER

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Analytical SOP 5-369

Extraction SOP 5-370

PFAS by LC-MS/MS Compliant with QSM 5.1 Compliant Table B-15

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)
PFBA	375-22-4	0.14	0.5	5.0
PFPeA	2706-90-3	0.31	1.0	5.0
PFHxA	307-24-4	0.19	0.5	5.0
PFHpA	375-85-9	0.16	0.5	5.0
PFOA	335-67-1	0.18	0.5	5.0
PFNA	375-95-1	0.26	1.0	5.0
PFDA	335-76-2	0.16	0.5	5.0
PFUnA	2058-94-8	0.29	1.0	5.0
PFDoA	307-55-1	0.18	0.5	5.0
PFTTrDA	72629-94-8	0.15	0.5	5.0
PFTeDA	376-06-7	0.25	1.0	5.0
NMeFOSAA	2355-31-9	0.56	2.0	5.0
NEtFOSAA	2991-50-6	0.49	1.0	5.0
PFOSA	754-91-6	TBD	TBD	TBD
PFBS	375-73-5	0.13	0.5	5.0
PFPeS	BDO-2114	0.67	2.5	5.0
PFHxS	355-46-4	0.11	0.4	5.0
PFHpS	375-99-6	0.20	0.5	5.0
PFOS	1763-23-1	0.19	0.5	5.0
PFNS	98789-57-2	0.46	1.0	5.0
PFDS	2806-15-7	0.17	0.5	5.0
4:2FTS	BDO-2205	0.14	0.5	5.0
6:2FTS	27619-97-2	1.36	2.5	5.0
8:2FTS	39108-34-4	0.22	0.5	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

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

EPA 537 MOD DoD QSM 5.1 compliant with Table B-15 requirements

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
PFDaA	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
13C4-PFBA	BDO-2105	SIS ¹	217.0 / 172.0	NA
13C5-PFPeA	BDO-2216	SIS ¹	268.0 / 223.0	NA
13C5-PFHxA	BDO-2217	SIS ¹	318.0 / 273.0	NA

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
13C4-PFHpA	BDO-2218	SIS ¹	367.0 / 322.0	NA
13C8-PFOA	BDO-2219	SIS ¹	421.0 / 376.0	NA
13C9-PFNA	BDO-2221	SIS ¹	472.0 / 427.0	NA
13C6-PFDA	BDO-2222	SIS ¹	519.0 / 474.0	NA
13C7-PFUnA	BDO-2223	SIS ¹	570.0 / 525.0	NA
13C2-PFDoA	BDO-2112	SIS ¹	615.0 / 570.0	NA
13C2-PFTeDA	BDO-2224	SIS ¹	715.0 / 670.0	NA
d3-MeFOSAA	BDO-1838	SIS ¹	573.0 / 419.0	NA
d5-EtFOSAA	BDO-1839	SIS ¹	589.0 / 419.0	NA
13C8-FOSA	BDO-2225	SIS ¹	506.0 / 78.0	NA
13C3-PFBS	BDO-2226	SIS ¹	302.0 / 99.0	NA
13C3-PFHxS	BDO-2227	SIS ¹	402.0 / 99.0	NA
13C8-PFOS	BDO-2228	SIS ¹	507.0 / 99.0	NA
13C2-4:2FTS	BDO-2229	SIS ¹	329.0 / 81.0	NA
13C2-6:2FTS	BDO-2230	SIS ¹	429.0 / 81.0	NA
13C2-8:2FTS	BDO-2220	SIS ¹	529.0 / 81.0	NA
13C3-PFBA	BDO-2231	IS ²	216.0 / 172.0	NA
13C2-PFOA	BDO-2107	IS ²	415.0 / 370.0	NA
13C2-PFDA	BDO-2110	IS ²	515.0 / 470.0	NA
13C4-PFOS	BDO-2121	IS ²	503.0 / 99.0	NA

¹ – extracted internal standard (surrogate)

² – injection internal standard

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

QTRAP 5500 Preventive Maintenance Checklist

Preventive Maintenance Date:	22-Feb-2017
Request ID:	3683
Company Name:	Battelle Memorial Institute
Instrument ID:	X60666
Instrument Model:	QTRAP 5500
Instrument Serial Number:	AU23051004

☒ **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: Kaustubh Dhayagude **Date:** 22-Feb-2017

Approved By : _____ **Date:** _____

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

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

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
☒ CAD 0	0.5	0.4 to 1.1 x10 ⁻⁵ Torr
☒ CAD Low	1.9	Read Only
☒ CAD Medium	2.4	Read Only
☒ CAD High	3.4	Read Only
☒ CAD 12	3.4	2.4 to 4.5 x10 ⁻⁵ 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	1.64 e6	Read Only	0.8095	Read Only
Q1 500.380	2.40 e7	Read Only	0.8592	Read Only
Q1 906.673	2.86 e7	Read Only	0.9633	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	1.26 e6	Read Only	0.6252	Read Only
Q3 500.380	2.19 e7	Read Only	0.7275	Read Only
Q3 906.673	3.02 e7	Read Only	0.7662	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: : 19.51% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	7.43 e7	Read Only	0.9981	Read Only
MS/MS 195.1	1.45 e7	Read Only	0.6582	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	1.43 e7	Read Only	0.7330	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	2.22 e7	Read Only	0.8138	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	3.35 e6	Read Only	0.6495	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 ⁻⁵ Torr)	Acceptance Criteria
☒ CAD 0	0.8	0.4 to 1.1 x10 ⁻⁵ Torr
☒ CAD Low	2.1	Read Only
☒ CAD Medium	2.6	Read Only
☒ CAD High	3.7	Read Only
☒ CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2 ^{e6}	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0 ^{e6}	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4 ^{e7}	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 ^{e7}	0.7656	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	4.54 e6	≥1.2 ^{e6}	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0 ^{e6}	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4 ^{e7}	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8 ^{e7}	0.7118	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: 16.93% (≥ 10.0%)

Mass	MSMS Intensity		Width Value	Width Specs
	Value	Spec		
Q1 609.3	5.74 e7	N/A	0.7667	Read Only
MS/MS 195.1	9.72 e6	N/A	0.6751	Read Only

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QTRAP 5500

LC/MS/MS Detector System

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	1.31 e7	$\geq 1.0^e7$	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	$\geq 4.0^e7$	0.6740	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	1.70 e7	$\geq 8.0^e6$	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	$\geq 4.0^e7$	0.7292	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	3.33 e6	Read Only	0.6387	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	8.08 e6	≥7.2 e6	0.1302	<0.35
ER 922.010	0.05	3.89 e7	≥2.8 e6	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	≥2.4 e7	0.3740	<0.65
ER 922.010	0.05	2.37 e8	≥6.8 e7	0.5407	<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	1.05 e8	≥4.4 ^{e7}	0.1840	<0.35
ER 601.978	0.05	7.74 e7	≥5.6 ^{e7}	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	≥1.2 ^{e8}	0.4382	<0.65
ER 601.978	0.05	2.55 e8	≥1.6 ^{e8}	0.6205	<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	> 3.5 e6	≥2.0 e6	> 4.0 e7	≥6.4 e6

- ☒ 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	3.2 e7	Contains only 397.2	N/A	N/A
☐ 236 OR ☒ 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 ^{e6}

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.



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JH20

Description: PFAS Branched

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
161230-01	br-PFHxSK	Neat	~50.0000 00	07/03/20	---	---	400 uL	1	10	~2.0000
161230-02	br-PFOSK	Neat	~50.0000 00	10/14/20	---	---	400 uL	1	10	~2.0000
161230-04	NaP3MHpS	Neat	~50.0000 00	06/10/20	---	---	400 uL	1	10	~2.0000
161230-05	NaP6MHpS	Neat	~50.0000 00	01/23/20	---	---	400 uL	1	10	~2.0000
161230-06	ipPFNS	Neat	~50.0000 00	09/23/20	---	---	400 uL	1	10	~2.0000
161230-07	T-PFOA	Neat	~50.0000 00	02/12/21	---	---	400 uL	1	10	~2.0000
161230-08	P3MHpA	Neat	~50.0000 00	06/10/20	---	---	400 uL	1	10	~2.0000
161230-09	P4MOA	Neat	~50.0000 00	06/10/20	---	---	400 uL	1	10	~2.0000
161230-10	ipPFNA	Neat	~50.0000 00	05/31/21	---	---	400 uL	1	10	~2.0000
161230-11	P355TMHxA	Neat	~50.0000 00	11/27/19	---	---	400 uL	1	10	~2.0000

Solution Prepared By: Schultz, Stephanie

Date Prepared: 2/1/2017

Expiration Date: 9/24/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: AgChem Laboratory: Cabinet - C0144

Balance ID:

Solvent: Lot:

Methanol 166003

Override On: Expires: Comment

03/12/18 DMS 09/24/19 Date extended due to manufacturers exp. Dat

Comment:

Approved By: Date:



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JH20

Description: PFAS Branched

161230-12	P37DMOA	Neat	~50.0000 00	09/24/19	---	---	400 uL	1	10	~2.0000
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Solution Prepared By: Schultz, Stephanie		Date Prepared: 2/1/2017	Expiration Date: 9/24/2019
Solution Volume 40 mL X 1 Vials		Refrigerator/Freezer No: AgChem Laboratory: Cabinet - C0144	
Balance ID: _____	Solvent: Methanol	Lot: 166003	Override On: 03/12/18 DMS
Comment:			Expires: 09/24/19
			Comment: Date extended due to manufacturers exp. Dat
Approved By: _____		Date: _____	



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JH20

Description: PFAS Branched

Stock Id: 161230-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
br-PFHxSK	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
br-PFOSK	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
NaP3MFpS	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-05

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
NaP6MHpS	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
ipPFNS	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-07

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
T-PFOA	400	50.00	1	97.000	1	10	2.00000

Stock Id: 161230-08

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
P3MHpA	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-09

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
P4MOA	400	50.00	1	98.000	1	10	2.00000

Stock Id: 161230-10

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
ipPFNA	400	50.00	1	98.000	1	10	2.00000

Solution Prepared By: Schultz, Stephanie

Date Prepared:

2/1/2017 Expiration Date:

9/24/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: AgChem Laboratory: Cabinet - C0144

Comment:

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JH20

Description: PFAS Branched

Stock ID: 161230-11

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
P355TMHxA	400	50.00	1	98.000	1	10	2.00000

Stock ID: 161230-12

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
P37DMOA	400	50.00	1	98.000	1	10	2.00000

Final Concentrations:

Analyte:	Conc (ug/mL):
br-PFHxSK	2.00000
br-PFOSK	2.00000
ipPFNA	2.00000
ipPFNS	2.00000
NaP3MFpS	2.00000
NaP6MHPs	2.00000
P355TMHxA	2.00000
P37DMOA	2.00000
P3MHPA	2.00000
P4MOA	2.00000
T-PFOA	2.00000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
161230-01	Pipette	B1100330B
161230-02	Pipette	B1100330B
161230-04	Pipette	B1100330B
161230-05	Pipette	B1100330B
161230-06	Pipette	B1100330B
161230-07	Pipette	B1100330B
161230-08	Pipette	B1100330B
161230-09	Pipette	B1100330B
161230-10	Pipette	B1100330B
161230-11	Pipette	B1100330B
161230-12	Pipette	B1100330B

Solution Prepared By: Schultz, Stephanie

Date Prepared:

2/1/2017

Expiration Date:

9/24/2019

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: AgChem Laboratory: Cabinet - C0144

Comment:

Approved By: _____

Date: _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JJ40

Description: PFAS - Branched Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JH20	PFAS Branched	Solution	~2	09/24/19	---	---	75 uL	1	25	~0.0060

Solution Prepared By: Schumitz, Denise	Date Prepared: 3/29/2017	Expiration Date: 9/24/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: AgChem Laboratory: Room - M0150	

Balance ID: _____

Comment: 96:4 Methanol:MilliQ (RP-170329-1)

Override On:	Expires:	Comment
03/12/18 DMS	09/24/19	Date extended due to manufacturers exp. Dat

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JJ40

Description: PFAS - Branched Stock

Stock ID: JH20

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
br-PFHxSK	75	2.00	---	---	1	25	0.00600
br-PFOSK	75	2.00	---	---	1	25	0.00600
ipPFNA	75	2.00	---	---	1	25	0.00600
ipPFNS	75	2.00	---	---	1	25	0.00600
NaP3MFpS	75	2.00	---	---	1	25	0.00600
NaP6MHpS	75	2.00	---	---	1	25	0.00600
P355TMHxA	75	2.00	---	---	1	25	0.00600
P37DMOA	75	2.00	---	---	1	25	0.00600
P3MHpA	75	2.00	---	---	1	25	0.00600
P4MOA	75	2.00	---	---	1	25	0.00600
T-PFOA	75	2.00	---	---	1	25	0.00600

Final Concentrations:

Analyte:	Conc (ug/mL):
br-PFHxSK	.00600
br-PFOSK	.00600
ipPFNA	.00600
ipPFNS	.00600
NaP3MFpS	.00600
NaP6MHpS	.00600
P355TMHxA	.00600
P37DMOA	.00600
P3MHpA	.00600
P4MOA	.00600
T-PFOA	.00600

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JH20	Pipette	I0793912B

Solution Prepared By: Schumitz, Denise Date Prepared: 3/29/2017 Expiration Date: 9/24/2019

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: AgChem Laboratory: Room - M0150

Comment: 96:4 Methanol:MilliQ (RP-170329-1)

Approved By: _____ Date: _____



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: **JP49**

Description: PFAS - DOD Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
171025-01	PFOA - 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schumitz, Denise

Date Prepared: 11/3/2017

Expiration Date: 11/3/2018

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Room - M0151

Balance ID: _____

Comment: 80:20 MeOH/ Milli-Q

Approved By: Schumitz, Denise Date: 11/7/2017 11:11:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **JP49**

Description: PFAS - DOD Second Source LCS/MS Solution

Stock Id: **171025-01**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanefulfonic Acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonic Acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulphonic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefulfonic Acid	.05050

Solution Prepared By: Schumitz, Denise Date Prepared: 11/3/2017 Expiration Date: 11/3/2018

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Room - M0151

Comment: 80:20 MeOH/ Milli-Q

Approved By: Schumitz, Denise Date: 11/7/2017 11:11:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JP49

Description: PFAS - DOD Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonic Acid	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulphonic Acid	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise	Date Prepared: 11/3/2017	Expiration Date: 11/3/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Room - M0151	

Comment: 80:20 MeOH/ Milli-Q

Approved By: Schumitz, Denise **Date:** 11/7/2017 11:11:00 AM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JR03

Description: PFAS -DoD Low ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
171025-02	PFOA - ICAL Mix	Neat	~1.00000 0	10/17/22	---	---	500 uL	1	100	~0.0050

Solution Prepared By: Schumitz, Denise

Date Prepared: 12/28/2017

Expiration Date: 12/28/2018

Solution Volume 25 mL X 4 Vials

Refrigerator/Freezer No: LC Laboratory: Room - M0151

Balance ID: _____

 Comment:

Approved By: Schumitz, Denise Date: 12/28/2017 2:31:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JR03

Description: PFAS -DoD Low ICAL Stock

Stock Id: 171025-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	100	0.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	100	0.00505
(NA) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	100	0.00500
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	100	0.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-butanefulfonic Acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-hexanesulfonic Acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	100	0.00500
Perfluoro-1-octanesulphonic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	100	0.00505
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluorononanoic Acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-pentanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	100	0.00500
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	100	0.00500
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	100	0.00500

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00505
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00500
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00500
(Na) Perfluoro-1-decanesulfonate	.00505
(NA) Perfluoro-1-heptanesulfonate	.00500
(Na) Perfluoro-1-nonanesulfonate	.00505
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanefulfonic Acid	.00505

Solution Prepared By: Schumitz, Denise	Date Prepared: 12/28/2017	Expiration Date: 12/28/2018
Solution Volume 25 mL X 4 Vials	Refrigerator/Freezer No: LC Laboratory: Room - M0151	

Comment:

Approved By: Schumitz, Denise Date: 12/28/2017 2:31:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JR03

Description: PFAS -DoD Low ICAL Stock

Perfluoro-1-hexanesulfonic Acid	.00505
Perfluoro-1-octanesulfonamide	.00500
Perfluoro-1-octanesulphonic Acid	.00500
Perfluoro-n-butanoic Acid	.00500
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00505
Perfluoro-n-octanoic Acid	.00500
Perfluorononanoic Acid	.00500
Perfluoro-n-pentanoic acid	.00500
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500
Sodium perfluoro-1-pentanesulfonate	.00500

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
171025-02	Pipette	B1100330B

Solution Prepared By: Schumitz, Denise	Date Prepared: 12/28/2017	Expiration Date: 12/28/2018
Solution Volume 25 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Room - M0151		

Comment:

Approved By: Schumitz, Denise Date: 12/28/2017 2:31:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JR04

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

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170629-02	Mass-labelled PFAS Extraction Standard Solution	Neat	~1.00000 0	05/19/22	---	---	1000 uL	1	50	~0.0200

Solution Prepared By: Schumitz, Denise	Date Prepared: 12/28/2017	Expiration Date: 12/28/2018
Solution Volume 25 mL X 2 Vials	Refrigerator/Freezer No: LC Laboratory: Room - M0151	

Balance ID: _____

Comment: 96:4 Methanol: Millipore

Approved By: Schumitz, Denise Date: 1/10/2018 12:00:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JR04

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

Stock Id: 170629-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	1000	1.00	1	100.000	1	50	0.02000
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-1-[13C8]octanesulfonamide	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2,3,4,5,6,7-13C7]undecanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2,3,4,5,6-13C6]decanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2,3,4,6-13C5]hexanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2,3,4-13C4]butanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2,3,4-13C4]heptanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2-13C2]dodecanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[1,2-13C2]tetradecanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[13C5]pentanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[13C8]octanoic acid	1000	1.00	1	100.000	1	50	0.02000
Perfluoro-n-[13C9]nonanoic acid	1000	1.00	1	100.000	1	50	0.02000
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]decan	1000	0.96	1	100.000	1	50	0.01916
sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]hexane	1000	0.94	1	100.000	1	50	0.01870
sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]octane	1000	0.95	1	100.000	1	50	0.01898
Sodium perfluoro-1-[1,2,3-13C3]hexanesulfonate	1000	0.95	1	100.000	1	50	0.01892
Sodium perfluoro-1-[13C8]octanesulfonate	1000	0.96	1	100.000	1	50	0.01914
Sodium perfluoro-1-[2,3,4-13C3]butanesulfonate	1000	0.93	1	100.000	1	50	0.01858

Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.02000
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-[13C8]octanesulfonamide	.02000
Perfluoro-n-[1,2,3,4,5,6,7-13C7]undecanoic acid	.02000
Perfluoro-n-[1,2,3,4,5,6-13C6]decanoic acid	.02000
Perfluoro-n-[1,2,3,4,6-13C5]hexanoic acid	.02000
Perfluoro-n-[1,2,3,4-13C4]butanoic acid	.02000
Perfluoro-n-[1,2,3,4-13C4]heptanoic acid	.02000
Perfluoro-n-[1,2-13C2]dodecanoic acid	.02000
Perfluoro-n-[1,2-13C2]tetradecanoic acid	.02000
Perfluoro-n-[13C5]pentanoic acid	.02000
Perfluoro-n-[13C8]octanoic acid	.02000
Perfluoro-n-[13C9]nonanoic acid	.02000
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]decanesulfonat	.01916

Solution Prepared By: Schumitz, Denise

Date Prepared:

12/28/2017

Expiration Date:

12/28/2018

Solution Volume

25

mL X

2

Vials Refrigerator/Freezer No:

LC Laboratory: Room - M0151

Comment:

96:4 Methanol: Millipore

Approved By: Schumitz, Denise

Date:

1/10/2018 12:00:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JR04

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

sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]hexanesulfonat	.01870
sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]octanesulfonat	.01898
Sodium perfluoro-1-[1,2,3-13C3]hexanesulfonate	.01892
Sodium perfluoro-1-[13C8]octanesulfonate	.01914
Sodium perfluoro-1-[2,3,4-13C3]butanesulfonate	.01858

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise	Date Prepared: 12/28/2017	Expiration Date: 12/28/2018
Solution Volume 25 mL X 2 Vials	Refrigerator/Freezer No: LC Laboratory: Room - M0151	

Comment: 96:4 Methanol: Millipore

Approved By: Schumitz, Denise Date: 1/10/2018 12:00:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JR06

Description: PFAS - DoD Internal Standard Stock Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
170629-03	Mass-labeled PFAS Injection Standards Solution	Neat	~2.00000 0	05/02/22	---	---	1000 uL	1	100	~0.0200

Solution Prepared By: Schumitz, Denise	Date Prepared: 12/28/2017	Expiration Date: 12/28/2018
Solution Volume 25 mL X 4 Vials	Refrigerator/Freezer No: LC Laboratory: Room - M0151	

Balance ID: _____

Comment: 96:4 Methanol:Millipore

Approved By: Schumitz, Denise Date: 12/28/2017 2:31:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JR06

Description: PFAS - DoD Internal Standard Stock Solution

Stock Id: 170629-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
Perfluoro-1-[1,2,3,4-13C4]octanesulfonate	1000	1.91	1	100.000	1	100	0.01910
Perfluoro-n-[1,2-13C2]decanoic acid	1000	2.00	1	100.000	1	100	0.02000
Perfluoro-n-[1,2-13C2]octanoic acid	1000	2.00	1	100.000	1	100	0.02000
Perfluoro-n-[2,3,4-13C3]butanoic Acid	1000	2.00	1	100.000	1	100	0.02000

Final Concentrations:

Analyte:	Conc (ug/mL):
Perfluoro-1-[1,2,3,4-13C4]octanesulfonate	.01910
Perfluoro-n-[1,2-13C2]decanoic acid	.02000
Perfluoro-n-[1,2-13C2]octanoic acid	.02000
Perfluoro-n-[2,3,4-13C3]butanoic Acid	.02000

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise Date Prepared: 12/28/2017 Expiration Date: 12/28/2018

Solution Volume 25 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Room - M0151

Comment: 96:4 Methanol:Millipore

Approved By: Schumitz, Denise Date: 12/28/2017 2:31:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV05

Description: PFAS - DoD Instrument Blank

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schumitz, Denise	Date Prepared: 4/25/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0110	

Balance ID: _____

Comment:

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV05**

Description: PFAS - DoD Instrument Blank

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010

Solution Prepared By: Schumitz, Denise

Date Prepared:

4/25/2018

Expiration Date:

12/28/2018

Solution Volume

40

mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0110

Comment:

Approved By:

Date:

It can be done**Standard Solution Concentrations****Approved:** ☐**Standard Laboratory ID Number:** **JV05****Description:** PFAS - DoD Instrument Blank

13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010
13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Schumitz, Denise	Date Prepared: 4/25/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0110	

Comment:**Approved By:** _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV16

Description: PFAS - DoD Branched Standard

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000
JJ40	PFAS - Branched Stock	Solution	~0	09/24/19	---	---	2080 uL	1	5	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 4/26/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: AgChem Laboratory: Refrigerator - R0124	

Balance ID:

Comment:

80/20 methanol/milli-q

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV16

Description: PFAS - DoD Branched Standard

Stock Id: JJ40

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
br-PFHxSK	2080	0.01	---	---	1	5	0.00250
br-PFOSK	2080	0.01	---	---	1	5	0.00250
ipPFNA	2080	0.01	---	---	1	5	0.00250
ipPFNS	2080	0.01	---	---	1	5	0.00250
NaP3MFpS	2080	0.01	---	---	1	5	0.00250
NaP6MHpS	2080	0.01	---	---	1	5	0.00250
P355TMHxA	2080	0.01	---	---	1	5	0.00250
P37DMOA	2080	0.01	---	---	1	5	0.00250
P3MHpA	2080	0.01	---	---	1	5	0.00250
P4MOA	2080	0.01	---	---	1	5	0.00250
T-PFOA	2080	0.01	---	---	1	5	0.00250

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.02	---	---	1	5	0.00009
13C2-6:2FTS	25	0.02	---	---	1	5	0.00009
13C2-8:2FTS	25	0.02	---	---	1	5	0.00010
13C2-PFDaA	25	0.02	---	---	1	5	0.00010
13C2-PFTeDA	25	0.02	---	---	1	5	0.00010
13C3-PFBS	25	0.02	---	---	1	5	0.00009
13C3-PFHxS	25	0.02	---	---	1	5	0.00009
13C4-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFHpA	25	0.02	---	---	1	5	0.00010
13C5-PFHxA	25	0.02	---	---	1	5	0.00010
13C5-PFPeA	25	0.02	---	---	1	5	0.00010
13C6-PFDA	25	0.02	---	---	1	5	0.00010
13C7-PFUnA	25	0.02	---	---	1	5	0.00010
13C8-FOSA	25	0.02	---	---	1	5	0.00010
13C8-PFOA	25	0.02	---	---	1	5	0.00010
13C8-PFOS	25	0.02	---	---	1	5	0.00010
13C9-PFNA	25	0.02	---	---	1	5	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	25	0.02	---	---	1	5	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	25	0.02	---	---	1	5	0.00010

Solution Prepared By: Schultz, Stephanie

Date Prepared:

4/26/2018

Expiration Date:

12/28/2018

Solution Volume

40 mL X

1

Vials

Refrigerator/Freezer No:

AgChem Laboratory: Refrigerator - R0124

Comment:

80/20 methanol/milli-q

Approved By: _____ **Date:** _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV16**

Description: PFAS - DoD Branched Standard

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.02	---	---	1	5	0.00010
13C2-PFOA	25	0.02	---	---	1	5	0.00010
13C3-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFOS	25	0.02	---	---	1	5	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010
13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
br-PFHxSK	.00250
br-PFOSK	.00250
ipPFNA	.00250
ipPFNS	.00250
NaP3MFpS	.00250
NaP6MHpS	.00250
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010

Solution Prepared By: Schultz, Stephanie Date Prepared: 4/26/2018 Expiration Date: 12/28/2018

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: AgChem Laboratory: Refrigerator - R0124

Comment: 80/20 methanol/milli-q

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV16

Description: PFAS - DoD Branched Standard

P355TMHxA	.00250
P37DMOA	.00250
P3MHpA	.00250
P4MOA	.00250
T-PFOA	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 4/26/2018 **Expiration Date:** 12/28/2018

Solution Volume 40 mL X 1 **Vials** **Refrigerator/Freezer No:** AgChem Laboratory: Refrigerator - R0124

Comment: 80/20 methanol/milli-q

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV20

Description: PFAS - DoD Calibration L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR03	PFAS -DoD Low ICAL Stock	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV20**

Description: PFAS - DoD Calibration L1

Stock Id: **JR03**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	50	0.01	---	---	1	10	0.00003
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	50	0.01	---	---	1	10	0.00003
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	50	0.01	---	---	1	10	0.00003
(Na) Perfluoro-1-decanesulfonate	50	0.01	---	---	1	10	0.00003
(Na) Perfluoro-1-heptanesulfonate	50	0.01	---	---	1	10	0.00003
(Na) Perfluoro-1-nonanesulfonate	50	0.01	---	---	1	10	0.00003
N-ethylperfluoro-octanesulfonamidoacetic acid	50	0.01	---	---	1	10	0.00003
N-methylperfluoro-1-octanesulfonamidoacetic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-1-butanedisulfonate	50	0.01	---	---	1	10	0.00003
Perfluoro-1-hexanesulfonate	50	0.01	---	---	1	10	0.00003
Perfluoro-1-octanesulfonamide	50	0.01	---	---	1	10	0.00003
Perfluoro-1-octanesulfonate	50	0.01	---	---	1	10	0.00003
Perfluoro-n-butanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-decanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-dodecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-heptanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-hexanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-octanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluorononanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-pentanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-tetradecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-tridecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-undecanoic acid	50	0.01	---	---	1	10	0.00003
Sodium perfluoro-1-pentanesulfonate	50	0.01	---	---	1	10	0.00003

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25

mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV20**

Description: PFAS - DoD Calibration L1

13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00003
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00003
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00003
(Na) Perfluoro-1-decanesulfonate	.00003
(NA) Perfluoro-1-heptanesulfonate	.00003
(Na) Perfluoro-1-nonanesulfonate	.00003
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80:20 MeOH/Milli-Q RP-180501-2		

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV20

Description: PFAS - DoD Calibration L1

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00003
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00003
Perfluoro-1-butanefulfonate	.00003
Perfluoro-1-hexanesulfonate	.00003
Perfluoro-1-octanesulfonamide	.00003
Perfluoro-1-octanesulfonate	.00003
Perfluoro-n-butyanoic Acid	.00003
Perfluoro-n-decanoic Acid	.00003
Perfluoro-n-dodecanoic acid	.00003
Perfluoro-n-heptanoic Acid	.00003
Perfluoro-n-hexanoic acid	.00003
Perfluoro-n-octanoic Acid	.00003
Perfluorononanoic Acid	.00003
Perfluoro-n-pentanoic acid	.00003
Perfluoro-n-tetradecanoic acid	.00003
Perfluoro-n-tridecanoic acid	.00003
Perfluoro-n-undecanoic acid	.00003
Sodium perfluoro-1-pentanesulfonate	.00003

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR03	Pipette	I0793912B
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80:20 MeOH/Milli-Q RP-180501-2						

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV21

Description: PFAS - DoD Calibration L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR03	PFAS -DoD Low ICAL Stock	Solution	~0	12/28/18	---	---	100 uL	1	10	~0.0000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV21**

Description: PFAS - DoD Calibration L2

Stock Id: **JR03**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.01	---	---	1	10	0.00005
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.01	---	---	1	10	0.00005
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.01	---	---	1	10	0.00005
(Na) Perfluoro-1-decanesulfonate	100	0.01	---	---	1	10	0.00005
(Na) Perfluoro-1-heptanesulfonate	100	0.01	---	---	1	10	0.00005
(Na) Perfluoro-1-nonanesulfonate	100	0.01	---	---	1	10	0.00005
N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.01	---	---	1	10	0.00005
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-1-butanedisulfonate	100	0.01	---	---	1	10	0.00005
Perfluoro-1-hexanedisulfonate	100	0.01	---	---	1	10	0.00005
Perfluoro-1-octanesulfonamide	100	0.01	---	---	1	10	0.00005
Perfluoro-1-octanesulfonate	100	0.01	---	---	1	10	0.00005
Perfluoro-n-butanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-decanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-dodecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-heptanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-hexanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-octanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluorononanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-pentanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-tetradecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-tridecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-undecanoic acid	100	0.01	---	---	1	10	0.00005
Sodium perfluoro-1-pentanesulfonate	100	0.01	---	---	1	10	0.00005

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25

mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV21**

Description: PFAS - DoD Calibration L2

13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00005
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00005
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00005
(Na) Perfluoro-1-decanesulfonate	.00005
(NA) Perfluoro-1-heptanesulfonate	.00005
(Na) Perfluoro-1-nonanesulfonate	.00005
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80:20 MeOH/Milli-Q RP-180501-2		

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV21

Description: PFAS - DoD Calibration L2

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00005
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00005
Perfluoro-1-butanefulfonate	.00005
Perfluoro-1-hexanesulfonate	.00005
Perfluoro-1-octanesulfonamide	.00005
Perfluoro-1-octanesulfonate	.00005
Perfluoro-n-butyanoic Acid	.00005
Perfluoro-n-decanoic Acid	.00005
Perfluoro-n-dodecanoic acid	.00005
Perfluoro-n-heptanoic Acid	.00005
Perfluoro-n-hexanoic acid	.00005
Perfluoro-n-octanoic Acid	.00005
Perfluorononanoic Acid	.00005
Perfluoro-n-pentanoic acid	.00005
Perfluoro-n-tetradecanoic acid	.00005
Perfluoro-n-tridecanoic acid	.00005
Perfluoro-n-undecanoic acid	.00005
Sodium perfluoro-1-pentanesulfonate	.00005

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR03	Pipette	I0793912B
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2					

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV22

Description: PFAS - DoD Calibration L3

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR03	PFAS -DoD Low ICAL Stock	Solution	~0	12/28/18	---	---	200 uL	1	10	~0.0000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV22**

Description: PFAS - DoD Calibration L3

Stock Id: **JR03**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-decanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-heptanesulfonate	200	0.01	---	---	1	10	0.00010
(Na) Perfluoro-1-nonanesulfonate	200	0.01	---	---	1	10	0.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-1-butanedisulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanedisulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanedisulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanedisulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanedioic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanedioic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanedioic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanedioic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanedioic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanedioic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanedioic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanedioic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanedioic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanedioic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanedioic acid	200	0.01	---	---	1	10	0.00010
Sodium perfluoro-1-pentanesulfonate	200	0.01	---	---	1	10	0.00010

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25

mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:



It can be done

Standard Solution Concentrations

Approved: ☐Standard Laboratory ID Number: **JV22**

Description: PFAS - DoD Calibration L3

13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00010
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00010
(Na) Perfluoro-1-decanesulfonate	.00010
(NA) Perfluoro-1-heptanesulfonate	.00010
(Na) Perfluoro-1-nonanesulfonate	.00010
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____

Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV22

Description: PFAS - DoD Calibration L3

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanefulfonate	.00010
Perfluoro-1-hexanesulfonate	.00010
Perfluoro-1-octanesulfonamide	.00010
Perfluoro-1-octanesulfonate	.00010
Perfluoro-n-butanoic Acid	.00010
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluorononanoic Acid	.00010
Perfluoro-n-pentanoic acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010
Sodium perfluoro-1-pentanesulfonate	.00010

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR03	Pipette	A0200765B
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2					

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV23

Description: PFAS - DoD Calibration L4

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR03	PFAS -DoD Low ICAL Stock	Solution	~0	12/28/18	---	---	500 uL	1	10	~0.0000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: **JV23**

Description: PFAS - DoD Calibration L4

Stock Id: **JR03**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-decanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-heptanesulfonate	500	0.01	---	---	1	10	0.00025
(Na) Perfluoro-1-nonanesulfonate	500	0.01	---	---	1	10	0.00025
N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-1-butanedisulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanedisulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanedisulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanedisulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanedioic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanedioic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanedioic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanedioic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanedioic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanedioic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanedioic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanedioic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanedioic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanedioic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanedioic acid	500	0.01	---	---	1	10	0.00025
Sodium perfluoro-1-pentanesulfonate	500	0.01	---	---	1	10	0.00025

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25

mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:



It can be done

Standard Solution Concentrations

Approved: ☐Standard Laboratory ID Number: **JV23**

Description: PFAS - DoD Calibration L4

13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: **JR06**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00025
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00025
(Na) Perfluoro-1-decanesulfonate	.00025
(NA) Perfluoro-1-heptanesulfonate	.00025
(Na) Perfluoro-1-nonanesulfonate	.00025
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____

Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV23

Description: PFAS - DoD Calibration L4

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanedisulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butyric Acid	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
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
Sodium perfluoro-1-pentanesulfonate	.00025

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR03	Pipette	C0982448K
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80:20 MeOH/Milli-Q RP-180501-2						

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐Standard Laboratory ID Number: **JV24**

Description: PFAS - DoD Calibration L5

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV29	PFAS - DoD High ICAL Stock	Solution	~1	05/01/19	---	---	100 uL	1	10	~0.0100
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV24

Description: PFAS - DoD Calibration L5

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Stock Id: JV29

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	100	0.05	---	---	1	10	0.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-decanesulfonate	100	0.05	---	---	1	10	0.00051
(Na) Perfluoro-1-heptanesulfonate	100	0.05	---	---	1	10	0.00050
(Na) Perfluoro-1-nonanesulfonate	100	0.05	---	---	1	10	0.00051

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV24

Description: PFAS - DoD Calibration L5

N-ethylperfluoro-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-1-butanedisulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanedisulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-octanesulfonamide	100	0.05	---	---	1	10	0.00050
Perfluoro-1-octanesulfonate	100	0.05	---	---	1	10	0.00050
Perfluoro-n-butanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-decanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	100	0.05	---	---	1	10	0.00051
Perfluoro-n-octanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluorononanoic Acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-pentanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tetradecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	100	0.05	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	100	0.05	---	---	1	10	0.00050
Sodium perfluoro-1-pentanesulfonate	100	0.05	---	---	1	10	0.00050

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00051
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00050
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00050
(Na) Perfluoro-1-decanedisulfonate	.00051
(Na) Perfluoro-1-heptanedisulfonate	.00050
(Na) Perfluoro-1-nonanedisulfonate	.00051
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren		Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume	25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2		

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV24

Description: PFAS - DoD Calibration L5

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanefulfonate	.00051
Perfluoro-1-hexanesulfonate	.00051
Perfluoro-1-octanesulfonamide	.00050
Perfluoro-1-octanesulfonate	.00050
Perfluoro-n-butanoic Acid	.00050
Perfluoro-n-decanoic Acid	.00050
Perfluoro-n-dodecanoic acid	.00050
Perfluoro-n-heptanoic Acid	.00050
Perfluoro-n-hexanoic acid	.00051
Perfluoro-n-octanoic Acid	.00050
Perfluorononanoic Acid	.00050
Perfluoro-n-pentanoic acid	.00050
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050
Sodium perfluoro-1-pentanesulfonate	.00050

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B
JV29	Pipette	I0793912B

Solution Prepared By: Griffith, Lauren **Date Prepared:** 5/1/2018 **Expiration Date:** 12/28/2018

Solution Volume 25 mL X 1 **Vials Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV25

Description: PFAS - DoD Calibration L6

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV29	PFAS - DoD High ICAL Stock	Solution	~1	05/01/19	---	---	200 uL	1	10	~0.0200
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV25

Description: PFAS - DoD Calibration L6

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Stock Id: JV29

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(NA) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV25

Description: PFAS - DoD Calibration L6

N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanedisulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanedisulfonate	.00101
(NA) Perfluoro-1-heptanedisulfonate	.00100
(Na) Perfluoro-1-nonanedisulfonate	.00101
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren		Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume	25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2		

Approved By: _____ **Date:** _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV25

Description: PFAS - DoD Calibration L6

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B
JV29	Pipette	A0200765B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2					

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV26

Description: PFAS - DoD Calibration L7

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV29	PFAS - DoD High ICAL Stock	Solution	~1	05/01/19	---	---	500 uL	1	10	~0.0500
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV26

Description: PFAS - DoD Calibration L7

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Stock Id: JV29

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	0.05	---	---	1	10	0.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	0.05	---	---	1	10	0.00250
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-decanesulfonate	500	0.05	---	---	1	10	0.00253
(NA) Perfluoro-1-heptanesulfonate	500	0.05	---	---	1	10	0.00250
(Na) Perfluoro-1-nonanesulfonate	500	0.05	---	---	1	10	0.00253

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV26

Description: PFAS - DoD Calibration L7

N-ethylperfluoro-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-1-butanedisulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-hexanesulfonate	500	0.05	---	---	1	10	0.00253
Perfluoro-1-octanesulfonamide	500	0.05	---	---	1	10	0.00250
Perfluoro-1-octanesulfonate	500	0.05	---	---	1	10	0.00250
Perfluoro-n-butanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-decanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-dodecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-heptanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-hexanoic acid	500	0.05	---	---	1	10	0.00253
Perfluoro-n-octanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluorononanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-pentanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-tetradecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-tridecanoic acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-undecanoic acid	500	0.05	---	---	1	10	0.00250
Sodium perfluoro-1-pentanesulfonate	500	0.05	---	---	1	10	0.00250

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00253
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00250
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00250
(Na) Perfluoro-1-decanedisulfonate	.00253
(NA) Perfluoro-1-heptanedisulfonate	.00250
(Na) Perfluoro-1-nonanedisulfonate	.00253
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV26

Description: PFAS - DoD Calibration L7

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butyanoic Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
Perfluoro-n-octanoic Acid	.00250
Perfluorononanoic Acid	.00250
Perfluoro-n-pentanoic acid	.00250
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250
Sodium perfluoro-1-pentanesulfonate	.00250

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B
JV29	Pipette	C0896244B

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume		25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107			
Comment:		80:20 MeOH/Milli-Q RP-180501-2				

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV27

Description: PFAS - DoD Calibration L8

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV29	PFAS - DoD High ICAL Stock	Solution	~1	05/01/19	---	---	1000 uL	1	5	~0.2000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV27

Description: PFAS - DoD Calibration L8

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.02	---	---	1	5	0.00009
13C2-6:2FTS	25	0.02	---	---	1	5	0.00009
13C2-8:2FTS	25	0.02	---	---	1	5	0.00010
13C2-PFDoA	25	0.02	---	---	1	5	0.00010
13C2-PFTeDA	25	0.02	---	---	1	5	0.00010
13C3-PFBS	25	0.02	---	---	1	5	0.00009
13C3-PFHxS	25	0.02	---	---	1	5	0.00009
13C4-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFHpA	25	0.02	---	---	1	5	0.00010
13C5-PFHxA	25	0.02	---	---	1	5	0.00010
13C5-PFPeA	25	0.02	---	---	1	5	0.00010
13C6-PFDA	25	0.02	---	---	1	5	0.00010
13C7-PFUnA	25	0.02	---	---	1	5	0.00010
13C8-FOSA	25	0.02	---	---	1	5	0.00010
13C8-PFOA	25	0.02	---	---	1	5	0.00010
13C8-PFOS	25	0.02	---	---	1	5	0.00010
13C9-PFNA	25	0.02	---	---	1	5	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	25	0.02	---	---	1	5	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	25	0.02	---	---	1	5	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.02	---	---	1	5	0.00010
13C2-PFOA	25	0.02	---	---	1	5	0.00010
13C3-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFOS	25	0.02	---	---	1	5	0.00010

Stock Id: JV29

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	0.05	---	---	1	5	0.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	0.05	---	---	1	5	0.01000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-decanesulfonate	1000	0.05	---	---	1	5	0.01010
(NA) Perfluoro-1-heptanesulfonate	1000	0.05	---	---	1	5	0.01000
(Na) Perfluoro-1-nonanesulfonate	1000	0.05	---	---	1	5	0.01010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume 25 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV27

Description: PFAS - DoD Calibration L8

N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-butanedisulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-hexanedisulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-octanesulfonamide	1000	0.05	---	---	1	5	0.01000
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-butanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	5	0.01010
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluorononanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-pentanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	5	0.01000
Sodium perfluoro-1-pentanesulfonate	1000	0.05	---	---	1	5	0.01000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.01010
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.01000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.01000
(Na) Perfluoro-1-decanedisulfonate	.01010
(Na) Perfluoro-1-heptanedisulfonate	.01000
(Na) Perfluoro-1-nonanedisulfonate	.01010
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren		Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume	25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2		

Approved By: _____ **Date:** _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV27

Description: PFAS - DoD Calibration L8

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefulfonate	.01010
Perfluoro-1-hexanesulfonate	.01010
Perfluoro-1-octanesulfonamide	.01000
Perfluoro-1-octanesulfonate	.01000
Perfluoro-n-butanoic Acid	.01000
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01010
Perfluoro-n-octanoic Acid	.01000
Perfluorononanoic Acid	.01000
Perfluoro-n-pentanoic acid	.01000
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000
Sodium perfluoro-1-pentanesulfonate	.01000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B
JV29	Pipette	C0982448K

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment:	80:20 MeOH/Milli-Q RP-180501-2					

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐Standard Laboratory ID Number: **JV28**

Description: PFAS - DoD Calibration L9

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV29	PFAS - DoD High ICAL Stock	Solution	~1	05/01/19	---	---	2000 uL	1	5	~0.4000
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	25 uL	1	5	~0.0000

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 12/28/2018
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐Standard Laboratory ID Number: **JV28**

Description: PFAS - DoD Calibration L9

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	25	0.02	---	---	1	5	0.00009
13C2-6:2FTS	25	0.02	---	---	1	5	0.00009
13C2-8:2FTS	25	0.02	---	---	1	5	0.00010
13C2-PFDoA	25	0.02	---	---	1	5	0.00010
13C2-PFTeDA	25	0.02	---	---	1	5	0.00010
13C3-PFBS	25	0.02	---	---	1	5	0.00009
13C3-PFHxS	25	0.02	---	---	1	5	0.00009
13C4-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFHpA	25	0.02	---	---	1	5	0.00010
13C5-PFHxA	25	0.02	---	---	1	5	0.00010
13C5-PFPeA	25	0.02	---	---	1	5	0.00010
13C6-PFDA	25	0.02	---	---	1	5	0.00010
13C7-PFUnA	25	0.02	---	---	1	5	0.00010
13C8-FOSA	25	0.02	---	---	1	5	0.00010
13C8-PFOA	25	0.02	---	---	1	5	0.00010
13C8-PFOS	25	0.02	---	---	1	5	0.00010
13C9-PFNA	25	0.02	---	---	1	5	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	25	0.02	---	---	1	5	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	25	0.02	---	---	1	5	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	25	0.02	---	---	1	5	0.00010
13C2-PFOA	25	0.02	---	---	1	5	0.00010
13C3-PFBA	25	0.02	---	---	1	5	0.00010
13C4-PFOS	25	0.02	---	---	1	5	0.00010

Stock Id: JV29

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	2000	0.05	---	---	1	5	0.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	2000	0.05	---	---	1	5	0.02000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-decanesulfonate	2000	0.05	---	---	1	5	0.02020
(NA) Perfluoro-1-heptanesulfonate	2000	0.05	---	---	1	5	0.02000
(Na) Perfluoro-1-nonanesulfonate	2000	0.05	---	---	1	5	0.02020

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By: _____

Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV28

Description: PFAS - DoD Calibration L9

N-ethylperfluoro-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
N-methylperfluoro-1-octanesulfonamidoacetic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-butanedisulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-hexanedisulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-octanesulfonamide	2000	0.05	---	---	1	5	0.02000
Perfluoro-1-octanesulfonate	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-butanedioic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-decanedioic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-dodecanedioic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-heptanedioic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-hexanedioic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-octanedioic Acid	2000	0.05	---	---	1	5	0.02000
Perfluorononanedioic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-pentanedioic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tetradecanedioic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tridecanedioic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-undecanedioic acid	2000	0.05	---	---	1	5	0.02000
Sodium perfluoro-1-pentanesulfonate	2000	0.05	---	---	1	5	0.02000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.02020
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.02000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.02000
(Na) Perfluoro-1-decanedisulfonate	.02020
(NA) Perfluoro-1-heptanedisulfonate	.02000
(Na) Perfluoro-1-nonanedisulfonate	.02020
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

12/28/2018

Solution Volume

25 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

80:20 MeOH/Milli-Q RP-180501-2

Approved By:

Date:



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV28

Description: PFAS - DoD Calibration L9

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.02000
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.02000
Perfluoro-1-butanedisulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butyric Acid	.02000
Perfluoro-n-decanoic Acid	.02000
Perfluoro-n-dodecanoic acid	.02000
Perfluoro-n-heptanoic Acid	.02000
Perfluoro-n-hexanoic acid	.02020
Perfluoro-n-octanoic Acid	.02000
Perfluorononanoic Acid	.02000
Perfluoro-n-pentanoic acid	.02000
Perfluoro-n-tetradecanoic acid	.02000
Perfluoro-n-tridecanoic acid	.02000
Perfluoro-n-undecanoic acid	.02000
Sodium perfluoro-1-pentanesulfonate	.02000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B
JV29	Pipette	B641148506

Solution Prepared By: Griffith, Lauren			Date Prepared: 5/1/2018		Expiration Date: 12/28/2018	
Solution Volume	25	mL X	1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 80:20 MeOH/Milli-Q RP-180501-2						

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JV29

Description: PFAS - DoD High ICAL Stock

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
171025-02	PFOA - ICAL Mix	Neat	~1.00000 0	10/17/22	---	---	500 uL	1	10	~0.0500

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 5/1/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: AgChem Laboratory: Refrigerator - R0124	

Balance ID: _____

Comment: 96:4 Methanol/Milli-q water

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV29

Description: PFAS - DoD High ICAL Stock

Stock Id: 171025-02

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-decanesulfonate	500	1.01	1	100.000	1	10	0.05050
(Na) Perfluoro-1-heptanesulfonate	500	1.00	1	100.000	1	10	0.05000
(Na) Perfluoro-1-nonanesulfonate	500	1.01	1	100.000	1	10	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-butanedisulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-hexanesulfonate	500	1.01	1	100.000	1	10	0.05050
Perfluoro-1-octanesulfonamide	500	1.00	1	100.000	1	10	0.05000
Perfluoro-1-octanesulfonate	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-butanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-decanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-dodecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-heptanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-hexanoic acid	500	1.01	1	100.000	1	10	0.05050
Perfluoro-n-octanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluorononanoic Acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-pentanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-tetradecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-tridecanoic acid	500	1.00	1	100.000	1	10	0.05000
Perfluoro-n-undecanoic acid	500	1.00	1	100.000	1	10	0.05000
Sodium perfluoro-1-pentanesulfonate	500	1.00	1	100.000	1	10	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(Na) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanedisulfonate	.05050

Solution Prepared By: Griffith, Lauren	Date Prepared: 5/1/2018	Expiration Date: 5/1/2019
Solution Volume 25 mL X 1 Vials	Refrigerator/Freezer No: AgChem Laboratory: Refrigerator - R0124	

Comment: 96:4 Methanol/Milli-q water

Approved By: _____ **Date:** _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JV29

Description: PFAS - DoD High ICAL Stock

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
171025-02	Pipette	C0982448K

Solution Prepared By: Griffith, Lauren

Date Prepared:

5/1/2018

Expiration Date:

5/1/2019

Solution Volume 25 mL X 1 Vials **Refrigerator/Freezer No:** AgChem Laboratory: Refrigerator - R0124

Comment: 96:4 Methanol/Milli-q water

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☒Standard Laboratory ID Number: **JV83**

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

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	2500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/8/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 methanol/milli-q

Approved By: Thorn, Jonathan Date: 5/10/2018 3:34:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **JV83**

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

Stock Id: **JR04**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	2500	0.02	---	---	1	25	0.00187
13C2-6:2FTS	2500	0.02	---	---	1	25	0.00190
13C2-8:2FTS	2500	0.02	---	---	1	25	0.00192
13C2-PFDoA	2500	0.02	---	---	1	25	0.00200
13C2-PFTeDA	2500	0.02	---	---	1	25	0.00200
13C3-PFBS	2500	0.02	---	---	1	25	0.00186
13C3-PFHxS	2500	0.02	---	---	1	25	0.00189
13C4-PFBA	2500	0.02	---	---	1	25	0.00200
13C4-PFHpA	2500	0.02	---	---	1	25	0.00200
13C5-PFHxA	2500	0.02	---	---	1	25	0.00200
13C5-PFPeA	2500	0.02	---	---	1	25	0.00200
13C6-PFDA	2500	0.02	---	---	1	25	0.00200
13C7-PFUnA	2500	0.02	---	---	1	25	0.00200
13C8-FOSA	2500	0.02	---	---	1	25	0.00200
13C8-PFOA	2500	0.02	---	---	1	25	0.00200
13C8-PFOS	2500	0.02	---	---	1	25	0.00191
13C9-PFNA	2500	0.02	---	---	1	25	0.00200
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	2500	0.02	---	---	1	25	0.00200
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	2500	0.02	---	---	1	25	0.00200

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-4:2FTS	.00187
13C2-6:2FTS	.00190
13C2-8:2FTS	.00192
13C2-PFDoA	.00200
13C2-PFTeDA	.00200
13C3-PFBS	.00186
13C3-PFHxS	.00189
13C4-PFBA	.00200
13C4-PFHpA	.00200
13C5-PFHxA	.00200
13C5-PFPeA	.00200
13C6-PFDA	.00200
13C7-PFUnA	.00200
13C8-FOSA	.00200

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/8/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 96/4 methanol/milli-q		

Approved By: Thorn, Jonathan Date: 5/10/2018 3:34:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: **JV83**

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

13C8-PFOA	.00200
13C8-PFOS	.00191
13C9-PFNA	.00200
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00200

Syringes/Pipettes:

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/8/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	
Comment: 96/4 methanol/milli-q		

Approved By: Thorn, Jonathan **Date:** 5/10/2018 3:34:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JW02

Description: PFAS - DoD Internal Standard Spiking Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	2500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/10/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 5/16/2018 2:50:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JW02

Description: PFAS - DoD Internal Standard Spiking Solution

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	2500	0.02	---	---	1	25	0.00200
13C2-PFOA	2500	0.02	---	---	1	25	0.00200
13C3-PFBA	2500	0.02	---	---	1	25	0.00200
13C4-PFOS	2500	0.02	---	---	1	25	0.00191

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00200
13C2-PFOA	.00200
13C3-PFBA	.00200
13C4-PFOS	.00191

Syringes/Pipettes:

Solution Prepared By: Schultz, Stephanie Date Prepared: 5/10/2018 Expiration Date: 12/28/2018

Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 Methanol/milli-q water

Approved By: Schumitz, Denise Date: 5/16/2018 2:50:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JW32

Description: PFAS - DoD ICC

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JR04	PFAS - DoD High Level Labelled Extracted Internal Standards (SIS)	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JR06	PFAS - DoD Internal Standard Stock Solution	Solution	~0	12/28/18	---	---	50 uL	1	10	~0.0000
JP49	PFAS - DOD Second Source LCS/MS Solution	Solution	~0	11/03/18	---	---	200 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/16/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐
Standard Laboratory ID Number: JW32

Description: PFAS - DoD ICC

Stock Id: JP49

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	200	0.05	---	---	1	10	0.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-decanesulfonate	200	0.05	---	---	1	10	0.00101
(Na) Perfluoro-1-heptanesulfonate	200	0.05	---	---	1	10	0.00100
(Na) Perfluoro-1-nonanesulfonate	200	0.05	---	---	1	10	0.00101
N-ethylperfluoro-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-1-butanedisulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00101
Perfluoro-1-octanesulfonamide	200	0.05	---	---	1	10	0.00100
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00100
Perfluoro-n-butanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-decanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-dodecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-heptanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-hexanoic acid	200	0.05	---	---	1	10	0.00101
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-pentanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tetradecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-tridecanoic acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-undecanoic acid	200	0.05	---	---	1	10	0.00100
Sodium perfluoro-1-pentanesulfonate	200	0.05	---	---	1	10	0.00100

Stock Id: JR04

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-4:2FTS	50	0.02	---	---	1	10	0.00009
13C2-6:2FTS	50	0.02	---	---	1	10	0.00009
13C2-8:2FTS	50	0.02	---	---	1	10	0.00010
13C2-PFDoA	50	0.02	---	---	1	10	0.00010
13C2-PFTeDA	50	0.02	---	---	1	10	0.00010
13C3-PFBS	50	0.02	---	---	1	10	0.00009
13C3-PFHxS	50	0.02	---	---	1	10	0.00009
13C4-PFBA	50	0.02	---	---	1	10	0.00010

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 5/16/2018 **Expiration Date:** 12/28/2018

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: _____ **Date:** _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JW32

Description: PFAS - DoD ICC

13C4-PFHpA	50	0.02	---	---	1	10	0.00010
13C5-PFHxA	50	0.02	---	---	1	10	0.00010
13C5-PFPeA	50	0.02	---	---	1	10	0.00010
13C6-PFDA	50	0.02	---	---	1	10	0.00010
13C7-PFUnA	50	0.02	---	---	1	10	0.00010
13C8-FOSA	50	0.02	---	---	1	10	0.00010
13C8-PFOA	50	0.02	---	---	1	10	0.00010
13C8-PFOS	50	0.02	---	---	1	10	0.00010
13C9-PFNA	50	0.02	---	---	1	10	0.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic aci	50	0.02	---	---	1	10	0.00010
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic a	50	0.02	---	---	1	10	0.00010

Stock Id: JR06

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	50	0.02	---	---	1	10	0.00010
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C3-PFBA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.02	---	---	1	10	0.00010

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.00101
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.00100
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.00100
(Na) Perfluoro-1-decanesulfonate	.00101
(NA) Perfluoro-1-heptanesulfonate	.00100
(Na) Perfluoro-1-nonanesulfonate	.00101
13C2-4:2FTS	.00009
13C2-6:2FTS	.00009
13C2-8:2FTS	.00010
13C2-PFDA	.00010
13C2-PFDoA	.00010
13C2-PFOA	.00010
13C2-PFTeDA	.00010
13C3-PFBA	.00010
13C3-PFBS	.00009
13C3-PFHxS	.00009
13C4-PFBA	.00010
13C4-PFHpA	.00010

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/16/2018	Expiration Date: 12/28/2018
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 80/20 methanol/milli-q water

Approved By: _____ Date: _____



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JW32

Description: PFAS - DoD ICC

13C4-PFOS	.00010
13C5-PFHxA	.00010
13C5-PFPeA	.00010
13C6-PFDA	.00010
13C7-PFUnA	.00010
13C8-FOSA	.00010
13C8-PFOA	.00010
13C8-PFOS	.00010
13C9-PFNA	.00010
N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00101
Perfluoro-1-hexanesulfonate	.00101
Perfluoro-1-octanesulfonamide	.00100
Perfluoro-1-octanesulfonate	.00100
Perfluoro-n-butanoic Acid	.00100
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00101
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-pentanoic acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100
Sodium perfluoro-1-pentanesulfonate	.00100

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JP49	Pipette	B1100287B
JR04	Pipette	I0793912B
JR06	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 5/16/2018 **Expiration Date:** 12/28/2018

Solution Volume 40 mL X 1 **Vials Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: _____ **Date:** _____



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
171025-01	PFOA - 2nd Source	Neat	~1.00000 0	03/22/22	---	---	1000 uL	1	20	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/22/2018	Expiration Date: 5/22/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise Date: 5/24/2018 11:02:00 AM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

Stock Id: 171025-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	1000	1.01	1	100.000	1	20	0.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-decanesulfonate	1000	1.01	1	100.000	1	20	0.05050
(NA) Perfluoro-1-heptanesulfonate	1000	1.00	1	100.000	1	20	0.05000
(Na) Perfluoro-1-nonanesulfonate	1000	1.01	1	100.000	1	20	0.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-butanedisulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-hexanesulfonate	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-1-octanesulfonamide	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-1-octanesulfonate	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-butanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-decanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	1000	1.01	1	100.000	1	20	0.05050
Perfluoro-n-octanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-pentanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	1000	1.00	1	100.000	1	20	0.05000
Sodium perfluoro-1-pentanesulfonate	1000	1.00	1	100.000	1	20	0.05000

Final Concentrations:

Analyte:	Conc (ug/mL):
(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate	.05050
(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate	.05000
(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate	.05000
(Na) Perfluoro-1-decanesulfonate	.05050
(NA) Perfluoro-1-heptanesulfonate	.05000
(Na) Perfluoro-1-nonanesulfonate	.05050
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanedisulfonate	.05050

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 5/22/2018 **Expiration Date:** 5/22/2019

Solution Volume 40 mL X 1 Vials **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 5/24/2018 11:02:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

Perfluoro-1-hexanesulfonate	.05050
Perfluoro-1-octanesulfonamide	.05000
Perfluoro-1-octanesulfonate	.05000
Perfluoro-n-butanoic Acid	.05000
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05050
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-pentanoic acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000
Sodium perfluoro-1-pentanesulfonate	.05000

Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
171025-01	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie **Date Prepared:** 5/22/2018 **Expiration Date:** 5/22/2019

Solution Volume 40 mL X 1 **Vials** **Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107

Comment: 80/20 methanol/milli-q water

Approved By: Schumitz, Denise **Date:** 5/24/2018 11:02:00 AM



It can be done

BDO Id: 161230-01

Reagent Receipt Report

Approved: ☐ ☐

Name:	br-PFHxSK	Received:	12/30/2016
Vendor:	Wellington Laboratories	Custodian:	Schumitz, Matt
Catalogue No:	br-PFHxSK	Expires:	7/3/2020
Type:	Solution	Consumed:	
Lot No:	br-PFHxSK0615	Stored In:	Sample Preparation - C0103
Quantity:	1 ea ml	% Moisture:	
Description:	br-PFHxSK		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
br-PFHxSK	BDO-2170	50.0000	98.00	--	--	☐	50	47.5	52.5 1

Total Analytes: 1

Notes:

Analyte:

Comment:

1 br-PFHxSK	50 +/- 2.5ug/ml (total potassium salt)45.5+- 2.3 ug/ml (total PFHxS anion)
-------------	--

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

161230-01

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**br-PFHxSK****Potassium Perfluorohexanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

<u>PRODUCT CODE:</u>	br-PFHxSK
<u>LOT NUMBER:</u>	brPFHxSK0615
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/ml (total potassium salt) 45.5 ± 2.3 µg/ml (total PFHxS anion)
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	06/29/2015
<u>LAST TESTED:</u> (mm/dd/yyyy)	07/03/2015
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	07/03/2020
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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It can be done

BDO Id: 161230-02

Reagent Receipt Report

Approved: ☐ ☐

Name:	<u>br-PFOSK</u>	Received:	<u>12/30/2016</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Schumitz, Matt</u>
Catalogue No:	<u>br-PFOSK</u>	Expires:	<u>10/14/2020</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>br-PFOSK1015</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea ml</u>	% Moisture:	<u></u>
Description:	<u>br-PFOSK</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
br-PFOSK	BDO-2171	50.0000	98.00	--	--	☐	50	47.5	52.5 1

Total Analytes: 1

Notes:

Analyte: Comment:

1 br-PFOSK	50 +/- 2.5 ug/ml (total potassium salt) 46.4 +/- 2.3 ug/ml (total PFOS anion)
------------	---

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

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

161230-02

br-PFOSK**Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE: br-PFOSK
LOT NUMBER: brPFOSK1015
CONCENTRATION: 50 ± 2.5 µg/ml (total potassium salt)
46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 10/13/2015
LAST TESTED: (mm/dd/yyyy) 10/14/2015
EXPIRY DATE: (mm/dd/yyyy) 10/14/2020
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers.
The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

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It can be done

BDO Id: 161230-04

Reagent Receipt Report

Approved: ☐ ☐

Name:	NaP3MHpS	Received:	12/30/2016
Vendor:	Wellington Laboratories	Custodian:	Schumitz, Matt
Catalogue No:	NaP3MHpS	Expires:	6/10/2020
Type:	Solution	Consumed:	
Lot No:	NaP3MHpS0615	Stored In:	Sample Preparation - C0103
Quantity:	1 ea ml	% Moisture:	
Description:	NaP3MHpS		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
NaP3MFpS	BDO-2174	50.0000	98.00	--	--	☐	50	47.5	52.5 1
Total Analytes:		1							

Notes:

Analyte:	Comment:
1 NaP3MFpS	50.+ 2.5 ug/ml (Na salt) 47.8+- 2.4 ug/ml (anion)

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

161230-04


WELLINGTON
 LABORATORIES

CERTIFICATE OF ANALYSIS
 DOCUMENTATION

PRODUCT CODE: NaP3MHpS **LOT NUMBER:** NaP3MHpS0615
COMPOUND: Sodium perfluoro-3-methylheptanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $C_8F_{17}SO_3Na$ **MOLECULAR WEIGHT:** 522.11
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/ml}$ (Na salt) **SOLVENT(S):** Methanol
 $47.8 \pm 2.4 \mu\text{g/ml}$ (NaP3MHpS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 06/10/2015
EXPIRY DATE: (mm/dd/yyyy) 06/10/2020
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.

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Certified By:

 B.G. Chittim

 Date: 06/11/2015
 (mm/dd/yyyy)

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It can be done

BDO Id: 161230-05

Reagent Receipt Report

Approved: ☐ ☐

Name:	<u>NaP6MHpS</u>	Received:	<u>12/30/2016</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Schumitz, Matt</u>
Catalogue No:	<u>NaP6MHpS</u>	Expires:	<u>1/23/2020</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>NaP6MHpS0115</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea ml</u>	% Moisture:	<u></u>
Description:	<u>NaP6MHpS</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
NaP6MHpS	BDO-2175	50.0000	98.00	--	--	☐	50	47.5	52.5 1

Total Analytes: 1

Notes:

Analyte:	Comment:
1 NaP6MHpS	50.+- 2.5 ug/ml (Na salt) 47.8+- 2.4 ug/ml (anion)

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



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

161230-05

PRODUCT CODE: NaP6MHpS **LOT NUMBER:** NaP6MHpS0115
COMPOUND: Sodium perfluoro-6-methylheptanesulfonate
STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $C_8F_{17}SO_3Na$ **MOLECULAR WEIGHT:** 522.11
CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/ml}$ (Na salt) **SOLVENT(S):** Methanol
 $47.8 \pm 2.4 \mu\text{g/ml}$ (NaP6MHpS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/23/2015
EXPIRY DATE: (mm/dd/yyyy) 01/23/2020
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.

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Certified By:

B.G. Chittim

Date: 03/27/2015
(mm/dd/yyyy)

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It can be done

BDO Id: 161230-06

Reagent Receipt Report

Approved: ☐ ☐

Name:	<u>ipPFNS</u>	Received:	<u>12/30/2016</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Schumitz, Matt</u>
Catalogue No:	<u>ipPFNS</u>	Expires:	<u>9/23/2020</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>ipPFNS0912</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea ml</u>	% Moisture:	<u></u>
Description:	<u>ipPFNS</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
ipPFNS	BDO-2176	50.0000	98.00	--	--	☐	50	47.5	52.5 1

Total Analytes: 1

Notes:

Analyte:	Comment:
1 ipPFNS	50.+ 2.5 ug/ml (Na salt) 48.0+- 2.4 ug/ml (PFNS anion)

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

161230-06


WELLINGTON
 LABORATORIES

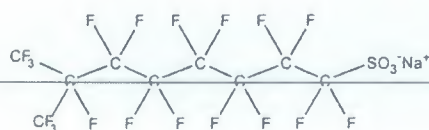
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: ipPFNS
COMPOUND: Sodium perfluoro-7-methyloctanesulfonate

LOT NUMBER: ipPFNS0912

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: C₉F₁₉SO₃Na
CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt)
 48.0 ± 2.4 µg/ml (PFNS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/23/2015
EXPIRY DATE: (mm/dd/yyyy) 09/23/2020
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 572.12
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.

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Certified By:

B.G. Chittim

Date: 10/02/2015
 (mm/dd/yyyy)

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It can be done

BDO Id: 161230-07

Reagent Receipt Report

Approved: ☐ ☐

Name: T-PFOA
 Vendor: Wellington Laboratories
 Catalogue No: T-PFOA
 Type: Solution
 Lot No: T-PFOA0216
 Quantity: 1 ea ml % Moisture:
 Description: T-PFOA
 Received: 12/30/2016
 Custodian: Schumitz, Matt
 Expires: 2/12/2021
 Consumed:
 Stored In: Sample Preparation - C0103

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
T-PFOA	BDO-2177	50.0000	97.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

161230-07


WELLINGTON
 LABORATORIES

CERTIFICATE OF ANALYSIS
 DOCUMENTATION

PRODUCT CODE:	T-PFOA	LOT NUMBER:	TPFOA0216
COMPOUND:	Technical Ammonium Perfluorooctanoate		
STRUCTURE:	(see Table A)	CAS #:	95328-99-7 (for linear ammonium perfluorooctanoate)
MOLECULAR FORMULA:	$C_8F_{15}O_2NH_4$		
CONCENTRATION:	50 ± 2.5 µg/ml (gravimetric)		
CHEMICAL PURITY:	Technical material		
SOLVENT(S):	Methanol/Water (<1%)		
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

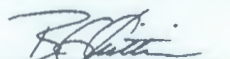
Table A: Isomeric Components and Percent Composition
 Figure 1: LC/MS Data (TIC and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)
 Figure 4: LC/MS Elution Profile of the Perfluorooctanoic Acid Isomers

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This technical mixture is >97% ammonium perfluorooctanoate (branched and linear isomers). The remaining 3% consists of common impurities such as the perfluoroheptanoic and perfluorohexanoic acids.
- It is recommended that this solution be used as a *qualitative or semi-quantitative standard only*.
- Contains 4 mole eq. of NaOH to prevent conversion of any carboxylic acids to their corresponding methyl esters.
- The molecular weight of perfluoro-n-octanoic acid is 414.07 g/mol.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


 B.G. Chittim

 Date: 02/16/2016
 (mm/dd/yyyy)

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It can be done

BDO Id: 161230-08

Reagent Receipt Report

Approved: ☐ ☐

Name: P3MHPA Received: 12/30/2016
 Vendor: Wellington Laboratories Custodian: Schumitz, Matt
 Catalogue No: P3MHPA Expires: 6/10/2020
 Type: Solution Consumed:
 Lot No: P3MHPA Stored In: Sample Preparation - C0103
 Quantity: 1 ea ml % Moisture:
 Description: P3MHPA

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
P3MHPA	BDO-2178	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

16/230-08



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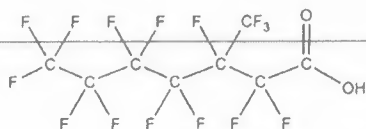
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: P3MHPA
COMPOUND: Perfluoro-3-methylheptanoic acid

LOT NUMBER: P3MHPA0615

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $C_8H_{15}F_{15}O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$

MOLECULAR WEIGHT: 414.07
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 06/10/2015
EXPIRY DATE: (mm/dd/yyyy) 06/10/2020
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

Date: 06/17/2015
(mm/dd/yyyy)

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It can be done

BDO Id: 161230-09

Reagent Receipt Report

Approved: ☐ ☐

Name:	P4MOA	Received:	12/30/2016
Vendor:	Wellington Laboratories	Custodian:	Schumitz, Matt
Catalogue No:	P4MOA	Expires:	6/10/2020
Type:	Solution	Consumed:	
Lot No:	P4MOA0615	Stored In:	Sample Preparation - C0103
Quantity:	1 ea ml	% Moisture:	
Description:	P4MOA		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
P4MOA	BDO-2179	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

161230-09


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CERTIFICATE OF ANALYSIS
 DOCUMENTATION
PRODUCT CODE:

P4MOA

LOT NUMBER:

P4MOA0615

COMPOUND:

Perfluoro-4-methyloctanoic acid

STRUCTURE:**CAS #:**

Not available

**MOLECULAR FORMULA:** $C_9H_{17}O_2$ **MOLECULAR WEIGHT:**

464.08

CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$ **SOLVENT(S):**

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

06/10/2015

EXPIRY DATE: (mm/dd/yyyy)

06/10/2020

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

Date: 06/17/2015

(mm/dd/yyyy)

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It can be done

BDO Id: 161230-10

Reagent Receipt Report

Approved: ☐ ☐

Name:	<u>ipPFNA</u>	Received:	<u>12/30/2016</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Schumitz, Matt</u>
Catalogue No:	<u>ipPFNA</u>	Expires:	<u>5/31/2021</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>ipPFNA</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea ml</u>	% Moisture:	<u></u>
Description:	<u>ipPFNA</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
ipPFNA	BDO-2180	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

161230-10



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: ipPFNA
COMPOUND: Perfluoro-7-methyloctanoic acid

LOT NUMBER: ipPFNA0516

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $C_9H_{17}O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 464.08
SOLVENT(S): Methanol
Water (<1%)

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

Date: 06/06/2016
(mm/dd/yyyy)

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BATTELLE

It can be done

BDO Id: 161230-11**Reagent Receipt Report**Approved: ☐☐

Name:	<u>P355TMHxA</u>	Received:	<u>12/30/2016</u>
Vendor:	<u>Wellington Laboratories</u>	Custodian:	<u>Schumitz, Matt</u>
Catalogue No:	<u>P355TMHxA</u>	Expires:	<u>11/27/2019</u>
Type:	<u>Solution</u>	Consumed:	<u></u>
Lot No:	<u>P355TMHxA1114</u>	Stored In:	<u>Sample Preparation - C0103</u>
Quantity:	<u>1 ea ml</u>	% Moisture:	<u></u>
Description:	<u>P355TMHxA</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Cert Val:	Lower Limit:	Upper Limit:
P355TMHxA	BDO-2181	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

161230-11



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: P355TMHxA
COMPOUND: Perfluoro-3,5,5-trimethylhexanoic acid

LOT NUMBER: P355TMHxA1114

STRUCTURE:

CAS #: 238403-51-5



MOLECULAR FORMULA: $C_9H_9F_{17}O_2$
CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$

MOLECULAR WEIGHT: 464.08
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/27/2014
EXPIRY DATE: (mm/dd/yyyy) 11/27/2019
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

Date: 03/25/2015
(mm/dd/yyyy)

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It can be done

BDO Id: 161230-12

Reagent Receipt Report

Approved: ☐ ☐

Name:	P37DMOA	Received:	12/30/2016
Vendor:	Wellington Laboratories	Custodian:	Schumitz, Matt
Catalogue No:	P37DMOA	Expires:	9/24/2019
Type:	Solution	Consumed:	
Lot No:	P37DMOA0914	Stored In:	Sample Preparation - C0103
Quantity:	1 ea ml	% Moisture:	
Description:	P37DMOA		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
P37DMOA	BDO-2182	50.0000	98.00	--	--	☐	50	47.5	52.5

Total Analytes: 1

Notes:

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

161230-12



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

P37DMOA

LOT NUMBER:

P37DMOA0914

COMPOUND:

Perfluoro-3,7-dimethyloctanoic acid

STRUCTURE:**CAS #:**

172155-07-6

**MOLECULAR FORMULA:** $C_{10}H_2F_{19}O_2$ **MOLECULAR WEIGHT:**

514.08

CONCENTRATION: $50 \pm 2.5 \mu\text{g/ml}$ **SOLVENT(S):**

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

09/24/2014

EXPIRY DATE: (mm/dd/yyyy)

09/24/2019

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

Date: 03/25/2015

(mm/dd/yyyy)

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It can be done

BDO Id: 170629-02

Reagent Receipt Report

Approved: ☐ ☐

Name: Mass-labelled PFAS Extraction Stand **Received:** 6/29/2017
Vendor: Wellington Laboratories **Custodian:** Thorn, Jonathan
Catalogue No: MPFAC-24ES **Expires:** 5/19/2022
Type: Solution **Consumed:** _____
Lot No: MPFAC24ES1016 **Stored In:** Sample Preparation - C0103
Quantity: 1 ea mL **% Moisture:** 0
Description: Mass-labelled PFAS Extraction Standard Solution

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
N-ethyl-d5-perfluoro-1-octanesulfona	BDO-2126	1.0000	100.00	--	--	☐			
N-methyl-d3-perfluoro-1-octanesulfo	BDO-2125	1.0000	100.00	--	--	☐			
Perfluoro-1-[13C8]octanesulfonamid	BDO-2225	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2,3,4,5,6,7-13C7]unde	BDO-2223	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2,3,4,5,6-13C6]decan	BDO-2222	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2,3,4,6-13C5]hexanoic	BDO-2217	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2,3,4-13C4]butanoic a	BDO-2105	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2,3,4-13C4]hepetanoic	BDO-2218	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2-13C2]dodecanoic ac	BDO-2112	1.0000	100.00	--	--	☐			
Perfluoro-n-[1,2-13C2]tetradecanoic	BDO-2224	1.0000	100.00	--	--	☐			
Perfluoro-n-[13C5]pentanoic acid	BDO-2216	1.0000	100.00	--	--	☐			
Perfluoro-n-[13C8]octanoic acid	BDO-2219	1.0000	100.00	--	--	☐			
Perfluoro-n-[13C9]nonanoic acid	BDO-2221	1.0000	100.00	--	--	☐			
Sodium 1H,1H,2H,2H-perfluoro-1-[1,	BDO-2220	0.9580	100.00	--	--	☐			
sodium 1H,1H,2H,2H-perfluoro-1-[1,	BDO-2229	0.9350	100.00	--	--	☐			
sodium 1H,1H,2H,2H-perfluoro-1-[1,	BDO-2230	0.9490	100.00	--	--	☐			
Sodium perfluoro-1-[1,2,3-13C3]hexa	BDO-2227	0.9460	100.00	--	--	☐			
Sodium perfluoro-1-[13C8]octanesulf	BDO-2228	0.9570	100.00	--	--	☐			
Sodium perfluoro-1-[2,3,4-13C3]buta	BDO-2226	0.9290	100.00	--	--	☐			

Total Analytes: 19

Notes:

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

170629-02


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CERTIFICATE OF ANALYSIS
 DOCUMENTATION

MPFAC-24ES
Mass-Labelled Per- and Poly-fluoroalkyl Substance
Extraction Standard Solution

<u>PRODUCT CODE:</u>	MPFAC-24ES
<u>LOT NUMBER:</u>	MPFAC24ES1016
<u>SOLVENT(S):</u>	Methanol / Isopropanol (2%) / Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	10/20/2016
<u>LAST TESTED:</u> (mm/dd/yyyy)	05/19/2017
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	05/19/2022
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

MPFAC-24ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4 - C_{12} and C_{14}), three mass-labelled (^{13}C) perfluoroalkylsulfonates (C_4 , C_6 , and C_8), three mass-labelled (^{13}C) telomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^2H) perfluorooctanesulfonamidoacetic acids, and perfluoro-1- $^{13}\text{C}_8$ octanesulfonamide. The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids, mass-labelled perfluoroalkylsulfonates, mass-labelled telomer sulfonates, and perfluoro-1- $^{13}\text{C}_8$ octanesulfonamide all have chemical purities of >98% and isotopic purities of $\geq 99\%$. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of $\geq 98\%$.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture

Figure 1: LC/MS Data (SIR)

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 acids to their respective methyl esters.

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. ~~The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.~~

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: MPFAC-24ES; Components and Concentrations
(ng/ml, $\pm$ 5% in Methanol / Isopropanol (2%) / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1	
Perfluoro-n-[¹³ C ₄]butanoic acid	13C4-PFBA MPFBA	1000	A	
Perfluoro-n-[¹³ C ₅]pentanoic acid	13C5-PFPeA M5PFPeA	1000	B	
Perfluoro-n-[1,2,3,4,6- ¹³ C ₆]hexanoic acid	13C5-PFHxA M5PFHxA	1000	E	
Perfluoro-n-[1,2,3,4- ¹³ C ₆]heptanoic acid	13C4-PFHpA M4PFHpA	1000	F	
Perfluoro-n-[¹³ C ₈]octanoic acid	13C8-PFOA M8PFOA	1000	I	
Perfluoro-n-[¹³ C ₉]nonanoic acid	13C9-PFNA M9PFNA	1000	J	
Perfluoro-n-[1,2,3,4,5,6- ¹³ C ₁₀]decanoic acid	13C6-PFDA M6PFDA	1000	M	
Perfluoro-n-[1,2,3,4,5,6,7- ¹³ C ₁₁]undecanoic acid	13C7-PFUdA M7PFUdA	1000	Q	
Perfluoro-n-[1,2- ¹³ C ₁₂]dodecanoic acid	13C2-PFDoA MPFDoA	1000	R	
Perfluoro-n-[1,2- ¹³ C ₁₂]tetradecanoic acid	13C2-PFTeDA M2PFTeDA	1000	S	
Perfluoro-1-[¹³ C ₈]octanesulfonamide	13C8-PFOSA M8FOSA	1000	N	
N-methyl-d ₃ -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	O	
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	P	
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[2,3,4- ¹³ C ₃]butanesulfonate	13C3 - M3PFBS	1000	929	C
Sodium perfluoro-1-[1,2,3- ¹³ C ₃]hexanesulfonate	13C3 - M3PFHxS	1000	946	G
Sodium perfluoro-1-[¹³ C ₈]octanesulfonate	13C8 - M8PFOS	1000	957	K
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]hexanesulfonate	13C2 - M2-4:2FTS	1000	935	D
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]octanesulfonate	13C2 - M2-6:2FTS	1000	949	H
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2- ¹³ C ₂]decanesulfonate	13C2 - M2-8:2FTS	1000	958	L

① S/b 13C8-FOSA JMT 7/3/17

Certified By:


B.G. Chittim, General Manager

Date: 05/24/2017
(mm/dd/yyyy)



It can be done

BDO Id: 170629-03

Reagent Receipt Report

Approved: ☐ ☐

Name: Mass-labeled PFAS Injection Standar **Received:** 6/29/2017
Vendor: Wellington Laboratories **Custodian:** Thorn, Jonathan
Catalogue No: MPFAC-C-IS **Expires:** 5/2/2022
Type: Solution **Consumed:** _____
Lot No: MPFACCIS0516 **Stored In:** Sample Preparation - C0103
Quantity: 2 ea mL **% Moisture:** 0
Description: Mass-labeled PFAS Injection Standards Solution

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
Perfluoro-1-[1,2,3,4-13C4]octanesulf	BDO-2121	1.9100	100.00	--	--	☐			
Perfluoro-n-[1,2-13C2]decanoic acid	BDO-2110	2.0000	100.00	--	--	☐			
Perfluoro-n-[1,2-13C2]octanoic acid	BDO-2107	2.0000	100.00	--	--	☐			
Perfluoro-n-[2,3,4-13C3]butanoic Aci	BDO-2231	2.0000	100.00	--	--	☐			

Total Analytes: 4

Notes:

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

170629-03

**WELLINGTON**
LABORATORIES**CERTIFICATE OF ANALYSIS**
DOCUMENTATION**MPFAC-C-IS****Mass-Labelled Perfluorinated
Compound Injection Standards Solution**

PRODUCT CODE: MPFAC-C-IS
LOT NUMBER: MPFACCIS0516
SOLVENT(S): Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy) 05/24/2016
LAST TESTED: (mm/dd/yyyy) 05/02/2017
EXPIRY DATE: (mm/dd/yyyy) 05/02/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-C-IS is a solution/mixture of mass-labelled (^{13}C) perfluoroalkylcarboxylic acids and a mass-labelled (^{13}C) perfluoroalkylsulfonate. The components and their concentrations are given in Table A.

MPFAC-C-IS was designed for, and prepared to be used with, PFC-CVS-C.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkylsulfonate all have chemical purities of >98% and isotopic purities of $\geq 99\%$.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The mass-labelled perfluoroalkylsulfonate compound concentration is reported as the salt.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be $\pm 5\%$ RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters

$x_1, x_2, \dots, x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \dots, x_n)) = \sqrt{\sum_{i=1}^n u(x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of $\pm 5\%$ (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: MPFAC-C-IS; Components and Concentrations (ng/ml; $\pm$ 5% in Methanol / Water (<1%))

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[2,3,4- $^{13}\text{C}_3$]butanoic acid <i>13C3-PFBA</i>	M3PFBA	2000	A
Perfluoro-n-[1,2- $^{13}\text{C}_2$]octanoic acid <i>13C2-PFOA</i>	M2PFOA	2000	B
Perfluoro-n-[1,2- $^{13}\text{C}_2$]decanoic acid <i>13C2-PFDA</i>	MPFDA	2000	D
Sodium perfluoro-1-[1,2,3,4- $^{13}\text{C}_4$]octanesulfonate <i>13C4-PFOS</i>	MPFOS	2000	C

*PFOS*Certified By: 

B.G. Chittim, General Manager

Date: 05/04/2017
(mm/dd/yyyy)



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 032117
Description: PFOA - DOD
 24 components
Expiration Date: 032122
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 822-275872-11

Solvent(s): Methanol (1 mM KOH)
 2-Propanol

Lot#
 031317 (98%)
 23214 (2%)

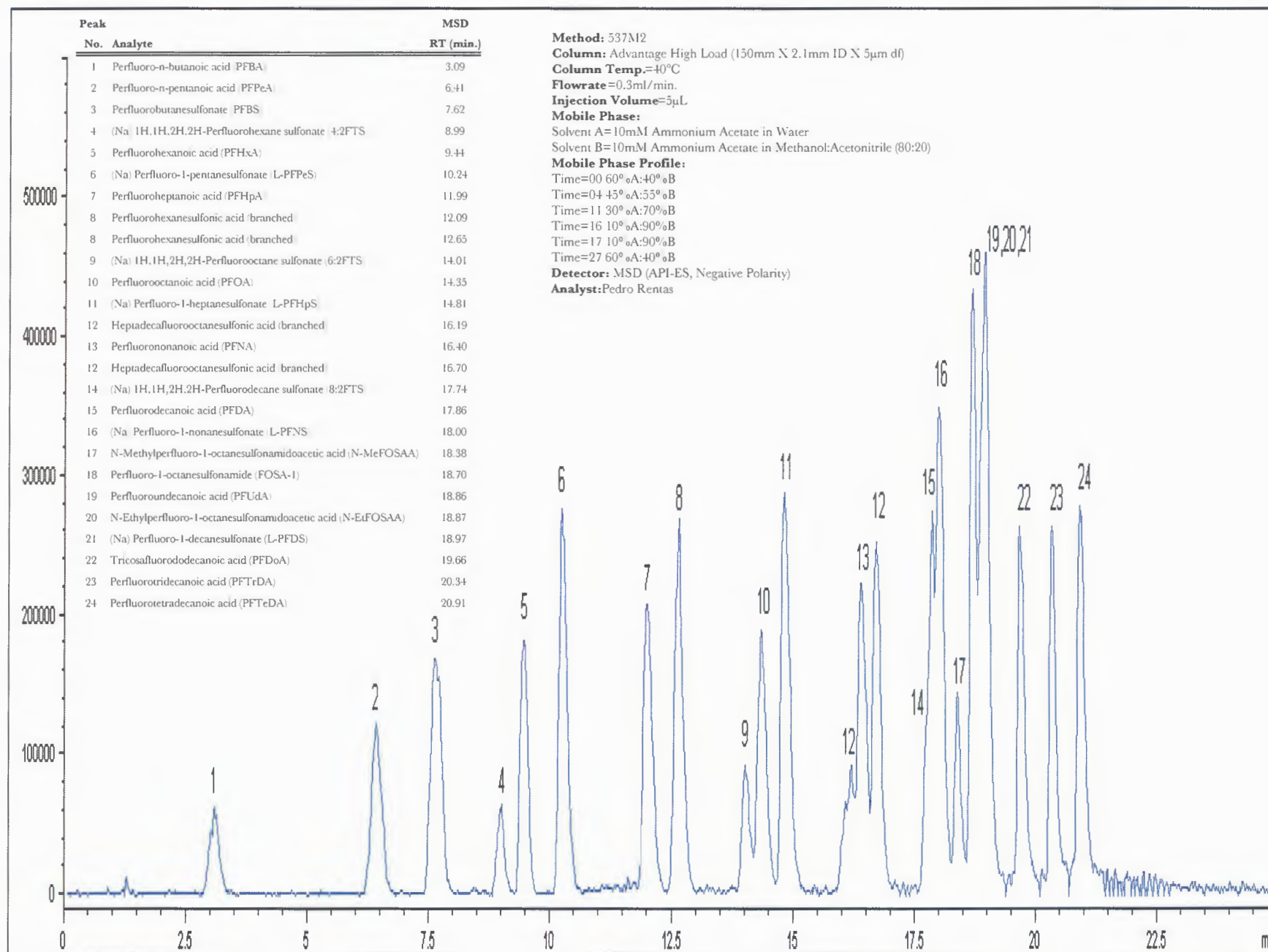
Volume(s) shown below were combined and diluted to (mL):

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSAA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHps1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	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	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- 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).

		032117
Formulated By:	Justin Dippold	DATE
		032117
Reviewed By:	Pedro L. Rentas	DATE





It can be done

BDO Id: 171025-01

Reagent Receipt Report

Approved: ☐ ☐

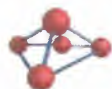
Name: PFOA - 2nd Source Received: 10/25/2017
 Vendor: ABSOLUTE STANDARDS Custodian: Schumitz, Matt
 Catalogue No: 99207 Expires: 3/22/2022
 Type: Solution Consumed:
 Lot No: 032217 Stored In: LC Laboratory - F0111
 Quantity: 5 ea ml % Moisture:
 Description: PFOA-DOD

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--				
(Na) 1H,1H,2H,2H-Perfluorohexane	BDO-2205	1.0000	100.00	--	--				
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--				
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--				
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--				
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--				
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--				
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--				
Perfluoro-1-butanefulfonic Acid	375-73-5	1.0100	100.00	--	--				
Perfluoro-1-hexanesulfonic Acid	355-46-4	1.0100	100.00	--	--				
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--				
Perfluoro-1-octanesulphonic Acid	1763-23-1	1.0000	100.00	--	--				
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--				
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--				
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--				
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--				
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--				
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--				
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--				
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--				
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--				
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--				
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--				
Sodium perfluoro-1-pentanesulfonat	BDO-2114	1.0000	100.00	--	--				

Total Analytes: 24

Notes:

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



Analytical Reference Material ARM



CERTIFIED WEIGHT REPORT

Part Number: 99207
Lot Number: 101717
Description: PFOA - DOD
24 components
Expiration Date: 101722
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 2506734D

Solvent(s):
Methanol (1 mM KOH) 031317 (98%)
2-Propanol 23214 (2%)

		101717
Formulated By:	Mario Luis	DATE
		101717
Reviewed By:	Pedro L. Rentas	DATE

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

50.0 0.007 Balance Uncertainty
Flask Uncertainty

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	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0617	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHPS0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	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	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- 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).



It can be done

BDO Id: 171025-02

Reagent Receipt Report

Approved: ☐ ☐

Name: PFOA - ICAL Mix
 Vendor: ABSOLUTE STANDARDS
 Catalogue No: 99207
 Type: Solution
 Lot No: 101717
 Quantity: 5 ea ml % Moisture: _____
 Description: PFOA - DOD

Received: 10/25/2017
 Custodian: Schumitz, Matt
 Expires: 10/17/2022
 Consumed: _____
 Stored In: LC Laboratory - F0111

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
(Na) 1H,1H,2H,2H-Perfluorodecane	39108-34-4	1.0100	100.00	--	--	☐			
(Na) 1H,1H,2H,2H-Perfluorohexane	BDO-2205	1.0000	100.00	--	--	☐			
(Na) 1H,1H,2H,2H-Perfluorooctane s	27619-97-2	1.0000	100.00	--	--	☐			
(Na) Perfluoro-1-decanesulfonate	2806-15-7	1.0100	100.00	--	--	☐			
(NA) Perfluoro-1-heptanesulfonate	375-92-8	1.0000	100.00	--	--	☐			
(Na) Perfluoro-1-nonanesulfonate	98789-57-2	1.0100	100.00	--	--	☐			
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	1.0000	100.00	--	--	☐			
N-methylperfluoro-1-octanesulfonami	2355-31-9	1.0000	100.00	--	--	☐			
Perfluoro-1-butanefulfonic Acid	375-73-5	1.0100	100.00	--	--	☐			
Perfluoro-1-hexanesulfonic Acid	355-46-4	1.0100	100.00	--	--	☐			
Perfluoro-1-octanesulfonamide	754-91-6	1.0000	100.00	--	--	☐			
Perfluoro-1-octanesulphonic Acid	1763-23-1	1.0000	100.00	--	--	☐			
Perfluoro-n-butanoic Acid	375-22-4	1.0000	100.00	--	--	☐			
Perfluoro-n-decanoic Acid	335-76-2	1.0000	100.00	--	--	☐			
Perfluoro-n-dodecanoic acid	307-55-1	1.0000	100.00	--	--	☐			
Perfluoro-n-heptanoic Acid	375-85-9	1.0000	100.00	--	--	☐			
Perfluoro-n-hexanoic acid	307-24-4	1.0100	100.00	--	--	☐			
Perfluoro-n-octanoic Acid	335-67-1	1.0000	100.00	--	--	☐			
Perfluorononanoic Acid	375-95-1	1.0000	100.00	--	--	☐			
Perfluoro-n-pentanoic acid	2706-90-3	1.0000	100.00	--	--	☐			
Perfluoro-n-tetradecanoic acid	376-06-7	1.0000	100.00	--	--	☐			
Perfluoro-n-tridecanoic acid	72629-94-8	1.0000	100.00	--	--	☐			
Perfluoro-n-undecanoic acid	2058-94-8	1.0000	100.00	--	--	☐			
Sodium perfluoro-1-pentanesulfonat	BDO-2114	1.0000	100.00	--	--	☐			

Total Analytes: 24

Notes:

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



Certified Reference Material CRM



ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: <http://AbsoluteStandards.com>

CERTIFIED WEIGHT REPORT

Part Number: **99207**
Lot Number: **032217**
Description: **PFOA - LOD**
24 components
Expiration Date: **032222**
Recommended Storage: **Freezer (-20 °C)**
Nominal Concentration (µg/mL): **1.0**
NIST Test ID#: **822-275472-11**

Solvent(s):
Methanol (1 mM KOH) 031317 (98%)
2-Propanol 23214 (2%)

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

<i>Paul Barron</i>		032217
Formulated By:	Paul Barron	DATE
<i>Pedro L. Rentas</i>		032217
Reviewed By:	Pedro L. Rentas	DATE

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

Note: All assigned values are anion concentrations.

Expanded
SDS Information
(Solvent Safety Info. On Attached pg.)

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butanoic acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0516	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	00-00-0	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHps1016	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	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	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- 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).

Sample Preparation

It can be done**BATTELLE - NORWELL OPERATIONS
SAMPLE PREPARATION RECORDS****Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:CQ896PB-FS
CQ897LCS-FS
J6245-FS
J6249-FS
J6251-FSLaboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	06/11/2018	DMS

**BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE****Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Sample ID	Description
CQ896PB-FS	Procedural Blank
CQ897LCS-FS	Laboratory Control Sample
J6245-FS	FFTA-FB01-052418
J6249-FS	DRMO-FB02-052418
J6251-FS	PSC51-FB03-052418

Samples Assigned By:

Jonathan Thorn

Date :

June 5, 2018

Comments:



BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351**

Non-Potable Water PFAS Analysis GW QC

Requested On/By: 06/05/2018 SAS Relinquished On/By: 06/05/2018 MDS	Purpose: Sample Preparation Last Activity: Transfer
Accepted On/By: 06/05/2018 SAS Stored In Facility: Sample Preparation Stored Until: 06/05/2018 Stored Comment: NA	Returned On/To: Returned To Facility: Returned Comment: NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J6245	1	C	Consumed	NA
2	J6249	1	C	Consumed	NA
3	J6251	1	C	Consumed	NA
Total Samples		3	* "C" = Consumed Container		



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

Non-Potable Water PFAS Analysis

GW QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CQ896PB-FS	Procedural Blank	250.0	NA	--	06/05/18 SAS
CQ897LCS-FS	Laboratory Control Sample	250.0	NA	--	06/05/18 SAS
J6245-FS	FFTA-FB01-052418	290.0	1	C	06/06/18 SAS
J6249-FS	DRMO-FB02-052418	290.0	1	C	06/06/18 SAS
J6251-FS	PSC51-FB03-052418	285.0	1	C	06/06/18 SAS

Comments:

Samples Assigned By

Jonathan Thorn

Date :

June 5, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

Non-Potable Water PFAS Analysis

GW QC

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CQ896PB-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
CQ897LCS-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
CQ897LCS-FS	JW44	LCS/MS	1	50	06/05/18 SAS	JCT	NA
J6245-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
J6249-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
J6251-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW44	Pipette	I0793912B



BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CQ896PB-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
CQ897LCS-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6245-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6249-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6251-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-180605-2	06/05/18	SHBG7156V	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	
0.4% NH3 in Methanol	RP-180605-2	06/05/18	177965	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	
Pre-packed SPE Column	RP-180605-5	06/06/18	003737320A	Pre-packed SPE Column	

Solvents/Reagents:



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC****(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
CQ896PB-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
CQ897LCS-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6245-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6249-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6251-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JW02	Pipette	I0793912B

Extract Id:	Comments:
CQ896PB-FS	Samples reconstituted in 80/20 methanol/milli-q water

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

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



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CQ896PB-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
CQ896PB-FS	2	--	6/5/2018 4:51:00 PM	CQ896PB-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ896PB-FS	3	--	6/5/2018 4:51:00 PM	CQ896PB-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ897LCS-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
CQ897LCS-FS	2	--	6/5/2018 4:51:00 PM	CQ897LCS-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ897LCS-FS	3	--	6/5/2018 4:51:00 PM	CQ897LCS-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6245-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6245-FS	2	--	6/5/2018 4:51:00 PM	J6245-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6245-FS	3	--	6/5/2018 4:51:00 PM	J6245-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6249-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6249-FS	2	--	6/5/2018 4:51:00 PM	J6249-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6249-FS	3	--	6/5/2018 4:51:00 PM	J6249-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6251-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6251-FS	2	--	6/5/2018 4:51:00 PM	J6251-FS	0	10000	5000	2.000	2.000	06/05/18 SAS

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

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

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6251-FS	3	--	6/5/2018 4:51:00 PM	J6251-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
Extract Id: CQ896PB-FS		Comments: Samples reconstituted in 80/20 methanol/milli-q water								

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-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351**

Non-Potable Water PFAS Analysis GW QC

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Jun 6 2018 1:27PM SAS		Received On/By: Jun 6 2018 3:26PM DMS	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CQ896PB-FS(3)	500	2	Intact	NA
2	CQ897LCS-FS(3)	500	2	Intact	NA
3	J6245-FS(3)	500	2	Intact	NA
4	J6249-FS(3)	500	2	Intact	NA
5	J6251-FS(3)	500	2	Intact	NA

Total Extracts: 5



**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

**Non-Potable Water PFAS Analysis
GW QC**

Entered By:

On:

Task Leader Approval:

On:

Supervisor Approval:

On:

PM Approval:

On:



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Sample ID:	Comment:	Date/Initials:
CQ896PB-FS	Sample extraction began at 2:34pm for all samples.	06/05/18 SAS
CQ896PB-FS	Sample extraction ended at 3:34pm	06/05/18 SAS
CQ897LCS-FS	Sample extraction ended at 3:24pm	06/05/18 SAS
J6245-FS	Sample extraction ended at 3:43pm	06/05/18 SAS
J6249-FS	Sample extraction ended at 3:36pm	06/05/18 SAS
J6251-FS	Sample extraction ended at 3:32pm	06/05/18 SAS

Analytical Calibrations

Sequence Report

Created with Analyst Reporter
Printed: 11/06/2018 12:03:36 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		6/7/2018 8:21:48 PM	5-0369.dam	6072018.wiff
2	JV20	L1	6/7/2018 8:32:29 PM	5-0369.dam	6072018.wiff
3	JV21	L2	6/7/2018 8:43:10 PM	5-0369.dam	6072018.wiff
4	JV22	L3	6/7/2018 8:53:52 PM	5-0369.dam	6072018.wiff
5	JV23	L4	6/7/2018 9:04:34 PM	5-0369.dam	6072018.wiff
6	JV24	L5	6/7/2018 9:15:15 PM	5-0369.dam	6072018.wiff
7	JV25	L6	6/7/2018 9:25:56 PM	5-0369.dam	6072018.wiff
8	JV26	L7	6/7/2018 9:36:37 PM	5-0369.dam	6072018.wiff
9	JV27	L8	6/7/2018 9:47:16 PM	5-0369.dam	6072018.wiff
10	JV28	L9	6/7/2018 9:57:58 PM	5-0369.dam	6072018.wiff
11	JV05 IB	Instrument Blank	6/7/2018 10:08:39 PM	5-0369.dam	6072018.wiff
12	JW32 ICC	ICC	6/7/2018 10:19:21 PM	5-0369.dam	6072018.wiff
13	JV16 Branch	Branch Standard	6/7/2018 10:30:02 PM	5-0369.dam	6072018.wiff
14	MeOH		6/7/2018 10:40:43 PM	5-0369.dam	6072018.wiff
15	CQ896PB-FS(3)	Procedural Blank	6/7/2018 10:51:24 PM	5-0369.dam	6072018.wiff
16	CQ897LCS-FS(3)	Laboratory Control Sample	6/7/2018 11:02:05 PM	5-0369.dam	6072018.wiff
17	J6245-FS(3)	FFTA-FB01-052418	6/7/2018 11:12:46 PM	5-0369.dam	6072018.wiff
18	J6249-FS(3)	DRMO-FB02-052418	6/7/2018 11:23:26 PM	5-0369.dam	6072018.wiff
19	J6251-FS(3)	PSC51-FB03-052418	6/7/2018 11:34:07 PM	5-0369.dam	6072018.wiff
20	MeOH		6/7/2018 11:44:49 PM	5-0369.dam	6072018.wiff
7	JV25 CCV	CCV	6/7/2018 11:55:31 PM	5-0369.dam	6072018.wiff



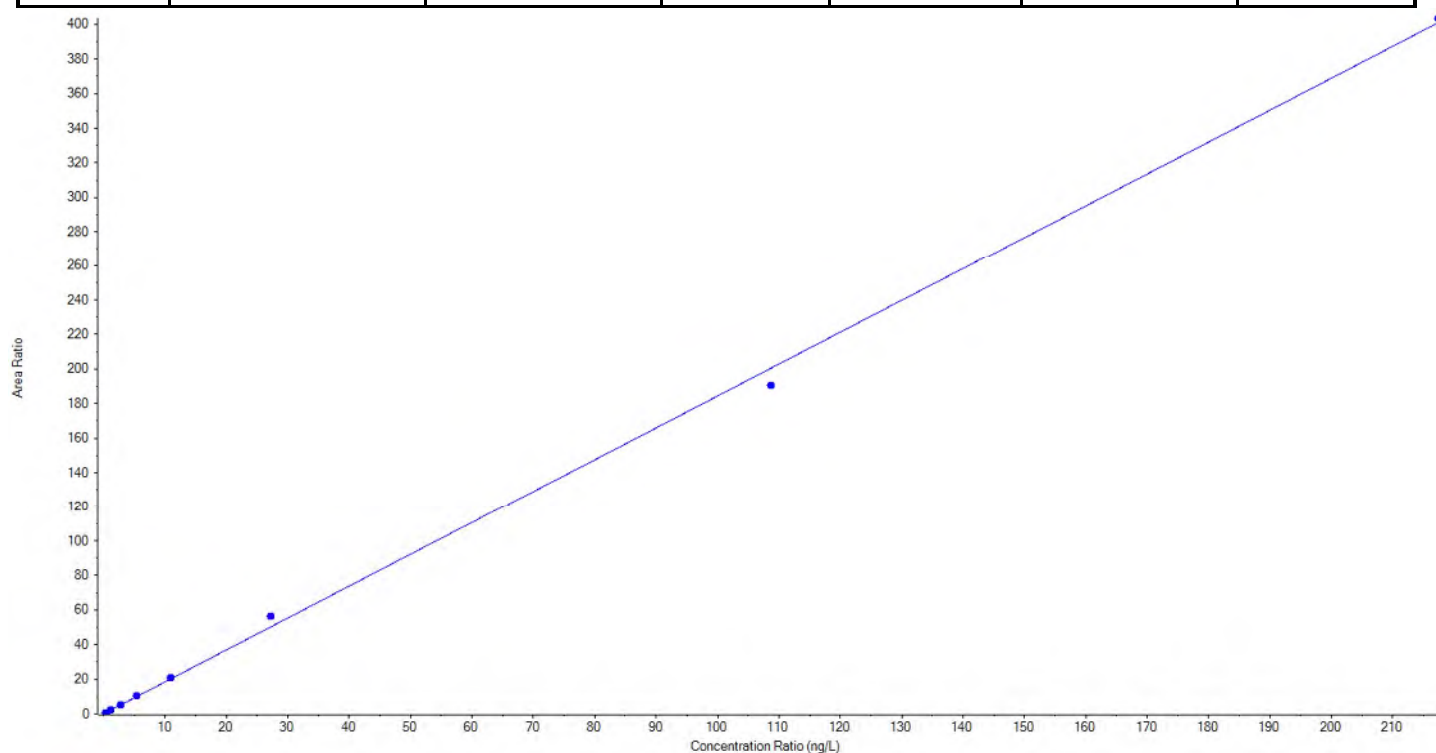
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFBS_1	Data File	6072018.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0351_Base
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.84377 x + 0.04421$ ($r = 0.99889$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	22.943131	90.9
3	JV21	L2	True	50.50	39.339005	77.9
4	JV22	L3	True	101.00	114.073097	112.9
5	JV23	L4	True	252.50	259.829558	102.9
6	JV24	L5	True	505.00	513.918478	101.8
7	JV25	L6	True	1010.00	1063.678573	105.3
8	JV26	L7	True	2525.00	2847.628626	112.8
9	JV27	L8	True	10100.00	9589.730089	95.0
10	JV28	L9	True	20200.00	20318.109443	100.6





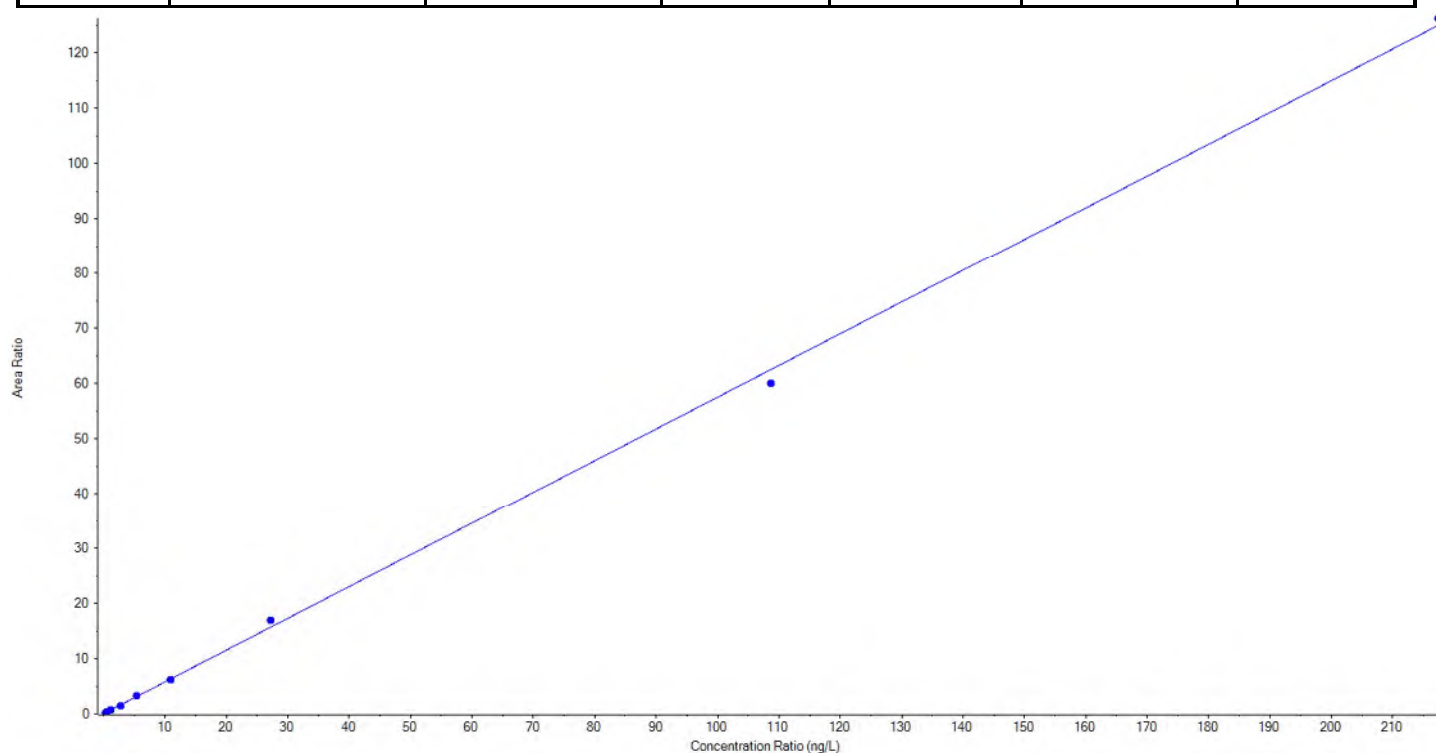
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFBS_2	Data File	6072018.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0351_Base
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.57485x + 0.03128$ ($r = 0.99948$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	24.912423	98.7
3	JV21	L2	True	50.50	48.712633	96.5
4	JV22	L3	True	101.00	102.205673	101.2
5	JV23	L4	True	252.50	244.309260	96.8
6	JV24	L5	True	505.00	520.831671	103.1
7	JV25	L6	True	1010.00	995.650839	98.6
8	JV26	L7	True	2525.00	2731.008942	108.2
9	JV27	L8	True	10100.00	9703.159053	96.1
10	JV28	L9	True	20200.00	20398.459505	101.0





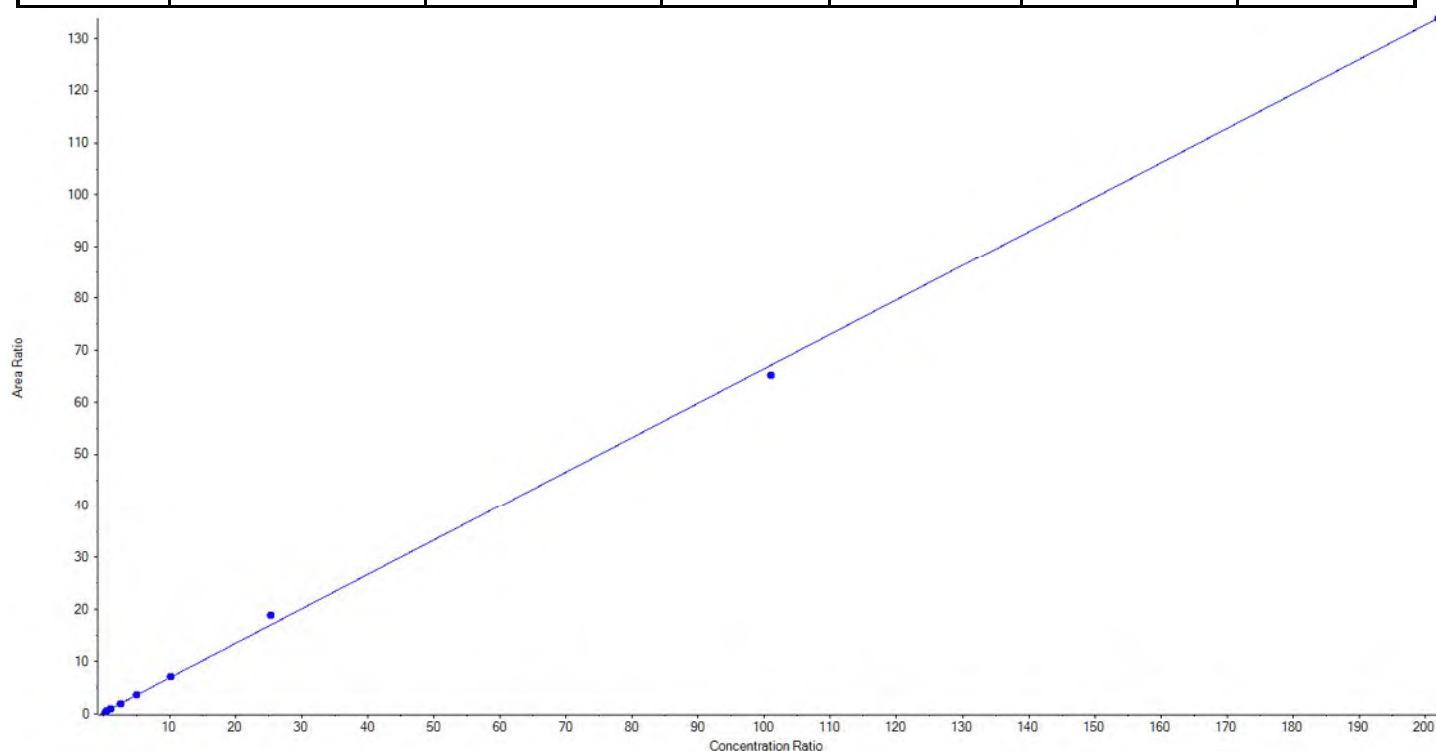
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHxA_1	Data File	6072018.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0351_Base
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.66155x + 0.30125$ ($r = 0.99941$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	25.189625	99.8
3	JV21	L2	True	50.50	45.793284	90.7
4	JV22	L3	True	101.00	95.695219	94.8
5	JV23	L4	True	252.50	259.443400	102.8
6	JV24	L5	True	505.00	516.121946	102.2
7	JV25	L6	True	1010.00	1029.262295	101.9
8	JV26	L7	True	2525.00	2799.385319	110.9
9	JV27	L8	True	10100.00	9812.905792	97.2
10	JV28	L9	True	20200.00	20185.453120	99.9





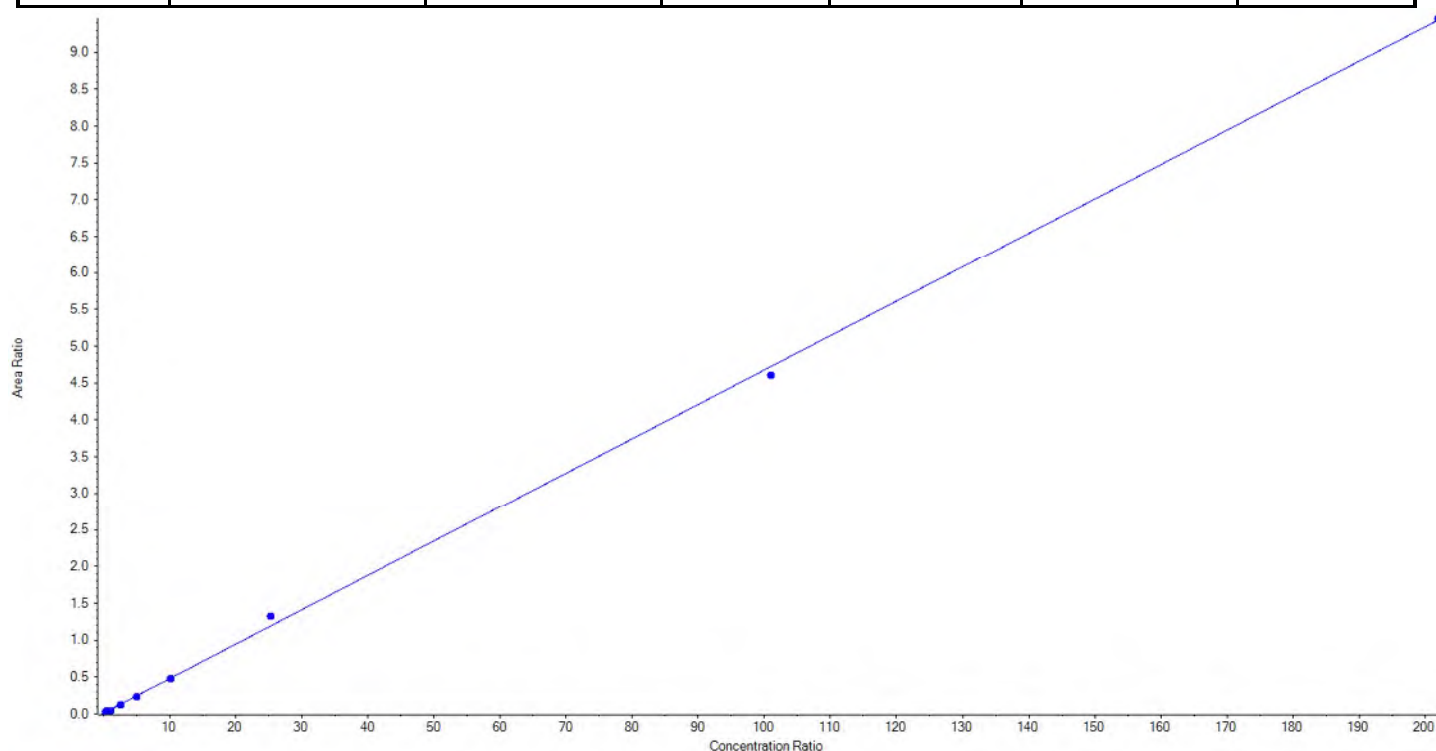
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Created with Analyst Reporter
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Analyte Name	PFHxA_2	Data File	6072018.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0351_Base
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04667x + 0.01093$ ($r = 0.99923$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	27.962916	110.7
3	JV21	L2	True	50.50	61.156967	121.1
4	JV22	L3	True	101.00	76.606497	75.9
5	JV23	L4	True	252.50	225.421636	89.3
6	JV24	L5	True	505.00	475.391498	94.1
7	JV25	L6	True	1010.00	1009.290498	99.9
8	JV26	L7	True	2525.00	2810.620669	111.3
9	JV27	L8	True	10100.00	9842.615797	97.5
10	JV28	L9	True	20200.00	20240.183522	100.2





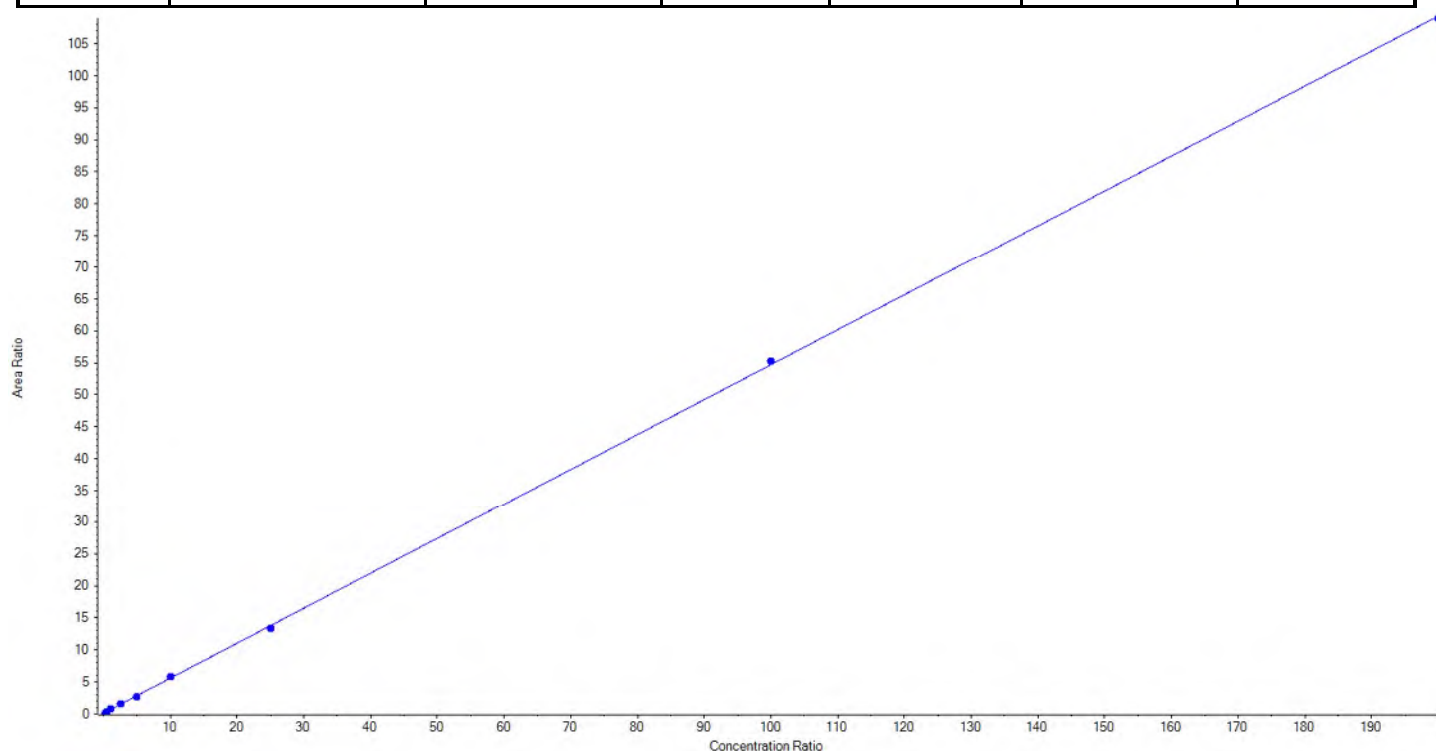
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHpA_1	Data File	6072018.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0351_Base
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.54604 x + 0.11131$ ($r = 0.99982$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	21.416600	85.7
3	JV21	L2	True	50.00	48.399356	96.8
4	JV22	L3	True	100.00	116.844359	116.8
5	JV23	L4	True	250.00	258.057490	103.2
6	JV24	L5	True	500.00	471.076592	94.2
7	JV25	L6	True	1000.00	1055.587563	105.6
8	JV26	L7	True	2500.00	2426.811268	97.1
9	JV27	L8	True	10000.00	10097.395147	101.0
10	JV28	L9	True	20000.00	19929.411626	99.7





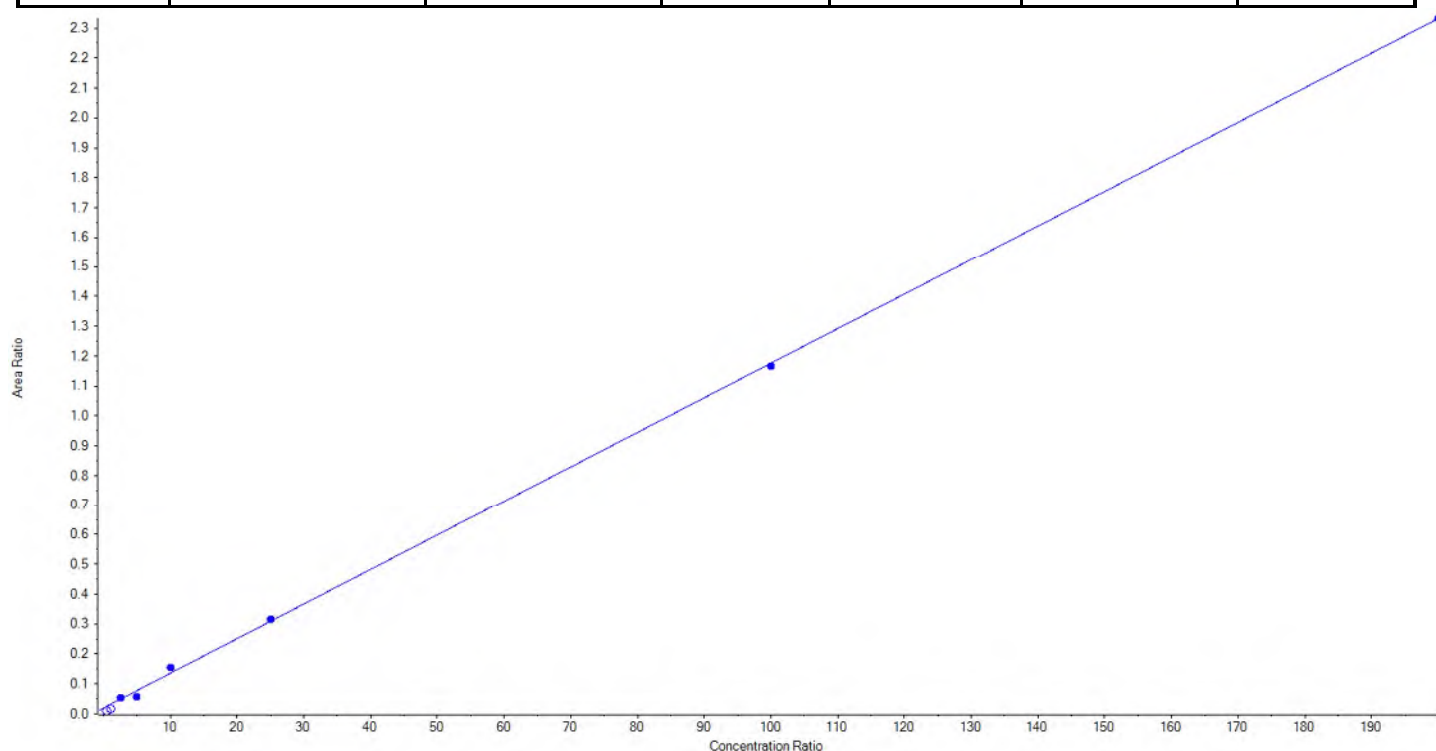
Calibration Summary Report

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Analyte Name	PFHpA_2	Data File	6072018.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01156x + 0.02007$ ($r = 0.99842$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	N/A	N/A
3	JV21	L2	False	50.00	< 0	N/A
4	JV22	L3	False	100.00	< 0	N/A
5	JV23	L4	True	250.00	290.819409	116.3
6	JV24	L5	True	500.00	329.583929	65.9
7	JV25	L6	True	1000.00	1160.939517	116.1
8	JV26	L7	True	2500.00	2565.403097	102.6
9	JV27	L8	True	10000.00	9905.820957	99.1
10	JV28	L9	True	20000.00	19997.433091	100.0





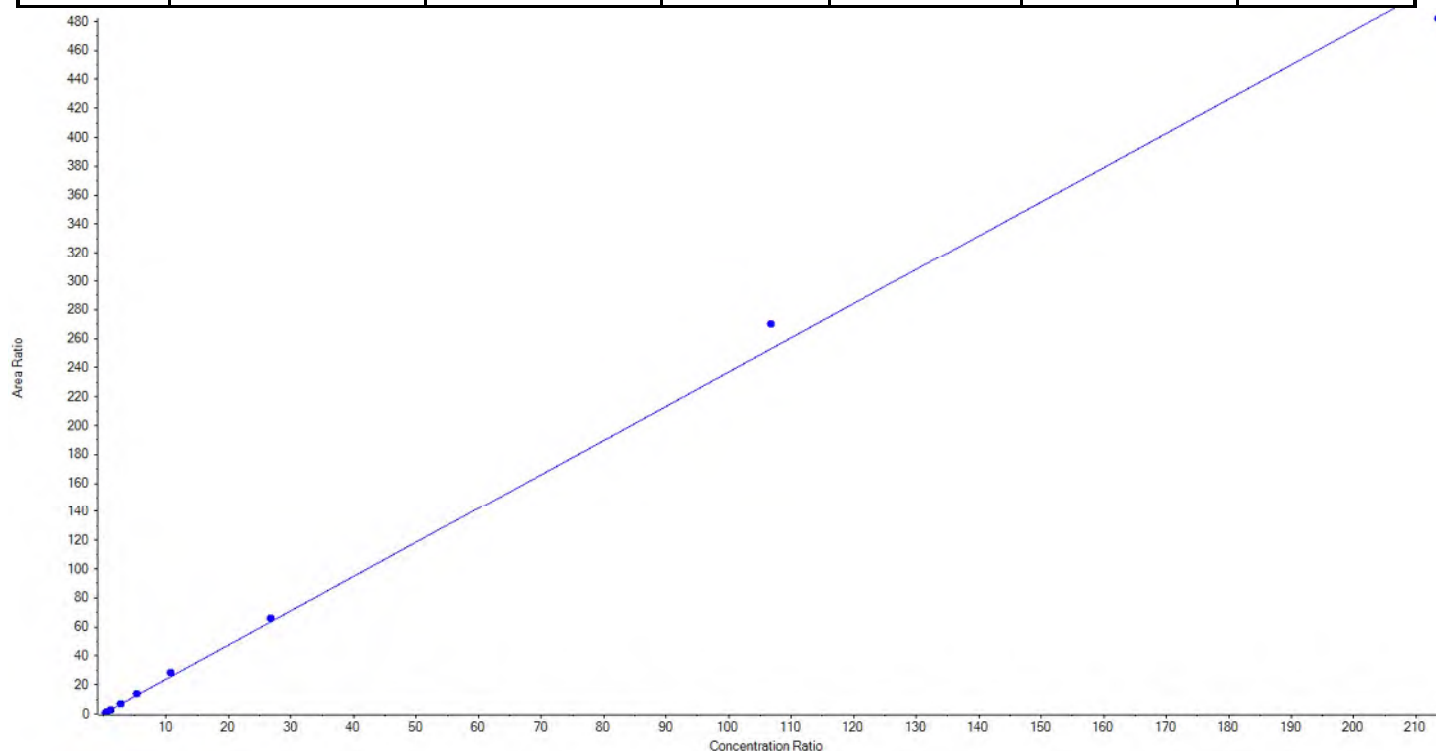
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Analyte Name	PFHxS_1	Data File	6072018.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0351_Base
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.36763x + 0.21796$ ($r = 0.99831$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	17.912475	70.9
3	JV21	L2	True	50.50	53.488051	105.9
4	JV22	L3	True	101.00	97.481687	96.5
5	JV23	L4	True	252.50	261.185199	103.4
6	JV24	L5	True	505.00	534.660086	105.9
7	JV25	L6	True	1010.00	1117.358473	110.6
8	JV26	L7	True	2525.00	2637.640639	104.5
9	JV27	L8	True	10100.00	10799.425210	106.9
10	JV28	L9	True	20200.00	19250.098181	95.3





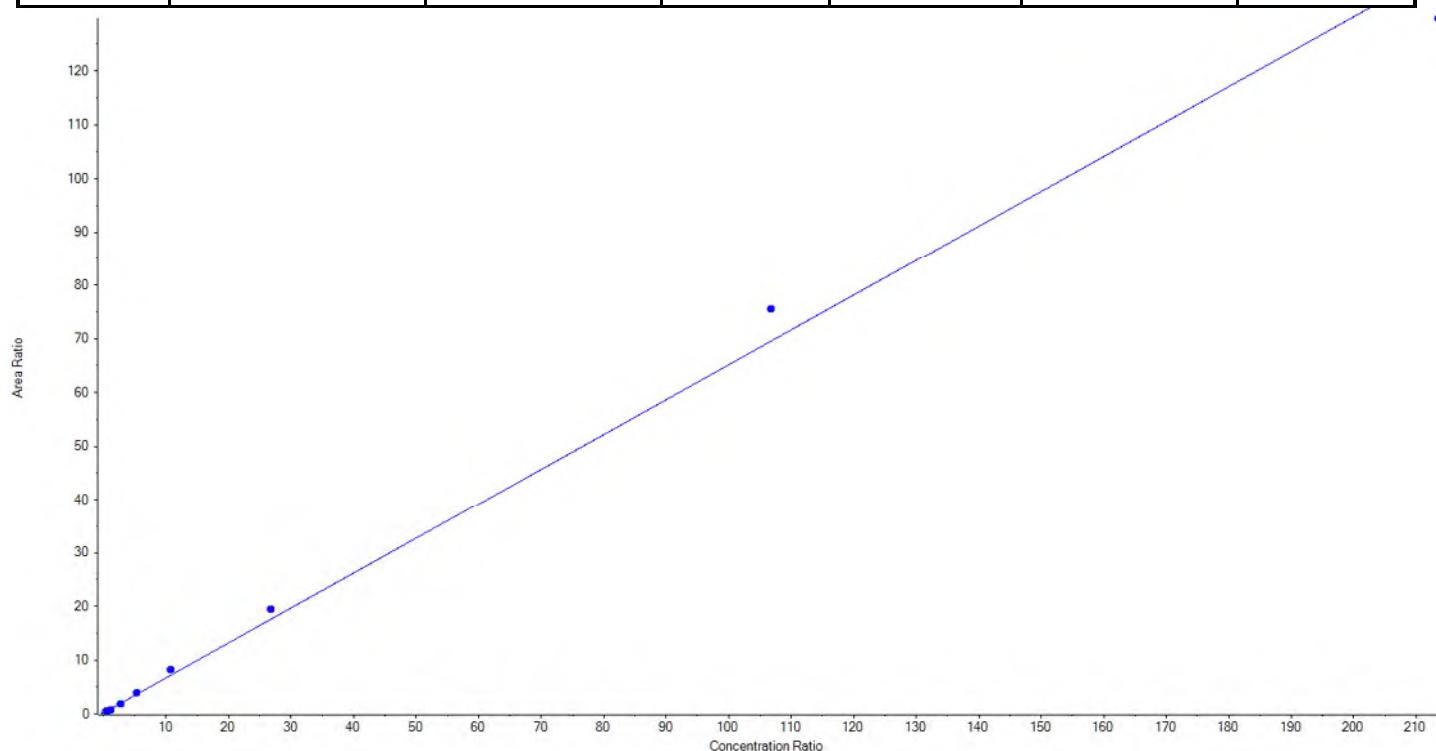
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Analyte Name	PFHxS_2	Data File	6072018.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0351_Base
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.64944x + 0.20569$ ($r = 0.99656$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.25	4.853831	19.2
3	JV21	L2	True	50.50	41.722055	82.6
4	JV22	L3	True	101.00	86.095976	85.2
5	JV23	L4	True	252.50	243.062956	96.3
6	JV24	L5	True	505.00	538.271166	106.6
7	JV25	L6	True	1010.00	1171.538070	116.0
8	JV26	L7	True	2525.00	2805.077301	111.1
9	JV27	L8	True	10100.00	10986.487505	108.8
10	JV28	L9	True	20200.00	18871.744972	93.4





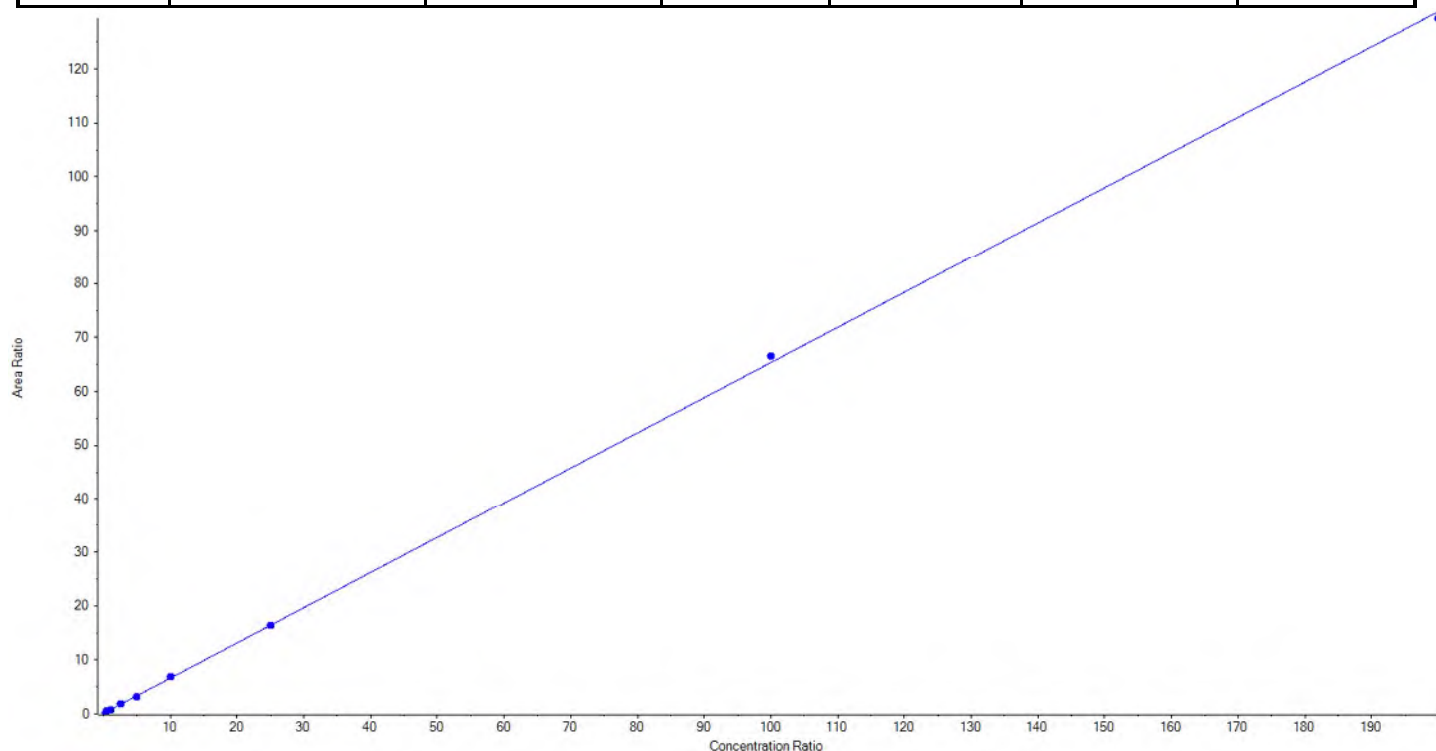
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Analyte Name	PFOA_1	Data File	6072018.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65267x + 0.09107$ ($r = 0.99980$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	18.098123	72.4
3	JV21	L2	True	50.00	61.859763	123.7
4	JV22	L3	True	100.00	100.186034	100.2
5	JV23	L4	True	250.00	263.728976	105.5
6	JV24	L5	True	500.00	471.973791	94.4
7	JV25	L6	True	1000.00	1034.220060	103.4
8	JV26	L7	True	2500.00	2488.582766	99.5
9	JV27	L8	True	10000.00	10183.705964	101.8
10	JV28	L9	True	20000.00	19802.644523	99.0





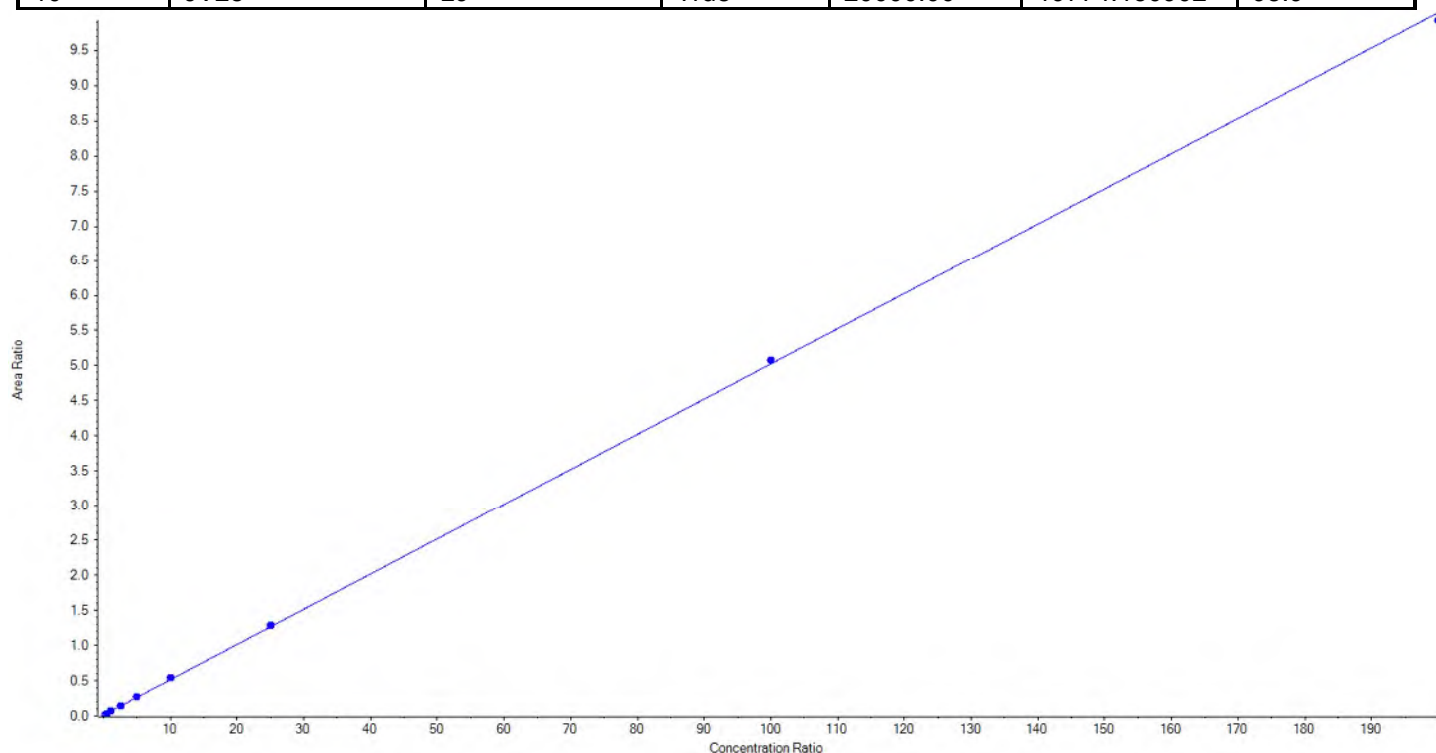
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Analyte Name	PFOA_2	Data File	6072018.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05013x + 0.01244$ ($r = 0.99981$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	True	50.00	37.745363	75.5
4	JV22	L3	True	100.00	106.307797	106.3
5	JV23	L4	True	250.00	271.408103	108.6
6	JV24	L5	True	500.00	516.356573	103.3
7	JV25	L6	True	1000.00	1051.550180	105.2
8	JV26	L7	True	2500.00	2530.541296	101.2
9	JV27	L8	True	10000.00	10111.959787	101.1
10	JV28	L9	True	20000.00	19774.130902	98.9





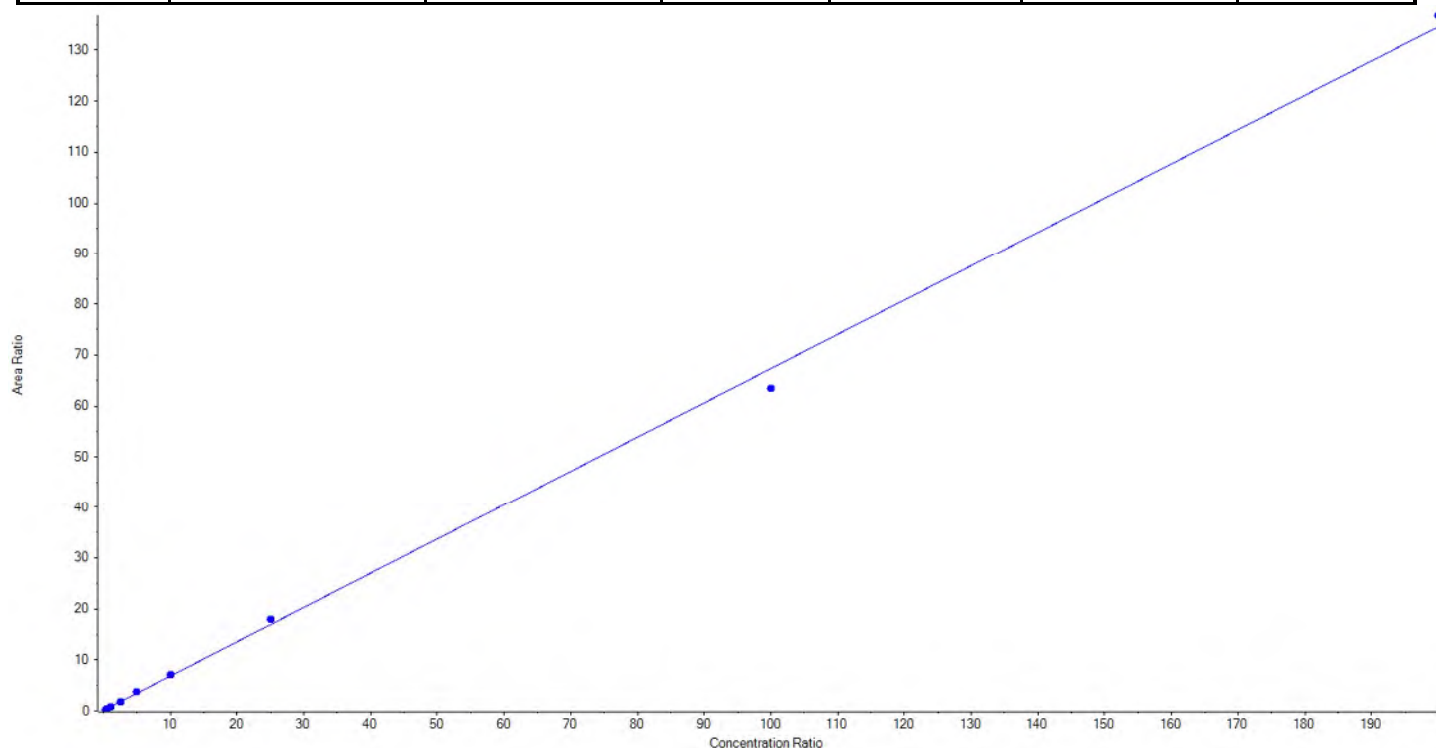
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Analyte Name	PFNA_1	Data File	6072018.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0351_Base
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.67253x + 0.08413$ ($r = 0.99919$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	20.380243	81.5
3	JV21	L2	True	50.00	46.646813	93.3
4	JV22	L3	True	100.00	104.458467	104.5
5	JV23	L4	True	250.00	263.701795	105.5
6	JV24	L5	True	500.00	551.318989	110.3
7	JV25	L6	True	1000.00	1029.603636	103.0
8	JV26	L7	True	2500.00	2651.434689	106.1
9	JV27	L8	True	10000.00	9435.478644	94.4
10	JV28	L9	True	20000.00	20321.976724	101.6





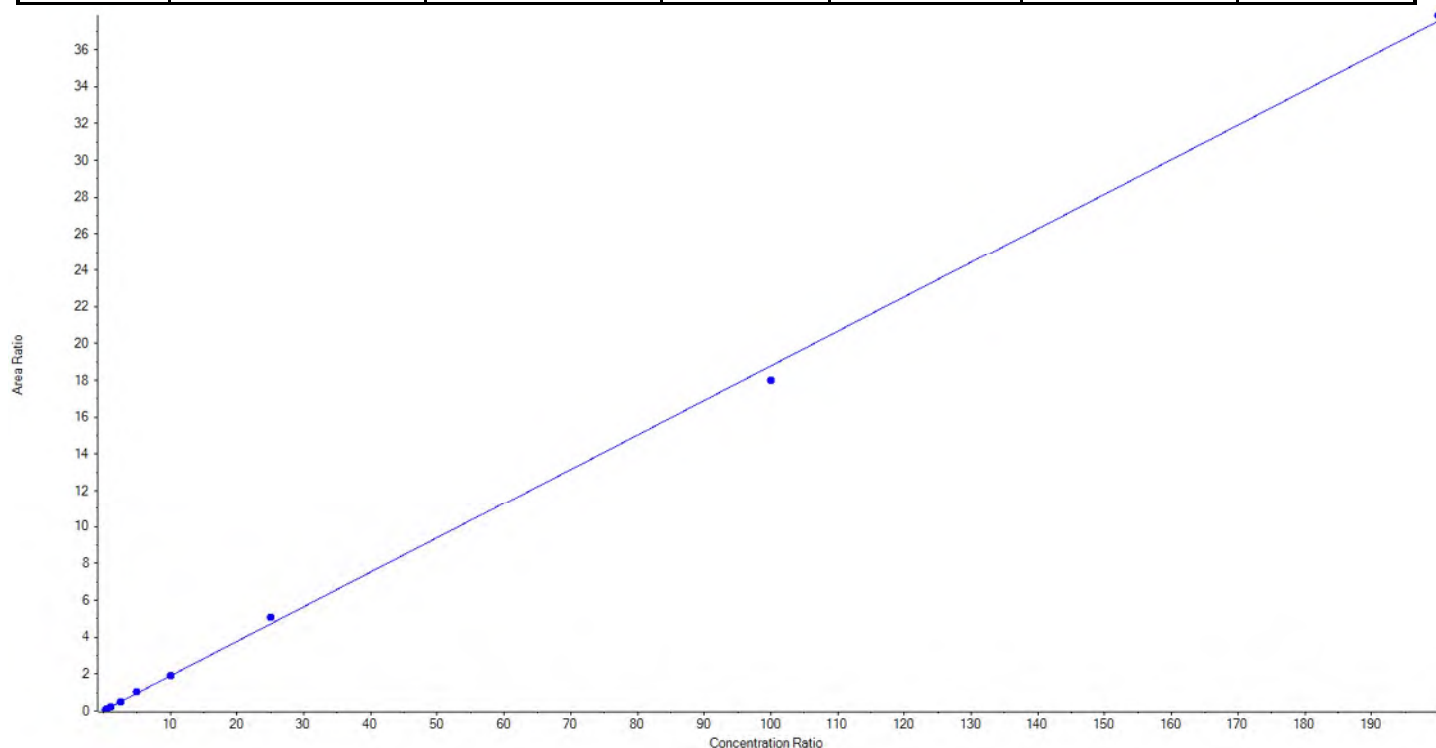
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Analyte Name	PFNA_2	Data File	6072018.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0351_Base
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.18770x + 0.01753$ ($r = 0.99936$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	19.401848	77.6
3	JV21	L2	True	50.00	48.764204	97.5
4	JV22	L3	True	100.00	110.562507	110.6
5	JV23	L4	True	250.00	248.793870	99.5
6	JV24	L5	True	500.00	547.564450	109.5
7	JV25	L6	True	1000.00	1004.923499	100.5
8	JV26	L7	True	2500.00	2704.608737	108.2
9	JV27	L8	True	10000.00	9578.530176	95.8
10	JV28	L9	True	20000.00	20161.850707	100.8





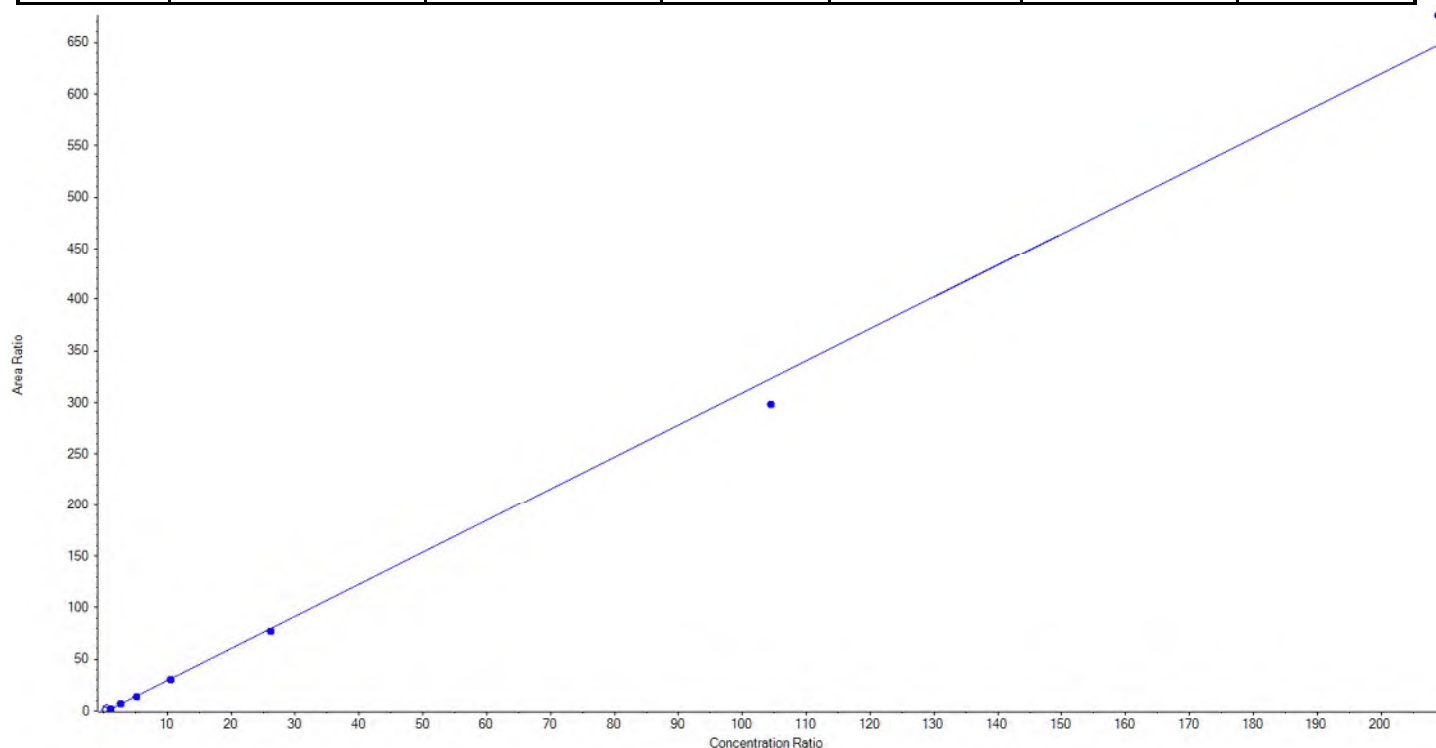
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Analyte Name	PFOS_1	Data File	6072018.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.10532 x + -1.48782$ ($r = 0.99837$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	50.138640	200.6
3	JV21	L2	False	50.00	92.166004	184.3
4	JV22	L3	True	100.00	108.959361	109.0
5	JV23	L4	True	250.00	263.794339	105.5
6	JV24	L5	True	500.00	471.261790	94.3
7	JV25	L6	True	1000.00	982.909786	98.3
8	JV26	L7	True	2500.00	2404.311359	96.2
9	JV27	L8	True	10000.00	9242.659160	92.4
10	JV28	L9	True	20000.00	20876.104205	104.4





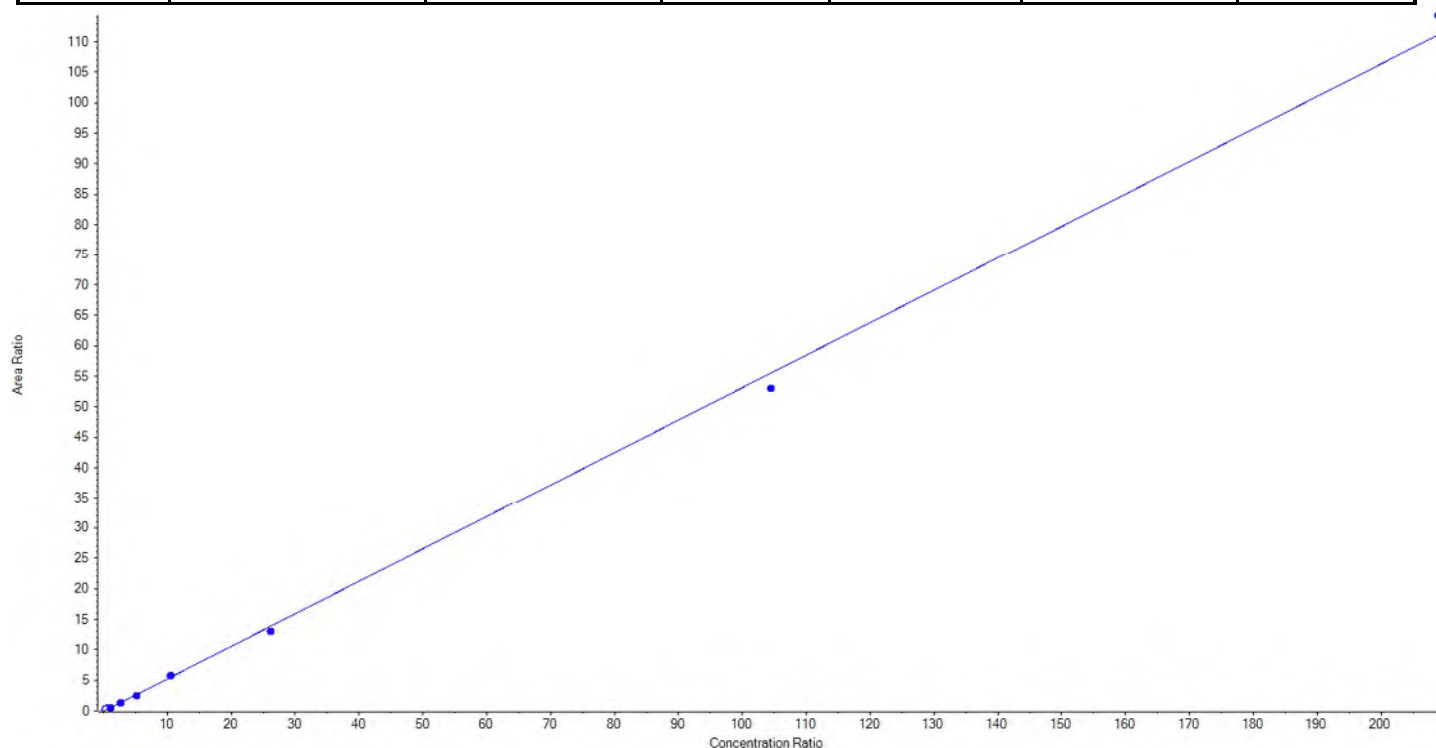
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Analyte Name	PFOS_2	Data File	6072018.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.53212x + -0.07235$ ($r = 0.99923$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	35.731144	142.9
3	JV21	L2	False	50.00	84.818722	169.6
4	JV22	L3	True	100.00	105.033358	105.0
5	JV23	L4	True	250.00	259.538899	103.8
6	JV24	L5	True	500.00	471.040056	94.2
7	JV25	L6	True	1000.00	1043.370013	104.3
8	JV26	L7	True	2500.00	2357.552928	94.3
9	JV27	L8	True	10000.00	9547.325858	95.5
10	JV28	L9	True	20000.00	20566.138888	102.8





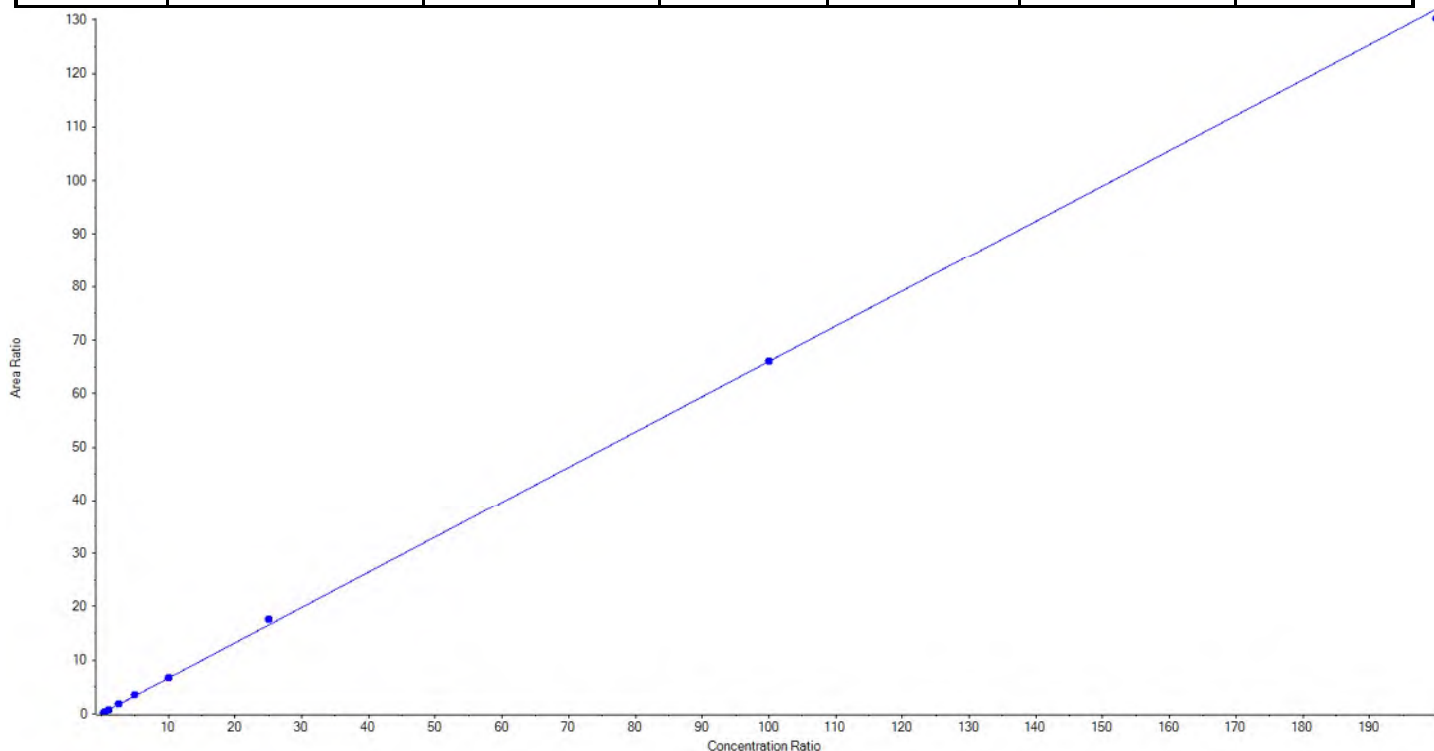
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Analyte Name	PFDA_1	Data File	6072018.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0351_Base
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65956x + 0.06191$ ($r = 0.99963$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	21.443438	85.8
3	JV21	L2	True	50.00	39.045512	78.1
4	JV22	L3	True	100.00	114.963867	115.0
5	JV23	L4	True	250.00	265.515260	106.2
6	JV24	L5	True	500.00	532.287853	106.5
7	JV25	L6	True	1000.00	1027.599212	102.8
8	JV26	L7	True	2500.00	2672.830375	106.9
9	JV27	L8	True	10000.00	10015.594449	100.2
10	JV28	L9	True	20000.00	19735.720034	98.7





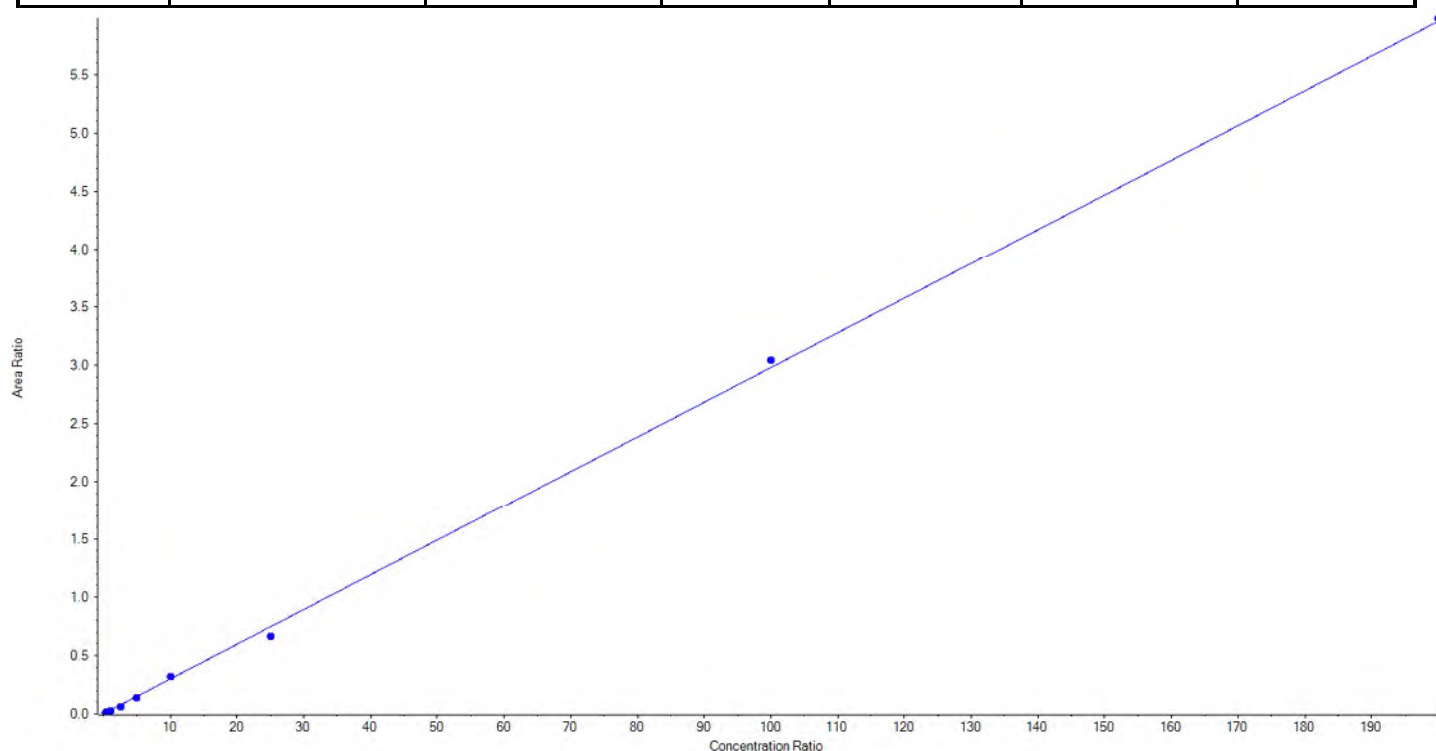
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Analyte Name	PFDA_2	Data File	6072018.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0351_Base
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.02979x + 0.00124$ ($r = 0.99918$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	31.548423	126.2
3	JV21	L2	True	50.00	52.220603	104.4
4	JV22	L3	True	100.00	95.565140	95.6
5	JV23	L4	True	250.00	207.658078	83.1
6	JV24	L5	True	500.00	464.804744	93.0
7	JV25	L6	True	1000.00	1068.313446	106.8
8	JV26	L7	True	2500.00	2209.453678	88.4
9	JV27	L8	True	10000.00	10217.822383	102.2
10	JV28	L9	True	20000.00	20077.613505	100.4





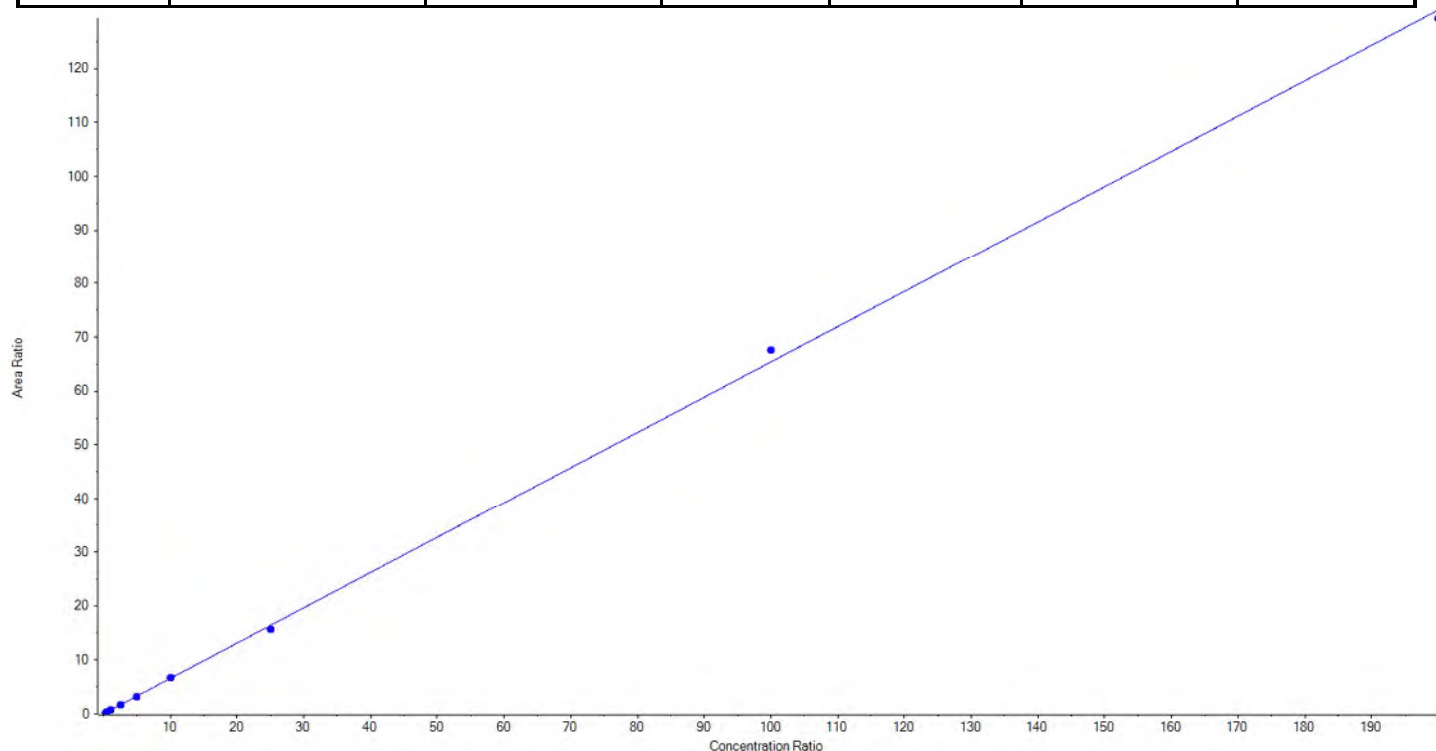
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Analyte Name	PFUnA_1	Data File	6072018.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0351_Base
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65386x + 0.02507$ ($r = 0.99969$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	25.036894	100.2
3	JV21	L2	True	50.00	50.021157	100.0
4	JV22	L3	True	100.00	105.372507	105.4
5	JV23	L4	True	250.00	245.247105	98.1
6	JV24	L5	True	500.00	473.779904	94.8
7	JV25	L6	True	1000.00	1035.275441	103.5
8	JV26	L7	True	2500.00	2398.389870	95.9
9	JV27	L8	True	10000.00	10332.051319	103.3
10	JV28	L9	True	20000.00	19759.825803	98.8





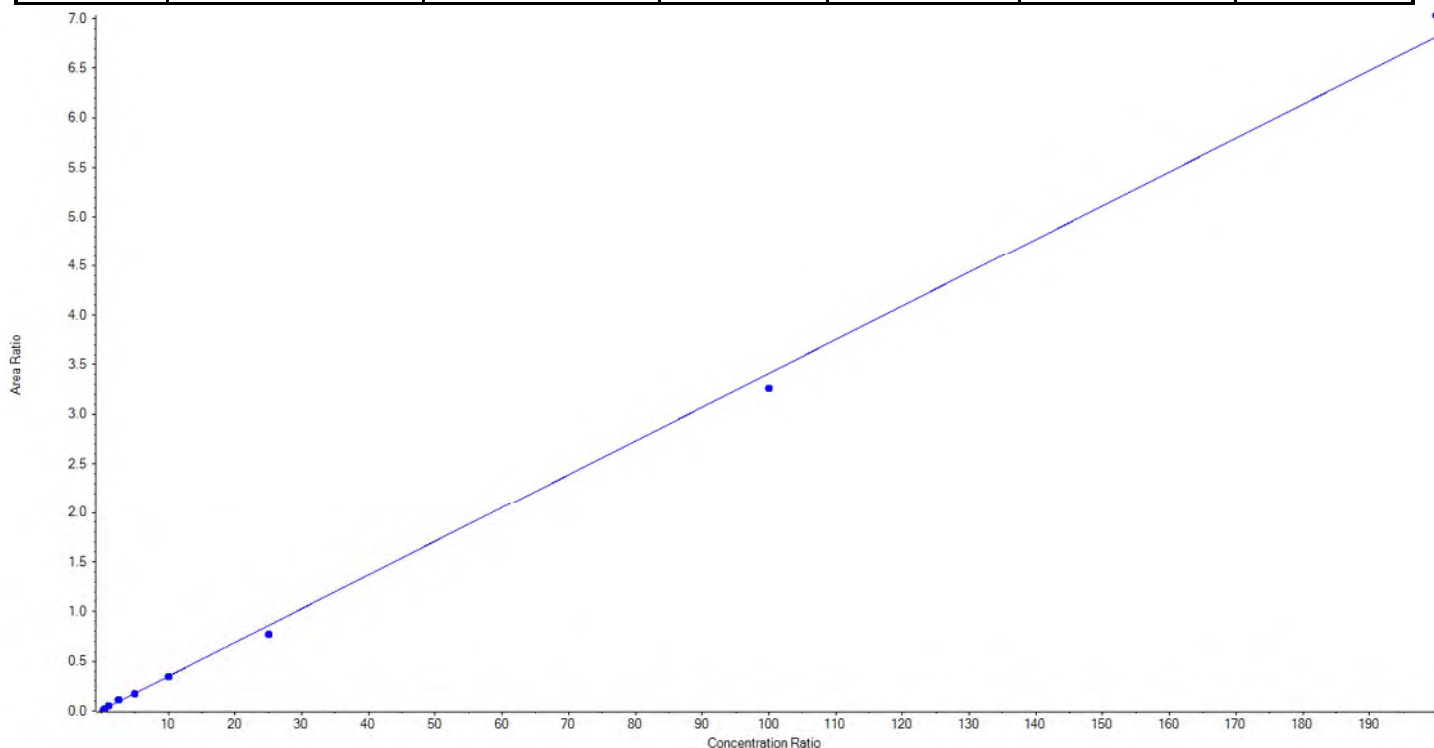
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Analyte Name	PfUnA_2	Data File	6072018.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0351_Base
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.03405x + 0.00735$ ($r = 0.99879$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.422464	89.7
3	JV21	L2	True	50.00	40.513453	81.0
4	JV22	L3	True	100.00	118.927460	118.9
5	JV23	L4	True	250.00	306.872947	122.8
6	JV24	L5	True	500.00	497.879911	99.6
7	JV25	L6	True	1000.00	991.015248	99.1
8	JV26	L7	True	2500.00	2252.669746	90.1
9	JV27	L8	True	10000.00	9569.761599	95.7
10	JV28	L9	True	20000.00	20624.937171	103.1





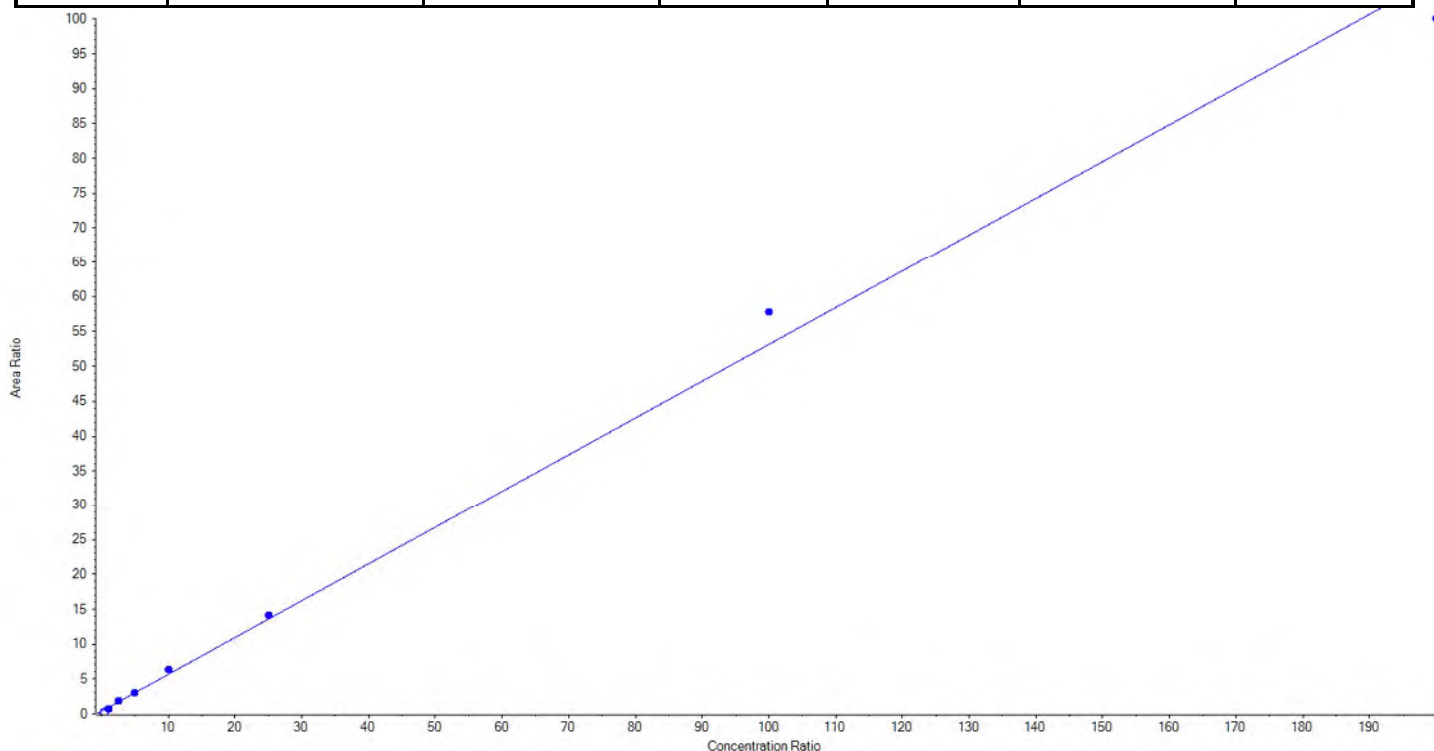
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFDaA_1	Data File	6072018.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0351_Base
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.52767 x + 0.38979$ ($r = 0.99730$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	False	50.00	< 0	N/A
4	JV22	L3	True	100.00	70.178458	70.2
5	JV23	L4	True	250.00	267.915463	107.2
6	JV24	L5	True	500.00	512.936582	102.6
7	JV25	L6	True	1000.00	1126.551942	112.7
8	JV26	L7	True	2500.00	2603.682297	104.2
9	JV27	L8	True	10000.00	10884.375528	108.8
10	JV28	L9	True	20000.00	18884.359729	94.4





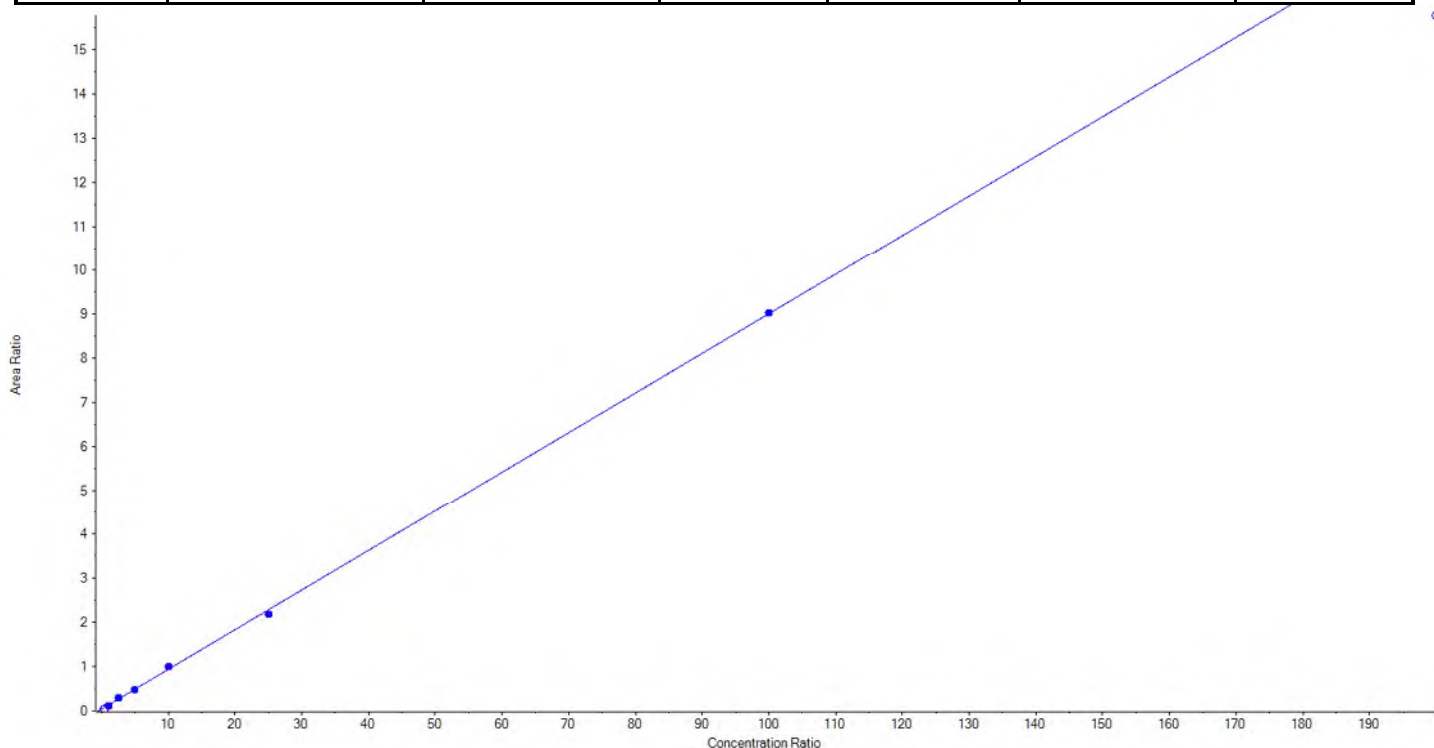
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Analyte Name	PFDaA_2	Data File	6072018.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0351_Base
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.08966x + 0.04281$ ($r = 0.99934$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	False	50.00	13.766000	27.5
4	JV22	L3	True	100.00	86.741212	86.7
5	JV23	L4	True	250.00	276.475216	110.6
6	JV24	L5	True	500.00	495.184086	99.0
7	JV25	L6	True	1000.00	1079.208724	107.9
8	JV26	L7	True	2500.00	2386.236813	95.5
9	JV27	L8	True	10000.00	10026.153948	100.3
10	JV28	L9	False	20000.00	17548.781879	87.7





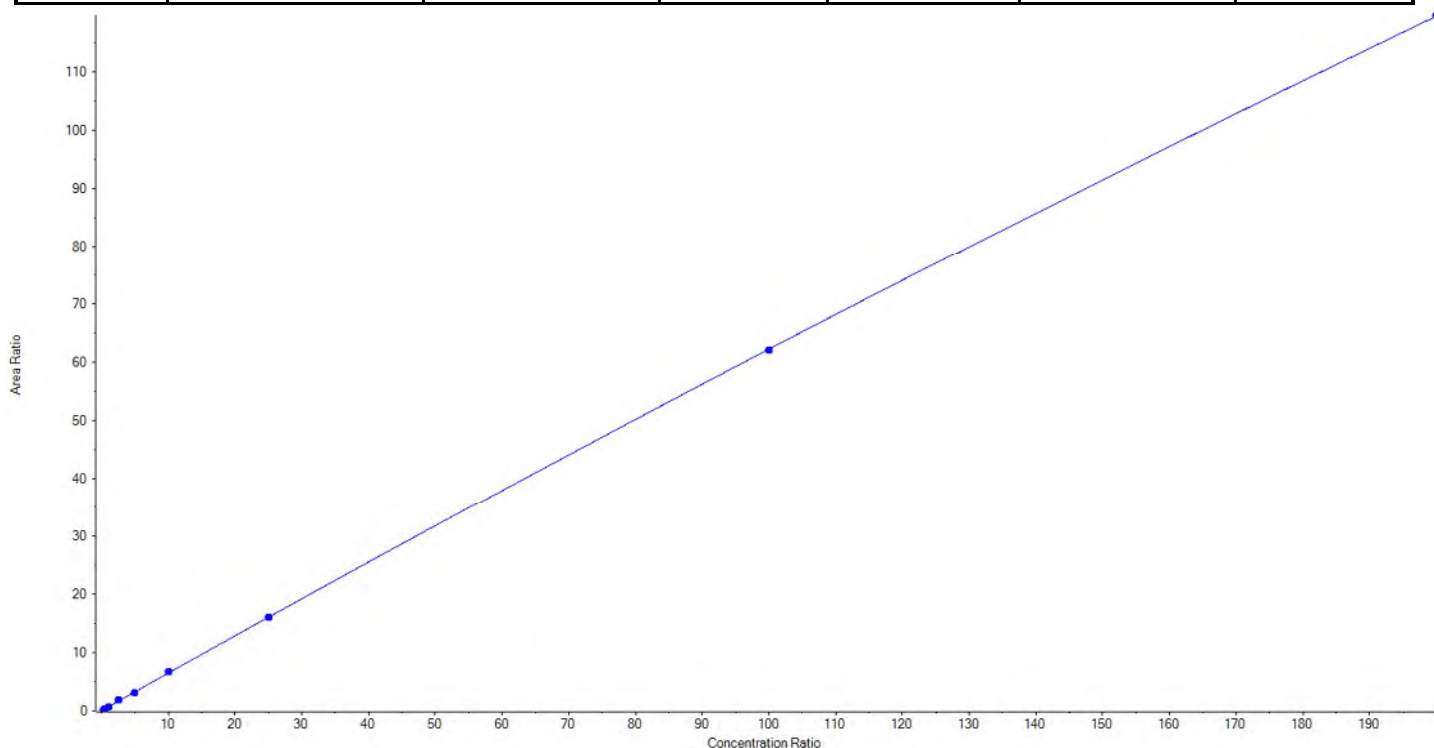
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFTTrDA_1	Data File	6072018.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -2.45176e-4 x^2 + 0.64685 x + 0.04142$ ($r = 0.99990$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.161627	88.7
3	JV21	L2	True	50.00	48.481204	97.0
4	JV22	L3	True	100.00	106.967849	107.0
5	JV23	L4	True	250.00	276.263151	110.5
6	JV24	L5	True	500.00	475.432794	95.1
7	JV25	L6	True	1000.00	1026.550278	102.7
8	JV26	L7	True	2500.00	2486.470932	99.5
9	JV27	L8	True	10000.00	9961.026751	99.6
10	JV28	L9	True	20000.00	20021.938987	100.1





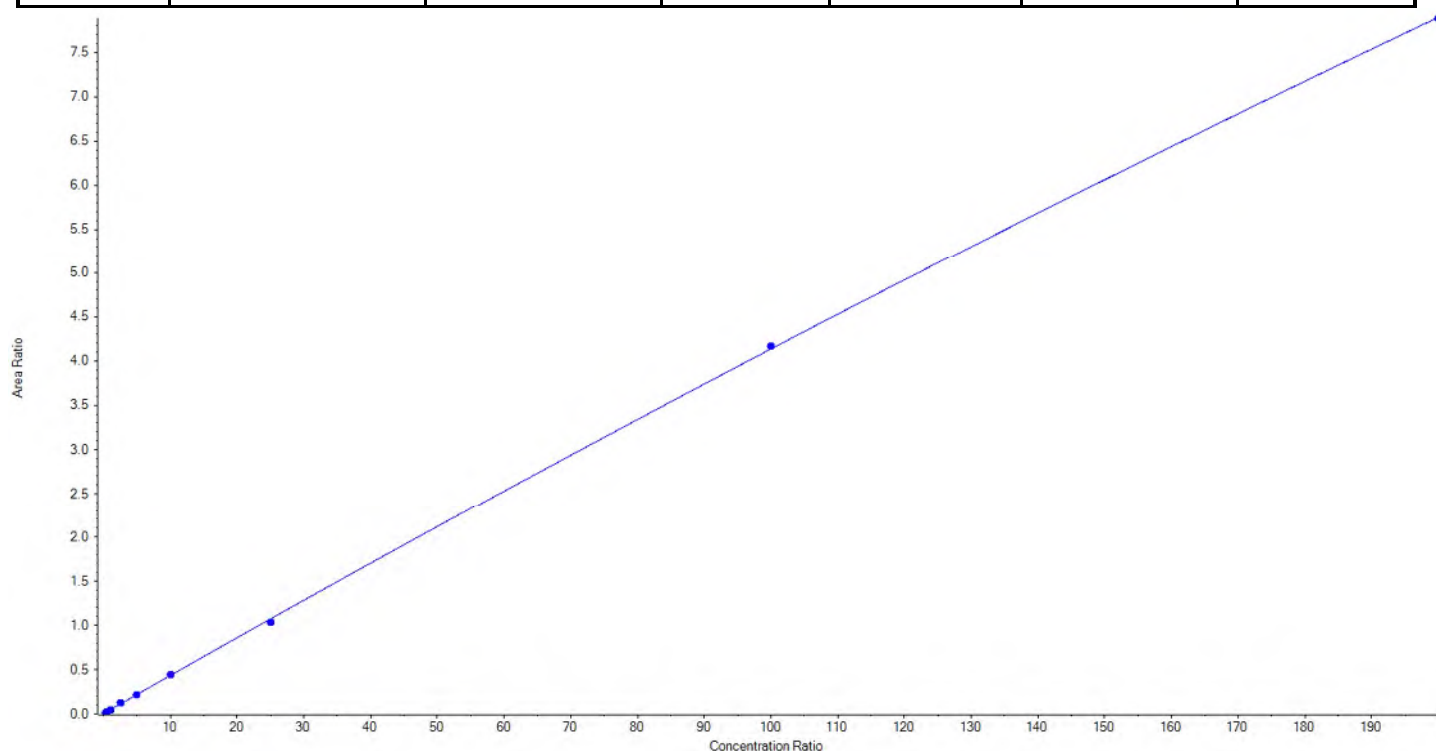
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Analyte Name	PFTTrDA_2	Data File	6072018.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -1.86273e-5 x^2 + 0.04319 x + 0.00364$ ($r = 0.99983$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.162689	88.7
3	JV21	L2	True	50.00	47.733187	95.5
4	JV22	L3	True	100.00	107.588314	107.6
5	JV23	L4	True	250.00	279.571556	111.8
6	JV24	L5	True	500.00	486.583145	97.3
7	JV25	L6	True	1000.00	1022.697874	102.3
8	JV26	L7	True	2500.00	2403.578014	96.1
9	JV27	L8	True	10000.00	10093.394159	100.9
10	JV28	L9	True	20000.00	19961.287090	99.8





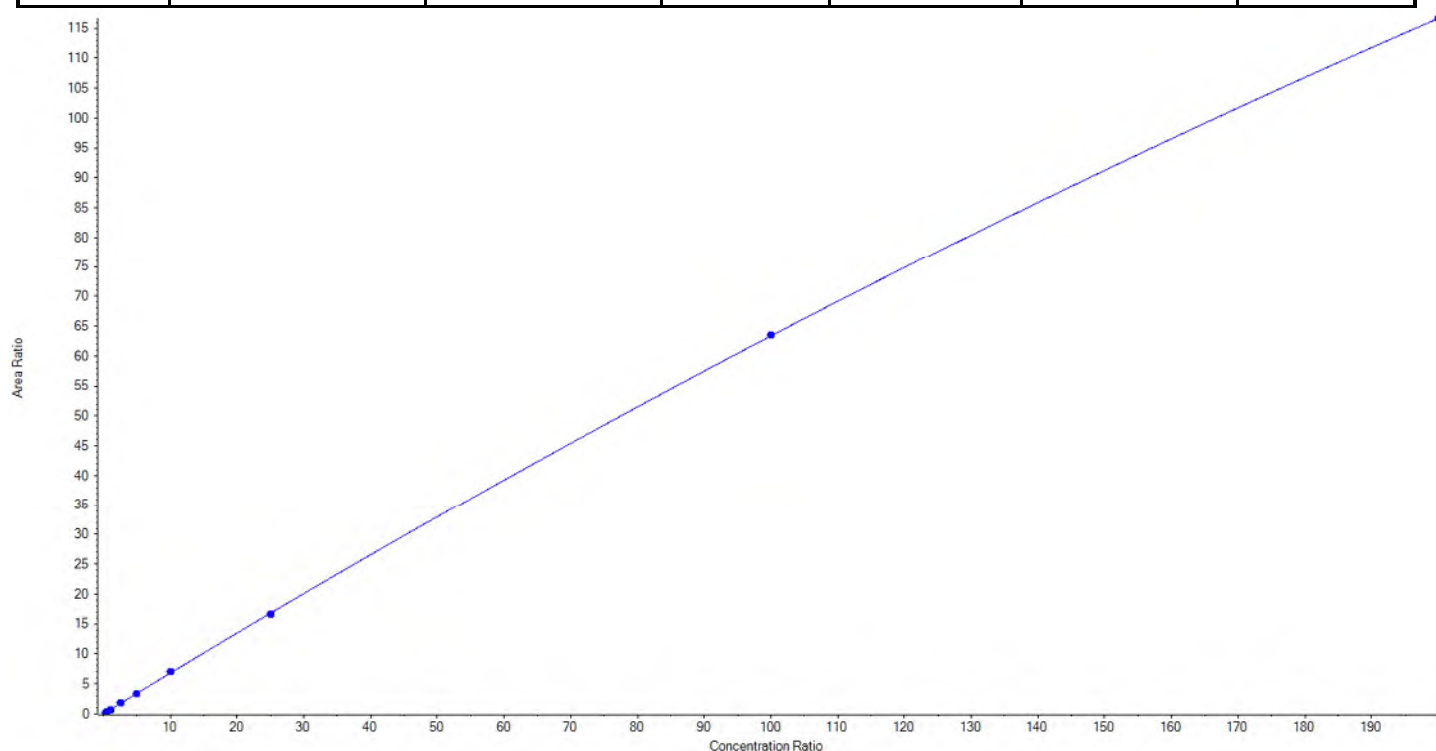
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Analyte Name	PFTeDA_1	Data File	6072018.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -5.04346e-4 x^2 + 0.68391 x + 0.02496$ ($r = 0.99996$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	23.788334	95.2
3	JV21	L2	True	50.00	50.044909	100.1
4	JV22	L3	True	100.00	103.113355	103.1
5	JV23	L4	True	250.00	256.151932	102.5
6	JV24	L5	True	500.00	486.029505	97.2
7	JV25	L6	True	1000.00	1033.338939	103.3
8	JV26	L7	True	2500.00	2463.483574	98.5
9	JV27	L8	True	10000.00	10012.029002	100.1
10	JV28	L9	True	20000.00	19996.999621	100.0





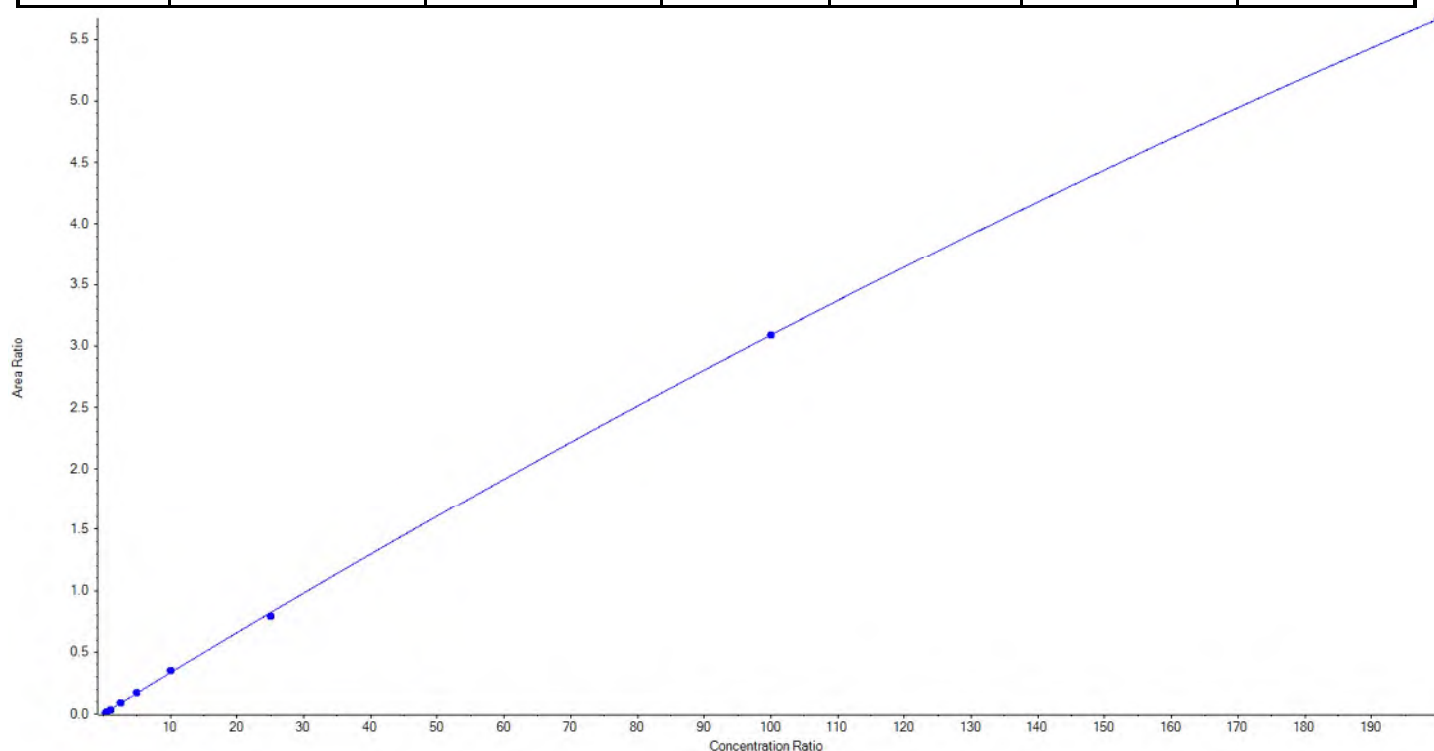
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Analyte Name	PFTeDA_2	Data File	6072018.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -2.53939e-5 x^2 + 0.03339 x + 0.00200$ ($r = 0.99987$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	25.648467	102.6
3	JV21	L2	True	50.00	42.930398	85.9
4	JV22	L3	True	100.00	101.815900	101.8
5	JV23	L4	True	250.00	260.210288	104.1
6	JV24	L5	True	500.00	519.262579	103.9
7	JV25	L6	True	1000.00	1049.502317	105.0
8	JV26	L7	True	2500.00	2422.036551	96.9
9	JV27	L8	True	10000.00	9988.884280	99.9
10	JV28	L9	True	20000.00	20015.897486	100.1





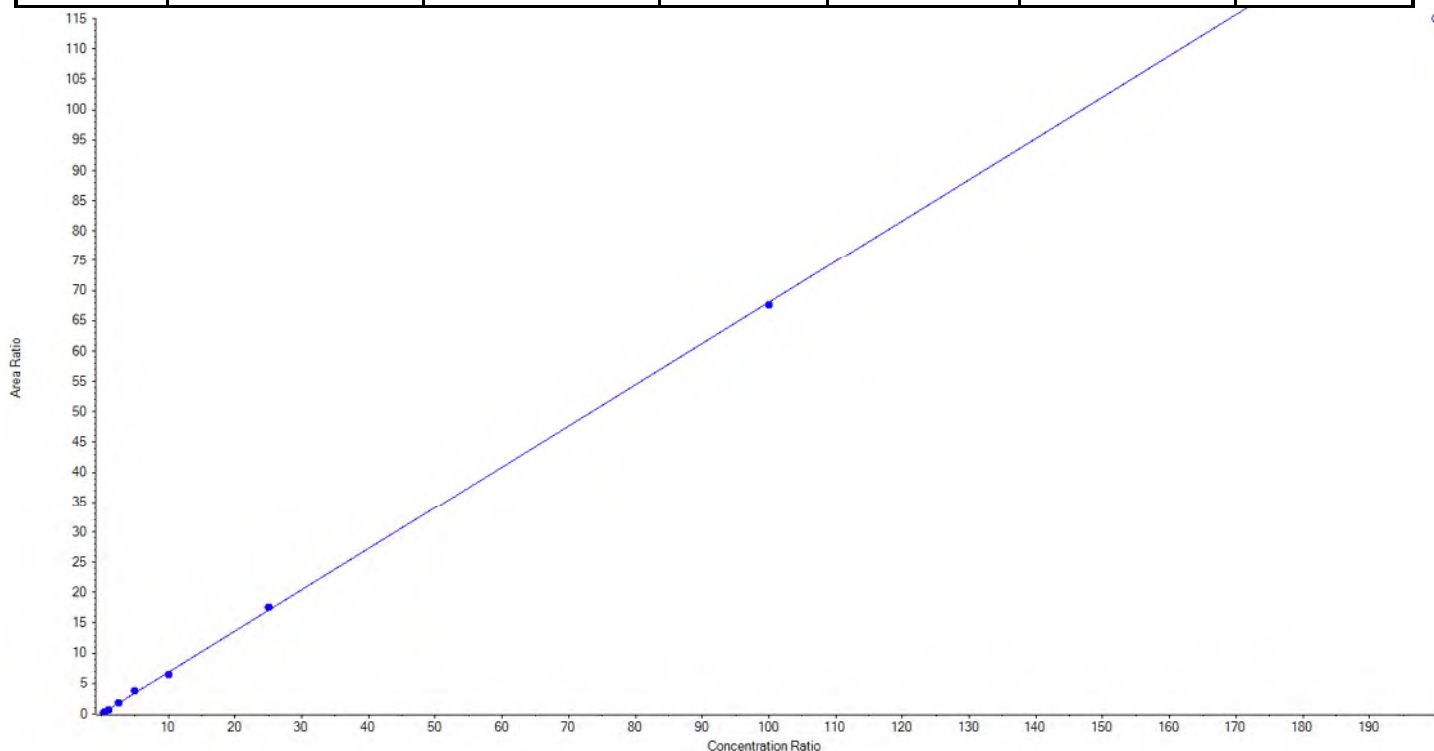
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NMeFOSAA_1	Data File	6072018.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0351_Base
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.68020x + 0.04941$ ($r = 0.99960$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	24.227966	96.9
3	JV21	L2	True	50.00	46.741338	93.5
4	JV22	L3	True	100.00	101.511782	101.5
5	JV23	L4	True	250.00	250.779356	100.3
6	JV24	L5	True	500.00	552.230007	110.5
7	JV25	L6	True	1000.00	951.596874	95.2
8	JV26	L7	True	2500.00	2573.237388	102.9
9	JV27	L8	True	10000.00	9924.675290	99.3
10	JV28	L9	False	20000.00	16903.129381	84.5





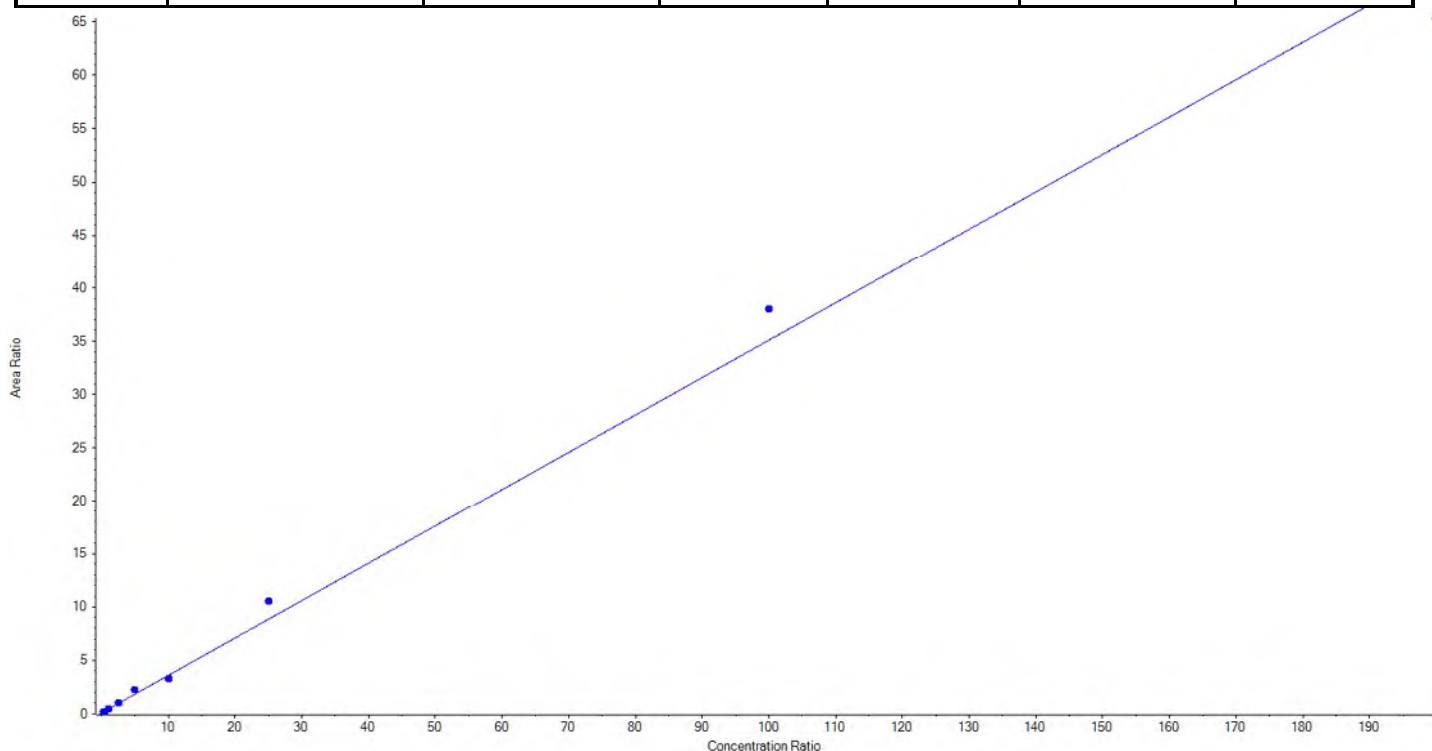
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Analyte Name	NMeFOSAA_2	Data File	6072018.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0351_Base
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.34992x + 0.10048$ ($r = 0.99555$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	20.857455	83.4
3	JV21	L2	True	50.00	36.113201	72.2
4	JV22	L3	True	100.00	95.604572	95.6
5	JV23	L4	True	250.00	274.701878	109.9
6	JV24	L5	True	500.00	629.792515	126.0
7	JV25	L6	True	1000.00	924.546740	92.5
8	JV26	L7	True	2500.00	2972.639243	118.9
9	JV27	L8	True	10000.00	10837.197284	108.4
10	JV28	L9	True	20000.00	18633.547112	93.2





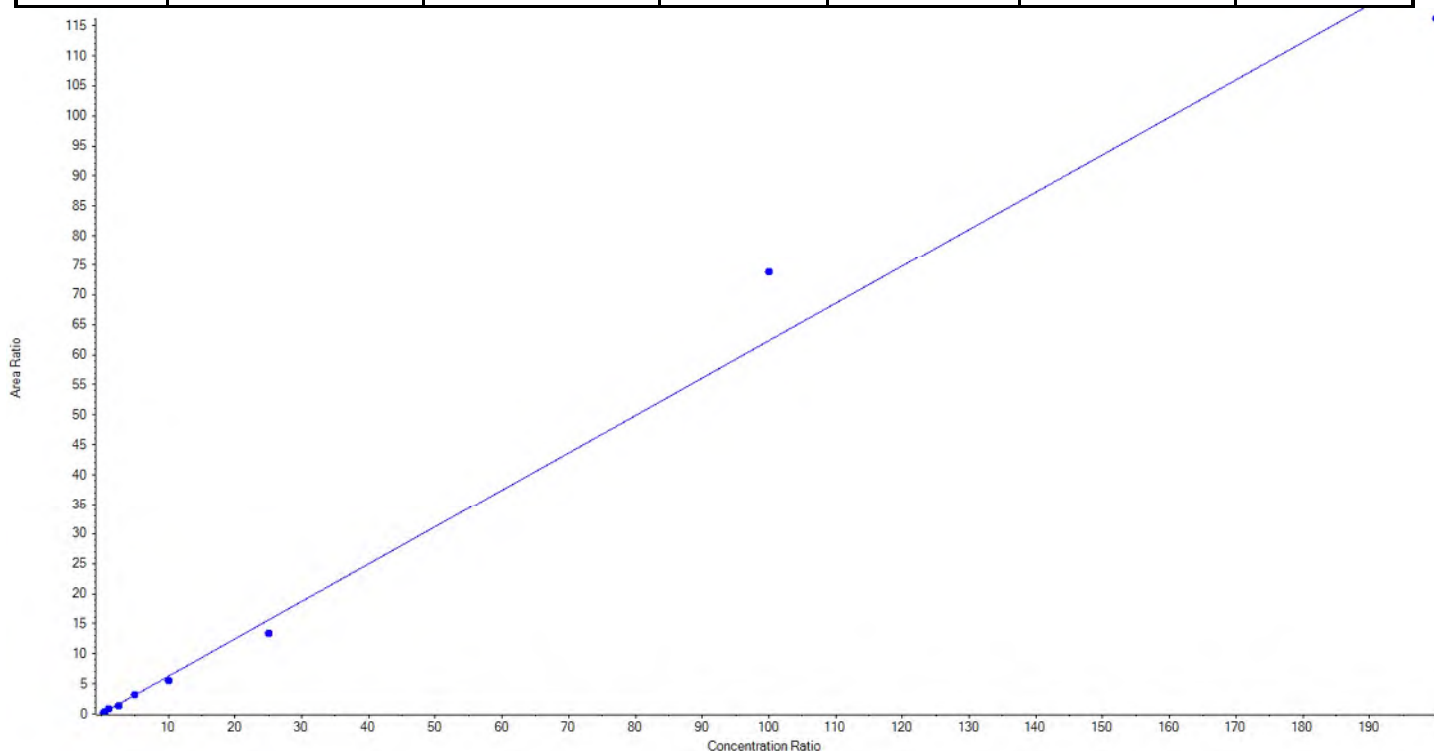
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Analyte Name	NEtFOSAA_1	Data File	6072018.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0351_Base
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.62334 x + 0.01763$ ($r = 0.99253$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	27.086477	108.4
3	JV21	L2	True	50.00	49.662621	99.3
4	JV22	L3	True	100.00	118.172721	118.2
5	JV23	L4	True	250.00	220.781864	88.3
6	JV24	L5	True	500.00	504.371953	100.9
7	JV25	L6	True	1000.00	872.171385	87.2
8	JV26	L7	True	2500.00	2153.326264	86.1
9	JV27	L8	True	10000.00	11844.333779	118.4
10	JV28	L9	True	20000.00	18635.092935	93.2





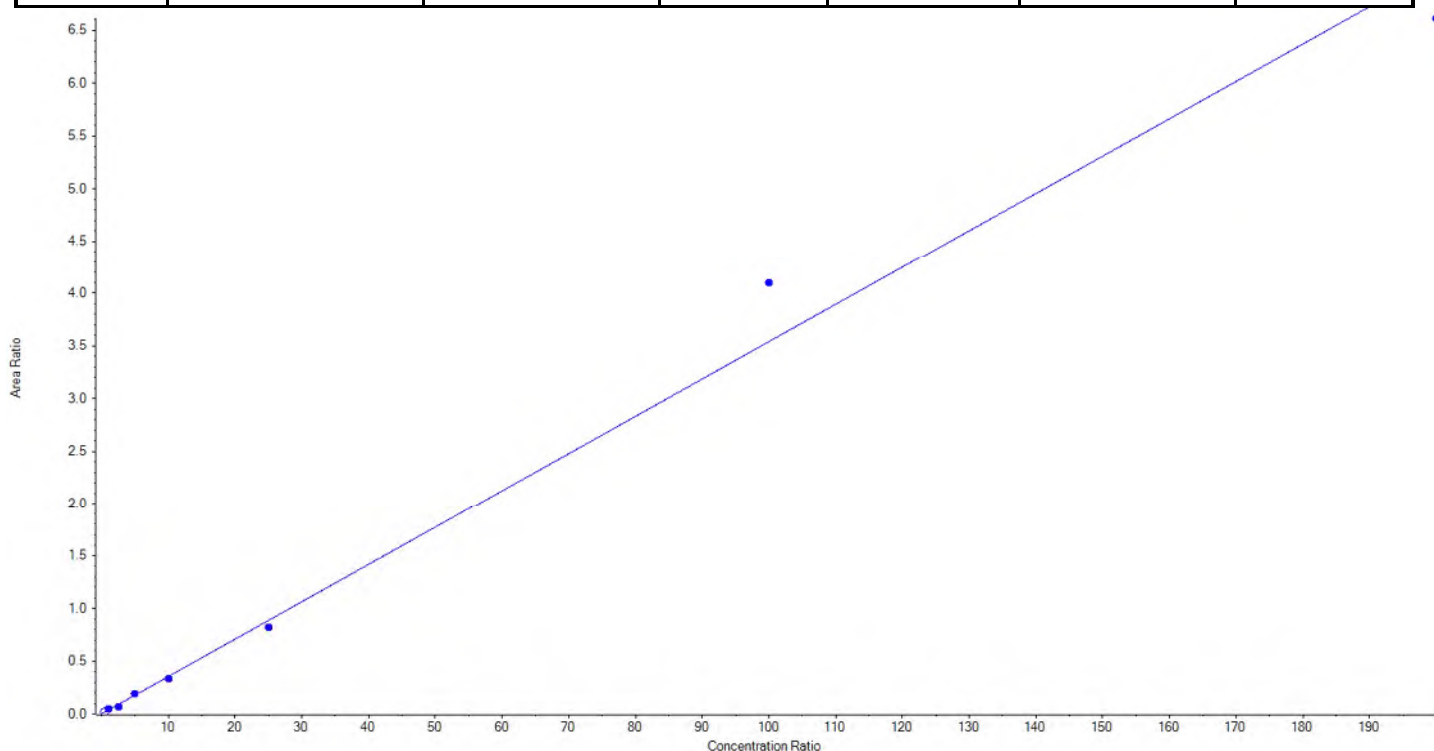
Calibration Summary Report

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Analyte Name	NEtFOSAA_2	Data File	6072018.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0351_Base
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.03539x + 2.17168e-4$ ($r = 0.99399$) (weighting: $1/x$)

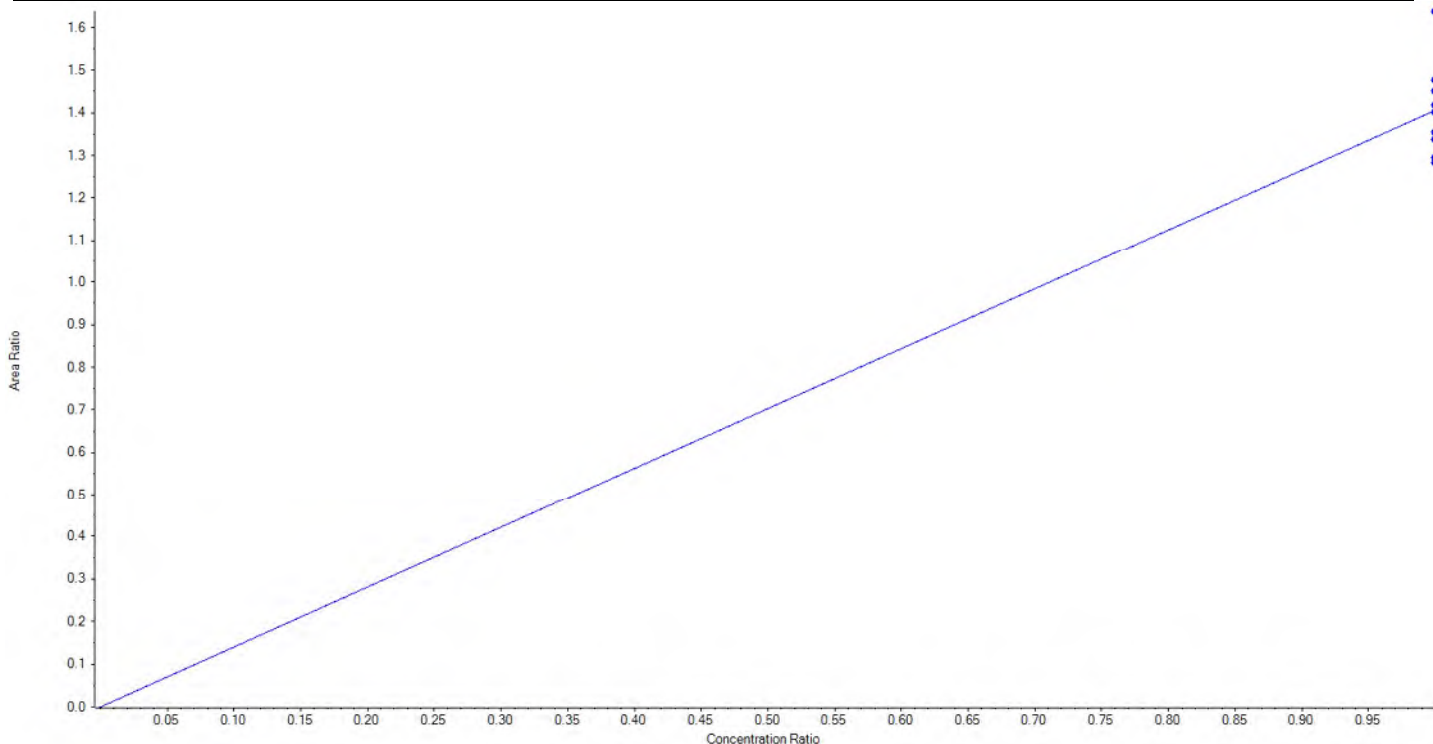
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	N/A	N/A
3	JV21	L2	False	50.00	63.108450	126.2
4	JV22	L3	True	100.00	126.463141	126.5
5	JV23	L4	True	250.00	175.847732	70.3
6	JV24	L5	True	500.00	536.506060	107.3
7	JV25	L6	True	1000.00	942.091361	94.2
8	JV26	L7	True	2500.00	2313.668737	92.6
9	JV27	L8	True	10000.00	11572.710749	115.7
10	JV28	L9	True	20000.00	18682.712220	93.4



Analyte Name	13C2-PFDoA	Data File	6072018.wiff
MRM Transition	615.0 / 570.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.40612 x$ (std. dev. = 0.10932) (weighting: 1 / x)

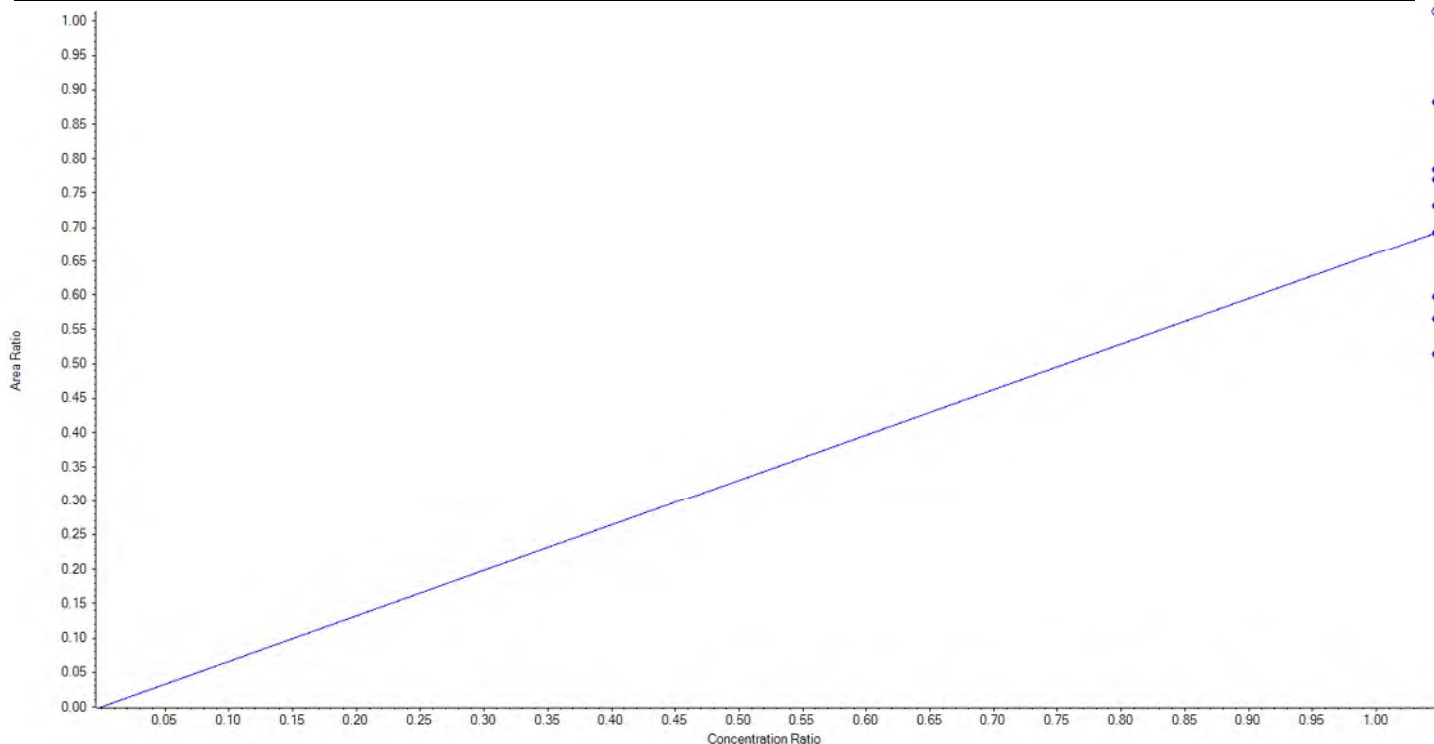
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	116.459772	116.5
3	JV21	L2	True	100.00	100.826136	100.8
4	JV22	L3	True	100.00	92.069564	92.1
5	JV23	L4	True	100.00	96.316698	96.3
6	JV24	L5	True	100.00	95.123732	95.1
7	JV25	L6	True	100.00	91.322252	91.3
8	JV26	L7	True	100.00	105.132426	105.1
9	JV27	L8	True	100.00	99.603747	99.6
10	JV28	L9	True	100.00	103.145672	103.2



Analyte Name	d3-MeFOSAA	Data File	6072018.wiff
MRM Transition	573.0 / 419.0	Result Table	18-0351_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.66110 x$ (std. dev. = 0.11885) (weighting: 1 / x)

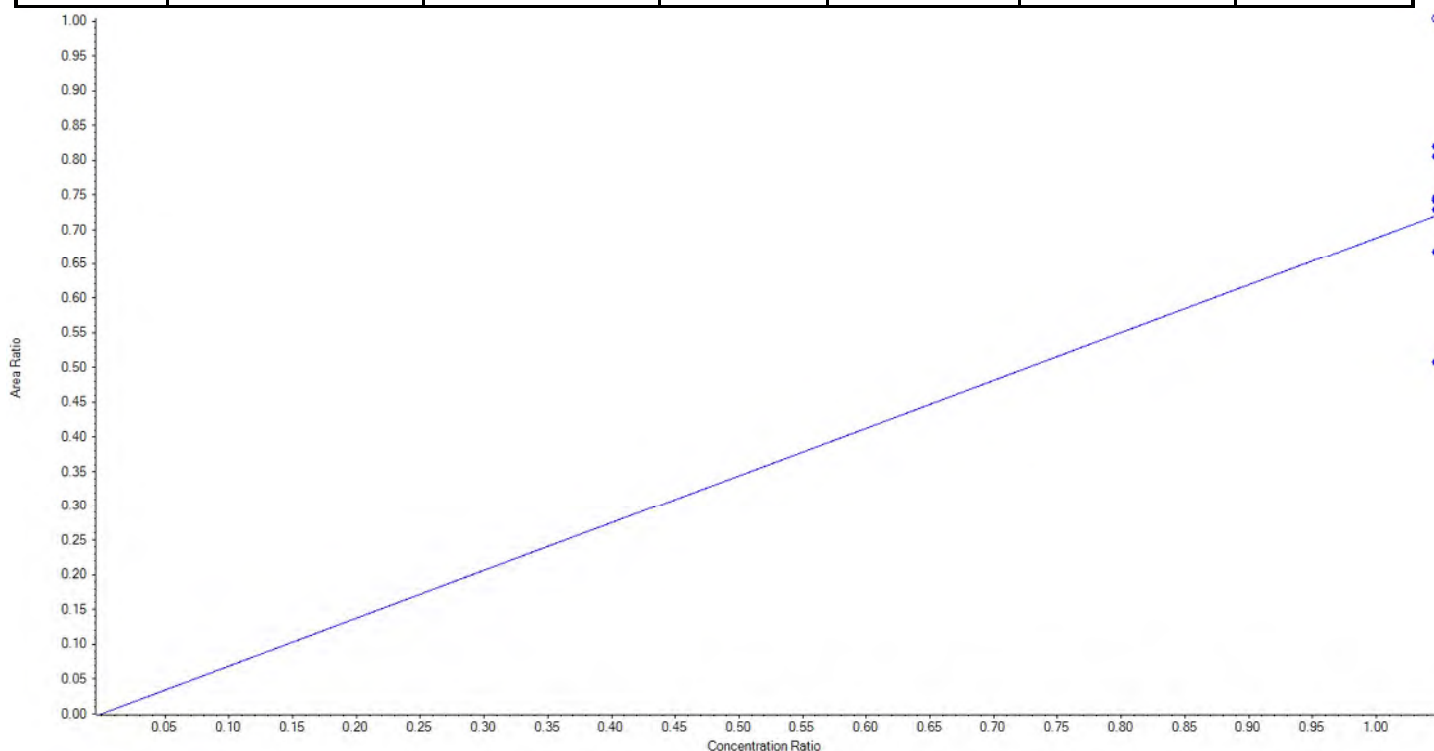
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	100.00	146.413748	146.4
3	JV21	L2	True	100.00	111.273480	111.3
4	JV22	L3	True	100.00	113.223133	113.2
5	JV23	L4	True	100.00	105.733681	105.7
6	JV24	L5	True	100.00	74.359502	74.4
7	JV25	L6	True	100.00	99.931264	99.9
8	JV26	L7	True	100.00	81.729253	81.7
9	JV27	L8	True	100.00	86.359095	86.4
10	JV28	L9	True	100.00	127.390591	127.4



Analyte Name	d5-EtFOSAA	Data File	6072018.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0351_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.68791 x$ (std. dev. = 0.09357) (weighting: 1 / x)

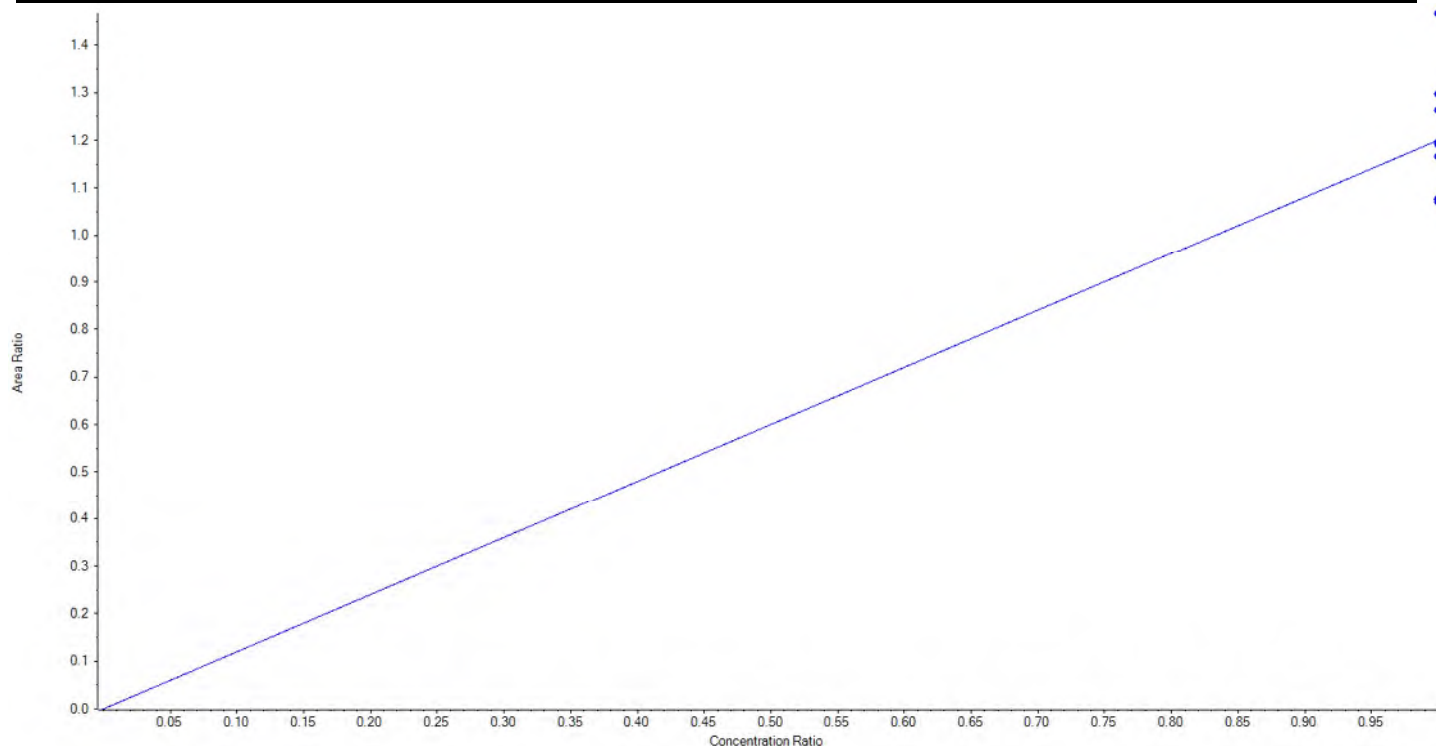
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	100.00	139.342178	139.3
3	JV21	L2	True	100.00	101.216119	101.2
4	JV22	L3	True	100.00	111.840903	111.8
5	JV23	L4	True	100.00	113.932447	113.9
6	JV24	L5	True	100.00	92.690338	92.7
7	JV25	L6	True	100.00	103.669534	103.7
8	JV26	L7	True	100.00	103.171474	103.2
9	JV27	L8	True	100.00	70.451163	70.5
10	JV28	L9	True	100.00	103.028023	103.0



Analyte Name	13C5-PFHxA	Data File	6072018.wiff
MRM Transition	318.0 / 273.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.20056 x$ (std. dev. = 0.12867) (weighting: 1 / x)

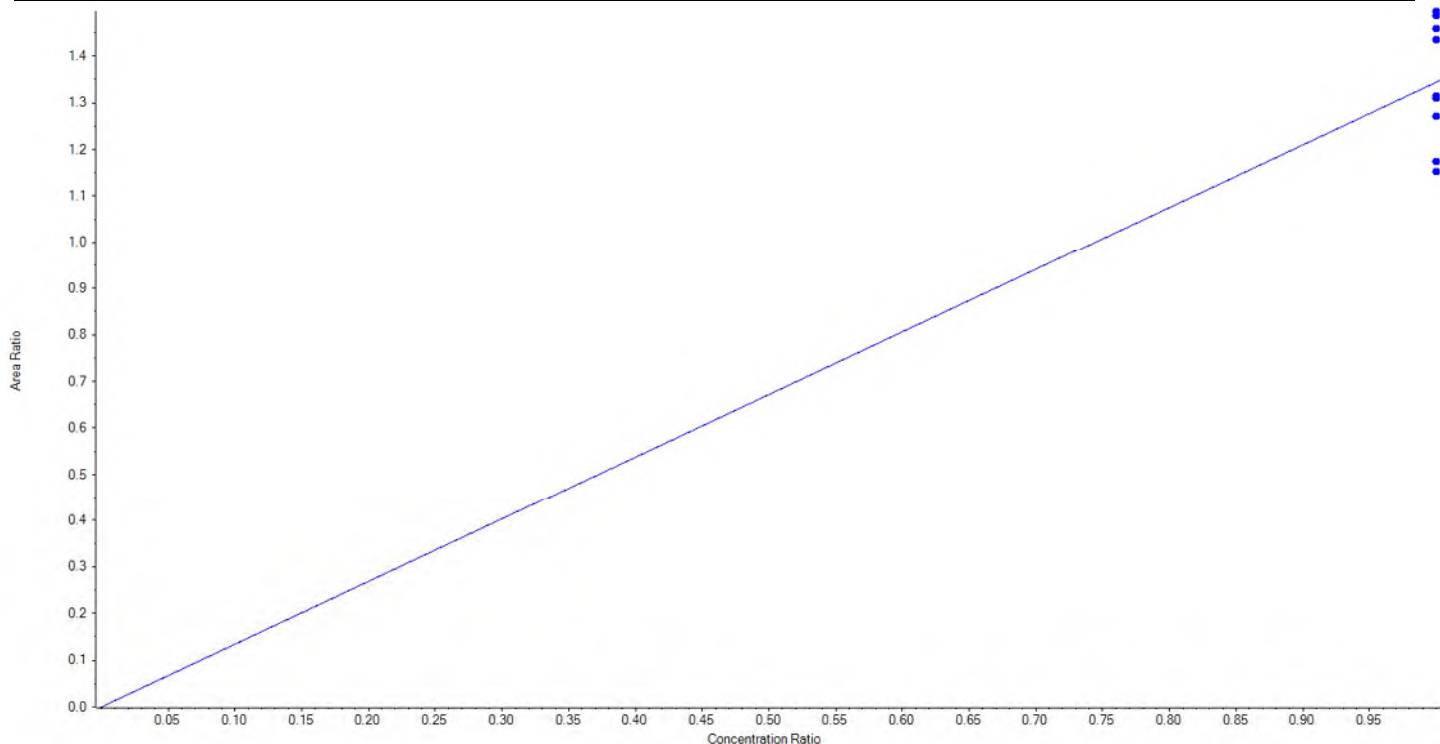
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	122.123600	122.1
3	JV21	L2	True	100.00	108.059098	108.1
4	JV22	L3	True	100.00	105.188203	105.2
5	JV23	L4	True	100.00	97.114552	97.1
6	JV24	L5	True	100.00	99.237890	99.2
7	JV25	L6	True	100.00	99.664997	99.7
8	JV26	L7	True	100.00	89.294770	89.3
9	JV27	L8	True	100.00	89.832607	89.8
10	JV28	L9	True	100.00	89.484283	89.5



Analyte Name	13C4-PFHpA	Data File	6072018.wiff
MRM Transition	367.0 / 322.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.34382 x$ (std. dev. = 0.13120) (weighting: 1 / x)

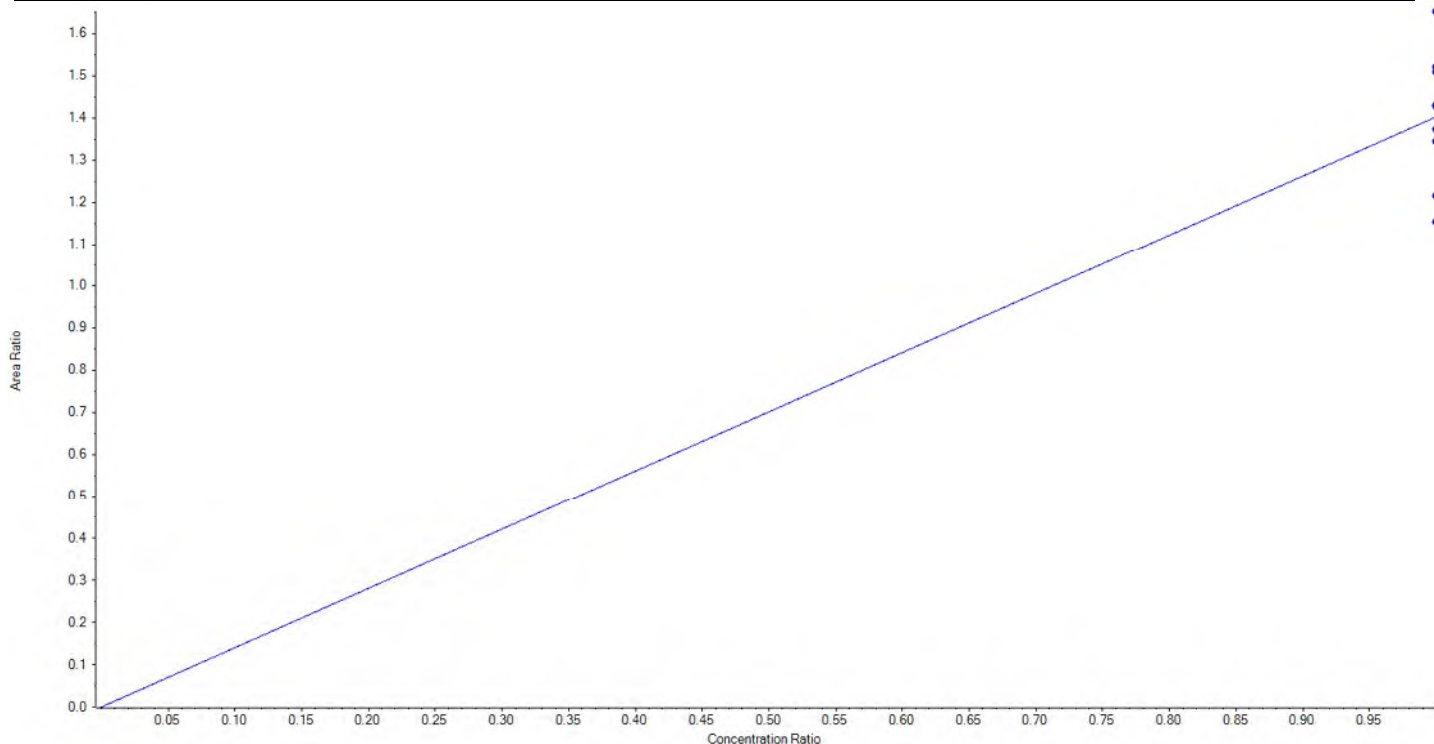
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	110.572923	110.6
3	JV21	L2	True	100.00	111.248169	111.3
4	JV22	L3	True	100.00	108.445382	108.5
5	JV23	L4	True	100.00	97.526543	97.5
6	JV24	L5	True	100.00	106.837819	106.8
7	JV25	L6	True	100.00	94.513708	94.5
8	JV26	L7	True	100.00	97.836148	97.8
9	JV27	L8	True	100.00	85.688756	85.7
10	JV28	L9	True	100.00	87.330553	87.3



Analyte Name	13C8-PFOA	Data File	6072018.wiff
MRM Transition	421.0 / 376.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.40250 x$ (std. dev. = 0.15401) (weighting: 1 / x)

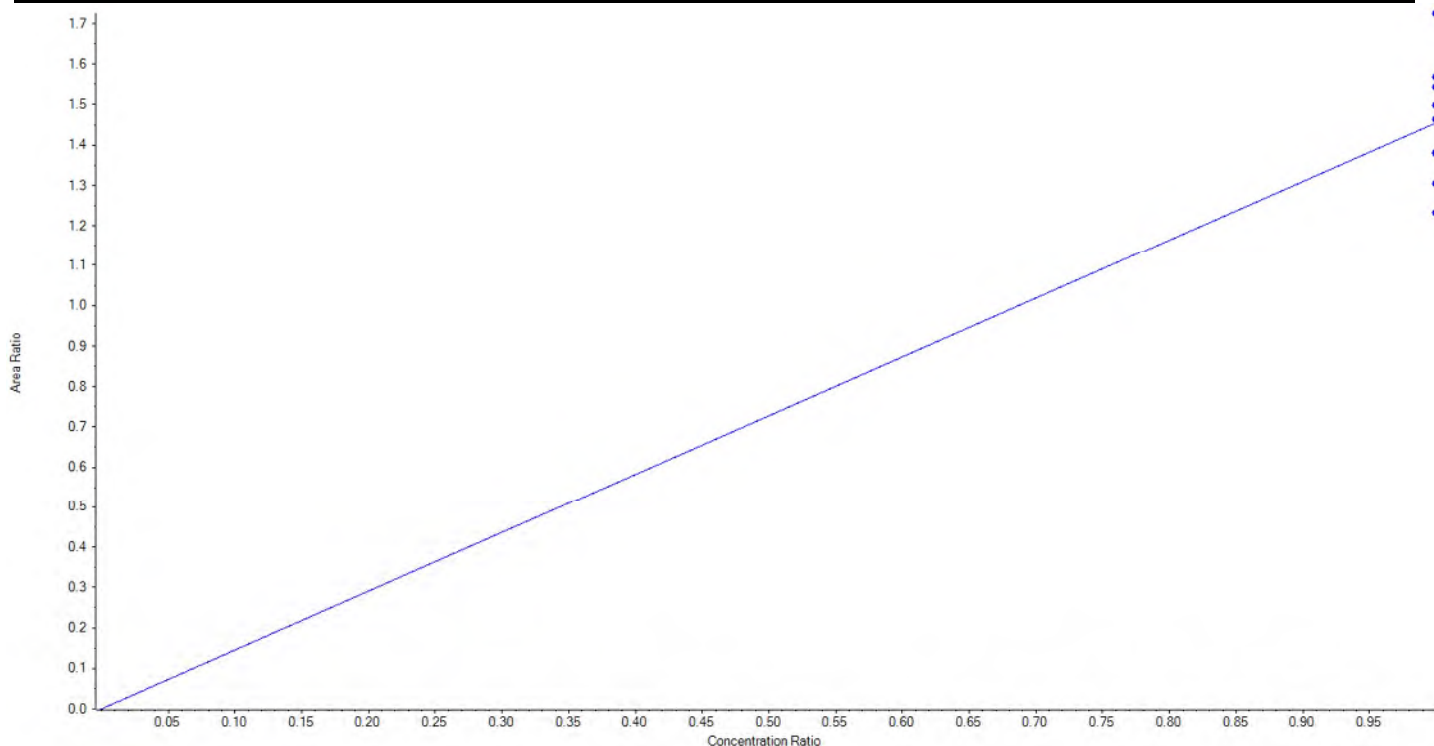
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	117.739466	117.7
3	JV21	L2	True	100.00	107.478928	107.5
4	JV22	L3	True	100.00	108.393337	108.4
5	JV23	L4	True	100.00	101.839533	101.8
6	JV24	L5	True	100.00	101.905546	101.9
7	JV25	L6	True	100.00	95.853017	95.9
8	JV26	L7	True	100.00	97.949384	98.0
9	JV27	L8	True	100.00	82.209293	82.2
10	JV28	L9	True	100.00	86.631497	86.6



Analyte Name	13C9-PFNA	Data File	6072018.wiff
MRM Transition	472.0 / 427.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.45535 x$ (std. dev. = 0.14927) (weighting: 1 / x)

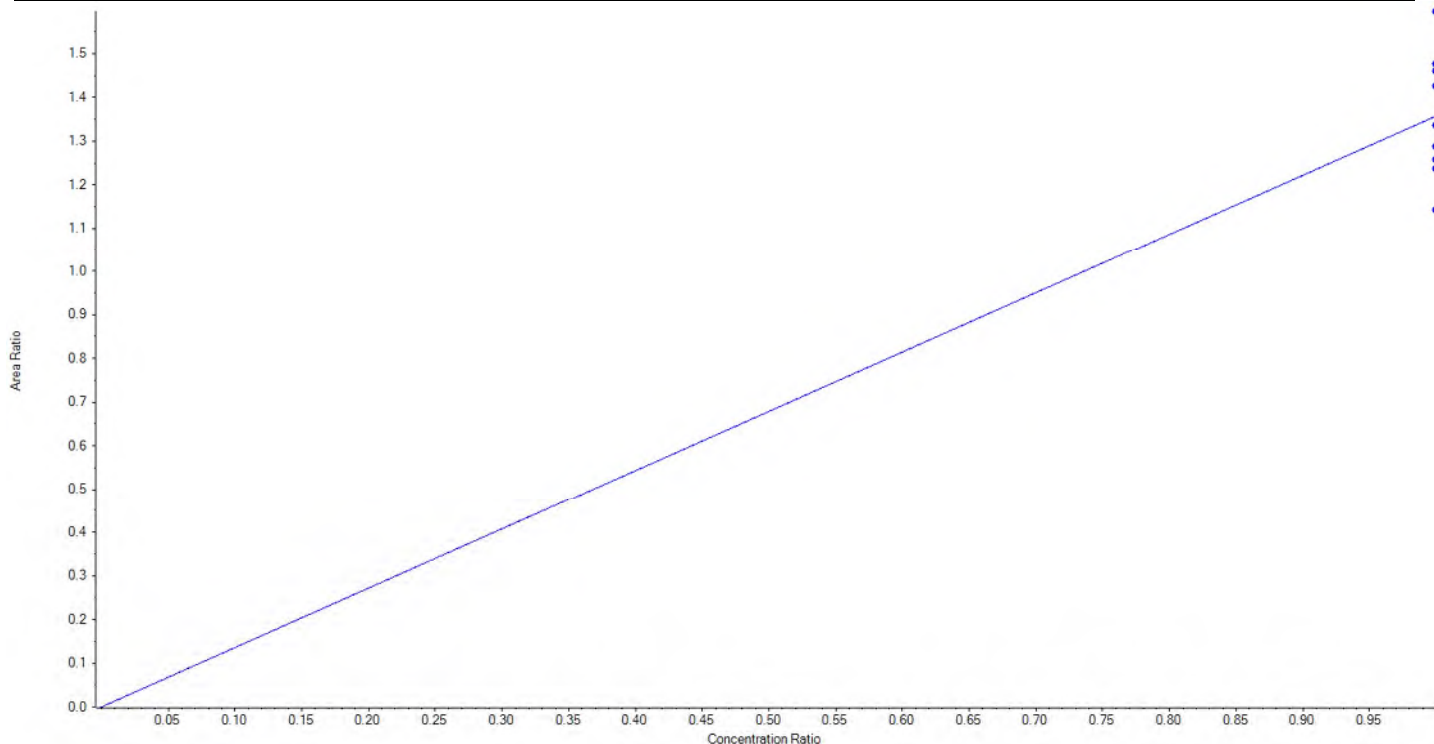
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	118.519207	118.5
3	JV21	L2	True	100.00	107.676277	107.7
4	JV22	L3	True	100.00	106.135608	106.1
5	JV23	L4	True	100.00	100.656819	100.7
6	JV24	L5	True	100.00	94.799307	94.8
7	JV25	L6	True	100.00	102.909425	102.9
8	JV26	L7	True	100.00	94.906115	94.9
9	JV27	L8	True	100.00	89.685735	89.7
10	JV28	L9	True	100.00	84.711508	84.7



Analyte Name	13C6-PFDA	Data File	6072018.wiff
MRM Transition	519.0 / 474.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.35775 x$ (std. dev. = 0.14285) (weighting: 1 / x)

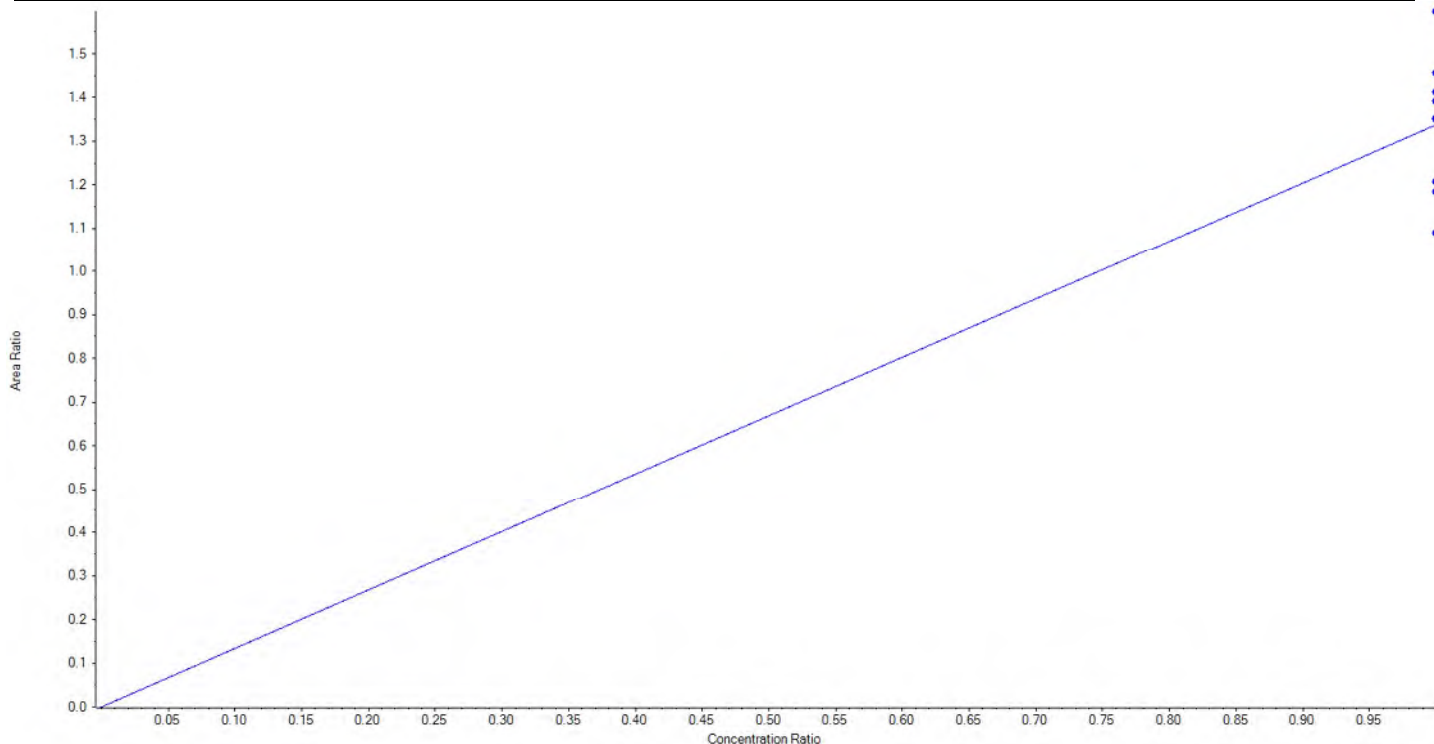
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	117.567914	117.6
3	JV21	L2	True	100.00	107.633672	107.6
4	JV22	L3	True	100.00	105.094949	105.1
5	JV23	L4	True	100.00	108.736752	108.7
6	JV24	L5	True	100.00	94.824080	94.8
7	JV25	L6	True	100.00	92.582530	92.6
8	JV26	L7	True	100.00	98.360905	98.4
9	JV27	L8	True	100.00	91.082657	91.1
10	JV28	L9	True	100.00	84.116543	84.1



Analyte Name	13C7-PFUnA	Data File	6072018.wiff
MRM Transition	570.0 / 525.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.33791 x$ (std. dev. = 0.15475) (weighting: 1 / x)

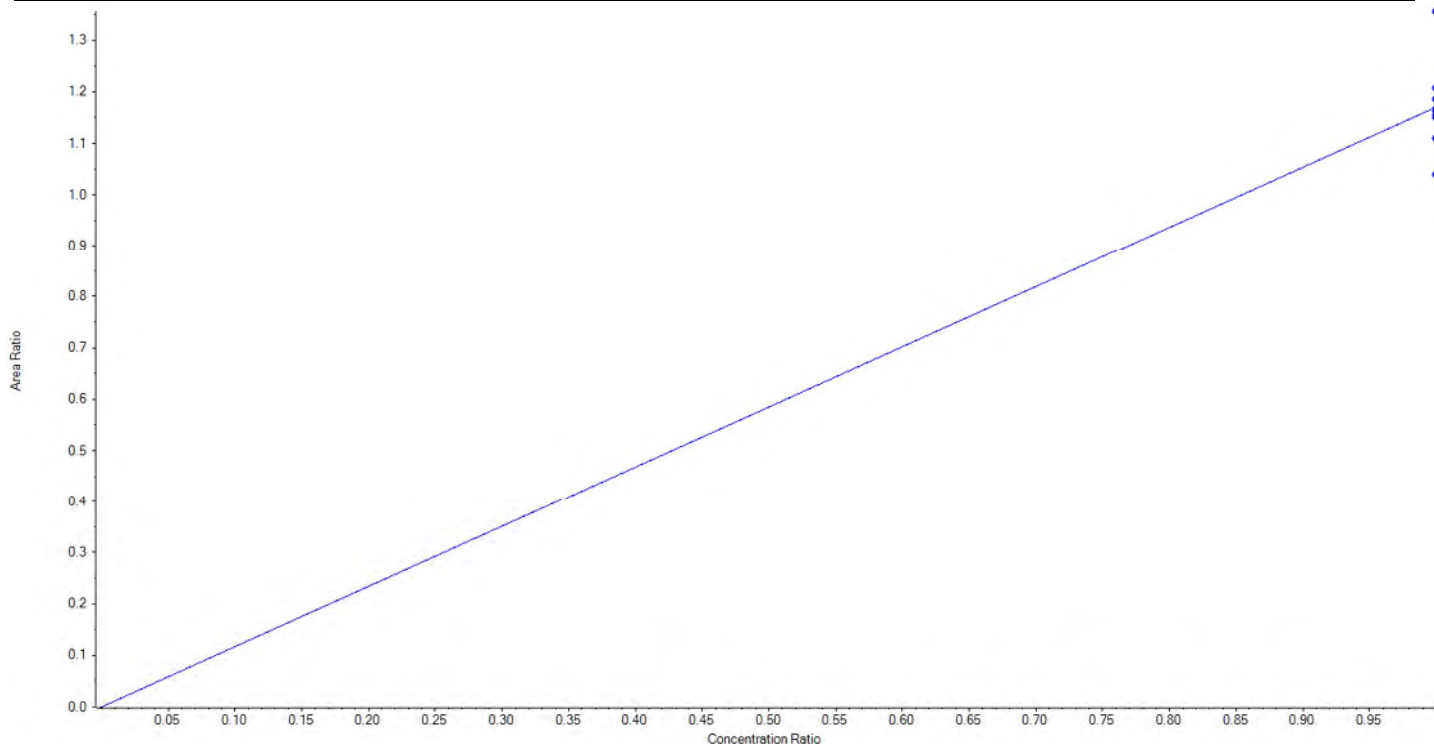
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	119.318622	119.3
3	JV21	L2	True	100.00	103.953028	104.0
4	JV22	L3	True	100.00	100.954328	101.0
5	JV23	L4	True	100.00	108.860890	108.9
6	JV24	L5	True	100.00	101.023420	101.0
7	JV25	L6	True	100.00	90.232039	90.2
8	JV26	L7	True	100.00	105.613148	105.6
9	JV27	L8	True	100.00	88.580374	88.6
10	JV28	L9	True	100.00	81.464151	81.5



Analyte Name	13C2-PFTeDA	Data File	6072018.wiff
MRM Transition	715.0 / 670.0	Result Table	18-0351_SIS
Internal Standard	13C2-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.17034 x$ (std. dev. = 0.08485) (weighting: 1 / x)

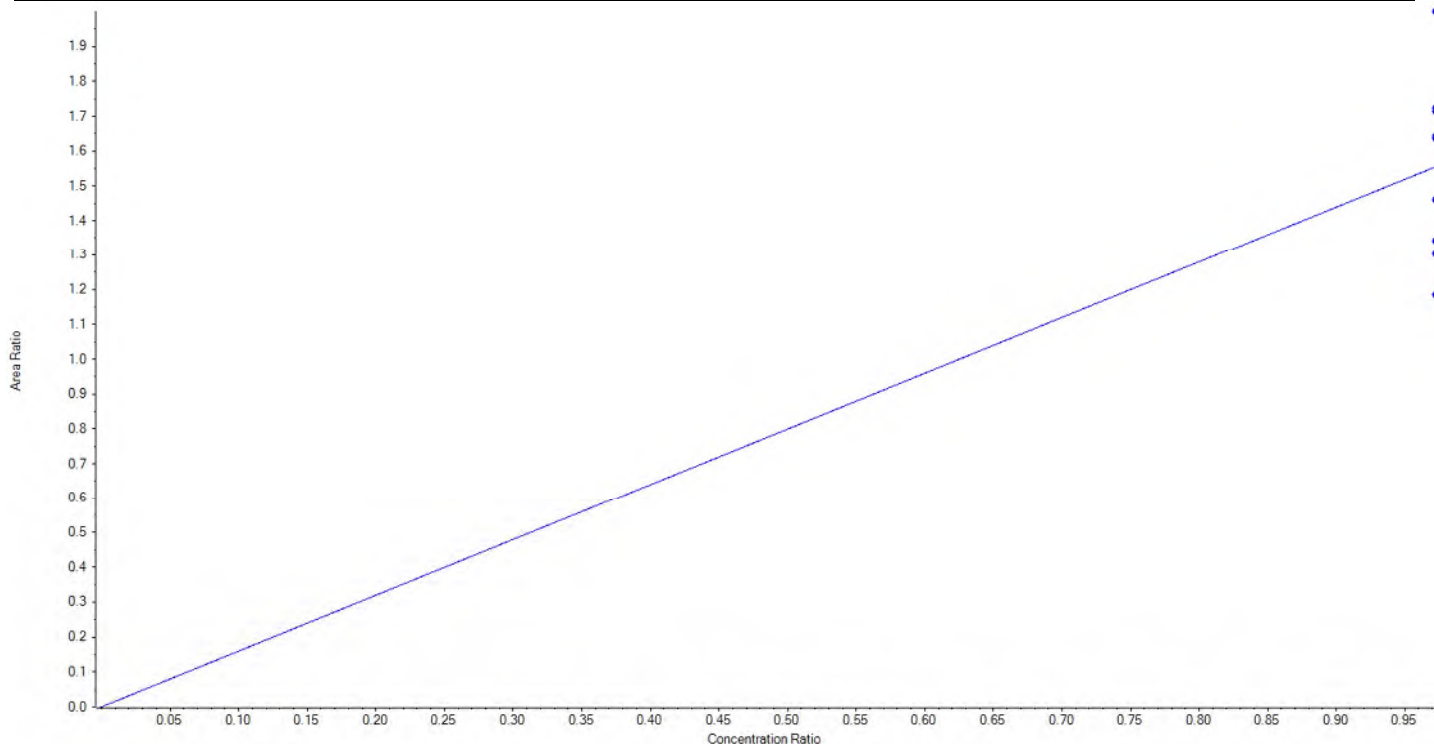
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	100.00	115.845276	115.9
3	JV21	L2	True	100.00	99.351591	99.4
4	JV22	L3	True	100.00	98.248549	98.3
5	JV23	L4	True	100.00	101.344582	101.3
6	JV24	L5	True	100.00	94.870085	94.9
7	JV25	L6	True	100.00	88.786311	88.8
8	JV26	L7	True	100.00	99.654853	99.7
9	JV27	L8	True	100.00	98.696228	98.7
10	JV28	L9	True	100.00	103.202525	103.2



Analyte Name	13C3-PFBS	Data File	6072018.wiff
MRM Transition	302.0 / 99.0	Result Table	18-0351_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.59940 x$ (std. dev. = 0.26247) (weighting: 1 / x)

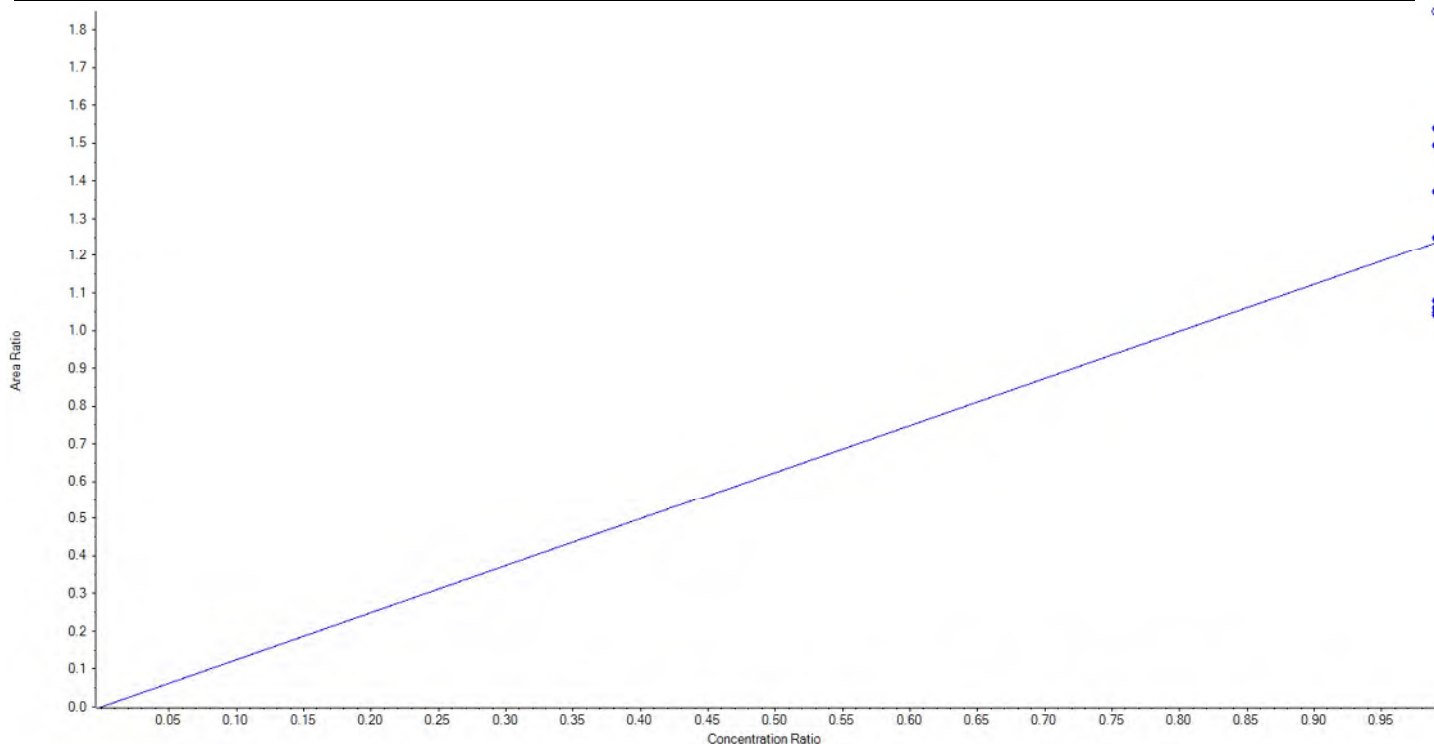
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	92.90	119.392309	128.5
3	JV21	L2	True	92.90	102.325235	110.2
4	JV22	L3	True	92.90	97.659334	105.1
5	JV23	L4	True	92.90	98.138331	105.6
6	JV24	L5	True	92.90	77.715907	83.7
7	JV25	L6	True	92.90	80.193947	86.3
8	JV26	L7	True	92.90	70.635230	76.0
9	JV27	L8	True	92.90	87.214385	93.9
10	JV28	L9	True	92.90	102.825321	110.7



Analyte Name	13C3-PFHxS	Data File	6072018.wiff
MRM Transition	402.0 / 99.0	Result Table	18-0351_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.24774 x$ (std. dev. = 0.21125) (weighting: 1 / x)

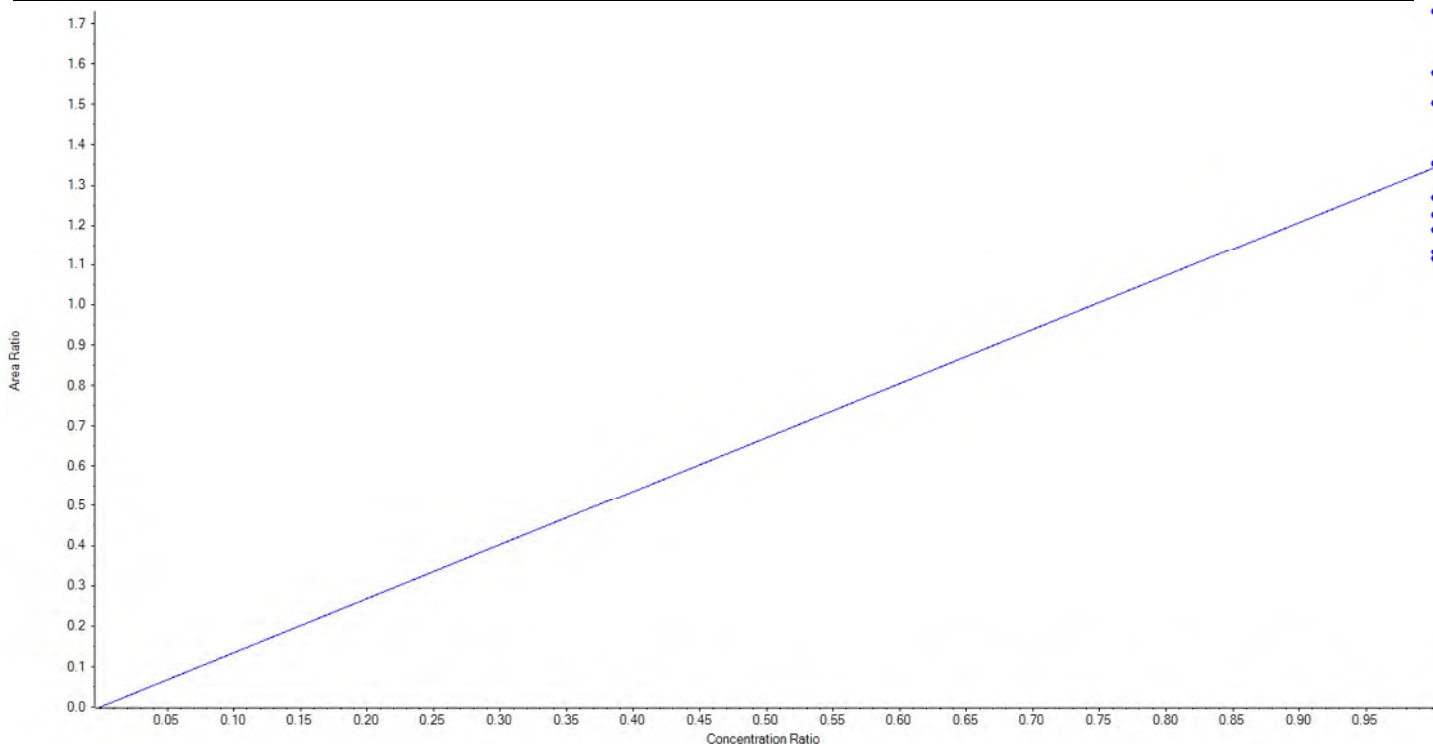
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	94.60	141.489062	149.6
3	JV21	L2	True	94.60	95.547678	101.0
4	JV22	L3	True	94.60	114.444732	121.0
5	JV23	L4	True	94.60	105.035774	111.0
6	JV24	L5	True	94.60	79.780684	84.3
7	JV25	L6	True	94.60	80.194756	84.8
8	JV26	L7	True	94.60	81.234398	85.9
9	JV27	L8	True	94.60	82.648633	87.4
10	JV28	L9	True	94.60	117.913344	124.6



Analyte Name	13C8-PFOS	Data File	6072018.wiff
MRM Transition	507.0 / 99.0	Result Table	18-0351_SIS
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.34135 x$ (std. dev. = 0.21438) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	95.70	123.178669	128.7
3	JV21	L2	True	95.70	96.402006	100.7
4	JV22	L3	True	95.70	106.986919	111.8
5	JV23	L4	True	95.70	112.329755	117.4
6	JV24	L5	True	95.70	87.358001	91.3
7	JV25	L6	True	95.70	84.668820	88.5
8	JV26	L7	True	95.70	79.426450	83.0
9	JV27	L8	True	95.70	80.636332	84.3
10	JV28	L9	True	95.70	90.313050	94.4



[illegible]

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	11456.26	22.943131	32.9	true
PFBS_2	298.9 / 99.0	1.54	4252.45	24.912423	24.3	true
PFHxA_1	313.0 / 269.0	1.83	39345.08	25.189625	13.2	true
PFHxA_2	313.0 / 119.0	1.83	2016.43	27.962916	9.4	true
PFHpA_1	363.0 / 319.0	2.20	19452.29	21.416600	21.2	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.22	14126.03	17.912475	8.5	true
PFHxS_2	399.0 / 99.0	2.21	5067.54	4.853831	8.6	true
PFOA_1	413.0 / 369.0	2.58	19811.45	18.098123	14.0	true
PFOA_2	413.0 / 169.0	2.56	1103.92	< 0	7.4	true
PFNA_1	463.0 / 419.0	2.95	21882.18	20.380243	34.7	true
PFNA_2	463.0 / 219.0	2.95	5336.53	19.401848	22.6	true
PFOS_1	499.0 / 80.0	2.94	2903.10	50.138640	1.3	true
PFOS_2	499.0 / 99.0	2.94	2636.53	35.731144	3.6	true
PFDA_1	513.0 / 469.0	3.30	19331.60	21.443438	92.6	false
PFDA_2	513.0 / 219.0	3.30	1011.79	31.548423	44.5	false
PFUnA_1	563.0 / 519.0	3.62	17947.70	25.036894	79.8	false
PFUnA_2	563.0 / 269.0	3.63	1425.01	22.422464	38.1	false
PFDaA_1	613.0 / 569.0	3.90	17960.56	< 0	96.3	false
PFDaA_2	613.0 / 319.0	3.90	2306.17	< 0	99.0	false
PFTTrDA_1	663.0 / 619.0	4.16	14918.67	22.161627	118.8	false
PFTTrDA_2	663.0 / 169.0	4.15	1066.44	22.162689	59.7	false
PFTeDA_1	713.0 / 669.0	4.38	15150.14	23.788334	170.0	false
PFTeDA_2	713.0 / 169.0	4.38	852.58	25.648467	78.8	false
NMeFOSAA_1	570.0 / 419.0	3.46	2600.21	24.227966	127.4	false
NMeFOSAA_2	570.0 / 512.0	3.45	2105.62	20.857455	585.4	false
NEtFOSAA_1	584.0 / 419.0	3.62	2146.58	27.086477	104.7	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	17149.86	39.339005	55.8	true
PFBS_2	298.9 / 99.0	1.54	6916.42	48.712633	30.7	true
PFHxA_1	313.0 / 269.0	1.83	38494.16	45.793284	17.1	true
PFHxA_2	313.0 / 119.0	1.84	2514.76	61.156967	9.0	true
PFHpA_1	363.0 / 319.0	2.20	27575.28	48.399356	28.9	false
PFHpA_2	363.0 / 169.0	2.22	832.23	< 0	20.9	true
PFHxS_1	399.0 / 80.0	2.22	23573.22	53.488051	12.3	true
PFHxS_2	399.0 / 99.0	2.22	7452.47	41.722055	12.3	true
PFOA_1	413.0 / 369.0	2.58	36629.41	61.859763	20.8	true
PFOA_2	413.0 / 169.0	2.57	2321.53	37.745363	11.9	true
PFNA_1	463.0 / 419.0	2.95	30617.60	46.646813	48.4	true
PFNA_2	463.0 / 219.0	2.95	8392.79	48.764204	34.3	true
PFOS_1	499.0 / 80.0	2.95	24684.18	92.166004	6.0	true
PFOS_2	499.0 / 99.0	2.95	6558.11	84.818722	6.4	true
PFDA_1	513.0 / 469.0	3.30	25421.49	39.045512	113.0	false
PFDA_2	513.0 / 219.0	3.30	1337.07	52.220603	63.8	false
PFUnA_1	563.0 / 519.0	3.62	26669.73	50.021157	108.7	false
PFUnA_2	563.0 / 269.0	3.63	1601.70	40.513453	47.4	false
PFDaA_1	613.0 / 569.0	3.90	27156.92	< 0	117.9	false
PFDaA_2	613.0 / 319.0	3.90	4258.13	13.766000	135.8	false
PFTTrDA_1	663.0 / 619.0	4.15	22475.93	48.481204	163.9	false
PFTTrDA_2	663.0 / 169.0	4.15	1535.38	47.733187	88.9	false
PFTeDA_1	713.0 / 669.0	4.38	23244.45	50.044909	227.0	false
PFTeDA_2	713.0 / 169.0	4.38	1033.80	42.930398	118.0	false
NMeFOSAA_1	570.0 / 419.0	3.46	3432.51	46.741338	187.0	false
NMeFOSAA_2	570.0 / 512.0	3.45	2119.67	36.113201	133.1	false
NEtFOSAA_1	584.0 / 419.0	3.62	2893.86	49.662621	126.4	false
NEtFOSAA_2	584.0 / 483.0	3.61	199.45	63.108450	140.7	false

Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	53691.01	114.073097	107.2	true
PFBS_2	298.9 / 99.0	1.54	15438.51	102.205673	61.7	true
PFHxA_1	313.0 / 269.0	1.84	74152.99	95.695219	23.7	true
PFHxA_2	313.0 / 119.0	1.84	3704.89	76.606497	16.4	true
PFHpA_1	363.0 / 319.0	2.20	68628.21	116.844359	49.6	false
PFHpA_2	363.0 / 169.0	2.20	1647.85	< 0	34.9	true
PFHxS_1	399.0 / 80.0	2.22	56517.61	97.481687	23.5	true
PFHxS_2	399.0 / 99.0	2.21	16943.36	86.095976	22.2	true
PFOA_1	413.0 / 369.0	2.58	71172.30	100.186034	34.9	true
PFOA_2	413.0 / 169.0	2.57	6280.19	106.307797	28.2	true
PFNA_1	463.0 / 419.0	2.95	76363.52	104.458467	72.3	false
PFNA_2	463.0 / 219.0	2.95	21846.60	110.562507	63.4	false
PFOS_1	499.0 / 80.0	2.94	43762.56	108.959361	8.9	true
PFOS_2	499.0 / 99.0	2.95	10935.00	105.033358	12.1	true
PFDA_1	513.0 / 469.0	3.30	80840.15	114.963867	191.0	false
PFDA_2	513.0 / 219.0	3.30	2928.78	95.565140	128.9	false
PFUnA_1	563.0 / 519.0	3.62	66620.09	105.372507	173.4	false
PFUnA_2	563.0 / 269.0	3.61	4464.07	118.927460	80.5	false
PFDaA_1	613.0 / 569.0	3.90	67972.25	70.178458	198.6	false
PFDaA_2	613.0 / 319.0	3.91	10783.46	86.741212	245.7	false
PFTTrDA_1	663.0 / 619.0	4.16	58224.41	106.967849	228.6	false
PFTTrDA_2	663.0 / 169.0	4.16	3977.95	107.588314	140.9	false
PFTeDA_1	713.0 / 669.0	4.38	57951.87	103.113355	428.3	false
PFTeDA_2	713.0 / 169.0	4.38	2856.93	101.815900	267.5	false
NMeFOSAA_1	570.0 / 419.0	3.45	8247.54	101.511782	404.3	false
NMeFOSAA_2	570.0 / 512.0	3.45	4849.12	95.604572	547.0	false
NEtFOSAA_1	584.0 / 419.0	3.62	8641.85	118.172721	229.7	false
NEtFOSAA_2	584.0 / 483.0	3.61	515.27	126.463141	245.3	false

Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	133326.06	259.829558	214.4	false
PFBS_2	298.9 / 99.0	1.54	39554.83	244.309260	142.2	false
PFHxA_1	313.0 / 269.0	1.83	164771.17	259.443400	34.6	true
PFHxA_2	313.0 / 119.0	1.83	9484.25	225.421636	30.2	false
PFHpA_1	363.0 / 319.0	2.20	139692.33	258.057490	81.1	false
PFHpA_2	363.0 / 169.0	2.20	4933.66	290.819409	51.1	true
PFHxS_1	399.0 / 80.0	2.21	144579.76	261.185199	46.1	true
PFHxS_2	399.0 / 99.0	2.21	40118.28	243.062956	42.5	true
PFOA_1	413.0 / 369.0	2.58	181316.08	263.728976	59.4	true
PFOA_2	413.0 / 169.0	2.57	14857.31	271.408103	60.3	true
PFNA_1	463.0 / 419.0	2.95	190607.07	263.701795	137.2	false
PFNA_2	463.0 / 219.0	2.95	49714.50	248.793870	107.7	false
PFOS_1	499.0 / 80.0	2.94	174021.28	263.794339	29.6	true
PFOS_2	499.0 / 99.0	2.94	33731.25	259.538899	29.5	true
PFDA_1	513.0 / 469.0	3.30	184282.20	265.515260	363.4	false
PFDA_2	513.0 / 219.0	3.29	6414.08	207.658078	135.4	false
PFUnA_1	563.0 / 519.0	3.62	163296.05	245.247105	263.2	false
PFUnA_2	563.0 / 269.0	3.61	11213.80	306.872947	203.0	false
PFDaA_1	613.0 / 569.0	3.90	168149.36	267.915463	281.0	false
PFDaA_2	613.0 / 319.0	3.90	27104.04	276.475216	327.8	false
PFTTrDA_1	663.0 / 619.0	4.15	149143.68	276.263151	336.7	false
PFTTrDA_2	663.0 / 169.0	4.15	10144.70	279.571556	311.1	false
PFTeDA_1	713.0 / 669.0	4.38	144811.42	256.151932	565.9	false
PFTeDA_2	713.0 / 169.0	4.38	7244.09	260.210288	451.1	false
NMeFOSAA_1	570.0 / 419.0	3.45	20037.30	250.779356	450.1	false
NMeFOSAA_2	570.0 / 512.0	3.45	12120.43	274.701878	1514.9	false
NEtFOSAA_1	584.0 / 419.0	3.61	17841.51	220.781864	382.6	false
NEtFOSAA_2	584.0 / 483.0	3.61	799.36	175.847732	98.4	true

Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	234946.08	513.918478	380.1	false
PFBS_2	298.9 / 99.0	1.54	74633.58	520.831671	199.3	false
PFHxA_1	313.0 / 269.0	1.83	284209.10	516.121946	54.7	false
PFHxA_2	313.0 / 119.0	1.83	17806.32	475.391498	44.7	false
PFHpA_1	363.0 / 319.0	2.20	239288.87	471.076592	99.7	false
PFHpA_2	363.0 / 169.0	2.20	5187.76	329.583929	69.0	true
PFHxS_1	399.0 / 80.0	2.21	249789.87	534.660086	59.7	true
PFHxS_2	399.0 / 99.0	2.21	71652.62	538.271166	58.6	true
PFOA_1	413.0 / 369.0	2.58	291007.35	471.973791	80.9	true
PFOA_2	413.0 / 169.0	2.58	24894.66	516.356573	72.2	true
PFNA_1	463.0 / 419.0	2.95	335868.36	551.318989	225.8	false
PFNA_2	463.0 / 219.0	2.95	92585.95	547.564450	183.5	false
PFOS_1	499.0 / 80.0	2.94	298456.63	471.261790	36.2	true
PFOS_2	499.0 / 99.0	2.94	55064.69	471.040056	42.4	true
PFDA_1	513.0 / 469.0	3.30	320798.57	532.287853	470.0	false
PFDA_2	513.0 / 219.0	3.29	12545.34	464.804744	379.8	false
PFUnA_1	563.0 / 519.0	3.62	294379.81	473.779904	284.6	false
PFUnA_2	563.0 / 269.0	3.62	16673.22	497.879911	240.6	false
PFDaA_1	613.0 / 569.0	3.90	288848.70	512.936582	334.1	false
PFDaA_2	613.0 / 319.0	3.90	45411.88	495.184086	482.3	false
PFTTrDA_1	663.0 / 619.0	4.15	240922.10	475.432794	447.4	false
PFTTrDA_2	663.0 / 169.0	4.15	16521.72	486.583145	387.3	false
PFTeDA_1	713.0 / 669.0	4.38	258409.78	486.029505	722.8	false
PFTeDA_2	713.0 / 169.0	4.37	13529.23	519.262579	736.0	false
NMeFOSAA_1	570.0 / 419.0	3.45	34520.00	552.230007	414.3	false
NMeFOSAA_2	570.0 / 512.0	3.45	20901.06	629.792515	563.9	false
NEtFOSAA_1	584.0 / 419.0	3.61	37197.37	504.371953	629.4	false
NEtFOSAA_2	584.0 / 483.0	3.61	2236.43	536.506060	2006.0	false

Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	422735.46	1063.678573	539.7	false
PFBS_2	298.9 / 99.0	1.54	123737.92	995.650839	317.5	false
PFHxA_1	313.0 / 269.0	1.83	468821.18	1029.262295	68.8	false
PFHxA_2	313.0 / 119.0	1.83	31778.38	1009.290498	49.8	false
PFHpA_1	363.0 / 319.0	2.20	411195.55	1055.587563	126.0	false
PFHpA_2	363.0 / 169.0	2.20	10799.02	1160.939517	118.4	true
PFHxS_1	399.0 / 80.0	2.21	439354.45	1117.358473	87.6	true
PFHxS_2	399.0 / 99.0	2.21	128587.81	1171.538070	77.4	true
PFOA_1	413.0 / 369.0	2.58	506784.93	1034.220060	103.2	true
PFOA_2	413.0 / 169.0	2.58	39975.29	1051.550180	97.7	true
PFNA_1	463.0 / 419.0	2.95	578410.62	1029.603636	257.1	false
PFNA_2	463.0 / 219.0	2.95	157114.12	1004.923499	217.7	false
PFOS_1	499.0 / 80.0	2.94	538001.27	982.909786	51.7	true
PFOS_2	499.0 / 99.0	2.94	101370.68	1043.370013	76.3	true
PFDA_1	513.0 / 469.0	3.30	538406.82	1027.599212	443.1	false
PFDA_2	513.0 / 219.0	3.30	25151.53	1068.313446	311.6	false
PFUnA_1	563.0 / 519.0	3.62	513646.43	1035.275441	453.2	false
PFUnA_2	563.0 / 269.0	3.62	26065.62	991.015248	306.7	false
PFDaA_1	613.0 / 569.0	3.90	509366.88	1126.551942	450.1	false
PFDaA_2	613.0 / 319.0	3.90	81255.48	1079.208724	514.1	false
PFTTrDA_1	663.0 / 619.0	4.15	433110.34	1026.550278	648.0	false
PFTTrDA_2	663.0 / 169.0	4.15	28853.56	1022.697874	433.8	false
PFTeDA_1	713.0 / 669.0	4.38	457992.58	1033.338939	943.9	false
PFTeDA_2	713.0 / 169.0	4.37	22753.84	1049.502317	765.6	false
NMeFOSAA_1	570.0 / 419.0	3.45	67130.29	951.596874	2152.5	false
NMeFOSAA_2	570.0 / 512.0	3.45	34332.65	924.546740	554.4	false
NEtFOSAA_1	584.0 / 419.0	3.62	60601.02	872.171385	926.0	false
NEtFOSAA_2	584.0 / 483.0	3.61	3706.80	942.091361	212.2	false

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	1085167.91	2847.628626	1053.0	false
PFBS_2	298.9 / 99.0	1.55	324823.16	2731.008942	602.8	false
PFHxA_1	313.0 / 269.0	1.83	1177589.73	2799.385319	88.3	false
PFHxA_2	313.0 / 119.0	1.83	82756.78	2810.620669	93.4	false
PFHpA_1	363.0 / 319.0	2.20	1025370.47	2426.811268	181.2	false
PFHpA_2	363.0 / 169.0	2.20	24299.98	2565.403097	164.0	false
PFHxS_1	399.0 / 80.0	2.21	1140082.80	2637.640639	149.2	false
PFHxS_2	399.0 / 99.0	2.22	335022.14	2805.077301	137.6	false
PFOA_1	413.0 / 369.0	2.58	1309566.00	2488.582766	169.5	true
PFOA_2	413.0 / 169.0	2.58	102716.87	2530.541296	152.5	true
PFNA_1	463.0 / 419.0	2.95	1444261.59	2651.434689	373.8	false
PFNA_2	463.0 / 219.0	2.95	410644.43	2704.608737	348.0	false
PFOS_1	499.0 / 80.0	2.94	1384622.68	2404.311359	75.8	true
PFOS_2	499.0 / 99.0	2.94	235867.52	2357.552928	131.1	true
PFDA_1	513.0 / 469.0	3.30	1430156.56	2672.830375	707.2	false
PFDA_2	513.0 / 219.0	3.30	53312.41	2209.453678	572.0	false
PFUnA_1	563.0 / 519.0	3.62	1343482.77	2398.389870	623.1	false
PFUnA_2	563.0 / 269.0	3.62	66234.14	2252.669746	478.3	false
PFDaA_1	613.0 / 569.0	3.90	1264309.64	2603.682297	653.7	false
PFDaA_2	613.0 / 319.0	3.90	195290.92	2386.236813	682.4	false
PFTTrDA_1	663.0 / 619.0	4.15	1127742.35	2486.470932	914.0	false
PFTTrDA_2	663.0 / 169.0	4.15	72790.39	2403.578014	733.2	false
PFTeDA_1	713.0 / 669.0	4.38	1169628.28	2463.483574	1433.4	false
PFTeDA_2	713.0 / 169.0	4.37	56191.97	2422.036551	1420.3	false
NMeFOSAA_1	570.0 / 419.0	3.45	161060.05	2573.237388	891.3	false
NMeFOSAA_2	570.0 / 512.0	3.45	96368.10	2972.639243	2306.6	false
NEtFOSAA_1	584.0 / 419.0	3.61	161996.29	2153.326264	871.7	false
NEtFOSAA_2	584.0 / 483.0	3.61	9871.70	2313.668737	1455.8	false

Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	4394034.07	9589.730089	2139.4	false
PFBS_2	298.9 / 99.0	1.54	1386571.59	9703.159053	1336.6	false
PFHxA_1	313.0 / 269.0	1.83	4621224.85	9812.905792	145.2	false
PFHxA_2	313.0 / 119.0	1.83	326261.34	9842.615797	141.5	false
PFHpA_1	363.0 / 319.0	2.20	4179639.85	10097.395147	337.5	false
PFHpA_2	363.0 / 169.0	2.20	88163.26	9905.820957	261.0	false
PFHxS_1	399.0 / 80.0	2.21	4615843.06	10799.425210	357.0	false
PFHxS_2	399.0 / 99.0	2.21	1290527.17	10986.487505	317.6	false
PFOA_1	413.0 / 369.0	2.57	5041781.68	10183.705964	351.9	true
PFOA_2	413.0 / 169.0	2.57	384970.62	10111.959787	313.9	true
PFNA_1	463.0 / 419.0	2.95	5448869.74	9435.478644	746.1	false
PFNA_2	463.0 / 219.0	2.95	1543238.38	9578.530176	695.0	false
PFOS_1	499.0 / 80.0	2.94	5340982.06	9242.659160	129.7	true
PFOS_2	499.0 / 99.0	2.94	948813.24	9547.325858	225.2	false
PFDA_1	513.0 / 469.0	3.30	5169359.98	10015.594449	1221.8	false
PFDA_2	513.0 / 219.0	3.30	238079.92	10217.822383	814.8	false
PFUnA_1	563.0 / 519.0	3.61	5063329.36	10332.051319	992.2	false
PFUnA_2	563.0 / 269.0	3.61	244675.49	9569.761599	657.9	false
PFDaA_1	613.0 / 569.0	3.90	5119717.33	10884.375528	967.7	false
PFDaA_2	613.0 / 319.0	3.90	799744.80	10026.153948	1227.2	false
PFTTrDA_1	663.0 / 619.0	4.15	4530473.25	9961.026751	1697.7	false
PFTTrDA_2	663.0 / 169.0	4.15	304752.08	10093.394159	1368.7	false
PFTeDA_1	713.0 / 669.0	4.37	4632766.63	10012.029002	2481.8	false
PFTeDA_2	713.0 / 169.0	4.37	225226.21	9988.884280	2065.3	false
NMeFOSAA_1	570.0 / 419.0	3.45	638210.32	9924.675290	1721.7	false
NMeFOSAA_2	570.0 / 512.0	3.45	359193.37	10837.197284	1456.3	false
NEtFOSAA_1	584.0 / 419.0	3.61	592220.59	11844.333779	1151.7	false
NEtFOSAA_2	584.0 / 483.0	3.61	32845.65	11572.710749	676.2	true

Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	10418628.66	20318.109443	3619.9	false
PFBS_2	298.9 / 99.0	1.54	3261605.48	20398.459505	1872.4	false
PFHxA_1	313.0 / 269.0	1.83	10670145.91	20185.453120	226.0	false
PFHxA_2	313.0 / 119.0	1.83	753952.69	20240.183522	201.2	false
PFHpA_1	363.0 / 319.0	2.20	9486939.68	19929.411626	534.1	false
PFHpA_2	363.0 / 169.0	2.20	203101.75	19997.433091	436.1	false
PFHxS_1	399.0 / 80.0	2.21	11139572.06	19250.098181	503.1	false
PFHxS_2	399.0 / 99.0	2.21	2998923.15	18871.744972	469.1	false
PFOA_1	413.0 / 369.0	2.58	11661629.44	19802.644523	451.3	true
PFOA_2	413.0 / 169.0	2.58	894986.79	19774.130902	449.4	true
PFNA_1	463.0 / 419.0	2.95	12511546.79	20321.976724	809.5	false
PFNA_2	463.0 / 219.0	2.95	3463802.87	20161.850707	648.2	false
PFOS_1	499.0 / 80.0	2.94	12862039.56	20876.104205	196.6	true
PFOS_2	499.0 / 99.0	2.94	2174705.57	20566.138888	254.4	false
PFDA_1	513.0 / 469.0	3.30	11558930.16	19735.720034	1119.7	false
PFDA_2	513.0 / 219.0	3.30	530999.76	20077.613505	1084.0	false
PFUnA_1	563.0 / 519.0	3.62	10945714.26	19759.825803	1334.9	false
PFUnA_2	563.0 / 269.0	3.62	595450.59	20624.937171	1113.4	false
PFDaA_1	613.0 / 569.0	3.90	11275538.68	18884.359729	1238.2	false
PFDaA_2	613.0 / 319.0	3.90	1778342.08	17548.781879	1289.7	false
PFTTrDA_1	663.0 / 619.0	4.15	11238114.73	20021.938987	2092.1	false
PFTTrDA_2	663.0 / 169.0	4.15	739949.81	19961.287090	1675.7	false
PFTeDA_1	713.0 / 669.0	4.38	10946530.01	19996.999621	2564.2	false
PFTeDA_2	713.0 / 169.0	4.37	532103.88	20015.897486	2801.6	false
NMeFOSAA_1	570.0 / 419.0	3.45	1521683.35	16903.129381	1547.5	false
NMeFOSAA_2	570.0 / 512.0	3.45	863907.45	18633.547112	1624.0	false
NEtFOSAA_1	584.0 / 419.0	3.62	1293437.31	18635.092935	1425.7	false
NEtFOSAA_2	584.0 / 483.0	3.62	73612.68	18682.712220	1099.0	true

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	97528.15	116.459772	1520.1	false
d3-MeFOSAA	573.0 / 419.0	3.45	11624.34	146.413748	210.3	true
d5-EtFOSAA	589.0 / 419.0	3.60	11511.66	139.342178	166.0	false
13C5-PFHxA	318.0 / 273.0	1.82	84089.61	122.123600	883.7	false
13C4-PFHpA	367.0 / 322.0	2.19	85221.13	110.572923	929.7	false
13C8-PFOA	421.0 / 376.0	2.57	94707.09	117.739466	2081.6	false
13C9-PFNA	472.0 / 427.0	2.94	98926.95	118.519207	1228.2	false
13C6-PFDA	519.0 / 474.0	3.29	95069.79	117.567914	1259.0	false
13C7-PFUnA	570.0 / 525.0	3.60	95075.30	119.318622	716.4	false
13C2-PFTeDA	715.0 / 670.0	4.37	80746.78	115.845276	1630.9	false
13C3-PFBS	302.0 / 99.0	1.53	22932.69	119.392309	485.8	false
13C3-PFHxS	402.0 / 99.0	2.21	21201.59	141.489062	414.6	false
13C8-PFOS	507.0 / 99.0	2.93	19842.56	123.178669	287.6	true

Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	77204.14	100.826136	1264.4	false
d3-MeFOSAA	573.0 / 419.0	3.45	9344.17	111.273480	270.2	false
d5-EtFOSAA	589.0 / 419.0	3.61	8844.39	101.216119	164.1	false
13C5-PFHxA	318.0 / 273.0	1.82	63711.09	108.059098	522.4	false
13C4-PFHpA	367.0 / 322.0	2.19	73417.96	111.248169	851.9	false
13C8-PFOA	421.0 / 376.0	2.57	74027.78	107.478928	9738.7	false
13C9-PFNA	472.0 / 427.0	2.94	76958.55	107.676277	14987.2	false
13C6-PFDA	519.0 / 474.0	3.29	79582.08	107.633672	986.8	false
13C7-PFUnA	570.0 / 525.0	3.61	75737.34	103.953028	784.0	false
13C2-PFTeDA	715.0 / 670.0	4.37	63319.16	99.351591	1196.9	false
13C3-PFBS	302.0 / 99.0	1.53	20788.54	102.325235	441.2	false
13C3-PFHxS	402.0 / 99.0	2.21	15143.57	95.547678	320.3	false
13C8-PFOS	507.0 / 99.0	2.94	16425.21	96.402006	320.2	false

Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	89425.36	92.069564	2764.9	false
d3-MeFOSAA	573.0 / 419.0	3.45	11146.96	113.223133	251.7	false
d5-EtFOSAA	589.0 / 419.0	3.61	11457.53	111.840903	212.3	false
13C5-PFHxA	318.0 / 273.0	1.82	79365.18	105.188203	800.4	false
13C4-PFHpA	367.0 / 322.0	2.19	91586.15	108.445382	1061.0	false
13C8-PFOA	421.0 / 376.0	2.57	95539.56	108.393337	1217.4	false
13C9-PFNA	472.0 / 427.0	2.94	97074.96	106.135608	1169.6	false
13C6-PFDA	519.0 / 474.0	3.29	98565.78	105.094949	1660.3	false
13C7-PFUnA	570.0 / 525.0	3.61	93298.58	100.954328	573.3	false
13C2-PFTeDA	715.0 / 670.0	4.37	79426.18	98.248549	2567.9	false
13C3-PFBS	302.0 / 99.0	1.53	23260.93	97.659334	488.4	false
13C3-PFHxS	402.0 / 99.0	2.21	21265.52	114.444732	357.7	false
13C8-PFOS	507.0 / 99.0	2.93	21371.14	106.986919	248.1	false

Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	93234.65	96.316698	1190.0	false
d3-MeFOSAA	573.0 / 419.0	3.44	11415.88	105.733681	278.5	false
d5-EtFOSAA	589.0 / 419.0	3.61	12800.07	113.932447	199.6	false
13C5-PFHxA	318.0 / 273.0	1.82	81666.63	97.114552	891.5	false
13C4-PFHpA	367.0 / 322.0	2.19	91799.20	97.526543	944.8	false
13C8-PFOA	421.0 / 376.0	2.56	100044.77	101.839533	1279.1	false
13C9-PFNA	472.0 / 427.0	2.94	102609.28	100.656819	1144.1	false
13C6-PFDA	519.0 / 474.0	3.28	101636.99	108.736752	605.3	false
13C7-PFUnA	570.0 / 525.0	3.60	100265.86	108.860890	595.5	false
13C2-PFTeDA	715.0 / 670.0	4.37	81652.44	101.344582	1326.5	false
13C3-PFBS	302.0 / 99.0	1.52	25634.62	98.138331	463.7	false
13C3-PFHxS	402.0 / 99.0	2.21	21403.87	105.035774	397.4	false
13C8-PFOS	507.0 / 99.0	2.93	24607.45	112.329755	372.5	false

Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	93284.73	95.123732	2861.5	false
d3-MeFOSAA	573.0 / 419.0	3.44	9070.64	74.359502	182.3	false
d5-EtFOSAA	589.0 / 419.0	3.60	11765.35	92.690338	198.6	false
13C5-PFHxA	318.0 / 273.0	1.82	76489.30	99.237890	892.1	false
13C4-PFHpA	367.0 / 322.0	2.19	92173.04	106.837819	1119.3	false
13C8-PFOA	421.0 / 376.0	2.57	91756.89	101.905546	1847.5	false
13C9-PFNA	472.0 / 427.0	2.94	88575.06	94.799307	1433.4	false
13C6-PFDA	519.0 / 474.0	3.28	89792.48	94.824080	859.3	false
13C7-PFUnA	570.0 / 525.0	3.60	94264.72	101.023420	839.3	false
13C2-PFTeDA	715.0 / 670.0	4.37	77436.16	94.870085	1372.5	false
13C3-PFBS	302.0 / 99.0	1.53	22935.24	77.715907	492.2	false
13C3-PFHxS	402.0 / 99.0	2.21	18367.84	79.780684	378.5	false
13C8-PFOS	507.0 / 99.0	2.93	21621.20	87.358001	245.5	false

Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	80413.96	91.322252	1664.4	false
d3-MeFOSAA	573.0 / 419.0	3.45	10292.60	99.931264	158.8	false
d5-EtFOSAA	589.0 / 419.0	3.61	11110.76	103.669534	183.5	false
13C5-PFHxA	318.0 / 273.0	1.82	65934.89	99.664997	804.3	false
13C4-PFHpA	367.0 / 322.0	2.19	69987.93	94.513708	843.0	false
13C8-PFOA	421.0 / 376.0	2.57	74079.17	95.853017	2267.5	false
13C9-PFNA	472.0 / 427.0	2.94	82529.82	102.909425	3703.7	false
13C6-PFDA	519.0 / 474.0	3.29	78719.72	92.582530	756.8	false
13C7-PFUnA	570.0 / 525.0	3.60	75599.87	90.232039	499.5	false
13C2-PFTeDA	715.0 / 670.0	4.37	65071.94	88.786311	1490.6	false
13C3-PFBS	302.0 / 99.0	1.52	19982.85	80.193947	487.5	false
13C3-PFHxS	402.0 / 99.0	2.20	15589.37	80.194756	372.0	false
13C8-PFOS	507.0 / 99.0	2.93	17693.88	84.668820	227.6	false

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	89484.94	105.132426	946.6	false
d3-MeFOSAA	573.0 / 419.0	3.45	9175.84	81.729253	182.4	false
d5-EtFOSAA	589.0 / 419.0	3.60	12053.05	103.171474	188.7	false
13C5-PFHxA	318.0 / 273.0	1.82	62568.98	89.294770	701.7	false
13C4-PFHpA	367.0 / 322.0	2.19	76734.05	97.836148	1420.7	false
13C8-PFOA	421.0 / 376.0	2.57	80177.48	97.949384	776.4	false
13C9-PFNA	472.0 / 427.0	2.94	80613.98	94.906115	770.0	false
13C6-PFDA	519.0 / 474.0	3.28	80841.70	98.360905	1046.0	false
13C7-PFUnA	570.0 / 525.0	3.60	85533.59	105.613148	971.5	false
13C2-PFTeDA	715.0 / 670.0	4.37	70599.98	99.654853	1103.5	false
13C3-PFBS	302.0 / 99.0	1.53	19185.88	70.635230	536.9	false
13C3-PFHxS	402.0 / 99.0	2.21	17213.42	81.234398	396.2	false
13C8-PFOS	507.0 / 99.0	2.93	18092.94	79.426450	231.9	false

Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	88539.95	99.603747	2286.3	false
d3-MeFOSAA	573.0 / 419.0	3.44	9446.95	86.359095	126.8	false
d5-EtFOSAA	589.0 / 419.0	3.60	8019.38	70.451163	140.5	false
13C5-PFHxA	318.0 / 273.0	1.82	70857.24	89.832607	689.5	false
13C4-PFHpA	367.0 / 322.0	2.19	75653.64	85.688756	986.2	false
13C8-PFOA	421.0 / 376.0	2.56	75751.08	82.209293	1252.4	false
13C9-PFNA	472.0 / 427.0	2.93	85754.47	89.685735	744.5	false
13C6-PFDA	519.0 / 474.0	3.28	78180.59	91.082657	21894.9	false
13C7-PFUnA	570.0 / 525.0	3.60	74921.51	88.580374	627.6	false
13C2-PFTeDA	715.0 / 670.0	4.36	73022.55	98.696228	1366.5	false
13C3-PFBS	302.0 / 99.0	1.53	23081.50	87.214385	465.1	false
13C3-PFHxS	402.0 / 99.0	2.20	17063.90	82.648633	339.7	false
13C8-PFOS	507.0 / 99.0	2.93	17897.41	80.636332	291.5	false

Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	112712.95	103.145672	1707.1	false
d3-MeFOSAA	573.0 / 419.0	3.45	13229.17	127.390591	113.3	false
d5-EtFOSAA	589.0 / 419.0	3.61	11133.19	103.028023	220.3	false
13C5-PFHxA	318.0 / 273.0	1.82	79723.93	89.484283	837.6	false
13C4-PFHpA	367.0 / 322.0	2.19	87089.11	87.330553	1140.9	false
13C8-PFOA	421.0 / 376.0	2.57	90164.47	86.631497	2836.4	false
13C9-PFNA	472.0 / 427.0	2.94	91488.71	84.711508	964.3	false
13C6-PFDA	519.0 / 474.0	3.29	88757.26	84.116543	844.8	false
13C7-PFUnA	570.0 / 525.0	3.60	84702.22	81.464151	708.9	false
13C2-PFTeDA	715.0 / 670.0	4.37	93865.50	103.202525	1802.0	false
13C3-PFBS	302.0 / 99.0	1.53	25833.75	102.825321	590.6	false
13C3-PFHxS	402.0 / 99.0	2.21	23110.92	117.913344	434.5	false
13C8-PFOS	507.0 / 99.0	2.93	19029.24	90.313050	323.1	false

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.371	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.051	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.359	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.056	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.244	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.908	0.191	
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.052	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.079	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.128	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.072	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.056	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.810	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	

Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.403	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.065	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.030	0.025	ü
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.22	PFHxS	0.316	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.063	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.274	0.273	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.266	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.053	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.060	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.157	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.068	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.045	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.618	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.069	0.057	ü

Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.288	0.322	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.050	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.024	0.025	ü
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.300	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.088	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.286	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.250	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.036	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.067	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.159	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.068	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.049	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.588	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.060	0.057	ü

Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.297	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.058	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.035	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.278	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.082	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.261	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.194	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.035	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.069	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.161	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.068	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.050	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.605	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.045	0.057	ü

Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.318	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.063	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.022	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.287	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.086	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.276	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.185	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.039	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.057	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.157	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.069	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.052	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.606	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.060	0.057	ü

Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.293	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.068	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.026	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.293	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.079	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.272	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.188	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.047	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.051	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.067	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.511	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.061	0.057	ü

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.299	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.070	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.024	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.22	PFHxS	0.294	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.078	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.284	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.170	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.037	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.049	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.155	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.065	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.048	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.598	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.061	0.057	ü

Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.316	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.071	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.280	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.076	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.283	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.178	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.046	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.048	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.156	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.067	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.049	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.563	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.056	0.057	ü

Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.313	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.071	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.269	0.289	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.077	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.277	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.169	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.046	0.044	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.054	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.158	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.066	0.068	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.049	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.568	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.057	0.057	ü

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	22932.69	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	22932.69	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	84089.61	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	84089.61	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	85221.13	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	85221.13	100.00
PFHxS_1	399.0 / 80.0	2.22	13C3-PFHxS	402.0 / 99.0	21201.59	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	21201.59	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	94707.09	100.00
PFOA_2	413.0 / 169.0	2.56	13C8-PFOA	421.0 / 376.0	94707.09	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	98926.95	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	98926.95	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	20870.53	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	20870.53	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	95069.79	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	95069.79	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	95075.30	100.00
PFUnA_2	563.0 / 269.0	3.63	13C7-PFUnA	570.0 / 525.0	95075.30	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	97528.15	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	97528.15	100.00
PFTeDA_1	663.0 / 619.0	4.16	13C2-PFTeDA	715.0 / 670.0	80746.78	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	80746.78	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	80746.78	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFTeDA	715.0 / 670.0	80746.78	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	12138.86	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	12138.86	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	11511.66	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	11511.66	100.00

Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	20788.54	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	20788.54	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	63711.09	100.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	63711.09	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	73417.96	100.00
PFHpA_2	363.0 / 169.0	2.22	13C4-PFHpA	367.0 / 322.0	73417.96	100.00
PFHxS_1	399.0 / 80.0	2.22	13C3-PFHxS	402.0 / 99.0	15143.57	94.60
PFHxS_2	399.0 / 99.0	2.22	13C3-PFHxS	402.0 / 99.0	15143.57	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	74027.78	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	74027.78	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	76958.55	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	76958.55	100.00
PFOS_1	499.0 / 80.0	2.95	13C8-PFOS	507.0 / 99.0	16425.21	95.70
PFOS_2	499.0 / 99.0	2.95	13C8-PFOS	507.0 / 99.0	16425.21	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	79582.08	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	79582.08	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	75737.34	100.00
PFUnA_2	563.0 / 269.0	3.63	13C7-PFUnA	570.0 / 525.0	75737.34	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	77204.14	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	77204.14	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	63319.16	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	63319.16	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	63319.16	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFTeDA	715.0 / 670.0	63319.16	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	9344.17	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	9344.17	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	8844.39	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	8844.39	100.00

Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	23260.93	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	23260.93	92.90
PFHxA_1	313.0 / 269.0	1.84	13C5-PFHxA	318.0 / 273.0	79365.18	100.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	79365.18	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	91586.15	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	91586.15	100.00
PFHxS_1	399.0 / 80.0	2.22	13C3-PFHxS	402.0 / 99.0	21265.52	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	21265.52	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	95539.56	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	95539.56	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	97074.96	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	97074.96	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	21371.14	95.70
PFOS_2	499.0 / 99.0	2.95	13C8-PFOS	507.0 / 99.0	21371.14	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	98565.78	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	98565.78	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	93298.58	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	93298.58	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	89425.36	100.00
PFDaA_2	613.0 / 319.0	3.91	13C2-PFDaA	615.0 / 570.0	89425.36	100.00
PFTeDA_1	663.0 / 619.0	4.16	13C2-PFTeDA	715.0 / 670.0	79426.18	100.00
PFTeDA_2	663.0 / 169.0	4.16	13C2-PFTeDA	715.0 / 670.0	79426.18	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	79426.18	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFTeDA	715.0 / 670.0	79426.18	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	11146.96	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	11146.96	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	11457.53	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	11457.53	100.00

Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	25634.62	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	25634.62	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	81666.63	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	81666.63	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	91878.15	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	91878.15	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	21403.87	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	21403.87	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	100044.77	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	100044.77	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	102609.28	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	102609.28	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	24607.45	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	24607.45	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	101636.99	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	101636.99	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	100265.86	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	100265.86	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	93234.65	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	93234.65	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	81652.44	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	81652.44	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	81652.44	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFTeDA	715.0 / 670.0	81652.44	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	11415.88	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	11415.88	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	12800.07	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	12800.07	100.00

Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	22935.24	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	22935.24	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	76489.30	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	76489.30	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	89167.91	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	89167.91	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	18367.84	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	18367.84	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	91756.89	100.00
PFOA_2	413.0 / 169.0	2.58	13C8-PFOA	421.0 / 376.0	91756.89	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	88575.06	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	88575.06	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	21621.20	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	21621.20	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	89792.48	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	89792.48	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	94264.72	100.00
PFUnA_2	563.0 / 269.0	3.62	13C7-PFUnA	570.0 / 525.0	94264.72	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	93284.73	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	93284.73	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	77436.16	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	77436.16	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	77436.16	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	77436.16	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	9070.64	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	9070.64	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	11765.35	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	11765.35	100.00

Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	19982.85	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	19982.85	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	65934.89	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	65934.89	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	69987.93	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	69987.93	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	15589.37	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	15589.37	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	74079.17	100.00
PFOA_2	413.0 / 169.0	2.58	13C8-PFOA	421.0 / 376.0	74079.17	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	82529.82	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	82529.82	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	17693.88	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	17693.88	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	78719.72	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	78719.72	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	75599.87	100.00
PFUnA_2	563.0 / 269.0	3.62	13C7-PFUnA	570.0 / 525.0	75599.87	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	80413.96	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	80413.96	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	65071.94	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	65071.94	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	65071.94	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	65071.94	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	10292.60	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	10292.60	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	11110.76	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	11110.76	100.00

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	19185.88	92.90
PFBS_2	298.9 / 99.0	1.55	13C3-PFBS	302.0 / 99.0	19185.88	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	62568.98	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	62568.98	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	76734.05	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	76734.05	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	17213.42	94.60
PFHxS_2	399.0 / 99.0	2.22	13C3-PFHxS	402.0 / 99.0	17213.42	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	80177.48	100.00
PFOA_2	413.0 / 169.0	2.58	13C8-PFOA	421.0 / 376.0	80177.48	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	80613.98	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	80613.98	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	18092.94	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	18092.94	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	80841.70	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	80841.70	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	85533.59	100.00
PFUnA_2	563.0 / 269.0	3.62	13C7-PFUnA	570.0 / 525.0	85533.59	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	89484.94	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	89484.94	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	70599.98	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	70599.98	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	70599.98	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	70599.98	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	9175.84	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	9175.84	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	12053.05	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	12053.05	100.00

Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	23081.50	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	23081.50	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	70857.24	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	70857.24	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	75653.64	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	75653.64	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	17063.90	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	17063.90	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	75751.08	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	75751.08	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	85754.47	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	85754.47	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	17897.41	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	17897.41	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	78180.59	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	78180.59	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	74921.51	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	74921.51	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	88539.95	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	88539.95	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	73022.55	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	73022.55	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFTeDA	715.0 / 670.0	73022.55	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	73022.55	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	9446.95	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	9446.95	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	8019.38	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	8019.38	100.00

Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	25833.75	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	25833.75	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	79723.93	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	79723.93	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	87089.11	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	87089.11	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	23110.92	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	23110.92	94.60
PFOA_1	413.0 / 369.0	2.58	13C8-PFOA	421.0 / 376.0	90164.47	100.00
PFOA_2	413.0 / 169.0	2.58	13C8-PFOA	421.0 / 376.0	90164.47	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	91488.71	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	91488.71	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	19029.24	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	19029.24	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	88757.26	100.00
PFDA_2	513.0 / 219.0	3.30	13C6-PFDA	519.0 / 474.0	88757.26	100.00
PFUnA_1	563.0 / 519.0	3.62	13C7-PFUnA	570.0 / 525.0	84702.22	100.00
PFUnA_2	563.0 / 269.0	3.62	13C7-PFUnA	570.0 / 525.0	84702.22	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	112712.95	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	112712.95	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	93865.50	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	93865.50	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFTeDA	715.0 / 670.0	93865.50	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	93865.50	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	13229.17	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	13229.17	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	11133.19	100.00
NEtFOSAA_2	584.0 / 483.0	3.62	d5-EtFOSAA	589.0 / 419.0	11133.19	100.00

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	59557.03	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	11468.96	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	11468.96	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	57353.19	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	57353.19	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	57353.19	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	57353.19	100.00
13C6-PFDA	519.0 / 474.0	3.29	13C2-PFDA	515.0 / 470.0	59557.03	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	59557.03	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	59557.03	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	11468.96	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	11468.96	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	11468.96	95.50

Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	54456.09	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	12130.72	95.50
d5-EtFOSAA	589.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	12130.72	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	49109.84	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	49109.84	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	49109.84	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	49109.84	100.00
13C6-PFDA	519.0 / 474.0	3.29	13C2-PFDA	515.0 / 470.0	54456.09	100.00
13C7-PFUnA	570.0 / 525.0	3.61	13C2-PFDA	515.0 / 470.0	54456.09	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	54456.09	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	12130.72	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	12130.72	95.50
13C8-PFOS	507.0 / 99.0	2.94	13C4-PFOS	503.0 / 99.0	12130.72	95.50

Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	69075.44	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	14221.94	95.50
d5-EtFOSAA	589.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	14221.94	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	62846.02	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	62846.02	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	62846.02	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	62846.02	100.00
13C6-PFDA	519.0 / 474.0	3.29	13C2-PFDA	515.0 / 470.0	69075.44	100.00
13C7-PFUnA	570.0 / 525.0	3.61	13C2-PFDA	515.0 / 470.0	69075.44	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	69075.44	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	14221.94	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	14221.94	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	14221.94	95.50

Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	68842.20	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	15596.73	95.50
d5-EtFOSAA	589.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	15596.73	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	70044.68	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	70044.68	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	70044.68	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	70044.68	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	68842.20	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	68842.20	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	68842.20	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	15596.73	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	15596.73	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	15596.73	95.50

Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	69743.01	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	17621.34	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	17621.34	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	64200.44	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	64200.44	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	64200.44	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	64200.44	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	69743.01	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	69743.01	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	69743.01	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	17621.34	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	17621.34	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	17621.34	95.50

Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	62623.00	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	14878.58	95.50
d5-EtFOSAA	589.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	14878.58	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	55104.55	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	55104.55	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	55104.55	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	55104.55	100.00
13C6-PFDA	519.0 / 474.0	3.29	13C2-PFDA	515.0 / 470.0	62623.00	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	62623.00	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	62623.00	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	14878.58	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	14878.58	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	14878.58	95.50

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	60533.01	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	16218.32	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	16218.32	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	58364.38	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	58364.38	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	58364.38	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	58364.38	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	60533.01	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	60533.01	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	60533.01	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	16218.32	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	16218.32	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	16218.32	95.50

Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	63218.27	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	15802.34	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	15802.34	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	65699.95	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	65699.95	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	65699.95	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	65699.95	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	63218.27	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	63218.27	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	63218.27	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	15802.34	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	15802.34	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	15802.34	95.50

Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	77714.45	100.00
d3-MeFOSAA	573.0 / 419.0	3.45	13C4-PFOS	503.0 / 99.0	15001.44	95.50
d5-EtFOSAA	589.0 / 419.0	3.61	13C4-PFOS	503.0 / 99.0	15001.44	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	74209.03	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	74209.03	100.00
13C8-PFOA	421.0 / 376.0	2.57	13C2-PFOA	415.0 / 370.0	74209.03	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	74209.03	100.00
13C6-PFDA	519.0 / 474.0	3.29	13C2-PFDA	515.0 / 470.0	77714.45	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	77714.45	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	77714.45	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	15001.44	95.50
13C3-PFHxS	402.0 / 99.0	2.21	13C4-PFOS	503.0 / 99.0	15001.44	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	15001.44	95.50

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1176.558923	1010.00	116.49
PFBS_2	298.9 / 99.0	1.54	1139.653412	1010.00	112.84
PFHxA_1	313.0 / 269.0	1.83	1238.722609	1010.00	122.65
PFHxA_2	313.0 / 119.0	1.83	1211.831232	1010.00	119.98
PFHpA_1	363.0 / 319.0	2.20	1106.734247	1000.00	110.67
PFHpA_2	363.0 / 169.0	2.20	1094.708272	1000.00	109.47
PFHxS_1	399.0 / 80.0	2.21	1070.276443	1010.00	105.97
PFHxS_2	399.0 / 99.0	2.21	1104.098639	1010.00	109.32
PFOA_1	413.0 / 369.0	2.57	1130.613191	1000.00	113.06
PFOA_2	413.0 / 169.0	2.57	1065.337946	1000.00	106.53
PFNA_1	463.0 / 419.0	2.95	1257.443907	1000.00	125.74
PFNA_2	463.0 / 219.0	2.95	1156.611404	1000.00	115.66
PFOS_1	499.0 / 80.0	2.94	1173.195643	1000.00	117.32
PFOS_2	499.0 / 99.0	2.94	1164.854382	1000.00	116.49
PFDA_1	513.0 / 469.0	3.29	1048.456126	1000.00	104.85
PFDA_2	513.0 / 219.0	3.29	933.400367	1000.00	93.34
PFUnA_1	563.0 / 519.0	3.61	1086.731146	1000.00	108.67
PFUnA_2	563.0 / 269.0	3.61	1115.155445	1000.00	111.52
PFDaA_1	613.0 / 569.0	3.90	1222.515531	1000.00	122.25
PFDaA_2	613.0 / 319.0	3.90	1154.678705	1000.00	115.47
PFTTrDA_1	663.0 / 619.0	4.15	1203.573469	1000.00	120.36
PFTTrDA_2	663.0 / 169.0	4.15	1227.419600	1000.00	122.74
PFTeDA_1	713.0 / 669.0	4.37	1193.797157	1000.00	119.38
PFTeDA_2	713.0 / 169.0	4.37	1212.863155	1000.00	121.29
NMeFOSAA_1	570.0 / 419.0	3.45	1068.182379	1000.00	106.82
NMeFOSAA_2	570.0 / 512.0	3.45	1067.710917	1000.00	106.77
NEtFOSAA_1	584.0 / 419.0	3.61	941.649322	1000.00	94.16
NEtFOSAA_2	584.0 / 483.0	3.61	929.715101	1000.00	92.97

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1028.006770	1010.00	101.78
PFBS_2	298.9 / 99.0	1.54	1035.678777	1010.00	102.54
PFHxA_1	313.0 / 269.0	1.83	1073.304433	1010.00	106.27
PFHxA_2	313.0 / 119.0	1.83	1021.540534	1010.00	101.14
PFHpA_1	363.0 / 319.0	2.19	942.512597	1000.00	94.25
PFHpA_2	363.0 / 169.0	2.19	969.491330	1000.00	96.95
PFHxS_1	399.0 / 80.0	2.21	1141.996831	1010.00	113.07
PFHxS_2	399.0 / 99.0	2.21	1181.164926	1010.00	116.95
PFOA_1	413.0 / 369.0	2.57	994.528166	1000.00	99.45
PFOA_2	413.0 / 169.0	2.57	1006.602071	1000.00	100.66
PFNA_1	463.0 / 419.0	2.94	978.571970	1000.00	97.86
PFNA_2	463.0 / 219.0	2.94	946.060422	1000.00	94.61
PFOS_1	499.0 / 80.0	2.93	797.032525	1000.00	79.70
PFOS_2	499.0 / 99.0	2.94	1024.840819	1000.00	102.48
PFDA_1	513.0 / 469.0	3.29	1020.834070	1000.00	102.08
PFDA_2	513.0 / 219.0	3.29	883.817776	1000.00	88.38
PFUnA_1	563.0 / 519.0	3.61	977.021477	1000.00	97.70
PFUnA_2	563.0 / 269.0	3.61	1006.650218	1000.00	100.67
PFDoA_1	613.0 / 569.0	3.89	1135.438992	1000.00	113.54
PFDoA_2	613.0 / 319.0	3.89	1062.919792	1000.00	106.29
PFTTrDA_1	663.0 / 619.0	4.14	1118.340605	1000.00	111.83
PFTTrDA_2	663.0 / 169.0	4.14	1137.838280	1000.00	113.78
PFTeDA_1	713.0 / 669.0	4.37	1027.699976	1000.00	102.77
PFTeDA_2	713.0 / 169.0	4.36	1113.769123	1000.00	111.38
NMeFOSAA_1	570.0 / 419.0	3.44	933.754598	1000.00	93.38
NMeFOSAA_2	570.0 / 512.0	3.44	944.451912	1000.00	94.45
NEtFOSAA_1	584.0 / 419.0	3.61	1135.477914	1000.00	113.55
NEtFOSAA_2	584.0 / 483.0	3.61	1317.033928	1000.00	131.70

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.89	105.711126	100.00	105.71
d3-MeFOSAA	573.0 / 419.0	3.44	100.443056	100.00	100.44
d5-EtFOSAA	589.0 / 419.0	3.60	105.614930	100.00	105.61
13C5-PFHxA	318.0 / 273.0	1.82	95.400517	100.00	95.40
13C4-PFHpA	367.0 / 322.0	2.19	97.905849	100.00	97.91
13C8-PFOA	421.0 / 376.0	2.56	102.774478	100.00	102.77
13C9-PFNA	472.0 / 427.0	2.94	95.653016	100.00	95.65
13C6-PFDA	519.0 / 474.0	3.28	114.105909	100.00	114.11
13C7-PFUnA	570.0 / 525.0	3.60	112.370112	100.00	112.37
13C2-PFTeDA	715.0 / 670.0	4.37	99.114221	100.00	99.11
13C3-PFBS	302.0 / 99.0	1.53	81.459850	92.90	87.69
13C3-PFHxS	402.0 / 99.0	2.20	96.849423	94.60	102.38
13C8-PFOS	507.0 / 99.0	2.93	77.243946	95.70	80.71

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.88	86.095080	100.00	86.10
d3-MeFOSAA	573.0 / 419.0	3.43	109.243532	100.00	109.24
d5-EtFOSAA	589.0 / 419.0	3.60	94.535564	100.00	94.54
13C5-PFHxA	318.0 / 273.0	1.82	101.326575	100.00	101.33
13C4-PFHpA	367.0 / 322.0	2.18	108.115715	100.00	108.12
13C8-PFOA	421.0 / 376.0	2.56	101.033041	100.00	101.03
13C9-PFNA	472.0 / 427.0	2.93	109.141215	100.00	109.14
13C6-PFDA	519.0 / 474.0	3.28	95.111855	100.00	95.11
13C7-PFUnA	570.0 / 525.0	3.59	95.119540	100.00	95.12
13C2-PFTeDA	715.0 / 670.0	4.36	81.433512	100.00	81.43
13C3-PFBS	302.0 / 99.0	1.52	88.333389	92.90	95.08
13C3-PFHxS	402.0 / 99.0	2.20	89.230407	94.60	94.32
13C8-PFOS	507.0 / 99.0	2.93	90.528417	95.70	94.60

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	406638.11	1176.558923	498.7	false
PFBS_2	298.9 / 99.0	1.54	123116.00	1139.653412	302.5	false
PFHxA_1	313.0 / 269.0	1.83	473086.85	1238.722609	70.9	false
PFHxA_2	313.0 / 119.0	1.83	32100.87	1211.831232	56.0	false
PFHpA_1	363.0 / 319.0	2.20	393668.83	1106.734247	127.1	false
PFHpA_2	363.0 / 169.0	2.20	9379.77	1094.708272	117.5	false
PFHxS_1	399.0 / 80.0	2.21	435349.92	1070.276443	89.4	true
PFHxS_2	399.0 / 99.0	2.21	125511.80	1104.098639	77.7	true
PFOA_1	413.0 / 369.0	2.57	523493.44	1130.613191	118.0	true
PFOA_2	413.0 / 169.0	2.57	38300.03	1065.337946	110.9	true
PFNA_1	463.0 / 419.0	2.95	578033.22	1257.443907	318.1	false
PFNA_2	463.0 / 219.0	2.95	148111.44	1156.611404	216.0	false
PFOS_1	499.0 / 80.0	2.94	505632.96	1173.195643	40.7	true
PFOS_2	499.0 / 99.0	2.94	88527.75	1164.854382	62.2	true
PFDA_1	513.0 / 469.0	3.29	509159.65	1048.456126	485.4	false
PFDA_2	513.0 / 219.0	3.29	20383.24	933.400367	479.4	false
PFUnA_1	563.0 / 519.0	3.61	504964.31	1086.731146	391.5	false
PFUnA_2	563.0 / 269.0	3.61	27409.23	1115.155445	259.1	false
PFDaA_1	613.0 / 569.0	3.90	478951.04	1222.515531	450.7	false
PFDaA_2	613.0 / 319.0	3.90	75485.62	1154.678705	476.5	false
PFTTrDA_1	663.0 / 619.0	4.15	425704.46	1203.573469	669.0	false
PFTTrDA_2	663.0 / 169.0	4.15	29011.76	1227.419600	489.7	false
PFTeDA_1	713.0 / 669.0	4.37	443535.68	1193.797157	957.8	false
PFTeDA_2	713.0 / 169.0	4.37	22035.03	1212.863155	815.0	false
NMeFOSAA_1	570.0 / 419.0	3.45	64802.45	1068.182379	607.6	false
NMeFOSAA_2	570.0 / 512.0	3.45	33987.11	1067.710917	494.1	false
NEtFOSAA_1	584.0 / 419.0	3.61	57063.59	941.649322	454.9	false
NEtFOSAA_2	584.0 / 483.0	3.61	3191.20	929.715101	571.5	false

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	407820.03	1028.006770	483.4	false
PFBS_2	298.9 / 99.0	1.54	128445.49	1035.678777	291.0	false
PFHxA_1	313.0 / 269.0	1.83	488065.74	1073.304433	59.0	false
PFHxA_2	313.0 / 119.0	1.83	32157.56	1021.540534	54.4	false
PFHpA_1	363.0 / 319.0	2.19	414066.97	942.512597	148.3	false
PFHpA_2	363.0 / 169.0	2.19	10408.27	969.491330	104.6	false
PFHxS_1	399.0 / 80.0	2.21	452669.63	1141.996831	96.7	true
PFHxS_2	399.0 / 99.0	2.21	130686.91	1181.164926	81.1	true
PFOA_1	413.0 / 369.0	2.57	505551.43	994.528166	138.5	true
PFOA_2	413.0 / 169.0	2.57	39716.69	1006.602071	110.8	true
PFNA_1	463.0 / 419.0	2.94	573870.12	978.571970	350.3	false
PFNA_2	463.0 / 219.0	2.94	154394.79	946.060422	251.5	false
PFOS_1	499.0 / 80.0	2.93	417851.73	797.032525	40.0	true
PFOS_2	499.0 / 99.0	2.94	96447.77	1024.840819	64.8	true
PFDA_1	513.0 / 469.0	3.29	564719.01	1020.834070	470.0	false
PFDA_2	513.0 / 219.0	3.29	21985.97	883.817776	424.4	false
PFUnA_1	563.0 / 519.0	3.61	525261.74	977.021477	404.7	false
PFUnA_2	563.0 / 269.0	3.61	28674.13	1006.650218	320.1	false
PFDoA_1	613.0 / 569.0	3.89	497158.17	1135.438992	489.8	false
PFDoA_2	613.0 / 319.0	3.89	77587.21	1062.919792	489.6	false
PFTTrDA_1	663.0 / 619.0	4.14	444360.72	1118.340605	616.1	false
PFTTrDA_2	663.0 / 169.0	4.14	30218.51	1137.838280	547.0	false
PFTeDA_1	713.0 / 669.0	4.37	429362.92	1027.699976	1108.5	false
PFTeDA_2	713.0 / 169.0	4.36	22741.89	1113.769123	630.1	false
NMeFOSAA_1	570.0 / 419.0	3.44	65261.19	933.754598	560.4	false
NMeFOSAA_2	570.0 / 512.0	3.44	34719.73	944.451912	472.5	false
NEtFOSAA_1	584.0 / 419.0	3.61	65918.46	1135.477914	608.0	false
NEtFOSAA_2	584.0 / 483.0	3.61	4332.09	1317.033928	65371.5	true

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	70015.08	105.711126	1032.2	false
d3-MeFOSAA	573.0 / 419.0	3.44	8858.60	100.443056	150.8	false
d5-EtFOSAA	589.0 / 419.0	3.60	9692.58	105.614930	215.7	false
13C5-PFHxA	318.0 / 273.0	1.82	55683.11	95.400517	601.5	false
13C4-PFHpA	367.0 / 322.0	2.19	63964.22	97.905849	1010.4	false
13C8-PFOA	421.0 / 376.0	2.56	70077.04	102.774478	1501.3	false
13C9-PFNA	472.0 / 427.0	2.94	67679.10	95.653016	930.7	false
13C6-PFDA	519.0 / 474.0	3.28	72975.77	114.105909	1263.4	false
13C7-PFUnA	570.0 / 525.0	3.60	70815.31	112.370112	742.0	false
13C2-PFTeDA	715.0 / 670.0	4.37	54638.62	99.114221	1227.0	false
13C3-PFBS	302.0 / 99.0	1.53	17381.24	81.459850	367.5	false
13C3-PFHxS	402.0 / 99.0	2.20	16121.33	96.849423	387.3	false
13C8-PFOS	507.0 / 99.0	2.93	13822.45	77.243946	289.7	false

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.88	77909.78	86.095080	1345.6	false
d3-MeFOSAA	573.0 / 419.0	3.43	10195.75	109.243532	216.9	false
d5-EtFOSAA	589.0 / 419.0	3.60	9180.95	94.535564	226.3	false
13C5-PFHxA	318.0 / 273.0	1.82	65939.43	101.326575	759.9	false
13C4-PFHpA	367.0 / 322.0	2.18	78752.87	108.115715	1230.7	false
13C8-PFOA	421.0 / 376.0	2.56	76807.38	101.033041	1547.2	false
13C9-PFNA	472.0 / 427.0	2.93	86098.14	109.141215	1173.2	false
13C6-PFDA	519.0 / 474.0	3.28	83108.98	95.111855	3567.9	false
13C7-PFUnA	570.0 / 525.0	3.59	81900.93	95.119540	1434.5	false
13C2-PFTeDA	715.0 / 670.0	4.36	61335.18	81.433512	2055.1	false
13C3-PFBS	302.0 / 99.0	1.52	19945.29	88.333389	775.6	false
13C3-PFHxS	402.0 / 99.0	2.20	15717.92	89.230407	330.8	false
13C8-PFOS	507.0 / 99.0	2.93	17142.89	90.528417	320.9	false

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.303	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.068	0.063	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.024	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.288	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.073	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.256	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.175	0.191	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.054	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.158	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.068	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.525	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.056	0.057	ü

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.315	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.066	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.025	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.289	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.079	0.079	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.269	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.231	0.191	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.039	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.055	0.059	ü
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.156	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.068	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.053	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.532	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.066	0.057	ü

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	17381.24	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	17381.24	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	55683.11	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	55683.11	100.00
PFHpA_1	363.0 / 319.0	2.20	13C4-PFHpA	367.0 / 322.0	63964.22	100.00
PFHpA_2	363.0 / 169.0	2.20	13C4-PFHpA	367.0 / 322.0	63964.22	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	16121.33	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	16121.33	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	70077.04	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	70077.04	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	67679.10	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	67679.10	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	13822.45	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	13822.45	95.70
PFDA_1	513.0 / 469.0	3.29	13C6-PFDA	519.0 / 474.0	72975.77	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	72975.77	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	70815.31	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	70815.31	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	70015.08	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	70015.08	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	54638.62	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	54638.62	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFTeDA	715.0 / 670.0	54638.62	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	54638.62	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	8858.60	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	8858.60	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	9692.58	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	9692.58	100.00

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	19945.29	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	19945.29	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	65939.43	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	65939.43	100.00
PFHpA_1	363.0 / 319.0	2.19	13C4-PFHpA	367.0 / 322.0	78752.87	100.00
PFHpA_2	363.0 / 169.0	2.19	13C4-PFHpA	367.0 / 322.0	78752.87	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	15717.92	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	15717.92	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	76807.38	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	76807.38	100.00
PFNA_1	463.0 / 419.0	2.94	13C9-PFNA	472.0 / 427.0	86098.14	100.00
PFNA_2	463.0 / 219.0	2.94	13C9-PFNA	472.0 / 427.0	86098.14	100.00
PFOS_1	499.0 / 80.0	2.93	13C8-PFOS	507.0 / 99.0	17142.89	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	17142.89	95.70
PFDA_1	513.0 / 469.0	3.29	13C6-PFDA	519.0 / 474.0	83108.98	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	83108.98	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	81900.93	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	81900.93	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFDaA	615.0 / 570.0	77909.78	100.00
PFDaA_2	613.0 / 319.0	3.89	13C2-PFDaA	615.0 / 570.0	77909.78	100.00
PFTeDA_1	663.0 / 619.0	4.14	13C2-PFTeDA	715.0 / 670.0	61335.18	100.00
PFTeDA_2	663.0 / 169.0	4.14	13C2-PFTeDA	715.0 / 670.0	61335.18	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFTeDA	715.0 / 670.0	61335.18	100.00
PFTeDA_2	713.0 / 169.0	4.36	13C2-PFTeDA	715.0 / 670.0	61335.18	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	10195.75	100.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	10195.75	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	9290.09	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	9290.09	100.00

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	47103.14	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	12740.39	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	12740.39	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	48616.94	100.00
13C4-PFHpA	367.0 / 322.0	2.19	13C2-PFOA	415.0 / 370.0	48616.94	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	48616.94	100.00
13C9-PFNA	472.0 / 427.0	2.94	13C2-PFOA	415.0 / 370.0	48616.94	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	47103.14	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	47103.14	100.00
13C2-PFTeDA	715.0 / 670.0	4.37	13C2-PFDA	515.0 / 470.0	47103.14	100.00
13C3-PFBS	302.0 / 99.0	1.53	13C4-PFOS	503.0 / 99.0	12740.39	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	12740.39	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	12740.39	95.50

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.88	13C2-PFDA	515.0 / 470.0	64356.53	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	13482.21	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	13482.21	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	54204.67	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	54204.67	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	54204.67	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	54204.67	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	64356.53	100.00
13C7-PFUnA	570.0 / 525.0	3.59	13C2-PFDA	515.0 / 470.0	64356.53	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	64356.53	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	13482.21	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	13482.21	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	13482.21	95.50

Raw Analytical Data

Sample Name	JV05 IB	Injection Vial	11
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	8663.94	20.409103	30.6	true
PFBS_2	298.9 / 99.0	1.54	3104.11	20.958127	21.2	true
PFHxA_1	313.0 / 269.0	1.83	17748.19	< 0	8.8	true
PFHxA_2	313.0 / 119.0	1.84	1173.35	17.514979	5.3	true
PFHpA_1	363.0 / 319.0	2.21	14062.16	17.477540	19.9	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.22	11584.44	23.815413	7.3	true
PFHxS_2	399.0 / 99.0	2.22	3523.97	6.107058	7.1	true
PFOA_1	413.0 / 369.0	2.57	26481.42	40.554068	17.9	true
PFOA_2	413.0 / 169.0	2.59	1963.29	27.801204	11.8	true
PFNA_1	463.0 / 419.0	2.95	17387.58	20.901678	34.2	true
PFNA_2	463.0 / 219.0	2.94	4427.51	21.145709	24.8	true
PFOS_1	499.0 / 80.0	N/A	N/A	N/A	N/A	true
PFOS_2	499.0 / 99.0	N/A	N/A	N/A	N/A	true
PFDA_1	513.0 / 469.0	3.30	16445.59	22.359406	84.3	false
PFDA_2	513.0 / 219.0	3.29	831.02	31.339613	38.0	false
PFUnA_1	563.0 / 519.0	3.61	14111.27	25.907656	68.9	false
PFUnA_2	563.0 / 269.0	3.62	607.69	2.998578	21.6	false
PFDaA_1	613.0 / 569.0	3.90	16256.46	< 0	91.1	false
PFDaA_2	613.0 / 319.0	3.90	2604.61	< 0	81.9	false
PFTTrDA_1	663.0 / 619.0	4.15	13370.98	27.435394	126.3	false
PFTTrDA_2	663.0 / 169.0	4.15	1112.53	33.749549	64.3	false
PFTeDA_1	713.0 / 669.0	4.37	17294.12	37.752201	158.4	false
PFTeDA_2	713.0 / 169.0	4.37	1000.80	43.094959	97.9	false
NMeFOSAA_1	570.0 / 419.0	3.45	3842.99	55.635302	139.9	false
NMeFOSAA_2	570.0 / 512.0	3.45	2056.80	36.724255	113.7	false
NEtFOSAA_1	584.0 / 419.0	3.62	2939.69	54.283369	113.4	true
NEtFOSAA_2	584.0 / 483.0	3.60	277.84	94.462246	147.1	false

Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	8334.35	14.842622	28.8	true
PFBS_2	298.9 / 99.0	1.54	3081.34	15.187588	14.9	true
PFHxA_1	313.0 / 269.0	1.82	378395.79	661.110092	48.8	false
PFHxA_2	313.0 / 119.0	1.83	22866.34	581.893264	57.2	true
PFHpA_1	363.0 / 319.0	2.18	13246.64	7.494273	18.8	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.21	43050.69	74.567673	19.9	true
PFHxS_2	399.0 / 99.0	2.21	14738.40	73.974031	20.4	true
PFOA_1	413.0 / 369.0	2.57	49240.10	61.631561	25.2	true
PFOA_2	413.0 / 169.0	2.52	4598.76	67.092065	23.9	true
PFNA_1	463.0 / 419.0	2.94	11640.24	4.539446	28.9	true
PFNA_2	463.0 / 219.0	2.94	2924.86	6.011584	18.8	true
PFOS_1	499.0 / 80.0	2.93	344161.80	650.864949	35.5	true
PFOS_2	499.0 / 99.0	2.94	83976.10	874.502391	59.2	true
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.61	3247.19	1.550348	26.8	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.89	3034.39	< 0	28.8	true
PFDoA_2	613.0 / 319.0	3.89	280.46	< 0	14.9	true
PFTTrDA_1	663.0 / 619.0	4.14	1930.31	< 0	41.9	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	1165300.99	2552.866531	962.1	false
PFBS_2	298.9 / 99.0	1.54	371065.33	2604.535861	523.6	false
PFHxA_1	313.0 / 269.0	1.83	1441056.26	2904.616277	96.9	false
PFHxA_2	313.0 / 119.0	1.83	99453.08	2862.657236	95.0	false
PFHpA_1	363.0 / 319.0	2.19	1002657.98	2523.474702	186.3	false
PFHpA_2	363.0 / 169.0	2.19	24282.71	2736.019874	147.7	false
PFHxS_1	399.0 / 80.0	2.21	1836945.17	3751.073849	215.2	true
PFHxS_2	399.0 / 99.0	2.21	525901.51	3894.189324	189.4	true
PFOA_1	413.0 / 369.0	2.57	1356846.85	2664.365265	202.6	true
PFOA_2	413.0 / 169.0	2.57	108538.51	2764.335160	167.4	true
PFNA_1	463.0 / 419.0	2.94	1255610.63	2225.321734	480.7	false
PFNA_2	463.0 / 219.0	2.94	351717.11	2236.725211	394.7	false
PFOS_1	499.0 / 80.0	2.93	7890170.57	14647.964708	139.5	true
PFOS_2	499.0 / 99.0	2.94	1393867.11	15066.717706	212.6	false
PFDA_1	513.0 / 469.0	3.29	1212504.44	2272.696577	577.0	false
PFDA_2	513.0 / 219.0	3.29	56747.61	2360.447418	350.5	false
PFUnA_1	563.0 / 519.0	3.61	1127666.18	2443.464594	473.7	false
PFUnA_2	563.0 / 269.0	3.61	59178.87	2444.732971	401.7	false
PFDaA_1	613.0 / 569.0	3.90	945836.26	2583.847478	556.9	false
PFDaA_2	613.0 / 319.0	3.90	150924.52	2448.018466	582.7	false
PFTTrDA_1	663.0 / 619.0	4.15	783538.57	2533.343474	841.9	false
PFTTrDA_2	663.0 / 169.0	4.15	51437.62	2491.416835	672.1	false
PFTeDA_1	713.0 / 669.0	4.37	735348.11	2267.046969	1352.5	false
PFTeDA_2	713.0 / 169.0	4.37	35761.55	2256.575038	893.4	false
NMeFOSAA_1	570.0 / 419.0	3.45	136825.09	2282.662758	798.4	false
NMeFOSAA_2	570.0 / 512.0	3.44	76609.30	2463.612079	767.1	false
NEtFOSAA_1	584.0 / 419.0	3.61	141120.75	2273.740306	676.8	false
NEtFOSAA_2	584.0 / 483.0	3.61	9747.67	2769.132945	312.9	false

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	24811.45	46.920681	57.0	true
PFBS_2	298.9 / 99.0	1.54	8395.90	48.288191	30.3	true
PFHxA_1	313.0 / 269.0	1.82	338106.33	628.887141	49.0	false
PFHxA_2	313.0 / 119.0	1.83	18757.30	506.948281	47.5	false
PFHpA_1	363.0 / 319.0	2.19	20688.96	23.205782	24.3	false
PFHpA_2	363.0 / 169.0	2.19	1260.15	< 0	26.6	false
PFHxS_1	399.0 / 80.0	2.20	110768.94	212.738626	32.1	true
PFHxS_2	399.0 / 99.0	2.21	30858.69	194.945698	31.5	true
PFOA_1	413.0 / 369.0	2.56	52634.15	75.719766	27.1	true
PFOA_2	413.0 / 169.0	2.53	7059.72	131.772792	26.7	true
PFNA_1	463.0 / 419.0	2.94	14313.43	10.724425	31.7	true
PFNA_2	463.0 / 219.0	2.95	3556.82	11.348945	23.6	true
PFOS_1	499.0 / 80.0	2.93	1064276.06	2041.365398	52.8	true
PFOS_2	499.0 / 99.0	2.94	225035.55	2475.330441	128.1	true
PFDA_1	513.0 / 469.0	3.30	4169.84	< 0	25.1	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.61	5519.60	9.953455	39.0	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDaA_1	613.0 / 569.0	3.90	3424.71	< 0	39.0	true
PFDaA_2	613.0 / 319.0	3.91	629.84	< 0	18.3	false
PFTTrDA_1	663.0 / 619.0	4.14	2815.97	3.716390	60.4	false
PFTTrDA_2	663.0 / 169.0	4.14	254.97	5.304584	15.9	false
PFTeDA_1	713.0 / 669.0	4.36	2841.98	6.009640	22.9	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	3.60	782.55	14.459572	47.5	true
NEtFOSAA_2	584.0 / 483.0	3.63	77.33	29.477730	18.6	true

Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	120511.85	392.405933	216.5	false
PFBS_2	298.9 / 99.0	1.54	41405.80	429.834493	115.8	false
PFHxA_1	313.0 / 269.0	1.82	396372.36	1164.033750	58.4	false
PFHxA_2	313.0 / 119.0	1.83	22444.89	947.474545	58.8	false
PFHpA_1	363.0 / 319.0	2.19	34839.04	103.026624	32.0	false
PFHpA_2	363.0 / 169.0	2.15	1928.80	149.060394	18.7	false
PFHxS_1	399.0 / 80.0	2.21	729970.83	2011.213164	131.2	false
PFHxS_2	399.0 / 99.0	2.21	222782.55	2217.462025	114.5	false
PFOA_1	413.0 / 369.0	2.57	103932.38	268.231183	49.6	true
PFOA_2	413.0 / 169.0	2.55	12375.85	412.626850	39.7	true
PFNA_1	463.0 / 419.0	2.95	14219.70	24.234411	33.9	true
PFNA_2	463.0 / 219.0	2.95	4294.93	30.427551	20.1	true
PFOS_1	499.0 / 80.0	2.93	7428400.23	19580.581592	128.9	false
PFOS_2	499.0 / 99.0	2.94	1255014.05	19272.886230	222.8	false
PFDA_1	513.0 / 469.0	3.30	1618.96	< 0	17.0	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.61	2830.52	3.638762	22.5	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDaA_1	613.0 / 569.0	3.89	1282.80	< 0	21.0	true
PFDaA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	4.14	1209.05	< 0	25.0	true
PFTTrDA_2	663.0 / 169.0	4.14	107.37	< 0	8.5	true
PFTeDA_1	713.0 / 669.0	4.36	1278.80	2.659880	14.0	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	8757.82	21.630689	26.8	true
PFBS_2	298.9 / 99.0	1.54	3749.84	27.710206	17.9	true
PFHxA_1	313.0 / 269.0	1.82	151415.56	341.484353	36.0	false
PFHxA_2	313.0 / 119.0	1.83	10663.88	362.953963	30.6	false
PFHpA_1	363.0 / 319.0	2.19	11054.80	10.788182	15.2	false
PFHpA_2	363.0 / 169.0	2.16	968.44	< 0	13.3	false
PFHxS_1	399.0 / 80.0	2.21	65518.20	158.265020	27.0	true
PFHxS_2	399.0 / 99.0	2.21	18612.07	142.961897	22.9	true
PFOA_1	413.0 / 369.0	2.57	36951.10	67.978179	20.3	true
PFOA_2	413.0 / 169.0	2.55	6037.35	149.463149	18.8	true
PFNA_1	463.0 / 419.0	2.94	7787.72	5.540839	21.8	true
PFNA_2	463.0 / 219.0	2.95	2705.11	13.127626	14.9	true
PFOS_1	499.0 / 80.0	2.94	700198.98	1499.165546	45.1	true
PFOS_2	499.0 / 99.0	2.94	143599.80	1752.351652	86.6	true
PFDA_1	513.0 / 469.0	3.28	2902.58	< 0	27.2	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.61	1336.37	< 0	18.0	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDaA_1	613.0 / 569.0	3.89	702.45	< 0	9.0	true
PFDaA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.35	1017.44	0.821397	10.1	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

Sample Name	JV05 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	74399.49	70.291903	1068.9	false
d3-MeFOSAA	573.0 / 419.0	3.44	8982.33	68.526384	281.0	false
d5-EtFOSAA	589.0 / 419.0	3.60	8257.55	60.541204	133.3	false
13C5-PFHxA	318.0 / 273.0	1.82	61420.62	76.486474	865.3	false
13C4-PFHpA	367.0 / 322.0	2.18	68015.99	75.670341	909.6	false
13C8-PFOA	421.0 / 376.0	2.56	74438.27	79.350380	1030.2	false
13C9-PFNA	472.0 / 427.0	2.93	77380.56	79.491218	1218.6	false
13C6-PFDA	519.0 / 474.0	3.28	78543.26	76.850131	109616.1	false
13C7-PFUnA	570.0 / 525.0	3.60	72563.81	72.052652	911.1	false
13C2-PFTeDA	715.0 / 670.0	4.36	61092.13	69.347007	1257.6	false
13C3-PFBS	302.0 / 99.0	1.52	19284.57	60.811644	455.5	false
13C3-PFHxS	402.0 / 99.0	2.20	14231.33	57.524834	373.4	false
13C8-PFOS	507.0 / 99.0	2.93	16285.03	61.232446	316.2	false

Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.88	70283.80	73.135315	1012.1	false
d3-MeFOSAA	573.0 / 419.0	3.43	10421.19	101.691133	333.6	false
d5-EtFOSAA	589.0 / 419.0	3.59	11531.80	108.141886	171.5	false
13C5-PFHxA	318.0 / 273.0	1.81	80942.97	111.230852	707.6	false
13C4-PFHpA	367.0 / 322.0	2.18	87014.21	106.826896	786.5	false
13C8-PFOA	421.0 / 376.0	2.56	99814.33	117.414393	857.7	false
13C9-PFNA	472.0 / 427.0	2.93	101518.21	115.081875	2196.3	false
13C6-PFDA	519.0 / 474.0	3.27	96876.28	104.397391	721.3	false
13C7-PFUnA	570.0 / 525.0	3.59	92235.75	100.870857	822.6	false
13C2-PFTeDA	715.0 / 670.0	4.36	46738.91	58.432917	1372.6	false
13C3-PFBS	302.0 / 99.0	1.52	24600.31	99.223412	490.6	false
13C3-PFHxS	402.0 / 99.0	2.20	20655.49	106.792878	314.0	false
13C8-PFOS	507.0 / 99.0	2.93	17530.89	84.312896	263.2	false

Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.89	67443.73	104.583036	1310.2	false
d3-MeFOSAA	573.0 / 419.0	3.43	8784.28	103.306955	128.0	false
d5-EtFOSAA	589.0 / 419.0	3.60	9944.47	112.392207	162.9	false
13C5-PFHxA	318.0 / 273.0	1.82	73836.62	129.249047	708.4	false
13C4-PFHpA	367.0 / 322.0	2.18	72183.14	112.884828	757.5	false
13C8-PFOA	421.0 / 376.0	2.56	77620.06	116.308600	762.8	false
13C9-PFNA	472.0 / 427.0	2.93	83429.04	120.472983	800.5	false
13C6-PFDA	519.0 / 474.0	3.28	80555.95	129.365243	872.5	false
13C7-PFUnA	570.0 / 525.0	3.60	70471.20	114.848639	820.5	false
13C2-PFTeDA	715.0 / 670.0	4.36	48155.17	89.715956	1573.1	false
13C3-PFBS	302.0 / 99.0	1.52	22979.42	111.704375	530.2	false
13C3-PFHxS	402.0 / 99.0	2.20	19190.04	119.574944	280.6	false
13C8-PFOS	507.0 / 99.0	2.93	16652.40	96.521583	211.6	false

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID	FFTA-FB01-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.88	58847.61	91.754309	1023.6	false
d3-MeFOSAA	573.0 / 419.0	3.43	7804.94	88.440226	185.8	false
d5-EtFOSAA	589.0 / 419.0	3.60	7261.98	79.079928	125.6	false
13C5-PFHxA	318.0 / 273.0	1.82	75780.17	139.019845	675.8	false
13C4-PFHpA	367.0 / 322.0	2.18	86918.79	142.455476	710.0	false
13C8-PFOA	421.0 / 376.0	2.56	89931.92	141.226889	952.7	false
13C9-PFNA	472.0 / 427.0	2.93	91601.71	138.625022	1322.9	false
13C6-PFDA	519.0 / 474.0	3.28	71442.13	115.359239	2139.4	false
13C7-PFUnA	570.0 / 525.0	3.59	61227.13	100.331233	618.5	false
13C2-PFTeDA	715.0 / 670.0	4.36	43020.45	80.589739	1043.7	false
13C3-PFBS	302.0 / 99.0	1.52	25436.17	119.135168	546.5	false
13C3-PFHxS	402.0 / 99.0	2.20	19985.97	119.990456	344.1	false
13C8-PFOS	507.0 / 99.0	2.92	16436.36	91.793180	257.7	false

Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID	DRMO-FB02-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.88	52733.02	82.754394	927.0	false
d3-MeFOSAA	573.0 / 419.0	3.44	5688.69	79.368251	164.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	6750.69	90.513609	133.1	false
13C5-PFHxA	318.0 / 273.0	1.82	49534.47	104.535186	577.1	false
13C4-PFHpA	367.0 / 322.0	2.18	51699.23	97.472776	590.3	false
13C8-PFOA	421.0 / 376.0	2.56	56431.81	101.943904	2643.6	false
13C9-PFNA	472.0 / 427.0	2.93	57542.70	100.175627	580.0	false
13C6-PFDA	519.0 / 474.0	3.28	58489.18	95.057033	716.6	false
13C7-PFUnA	570.0 / 525.0	3.59	57930.48	95.545475	877.3	false
13C2-PFTeDA	715.0 / 670.0	4.36	29633.92	55.873339	929.2	false
13C3-PFBS	302.0 / 99.0	1.52	15386.63	88.733203	380.9	false
13C3-PFHxS	402.0 / 99.0	2.20	14439.39	106.739382	274.7	false
13C8-PFOS	507.0 / 99.0	2.93	11719.09	80.584782	147.9	false

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID	PSC51-FB03-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.88	46271.49	67.593272	833.3	false
d3-MeFOSAA	573.0 / 419.0	3.44	6988.72	82.543119	236.9	false
d5-EtFOSAA	589.0 / 419.0	3.60	8991.17	102.054104	164.8	false
13C5-PFHxA	318.0 / 273.0	1.82	59138.59	94.630403	804.5	false
13C4-PFHpA	367.0 / 322.0	2.18	64943.65	92.841193	775.1	false
13C8-PFOA	421.0 / 376.0	2.56	69101.11	94.651417	1085.0	false
13C9-PFNA	472.0 / 427.0	2.93	64151.24	84.680156	1130.7	false
13C6-PFDA	519.0 / 474.0	3.28	71903.12	108.777242	963.6	false
13C7-PFUnA	570.0 / 525.0	3.59	56252.80	86.363197	845.7	false
13C2-PFTeDA	715.0 / 670.0	4.36	33271.39	58.393986	1057.6	false
13C3-PFBS	302.0 / 99.0	1.52	18495.43	90.293320	470.2	false
13C3-PFHxS	402.0 / 99.0	2.20	15678.03	98.110563	282.6	false
13C8-PFOS	507.0 / 99.0	2.93	14848.01	86.432250	213.2	false



Sample Name	JV05 IB	Injection Vial	11
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.358	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.066	0.063	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.22	PFHxS	0.304	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.074	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.255	0.273	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.051	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.043	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.083	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.058	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.535	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.095	0.057	



Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.370	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.060	0.063	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.342	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.093	0.079	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.251	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.244	0.191	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.092	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.068	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü

Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.318	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.069	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.024	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.286	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.079	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.280	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.177	0.191	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.047	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.053	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.066	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.049	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.560	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.069	0.057	ü

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.338	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.056	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.061	0.025	
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.279	0.289	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.134	0.079	
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.249	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.211	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.184	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.091	0.068	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.099	0.057	



Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.344	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.057	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.055	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.305	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.119	0.079	
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.302	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.169	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.158	
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.089	0.068	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.428	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.070	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.088	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.284	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.163	0.079	
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.347	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.205	0.191	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDoA_1	613.0 / 569.0	3.89	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.158	
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.068	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü

Sample Name	JV05 IB	Injection Vial	11
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C3-PFBS	302.0 / 99.0	19284.57	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	19284.57	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	61420.62	100.00
PFHxA_2	313.0 / 119.0	1.84	13C5-PFHxA	318.0 / 273.0	61420.62	100.00
PFHpA_1	363.0 / 319.0	2.21	13C4-PFHpA	367.0 / 322.0	68015.99	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	68015.99	100.00
PFHxS_1	399.0 / 80.0	2.22	13C3-PFHxS	402.0 / 99.0	14231.33	94.60
PFHxS_2	399.0 / 99.0	2.22	13C3-PFHxS	402.0 / 99.0	14231.33	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	74438.27	100.00
PFOA_2	413.0 / 169.0	2.59	13C8-PFOA	421.0 / 376.0	74438.27	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	77380.56	100.00
PFNA_2	463.0 / 219.0	2.94	13C9-PFNA	472.0 / 427.0	77380.56	100.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	16285.03	95.70
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	16285.03	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	78543.26	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	78543.26	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	72563.81	100.00
PFUnA_2	563.0 / 269.0	3.62	13C7-PFUnA	570.0 / 525.0	72563.81	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	74399.49	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	74399.49	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	61092.13	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	61092.13	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFTeDA	715.0 / 670.0	61092.13	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	61092.13	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	8982.33	100.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	8982.33	100.00
NEtFOSAA_1	584.0 / 419.0	3.62	d5-EtFOSAA	589.0 / 419.0	8257.55	100.00
NEtFOSAA_2	584.0 / 483.0	3.60	d5-EtFOSAA	589.0 / 419.0	8257.55	100.00

Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	24600.31	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	24600.31	92.90
PFHxA_1	313.0 / 269.0	1.82	13C5-PFHxA	318.0 / 273.0	80942.97	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	80942.97	100.00
PFHpA_1	363.0 / 319.0	2.18	13C4-PFHpA	367.0 / 322.0	87014.21	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	87014.21	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	20655.49	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	20655.49	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	99814.33	100.00
PFOA_2	413.0 / 169.0	2.52	13C8-PFOA	421.0 / 376.0	99814.33	100.00
PFNA_1	463.0 / 419.0	2.94	13C9-PFNA	472.0 / 427.0	101518.21	100.00
PFNA_2	463.0 / 219.0	2.94	13C9-PFNA	472.0 / 427.0	101518.21	100.00
PFOS_1	499.0 / 80.0	2.93	13C8-PFOS	507.0 / 99.0	17530.89	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	17530.89	95.70
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	96876.28	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	96876.28	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	92235.75	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	92235.75	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFDaA	615.0 / 570.0	70283.80	100.00
PFDaA_2	613.0 / 319.0	3.89	13C2-PFDaA	615.0 / 570.0	70283.80	100.00
PFTeDA_1	663.0 / 619.0	4.14	13C2-PFTeDA	715.0 / 670.0	46738.91	100.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	46738.91	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	46738.91	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	46738.91	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10421.19	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10421.19	100.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	11531.80	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	11531.80	100.00

Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	22979.42	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	22979.42	92.90
PFHxA_1	313.0 / 269.0	1.83	13C5-PFHxA	318.0 / 273.0	73836.62	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	73836.62	100.00
PFHpA_1	363.0 / 319.0	2.19	13C4-PFHpA	367.0 / 322.0	72183.14	100.00
PFHpA_2	363.0 / 169.0	2.19	13C4-PFHpA	367.0 / 322.0	72183.14	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	19521.42	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	19521.42	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	77620.06	100.00
PFOA_2	413.0 / 169.0	2.57	13C8-PFOA	421.0 / 376.0	77620.06	100.00
PFNA_1	463.0 / 419.0	2.94	13C9-PFNA	472.0 / 427.0	83429.04	100.00
PFNA_2	463.0 / 219.0	2.94	13C9-PFNA	472.0 / 427.0	83429.04	100.00
PFOS_1	499.0 / 80.0	2.93	13C8-PFOS	507.0 / 99.0	16652.40	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	16652.40	95.70
PFDA_1	513.0 / 469.0	3.29	13C6-PFDA	519.0 / 474.0	80555.95	100.00
PFDA_2	513.0 / 219.0	3.29	13C6-PFDA	519.0 / 474.0	80555.95	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	70471.20	100.00
PFUnA_2	563.0 / 269.0	3.61	13C7-PFUnA	570.0 / 525.0	70471.20	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	67443.73	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFDaA	615.0 / 570.0	67443.73	100.00
PFTeDA_1	663.0 / 619.0	4.15	13C2-PFTeDA	715.0 / 670.0	48155.17	100.00
PFTeDA_2	663.0 / 169.0	4.15	13C2-PFTeDA	715.0 / 670.0	48155.17	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFTeDA	715.0 / 670.0	48155.17	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFTeDA	715.0 / 670.0	48155.17	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	8784.28	100.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	8784.28	100.00
NEtFOSAA_1	584.0 / 419.0	3.61	d5-EtFOSAA	589.0 / 419.0	9944.47	100.00
NEtFOSAA_2	584.0 / 483.0	3.61	d5-EtFOSAA	589.0 / 419.0	9944.47	100.00

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	25436.17	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	25436.17	92.90
PFHxA_1	313.0 / 269.0	1.82	13C5-PFHxA	318.0 / 273.0	75780.17	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	75780.17	100.00
PFHpA_1	363.0 / 319.0	2.19	13C4-PFHpA	367.0 / 322.0	86918.79	100.00
PFHpA_2	363.0 / 169.0	2.19	13C4-PFHpA	367.0 / 322.0	86918.79	100.00
PFHxS_1	399.0 / 80.0	2.20	13C3-PFHxS	402.0 / 99.0	19985.97	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	19985.97	94.60
PFOA_1	413.0 / 369.0	2.56	13C8-PFOA	421.0 / 376.0	89931.92	100.00
PFOA_2	413.0 / 169.0	2.53	13C8-PFOA	421.0 / 376.0	89931.92	100.00
PFNA_1	463.0 / 419.0	2.94	13C9-PFNA	472.0 / 427.0	91601.71	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	91601.71	100.00
PFOS_1	499.0 / 80.0	2.93	13C8-PFOS	507.0 / 99.0	16436.36	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	16436.36	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	71442.13	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	71442.13	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	61227.13	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	61227.13	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFDaA	615.0 / 570.0	58847.61	100.00
PFDaA_2	613.0 / 319.0	3.91	13C2-PFDaA	615.0 / 570.0	58847.61	100.00
PFTeDA_1	663.0 / 619.0	4.14	13C2-PFTeDA	715.0 / 670.0	43020.45	100.00
PFTeDA_2	663.0 / 169.0	4.14	13C2-PFTeDA	715.0 / 670.0	43020.45	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFTeDA	715.0 / 670.0	43020.45	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	43020.45	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	7804.94	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	7804.94	100.00
NEtFOSAA_1	584.0 / 419.0	3.60	d5-EtFOSAA	589.0 / 419.0	7261.98	100.00
NEtFOSAA_2	584.0 / 483.0	3.63	d5-EtFOSAA	589.0 / 419.0	7261.98	100.00

Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	15386.63	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	15386.63	92.90
PFHxA_1	313.0 / 269.0	1.82	13C5-PFHxA	318.0 / 273.0	49534.47	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	49534.47	100.00
PFHpA_1	363.0 / 319.0	2.19	13C4-PFHpA	367.0 / 322.0	51699.23	100.00
PFHpA_2	363.0 / 169.0	2.15	13C4-PFHpA	367.0 / 322.0	51699.23	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	14439.39	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	14439.39	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	56431.81	100.00
PFOA_2	413.0 / 169.0	2.55	13C8-PFOA	421.0 / 376.0	56431.81	100.00
PFNA_1	463.0 / 419.0	2.95	13C9-PFNA	472.0 / 427.0	57542.70	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	57542.70	100.00
PFOS_1	499.0 / 80.0	2.93	13C8-PFOS	507.0 / 99.0	11719.09	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	11719.09	95.70
PFDA_1	513.0 / 469.0	3.30	13C6-PFDA	519.0 / 474.0	58489.18	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	58489.18	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	57930.48	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	57930.48	100.00
PFDoA_1	613.0 / 569.0	3.89	13C2-PFDoA	615.0 / 570.0	52733.02	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	52733.02	100.00
PFTeDA_1	663.0 / 619.0	4.14	13C2-PFTeDA	715.0 / 670.0	29633.92	100.00
PFTeDA_2	663.0 / 169.0	4.14	13C2-PFTeDA	715.0 / 670.0	29633.92	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFTeDA	715.0 / 670.0	29633.92	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	29633.92	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	5688.69	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	5688.69	100.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	6750.69	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	6750.69	100.00

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.54	13C3-PFBS	302.0 / 99.0	18495.43	92.90
PFBS_2	298.9 / 99.0	1.54	13C3-PFBS	302.0 / 99.0	18495.43	92.90
PFHxA_1	313.0 / 269.0	1.82	13C5-PFHxA	318.0 / 273.0	59138.59	100.00
PFHxA_2	313.0 / 119.0	1.83	13C5-PFHxA	318.0 / 273.0	59138.59	100.00
PFHpA_1	363.0 / 319.0	2.19	13C4-PFHpA	367.0 / 322.0	64943.65	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	64943.65	100.00
PFHxS_1	399.0 / 80.0	2.21	13C3-PFHxS	402.0 / 99.0	15678.03	94.60
PFHxS_2	399.0 / 99.0	2.21	13C3-PFHxS	402.0 / 99.0	15678.03	94.60
PFOA_1	413.0 / 369.0	2.57	13C8-PFOA	421.0 / 376.0	69101.11	100.00
PFOA_2	413.0 / 169.0	2.55	13C8-PFOA	421.0 / 376.0	69101.11	100.00
PFNA_1	463.0 / 419.0	2.94	13C9-PFNA	472.0 / 427.0	64151.24	100.00
PFNA_2	463.0 / 219.0	2.95	13C9-PFNA	472.0 / 427.0	64151.24	100.00
PFOS_1	499.0 / 80.0	2.94	13C8-PFOS	507.0 / 99.0	14848.01	95.70
PFOS_2	499.0 / 99.0	2.94	13C8-PFOS	507.0 / 99.0	14848.01	95.70
PFDA_1	513.0 / 469.0	3.28	13C6-PFDA	519.0 / 474.0	71903.12	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	71903.12	100.00
PFUnA_1	563.0 / 519.0	3.61	13C7-PFUnA	570.0 / 525.0	56252.80	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	56252.80	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFDaA	615.0 / 570.0	46271.49	100.00
PFDaA_2	613.0 / 319.0	N/A	13C2-PFDaA	615.0 / 570.0	46271.49	100.00
PFTeDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	33271.39	100.00
PFTeDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33271.39	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	33271.39	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	33271.39	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	6988.72	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	6988.72	100.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	8991.17	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	8991.17	100.00

Sample Name	JV05 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	75273.77	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	18935.15	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	18935.15	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	66887.41	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	66887.41	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	66887.41	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	66887.41	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	75273.77	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	75273.77	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	75273.77	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	18935.15	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	18935.15	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	18935.15	95.50

Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.88	13C2-PFDA	515.0 / 470.0	68345.06	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	14803.76	95.50
d5-EtFOSAA	589.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	14803.76	95.50
13C5-PFHxA	318.0 / 273.0	1.81	13C2-PFOA	415.0 / 370.0	60613.40	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	60613.40	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	60613.40	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	60613.40	100.00
13C6-PFDA	519.0 / 474.0	3.27	13C2-PFDA	515.0 / 470.0	68345.06	100.00
13C7-PFUnA	570.0 / 525.0	3.59	13C2-PFDA	515.0 / 470.0	68345.06	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	68345.06	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	14803.76	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	14803.76	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	14803.76	95.50

Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.89	13C2-PFDA	515.0 / 470.0	45862.67	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	12283.28	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	12283.28	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	47583.82	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	47583.82	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	47583.82	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	47583.82	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	45862.67	100.00
13C7-PFUnA	570.0 / 525.0	3.60	13C2-PFDA	515.0 / 470.0	45862.67	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	45862.67	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	12283.28	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	12283.28	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	12283.28	95.50

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID	FFTA-FB01-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.88	13C2-PFDA	515.0 / 470.0	45612.23	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	12748.45	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	12748.45	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	45403.95	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	45403.95	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	45403.95	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	45403.95	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	45612.23	100.00
13C7-PFUnA	570.0 / 525.0	3.59	13C2-PFDA	515.0 / 470.0	45612.23	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	45612.23	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	12748.45	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	12748.45	95.50
13C8-PFOS	507.0 / 99.0	2.92	13C4-PFOS	503.0 / 99.0	12748.45	95.50

Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID	DRMO-FB02-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.88	13C2-PFDA	515.0 / 470.0	45317.99	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	10353.88	95.50
d5-EtFOSAA	589.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	10353.88	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	39469.34	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	39469.34	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	39469.34	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	39469.34	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	45317.99	100.00
13C7-PFUnA	570.0 / 525.0	3.59	13C2-PFDA	515.0 / 470.0	45317.99	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	45317.99	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	10353.88	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	10353.88	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	10353.88	95.50

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID	PSC51-FB03-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

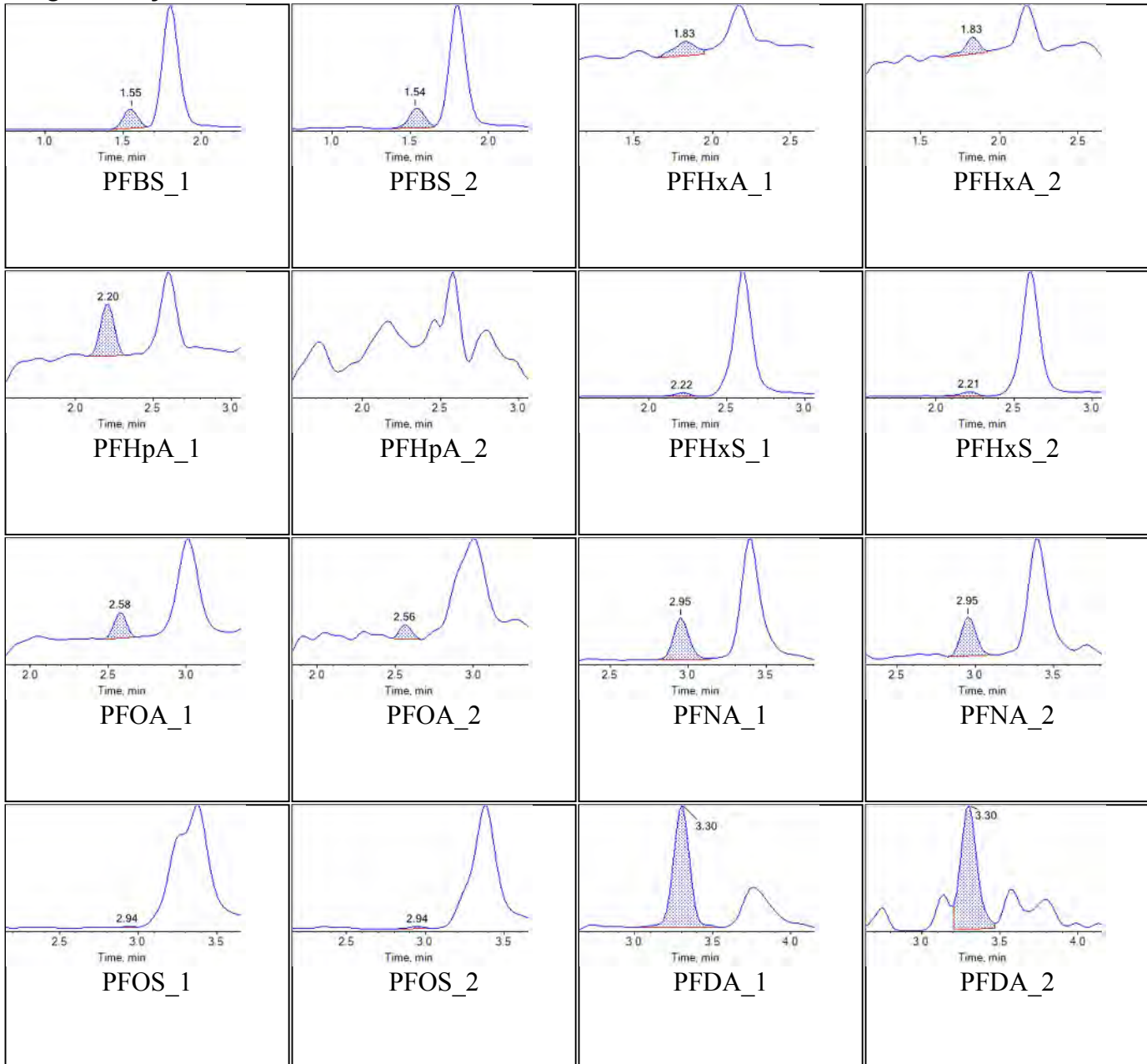
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
13C2-PFDoA	615.0 / 570.0	3.88	13C2-PFDA	515.0 / 470.0	48684.31	100.00
d3-MeFOSAA	573.0 / 419.0	3.44	13C4-PFOS	503.0 / 99.0	12230.79	95.50
d5-EtFOSAA	589.0 / 419.0	3.60	13C4-PFOS	503.0 / 99.0	12230.79	95.50
13C5-PFHxA	318.0 / 273.0	1.82	13C2-PFOA	415.0 / 370.0	52054.12	100.00
13C4-PFHpA	367.0 / 322.0	2.18	13C2-PFOA	415.0 / 370.0	52054.12	100.00
13C8-PFOA	421.0 / 376.0	2.56	13C2-PFOA	415.0 / 370.0	52054.12	100.00
13C9-PFNA	472.0 / 427.0	2.93	13C2-PFOA	415.0 / 370.0	52054.12	100.00
13C6-PFDA	519.0 / 474.0	3.28	13C2-PFDA	515.0 / 470.0	48684.31	100.00
13C7-PFUnA	570.0 / 525.0	3.59	13C2-PFDA	515.0 / 470.0	48684.31	100.00
13C2-PFTeDA	715.0 / 670.0	4.36	13C2-PFDA	515.0 / 470.0	48684.31	100.00
13C3-PFBS	302.0 / 99.0	1.52	13C4-PFOS	503.0 / 99.0	12230.79	95.50
13C3-PFHxS	402.0 / 99.0	2.20	13C4-PFOS	503.0 / 99.0	12230.79	95.50
13C8-PFOS	507.0 / 99.0	2.93	13C4-PFOS	503.0 / 99.0	12230.79	95.50

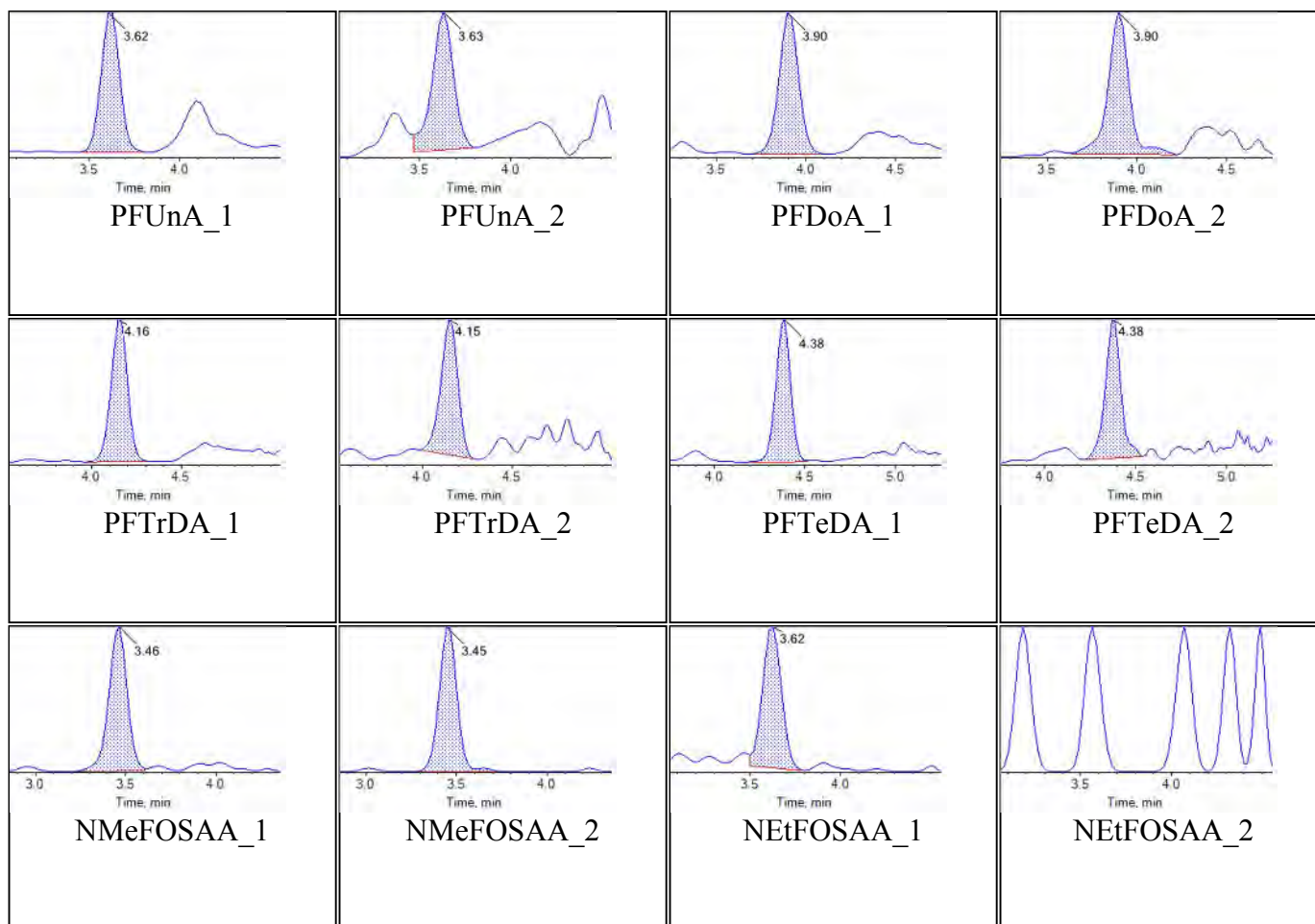
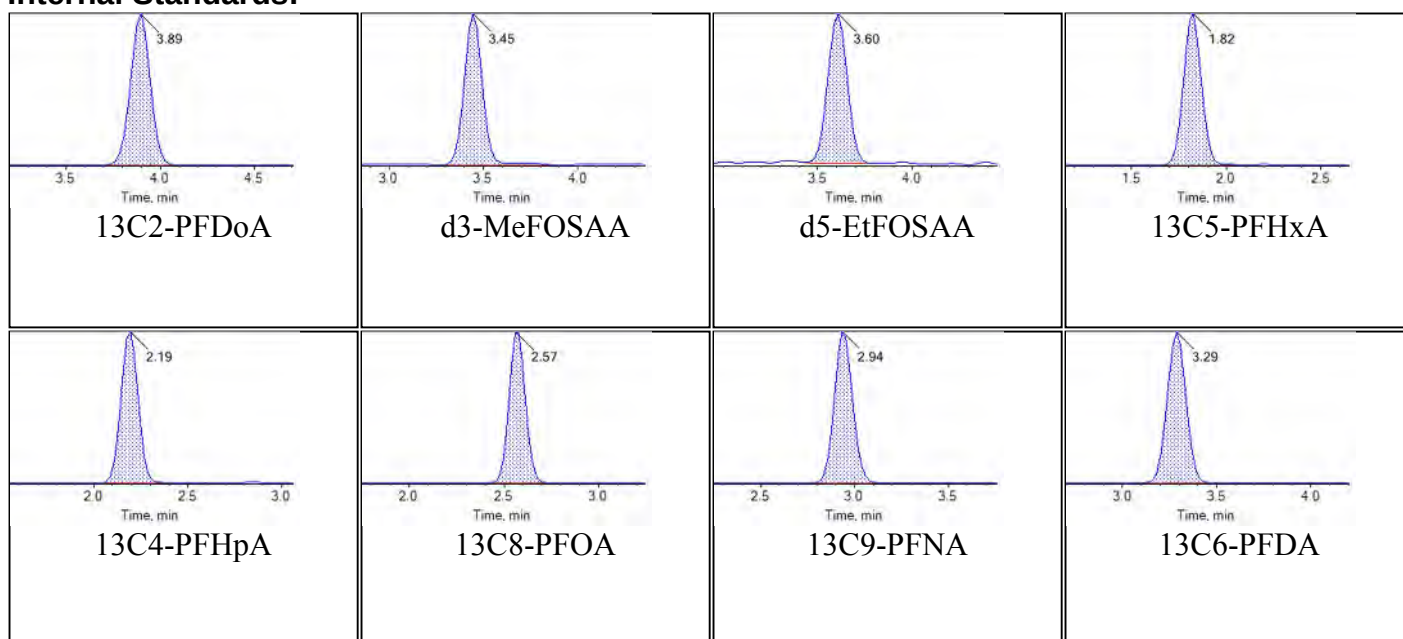
Chromatograms

Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

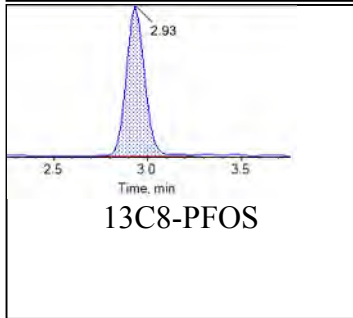
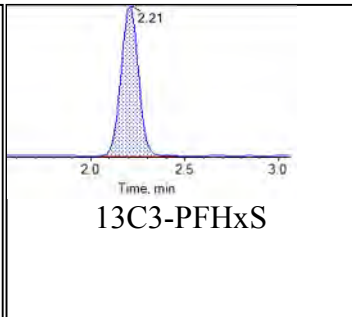
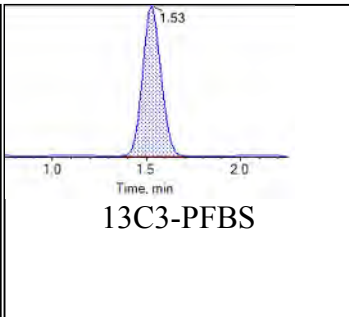
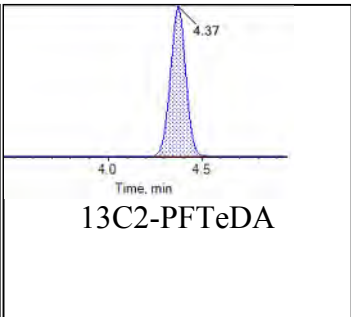
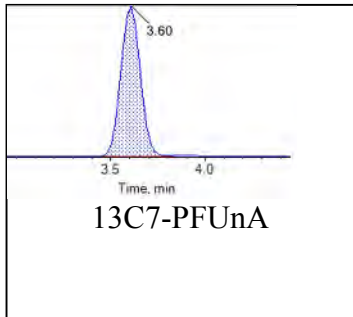


**Internal Standards:**



Chromatogram Report

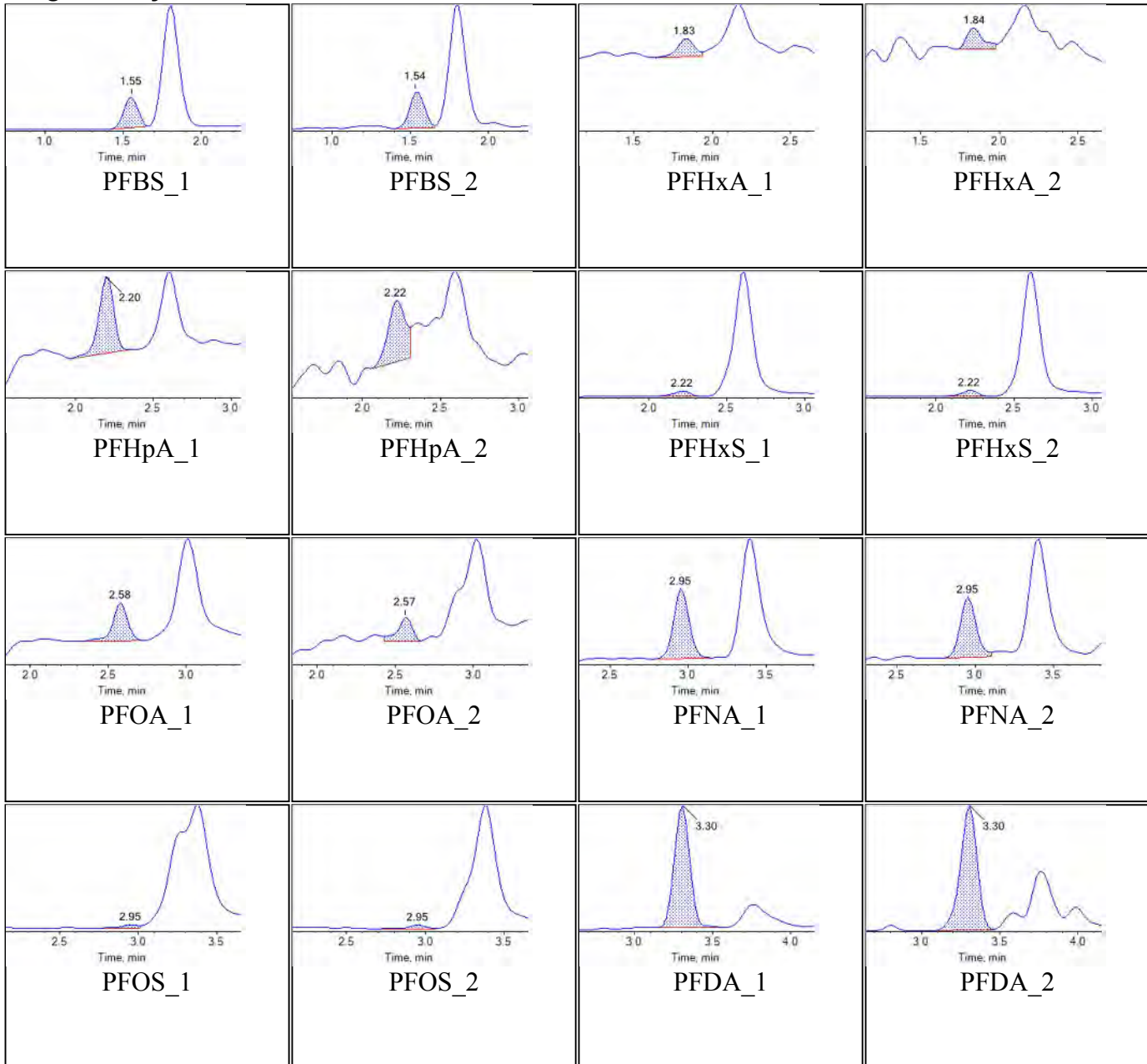
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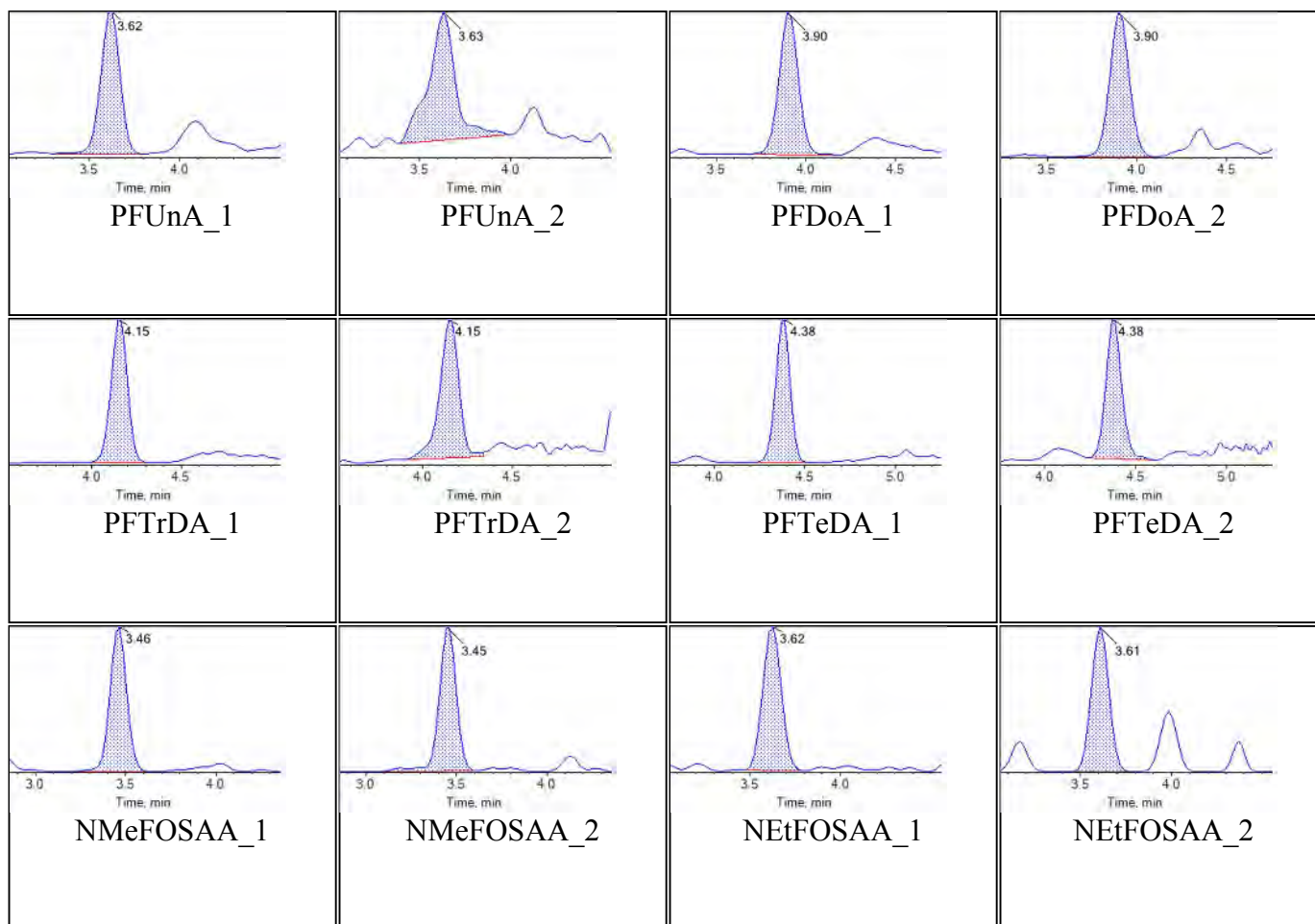
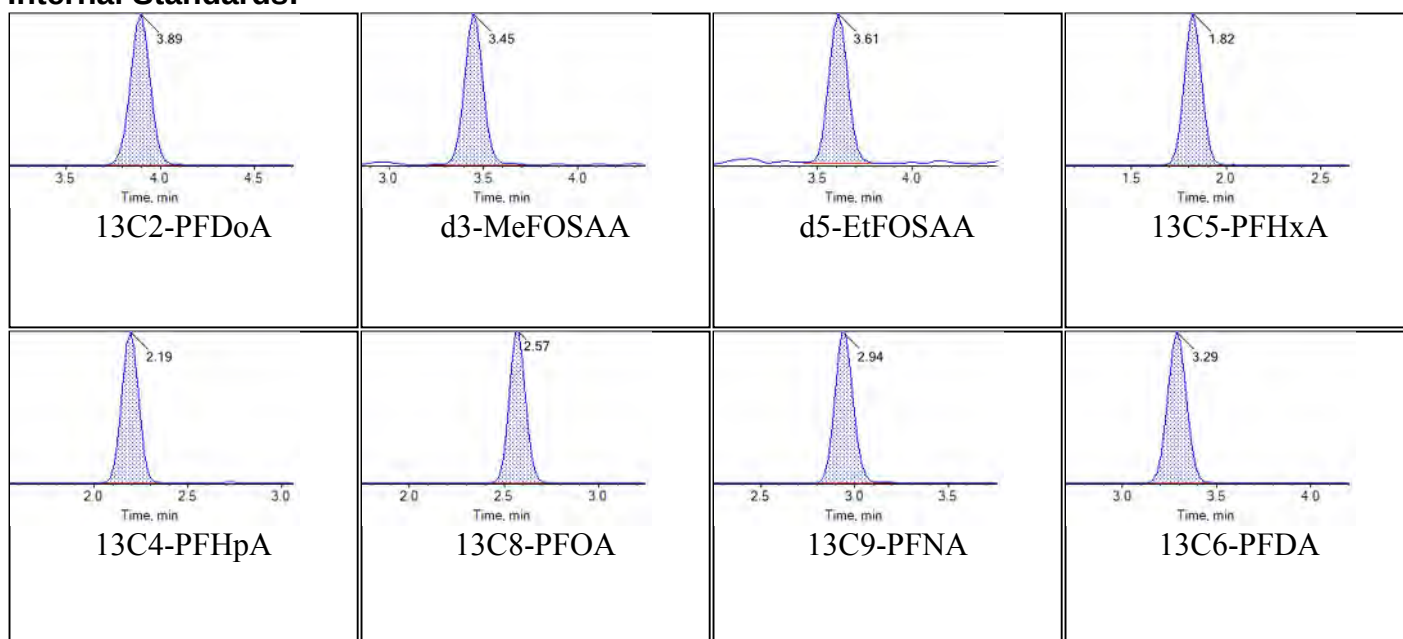


Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

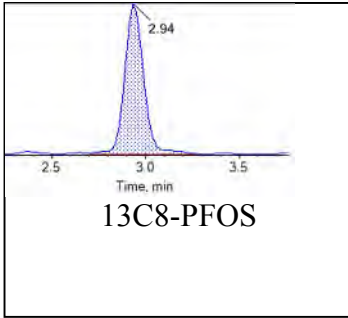
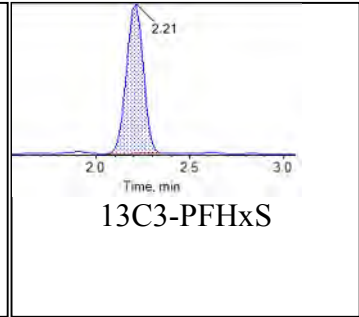
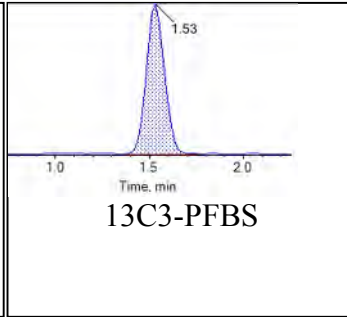
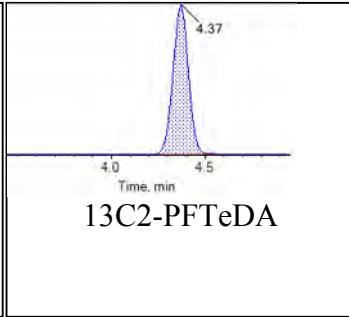
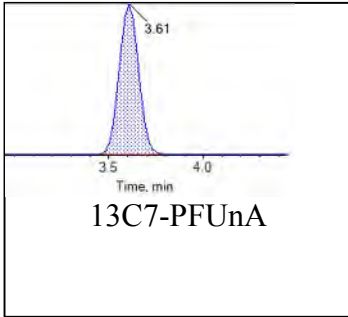
Target Analytes:



**Internal Standards:**



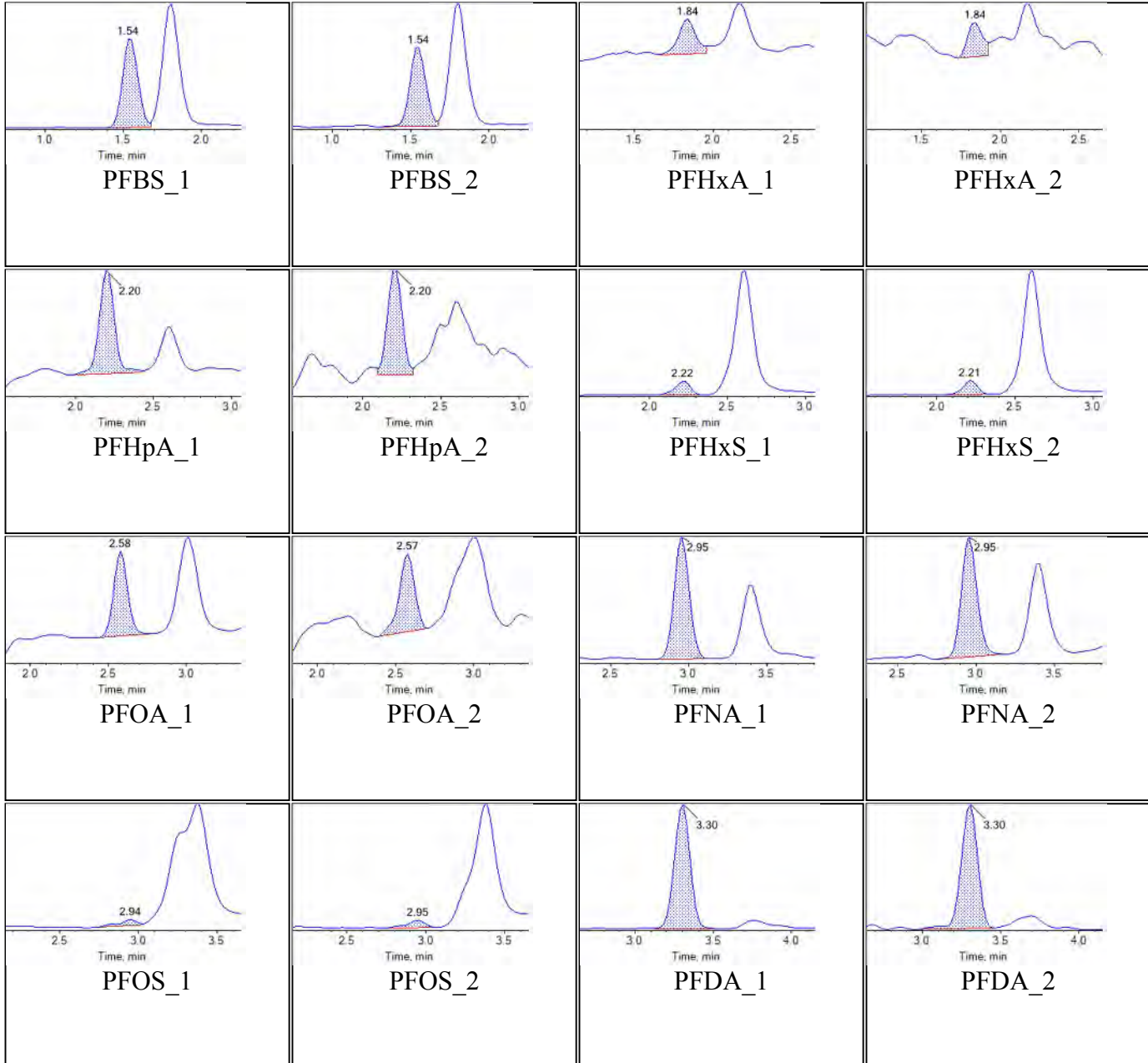
Chromatogram Report

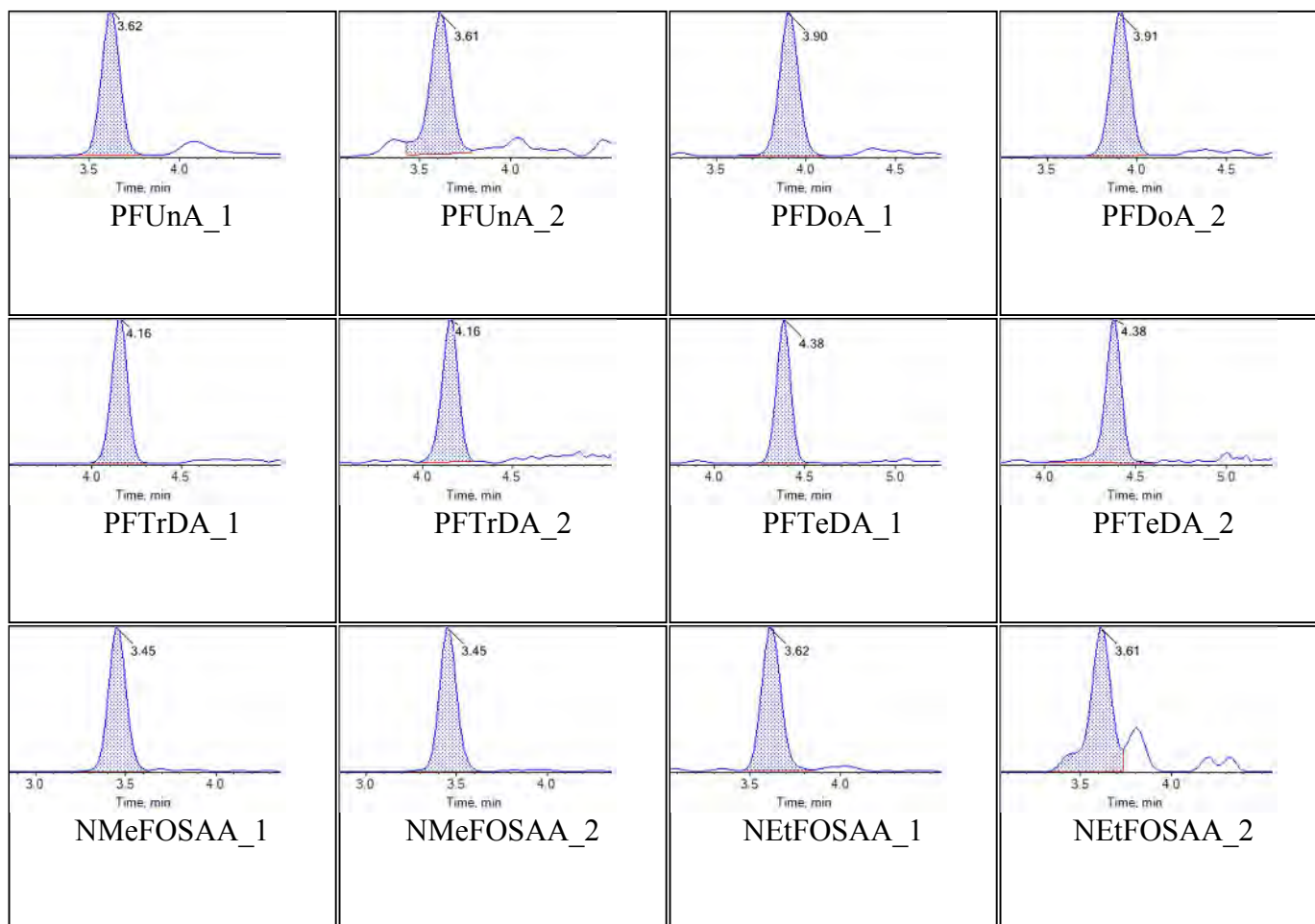
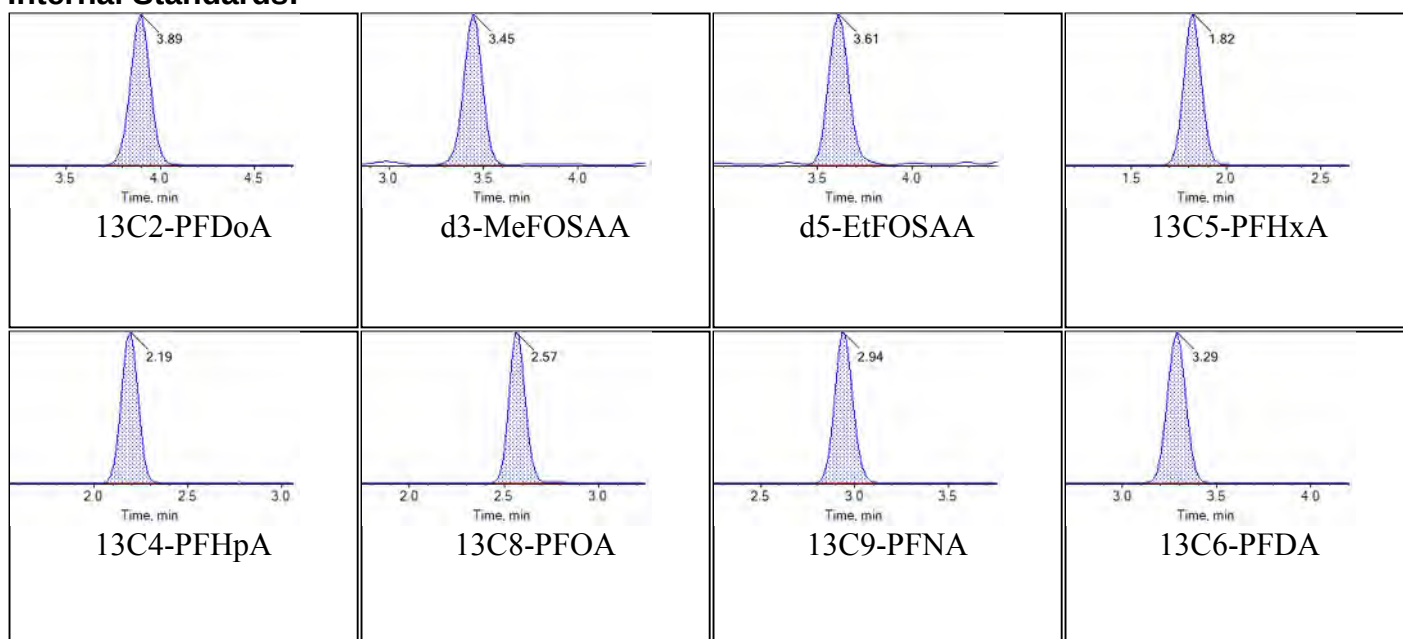
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Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

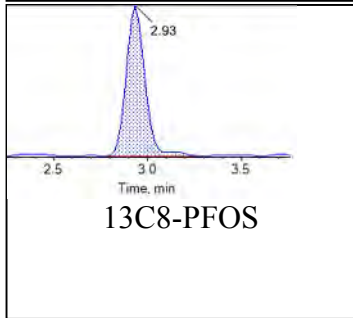
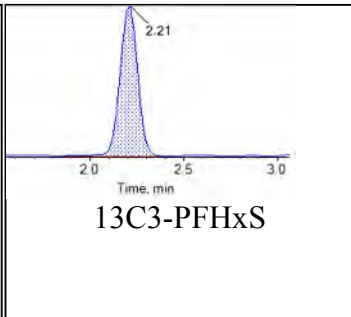
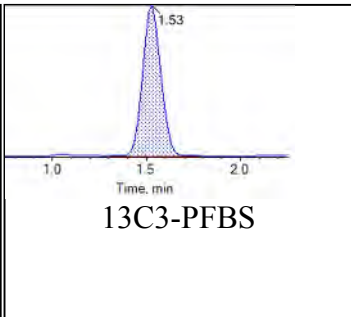
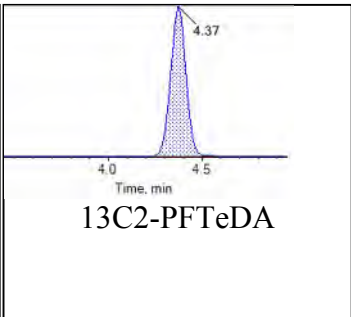
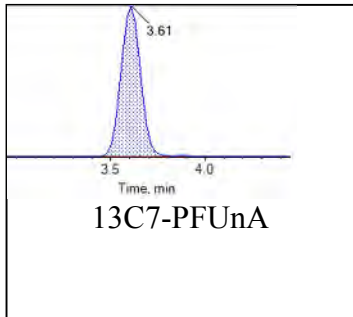


**Internal Standards:**



Chromatogram Report

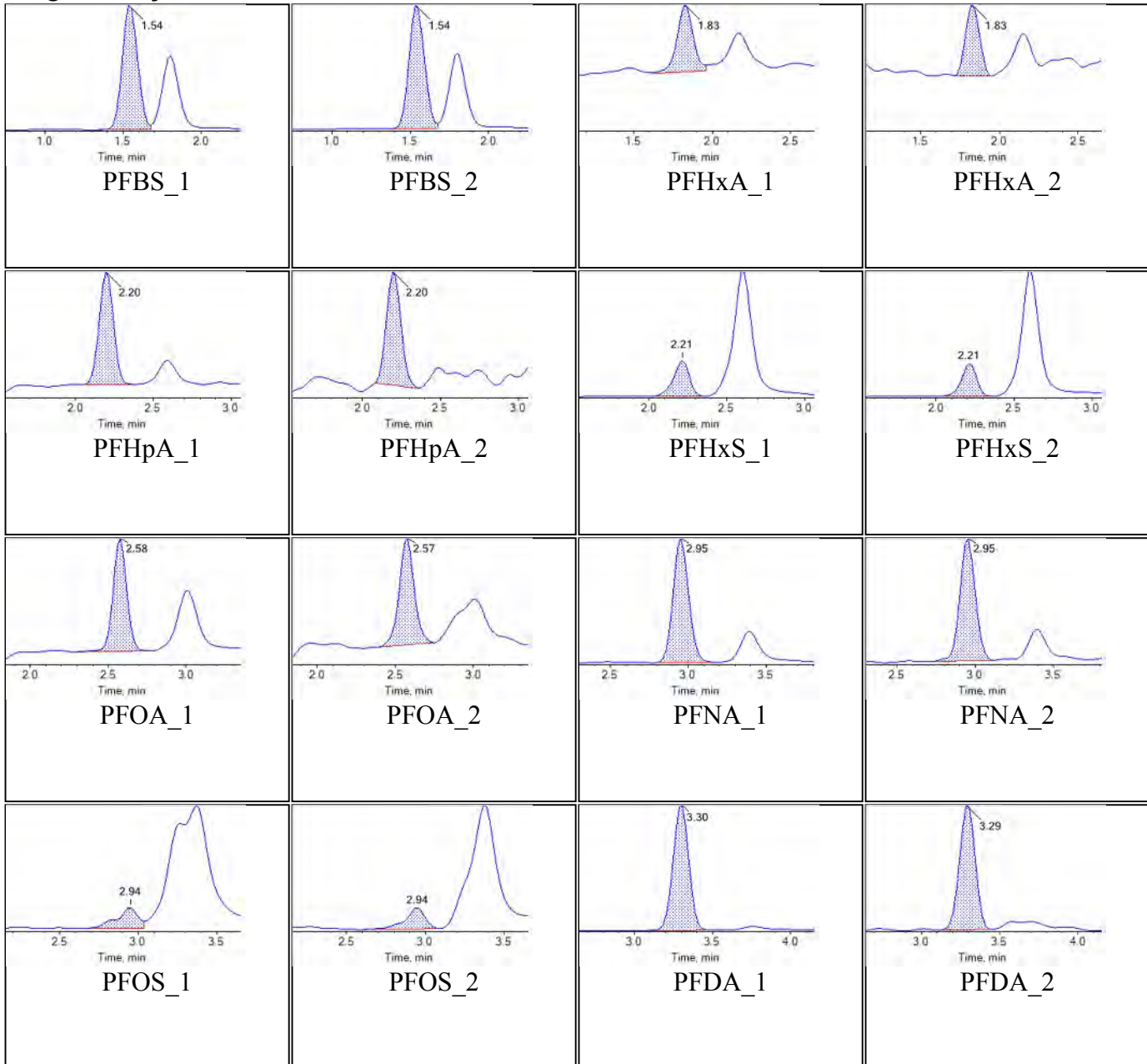
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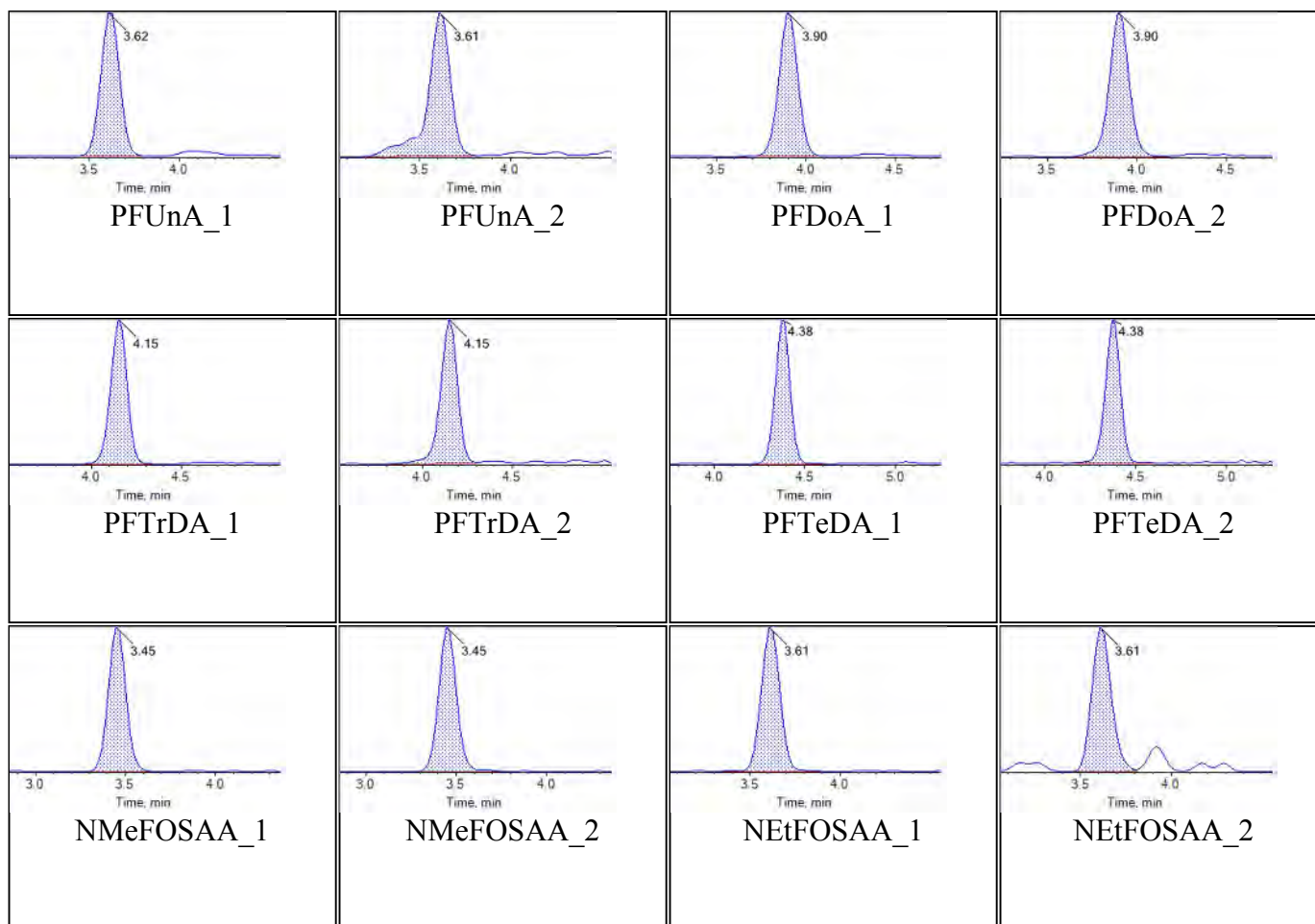
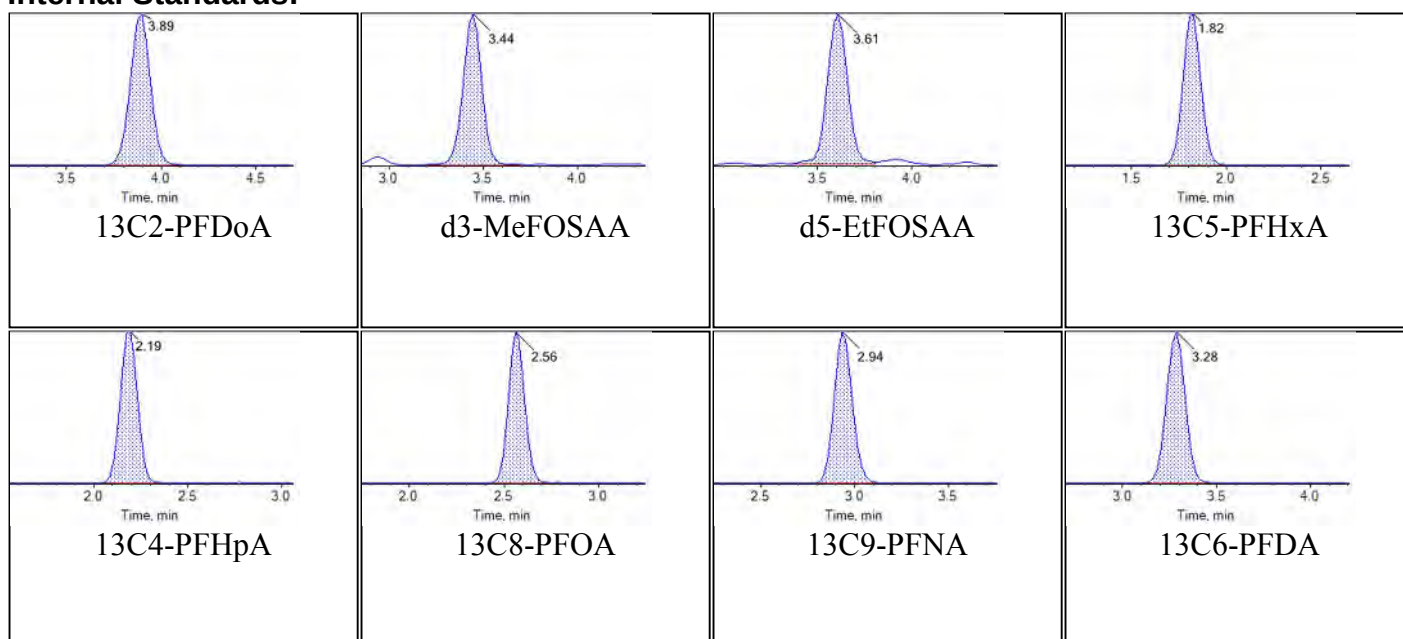


Sample Name	JV23	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

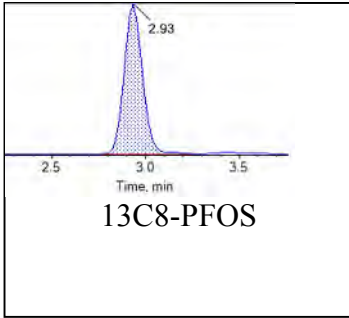
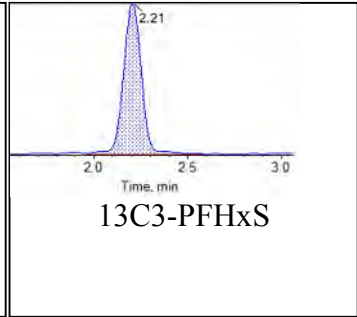
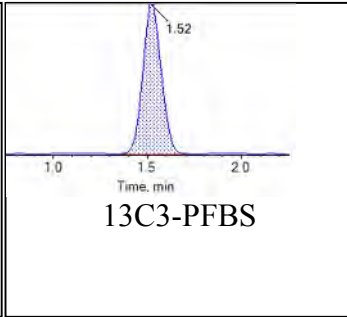
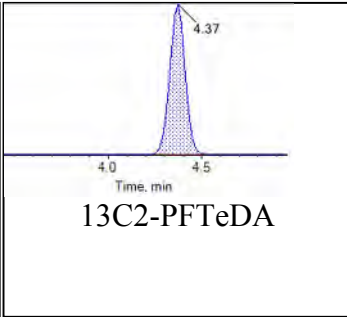
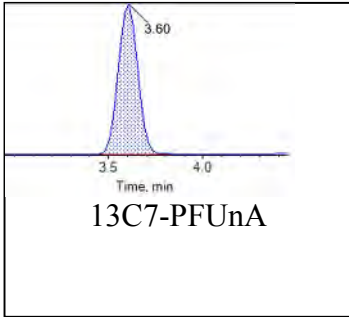
Target Analytes:



**Internal Standards:**



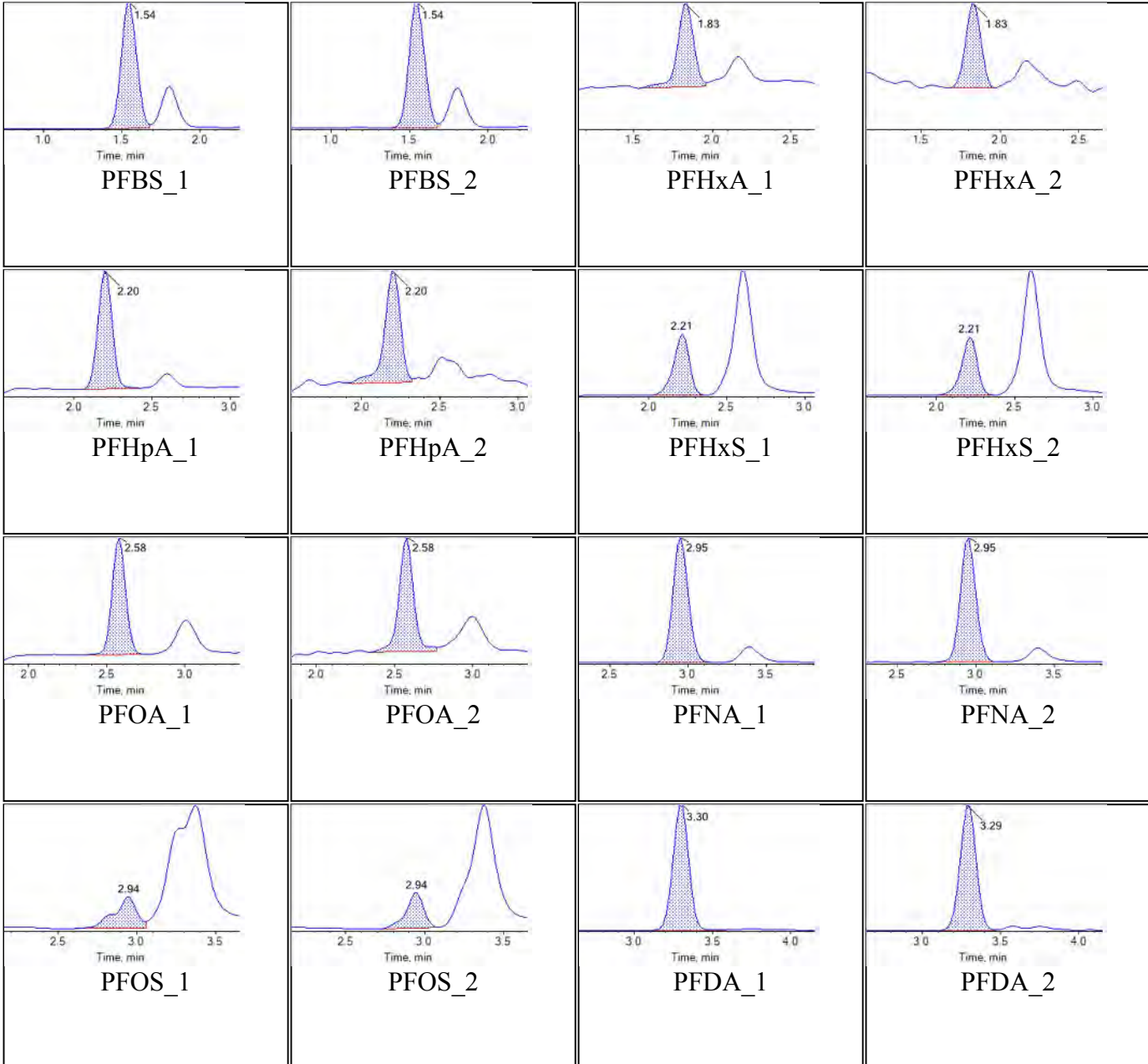
Chromatogram Report

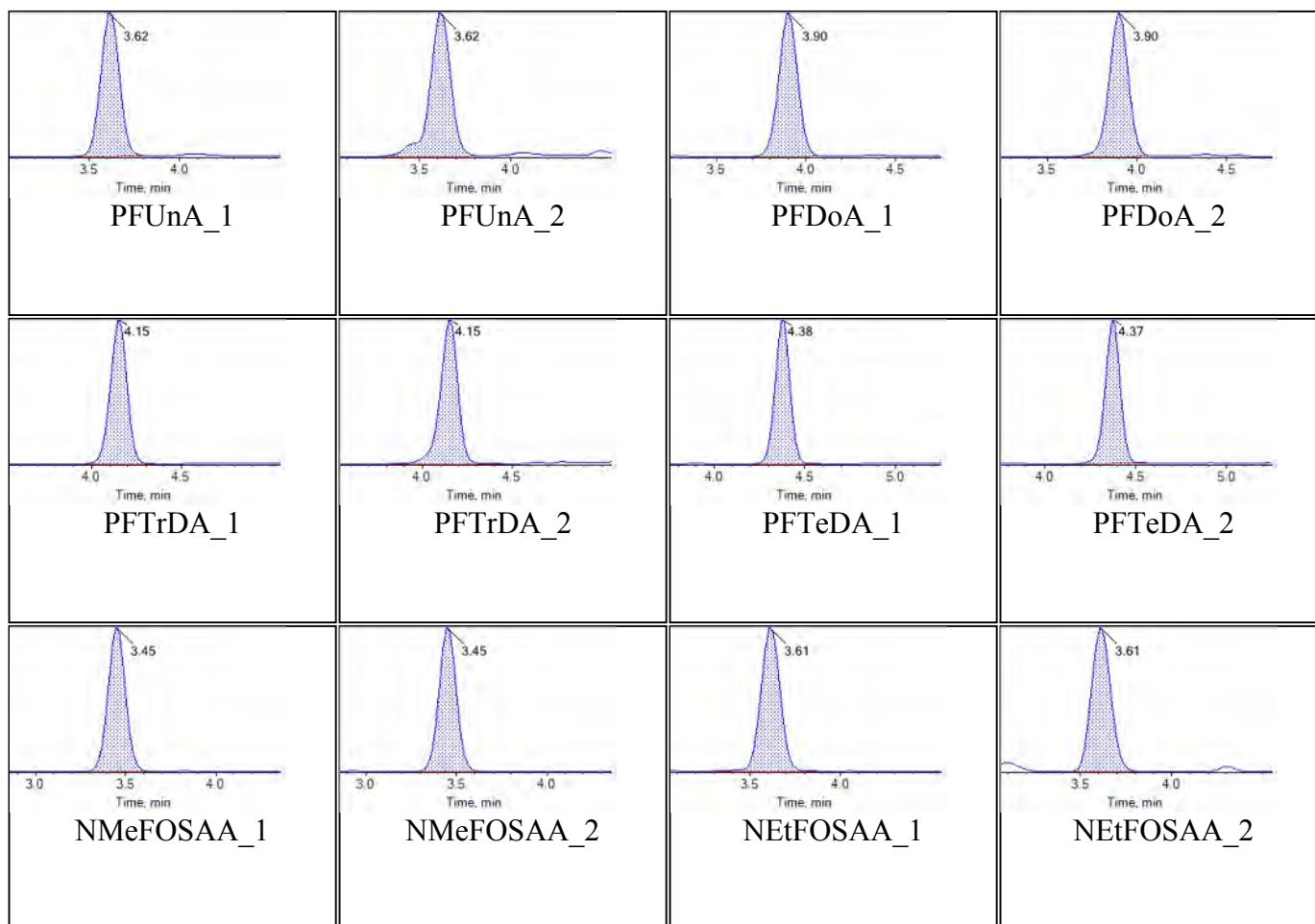
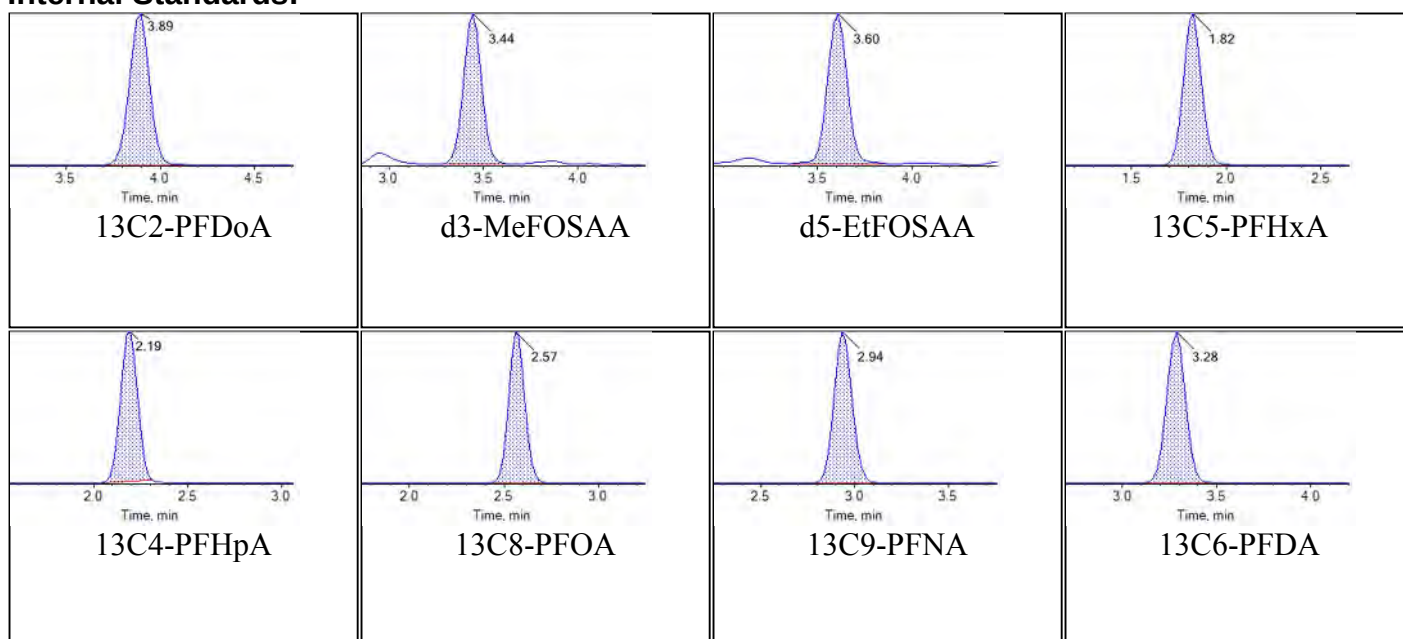
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Sample Name	JV24	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

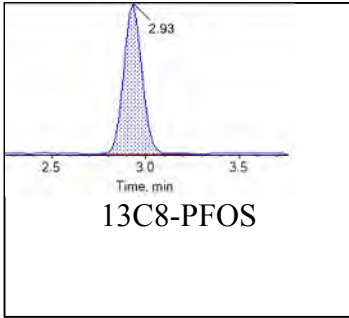
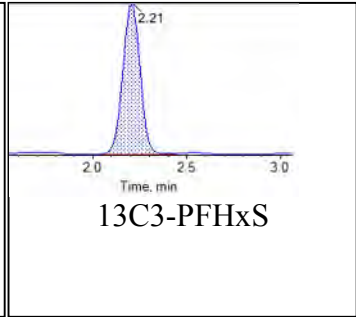
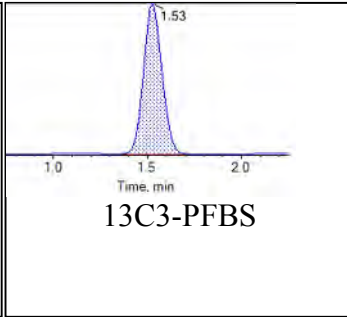
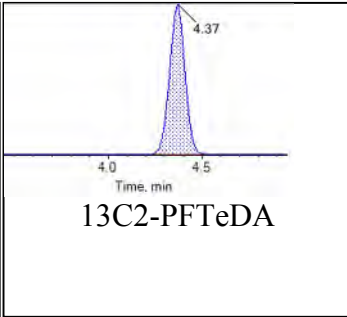
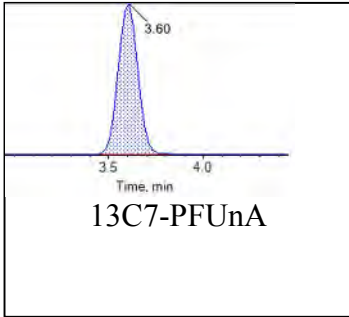


**Internal Standards:**



Chromatogram Report

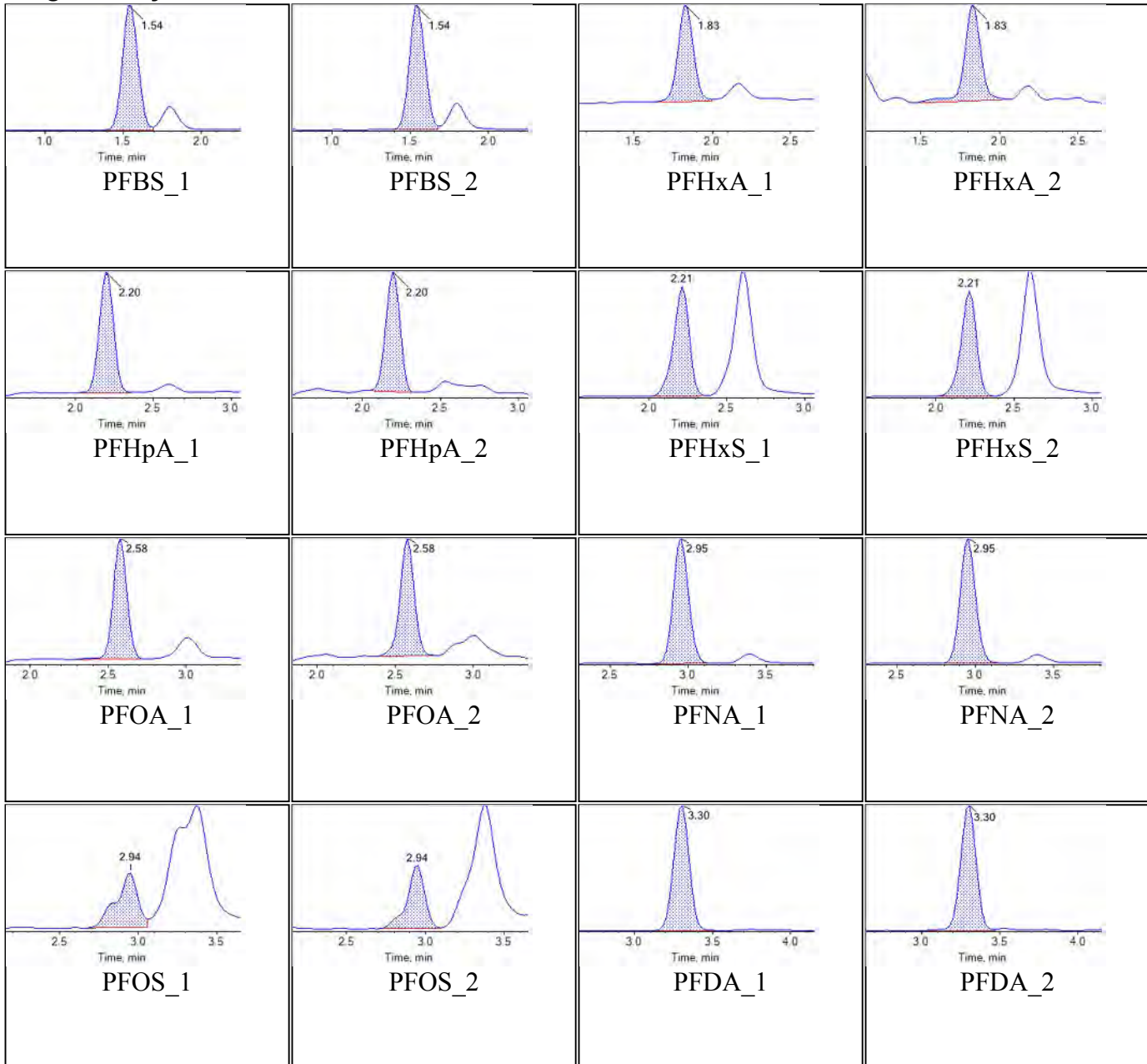
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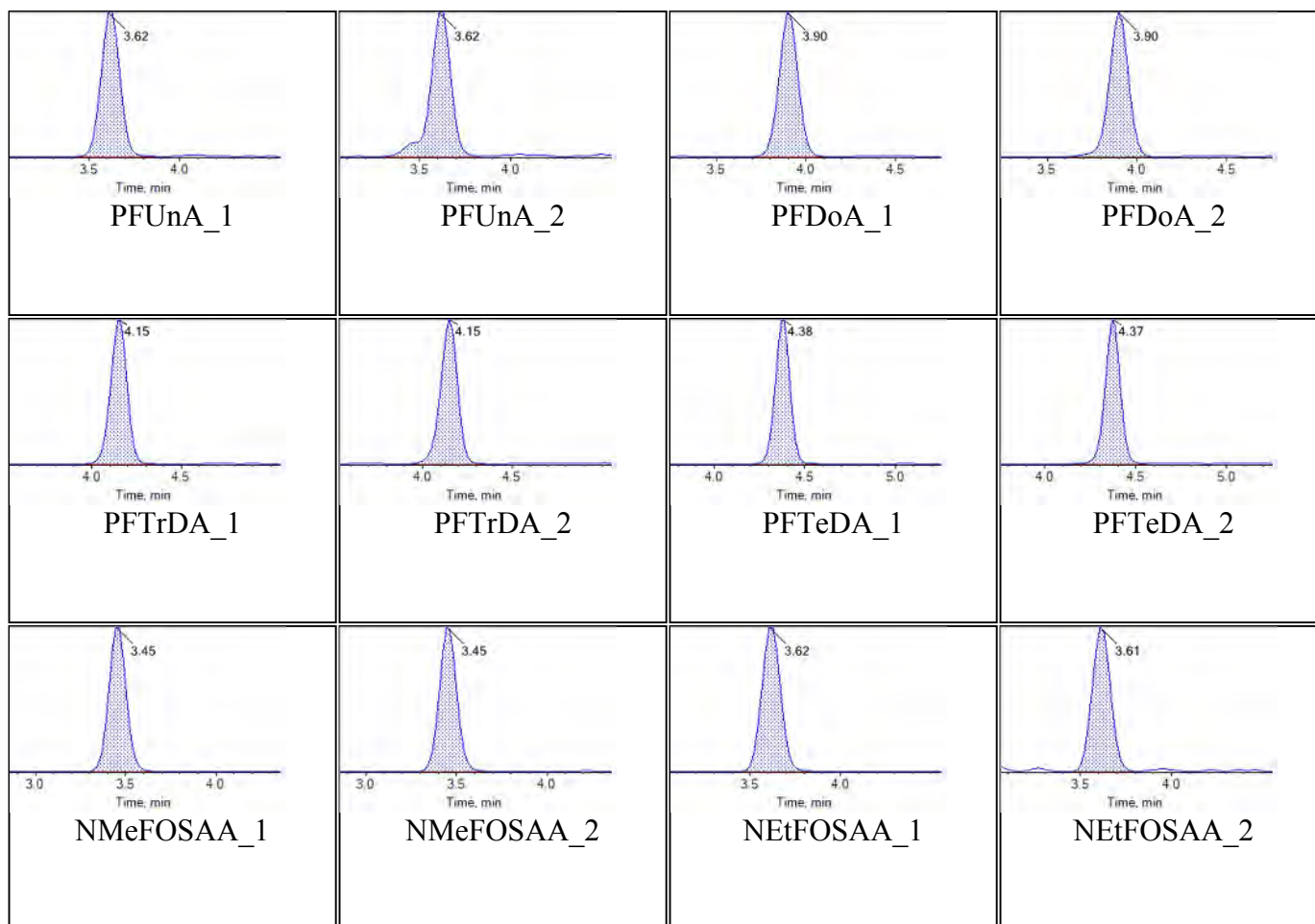
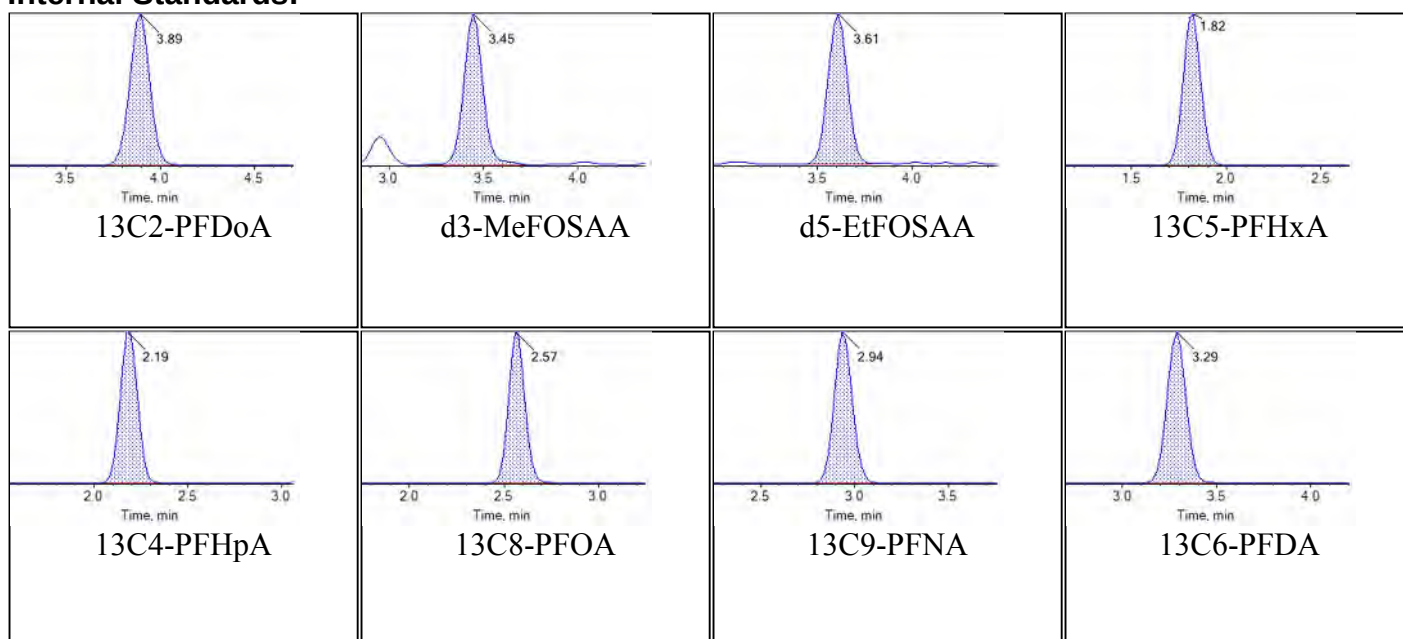


Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

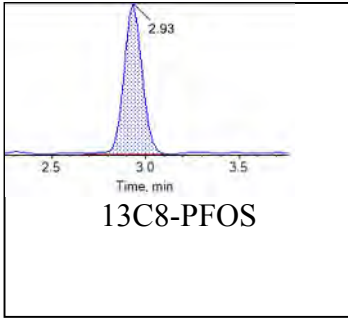
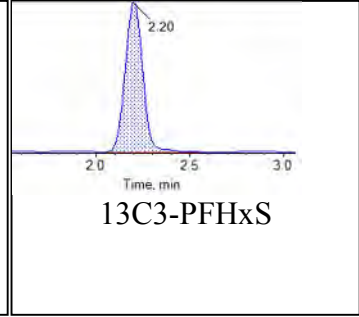
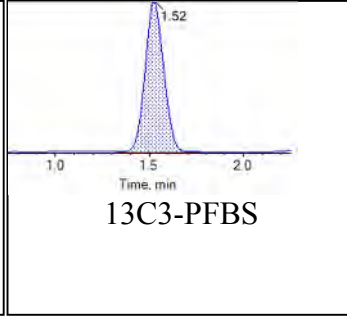
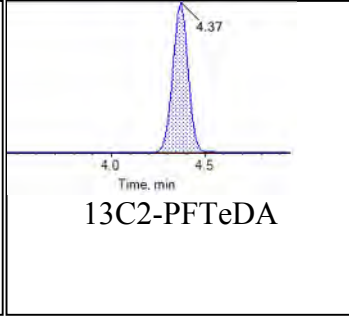
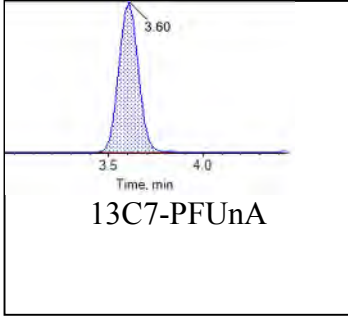
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**Internal Standards:**



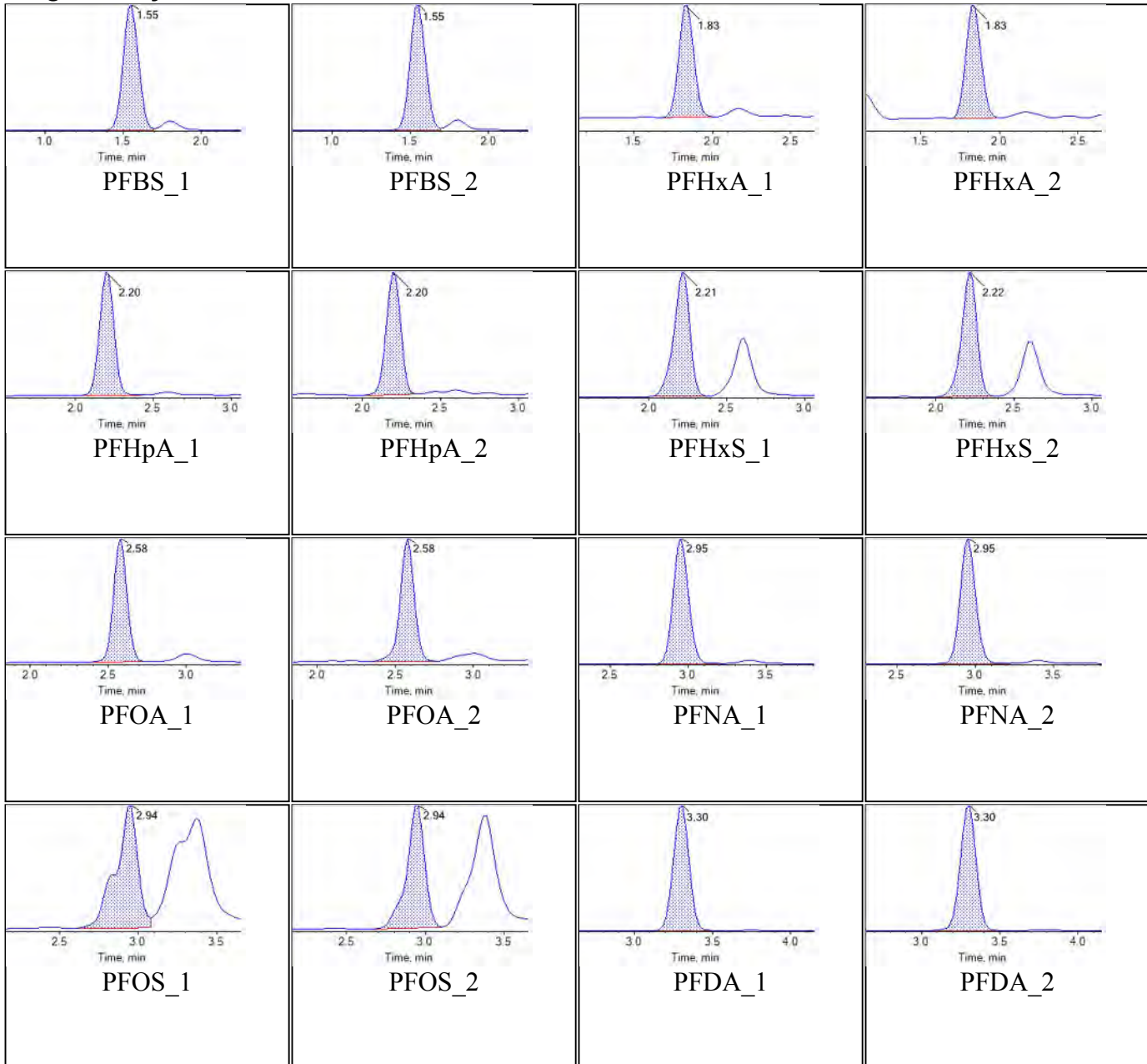
Chromatogram Report

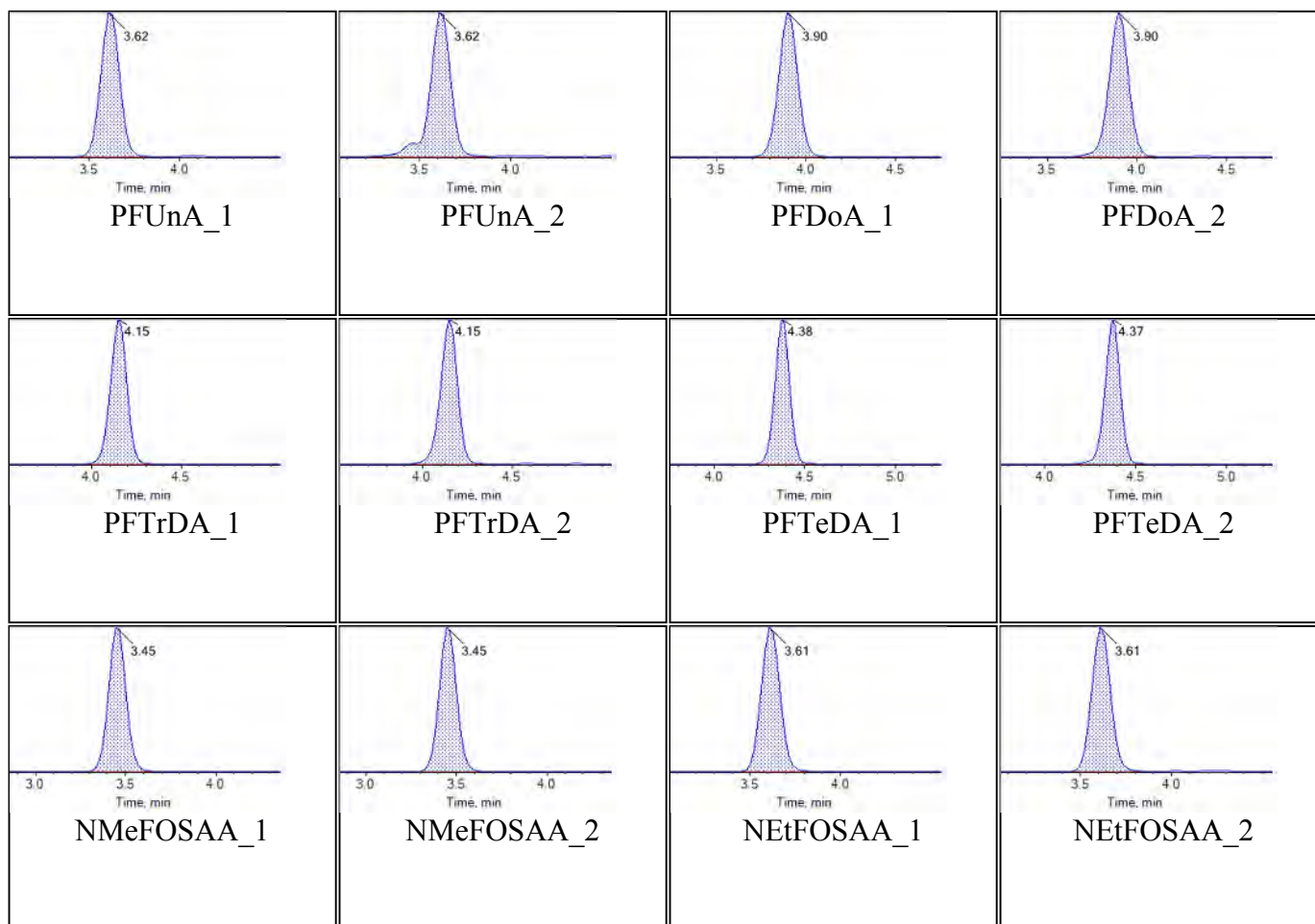
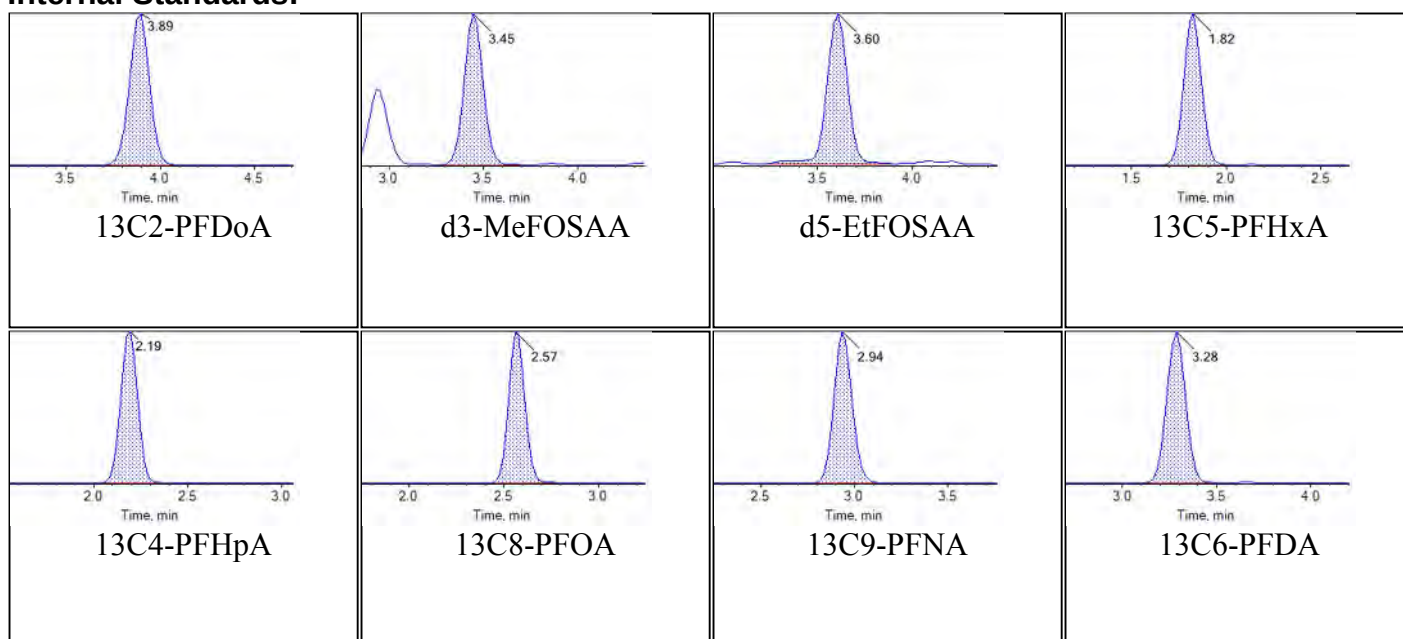
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Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

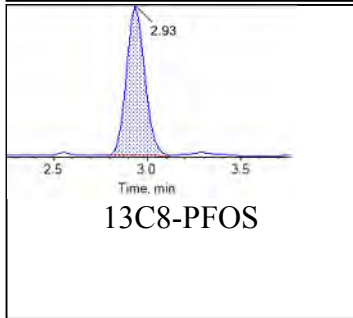
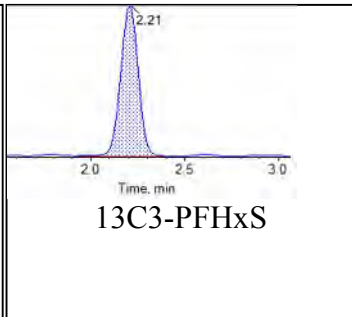
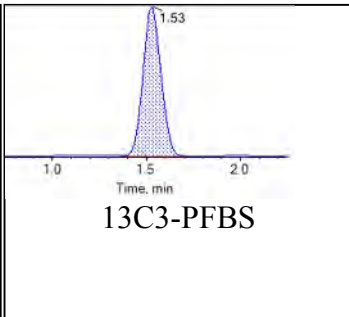
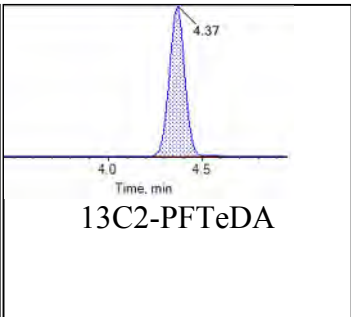
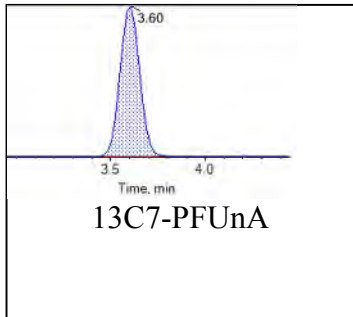


**Internal Standards:**



Chromatogram Report

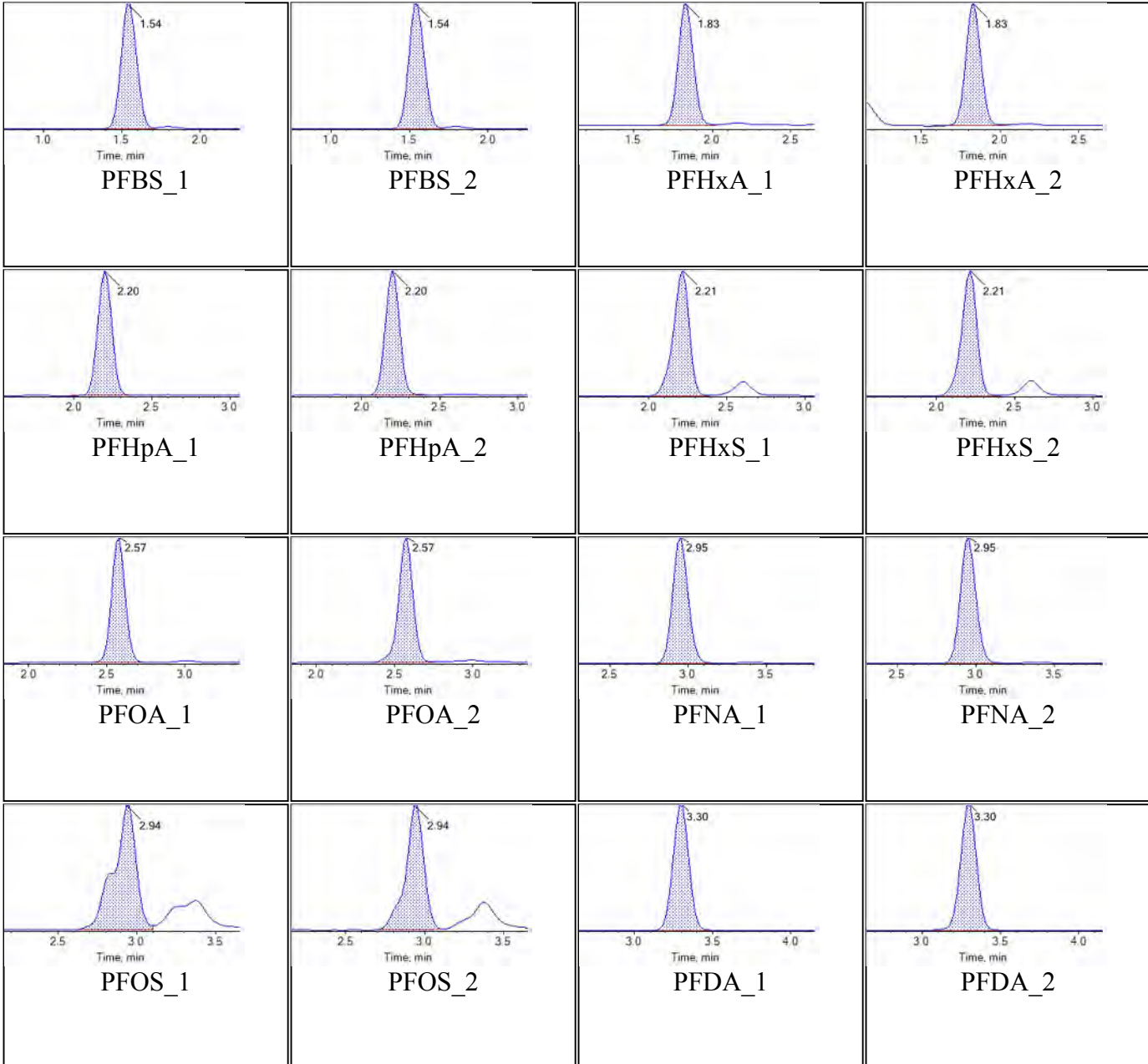
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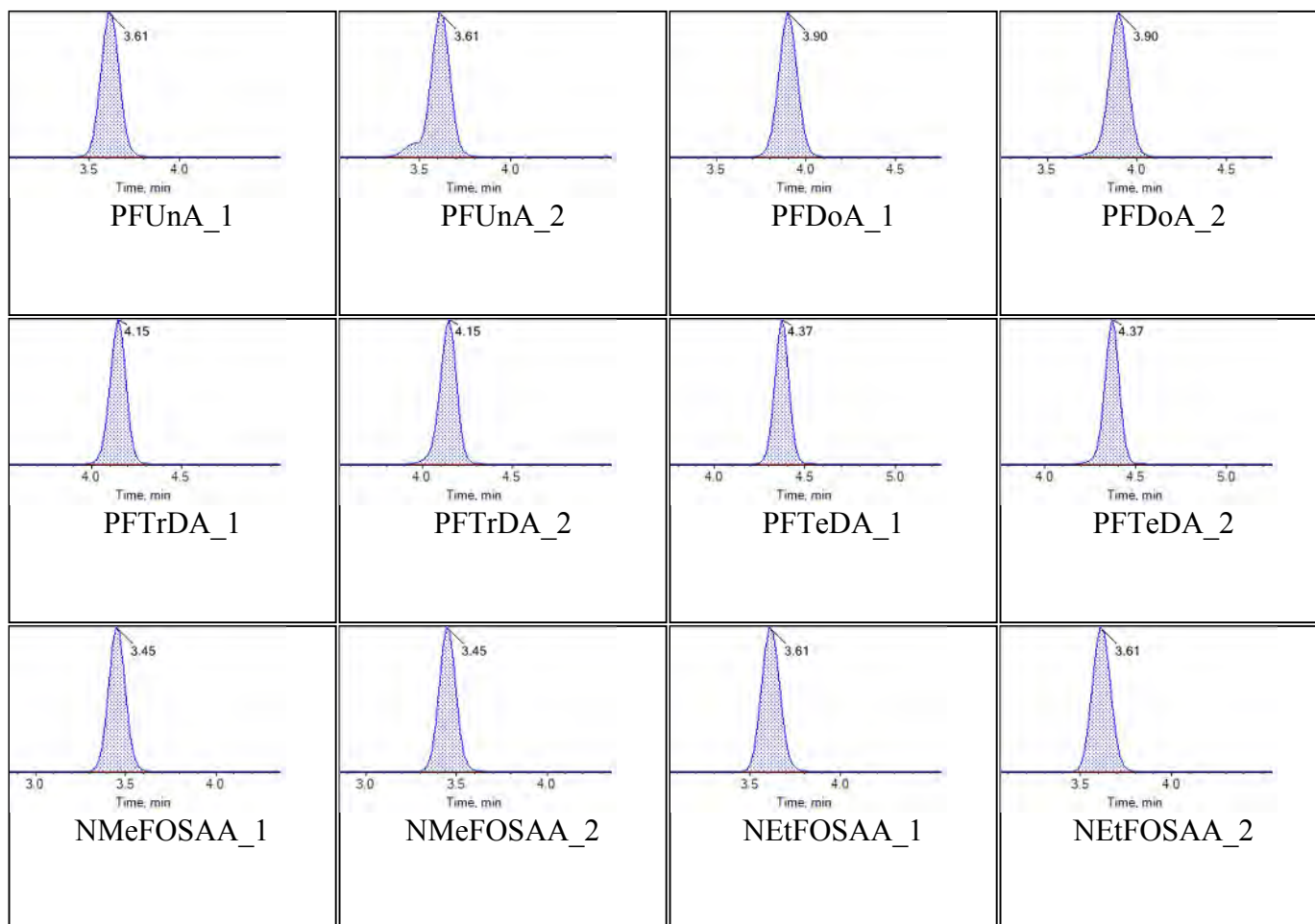
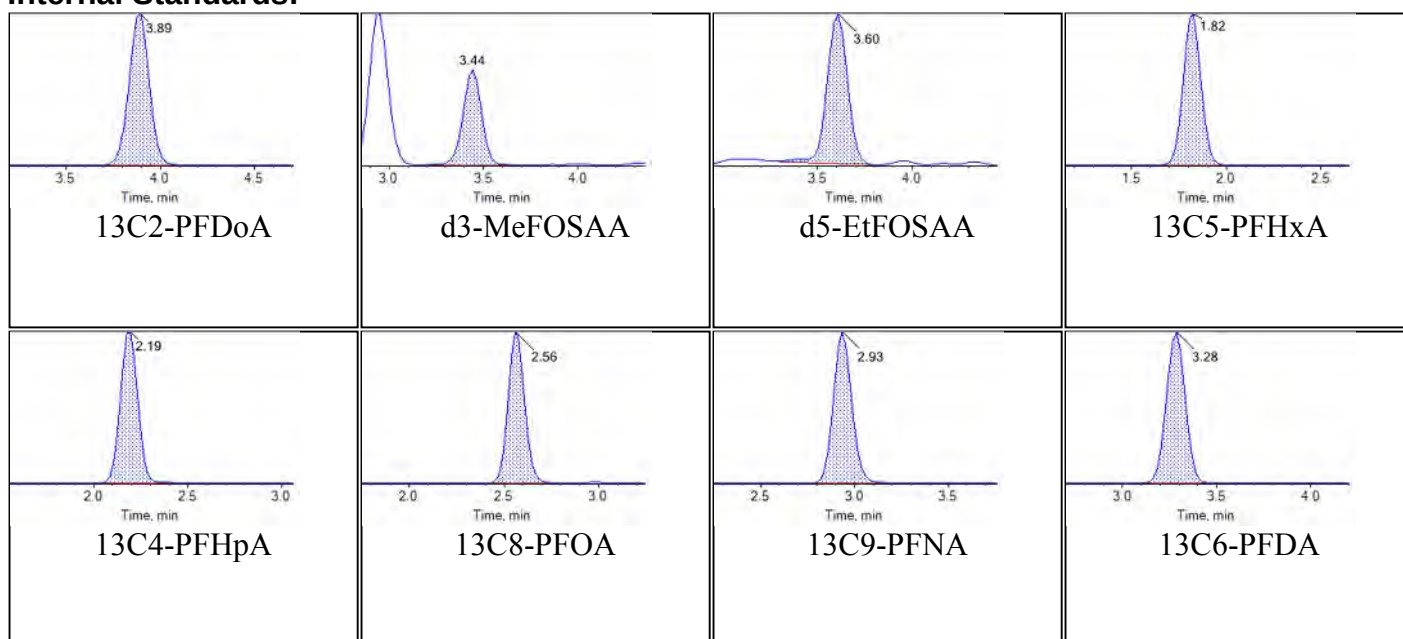


Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

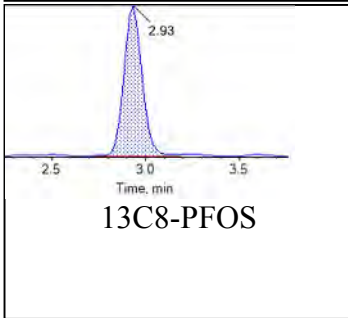
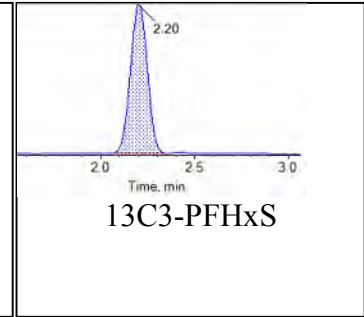
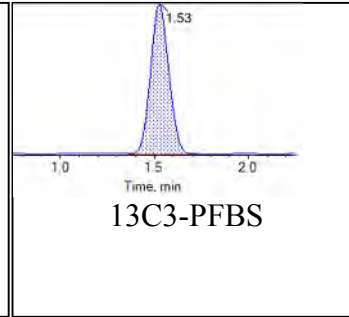
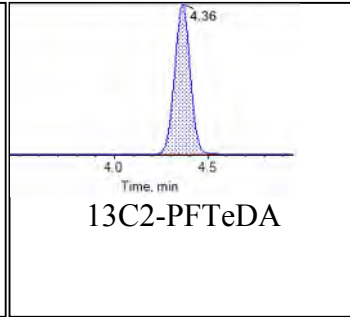
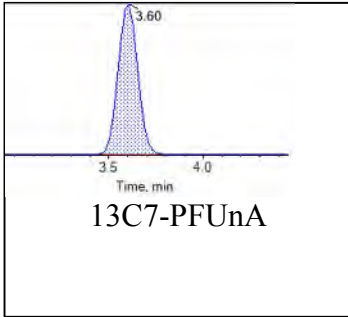
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**Internal Standards:**



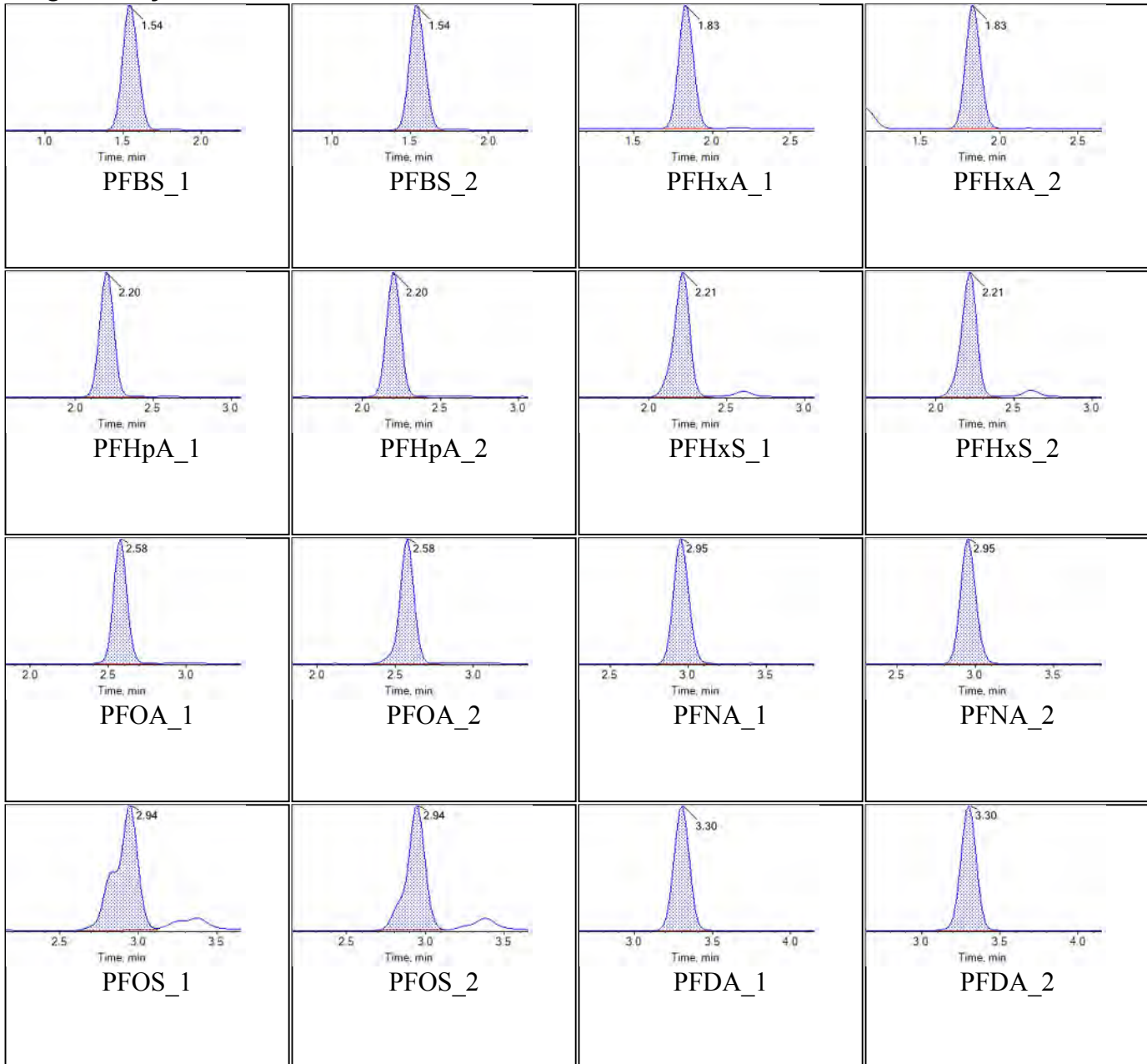
Chromatogram Report

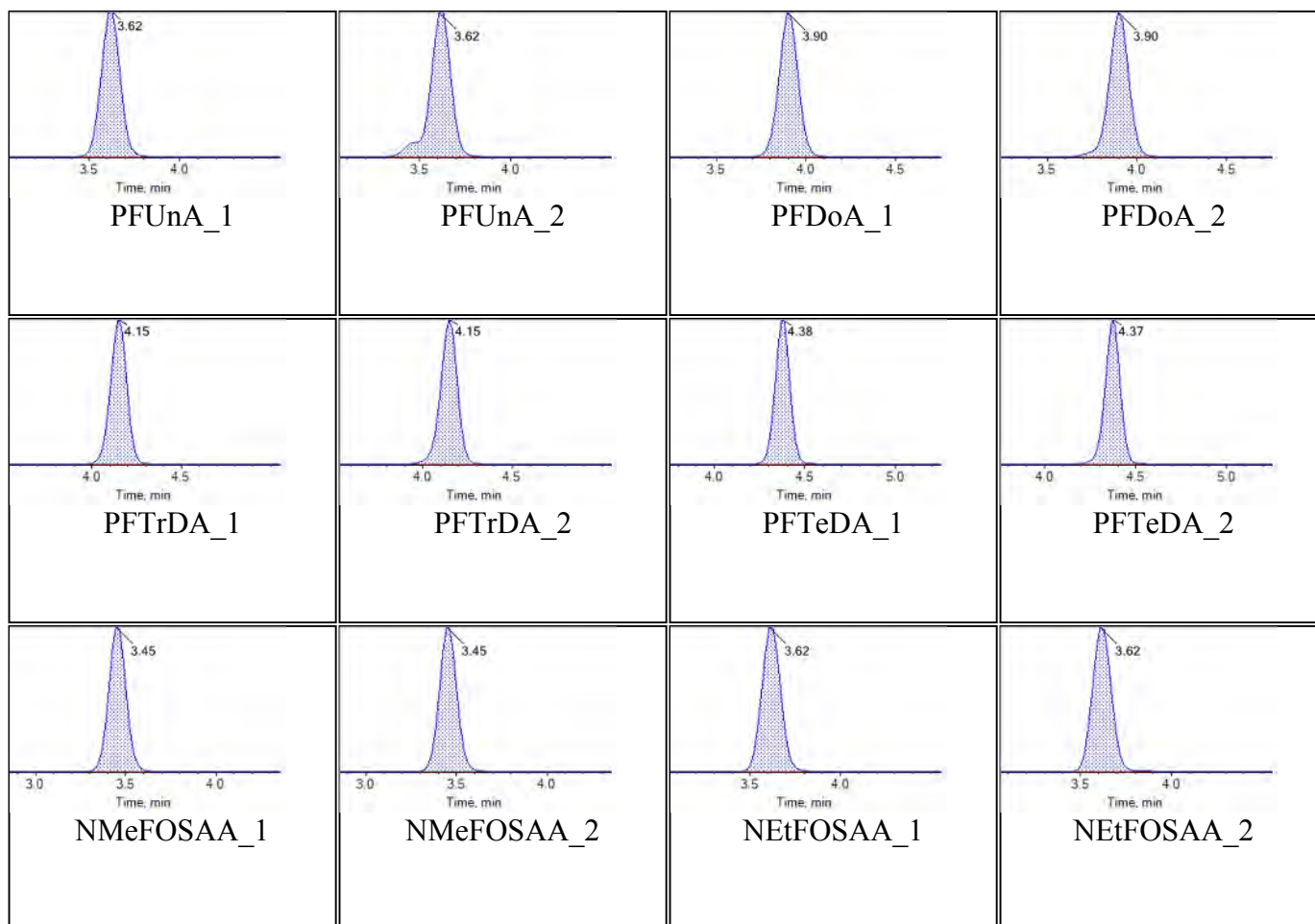
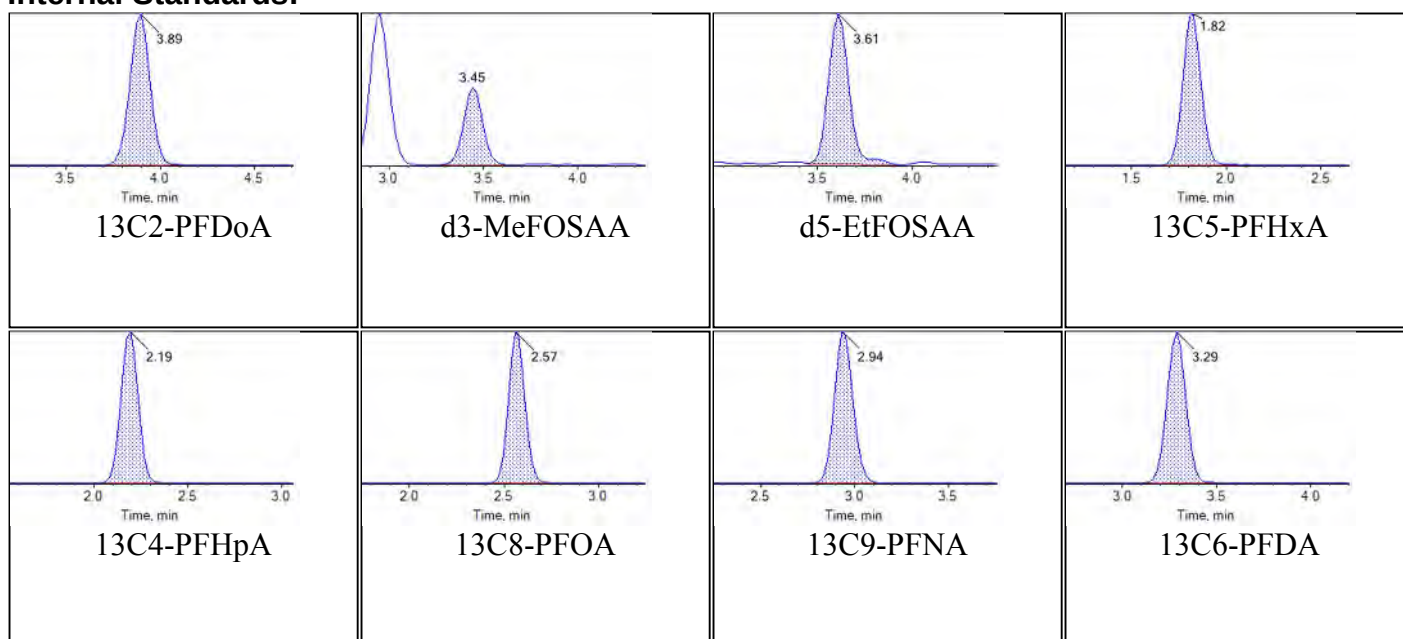
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Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

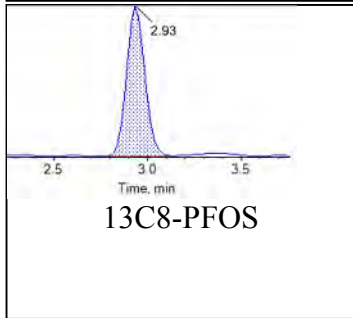
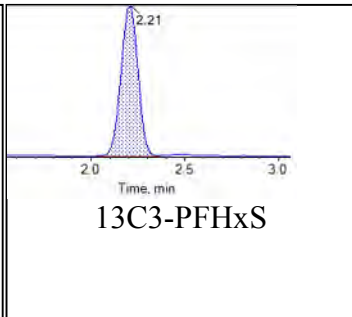
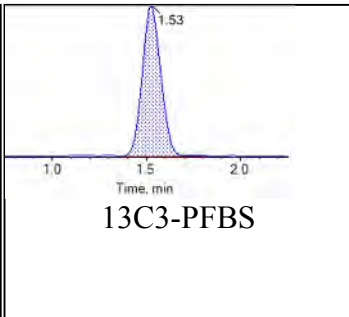
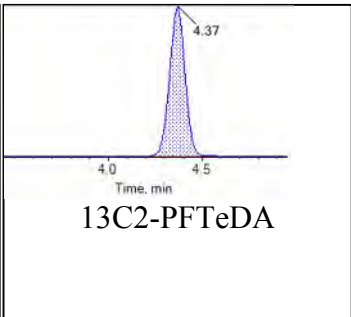
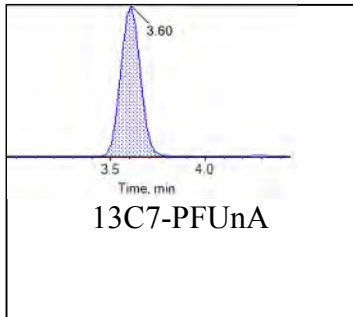


**Internal Standards:**



Chromatogram Report

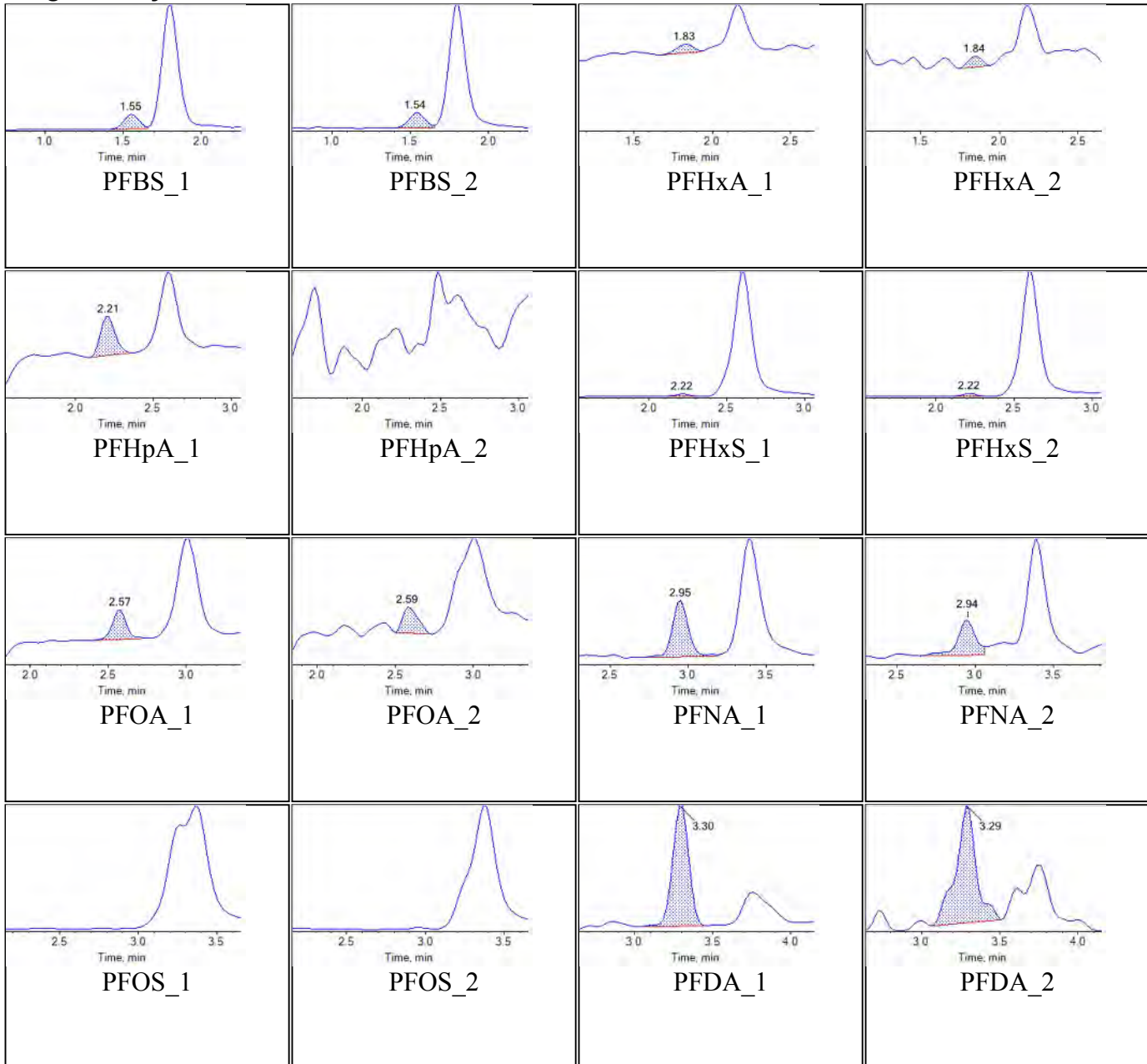
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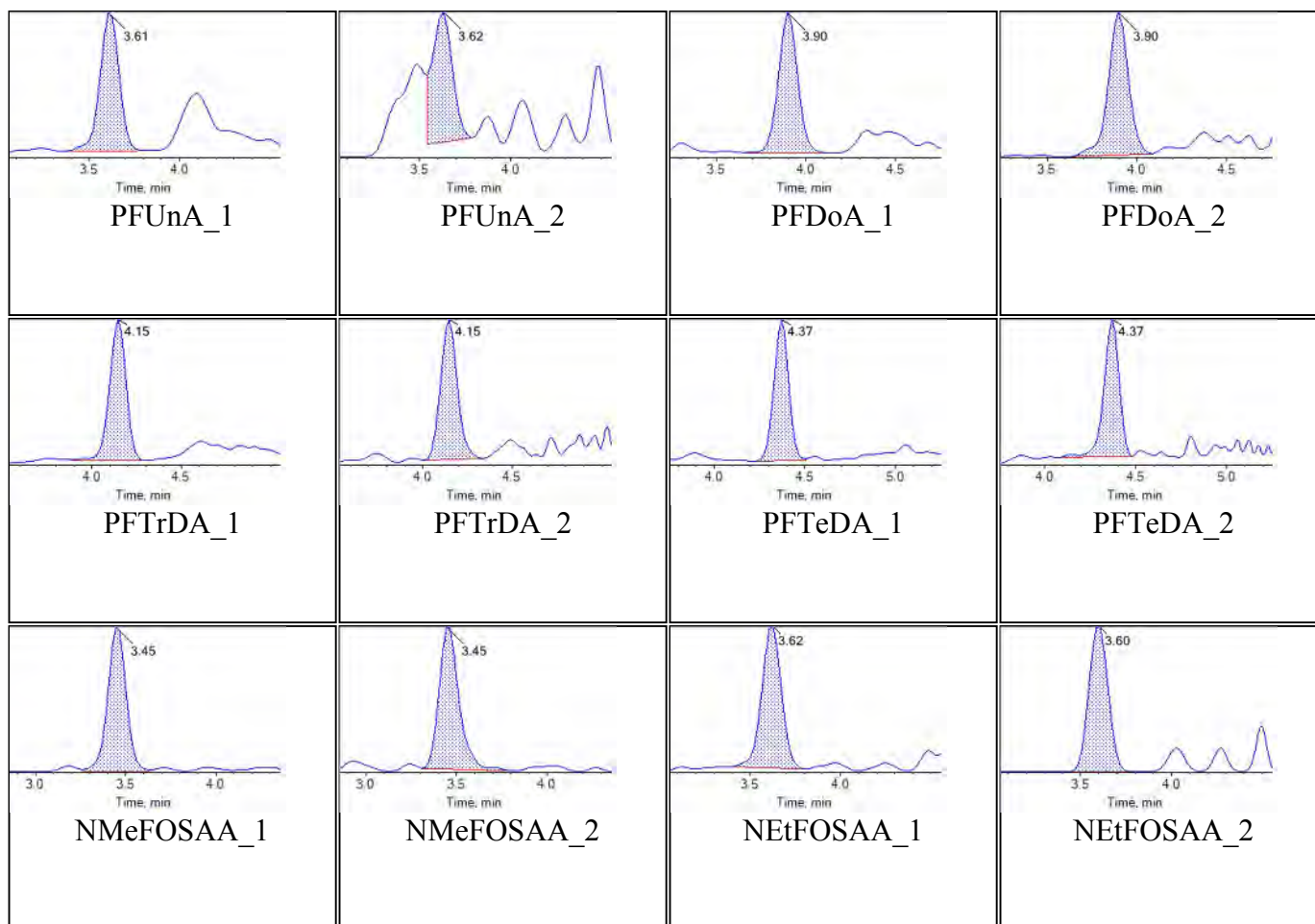
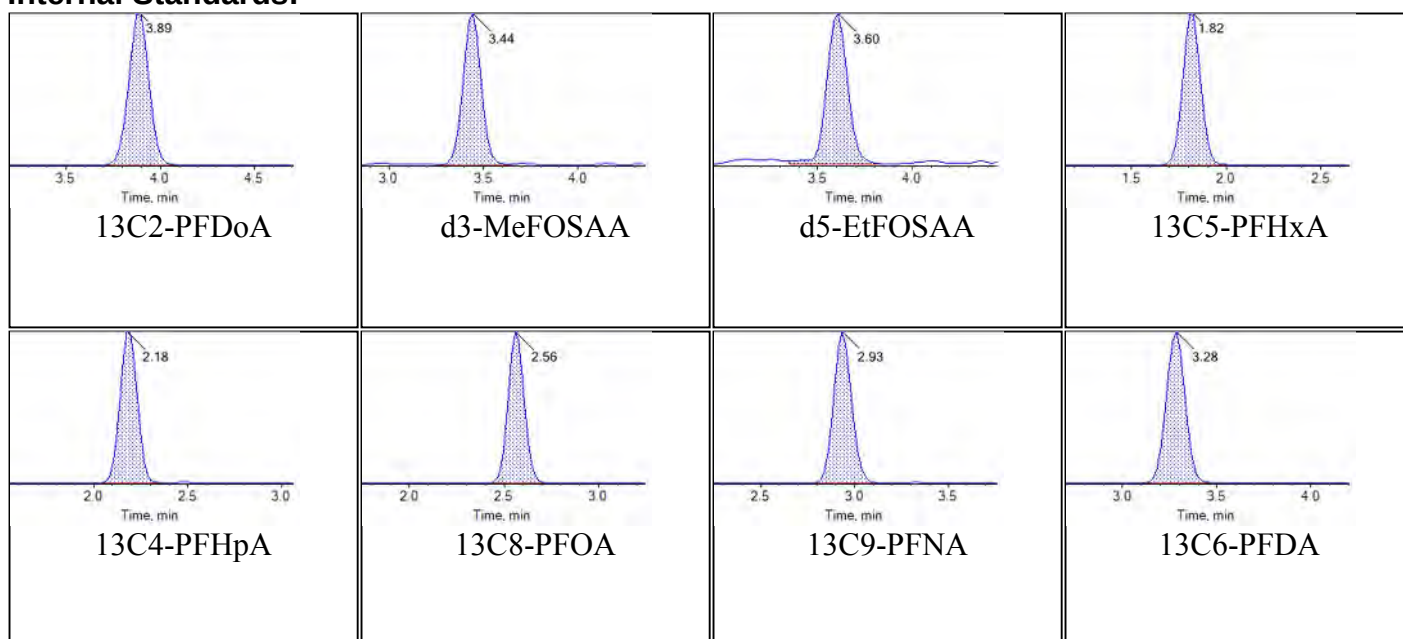


Sample Name	JV05 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

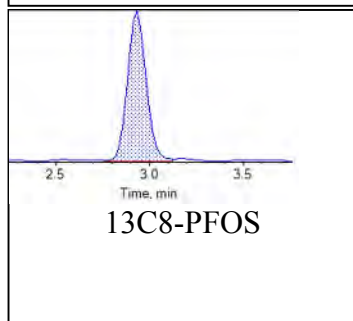
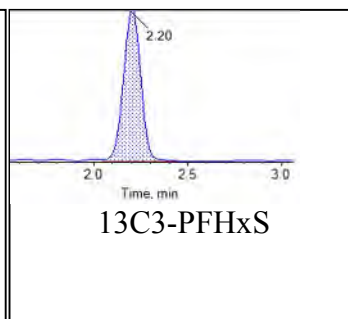
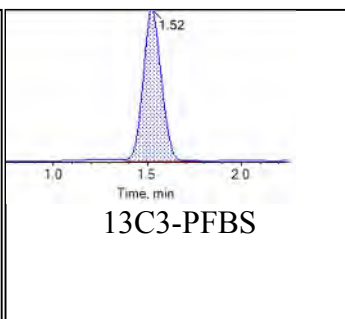
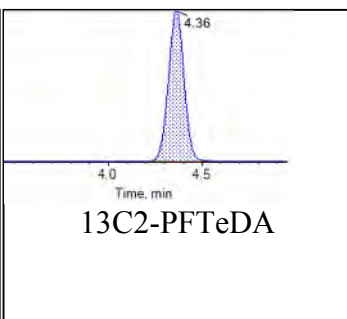
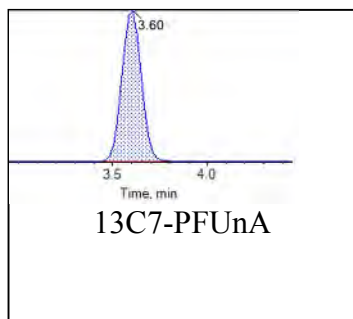
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**Internal Standards:**



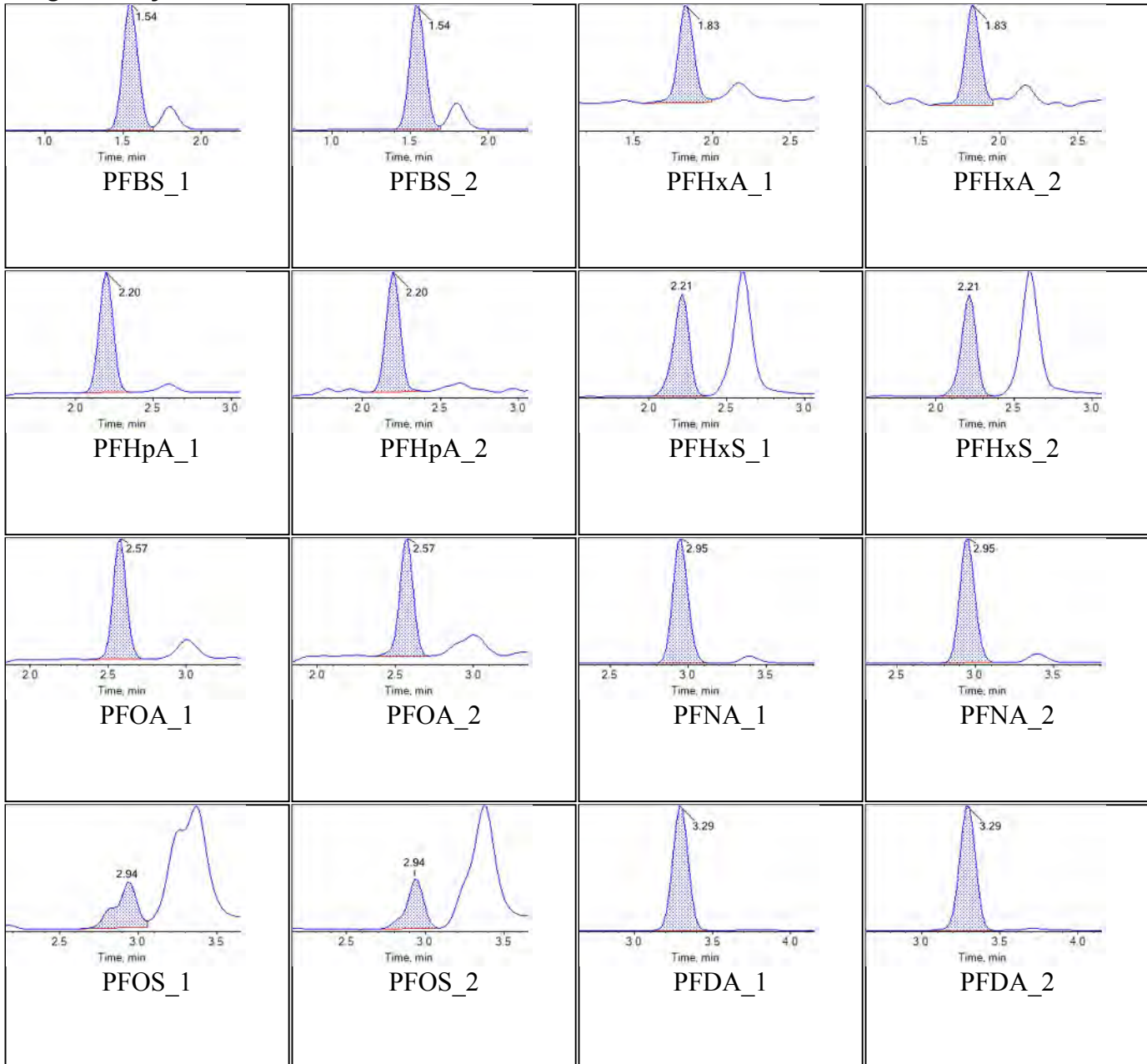
Chromatogram Report

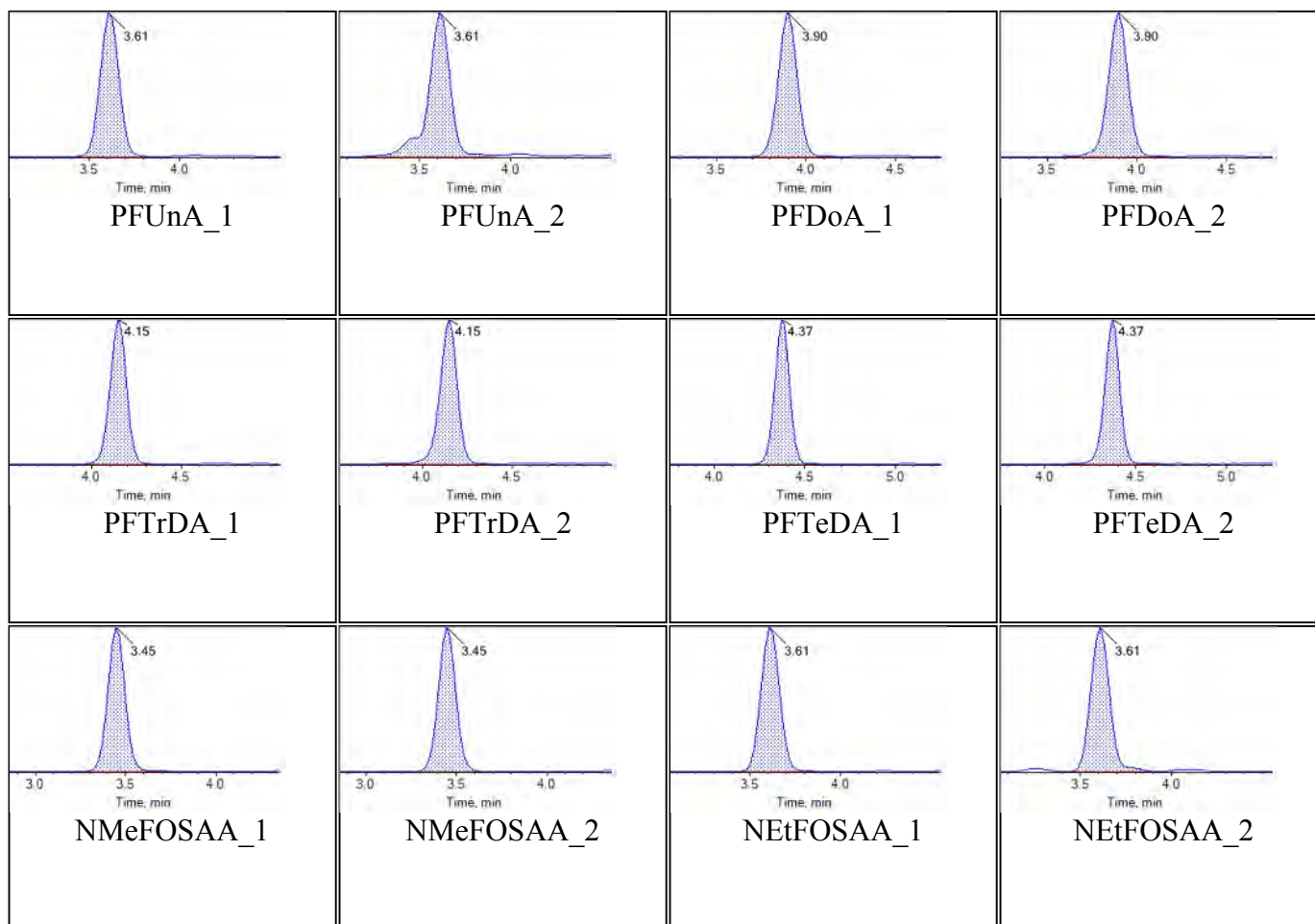
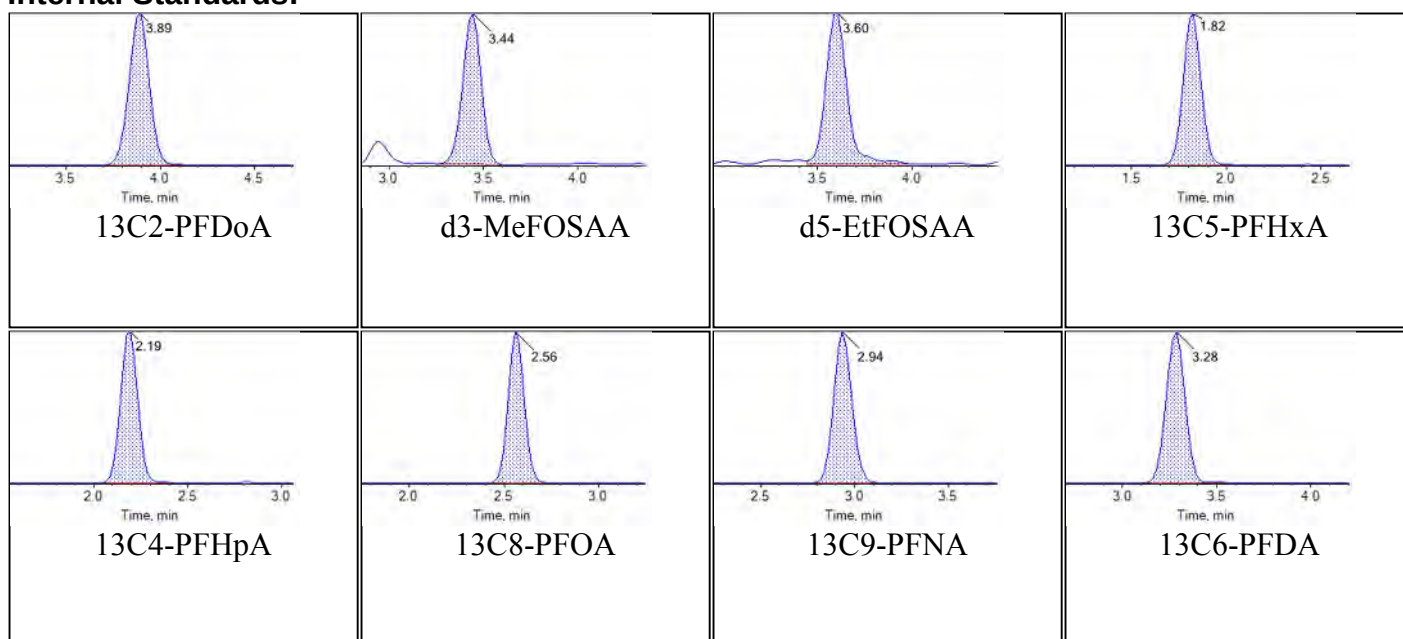
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Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

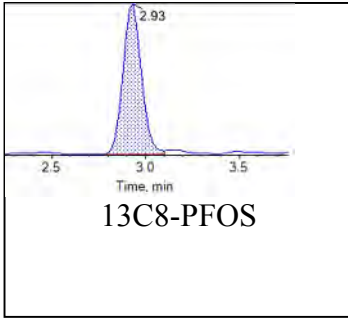
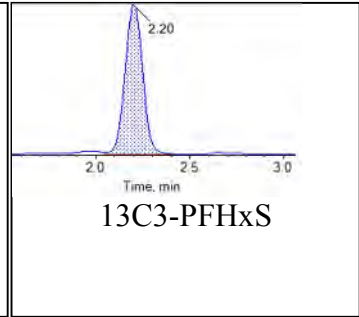
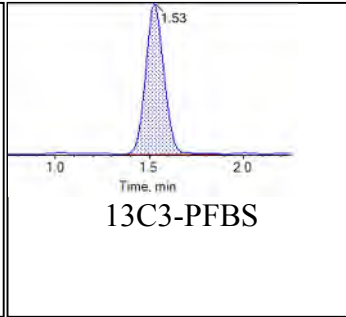
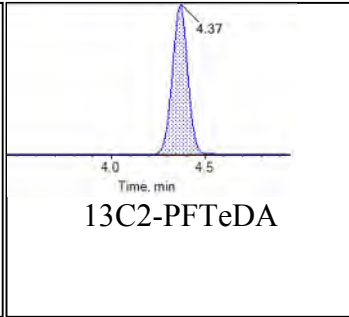
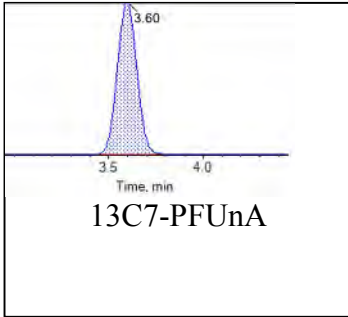
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**Internal Standards:**



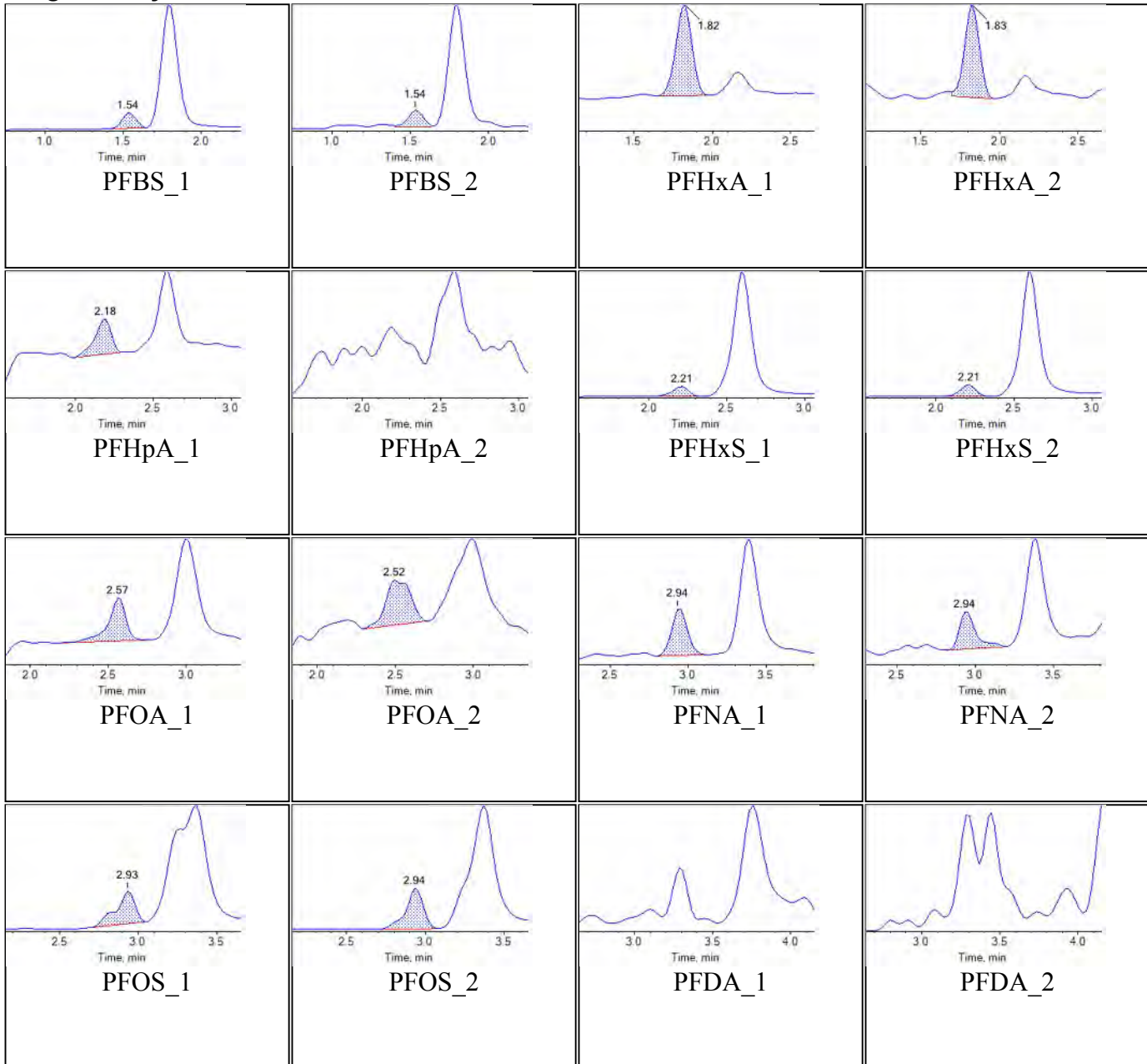
Chromatogram Report

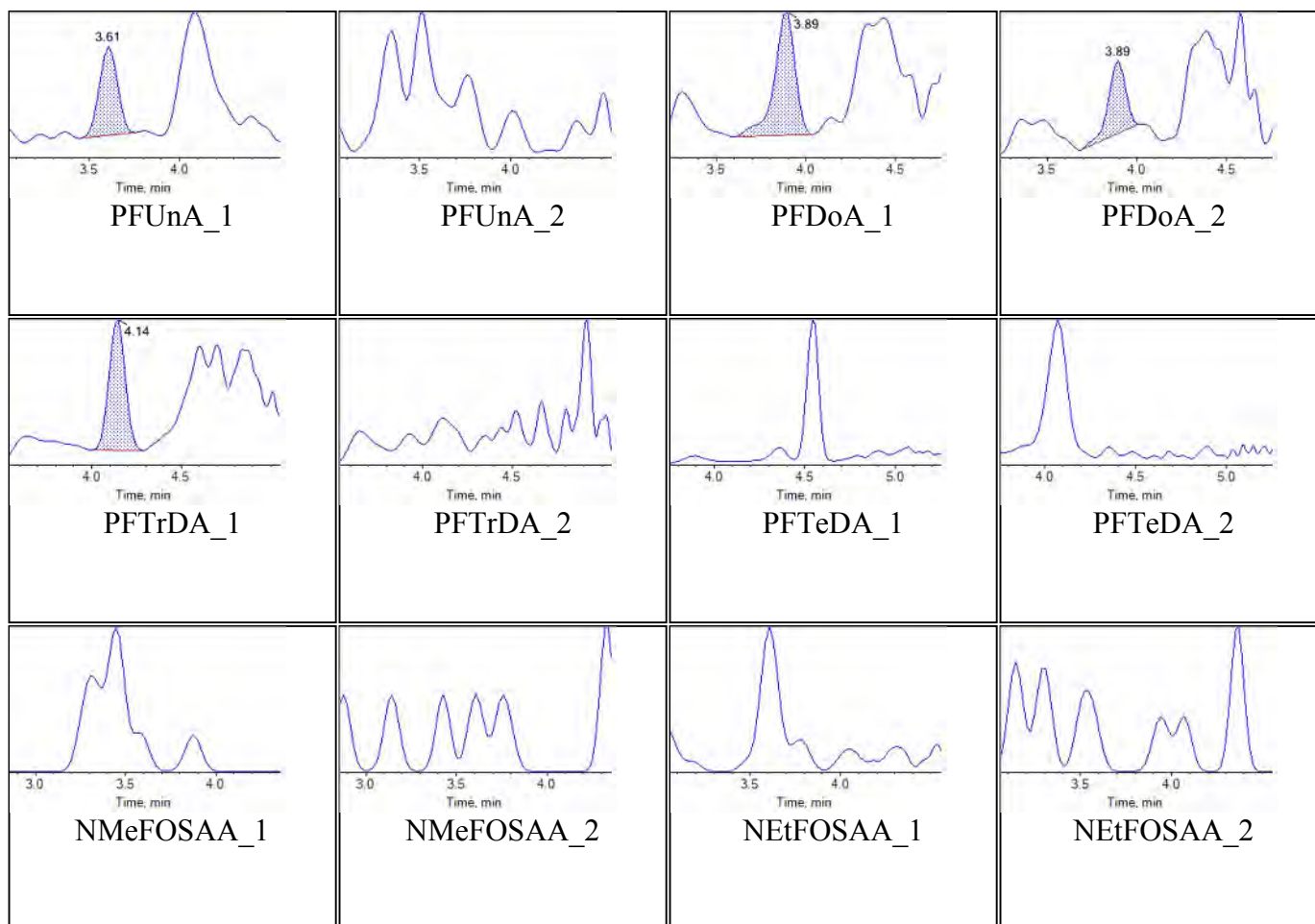
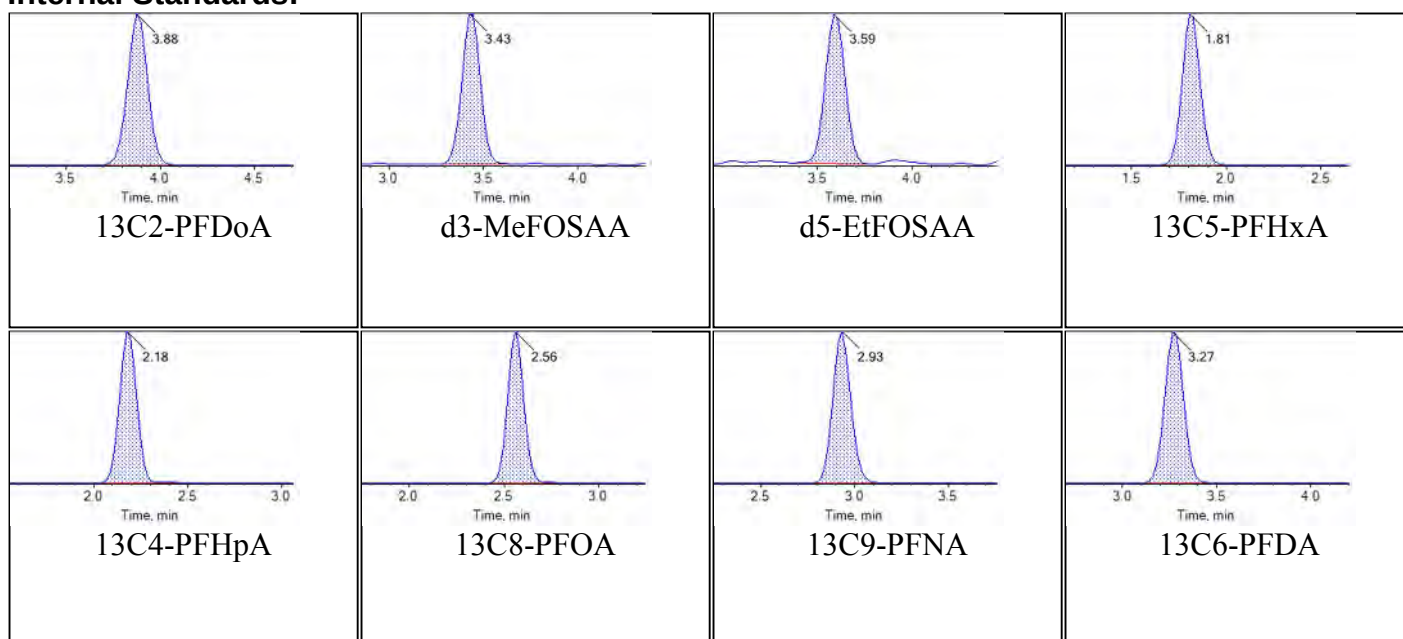
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Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

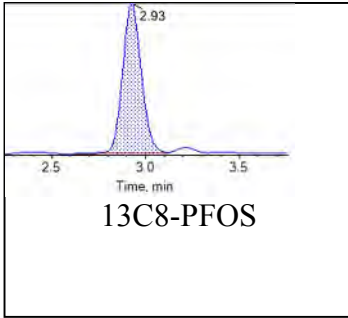
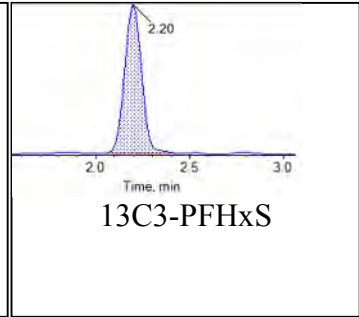
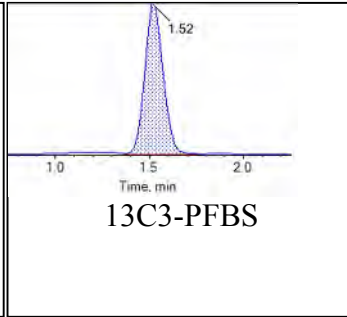
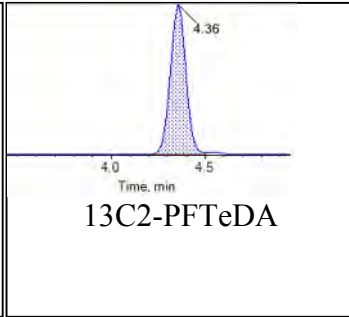
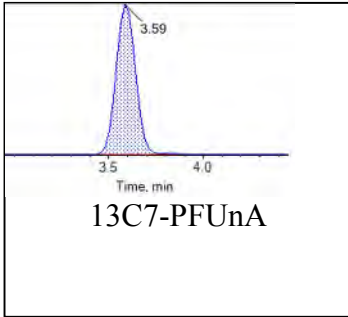
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**Internal Standards:**



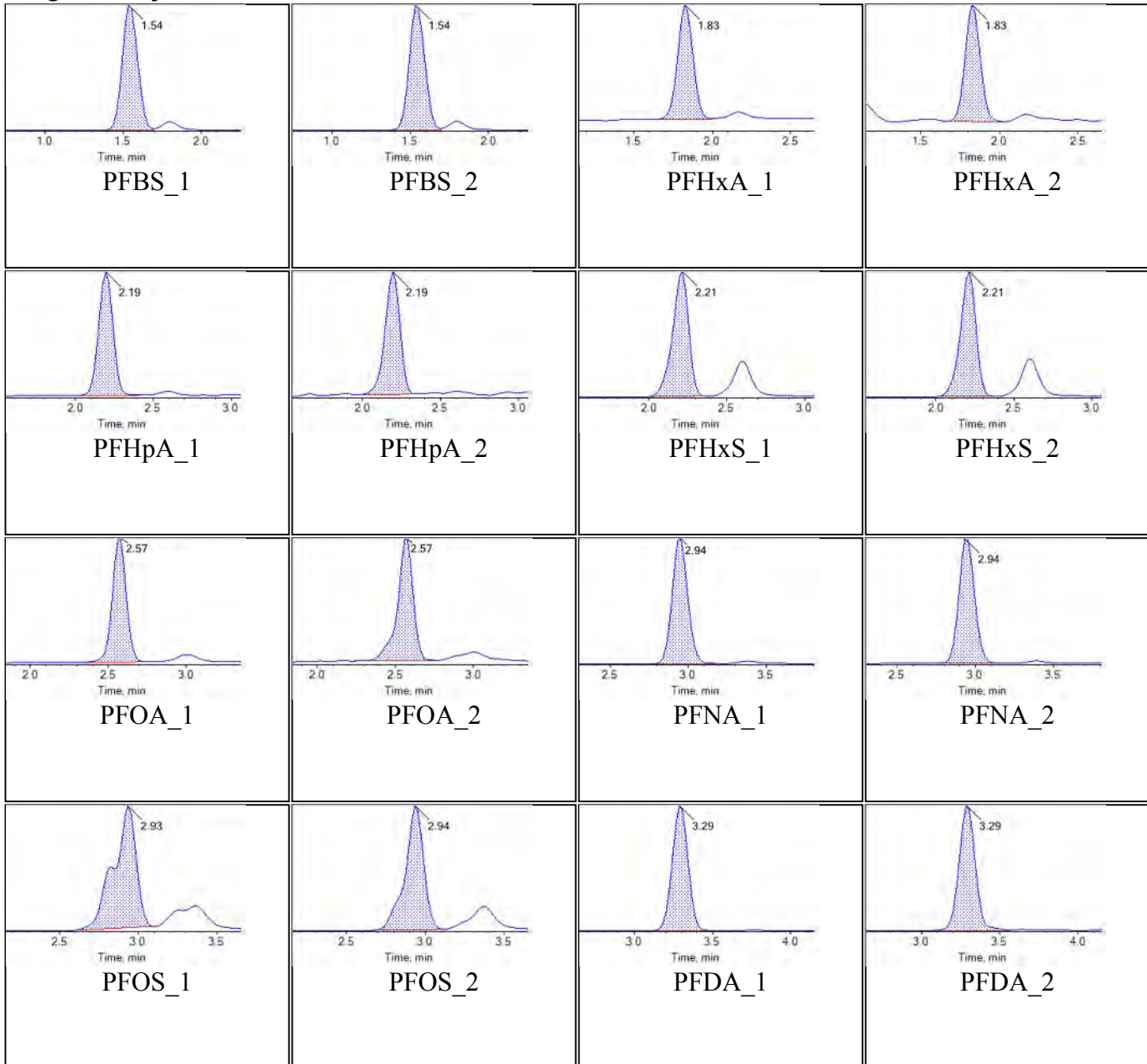
Chromatogram Report

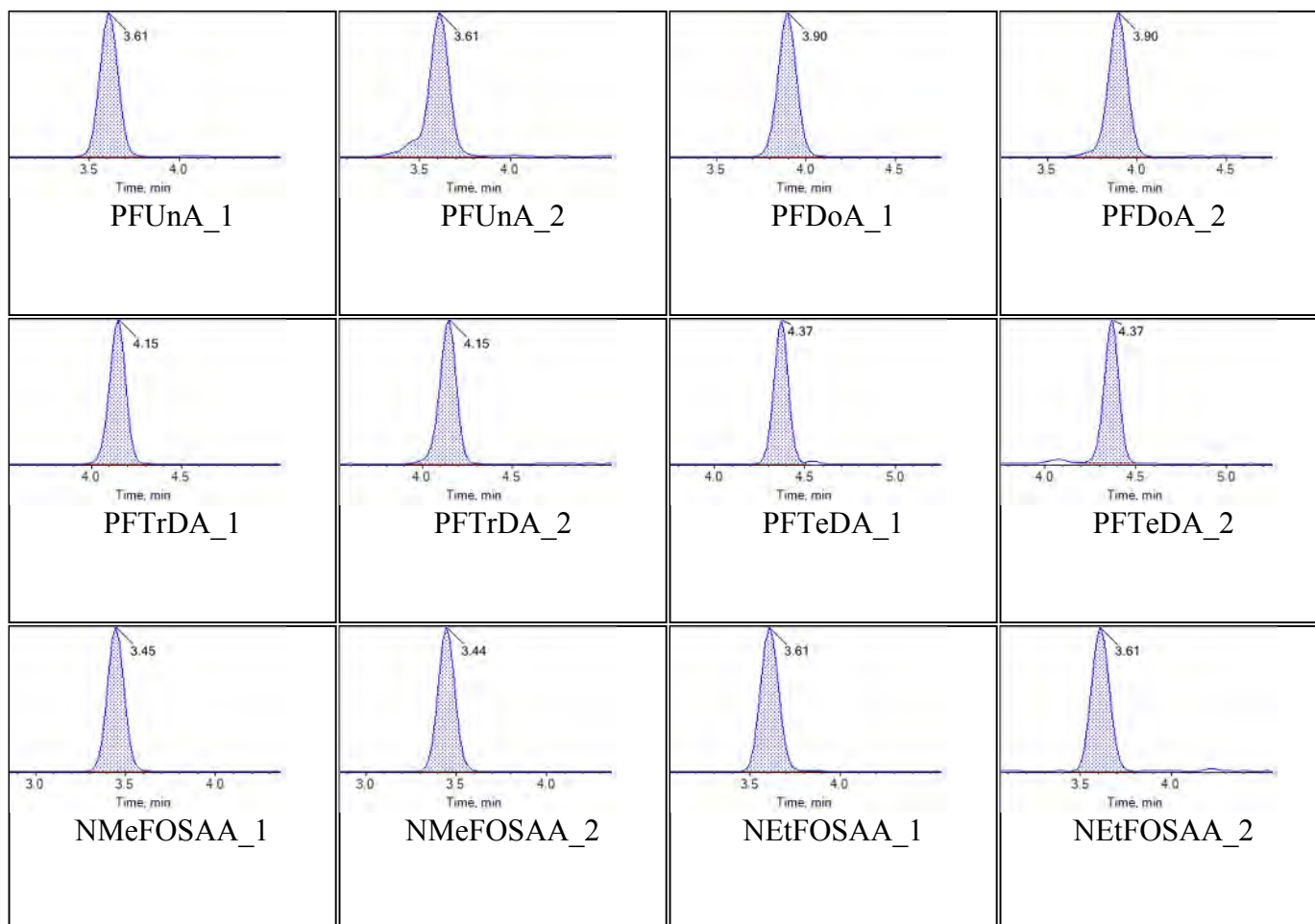
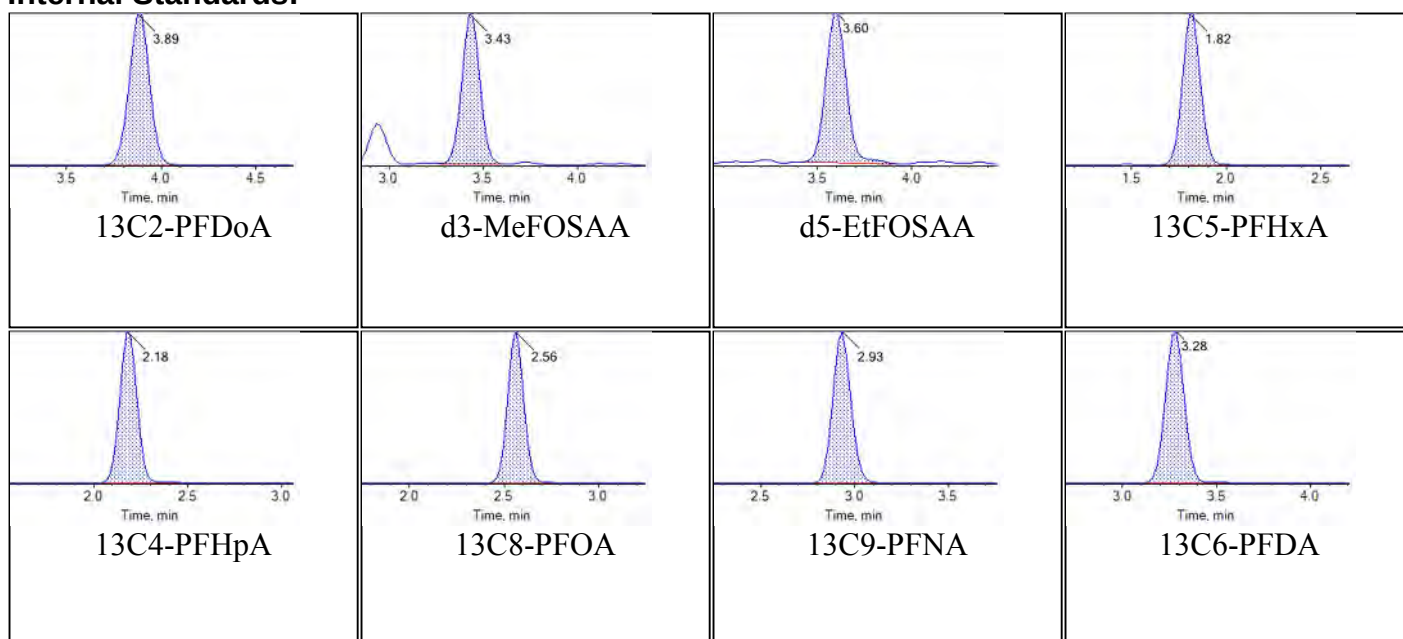
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Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

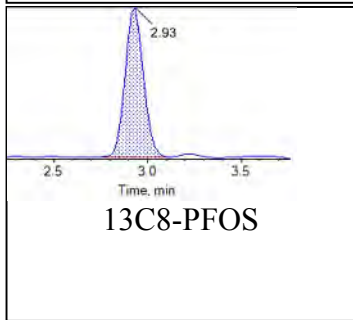
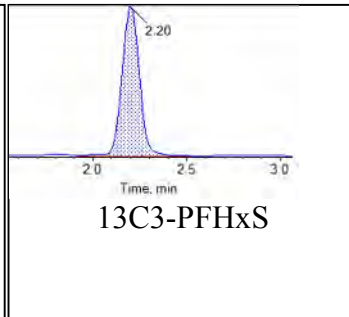
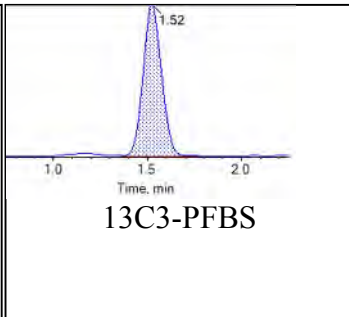
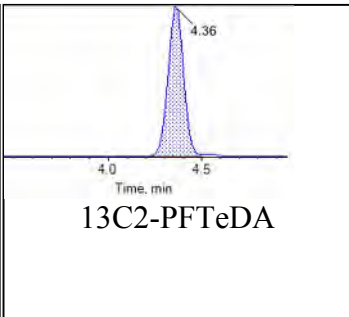
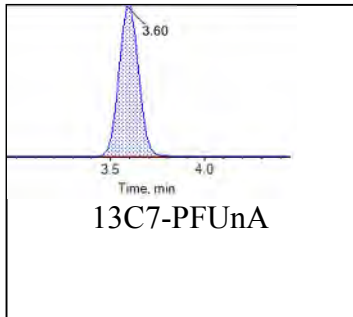


**Internal Standards:**



Chromatogram Report

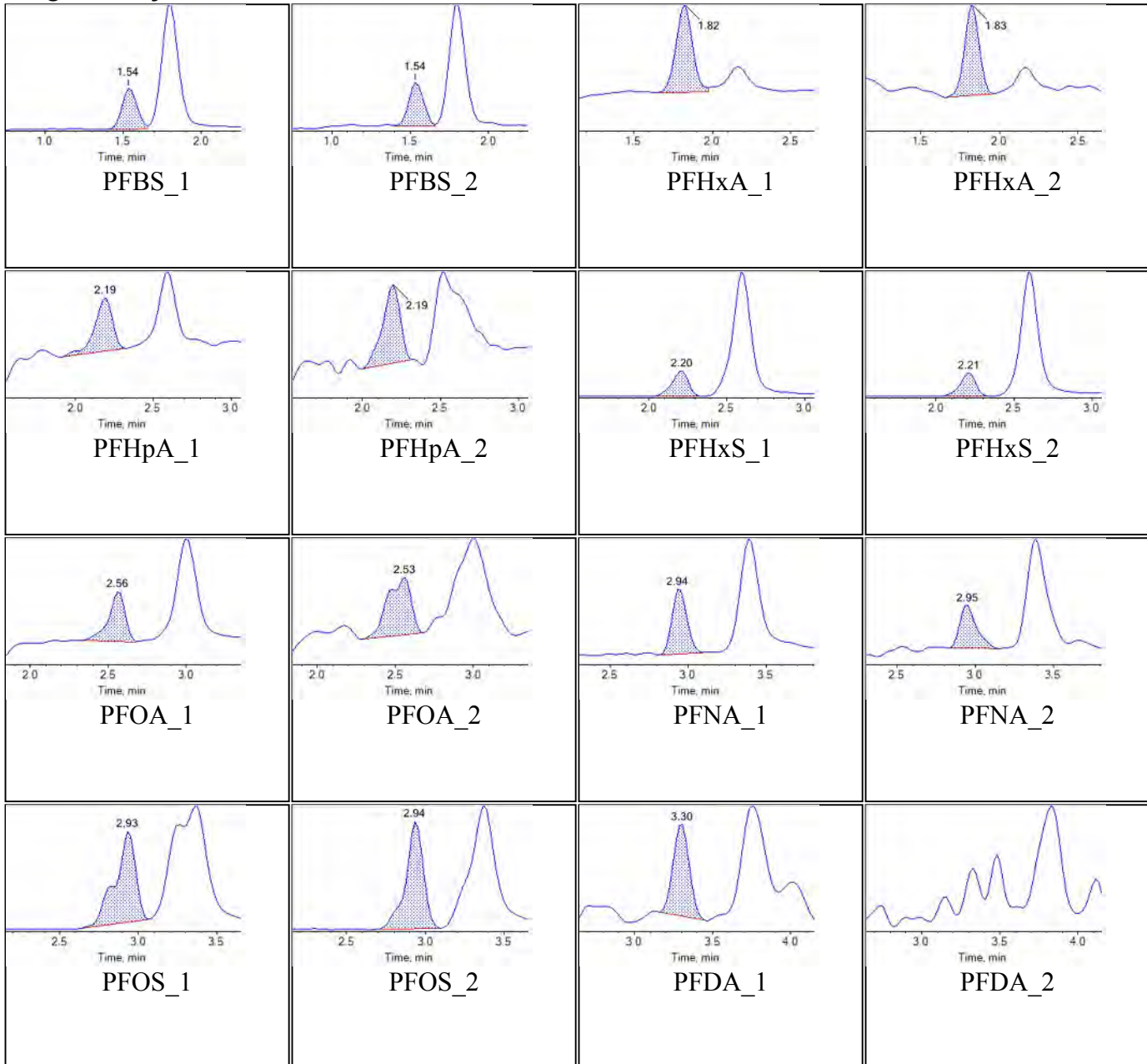
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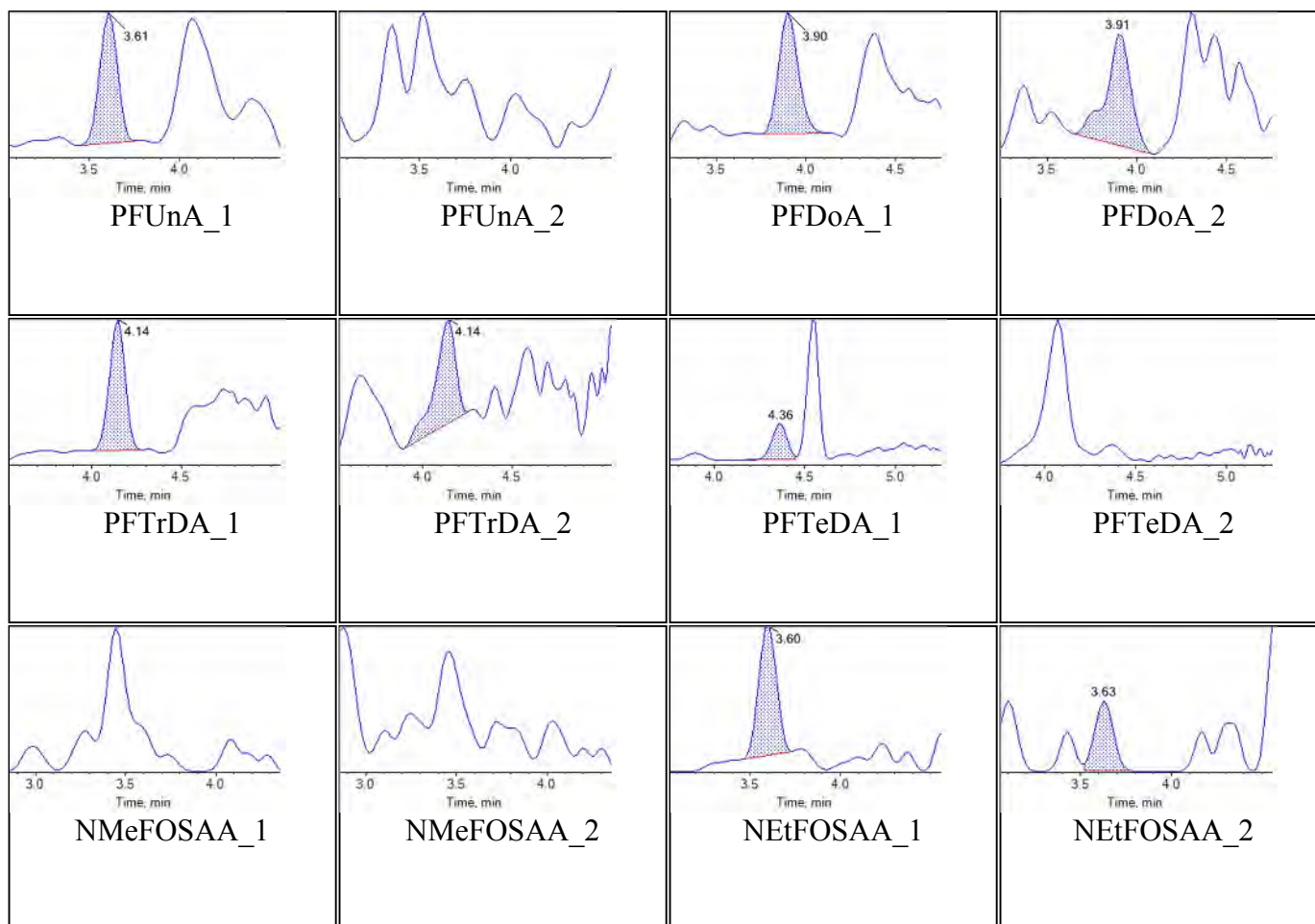
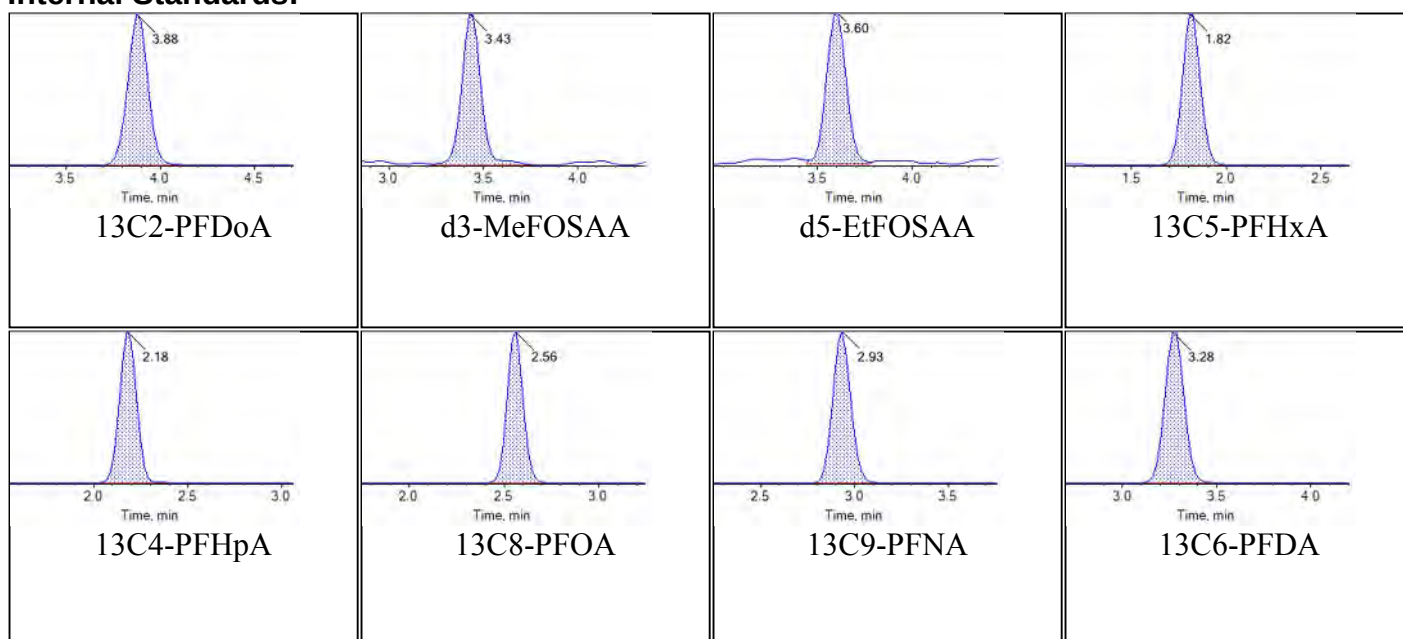


Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID	FFTA-FB01-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

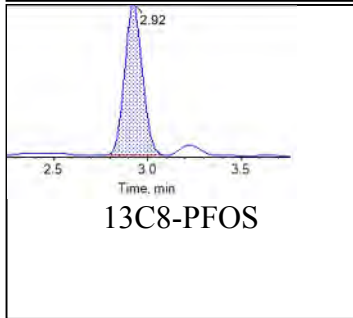
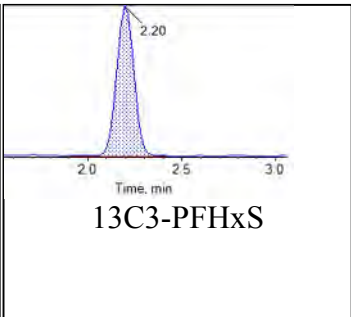
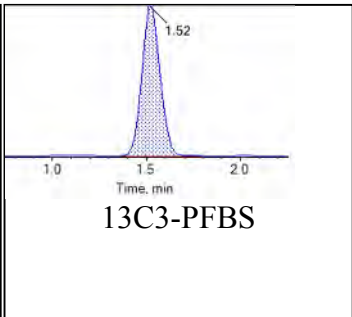
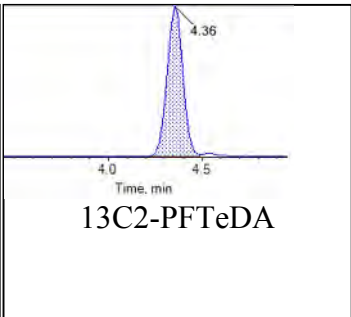
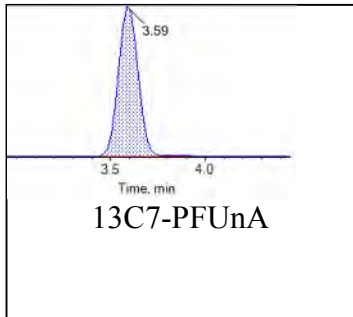


**Internal Standards:**



Chromatogram Report

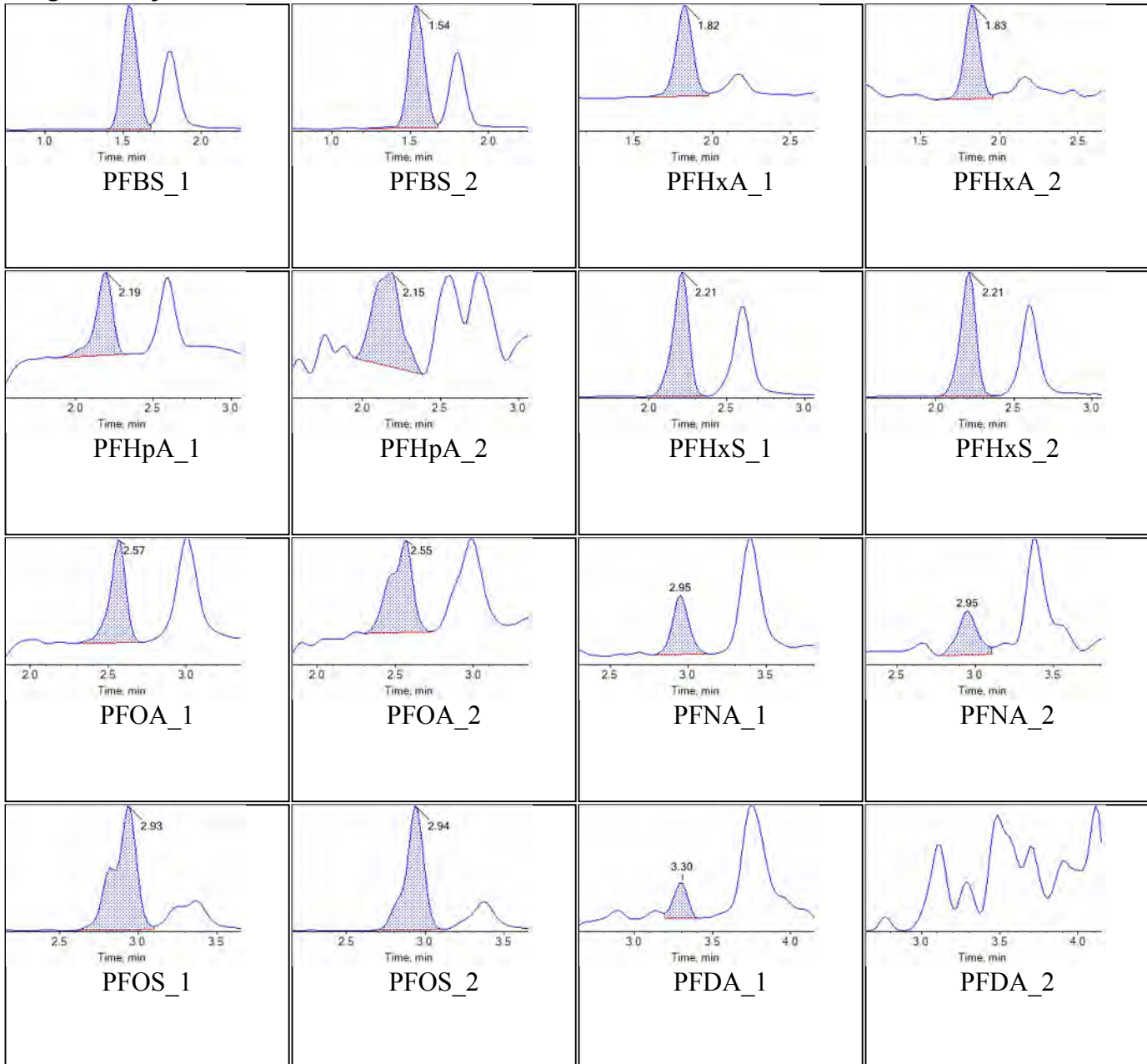
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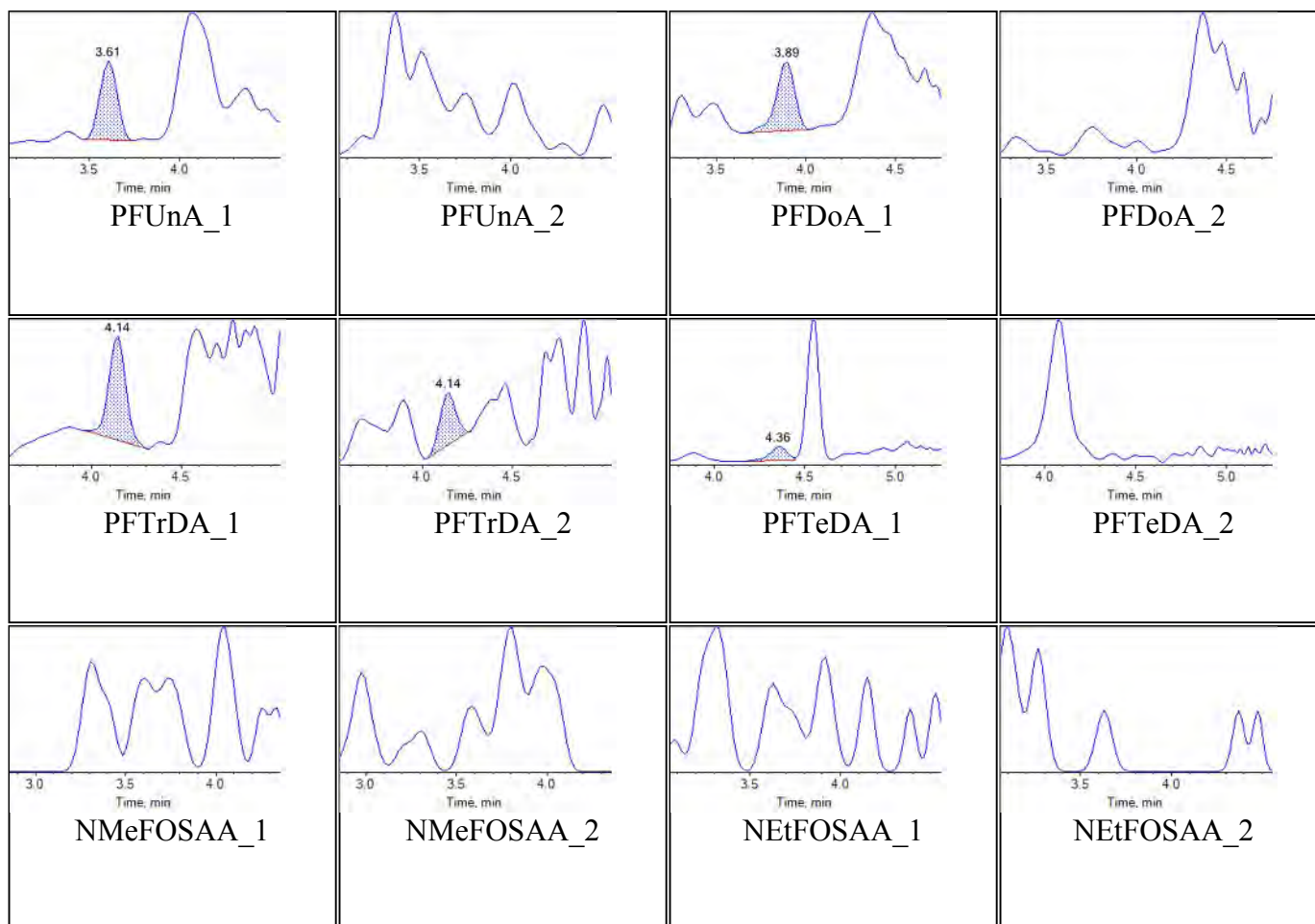
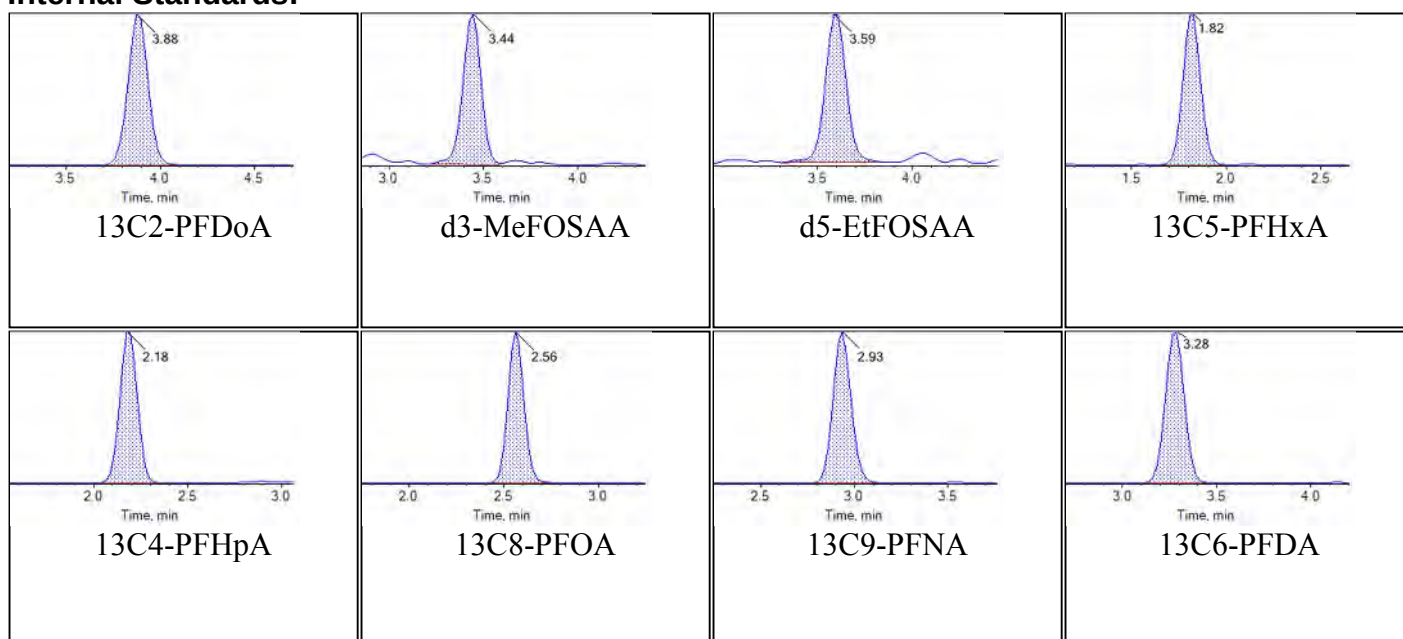


Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID	DRMO-FB02-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

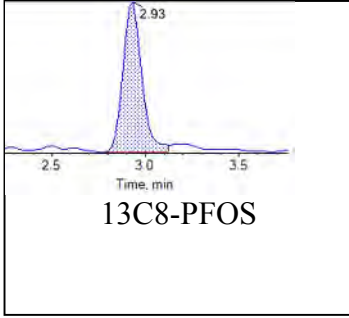
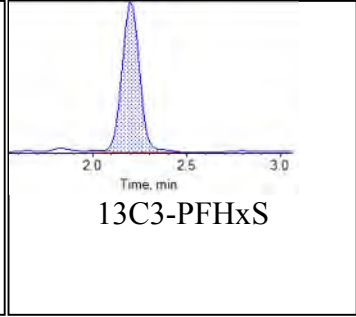
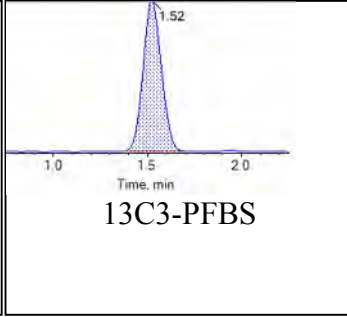
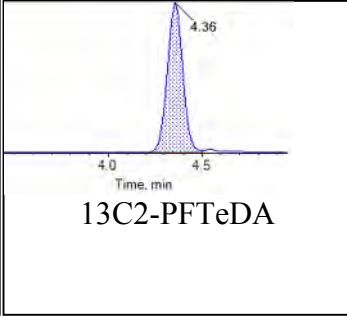
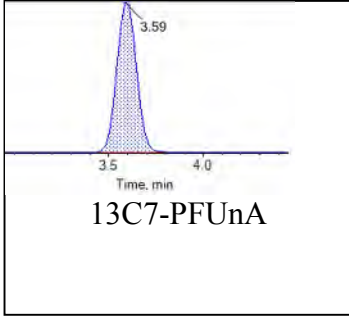


**Internal Standards:**



Chromatogram Report

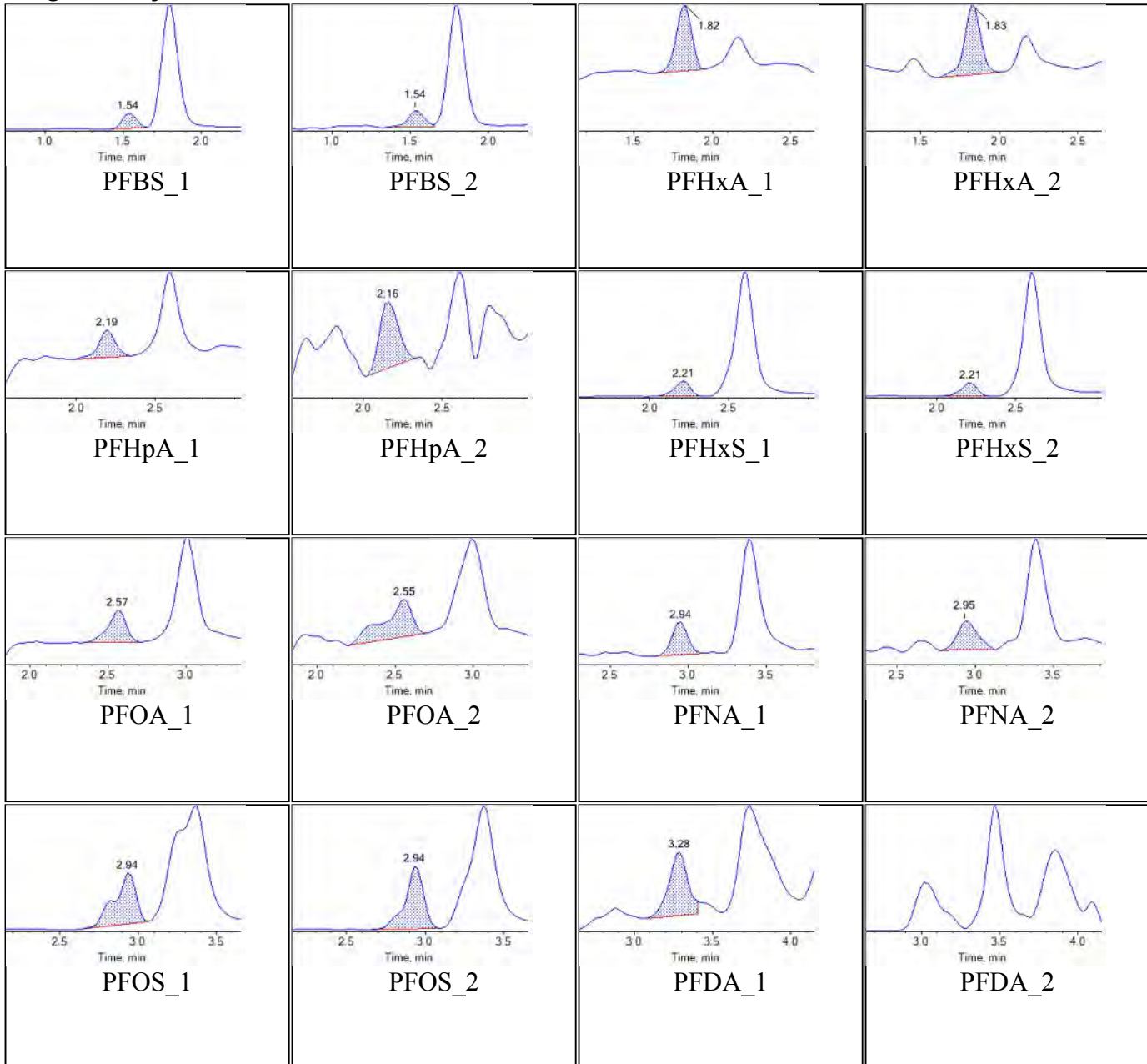
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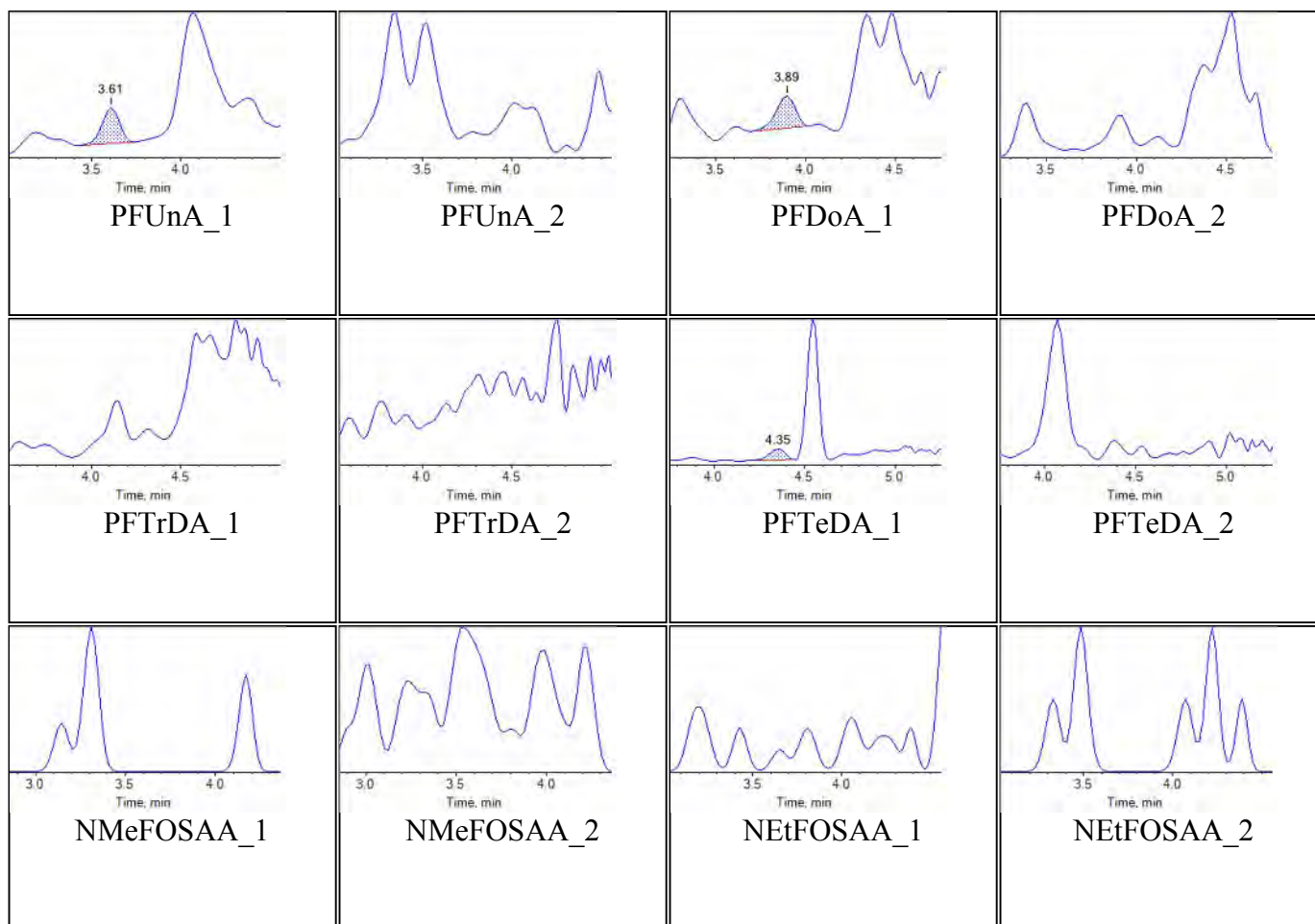
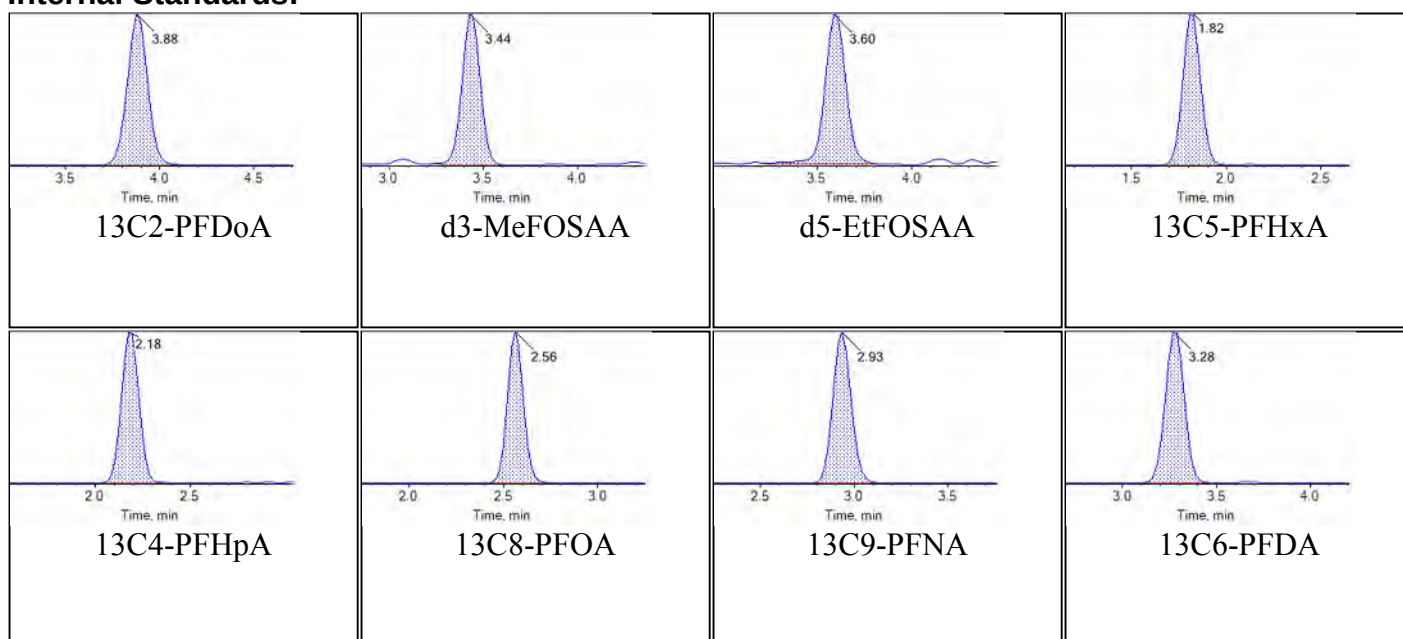


Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID	PSC51-FB03-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

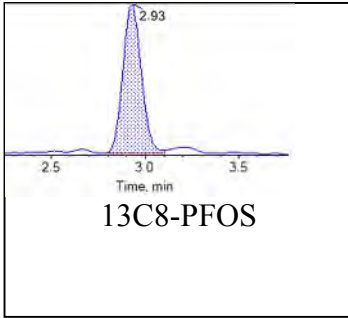
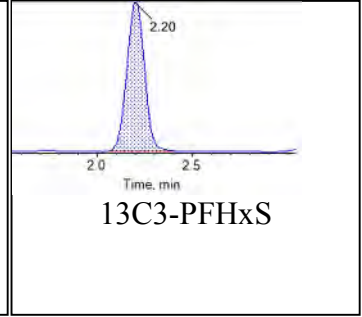
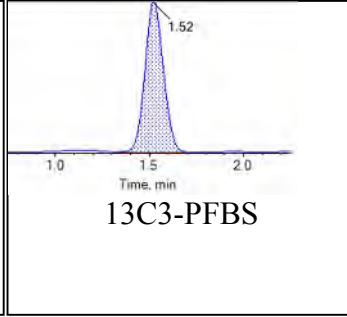
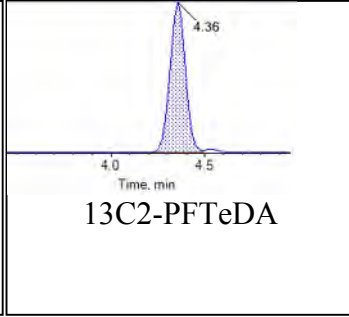
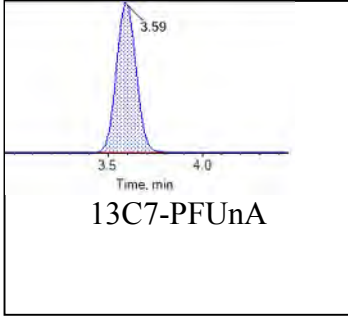
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**Internal Standards:**



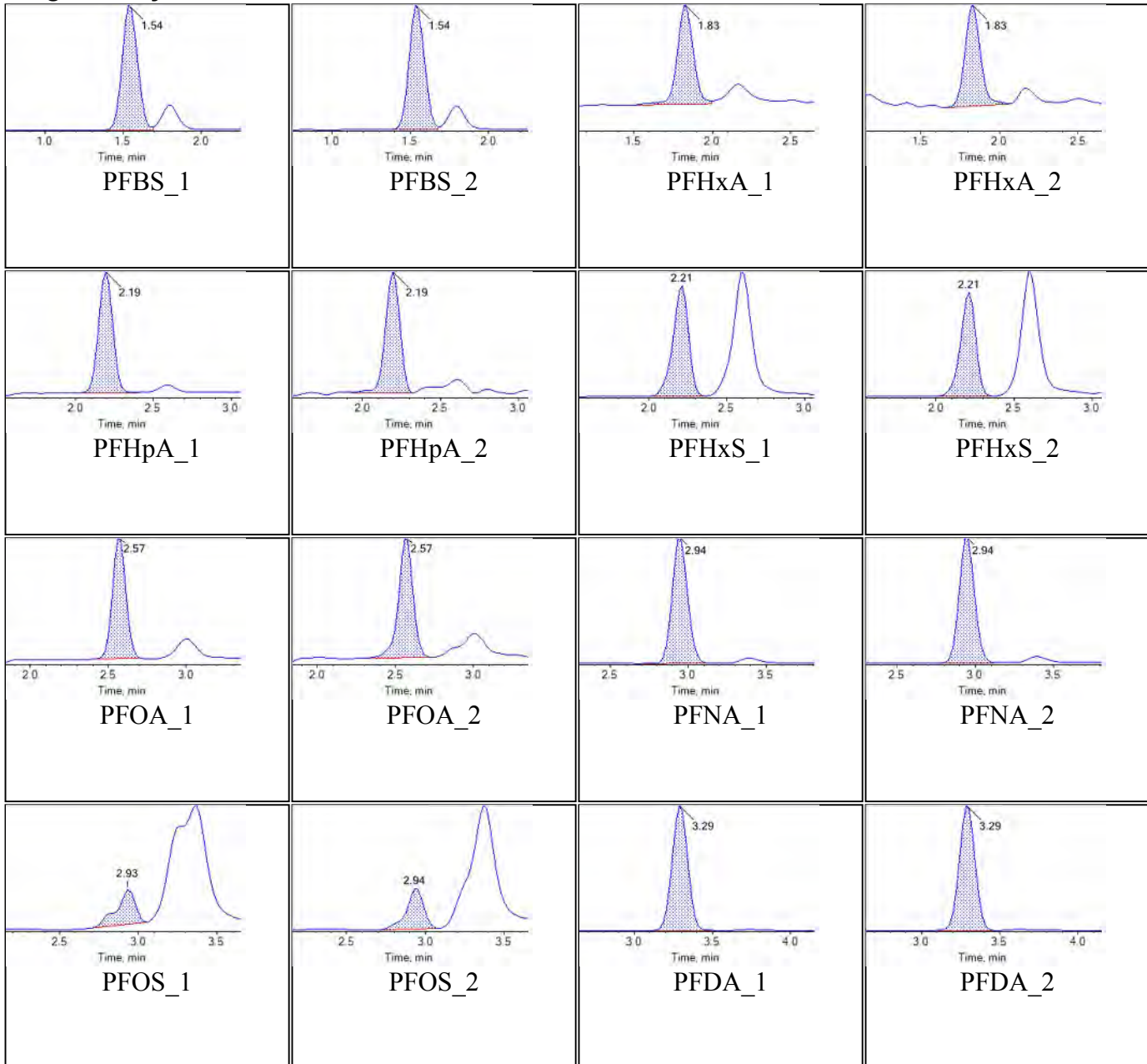
Chromatogram Report

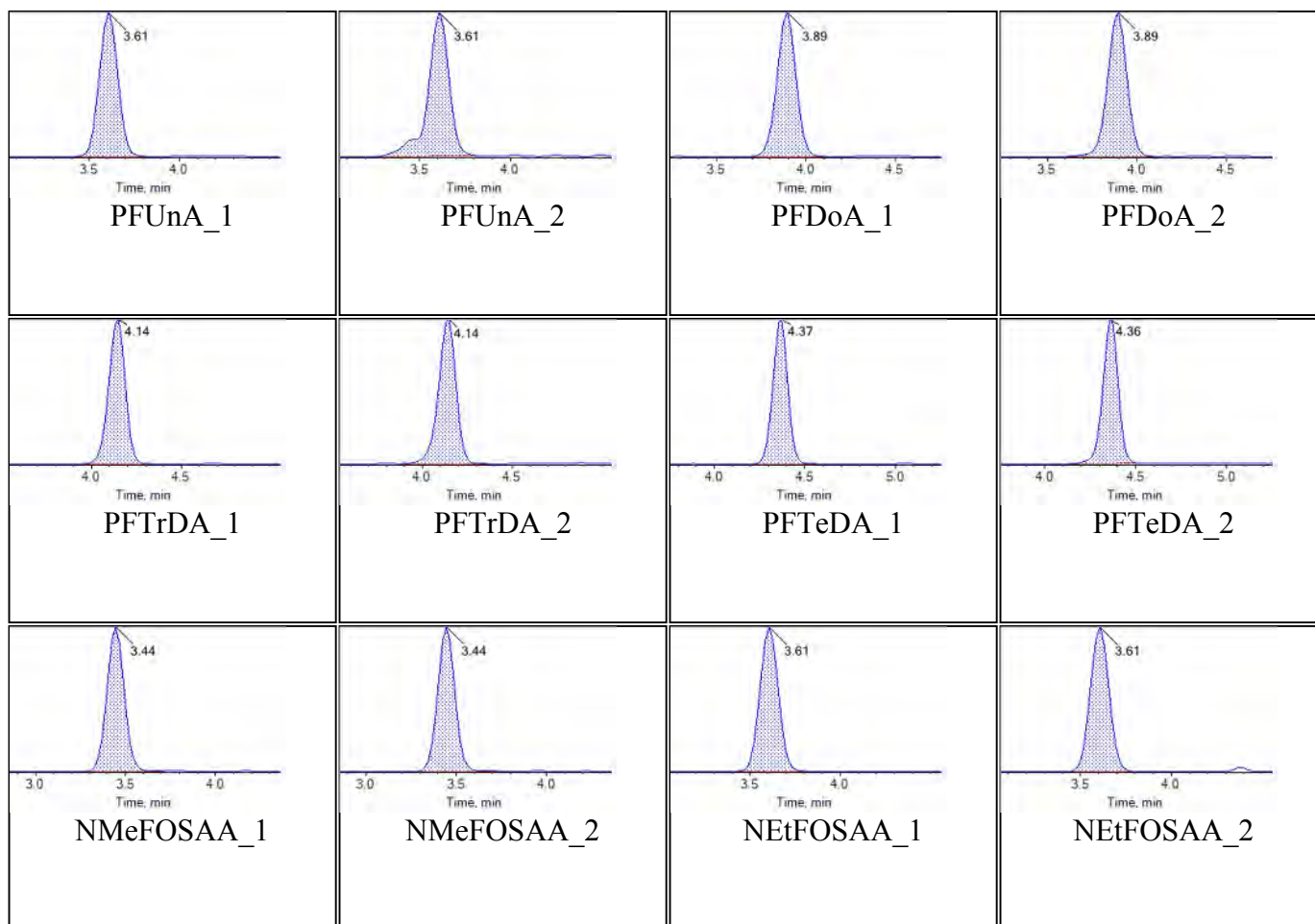
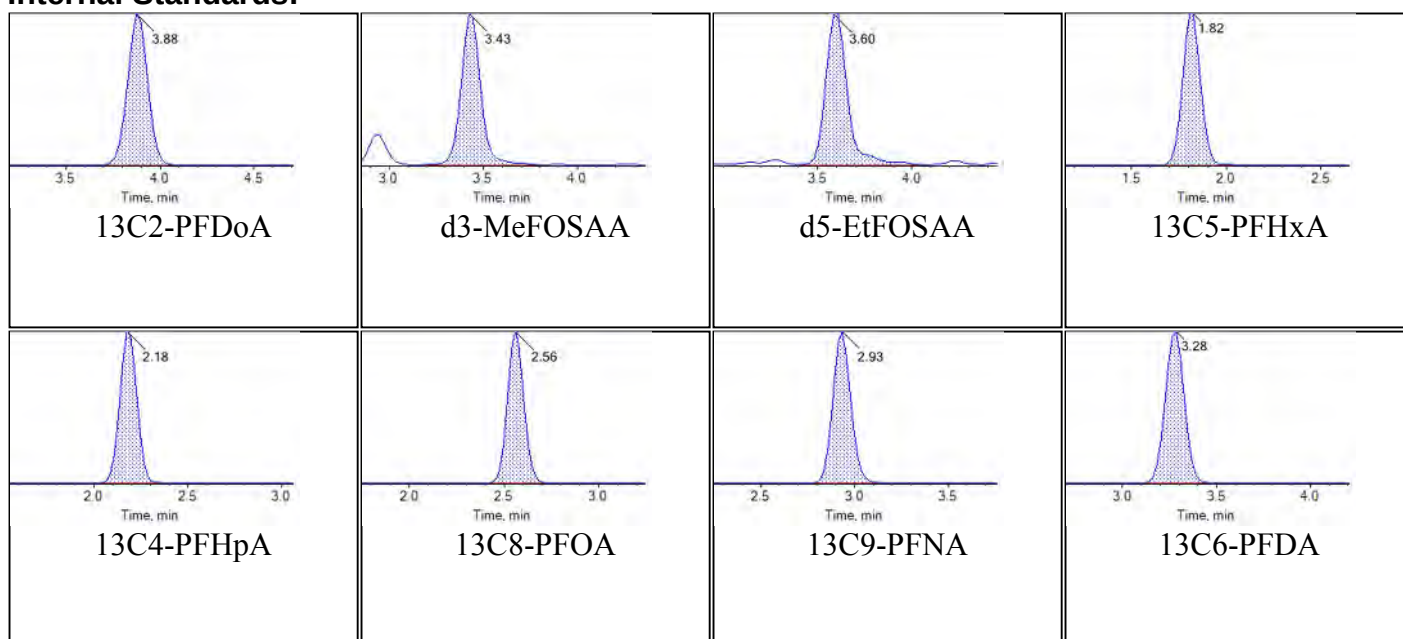
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Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Chromatograms

Target Analytes:

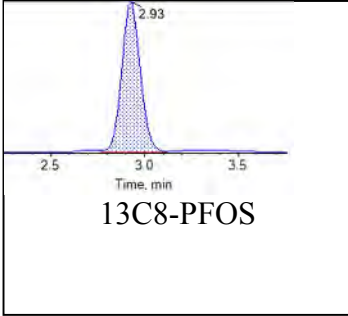
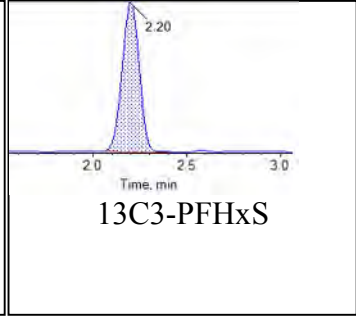
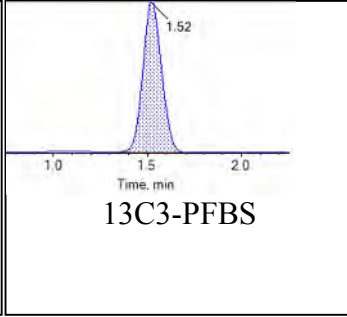
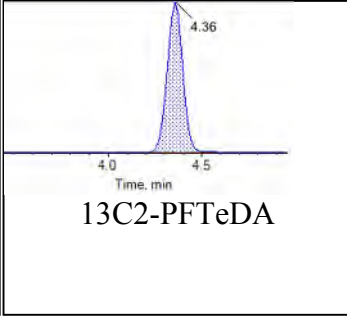
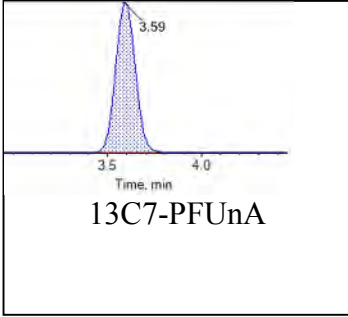


**Internal Standards:**



Chromatogram Report

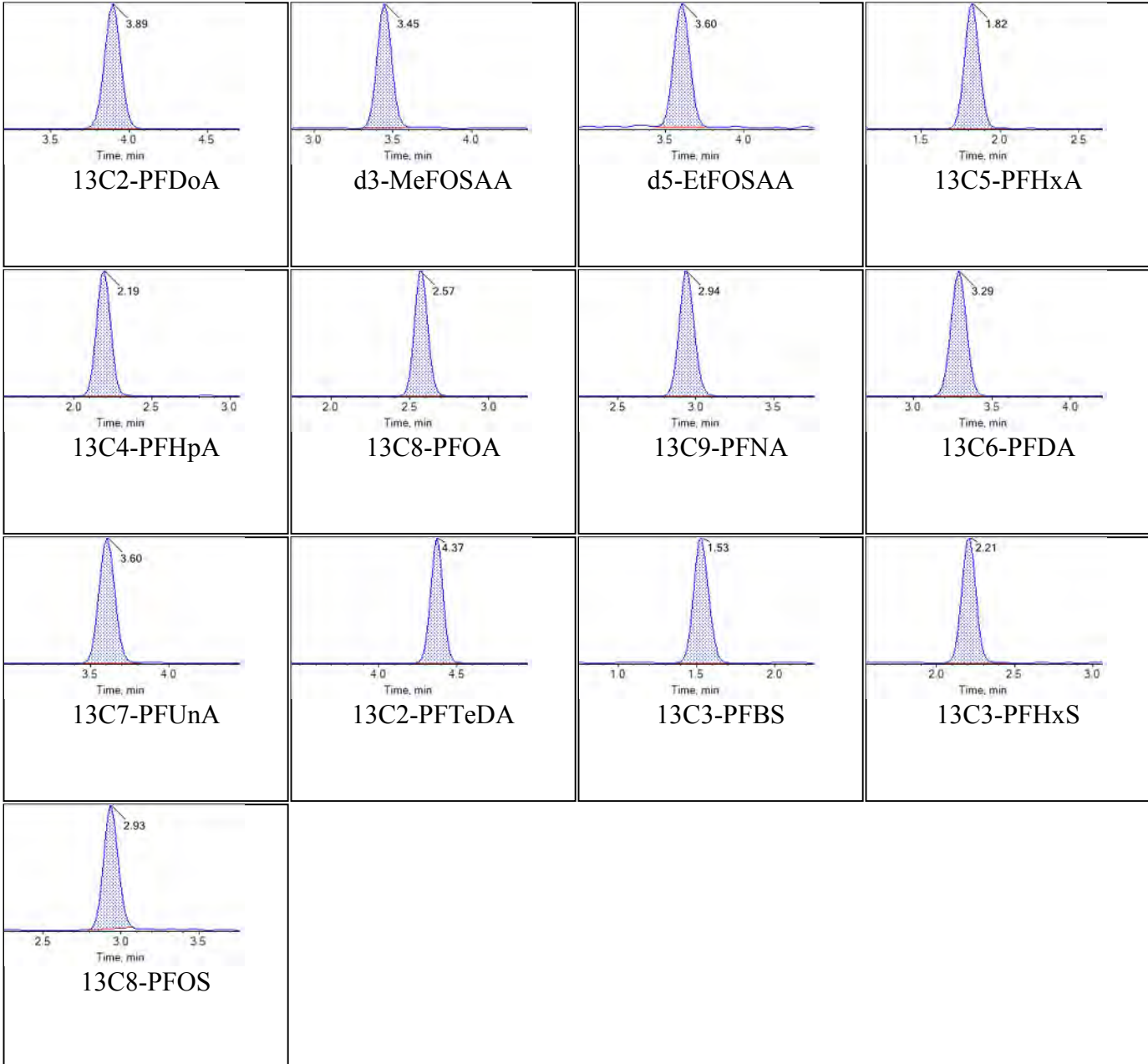
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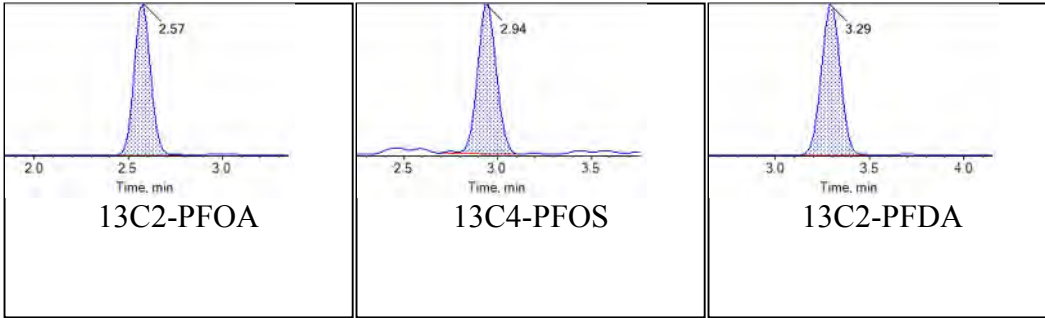
Sample Name	JV20	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:32:29	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



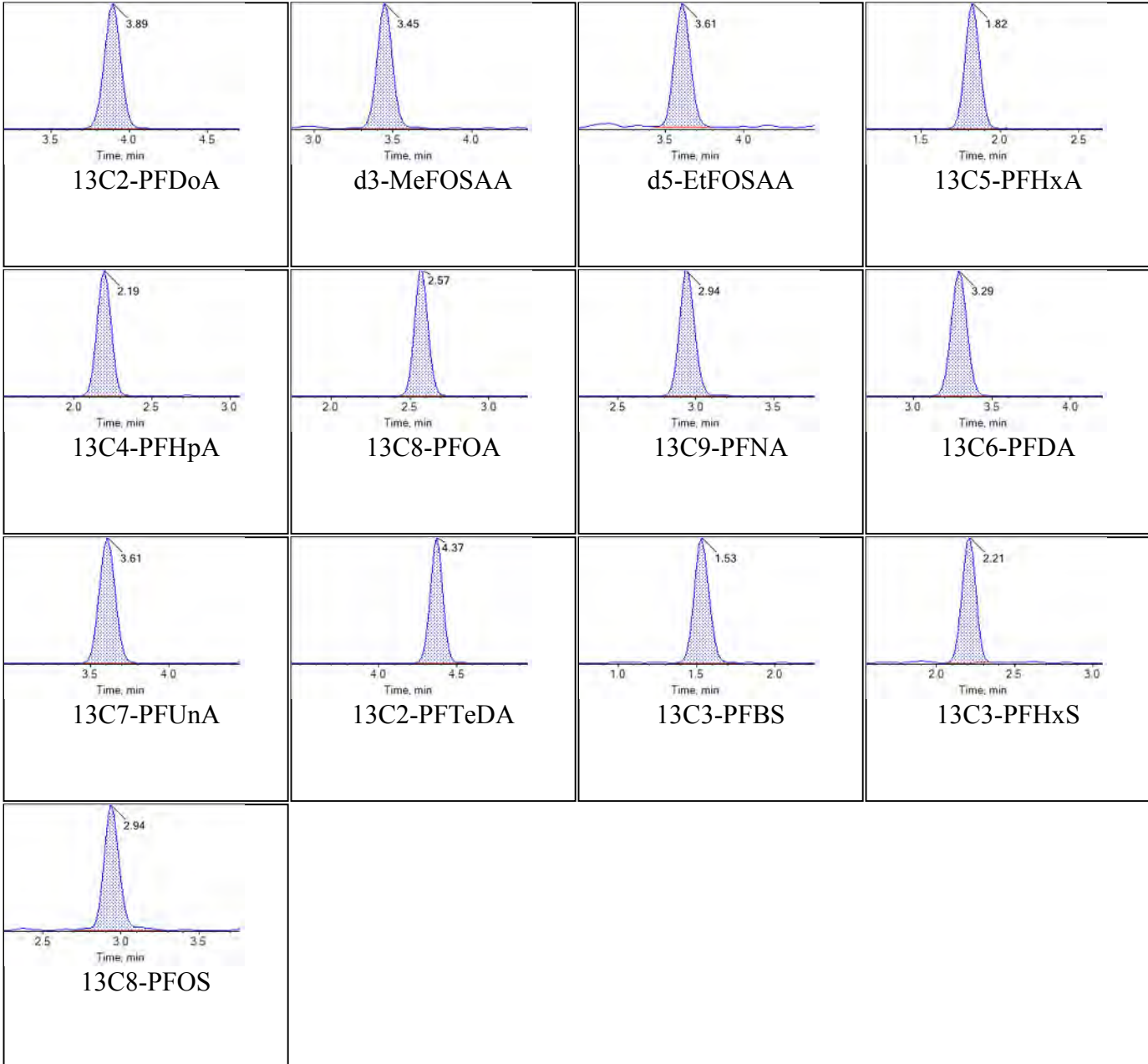
Internal Standards:



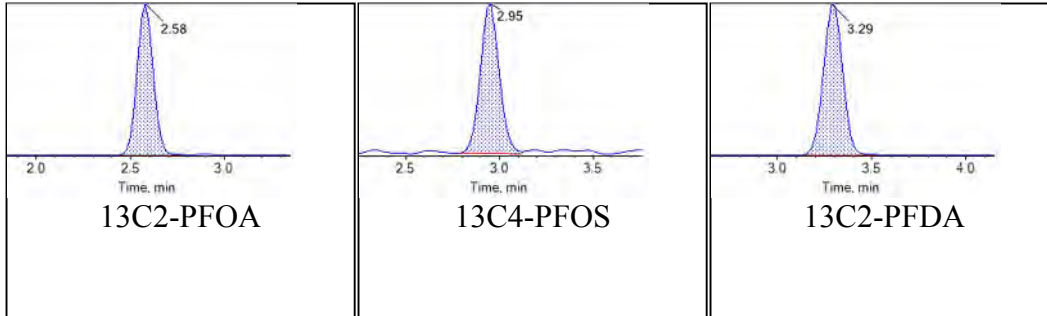
Sample Name	JV21	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:43:10	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



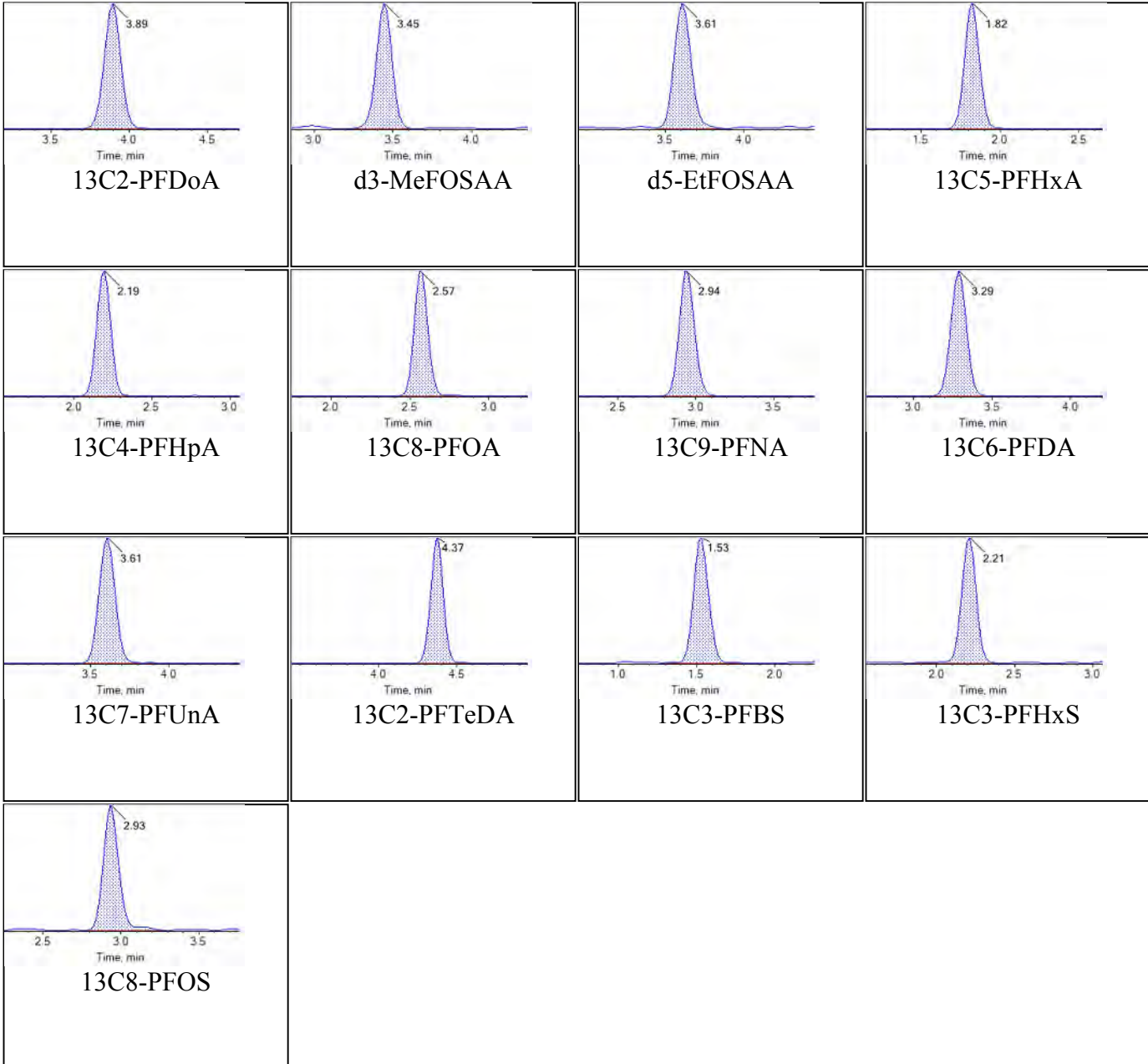
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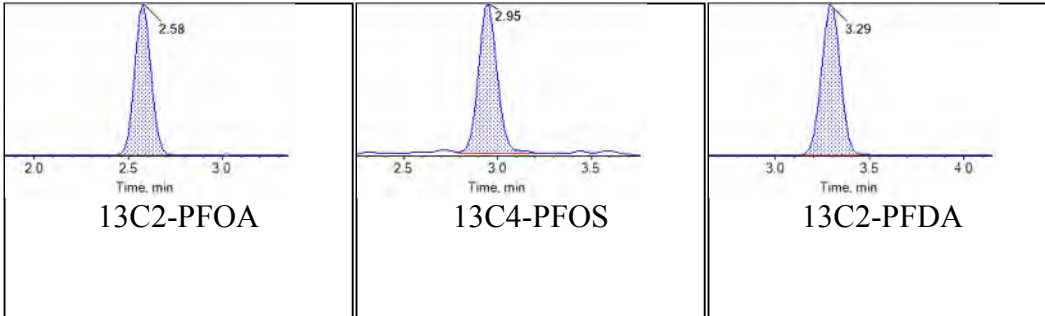
Sample Name	JV22	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T20:53:52	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



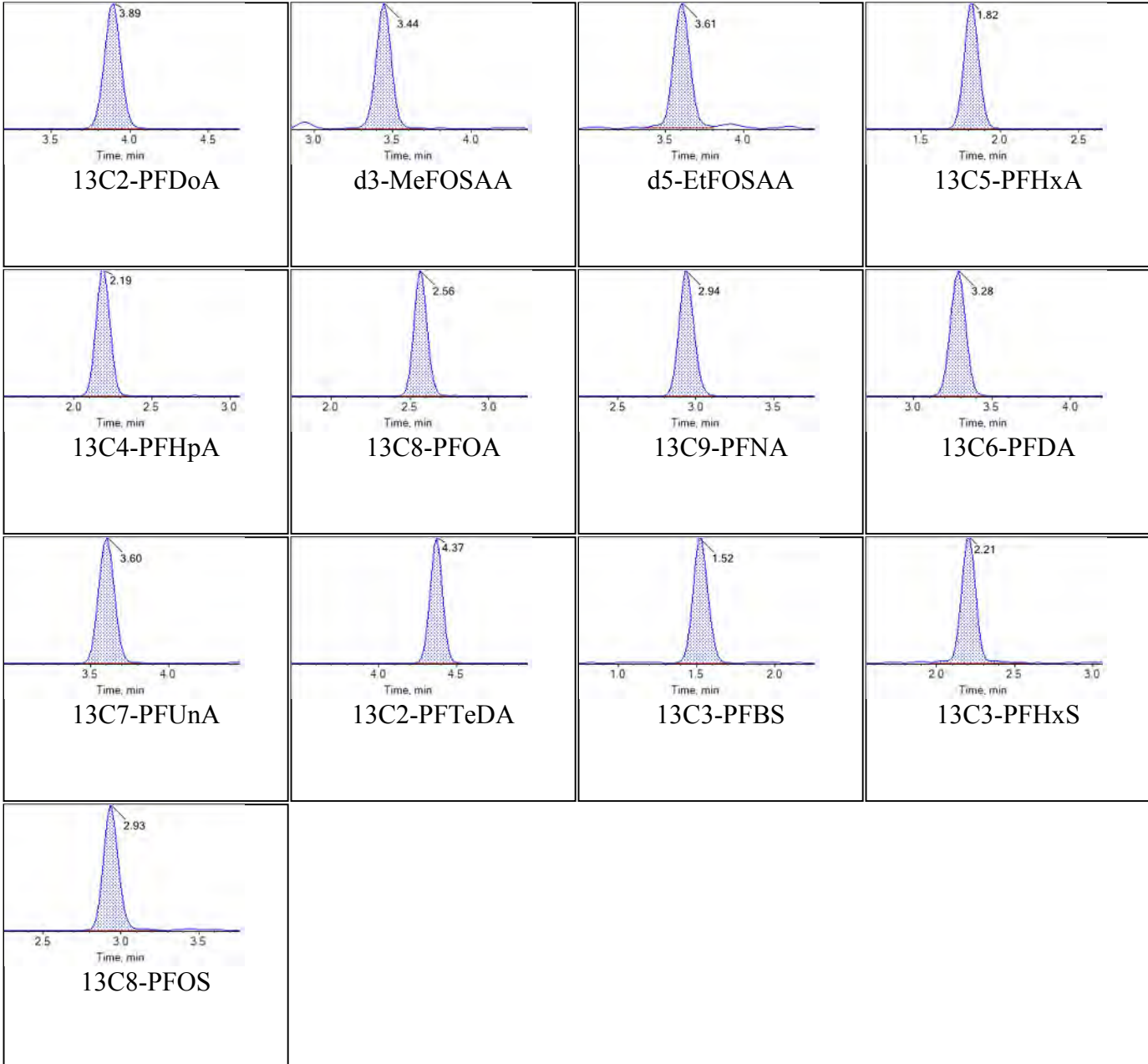
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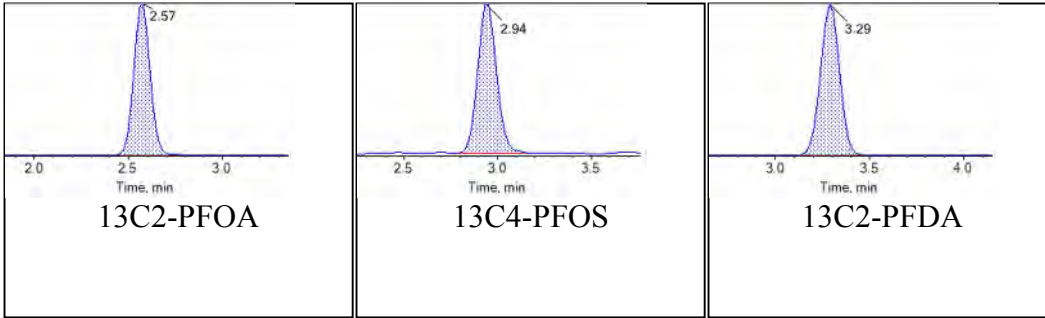
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Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:04:34	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



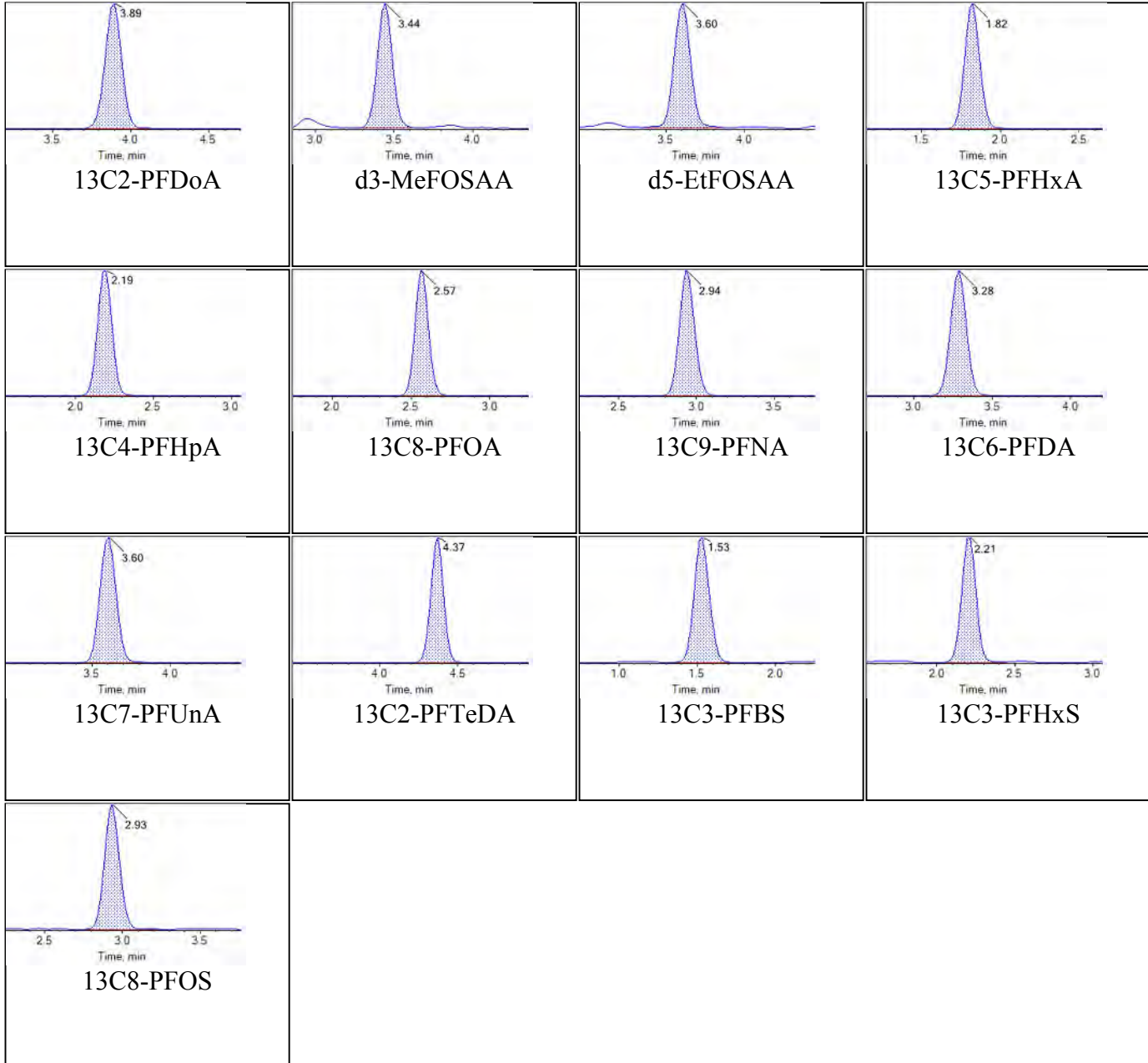
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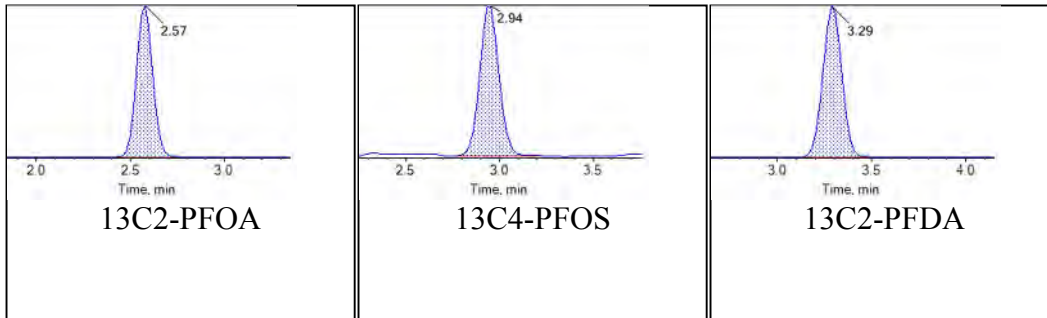
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Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:15:15	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



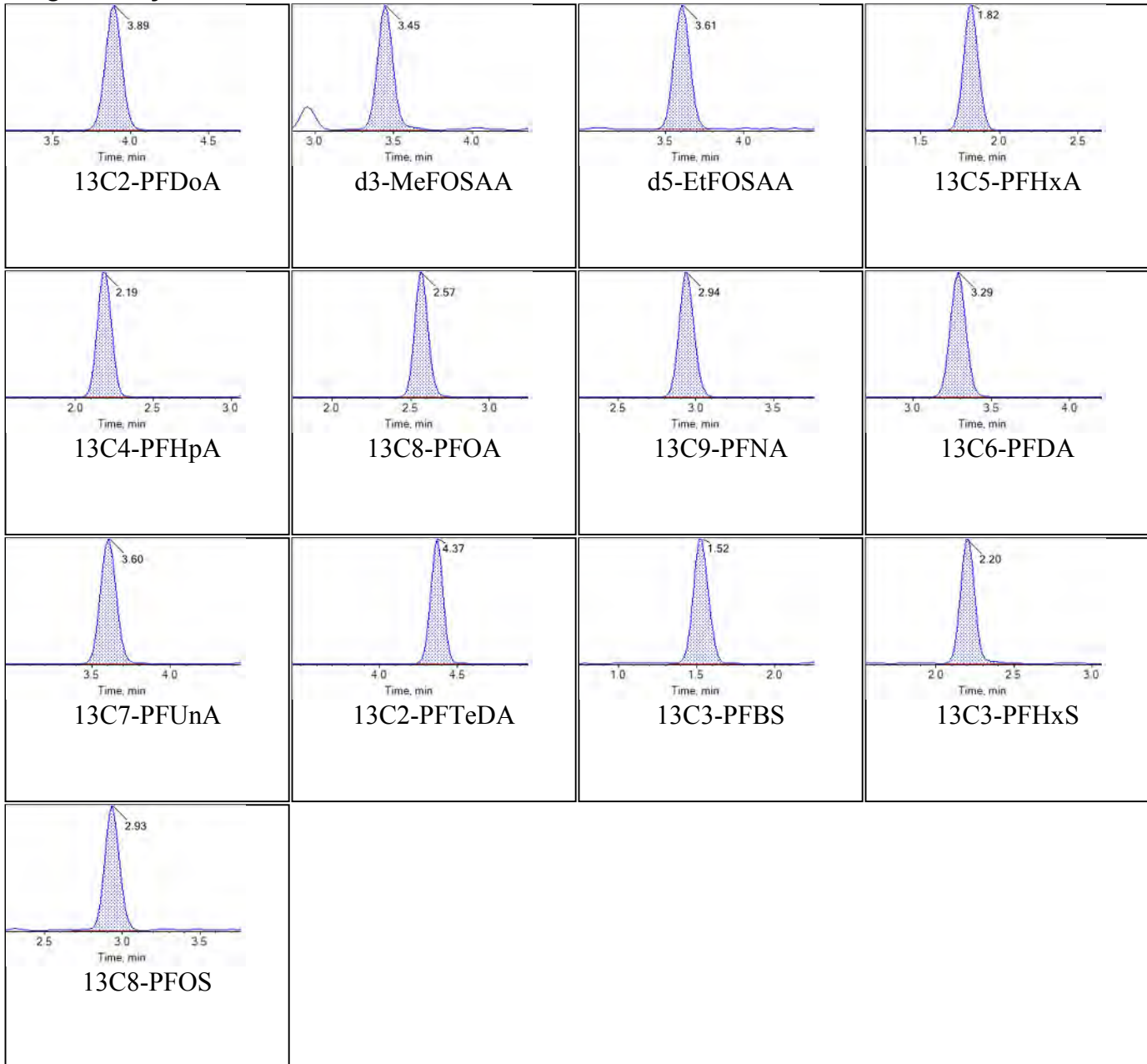
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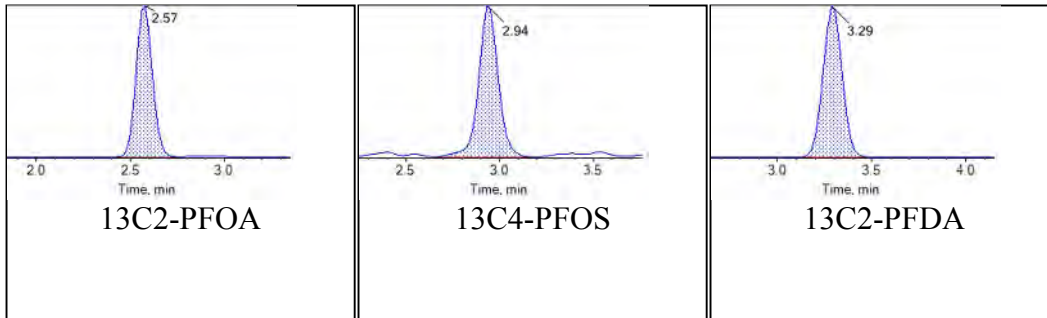
Sample Name	JV25	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:25:56	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



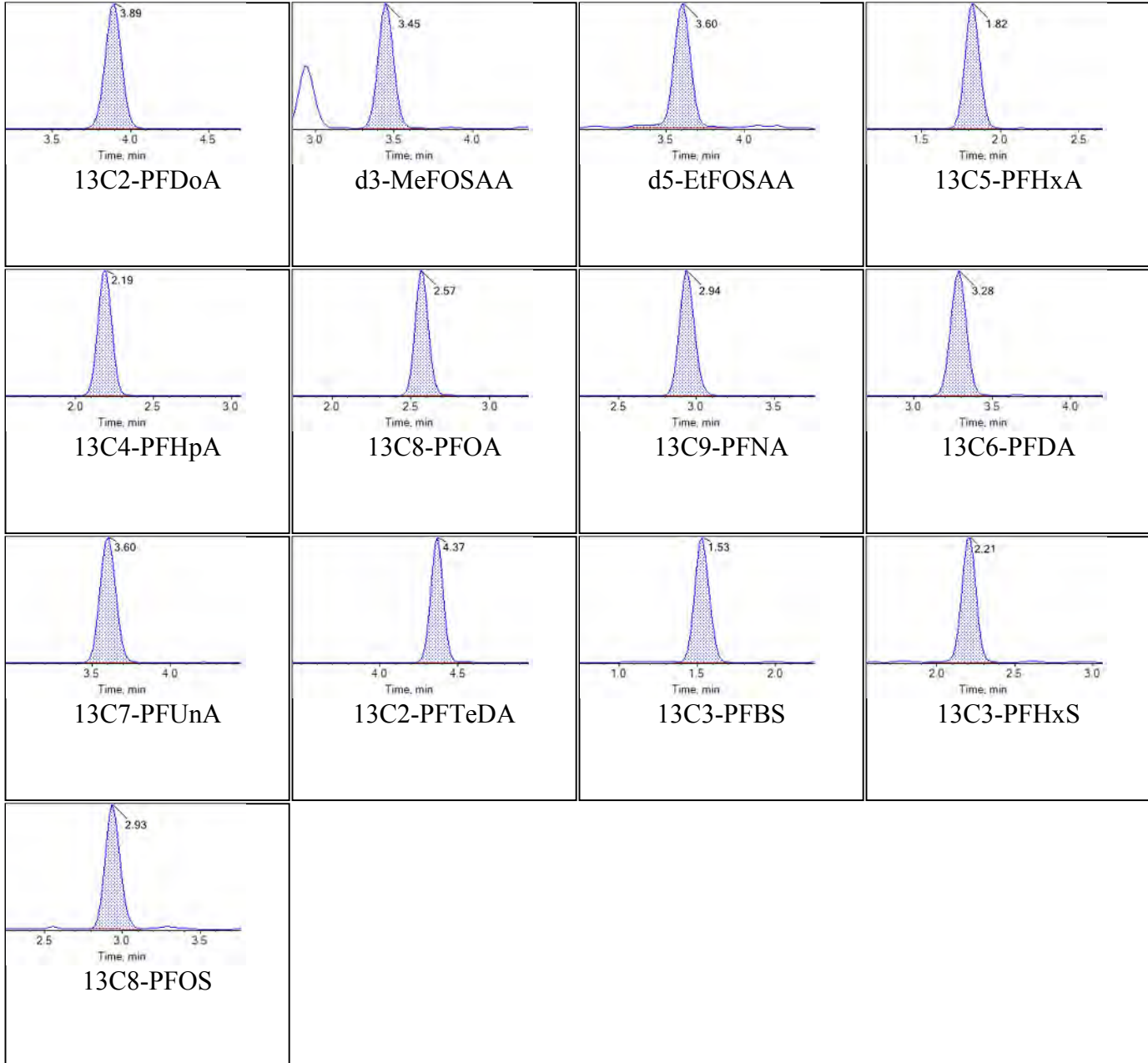
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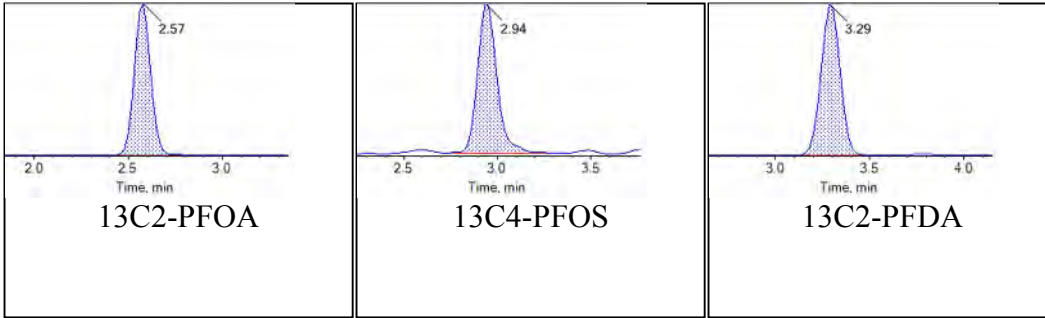
Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:36:37	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



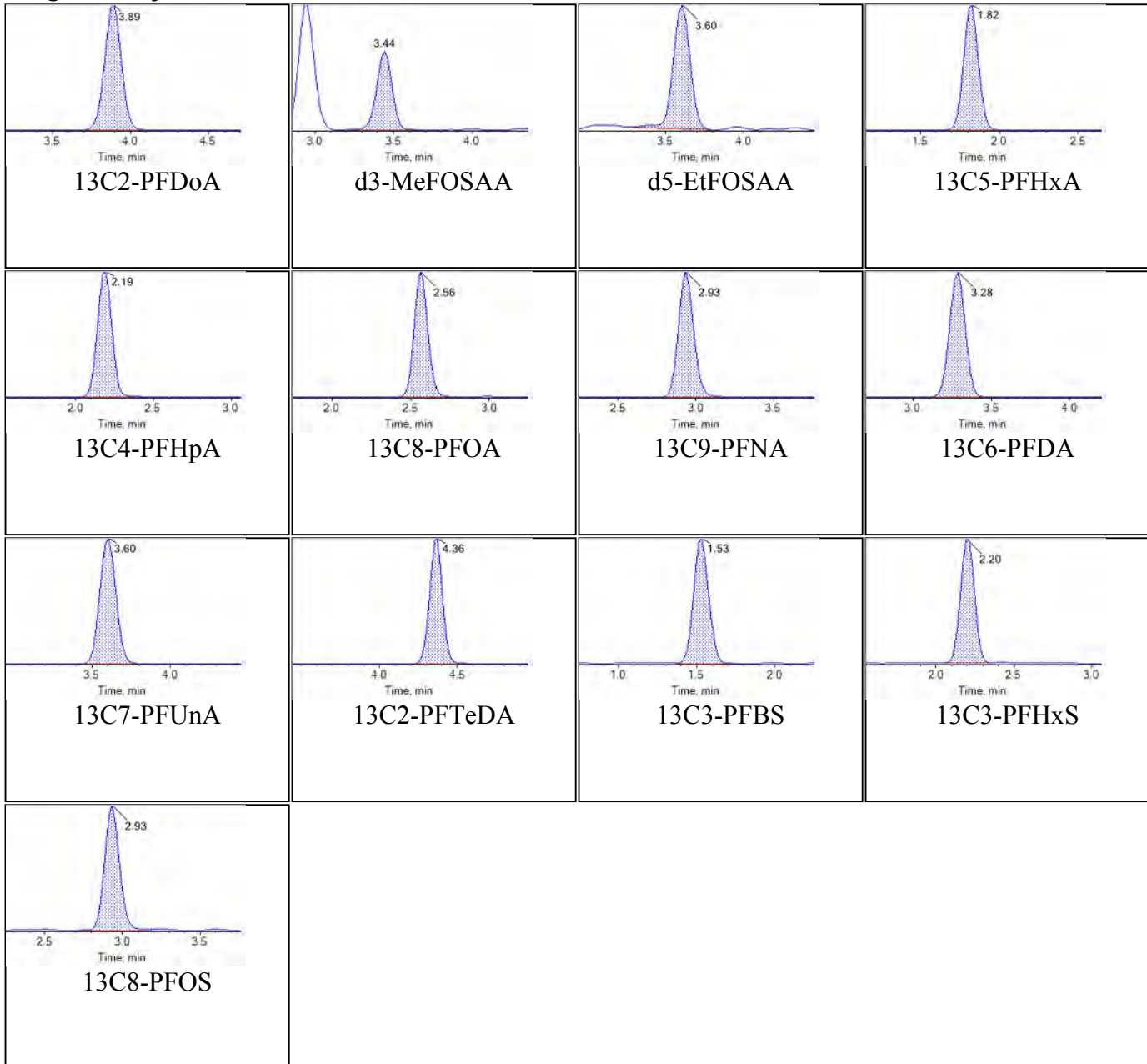
Internal Standards:



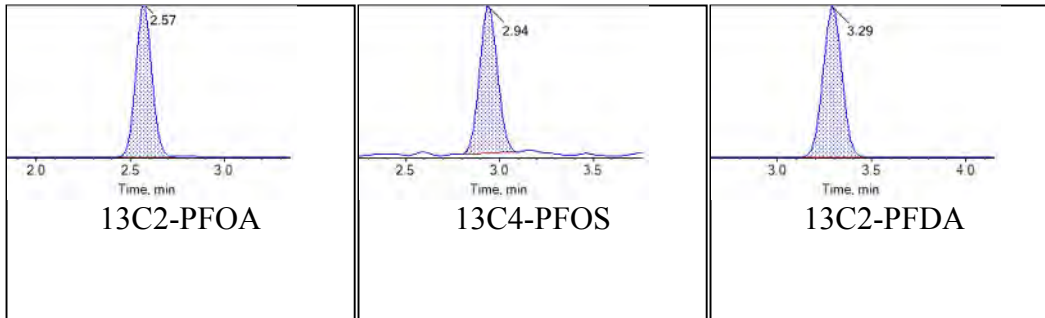
Sample Name	JV27	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:47:16	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



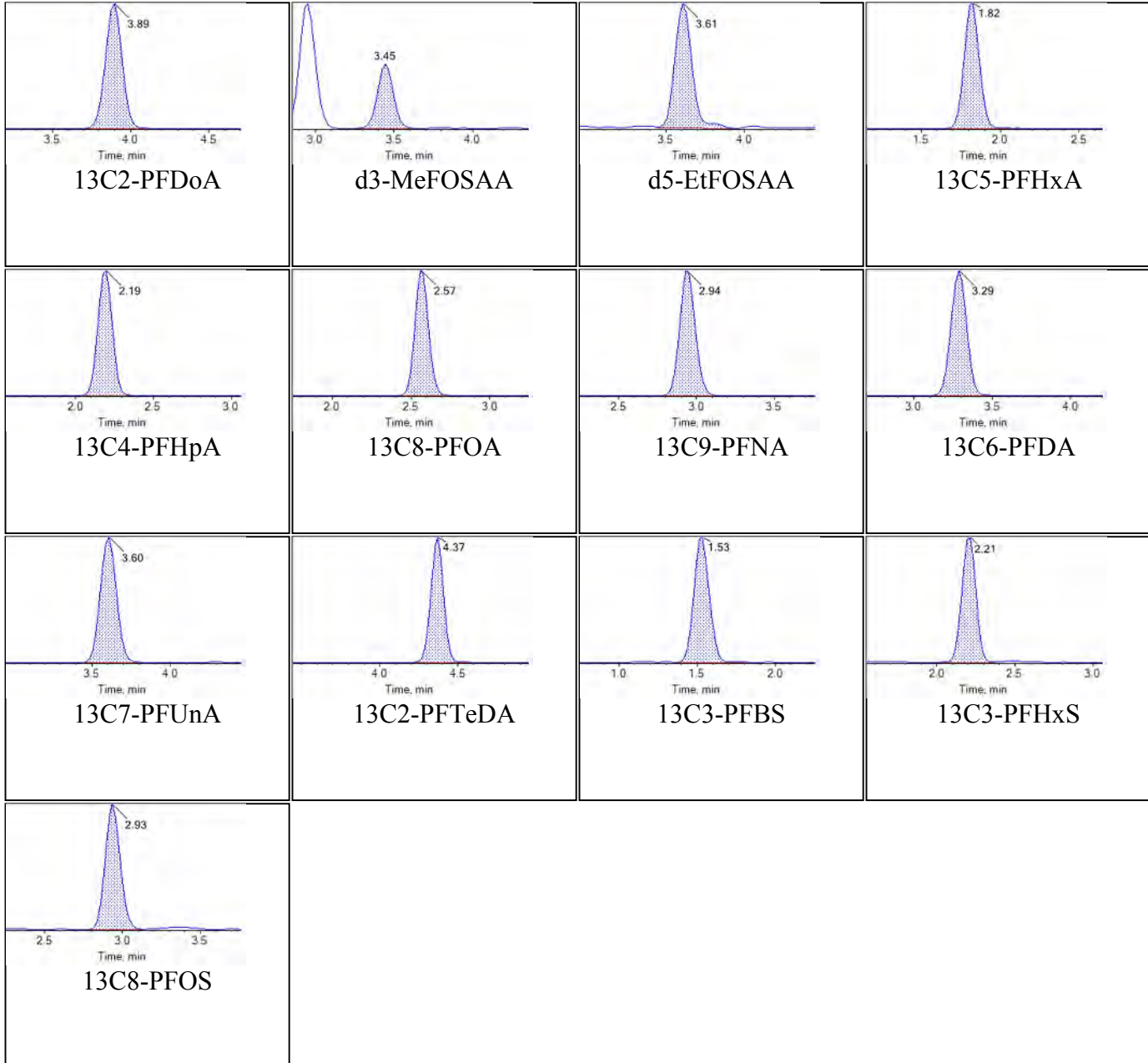
Internal Standards:



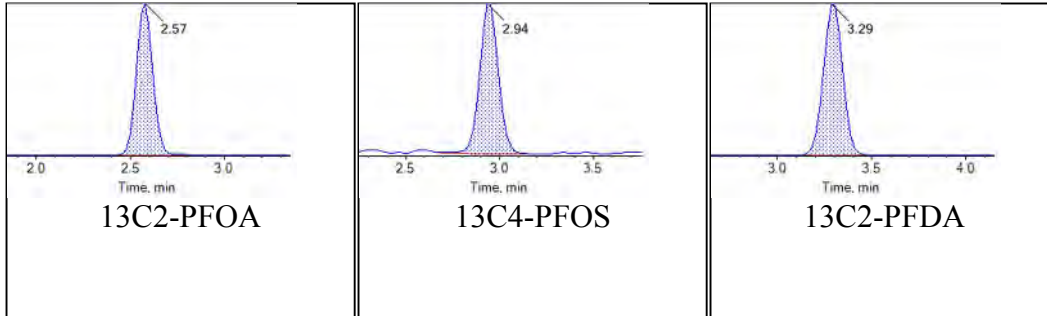
Sample Name	JV28	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T21:57:58	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



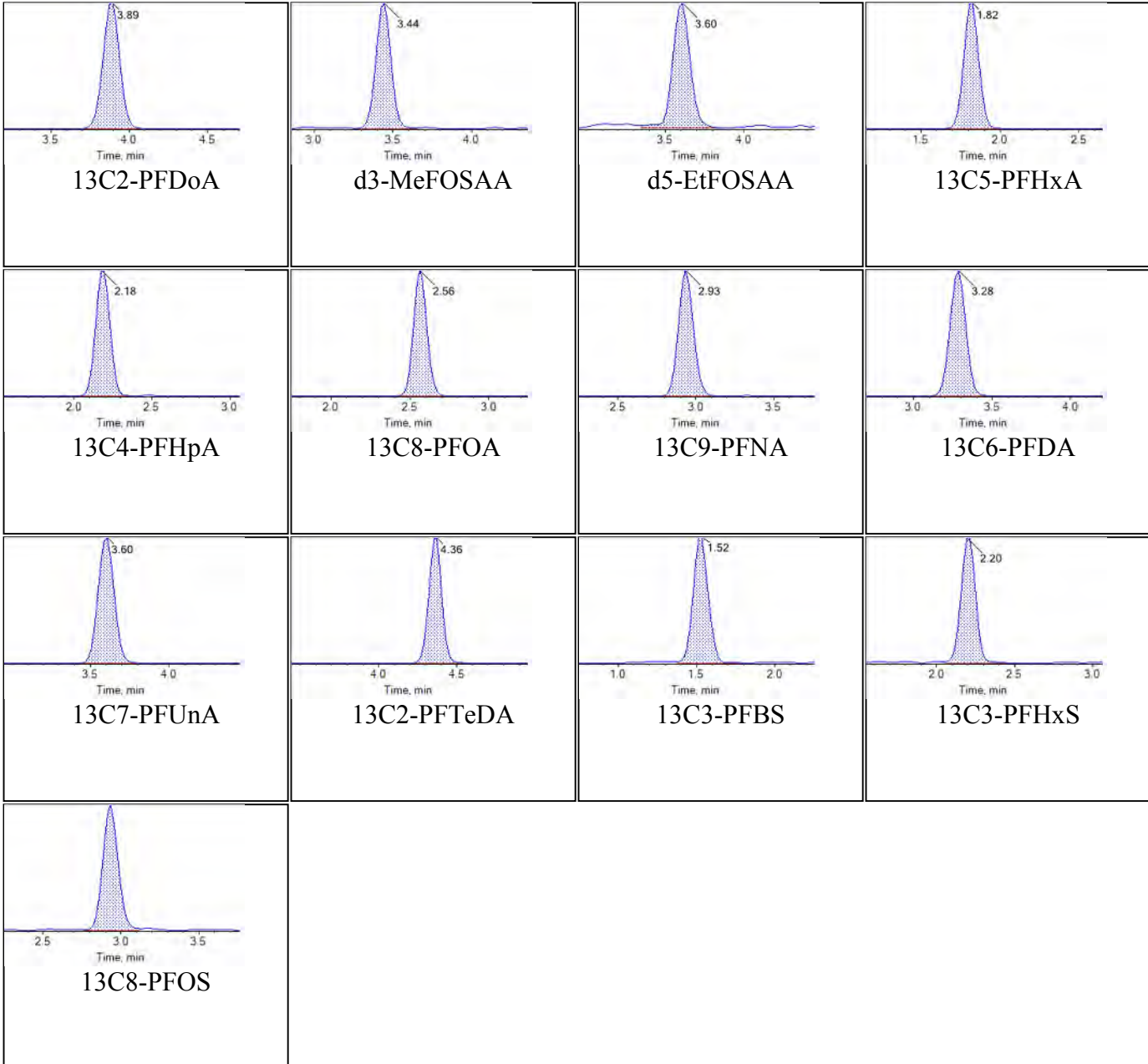
Internal Standards:



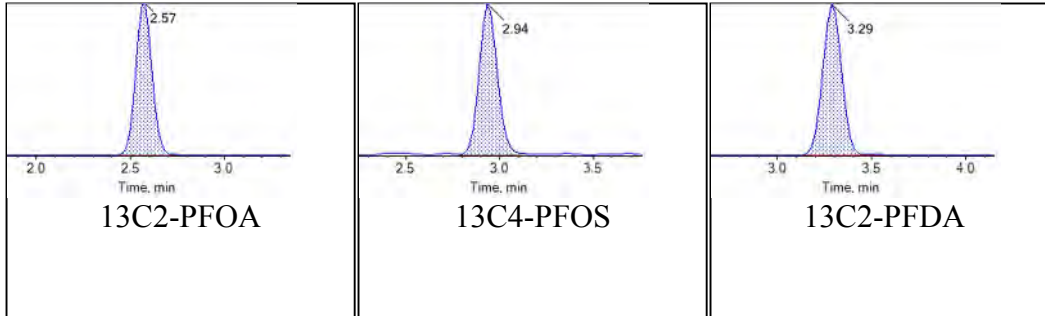
Sample Name	JV05 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



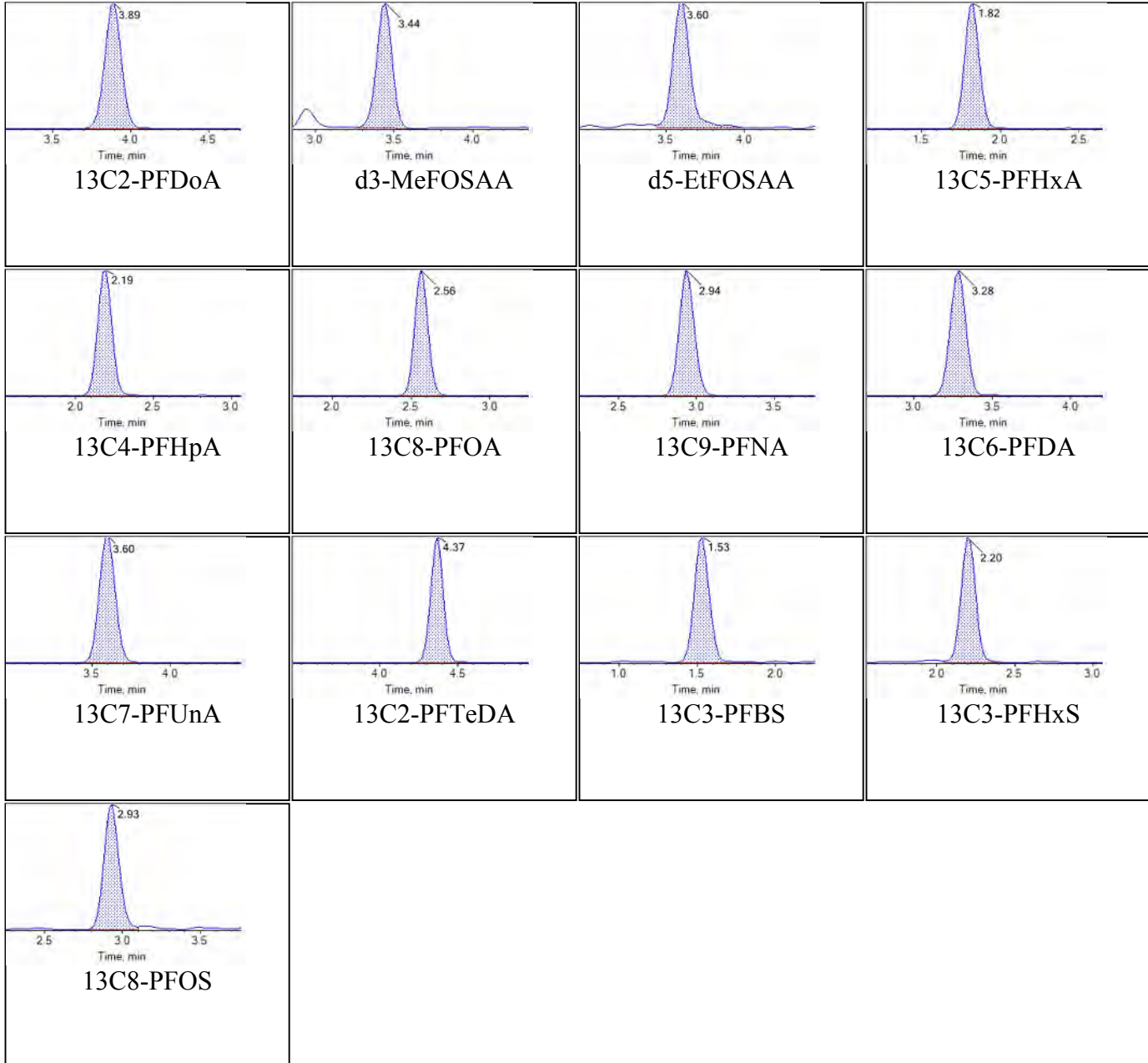
Internal Standards:



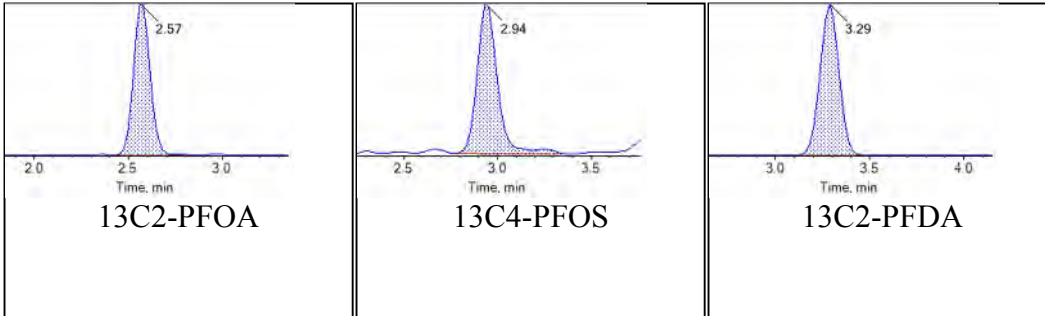
Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



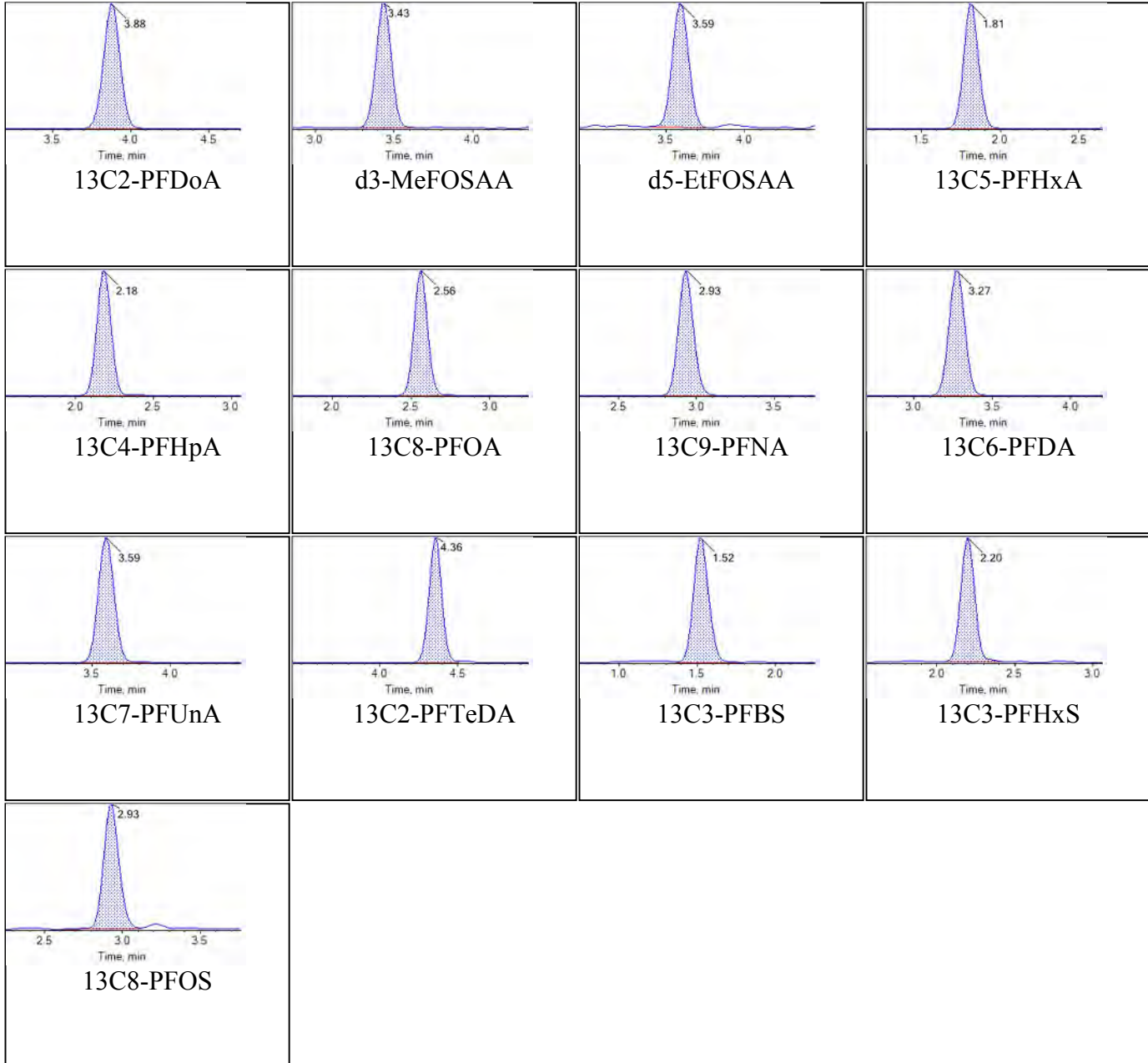
Internal Standards:



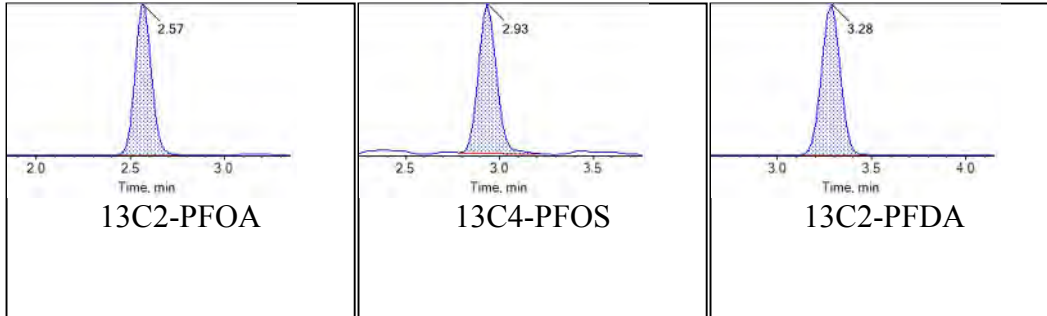
Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



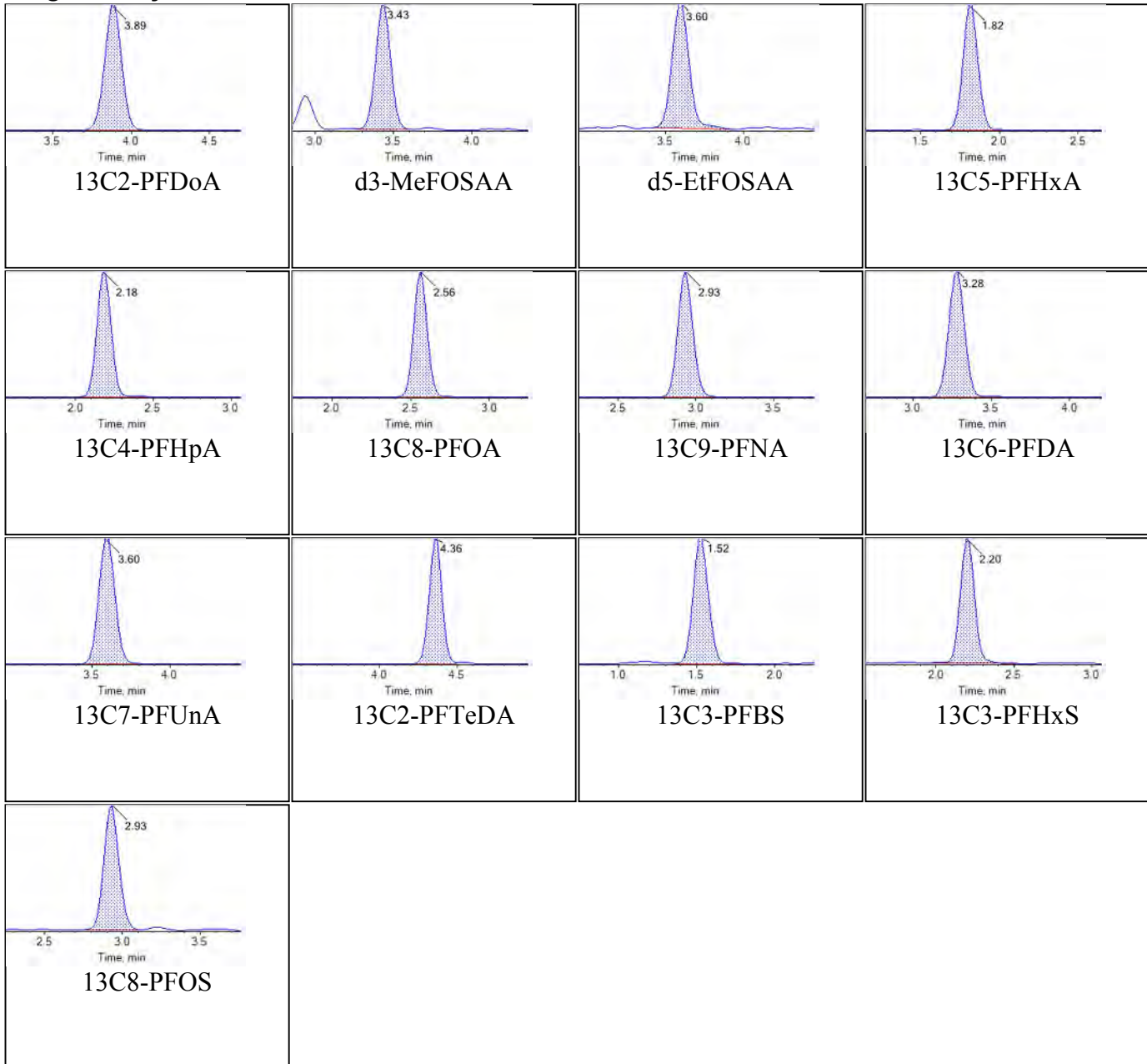
Internal Standards:



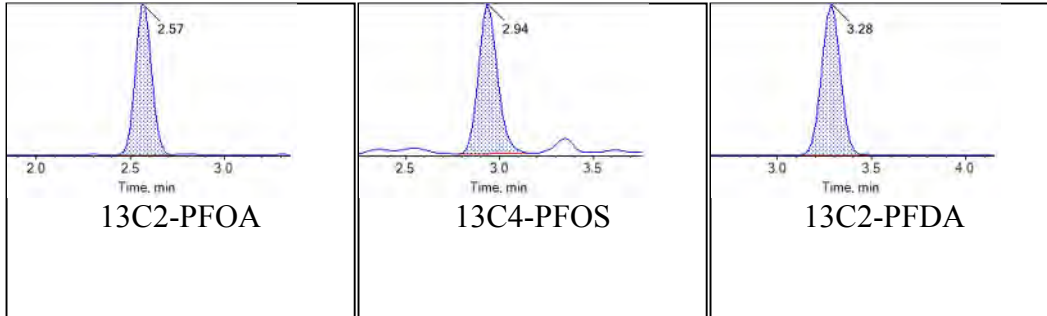
Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



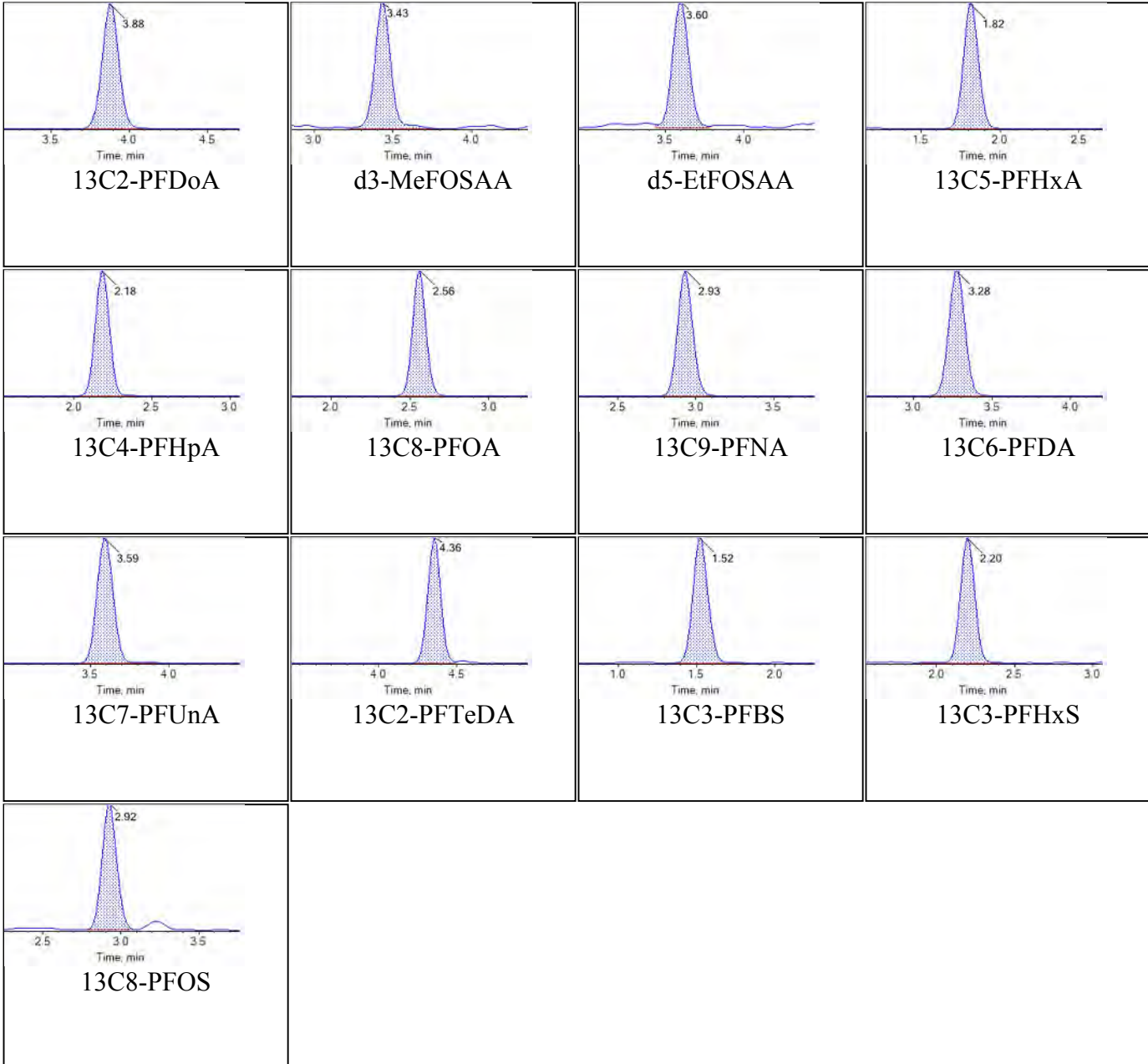
Internal Standards:



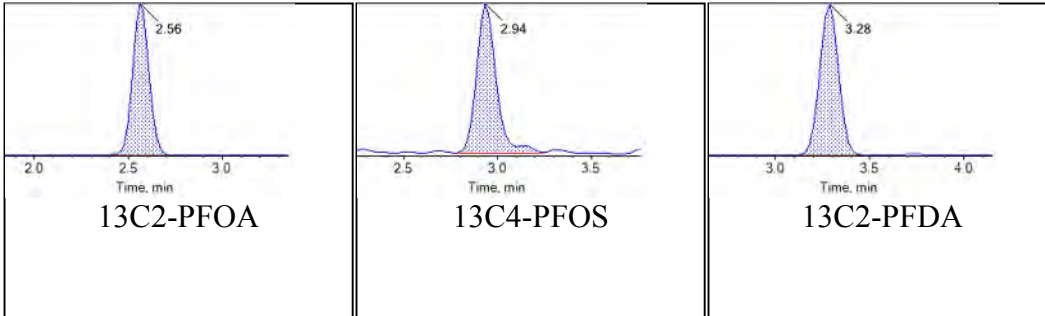
Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID	FFTA-FB01-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



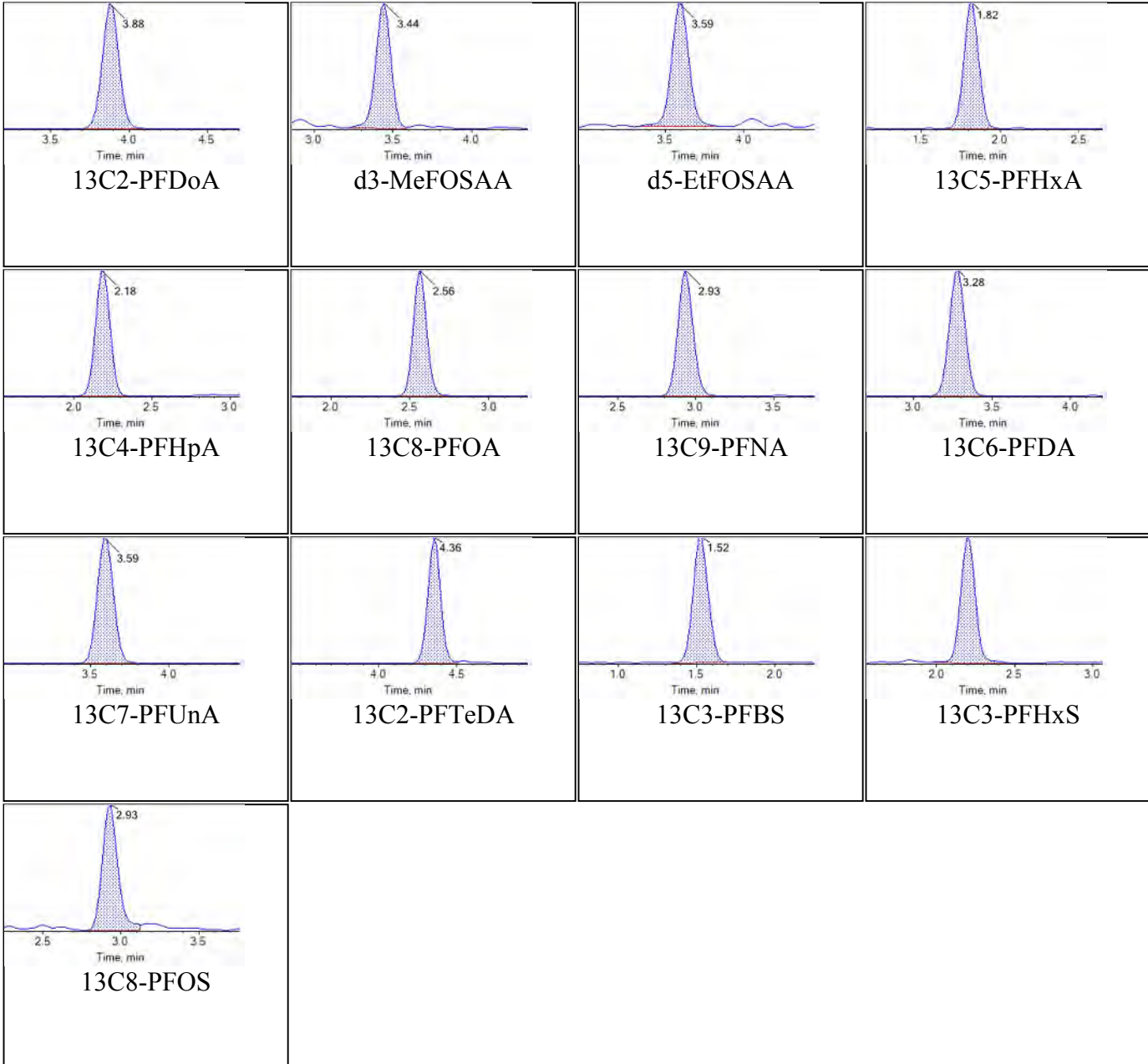
Internal Standards:



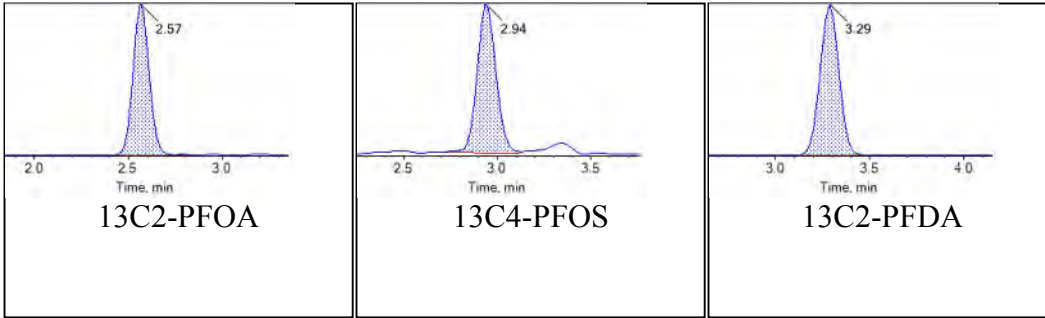
Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID	DRMO-FB02-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



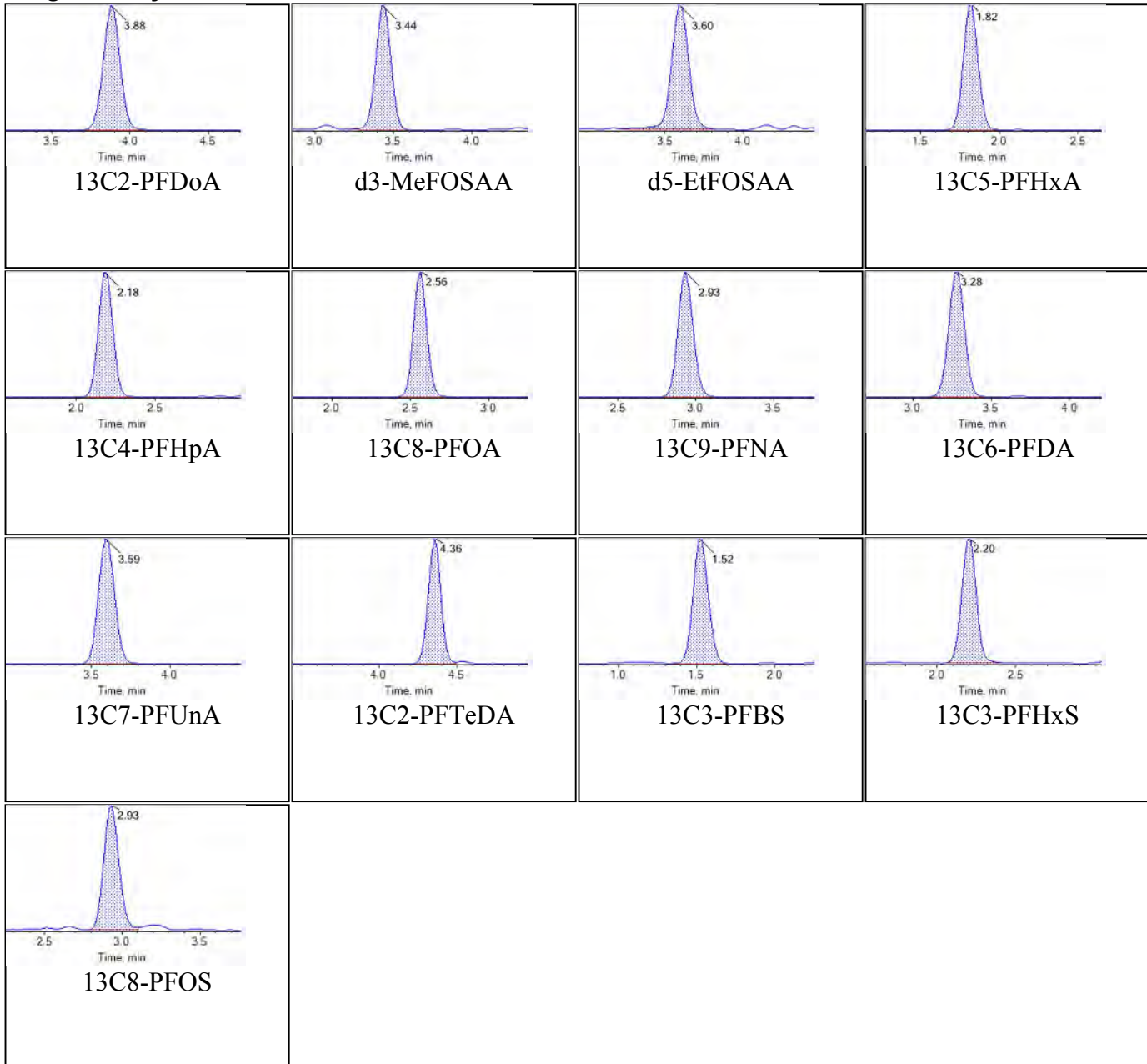
Internal Standards:



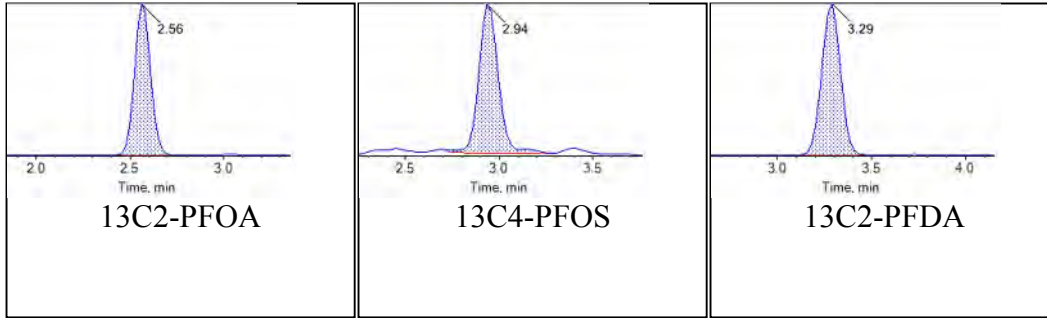
Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID	PSC51-FB03-052418	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



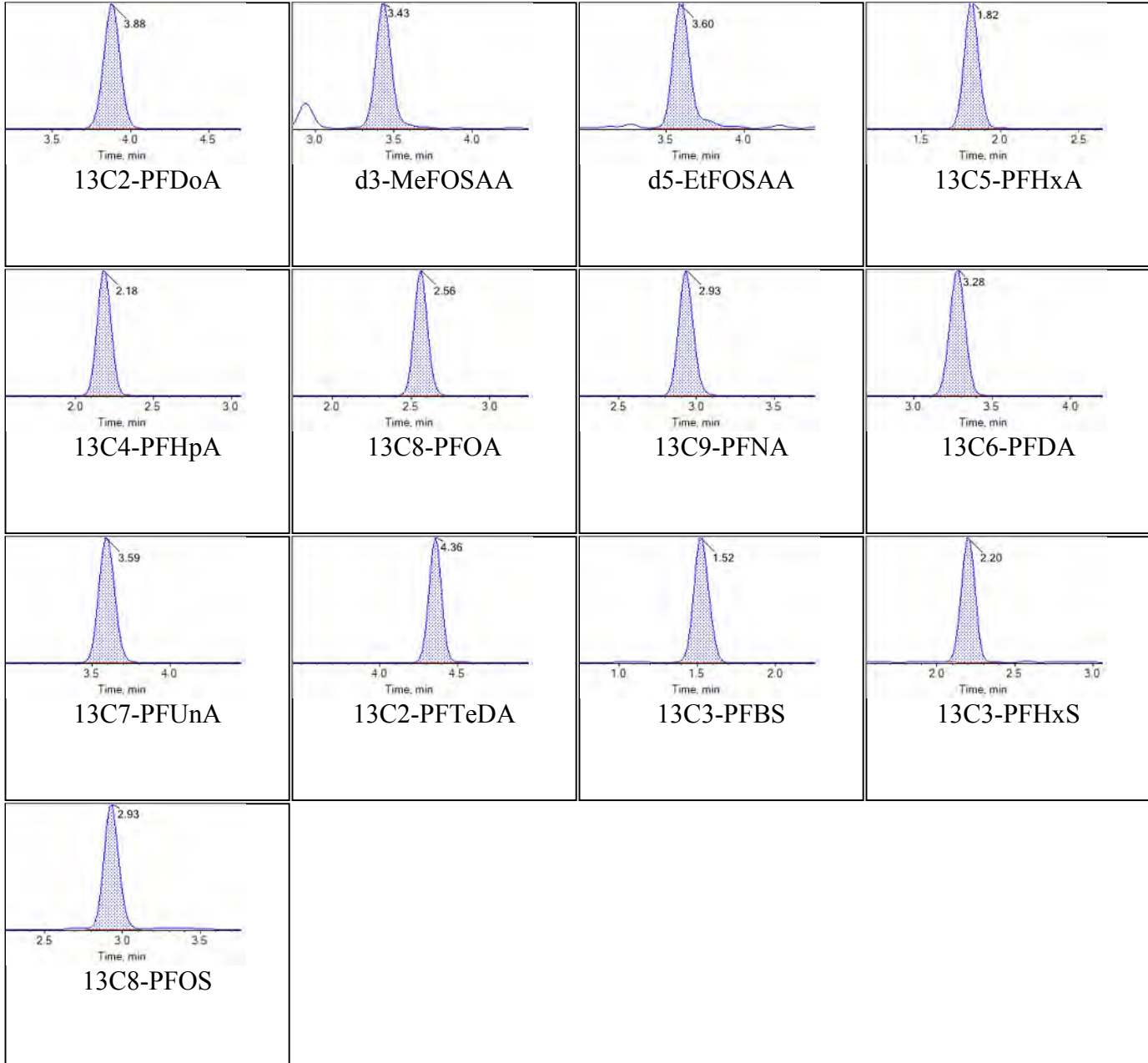
Internal Standards:



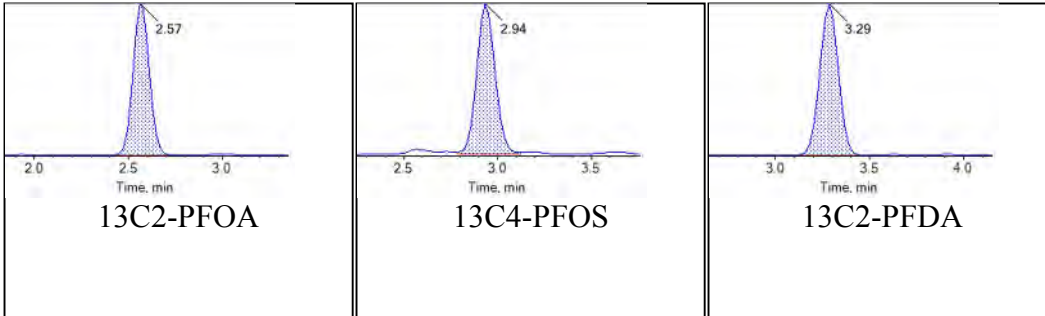
Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Chromatograms

Target Analytes:



Internal Standards:



Unused Data



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID FFTA-FB01-052418

Battelle ID J6245-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	2.17 J	0.19	0.50	5.00
PFHpA	0.16 U	0.16	0.50	5.00
PFOA	0.26 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTTrDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	0.16 J	0.13	0.50	5.00
PFHxS	0.73 J	0.11	0.40	5.00
PFOS	7.04 B	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	139
13C4-PFHpA	142
13C8-PFOA	141
13C9-PFNA	139
13C6-PFDA	115
13C7-PFUnA	100
13C2-PFDoA	92
13C2-PFTeDA	81
d3-MeFOSAA	88
d5-EtFOSAA	79
13C3-PFBS	128
13C3-PFHxS	127
13C8-PFOS	96



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID DRMO-FB02-052418

Battelle ID J6249-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	4.01 J	0.19	0.50	5.00
PFHpA	0.36 J	0.16	0.50	5.00
PFOA	0.92 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTeDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	1.35 J	0.13	0.50	5.00
PFHxS	6.94	0.11	0.40	5.00
PFOS	67.52	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	105
13C4-PFHpA	97
13C8-PFOA	102
13C9-PFNA	100
13C6-PFDA	95
13C7-PFUnA	96
13C2-PFDoA	83
13C2-PFTeDA	56
d3-MeFOSAA	79
d5-EtFOSAA	91
13C3-PFBS	95
13C3-PFHxS	113
13C8-PFOS	84



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID PSC51-FB03-052418

Battelle ID J6251-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.285
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	1.20 J	0.19	0.50	5.00
PFHpA	0.16 U	0.16	0.50	5.00
PFOA	0.24 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTeDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	0.13 U	0.13	0.50	5.00
PFHxS	0.56 J	0.11	0.40	5.00
PFOS	5.26 B	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	95
13C4-PFHpA	93
13C8-PFOA	95
13C9-PFNA	85
13C6-PFDA	109
13C7-PFUnA	86
13C2-PFDoA	68
13C2-PFTeDA	58
d3-MeFOSAA	83
d5-EtFOSAA	102
13C3-PFBS	97
13C3-PFHxS	104
13C8-PFOS	91



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JV05 IB			
Battelle ID	JV05 IB_06/07/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	06/07/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	NA			
Sample Size	NA			
Size Unit-Basis	NA			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.19 U	0.19	0.50	5.00
PFHpA	0.16 U	0.16	0.50	5.00
PFOA	0.18 U	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTTrDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	0.13 U	0.13	0.50	5.00
PFHxS	0.11 U	0.11	0.40	5.00
PFOS	0.19 U	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	76
13C4-PFHpA	76
13C8-PFOA	79
13C9-PFNA	79
13C6-PFDA	77
13C7-PFUnA	72
13C2-PFDoA	70
13C2-PFTeDA	69
d3-MeFOSAA	69
d5-EtFOSAA	61
13C3-PFBS	65
13C3-PFHxS	61
13C8-PFOS	64



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Procedural Blank				
Battelle ID	CQ896PB-FS				
Sample Type	PB				
Collection Date	06/05/2018				
Extraction Date	06/05/2018				
Analysis Date	06/07/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	WATER				
Sample Size	0.250				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	2.64 JN	0.19	0.50	5.00	
PFHpA	0.16 U	0.16	0.50	5.00	
PFOA	0.25 J	0.18	0.50	5.00	
PFNA	0.26 U	0.26	1.00	5.00	
PFDA	0.16 U	0.16	0.50	5.00	
PFUnA	0.29 U	0.29	1.00	5.00	
PFDaA	0.18 U	0.18	0.50	5.00	
PFTeDA	0.15 U	0.15	0.50	5.00	
PFTeDA	0.25 U	0.25	1.00	5.00	
NMeFOSAA	0.56 U	0.56	2.00	5.00	
NEtFOSAA	0.49 U	0.49	1.00	5.00	
PFBS	0.13 U	0.13	0.50	5.00	
PFHxS	0.30 J	0.11	0.40	5.00	
PFOS	2.60 JN	0.19	0.50	5.00	

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	107
13C8-PFOA	117
13C9-PFNA	115
13C6-PFDA	104
13C7-PFUnA	101
13C2-PFDaA	73
13C2-PFTeDA	58
d3-MeFOSAA	102
d5-EtFOSAA	108
13C3-PFBS	107
13C3-PFHxS	113
13C8-PFOS	88



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Laboratory Control Sample					
Battelle ID	CQ897LCS-FS					
Sample Type	LCS					
Collection Date	06/05/2018					
Extraction Date	06/05/2018					
Analysis Date	06/07/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	11.62 B	10.10	115		51	137
PFHpA	10.09	10.00	101		48	136
PFOA	10.66	10.00	107		49	141
PFNA	8.90	10.00	89		58	122
PFDA	9.09	10.00	91		59	135
PFUnA	9.77	10.00	98		64	134
PFDoA	10.34	10.00	103		75	131
PFTeDA	10.13	10.00	101		42	148
PFTeDA	9.07	10.00	91		42	158
NMeFOSAA	9.13	10.00	91		50	146
NEtFOSAA	9.09	10.00	91		51	131
PFBS	10.21	10.10	101		56	134
PFHxS	15.00	10.10	149	N	52	128
PFOS	58.59	10.00	586	N	40	144

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	113
13C8-PFOA	116
13C9-PFNA	120
13C6-PFDA	129
13C7-PFUnA	115
13C2-PFDoA	105
13C2-PFTeDA	90
d3-MeFOSAA	103
d5-EtFOSAA	112
13C3-PFBS	120
13C3-PFHxS	127
13C8-PFOS	101



Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
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 Method detection limit (MDL) value, MDL reported

"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"307-24-4"	"PFHxA"	"2.640000"	
"ng/L"	"JN"	".190000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"375-85-9"	"PFHpA"	".500000"	
"ng/L"	"U"	".160000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"335-67-1"	"PFOA"	".250000"	"ng/L"
"J"	".180000"	"MDL"	""	"T"	""	""	"5.000000"	"LOQ" "YES" "-99.000000" "" ".250000"
".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"375-95-1"	"PFNA"	"1.000000"	
"ng/L"	"U"	".260000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	"1.000000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"335-76-2"	"PFDA"	".500000"	"ng/L"
"U"	".160000"	"MDL"	""	"T"	""	""	"5.000000"	"LOQ" "YES" "-99.000000" "" ".250000"
".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"2058-94-8"	"PFUnA"	"1.000000"	
"ng/L"	"U"	".290000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	"1.000000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"307-55-1"	"PFDaA"	".500000"	
"ng/L"	"U"	".180000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"72629-94-8"	"PFTTrDA"	".500000"	
"ng/L"	"U"	".150000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"376-06-7"	"PFTeDA"	"1.000000"	
"ng/L"	"U"	".250000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	"1.000000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"2355-31-9"	"NMeFOSAA"		
"2.000000"	"ng/L"	"U"	".560000"	"MDL"	""	"T"	""	"5.000000"
"-99.000000"	""	".250000"	".000500"	"2.000000"	""			
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"2991-50-6"	"NEtFOSAA"	"1.000000"	
"ng/L"	"U"	".490000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	"1.000000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"375-73-5"	"PFBS"	".500000"	"ng/L"
"U"	".130000"	"MDL"	""	"T"	""	""	"5.000000"	"LOQ" "YES" "-99.000000" "" ".250000"
".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"355-46-4"	"PFHxS"	".300000"	
"ng/L"	"J"	".110000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".400000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"1763-23-1"	"PFOS"	"2.600000"	
"ng/L"	"JN"	".190000"	"MDL"	""	"T"	""	"5.000000"	"LOQ" "YES" "-99.000000" ""
".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2217"	"13C5-PFHxA"	".440000"	
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".250000"	".000500"	".500000"	""					
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2218"	"13C4-PFHpA"	".430000"	
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"107.00"	""	"-99.000000" "NA" "YES" ".400000" ""
".250000"	".000500"	".500000"	""					
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"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"117.00"	""	"-99.000000" "NA" "YES" ".400000" ""
".250000"	".000500"	".500000"	""					
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"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"115.00"	""	"-99.000000" "NA" "YES" ".400000" ""

".250000"	".000500"	".500000"	""						
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"YES"	".400000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2223"	"13C7-PFUnA"	".400000"		
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"101.00"	""	"-99.000000"	"NA"
"YES"	".400000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2112"	"13C2-PFDoA"	".290000"		
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"73.00"	""	"-99.000000"	"NA"
"YES"	".400000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2224"	"13C2-PFTeDA"			
".230000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"58.00"	""	"-99.000000"
"NA"	"YES"	""							
".400000"	""	".250000"	".000500"	".500000"	""				
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2125"	"d3-MeFOSAA"			
".410000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"102.00"	""	"-99.000000"
"NA"	"YES"	""							
".400000"	""	".250000"	".000500"	".500000"	""				
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2126"	"d5-EtFOSAA"	".430000"		
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"YES"	".400000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2226"	"13C3-PFBS"	".400000"		
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"107.00"	""	"-99.000000"	"NA"
"YES"	".370000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2227"	"13C3-PFHxS"	".430000"		
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"113.00"	""	"-99.000000"	"NA"
"YES"	".380000"	""							
".250000"	".000500"	".500000"	""						
"CQ896PB-FS"	"SOP 5-369"	"Initial"	"CQ896PB-FS"	"BNO"	"BDO-2228"	"13C8-PFOS"	".340000"		
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"YES"	".380000"	""							
".250000"	".000500"	".500000"	""						
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"ng/L"	"B"	".190000"	"MDL"	""	"T"	"115.00"	""	"5.000000"	"LOQ"
"YES"	".10.100000"	""							
""	".250000"	".000500"	".500000"	""					
"CQ897LCS-FS"	"SOP 5-369"	"Initial"	"CQ897LCS-FS"	"BNO"	"375-85-9"	"PFHpA"	"10.090000"		
"ng/L"	""	".160000"	"MDL"	""	"T"	"101.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							
".250000"	".000500"	".500000"	""						
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"ng/L"	""	".180000"	"MDL"	""	"T"	"107.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							
".250000"	".000500"	".500000"	""						
"CQ897LCS-FS"	"SOP 5-369"	"Initial"	"CQ897LCS-FS"	"BNO"	"375-95-1"	"PFNA"	"8.900000"		
"ng/L"	""	".260000"	"MDL"	""	"T"	"89.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							
".250000"	".000500"	".1.000000"	""						
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"ng/L"	""	".160000"	"MDL"	""	"T"	"91.00"	""	"5.000000"	"LOQ"
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"ng/L"	""	".290000"	"MDL"	""	"T"	"98.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							
".250000"	".000500"	".1.000000"	""						
"CQ897LCS-FS"	"SOP 5-369"	"Initial"	"CQ897LCS-FS"	"BNO"	"307-55-1"	"PFDoA"	"10.340000"		
"ng/L"	""	".180000"	"MDL"	""	"T"	"103.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							
".250000"	".000500"	".500000"	""						
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"10.130000"	"ng/L"	""	".150000"	"MDL"	""	"T"	"101.00"	""	"5.000000"
"LOQ"	"YES"	""							
""	".250000"	".000500"	".500000"	""					
"CQ897LCS-FS"	"SOP 5-369"	"Initial"	"CQ897LCS-FS"	"BNO"	"376-06-7"	"PFTeDA"	"9.070000"		
"ng/L"	""	".250000"	"MDL"	""	"T"	"91.00"	""	"5.000000"	"LOQ"
"YES"	".10.000000"	""							

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file:///C:/Users/gw063173/Desktop/Tetra%20Tech/JACKSONVILLE NAS/18-0351/3 EDD%20SDG%2018-0351.txt[6/1/2019 3:36:25 PM]

"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2222"	"13C6-PFDA"						
".400000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"115.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2223"	"13C7-PFUnA"						
".350000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"100.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2112"	"13C2-PFD _o A"						
".320000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"92.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2224"	"13C2-PFTeDA"						
".280000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"81.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2125"	"d3-MeFOSAA"						
".300000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"88.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2126"	"d5-EtFOSAA"						
".270000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"79.00"	""	"-99.000000"	"NA"	"YES"	
"340000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2226"	"13C3-PFBS"						
".410000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"128.00"	""	"-99.000000"	"NA"	"YES"	
".320000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2227"	"13C3-PFHxS"						
".410000"	"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"127.00"	""	"-99.000000"	"NA"	"YES"	
".330000"	""	".290000"	".000500"	".500000"	""							
"FFTA-FB01-052418"	"SOP 5-369"	"Initial"	"J6245-FS"	"BNO"	"BDO-2228"	"13C8-PFOS"	".320000"					
"ng/L"	""	"-99.000000"	"NA"	""	"SIS"	"96.00"	""	"-99.000000"	"NA"	"YES"	".330000"	
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"ng/L"	"J"	".160000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".430000"	""								
"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"375-85-9"	"PFHpA"	".360000"					
"ng/L"	"J"	".140000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".430000"	""								
"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"335-67-1"	"PFOA"	".920000"					
"ng/L"	"J"	".160000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".430000"	""								
"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"375-95-1"	"PFNA"	".860000"					
"ng/L"	"U"	".220000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".860000"	""								
"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"335-76-2"	"PFDA"	".430000"					
"ng/L"	"U"	".140000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".430000"	""								
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"ng/L"	"U"	".250000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".860000"	""								
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"ng/L"	"U"	".160000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
".290000"	""	".000500"	".430000"	""								
"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"72629-94-8"	"PFT _r DA"	".430000"					
"ng/L"	"U"	".130000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	
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"DRMO-FB02-052418"	"SOP 5-369"	"Initial"	"J6249-FS"	"BNO"	"376-06-7"	"PFTeDA"	".860000"					
"ng/L"	"U"	".220000"	"MDL"	""	"T"	""	"4.310000"	"LOQ"	"YES"	"-99.000000"	""	

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"	".285000"	".000500"	".500000"	"							
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"	".285000"	".000500"	".500000"	"							
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"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2112"	"13C2-PFDoA"	".240000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"68.00"	"	"-99.000000"	"NA"	"YES"	".350000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2224"	"13C2-PFTeDA"	".200000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"58.00"	"	"-99.000000"	"NA"	"YES"	".350000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2125"	"d3-MeFOSAA"	".290000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"83.00"	"	"-99.000000"	"NA"	"YES"	".350000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2126"	"d5-EtFOSAA"	".360000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"102.00"	"	"-99.000000"	"NA"	"YES"	".350000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2226"	"13C3-PFBS"	".320000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"97.00"	"	"-99.000000"	"NA"	"YES"	".330000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2227"	"13C3-PFHxS"	".340000"				
"ng/L"	"	"-99.000000"	"NA"	"	"SIS"	"104.00"	"	"-99.000000"	"NA"	"YES"	".330000"
"	".285000"	".000500"	".500000"	"							
"PSC51-FB03-052418"	"SOP 5-369"	"Initial"	"J6251-FS"	"BNO"	"BDO-2228"	"13C8-PFOS"	".300000"				
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"	".285000"	".000500"	".500000"	"							
"112G08005-SE0375"	"SE0375 – NAS Jacksonville"	"CQ896PB-FS"	"	"WATER"	"CQ896PB-FS"						
"Method Bla"	"	"-99.000000"	"SOP 5-369"	"Gen Prep"	"Initial"	"06/05/2018 14:34"	"06/07/2018 22:51"				
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"18-0142"	"DP-18-0142"	"18-0351"	"06/05/2018 14:34"	"07/13/2018 15:13"	"						
"112G08005-SE0375"	"SE0375 – NAS Jacksonville"	"CQ897LCS-FS"	"	"WATER"	"CQ897LCS-FS"						
"LCS"	"	"-99.000000"	"SOP 5-369"	"Gen Prep"	"Initial"	"06/05/2018 14:34"	"06/07/2018 23:02"	"BNO"			
"COA"	"NA"	"T"	"2.000"	"NA"	"NA"	"	"100.000000"	"18-0351"	"18-0351"	"DP-18-0142"	
"DP-18-0142"	"18-0351"	"06/05/2018 14:34"	"07/13/2018 15:13"	"							
"112G08005-SE0375"	"SE0375 – NAS Jacksonville"	"FFTA-FB01-052418"	"05/24/2018 11:20"	"GW QC"							
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"112G08005-SE0375"	"SE0375 – NAS Jacksonville"	"DRMO-FB02-052418"	"05/24/2018 14:00"	"GW QC"							
"J6249-FS"	"NM"	"SHP-180525-01"	".700000"	"SOP 5-369"	"Gen Prep"	"Initial"	"06/05/2018 14:34"				
"06/07/2018 23:23"	"BNO"	"COA"	"NA"	"T"	"2.000"	"NA"	"NA"	"	"100.000000"	"18-0351"	
"18-0351"	"DP-18-0142"	"DP-18-0142"	"18-0351"	"05/25/2018 10:30"	"07/13/2018 15:13"	"					
"112G08005-SE0375"	"SE0375 – NAS Jacksonville"	"PSC51-FB03-052418"	"05/24/2018 16:15"	"GW QC"							
"J6251-FS"	"NM"	"SHP-180525-01"	".700000"	"SOP 5-369"	"Gen Prep"	"Initial"	"06/05/2018 14:34"				
"06/07/2018 23:34"	"BNO"	"COA"	"NA"	"T"	"2.000"	"NA"	"NA"	"	"100.000000"	"18-0351"	
"18-0351"	"DP-18-0142"	"DP-18-0									



TETRA TECH

INTERNAL CORRESPONDENCE

TO: M. PETERSON **DATE:** JUNE 18, 2018

FROM: MICHELLE L. WOEBER **COPIES:** DV FILE

SUBJECT: ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)
NAVAL AIR STATION (NAS), JACKSONVILLE
JACKSONVILLE, FLORIDA
SAMPLE DELIVERY GROUP (SDG) 18-0351

SAMPLES: 3/Aqueous/PFAS

DRMO-FB02-052418 FFTA-FB01-052418 PSC51-FB03-052418

Overview

The sample set for NAS Jacksonville, SDG 18-0351 consisted of three (3) Field Reagent Blanks (FRBs). All three (3) FRBs were analyzed for polyfluoroalkyl substances (PFAS). No field duplicate sample pair was included in this SDG.

The samples were collected by Tetra Tech, Inc. on May 24, 2018 and analyzed by Battelle Norwell Operations. All analyses were conducted in accordance with EPA 537 Modified analytical and reporting protocols. The data contained in this SDG was validated via EPA Level 2B with regard to the following parameters:

- * • Data Completeness
- * • Hold Times/Sample Preservation
- * • Mass Calibration
- * • LC/MS/MS System Tuning and Performance
- * • Mass Spectral Acquisition Rate
- * • Instrument Sensitivity Check
- * • Ion Transition Check
- * • Initial/Continuing Calibrations
- Laboratory Preparation/Method Blank Results
- Field Reagent Blank Results
- * • Extraction Internal Standard Recoveries
- * • Injection Internal Standard Recoveries
- Laboratory Control Sample Recoveries
- Compound Identification
- * • Compound Quantitation
- * • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

The PFAS results in this SDG were impacted by water samples extracted on the same manifold prior to these FRB samples. According to the laboratory narrative, the samples that cause the problem were extracted on 6/4/18 and did not impact project samples in SDGs in batches associated with 18-0338, 18-0339, and 18-0340. Despite cleaning between batches, the water samples analyzed prior to these were highly contaminated (samples required 1,000,000X dilutions) and carryover was observed in the FRBs. Not enough FRB sample extract remained for reanalysis after the instrument was free of contamination. The FRB results were not used in the evaluation of the associated environmental samples in SDGs 18-0338, 18-0339, and 18-0340. The results in the samples were qualified an (X) qualifier to denote that the contamination is related to a laboratory source and that the concentrations should not be associated with project samples.

The Laboratory Control Sample (LCS) had Percent Recoveries (%Rs) above the upper quality control limits for Perfluorooctanesulfonic Acid (PFOS) and Perfluorohexanesulfonic Acid (PFHxS). All samples were affected. The detected results reported for these compounds in the affected samples were qualified as estimated, (J).

Additional Comments

The following contaminants were detected in the laboratory method blank at the following concentration:

<u>Compound</u>	<u>Maximum Concentration (ng/L)</u>	<u>Action Level > or < Limit of Quantitation (LOQ)</u>
Perfluorooctanesulfonic Acid (PFOS)	2.6	< LOQ
Perfluorohexanoic Acid (PFHxA)	2.64	< LOQ
Perfluorohexanesulfonic Acid (PFHxS)	0.3	< LOQ
PFOA	0.25	< LOQ

No validation action was taken because FRBs are not qualified for laboratory blank contamination.

The samples were initially analyzed at a 2X dilution including the quality control samples.

Detected results reported below the LOQ but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results were reported to the MDL in the database.

Executive Summary

Laboratory Performance Issues: The FRBs were inadvertently exposed to contamination. Contaminants were detected in the laboratory method blank. Two high LCS %Rs were noted..

Other Factors Affecting Data Quality: Detected results below the LOQ were estimated.

TO: M. PETERSON
SDG: 18-0351

PAGE 3

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), EPA Method 537 Modified, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (2017). The text of this report has been formulated to address only those areas affecting data quality.



Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator



Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:

Appendix A - Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and 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, but exclusion of the data is recommended.

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; i.e. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $> 40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-SE03 SDG: 18-0351 FRACTION: PFAS MEDIA: WATER	NSAMPLE	DRMO-FB02-052418			FFTA-FB01-052418			PSC51-FB03-052418		
	LAB_ID	J6249-FS			J6245-FS			J6251-FS		
	SAMP_DATE	5/24/2018			5/24/2018			5/24/2018		
	QC_TYPE	NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		0.49	U		0.49	U		0.49	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		0.56	U		0.56	U		0.56	U	
PENTADEC AFLUOROOCTANOIC ACID (PFOA)		0.92	JX	AP	0.26	JX	AP	0.24	JX	AP
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.35	JX	AP	0.16	JX	AP	0.13	U	
PERFLUORODECANOIC ACID (PFDA)		0.16	U		0.16	U		0.16	U	
PERFLUORODODECANOIC ACID (PFDOA)		0.18	U		0.18	U		0.18	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		0.36	JX	AP	0.16	U		0.16	U	
PERFLUOROHEXANESULFONIC ACID (PFHXS)		6.94	JX	AE	0.73	JX	AEP	0.56	JX	AEP
PERFLUOROHEXANOIC ACID (PFHXA)		4.01	JX	AP	2.17	JX	AP	1.2	JX	AP
PERFLUORONONANOIC ACID (PFNA)		0.26	U		0.26	U		0.26	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		67.52	JX	AE	7.04	JX	AE	5.26	JX	AE
PERFLUOROTETRADECANOIC ACID (PFTEA)		0.25	U		0.25	U		0.25	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		0.15	U		0.15	U		0.15	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		0.29	U		0.29	U		0.29	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID FFTA-FB01-052418

Battelle ID J6245-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	2.17 J	0.19	0.50	5.00
PFHpA	0.16 U	0.16	0.50	5.00
PFOA	0.26 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTTrDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	0.16 J	0.13	0.50	5.00
PFHxS	0.73 J	0.11	0.40	5.00
PFOS	7.04 B	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	139
13C4-PFHpA	142
13C8-PFOA	141
13C9-PFNA	139
13C6-PFDA	115
13C7-PFUnA	100
13C2-PFDoA	92
13C2-PFTeDA	81
d3-MeFOSAA	88
d5-EtFOSAA	79
13C3-PFBS	128
13C3-PFHxS	127
13C8-PFOS	96



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID DRMO-FB02-052418

Battelle ID J6249-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.290
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	4.01 J	0.19	0.50	5.00
PFHpA	0.36 J	0.16	0.50	5.00
PFOA	0.92 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTeDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	1.35 J	0.13	0.50	5.00
PFHxS	6.94	0.11	0.40	5.00
PFOS	67.52	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	105
13C4-PFHpA	97
13C8-PFOA	102
13C9-PFNA	100
13C6-PFDA	95
13C7-PFUnA	96
13C2-PFDoA	83
13C2-PFTeDA	56
d3-MeFOSAA	79
d5-EtFOSAA	91
13C3-PFBS	95
13C3-PFHxS	113
13C8-PFOS	84



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID PSC51-FB03-052418

Battelle ID J6251-FS
 Sample Type SA
 Collection Date 05/24/2018
 Extraction Date 06/05/2018
 Analysis Date 06/07/2018
 Analytical Instrument Sciex 5500 LC/MS/MS
 % Moisture NA
 Matrix GW QC
 Sample Size 0.285
 Size Unit-Basis L
 Units ng/L

MDL LOD LOQ

PFHxA	1.20 J	0.19	0.50	5.00
PFHpA	0.16 U	0.16	0.50	5.00
PFOA	0.24 J	0.18	0.50	5.00
PFNA	0.26 U	0.26	1.00	5.00
PFDA	0.16 U	0.16	0.50	5.00
PFUnA	0.29 U	0.29	1.00	5.00
PFDoA	0.18 U	0.18	0.50	5.00
PFTeDA	0.15 U	0.15	0.50	5.00
PFTeDA	0.25 U	0.25	1.00	5.00
NMeFOSAA	0.56 U	0.56	2.00	5.00
NEtFOSAA	0.49 U	0.49	1.00	5.00
PFBS	0.13 U	0.13	0.50	5.00
PFHxS	0.56 J	0.11	0.40	5.00
PFOS	5.26 B	0.19	0.50	5.00

Surrogate Recoveries (%)

13C5-PFHxA	95
13C4-PFHpA	93
13C8-PFOA	95
13C9-PFNA	85
13C6-PFDA	109
13C7-PFUnA	86
13C2-PFDoA	68
13C2-PFTeDA	58
d3-MeFOSAA	83
d5-EtFOSAA	102
13C3-PFBS	97
13C3-PFHxS	104
13C8-PFOS	91

APPENDIX C

SUPPORT DOCUMENTATION



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: J6249-FS(3)
 Client Sample ID: DRMO-FB02-052418
 Sample Size: 0.29
 Units: L
 Dilution Factor: 2
 PIV (L): 0.0005
 Target Analyte: PFBS
 MRM Transition: 298.9 / 80.0
 Data file: 6072018.wiff
 Result table: 18-0351_Base
 Area: 120,511.85
 IS Name: 13C3-PFBS
 IS Area: 15,386.63
 IS Amount (ng/L): 92.9
 y-intercept: 0.04421
 slope: 1.84377

$$\text{Concentration} = \frac{[(120511.85/15386.63) - 0.04421]}{1.84377} * 92.9 * 0.0005 * 2 / 0.29$$

ng/L = 1.35

BATTELLE

It can be done

Chain-of-Custody

Client Contact Information		Project Manager: <u>Mark Peterson</u>		Sampling Site: <u>NAS JAY</u>		Site Information: <u>DRMO, FFTA, PSC 51</u>	
Sampler Information (print name): <u>Dave Siefruen</u>		Phone: <u>944-334-7260</u>		Email: <u>David.Siefruen@TetraTech</u>		Turnaround Time (TAT) Requested:	
Project Name: <u>SEO 375</u>		Normal ☐		Priority ☐		RUSH ☐	
Project No.: <u>NAS JAY PFAS</u>		Time Zone:		Preservative		COC #	
Sample Identification		2018	Sample Date	Sample Time	Matrix Sample Type	Matrix	Total # of Cont.
J6241	FFTA - FDO1 - 052418	5/24	1100	SW			2
J6242	FFTA - SW01 - 052418	5/24	1100	SW			2
J6243	FFTA - SD01 - 052418		1110	SD			1
J6244	FFTA - FDO2 - 052418		1110	SD			1
J6245	FFTA - FB01 - 052418		1120	GW			1
J6246	FFTA - EB01 - 052418		1130				1
J6247	FFTA - EB02 - 052418		1140				1
J6248	DRMO - MW11 - 052418		1405				3
J6249	DRMO - FB02 - 052418		1400				1
J6250	PSC51 - MW14D - 052418		1610				2
J6251	PSC51 - FB03 - 052418		1615				2
J6252	PSC51 - MW13S - 052418		1655				3
J6253	DRMO - MW2 - 052418		1455				1
Receipt Temperature: (°C)		Samples Intact: <u>Yes</u> - No		Samples on Ice: <u>Yes</u> - No		Receipt Comments:	
Relinquished by (Print/Sign): <u>[Signature] David Siefruen</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>5-24-18 1830</u>		Received by (Print/Sign): <u>[Signature]</u>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):	
Comments:							

[illegible]

It can be done

Battelle Project No:

Sample Receipt Form

Approved: ☐ Authorized: ☐

Project Number: NAS JAX PFAS

Client: Tetrattech

Received by: Schumitz, Matt

Date/Time Received: Friday, May 25, 2018 10:30 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier

Tracking Number: 8115 9773 0019

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

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	8115 9773 0019	Tape	Intact	Intact	Therm_2	0.7	14

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): 0.7 Temperature Blank used ☒ Yes ☐ No

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

Samples Acidified: ☐ Yes ☐ No ☒ UnknownInitial pH 5-9?: ☐ Yes ☐ No ☒ NA

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

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

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

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

Individual sample deviations noted on sample log

Samples Containers:

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

Storage Location: Custody: Refrigerator - R0119 (NA)

BDO IDs Assigned: J6241 - J6254

Samples logged in by: Schumitz, Matt

Date/Time: 05/25/2018 10:30 AM

Approved By:

Approved On:

Authorized By:

Authorized On:

QA/QC Summary Batch 18-0351

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW QC
Data Set:	DP-18-0142
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
5/24/2018	5/25/2018	0.7

Corrective Actions	None – client contacted project manager to verify client IDs and matrices prior to arrival of shipment.
Sample Storage	The samples were stored refrigerated until extraction.
Related samples	Related field blank is extracted and reported in SDGs 18-0338 (ground water), 18-0339 (sediment), and 18-0340 (surface water).

	METHOD SUMMARIES
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were split and concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	None.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. The confirmation ion ratio was above 50% RPD for the following samples and analytes: Procedural blank – PFHpA, PFUnA, and PFTrDA (all detected below the MDL). FFTA-FB01-052418 (J6245) - PFHpA, PFOA, PFDA, PFUnA, PFTeDA, and NeFOSAA (all detected below the MDL, except PFOA which was detected below the LOD). DRMO-FB02-052418 (J6249) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFHpA which was detected below the LOD and PFOA which was below the LOQ). PSC51-FB03-052418 (J6251) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFOA which was detected below the LOD).

QA/QC Summary
Batch 18-0351

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	GW QC
Data Set:	DP-18-0142
Analytical SOP:	5-369
Method Reference:	PFAS to QSM 5.1 Table B-15

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
5/24/2018	5/25/2018	0.7

Corrective Actions	None – client contacted project manager to verify client IDs and matrices prior to arrival of shipment.
Sample Storage	The samples were stored refrigerated until extraction.
Related samples	Related field blank is extracted and reported in SDGs 18-0338 (ground water), 18-0339 (sediment), and 18-0340 (surface water).

	METHOD SUMMARIES
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a weak ion exchange solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were split and concentrated to dryness under nitrogen with a water bath set between 35 °C and 45 °C, reconstituted with 80:20 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	None.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	Samples analyzed on Sciex 5500 LC-MS/MS. The confirmation ion ratio was above 50% RPD for the following samples and analytes: Procedural blank – PFHpA, PFUnA, and PFTrDA (all detected below the MDL). FFTA-FB01-052418 (J6245) - PFHpA, PFOA, PFDA, PFUnA, PFTeDA, and NeFOSAA (all detected below the MDL, except PFOA which was detected below the LOD). DRMO-FB02-052418 (J6249) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFHpA which was detected below the LOD and PFOA which was below the LOQ). PSC51-FB03-052418 (J6251) - PFHpA, PFOA, PFDA, PFUnA, PFDoA, and PFTeDA (all detected below the MDL, except PFOA which was detected below the LOD).

QA/QC Summary Batch 18-0351

	The results for PFHxA, PFHxS, and PFOS were impacted by water samples extracted prior to these FRB samples on the same manifold. The manifold, including all valves, were cleaned between batches, however, the water samples extracted prior to these appear to be heavily impacted by AFFF (samples required 1:1,000,000-fold dilutions). The samples that caused the issues were extracted on 6/4 and did not impact the extraction of batches 18-0338, 18-0339, and 18-0340. The samples in question were not part of the SE0375 project. A review of the FRB samples compared to the associated field samples indicate that the concentrations found in the related field samples would not have been influenced by the associated FRB if the contamination in the FRB samples was real and not an artifact of the likely contamination from the extraction manifold mentioned above. A comparison of the results for the field samples, procedural blanks, instrument blanks, and associated field reagent blank samples for PFHxA, PFHxS, and PFOS is presented below.
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Sample	Batch	Matrix	Extraction Date	Units	PFHxA	PFHxS	PFOS
Instrument Blank	18-0338	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
CQ855PB-FS	18-0338	Water	5/29/2018	ng/L	0.19 U	0.11 U	0.19 U
FFTA-EB01-052418	18-0338	GW QC	5/29/2018	ng/L	0.19 U	0.11 U	0.89 J
FFTA-EB02-052418	18-0338	GW QC	5/29/2018	ng/L	0.19 U	0.11 U	0.19 U
DRMO-MW11-052418	18-0338	GW	5/29/2018	ng/L	41.4	116.13 D	670.42 D
PSC51-MW14D-052418	18-0338	GW	5/29/2018	ng/L	0.19 U	0.30 J	0.35 J
PSC51-MW13S-052418	18-0338	GW	5/29/2018	ng/L	0.19 U	0.72 J	1.12 J
DRMO-MW2-052418	18-0338	GW	5/29/2018	ng/L	6.93	12.15	98.11 D
DRMO-FD03-052418	18-0338	GW DUP	5/29/2018	ng/L	38.54	88.82 D	376.44 D
Instrument Blank	18-0339	NA	NA	ng/g	0.33 U	0.22 U	0.27 U
Instrument Blank	18-0339	NA	NA	ng/g	0.33 U	0.22 U	0.27 U
CQ857PB-FS	18-0339	Sediment	5/29/2018	ng/g	0.33 U	0.22 U	0.27 U
FFTA-SD01-052418	18-0339	SD	5/29/2018	ng/g	91.86 D	83.16 D	2235.14 D
FFTA-FD02-052418	18-0339	SD DUP	5/29/2018	ng/g	94.05 D	82.28 D	2003.63 D
Instrument Blank	18-0340	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
Instrument Blank	18-0340	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
Instrument Blank	18-0340	NA	NA	ng/L	-	-	0.19 U
CQ859PB-FS	18-0340	Water	5/30/2018	ng/L	0.19 U	0.11 U	0.64 J
FFTA-FD01-052418	18-0340	SW DUP	5/30/2018	ng/L	966433.72 D	909907.10 D	13500909.99 D
FFTA-SW01-052418	18-0340	SW	5/30/2018	ng/L	756130.79 D	585921.79 D	5706313.82 D
Instrument Blank	18-0351	NA	NA	ng/L	0.19 U	0.11 U	0.19 U
CQ896PB-FS	18-0351	Water	6/5/2018	ng/L	2.64 JN	0.30 J	2.60 JN
FFTA-FB01-052418	18-0351	GW QC	6/5/2018	ng/L	2.17 J	0.73 J	7.04 B
DRMO-FB02-052418	18-0351	GW QC	6/5/2018	ng/L	4.01 J	6.94	67.52
PSC51-FB03-052418	18-0351	GW QC	6/5/2018	ng/L	1.20 J	0.56 J	5.26 B

Holding Times	Extraction Date(s)	Analysis Date(s)
	6/5/2018	6/7/2018

QA/QC Summary
Batch 18-0351

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ ½ the LOQ Samples >10x PB	2 exceedances noted for PB hits ≤ ½ the LOQ. 3 sample exceedances for samples >10x PB. PFHxA and PFOS are greater than ½ the LOQ in the blank, the most likely cause of these exceedances is the AFFF sample mentioned above in the analysis comments. Similarly, PFOS is B flagged in the sample FFTA-FB01-052418 and sample PSC51-FB03-052418. PFHxA is B flagged in the LCS sample. Instrument blank was clean, and all other analytes are below the MDL or LOD in the PB, two bottles were not collected for FRB samples for re-extraction.
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	2 exceedances noted. PFHxS and PFOS are over-recovered, indicating high bias at the LOQ (LCS was spiked as an LOQ sample). Likely cause is detailed in the analysis comments above. Samples could not be re-extracted.
Extracted Internal Standard Analytes	Labelled analog compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
50-150% of true value	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
+/- 30% of true value, R ² ≥0.99	No exceedances noted. No comments.
Independent Calibration Check (ICC)	The independent check was run after each initial calibration to verify the calibration. This standard is from a different source than the ICAL.
+/- 30% of true value	No exceedances noted. No comments.
Continuing Calibration Verification (CCV)	Continuing calibration standards were run at the beginning and end of 10 injections and at the end of the sequence to ensure that initial calibration is still valid.
+/- 30% of true value	No exceedances noted. No comments.
Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.

QA/QC Summary
Batch 18-0351

$\leq \frac{1}{2}$ the LOQ	No exceedances noted.
	No comments.



BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-SE0375: Naval Air Station Jackson	Data Set Number:	DP-18-0142
Project Number:	100119154-SE0375	Prep Batch Number:	18-0351
Entered By:	Denise Schumitz	Entered On:	06/11/2018
Test Code (Matrix Type):	Master_369(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 6/11/2018

JV20 is not being used in method 18-0351_SIS for d3-MeFOSAA, d5-EtFOSAA and 13C3-PFHxS. There is no impact on the data once this point is removed from the calibration.
DMS 6/11/2018

JV20 and JV21 are not being used in method 18-0351_BASE for PFOS and PFDaA. There is no impact on the data once these points are removed from the calibration.
DMS 6/11/2018

JV28 is not being used in method 18-0351_BASE for NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/11/2018

JV20 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOS and NEtFOSAA.
DMS 6/11/2018

JV05 IB in method 18-0351_BASE has an ion ratios of >50% for PFHpA and NEtFOSAA.
DMS 6/11/2018

CQ896PB in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFUnA and PFTrDA.
DMS 6/11/2018

J6245 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFTeDA and NEtFOSAA.
DMS 6/11/2018

J6249 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFDaA and PFTeDA.
DMS 6/11/2018

J6251 in method 18-0351_BASE has an ion ratio of >50% for PFHpA, PFOA, PFDA, PFUnA, PFDaA and PFTeDA..
DMS 6/11/2018

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan
Thorn
Date: 2018.06.12 09:29:38 -04'00'



It can be done

ShpNo SHP-180525-01

Battelle Project No: 154-SE0375

Sample Receipt Form Details

Approved: ☐ Authorized ☐

Project Number: NAS JAX PFAS Client: Tetrattech

Received by: Schumitz, Matt Date / Time Received: Friday, May 25, 2018 10:30 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:
J6241	FFTA-FD01-052418	05/24/18 11:00	05/25/18 10:54	2	SW DUP	0.7	NA	NA	NA	R0119 (NA)			
J6242	FFTA-SW01-052418	05/24/18 11:00	05/25/18 10:54	2	SW	0.7	NA	NA	NA	R0119 (NA)			
J6243	FFTA-SD01-052418	05/24/18 11:10	05/25/18 10:54	1	SD	0.7	NA	NA	NA	F0117 (NA)			
J6244	FFTA-FD02-052418	05/24/18 11:10	05/25/18 10:54	1	SD DUP	0.7	NA	NA	NA	F0117 (NA)			
J6245	FFTA-FB01-052418	05/24/18 11:20	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6246	FFTA-EB01-052418	05/24/18 11:30	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6247	FFTA-EB02-052418	05/24/18 11:40	05/25/18 10:55	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6248	DRMO-MW11-052418	05/24/18 14:05	05/25/18 10:56	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J6249	DRMO-FB02-052418	05/24/18 14:00	05/25/18 10:56	1	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6250	PSC51-MW14D-052418	05/24/18 16:10	05/25/18 10:56	2	GW	0.7	NA	NA	NA	R0119 (NA)			
J6251	PSC51-FB03-052418	05/24/18 16:15	05/25/18 10:57	2	GW QC	0.7	NA	NA	NA	R0119 (NA)			
J6252	PSC51-MW13S-052418	05/24/18 16:55	05/25/18 10:57	3	GW	0.7	NA	NA	NA	R0119 (NA)			MS-MSD
J6253	DRMO-MW2-052418	05/24/18 14:55	05/25/18 10:58	1	GW	0.7	NA	NA	NA	R0119 (NA)			
J6254	DRMO-FD03-052418	05/24/18 14:05	05/25/18 10:58	1	GW DUP	0.7	NA	NA	NA	R0119 (NA)			

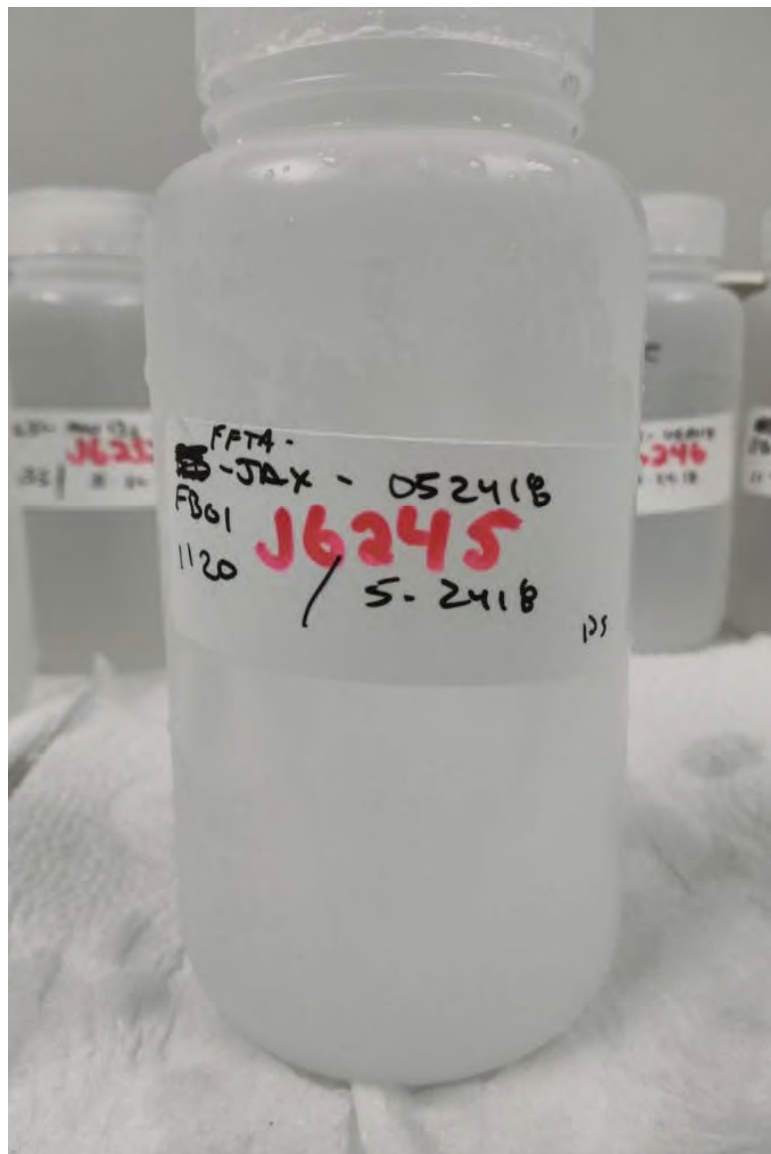
Total Samples: 14

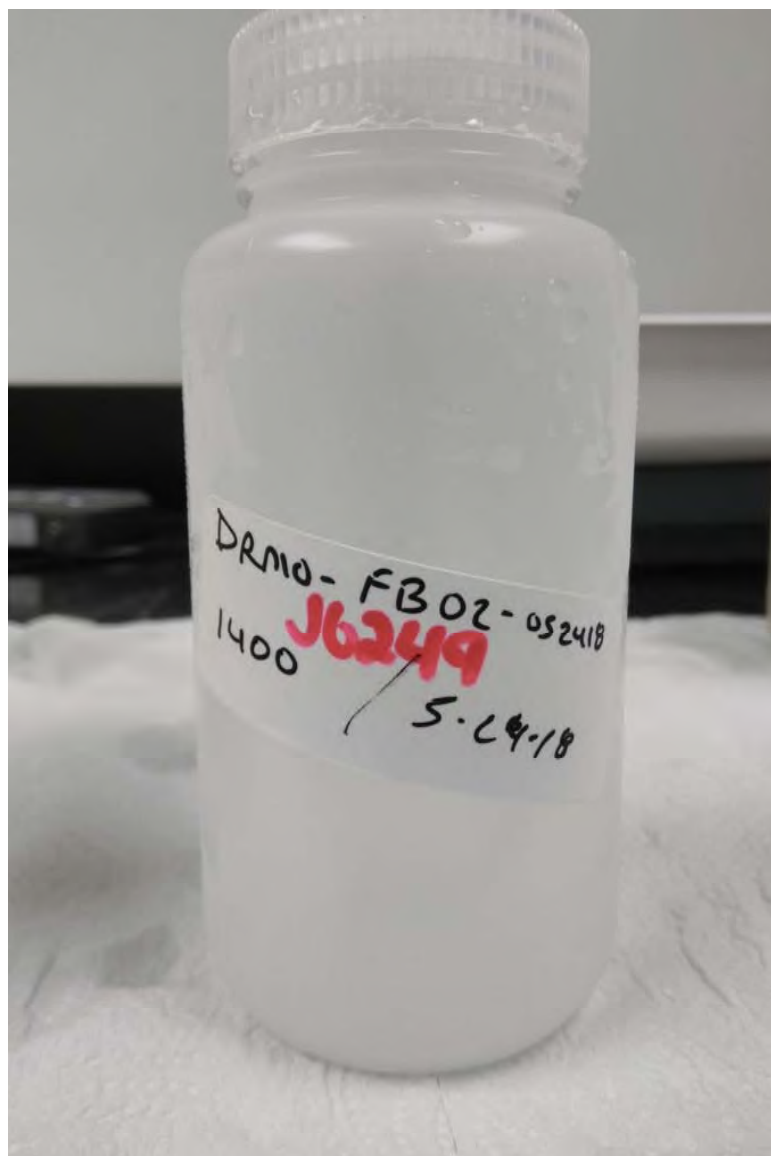


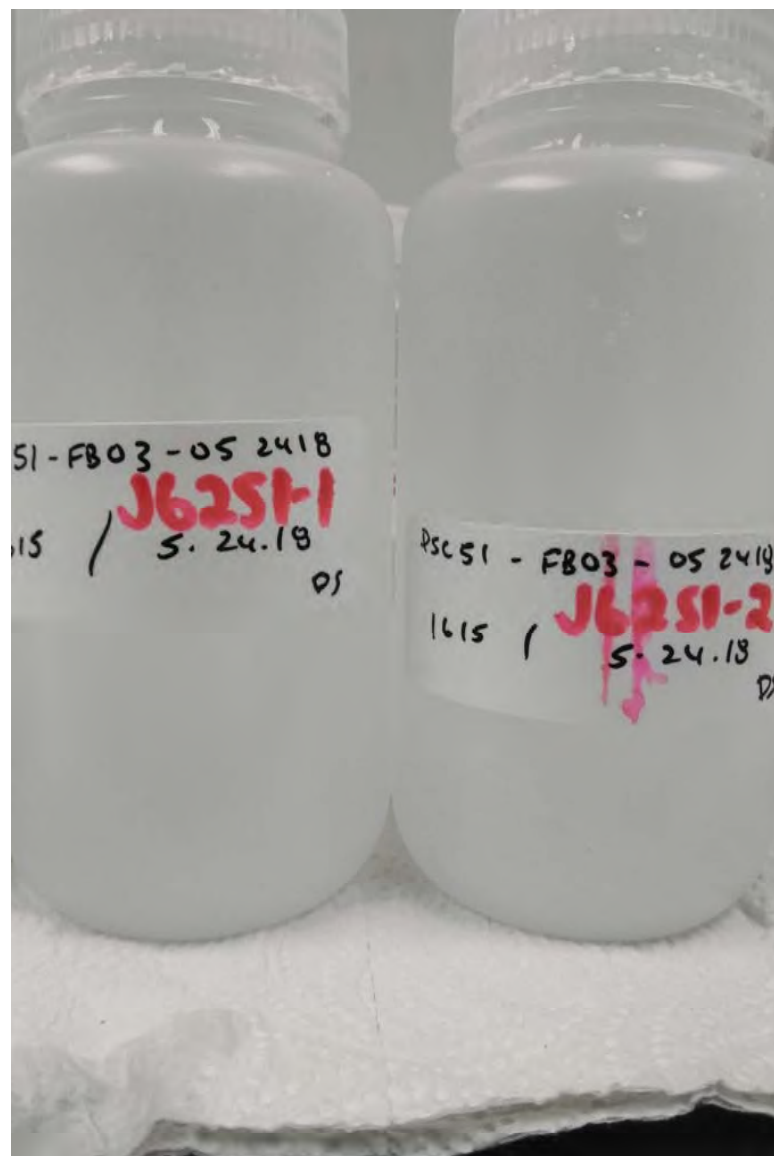
Glossary of Data Qualifiers

Flag: Application:

B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
H	Surrogate diluted out. Used when surrogate recovery is affected by excessive dilution of the sample extract.
J	Analyte detected below the Limit of Quantitation (LOQ)
ME	Significant Matrix Interference - Estimated value.
MI	Significant Matrix Interference - value could not be determined.
n	Quality Control (QC) value is outside the accuracy or precision Data Quality Objective (DQO), but meets secondary criteria
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 Method detection limit (MDL) value, MDL reported









Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Preparation Batch: 18-0351

Data Set: DP-18-0142

	CQ896PB-FS (Procedural Blank)	CQ897LCS-FS (Laboratory Control Sample)	J6245-FS (FFTA-FB01-052418)	J6249-FS (DRMO-FB02-052418)	J6251-FS (PSC51-FB03-052418)
PFHxA	L	L	-	-	-
PFHpA	-	L	-	-	-
PFOA	-	L	-	-	-
PFNA	-	L	-	-	-
PFDA	-	L	-	-	-
PFUnA	-	L	-	-	-
PFDoA	-	L	-	-	-
PFTTrDA	-	L	-	-	-
PFTeDA	-	L	-	-	-
NMeFOSAA	-	L	-	-	-
NEtFOSAA	-	L	-	-	-
PFBS	-	L	-	-	-
PFHxS	-	L	-	L	-
PFOS	L/Br	L/Br	L/Br	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	JV05 IB				
Battelle ID	JV05 IB_06/07/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	06/07/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	NA				
Sample Size	NA				
Size Unit-Basis	NA				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	0.19 U	0.19	0.50	5.00	
PFHpA	0.16 U	0.16	0.50	5.00	
PFOA	0.18 U	0.18	0.50	5.00	
PFNA	0.26 U	0.26	1.00	5.00	
PFDA	0.16 U	0.16	0.50	5.00	
PFUnA	0.29 U	0.29	1.00	5.00	
PFDoA	0.18 U	0.18	0.50	5.00	
PFTTrDA	0.15 U	0.15	0.50	5.00	
PFTeDA	0.25 U	0.25	1.00	5.00	
NMeFOSAA	0.56 U	0.56	2.00	5.00	
NEtFOSAA	0.49 U	0.49	1.00	5.00	
PFBS	0.13 U	0.13	0.50	5.00	
PFHxS	0.11 U	0.11	0.40	5.00	
PFOS	0.19 U	0.19	0.50	5.00	

Surrogate Recoveries (%)

13C5-PFHxA	76
13C4-PFHpA	76
13C8-PFOA	79
13C9-PFNA	79
13C6-PFDA	77
13C7-PFUnA	72
13C2-PFDoA	70
13C2-PFTeDA	69
d3-MeFOSAA	69
d5-EtFOSAA	61
13C3-PFBS	65
13C3-PFHxS	61
13C8-PFOS	64



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Procedural Blank				
Battelle ID	CQ896PB-FS				
Sample Type	PB				
Collection Date	06/05/2018				
Extraction Date	06/05/2018				
Analysis Date	06/07/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	WATER				
Sample Size	0.250				
Size Unit-Basis	L				
Units	ng/L	MDL	LOD	LOQ	
PFHxA	2.64 JN	0.19	0.50	5.00	
PFHpA	0.16 U	0.16	0.50	5.00	
PFOA	0.25 J	0.18	0.50	5.00	
PFNA	0.26 U	0.26	1.00	5.00	
PFDA	0.16 U	0.16	0.50	5.00	
PFUnA	0.29 U	0.29	1.00	5.00	
PFDaA	0.18 U	0.18	0.50	5.00	
PFTeDA	0.15 U	0.15	0.50	5.00	
PFTeDA	0.25 U	0.25	1.00	5.00	
NMeFOSAA	0.56 U	0.56	2.00	5.00	
NEtFOSAA	0.49 U	0.49	1.00	5.00	
PFBS	0.13 U	0.13	0.50	5.00	
PFHxS	0.30 J	0.11	0.40	5.00	
PFOS	2.60 JN	0.19	0.50	5.00	

Surrogate Recoveries (%)

13C5-PFHxA	111
13C4-PFHpA	107
13C8-PFOA	117
13C9-PFNA	115
13C6-PFDA	104
13C7-PFUnA	101
13C2-PFDaA	73
13C2-PFTeDA	58
d3-MeFOSAA	102
d5-EtFOSAA	108
13C3-PFBS	107
13C3-PFHxS	113
13C8-PFOS	88



Project Client: Tetra Tech
 Project Name: CTO-SE0375: Naval Air Station Jacksonville
 Project No.: 100119154-SE0375

Client ID	Laboratory Control Sample					
Battelle ID	CQ897LCS-FS					
Sample Type	LCS					
Collection Date	06/05/2018					
Extraction Date	06/05/2018					
Analysis Date	06/07/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	11.62 B	10.10	115		51	137
PFHpA	10.09	10.00	101		48	136
PFOA	10.66	10.00	107		49	141
PFNA	8.90	10.00	89		58	122
PFDA	9.09	10.00	91		59	135
PFUnA	9.77	10.00	98		64	134
PFDoA	10.34	10.00	103		75	131
PFTeDA	10.13	10.00	101		42	148
PFTeDA	9.07	10.00	91		42	158
NMeFOSAA	9.13	10.00	91		50	146
NEtFOSAA	9.09	10.00	91		51	131
PFBS	10.21	10.10	101		56	134
PFHxS	15.00	10.10	149	N	52	128
PFOS	58.59	10.00	586	N	40	144

Surrogate Recoveries (%)

13C5-PFHxA	129
13C4-PFHpA	113
13C8-PFOA	116
13C9-PFNA	120
13C6-PFDA	129
13C7-PFUnA	115
13C2-PFDoA	105
13C2-PFTeDA	90
d3-MeFOSAA	103
d5-EtFOSAA	112
13C3-PFBS	120
13C3-PFHxS	127
13C8-PFOS	101



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C2-PFOA	64,200.44	32,100.22	96,300.66

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C2-PFOA	57,353.19	32,100.22	96,300.66	
JV21	L2	6/7/18 20:43	13C2-PFOA	49,109.84	32,100.22	96,300.66	
JV22	L3	6/7/18 20:53	13C2-PFOA	62,846.02	32,100.22	96,300.66	
JV23	L4	6/7/18 21:04	13C2-PFOA	70,044.68	32,100.22	96,300.66	
JV24	L5	6/7/18 21:15	13C2-PFOA	64,200.44	32,100.22	96,300.66	
JV25	L6	6/7/18 21:25	13C2-PFOA	55,104.55	32,100.22	96,300.66	
JV26	L7	6/7/18 21:36	13C2-PFOA	58,364.38	32,100.22	96,300.66	
JV27	L8	6/7/18 21:47	13C2-PFOA	65,699.95	32,100.22	96,300.66	
JV28	L9	6/7/18 21:57	13C2-PFOA	74,209.03	32,100.22	96,300.66	
JV05 IB	Instrument Blank	6/7/18 22:08	13C2-PFOA	66,887.41	32,100.22	96,300.66	
JW32 ICC	ICC	6/7/18 22:19	13C2-PFOA	48,616.94	32,100.22	96,300.66	
CQ896PB-FS(3)		6/7/18 22:51	13C2-PFOA	60,613.40	32,100.22	96,300.66	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C2-PFOA	47,583.82	32,100.22	96,300.66	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C2-PFOA	45,403.95	32,100.22	96,300.66	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C2-PFOA	39,469.34	32,100.22	96,300.66	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C2-PFOA	52,054.12	32,100.22	96,300.66	
JV25 CCV	CCV	6/7/18 23:55	13C2-PFOA	54,204.67	32,100.22	96,300.66	



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C2-PFDA	69,743.01	34,871.51	104,614.52

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C2-PFDA	59,557.03	34,871.51	104,614.52	
JV21	L2	6/7/18 20:43	13C2-PFDA	54,456.09	34,871.51	104,614.52	
JV22	L3	6/7/18 20:53	13C2-PFDA	69,075.44	34,871.51	104,614.52	
JV23	L4	6/7/18 21:04	13C2-PFDA	68,842.20	34,871.51	104,614.52	
JV24	L5	6/7/18 21:15	13C2-PFDA	69,743.01	34,871.51	104,614.52	
JV25	L6	6/7/18 21:25	13C2-PFDA	62,623.00	34,871.51	104,614.52	
JV26	L7	6/7/18 21:36	13C2-PFDA	60,533.01	34,871.51	104,614.52	
JV27	L8	6/7/18 21:47	13C2-PFDA	63,218.27	34,871.51	104,614.52	
JV28	L9	6/7/18 21:57	13C2-PFDA	77,714.45	34,871.51	104,614.52	
JV05 IB	Instrument Blank	6/7/18 22:08	13C2-PFDA	75,273.77	34,871.51	104,614.52	
JW32 ICC	ICC	6/7/18 22:19	13C2-PFDA	47,103.14	34,871.51	104,614.52	
CQ896PB-FS(3)		6/7/18 22:51	13C2-PFDA	68,345.06	34,871.51	104,614.52	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C2-PFDA	45,862.67	34,871.51	104,614.52	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C2-PFDA	45,612.23	34,871.51	104,614.52	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C2-PFDA	45,317.99	34,871.51	104,614.52	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C2-PFDA	48,684.31	34,871.51	104,614.52	
JV25 CCV	CCV	6/7/18 23:55	13C2-PFDA	64,356.53	34,871.51	104,614.52	



Project Client: Tetra Tech

Project Name: CTO-SE0375: Naval Air Station Jacksonville

Project No.: 100119154-SE0375

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper
JV24	L5	6/7/18 21:15	13C4-PFOS	17,621.34	8,810.67	26,432.01

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	6/7/18 20:32	13C4-PFOS	11,468.96	8,810.67	26,432.01	
JV21	L2	6/7/18 20:43	13C4-PFOS	12,130.72	8,810.67	26,432.01	
JV22	L3	6/7/18 20:53	13C4-PFOS	14,221.94	8,810.67	26,432.01	
JV23	L4	6/7/18 21:04	13C4-PFOS	15,596.73	8,810.67	26,432.01	
JV24	L5	6/7/18 21:15	13C4-PFOS	17,621.34	8,810.67	26,432.01	
JV25	L6	6/7/18 21:25	13C4-PFOS	14,878.58	8,810.67	26,432.01	
JV26	L7	6/7/18 21:36	13C4-PFOS	16,218.32	8,810.67	26,432.01	
JV27	L8	6/7/18 21:47	13C4-PFOS	15,802.34	8,810.67	26,432.01	
JV28	L9	6/7/18 21:57	13C4-PFOS	15,001.44	8,810.67	26,432.01	
JV05 IB	Instrument Blank	6/7/18 22:08	13C4-PFOS	18,935.15	8,810.67	26,432.01	
JW32 ICC	ICC	6/7/18 22:19	13C4-PFOS	12,740.39	8,810.67	26,432.01	
CQ896PB-FS(3)		6/7/18 22:51	13C4-PFOS	14,803.76	8,810.67	26,432.01	
CQ897LCS-FS(3)	Laboratory Control Sample	6/7/18 23:02	13C4-PFOS	12,283.28	8,810.67	26,432.01	
J6245-FS(3)	FFTA-FB01-052418	6/7/18 23:12	13C4-PFOS	12,748.45	8,810.67	26,432.01	
J6249-FS(3)	DRMO-FB02-052418	6/7/18 23:23	13C4-PFOS	10,353.88	8,810.67	26,432.01	
J6251-FS(3)	PSC51-FB03-052418	6/7/18 23:34	13C4-PFOS	12,230.79	8,810.67	26,432.01	
JV25 CCV	CCV	6/7/18 23:55	13C4-PFOS	13,482.21	8,810.67	26,432.01	

Sample Name	JV26	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 9:36:37 PM	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.55	22	>10
PFBS_2	298.9 / 99.0	1.55	18	>10
PFHxA_1	313.0 / 269.0	1.83	19	>10
PFHxA_2	313.0 / 119.0	1.83	18	>10
PFHpA_1	363.0 / 319.0	2.20	27	>10
PFHpA_2	363.0 / 169.0	2.20	22	>10
PFHxS_1	399.0 / 80.0	2.21	22	>10
PFHxS_2	399.0 / 99.0	2.22	24	>10
PFOA_1	413.0 / 369.0	2.58	26	>10
PFOA_2	413.0 / 169.0	2.58	27	>10
PFNA_1	463.0 / 419.0	2.95	24	>10
PFNA_2	463.0 / 219.0	2.95	28	>10
PFOS_1	499.0 / 80.0	2.94	28	>10
PFOS_2	499.0 / 99.0	2.94	28	>10
PFDA_1	513.0 / 469.0	3.30	30	>10
PFDA_2	513.0 / 219.0	3.30	27	>10
PFUnA_1	563.0 / 519.0	3.62	31	>10
PFUnA_2	563.0 / 269.0	3.62	40	>10
PFDoA_1	613.0 / 569.0	3.90	30	>10
PFDoA_2	613.0 / 319.0	3.90	34	>10
PFTTrDA_1	663.0 / 619.0	4.15	36	>10
PFTTrDA_2	663.0 / 169.0	4.15	30	>10
PFTeDA_1	713.0 / 669.0	4.38	41	>10
PFTeDA_2	713.0 / 169.0	4.37	35	>10
NMeFOSAA_1	570.0 / 419.0	3.45	38	>10
NMeFOSAA_2	570.0 / 512.0	3.45	29	>10
NEtFOSAA_1	584.0 / 419.0	3.61	32	>10
NEtFOSAA_2	584.0 / 483.0	3.61	35	>10

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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	> 3.5 e6	≥2.0 e6	> 4.0 e7	≥6.4 e6

- ☒ 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	3.2 e7	Contains only 397.2	N/A	N/A
☐ 236 OR ☒ 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 ^{e6}

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.



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

Non-Potable Water PFAS Analysis GW QC

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CQ896PB-FS	Procedural Blank	250.0	NA	--	06/05/18 SAS
CQ897LCS-FS	Laboratory Control Sample	250.0	NA	--	06/05/18 SAS
J6245-FS	FFTA-FB01-052418	290.0	1	C	06/06/18 SAS
J6249-FS	DRMO-FB02-052418	290.0	1	C	06/06/18 SAS
J6251-FS	PSC51-FB03-052418	285.0	1	C	06/06/18 SAS

Comments:

Samples Assigned By

Jonathan Thorn

Date :

June 5, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

Non-Potable Water PFAS Analysis GW QC

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CQ896PB-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
CQ897LCS-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
CQ897LCS-FS	JW44	LCS/MS	1	50	06/05/18 SAS	JCT	NA
J6245-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
J6249-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA
J6251-FS	JV83	SIS	1	50	06/05/18 SAS	JCT	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW44	Pipette	I0793912B



BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CQ896PB-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
CQ897LCS-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6245-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6249-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6251-FS	06/05/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH ₃ in Methanol	RP-180605-2	06/05/18	SHBG7156V	Per 100 mL, dilute 3.5 mL NH ₃ to 100 mL in Methanol	
0.4% NH ₃ in Methanol	RP-180605-2	06/05/18	177965	Per 100 mL, dilute 3.5 mL NH ₃ to 100 mL in Methanol	
Pre-packed SPE Column	RP-180605-5	06/06/18	003737320A	Pre-packed SPE Column	

Solvents/Reagents:



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351**

Non-Potable Water PFAS Analysis GW QC

(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
CQ896PB-FS(3)	475	25	JW02	25	1	500	2.000*	06/06/18 SAS	JCT
CQ897LCS-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6245-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6249-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT
J6251-FS(3)	475	25	JW02	25	1	500	2.000	06/06/18 SAS	JCT

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JW02	Pipette	I0793912B

Extract Id:	Comments:
CQ896PB-FS	Samples reconstituted in 80/20 methanol/milli-q water

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

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



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CQ896PB-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
CQ896PB-FS	2	--	6/5/2018 4:51:00 PM	CQ896PB-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ896PB-FS	3	--	6/5/2018 4:51:00 PM	CQ896PB-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ897LCS-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
CQ897LCS-FS	2	--	6/5/2018 4:51:00 PM	CQ897LCS-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
CQ897LCS-FS	3	--	6/5/2018 4:51:00 PM	CQ897LCS-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6245-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6245-FS	2	--	6/5/2018 4:51:00 PM	J6245-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6245-FS	3	--	6/5/2018 4:51:00 PM	J6245-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6249-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6249-FS	2	--	6/5/2018 4:51:00 PM	J6249-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6249-FS	3	--	6/5/2018 4:51:00 PM	J6249-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
J6251-FS	0	C	6/5/2018 2:34:00 PM	NA		NA	NA	1.000	1.000	06/05/18 SAS
J6251-FS	2	--	6/5/2018 4:51:00 PM	J6251-FS	0	10000	5000	2.000	2.000	06/05/18 SAS

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

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

* - "C" = Extract is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

Project Title(s)

CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)100119154-
SE0375**18-0351****Non-Potable Water PFAS Analysis****GW QC**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6251-FS	3	--	6/5/2018 4:51:00 PM	J6251-FS	0	10000	5000	2.000	2.000	06/05/18 SAS
Extract Id: CQ896PB-FS		Comments: Samples reconstituted in 80/20 methanol/milli-q water								

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-SE0375: Naval Air Station Jacksonville

Project No.(s)

100119154-
SE0375

18-0351

Non-Potable Water PFAS Analysis GW QC

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Jun 6 2018 1:27PM SAS		Received On/By: Jun 6 2018 3:26PM DMS	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CQ896PB-FS(3)	500	2	Intact	NA
2	CQ897LCS-FS(3)	500	2	Intact	NA
3	J6245-FS(3)	500	2	Intact	NA
4	J6249-FS(3)	500	2	Intact	NA
5	J6251-FS(3)	500	2	Intact	NA

Total Extracts: 5



Sequence Report

Created with Analyst Reporter
Printed: 11/06/2018 12:03:36 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		6/7/2018 8:21:48 PM	5-0369.dam	6072018.wiff
2	JV20	L1	6/7/2018 8:32:29 PM	5-0369.dam	6072018.wiff
3	JV21	L2	6/7/2018 8:43:10 PM	5-0369.dam	6072018.wiff
4	JV22	L3	6/7/2018 8:53:52 PM	5-0369.dam	6072018.wiff
5	JV23	L4	6/7/2018 9:04:34 PM	5-0369.dam	6072018.wiff
6	JV24	L5	6/7/2018 9:15:15 PM	5-0369.dam	6072018.wiff
7	JV25	L6	6/7/2018 9:25:56 PM	5-0369.dam	6072018.wiff
8	JV26	L7	6/7/2018 9:36:37 PM	5-0369.dam	6072018.wiff
9	JV27	L8	6/7/2018 9:47:16 PM	5-0369.dam	6072018.wiff
10	JV28	L9	6/7/2018 9:57:58 PM	5-0369.dam	6072018.wiff
11	JV05 IB	Instrument Blank	6/7/2018 10:08:39 PM	5-0369.dam	6072018.wiff
12	JW32 ICC	ICC	6/7/2018 10:19:21 PM	5-0369.dam	6072018.wiff
13	JV16 Branch	Branch Standard	6/7/2018 10:30:02 PM	5-0369.dam	6072018.wiff
14	MeOH		6/7/2018 10:40:43 PM	5-0369.dam	6072018.wiff
15	CQ896PB-FS(3)	Procedural Blank	6/7/2018 10:51:24 PM	5-0369.dam	6072018.wiff
16	CQ897LCS-FS(3)	Laboratory Control Sample	6/7/2018 11:02:05 PM	5-0369.dam	6072018.wiff
17	J6245-FS(3)	FFTA-FB01-052418	6/7/2018 11:12:46 PM	5-0369.dam	6072018.wiff
18	J6249-FS(3)	DRMO-FB02-052418	6/7/2018 11:23:26 PM	5-0369.dam	6072018.wiff
19	J6251-FS(3)	PSC51-FB03-052418	6/7/2018 11:34:07 PM	5-0369.dam	6072018.wiff
20	MeOH		6/7/2018 11:44:49 PM	5-0369.dam	6072018.wiff
7	JV25 CCV	CCV	6/7/2018 11:55:31 PM	5-0369.dam	6072018.wiff

Calibration points L1 through L5 are all at concentrations below the LOQ equivalent of a sample.



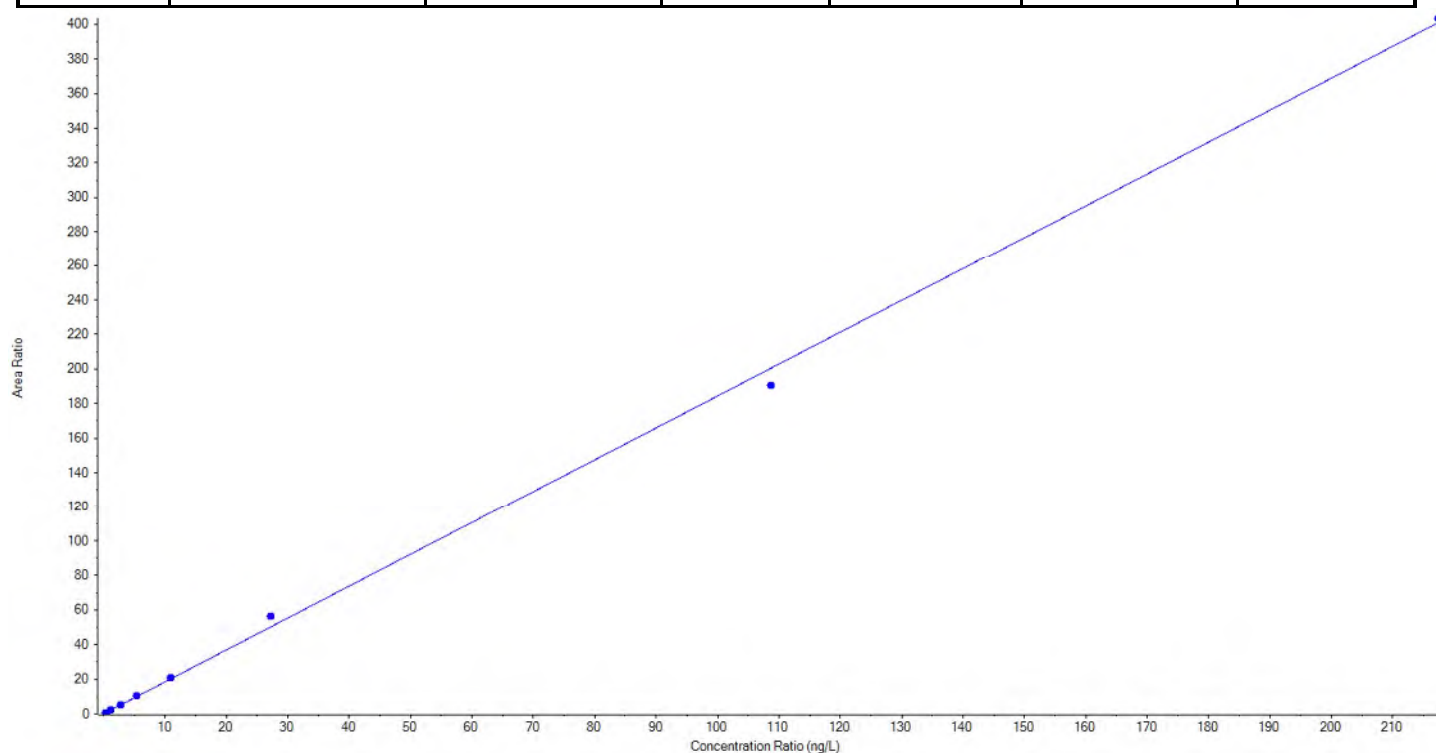
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFBS_1	Data File	6072018.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0351_Base
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 1.84377 x + 0.04421$ ($r = 0.99889$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	22.943131	90.9
3	JV21	L2	True	50.50	39.339005	77.9
4	JV22	L3	True	101.00	114.073097	112.9
5	JV23	L4	True	252.50	259.829558	102.9
6	JV24	L5	True	505.00	513.918478	101.8
7	JV25	L6	True	1010.00	1063.678573	105.3
8	JV26	L7	True	2525.00	2847.628626	112.8
9	JV27	L8	True	10100.00	9589.730089	95.0
10	JV28	L9	True	20200.00	20318.109443	100.6





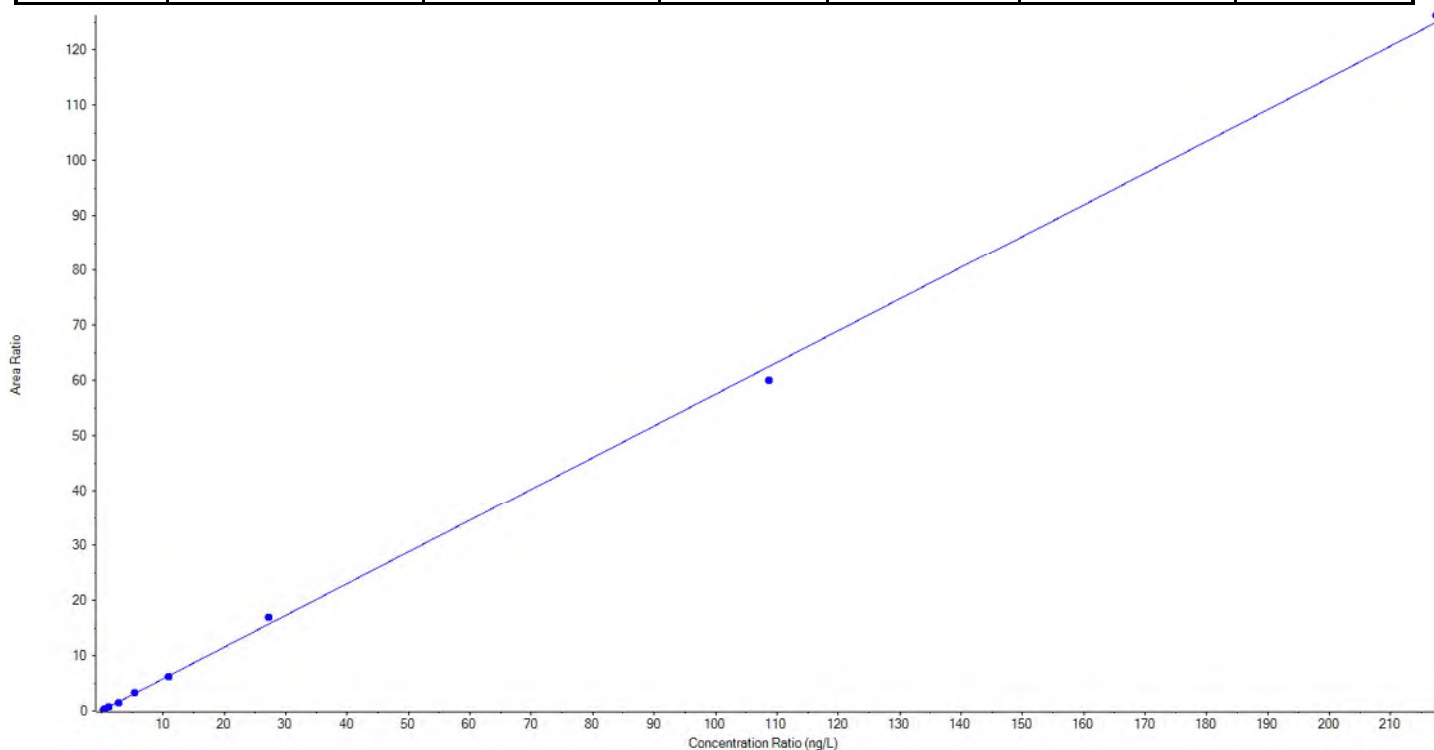
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFBS_2	Data File	6072018.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0351_Base
Internal Standard	13C3-PFBS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.57485x + 0.03128$ ($r = 0.99948$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	24.912423	98.7
3	JV21	L2	True	50.50	48.712633	96.5
4	JV22	L3	True	101.00	102.205673	101.2
5	JV23	L4	True	252.50	244.309260	96.8
6	JV24	L5	True	505.00	520.831671	103.1
7	JV25	L6	True	1010.00	995.650839	98.6
8	JV26	L7	True	2525.00	2731.008942	108.2
9	JV27	L8	True	10100.00	9703.159053	96.1
10	JV28	L9	True	20200.00	20398.459505	101.0





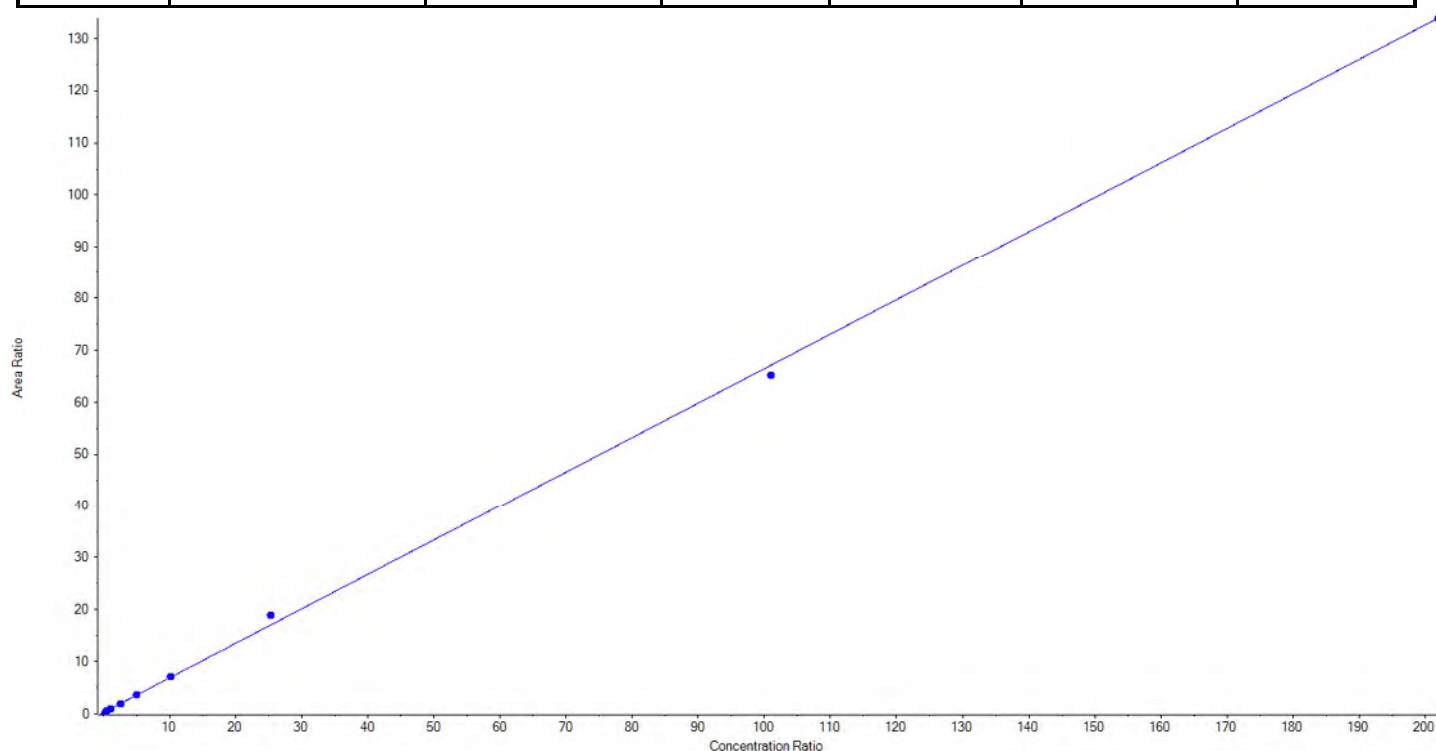
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHxA_1	Data File	6072018.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0351_Base
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.66155x + 0.30125$ ($r = 0.99941$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	25.189625	99.8
3	JV21	L2	True	50.50	45.793284	90.7
4	JV22	L3	True	101.00	95.695219	94.8
5	JV23	L4	True	252.50	259.443400	102.8
6	JV24	L5	True	505.00	516.121946	102.2
7	JV25	L6	True	1010.00	1029.262295	101.9
8	JV26	L7	True	2525.00	2799.385319	110.9
9	JV27	L8	True	10100.00	9812.905792	97.2
10	JV28	L9	True	20200.00	20185.453120	99.9





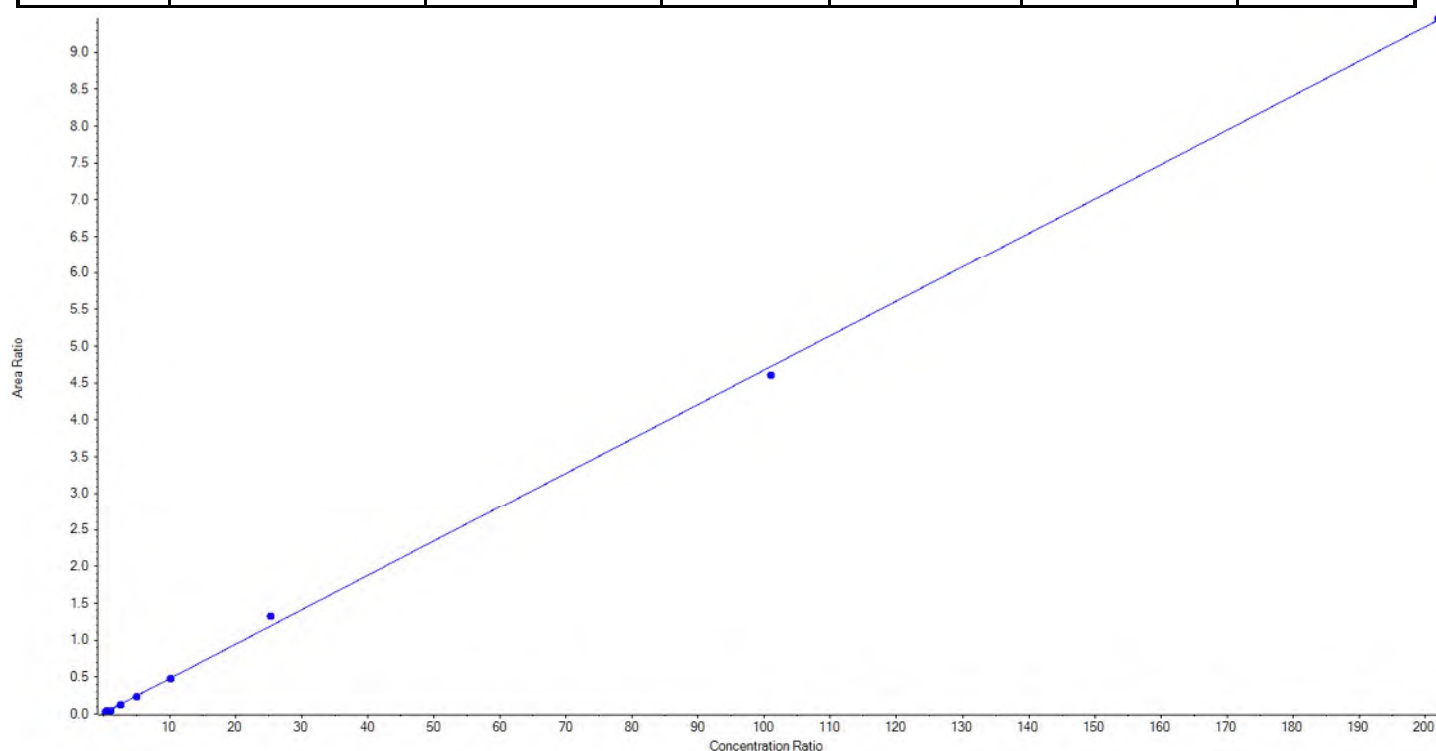
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHxA_2	Data File	6072018.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0351_Base
Internal Standard	13C5-PFHxA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.04667x + 0.01093$ ($r = 0.99923$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	27.962916	110.7
3	JV21	L2	True	50.50	61.156967	121.1
4	JV22	L3	True	101.00	76.606497	75.9
5	JV23	L4	True	252.50	225.421636	89.3
6	JV24	L5	True	505.00	475.391498	94.1
7	JV25	L6	True	1010.00	1009.290498	99.9
8	JV26	L7	True	2525.00	2810.620669	111.3
9	JV27	L8	True	10100.00	9842.615797	97.5
10	JV28	L9	True	20200.00	20240.183522	100.2





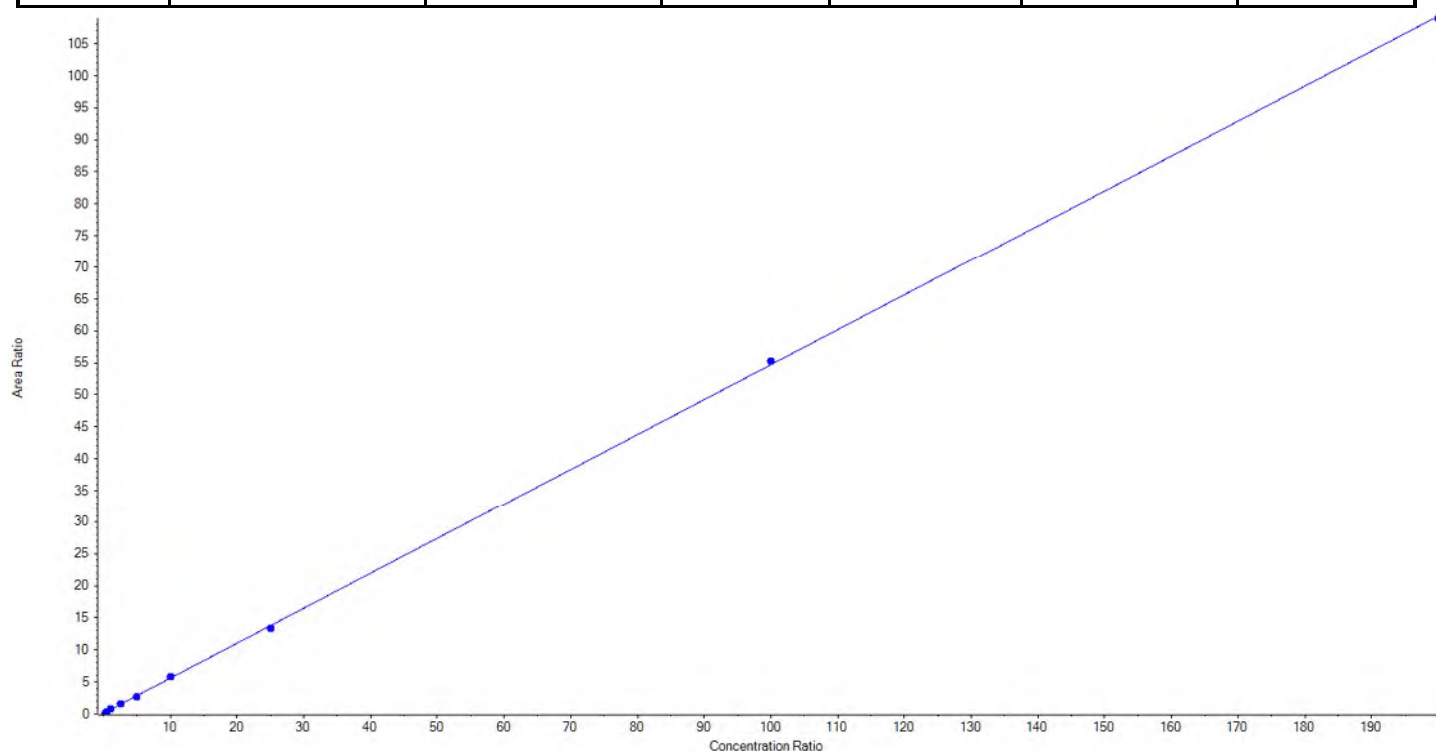
Calibration Summary Report

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Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHpA_1	Data File	6072018.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0351_Base
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.54604 x + 0.11131$ ($r = 0.99982$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	21.416600	85.7
3	JV21	L2	True	50.00	48.399356	96.8
4	JV22	L3	True	100.00	116.844359	116.8
5	JV23	L4	True	250.00	258.057490	103.2
6	JV24	L5	True	500.00	471.076592	94.2
7	JV25	L6	True	1000.00	1055.587563	105.6
8	JV26	L7	True	2500.00	2426.811268	97.1
9	JV27	L8	True	10000.00	10097.395147	101.0
10	JV28	L9	True	20000.00	19929.411626	99.7





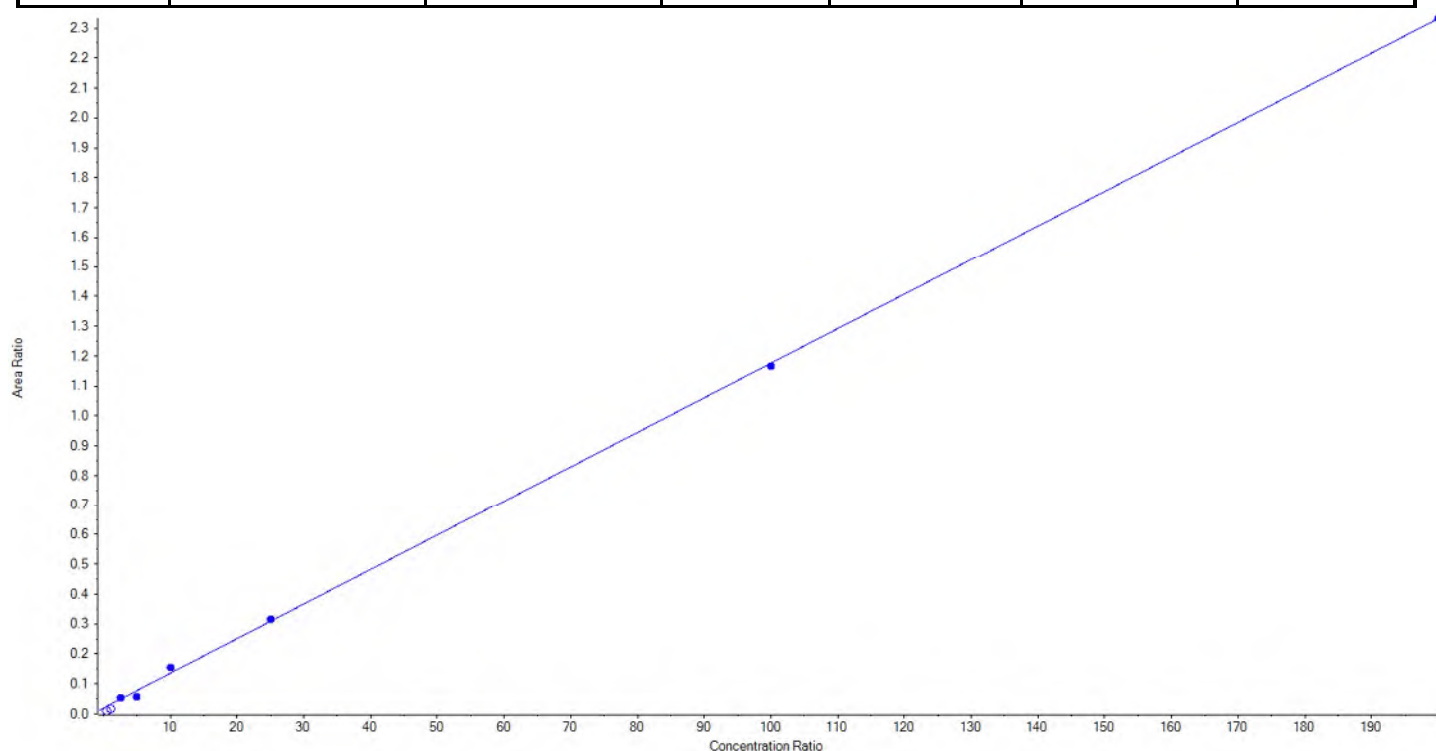
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHpA_2	Data File	6072018.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C4-PFHpA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.01156x + 0.02007$ ($r = 0.99842$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	N/A	N/A
3	JV21	L2	False	50.00	< 0	N/A
4	JV22	L3	False	100.00	< 0	N/A
5	JV23	L4	True	250.00	290.819409	116.3
6	JV24	L5	True	500.00	329.583929	65.9
7	JV25	L6	True	1000.00	1160.939517	116.1
8	JV26	L7	True	2500.00	2565.403097	102.6
9	JV27	L8	True	10000.00	9905.820957	99.1
10	JV28	L9	True	20000.00	19997.433091	100.0





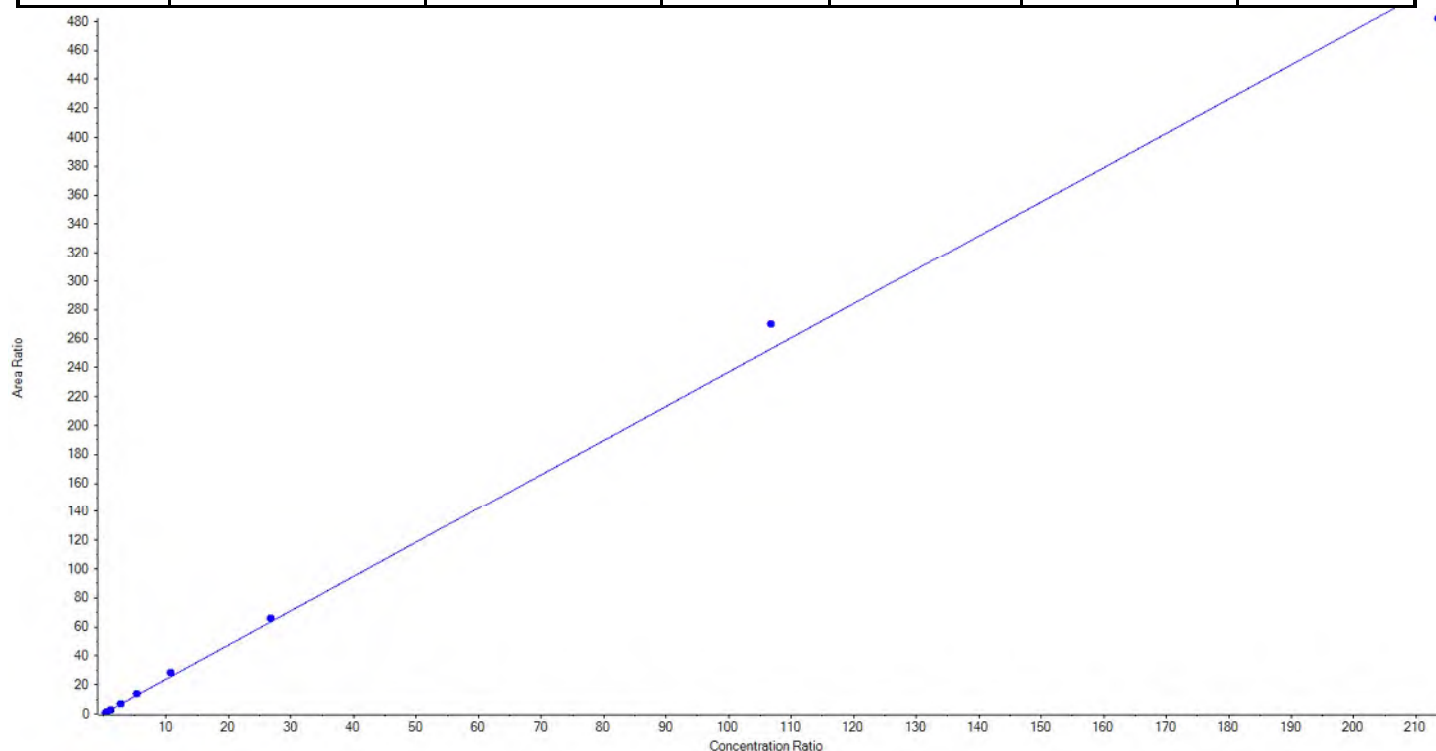
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFHxS_1	Data File	6072018.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0351_Base
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 2.36763x + 0.21796$ ($r = 0.99831$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.25	17.912475	70.9
3	JV21	L2	True	50.50	53.488051	105.9
4	JV22	L3	True	101.00	97.481687	96.5
5	JV23	L4	True	252.50	261.185199	103.4
6	JV24	L5	True	505.00	534.660086	105.9
7	JV25	L6	True	1010.00	1117.358473	110.6
8	JV26	L7	True	2525.00	2637.640639	104.5
9	JV27	L8	True	10100.00	10799.425210	106.9
10	JV28	L9	True	20200.00	19250.098181	95.3





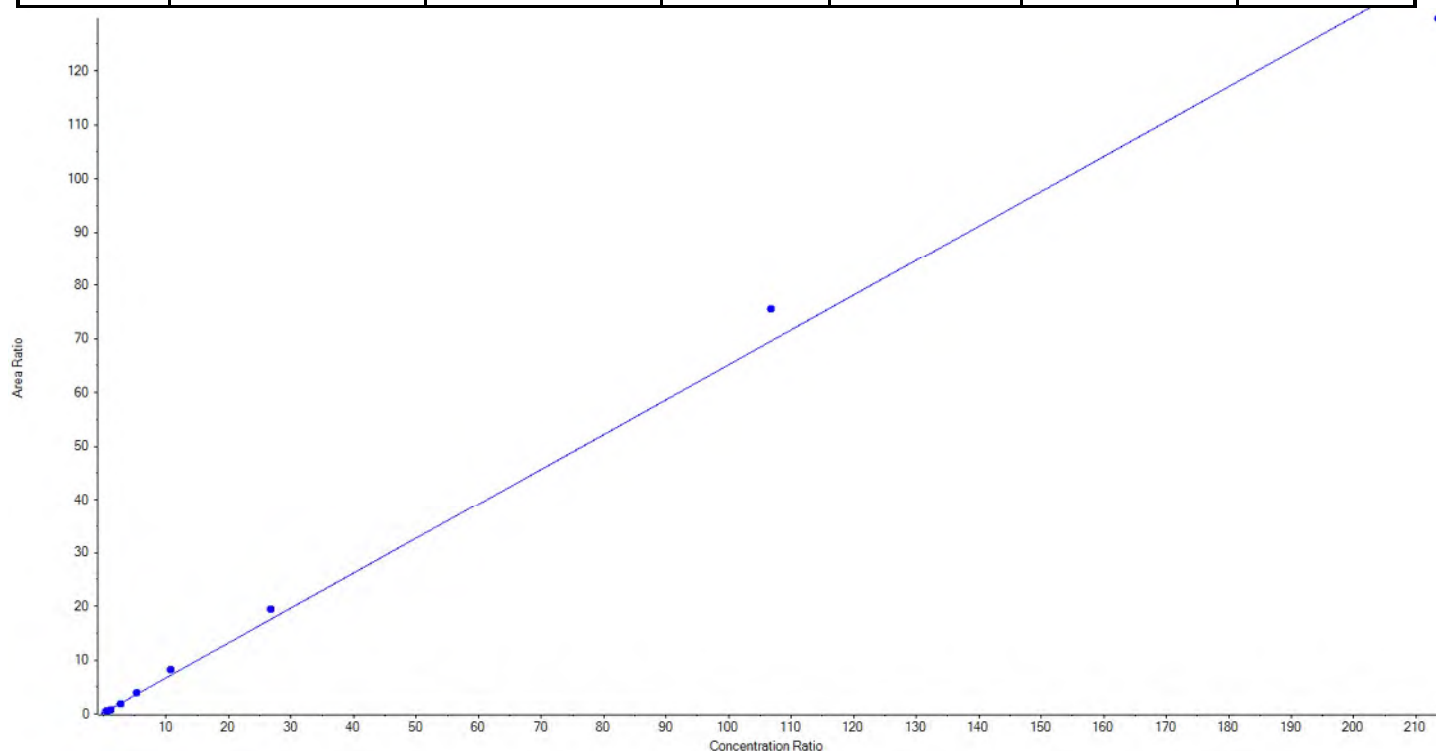
Calibration Summary Report

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Analyte Name	PFHxS_2	Data File	6072018.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0351_Base
Internal Standard	13C3-PFHxS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.64944 x + 0.20569$ ($r = 0.99656$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.25	4.853831	19.2
3	JV21	L2	True	50.50	41.722055	82.6
4	JV22	L3	True	101.00	86.095976	85.2
5	JV23	L4	True	252.50	243.062956	96.3
6	JV24	L5	True	505.00	538.271166	106.6
7	JV25	L6	True	1010.00	1171.538070	116.0
8	JV26	L7	True	2525.00	2805.077301	111.1
9	JV27	L8	True	10100.00	10986.487505	108.8
10	JV28	L9	True	20200.00	18871.744972	93.4





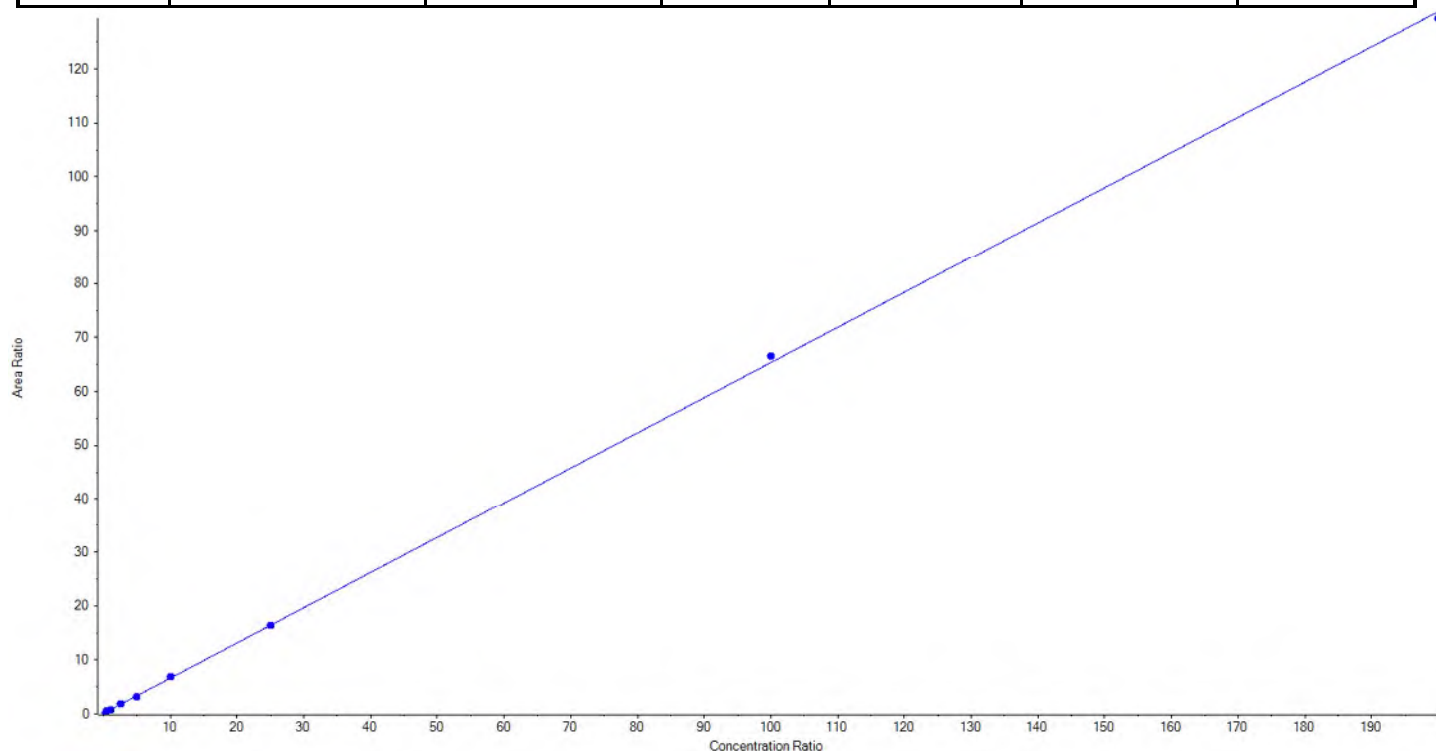
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFOA_1	Data File	6072018.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65267x + 0.09107$ ($r = 0.99980$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	18.098123	72.4
3	JV21	L2	True	50.00	61.859763	123.7
4	JV22	L3	True	100.00	100.186034	100.2
5	JV23	L4	True	250.00	263.728976	105.5
6	JV24	L5	True	500.00	471.973791	94.4
7	JV25	L6	True	1000.00	1034.220060	103.4
8	JV26	L7	True	2500.00	2488.582766	99.5
9	JV27	L8	True	10000.00	10183.705964	101.8
10	JV28	L9	True	20000.00	19802.644523	99.0





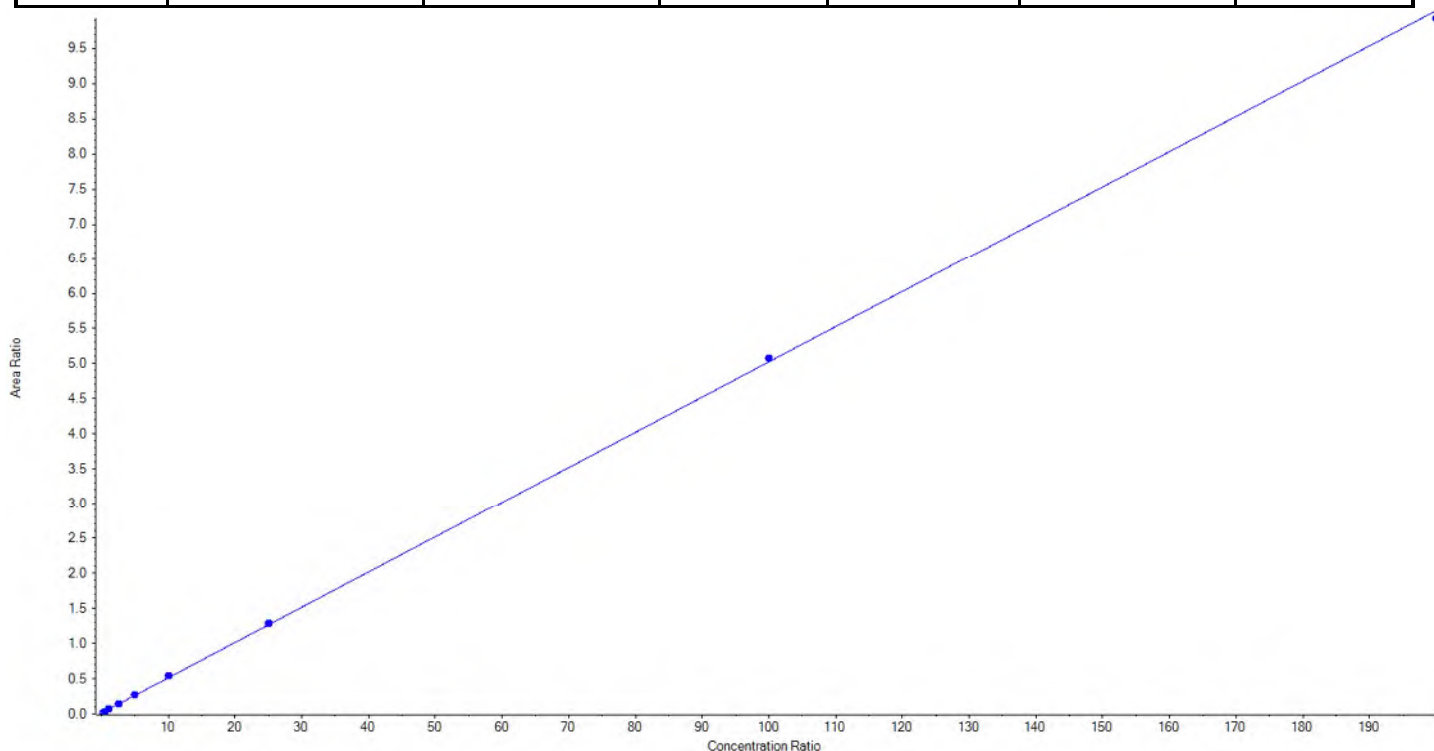
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Analyte Name	PFOA_2	Data File	6072018.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.05013x + 0.01244$ ($r = 0.99981$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	True	50.00	37.745363	75.5
4	JV22	L3	True	100.00	106.307797	106.3
5	JV23	L4	True	250.00	271.408103	108.6
6	JV24	L5	True	500.00	516.356573	103.3
7	JV25	L6	True	1000.00	1051.550180	105.2
8	JV26	L7	True	2500.00	2530.541296	101.2
9	JV27	L8	True	10000.00	10111.959787	101.1
10	JV28	L9	True	20000.00	19774.130902	98.9





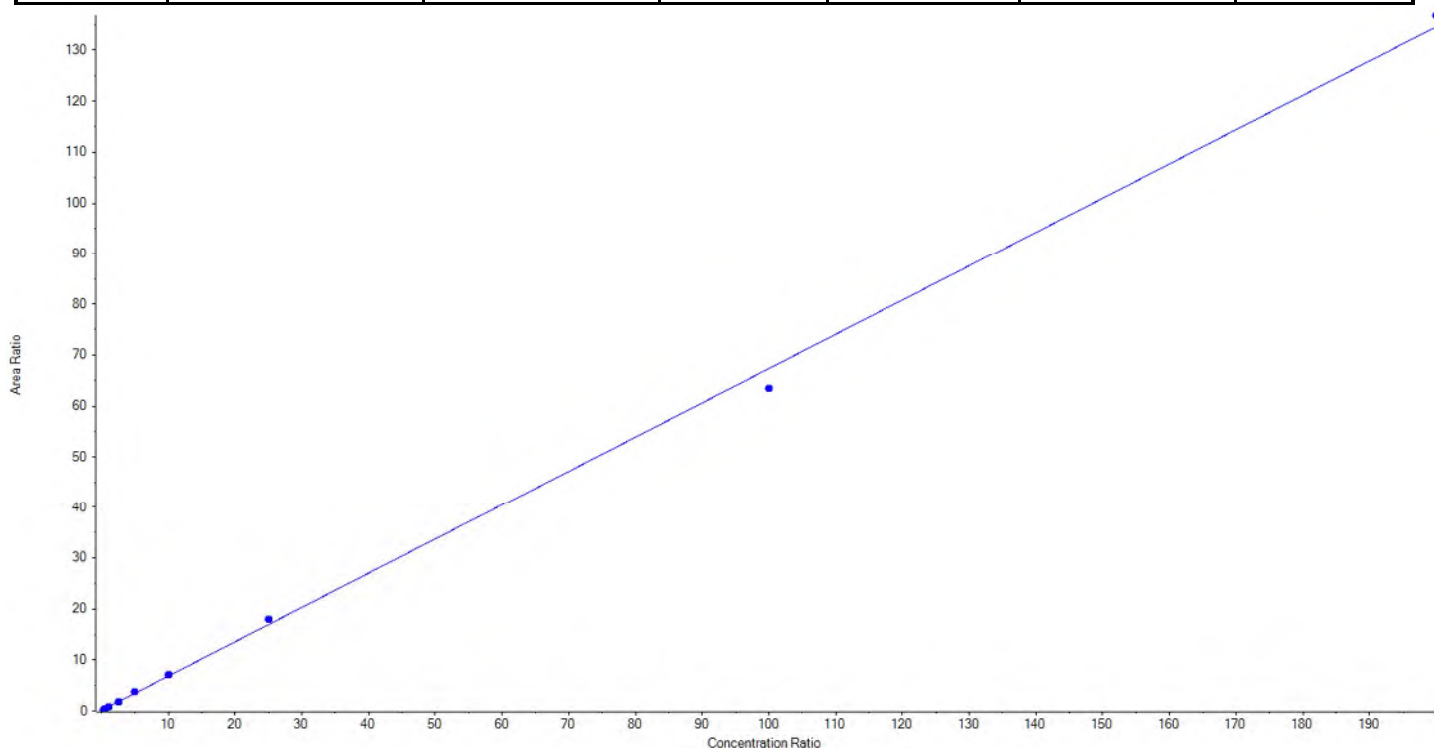
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Created with Analyst Reporter
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Analyte Name	PFNA_1	Data File	6072018.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0351_Base
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.67253x + 0.08413$ ($r = 0.99919$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	20.380243	81.5
3	JV21	L2	True	50.00	46.646813	93.3
4	JV22	L3	True	100.00	104.458467	104.5
5	JV23	L4	True	250.00	263.701795	105.5
6	JV24	L5	True	500.00	551.318989	110.3
7	JV25	L6	True	1000.00	1029.603636	103.0
8	JV26	L7	True	2500.00	2651.434689	106.1
9	JV27	L8	True	10000.00	9435.478644	94.4
10	JV28	L9	True	20000.00	20321.976724	101.6





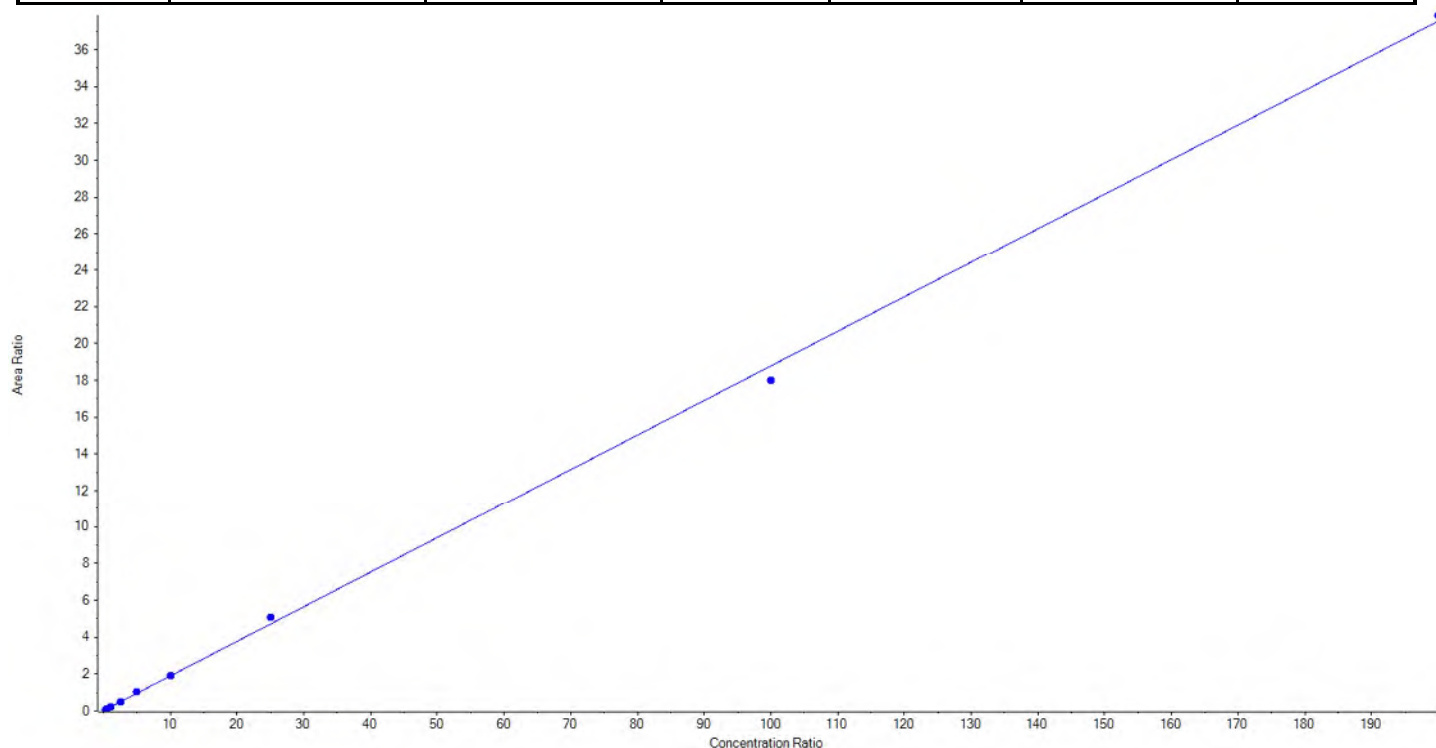
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Analyte Name	PFNA_2	Data File	6072018.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0351_Base
Internal Standard	13C9-PFNA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.18770x + 0.01753$ ($r = 0.99936$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	19.401848	77.6
3	JV21	L2	True	50.00	48.764204	97.5
4	JV22	L3	True	100.00	110.562507	110.6
5	JV23	L4	True	250.00	248.793870	99.5
6	JV24	L5	True	500.00	547.564450	109.5
7	JV25	L6	True	1000.00	1004.923499	100.5
8	JV26	L7	True	2500.00	2704.608737	108.2
9	JV27	L8	True	10000.00	9578.530176	95.8
10	JV28	L9	True	20000.00	20161.850707	100.8





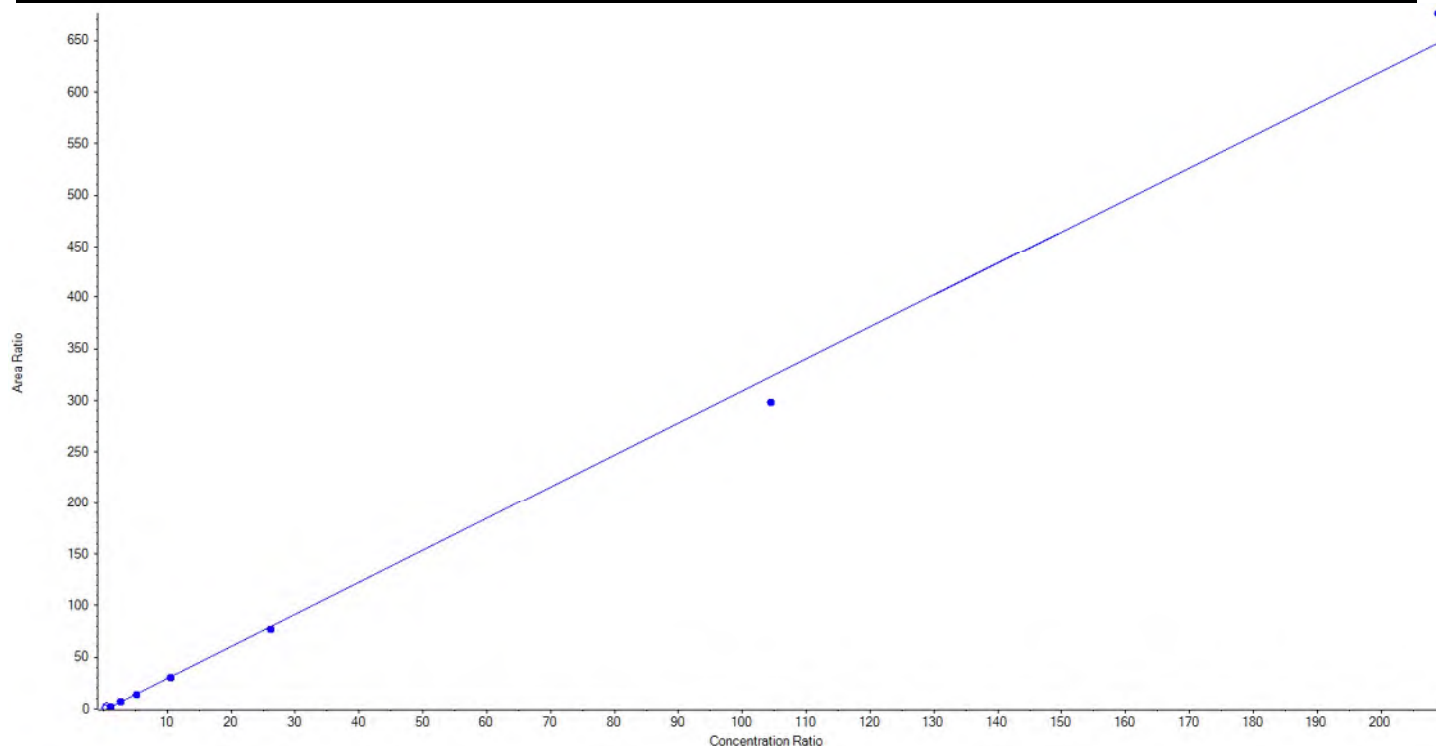
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Analyte Name	PFOS_1	Data File	6072018.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 3.10532 x + -1.48782$ ($r = 0.99837$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	50.138640	200.6
3	JV21	L2	False	50.00	92.166004	184.3
4	JV22	L3	True	100.00	108.959361	109.0
5	JV23	L4	True	250.00	263.794339	105.5
6	JV24	L5	True	500.00	471.261790	94.3
7	JV25	L6	True	1000.00	982.909786	98.3
8	JV26	L7	True	2500.00	2404.311359	96.2
9	JV27	L8	True	10000.00	9242.659160	92.4
10	JV28	L9	True	20000.00	20876.104205	104.4





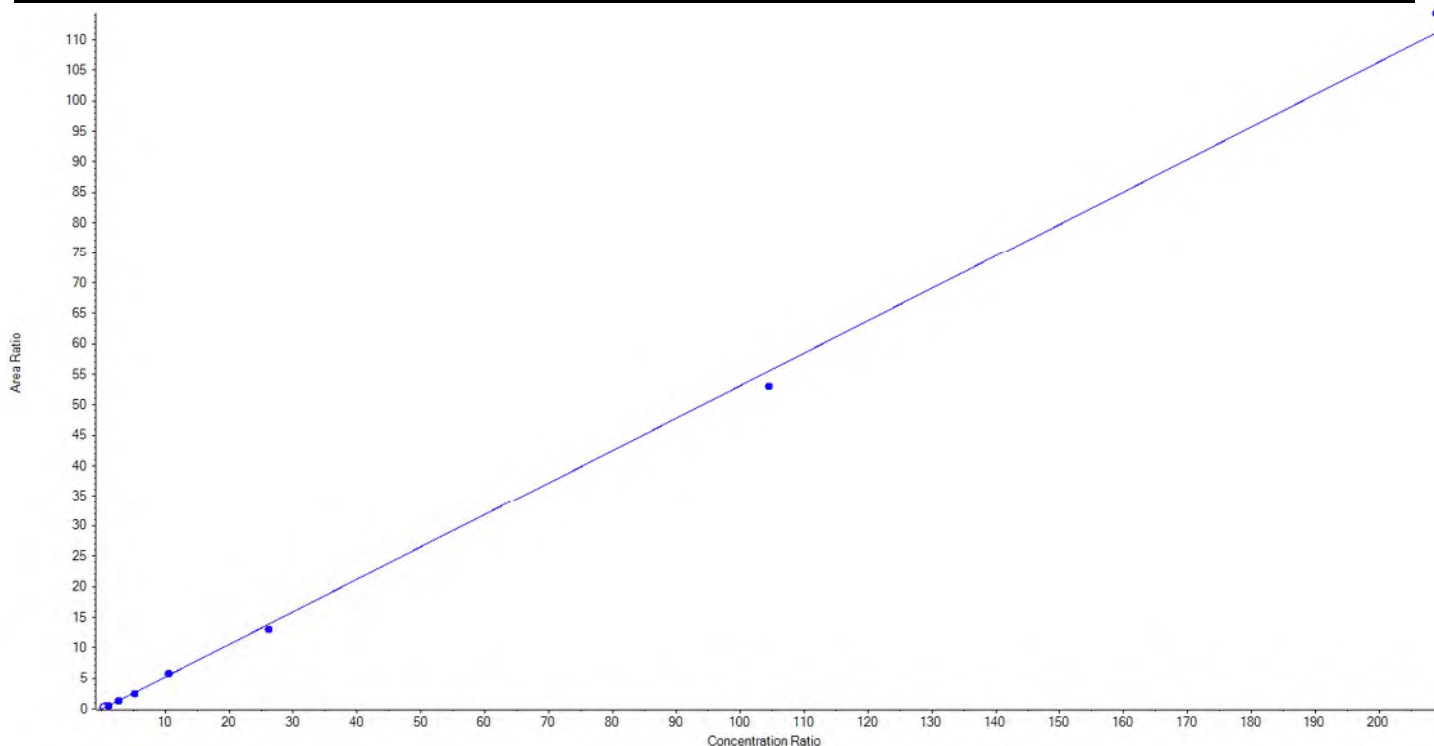
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Analyte Name	PFOS_2	Data File	6072018.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0351_Base
Internal Standard	13C8-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.53212x + -0.07235$ ($r = 0.99923$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	35.731144	142.9
3	JV21	L2	False	50.00	84.818722	169.6
4	JV22	L3	True	100.00	105.033358	105.0
5	JV23	L4	True	250.00	259.538899	103.8
6	JV24	L5	True	500.00	471.040056	94.2
7	JV25	L6	True	1000.00	1043.370013	104.3
8	JV26	L7	True	2500.00	2357.552928	94.3
9	JV27	L8	True	10000.00	9547.325858	95.5
10	JV28	L9	True	20000.00	20566.138888	102.8





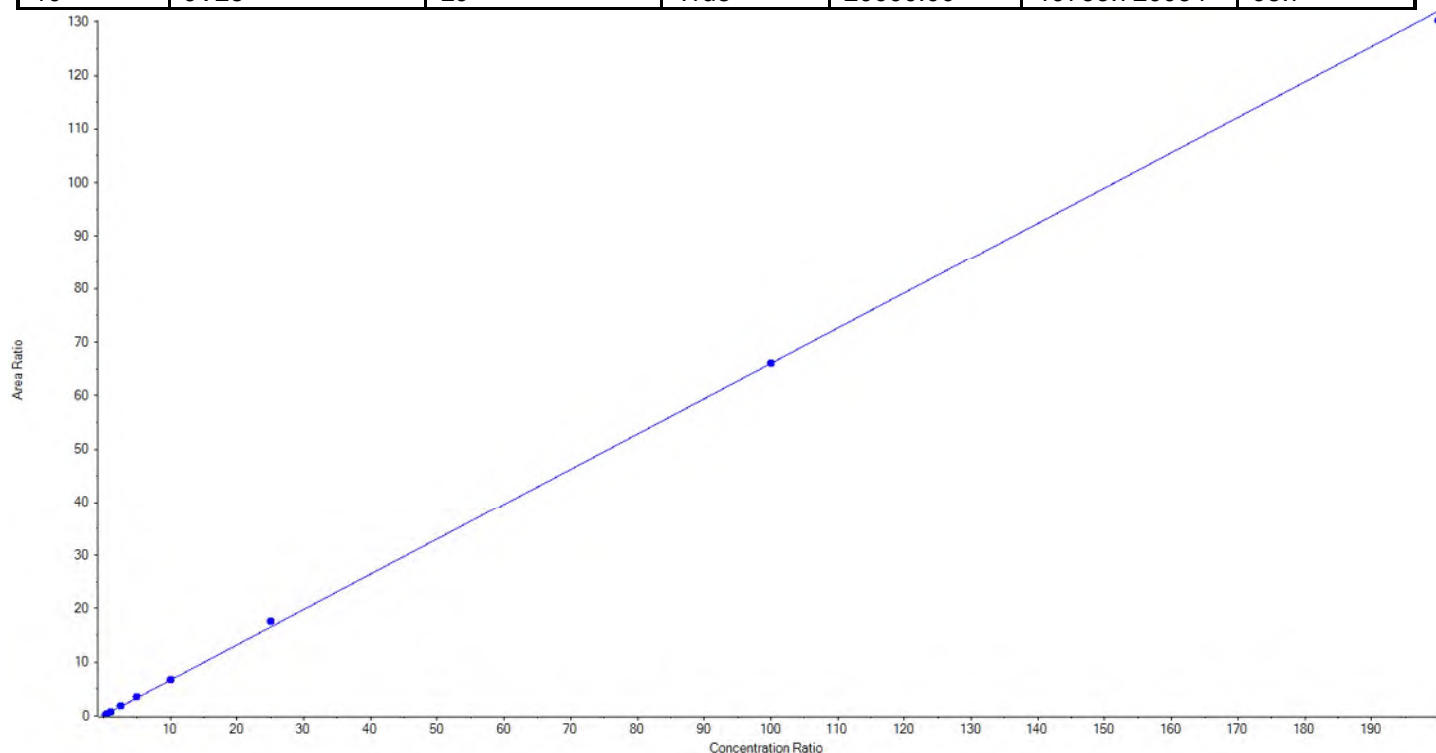
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Analyte Name	PFDA_1	Data File	6072018.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0351_Base
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65956x + 0.06191$ ($r = 0.99963$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	21.443438	85.8
3	JV21	L2	True	50.00	39.045512	78.1
4	JV22	L3	True	100.00	114.963867	115.0
5	JV23	L4	True	250.00	265.515260	106.2
6	JV24	L5	True	500.00	532.287853	106.5
7	JV25	L6	True	1000.00	1027.599212	102.8
8	JV26	L7	True	2500.00	2672.830375	106.9
9	JV27	L8	True	10000.00	10015.594449	100.2
10	JV28	L9	True	20000.00	19735.720034	98.7





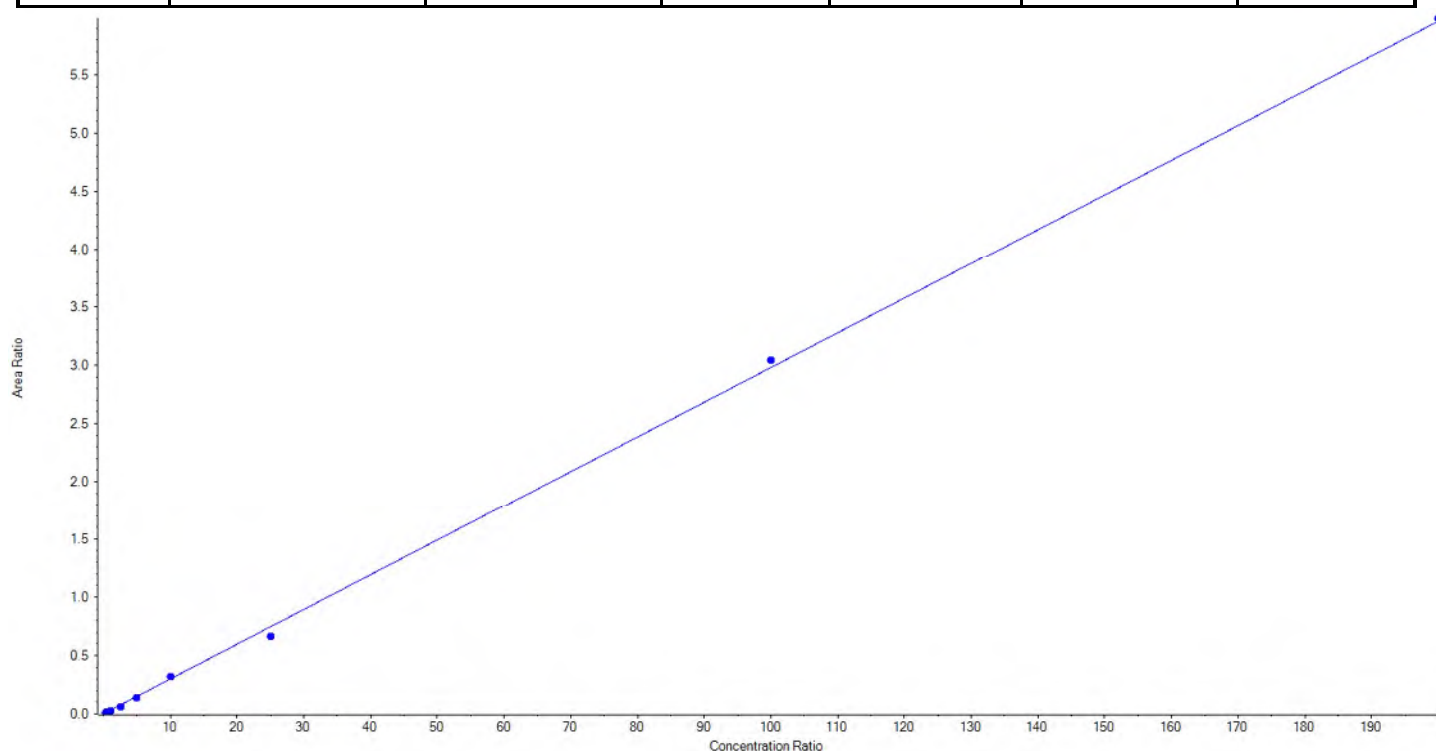
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Analyte Name	PFDA_2	Data File	6072018.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0351_Base
Internal Standard	13C6-PFDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.02979x + 0.00124$ ($r = 0.99918$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	31.548423	126.2
3	JV21	L2	True	50.00	52.220603	104.4
4	JV22	L3	True	100.00	95.565140	95.6
5	JV23	L4	True	250.00	207.658078	83.1
6	JV24	L5	True	500.00	464.804744	93.0
7	JV25	L6	True	1000.00	1068.313446	106.8
8	JV26	L7	True	2500.00	2209.453678	88.4
9	JV27	L8	True	10000.00	10217.822383	102.2
10	JV28	L9	True	20000.00	20077.613505	100.4





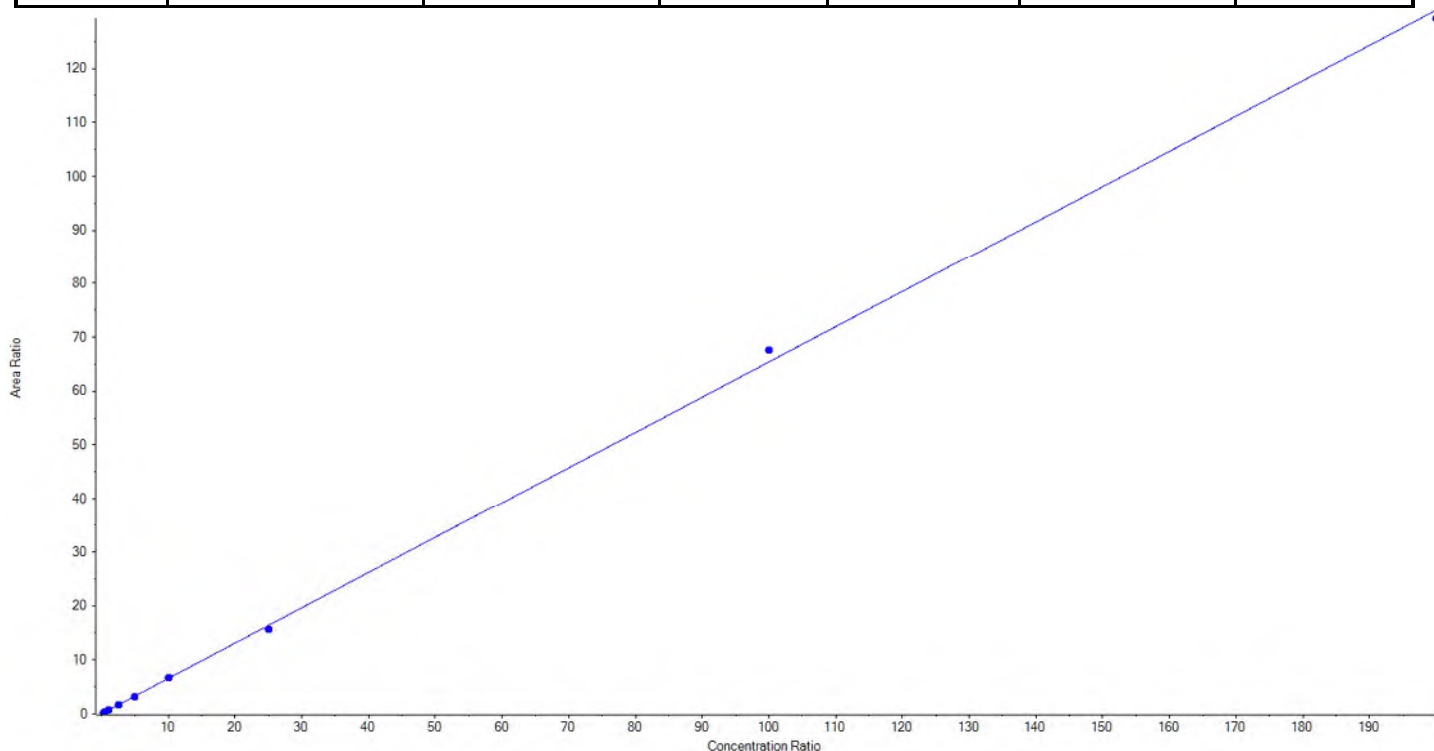
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Analyte Name	PFUnA_1	Data File	6072018.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0351_Base
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.65386 x + 0.02507$ ($r = 0.99969$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	25.036894	100.2
3	JV21	L2	True	50.00	50.021157	100.0
4	JV22	L3	True	100.00	105.372507	105.4
5	JV23	L4	True	250.00	245.247105	98.1
6	JV24	L5	True	500.00	473.779904	94.8
7	JV25	L6	True	1000.00	1035.275441	103.5
8	JV26	L7	True	2500.00	2398.389870	95.9
9	JV27	L8	True	10000.00	10332.051319	103.3
10	JV28	L9	True	20000.00	19759.825803	98.8





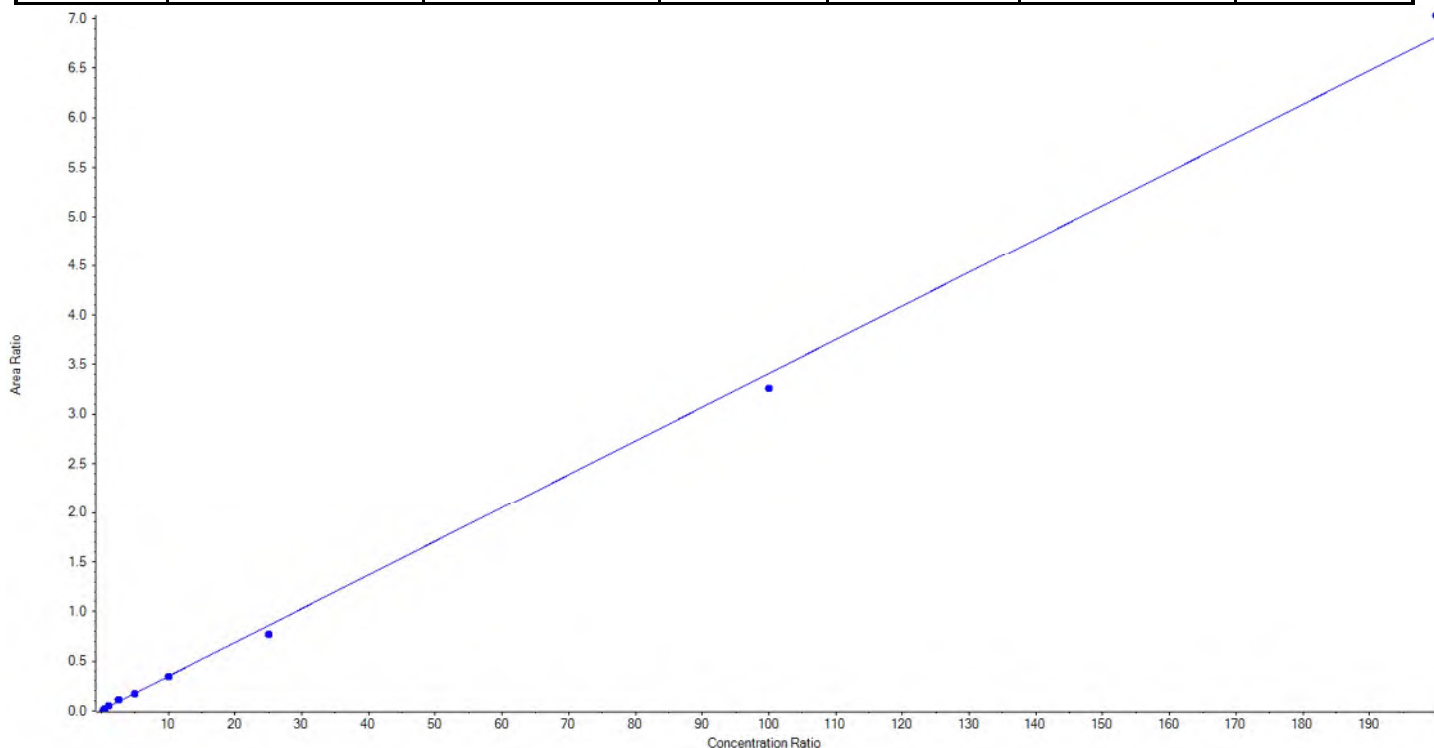
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Analyte Name	PFUnA_2	Data File	6072018.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0351_Base
Internal Standard	13C7-PFUnA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.03405 x + 0.00735$ ($r = 0.99879$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.422464	89.7
3	JV21	L2	True	50.00	40.513453	81.0
4	JV22	L3	True	100.00	118.927460	118.9
5	JV23	L4	True	250.00	306.872947	122.8
6	JV24	L5	True	500.00	497.879911	99.6
7	JV25	L6	True	1000.00	991.015248	99.1
8	JV26	L7	True	2500.00	2252.669746	90.1
9	JV27	L8	True	10000.00	9569.761599	95.7
10	JV28	L9	True	20000.00	20624.937171	103.1





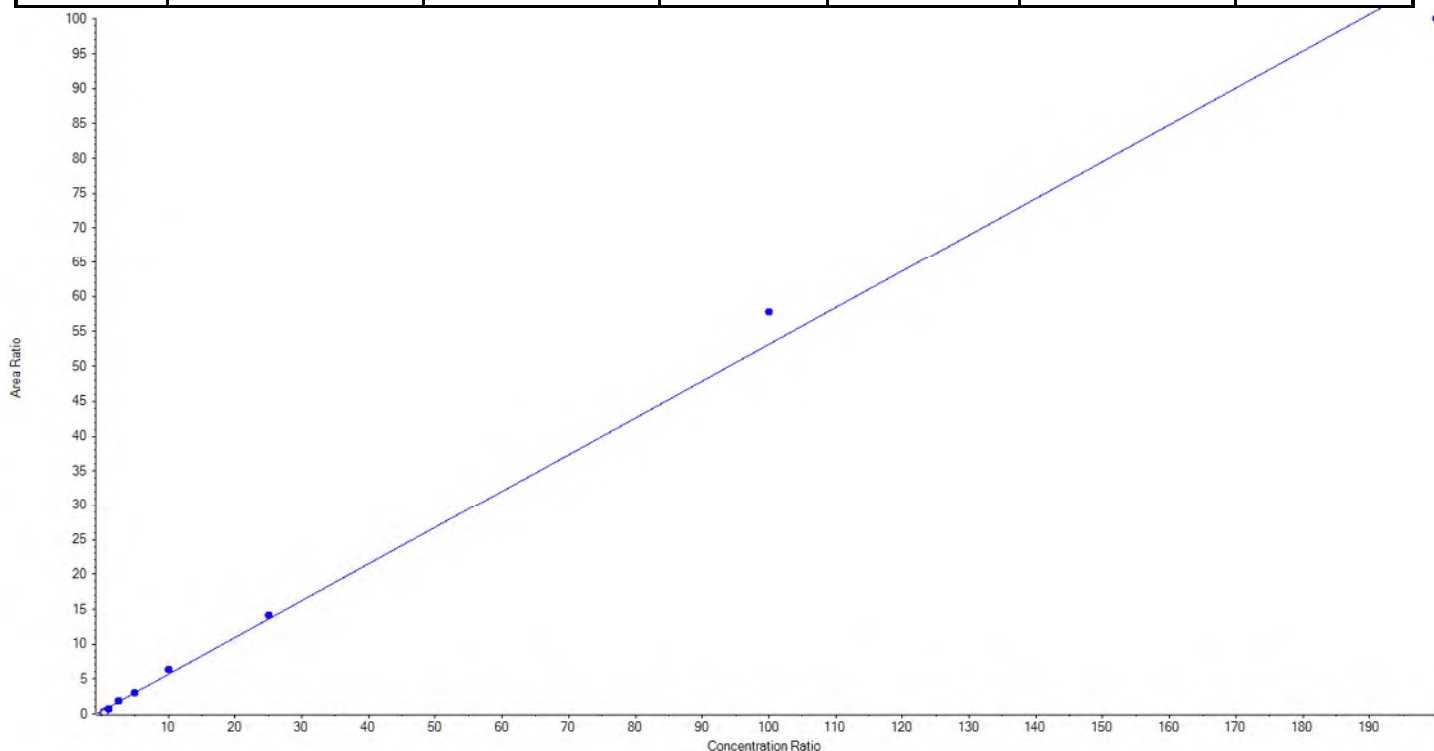
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Analyte Name	PFDaA_1	Data File	6072018.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0351_Base
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.52767 x + 0.38979$ ($r = 0.99730$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	False	50.00	< 0	N/A
4	JV22	L3	True	100.00	70.178458	70.2
5	JV23	L4	True	250.00	267.915463	107.2
6	JV24	L5	True	500.00	512.936582	102.6
7	JV25	L6	True	1000.00	1126.551942	112.7
8	JV26	L7	True	2500.00	2603.682297	104.2
9	JV27	L8	True	10000.00	10884.375528	108.8
10	JV28	L9	True	20000.00	18884.359729	94.4





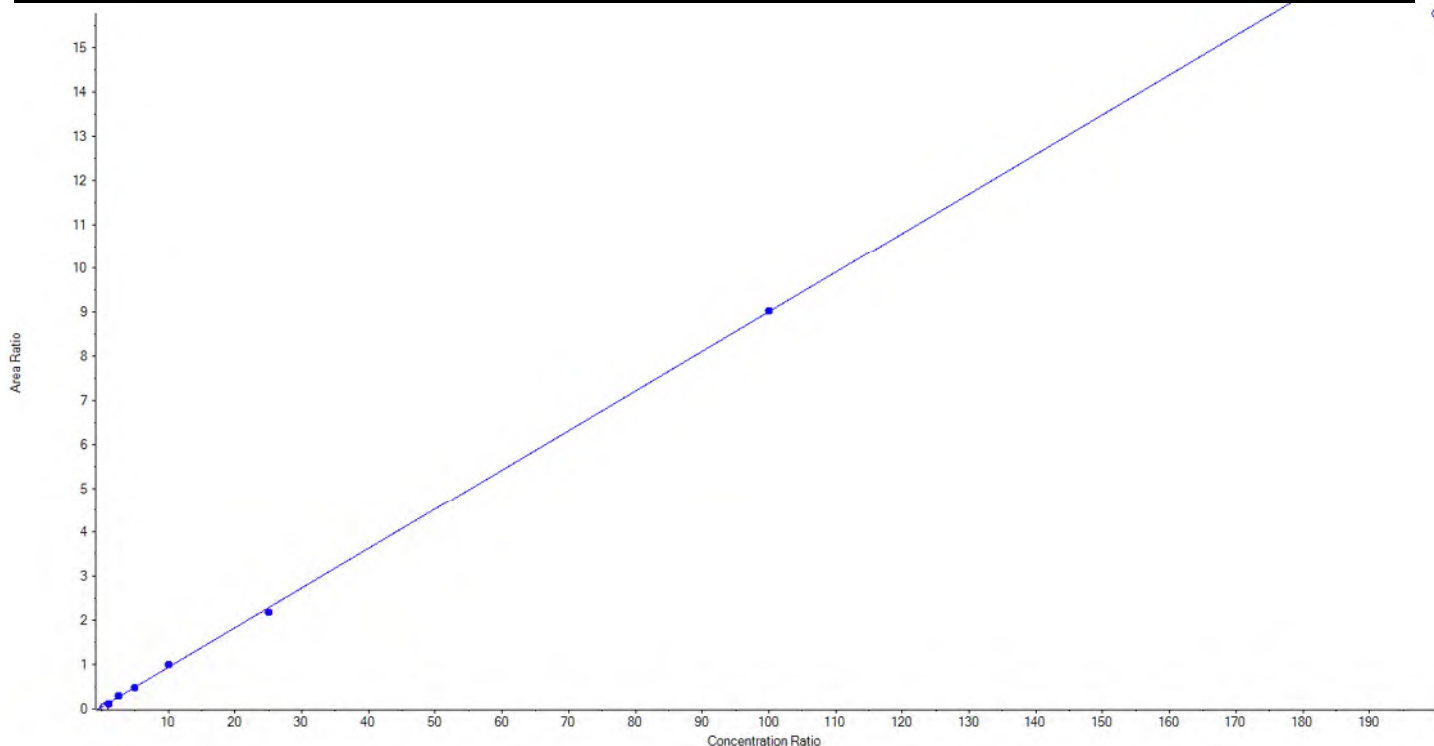
Calibration Summary Report

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Printed: 11/06/2018 2:07:22 PM

Analyte Name	PFDaA_2	Data File	6072018.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0351_Base
Internal Standard	13C2-PFDaA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.08966x + 0.04281$ ($r = 0.99934$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	< 0	N/A
3	JV21	L2	False	50.00	13.766000	27.5
4	JV22	L3	True	100.00	86.741212	86.7
5	JV23	L4	True	250.00	276.475216	110.6
6	JV24	L5	True	500.00	495.184086	99.0
7	JV25	L6	True	1000.00	1079.208724	107.9
8	JV26	L7	True	2500.00	2386.236813	95.5
9	JV27	L8	True	10000.00	10026.153948	100.3
10	JV28	L9	False	20000.00	17548.781879	87.7





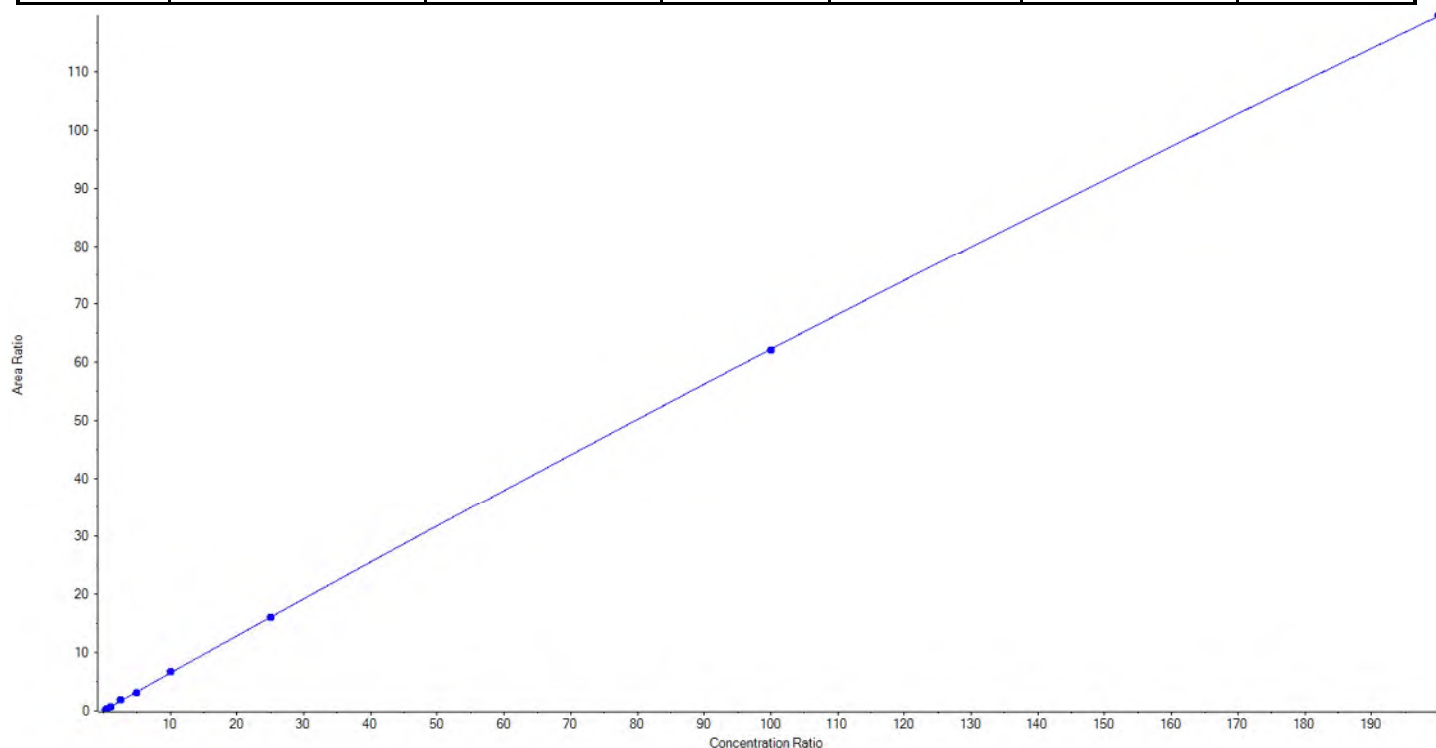
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTTrDA_1	Data File	6072018.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -2.45176e-4 x^2 + 0.64685 x + 0.04142$ ($r = 0.99990$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.161627	88.7
3	JV21	L2	True	50.00	48.481204	97.0
4	JV22	L3	True	100.00	106.967849	107.0
5	JV23	L4	True	250.00	276.263151	110.5
6	JV24	L5	True	500.00	475.432794	95.1
7	JV25	L6	True	1000.00	1026.550278	102.7
8	JV26	L7	True	2500.00	2486.470932	99.5
9	JV27	L8	True	10000.00	9961.026751	99.6
10	JV28	L9	True	20000.00	20021.938987	100.1





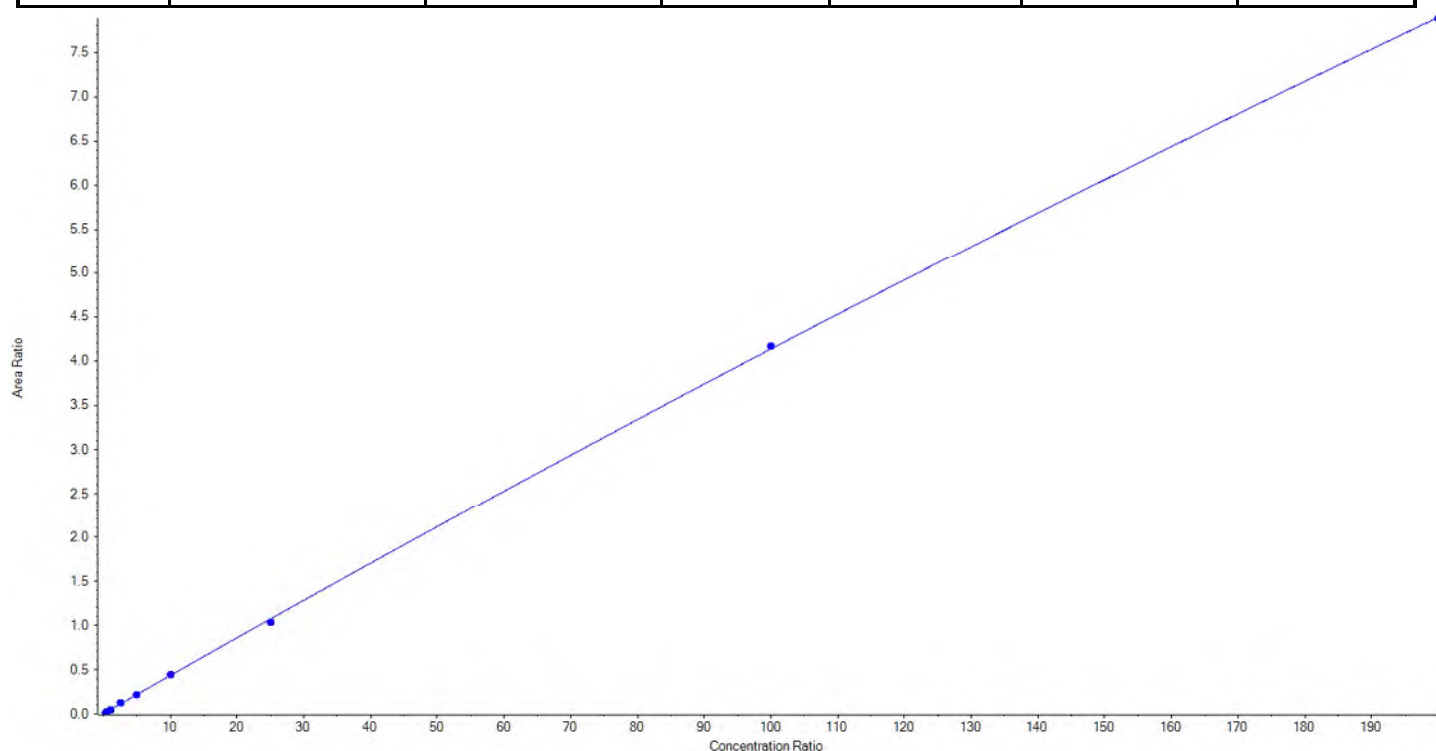
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTTrDA_2	Data File	6072018.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -1.86273e-5 x^2 + 0.04319 x + 0.00364$ ($r = 0.99983$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	22.162689	88.7
3	JV21	L2	True	50.00	47.733187	95.5
4	JV22	L3	True	100.00	107.588314	107.6
5	JV23	L4	True	250.00	279.571556	111.8
6	JV24	L5	True	500.00	486.583145	97.3
7	JV25	L6	True	1000.00	1022.697874	102.3
8	JV26	L7	True	2500.00	2403.578014	96.1
9	JV27	L8	True	10000.00	10093.394159	100.9
10	JV28	L9	True	20000.00	19961.287090	99.8





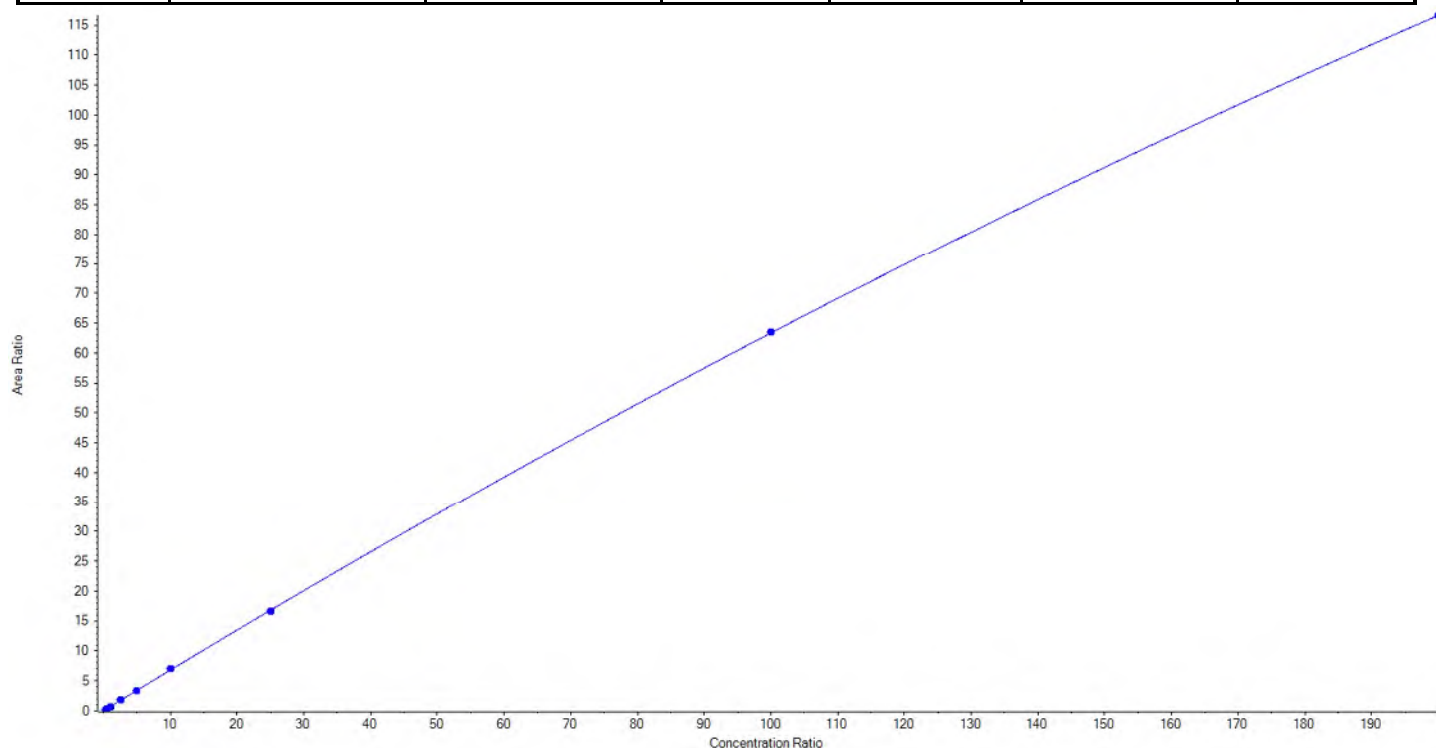
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTeDA_1	Data File	6072018.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -5.04346e-4 x^2 + 0.68391 x + 0.02496$ ($r = 0.99996$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	23.788334	95.2
3	JV21	L2	True	50.00	50.044909	100.1
4	JV22	L3	True	100.00	103.113355	103.1
5	JV23	L4	True	250.00	256.151932	102.5
6	JV24	L5	True	500.00	486.029505	97.2
7	JV25	L6	True	1000.00	1033.338939	103.3
8	JV26	L7	True	2500.00	2463.483574	98.5
9	JV27	L8	True	10000.00	10012.029002	100.1
10	JV28	L9	True	20000.00	19996.999621	100.0





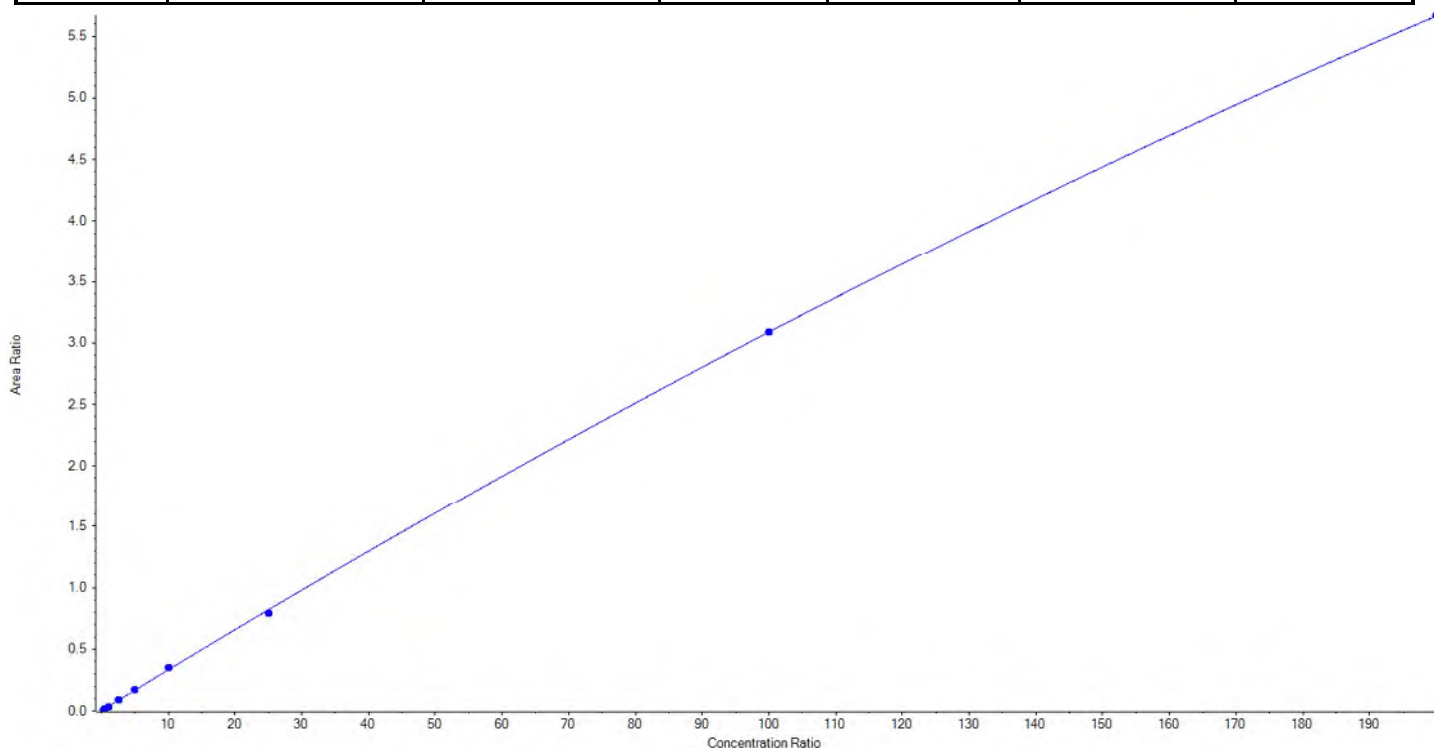
Calibration Summary Report

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Analyte Name	PFTeDA_2	Data File	6072018.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0351_Base
Internal Standard	13C2-PFTeDA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = -2.53939e-5 x^2 + 0.03339 x + 0.00200$ ($r = 0.99987$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	25.648467	102.6
3	JV21	L2	True	50.00	42.930398	85.9
4	JV22	L3	True	100.00	101.815900	101.8
5	JV23	L4	True	250.00	260.210288	104.1
6	JV24	L5	True	500.00	519.262579	103.9
7	JV25	L6	True	1000.00	1049.502317	105.0
8	JV26	L7	True	2500.00	2422.036551	96.9
9	JV27	L8	True	10000.00	9988.884280	99.9
10	JV28	L9	True	20000.00	20015.897486	100.1





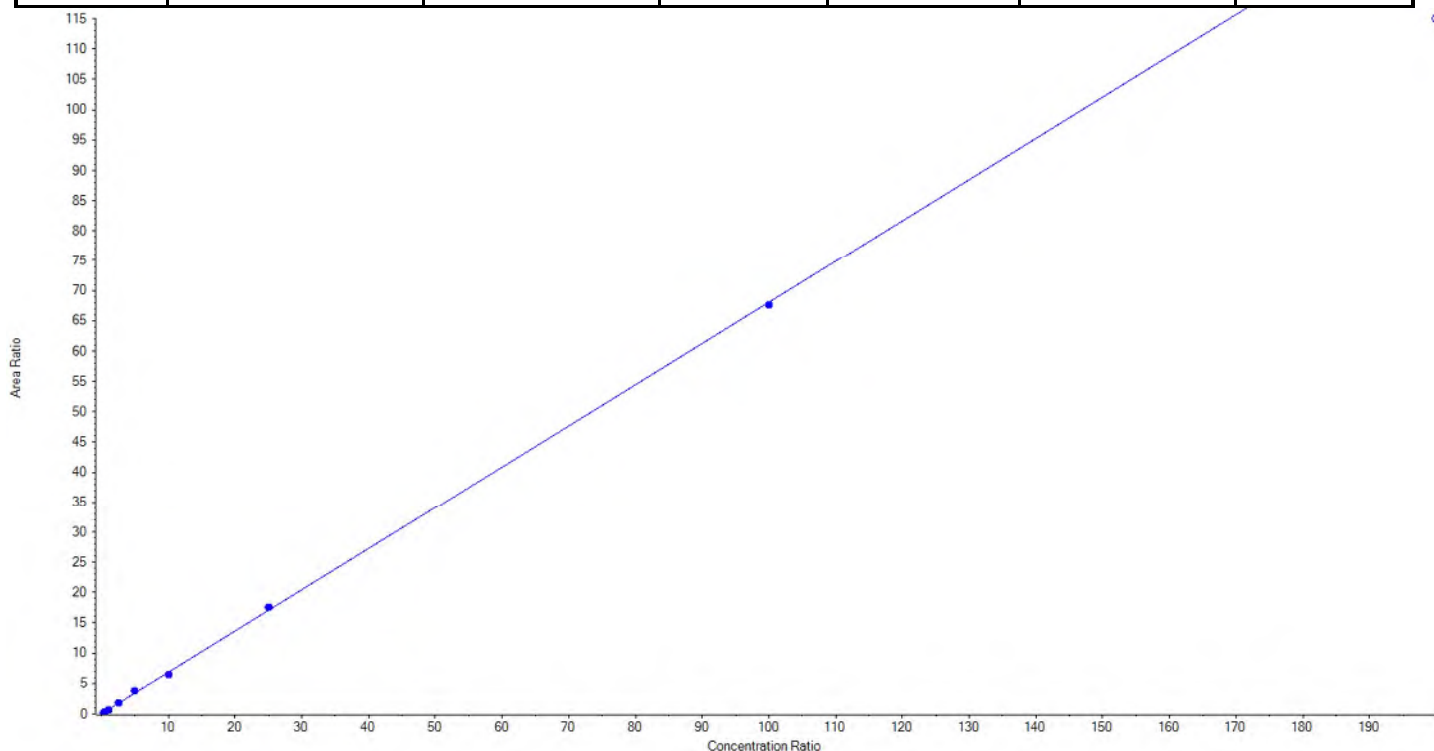
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	NMeFOSAA_1	Data File	6072018.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0351_Base
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.68020x + 0.04941$ ($r = 0.99960$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	24.227966	96.9
3	JV21	L2	True	50.00	46.741338	93.5
4	JV22	L3	True	100.00	101.511782	101.5
5	JV23	L4	True	250.00	250.779356	100.3
6	JV24	L5	True	500.00	552.230007	110.5
7	JV25	L6	True	1000.00	951.596874	95.2
8	JV26	L7	True	2500.00	2573.237388	102.9
9	JV27	L8	True	10000.00	9924.675290	99.3
10	JV28	L9	False	20000.00	16903.129381	84.5





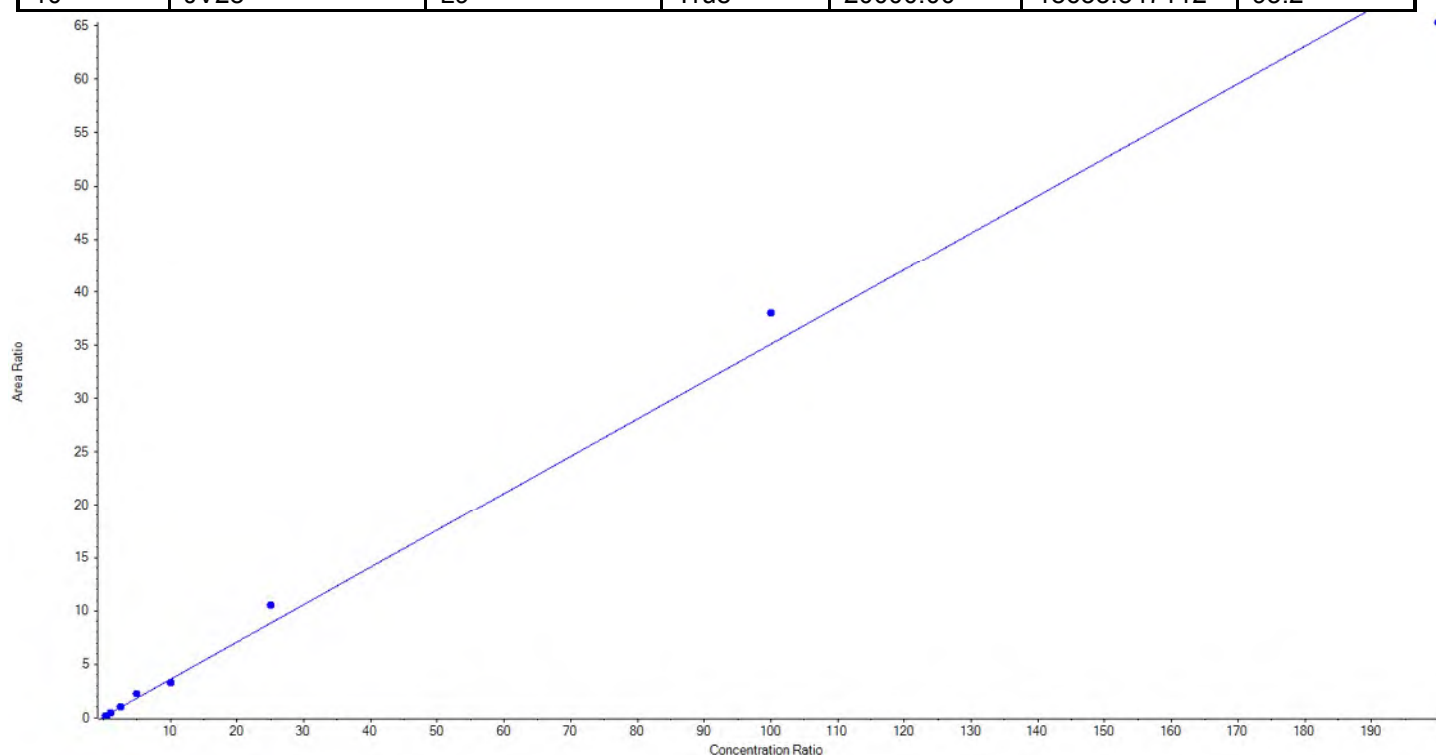
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	NMeFOSAA_2	Data File	6072018.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0351_Base
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.34992x + 0.10048$ ($r = 0.99555$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	20.857455	83.4
3	JV21	L2	True	50.00	36.113201	72.2
4	JV22	L3	True	100.00	95.604572	95.6
5	JV23	L4	True	250.00	274.701878	109.9
6	JV24	L5	True	500.00	629.792515	126.0
7	JV25	L6	True	1000.00	924.546740	92.5
8	JV26	L7	True	2500.00	2972.639243	118.9
9	JV27	L8	True	10000.00	10837.197284	108.4
10	JV28	L9	True	20000.00	18633.547112	93.2





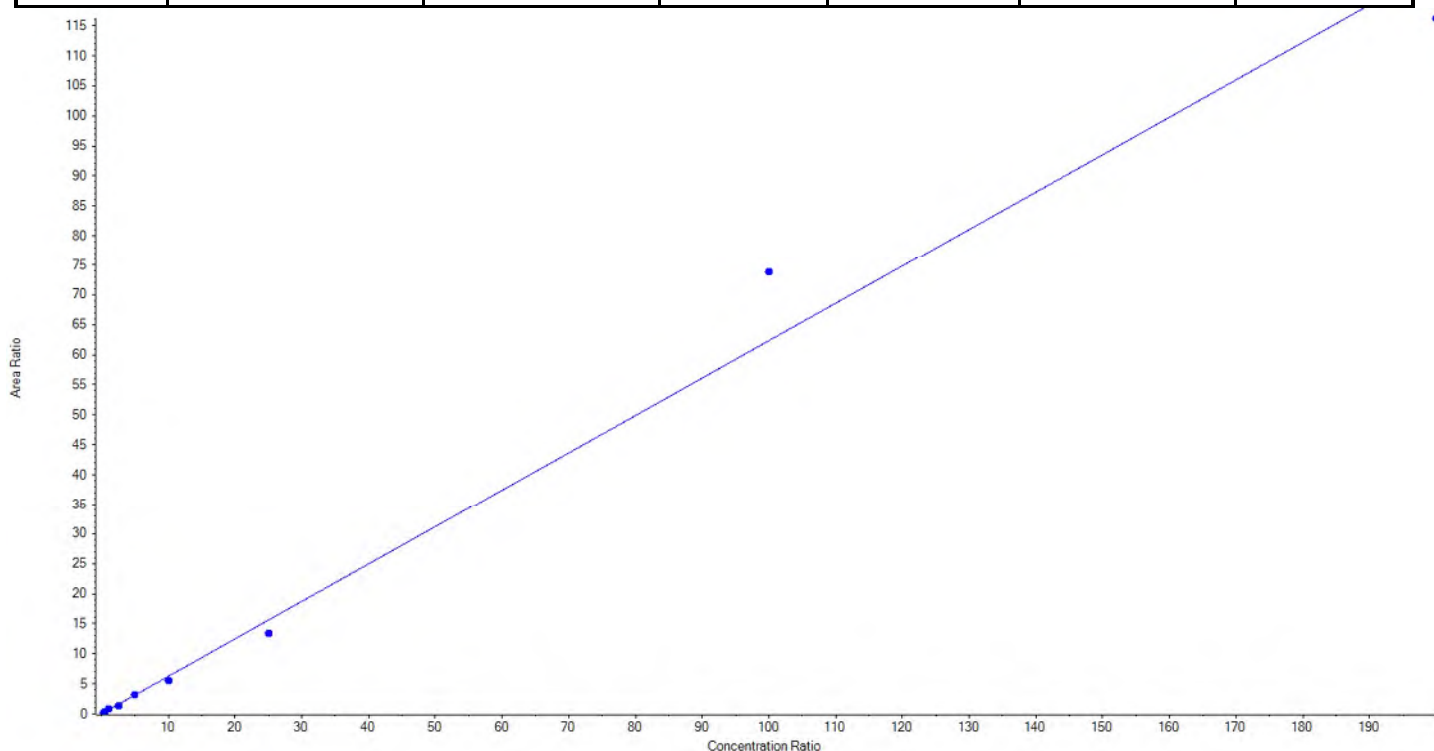
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	NEtFOSAA_1	Data File	6072018.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0351_Base
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.62334 x + 0.01763$ ($r = 0.99253$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	25.00	27.086477	108.4
3	JV21	L2	True	50.00	49.662621	99.3
4	JV22	L3	True	100.00	118.172721	118.2
5	JV23	L4	True	250.00	220.781864	88.3
6	JV24	L5	True	500.00	504.371953	100.9
7	JV25	L6	True	1000.00	872.171385	87.2
8	JV26	L7	True	2500.00	2153.326264	86.1
9	JV27	L8	True	10000.00	11844.333779	118.4
10	JV28	L9	True	20000.00	18635.092935	93.2





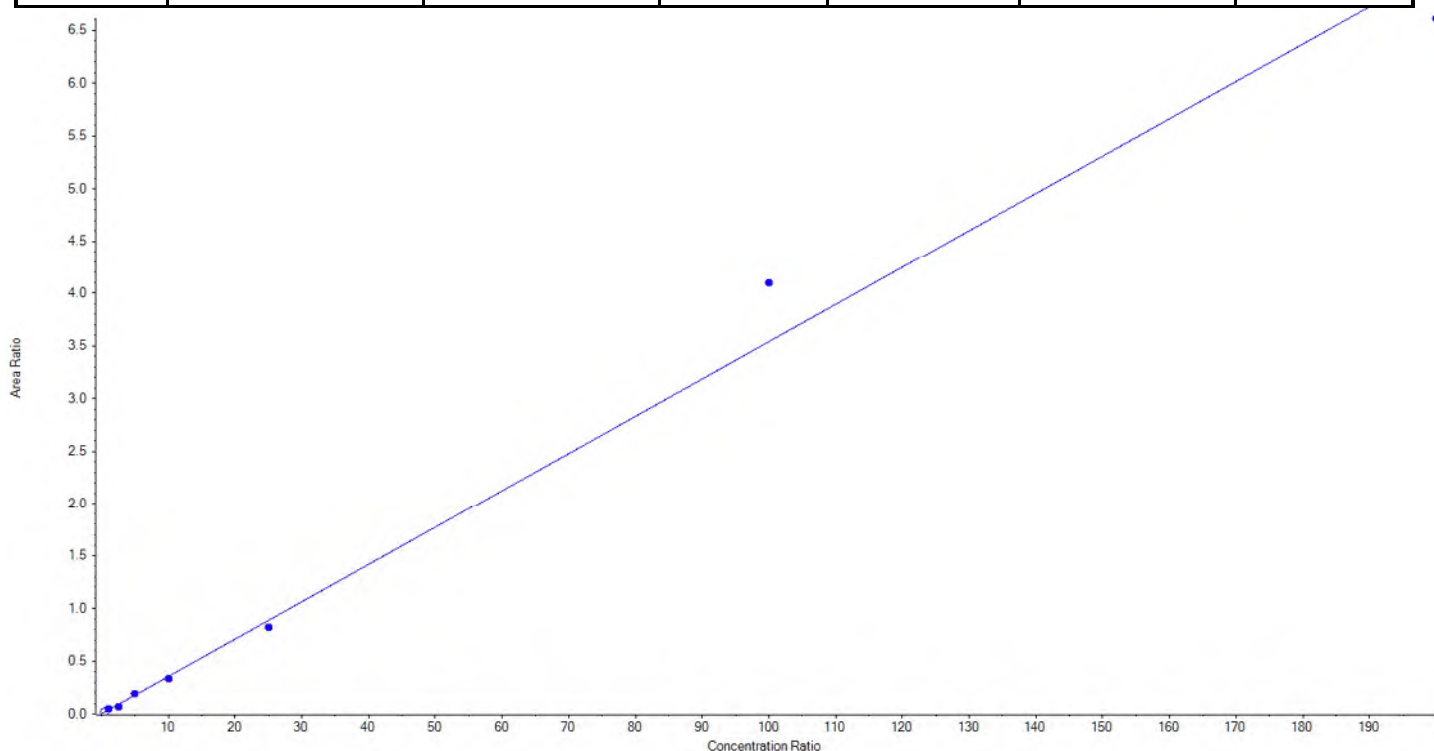
Calibration Summary Report

Created with Analyst Reporter
Printed: 11/06/2018 2:07:22 PM

Analyte Name	NEtFOSAA_2	Data File	6072018.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0351_Base
Internal Standard	d5-EtFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	6/7/2018 8:21:48 PM	Acquisition Method	5-0369.dam

Regression Equation: $y = 0.03539x + 2.17168e-4$ ($r = 0.99399$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	False	25.00	N/A	N/A
3	JV21	L2	False	50.00	63.108450	126.2
4	JV22	L3	True	100.00	126.463141	126.5
5	JV23	L4	True	250.00	175.847732	70.3
6	JV24	L5	True	500.00	536.506060	107.3
7	JV25	L6	True	1000.00	942.091361	94.2
8	JV26	L7	True	2500.00	2313.668737	92.6
9	JV27	L8	True	10000.00	11572.710749	115.7
10	JV28	L9	True	20000.00	18682.712220	93.4



Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1176.558923	1010.00	116.49
PFBS_2	298.9 / 99.0	1.54	1139.653412	1010.00	112.84
PFHxA_1	313.0 / 269.0	1.83	1238.722609	1010.00	122.65
PFHxA_2	313.0 / 119.0	1.83	1211.831232	1010.00	119.98
PFHpA_1	363.0 / 319.0	2.20	1106.734247	1000.00	110.67
PFHpA_2	363.0 / 169.0	2.20	1094.708272	1000.00	109.47
PFHxS_1	399.0 / 80.0	2.21	1070.276443	1010.00	105.97
PFHxS_2	399.0 / 99.0	2.21	1104.098639	1010.00	109.32
PFOA_1	413.0 / 369.0	2.57	1130.613191	1000.00	113.06
PFOA_2	413.0 / 169.0	2.57	1065.337946	1000.00	106.53
PFNA_1	463.0 / 419.0	2.95	1257.443907	1000.00	125.74
PFNA_2	463.0 / 219.0	2.95	1156.611404	1000.00	115.66
PFOS_1	499.0 / 80.0	2.94	1173.195643	1000.00	117.32
PFOS_2	499.0 / 99.0	2.94	1164.854382	1000.00	116.49
PFDA_1	513.0 / 469.0	3.29	1048.456126	1000.00	104.85
PFDA_2	513.0 / 219.0	3.29	933.400367	1000.00	93.34
PFUnA_1	563.0 / 519.0	3.61	1086.731146	1000.00	108.67
PFUnA_2	563.0 / 269.0	3.61	1115.155445	1000.00	111.52
PFDaA_1	613.0 / 569.0	3.90	1222.515531	1000.00	122.25
PFDaA_2	613.0 / 319.0	3.90	1154.678705	1000.00	115.47
PFTTrDA_1	663.0 / 619.0	4.15	1203.573469	1000.00	120.36
PFTTrDA_2	663.0 / 169.0	4.15	1227.419600	1000.00	122.74
PFTeDA_1	713.0 / 669.0	4.37	1193.797157	1000.00	119.38
PFTeDA_2	713.0 / 169.0	4.37	1212.863155	1000.00	121.29
NMeFOSAA_1	570.0 / 419.0	3.45	1068.182379	1000.00	106.82
NMeFOSAA_2	570.0 / 512.0	3.45	1067.710917	1000.00	106.77
NEtFOSAA_1	584.0 / 419.0	3.61	941.649322	1000.00	94.16
NEtFOSAA_2	584.0 / 483.0	3.61	929.715101	1000.00	92.97

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.54	1028.006770	1010.00	101.78
PFBS_2	298.9 / 99.0	1.54	1035.678777	1010.00	102.54
PFHxA_1	313.0 / 269.0	1.83	1073.304433	1010.00	106.27
PFHxA_2	313.0 / 119.0	1.83	1021.540534	1010.00	101.14
PFHpA_1	363.0 / 319.0	2.19	942.512597	1000.00	94.25
PFHpA_2	363.0 / 169.0	2.19	969.491330	1000.00	96.95
PFHxS_1	399.0 / 80.0	2.21	1141.996831	1010.00	113.07
PFHxS_2	399.0 / 99.0	2.21	1181.164926	1010.00	116.95
PFOA_1	413.0 / 369.0	2.57	994.528166	1000.00	99.45
PFOA_2	413.0 / 169.0	2.57	1006.602071	1000.00	100.66
PFNA_1	463.0 / 419.0	2.94	978.571970	1000.00	97.86
PFNA_2	463.0 / 219.0	2.94	946.060422	1000.00	94.61
PFOS_1	499.0 / 80.0	2.93	797.032525	1000.00	79.70
PFOS_2	499.0 / 99.0	2.94	1024.840819	1000.00	102.48
PFDA_1	513.0 / 469.0	3.29	1020.834070	1000.00	102.08
PFDA_2	513.0 / 219.0	3.29	883.817776	1000.00	88.38
PFUnA_1	563.0 / 519.0	3.61	977.021477	1000.00	97.70
PFUnA_2	563.0 / 269.0	3.61	1006.650218	1000.00	100.67
PFDoA_1	613.0 / 569.0	3.89	1135.438992	1000.00	113.54
PFDoA_2	613.0 / 319.0	3.89	1062.919792	1000.00	106.29
PFTTrDA_1	663.0 / 619.0	4.14	1118.340605	1000.00	111.83
PFTTrDA_2	663.0 / 169.0	4.14	1137.838280	1000.00	113.78
PFTeDA_1	713.0 / 669.0	4.37	1027.699976	1000.00	102.77
PFTeDA_2	713.0 / 169.0	4.36	1113.769123	1000.00	111.38
NMeFOSAA_1	570.0 / 419.0	3.44	933.754598	1000.00	93.38
NMeFOSAA_2	570.0 / 512.0	3.44	944.451912	1000.00	94.45
NEtFOSAA_1	584.0 / 419.0	3.61	1135.477914	1000.00	113.55
NEtFOSAA_2	584.0 / 483.0	3.61	1317.033928	1000.00	131.70

Sample Name	JW32 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:19:21	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.89	105.711126	100.00	105.71
d3-MeFOSAA	573.0 / 419.0	3.44	100.443056	100.00	100.44
d5-EtFOSAA	589.0 / 419.0	3.60	105.614930	100.00	105.61
13C5-PFHxA	318.0 / 273.0	1.82	95.400517	100.00	95.40
13C4-PFHpA	367.0 / 322.0	2.19	97.905849	100.00	97.91
13C8-PFOA	421.0 / 376.0	2.56	102.774478	100.00	102.77
13C9-PFNA	472.0 / 427.0	2.94	95.653016	100.00	95.65
13C6-PFDA	519.0 / 474.0	3.28	114.105909	100.00	114.11
13C7-PFUnA	570.0 / 525.0	3.60	112.370112	100.00	112.37
13C2-PFTeDA	715.0 / 670.0	4.37	99.114221	100.00	99.11
13C3-PFBS	302.0 / 99.0	1.53	81.459850	92.90	87.69
13C3-PFHxS	402.0 / 99.0	2.20	96.849423	94.60	102.38
13C8-PFOS	507.0 / 99.0	2.93	77.243946	95.70	80.71

Sample Name	JV25 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:55:31	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.88	86.095080	100.00	86.10
d3-MeFOSAA	573.0 / 419.0	3.43	109.243532	100.00	109.24
d5-EtFOSAA	589.0 / 419.0	3.60	94.535564	100.00	94.54
13C5-PFHxA	318.0 / 273.0	1.82	101.326575	100.00	101.33
13C4-PFHpA	367.0 / 322.0	2.18	108.115715	100.00	108.12
13C8-PFOA	421.0 / 376.0	2.56	101.033041	100.00	101.03
13C9-PFNA	472.0 / 427.0	2.93	109.141215	100.00	109.14
13C6-PFDA	519.0 / 474.0	3.28	95.111855	100.00	95.11
13C7-PFUnA	570.0 / 525.0	3.59	95.119540	100.00	95.12
13C2-PFTeDA	715.0 / 670.0	4.36	81.433512	100.00	81.43
13C3-PFBS	302.0 / 99.0	1.52	88.333389	92.90	95.08
13C3-PFHxS	402.0 / 99.0	2.20	89.230407	94.60	94.32
13C8-PFOS	507.0 / 99.0	2.93	90.528417	95.70	94.60



Sample Name	JV05 IB	Injection Vial	11
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:08:39	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.358	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.066	0.063	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.22	PFHxS	0.304	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.074	0.079	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.255	0.273	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.051	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.043	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.083	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.058	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.535	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.095	0.057	



Sample Name	CQ896PB-FS(3)	Injection Vial	15
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T22:51:24	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.370	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.060	0.063	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.342	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.093	0.079	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.251	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.244	0.191	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.092	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.068	
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü



Sample Name	CQ897LCS-FS(3)	Injection Vial	16
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:02:05	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.318	0.322	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.069	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.024	0.025	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.286	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.079	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.280	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.177	0.191	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.047	0.044	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.053	0.059	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.066	0.068	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.049	0.050	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.560	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.069	0.057	ü

Sample Name	J6245-FS(3)	Injection Vial	17
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:12:46	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.338	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.056	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.061	0.025	
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.279	0.289	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.134	0.079	
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.249	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.211	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.184	0.158	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.091	0.068	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.099	0.057	

Sample Name	J6249-FS(3)	Injection Vial	18
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:23:26	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.344	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.057	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.055	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.305	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.119	0.079	
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.302	0.273	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.169	0.191	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.158	
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.089	0.068	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü

Sample Name	J6251-FS(3)	Injection Vial	19
Sample ID		Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-06-07T23:34:07	Data File	6072018.wiff
Acquisition Method	5-0369.dam	Result Table	18-0351_Base
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.54	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.428	0.322	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.070	0.063	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.088	0.025	
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.284	0.289	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.163	0.079	
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.347	0.273	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.205	0.191	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.044	
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.059	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.158	
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.068	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.050	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.607	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.057	ü

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME
SOUTHEAST	JACKSONVILLE_NAS	18-0351							N6247016D9008	N6945017F0375	TETRA TECH, INC.	DRMO-FB02-052418
SOUTHEAST	JACKSONVILLE_NAS	18-0351							N6247016D9008	N6945017F0375	TETRA TECH, INC.	PSC51-FB03-052418
SOUTHEAST	JACKSONVILLE_NAS	18-0351							N6247016D9008	N6945017F0375	TETRA TECH, INC.	FFTA-FB01-052418

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	JACKSONVILLE_NAS	18-0351		Water for QC samples	QC Sample	24-May-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0351		Water for QC samples	QC Sample	24-May-18	537	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0351		Water for QC samples	QC Sample	24-May-18	537	Perfluoroalkyl Compounds	20190201100027.00