NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 18-0339

Naval Air Station Jacksonville
Jacksonville, Florida

July 2019

N00207_004429
NAS JACKSONVILLE, FL
SSIC 5000-33c

LABORATORY DATA PACKAGE 18-0339 REVISION 01 NAS JACKSONVILLE FL

06/06/2018
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

SD, SD DUP

Batch 18-0339

Package DP-18-0132

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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CTO-SE0375: Naval Air Station Jacksonville
Project No 100119154-SE0375
PFAS by DoD QSM 5.1 Table B-15

SD, SD DUP

Batch 18-0339

Package DP-18-0132

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

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

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

Analyst Approval: schumitzd@battelle.org 2018.06.06 18:17:39 -04'00'

QC Chemist Approval: Digitally signed by devinec@battelle.org DN: cn=devinec@battelle.org Date: 2018.06.08 13:36:34 -04'00'

Project Manager Approval: Digitally signed by Jonathan Thorn Date: 2018.06.08 14:21:21 -04'00'

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CTO-SE0375: Naval Air Station Jacksonville
Project No 100119154-SE0375
PFAS by DoD QSM 5.1 Table B-15

SD, SD DUP

Batch 18-0339

Package DP-18-0132

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Signature Page

Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4 2018
FRANCO PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schumitz		DMS	4/4/18
Candace Pearman McCoy		CPM	4/4/2018
Rich Rostucci		RR	4/4/2018
Michael Mercer			4/4/2018
Christie Usher		CU	4/4/18
Kevin McInerney		KM	4/4/18
Stephanie Schultz		SAS	4/4/18
Jordan Tower		JCT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Clinton H Brown		CB	4/4/18
Matt Schumitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

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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 Stenner		TWS	04/04/18
Ellyn M Fitch		EMF	12-April-2018
Gail DeRuzzo		GD	4/18/18
Zachary Willenberg		ZJW	4/20/18

Work Plan

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WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title:	Sediment 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@tetratech.com
Effective Date of QAPP:	5/27/2018
Version Number:	100119154-SE0375(S)-02
Project Manager:	Thorn, Jonathan
Laboratory Task Manager:	Thorn, Jonathan
Deliverable Due Date:	6/8/2018

2.0 SCOPE OF WORK

Overview:	PFAS analysis of sediments collected at NAS Jacksonville.
Matrix:	Soil/Sediment

2.1 TECHNICAL APPROACH

2.1.1 Sample Receipt, Storage, and Handling

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

Storage Directions:	Store 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.

2.1.2 Sample Preparation

4 sediments and 1 field reagent blank.

Samples Expected:	Samples Per Batch:	Batches Expected:
4	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	Yes	180507-02: Ottawa Sand Lot:1DJ0861	
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: *Extraction of Poly and Perfluoroalkyl Substances from Environmental Matrices*

Sample Size: 2 g

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 High Level Labelled Extracted Internal Standards (SIS)	JR04 SIS	~ 1.00 ng	50 uL	NA

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Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 50 ng	1000 uL	MS/MSD samples
PFAS - DOD Second Source LCS/MS Solution	JP49	LCS/MS	~ 20.0 ng	400 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.

2.2. DELIVERABLES

Deliverables Due:	6/8/2018
LIMS Reports:	*No*
Histograms:	*No*
Excel Tables:	*Yes*
EICs:	*No*

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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.

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

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Activity:	Start Date:	End Date:	TAT (days):	Comment:
Instrument Analysis	05/30/2018	06/06/2018	7	NA
Quality Control Review	06/06/2018	06/07/2018	1	NA
Quality Assurance Review	06/07/2018	06/08/2018	1	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: Pending

Description: SEO 375

Range: J6243-J6244

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J6243	FFTA-SD01-052418	05/24/2018 11:10 am	SD	F0117 (NA)			
2	J6244	FFTA-FD02-052418	05/24/2018 11:10 am	SD DUP	F0117 (NA)			

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WORK/QUALITY ASSURANCE PROJECT PLAN

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:	S - Solid Samples, like soil or sediment, prepared and anlyzed under the same class of detection limits.
Detection Limit Study:	5-369
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

Method Specific Reporting				Holding Times (days)		Data Flags	
Result Units:	ng/g	***Unit Conversion:***	(none)	***Sample:***	14	***DL_Flag:***	U
Weight Basis:	DRY	***Result Format:***	Fixed Digits	***Frozen:***	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 Substition:	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	PFTrDA	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-butanesulfonate	PFBS	T		13C3-PFBS	No	No
13	Perfluoro-1-hexanesulfonate	PFHxS	T		13C3-PFHxS	No	No
14	Perfluoro-1-octanesulfonate	PFOS	T		13C8-PFOS	No	No
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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WORK/QUALITY ASSURANCE PROJECT PLAN

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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WORK/QUALITY ASSURANCE PROJECT PLAN

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

Degredation 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.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Matrix Spike/Spike Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration in MS/MSD must be greater than five times reported background concentration.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the Original	n	
Standard Reference Material Accuracy	Organics Percent Difference less than 30% from a range of certified values on average. Analyte concentration must be greater than five times the Method Detection Limit (>5xMDL).	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Target is less than 5 times the MDL	n	
Analytical Duplicate Precision	Organics results less than 30% Relative Percent Difference (RPD). Analyte concentration must be > 5x MDL.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	

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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.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
	Organics Results in the Original is less than 5 times the MDL	n	
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.

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ShpNo SHP-180525-01

Battelle Project No:

Sample Receipt Form

Approved: ☐ **Authorized** ☐

Project Number: NAS JAX PFAS **Client:** Tetratech

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 ☑ Unknown

Initial pH 5-9?: ☐ Yes ☐ No ☑ NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: ☐ Yes ☐ No ☑ NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: ☐ Yes ☐ No ☑ NA
Individual sample deviations noted on sample log

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

Storage Location: Custody: Refrigerator - R0119 (NA) **BDO IDs Assigned:** 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: Tetratech
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:

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ShpNo SHP-180525-01

Battelle Project No: 154-SE0375

Sample Receipt Form Details

Approved: ☐ **Authorized** ☐

Project Number: NAS JAX PFAS **Client:** Tetratech

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

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Chain-of-Custody

Client Contact Information	Project Manager: Mark Peterson Sampler Information (print name): Dave Siefken Phone: 904-334-7260 Email: David.Siefken@TetraTech	Sampling Site: NAS JAX	Site Information: DRMO, FFTA, PSC 51
	Turnaround Time (TAT) Requested:	Preservative: /	COC #
Project Name: SEO 375 Project No.: NAS JAX PFAS	Normal ☐ Priority ☐ RUSH ☐ Time Zone:	Analysis: PFAS - ...	Page#

	Sample Identification	2018 Sample Date	Sample Time	Matrix Sample Type	~~Matrix~~	Total # of Cont.		
J6241	FFTA-FD01-052418	5/24	1100	SW		2		Cool 4°C
J6242	FFTA-SW01-052418	5/24	1100	SW		2		
J6243	FFTA-SD01-052418		1110	SD		1		
J6244	FFTA-FD02-052418		1110	SD		1		
J6245	FFTA-FB01-052418		1120	GW		1		
J6246	FFTA-EB01-052418		1130			1		
J6247	FFTA-EB02-052419		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		MSMSD
J6253	DRMO-MW2-052418		1455			1		

Receipt Temperature:(°C)	Samples Intact:	Samples on Ice:	Receipt Comments:
0.7	(Yes) - No	(Yes) - No	

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
David Siefken	Tetra Tech	5-24-18 1830		Battelle	5/25/18 1030

Comments:

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Mark Peterson	Sampling Site: DRMO	Site Information:
	Sampler Information (print name):		
	Phone: David Siefken 904. 334. 7260	Preservative: 1	COC #
	Email:		
	Turnaround Time (TAT) Requested:		
Project Name: NAS JAX PFAS	Normal / Priority / RUSH	Analysis: 537.1	Page#
Project No.: SEO-375	Time Zone:		

Sample Identification	Sample Date	Sample Time	Matrix Sample Type	~~Matrix~~	Total # of Cont.	
J6254 DRMO-FD03-052418	5/24	1405	GW		1	Cool 4c

Receipt Temperature:(°C) 0.7	Samples Intact: (Yes) No	Samples on Ice: (Yes) No	Receipt Comments:

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
	T +	5-24-18 1830	M	Battelle	5/25/18 1030
Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time

Comments:

ORIGIN ID: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

INV:
PO:
DEPT:

0.7°
Therm-2
MOS
10:30

FedEx Express

TRK# 0215 8115 9773 0019

FRI - 25 MAY 10:30A
PRIORITY OVERNIGHT

XE XPUA

AHS RES
02061
MA-US BOS

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

tal 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.

611

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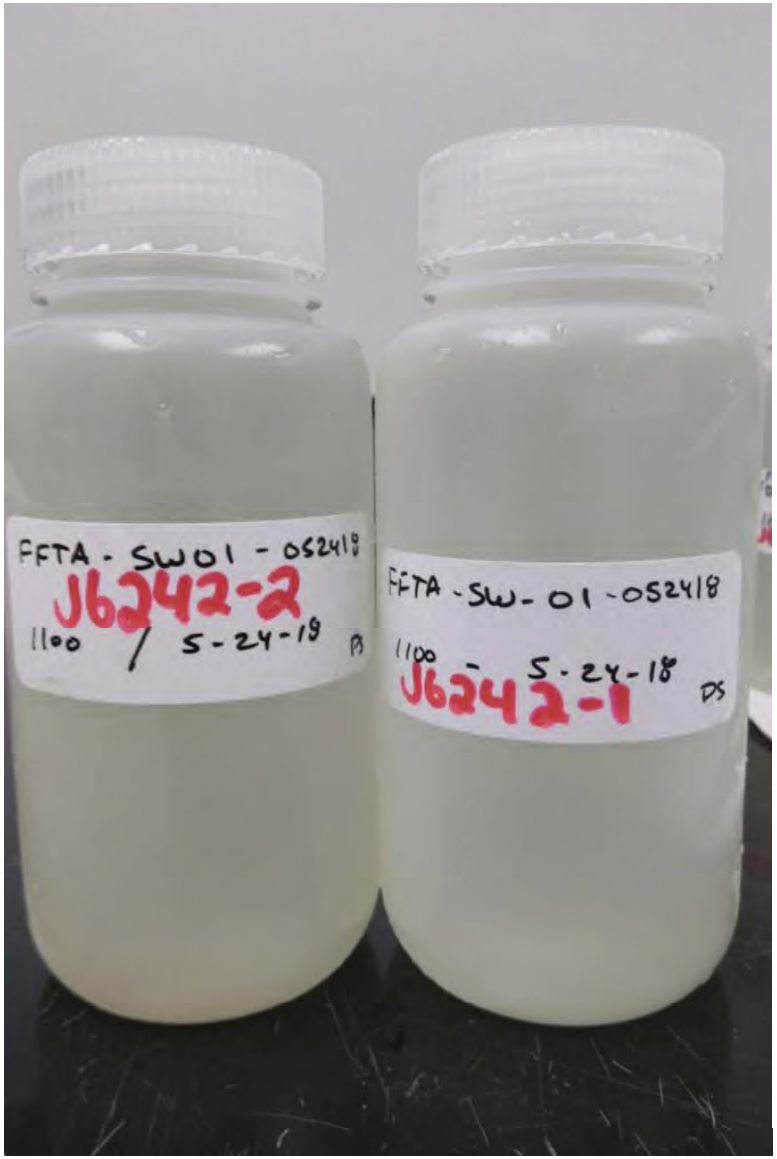
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J6242-2
1100 / 5-24-18
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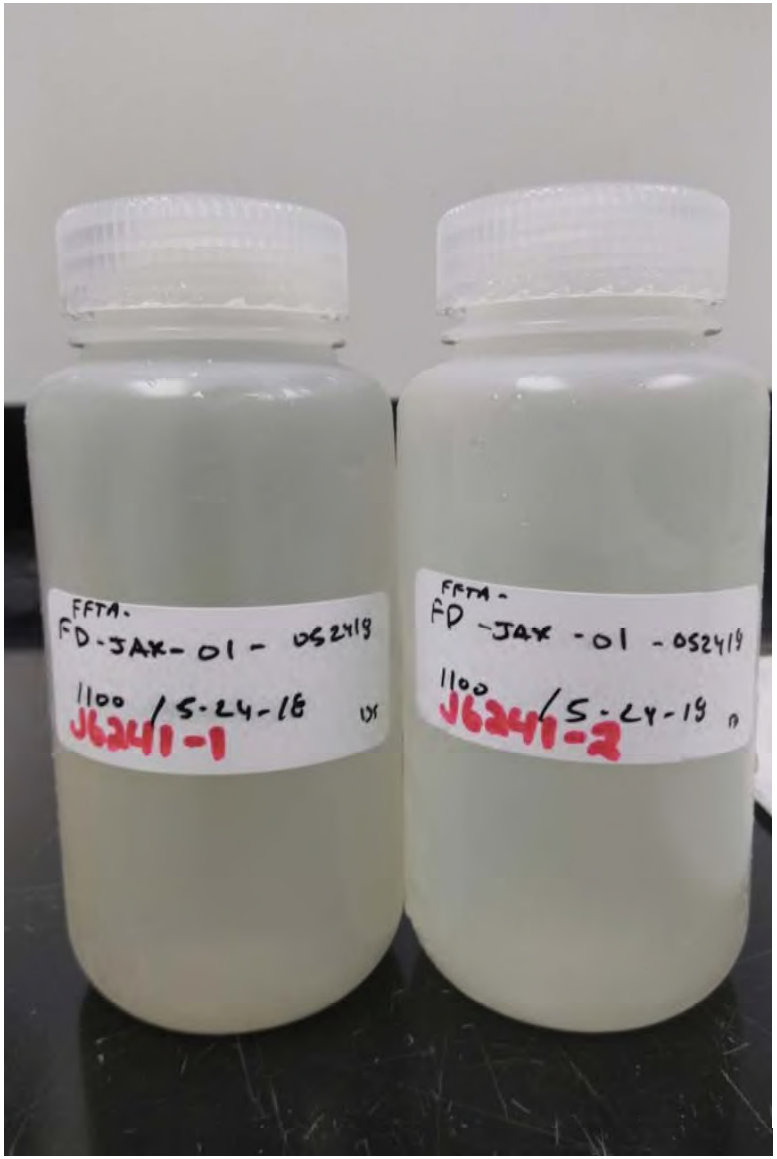
1100 - 5-24-18
J6242-1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J6241-1
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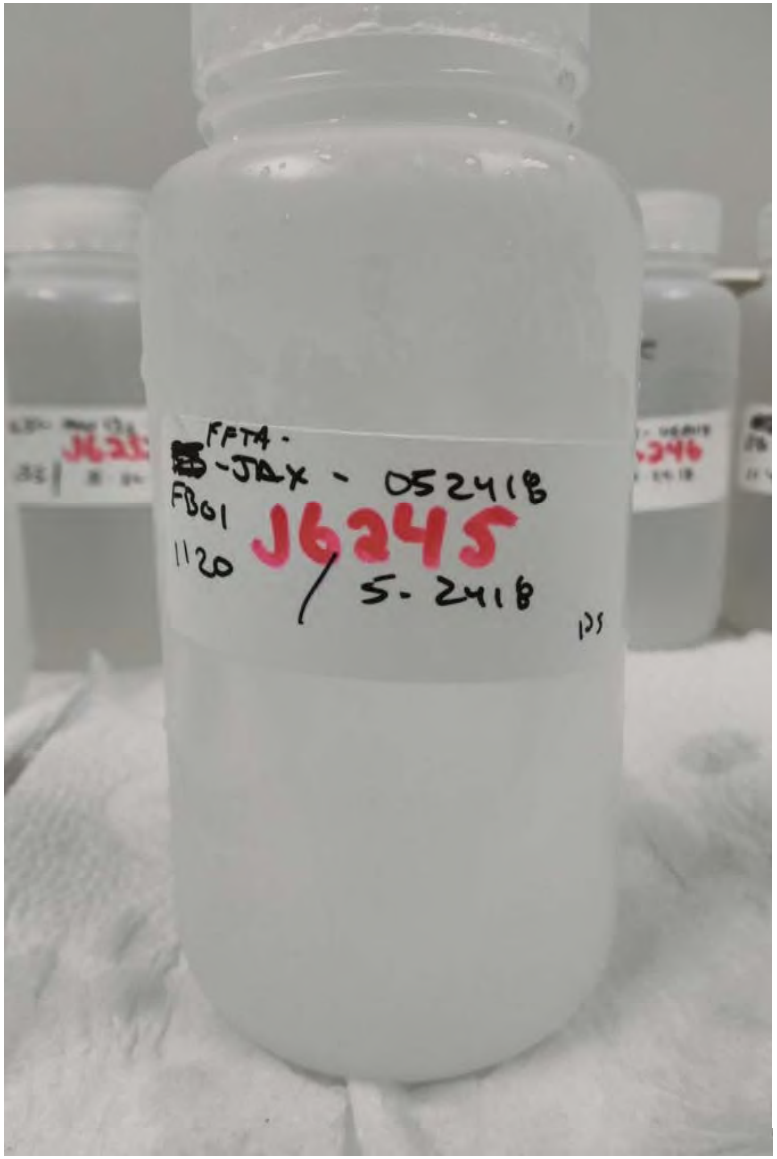
1100 / 5-24-18
J6241-2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-JAX - 052418
FB01
1120
J6245
/ 5-2418
DS


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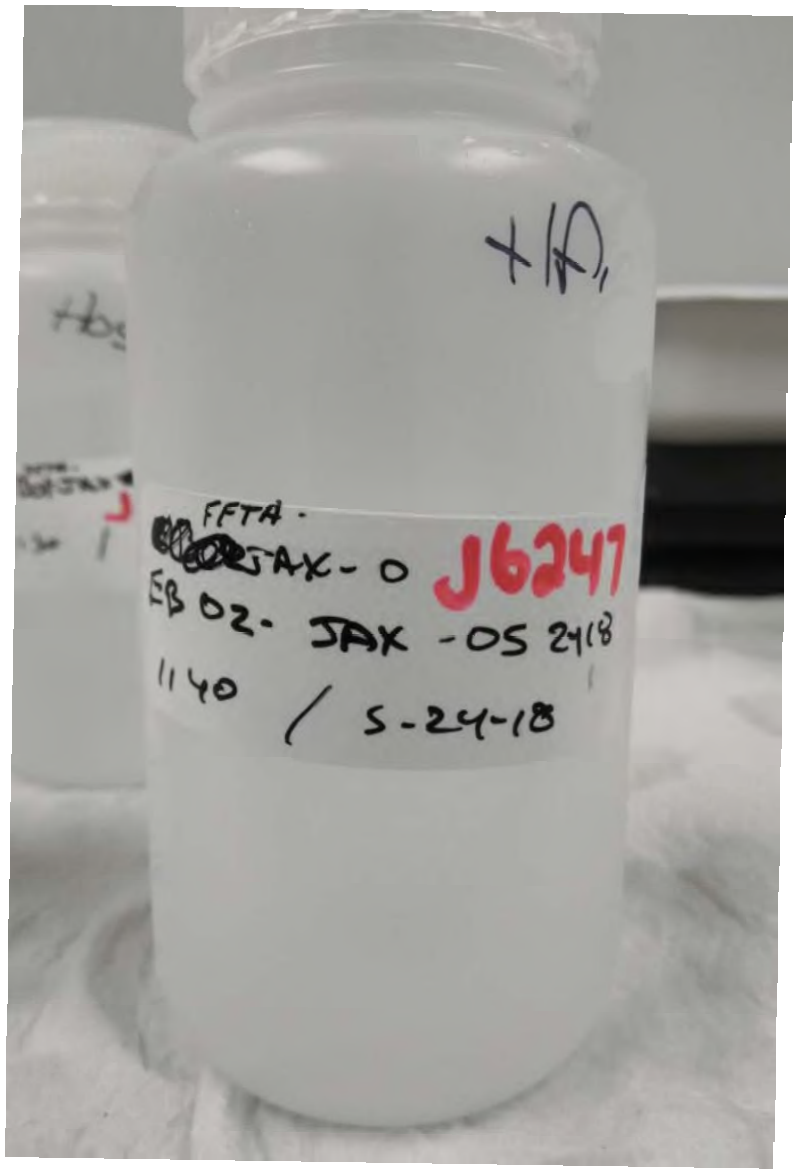
J6243
1110 / 5-24-18 DS
FFTA - - 052418
J6244
1110 / 5-24-18 DS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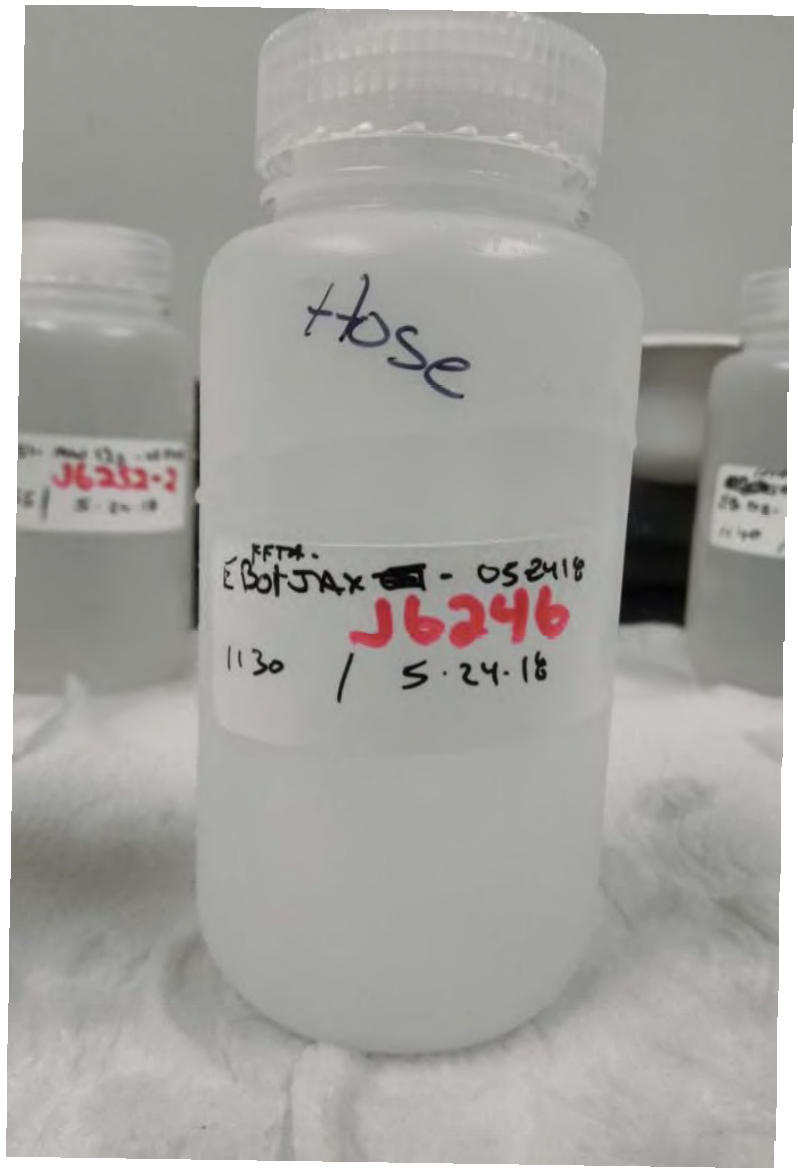
1140 / 5-24-18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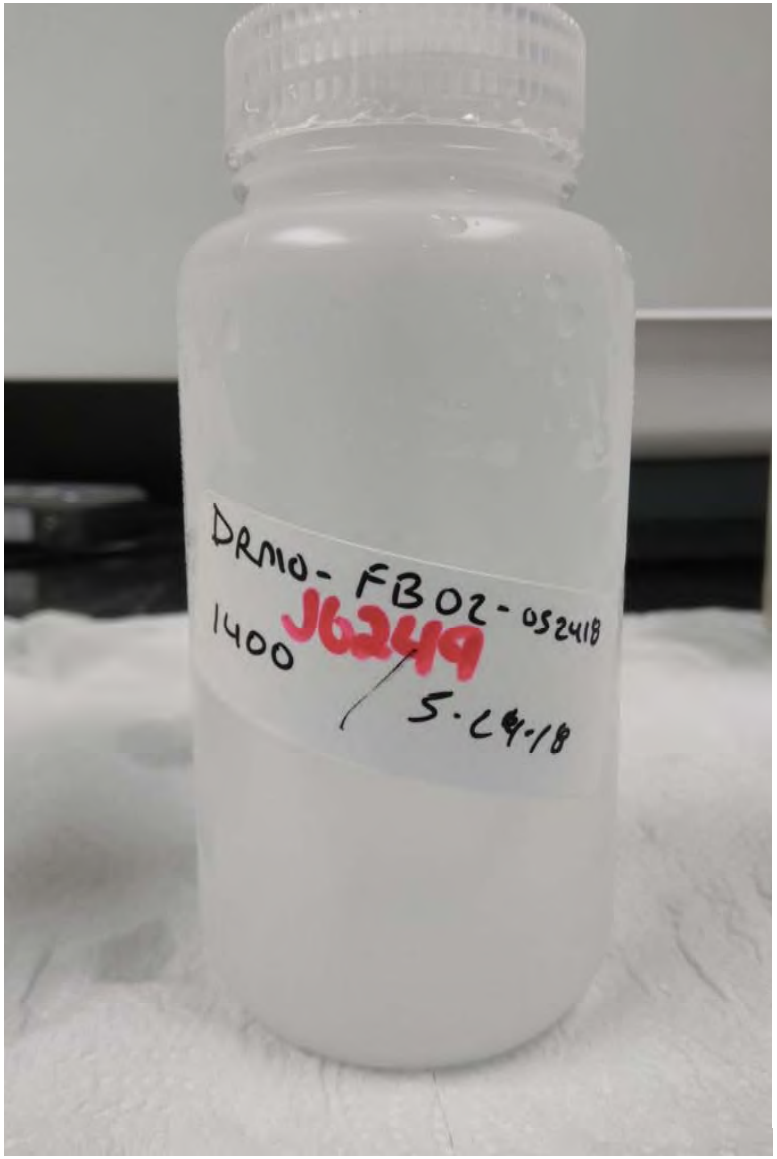
FFTA -
EBotJAX[redacted] - 05 2418
J6246
1130 / 5.24.18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J6249
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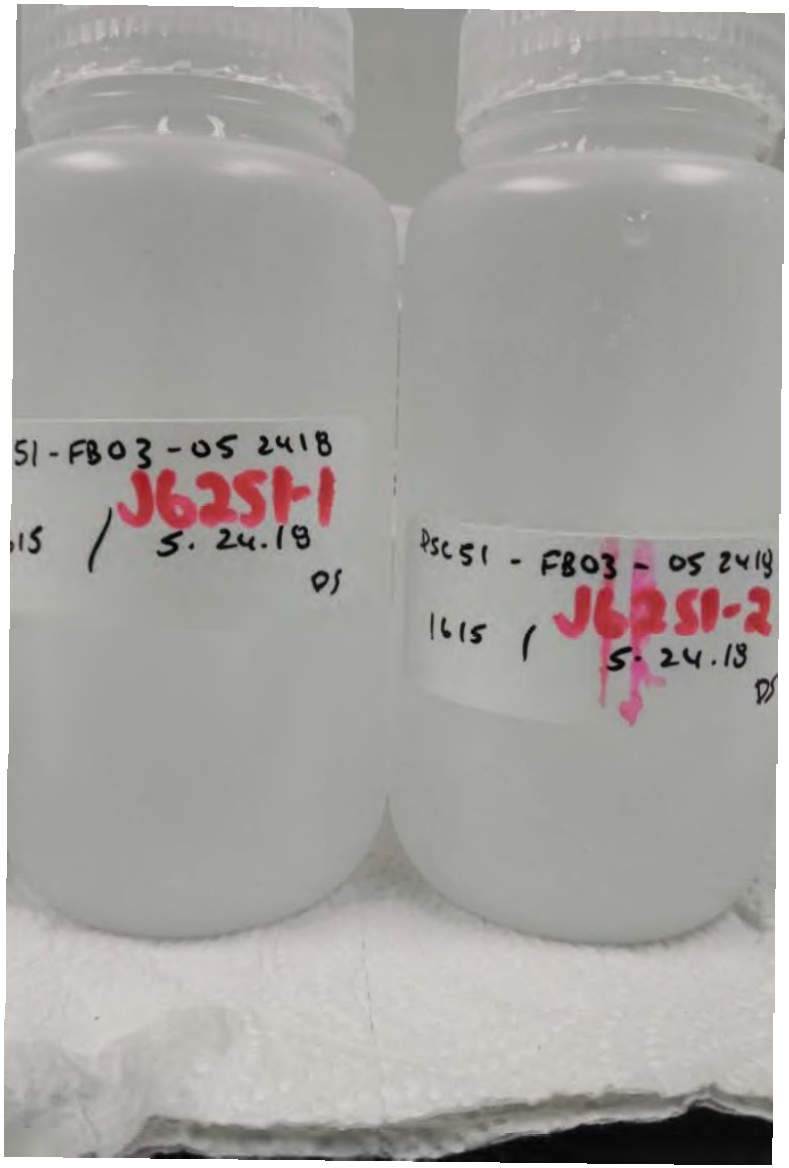
1405
5.24.18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1615 /
J6251-2
5.24.18
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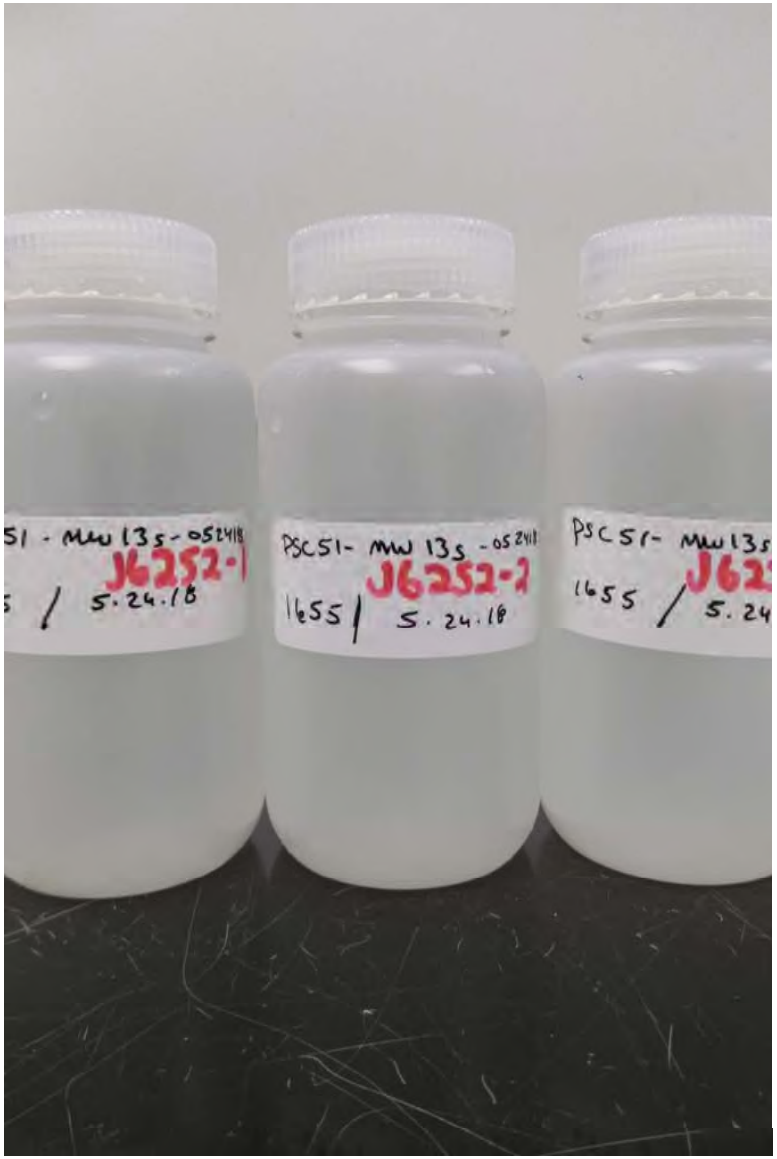
1610 /
J6250-1
5.24.18
DS
PSC51-MW14D-05
1610 / 05.24.18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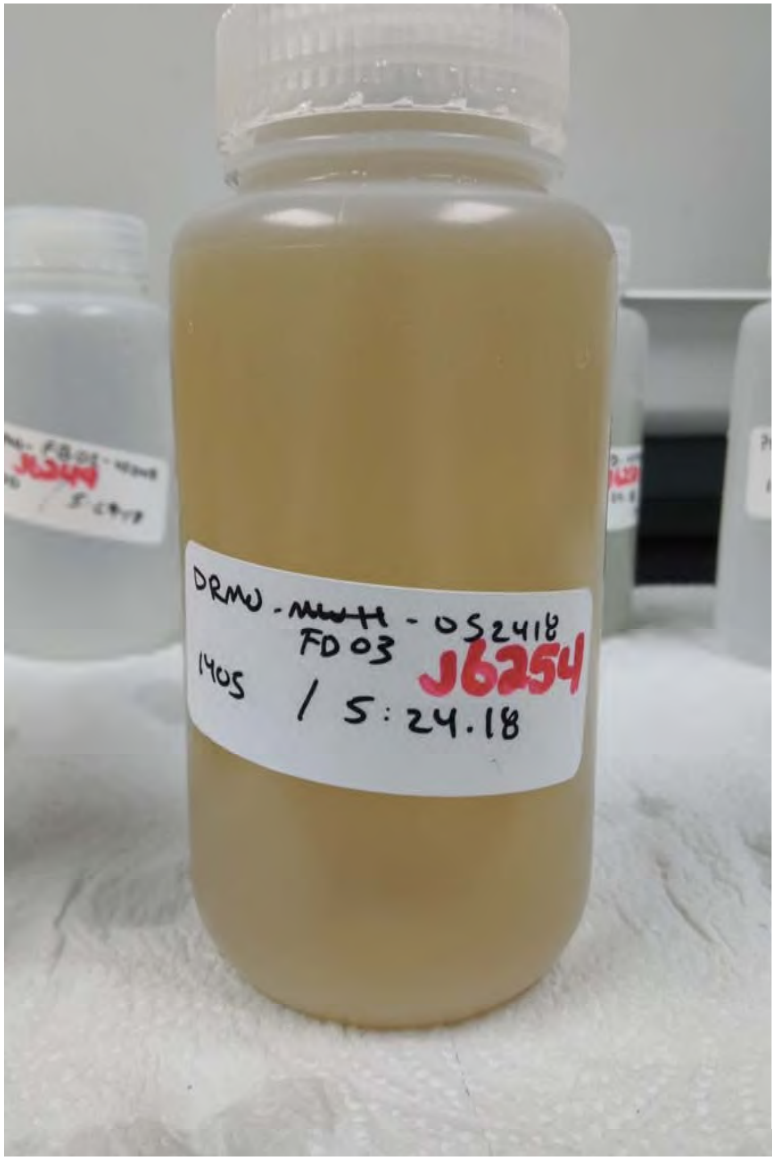
J6252-2
1655 / 5.24.18


DRMO- MW 2 - 052418
J6253
1455 / 5.28.18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FD03
J6254
1405 / 5:24.18

Data Tables

BATTELLE
It can be done

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

Client ID	FFTA-SD01-052418				
Battelle ID	J6243-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD				
Sample Size	1.620				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	91.86	JD	8.15	24.69	123.46
PFHpA	8.10		0.54	1.23	6.17
PFOA	28.85		0.62	1.23	6.17
PFNA	98.42		0.53	1.23	6.17
PFDA	12.44		0.33	1.23	6.17
PFUnA	377.61	D	10.12	24.69	123.46
PFDoA	16.63		0.30	0.62	6.17
PFTrDA	144.46	D	6.91	24.69	123.46
PFTeDA	3.72	J	0.78	2.47	6.17
NMeFOSAA	3.09	U	1.38	3.09	6.17
NEtFOSAA	2.47	U	0.70	2.47	6.17
PFBS	18.92		0.44	1.23	6.17
PFHxS	83.16	JD	5.43	12.35	123.46
PFOS	2235.14	D	6.67	24.69	123.46

Surrogate Recoveries (%)

13C5-PFHxA	125
13C4-PFHpA	127
13C8-PFOA	106
13C9-PFNA	84
13C6-PFDA	118
13C7-PFUnA	100
13C2-PFDoA	114
13C2-PFTeDA	121
d3-MeFOSAA	116
d5-EtFOSAA	127
13C3-PFBS	149
13C3-PFHxS	117
13C8-PFOS	89

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

Client ID	FFTA-FD02-052418				
Battelle ID	J6244-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD DUP				
Sample Size	1.640				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	94.05	JD	8.05	24.39	121.95
PFHpA	8.03		0.54	1.22	6.10
PFOA	28.79		0.61	1.22	6.10
PFNA	89.35		0.52	1.22	6.10
PFDA	11.85		0.33	1.22	6.10
PFUnA	272.88	D	10.00	24.39	121.95
PFDoA	10.77		0.29	0.61	6.10
PFTrDA	70.55	JD	6.83	24.39	121.95
PFTeDA	1.91	J	0.77	2.44	6.10
NMeFOSAA	3.05	U	1.37	3.05	6.10
NEtFOSAA	2.44	U	0.70	2.44	6.10
PFBS	22.42		0.44	1.22	6.10
PFHxS	82.28	JD	5.37	12.20	121.95
PFOS	2003.63	D	6.59	24.39	121.95

Surrogate Recoveries (%)

13C5-PFHxA	106
13C4-PFHpA	118
13C8-PFOA	91
13C9-PFNA	70
13C6-PFDA	99
13C7-PFUnA	100
13C2-PFDoA	106
13C2-PFTeDA	106
d3-MeFOSAA	112
d5-EtFOSAA	100
13C3-PFBS	121
13C3-PFHxS	127
13C8-PFOS	93

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

Client ID	JV05 IB				
Battelle ID	JV05 IB_05/30/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	05/30/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	Solid				
Sample Size	2.00				
Size Unit-Basis	Dry				
Units	ng/g		MDL	LOD	LOQ
PFHxA	1.00	U	0.33	1.00	5.00
PFHpA	1.00	U	0.44	1.00	5.00
PFOA	1.00	U	0.50	1.00	5.00
PFNA	1.00	U	0.43	1.00	5.00
PFDA	1.00	U	0.27	1.00	5.00
PFUnA	1.00	U	0.41	1.00	5.00
PFDoA	0.50	U	0.24	0.50	5.00
PFTrDA	1.00	U	0.28	1.00	5.00
PFTeDA	2.00	U	0.63	2.00	5.00
NMeFOSAA	2.50	U	1.12	2.50	5.00
NEtFOSAA	2.00	U	0.57	2.00	5.00
PFBS	1.00	U	0.36	1.00	5.00
PFHxS	0.50	U	0.22	0.50	5.00
PFOS	1.00	U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	70
13C4-PFHpA	74
13C8-PFOA	74
13C9-PFNA	73
13C6-PFDA	80
13C7-PFUnA	73
13C2-PFDoA	70
13C2-PFTeDA	70
d3-MeFOSAA	87
d5-EtFOSAA	78
13C3-PFBS	79
13C3-PFHxS	82
13C8-PFOS	80

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

Client ID	JV05 IB			
Battelle ID	JV05 IB_06/04/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	06/04/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	Solid			
Sample Size	2.00			
Size Unit-Basis	Dry			
Units	ng/g	MDL	LOD	LOQ
PFHxA	1.00 U	0.33	1.00	5.00
PFHpA		0.44	1.00	5.00
PFOA		0.50	1.00	5.00
PFNA		0.43	1.00	5.00
PFDA		0.27	1.00	5.00
PFUnA	1.00 U	0.41	1.00	5.00
PFDoA		0.24	0.50	5.00
PFTrDA	1.00 U	0.28	1.00	5.00
PFTeDA		0.63	2.00	5.00
NMeFOSAA		1.12	2.50	5.00
NEtFOSAA		0.57	2.00	5.00
PFBS		0.36	1.00	5.00
PFHxS	0.50 U	0.22	0.50	5.00
PFOS	1.00 U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	
13C4-PFHpA	
13C8-PFOA	
13C9-PFNA	
13C6-PFDA	
13C7-PFUnA	
13C2-PFDoA	
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	130709-01: Ottawa Sand			
Battelle ID	CQ857PB-FS			
Sample Type	PB			
Collection Date	05/29/2018			
Extraction Date	05/29/2018			
Analysis Date	05/31/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	SEDIMENT			
Sample Size	1.990			
Size Unit-Basis	g			
Units	ng/g_Dry	MDL	LOD	LOQ
PFHxA	1.01 U	0.33	1.01	5.03
PFHpA	1.01 U	0.44	1.01	5.03
PFOA	1.01 U	0.50	1.01	5.03
PFNA	1.01 U	0.43	1.01	5.03
PFDA	1.01 U	0.27	1.01	5.03
PFUnA	1.01 U	0.41	1.01	5.03
PFDoA	0.50 U	0.24	0.50	5.03
PFTrDA	1.01 U	0.28	1.01	5.03
PFTeDA	2.01 U	0.63	2.01	5.03
NMeFOSAA	2.51 U	1.13	2.51	5.03
NEtFOSAA	2.01 U	0.57	2.01	5.03
PFBS	1.01 U	0.36	1.01	5.03
PFHxS	0.50 U	0.22	0.50	5.03
PFOS	1.01 U	0.27	1.01	5.03

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	111
13C8-PFOA	120
13C9-PFNA	118
13C6-PFDA	126
13C7-PFUnA	128
13C2-PFDoA	114
13C2-PFTeDA	117
d3-MeFOSAA	89
d5-EtFOSAA	95
13C3-PFBS	97
13C3-PFHxS	110
13C8-PFOS	103

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

Client ID	130709-01: Ottawa Sand
Battelle ID	CQ858LCS-FS
Sample Type	LCS
Collection Date	05/29/2018
Extraction Date	05/29/2018
Analysis Date	05/31/2018
Analytical Instrument	Sciex 5500 LC/MS/MS
% Moisture	NA
Matrix	SEDIMENT
Sample Size	2.020
Size Unit-Basis	g

	Units	Target	Recovery	Qual	Control Limits Lower	Upper
PFHxA	ng/g_Dry	9.39	10.00	94	45	135
PFHpA		9.30	9.90	94	60	128
PFOA		9.28	9.90	94	56	136
PFNA		9.94	9.90	100	54	130
PFDA		10.15	9.90	103	55	141
PFUnA		9.72	9.90	98	57	137
PFDoA		10.55	9.90	107	62	134
PFTrDA		9.93	9.90	100	51	127
PFTeDA		10.48	9.90	106	34	162
NMeFOSAA		12.02	9.90	121	52	146
NEtFOSAA		9.28	9.90	94	54	124
PFBS		9.00	10.00	90	57	145
PFHxS		10.75	10.00	108	52	132
PFOS		11.50	9.90	116	50	130

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	94
13C8-PFOA	105
13C9-PFNA	94
13C6-PFDA	104
13C7-PFUnA	110
13C2-PFDoA	107
13C2-PFTeDA	107
d3-MeFOSAA	82
d5-EtFOSAA	100
13C3-PFBS	105
13C3-PFHxS	78
13C8-PFOS	86

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

	FFTA-SD01-052418	FFTA-SD01-052418					
Battelle ID	J6243-FS	J6243MS-FS					
Sample Type	SA	MS					
Collection Date	05/24/2018	05/24/2018					
Extraction Date	05/29/2018	05/29/2018					
Analysis Date	05/31/2018	05/31/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS	Sciex 5500 LC/MS/MS					
% Moisture	NA	NA					
Matrix	SD	SD					
Sample Size	1.620	1.680					
Size Unit-Basis	g	g				Control Limits	
Units	ng/g_Dry	ng/g_Dry	Target	Recovery	Qual	Lower	Upper
PFHxA	91.86 JD	126.12 D	30.06	114		45	135
PFHpA	8.10	37.80	29.76	100		60	128
PFOA	28.85	52.78	29.76	80		56	136
PFNA	98.42	120.51	29.76	74		54	130
PFDA	12.44	37.60	29.76	85		55	141
PFUnA	377.61 D	383.57 D	29.76	20	N	57	137
PFDoA	16.63	44.29	29.76	93		62	134
PFTrDA	144.46 D	150.26 D	29.76	19	N	51	127
PFTeDA	3.72 J	31.45	29.76	93		34	162
NMeFOSAA	3.09 U	35.49	29.76	119		52	146
NEtFOSAA	2.47 U	26.23	29.76	88		54	124
PFBS	18.92	51.37	30.06	108		57	145
PFHxS	83.16 JD	116.65 JD	30.06	111		52	132
PFOS	2235.14 D	2167.47 D	29.76	0	N	50	130
Surrogate Recoveries (%)							
13C5-PFHxA	125	128					
13C4-PFHpA	127	129					
13C8-PFOA	106	121					
13C9-PFNA	84	87					
13C6-PFDA	118	114					
13C7-PFUnA	100	113					
13C2-PFDoA	114	109					
13C2-PFTeDA	121	119					
d3-MeFOSAA	116	120					
d5-EtFOSAA	127	120					
13C3-PFBS	149	146					
13C3-PFHxS	117	135					
13C8-PFOS	89	83					

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

Client ID	FFTA-SD01-052418
Battelle ID	J6243MSD-FS
Sample Type	MSD
Collection Date	05/24/2018
Extraction Date	05/29/2018
Analysis Date	05/31/2018
Analytical Instrument	Sciex 5500 LC/MS/MS
% Moisture	NA
Matrix	SD
Sample Size	1.650
Size Unit-Basis	g
Units	ng/g_Dry

					Control Limits				RPD
		Target	Recovery	Qual	Lower	Upper	RPD	Qual	Limit
PFHxA	130.93 D	30.61	128		45	135	11.6		≤ 30
PFHpA	37.31	30.30	96		60	128	4.1		≤ 30
PFOA	60.13	30.30	103		56	136	25.1		≤ 30
PFNA	115.33	30.30	56		54	130	27.7		≤ 30
PFDA	38.47	30.30	86		55	141	1.2		≤ 30
PFUnA	382.77 D	30.30	17	N	57	137	16.2		≤ 30
PFDoA	45.41	30.30	95		62	134	2.1		≤ 30
PFTrDA	167.94 D	30.30	77		51	127	120.8	N	≤ 30
PFTeDA	33.67	30.30	99		34	162	6.3		≤ 30
NMeFOSAA	31.27	30.30	103		52	146	14.4		≤ 30
NEtFOSAA	28.52	30.30	94		54	124	6.6		≤ 30
PFBS	54.69	30.61	117		57	145	8.0		≤ 30
PFHxS	122.49 D	30.61	129		52	132	15.0		≤ 30
PFOS	2202.73 D	30.30	0	N	50	130	0.0		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	124
13C8-PFOA	99
13C9-PFNA	84
13C6-PFDA	100
13C7-PFUnA	106
13C2-PFDoA	100
13C2-PFTeDA	111
d3-MeFOSAA	139
d5-EtFOSAA	127
13C3-PFBS	143
13C3-PFHxS	136
13C8-PFOS	83

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 highers 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	PFTrDA	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	PFDoA	112.74	JD	112.74	D

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

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	SD
Data Set:	DP-18-0132
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 frozen until extraction.
Related samples	Related field blank is extracted and reported in SDG 18-0351.
	METHOD SUMMARIES
Sample Preparation	Solid samples were aliquoted into extraction tubes and spiked with surrogates prior to the addition of solvent. The sediment was serially extracted on the Geno/Grinder with 0.4% NH_3 in methanol. 1 mL of extract was refined using ENVI-carb SPE cartridges. 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/g concentrations on a dry weight basis.
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 (CQ857PB) – PFOA FFTA-SD01-052418 (J6243) – PFOA and NEtFOSAA (NEtFOSAA below the detection limit) FFTA-FD02-052418 (J6244) – PFHpA, PFOA, and NEtFOSAA (NEtFOSAA below the detection limit)

Holding Times	Extraction Date(s)	Analysis Date(s)
	5/29/2018	5/30, 5-31, 6/4, and 6/5/2018

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	No exceedances noted.
	No comments.
Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted.
	No comments.

Matrix Spike (MS) / Duplicate (MSD)	A MS/MSD were prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy. The relative percent difference was calculated to measure precision.
Laboratory derived control limits for recovery, RPD ≤ 30%	5 recovery and 1 RPD exceedances noted.
	Background sample levels greater than concentration spiked into MS/MSD sample. Extracts were diluted and re-run to verify.

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 quadradic 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.
≤ ½ the LOQ	No exceedances noted.
	No comments.

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: CTO-SE0375: Naval Air Station Jacksonville
Project Number: 100119154-SE0375
Preparation Batch: 18-0339
Data Set: DP-18-0132
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	5	Spike amount less than 5 times the background concentration in the unfortified sample. Re-run to confirm results.
Matrix Spike / Matrix Spike Duplicate Precision	1	Spike amount less than 5 times the background concentration in the unfortified sample. Re-run to confirm results.
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
It can be done

BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-SE0375: Naval Air Station Jackson	**Data Set Number:**	DP-18-0132
Project Number:	100119154-SE0375	**Prep Batch Number:**	18-0339
Entered By:	Denise Schumitz	**Entered On:**	06/05/2018
Test Code (Matrix Type):	Master_369(S)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 4/12/2018

JV28 is not being used in method 18-0339_SIS for NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV20, JV21 and JV22 are not being used in method 18-0339_BASE for PFOS. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV20 is not being used in method 18-0339_D for PFHxA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV28 is not being used in method 18-0339_BASE for PFTrDA, PFTeDA and NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

Dilutions were made and run for samples J6243, J6243MS, J6243MSD and J6244. The SIS and IS are being reported from the undiluted portion of these samples.
DMS 6/5/2018

JV20 in method 18-0339_BASE has ion ratios of >50% for PFHpA and PFUnA.
DMS 6/5/2018

JV21 in method 18-0339_BASE has ion ratios of >50% for PFHpA .
DMS 6/5/2018

JV05 IB in method 18-0339_BASE has ion ratios of >50% for PFBS, PFHxA,PFDA and PFTrDA.
DMS 6/5/2018

CQ857PB in method 18-0339_BASE has ion ratios of >50% for PFOA.
DMS 6/5/2018

J6243 in method 18-0339_BASE has ion ratios of >50% for PFOA and NEtFOSAA.
DMS 6/5/2018

J6244 in method 18-0339_BASE has ion ratios of >50% for PFHpA, PFOA, NEtFOSAA.
DMS 6/5/2018

Task Leader Approval:

SupervisorApproval:

Digitally signed by Jonathan Thorn
Date: 2018.06.08 13:35:22 -04'00'

PM Approval:

Example Calculation for PFAS

Calculation of final concentration from area:

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

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:	J6244-FS-D(7)
Client Sample ID:	FFTA-FD02-052418
Sample Size:	1.64
Units:	g
Dilution Factor:	400
PIV (L):	0.0005
Target Analyte:	PFUnA
MRM Transition:	563.0 / 519.0
Data file:	06022018.wiff
Result table:	18-0339_D
Area:	707,412.98
IS Name:	13C7-PFUnA
IS Area:	49,825.29
IS Amount (ng/L):	101
y-intercept	0.03242
slope	0.63938

$$\text{Concentration} = \frac{[(707412.98/49825.29) - 0.03242]}{0.63938} * 101 * 0.0005 * 400 / 1.64$$

ng/g = 272.88

BATTELLE
It can be done

Project Client: Tetra Tech
Project Name: CTO-SE0375: Naval Air Station Jacksonville
Project No.: 100119154-SE0375
Preparation Batch: 18-0339
Data Set: DP-18-0132

	CQ857PB-FS (130709-01: Ottawa Sand)	CQ858LCS-FS (130709-01: Ottawa Sand)	J6243MS-FS (FFTA-SD01-052418)	J6243MSD-FS (FFTA-SD01-052418)	J6243-FS (FFTA-SD01-052418)	J6244-FS (FFTA-FD02-052418)
PFHxA	-	L	L	L	L	L
PFHpA	-	L	L	L	L	L
PFOA	-	L	L	L	L	L
PFNA	-	L	L	L	L	L
PFDA	-	L	L	L	L	L
PFUnA	-	L	L	L	L	L
PFDoA	-	L	L	L	L	L
PFTrDA	-	L	L	L	L	L
PFTeDA	-	L	L	L	-	-
NMeFOSAA	-	L	L	L	-	-
NEtFOSAA	-	L	L	L	-	-
PFBS	-	L	L	L	L	L
PFHxS	-	L	L	L	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	5/30/18 20:01	13C2-PFOA	44,742.64	22,371.32	67,113.96

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C2-PFOA	39,583.61	22,371.32	67,113.96	
JV21	L2	5/30/18 19:29	13C2-PFOA	44,329.09	22,371.32	67,113.96	
JV22	L3	5/30/18 19:39	13C2-PFOA	46,078.73	22,371.32	67,113.96	
JV23	L4	5/30/18 19:50	13C2-PFOA	49,111.47	22,371.32	67,113.96	
JV24	L5	5/30/18 20:01	13C2-PFOA	44,742.64	22,371.32	67,113.96	
JV25	L6	5/30/18 20:12	13C2-PFOA	41,903.13	22,371.32	67,113.96	
JV26	L7	5/30/18 20:23	13C2-PFOA	41,373.58	22,371.32	67,113.96	
JV27	L8	5/30/18 20:33	13C2-PFOA	49,163.86	22,371.32	67,113.96	
JV28	L9	5/30/18 20:44	13C2-PFOA	40,299.64	22,371.32	67,113.96	
JV05 IB	Instrument Blank	5/30/18 20:55	13C2-PFOA	44,094.15	22,371.32	67,113.96	
JW32 ICC	ICC	5/30/18 21:06	13C2-PFOA	41,337.14	22,371.32	67,113.96	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C2-PFOA	36,852.37	22,371.32	67,113.96	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C2-PFOA	38,650.53	22,371.32	67,113.96	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C2-PFOA	33,933.98	22,371.32	67,113.96	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C2-PFOA	26,647.47	22,371.32	67,113.96	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C2-PFOA	33,519.48	22,371.32	67,113.96	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C2-PFOA	38,815.58	22,371.32	67,113.96	
JV25 CCV	CCV	5/31/18 1:25	13C2-PFOA	42,893.53	22,371.32	67,113.96	

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	5/30/18 20:01	13C2-PFDA	51,007.91	25,503.96	76,511.87

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C2-PFDA	37,366.93	25,503.96	76,511.87	
JV21	L2	5/30/18 19:29	13C2-PFDA	47,619.29	25,503.96	76,511.87	
JV22	L3	5/30/18 19:39	13C2-PFDA	44,728.98	25,503.96	76,511.87	
JV23	L4	5/30/18 19:50	13C2-PFDA	51,540.81	25,503.96	76,511.87	
JV24	L5	5/30/18 20:01	13C2-PFDA	51,007.91	25,503.96	76,511.87	
JV25	L6	5/30/18 20:12	13C2-PFDA	43,767.12	25,503.96	76,511.87	
JV26	L7	5/30/18 20:23	13C2-PFDA	44,479.24	25,503.96	76,511.87	
JV27	L8	5/30/18 20:33	13C2-PFDA	53,831.70	25,503.96	76,511.87	
JV28	L9	5/30/18 20:44	13C2-PFDA	43,726.41	25,503.96	76,511.87	
JV05 IB	Instrument Blank	5/30/18 20:55	13C2-PFDA	48,229.56	25,503.96	76,511.87	
JW32 ICC	ICC	5/30/18 21:06	13C2-PFDA	48,340.67	25,503.96	76,511.87	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C2-PFDA	38,131.04	25,503.96	76,511.87	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C2-PFDA	38,225.90	25,503.96	76,511.87	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C2-PFDA	36,647.68	25,503.96	76,511.87	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C2-PFDA	31,100.30	25,503.96	76,511.87	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C2-PFDA	38,990.20	25,503.96	76,511.87	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C2-PFDA	41,770.86	25,503.96	76,511.87	
JV25 CCV	CCV	5/31/18 1:25	13C2-PFDA	47,712.10	25,503.96	76,511.87	

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	5/30/18 20:01	13C4-PFOS	12,147.32	6,073.66	18,220.98

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C4-PFOS	9,387.42	6,073.66	18,220.98	
JV21	L2	5/30/18 19:29	13C4-PFOS	11,622.78	6,073.66	18,220.98	
JV22	L3	5/30/18 19:39	13C4-PFOS	13,405.00	6,073.66	18,220.98	
JV23	L4	5/30/18 19:50	13C4-PFOS	12,425.77	6,073.66	18,220.98	
JV24	L5	5/30/18 20:01	13C4-PFOS	12,147.32	6,073.66	18,220.98	
JV25	L6	5/30/18 20:12	13C4-PFOS	11,657.77	6,073.66	18,220.98	
JV26	L7	5/30/18 20:23	13C4-PFOS	12,208.14	6,073.66	18,220.98	
JV27	L8	5/30/18 20:33	13C4-PFOS	10,640.25	6,073.66	18,220.98	
JV28	L9	5/30/18 20:44	13C4-PFOS	7,724.08	6,073.66	18,220.98	
JV05 IB	Instrument Blank	5/30/18 20:55	13C4-PFOS	10,538.73	6,073.66	18,220.98	
JW32 ICC	ICC	5/30/18 21:06	13C4-PFOS	11,323.61	6,073.66	18,220.98	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C4-PFOS	10,423.31	6,073.66	18,220.98	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C4-PFOS	11,178.62	6,073.66	18,220.98	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C4-PFOS	7,912.25	6,073.66	18,220.98	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C4-PFOS	6,161.19	6,073.66	18,220.98	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C4-PFOS	6,991.76	6,073.66	18,220.98	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C4-PFOS	8,248.06	6,073.66	18,220.98	
JV25 CCV	CCV	5/31/18 1:25	13C4-PFOS	13,165.27	6,073.66	18,220.98	

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Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:51:26 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 8:23:10 PM	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.51	24	>10
PFBS_2	298.9 / 99.0	1.51	26	>10
PFHxA_1	313.0 / 269.0	1.80	29	>10
PFHxA_2	313.0 / 119.0	1.79	23	>10
PFHpA_1	363.0 / 319.0	2.16	42	>10
PFHpA_2	363.0 / 169.0	2.16	28	>10
PFHxS_1	399.0 / 80.0	2.18	58	>10
PFHxS_2	399.0 / 99.0	2.18	31	>10
PFOA_1	413.0 / 369.0	2.54	31	>10
PFOA_2	413.0 / 169.0	2.54	33	>10
PFNA_1	463.0 / 419.0	2.92	32	>10
PFNA_2	463.0 / 219.0	2.92	31	>10
PFOS_1	499.0 / 80.0	2.91	42	>10
PFOS_2	499.0 / 99.0	2.91	39	>10
PFDA_1	513.0 / 469.0	3.27	33	>10
PFDA_2	513.0 / 219.0	3.27	31	>10
PFUnA_1	563.0 / 519.0	3.59	37	>10
PFUnA_2	563.0 / 269.0	3.59	39	>10
PFDoA_1	613.0 / 569.0	3.87	30	>10
PFDoA_2	613.0 / 319.0	3.87	46	>10
PFTrDA_1	663.0 / 619.0	4.13	35	>10
PFTrDA_2	663.0 / 169.0	4.12	37	>10
PFTeDA_1	713.0 / 669.0	4.35	46	>10
PFTeDA_2	713.0 / 169.0	4.34	42	>10
NMeFOSAA_1	570.0 / 419.0	3.43	34	>10
NMeFOSAA_2	570.0 / 512.0	3.42	39	>10
NEtFOSAA_1	584.0 / 419.0	3.59	29	>10
NEtFOSAA_2	584.0 / 483.0	3.58	30	>10

BATTELLE

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:50:52 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 8:23:10 PM	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.86	31	>10
d3-MeFOSAA	573.0 / 419.0	3.42	23	>10
d5-EtFOSAA	589.0 / 419.0	3.58	36	>10
13C5-PFHxA	318.0 / 273.0	1.79	33	>10
13C4-PFHpA	367.0 / 322.0	2.15	23	>10
13C8-PFOA	421.0 / 376.0	2.53	28	>10
13C9-PFNA	472.0 / 427.0	2.91	28	>10
13C6-PFDA	519.0 / 474.0	3.25	38	>10
13C7-PFUnA	570.0 / 525.0	3.57	28	>10
13C2-PFTeDA	715.0 / 670.0	4.34	38	>10
13C3-PFBS	302.0 / 99.0	1.49	34	>10
13C3-PFHxS	402.0 / 99.0	2.17	22	>10
13C8-PFOS	507.0 / 99.0	2.90	21	>10

BATTELLE

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:52:05 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 8:38:50 PM	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFHxA_1	313.0 / 269.0	1.79	23	>10
PFHxA_2	313.0 / 119.0	1.78	20	>10
PFHxS_1	399.0 / 80.0	2.17	40	>10
PFHxS_2	399.0 / 99.0	2.17	43	>10
PFOS_1	499.0 / 80.0	2.90	43	>10
PFOS_2	499.0 / 99.0	2.90	43	>10
PFUnA_1	563.0 / 519.0	3.58	35	>10
PFUnA_2	563.0 / 269.0	3.58	36	>10
PFTrDA_1	663.0 / 619.0	4.12	38	>10
PFTrDA_2	663.0 / 169.0	4.12	39	>10

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It can be done

Precision and Bias at the LOQ for PFAS in Solids

Analyte	CAS No.	Average (ng/g)	ST DEV	3 Sigma	n
PFBA	375-22-4	11.08	1.57	4.71	20
PFPeA	2706-90-3	10.94	1.44	4.32	20
PFHxA	307-24-4	11.35	2.24	6.72	21
PFHpA	375-85-9	11.48	1.78	5.34	21
PFOA	335-67-1	11.54	1.87	5.61	21
PFNA	375-95-1	11.21	1.67	5.01	21
PFDA	335-76-2	12.01	2.12	6.36	21
PFUnA	2058-94-8	11.74	1.89	5.67	21
PFDoA	307-55-1	11.85	1.53	4.59	21
PFTrDA	72629-94-8	10.96	1.38	4.14	21
PFTeDA	376-06-7	12.19	2.27	6.81	21
NMeFOSAA	2355-31-9	11.78	1.67	5.01	21
NEtFOSAA	2991-50-6	10.88	1.5	4.5	21
PFOSA	754-91-6	10.75	1.63	4.89	4
PFBS	375-73-5	11.89	1.71	5.13	21
PFPeS	BDO-2114	11.67	1.22	3.66	4
PFHxS	355-46-4	11.47	1.78	5.34	21
PFHpS	375-99-6	11.05	1.68	5.04	20
PFOS	1763-23-1	11.16	1.58	4.74	21
PFNS	98789-57-2	10.67	1.01	3.03	4
PFDS	2806-15-7	11.84	2.23	6.69	20
4:2FTS	BDO-2205	12.03	1.86	5.58	20
6:2FTS	27619-97-2	12.48	1.33	3.99	12
8:2FTS	39108-34-4	12.08	2.01	6.03	20

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

Analytical SOP 5-369
Extraction SOP 5-370

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

Analyte	CAS No.	MDL (ng/g)	LOD (ng/g)	LOQ (ng/g)
PFBA	375-22-4	0.36	1.0	5.0
PFPeA	2706-90-3	0.39	1.0	5.0
PFHxA	307-24-4	0.33	1.0	5.0
PFHpA	375-85-9	0.44	1.0	5.0
PFOA	335-67-1	0.50	1.0	5.0
PFNA	375-95-1	0.43	1.0	5.0
PFDA	335-76-2	0.27	1.0	5.0
PFUnA	2058-94-8	0.41	1.0	5.0
PFDoA	307-55-1	0.24	0.5	5.0
PFTrDA	72629-94-8	0.28	1.0	5.0
PFTeDA	376-06-7	0.63	2.0	5.0
NMeFOSAA	2355-31-9	1.12	2.5	5.0
NEtFOSAA	2991-50-6	0.57	2.0	5.0
PFOSA	754-91-6	0.39	1.0	5.0
PFBS	375-73-5	0.36	1.0	5.0
PFPeS	BDO-2114	0.57	2.0	5.0
PFHxS	355-46-4	0.22	0.5	5.0
PFHpS	375-99-6	0.34	1.0	5.0
PFOS	1763-23-1	0.27	1.0	5.0
PFNS	98789-57-2	0.74	2.0	5.0
PFDS	2806-15-7	0.19	0.5	5.0
4:2FTS	BDO-2205	0.29	1.0	5.0
6:2FTS	27619-97-2	2.31	2.5	5.0
8:2FTS	39108-34-4	0.59	2.0	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

ID 595 04/18

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
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTrDA	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. Record10mca.

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	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2^{e}6	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0^{e}6	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4^{e}7	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8^{e}7	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	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	4.54 e6	≥1.2^{e}6	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0^{e}6	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4^{e}7	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8^{e}7	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	Width Specs
	Value	Spec	Value	
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	≥1.0^{e}7	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	≥4.0^{e}7	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	≥8.0^{e}6	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	≥4.0^{e}7	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 ^{e}6	0.1302	<0.35
ER 922.010	0.05	3.89 e7	≥2.8 ^{e}6	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	≥2.4 ^{e}7	0.3740	<0.65
ER 922.010	0.05	2.37 e8	≥6.8 ^{e}7	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 ^{e}7	0.1840	<0.35
ER 601.978	0.05	7.74 e7	≥5.6 ^{e}7	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	≥1.2 ^{e}8	0.4382	<0.65
ER 601.978	0.05	2.55 e8	≥1.6 ^{e}8	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 10e6

REVIEW:

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

END OF PREVENTIVE MAINTENANCE CHECKLIST

Document history:

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

BATTELLE
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	~50.000000	07/03/20	---	---	400 uL	1	10	~2.0000
161230-02	br-PFOSK	Neat	~50.000000	10/14/20	---	---	400 uL	1	10	~2.0000
161230-04	NaP3MHpS	Neat	~50.000000	06/10/20	---	---	400 uL	1	10	~2.0000
161230-05	NaP6MHpS	Neat	~50.000000	01/23/20	---	---	400 uL	1	10	~2.0000
161230-06	ipPFNS	Neat	~50.000000	09/23/20	---	---	400 uL	1	10	~2.0000
161230-07	T-PFOA	Neat	~50.000000	02/12/21	---	---	400 uL	1	10	~2.0000
161230-08	P3MHpA	Neat	~50.000000	06/10/20	---	---	400 uL	1	10	~2.0000
161230-09	P4MOA	Neat	~50.000000	06/10/20	---	---	400 uL	1	10	~2.0000
161230-10	ipPFNA	Neat	~50.000000	05/31/21	---	---	400 uL	1	10	~2.0000
161230-11	P355TMHxA	Neat	~50.000000	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: _____

Comment:

Solvent:	Lot:
Methanol	166003

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

Approved By: _____ **Date:** _____

BATTELLE
It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JH20

Description: PFAS Branched

161230-12	P37DMOA	Neat	~50.000000	09/24/19	---	---	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: _____

Comment:

Solvent:	Lot:
Methanol	166003

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

Approved By: _____ **Date:** _____

BATTELLE

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:** _____

BATTELLE
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:** _____

BATTELLE
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)

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

Approved By: _____ **Date:** _____

BATTELLE
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:** _____

BATTELLE
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	~1.000000	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

BATTELLE

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-butanesulfonic 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-butanesulfonic 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

BATTELLE

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

BATTELLE
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	~1.000000	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

BATTELLE

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-butanesulfonic 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-butanesulfonic 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

BATTELLE

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

BATTELLE
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	~1.000000	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

BATTELLE

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]hepetanoic 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]hepetanoic 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

BATTELLE

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

BATTELLE
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	~2.000000	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

BATTELLE
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

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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-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

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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	.00003
Perfluoro-1-hexanesulfonate	.00003
Perfluoro-1-octanesulfonamide	.00003
Perfluoro-1-octanesulfonate	.00003
Perfluoro-n-butanoic 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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	100	0.01	---	---	1	10	0.00005
Perfluoro-1-hexanesulfonate	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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	.00005
Perfluoro-1-hexanesulfonate	.00005
Perfluoro-1-octanesulfonamide	.00005
Perfluoro-1-octanesulfonate	.00005
Perfluoro-n-butanoic 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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-hexanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonamide	200	0.01	---	---	1	10	0.00010
Perfluoro-1-octanesulfonate	200	0.01	---	---	1	10	0.00010
Perfluoro-n-butanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-decanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-dodecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-heptanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-hexanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluorononanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-pentanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tetradecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-tridecanoic acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-undecanoic 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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	.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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-hexanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonamide	500	0.01	---	---	1	10	0.00025
Perfluoro-1-octanesulfonate	500	0.01	---	---	1	10	0.00025
Perfluoro-n-butanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-decanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-dodecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-heptanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-hexanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluorononanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-pentanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tetradecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-tridecanoic acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-undecanoic 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:** _____

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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:** _____

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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-butanesulfonate	.00025
Perfluoro-1-hexanesulfonate	.00025
Perfluoro-1-octanesulfonamide	.00025
Perfluoro-1-octanesulfonate	.00025
Perfluoro-n-butanoic Acid	.00025
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
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:** _____

BATTELLE
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:** _____

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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:** _____

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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-butanesulfonate	100	0.05	---	---	1	10	0.00051
Perfluoro-1-hexanesulfonate	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-decanesulfonate	.00051
(NA) Perfluoro-1-heptanesulfonate	.00050
(Na) Perfluoro-1-nonanesulfonate	.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:** _____

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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-butanesulfonate	.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:** _____

BATTELLE
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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:** _____

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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:** _____

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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-butanesulfonate	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-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: 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:** _____

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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-butanesulfonate	.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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	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-decanesulfonate	.00253
(NA) Perfluoro-1-heptanesulfonate	.00250
(Na) Perfluoro-1-nonanesulfonate	.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:** _____

BATTELLE
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-butanesulfonate	.00253
Perfluoro-1-hexanesulfonate	.00253
Perfluoro-1-octanesulfonamide	.00250
Perfluoro-1-octanesulfonate	.00250
Perfluoro-n-butanoic Acid	.00250
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00253
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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	1000	0.05	---	---	1	5	0.01010
Perfluoro-1-hexanesulfonate	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-decanesulfonate	.01010
(NA) Perfluoro-1-heptanesulfonate	.01000
(Na) Perfluoro-1-nonanesulfonate	.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:** _____

BATTELLE
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-butanesulfonate	.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:** _____

BATTELLE
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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	2000	0.05	---	---	1	5	0.02020
Perfluoro-1-hexanesulfonate	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-butanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-decanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-dodecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-heptanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-hexanoic acid	2000	0.05	---	---	1	5	0.02020
Perfluoro-n-octanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluorononanoic Acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-pentanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tetradecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-tridecanoic acid	2000	0.05	---	---	1	5	0.02000
Perfluoro-n-undecanoic 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-decanesulfonate	.02020
(NA) Perfluoro-1-heptanesulfonate	.02000
(Na) Perfluoro-1-nonanesulfonate	.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:** _____

BATTELLE
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-butanesulfonate	.02020
Perfluoro-1-hexanesulfonate	.02020
Perfluoro-1-octanesulfonamide	.02000
Perfluoro-1-octanesulfonate	.02000
Perfluoro-n-butanoic 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:** _____

BATTELLE
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	~1.000000	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:** _____

BATTELLE
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-butanesulfonate	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-butanesulfonate	.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:** _____

BATTELLE
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:** _____

BATTELLE
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

BATTELLE
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

BATTELLE
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

BATTELLE
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

BATTELLE
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

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	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:** _____

BATTELLE
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:** _____

BATTELLE
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-butanesulfonate	.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:** _____

BATTELLE
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	~1.000000	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

BATTELLE
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-butanesulfonate	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-butanesulfonate	.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

BATTELLE
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

BATTELLE

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

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0615
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	06/29/2015
LAST TESTED: (mm/dd/yyyy)	07/03/2015
EXPIRY DATE: (mm/dd/yyyy)	07/03/2020
RECOMMENDED STORAGE:	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 ^{19}F-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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BATTELLE

It can be done

BDO Id: 161230-02

Reagent Receipt Report

Approved: ☐ ☐

Name: br-PFOSK
Vendor: Wellington Laboratories
Catalogue No: br-PFOSK
Type: Solution
Lot No: br-PFOSK1015
Quantity: 1 ea ml **% Moisture:**
Description: br-PFOSK

Received: 12/30/2016
Custodian: Schumitz, Matt
Expires: 10/14/2020
Consumed:
Stored In: Sample Preparation - C0103

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:** _____

161230-02

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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 ^{19}F-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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BATTELLE

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	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:** _____

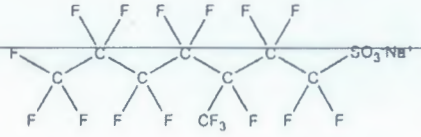
Authorized by: _____ **Authorized on:** _____

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 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (NaP3MHpS anion)	**SOLVENT(S):**	Methanol
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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BATTELLE

It can be done

BDO Id: 161230-05

Reagent Receipt Report

Approved: ☐ ☐

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

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:** _____

161230-05

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.8 ± 2.4 µg/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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BATTELLE

It can be done

BDO Id: 161230-06

Reagent Receipt Report

Approved: ☐ ☐

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

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:** _____

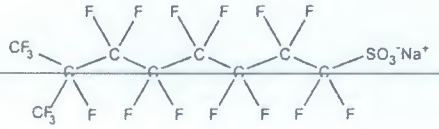
Authorized by: _____ **Authorized on:** _____

161230-06

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	ipPFNS	**LOT NUMBER:**	ipPFNS0912
COMPOUND:	Sodium perfluoro-7-methyloctanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_9F_{19}SO_3Na$	**MOLECULAR WEIGHT:**	572.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	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		

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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BATTELLE

It can be done

BDO Id: 161230-07

Reagent Receipt Report

Approved: ☐ ☐

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

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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BATTELLE

It can be done

BDO Id: 161230-08

Reagent Receipt Report

Approved: ☐ ☐

Name: P3MHpA
Vendor: Wellington Laboratories
Catalogue No: P3MHpA
Type: Solution
Lot No: P3MHpA
Quantity: 1 ea ml **% Moisture:**
Description: P3MHpA

Received: 12/30/2016
Custodian: Schumitz, Matt
Expires: 6/10/2020
Consumed:
Stored In: Sample Preparation - C0103

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:** _____

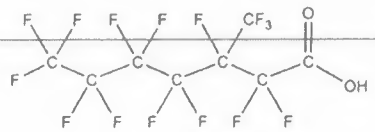
Authorized by: _____ **Authorized on:** _____

161230-08

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	P3MHpA	**LOT NUMBER:**	P3MHpA0615
COMPOUND:	Perfluoro-3-methylheptanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	414.07
CONCENTRATION:	50 ± 2.5 µg/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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 06/17/2015 (mm/dd/yyyy)

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BATTELLE

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

WELLINGTON LABORATORIES

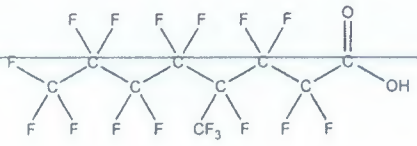
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: P4MOA
COMPOUND: Perfluoro-4-methyloctanoic acid

LOT NUMBER: P4MOA0615

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $C_9HF_{17}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 464.08
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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BATTELLE

It can be done

BDO Id: 161230-10

Reagent Receipt Report

Approved: ☐ ☐

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

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: _____ **Approved on:** _____

Authorized by: _____ **Authorized on:** _____

161230-10

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	ipPFNA	**LOT NUMBER:**	ipPFNA0516
COMPOUND:	Perfluoro-7-methyloctanoic acid		
STRUCTURE:		**CAS #:**	Not available

MOLECULAR FORMULA:	$C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	464.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		Water (<1%)
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		

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

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BDO Id: 161230-11

Reagent Receipt Report

Approved: ☐ ☐

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

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

Total Analytes: 1

Notes:

Approved by: _____ **Approved on:** _____

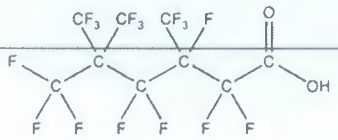
Authorized by: _____ **Authorized on:** _____

161230-11

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	P355TMHxA	**LOT NUMBER:**	P355TMHxA1114
COMPOUND:	Perfluoro-3,5,5-trimethylhexanoic acid		
STRUCTURE:		**CAS #:**	238403-51-5



MOLECULAR FORMULA:	$C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	464.08
CONCENTRATION:	50 ± 2.5 µg/ml	**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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BATTELLE

It can be done

BDO Id: 161230-12

Reagent Receipt Report

Approved: ☐ ☐

Name: P37DMOA
Vendor: Wellington Laboratories
Catalogue No: P37DMOA
Type: Solution
Lot No: P37DMOA0914
Quantity: 1 ea ml **% Moisture:**
Description: P37DMOA

Received: 12/30/2016
Custodian: Schumitz, Matt
Expires: 9/24/2019
Consumed:
Stored In: Sample Preparation - C0103

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:** _____

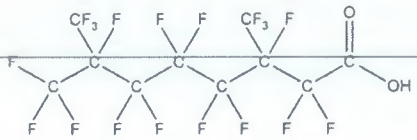
Authorized by: _____ **Authorized on:** _____

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:	$C_{10}HF_{19}O_2$	**MOLECULAR WEIGHT:**	514.08
CONCENTRATION:	50 ± 2.5 µg/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.

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Certified By: B.G. Chittim **Date:** 03/25/2015 (mm/dd/yyyy)

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BATTELLE

It can be done

BDO Id: 170629-02

Reagent Receipt Report

Approved: ☐ ☐

Name: Mass-labelled PFAS Extraction Stand
Vendor: Wellington Laboratories
Catalogue No: MPFAC-24ES
Type: Solution
Lot No: MPFAC24ES1016
Quantity: 1 ea mL **% Moisture:** 0
Description: Mass-labelled PFAS Extraction Standard Solution

Received: 6/29/2017
Custodian: Thorn, Jonathan
Expires: 5/19/2022
Consumed:
Stored In: Sample Preparation - C0103

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-24ES

Mass-Labelled Per- and Poly-fluoroalkyl Substance Extraction Standard Solution

PRODUCT CODE:	MPFAC-24ES
LOT NUMBER:	MPFAC24ES1016
SOLVENT(S):	Methanol / Isopropanol (2%) / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	10/20/2016
LAST TESTED: (mm/dd/yyyy)	05/19/2017
EXPIRY DATE: (mm/dd/yyyy)	05/19/2022
RECOMMENDED STORAGE:	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 (^{2}H) perfluorooctanesulfonamidoacetic acids, and perfluoro-1-[$^{13}C_8$]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-[$^{13}C_8$]octanesulfonamide all have chemical purities of >98% and isotopic purities of ≥99%. The individual mass-labelled perfluorooctanesulfonamidoacetic acids all have chemical purities of >98% and isotopic purities of ≥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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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).

CALA

ANAB ACCREDITED

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, ± 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 13C5PFPeA	M5PFPeA	1000	B
Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid 13C5-PFHxA	M5PFHxA	1000	E
Perfluoro-n-[1,2,3,4-$^{13}C_4$]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-$^{13}C_6$]decanoic acid 13C6-PFDA	M6PFDA	1000	M
Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid 13C7-PFUnA	M7PFUdA	1000	Q
Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid 13C2-PFDoA	MPFDoA	1000	R
Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid 13C2-PFTeDA	M2PFTeDA	1000	S
Perfluoro-1-[$^{13}C_8$]octanesulfonamide (1) ~~13C8-PFOSA~~	M8FOSA	1000	N
N-methyl-d_3-perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	O d3-McFOSAA
N-ethyl-d_5-perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	P d5-EtFOSAA

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: _____ **Date:** 05/24/2017
(mm/dd/yyyy)
B.G. Chittim, General Manager

BATTELLE

It can be done

BDO Id: 170629-03

Reagent Receipt Report

Approved: ☐ ☐

Name: Mass-labeled PFAS Injection Standar
Vendor: Wellington Laboratories
Catalogue No: MPFAC-C-IS
Type: Solution
Lot No: MPFACCIS0516
Quantity: 2 ea mL **% Moisture:** 0
Description: Mass-labeled PFAS Injection Standards Solution

Received: 6/29/2017
Custodian: Thorn, Jonathan
Expires: 5/2/2022
Consumed:
Stored In: Sample Preparation - C0103

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 ≥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 <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 $x_1, x_2, \ldots x_n$ on which it depends is:

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

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 ±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).

CALA

ANAB ACCREDITED ACCREDITED REFERENCE MATERIAL PRODUCER

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; ± 5% in Methanol / Water (<1%))**

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[2,3,4-$^{13}C_3$]butanoic acid 13C3-PFBA	M3PFBA	2000	A
Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid 13C2-PFOA	M2PFOA	2000	B
Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid 13C2 PFDA	MPFDA	2000	D
Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate 13C4-PFOS	MPFOS	2000	C

Certified By: _____ **Date:** 05/04/2017
(mm/dd/yyyy)
B.G. Chittim, General Manager

CERTIFIED WEIGHT REPORT

170 630-04

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):	Lot#	
Methanol (1 mM KOH)	031317	(98%)
2-Propanol	23214	(2%)

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

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

Justin Dippold 032117
Formulated By: Justin Dippold DATE

Pedro Rentas 032117
Reviewed By: Pedro L. Rentas DATE

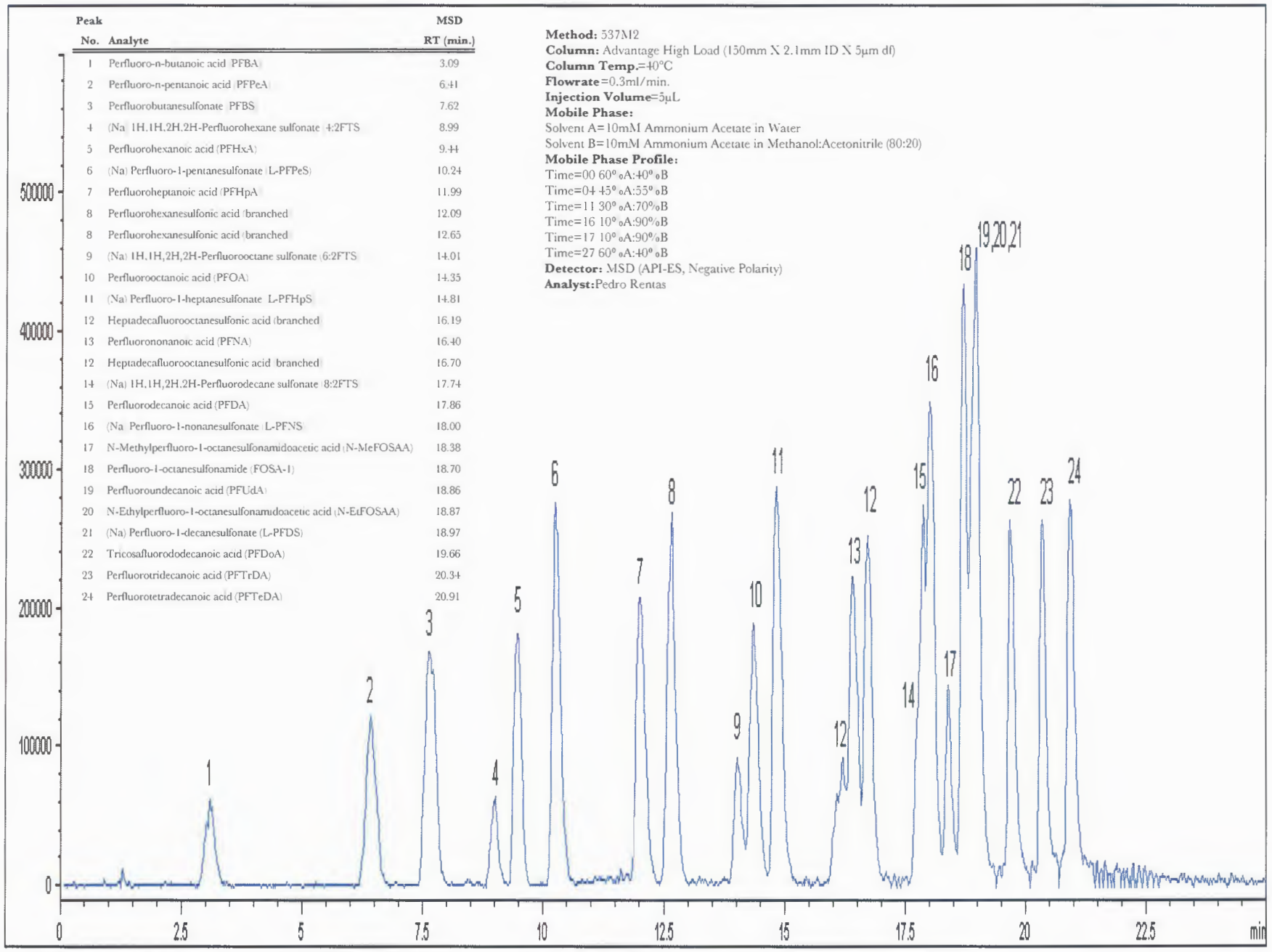
Note: All assigned values are anion concentrations.

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	orl-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. Tricosafluorododecanoic 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 certifed (+/-) 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).

Peak No.	Analyte	MSD RT (min.)
1	Perfluoro-n-butanoic acid (PFBA)	3.09
2	Perfluoro-n-pentanoic acid (PFPeA)	6.41
3	Perfluorobutanesulfonate (PFBS)	7.62
4	(Na) 1H,1H,2H,2H-Perfluorohexane sulfonate (4:2FTS)	8.99
5	Perfluorohexanoic acid (PFHxA)	9.44
6	(Na) Perfluoro-1-pentanesulfonate (L-PFPeS)	10.24
7	Perfluoroheptanoic acid (PFHpA)	11.99
8	Perfluorohexanesulfonic acid (branched)	12.09
8	Perfluorohexanesulfonic acid (branched)	12.65
9	(Na) 1H,1H,2H,2H-Perfluorooctane sulfonate (6:2FTS)	14.01
10	Perfluorooctanoic acid (PFOA)	14.35
11	(Na) Perfluoro-1-heptanesulfonate (L-PFHpS)	14.81
12	Heptadecafluorooctanesulfonic acid (branched)	16.19
13	Perfluorononanoic acid (PFNA)	16.40
12	Heptadecafluorooctanesulfonic acid (branched)	16.70
14	(Na) 1H,1H,2H,2H-Perfluorodecane sulfonate (8:2FTS)	17.74
15	Perfluorodecanoic acid (PFDA)	17.86
16	(Na) Perfluoro-1-nonanesulfonate (L-PFNS)	18.00
17	N-Methylperfluoro-1-octanesulfonamidoacetic acid (N-MeFOSAA)	18.38
18	Perfluoro-1-octanesulfonamide (FOSA-1)	18.70
19	Perfluoroundecanoic acid (PFUdA)	18.86
20	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (N-EtFOSAA)	18.87
21	(Na) Perfluoro-1-decanesulfonate (L-PFDS)	18.97
22	Tricosafluorododecanoic acid (PFDoA)	19.66
23	Perfluorotridecanoic acid (PFTrDA)	20.34
24	Perfluorotetradecanoic acid (PFTeDA)	20.91

Method: 537M2
Column: Advantage High Load (150mm X 2.1mm ID X 5µm df)
Column Temp.=40°C
Flowrate=0.3ml/min.
Injection Volume=5µL
Mobile Phase:
Solvent A=10mM Ammonium Acetate in Water
Solvent B=10mM Ammonium Acetate in Methanol:Acetonitrile (80:20)
Mobile Phase Profile:
Time=00 60% A:40% B
Time=04 45% A:55% B
Time=11 30% A:70% B
Time=16 10% A:90% B
Time=17 10% A:90% B
Time=27 60% A:40% B
Detector: MSD (API-ES, Negative Polarity)
Analyst: Pedro Rentas



BATTELLE

It can be done

BDO Id: 171025-01

Reagent Receipt Report

Approved: ☐ ☐

Name: PFOA - 2nd Source
Vendor: ABSOLUTE STANDARDS
Catalogue No: 99207
Type: Solution
Lot No: 032217
Quantity: 5 ea ml **% Moisture:**
Description: PFOA-DOD

Received: 10/25/2017
Custodian: Schumitz, Matt
Expires: 3/22/2022
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-butanesulfonic 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:** _____

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Analytical Reference Material ARM

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ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

1710250d

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):	Lot#	
Methanol (1 mM KOH)	031317	(98%)
2-Propanol	23214	(2%)

5E-05 Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL): 50.0 0.007 Flask Uncertainty

Formulated By: Mario Luis 101717 DATE

Reviewed By: Pedro L. Rentas 101717 DATE

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	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	orl-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.	Tricosafluorododecanoic 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	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 certifed (+/-) 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).

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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-butanesulfonic 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:** _____

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT

171025-01

Part Number: 99207
Lot Number: 032217
Description: PFOA - DOD
24 components
Expiration Date: 032222
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 1.0
NIST Test ID#: 822-275872-11

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

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

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

Paul Barron		032217
Formulated By:	Paul Barron	DATE
Pedro Rentas		032217
Reviewed By:	Pedro L. Rentas	DATE

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	orl-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. Tricosafluorododecanoic 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 certifed (+/-) 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

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SAMPLE PREPARATION RECORDS

Project Title(s)	**Project No.(s)**
CTO-SE0375: Naval Air Station Jacksonville	100119154-SE0375

18-0339

Sediment PFAS Analysis

SD, SD DUP

SOP Numbers (see workplan for modifications)

ExtractionSOP No. 5-370

This Batch Contains The Following Samples:
CQ857PB-FS
CQ858LCS-FS
J6243-FS
J6243MS-FS
J6243MSD-FS
J6244-FS

Laboratory Preparation Records

COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	06/05/2018	DMS

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BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID	Description
CQ857PB-FS	Procedural Blank - Ottawa Sand (130709-01)
CQ858LCS-FS	Laboratory Control Sample - Ottawa Sand (130709-01)
J6243-FS	FFTA-SD01-052418
J6243MS-FS	Matrix Spike of FFTA-SD01-052418
J6243MSD-FS	Matrix Spike Duplicate of FFTA-SD01-052418
J6244-FS	FFTA-FD02-052418

Samples Assigned By: Stephanie Schultz Date : May 29, 2018

Comments:

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BATTELLE - NORWELL OPERATIONS
SAMPLE CUSTODY LOG

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Requested On/By:	05/29/2018 SAS	**Purpose:**	Sample Preparation
Relinquished On/By:	05/29/2018 MDS	**Last Activity:**	Return

Accepted On/By:	05/29/2018 SAS	**Returned On/To:**	05/29/2018 MDS
Stored In Facility:	Sample Preparation	**Returned To Facility:**	Custody: NA
Stored Until	05/29/2018		
Stored Comment:	NA	**Returned Comment:**	NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J6243	1	--	Intact	NA
2	J6244	1	--	Intact	NA

Total Samples 2 * "C" = Consumed Container

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BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
CQ857PB-FS	NA	--	NA	NA	NA	1.99	100.00	0.00	1.99
CQ858LCS-FS	NA	--	NA	NA	NA	2.02	100.00	0.00	2.02
J6243-FS	1	--	1.08	8.61	7.12	2.02	80.21	19.79	1.62
J6243MS-FS	1	--	1.04	10.58	8.99	2.02	83.33	16.67	1.68
J6243MSD-FS	1	--	1.07	7.07	6.12	1.96	84.17	15.83	1.65
J6244-FS	1	--	1.09	8.46	7.09	2.01	81.41	18.59	1.64

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100
Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]
* "C" = Sample Container Is Consumed

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BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

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

Task: Wet Weight

BNO-ID:	Date/Initials:	Battelle-ID:
CQ857PB-FS	05/29/2018 SAS	BAL-009
CQ858LCS-FS	05/29/2018 SAS	BAL-009
J6243-FS	05/29/2018 SAS	BAL-009
J6243MS-FS	05/29/2018 SAS	BAL-009
J6243MSD-FS	05/29/2018 SAS	BAL-009
J6244-FS	05/29/2018 SAS	BAL-009

Task: Tare Weight

BNO-ID:	Date/Initials:	Battelle-ID:
CQ857PB-FS	--	--
CQ858LCS-FS	--	--
J6243-FS	05/29/2018 SAS	BAL-009
J6243MS-FS	05/29/2018 SAS	BAL-009
J6243MSD-FS	05/29/2018 SAS	BAL-009
J6244-FS	05/29/2018 SAS	BAL-009

Task: Aliquot Wet Weight

BNO-ID:	Date/Initials:	Battelle-ID:
CQ857PB-FS	--	--
CQ858LCS-FS	--	--
J6243-FS	05/29/2018 SAS	BAL-009
J6243MS-FS	05/29/2018 SAS	BAL-009
J6243MSD-FS	05/29/2018 SAS	BAL-009
J6244-FS	05/29/2018 SAS	BAL-009

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100
Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]
* "C" = Sample Container Is Consumed

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BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

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

Task: Aliquot Dry Weight

BNO-ID:	Date/Initials:	Battelle-ID:
CQ857PB-FS	--	--
CQ858LCS-FS	--	--
J6243-FS	05/30/2018 SAS	BAL-009
J6243MS-FS	05/30/2018 SAS	BAL-009
J6243MSD-FS	05/30/2018 SAS	BAL-009
J6244-FS	05/30/2018 SAS	BAL-009

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100
Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]
* "C" = Sample Container Is Consumed

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BATTELLE - NORWELL OPERATIONS
SURROGATE SPIKE FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CQ857PB-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
CQ858LCS-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
CQ858LCS-FS	JW44	LCS/MS	1	400	05/29/18 SAS	MDS	NA
J6243-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MS-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MS-FS	JW44	LCS/MS	1	1000	05/29/18 SAS	MDS	NA
J6243MSD-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MSD-FS	JW44	LCS/MS	1	1000	05/29/18 SAS	MDS	NA
J6244-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JR04	Pipette	D1075429B
JW44	Pipette	C0982448K

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BATTELLE - NORWELL OPERATIONS
SAMPLE EXTRACTION FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339

Sediment PFAS Analysis

SD, SD DUP

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CQ857PB-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
CQ858LCS-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243MS-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243MSD-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6244-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-180529-1	05/29/18	SHBG7156V	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	
0.4% NH3 in Methanol	RP-180529-1	05/29/18	177965	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	

Solvents/Reagents:

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BATTELLE - NORWELL OPERATIONS
COLUMN FRACTIONATION FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Extract Id	Date	Init.	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comments
CQ857PB-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
CQ858LCS-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243MS-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243MSD-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6244-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA

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

Elution Volume: 10 mL

Solvents

Reagents

Reagent Prep	Weight g	Name	Expires	Lot No	Procedure
RP-180529-1	Not Measured	0.4% NH3 in Methanol	05/29/18	SHBG7156V	Per 100 mL, dilute 3.5 mL in Methanol
RP-180529-1	Not Measured	0.4% NH3 in Methanol	05/29/18	177965	Per 100 mL, dilute 3.5 mL in Methanol
RP-180529-3	0.50	ENVI-CARB SPE	05/29/18	9025702	Rinse SPE cartridge w

Fractions

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BATTELLE - NORWELL OPERATIONS
EXTRACT SPIKE FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J6243-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6243MS-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6243MSD-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6244-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW02	Pipette	I0793912B

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BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

(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
CQ857PB-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
CQ858LCS-FS(4)	476	24	JW02	24	1	500	20.000	06/04/18 DMS	NA
CQ858LCS-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6243MS-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243MS-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6243MSD-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243MSD-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6244-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6244-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW02	Pipette	I0793912B

Extract Id:	Comments:
CQ857PB-FS	Samples reconstituted in 80/20 methanol/milli-q water (RP-180529-6)

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

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

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BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CQ857PB-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
CQ857PB-FS	2	--	5/29/2018 1:57:00 PM	CQ857PB-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
CQ857PB-FS	3	C	5/29/2018 1:57:00 PM	CQ857PB-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
CQ857PB-FS	4	--	5/29/2018 4:14:00 PM	CQ857PB-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ857PB-FS	5	--	5/29/2018 4:14:00 PM	CQ857PB-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ858LCS-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
CQ858LCS-FS	2	--	5/29/2018 1:57:00 PM	CQ858LCS-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
CQ858LCS-FS	3	C	5/29/2018 1:57:00 PM	CQ858LCS-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
CQ858LCS-FS	4	--	5/29/2018 4:14:00 PM	CQ858LCS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ858LCS-FS	5	--	5/29/2018 4:14:00 PM	CQ858LCS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243-FS	2	--	5/29/2018 1:57:00 PM	J6243-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243-FS	3	C	5/29/2018 1:57:00 PM	J6243-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243-FS	4	--	5/29/2018 4:14:00 PM	J6243-FS	3	11000	5500	2.000	20.000	05/29/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

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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

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6243-FS	5	C	5/29/2018 4:14:00 PM	J6243-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243-FS	6	--	6/4/2018 3:51:00 PM	J6243-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243-FS-D	7	--	6/4/2018 3:51:00 PM	J6243-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6243MS-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243MS-FS	2	--	5/29/2018 1:57:00 PM	J6243MS-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243MS-FS	3	C	5/29/2018 1:57:00 PM	J6243MS-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243MS-FS	4	--	5/29/2018 4:14:00 PM	J6243MS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MS-FS	5	C	5/29/2018 4:14:00 PM	J6243MS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MS-FS	6	--	6/4/2018 3:51:00 PM	J6243MS-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243MS-FS-D	7	--	6/4/2018 3:51:00 PM	J6243MS-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6243MSD-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243MSD-FS	2	--	5/29/2018 1:57:00 PM	J6243MSD-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243MSD-FS	3	C	5/29/2018 1:57:00 PM	J6243MSD-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243MSD-FS	4	--	5/29/2018 4:14:00 PM	J6243MSD-FS	3	11000	5500	2.000	20.000	05/29/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

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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

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6243MSD-FS	5	C	5/29/2018 4:14:00 PM	J6243MSD-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MSD-FS	6	--	6/4/2018 3:51:00 PM	J6243MSD-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243MSD-FS-D	7	--	6/4/2018 3:51:00 PM	J6243MSD-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6244-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6244-FS	2	--	5/29/2018 1:57:00 PM	J6244-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6244-FS	3	C	5/29/2018 1:57:00 PM	J6244-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6244-FS	4	--	5/29/2018 4:14:00 PM	J6244-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6244-FS	5	C	5/29/2018 4:14:00 PM	J6244-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6244-FS	6	--	6/4/2018 3:51:00 PM	J6244-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6244-FS-D	7	--	6/4/2018 3:51:00 PM	J6244-FS	5	500	25	20.000	400.000	06/04/18 DMS

Extract Id:	**Comments:**
CQ857PB-FS	Samples reconstituted in 80/20 methanol/milli-q water (RP-180529-6)

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

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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

18-0339
Sediment PFAS Analysis
SD, SD DUP

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	May 30 2018 4:47PM SAS	**Received On/By:**	May 30 2018 5:38PM 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	CQ857PB-FS(5)	500	20	Intact	NA
2	CQ858LCS-FS(5)	500	20	Intact	NA
3	J6243-FS(5)	500	20	Intact	NA
4	J6243MS-FS(5)	500	20	Intact	NA
5	J6243MSD-FS(5)	500	20	Intact	NA
6	J6244-FS(5)	500	20	Intact	NA

Total Extracts: 6

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Jun 4 2018 4:07PM DMS	**Received On/By:**	Jun 4 2018 4:07PM 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	J6243-FS-D(7)	500	400	Intact	NA
2	J6243MS-FS-D(7)	500	400	Intact	NA
3	J6243MSD-FS-D(7)	500	400	Intact	NA
4	J6244-FS-D(7)	500	400	Intact	NA

Total Extracts: 4

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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Entered By:	**On:**

Task Leader Approval:	**On:**
SupervisorApproval:	**On:**
PM Approval:	**On:**

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SAMPLE SPECIFIC COMMENTS

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID:	Comment:	Date/Initials:
CQ857PB-FS	NA	NA
CQ858LCS-FS	NA	NA
J6243-FS	NA	NA
J6243MS-FS	NA	NA
J6243MSD-FS	NA	NA
J6244-FS	NA	NA

Analytical Calibrations

BATTELLE

Created with Analyst Reporter

Sequence Report

Printed: 05/06/2018 11:53:06 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		5/30/2018 7:07:30 PM	5-0369.dam	18-0334_18-0339.wiff
2	JV20	L1	5/30/2018 7:18:19 PM	5-0369.dam	18-0334_18-0339.wiff
3	JV21	L2	5/30/2018 7:29:08 PM	5-0369.dam	18-0334_18-0339.wiff
4	JV22	L3	5/30/2018 7:39:56 PM	5-0369.dam	18-0334_18-0339.wiff
5	JV23	L4	5/30/2018 7:50:45 PM	5-0369.dam	18-0334_18-0339.wiff
6	JV24	L5	5/30/2018 8:01:34 PM	5-0369.dam	18-0334_18-0339.wiff
7	JV25	L6	5/30/2018 8:12:22 PM	5-0369.dam	18-0334_18-0339.wiff
8	JV26	L7	5/30/2018 8:23:10 PM	5-0369.dam	18-0334_18-0339.wiff
9	JV27	L8	5/30/2018 8:33:58 PM	5-0369.dam	18-0334_18-0339.wiff
10	JV28	L9	5/30/2018 8:44:46 PM	5-0369.dam	18-0334_18-0339.wiff
11	JV05 IB	Instrument Blank	5/30/2018 8:55:34 PM	5-0369.dam	18-0334_18-0339.wiff
12	JW32 ICC	ICC	5/30/2018 9:06:24 PM	5-0369.dam	18-0334_18-0339.wiff
13	JV16 Branch	Branch Standard	5/30/2018 9:17:12 PM	5-0369.dam	18-0334_18-0339.wiff
1	MeOH		5/30/2018 9:28:00 PM	5-0369.dam	18-0334_18-0339.wiff
26	CQ857PB-FS(5)	Procedural Blank	5/31/2018 12:20:54 AM	5-0369.dam	18-0334_18-0339.wiff
27	CQ858LCS-FS(5)	Laboratory Control Sample	5/31/2018 12:31:43 AM	5-0369.dam	18-0334_18-0339.wiff
28	J6243-FS(5)	FFTA-SD01-052418	5/31/2018 12:42:31 AM	5-0369.dam	18-0334_18-0339.wiff
29	J6243MS-FS(5)	FFTA-SD01-052418	5/31/2018 12:53:21 AM	5-0369.dam	18-0334_18-0339.wiff
30	J6243MSD-FS(5)	FFTA-SD01-052418	5/31/2018 1:04:10 AM	5-0369.dam	18-0334_18-0339.wiff
31	J6244-FS(5)	FFTA-FD02-052418	5/31/2018 1:14:58 AM	5-0369.dam	18-0334_18-0339.wiff
7	JV25 CCV	CCV	5/31/2018 1:25:46 AM	5-0369.dam	18-0334_18-0339.wiff

BATTELLE

Sequence Report

Created with Analyst Reporter
Printed: 05/06/2018 11:52:50 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		6/4/2018 7:23:13 PM	5-0369.dam	06022018.wiff
2	JV20	L1	6/4/2018 7:34:02 PM	5-0369.dam	06022018.wiff
3	JV21	L2	6/4/2018 7:44:51 PM	5-0369.dam	06022018.wiff
4	JV22	L3	6/4/2018 7:55:39 PM	5-0369.dam	06022018.wiff
5	JV23	L4	6/4/2018 8:06:27 PM	5-0369.dam	06022018.wiff
6	JV24	L5	6/4/2018 8:17:14 PM	5-0369.dam	06022018.wiff
7	JV25	L6	6/4/2018 8:28:02 PM	5-0369.dam	06022018.wiff
8	JV26	L7	6/4/2018 8:38:50 PM	5-0369.dam	06022018.wiff
9	JV27	L8	6/4/2018 8:49:37 PM	5-0369.dam	06022018.wiff
10	JV28	L9	6/4/2018 9:00:25 PM	5-0369.dam	06022018.wiff
11	JV05 IB	Instrument Blank	6/4/2018 9:11:14 PM	5-0369.dam	06022018.wiff
12	JW32 ICC	ICC	6/4/2018 9:22:01 PM	5-0369.dam	06022018.wiff
13	JC16 Branch	Branch Standard	6/4/2018 9:32:48 PM	5-0369.dam	06022018.wiff
14	MeOH		6/4/2018 9:43:36 PM	5-0369.dam	06022018.wiff
8	JV26 CCV	CCV	6/5/2018 2:02:32 AM	5-0369.dam	06022018.wiff
1	MeOH		6/5/2018 2:13:20 AM	5-0369.dam	06022018.wiff
33	J6243-FS-D(7)	FFTA-SD01-052418	6/5/2018 2:24:07 AM	5-0369.dam	06022018.wiff
34	J6243MS-FS-D(7)	FFTA-SD01-052418	6/5/2018 2:34:54 AM	5-0369.dam	06022018.wiff
35	J6243MSD-FS-D(7)	FFTA-SD01-052418	6/5/2018 2:45:41 AM	5-0369.dam	06022018.wiff
36	J6244-FS-D(7)	FFTA-FD02-052418	6/5/2018 2:56:28 AM	5-0369.dam	06022018.wiff
7	JV25 CCV	CCV	6/5/2018 3:07:15 AM	5-0369.dam	06022018.wiff

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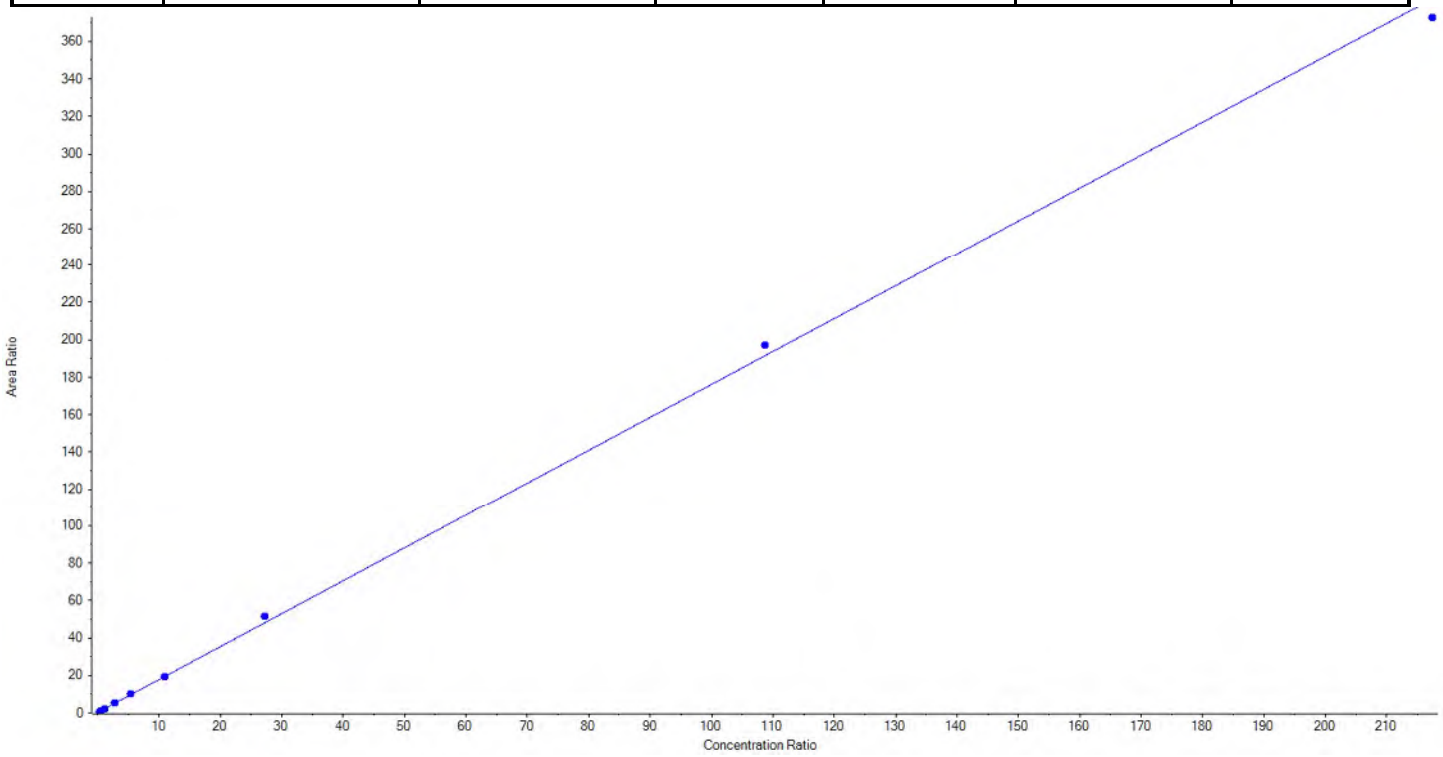
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFBS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	298.9 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.75943 x + 0.19290 (r = 0.99940) (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	24.549747	97.2
3	JV21	L2	True	50.50	44.941674	89.0
4	JV22	L3	True	101.00	98.838966	97.9
5	JV23	L4	True	252.50	260.308847	103.1
6	JV24	L5	True	505.00	529.636689	104.9
7	JV25	L6	True	1010.00	1007.354828	99.7
8	JV26	L7	True	2525.00	2720.995698	107.8
9	JV27	L8	True	10100.00	10407.878725	103.1
10	JV28	L9	True	20200.00	19674.744827	97.4



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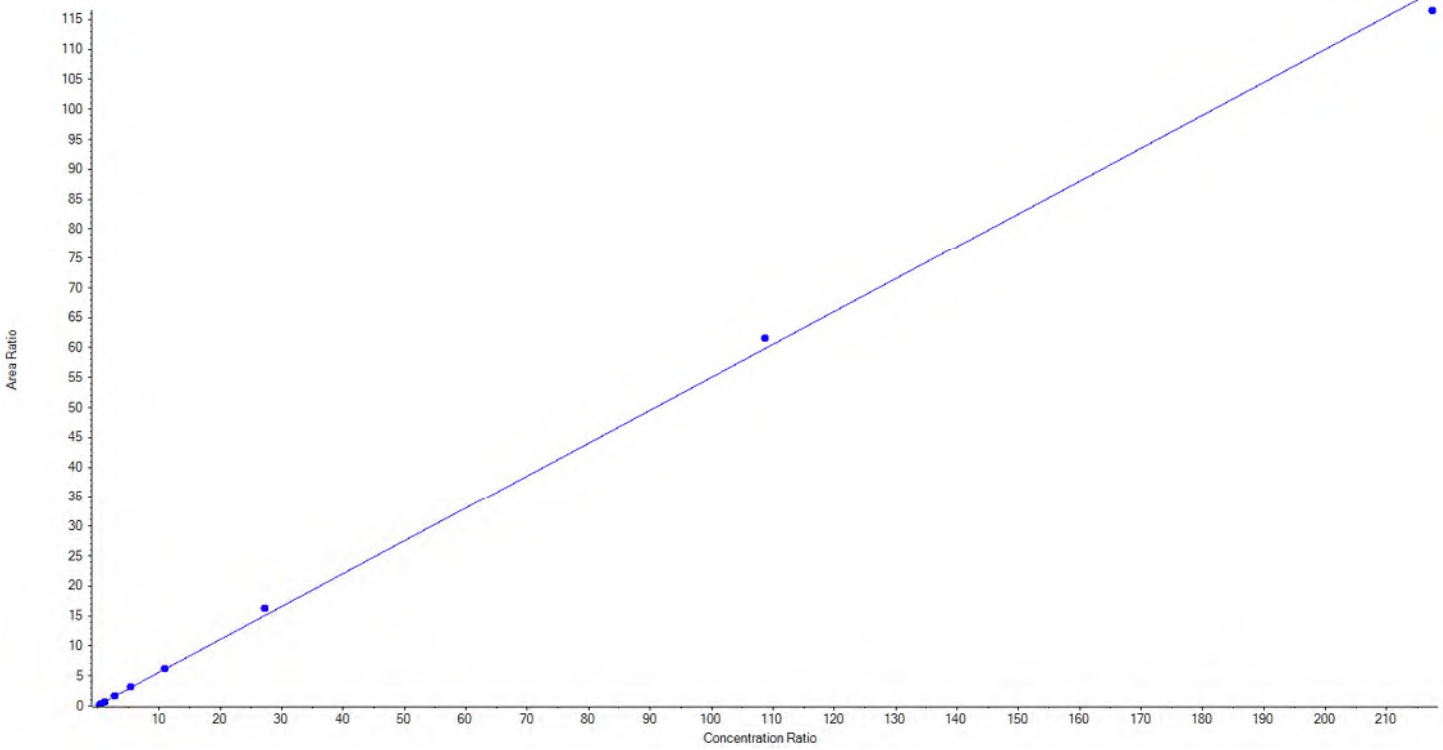
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFBS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	298.9 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.54951 x + 0.09152 (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	23.503766	93.1
3	JV21	L2	True	50.50	49.490413	98.0
4	JV22	L3	True	101.00	96.848949	95.9
5	JV23	L4	True	252.50	256.099454	101.4
6	JV24	L5	True	505.00	514.367968	101.9
7	JV25	L6	True	1010.00	1022.456183	101.2
8	JV26	L7	True	2525.00	2730.347857	108.1
9	JV27	L8	True	10100.00	10400.315263	103.0
10	JV28	L9	True	20200.00	19675.820147	97.4



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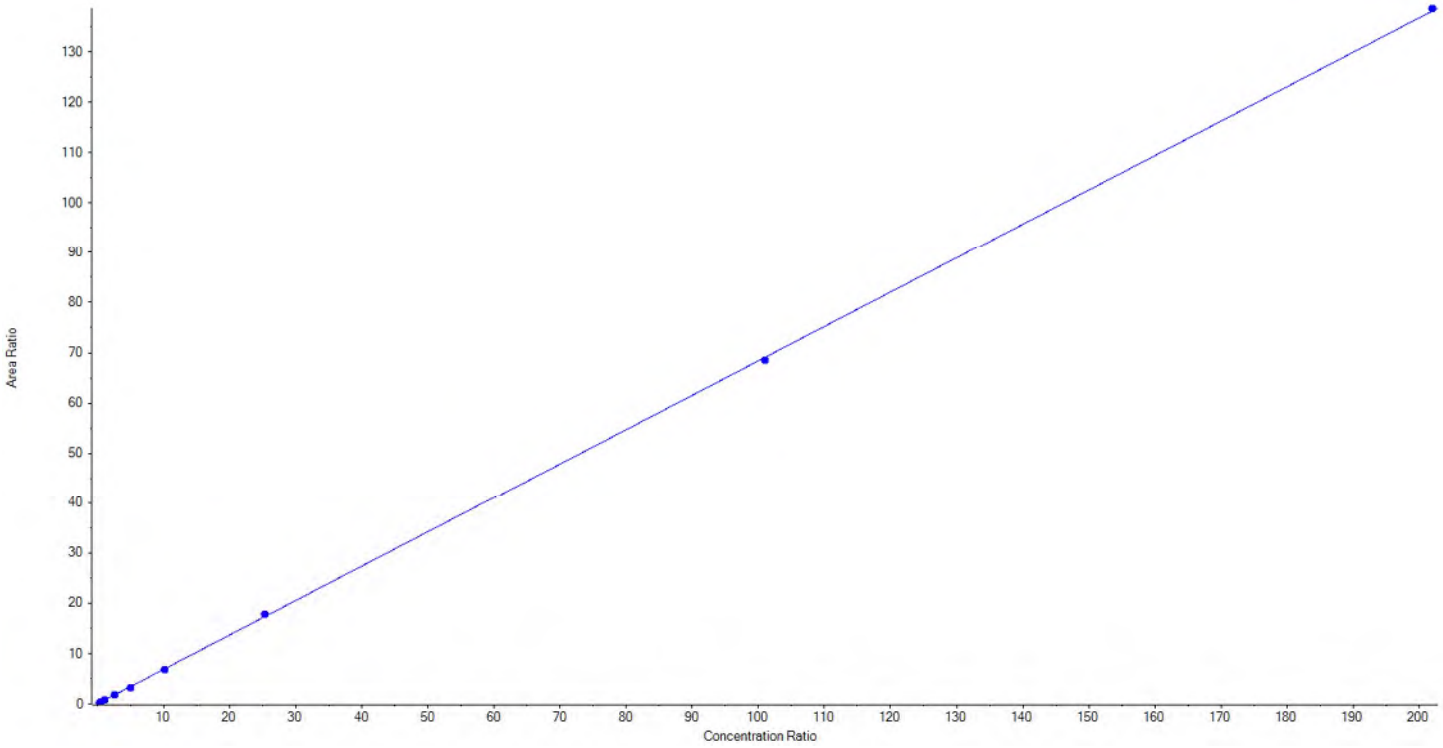
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0339_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.68372 x + 0.01861 (r = 0.99988) (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	25.746829	102.0
3	JV21	L2	True	50.50	48.722186	96.5
4	JV22	L3	True	101.00	105.167862	104.1
5	JV23	L4	True	252.50	265.405638	105.1
6	JV24	L5	True	505.00	469.641061	93.0
7	JV25	L6	True	1010.00	978.456623	96.9
8	JV26	L7	True	2525.00	2601.798445	103.0
9	JV27	L8	True	10100.00	10004.165368	99.1
10	JV28	L9	True	20200.00	20270.145989	100.4



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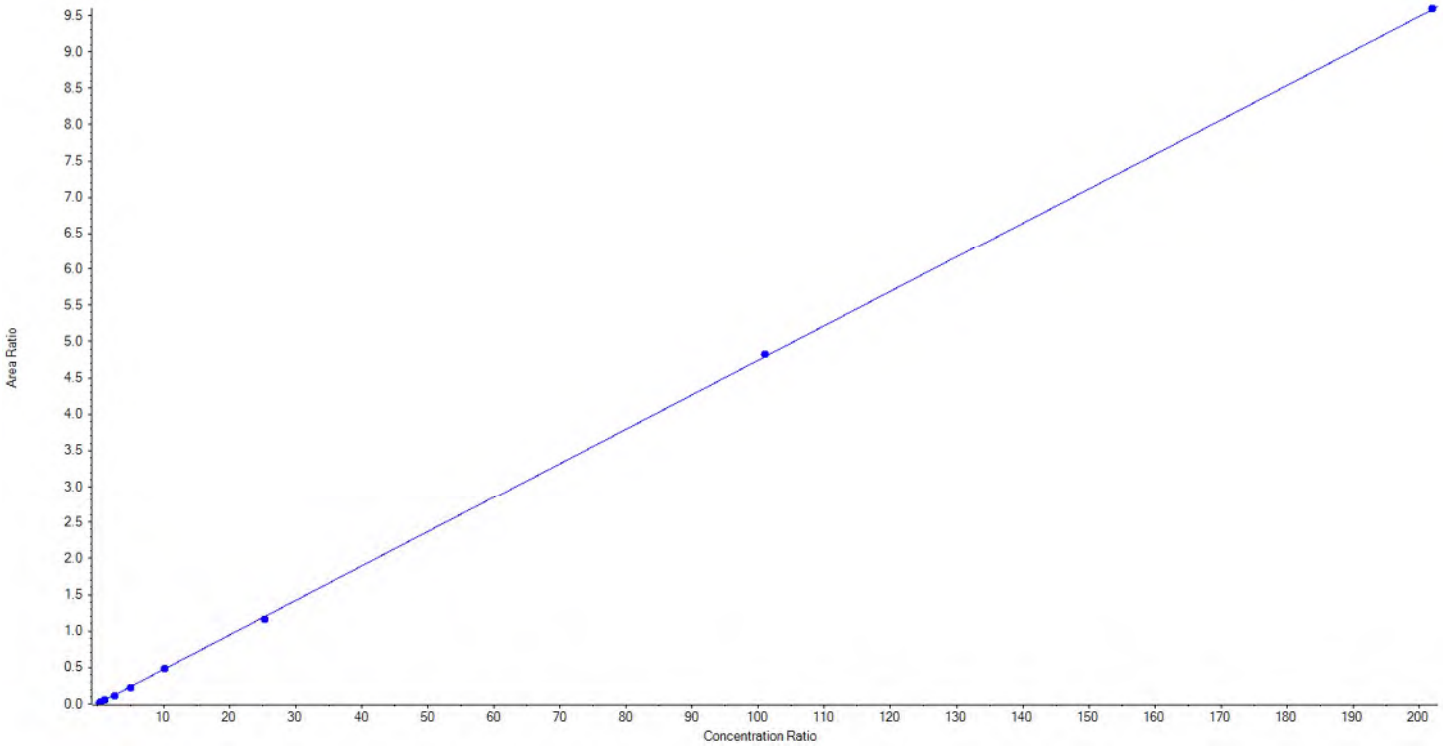
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0339_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04744 x + -5.04287e-4 (r = 0.99986) (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	29.108558	115.3
3	JV21	L2	True	50.50	45.166418	89.4
4	JV22	L3	True	101.00	108.607947	107.5
5	JV23	L4	True	252.50	247.074365	97.9
6	JV24	L5	True	505.00	458.624174	90.8
7	JV25	L6	True	1010.00	1022.656886	101.3
8	JV26	L7	True	2525.00	2445.599802	96.9
9	JV27	L8	True	10100.00	10183.733424	100.8
10	JV28	L9	True	20200.00	20228.678426	100.1



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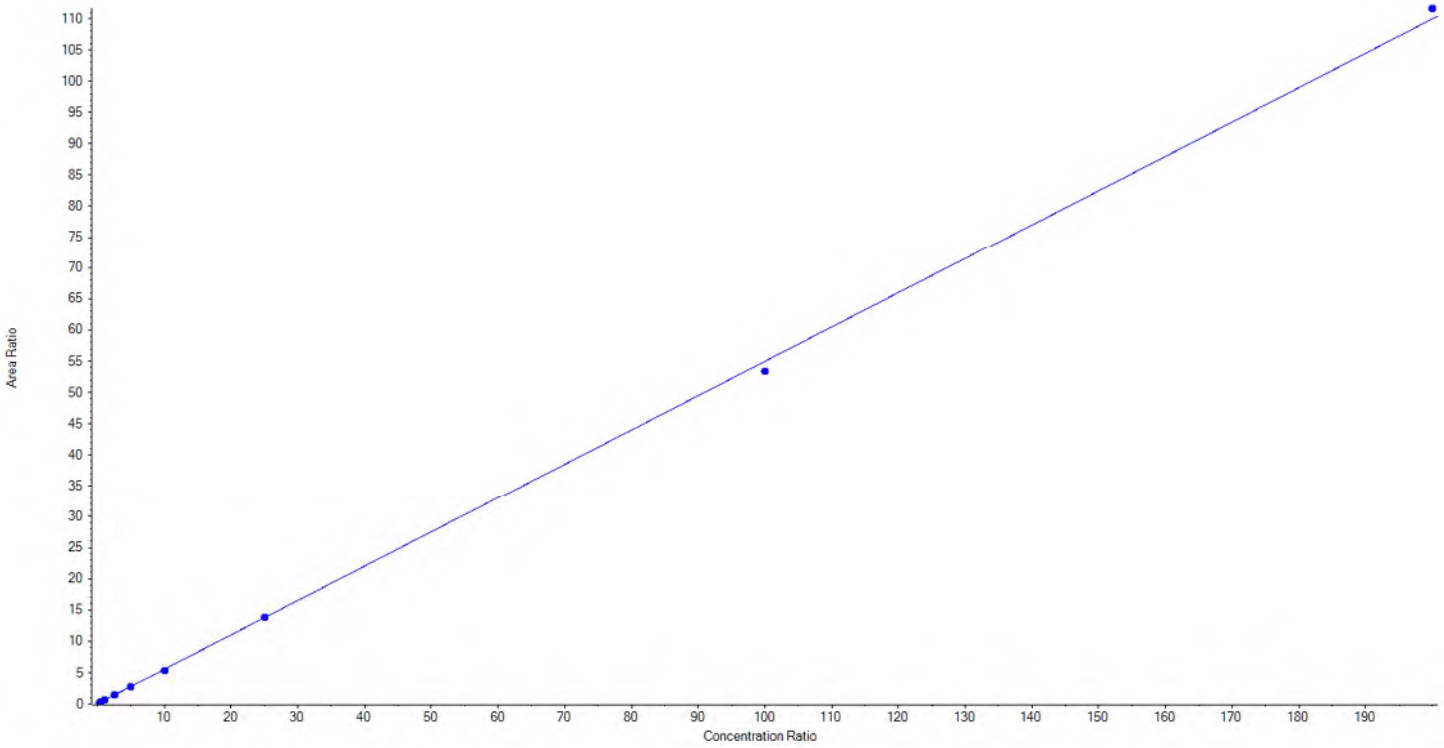
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHpA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	363.0 / 319.0	**Result Table**	18-0339_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.54949 x + 0.03817 (r = 0.99975) (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	23.271004	93.1
3	JV21	L2	True	50.00	46.906580	93.8
4	JV22	L3	True	100.00	113.876496	113.9
5	JV23	L4	True	250.00	266.306411	106.5
6	JV24	L5	True	500.00	485.796331	97.2
7	JV25	L6	True	1000.00	969.822220	97.0
8	JV26	L7	True	2500.00	2495.896047	99.8
9	JV27	L8	True	10000.00	9722.161340	97.2
10	JV28	L9	True	20000.00	20300.963570	101.5



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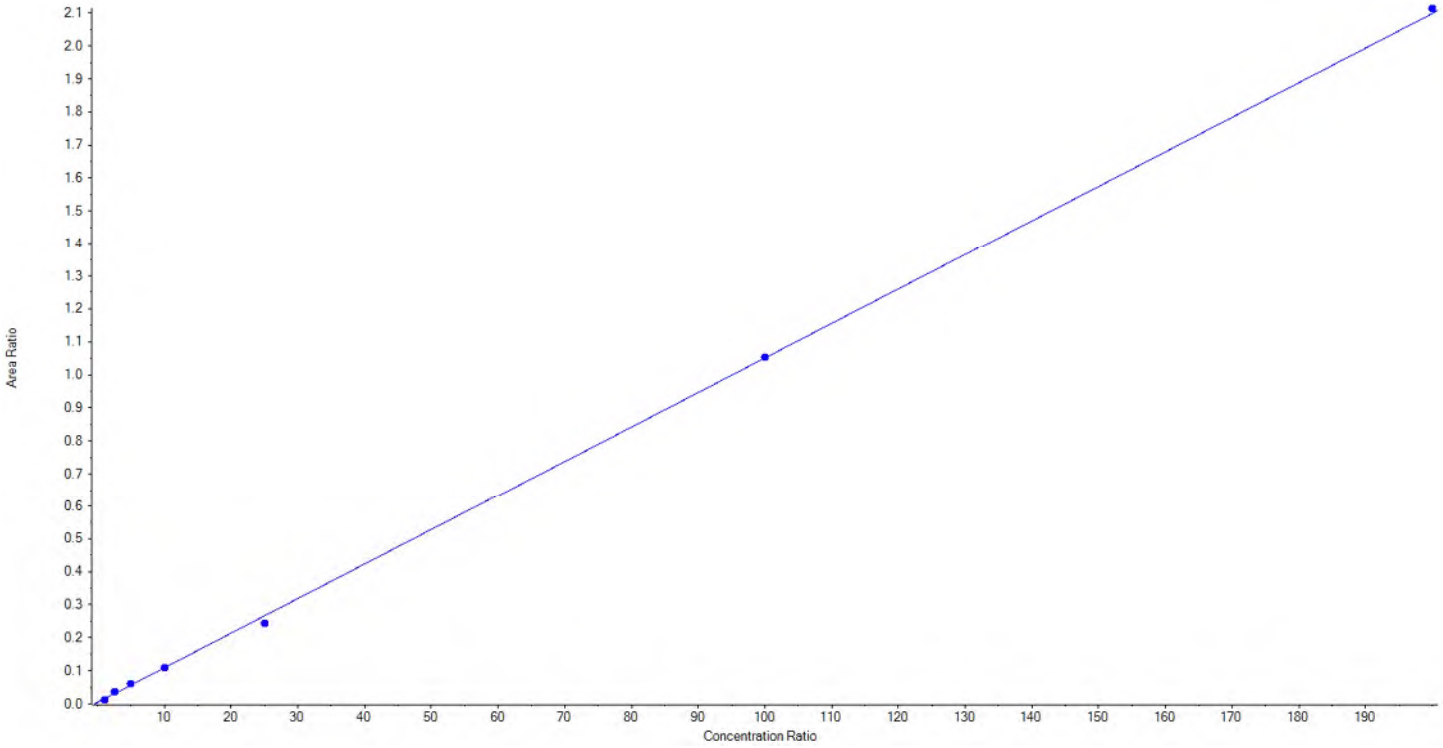
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHpA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	363.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.01047 x + 0.00466 (r = 0.99947) (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	N/A	N/A
4	JV22	L3	True	100.00	85.310875	85.3
5	JV23	L4	True	250.00	294.608259	117.8
6	JV24	L5	True	500.00	529.593649	105.9
7	JV25	L6	True	1000.00	989.128144	98.9
8	JV26	L7	True	2500.00	2273.974971	91.0
9	JV27	L8	True	10000.00	10033.671616	100.3
10	JV28	L9	True	20000.00	20143.712485	100.7



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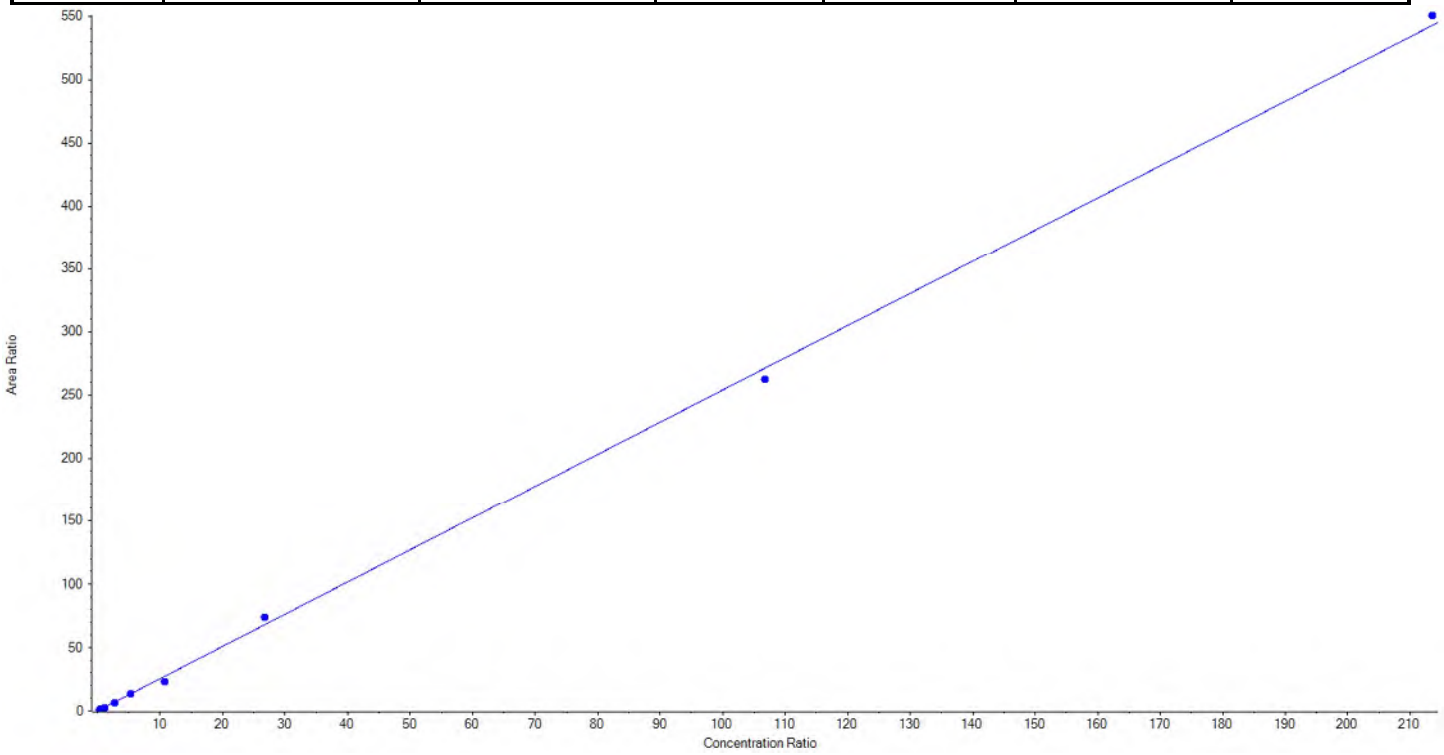
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.54138 x + -0.02650 (r = 0.99904) (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	31.216719	123.6
3	JV21	L2	True	50.50	47.433902	93.9
4	JV22	L3	True	101.00	102.652317	101.6
5	JV23	L4	True	252.50	227.754752	90.2
6	JV24	L5	True	505.00	499.897552	99.0
7	JV25	L6	True	1010.00	852.510410	84.4
8	JV26	L7	True	2525.00	2755.110770	109.1
9	JV27	L8	True	10100.00	9762.550341	96.7
10	JV28	L9	True	20200.00	20490.123237	101.4



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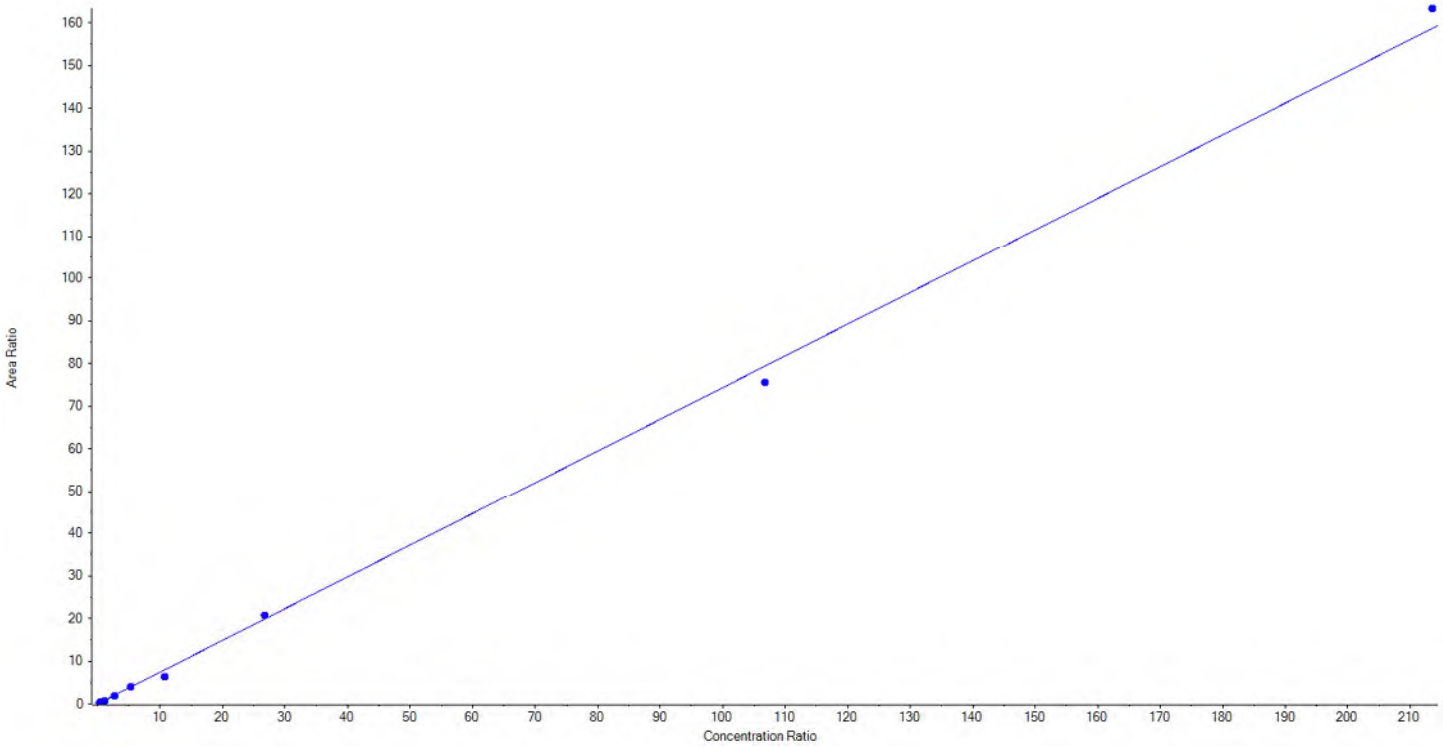
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.74328 x + -0.00728 (r = 0.99875) (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	32.084855	127.1
3	JV21	L2	True	50.50	49.445582	97.9
4	JV22	L3	True	101.00	96.943724	96.0
5	JV23	L4	True	252.50	241.382876	95.6
6	JV24	L5	True	505.00	507.648918	100.5
7	JV25	L6	True	1010.00	816.399705	80.8
8	JV26	L7	True	2525.00	2626.421364	104.0
9	JV27	L8	True	10100.00	9610.263750	95.2
10	JV28	L9	True	20200.00	20788.659226	102.9



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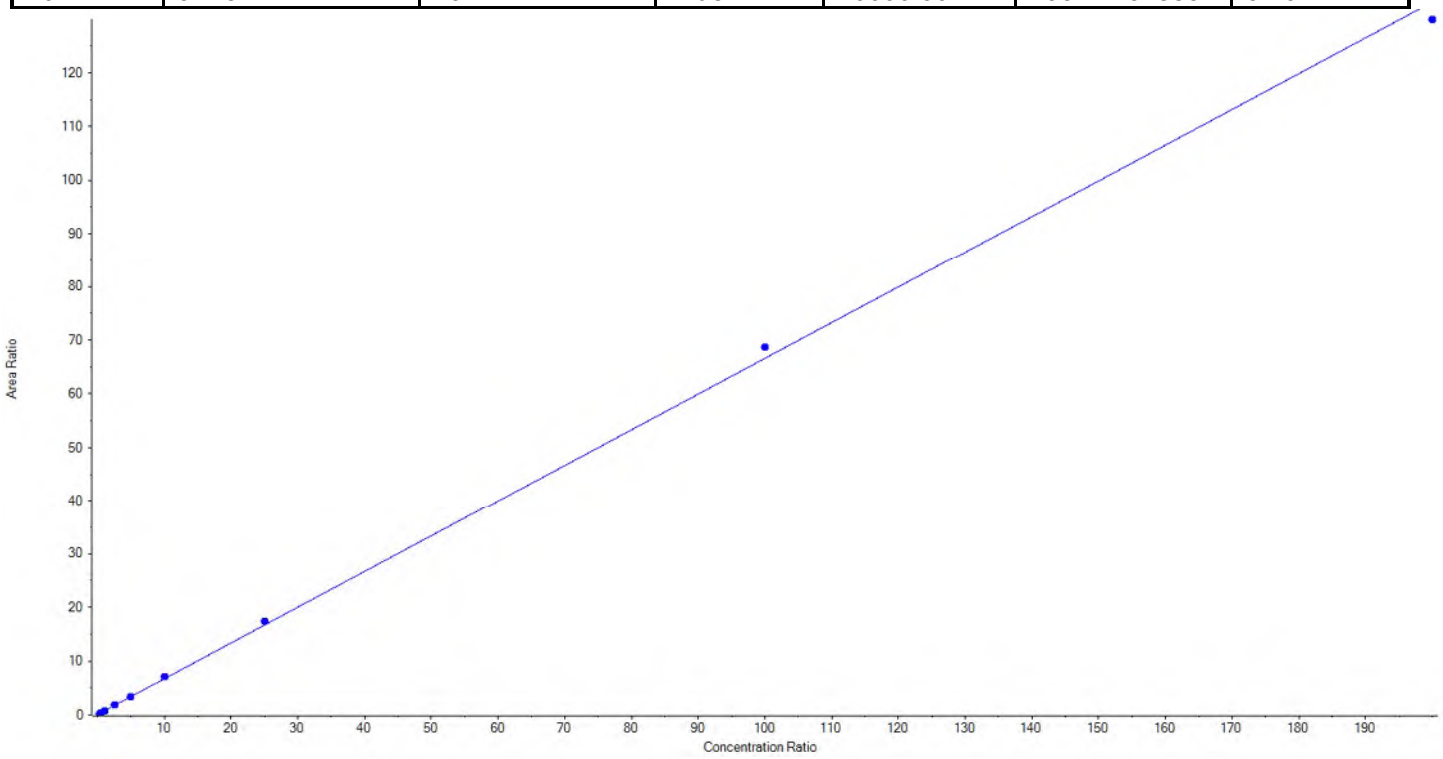
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	413.0 / 369.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66539 x + 0.07281 (r = 0.99953) (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	22.662853	90.7
3	JV21	L2	True	50.00	48.877930	97.8
4	JV22	L3	True	100.00	99.272750	99.3
5	JV23	L4	True	250.00	257.212105	102.9
6	JV24	L5	True	500.00	492.251374	98.5
7	JV25	L6	True	1000.00	1057.707816	105.8
8	JV26	L7	True	2500.00	2610.172916	104.4
9	JV27	L8	True	10000.00	10324.590371	103.3
10	JV28	L9	True	20000.00	19512.251885	97.6



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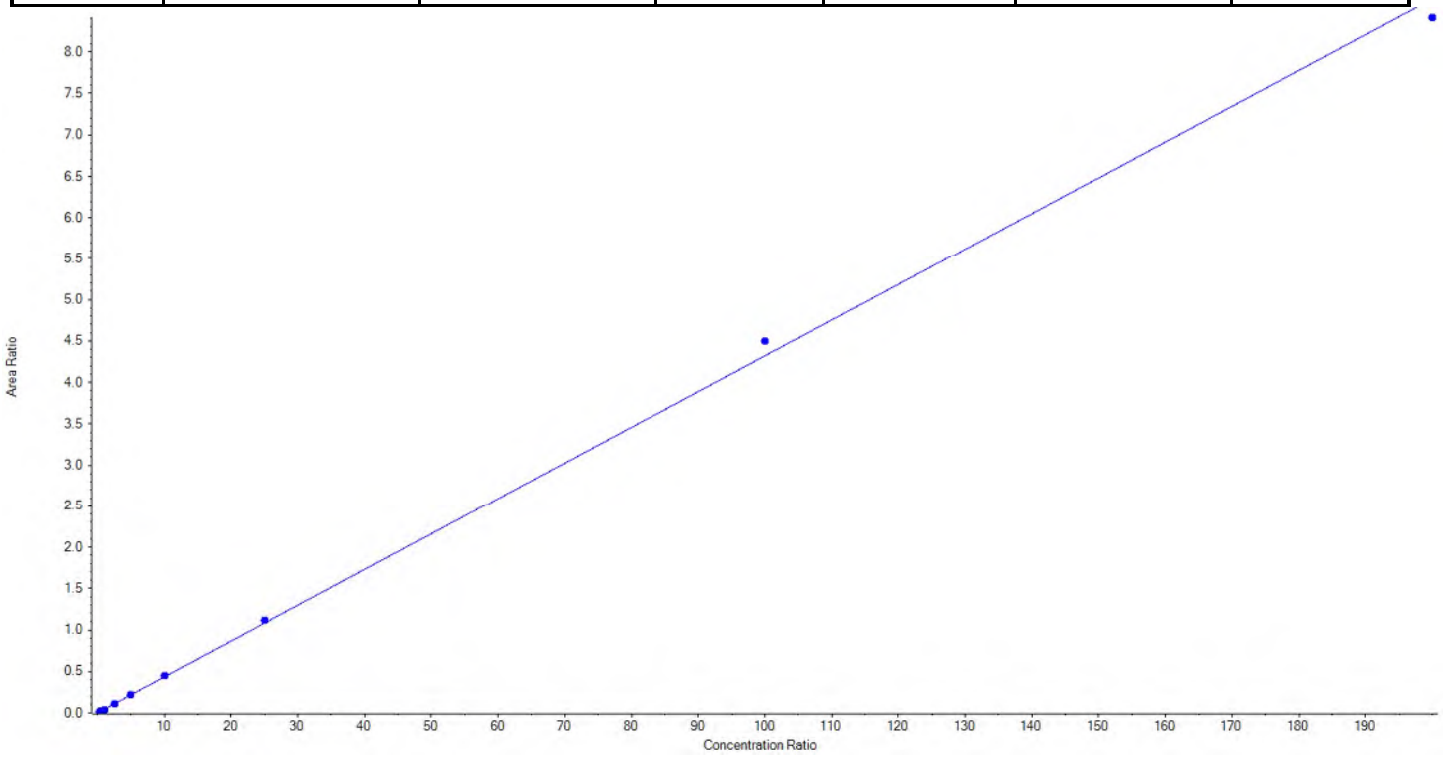
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	413.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04320 x + 0.00111 (r = 0.99942) (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	29.009852	116.0
3	JV21	L2	True	50.00	40.828911	81.7
4	JV22	L3	True	100.00	86.868080	86.9
5	JV23	L4	True	250.00	262.846759	105.1
6	JV24	L5	True	500.00	515.571849	103.1
7	JV25	L6	True	1000.00	1025.267732	102.5
8	JV26	L7	True	2500.00	2579.533856	103.2
9	JV27	L8	True	10000.00	10409.624674	104.1
10	JV28	L9	True	20000.00	19475.448288	97.4



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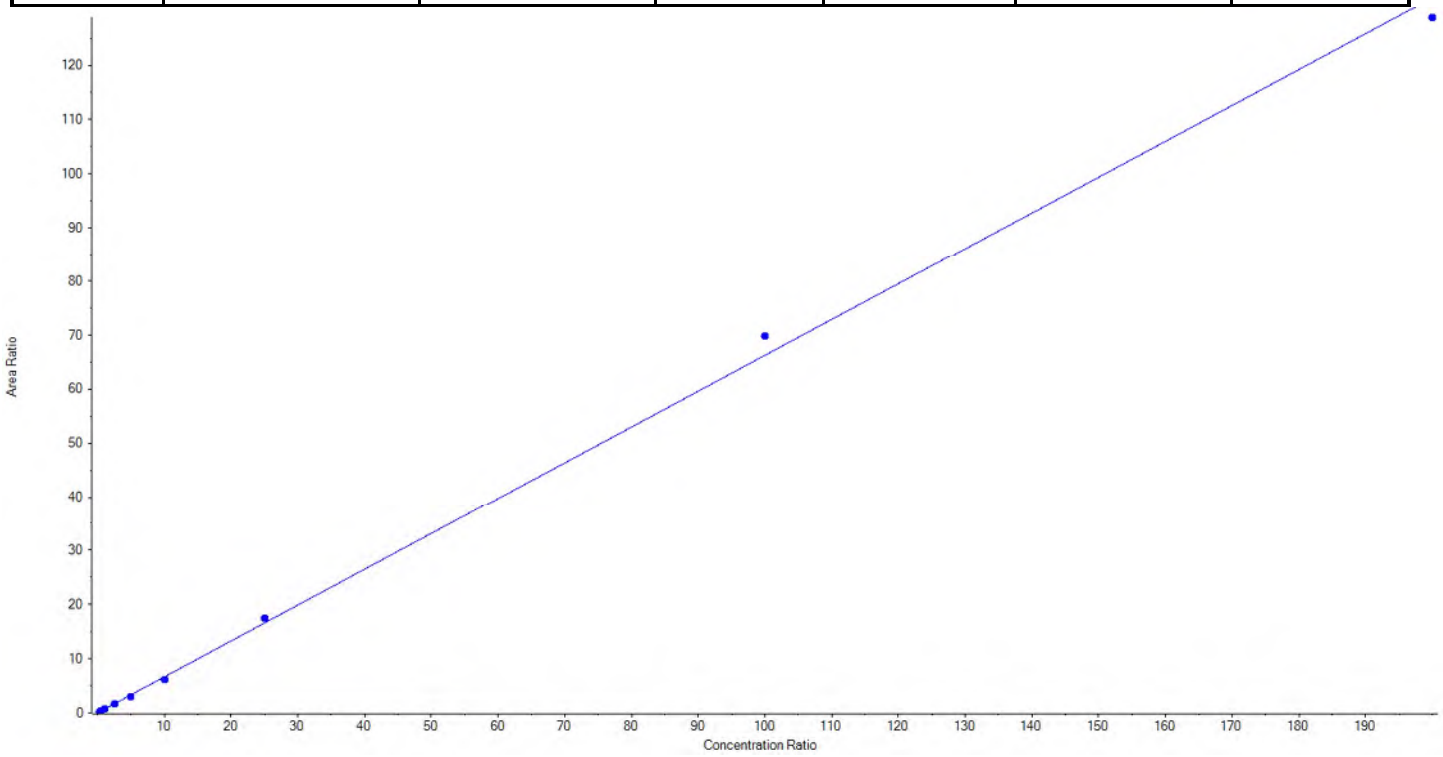
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFNA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	463.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66225 x + 0.02100 (r = 0.99903) (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	25.746399	103.0
3	JV21	L2	True	50.00	48.387577	96.8
4	JV22	L3	True	100.00	106.737132	106.7
5	JV23	L4	True	250.00	261.078663	104.4
6	JV24	L5	True	500.00	446.575811	89.3
7	JV25	L6	True	1000.00	915.490860	91.6
8	JV26	L7	True	2500.00	2641.421202	105.7
9	JV27	L8	True	10000.00	10530.348900	105.3
10	JV28	L9	True	20000.00	19449.213456	97.3



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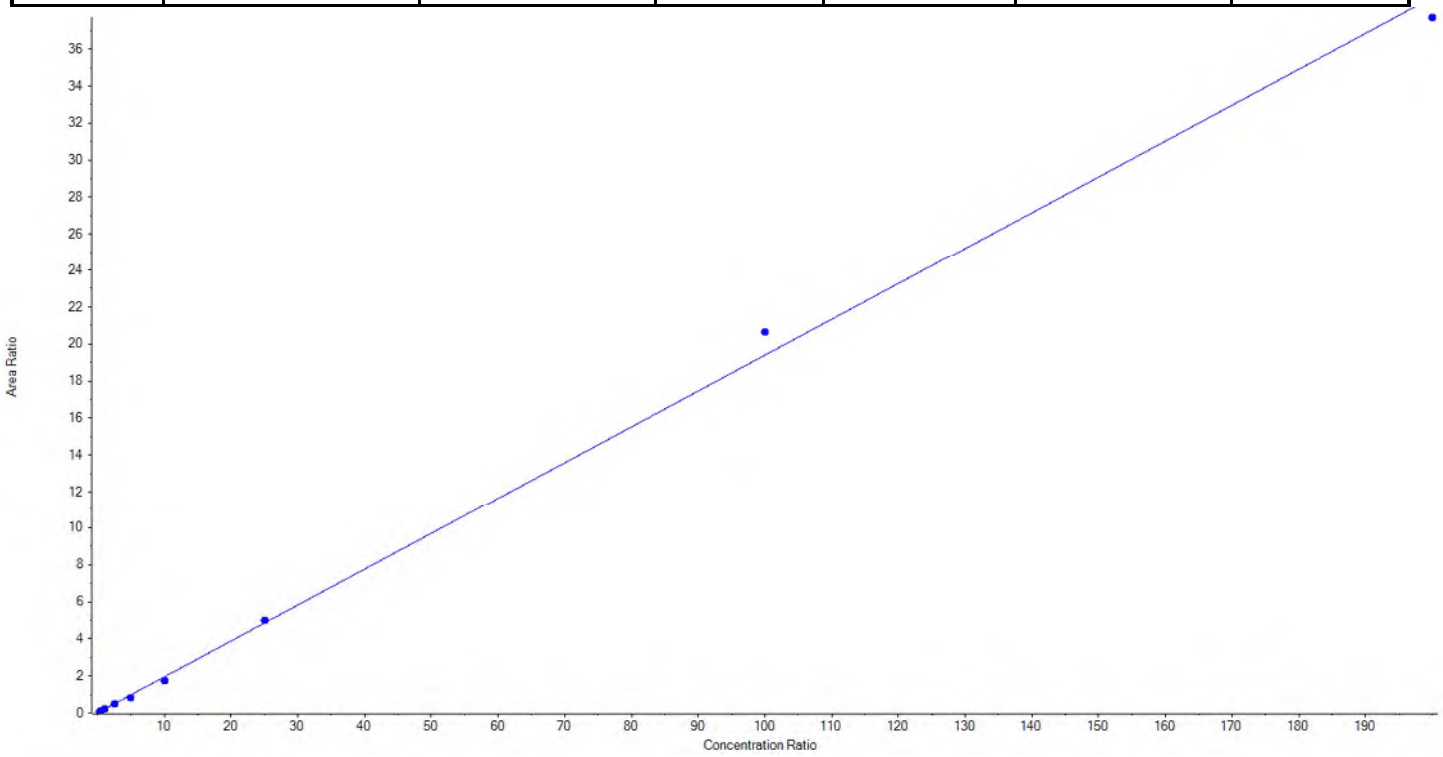
Calibration Summary Report

Analyte Name	PFNA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	463.0 / 219.0	**Result Table**	18-0339_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.19384 x + 0.00568 (r = 0.99863) (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	23.974695	95.9
3	JV21	L2	True	50.00	51.495470	103.0
4	JV22	L3	True	100.00	121.786609	121.8
5	JV23	L4	True	250.00	250.114999	100.1
6	JV24	L5	True	500.00	417.273225	83.5
7	JV25	L6	True	1000.00	888.506277	88.9
8	JV26	L7	True	2500.00	2581.898318	103.3
9	JV27	L8	True	10000.00	10649.342884	106.5
10	JV28	L9	True	20000.00	19440.607524	97.2



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Calibration Summary Report

Created with Analyst Reporter
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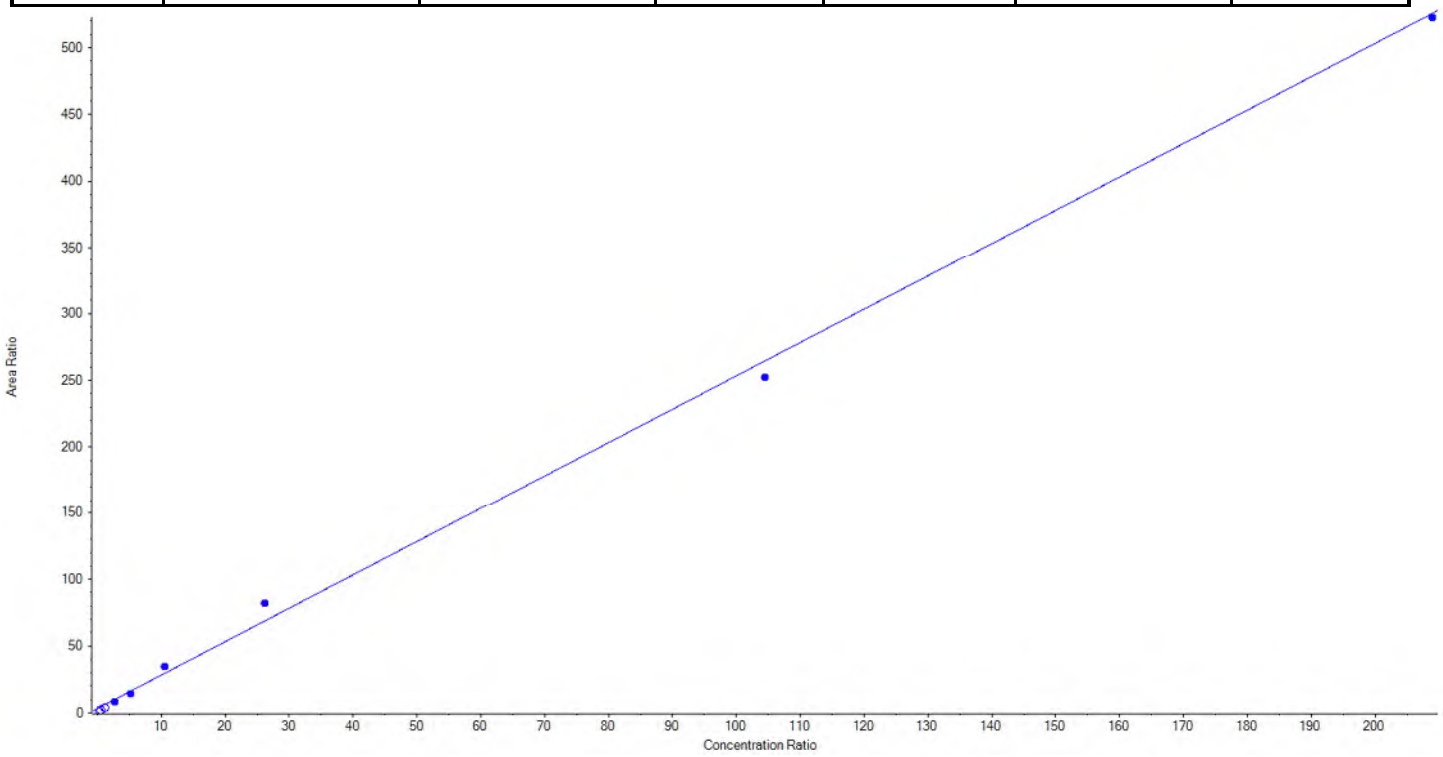
Analyte Name	PFOS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.49909 x + 3.36861 (r = 0.99679) (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	False	100.00	6.426016	6.4
5	JV23	L4	True	250.00	199.398097	79.8
6	JV24	L5	True	500.00	421.964097	84.4
7	JV25	L6	True	1000.00	1209.607580	121.0
8	JV26	L7	True	2500.00	3003.553809	120.1
9	JV27	L8	True	10000.00	9533.529906	95.3
10	JV28	L9	True	20000.00	19881.946512	99.4



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Calibration Summary Report

Created with Analyst Reporter
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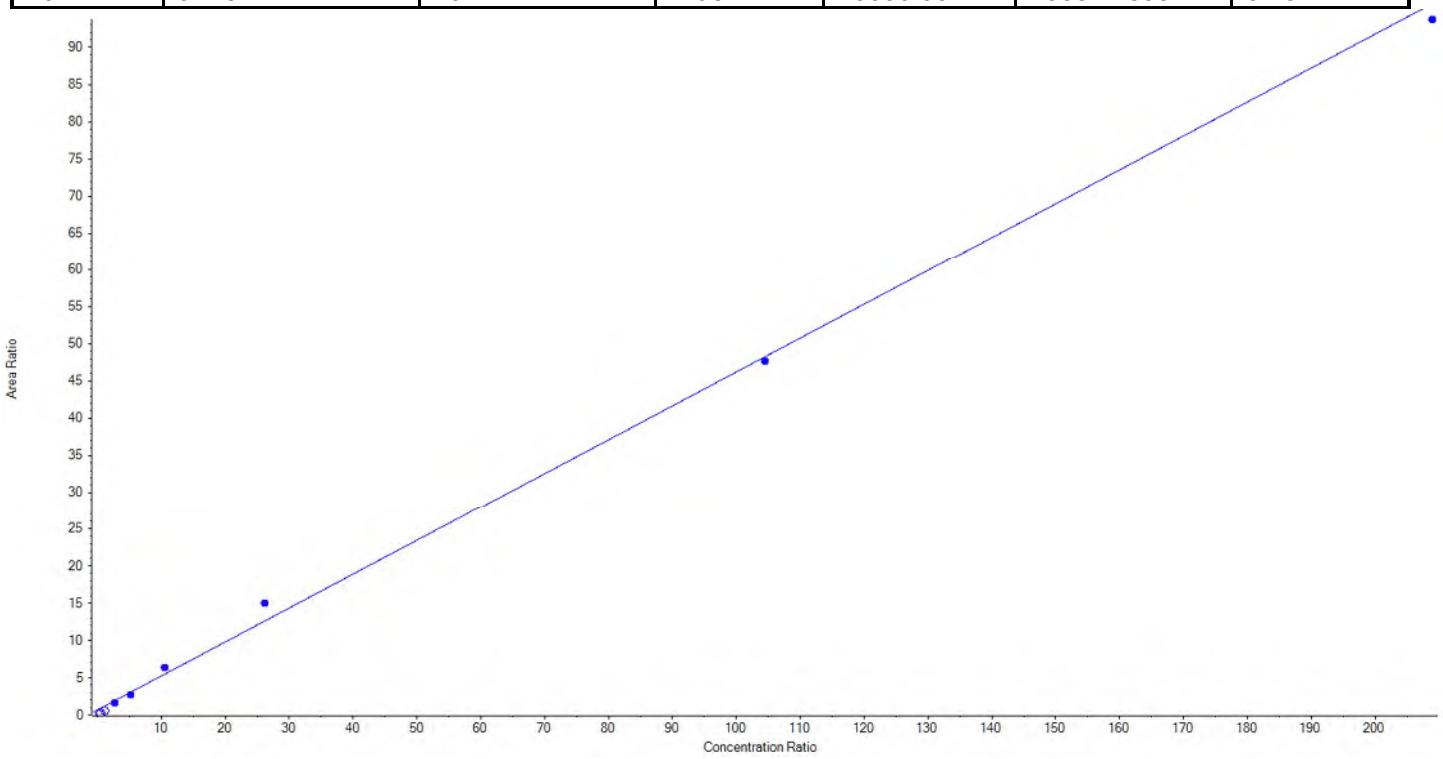
Analyte Name	PFOS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.45527 x + 0.68494 (r = 0.99716) (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	False	100.00	< 0	N/A
5	JV23	L4	True	250.00	194.781009	77.9
6	JV24	L5	True	500.00	433.071135	86.6
7	JV25	L6	True	1000.00	1189.251879	118.9
8	JV26	L7	True	2500.00	2999.672319	120.0
9	JV27	L8	True	10000.00	9879.034085	98.8
10	JV28	L9	True	20000.00	19554.189574	97.8



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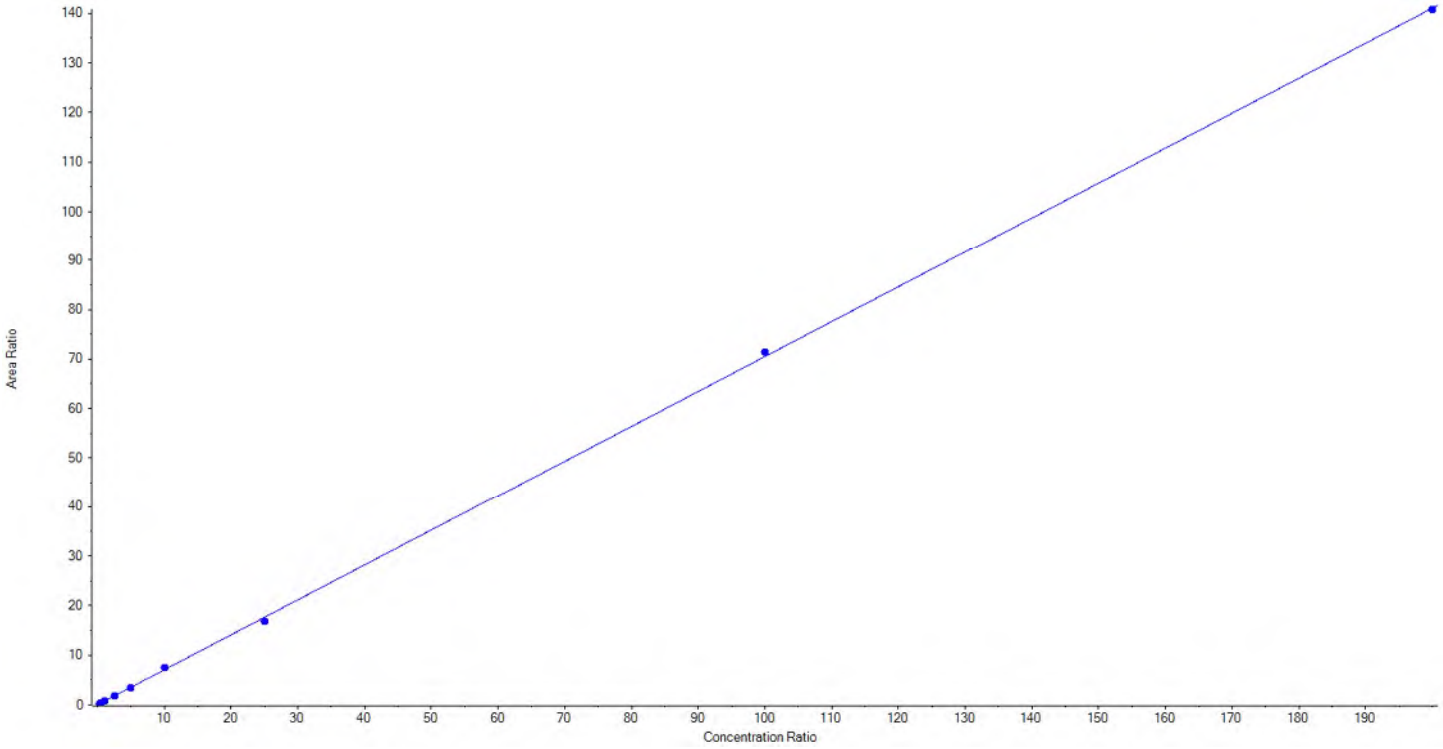
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	513.0 / 469.0	**Result Table**	18-0339_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.70485 x + 0.02327 (r = 0.99974) (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	25.501914	102.0
3	JV21	L2	True	50.00	40.303559	80.6
4	JV22	L3	True	100.00	119.591096	119.6
5	JV23	L4	True	250.00	252.044810	100.8
6	JV24	L5	True	500.00	477.632889	95.5
7	JV25	L6	True	1000.00	1054.342396	105.4
8	JV26	L7	True	2500.00	2375.918116	95.0
9	JV27	L8	True	10000.00	10116.067210	101.2
10	JV28	L9	True	20000.00	19963.598009	99.8



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Calibration Summary Report

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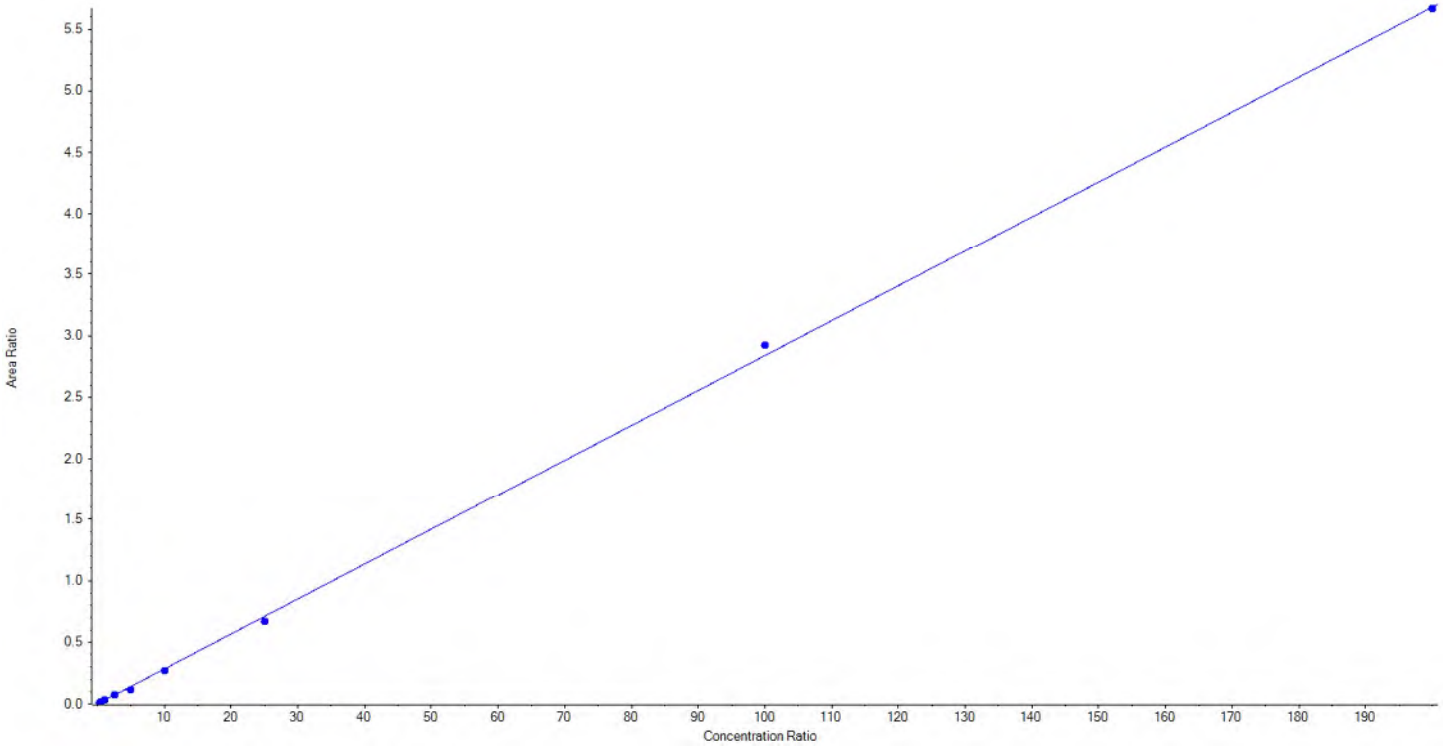
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	513.0 / 219.0	**Result Table**	18-0339_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.02839 x + -3.49067e-4 (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	23.488717	94.0
3	JV21	L2	True	50.00	52.820381	105.6
4	JV22	L3	True	100.00	125.705251	125.7
5	JV23	L4	True	250.00	250.819411	100.3
6	JV24	L5	True	500.00	414.961695	83.0
7	JV25	L6	True	1000.00	946.262950	94.6
8	JV26	L7	True	2500.00	2348.352046	93.9
9	JV27	L8	True	10000.00	10301.138212	103.0
10	JV28	L9	True	20000.00	19961.451337	99.8



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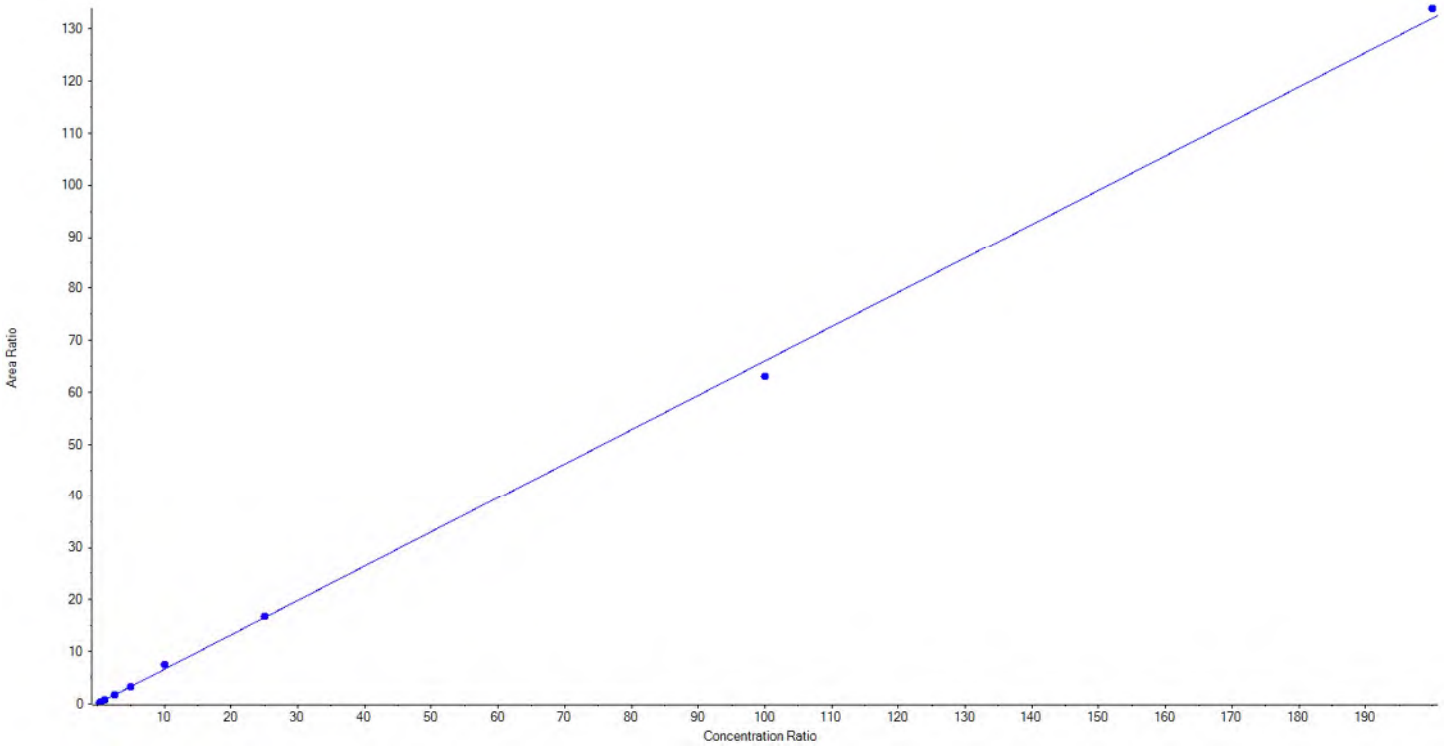
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFUnA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0339_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66031 x + 0.03289 (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	25.00	23.221298	92.9
3	JV21	L2	True	50.00	45.183090	90.4
4	JV22	L3	True	100.00	102.331398	102.3
5	JV23	L4	True	250.00	263.713408	105.5
6	JV24	L5	True	500.00	492.006275	98.4
7	JV25	L6	True	1000.00	1120.974364	112.1
8	JV26	L7	True	2500.00	2535.251355	101.4
9	JV27	L8	True	10000.00	9562.305139	95.6
10	JV28	L9	True	20000.00	20280.013673	101.4



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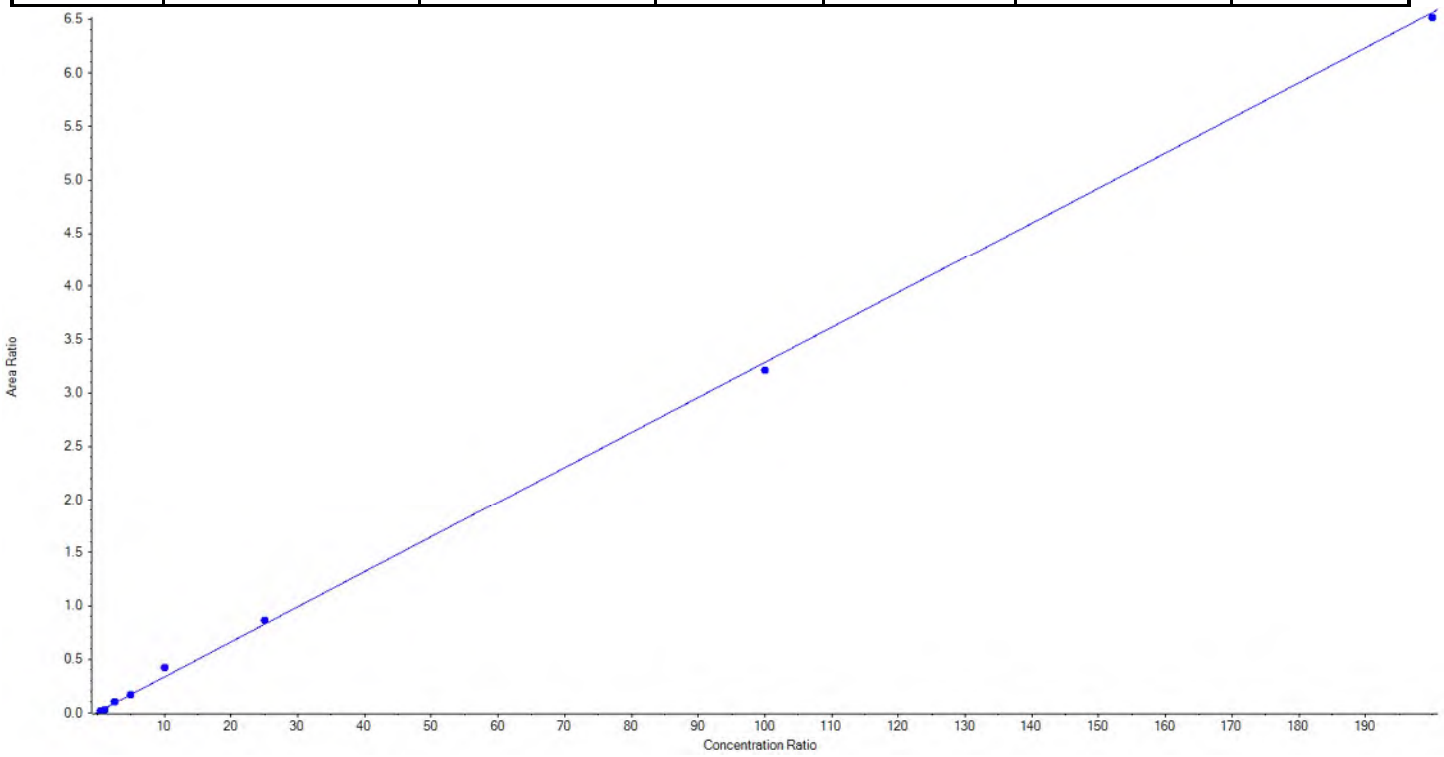
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFUnA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0339_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03278 x + 0.00712 (r = 0.99865) (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	True	50.00	43.822598	87.7
4	JV22	L3	True	100.00	75.383291	75.4
5	JV23	L4	True	250.00	281.766498	112.7
6	JV24	L5	True	500.00	483.835699	96.8
7	JV25	L6	True	1000.00	1257.023332	125.7
8	JV26	L7	True	2500.00	2616.773431	104.7
9	JV27	L8	True	10000.00	9783.505767	97.8
10	JV28	L9	True	20000.00	19857.889385	99.3



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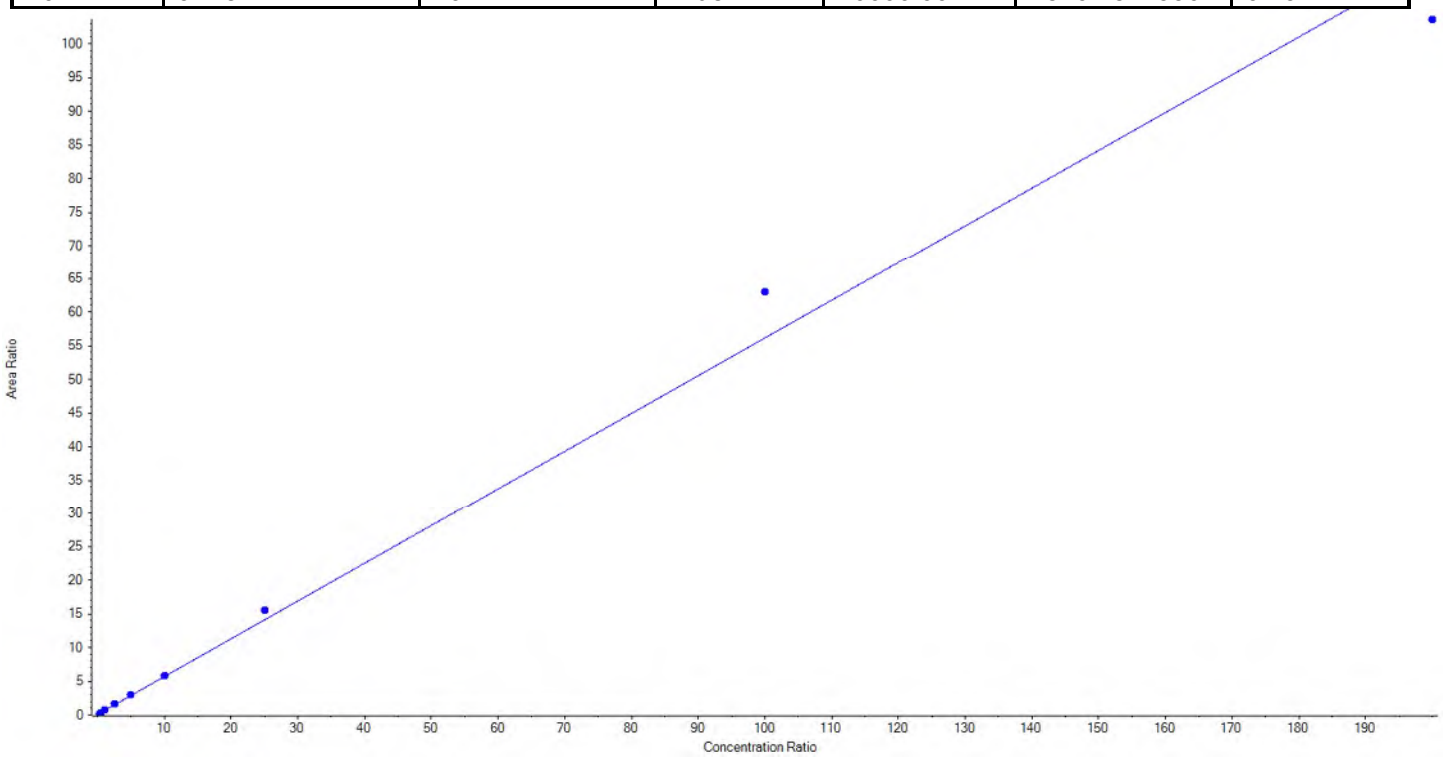
Calibration Summary Report

Analyte Name	PFDoA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	613.0 / 569.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.56076 x + 0.07008 (r = 0.99552) (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	17.891807	71.6
3	JV21	L2	True	50.00	43.116970	86.2
4	JV22	L3	True	100.00	107.903751	107.9
5	JV23	L4	True	250.00	285.062622	114.0
6	JV24	L5	True	500.00	515.694938	103.1
7	JV25	L6	True	1000.00	1025.203769	102.5
8	JV26	L7	True	2500.00	2753.949739	110.2
9	JV27	L8	True	10000.00	11214.359048	112.1
10	JV28	L9	True	20000.00	18461.817356	92.3



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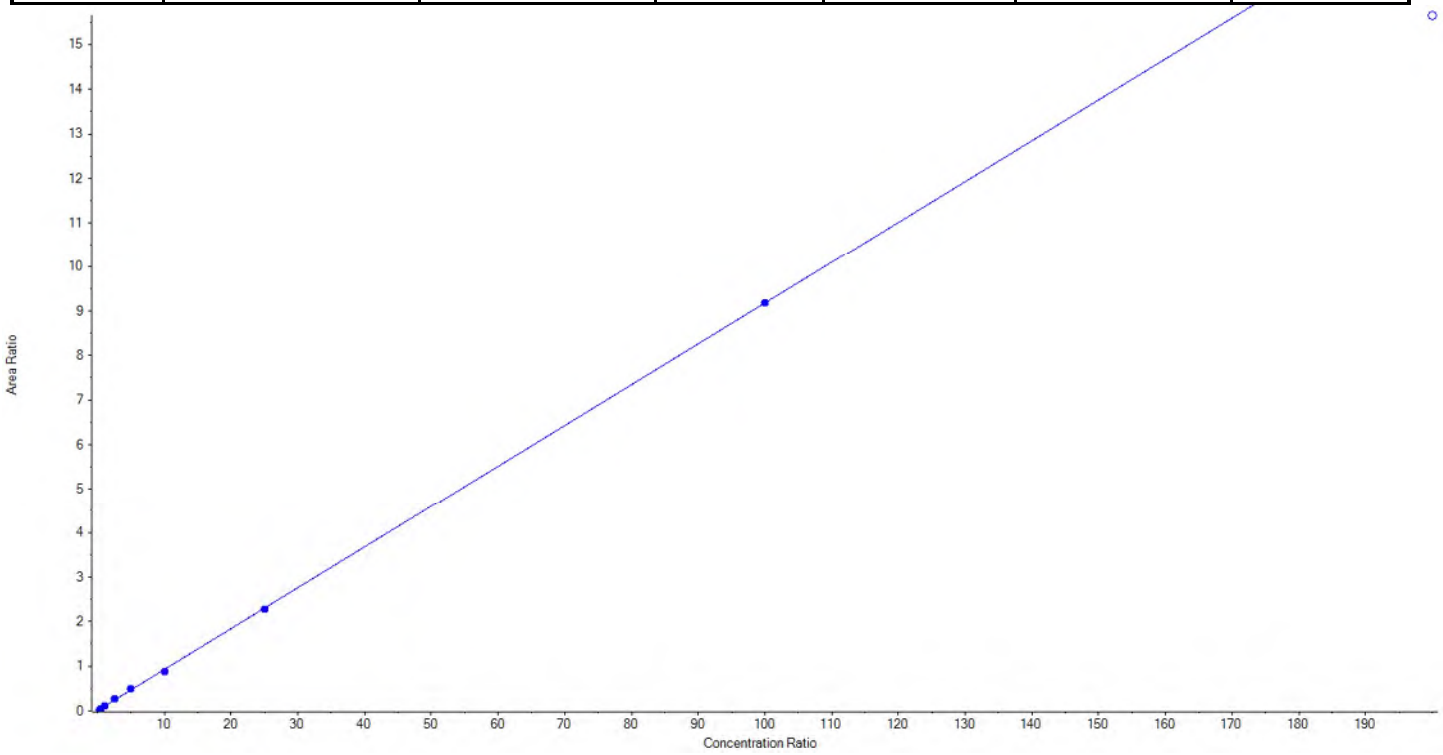
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDoA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	613.0 / 319.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.09167 x + 0.01094 (r = 0.99959) (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	20.177506	80.7
3	JV21	L2	True	50.00	47.700453	95.4
4	JV22	L3	True	100.00	112.741892	112.7
5	JV23	L4	True	250.00	273.808637	109.5
6	JV24	L5	True	500.00	539.086551	107.8
7	JV25	L6	True	1000.00	945.776999	94.6
8	JV26	L7	True	2500.00	2479.054484	99.2
9	JV27	L8	True	10000.00	10006.653479	100.1
10	JV28	L9	False	20000.00	17061.632418	85.3



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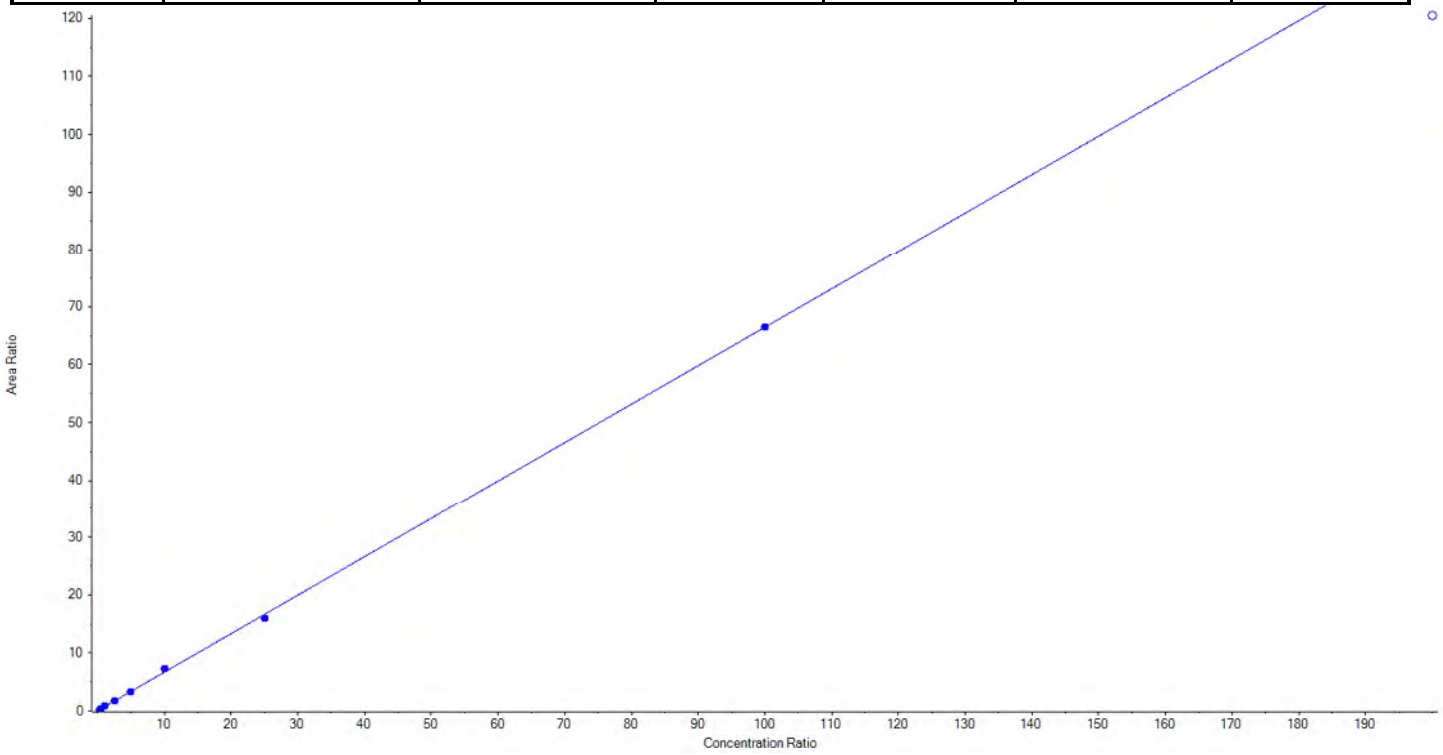
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTrDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66424 x + 0.04256 (r = 0.99943) (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	19.723843	78.9
3	JV21	L2	True	50.00	48.662584	97.3
4	JV22	L3	True	100.00	115.946966	116.0
5	JV23	L4	True	250.00	265.101241	106.0
6	JV24	L5	True	500.00	489.468121	97.9
7	JV25	L6	True	1000.00	1079.494596	108.0
8	JV26	L7	True	2500.00	2396.096264	95.8
9	JV27	L8	True	10000.00	10010.506386	100.1
10	JV28	L9	False	20000.00	18133.416742	90.7



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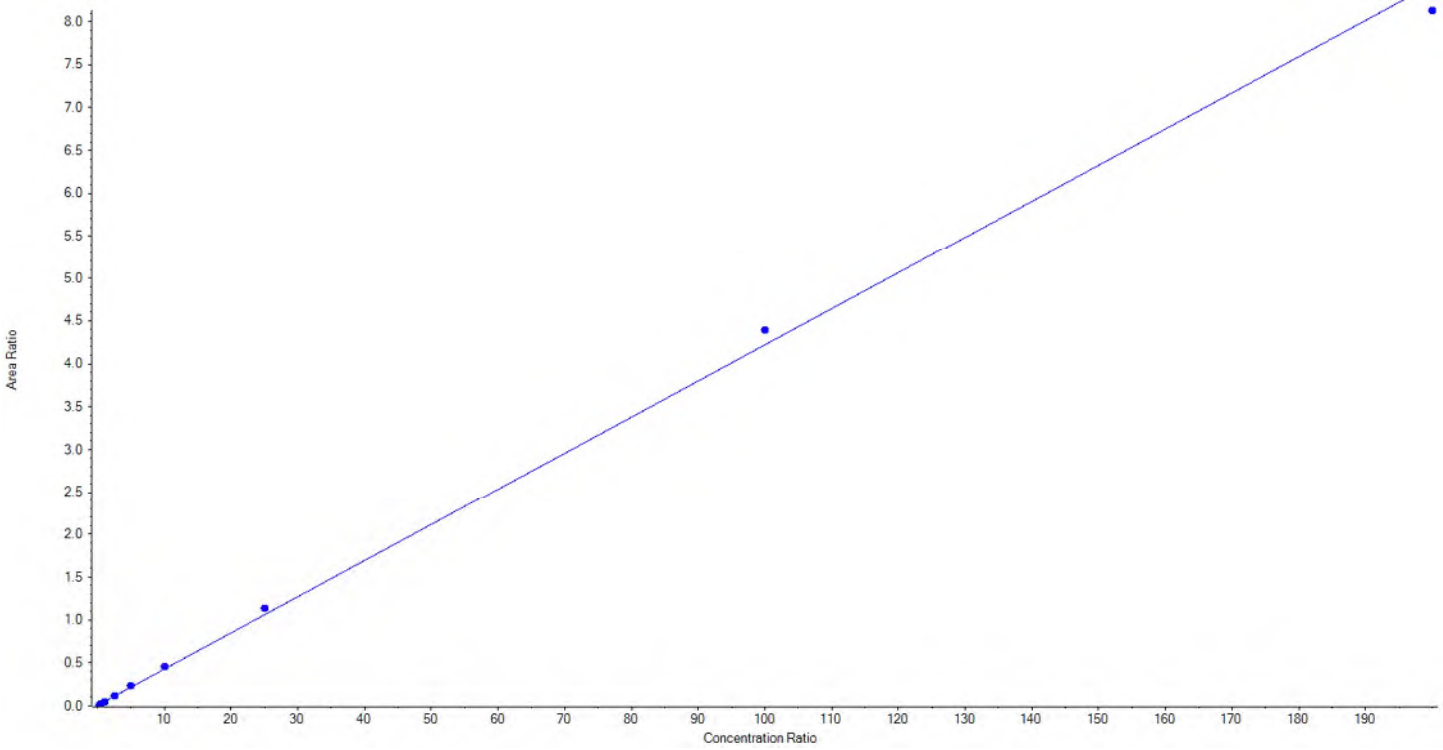
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTrDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04214 x + 0.00690 (r = 0.99896) (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	19.681946	78.7
3	JV21	L2	True	50.00	46.405536	92.8
4	JV22	L3	True	100.00	96.717403	96.7
5	JV23	L4	True	250.00	268.609217	107.4
6	JV24	L5	True	500.00	544.946551	109.0
7	JV25	L6	True	1000.00	1076.216325	107.6
8	JV26	L7	True	2500.00	2677.820269	107.1
9	JV27	L8	True	10000.00	10420.657495	104.2
10	JV28	L9	True	20000.00	19273.945258	96.4



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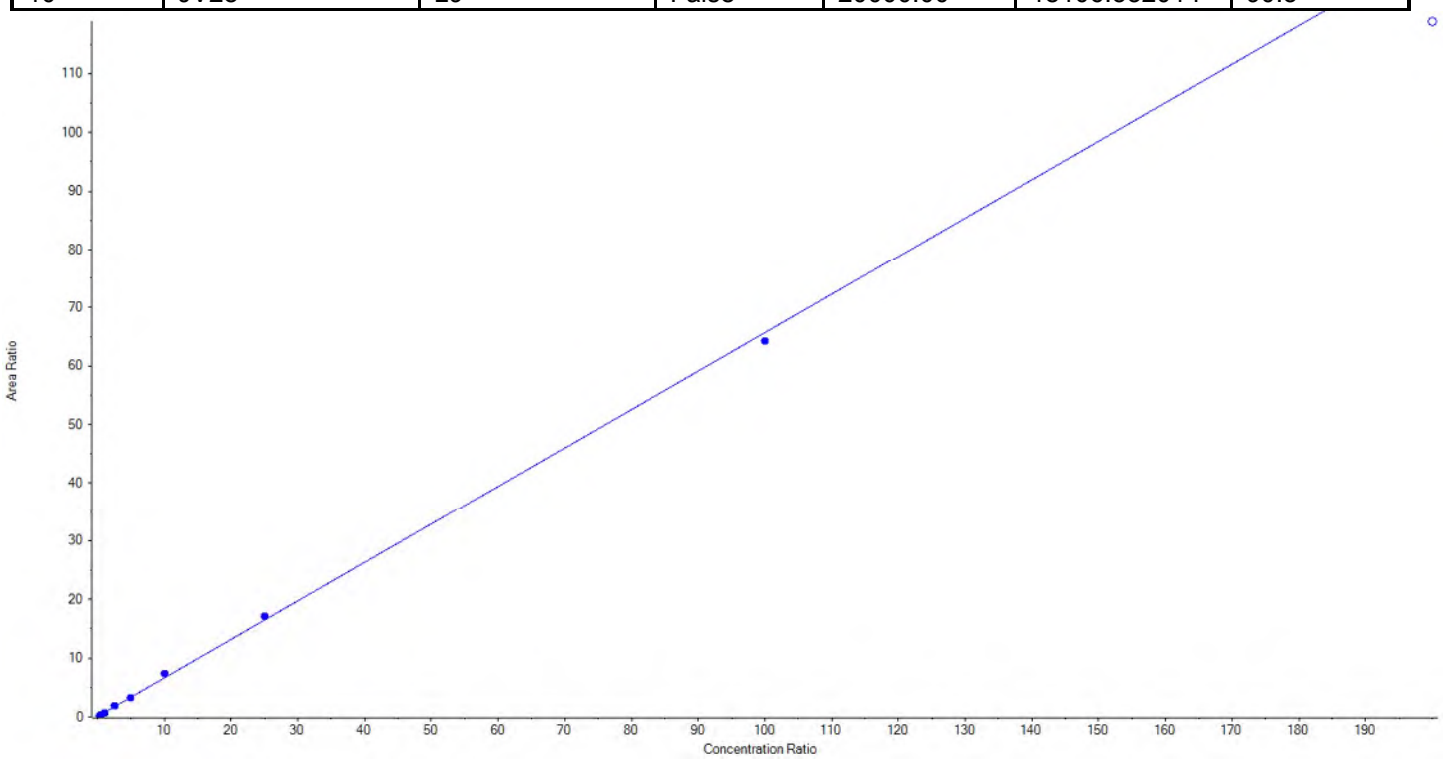
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTeDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	713.0 / 669.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.65613 x + 0.06973 (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	19.622556	78.5
3	JV21	L2	True	50.00	48.244570	96.5
4	JV22	L3	True	100.00	105.794931	105.8
5	JV23	L4	True	250.00	268.824568	107.5
6	JV24	L5	True	500.00	497.478390	99.5
7	JV25	L6	True	1000.00	1107.322458	110.7
8	JV26	L7	True	2500.00	2589.694266	103.6
9	JV27	L8	True	10000.00	9788.018260	97.9
10	JV28	L9	False	20000.00	18106.532014	90.5



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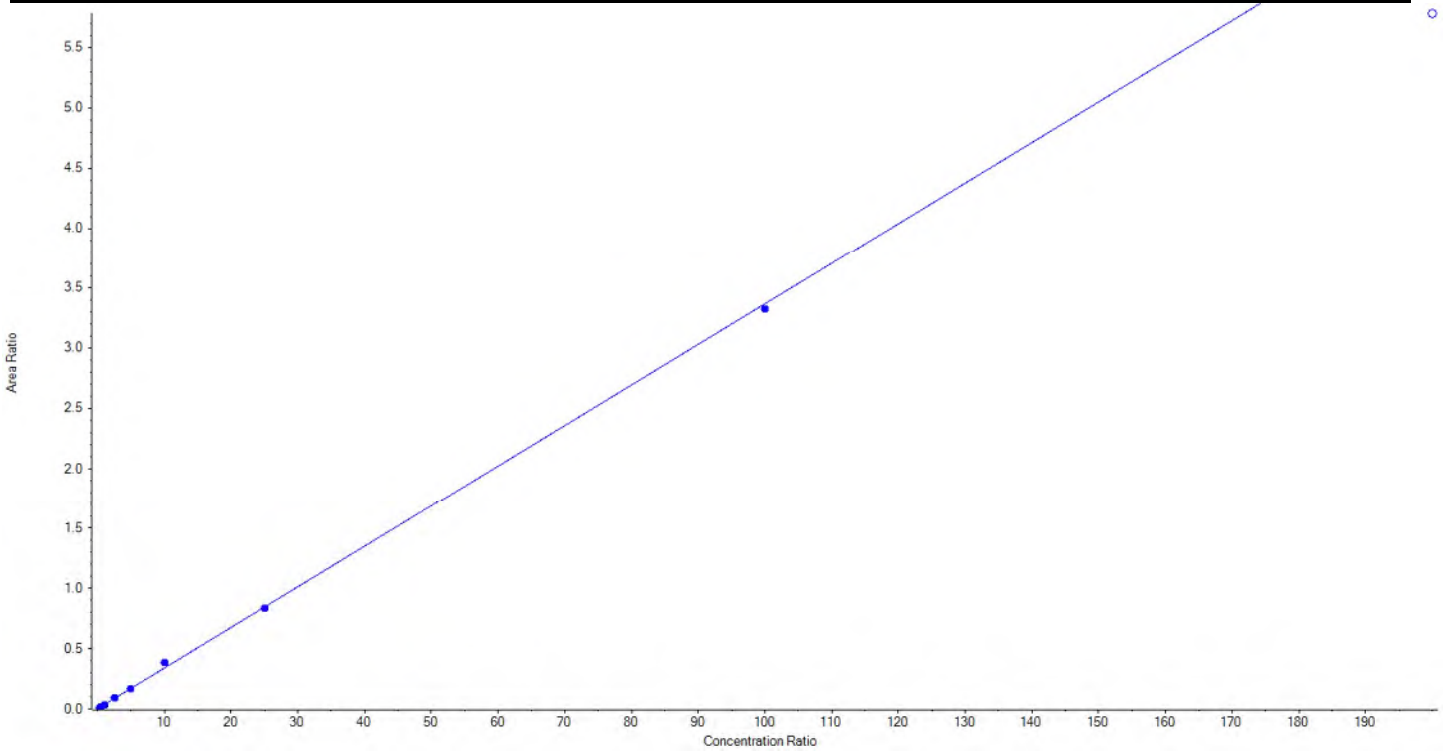
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTeDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	713.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03365 x + 0.00147 (r = 0.99917) (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	18.113567	72.5
3	JV21	L2	True	50.00	56.211417	112.4
4	JV22	L3	True	100.00	98.635374	98.6
5	JV23	L4	True	250.00	264.144348	105.7
6	JV24	L5	True	500.00	498.661194	99.7
7	JV25	L6	True	1000.00	1132.146052	113.2
8	JV26	L7	True	2500.00	2477.068716	99.1
9	JV27	L8	True	10000.00	9880.019332	98.8
10	JV28	L9	False	20000.00	17173.824448	85.9



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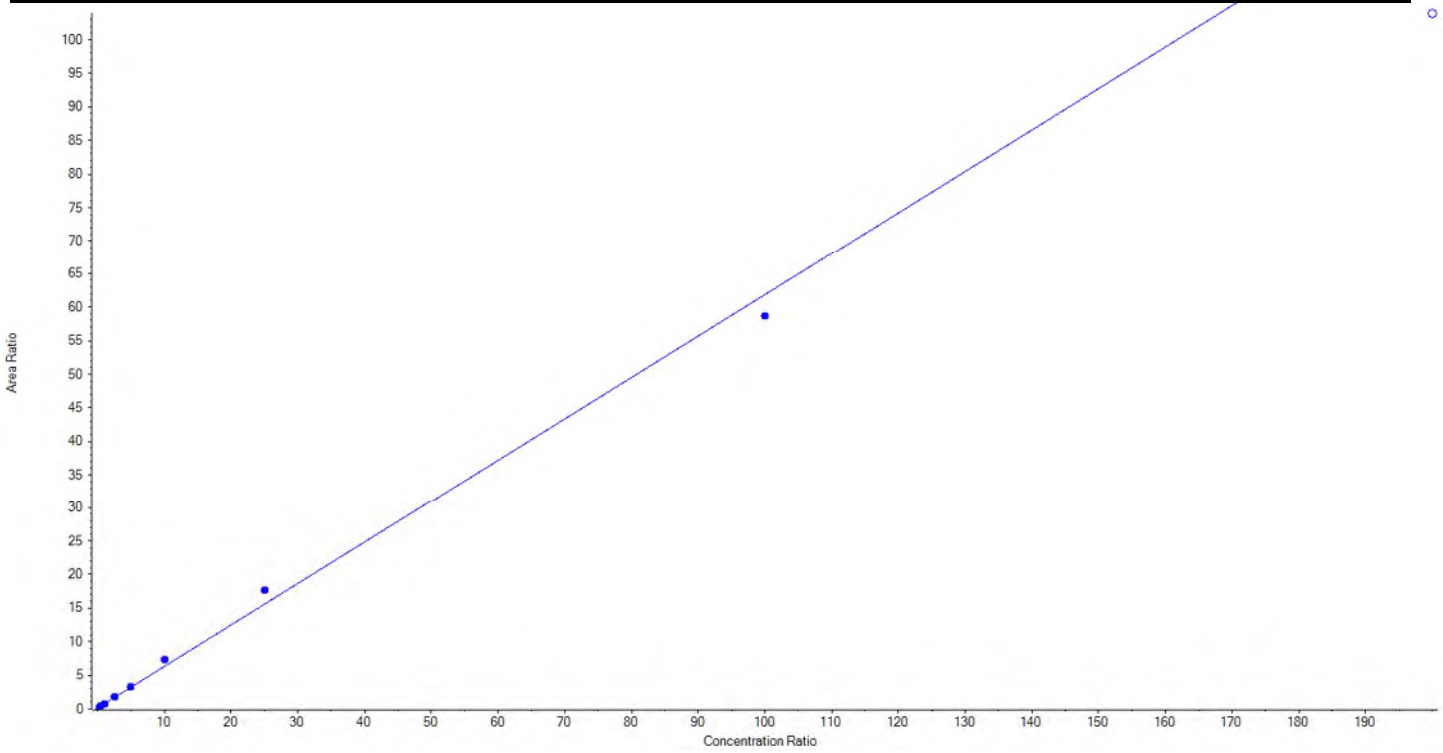
Calibration Summary Report

Analyte Name	NMeFOSAA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	570.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.61718 x + 0.14438 (r = 0.99615) (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	18.857493	75.4
3	JV21	L2	True	50.00	41.403253	82.8
4	JV22	L3	True	100.00	107.734733	107.7
5	JV23	L4	True	250.00	273.400562	109.4
6	JV24	L5	True	500.00	501.530763	100.3
7	JV25	L6	True	1000.00	1157.584702	115.8
8	JV26	L7	True	2500.00	2845.301925	113.8
9	JV27	L8	True	10000.00	9479.186569	94.8
10	JV28	L9	False	20000.00	16807.361536	84.0



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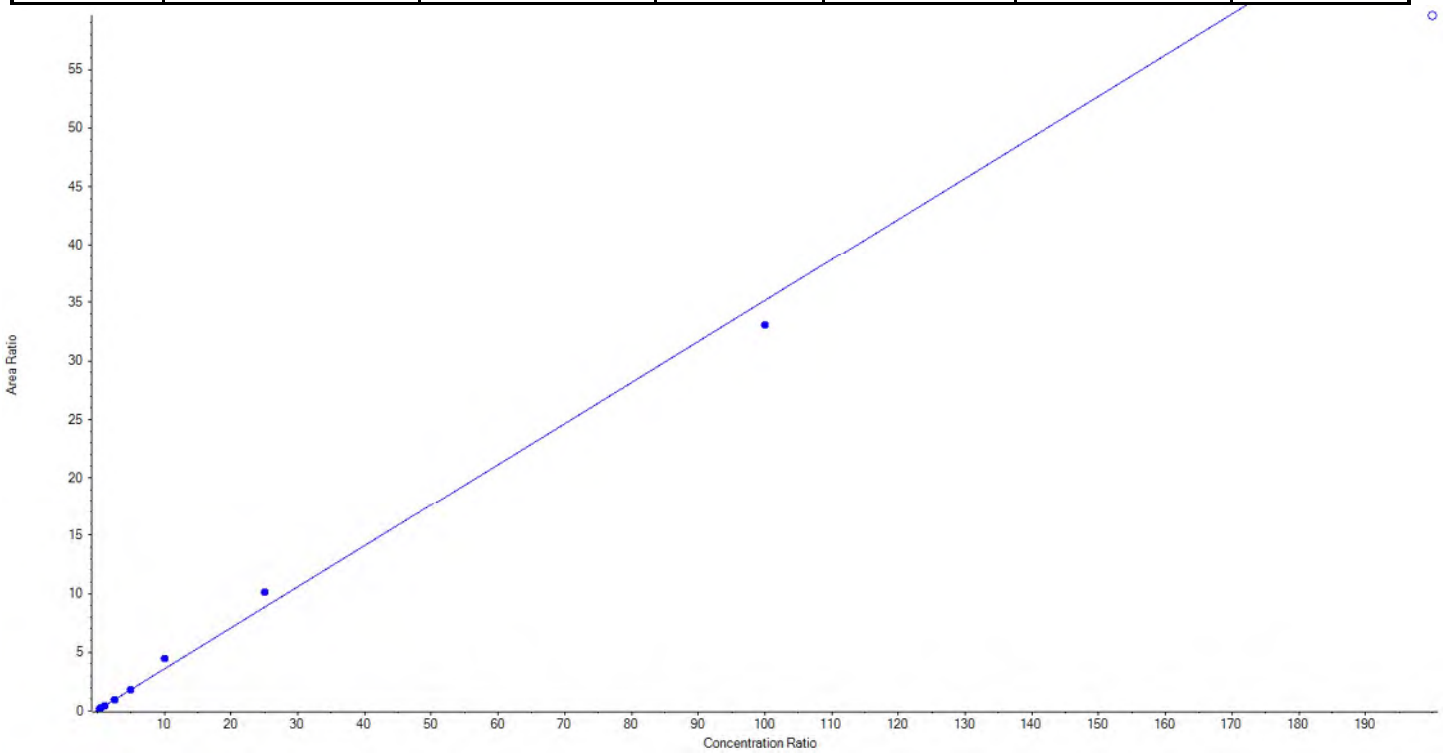
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	NMeFOSAA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	570.0 / 512.0	**Result Table**	18-0339_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.35099 x + 0.07007 (r = 0.99439) (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	17.523854	70.1
3	JV21	L2	True	50.00	46.249712	92.5
4	JV22	L3	True	100.00	106.998398	107.0
5	JV23	L4	True	250.00	244.521936	97.8
6	JV24	L5	True	500.00	495.970787	99.2
7	JV25	L6	True	1000.00	1247.856696	124.8
8	JV26	L7	True	2500.00	2865.312512	114.6
9	JV27	L8	True	10000.00	9400.566106	94.0
10	JV28	L9	False	20000.00	16961.628975	84.8



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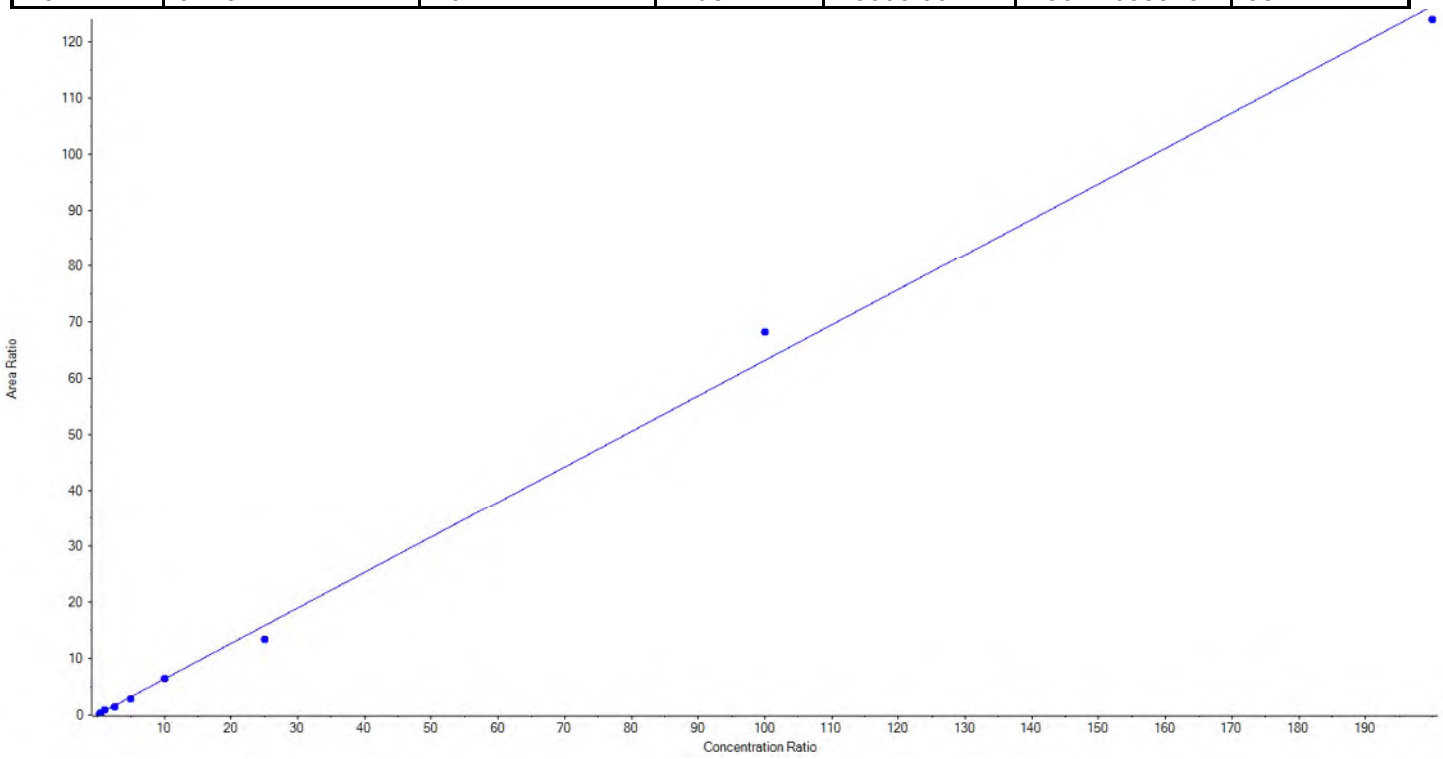
Calibration Summary Report

Analyte Name	NEtFOSAA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	584.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.63180 x + 0.04717 (r = 0.99788) (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	23.829354	95.3
3	JV21	L2	True	50.00	51.985355	104.0
4	JV22	L3	True	100.00	126.998080	127.0
5	JV23	L4	True	250.00	225.203356	90.1
6	JV24	L5	True	500.00	455.422438	91.1
7	JV25	L6	True	1000.00	1019.443509	101.9
8	JV26	L7	True	2500.00	2116.363764	84.7
9	JV27	L8	True	10000.00	10784.058199	107.8
10	JV28	L9	True	20000.00	19621.695945	98.1



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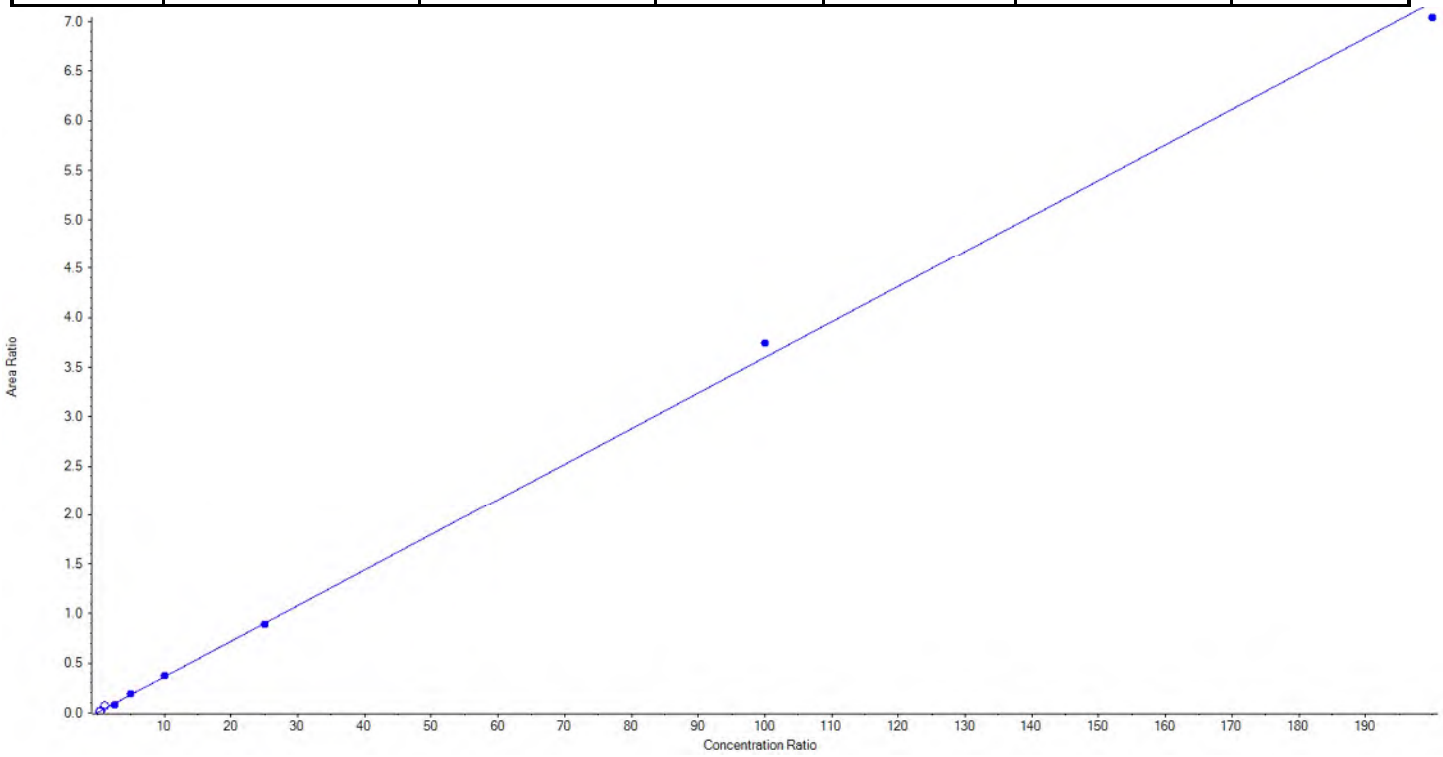
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	NEtFOSAA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	584.0 / 483.0	**Result Table**	18-0339_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03596 x + 0.00328 (r = 0.99943) (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	16.243728	65.0
3	JV21	L2	False	50.00	49.048899	98.1
4	JV22	L3	False	100.00	198.946648	199.0
5	JV23	L4	True	250.00	220.143007	88.1
6	JV24	L5	True	500.00	540.480909	108.1
7	JV25	L6	True	1000.00	1025.969724	102.6
8	JV26	L7	True	2500.00	2482.358971	99.3
9	JV27	L8	True	10000.00	10410.009450	104.1
10	JV28	L9	True	20000.00	19571.037939	97.9



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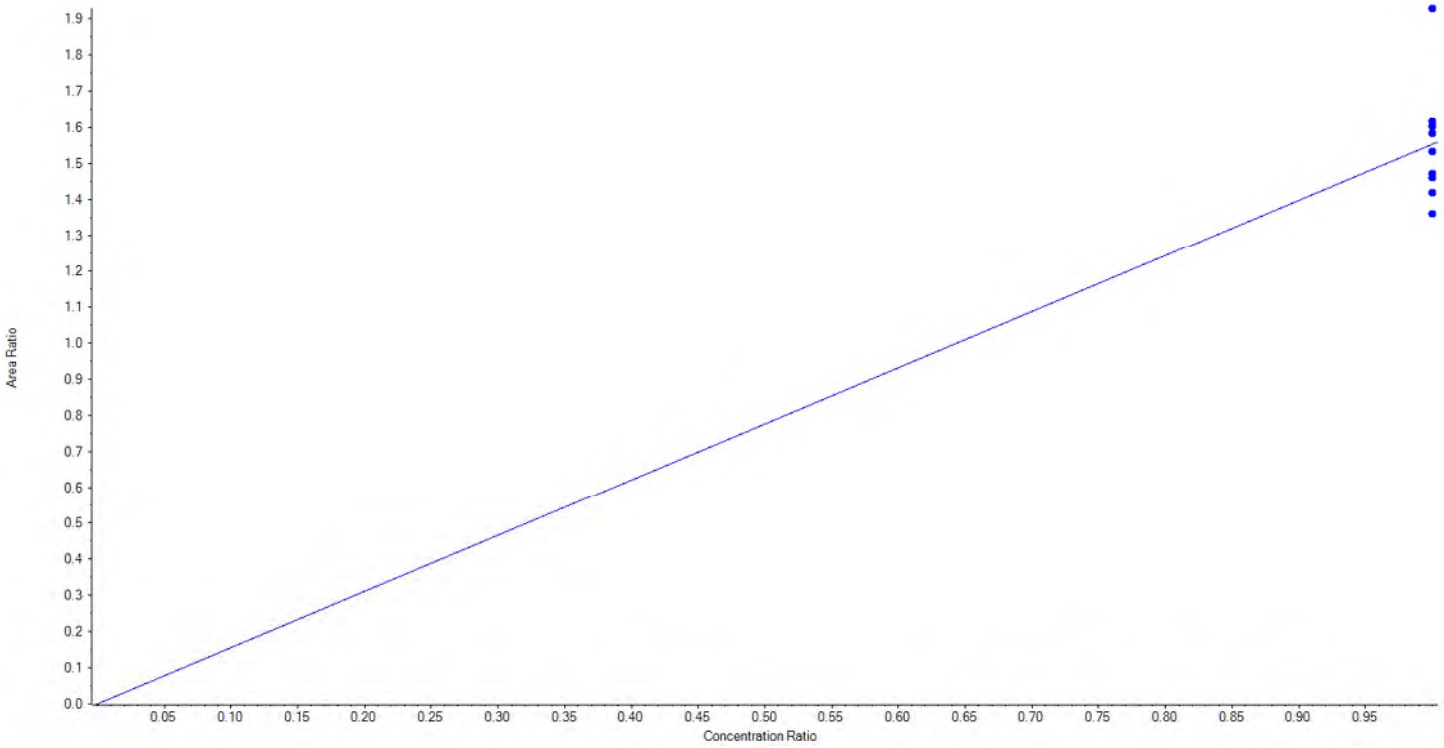
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C2-PFDoA	**Data File**	18-0334_18-0339.wiff
MRM Transition	615.0 / 570.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.55435 x (std. dev. = 0.16530) (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	124.098495	124.1
3	JV21	L2	True	100.00	94.825545	94.8
4	JV22	L3	True	100.00	104.158026	104.2
5	JV23	L4	True	100.00	91.327194	91.3
6	JV24	L5	True	100.00	94.063097	94.1
7	JV25	L6	True	100.00	103.258698	103.3
8	JV26	L7	True	100.00	101.919222	101.9
9	JV27	L8	True	100.00	87.606790	87.6
10	JV28	L9	True	100.00	98.742934	98.7



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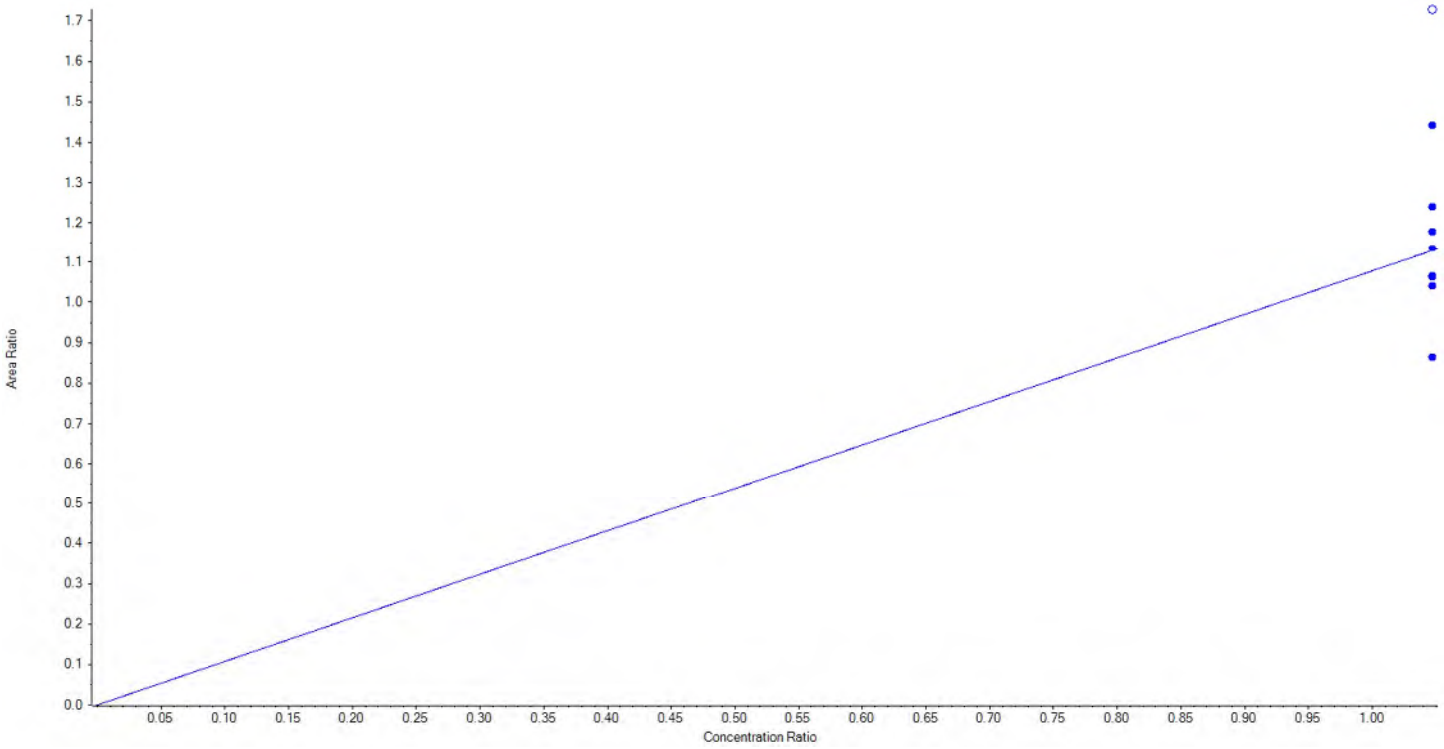
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	d3-MeFOSAA	**Data File**	18-0334_18-0339.wiff
MRM Transition	573.0 / 419.0	**Result Table**	18-0339_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.07812 x (std. dev. = 0.16154) (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	104.311358	104.3
3	JV21	L2	True	100.00	100.655926	100.7
4	JV22	L3	True	100.00	76.481236	76.5
5	JV23	L4	True	100.00	94.381327	94.4
6	JV24	L5	True	100.00	109.945365	110.0
7	JV25	L6	True	100.00	94.237946	94.2
8	JV26	L7	True	100.00	92.160096	92.2
9	JV27	L8	True	100.00	127.826747	127.8
10	JV28	L9	False	100.00	153.106254	153.1



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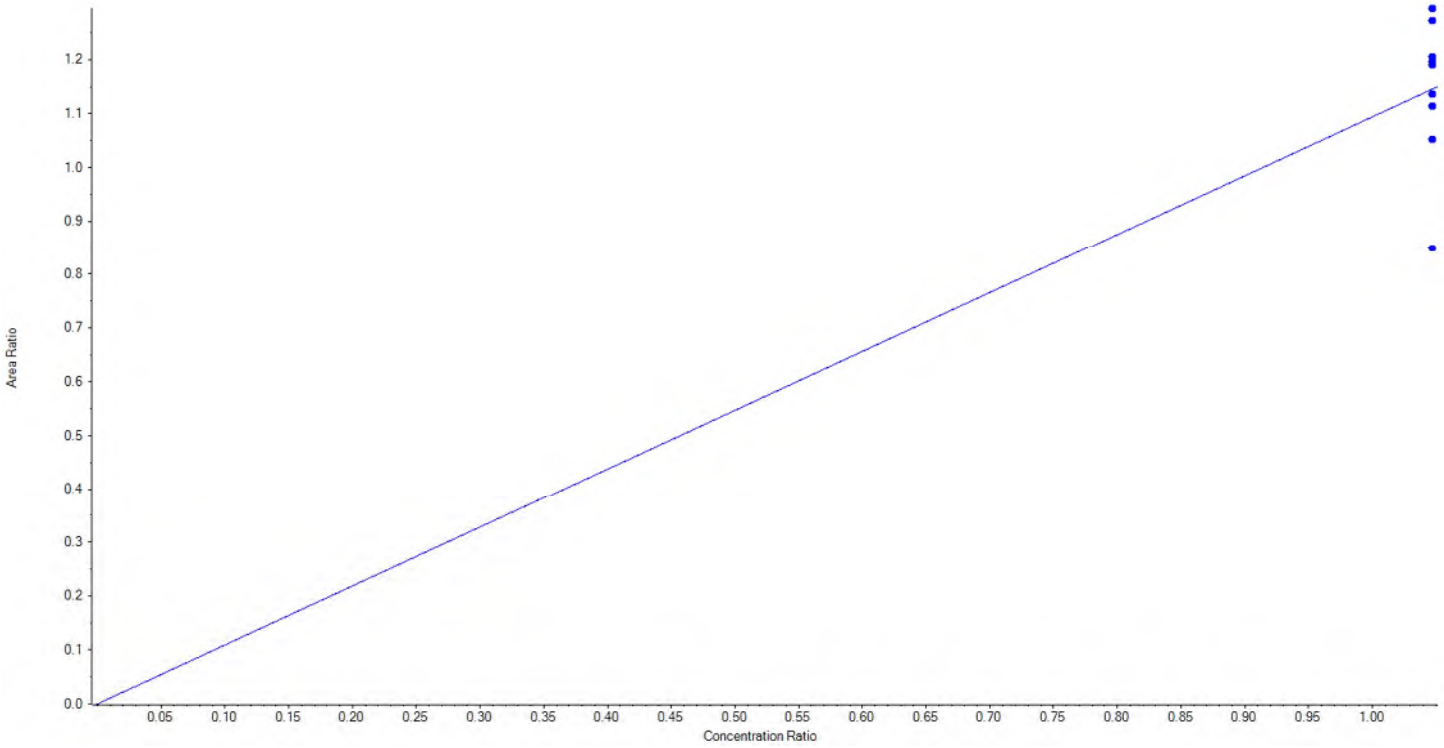
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	d5-EtFOSAA	**Data File**	18-0334_18-0339.wiff
MRM Transition	589.0 / 419.0	**Result Table**	18-0339_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.09381 x (std. dev. = 0.12841) (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	113.036460	113.0
3	JV21	L2	True	100.00	99.262385	99.3
4	JV22	L3	True	100.00	74.042566	74.0
5	JV23	L4	True	100.00	104.395906	104.4
6	JV24	L5	True	100.00	103.962415	104.0
7	JV25	L6	True	100.00	91.819917	91.8
8	JV26	L7	True	100.00	105.144788	105.1
9	JV27	L8	True	100.00	97.273702	97.3
10	JV28	L9	True	100.00	111.061862	111.1



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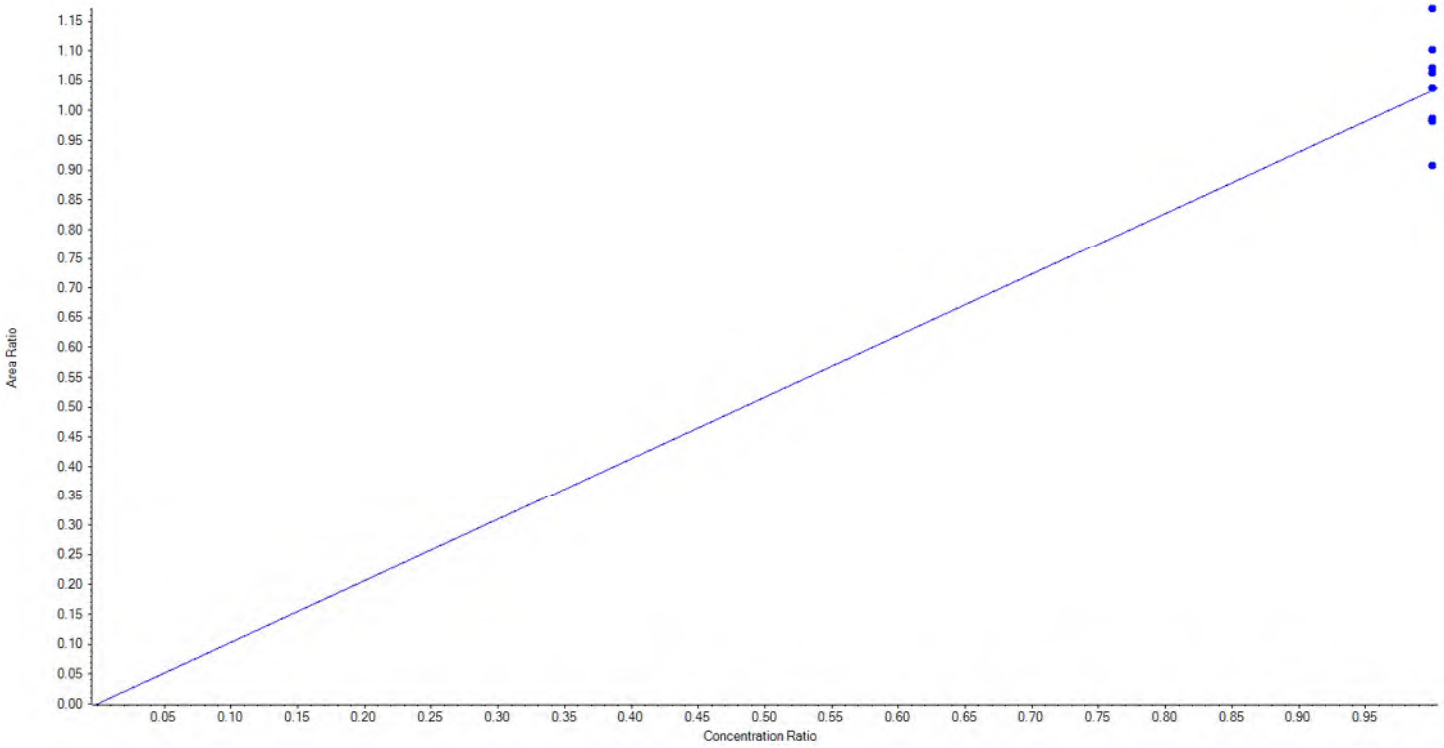
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C5-PFHxA	**Data File**	18-0334_18-0339.wiff
MRM Transition	318.0 / 273.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.03409 x (std. dev. = 0.07821) (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	113.267186	113.3
3	JV21	L2	True	100.00	102.800449	102.8
4	JV22	L3	True	100.00	95.060508	95.1
5	JV23	L4	True	100.00	95.186150	95.2
6	JV24	L5	True	100.00	106.520633	106.5
7	JV25	L6	True	100.00	100.314248	100.3
8	JV26	L7	True	100.00	103.655044	103.7
9	JV27	L8	True	100.00	95.408829	95.4
10	JV28	L9	True	100.00	87.786954	87.8



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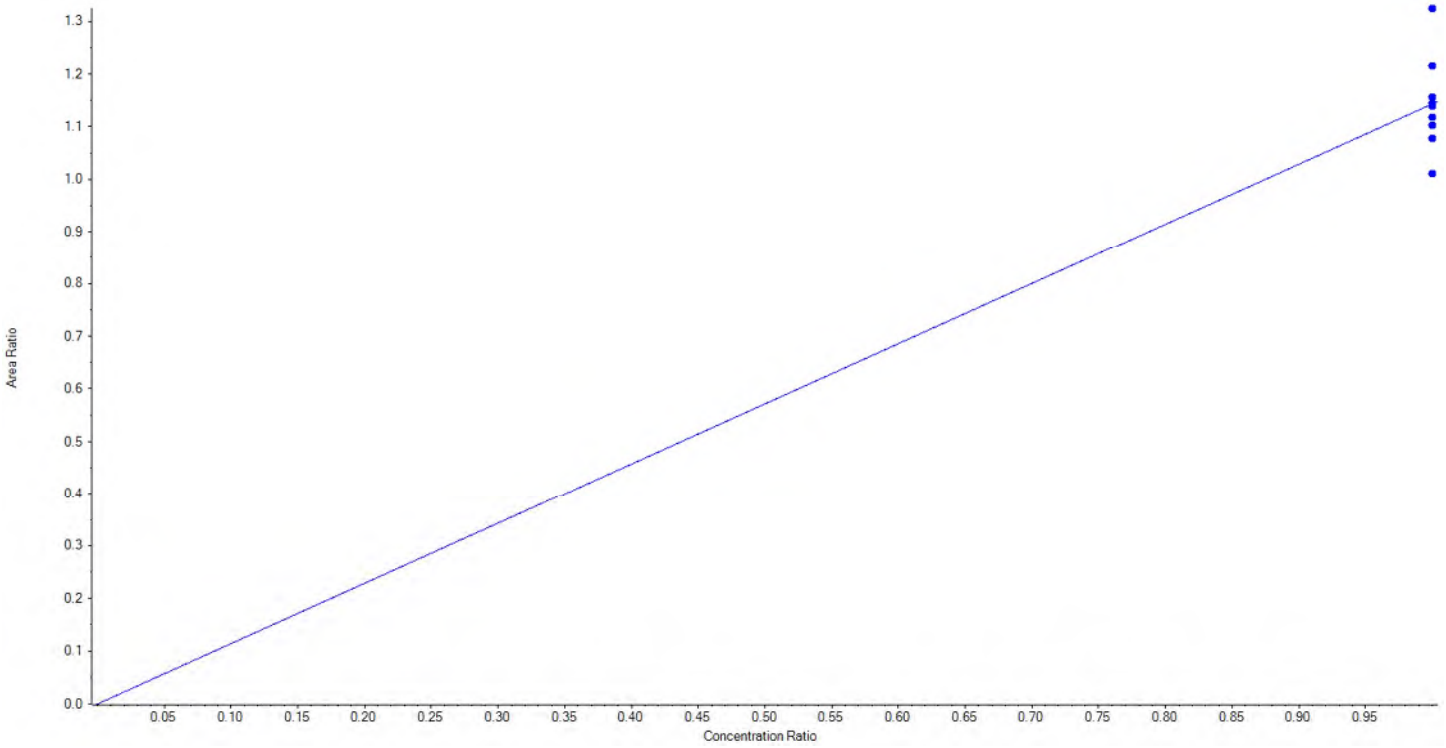
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C4-PFHpA	**Data File**	18-0334_18-0339.wiff
MRM Transition	367.0 / 322.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.14309 x (std. dev. = 0.08787) (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	115.819878	115.8
3	JV21	L2	True	100.00	99.683605	99.7
4	JV22	L3	True	100.00	94.219317	94.2
5	JV23	L4	True	100.00	100.104134	100.1
6	JV24	L5	True	100.00	101.064807	101.1
7	JV25	L6	True	100.00	97.815433	97.8
8	JV26	L7	True	100.00	106.248952	106.3
9	JV27	L8	True	100.00	96.529111	96.5
10	JV28	L9	True	100.00	88.514764	88.5



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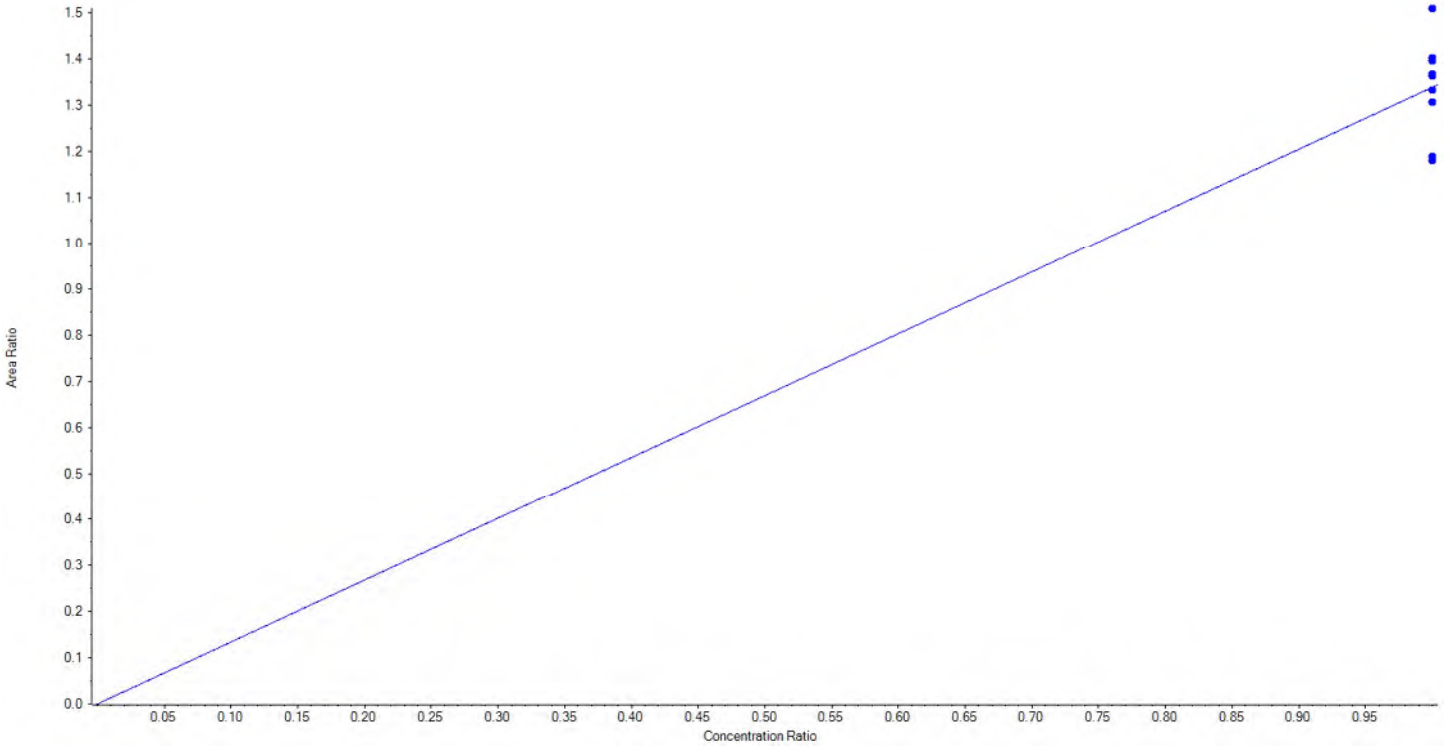
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C8-PFOA	**Data File**	18-0334_18-0339.wiff
MRM Transition	421.0 / 376.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.33861 x (std. dev. = 0.10371) (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	112.709642	112.7
3	JV21	L2	True	100.00	104.322351	104.3
4	JV22	L3	True	100.00	102.166485	102.2
5	JV23	L4	True	100.00	97.557055	97.6
6	JV24	L5	True	100.00	101.747617	101.8
7	JV25	L6	True	100.00	99.611274	99.6
8	JV26	L7	True	100.00	104.810744	104.8
9	JV27	L8	True	100.00	88.245017	88.3
10	JV28	L9	True	100.00	88.829816	88.8



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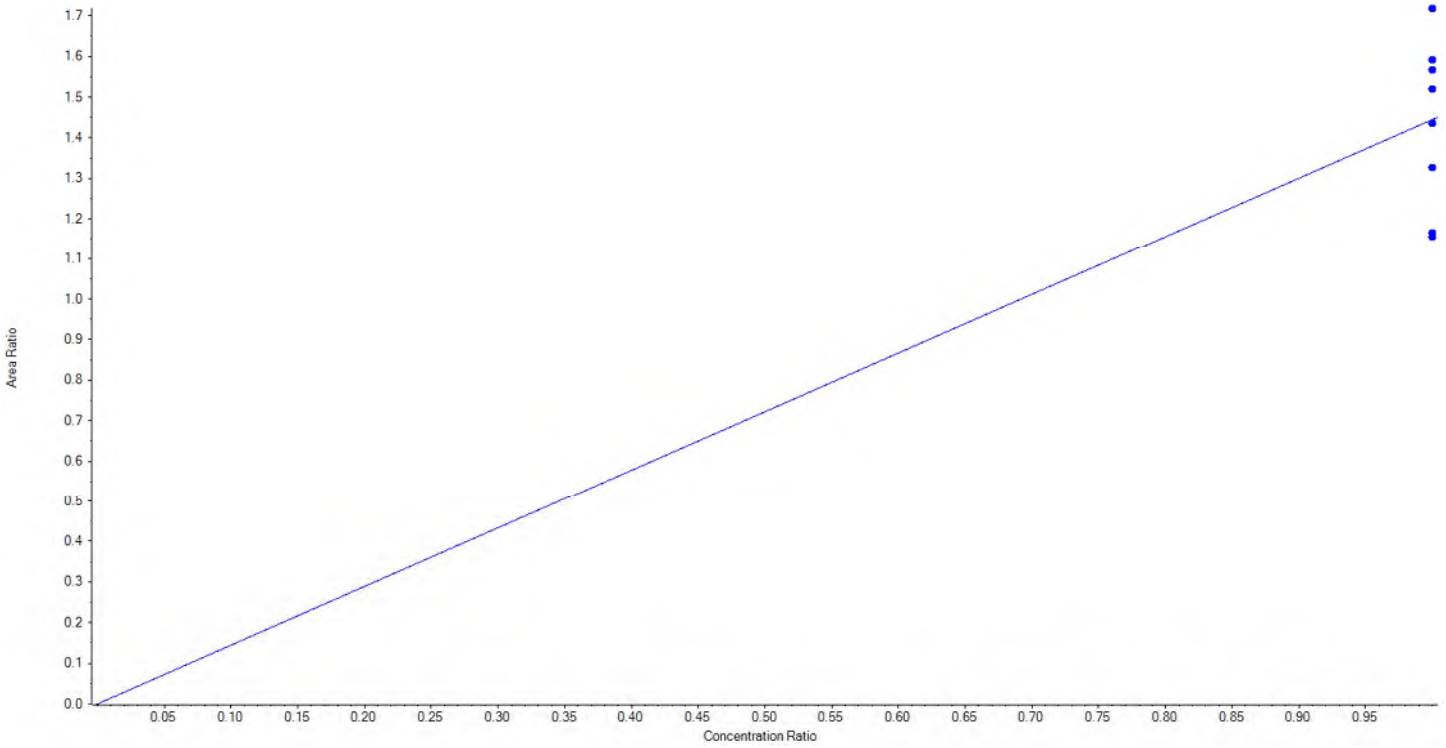
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C9-PFNA	**Data File**	18-0334_18-0339.wiff
MRM Transition	472.0 / 427.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.44485 x (std. dev. = 0.19283) (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	118.908752	118.9
3	JV21	L2	True	100.00	105.177728	105.2
4	JV22	L3	True	100.00	91.758470	91.8
5	JV23	L4	True	100.00	99.406648	99.4
6	JV24	L5	True	100.00	108.533082	108.5
7	JV25	L6	True	100.00	110.181153	110.2
8	JV26	L7	True	100.00	105.230632	105.2
9	JV27	L8	True	100.00	80.753697	80.8
10	JV28	L9	True	100.00	80.049839	80.1



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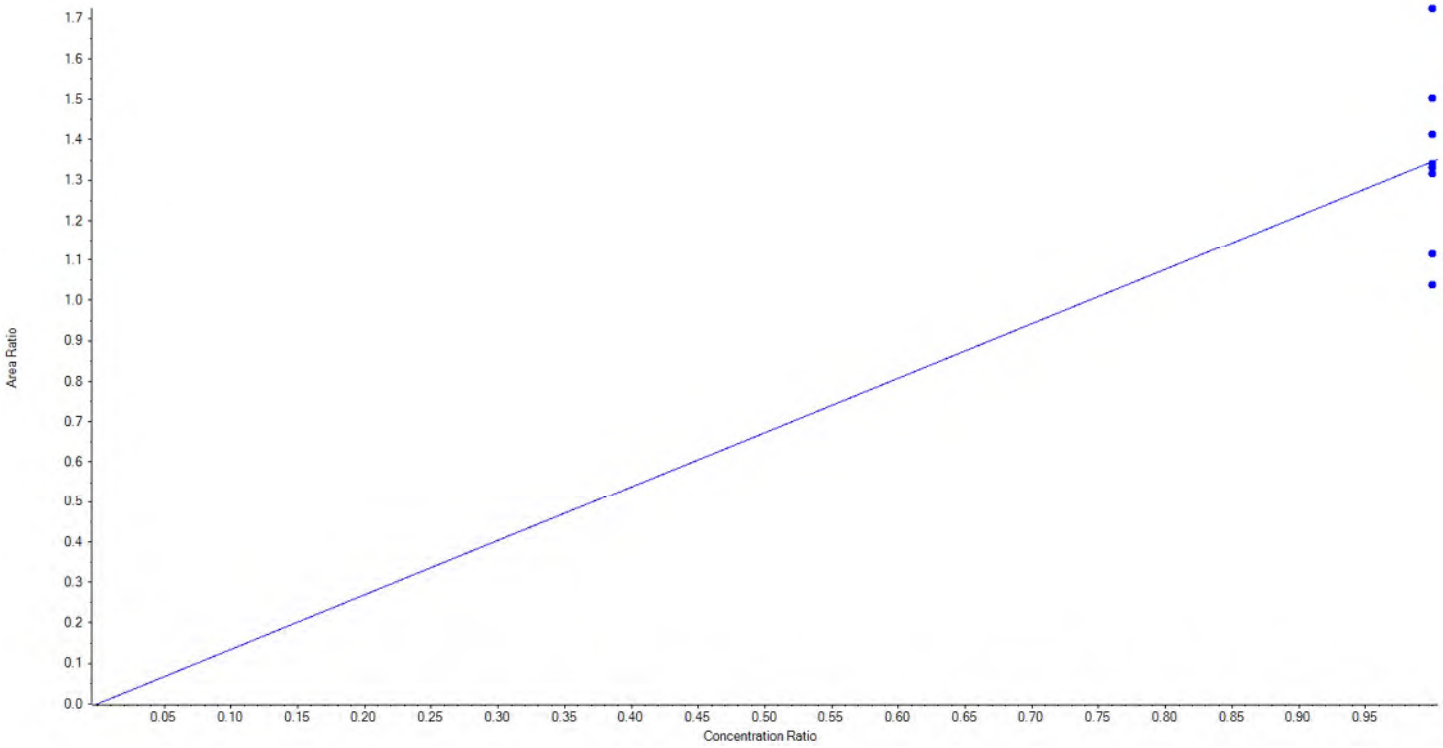
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C6-PFDA	**Data File**	18-0334_18-0339.wiff
MRM Transition	519.0 / 474.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.34623 x (std. dev. = 0.20033) (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	128.056492	128.1
3	JV21	L2	True	100.00	111.661381	111.7
4	JV22	L3	True	100.00	99.717738	99.7
5	JV23	L4	True	100.00	98.816602	98.8
6	JV24	L5	True	100.00	98.824751	98.8
7	JV25	L6	True	100.00	97.868289	97.9
8	JV26	L7	True	100.00	105.039340	105.0
9	JV27	L8	True	100.00	82.846084	82.9
10	JV28	L9	True	100.00	77.169321	77.2



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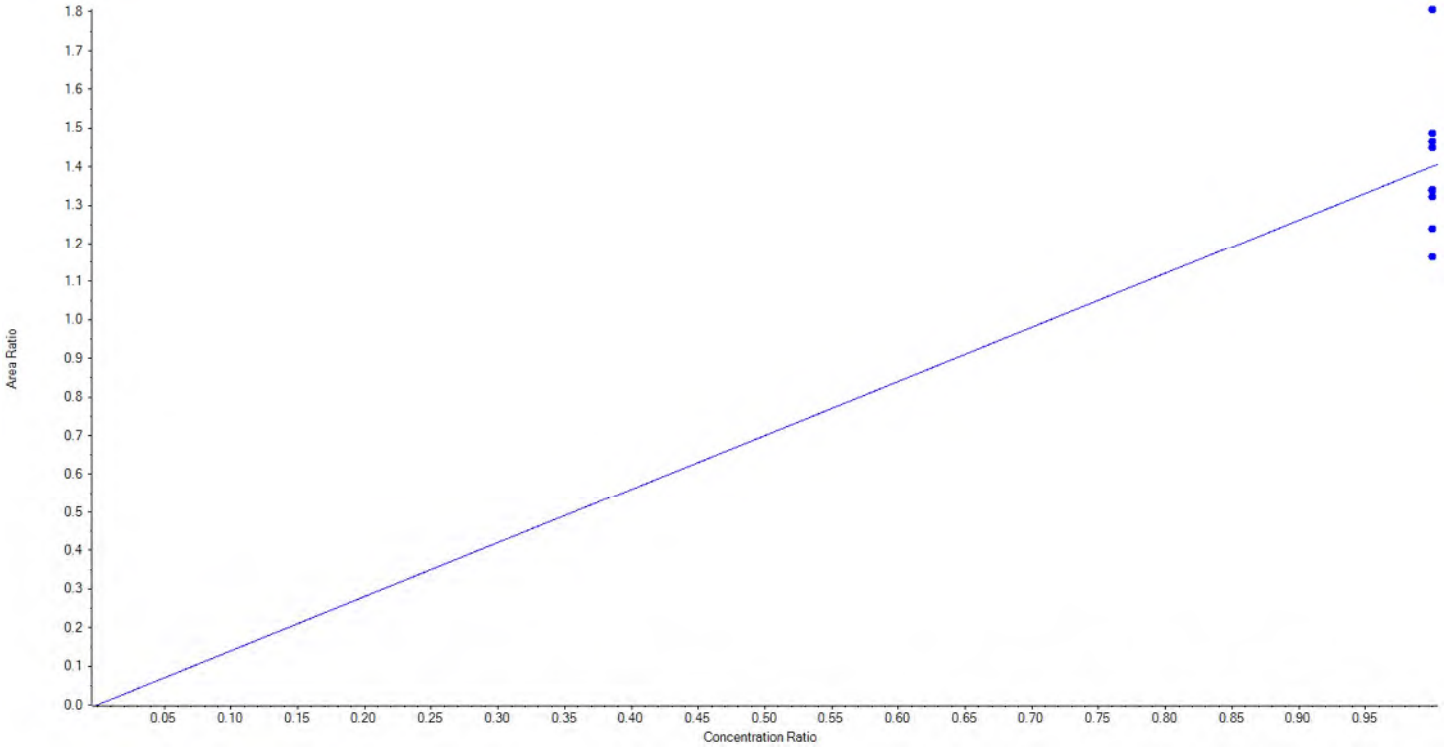
Calibration Summary Report

Analyte Name	13C7-PFUnA	**Data File**	18-0334_18-0339.wiff
MRM Transition	570.0 / 525.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.40117 x (std. dev. = 0.18548) (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	128.927786	128.9
3	JV21	L2	True	100.00	104.550791	104.6
4	JV22	L3	True	100.00	106.064565	106.1
5	JV23	L4	True	100.00	95.433998	95.4
6	JV24	L5	True	100.00	95.738769	95.7
7	JV25	L6	True	100.00	94.345227	94.4
8	JV26	L7	True	100.00	103.562694	103.6
9	JV27	L8	True	100.00	88.352499	88.4
10	JV28	L9	True	100.00	83.023670	83.0



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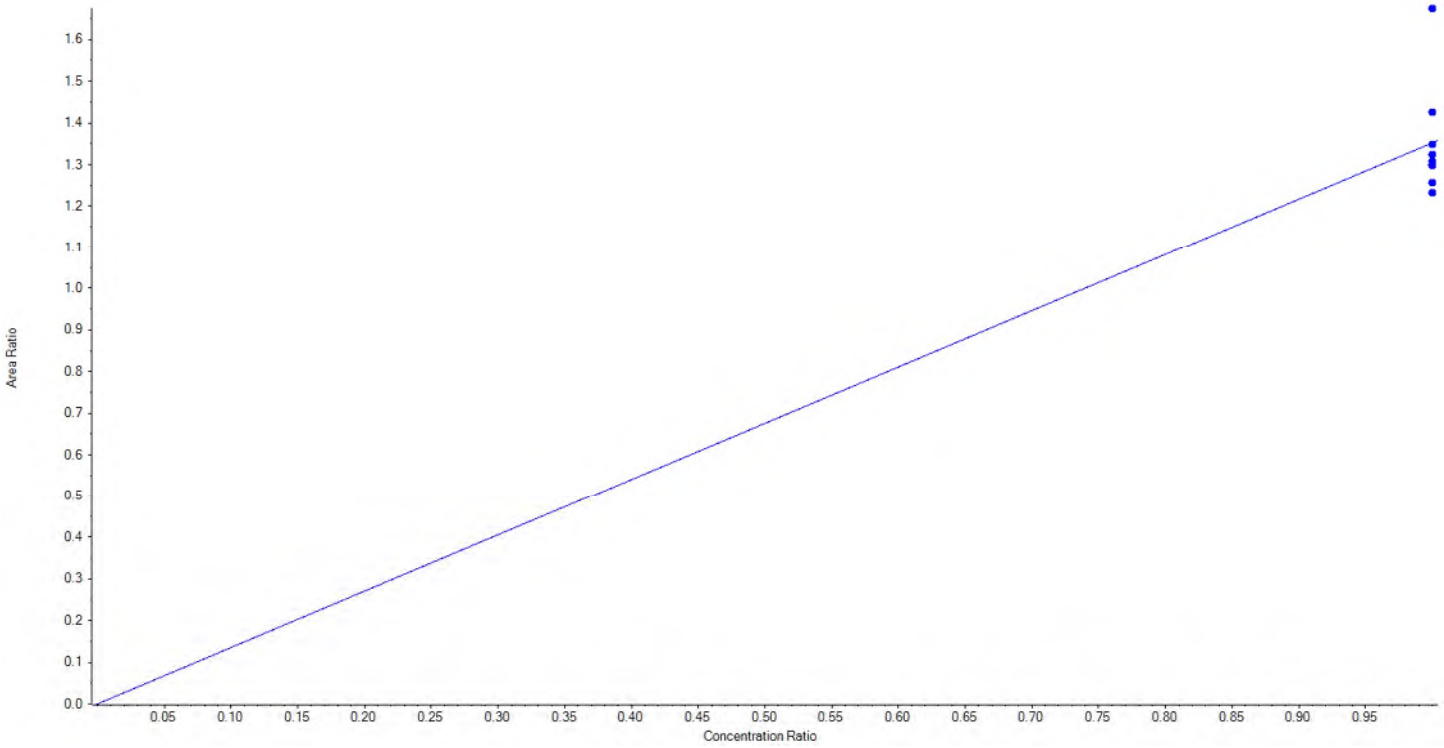
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C2-PFTeDA	**Data File**	18-0334_18-0339.wiff
MRM Transition	715.0 / 670.0	**Result Table**	18-0339_SIS
Internal Standard	13C2-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.35181 x (std. dev. = 0.13263) (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	123.816087	123.8
3	JV21	L2	True	100.00	96.096148	96.1
4	JV22	L3	True	100.00	97.935459	97.9
5	JV23	L4	True	100.00	95.907524	95.9
6	JV24	L5	True	100.00	91.241473	91.2
7	JV25	L6	True	100.00	96.752500	96.8
8	JV26	L7	True	100.00	105.507031	105.5
9	JV27	L8	True	100.00	93.001880	93.0
10	JV28	L9	True	100.00	99.741898	99.7



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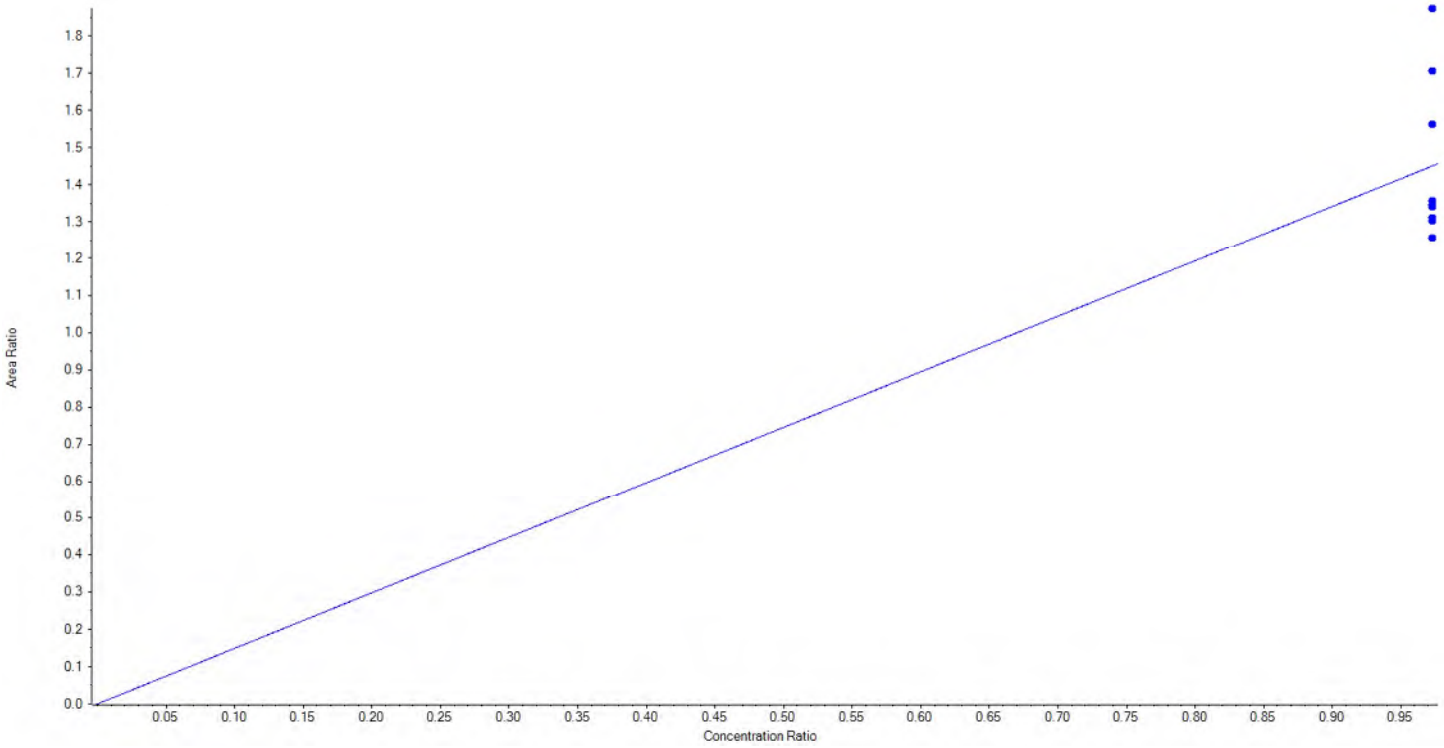
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C3-PFBS	**Data File**	18-0334_18-0339.wiff
MRM Transition	302.0 / 99.0	**Result Table**	18-0339_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.49177 x (std. dev. = 0.22013) (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	100.013265	107.7
3	JV21	L2	True	92.90	86.864344	93.5
4	JV22	L3	True	92.90	80.532620	86.7
5	JV23	L4	True	92.90	85.885424	92.5
6	JV24	L5	True	92.90	83.953010	90.4
7	JV25	L6	True	92.90	86.158262	92.7
8	JV26	L7	True	92.90	83.462346	89.8
9	JV27	L8	True	92.90	109.298570	117.7
10	JV28	L9	True	92.90	119.932160	129.1



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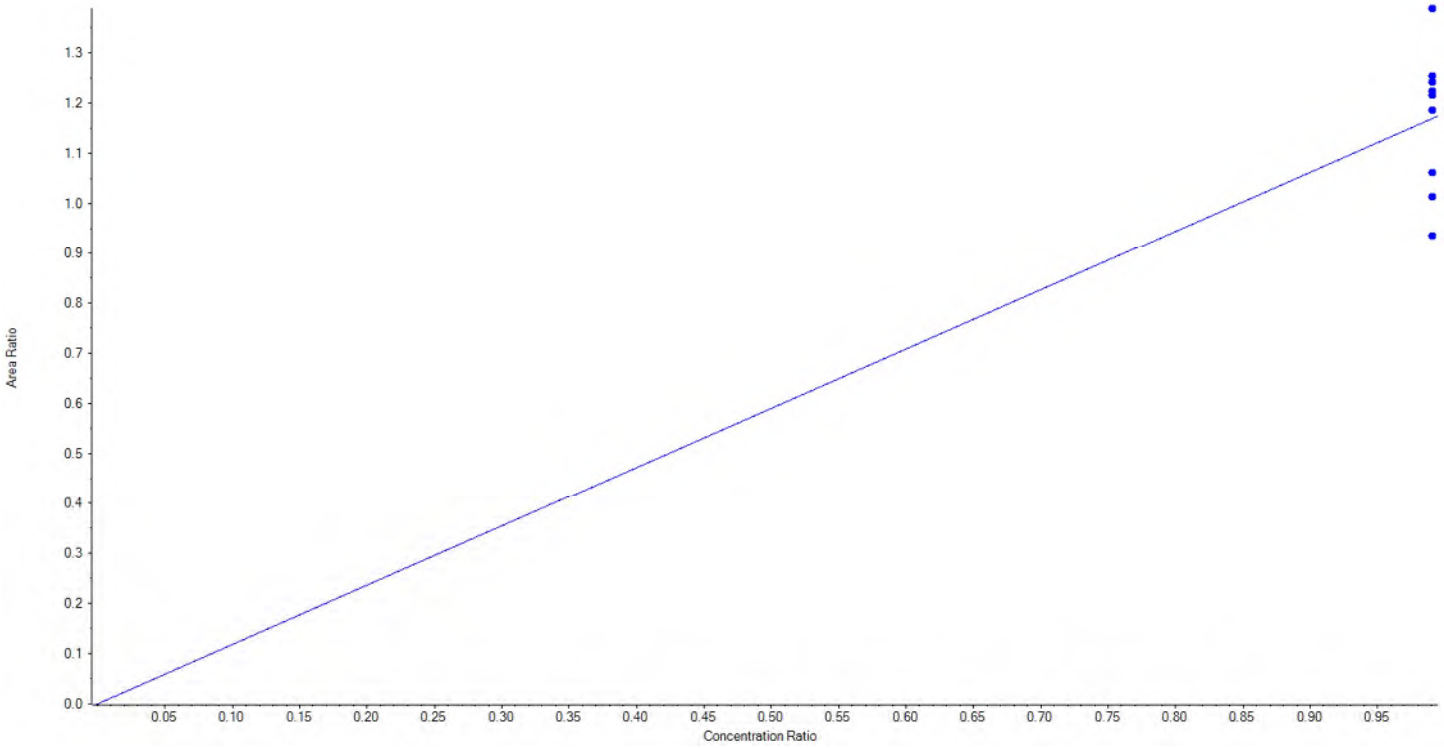
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C3-PFHxS	**Data File**	18-0334_18-0339.wiff
MRM Transition	402.0 / 99.0	**Result Table**	18-0339_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.18074 x (std. dev. = 0.14074) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JV20	L1	True	94.60	112.276446	118.7
3	JV21	L2	True	94.60	101.460736	107.3
4	JV22	L3	True	94.60	85.930002	90.8
5	JV23	L4	True	94.60	99.049551	104.7
6	JV24	L5	True	94.60	82.101095	86.8
7	JV25	L6	True	94.60	95.927222	101.4
8	JV26	L7	True	94.60	75.744564	80.1
9	JV27	L8	True	94.60	100.470241	106.2
10	JV28	L9	True	94.60	98.440142	104.1



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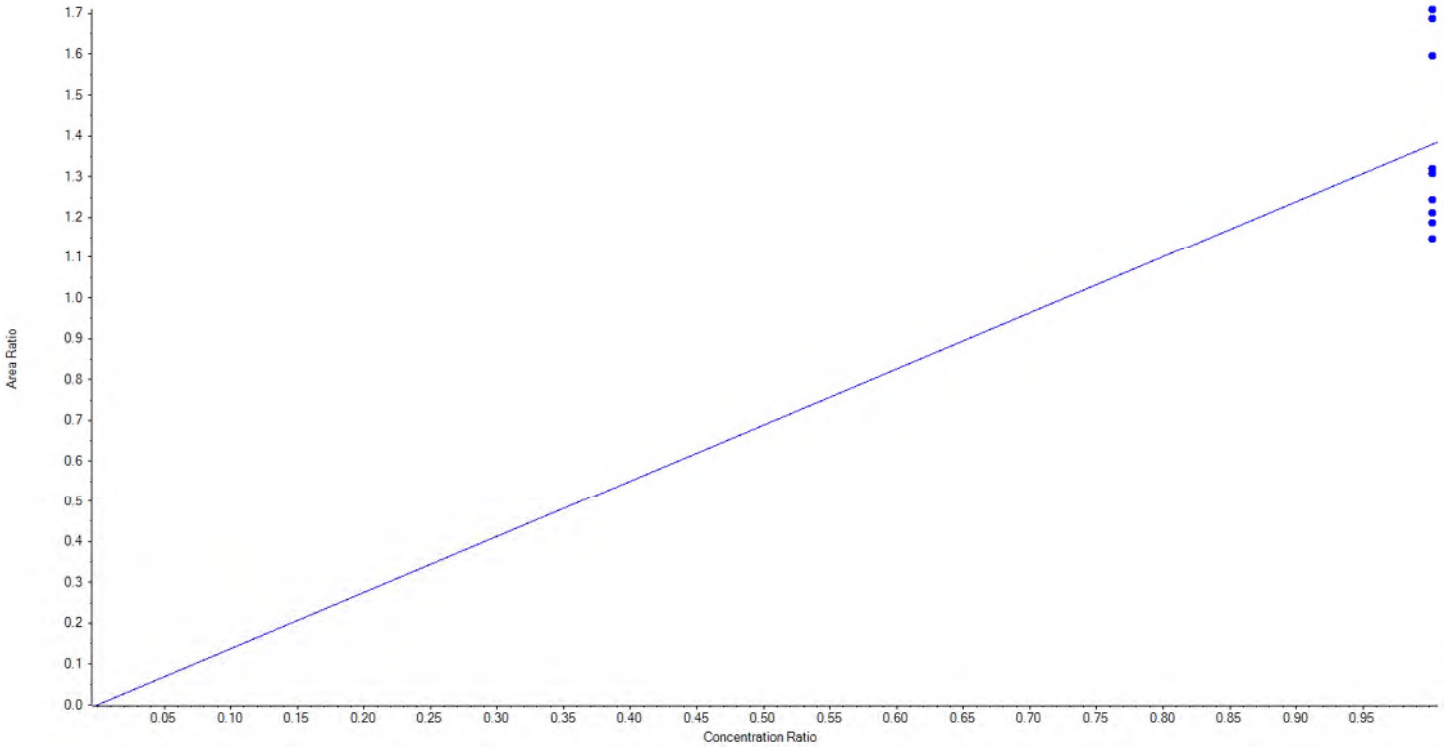
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:13 AM

Analyte Name	13C8-PFOS	**Data File**	18-0334_18-0339.wiff
MRM Transition	507.0 / 99.0	**Result Table**	18-0339_SIS
Internal Standard	13C4-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.37680 x (std. dev. = 0.22210) (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	118.580317	123.9
3	JV21	L2	True	95.70	82.339789	86.0
4	JV22	L3	True	95.70	84.106777	87.9
5	JV23	L4	True	95.70	91.628477	95.8
6	JV24	L5	True	95.70	90.763809	94.8
7	JV25	L6	True	95.70	79.691565	83.3
8	JV26	L7	True	95.70	86.312344	90.2
9	JV27	L8	True	95.70	117.072005	122.3
10	JV28	L9	True	95.70	110.804917	115.8



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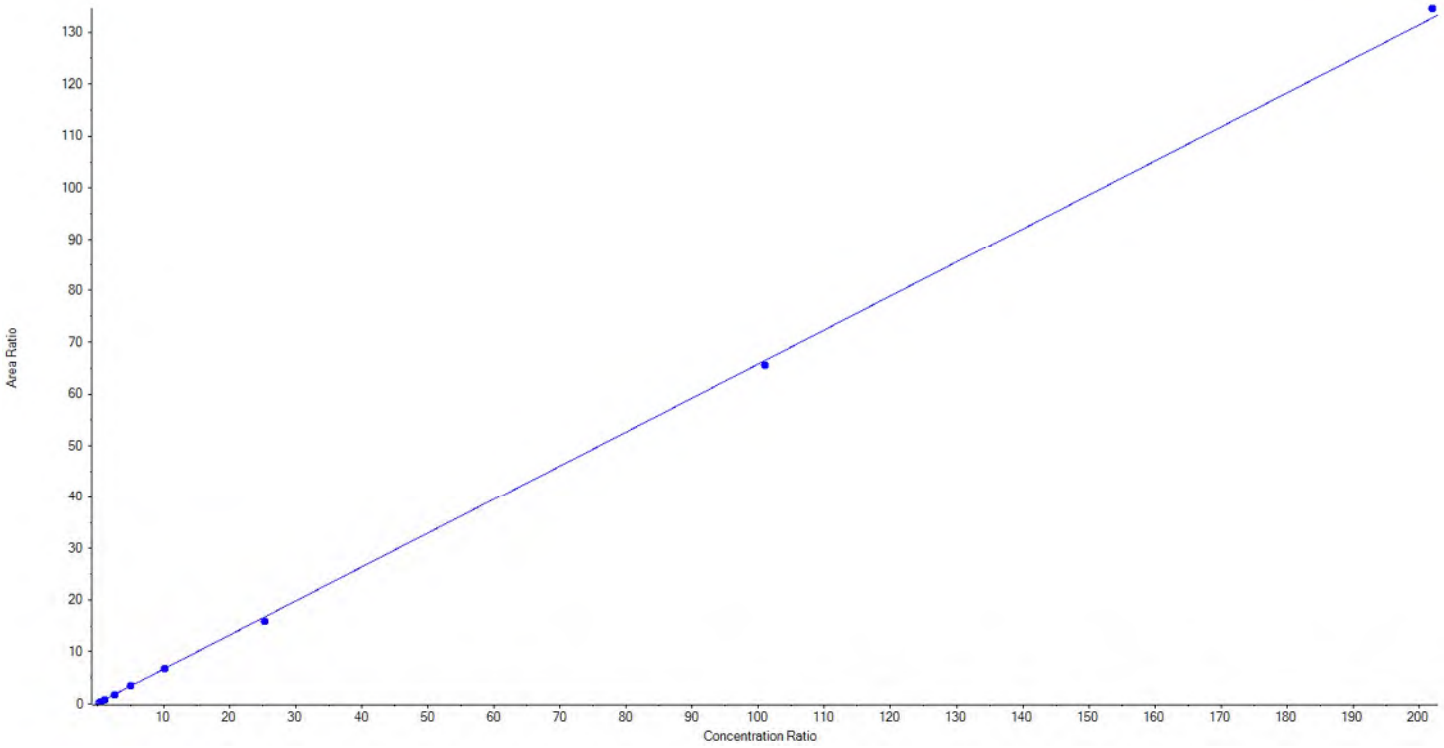
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxA_1	**Data File**	06022018.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0339_D
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.65652 x + 0.14626 (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	False	25.25	5.532306	21.9
3	JV21	L2	True	50.50	49.594148	98.2
4	JV22	L3	True	101.00	108.340209	107.3
5	JV23	L4	True	252.50	253.418132	100.4
6	JV24	L5	True	505.00	507.575341	100.5
7	JV25	L6	True	1010.00	999.237196	98.9
8	JV26	L7	True	2525.00	2393.126171	94.8
9	JV27	L8	True	10100.00	9955.372869	98.6
10	JV28	L9	True	20200.00	20477.335935	101.4



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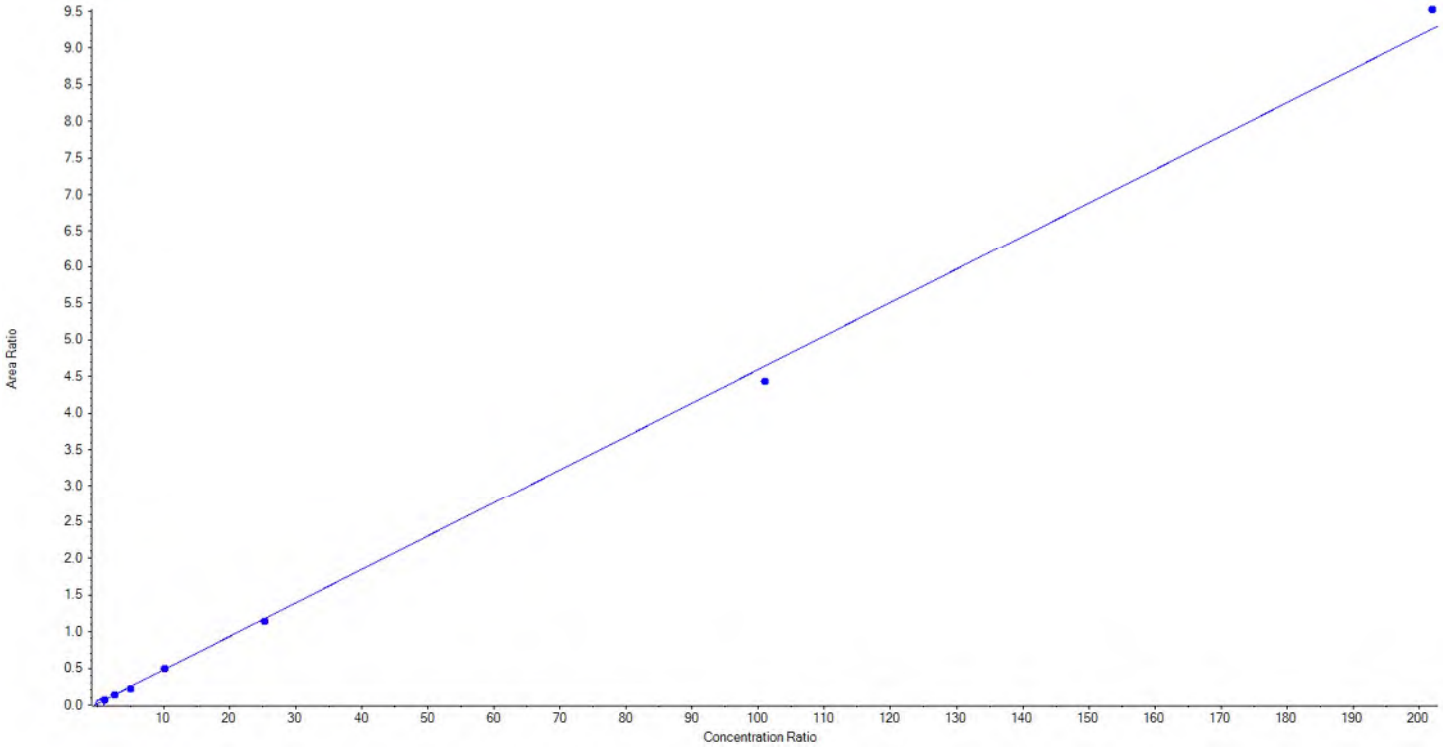
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxA_2	**Data File**	06022018.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0339_D
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04576 x + 0.01936 (r = 0.99914) (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	< 0	N/A
3	JV21	L2	False	50.50	4.917811	9.7
4	JV22	L3	True	101.00	116.325953	115.2
5	JV23	L4	True	252.50	258.832749	102.5
6	JV24	L5	True	505.00	428.117422	84.8
7	JV25	L6	True	1010.00	1035.349989	102.5
8	JV26	L7	True	2525.00	2443.647059	96.8
9	JV27	L8	True	10100.00	9636.089413	95.4
10	JV28	L9	True	20200.00	20775.137414	102.9



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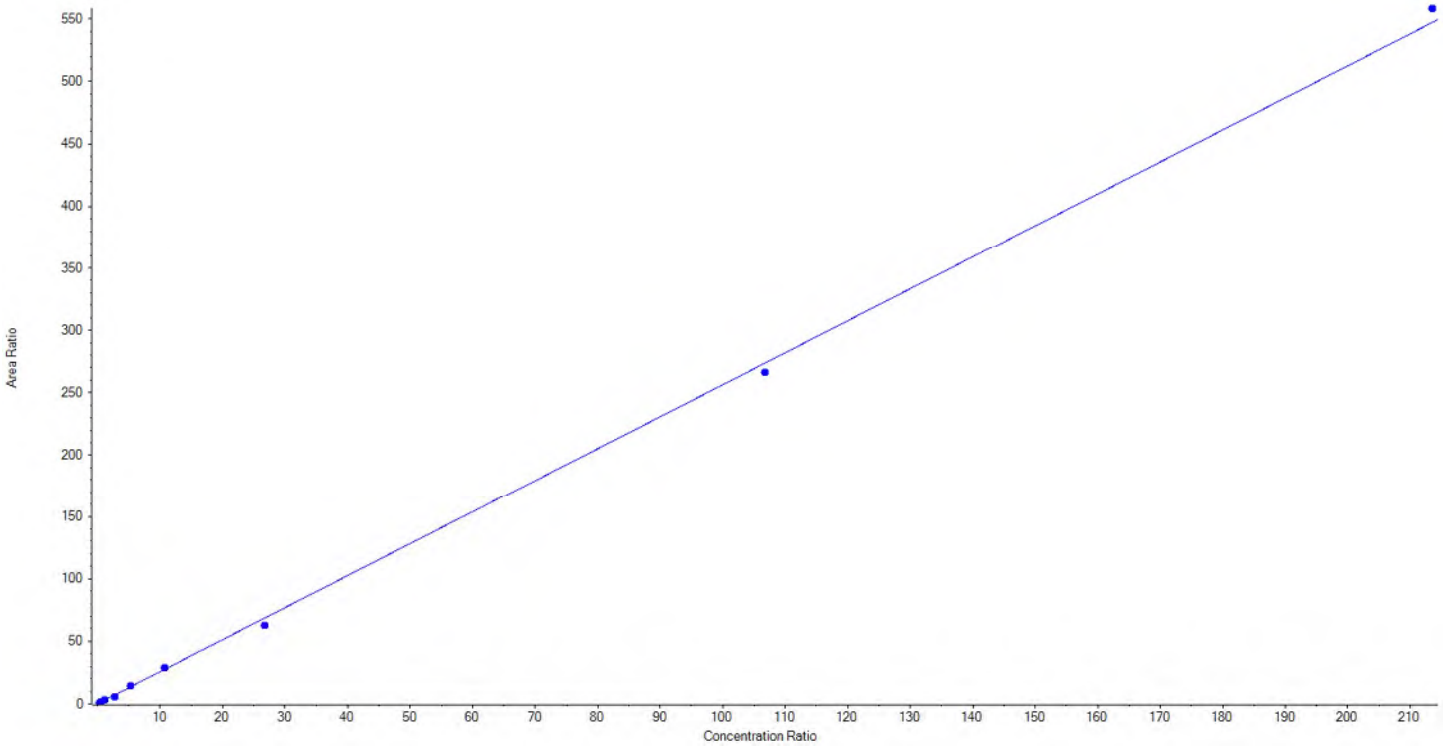
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxS_1	**Data File**	06022018.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0339_D
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.56188 x + 0.14000 (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	25.25	27.002198	106.9
3	JV21	L2	True	50.50	48.651543	96.3
4	JV22	L3	True	101.00	111.928455	110.8
5	JV23	L4	True	252.50	215.699165	85.4
6	JV24	L5	True	505.00	518.961762	102.8
7	JV25	L6	True	1010.00	1074.412721	106.4
8	JV26	L7	True	2525.00	2319.270796	91.9
9	JV27	L8	True	10100.00	9841.785586	97.4
10	JV28	L9	True	20200.00	20611.537773	102.0



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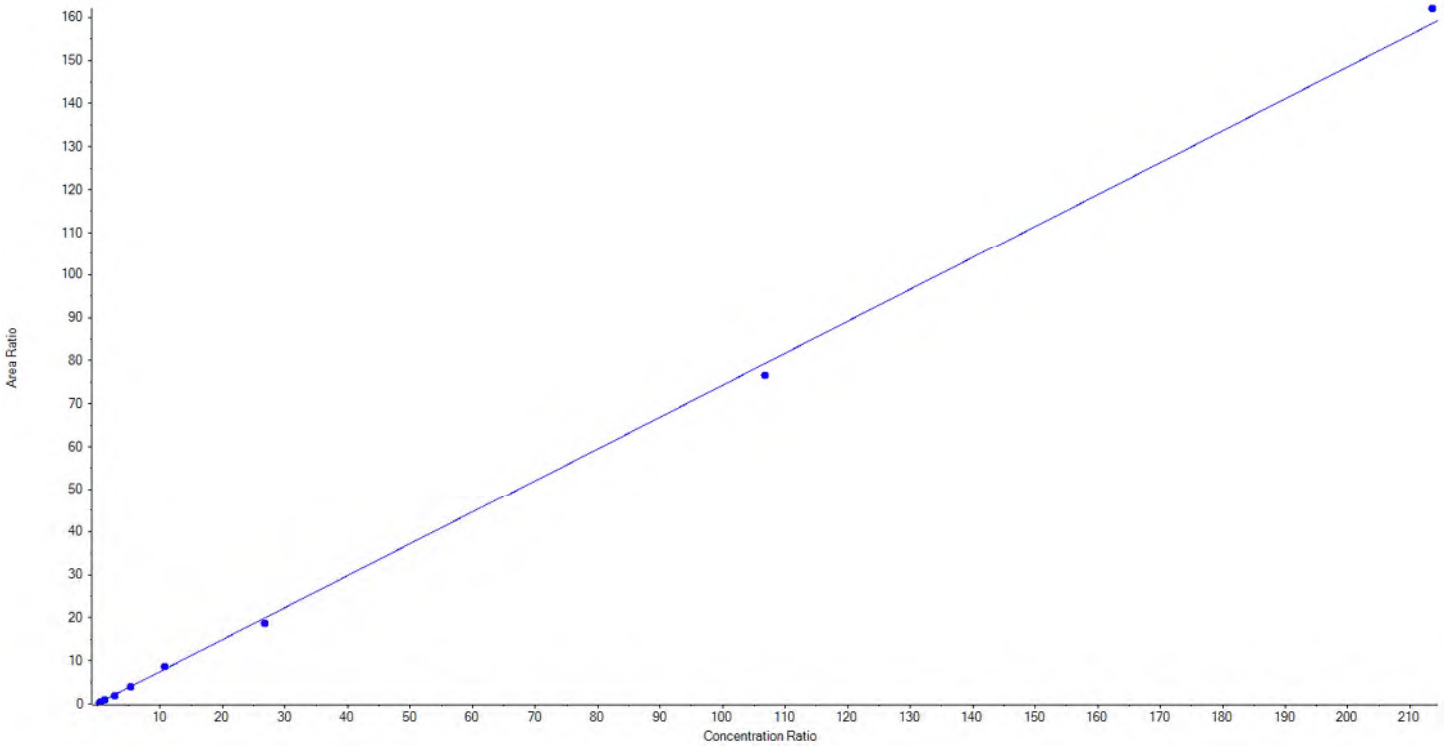
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxS_2	**Data File**	06022018.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0339_D
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.74227 x + 0.08346 (r = 0.99939) (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	23.631500	93.6
3	JV21	L2	True	50.50	55.586062	110.1
4	JV22	L3	True	101.00	109.728491	108.6
5	JV23	L4	True	252.50	223.267676	88.4
6	JV24	L5	True	505.00	498.642930	98.7
7	JV25	L6	True	1010.00	1088.100159	107.7
8	JV26	L7	True	2525.00	2374.504861	94.0
9	JV27	L8	True	10100.00	9753.715741	96.6
10	JV28	L9	True	20200.00	20642.072581	102.2



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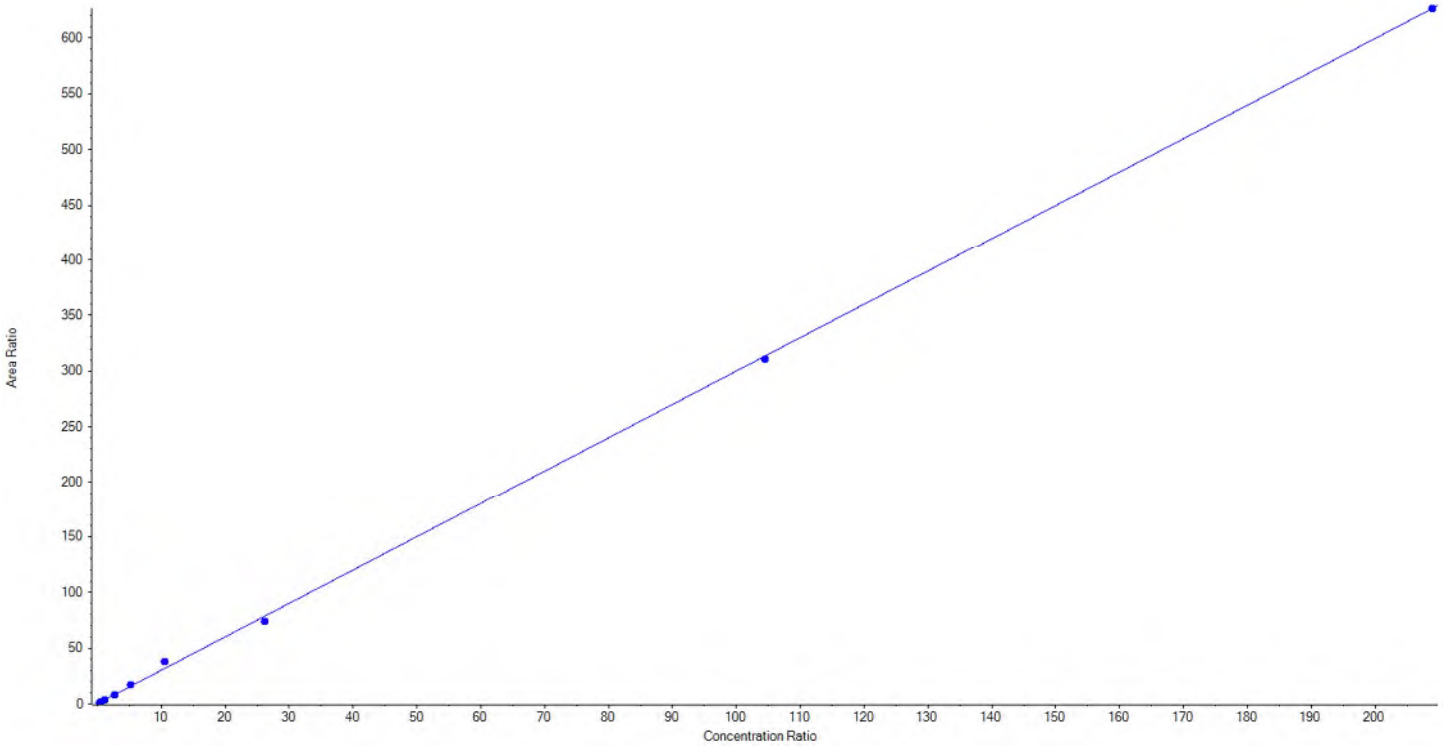
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFOS_1	**Data File**	06022018.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0339_D
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.99639 x + 0.29547 (r = 0.99916) (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	20.201554	80.8
3	JV21	L2	True	50.00	46.934382	93.9
4	JV22	L3	True	100.00	107.983313	108.0
5	JV23	L4	True	250.00	241.902053	96.8
6	JV24	L5	True	500.00	530.777101	106.2
7	JV25	L6	True	1000.00	1209.203973	120.9
8	JV26	L7	True	2500.00	2360.822596	94.4
9	JV27	L8	True	10000.00	9907.258193	99.1
10	JV28	L9	True	20000.00	19999.916836	100.0



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Calibration Summary Report

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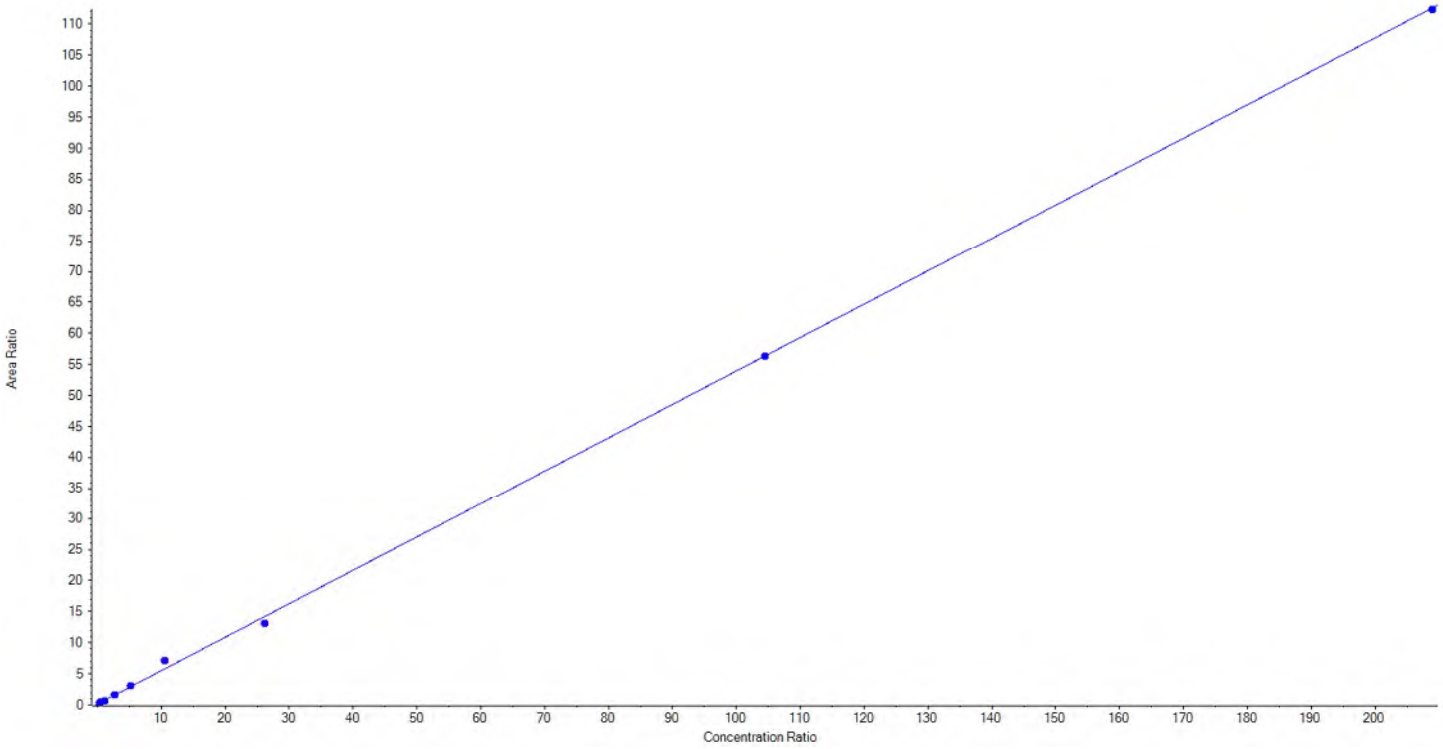
Analyte Name	PFOS_2	**Data File**	06022018.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0339_D
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.53809 x + 0.13612 (r = 0.99871) (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	20.785422	83.1
3	JV21	L2	True	50.00	55.487182	111.0
4	JV22	L3	True	100.00	83.990824	84.0
5	JV23	L4	True	250.00	249.265872	99.7
6	JV24	L5	True	500.00	526.966919	105.4
7	JV25	L6	True	1000.00	1253.612746	125.4
8	JV26	L7	True	2500.00	2295.033107	91.8
9	JV27	L8	True	10000.00	9986.300410	99.9
10	JV28	L9	True	20000.00	19953.557518	99.8



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Calibration Summary Report

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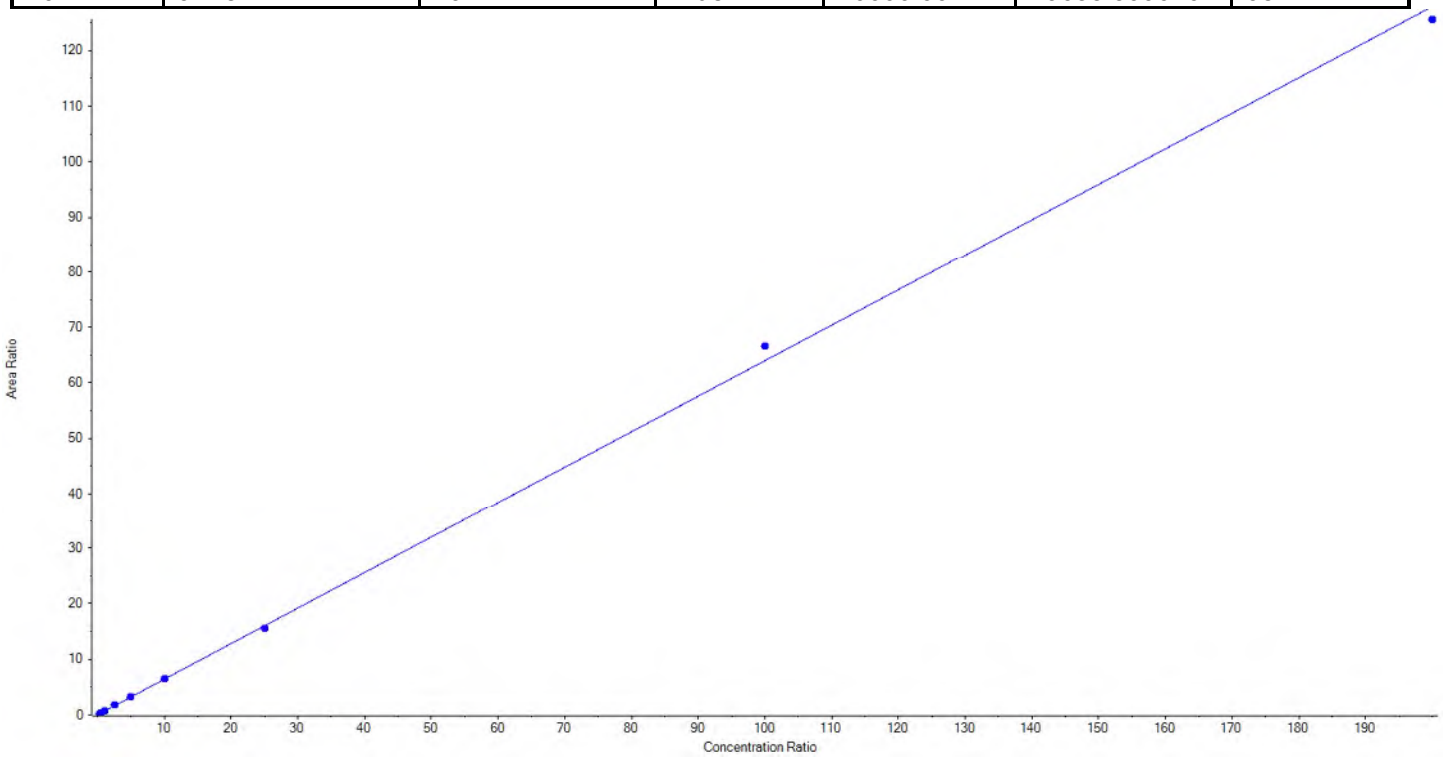
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFUnA_1	**Data File**	06022018.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0339_D
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.63938 x + 0.03242 (r = 0.99952) (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	19.847913	79.4
3	JV21	L2	True	50.00	50.062270	100.1
4	JV22	L3	True	100.00	111.452360	111.5
5	JV23	L4	True	250.00	278.465867	111.4
6	JV24	L5	True	500.00	491.554609	98.3
7	JV25	L6	True	1000.00	1001.313491	100.1
8	JV26	L7	True	2500.00	2421.926401	96.9
9	JV27	L8	True	10000.00	10414.777473	104.2
10	JV28	L9	True	20000.00	19635.599616	98.2



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Calibration Summary Report

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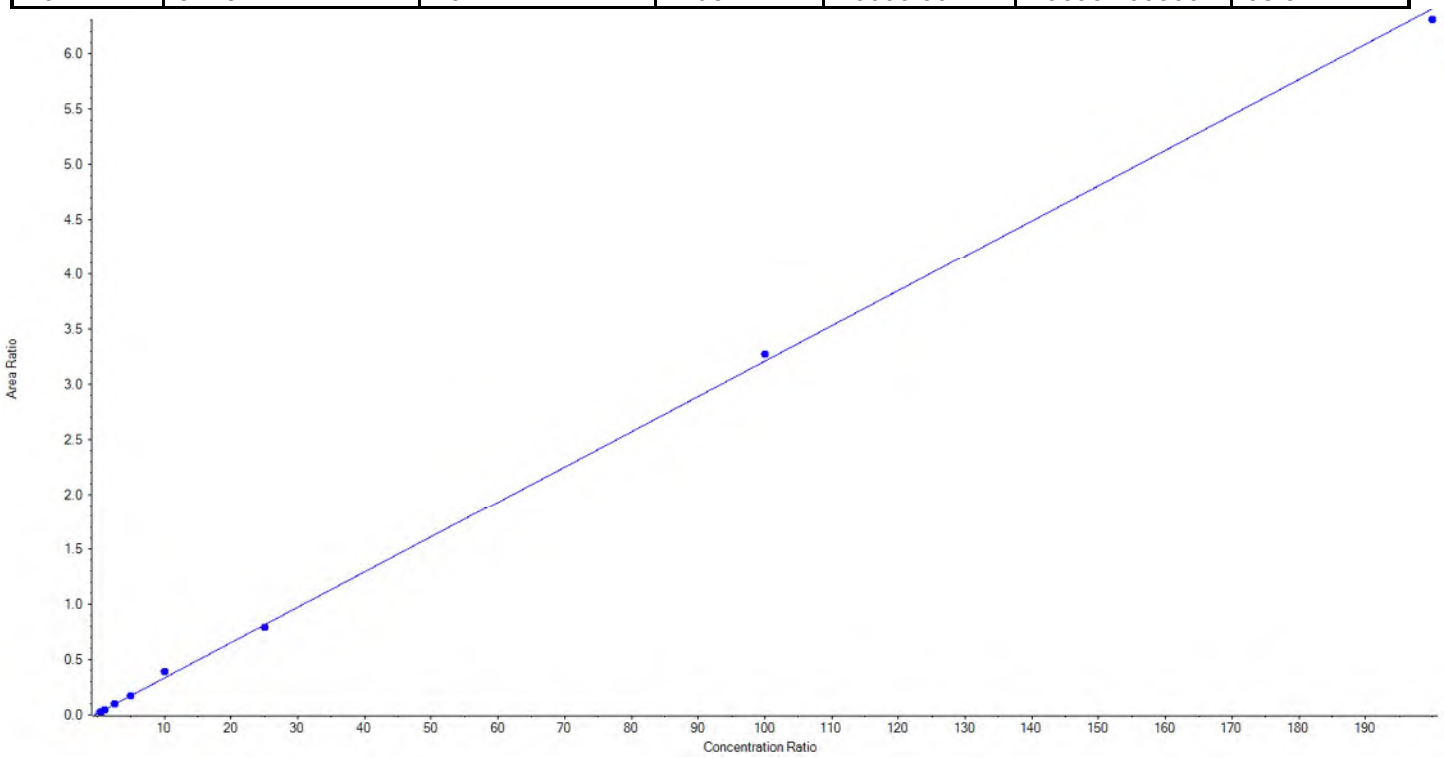
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFUnA_2	**Data File**	06022018.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0339_D
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03196 x + 0.01373 (r = 0.99930) (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	43.065320	86.1
4	JV22	L3	True	100.00	89.598884	89.6
5	JV23	L4	True	250.00	280.024039	112.0
6	JV24	L5	True	500.00	486.642009	97.3
7	JV25	L6	True	1000.00	1170.936779	117.1
8	JV26	L7	True	2500.00	2434.180604	97.4
9	JV27	L8	True	10000.00	10198.758865	102.0
10	JV28	L9	True	20000.00	19696.793500	98.5



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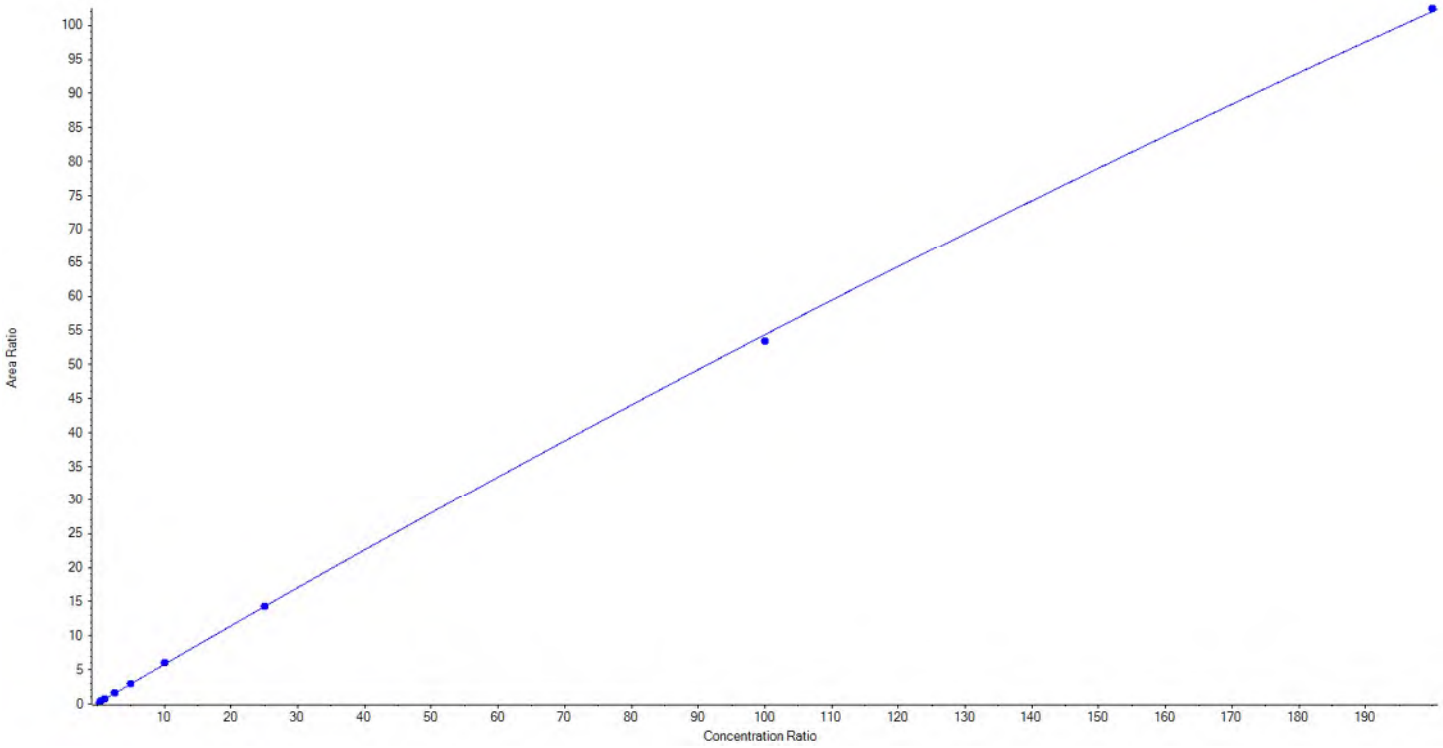
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFTrDA_1	**Data File**	06022018.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0339_D
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = -3.35582e-4 x^2 + 0.57688 x + 0.06065 (r = 0.99984) (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	17.820321	71.3
3	JV21	L2	True	50.00	54.011640	108.0
4	JV22	L3	True	100.00	108.910297	108.9
5	JV23	L4	True	250.00	267.690412	107.1
6	JV24	L5	True	500.00	506.930895	101.4
7	JV25	L6	True	1000.00	1039.791932	104.0
8	JV26	L7	True	2500.00	2517.595628	100.7
9	JV27	L8	True	10000.00	9814.361419	98.1
10	JV28	L9	True	20000.00	20101.185251	100.5



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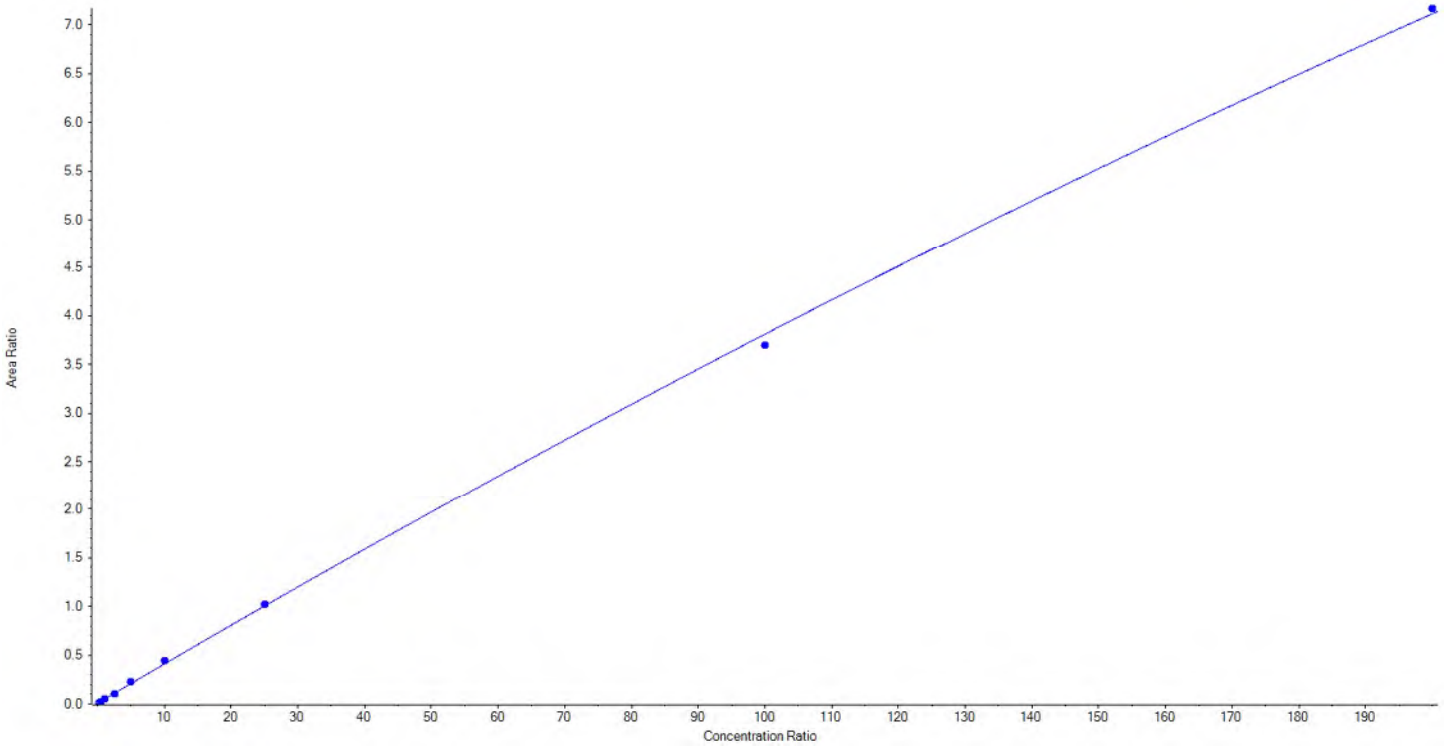
Calibration Summary Report

Analyte Name	PFTrDA_2	**Data File**	06022018.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0339_D
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = -2.49900e-5 x^2 + 0.04054 x + 0.00687 (r = 0.99951) (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	4.270220	17.1
3	JV21	L2	True	50.00	35.468877	70.9
4	JV22	L3	True	100.00	116.693833	116.7
5	JV23	L4	True	250.00	243.784060	97.5
6	JV24	L5	True	500.00	535.379714	107.1
7	JV25	L6	True	1000.00	1087.288041	108.7
8	JV26	L7	True	2500.00	2535.950933	101.4
9	JV27	L8	True	10000.00	9675.448826	96.8
10	JV28	L9	True	20000.00	20176.892858	100.9



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	Calibration Curve Concentrations (ng/L)								
	JV20	JV21	JV22	JV23	JV24	JV25	JV26	JV27	JV28
PFBA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFPeA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxA	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFUnA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDoA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTrDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTeDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NMeFOSAA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NEtFOSAA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOSA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFBS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFPeS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxS (Branched)	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOS (Branched)	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFNS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
4:2FTS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
6:2FTS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
8:2FTS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
	Surrogates								
13C4-PFBA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C5-PFPeA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C5-PFHxA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C4-PFHpA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C8-PFOA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C9-PFNA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C6-PFDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C7-PFUnA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFDoA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFTeDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
d3-MeFOSAA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
d5-EtFOSAA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C8-FOSA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C3-PFBS	92.90	92.90	92.90	92.90	92.90	92.90	92.90	92.90	92.90
13C3-PFHxS	94.60	94.60	94.60	94.60	94.60	94.60	94.60	94.60	94.60
13C8-PFOS	95.70	95.70	95.70	95.70	95.70	95.70	95.70	95.70	95.70
13C2-4:2FTS	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50
13C2-6:2FTS	94.90	94.90	94.90	94.90	94.90	94.90	94.90	94.90	94.90
13C2-8:2FTS	95.80	95.80	95.80	95.80	95.80	95.80	95.80	95.80	95.80
	Internal Standards								
13C3-PFBA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFOA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C4-PFOS	95.50	95.50	95.50	95.50	95.50	95.50	95.50	95.50	95.50

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Summary Quant 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	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	9647.72	24.549747	83.6	true
PFBS_2	298.9 / 99.0	1.51	3381.15	23.503766	42.5	false
PFHxA_1	313.0 / 269.0	1.80	9024.51	25.746829	33.3	true
PFHxA_2	313.0 / 119.0	1.80	616.81	29.108558	15.1	true
PFHpA_1	363.0 / 319.0	2.17	8701.39	23.271004	33.3	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.18	10582.93	31.216719	126.1	false
PFHxS_2	399.0 / 99.0	2.18	3190.21	32.084855	61.2	false
PFOA_1	413.0 / 369.0	2.54	13354.07	22.662853	23.0	true
PFOA_2	413.0 / 169.0	2.53	814.64	29.009852	21.1	true
PFNA_1	463.0 / 419.0	2.93	13023.85	25.746399	38.9	true
PFNA_2	463.0 / 219.0	2.92	3546.97	23.974695	58.7	true
PFOS_1	499.0 / 80.0	2.91	12186.60	< 0	71.9	false
PFOS_2	499.0 / 99.0	2.92	2541.86	< 0	49.3	false
PFDA_1	513.0 / 469.0	3.27	13078.24	25.501914	50.8	false
PFDA_2	513.0 / 219.0	3.28	407.15	23.488717	30.5	true
PFUnA_1	563.0 / 519.0	3.60	12570.42	23.221298	42.7	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.88	12282.59	17.891807	80.5	false
PFDoA_2	613.0 / 319.0	3.88	2121.41	20.177506	84.6	false
PFTrDA_1	663.0 / 619.0	4.13	10856.11	19.723843	93.0	false
PFTrDA_2	663.0 / 169.0	4.12	950.44	19.681946	56.3	false
PFTeDA_1	713.0 / 669.0	4.35	12413.22	19.622556	185.0	false
PFTeDA_2	713.0 / 169.0	4.35	472.98	18.113567	57.0	false
NMeFOSAA_1	570.0 / 419.0	3.43	2882.68	18.857493	162.7	false
NMeFOSAA_2	570.0 / 512.0	3.43	1454.49	17.523854	105.3	false
NEtFOSAA_1	584.0 / 419.0	3.59	2403.09	23.829354	201.3	false
NEtFOSAA_2	584.0 / 483.0	3.59	110.88	16.243728	12.6	false

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Summary Quant 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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	16465.28	44.941674	116.1	false
PFBS_2	298.9 / 99.0	1.51	6060.06	49.490413	62.0	true
PFHxA_1	313.0 / 269.0	1.80	16575.09	48.722186	43.3	true
PFHxA_2	313.0 / 119.0	1.79	985.88	45.166418	27.7	true
PFHpA_1	363.0 / 319.0	2.17	14947.18	46.906580	54.5	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.19	18192.76	47.433902	170.5	false
PFHxS_2	399.0 / 99.0	2.18	5558.17	49.445582	84.7	false
PFOA_1	413.0 / 369.0	2.55	24640.32	48.877930	36.1	true
PFOA_2	413.0 / 169.0	2.56	1160.48	40.828911	31.5	true
PFNA_1	463.0 / 419.0	2.93	23001.76	48.387577	54.3	true
PFNA_2	463.0 / 219.0	2.93	7107.15	51.495470	84.9	true
PFOS_1	499.0 / 80.0	2.91	27604.80	< 0	102.5	false
PFOS_2	499.0 / 99.0	2.92	4007.58	< 0	89.1	false
PFDA_1	513.0 / 469.0	3.28	22000.86	40.303559	77.2	false
PFDA_2	513.0 / 219.0	3.27	1048.61	52.820381	60.3	false
PFUnA_1	563.0 / 519.0	3.60	23106.65	45.183090	70.2	false
PFUnA_2	563.0 / 269.0	3.60	1498.77	43.822598	44.8	false
PFDoA_1	613.0 / 569.0	3.88	21888.47	43.116970	99.9	false
PFDoA_2	613.0 / 319.0	3.88	3836.59	47.700453	80.0	false
PFTrDA_1	663.0 / 619.0	4.13	22628.08	48.662584	122.6	false
PFTrDA_2	663.0 / 169.0	4.13	1636.71	46.405536	94.5	false
PFTeDA_1	713.0 / 669.0	4.36	23894.44	48.244570	283.7	false
PFTeDA_2	713.0 / 169.0	4.36	1260.86	56.211417	110.7	false
NMeFOSAA_1	570.0 / 419.0	3.43	5281.80	41.403253	351.5	false
NMeFOSAA_2	570.0 / 512.0	3.43	3069.35	46.249712	89.2	false
NEtFOSAA_1	584.0 / 419.0	3.59	4963.39	51.985355	171.2	false
NEtFOSAA_2	584.0 / 483.0	3.59	276.44	49.048899	119.4	false

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Summary Quant 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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	34818.92	98.838966	178.8	false
PFBS_2	298.9 / 99.0	1.51	11203.67	96.848949	91.1	false
PFHxA_1	313.0 / 269.0	1.80	33413.21	105.167862	73.4	false
PFHxA_2	313.0 / 119.0	1.80	2310.79	108.607947	46.0	false
PFHpA_1	363.0 / 319.0	2.17	32948.03	113.876496	99.3	false
PFHpA_2	363.0 / 169.0	2.17	674.63	85.310875	48.8	false
PFHxS_1	399.0 / 80.0	2.18	38896.93	102.652317	273.5	false
PFHxS_2	399.0 / 99.0	2.19	10744.18	96.943724	161.7	false
PFOA_1	413.0 / 369.0	2.55	46214.94	99.272750	66.9	true
PFOA_2	413.0 / 169.0	2.54	2434.68	86.868080	55.0	true
PFNA_1	463.0 / 419.0	2.92	44465.36	106.737132	89.3	false
PFNA_2	463.0 / 219.0	2.92	14768.65	121.786609	116.9	false
PFOS_1	499.0 / 80.0	2.92	57481.56	6.426016	139.4	true
PFOS_2	499.0 / 99.0	2.92	8964.00	< 0	100.5	false
PFDA_1	513.0 / 469.0	3.27	52012.12	119.591096	128.2	false
PFDA_2	513.0 / 219.0	3.27	2122.27	125.705251	135.2	false
PFUnA_1	563.0 / 519.0	3.59	47102.55	102.331398	101.9	false
PFUnA_2	563.0 / 269.0	3.59	2115.96	75.383291	61.1	true
PFDoA_1	613.0 / 569.0	3.88	48891.64	107.903751	146.3	false
PFDoA_2	613.0 / 319.0	3.88	8276.03	112.741892	155.0	false
PFTrDA_1	663.0 / 619.0	4.13	48127.05	115.946966	174.9	false
PFTrDA_2	663.0 / 169.0	4.13	2822.35	96.717403	104.7	false
PFTeDA_1	713.0 / 669.0	4.35	45234.18	105.794931	341.0	false
PFTeDA_2	713.0 / 169.0	4.35	2052.39	98.635374	182.9	false
NMeFOSAA_1	570.0 / 419.0	3.43	9366.88	107.734733	258.2	false
NMeFOSAA_2	570.0 / 512.0	3.44	5157.64	106.998398	199.0	false
NEtFOSAA_1	584.0 / 419.0	3.59	10081.37	126.998080	218.6	true
NEtFOSAA_2	584.0 / 483.0	3.59	887.94	198.946648	174.8	true

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Summary Quant 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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	85399.30	260.308847	433.8	false
PFBS_2	298.9 / 99.0	1.51	26778.49	256.099454	186.6	false
PFHxA_1	313.0 / 269.0	1.79	88620.83	265.405638	132.1	false
PFHxA_2	313.0 / 119.0	1.79	5641.32	247.074365	78.6	false
PFHpA_1	363.0 / 319.0	2.16	84380.21	266.306411	160.6	false
PFHpA_2	363.0 / 169.0	2.16	1995.02	294.608259	142.1	false
PFHxS_1	399.0 / 80.0	2.18	92701.45	227.754752	340.4	false
PFHxS_2	399.0 / 99.0	2.18	28749.18	241.382876	206.7	false
PFOA_1	413.0 / 369.0	2.54	114435.13	257.212105	93.4	true
PFOA_2	413.0 / 169.0	2.54	7353.47	262.846759	103.0	true
PFNA_1	463.0 / 419.0	2.91	123440.29	261.078663	163.6	false
PFNA_2	463.0 / 219.0	2.92	34598.84	250.114999	189.5	false
PFOS_1	499.0 / 80.0	2.91	140762.92	199.398097	248.6	false
PFOS_2	499.0 / 99.0	2.91	26452.69	194.781009	224.8	false
PFDA_1	513.0 / 469.0	3.27	123403.75	252.044810	158.4	false
PFDA_2	513.0 / 219.0	3.27	4859.18	250.819411	175.8	false
PFUnA_1	563.0 / 519.0	3.59	122278.21	263.713408	173.5	false
PFUnA_2	563.0 / 269.0	3.59	6856.87	281.766498	136.5	false
PFDoA_1	613.0 / 569.0	3.87	122081.34	285.062622	221.1	false
PFDoA_2	613.0 / 319.0	3.87	19164.31	273.808637	185.5	false
PFTrDA_1	663.0 / 619.0	4.12	120511.12	265.101241	314.1	false
PFTrDA_2	663.0 / 169.0	4.12	8025.39	268.609217	263.4	false
PFTeDA_1	713.0 / 669.0	4.34	122521.92	268.824568	450.1	false
PFTeDA_2	713.0 / 169.0	4.34	6037.67	264.144348	344.5	false
NMeFOSAA_1	570.0 / 419.0	3.42	24251.61	273.400562	382.0	false
NMeFOSAA_2	570.0 / 512.0	3.42	12290.48	244.521936	201.2	false
NEtFOSAA_1	584.0 / 419.0	3.58	21840.65	225.203356	285.0	false
NEtFOSAA_2	584.0 / 483.0	3.58	1224.98	220.143007	133.2	false

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Summary Quant 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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	162862.48	529.636689	450.8	false
PFBS_2	298.9 / 99.0	1.51	49925.23	514.367968	217.3	false
PFHxA_1	313.0 / 269.0	1.80	159172.84	469.641061	184.7	false
PFHxA_2	313.0 / 119.0	1.80	10697.29	458.624174	97.8	false
PFHpA_1	363.0 / 319.0	2.16	139953.34	485.796331	195.0	false
PFHpA_2	363.0 / 169.0	2.16	3106.30	529.593649	146.9	false
PFHxS_1	399.0 / 80.0	2.18	165265.00	499.897552	387.5	false
PFHxS_2	399.0 / 99.0	2.18	49092.27	507.648918	275.6	false
PFOA_1	413.0 / 369.0	2.54	204039.36	492.251374	140.8	true
PFOA_2	413.0 / 169.0	2.54	13640.17	515.571849	103.6	true
PFNA_1	463.0 / 419.0	2.92	208975.60	446.575811	165.5	false
PFNA_2	463.0 / 219.0	2.92	57148.76	417.273225	250.0	false
PFOS_1	499.0 / 80.0	2.91	228692.43	421.964097	253.2	false
PFOS_2	499.0 / 99.0	2.92	43634.67	433.071135	266.9	false
PFDA_1	513.0 / 469.0	3.27	230041.82	477.632889	205.5	false
PFDA_2	513.0 / 219.0	3.27	7972.19	414.961695	309.0	false
PFUnA_1	563.0 / 519.0	3.59	224546.85	492.006275	224.2	false
PFUnA_2	563.0 / 269.0	3.59	11340.44	483.835699	189.7	false
PFDoA_1	613.0 / 569.0	3.88	220888.24	515.694938	253.2	false
PFDoA_2	613.0 / 319.0	3.88	37669.93	539.086551	240.9	false
PFTrDA_1	663.0 / 619.0	4.13	207224.71	489.468121	346.0	false
PFTrDA_2	663.0 / 169.0	4.13	14882.67	544.946551	291.8	false
PFTeDA_1	713.0 / 669.0	4.35	209742.81	497.478390	717.8	false
PFTeDA_2	713.0 / 169.0	4.35	10649.54	498.661194	425.2	false
NMeFOSAA_1	570.0 / 419.0	3.43	48846.07	501.530763	463.7	false
NMeFOSAA_2	570.0 / 512.0	3.42	27302.99	495.970787	295.7	false
NEtFOSAA_1	584.0 / 419.0	3.59	42301.17	455.422438	428.5	false
NEtFOSAA_2	584.0 / 483.0	3.59	2858.80	540.480909	1189.0	false

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Summary Quant 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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	302355.37	1007.354828	953.2	false
PFBS_2	298.9 / 99.0	1.51	96324.77	1022.456183	322.2	false
PFHxA_1	313.0 / 269.0	1.80	291605.02	978.456623	248.4	false
PFHxA_2	313.0 / 119.0	1.80	21064.76	1022.656886	159.0	false
PFHpA_1	363.0 / 319.0	2.16	251470.67	969.822220	277.2	false
PFHpA_2	363.0 / 169.0	2.16	5069.14	989.128144	233.3	false
PFHxS_1	399.0 / 80.0	2.18	316287.83	852.510410	572.0	false
PFHxS_2	399.0 / 99.0	2.18	88589.17	816.399705	308.6	false
PFOA_1	413.0 / 369.0	2.54	397304.53	1057.707816	169.9	true
PFOA_2	413.0 / 169.0	2.54	24808.83	1025.267732	148.8	true
PFNA_1	463.0 / 419.0	2.92	405838.28	915.490860	278.7	false
PFNA_2	463.0 / 219.0	2.92	115267.39	888.506277	288.1	false
PFOS_1	499.0 / 80.0	2.91	468185.19	1209.607580	410.6	false
PFOS_2	499.0 / 99.0	2.91	84949.15	1189.251879	353.5	true
PFDA_1	513.0 / 469.0	3.27	429880.02	1054.342396	268.3	false
PFDA_2	513.0 / 219.0	3.27	15473.62	946.262950	310.3	false
PFUnA_1	563.0 / 519.0	3.59	430155.68	1120.974364	259.9	false
PFUnA_2	563.0 / 269.0	3.58	24254.38	1257.023332	272.9	false
PFDoA_1	613.0 / 569.0	3.87	408762.37	1025.203769	317.2	false
PFDoA_2	613.0 / 319.0	3.87	61670.99	945.776999	287.9	false
PFTrDA_1	663.0 / 619.0	4.12	412895.00	1079.494596	481.8	false
PFTrDA_2	663.0 / 169.0	4.12	26357.62	1076.216325	332.6	false
PFTeDA_1	713.0 / 669.0	4.35	419890.42	1107.322458	692.4	false
PFTeDA_2	713.0 / 169.0	4.34	21892.59	1132.146052	517.9	false
NMeFOSAA_1	570.0 / 419.0	3.42	90397.92	1157.584702	596.5	false
NMeFOSAA_2	570.0 / 512.0	3.42	55189.69	1247.856696	434.0	false
NEtFOSAA_1	584.0 / 419.0	3.59	79543.28	1019.443509	641.1	false
NEtFOSAA_2	584.0 / 483.0	3.59	4563.60	1025.969724	349.1	false

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Summary Quant 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	823274.24	2720.995698	1318.8	false
PFBS_2	298.9 / 99.0	1.51	258505.88	2730.347857	530.3	false
PFHxA_1	313.0 / 269.0	1.80	789731.01	2601.798445	390.1	false
PFHxA_2	313.0 / 119.0	1.79	51425.60	2445.599802	235.6	false
PFHpA_1	363.0 / 319.0	2.16	691071.88	2495.896047	380.3	false
PFHpA_2	363.0 / 169.0	2.16	12194.13	2273.974971	246.4	false
PFHxS_1	399.0 / 80.0	2.18	845888.19	2755.110770	660.0	false
PFHxS_2	399.0 / 99.0	2.18	235844.67	2626.421364	435.3	false
PFOA_1	413.0 / 369.0	2.54	1012390.48	2610.172916	277.3	true
PFOA_2	413.0 / 169.0	2.54	64748.59	2579.533856	278.9	true
PFNA_1	463.0 / 419.0	2.92	1101710.18	2641.421202	469.4	false
PFNA_2	463.0 / 219.0	2.92	315179.95	2581.898318	498.6	false
PFOS_1	499.0 / 80.0	2.91	1242676.90	3003.553809	515.3	false
PFOS_2	499.0 / 99.0	2.91	227186.86	2999.672319	508.5	false
PFDA_1	513.0 / 469.0	3.27	1054779.45	2375.918116	345.4	false
PFDA_2	513.0 / 219.0	3.27	41917.93	2348.352046	459.7	false
PFUnA_1	563.0 / 519.0	3.59	1082606.75	2535.251355	454.1	false
PFUnA_2	563.0 / 269.0	3.59	55828.59	2616.773431	311.2	false
PFDoA_1	613.0 / 569.0	3.87	1093099.98	2753.949739	504.0	false
PFDoA_2	613.0 / 319.0	3.87	160900.83	2479.054484	443.0	false
PFTrDA_1	663.0 / 619.0	4.13	1012375.05	2396.096264	624.6	false
PFTrDA_2	663.0 / 169.0	4.12	72028.66	2677.820269	517.0	false
PFTeDA_1	713.0 / 669.0	4.35	1082354.10	2589.694266	908.8	false
PFTeDA_2	713.0 / 169.0	4.34	52973.17	2477.068716	698.2	false
NMeFOSAA_1	570.0 / 419.0	3.43	224880.71	2845.301925	625.3	false
NMeFOSAA_2	570.0 / 512.0	3.42	128629.09	2865.312512	456.9	false
NEtFOSAA_1	584.0 / 419.0	3.59	197276.80	2116.363764	815.0	false
NEtFOSAA_2	584.0 / 483.0	3.58	13172.57	2482.358971	18653.3	false

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Summary Quant 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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	3584324.27	10407.878725	2665.9	false
PFBS_2	298.9 / 99.0	1.51	1119222.97	10400.315263	949.6	false
PFHxA_1	313.0 / 269.0	1.80	3318726.39	10004.165368	693.0	false
PFHxA_2	313.0 / 119.0	1.80	234296.31	10183.733424	381.1	false
PFHpA_1	363.0 / 319.0	2.16	2900142.39	9722.161340	653.7	false
PFHpA_2	363.0 / 169.0	2.16	57223.81	10033.671616	584.5	false
PFHxS_1	399.0 / 80.0	2.18	3466068.36	9762.550341	821.7	false
PFHxS_2	399.0 / 99.0	2.18	997922.16	9610.263750	606.0	false
PFOA_1	413.0 / 369.0	2.54	3993944.93	10324.590371	489.6	true
PFOA_2	413.0 / 169.0	2.54	261220.09	10409.624674	579.0	true
PFNA_1	463.0 / 419.0	2.92	4001521.93	10530.348900	626.0	false
PFNA_2	463.0 / 219.0	2.92	1184436.94	10649.342884	666.7	false
PFOS_1	499.0 / 80.0	2.91	4531409.11	9533.529906	458.1	false
PFOS_2	499.0 / 99.0	2.91	856307.61	9879.034085	623.3	false
PFDA_1	513.0 / 469.0	3.27	4282341.94	10116.067210	583.3	false
PFDA_2	513.0 / 219.0	3.27	175589.35	10301.138212	664.6	false
PFUnA_1	563.0 / 519.0	3.59	4210002.74	9562.305139	594.4	false
PFUnA_2	563.0 / 269.0	3.59	214217.67	9783.505767	467.1	false
PFDoA_1	613.0 / 569.0	3.88	4614856.36	11214.359048	665.1	false
PFDoA_2	613.0 / 319.0	3.88	673218.61	10006.653479	584.9	false
PFTrDA_1	663.0 / 619.0	4.13	4503003.98	10010.506386	932.9	false
PFTrDA_2	663.0 / 169.0	4.13	297676.17	10420.657495	831.5	false
PFTeDA_1	713.0 / 669.0	4.35	4351104.63	9788.018260	1332.5	false
PFTeDA_2	713.0 / 169.0	4.35	225109.98	9880.019332	1270.3	false
NMeFOSAA_1	570.0 / 419.0	3.43	926753.90	9479.186569	681.5	false
NMeFOSAA_2	570.0 / 512.0	3.43	522495.37	9400.566106	571.8	false
NEtFOSAA_1	584.0 / 419.0	3.59	808256.22	10784.058199	678.7	false
NEtFOSAA_2	584.0 / 483.0	3.59	44417.48	10410.009450	536.1	false

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Summary Quant 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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	5725200.15	19674.744827	2641.6	false
PFBS_2	298.9 / 99.0	1.51	1788690.66	19675.820147	1287.6	false
PFHxA_1	313.0 / 269.0	1.80	5070891.44	20270.145989	747.1	false
PFHxA_2	313.0 / 119.0	1.80	351030.72	20228.678426	405.2	false
PFHpA_1	363.0 / 319.0	2.17	4550134.42	20300.963570	746.4	false
PFHpA_2	363.0 / 169.0	2.17	86159.69	20143.712485	513.5	false
PFHxS_1	399.0 / 80.0	2.18	5174534.74	20490.123237	1007.8	false
PFHxS_2	399.0 / 99.0	2.18	1535466.29	20788.659226	721.3	false
PFOA_1	413.0 / 369.0	2.54	6225065.47	19512.251885	651.1	true
PFOA_2	413.0 / 169.0	2.54	403211.56	19475.448288	717.7	true
PFNA_1	463.0 / 419.0	2.92	6004513.51	19449.213456	716.1	false
PFNA_2	463.0 / 219.0	2.92	1756702.45	19440.607524	681.3	false
PFOS_1	499.0 / 80.0	2.91	7080262.38	19881.946512	529.4	false
PFOS_2	499.0 / 99.0	2.91	1269686.89	19554.189574	633.2	false
PFDA_1	513.0 / 469.0	3.27	6393180.24	19963.598009	566.4	false
PFDA_2	513.0 / 219.0	3.27	257459.28	19961.451337	553.0	false
PFUnA_1	563.0 / 519.0	3.59	6813296.73	20280.013673	671.8	false
PFUnA_2	563.0 / 269.0	3.59	331508.35	19857.889385	576.6	false
PFDoA_1	613.0 / 569.0	3.87	6952521.24	18461.817356	659.4	false
PFDoA_2	613.0 / 319.0	3.87	1050383.54	17061.632418	599.3	false
PFTrDA_1	663.0 / 619.0	4.12	7103837.99	18133.416742	863.6	false
PFTrDA_2	663.0 / 169.0	4.12	479289.61	19273.945258	798.1	false
PFTeDA_1	713.0 / 669.0	4.35	7008340.37	18106.532014	1121.9	false
PFTeDA_2	713.0 / 169.0	4.34	340811.47	17173.824448	1053.5	false
NMeFOSAA_1	570.0 / 419.0	3.42	1386815.74	16807.361536	745.8	false
NMeFOSAA_2	570.0 / 512.0	3.43	795752.22	16961.628975	666.3	false
NEtFOSAA_1	584.0 / 419.0	3.59	1218519.99	19621.695945	787.1	false
NEtFOSAA_2	584.0 / 483.0	3.59	69183.61	19571.037939	845.9	false

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Summary Quant 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	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.87	72077.91	124.098495	560.8	false
d3-MeFOSAA	573.0 / 419.0	3.43	11054.59	104.311358	212.8	false
d5-EtFOSAA	589.0 / 419.0	3.58	12153.59	113.036460	157.2	false
13C5-PFHxA	318.0 / 273.0	1.78	46363.84	113.267186	871.7	false
13C4-PFHpA	367.0 / 322.0	2.15	52405.64	115.819878	581.4	false
13C8-PFOA	421.0 / 376.0	2.53	59721.62	112.709642	960.0	false
13C9-PFNA	472.0 / 427.0	2.91	68006.92	118.908752	907.4	false
13C6-PFDA	519.0 / 474.0	3.26	64418.33	128.056492	230464.6	false
13C7-PFUnA	570.0 / 525.0	3.58	67503.05	128.927786	408.0	false
13C2-PFTeDA	715.0 / 670.0	4.34	62543.20	123.816087	664.9	false
13C3-PFBS	302.0 / 99.0	1.49	14665.68	100.013265	337.3	false
13C3-PFHxS	402.0 / 99.0	2.17	13031.22	112.276446	254.3	false
13C8-PFOS	507.0 / 99.0	2.91	16048.20	118.580317	160.8	false

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Summary Quant 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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.87	70186.98	94.825545	507.4	false
d3-MeFOSAA	573.0 / 419.0	3.42	13207.30	100.655926	236.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	13214.01	99.262385	189.6	false
13C5-PFHxA	318.0 / 273.0	1.79	47124.16	102.800449	430.8	false
13C4-PFHpA	367.0 / 322.0	2.16	50511.70	99.683605	506.8	false
13C8-PFOA	421.0 / 376.0	2.54	61904.36	104.322351	12619.1	false
13C9-PFNA	472.0 / 427.0	2.91	67365.33	105.177728	552.3	false
13C6-PFDA	519.0 / 474.0	3.26	71582.42	111.661381	2955.2	false
13C7-PFUnA	570.0 / 525.0	3.58	69758.92	104.550791	454.0	false
13C2-PFTeDA	715.0 / 670.0	4.35	61859.23	96.096148	845.0	false
13C3-PFBS	302.0 / 99.0	1.50	15770.66	86.864344	361.0	false
13C3-PFHxS	402.0 / 99.0	2.18	14580.02	101.460736	353.7	false
13C8-PFOS	507.0 / 99.0	2.91	13797.08	82.339789	155.0	false

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Summary Quant 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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.87	72415.24	104.158026	474.9	false
d3-MeFOSAA	573.0 / 419.0	3.43	11574.08	76.481236	196.0	false
d5-EtFOSAA	589.0 / 419.0	3.59	11368.11	74.042566	202.1	false
13C5-PFHxA	318.0 / 273.0	1.79	45296.07	95.060508	451.5	false
13C4-PFHpA	367.0 / 322.0	2.16	49627.22	94.219317	723.9	false
13C8-PFOA	421.0 / 376.0	2.53	63017.92	102.166485	936.0	false
13C9-PFNA	472.0 / 427.0	2.91	61090.06	91.758470	541.1	false
13C6-PFDA	519.0 / 474.0	3.26	60045.68	99.717738	665.7	false
13C7-PFUnA	570.0 / 525.0	3.58	66473.52	106.064565	353.7	false
13C2-PFTeDA	715.0 / 670.0	4.34	59216.74	97.935459	760.1	false
13C3-PFBS	302.0 / 99.0	1.50	16863.08	80.532620	371.5	false
13C3-PFHxS	402.0 / 99.0	2.18	14241.70	85.930002	269.6	false
13C8-PFOS	507.0 / 99.0	2.91	16254.19	84.106777	174.2	false

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Summary Quant 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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	73164.36	91.327194	663.3	false
d3-MeFOSAA	573.0 / 419.0	3.41	13239.58	94.381327	246.2	false
d5-EtFOSAA	589.0 / 419.0	3.57	14857.53	104.395906	204.9	false
13C5-PFHxA	318.0 / 273.0	1.78	48341.10	95.186150	561.7	false
13C4-PFHpA	367.0 / 322.0	2.15	56197.16	100.104134	704.3	false
13C8-PFOA	421.0 / 376.0	2.53	64135.24	97.557055	701.1	false
13C9-PFNA	472.0 / 427.0	2.90	70537.85	99.406648	716.3	false
13C6-PFDA	519.0 / 474.0	3.25	68564.85	98.816602	566.4	false
13C7-PFUnA	570.0 / 525.0	3.57	68919.76	95.433998	371.9	false
13C2-PFTeDA	715.0 / 670.0	4.34	66822.00	95.907524	747.9	false
13C3-PFBS	302.0 / 99.0	1.49	16670.21	85.885424	263.7	false
13C3-PFHxS	402.0 / 99.0	2.17	15216.89	99.049551	265.6	false
13C8-PFOS	507.0 / 99.0	2.90	16414.26	91.628477	183.5	false

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Summary Quant 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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.87	74577.02	94.063097	645.1	false
d3-MeFOSAA	573.0 / 419.0	3.42	15077.25	109.945365	192.3	false
d5-EtFOSAA	589.0 / 419.0	3.58	14464.28	103.962415	164.4	false
13C5-PFHxA	318.0 / 273.0	1.79	49285.04	106.520633	811.5	false
13C4-PFHpA	367.0 / 322.0	2.15	51689.34	101.064807	574.8	false
13C8-PFOA	421.0 / 376.0	2.53	60939.79	101.747617	871.0	false
13C9-PFNA	472.0 / 427.0	2.91	70162.91	108.533082	3107.3	false
13C6-PFDA	519.0 / 474.0	3.26	67861.53	98.824751	573.2	false
13C7-PFUnA	570.0 / 525.0	3.58	68424.99	95.738769	298.4	false
13C2-PFTeDA	715.0 / 670.0	4.34	62913.72	91.241473	920.6	false
13C3-PFBS	302.0 / 99.0	1.49	15929.98	83.953010	381.8	false
13C3-PFHxS	402.0 / 99.0	2.17	12330.47	82.101095	217.0	false
13C8-PFOS	507.0 / 99.0	2.90	15895.00	90.763809	215.6	false

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Summary Quant 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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	70246.21	103.258698	537.2	false
d3-MeFOSAA	573.0 / 419.0	3.42	12402.41	94.237946	230.7	false
d5-EtFOSAA	589.0 / 419.0	3.57	12260.05	91.819917	155.4	false
13C5-PFHxA	318.0 / 273.0	1.79	43467.93	100.314248	568.3	false
13C4-PFHpA	367.0 / 322.0	2.15	46852.56	97.815433	401.0	false
13C8-PFOA	421.0 / 376.0	2.53	55874.04	99.611274	793.2	false
13C9-PFNA	472.0 / 427.0	2.91	66707.96	110.181153	892.1	false
13C6-PFDA	519.0 / 474.0	3.25	57664.75	97.868289	474.5	false
13C7-PFUnA	570.0 / 525.0	3.57	57857.20	94.345227	313.6	false
13C2-PFTeDA	715.0 / 670.0	4.34	57243.45	96.752500	633.2	false
13C3-PFBS	302.0 / 99.0	1.49	15689.56	86.158262	382.5	false
13C3-PFHxS	402.0 / 99.0	2.17	13826.35	95.927222	231.9	false
13C8-PFOS	507.0 / 99.0	2.91	13393.54	79.691565	165.7	false

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Summary Quant 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	70463.09	101.919222	558.0	false
d3-MeFOSAA	573.0 / 419.0	3.42	12701.57	92.160096	185.7	false
d5-EtFOSAA	589.0 / 419.0	3.58	14702.03	105.144788	217.6	false
13C5-PFHxA	318.0 / 273.0	1.79	44347.93	103.655044	486.9	false
13C4-PFHpA	367.0 / 322.0	2.15	50248.97	106.248952	496.2	false
13C8-PFOA	421.0 / 376.0	2.53	58047.56	104.810744	801.2	false
13C9-PFNA	472.0 / 427.0	2.91	62905.57	105.230632	777.3	false
13C6-PFDA	519.0 / 474.0	3.25	62896.97	105.039340	640.8	false
13C7-PFUnA	570.0 / 525.0	3.57	64543.14	103.562694	347.9	false
13C2-PFTeDA	715.0 / 670.0	4.34	63438.70	105.507031	750.0	false
13C3-PFBS	302.0 / 99.0	1.49	15916.17	83.462346	317.7	false
13C3-PFHxS	402.0 / 99.0	2.17	11432.77	75.744564	217.8	false
13C8-PFOS	507.0 / 99.0	2.90	15191.13	86.312344	156.8	false

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Summary Quant Report

Created with Analyst Reporter
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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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.87	73303.40	87.606790	589.0	false
d3-MeFOSAA	573.0 / 419.0	3.42	15354.60	127.826747	101.8	true
d5-EtFOSAA	589.0 / 419.0	3.58	11854.61	97.273702	148.4	false
13C5-PFHxA	318.0 / 273.0	1.79	48505.88	95.408829	663.8	false
13C4-PFHpA	367.0 / 322.0	2.15	54248.00	96.529111	567.2	false
13C8-PFOA	421.0 / 376.0	2.53	58075.27	88.245017	801.4	false
13C9-PFNA	472.0 / 427.0	2.91	57363.05	80.753697	750.9	false
13C6-PFDA	519.0 / 474.0	3.26	60038.60	82.846084	619.7	false
13C7-PFUnA	570.0 / 525.0	3.57	66641.75	88.352499	335.8	false
13C2-PFTeDA	715.0 / 670.0	4.34	67677.67	93.001880	843.7	false
13C3-PFBS	302.0 / 99.0	1.49	18166.23	109.298570	386.7	false
13C3-PFHxS	402.0 / 99.0	2.17	13217.21	100.470241	237.2	false
13C8-PFOS	507.0 / 99.0	2.90	17958.60	117.072005	177.0	false

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Summary Quant Report

Created with Analyst Reporter
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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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	67111.68	98.742934	761.9	false
d3-MeFOSAA	573.0 / 419.0	3.42	13350.72	153.106254	131.2	false
d5-EtFOSAA	589.0 / 419.0	3.57	9825.44	111.061862	152.1	false
13C5-PFHxA	318.0 / 273.0	1.79	36583.99	87.786954	1192.4	false
13C4-PFHpA	367.0 / 322.0	2.15	40775.23	88.514764	592.5	false
13C8-PFOA	421.0 / 376.0	2.53	47919.81	88.829816	915.5	false
13C9-PFNA	472.0 / 427.0	2.91	46610.69	80.049839	764.8	false
13C6-PFDA	519.0 / 474.0	3.25	45426.46	77.169321	345.4	false
13C7-PFUnA	570.0 / 525.0	3.57	50866.89	83.023670	281.9	false
13C2-PFTeDA	715.0 / 670.0	4.34	58957.22	99.741898	560.3	false
13C3-PFBS	302.0 / 99.0	1.50	14470.42	119.932160	302.1	true
13C3-PFHxS	402.0 / 99.0	2.17	9400.90	98.440142	184.9	false
13C8-PFOS	507.0 / 99.0	2.90	12338.82	110.804917	154.2	true

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Summary Quant Report

Created with Analyst Reporter
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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	2018-06-04T19:34:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.79	7101.86	5.532306	10.0	true
PFHxA_2	313.0 / 119.0	1.79	352.88	< 0	5.7	true
PFHxS_1	399.0 / 80.0	2.18	9310.54	27.002198	203.0	false
PFHxS_2	399.0 / 99.0	2.17	2873.36	23.631500	52.4	false
PFOS_1	499.0 / 80.0	2.91	12261.86	20.201554	93.3	false
PFOS_2	499.0 / 99.0	2.91	3342.79	20.785422	66.9	true
PFUnA_1	563.0 / 519.0	3.60	10215.34	19.847913	48.5	true
PFUnA_2	563.0 / 269.0	3.59	735.63	< 0	29.0	true
PFTrDA_1	663.0 / 619.0	4.14	9495.55	17.820321	94.6	false
PFTrDA_2	663.0 / 169.0	4.14	499.81	4.270220	33.8	false

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Summary Quant Report

Created with Analyst Reporter
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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	2018-06-04T19:44:51	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.79	18394.85	49.594148	24.0	true
PFHxA_2	313.0 / 119.0	1.78	842.32	4.917811	13.6	true
PFHxS_1	399.0 / 80.0	2.17	16513.18	48.651543	176.1	false
PFHxS_2	399.0 / 99.0	2.18	5886.90	55.586062	83.0	false
PFOS_1	499.0 / 80.0	2.91	26431.57	46.934382	151.9	false
PFOS_2	499.0 / 99.0	2.91	6710.48	55.487182	93.6	false
PFUnA_1	563.0 / 519.0	3.59	23165.71	50.062270	79.4	false
PFUnA_2	563.0 / 269.0	3.60	1806.82	43.065320	52.0	false
PFTrDA_1	663.0 / 619.0	4.13	22236.95	54.011640	145.7	false
PFTrDA_2	663.0 / 169.0	4.12	1269.66	35.468877	64.6	false

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Summary Quant Report

Created with Analyst Reporter
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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	2018-06-04T19:55:39	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.79	32917.11	108.340209	33.0	true
PFHxA_2	313.0 / 119.0	1.79	2786.25	116.325953	21.9	true
PFHxS_1	399.0 / 80.0	2.17	35776.15	111.928455	414.1	false
PFHxS_2	399.0 / 99.0	2.17	10654.85	109.728491	124.0	false
PFOS_1	499.0 / 80.0	2.91	53207.18	107.983313	197.0	false
PFOS_2	499.0 / 99.0	2.91	8804.53	83.990824	175.8	false
PFUnA_1	563.0 / 519.0	3.59	48035.67	111.452360	127.4	false
PFUnA_2	563.0 / 269.0	3.59	2731.58	89.598884	79.1	false
PFTrDA_1	663.0 / 619.0	4.13	40062.28	108.910297	188.2	false
PFTrDA_2	663.0 / 169.0	4.12	3150.43	116.693833	128.0	false

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Summary Quant Report

Created with Analyst Reporter
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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	2018-06-04T20:06:27	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.78	78117.72	253.418132	57.1	false
PFHxA_2	313.0 / 119.0	1.78	5947.06	258.832749	40.5	false
PFHxS_1	399.0 / 80.0	2.17	74491.80	215.699165	470.1	false
PFHxS_2	399.0 / 99.0	2.16	22856.79	223.267676	203.8	false
PFOS_1	499.0 / 80.0	2.90	120843.51	241.902053	387.1	false
PFOS_2	499.0 / 99.0	2.91	23612.06	249.265872	218.5	false
PFUnA_1	563.0 / 519.0	3.58	113775.94	278.465867	194.7	false
PFUnA_2	563.0 / 269.0	3.58	6478.48	280.024039	135.4	false
PFTrDA_1	663.0 / 619.0	4.12	96193.88	267.690412	281.8	false
PFTrDA_2	663.0 / 169.0	4.12	6336.05	243.784060	230.4	false

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Summary Quant 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	2018-06-04T20:17:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.78	127903.96	507.575341	70.2	false
PFHxA_2	313.0 / 119.0	1.78	7914.74	428.117422	51.5	false
PFHxS_1	399.0 / 80.0	2.17	144180.07	518.961762	558.9	false
PFHxS_2	399.0 / 99.0	2.17	40590.51	498.642930	286.7	false
PFOS_1	499.0 / 80.0	2.90	209283.48	530.777101	399.5	false
PFOS_2	499.0 / 99.0	2.90	38345.34	526.966919	281.5	false
PFUnA_1	563.0 / 519.0	3.58	201101.62	491.554609	219.9	false
PFUnA_2	563.0 / 269.0	3.58	10719.80	486.642009	174.0	false
PFTrDA_1	663.0 / 619.0	4.12	172001.13	506.930895	380.0	false
PFTrDA_2	663.0 / 169.0	4.12	12898.12	535.379714	310.9	false

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Summary Quant 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	2018-06-04T20:28:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.79	248566.26	999.237196	100.9	false
PFHxA_2	313.0 / 119.0	1.78	18276.76	1035.349989	81.7	false
PFHxS_1	399.0 / 80.0	2.17	274347.70	1074.412721	761.0	false
PFHxS_2	399.0 / 99.0	2.17	80898.87	1088.100159	333.4	false
PFOS_1	499.0 / 80.0	2.91	416429.63	1209.203973	570.8	false
PFOS_2	499.0 / 99.0	2.91	78413.28	1253.612746	411.1	false
PFUnA_1	563.0 / 519.0	3.58	383124.61	1001.313491	277.7	false
PFUnA_2	563.0 / 269.0	3.58	23099.79	1170.936779	317.4	false
PFTrDA_1	663.0 / 619.0	4.12	332464.74	1039.791932	480.6	false
PFTrDA_2	663.0 / 169.0	4.12	24548.25	1087.288041	486.1	false

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Summary Quant 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	2018-06-04T20:38:50	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.79	620325.11	2393.126171	176.0	false
PFHxA_2	313.0 / 119.0	1.78	44498.48	2443.647059	147.9	false
PFHxS_1	399.0 / 80.0	2.17	681460.07	2319.270796	990.1	false
PFHxS_2	399.0 / 99.0	2.17	202599.99	2374.504861	503.6	false
PFOS_1	499.0 / 80.0	2.90	959074.89	2360.822596	617.2	false
PFOS_2	499.0 / 99.0	2.90	168521.86	2295.033107	654.5	false
PFUnA_1	563.0 / 519.0	3.58	943482.55	2421.926401	411.2	false
PFUnA_2	563.0 / 269.0	3.58	48135.46	2434.180604	337.0	false
PFTrDA_1	663.0 / 619.0	4.12	804283.29	2517.595628	731.9	false
PFTrDA_2	663.0 / 169.0	4.12	57019.80	2535.950933	717.2	false

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Summary Quant 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	2018-06-04T20:49:37	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.78	2590677.08	9955.372869	363.8	false
PFHxA_2	313.0 / 119.0	1.78	175150.62	9636.089413	249.7	false
PFHxS_1	399.0 / 80.0	2.17	2637569.29	9841.785586	1151.7	false
PFHxS_2	399.0 / 99.0	2.17	757789.65	9753.715741	772.4	false
PFOS_1	499.0 / 80.0	2.90	3728644.98	9907.258193	789.1	false
PFOS_2	499.0 / 99.0	2.90	675917.72	9986.300410	813.9	false
PFUnA_1	563.0 / 519.0	3.58	3816093.45	10414.777473	734.0	false
PFUnA_2	563.0 / 269.0	3.58	187490.91	10198.758865	651.9	false
PFTrDA_1	663.0 / 619.0	4.11	3229102.82	9814.361419	1074.8	false
PFTrDA_2	663.0 / 169.0	4.11	223266.98	9675.448826	912.4	false

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Summary Quant 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	2018-06-04T21:00:25	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.78	5686869.74	20477.335935	548.3	false
PFHxA_2	313.0 / 119.0	1.78	402511.63	20775.137414	331.8	false
PFHxS_1	399.0 / 80.0	2.16	5745577.77	20611.537773	1076.9	false
PFHxS_2	399.0 / 99.0	2.16	1667610.99	20642.072581	922.7	false
PFOS_1	499.0 / 80.0	2.90	7779219.11	19999.916836	774.3	false
PFOS_2	499.0 / 99.0	2.90	1394772.78	19953.557518	1036.1	false
PFUnA_1	563.0 / 519.0	3.58	7874848.73	19635.599616	760.6	false
PFUnA_2	563.0 / 269.0	3.57	395619.21	19696.793500	942.8	false
PFTrDA_1	663.0 / 619.0	4.12	7047137.50	20101.185251	1239.4	false
PFTrDA_2	663.0 / 169.0	4.11	493085.92	20176.892858	1100.9	false

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Summary Ion Ratio 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	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.350	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.270	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.28	PFDA	0.030	0.039	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.053	
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.090	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.040	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.500	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.370	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.310	0.293	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.050	0.061	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.310	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.150	0.185	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.050	0.039	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	3.60	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.180	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.580	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.050	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.330	0.292	ü
PFOS_1	499.0 / 80.0	2.92	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.160	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.040	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.090	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.310	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.280	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.510	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.270	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.030	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.280	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.610	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.570	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.070	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.570	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-06-04T19:34:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.050	0.072	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.309	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.273	0.200	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.072	0.057	ü
PFTrDA_1	663.0 / 619.0	4.14	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.14	PFTrDA	0.053	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T19:44:51	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.046	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.357	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.254	0.200	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.60	PFUnA	0.078	0.057	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.057	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T19:55:39	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.085	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.298	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.166	0.200	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.057	0.057	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.079	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T20:06:27	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.076	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.307	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.195	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.057	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.066	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:17:13 PM

Sample Name	JV24	**Injection Vial**	6
Sample ID	L5	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:17:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.062	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.282	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.183	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.053	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.075	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T20:28:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.074	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.295	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.188	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.060	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.074	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:17:18 PM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:38:50	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.072	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.297	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.176	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.051	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.071	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:17:21 PM

Sample Name	JV27	**Injection Vial**	9
Sample ID	L8	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:49:37	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.068	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.287	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.181	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.069	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:17:24 PM

Sample Name	JV28	**Injection Vial**	10
Sample ID	L9	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:00:25	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.071	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.290	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.179	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü

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Summary Internal Standard Report

Created with Analyst Reporter
Printed: 05/06/2018 1:18:42 PM

Sample Name	JV20	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	14665.68	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	14665.68	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	46363.84	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	46363.84	100.00
PFHpA_1	363.0 / 319.0	2.17	13C4-PFHpA	367.0 / 322.0	52405.64	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	52405.64	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	13031.22	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	13031.22	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	59721.62	100.00
PFOA_2	413.0 / 169.0	2.53	13C8-PFOA	421.0 / 376.0	59721.62	100.00
PFNA_1	463.0 / 419.0	2.93	13C9-PFNA	472.0 / 427.0	68006.92	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	68006.92	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	16048.20	95.70
PFOS_2	499.0 / 99.0	2.92	13C8-PFOS	507.0 / 99.0	16048.20	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	64418.33	100.00
PFDA_2	513.0 / 219.0	3.28	13C6-PFDA	519.0 / 474.0	64418.33	100.00
PFUnA_1	563.0 / 519.0	3.60	13C7-PFUnA	570.0 / 525.0	67503.05	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	67503.05	100.00
PFDoA_1	613.0 / 569.0	3.88	13C2-PFDoA	615.0 / 570.0	72077.91	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFDoA	615.0 / 570.0	72077.91	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	62543.20	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	62543.20	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	62543.20	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	62543.20	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	11054.59	100.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	11054.59	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	12153.59	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	12153.59	100.00

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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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	15770.66	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15770.66	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	47124.16	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	47124.16	100.00
PFHpA_1	363.0 / 319.0	2.17	13C4-PFHpA	367.0 / 322.0	50511.70	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	50511.70	100.00
PFHxS_1	399.0 / 80.0	2.19	13C3-PFHxS	402.0 / 99.0	14580.02	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	14580.02	94.60
PFOA_1	413.0 / 369.0	2.55	13C8-PFOA	421.0 / 376.0	61904.36	100.00
PFOA_2	413.0 / 169.0	2.56	13C8-PFOA	421.0 / 376.0	61904.36	100.00
PFNA_1	463.0 / 419.0	2.93	13C9-PFNA	472.0 / 427.0	67365.33	100.00
PFNA_2	463.0 / 219.0	2.93	13C9-PFNA	472.0 / 427.0	67365.33	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	13797.08	95.70
PFOS_2	499.0 / 99.0	2.92	13C8-PFOS	507.0 / 99.0	13797.08	95.70
PFDA_1	513.0 / 469.0	3.28	13C6-PFDA	519.0 / 474.0	71582.42	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	71582.42	100.00
PFUnA_1	563.0 / 519.0	3.60	13C7-PFUnA	570.0 / 525.0	69758.92	100.00
PFUnA_2	563.0 / 269.0	3.60	13C7-PFUnA	570.0 / 525.0	69758.92	100.00
PFDoA_1	613.0 / 569.0	3.88	13C2-PFDoA	615.0 / 570.0	70186.98	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFDoA	615.0 / 570.0	70186.98	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	61859.23	100.00
PFTrDA_2	663.0 / 169.0	4.13	13C2-PFTeDA	715.0 / 670.0	61859.23	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFTeDA	715.0 / 670.0	61859.23	100.00
PFTeDA_2	713.0 / 169.0	4.36	13C2-PFTeDA	715.0 / 670.0	61859.23	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	13207.30	100.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	13207.30	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	13214.01	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	13214.01	100.00

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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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	16863.08	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	16863.08	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	45296.07	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	45296.07	100.00
PFHpA_1	363.0 / 319.0	2.17	13C4-PFHpA	367.0 / 322.0	49627.22	100.00
PFHpA_2	363.0 / 169.0	2.17	13C4-PFHpA	367.0 / 322.0	49627.22	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	14241.70	94.60
PFHxS_2	399.0 / 99.0	2.19	13C3-PFHxS	402.0 / 99.0	14241.70	94.60
PFOA_1	413.0 / 369.0	2.55	13C8-PFOA	421.0 / 376.0	63017.92	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	63017.92	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	61090.06	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	61090.06	100.00
PFOS_1	499.0 / 80.0	2.92	13C8-PFOS	507.0 / 99.0	16254.19	95.70
PFOS_2	499.0 / 99.0	2.92	13C8-PFOS	507.0 / 99.0	16254.19	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	60045.68	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	60045.68	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	66473.52	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	66473.52	100.00
PFDoA_1	613.0 / 569.0	3.88	13C2-PFDoA	615.0 / 570.0	72415.24	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFDoA	615.0 / 570.0	72415.24	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	59216.74	100.00
PFTrDA_2	663.0 / 169.0	4.13	13C2-PFTeDA	715.0 / 670.0	59216.74	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	59216.74	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	59216.74	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	11574.08	100.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	11574.08	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	11866.78	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	11866.78	100.00

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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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	16670.21	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	16670.21	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	48341.10	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	48341.10	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	56197.16	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	56197.16	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	15216.89	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	15216.89	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	64135.24	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	64135.24	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	70537.85	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	70537.85	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	16414.26	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	16414.26	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	68564.85	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	68564.85	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	68919.76	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	68919.76	100.00
PFDoA_1	613.0 / 569.0	3.87	13C2-PFDoA	615.0 / 570.0	73164.36	100.00
PFDoA_2	613.0 / 319.0	3.87	13C2-PFDoA	615.0 / 570.0	73164.36	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	66822.00	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	66822.00	100.00
PFTeDA_1	713.0 / 669.0	4.34	13C2-PFTeDA	715.0 / 670.0	66822.00	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	66822.00	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	13239.58	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	13239.58	100.00
NEtFOSAA_1	584.0 / 419.0	3.58	d5-EtFOSAA	589.0 / 419.0	14857.53	100.00
NEtFOSAA_2	584.0 / 483.0	3.58	d5-EtFOSAA	589.0 / 419.0	14857.53	100.00

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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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	15929.98	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15929.98	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	49285.04	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	49285.04	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	51689.34	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	51689.34	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	12330.47	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	12330.47	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	60939.79	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	60939.79	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	70162.91	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	70162.91	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	15895.00	95.70
PFOS_2	499.0 / 99.0	2.92	13C8-PFOS	507.0 / 99.0	15895.00	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	67861.53	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	67861.53	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	68424.99	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	68424.99	100.00
PFDoA_1	613.0 / 569.0	3.88	13C2-PFDoA	615.0 / 570.0	74577.02	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFDoA	615.0 / 570.0	74577.02	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	62913.72	100.00
PFTrDA_2	663.0 / 169.0	4.13	13C2-PFTeDA	715.0 / 670.0	62913.72	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	62913.72	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	62913.72	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	15077.25	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	15077.25	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	14464.28	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	14464.28	100.00

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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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	15689.56	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15689.56	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	43467.93	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	43467.93	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	46852.56	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	46852.56	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	13826.35	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	13826.35	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	55874.04	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	55874.04	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	66707.96	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	66707.96	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	13393.54	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	13393.54	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	57664.75	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	57664.75	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	57857.20	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	57857.20	100.00
PFDoA_1	613.0 / 569.0	3.87	13C2-PFDoA	615.0 / 570.0	70246.21	100.00
PFDoA_2	613.0 / 319.0	3.87	13C2-PFDoA	615.0 / 570.0	70246.21	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	57243.45	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	57243.45	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	57243.45	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	57243.45	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	12402.41	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	12402.41	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	12260.05	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	12260.05	100.00

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Summary Internal Standard 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	15916.17	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15916.17	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	44347.93	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	44347.93	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	50248.97	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	50248.97	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	11432.77	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	11432.77	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	58047.56	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	58047.56	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	62905.57	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	62905.57	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	15191.13	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	15191.13	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	62896.97	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	62896.97	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	64543.14	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	64543.14	100.00
PFDoA_1	613.0 / 569.0	3.87	13C2-PFDoA	615.0 / 570.0	70463.09	100.00
PFDoA_2	613.0 / 319.0	3.87	13C2-PFDoA	615.0 / 570.0	70463.09	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	63438.70	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	63438.70	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	63438.70	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	63438.70	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	12701.57	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	12701.57	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	14702.03	100.00
NEtFOSAA_2	584.0 / 483.0	3.58	d5-EtFOSAA	589.0 / 419.0	14702.03	100.00

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Summary Internal Standard 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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	18166.23	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	18166.23	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	48505.88	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	48505.88	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	54248.00	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	54248.00	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	13217.21	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	13217.21	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	58075.27	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	58075.27	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	57363.05	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	57363.05	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	17958.60	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	17958.60	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	60038.60	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	60038.60	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	66641.75	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	66641.75	100.00
PFDoA_1	613.0 / 569.0	3.88	13C2-PFDoA	615.0 / 570.0	73303.40	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFDoA	615.0 / 570.0	73303.40	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	67677.67	100.00
PFTrDA_2	663.0 / 169.0	4.13	13C2-PFTeDA	715.0 / 670.0	67677.67	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	67677.67	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFTeDA	715.0 / 670.0	67677.67	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	15802.02	100.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	15802.02	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	11854.61	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	11854.61	100.00

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Summary Internal Standard 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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	13C3-PFBS	302.0 / 99.0	15356.82	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15356.82	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	36583.99	100.00
PFHxA_2	313.0 / 119.0	1.80	13C5-PFHxA	318.0 / 273.0	36583.99	100.00
PFHpA_1	363.0 / 319.0	2.17	13C4-PFHpA	367.0 / 322.0	40775.23	100.00
PFHpA_2	363.0 / 169.0	2.17	13C4-PFHpA	367.0 / 322.0	40775.23	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	9400.90	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	9400.90	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	47919.81	100.00
PFOA_2	413.0 / 169.0	2.54	13C8-PFOA	421.0 / 376.0	47919.81	100.00
PFNA_1	463.0 / 419.0	2.92	13C9-PFNA	472.0 / 427.0	46610.69	100.00
PFNA_2	463.0 / 219.0	2.92	13C9-PFNA	472.0 / 427.0	46610.69	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	13549.14	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	13549.14	95.70
PFDA_1	513.0 / 469.0	3.27	13C6-PFDA	519.0 / 474.0	45426.46	100.00
PFDA_2	513.0 / 219.0	3.27	13C6-PFDA	519.0 / 474.0	45426.46	100.00
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	50866.89	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	50866.89	100.00
PFDoA_1	613.0 / 569.0	3.87	13C2-PFDoA	615.0 / 570.0	67111.68	100.00
PFDoA_2	613.0 / 319.0	3.87	13C2-PFDoA	615.0 / 570.0	67111.68	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	58957.22	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	58957.22	100.00
PFTeDA_1	713.0 / 669.0	4.35	13C2-PFTeDA	715.0 / 670.0	58957.22	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	58957.22	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	13350.72	100.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	13350.72	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	9825.44	100.00
NEtFOSAA_2	584.0 / 483.0	3.59	d5-EtFOSAA	589.0 / 419.0	9825.44	100.00

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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	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.87	13C2-PFDA	515.0 / 470.0	37366.93	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	9387.42	95.50
d5-EtFOSAA	589.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	9387.42	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	39583.61	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	39583.61	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	39583.61	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	39583.61	100.00
13C6-PFDA	519.0 / 474.0	3.26	13C2-PFDA	515.0 / 470.0	37366.93	100.00
13C7-PFUnA	570.0 / 525.0	3.58	13C2-PFDA	515.0 / 470.0	37366.93	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	37366.93	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	9387.42	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	9387.42	95.50
13C8-PFOS	507.0 / 99.0	2.91	13C4-PFOS	503.0 / 99.0	9387.42	95.50

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Summary Internal Standard 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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.87	13C2-PFDA	515.0 / 470.0	47619.29	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	11622.78	95.50
d5-EtFOSAA	589.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	11622.78	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	44329.09	100.00
13C4-PFHpA	367.0 / 322.0	2.16	13C2-PFOA	415.0 / 370.0	44329.09	100.00
13C8-PFOA	421.0 / 376.0	2.54	13C2-PFOA	415.0 / 370.0	44329.09	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	44329.09	100.00
13C6-PFDA	519.0 / 474.0	3.26	13C2-PFDA	515.0 / 470.0	47619.29	100.00
13C7-PFUnA	570.0 / 525.0	3.58	13C2-PFDA	515.0 / 470.0	47619.29	100.00
13C2-PFTeDA	715.0 / 670.0	4.35	13C2-PFDA	515.0 / 470.0	47619.29	100.00
13C3-PFBS	302.0 / 99.0	1.50	13C4-PFOS	503.0 / 99.0	11622.78	95.50
13C3-PFHxS	402.0 / 99.0	2.18	13C4-PFOS	503.0 / 99.0	11622.78	95.50
13C8-PFOS	507.0 / 99.0	2.91	13C4-PFOS	503.0 / 99.0	11622.78	95.50

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Summary Internal Standard 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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.87	13C2-PFDA	515.0 / 470.0	44728.98	100.00
d3-MeFOSAA	573.0 / 419.0	3.43	13C4-PFOS	503.0 / 99.0	13405.00	95.50
d5-EtFOSAA	589.0 / 419.0	3.59	13C4-PFOS	503.0 / 99.0	13405.00	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	46078.73	100.00
13C4-PFHpA	367.0 / 322.0	2.16	13C2-PFOA	415.0 / 370.0	46078.73	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	46078.73	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	46078.73	100.00
13C6-PFDA	519.0 / 474.0	3.26	13C2-PFDA	515.0 / 470.0	44728.98	100.00
13C7-PFUnA	570.0 / 525.0	3.58	13C2-PFDA	515.0 / 470.0	44728.98	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	44728.98	100.00
13C3-PFBS	302.0 / 99.0	1.50	13C4-PFOS	503.0 / 99.0	13405.00	95.50
13C3-PFHxS	402.0 / 99.0	2.18	13C4-PFOS	503.0 / 99.0	13405.00	95.50
13C8-PFOS	507.0 / 99.0	2.91	13C4-PFOS	503.0 / 99.0	13405.00	95.50

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Summary Internal Standard 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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	51540.81	100.00
d3-MeFOSAA	573.0 / 419.0	3.41	13C4-PFOS	503.0 / 99.0	12425.77	95.50
d5-EtFOSAA	589.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	12425.77	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	49111.47	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	49111.47	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	49111.47	100.00
13C9-PFNA	472.0 / 427.0	2.90	13C2-PFOA	415.0 / 370.0	49111.47	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	51540.81	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	51540.81	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	51540.81	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	12425.77	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	12425.77	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	12425.77	95.50

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Summary Internal Standard 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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.87	13C2-PFDA	515.0 / 470.0	51007.91	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	12147.32	95.50
d5-EtFOSAA	589.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	12147.32	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	44742.64	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	44742.64	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	44742.64	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	44742.64	100.00
13C6-PFDA	519.0 / 474.0	3.26	13C2-PFDA	515.0 / 470.0	51007.91	100.00
13C7-PFUnA	570.0 / 525.0	3.58	13C2-PFDA	515.0 / 470.0	51007.91	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	51007.91	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	12147.32	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	12147.32	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	12147.32	95.50

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Summary Internal Standard 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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	43767.12	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	11657.77	95.50
d5-EtFOSAA	589.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	11657.77	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	41903.13	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	41903.13	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	41903.13	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	41903.13	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	43767.12	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	43767.12	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	43767.12	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	11657.77	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	11657.77	95.50
13C8-PFOS	507.0 / 99.0	2.91	13C4-PFOS	503.0 / 99.0	11657.77	95.50

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Summary Internal Standard 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	44479.24	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	12208.14	95.50
d5-EtFOSAA	589.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	12208.14	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	41373.58	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	41373.58	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	41373.58	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	41373.58	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	44479.24	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	44479.24	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	44479.24	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	12208.14	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	12208.14	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	12208.14	95.50

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Summary Internal Standard 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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.87	13C2-PFDA	515.0 / 470.0	53831.70	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	10640.25	95.50
d5-EtFOSAA	589.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	10640.25	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	49163.86	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	49163.86	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	49163.86	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	49163.86	100.00
13C6-PFDA	519.0 / 474.0	3.26	13C2-PFDA	515.0 / 470.0	53831.70	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	53831.70	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	53831.70	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	10640.25	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	10640.25	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	10640.25	95.50

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Summary Internal Standard 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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	43726.41	100.00
d3-MeFOSAA	573.0 / 419.0	3.42	13C4-PFOS	503.0 / 99.0	7724.08	95.50
d5-EtFOSAA	589.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	7724.08	95.50
13C5-PFHxA	318.0 / 273.0	1.79	13C2-PFOA	415.0 / 370.0	40299.64	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	40299.64	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	40299.64	100.00
13C9-PFNA	472.0 / 427.0	2.91	13C2-PFOA	415.0 / 370.0	40299.64	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	43726.41	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	43726.41	100.00
13C2-PFTeDA	715.0 / 670.0	4.34	13C2-PFDA	515.0 / 470.0	43726.41	100.00
13C3-PFBS	302.0 / 99.0	1.50	13C4-PFOS	503.0 / 99.0	7724.08	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	7724.08	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	7724.08	95.50

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Summary Internal Standard 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	2018-06-04T19:34:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	38896.69	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	38896.69	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	10686.45	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10686.45	94.60
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	13213.35	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	13213.35	95.70
PFUnA_1	563.0 / 519.0	3.60	13C7-PFUnA	570.0 / 525.0	64117.26	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	64117.26	100.00
PFTrDA_1	663.0 / 619.0	4.14	13C2-PFTeDA	715.0 / 670.0	58097.73	100.00
PFTrDA_2	663.0 / 169.0	4.14	13C2-PFTeDA	715.0 / 670.0	58097.73	100.00

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Summary Internal Standard 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	2018-06-04T19:44:51	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	38983.77	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	38983.77	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	11329.51	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	11329.51	94.60
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	14975.38	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	14975.38	95.70
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	65716.75	100.00
PFUnA_2	563.0 / 269.0	3.60	13C7-PFUnA	570.0 / 525.0	65716.75	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	59755.36	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	59755.36	100.00

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Summary Internal Standard 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	2018-06-04T19:55:39	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	38385.46	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	38385.46	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	11281.76	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	11281.76	94.60
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	14472.40	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	14472.40	95.70
PFUnA_1	563.0 / 519.0	3.59	13C7-PFUnA	570.0 / 525.0	64475.07	100.00
PFUnA_2	563.0 / 269.0	3.59	13C7-PFUnA	570.0 / 525.0	64475.07	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFTeDA	715.0 / 670.0	58185.21	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	58185.21	100.00

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Summary Internal Standard 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	2018-06-04T20:06:27	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	43158.67	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	43158.67	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	12453.94	94.60
PFHxS_2	399.0 / 99.0	2.16	13C3-PFHxS	402.0 / 99.0	12453.94	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	15355.95	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	15355.95	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	62759.61	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	62759.61	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	60027.79	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	60027.79	100.00

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Summary Internal Standard 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	2018-06-04T20:17:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	36768.64	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	36768.64	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	10157.75	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10157.75	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	12373.21	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	12373.21	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	63332.30	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	63332.30	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	57788.46	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	57788.46	100.00

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Summary Internal Standard 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	2018-06-04T20:28:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	37063.52	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	37063.52	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	9383.78	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	9383.78	94.60
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	10913.88	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	10913.88	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	59540.79	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	59540.79	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	55202.08	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	55202.08	100.00

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Summary Internal Standard 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	2018-06-04T20:38:50	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	39118.21	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	39118.21	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	10825.66	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10825.66	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	12923.20	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	12923.20	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	60799.90	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	60799.90	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	55964.28	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	55964.28	100.00

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Summary Internal Standard 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	2018-06-04T20:49:37	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	39548.90	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	39548.90	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	9890.86	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	9890.86	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	12008.74	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	12008.74	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	57279.05	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	57279.05	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	60419.15	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	60419.15	100.00

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Summary Internal Standard 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	2018-06-04T21:00:25	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	42254.89	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	42254.89	100.00
PFHxS_1	399.0 / 80.0	2.16	13C3-PFHxS	402.0 / 99.0	10290.74	94.60
PFHxS_2	399.0 / 99.0	2.16	13C3-PFHxS	402.0 / 99.0	10290.74	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	12416.99	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	12416.99	95.70
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	62708.16	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	62708.16	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	68779.24	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	68779.24	100.00

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:22:22 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	1169.732262	1010.00	115.82
PFBS_2	298.9 / 99.0	1.51	1150.612478	1010.00	113.92
PFHxA_1	313.0 / 269.0	1.79	1063.400542	1010.00	105.29
PFHxA_2	313.0 / 119.0	1.79	1101.573922	1010.00	109.07
PFHpA_1	363.0 / 319.0	2.16	1086.721282	1000.00	108.67
PFHpA_2	363.0 / 169.0	2.16	1225.269631	1000.00	122.53
PFHxS_1	399.0 / 80.0	2.18	849.596849	1010.00	84.12
PFHxS_2	399.0 / 99.0	2.18	844.885091	1010.00	83.65
PFOA_1	413.0 / 369.0	2.54	1204.923812	1000.00	120.49
PFOA_2	413.0 / 169.0	2.53	1091.284336	1000.00	109.13
PFNA_1	463.0 / 419.0	2.91	1057.100806	1000.00	105.71
PFNA_2	463.0 / 219.0	2.91	1041.029542	1000.00	104.10
PFOS_1	499.0 / 80.0	2.91	1135.583227	1000.00	113.56
PFOS_2	499.0 / 99.0	2.91	1050.552942	1000.00	105.06
PFDA_1	513.0 / 469.0	3.26	1067.681878	1000.00	106.77
PFDA_2	513.0 / 219.0	3.26	992.247705	1000.00	99.22
PFUnA_1	563.0 / 519.0	3.58	1136.485899	1000.00	113.65
PFUnA_2	563.0 / 269.0	3.58	1220.938085	1000.00	122.09
PFDoA_1	613.0 / 569.0	3.87	1046.633089	1000.00	104.66
PFDoA_2	613.0 / 319.0	3.87	1079.718814	1000.00	107.97
PFTrDA_1	663.0 / 619.0	4.12	1128.467939	1000.00	112.85
PFTrDA_2	663.0 / 169.0	4.12	1232.346514	1000.00	123.23
PFTeDA_1	713.0 / 669.0	4.34	1201.578421	1000.00	120.16
PFTeDA_2	713.0 / 169.0	4.34	1180.769046	1000.00	118.08
NMeFOSAA_1	570.0 / 419.0	3.42	1272.767043	1000.00	127.28
NMeFOSAA_2	570.0 / 512.0	3.42	1230.468323	1000.00	123.05
NEtFOSAA_1	584.0 / 419.0	3.58	1155.210098	1000.00	115.52
NEtFOSAA_2	584.0 / 483.0	3.58	1292.597631	1000.00	129.26

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:22:25 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.50	1155.841173	1010.00	114.44
PFBS_2	298.9 / 99.0	1.50	1184.144446	1010.00	117.24
PFHxA_1	313.0 / 269.0	1.79	958.691332	1010.00	94.92
PFHxA_2	313.0 / 119.0	1.79	969.001755	1010.00	95.94
PFHpA_1	363.0 / 319.0	2.15	1063.948160	1000.00	106.39
PFHpA_2	363.0 / 169.0	2.15	1220.000842	1000.00	122.00
PFHxS_1	399.0 / 80.0	2.17	1007.017220	1010.00	99.70
PFHxS_2	399.0 / 99.0	2.17	1018.041260	1010.00	100.80
PFOA_1	413.0 / 369.0	2.53	956.593459	1000.00	95.66
PFOA_2	413.0 / 169.0	2.53	937.380141	1000.00	93.74
PFNA_1	463.0 / 419.0	2.91	975.764565	1000.00	97.58
PFNA_2	463.0 / 219.0	2.90	989.283175	1000.00	98.93
PFOS_1	499.0 / 80.0	2.90	1178.966465	1000.00	117.90
PFOS_2	499.0 / 99.0	2.90	1147.778878	1000.00	114.78
PFDA_1	513.0 / 469.0	3.26	939.731465	1000.00	93.97
PFDA_2	513.0 / 219.0	3.25	876.840373	1000.00	87.68
PFUnA_1	563.0 / 519.0	3.57	1050.235934	1000.00	105.02
PFUnA_2	563.0 / 269.0	3.57	996.782859	1000.00	99.68
PFDoA_1	613.0 / 569.0	3.86	1187.865845	1000.00	118.79
PFDoA_2	613.0 / 319.0	3.86	1170.419583	1000.00	117.04
PFTrDA_1	663.0 / 619.0	4.11	948.564719	1000.00	94.86
PFTrDA_2	663.0 / 169.0	4.11	1009.633703	1000.00	100.96
PFTeDA_1	713.0 / 669.0	4.33	1040.514186	1000.00	104.05
PFTeDA_2	713.0 / 169.0	4.32	1057.711695	1000.00	105.77
NMeFOSAA_1	570.0 / 419.0	3.41	1277.696048	1000.00	127.77
NMeFOSAA_2	570.0 / 512.0	3.41	1246.386088	1000.00	124.64
NEtFOSAA_1	584.0 / 419.0	3.57	905.959889	1000.00	90.60
NEtFOSAA_2	584.0 / 483.0	3.57	841.317351	1000.00	84.13

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QC Summary Report

Created with Analyst Reporter
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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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.86	99.591394	100.00	99.59
d3-MeFOSAA	573.0 / 419.0	3.41	87.801702	100.00	87.80
d5-EtFOSAA	589.0 / 419.0	3.58	83.818822	100.00	83.82
13C5-PFHxA	318.0 / 273.0	1.78	108.128172	100.00	108.13
13C4-PFHpA	367.0 / 322.0	2.15	109.123442	100.00	109.12
13C8-PFOA	421.0 / 376.0	2.53	104.576992	100.00	104.58
13C9-PFNA	472.0 / 427.0	2.90	104.945706	100.00	104.95
13C6-PFDA	519.0 / 474.0	3.25	95.718152	100.00	95.72
13C7-PFUnA	570.0 / 525.0	3.57	92.192613	100.00	92.19
13C2-PFTeDA	715.0 / 670.0	4.33	89.822548	100.00	89.82
13C3-PFBS	302.0 / 99.0	1.49	87.725173	92.90	94.43
13C3-PFHxS	402.0 / 99.0	2.17	114.454174	94.60	120.99
13C8-PFOS	507.0 / 99.0	2.90	95.337399	95.70	99.62

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:20:58 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.85	87.293185	100.00	87.29
d3-MeFOSAA	573.0 / 419.0	3.40	79.280068	100.00	79.28
d5-EtFOSAA	589.0 / 419.0	3.56	97.701668	100.00	97.70
13C5-PFHxA	318.0 / 273.0	1.78	101.271645	100.00	101.27
13C4-PFHpA	367.0 / 322.0	2.14	98.072585	100.00	98.07
13C8-PFOA	421.0 / 376.0	2.52	111.444740	100.00	111.44
13C9-PFNA	472.0 / 427.0	2.89	102.027948	100.00	102.03
13C6-PFDA	519.0 / 474.0	3.24	101.520947	100.00	101.52
13C7-PFUnA	570.0 / 525.0	3.56	99.978556	100.00	99.98
13C2-PFTeDA	715.0 / 670.0	4.32	96.004996	100.00	96.00
13C3-PFBS	302.0 / 99.0	1.49	66.397849	92.90	71.47
13C3-PFHxS	402.0 / 99.0	2.16	78.079198	94.60	82.54
13C8-PFOS	507.0 / 99.0	2.89	87.621413	95.70	91.56

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:03 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.78	1033.548412	1010.00	102.33
PFHxA_2	313.0 / 119.0	1.78	935.849213	1010.00	92.66
PFHxS_1	399.0 / 80.0	2.16	974.115132	1010.00	96.45
PFHxS_2	399.0 / 99.0	2.16	916.120612	1010.00	90.71
PFOS_1	499.0 / 80.0	2.89	953.947744	1000.00	95.39
PFOS_2	499.0 / 99.0	2.89	921.115125	1000.00	92.11
PFUnA_1	563.0 / 519.0	3.57	1205.245732	1000.00	120.52
PFUnA_2	563.0 / 269.0	3.57	1158.899483	1000.00	115.89
PFTrDA_1	663.0 / 619.0	4.11	1166.321162	1000.00	116.63
PFTrDA_2	663.0 / 169.0	4.11	1147.062964	1000.00	114.71

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:06 PM

Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.77	2672.140702	2525.00	105.83
PFHxA_2	313.0 / 119.0	1.77	2665.781990	2525.00	105.58
PFHxS_1	399.0 / 80.0	2.15	2249.535787	2525.00	89.09
PFHxS_2	399.0 / 99.0	2.15	2258.408038	2525.00	89.44
PFOS_1	499.0 / 80.0	2.87	2898.036469	2500.00	115.92
PFOS_2	499.0 / 99.0	2.87	2885.668045	2500.00	115.43
PFUnA_1	563.0 / 519.0	3.54	2647.470596	2500.00	105.90
PFUnA_2	563.0 / 269.0	3.54	2557.649396	2500.00	102.31
PFTrDA_1	663.0 / 619.0	4.08	2697.895501	2500.00	107.92
PFTrDA_2	663.0 / 169.0	4.08	2668.775753	2500.00	106.75

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:08 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.77	1025.624963	1010.00	101.55
PFHxA_2	313.0 / 119.0	1.77	1033.652674	1010.00	102.34
PFHxS_1	399.0 / 80.0	2.14	966.118373	1010.00	95.66
PFHxS_2	399.0 / 99.0	2.14	974.944978	1010.00	96.53
PFOS_1	499.0 / 80.0	2.87	1002.472377	1000.00	100.25
PFOS_2	499.0 / 99.0	2.87	1004.266830	1000.00	100.43
PFUnA_1	563.0 / 519.0	3.54	1056.928938	1000.00	105.69
PFUnA_2	563.0 / 269.0	3.54	995.944961	1000.00	99.59
PFTrDA_1	663.0 / 619.0	4.08	1043.506325	1000.00	104.35
PFTrDA_2	663.0 / 169.0	4.08	1008.863669	1000.00	100.89

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/06/2018 10:22:59 AM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	346748.67	1169.732262	727.1	false
PFBS_2	298.9 / 99.0	1.51	107028.06	1150.612478	364.6	false
PFHxA_1	313.0 / 269.0	1.79	336918.04	1063.400542	280.0	false
PFHxA_2	313.0 / 119.0	1.79	24129.20	1101.573922	176.4	false
PFHpA_1	363.0 / 319.0	2.16	309874.41	1086.721282	292.9	false
PFHpA_2	363.0 / 169.0	2.16	6853.21	1225.269631	326.7	false
PFHxS_1	399.0 / 80.0	2.18	365303.15	849.596849	552.3	false
PFHxS_2	399.0 / 99.0	2.18	106255.54	844.885091	338.3	false
PFOA_1	413.0 / 369.0	2.54	468161.15	1204.923812	193.7	true
PFOA_2	413.0 / 169.0	2.53	27344.06	1091.284336	216.1	true
PFNA_1	463.0 / 419.0	2.91	440114.67	1057.100806	260.8	false
PFNA_2	463.0 / 219.0	2.91	126838.47	1041.029542	341.3	false
PFOS_1	499.0 / 80.0	2.91	513963.64	1135.583227	365.0	false
PFOS_2	499.0 / 99.0	2.91	88444.74	1050.552942	392.0	false
PFDA_1	513.0 / 469.0	3.26	470226.96	1067.681878	244.5	false
PFDA_2	513.0 / 219.0	3.26	17528.45	992.247705	542.3	false
PFUnA_1	563.0 / 519.0	3.58	470661.52	1136.485899	303.0	false
PFUnA_2	563.0 / 269.0	3.58	25438.96	1220.938085	225.5	false
PFDoA_1	613.0 / 569.0	3.87	444434.67	1046.633089	312.2	false
PFDoA_2	613.0 / 319.0	3.87	74884.36	1079.718814	376.1	false
PFTrDA_1	663.0 / 619.0	4.12	442471.20	1128.467939	517.1	false
PFTrDA_2	663.0 / 169.0	4.12	30888.85	1232.346514	419.5	false
PFTeDA_1	713.0 / 669.0	4.34	466850.56	1201.578421	707.2	false
PFTeDA_2	713.0 / 169.0	4.34	23408.79	1180.769046	576.1	false
NMeFOSAA_1	570.0 / 419.0	3.42	96383.96	1272.767043	503.5	true
NMeFOSAA_2	570.0 / 512.0	3.42	52879.79	1230.468323	329.5	false
NEtFOSAA_1	584.0 / 419.0	3.58	86736.10	1155.210098	599.9	false
NEtFOSAA_2	584.0 / 483.0	3.58	5527.34	1292.597631	376.3	true

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/06/2018 10:23:01 AM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	301540.89	1155.841173	914.9	false
PFBS_2	298.9 / 99.0	1.50	96891.28	1184.144446	405.8	false
PFHxA_1	313.0 / 269.0	1.79	295275.64	958.691332	300.9	false
PFHxA_2	313.0 / 119.0	1.79	20625.13	969.001755	162.9	false
PFHpA_1	363.0 / 319.0	2.15	282961.89	1063.948160	283.6	false
PFHpA_2	363.0 / 169.0	2.15	6364.58	1220.000842	239.1	false
PFHxS_1	399.0 / 80.0	2.17	343482.74	1007.017220	453.3	false
PFHxS_2	399.0 / 99.0	2.17	101566.15	1018.041260	370.1	false
PFOA_1	413.0 / 369.0	2.53	411956.54	956.593459	172.0	true
PFOA_2	413.0 / 169.0	2.53	25982.61	937.380141	178.9	true
PFNA_1	463.0 / 419.0	2.91	409928.93	975.764565	252.9	false
PFNA_2	463.0 / 219.0	2.90	121612.49	989.283175	372.5	false
PFOS_1	499.0 / 80.0	2.90	568032.86	1178.966465	378.5	false
PFOS_2	499.0 / 99.0	2.90	102199.14	1147.778878	423.7	false
PFDA_1	513.0 / 469.0	3.26	433439.84	939.731465	320.4	false
PFDA_2	513.0 / 219.0	3.25	16212.50	876.840373	342.5	false
PFUnA_1	563.0 / 519.0	3.57	465707.96	1050.235934	284.0	false
PFUnA_2	563.0 / 269.0	3.57	22317.01	996.782859	220.5	false
PFDoA_1	613.0 / 569.0	3.86	435758.14	1187.865845	328.0	false
PFDoA_2	613.0 / 319.0	3.86	70166.28	1170.419583	346.9	false
PFTrDA_1	663.0 / 619.0	4.11	392782.26	948.564719	458.1	false
PFTrDA_2	663.0 / 169.0	4.11	26773.90	1009.633703	366.8	false
PFTeDA_1	713.0 / 669.0	4.33	427058.12	1040.514186	713.8	false
PFTeDA_2	713.0 / 169.0	4.32	22130.51	1057.711695	612.2	false
NMeFOSAA_1	570.0 / 419.0	3.41	94618.60	1277.696048	581.2	false
NMeFOSAA_2	570.0 / 512.0	3.41	52372.91	1246.386088	344.7	false
NEtFOSAA_1	584.0 / 419.0	3.57	85020.63	905.959889	551.5	false
NEtFOSAA_2	584.0 / 483.0	3.57	4505.60	841.317351	341.7	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:53 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	74831.21	99.591394	690.7	false
d3-MeFOSAA	573.0 / 419.0	3.41	11224.13	87.801702	163.8	false
d5-EtFOSAA	589.0 / 419.0	3.58	10870.93	83.818822	163.3	false
13C5-PFHxA	318.0 / 273.0	1.78	46220.98	108.128172	836.6	false
13C4-PFHpA	367.0 / 322.0	2.15	51562.98	109.123442	494.8	false
13C8-PFOA	421.0 / 376.0	2.53	57867.10	104.576992	753.0	false
13C9-PFNA	472.0 / 427.0	2.90	62680.00	104.945706	523.1	false
13C6-PFDA	519.0 / 474.0	3.25	62291.31	95.718152	521.8	false
13C7-PFUnA	570.0 / 525.0	3.57	62445.09	92.192613	391.8	false
13C2-PFTeDA	715.0 / 670.0	4.33	58696.69	89.822548	617.4	false
13C3-PFBS	302.0 / 99.0	1.49	15517.00	87.725173	362.8	false
13C3-PFHxS	402.0 / 99.0	2.17	16023.85	114.454174	343.9	false
13C8-PFOS	507.0 / 99.0	2.90	15563.81	95.337399	210.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:56 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	64737.68	87.293185	665.8	false
d3-MeFOSAA	573.0 / 419.0	3.40	11783.08	79.280068	214.4	false
d5-EtFOSAA	589.0 / 419.0	3.56	14732.35	97.701668	202.6	false
13C5-PFHxA	318.0 / 273.0	1.78	44919.97	101.271645	499.9	false
13C4-PFHpA	367.0 / 322.0	2.14	48086.02	98.072585	458.1	false
13C8-PFOA	421.0 / 376.0	2.52	63989.17	111.444740	1208.9	false
13C9-PFNA	472.0 / 427.0	2.89	63231.69	102.027948	759.4	false
13C6-PFDA	519.0 / 474.0	3.24	65208.56	101.520947	1284.5	false
13C7-PFUnA	570.0 / 525.0	3.56	66838.21	99.978556	443.5	false
13C2-PFTeDA	715.0 / 670.0	4.32	61920.99	96.004996	686.1	false
13C3-PFBS	302.0 / 99.0	1.49	13654.71	66.397849	308.3	false
13C3-PFHxS	402.0 / 99.0	2.16	12709.12	78.079198	231.2	false
13C8-PFOS	507.0 / 99.0	2.89	16630.59	87.621413	173.9	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:24:35 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.78	256810.13	1033.548412	124.5	false
PFHxA_2	313.0 / 119.0	1.78	16582.46	935.849213	75.1	false
PFHxS_1	399.0 / 80.0	2.16	292011.61	974.115132	849.1	false
PFHxS_2	399.0 / 99.0	2.16	80068.25	916.120612	358.2	false
PFOS_1	499.0 / 80.0	2.89	412023.66	953.947744	550.8	false
PFOS_2	499.0 / 99.0	2.89	72603.34	921.115125	382.8	false
PFUnA_1	563.0 / 519.0	3.57	435613.56	1205.245732	363.7	false
PFUnA_2	563.0 / 269.0	3.57	21622.51	1158.899483	316.5	false
PFTrDA_1	663.0 / 619.0	4.11	346467.79	1166.321162	434.4	false
PFTrDA_2	663.0 / 169.0	4.11	24076.52	1147.062964	441.3	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:24:37 PM

Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	765141.14	2672.140702	164.9	false
PFHxA_2	313.0 / 119.0	1.77	53599.66	2665.781990	149.8	false
PFHxS_1	399.0 / 80.0	2.15	789305.32	2249.535787	967.0	false
PFHxS_2	399.0 / 99.0	2.15	230145.00	2258.408038	524.6	false
PFOS_1	499.0 / 80.0	2.87	1206835.37	2898.036469	663.7	false
PFOS_2	499.0 / 99.0	2.87	216900.45	2885.668045	591.9	false
PFUnA_1	563.0 / 519.0	3.54	1172630.39	2647.470596	454.8	false
PFUnA_2	563.0 / 269.0	3.54	57467.72	2557.649396	405.5	false
PFTrDA_1	663.0 / 619.0	4.08	924151.89	2697.895501	736.6	false
PFTrDA_2	663.0 / 169.0	4.08	64353.24	2668.775753	648.5	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:24:40 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	270879.37	1025.624963	117.9	false
PFHxA_2	313.0 / 119.0	1.77	19385.28	1033.652674	102.4	false
PFHxS_1	399.0 / 80.0	2.14	296596.18	966.118373	621.3	false
PFHxS_2	399.0 / 99.0	2.14	87199.37	974.944978	341.6	false
PFOS_1	499.0 / 80.0	2.87	449100.55	1002.472377	534.8	false
PFOS_2	499.0 / 99.0	2.87	81968.98	1004.266830	449.2	false
PFUnA_1	563.0 / 519.0	3.54	449256.20	1056.928938	302.3	false
PFUnA_2	563.0 / 269.0	3.54	21968.26	995.944961	323.3	false
PFTrDA_1	663.0 / 619.0	4.08	330031.80	1043.506325	537.7	false
PFTrDA_2	663.0 / 169.0	4.08	22569.61	1008.863669	455.9	false

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:25:24 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.170	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:25:45 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.065	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.274	0.302	ü
PFOS_1	499.0 / 80.0	2.89	PFOS			
PFOS_2	499.0 / 99.0	2.89	PFOS	0.176	0.200	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:25:48 PM

Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.292	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.180	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.070	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:25:51 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.072	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.14	PFHxS	0.294	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.183	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.068	0.070	ü

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Summary Internal Standard Report

Created with Analyst Reporter
Printed: 05/06/2018 1:26:52 PM

Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	15517.00	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	15517.00	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	46220.98	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	46220.98	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	51562.98	100.00
PFHpA_2	363.0 / 169.0	2.16	13C4-PFHpA	367.0 / 322.0	51562.98	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	16023.85	94.60
PFHxS_2	399.0 / 99.0	2.18	13C3-PFHxS	402.0 / 99.0	16023.85	94.60
PFOA_1	413.0 / 369.0	2.54	13C8-PFOA	421.0 / 376.0	57867.10	100.00
PFOA_2	413.0 / 169.0	2.53	13C8-PFOA	421.0 / 376.0	57867.10	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	62680.00	100.00
PFNA_2	463.0 / 219.0	2.91	13C9-PFNA	472.0 / 427.0	62680.00	100.00
PFOS_1	499.0 / 80.0	2.91	13C8-PFOS	507.0 / 99.0	15563.81	95.70
PFOS_2	499.0 / 99.0	2.91	13C8-PFOS	507.0 / 99.0	15563.81	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	62291.31	100.00
PFDA_2	513.0 / 219.0	3.26	13C6-PFDA	519.0 / 474.0	62291.31	100.00
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	62445.09	100.00
PFUnA_2	563.0 / 269.0	3.58	13C7-PFUnA	570.0 / 525.0	62445.09	100.00
PFDoA_1	613.0 / 569.0	3.87	13C2-PFDoA	615.0 / 570.0	74831.21	100.00
PFDoA_2	613.0 / 319.0	3.87	13C2-PFDoA	615.0 / 570.0	74831.21	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	58696.69	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	58696.69	100.00
PFTeDA_1	713.0 / 669.0	4.34	13C2-PFTeDA	715.0 / 670.0	58696.69	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	58696.69	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	12048.57	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	12048.57	100.00
NEtFOSAA_1	584.0 / 419.0	3.58	d5-EtFOSAA	589.0 / 419.0	11807.61	100.00
NEtFOSAA_2	584.0 / 483.0	3.58	d5-EtFOSAA	589.0 / 419.0	11807.61	100.00

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Summary Internal Standard 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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	13C3-PFBS	302.0 / 99.0	13654.71	92.90
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	13654.71	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	44919.97	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	44919.97	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	48086.02	100.00
PFHpA_2	363.0 / 169.0	2.15	13C4-PFHpA	367.0 / 322.0	48086.02	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	12709.12	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	12709.12	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	63989.17	100.00
PFOA_2	413.0 / 169.0	2.53	13C8-PFOA	421.0 / 376.0	63989.17	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	63231.69	100.00
PFNA_2	463.0 / 219.0	2.90	13C9-PFNA	472.0 / 427.0	63231.69	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	16630.59	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	16630.59	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	65208.56	100.00
PFDA_2	513.0 / 219.0	3.25	13C6-PFDA	519.0 / 474.0	65208.56	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	66838.21	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	66838.21	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	64737.68	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	64737.68	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	61920.99	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	61920.99	100.00
PFTeDA_1	713.0 / 669.0	4.33	13C2-PFTeDA	715.0 / 670.0	61920.99	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	61920.99	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	11783.08	100.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	11783.08	100.00
NEtFOSAA_1	584.0 / 419.0	3.57	d5-EtFOSAA	589.0 / 419.0	14732.35	100.00
NEtFOSAA_2	584.0 / 483.0	3.57	d5-EtFOSAA	589.0 / 419.0	14732.35	100.00

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Summary Internal Standard 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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	48340.67	100.00
d3-MeFOSAA	573.0 / 419.0	3.41	13C4-PFOS	503.0 / 99.0	11323.61	95.50
d5-EtFOSAA	589.0 / 419.0	3.58	13C4-PFOS	503.0 / 99.0	11323.61	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	41337.14	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	41337.14	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	41337.14	100.00
13C9-PFNA	472.0 / 427.0	2.90	13C2-PFOA	415.0 / 370.0	41337.14	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	48340.67	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	48340.67	100.00
13C2-PFTeDA	715.0 / 670.0	4.33	13C2-PFDA	515.0 / 470.0	48340.67	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	11323.61	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	11323.61	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	11323.61	95.50

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Summary Internal Standard 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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	47712.10	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	13165.27	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	13165.27	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	42893.53	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	42893.53	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	42893.53	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	42893.53	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	47712.10	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	47712.10	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	47712.10	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	13165.27	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	13165.27	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	13165.27	95.50

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Summary Internal Standard 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	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	37048.36	100.00
PFHxA_2	313.0 / 119.0	1.78	13C5-PFHxA	318.0 / 273.0	37048.36	100.00
PFHxS_1	399.0 / 80.0	2.16	13C3-PFHxS	402.0 / 99.0	11010.91	94.60
PFHxS_2	399.0 / 99.0	2.16	13C3-PFHxS	402.0 / 99.0	11010.91	94.60
PFOS_1	499.0 / 80.0	2.89	13C8-PFOS	507.0 / 99.0	13659.53	95.70
PFOS_2	499.0 / 99.0	2.89	13C8-PFOS	507.0 / 99.0	13659.53	95.70
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	56291.24	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	56291.24	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	51380.06	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	51380.06	100.00

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Summary Internal Standard Report

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Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.77	13C5-PFHxA	318.0 / 273.0	43253.96	100.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	43253.96	100.00
PFHxS_1	399.0 / 80.0	2.15	13C3-PFHxS	402.0 / 99.0	12926.69	94.60
PFHxS_2	399.0 / 99.0	2.15	13C3-PFHxS	402.0 / 99.0	12926.69	94.60
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	13257.01	95.70
PFOS_2	499.0 / 99.0	2.87	13C8-PFOS	507.0 / 99.0	13257.01	95.70
PFUnA_1	563.0 / 519.0	3.54	13C7-PFUnA	570.0 / 525.0	69141.25	100.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	69141.25	100.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	60088.21	100.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	60088.21	100.00

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Summary Internal Standard Report

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Printed: 05/06/2018 1:27:15 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.77	13C5-PFHxA	318.0 / 273.0	39373.52	100.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	39373.52	100.00
PFHxS_1	399.0 / 80.0	2.14	13C3-PFHxS	402.0 / 99.0	11275.86	94.60
PFHxS_2	399.0 / 99.0	2.14	13C3-PFHxS	402.0 / 99.0	11275.86	94.60
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	14174.75	95.70
PFOS_2	499.0 / 99.0	2.87	13C8-PFOS	507.0 / 99.0	14174.75	95.70
PFUnA_1	563.0 / 519.0	3.54	13C7-PFUnA	570.0 / 525.0	66161.91	100.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	66161.91	100.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	54606.19	100.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	54606.19	100.00

Raw Analytical Data

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Summary Quant 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	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	3728.38	6.351164	47.6	true
PFBS_2	298.9 / 99.0	1.50	2028.93	13.339890	24.6	true
PFHxA_1	313.0 / 269.0	1.80	4198.39	16.504042	17.3	true
PFHxA_2	313.0 / 119.0	1.79	858.14	57.703860	19.5	true
PFHpA_1	363.0 / 319.0	2.16	5045.87	17.836266	27.2	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.18	3963.00	15.634514	71.0	false
PFHxS_2	399.0 / 99.0	2.19	1183.86	15.888239	25.1	false
PFOA_1	413.0 / 369.0	2.53	15177.06	41.101356	28.9	true
PFOA_2	413.0 / 169.0	2.55	598.60	29.050606	19.9	true
PFNA_1	463.0 / 419.0	2.91	7223.52	20.125395	27.1	true
PFNA_2	463.0 / 219.0	2.91	2630.99	26.057755	47.4	true
PFOS_1	499.0 / 80.0	2.89	5247.02	< 0	38.7	true
PFOS_2	499.0 / 99.0	2.90	892.10	< 0	22.4	true
PFDA_1	513.0 / 469.0	3.26	6404.72	14.120753	32.4	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.58	5794.51	12.751199	25.0	true
PFUnA_2	563.0 / 269.0	3.55	392.36	2.469302	18.2	true
PFDoA_1	613.0 / 569.0	3.87	6599.26	9.983772	50.2	true
PFDoA_2	613.0 / 319.0	3.86	1161.86	12.281922	46.9	false
PFTrDA_1	663.0 / 619.0	4.12	6773.10	15.901545	76.5	true
PFTrDA_2	663.0 / 169.0	4.12	815.53	25.961774	52.0	false
PFTeDA_1	713.0 / 669.0	4.34	8516.82	17.773087	128.1	false
PFTeDA_2	713.0 / 169.0	4.34	567.21	32.518810	55.2	false
NMeFOSAA_1	570.0 / 419.0	3.42	4162.70	41.523093	171.5	false
NMeFOSAA_2	570.0 / 512.0	3.42	2019.65	35.420418	68.4	false
NEtFOSAA_1	584.0 / 419.0	3.59	4189.26	64.035410	144.2	false
NEtFOSAA_2	584.0 / 483.0	3.60	202.55	51.610433	54.9	true

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Summary Quant Report

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Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	5639.25	10.161521	42.9	true
PFBS_2	298.9 / 99.0	1.50	2144.48	9.300993	25.3	true
PFHxA_1	313.0 / 269.0	N/A	N/A	N/A	N/A	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	N/A	N/A	N/A	N/A	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	N/A	N/A	N/A	N/A	true
PFHxS_2	399.0 / 99.0	N/A	N/A	N/A	N/A	true
PFOA_1	413.0 / 369.0	2.53	12327.27	20.391577	22.5	true
PFOA_2	413.0 / 169.0	2.51	1791.29	67.565700	31.8	true
PFNA_1	463.0 / 419.0	N/A	N/A	N/A	N/A	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	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	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	N/A	N/A	N/A	N/A	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTrDA_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

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Summary Quant Report Printed: 06/06/2018 10:27:34 AM

Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	590792.05	1818.525341	746.0	false
PFBS_2	298.9 / 99.0	1.50	182900.29	1797.204664	489.0	false
PFHxA_1	313.0 / 269.0	1.79	446813.12	1896.084482	296.1	false
PFHxA_2	313.0 / 119.0	1.79	34614.12	2121.262252	215.1	false
PFHpA_1	363.0 / 319.0	2.15	430000.84	1879.311917	332.3	false
PFHpA_2	363.0 / 169.0	2.15	8389.47	1887.492261	258.3	false
PFHxS_1	399.0 / 80.0	2.17	598496.44	2171.925009	557.1	false
PFHxS_2	399.0 / 99.0	2.17	170818.11	2119.455530	372.0	false
PFOA_1	413.0 / 369.0	2.53	680165.95	1873.627428	224.3	true
PFOA_2	413.0 / 169.0	2.52	45265.11	1929.248912	169.9	true
PFNA_1	463.0 / 419.0	2.90	698403.69	2008.510193	341.2	false
PFNA_2	463.0 / 219.0	2.90	207594.61	2039.985431	541.0	false
PFOS_1	499.0 / 80.0	2.90	851832.88	2322.264627	403.1	false
PFOS_2	499.0 / 99.0	2.90	160617.30	2393.128900	599.9	false
PFDA_1	513.0 / 469.0	3.25	777187.06	2050.734801	412.0	false
PFDA_2	513.0 / 219.0	3.26	30578.36	2007.362716	504.0	false
PFUnA_1	563.0 / 519.0	3.57	766533.17	1962.530328	362.5	false
PFUnA_2	563.0 / 269.0	3.57	39579.92	2024.527163	299.3	false
PFDoA_1	613.0 / 569.0	3.86	762753.37	2130.794366	378.3	false
PFDoA_2	613.0 / 319.0	3.86	117159.55	2001.910801	367.5	false
PFTrDA_1	663.0 / 619.0	4.11	742791.07	2006.691223	596.9	false
PFTrDA_2	663.0 / 169.0	4.10	50672.16	2148.180872	490.8	false
PFTeDA_1	713.0 / 669.0	4.32	775466.61	2117.005071	1011.1	false
PFTeDA_2	713.0 / 169.0	4.32	39921.49	2131.281490	756.9	false
NMeFOSAA_1	570.0 / 419.0	3.41	156715.26	2427.906074	801.9	false
NMeFOSAA_2	570.0 / 512.0	3.41	95381.32	2603.435772	430.3	false
NEtFOSAA_1	584.0 / 419.0	3.57	151991.83	1875.075209	527.1	false
NEtFOSAA_2	584.0 / 483.0	3.57	7522.33	1627.768950	287.9	false

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Summary Quant Report

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Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	1057955.21	3064.403687	1574.1	false
PFBS_2	298.9 / 99.0	1.51	329635.72	3051.781893	638.6	false
PFHxA_1	313.0 / 269.0	1.79	5564614.48	18490.210519	742.3	false
PFHxA_2	313.0 / 119.0	1.79	335020.26	16048.676628	519.0	false
PFHpA_1	363.0 / 319.0	2.15	358092.20	1312.627028	236.3	false
PFHpA_2	363.0 / 169.0	2.14	9491.58	1791.680853	303.2	false
PFHxS_1	399.0 / 80.0	2.17	5988993.42	20671.744049	670.4	false
PFHxS_2	399.0 / 99.0	2.17	1960959.33	23142.113343	705.5	false
PFOA_1	413.0 / 369.0	2.53	1495662.99	4673.301754	319.6	true
PFOA_2	413.0 / 169.0	2.50	137560.55	6633.403803	348.7	true
PFNA_1	463.0 / 419.0	2.91	4351728.36	15944.794170	564.2	false
PFNA_2	463.0 / 219.0	2.91	1318674.66	16507.683518	554.9	false
PFOS_1	499.0 / 80.0	2.90	119072407.35	468632.210500	372.2	false
PFOS_2	499.0 / 99.0	2.90	26024733.54	562246.256236	744.3	false
PFDA_1	513.0 / 469.0	3.26	825750.90	2015.763683	389.4	false
PFDA_2	513.0 / 219.0	3.26	32887.92	1997.414448	325.9	false
PFUnA_1	563.0 / 519.0	3.57	27554711.53	80970.164885	713.0	false
PFUnA_2	563.0 / 269.0	3.57	1374017.71	81306.991500	605.5	false
PFDoA_1	613.0 / 569.0	3.86	982600.79	2693.678054	439.6	false
PFDoA_2	613.0 / 319.0	3.86	160856.14	2698.054039	356.6	false
PFTrDA_1	663.0 / 619.0	4.11	10992379.98	27546.027811	875.8	false
PFTrDA_2	663.0 / 169.0	4.11	694110.43	27405.568923	864.6	false
PFTeDA_1	713.0 / 669.0	4.33	241555.62	602.316452	592.4	false
PFTeDA_2	713.0 / 169.0	4.32	11499.06	564.563698	397.9	false
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	3.56	3351.08	37.356497	95.3	true
NEtFOSAA_2	584.0 / 483.0	3.57	694.82	154.152213	62.4	false

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Summary Quant Report

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Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	2238926.43	8630.353162	1837.3	false
PFBS_2	298.9 / 99.0	1.51	720204.03	8883.754979	980.8	false
PFHxA_1	313.0 / 269.0	1.79	5974719.41	24799.114924	732.5	false
PFHxA_2	313.0 / 119.0	1.79	371644.57	22237.377698	527.9	false
PFHpA_1	363.0 / 319.0	2.15	1372796.43	6350.058855	486.5	false
PFHpA_2	363.0 / 169.0	2.15	27718.22	6693.975316	416.5	false
PFHxS_1	399.0 / 80.0	2.17	5923488.08	20730.664107	785.5	false
PFHxS_2	399.0 / 99.0	2.17	1878195.46	22474.405138	745.8	false
PFOA_1	413.0 / 369.0	2.53	2552479.16	8867.679656	384.0	true
PFOA_2	413.0 / 169.0	2.52	215626.31	11550.303267	396.3	true
PFNA_1	463.0 / 419.0	2.91	4501751.24	20245.168094	663.1	false
PFNA_2	463.0 / 219.0	2.91	1297548.44	19936.537320	549.4	false
PFOS_1	499.0 / 80.0	2.90	93455607.72	509282.352677	557.6	false
PFOS_2	499.0 / 99.0	2.90	18648993.17	557850.099765	827.1	false
PFDA_1	513.0 / 469.0	3.26	2125173.29	6317.398174	457.2	false
PFDA_2	513.0 / 219.0	3.25	85954.94	6347.297804	549.0	false
PFUnA_1	563.0 / 519.0	3.57	20258978.70	62284.671615	651.9	false
PFUnA_2	563.0 / 269.0	3.57	964439.29	59705.040140	729.4	false
PFDoA_1	613.0 / 569.0	3.86	2204294.87	7439.888208	522.3	false
PFDoA_2	613.0 / 319.0	3.86	345500.04	7133.427467	455.0	false
PFTrDA_1	663.0 / 619.0	4.11	9069740.32	27198.958693	899.1	false
PFTrDA_2	663.0 / 169.0	4.11	587793.29	27773.446577	1006.9	false
PFTeDA_1	713.0 / 669.0	4.33	1743328.12	5283.248809	982.9	false
PFTeDA_2	713.0 / 169.0	4.32	87765.04	5192.061107	934.6	false
NMeFOSAA_1	570.0 / 419.0	3.41	309711.98	5962.088812	472.5	false
NMeFOSAA_2	570.0 / 512.0	3.41	178534.57	6047.110083	463.7	false
NEtFOSAA_1	584.0 / 419.0	3.57	268394.71	4405.892887	568.2	false
NEtFOSAA_2	584.0 / 483.0	3.57	15314.16	4415.050544	614.3	false

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Summary Quant Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	2483559.30	9023.489112	1712.8	true
PFBS_2	298.9 / 99.0	1.51	789628.91	9180.734089	1014.3	true
PFHxA_1	313.0 / 269.0	1.79	7342982.88	26833.119961	764.6	false
PFHxA_2	313.0 / 119.0	1.79	453666.45	23898.320526	624.7	false
PFHpA_1	363.0 / 319.0	2.15	1607980.48	6156.350853	478.7	false
PFHpA_2	363.0 / 169.0	2.15	36654.48	7331.307449	476.5	false
PFHxS_1	399.0 / 80.0	2.17	7564586.35	22966.755970	905.9	false
PFHxS_2	399.0 / 99.0	2.17	2471354.00	25654.345751	729.5	false
PFOA_1	413.0 / 369.0	2.53	2927866.09	9921.946364	412.0	true
PFOA_2	413.0 / 169.0	2.52	254840.53	13314.164269	409.6	true
PFNA_1	463.0 / 419.0	2.91	5111349.91	19029.936829	586.3	false
PFNA_2	463.0 / 219.0	2.91	1508154.48	19183.844951	623.7	false
PFOS_1	499.0 / 80.0	2.90	111867495.78	534498.544736	433.1	false
PFOS_2	499.0 / 99.0	2.90	23373517.80	613028.199579	772.5	false
PFDA_1	513.0 / 469.0	3.26	2341597.18	6347.578237	508.2	false
PFDA_2	513.0 / 219.0	3.26	100269.74	6752.021375	502.4	false
PFUnA_1	563.0 / 519.0	3.57	25315049.99	66016.823790	659.3	false
PFUnA_2	563.0 / 269.0	3.57	1257651.68	66042.251146	608.3	false
PFDoA_1	613.0 / 569.0	3.86	2556389.13	7492.723318	547.0	false
PFDoA_2	613.0 / 319.0	3.86	406390.48	7286.513727	491.4	false
PFTrDA_1	663.0 / 619.0	4.11	10521985.50	27083.438165	979.2	false
PFTrDA_2	663.0 / 169.0	4.11	707379.55	28688.968109	1011.2	false
PFTeDA_1	713.0 / 669.0	4.33	2135560.20	5555.531124	1067.4	false
PFTeDA_2	713.0 / 169.0	4.32	103582.76	5259.682319	994.3	false
NMeFOSAA_1	570.0 / 419.0	3.41	368182.28	5159.743887	514.4	false
NMeFOSAA_2	570.0 / 512.0	3.41	205975.81	5078.764761	513.5	false
NEtFOSAA_1	584.0 / 419.0	3.58	302949.15	4705.175242	443.7	false
NEtFOSAA_2	584.0 / 483.0	3.58	16588.46	4524.490126	404.4	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 06/06/2018 10:27:44 AM

Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	1012354.71	3676.528120	1229.3	false
PFBS_2	298.9 / 99.0	1.50	340323.57	3952.735738	662.2	false
PFHxA_1	313.0 / 269.0	1.78	5754618.75	19797.865852	746.8	false
PFHxA_2	313.0 / 119.0	1.79	334411.22	16585.894347	546.5	false
PFHpA_1	363.0 / 319.0	2.15	380983.56	1316.356433	285.7	false
PFHpA_2	363.0 / 169.0	2.12	11744.79	2097.101817	297.4	false
PFHxS_1	399.0 / 80.0	2.17	6104899.21	18483.370614	895.8	false
PFHxS_2	399.0 / 99.0	2.17	1946858.76	20153.403084	896.1	false
PFOA_1	413.0 / 369.0	2.52	1488491.53	4721.502112	306.6	true
PFOA_2	413.0 / 169.0	2.49	142635.82	6982.531786	323.1	true
PFNA_1	463.0 / 419.0	2.90	3794079.73	14653.064479	546.6	false
PFNA_2	463.0 / 219.0	2.90	1096148.42	14463.700466	538.4	false
PFOS_1	499.0 / 80.0	2.90	105008579.50	381568.962186	480.8	false
PFOS_2	499.0 / 99.0	2.90	22062724.86	440071.342024	799.7	false
PFDA_1	513.0 / 469.0	3.25	766078.98	1942.843158	444.4	false
PFDA_2	513.0 / 219.0	3.25	28501.34	1798.567989	380.6	false
PFUnA_1	563.0 / 519.0	3.57	19496173.72	50331.345386	746.8	false
PFUnA_2	563.0 / 269.0	3.57	956994.04	49744.777414	622.2	false
PFDoA_1	613.0 / 569.0	3.86	689020.04	1765.487147	352.2	false
PFDoA_2	613.0 / 319.0	3.86	109641.52	1718.768574	293.8	false
PFTrDA_1	663.0 / 619.0	4.11	5251771.48	13255.896446	978.1	false
PFTrDA_2	663.0 / 169.0	4.10	346294.01	13767.125122	886.0	false
PFTeDA_1	713.0 / 669.0	4.32	126934.64	313.883263	547.0	false
PFTeDA_2	713.0 / 169.0	4.32	5891.95	289.334806	343.5	false
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	3.57	4876.48	74.248651	120.9	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true

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Summary Quant Report

Created with Analyst Reporter
Printed: 08/06/2018 11:33:31 AM

Sample Name	JV05 IB	**Injection Vial**	11
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.86	52583.58	70.143688	470.8	true
d3-MeFOSAA	573.0 / 419.0	3.41	10389.75	87.327687	326.8	false
d5-EtFOSAA	589.0 / 419.0	3.57	9371.52	77.639319	148.3	true
13C5-PFHxA	318.0 / 273.0	1.78	31938.90	70.045315	664.4	false
13C4-PFHpA	367.0 / 322.0	2.15	37054.13	73.515027	453.2	false
13C8-PFOA	421.0 / 376.0	2.53	43827.14	74.251801	625.3	false
13C9-PFNA	472.0 / 427.0	2.90	46819.98	73.489687	616.4	false
13C6-PFDA	519.0 / 474.0	3.25	52155.55	80.327971	588.4	false
13C7-PFUnA	570.0 / 525.0	3.57	49489.76	73.233975	325.7	false
13C2-PFTeDA	715.0 / 670.0	4.33	45705.94	70.104157	638.1	false
13C3-PFBS	302.0 / 99.0	1.49	12116.09	73.599603	266.7	true
13C3-PFHxS	402.0 / 99.0	2.17	10070.80	77.290340	190.9	false
13C8-PFOS	507.0 / 99.0	2.89	11605.44	76.384589	143.5	true

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:29:41 PM

Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	67662.50	114.161902	564.9	false
d3-MeFOSAA	573.0 / 419.0	3.41	10422.46	88.572666	224.1	false
d5-EtFOSAA	589.0 / 419.0	3.56	11383.38	95.351089	153.5	false
13C5-PFHxA	318.0 / 273.0	1.78	41430.67	108.716811	485.3	false
13C4-PFHpA	367.0 / 322.0	2.14	46764.86	111.013236	537.1	false
13C8-PFOA	421.0 / 376.0	2.52	59125.77	119.855048	826.0	false
13C9-PFNA	472.0 / 427.0	2.89	63042.66	118.398259	505.3	false
13C6-PFDA	519.0 / 474.0	3.24	64507.03	125.663160	578.4	false
13C7-PFUnA	570.0 / 525.0	3.56	68150.88	127.556741	424.9	false
13C2-PFTeDA	715.0 / 670.0	4.32	60461.88	117.297145	748.2	false
13C3-PFBS	302.0 / 99.0	1.49	14634.24	89.880676	238.1	false
13C3-PFHxS	402.0 / 99.0	2.16	13386.91	103.878243	199.9	false
13C8-PFOS	507.0 / 99.0	2.89	14843.56	98.779057	165.1	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:29:44 PM

Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	63463.94	106.812256	550.5	false
d3-MeFOSAA	573.0 / 419.0	3.40	10358.68	82.082653	140.5	false
d5-EtFOSAA	589.0 / 419.0	3.56	12779.00	99.808725	196.5	false
13C5-PFHxA	318.0 / 273.0	1.78	34416.54	86.109670	485.5	false
13C4-PFHpA	367.0 / 322.0	2.14	41486.39	93.901124	588.3	false
13C8-PFOA	421.0 / 376.0	2.52	54240.63	104.836913	864.8	false
13C9-PFNA	472.0 / 427.0	2.89	52423.72	93.874699	577.6	false
13C6-PFDA	519.0 / 474.0	3.24	53680.93	104.313843	741.6	false
13C7-PFUnA	570.0 / 525.0	3.56	59001.97	110.158855	794.0	false
13C2-PFTeDA	715.0 / 670.0	4.32	55549.29	107.499207	621.3	false
13C3-PFBS	302.0 / 99.0	1.49	17058.24	97.689423	385.3	false
13C3-PFHxS	402.0 / 99.0	2.16	10262.09	74.250166	183.5	false
13C8-PFOS	507.0 / 99.0	2.89	13307.44	82.573154	132.6	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 05/06/2018 1:29:47 PM

Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	64750.83	113.671236	733.1	false
d3-MeFOSAA	573.0 / 419.0	3.40	10356.63	115.945378	128.3	true
d5-EtFOSAA	589.0 / 419.0	3.56	11498.37	126.880867	146.2	true
13C5-PFHxA	318.0 / 273.0	1.78	44009.98	125.417064	448.9	false
13C4-PFHpA	367.0 / 322.0	2.14	49385.44	127.316500	407.9	false
13C8-PFOA	421.0 / 376.0	2.53	47986.19	105.639523	747.3	false
13C9-PFNA	472.0 / 427.0	2.90	41203.78	84.038530	791.6	false
13C6-PFDA	519.0 / 474.0	3.24	58023.15	117.607336	2201.2	false
13C7-PFUnA	570.0 / 525.0	3.56	51534.36	100.360070	453.4	false
13C2-PFTeDA	715.0 / 670.0	4.32	60063.24	121.240219	734.0	false
13C3-PFBS	302.0 / 99.0	1.49	17078.99	138.185917	312.8	true
13C3-PFHxS	402.0 / 99.0	2.16	10784.98	110.247590	239.5	false
13C8-PFOS	507.0 / 99.0	2.89	9727.24	85.275037	120.3	false

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Summary Quant Report

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Printed: 05/06/2018 1:29:49 PM

Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	52747.09	109.115302	388.0	false
d3-MeFOSAA	573.0 / 419.0	3.40	8352.07	120.078302	121.0	true
d5-EtFOSAA	589.0 / 419.0	3.56	8443.68	119.653873	190.6	true
13C5-PFHxA	318.0 / 273.0	1.78	35233.48	127.861469	763.5	false
13C4-PFHpA	367.0 / 322.0	2.14	39299.86	129.019539	402.9	false
13C8-PFOA	421.0 / 376.0	2.52	43205.46	121.123253	900.8	false
13C9-PFNA	472.0 / 427.0	2.89	33571.65	87.195231	13313.0	false
13C6-PFDA	519.0 / 474.0	3.24	47701.47	113.932280	448.4	false
13C7-PFUnA	570.0 / 525.0	3.56	49255.46	113.031731	339.0	false
13C2-PFTeDA	715.0 / 670.0	4.32	50190.01	119.381536	618.1	false
13C3-PFBS	302.0 / 99.0	1.49	13033.33	135.422888	335.7	true
13C3-PFHxS	402.0 / 99.0	2.16	9762.65	128.160005	256.4	true
13C8-PFOS	507.0 / 99.0	2.89	7025.33	79.092301	92.3	false

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Summary Quant Report

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Printed: 05/06/2018 1:29:52 PM

Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	60741.79	100.226807	586.0	false
d3-MeFOSAA	573.0 / 419.0	3.40	11009.57	139.482324	122.3	true
d5-EtFOSAA	589.0 / 419.0	3.56	10174.81	127.057397	153.3	false
13C5-PFHxA	318.0 / 273.0	1.78	40020.19	115.457483	622.5	false
13C4-PFHpA	367.0 / 322.0	2.14	47479.39	123.916274	613.2	false
13C8-PFOA	421.0 / 376.0	2.52	44299.38	98.729127	755.1	false
13C9-PFNA	472.0 / 427.0	2.89	40551.46	83.730815	534.2	false
13C6-PFDA	519.0 / 474.0	3.24	52309.54	99.656357	520.2	false
13C7-PFUnA	570.0 / 525.0	3.56	58068.98	106.291675	510.6	false
13C2-PFTeDA	715.0 / 670.0	4.32	58474.73	110.942301	588.9	false
13C3-PFBS	302.0 / 99.0	1.49	14516.26	132.913699	313.6	false
13C3-PFHxS	402.0 / 99.0	2.16	11095.29	128.351793	320.3	true
13C8-PFOS	507.0 / 99.0	2.89	8012.77	79.492936	113.0	false

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Summary Quant Report

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Printed: 05/06/2018 1:29:55 PM

Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
13C2-PFDoA	615.0 / 570.0	3.85	69107.96	106.440383	587.4	false
d3-MeFOSAA	573.0 / 419.0	3.40	10403.19	111.724858	134.4	false
d5-EtFOSAA	589.0 / 419.0	3.56	9445.50	99.984559	127.0	false
13C5-PFHxA	318.0 / 273.0	1.77	42506.99	105.899631	550.4	false
13C4-PFHpA	367.0 / 322.0	2.14	52394.37	118.086168	478.5	false
13C8-PFOA	421.0 / 376.0	2.52	47269.70	90.974921	1232.0	false
13C9-PFNA	472.0 / 427.0	2.89	39089.90	69.700294	545.4	false
13C6-PFDA	519.0 / 474.0	3.24	55847.15	99.313254	460.2	false
13C7-PFUnA	570.0 / 525.0	3.56	58657.11	100.220781	524.6	false
13C2-PFTeDA	715.0 / 670.0	4.31	59616.14	105.578355	760.7	false
13C3-PFBS	302.0 / 99.0	1.49	14499.00	112.535011	417.0	false
13C3-PFHxS	402.0 / 99.0	2.16	12295.39	120.570301	206.2	false
13C8-PFOS	507.0 / 99.0	2.90	10535.01	88.596297	124.8	false

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Summary Quant 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	2018-06-04T21:11:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.80	7534.43	14.558627	10.4	true
PFHxA_2	313.0 / 119.0	1.77	499.22	< 0	7.5	true
PFHxS_1	399.0 / 80.0	2.16	5861.04	18.661494	156.7	false
PFHxS_2	399.0 / 99.0	2.16	1905.89	16.109927	41.8	false
PFOS_1	499.0 / 80.0	2.90	8172.98	14.857153	74.4	false
PFOS_2	499.0 / 99.0	2.88	1989.14	8.716793	37.9	false
PFUnA_1	563.0 / 519.0	3.57	9151.92	25.543459	49.1	true
PFUnA_2	563.0 / 269.0	3.55	547.22	< 0	21.3	true
PFTrDA_1	663.0 / 619.0	4.11	8878.70	24.781078	95.6	false
PFTrDA_2	663.0 / 169.0	4.10	485.97	10.537172	27.2	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:27 PM

Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	176277.10	744.087921	77.7	false
PFHxA_2	313.0 / 119.0	1.77	9467.82	548.010696	58.3	false
PFHxS_1	399.0 / 80.0	2.15	192008.83	673.568182	690.4	false
PFHxS_2	399.0 / 99.0	2.15	67931.43	818.117285	323.7	false
PFOS_1	499.0 / 80.0	2.87	6016512.43	18104.651725	1006.6	true
PFOS_2	499.0 / 99.0	2.88	1139959.36	19087.705901	1046.9	false
PFUnA_1	563.0 / 519.0	3.55	1136395.23	3058.676015	456.7	false
PFUnA_2	563.0 / 269.0	3.54	53538.72	2844.288564	403.5	false
PFTrDA_1	663.0 / 619.0	4.08	320009.87	1170.097626	525.7	true
PFTrDA_2	663.0 / 169.0	4.08	21373.48	1105.017957	466.9	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:29 PM

Sample Name	J6243MS-FS-D(7)	**Injection Vial**	34
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:34:54	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.76	234360.12	1059.438090	103.3	false
PFHxA_2	313.0 / 119.0	1.77	12637.23	794.317941	67.1	false
PFHxS_1	399.0 / 80.0	2.14	249883.75	979.860295	767.1	false
PFHxS_2	399.0 / 99.0	2.14	80490.45	1084.411114	367.6	false
PFOS_1	499.0 / 80.0	2.87	5275760.87	18206.744100	843.6	true
PFOS_2	499.0 / 99.0	2.87	1008029.42	19357.348229	972.9	false
PFUnA_1	563.0 / 519.0	3.54	1052757.31	3221.988867	523.3	true
PFUnA_2	563.0 / 269.0	3.54	48065.32	2904.203793	533.7	false
PFTrDA_1	663.0 / 619.0	4.08	343814.10	1262.193591	527.5	true
PFTrDA_2	663.0 / 169.0	4.08	21609.45	1120.725183	469.8	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:31 PM

Sample Name	J6243MSD-FS-D(7)	**Injection Vial**	35
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:45:41	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.76	237348.40	1080.186691	113.2	false
PFHxA_2	313.0 / 119.0	1.77	16499.12	1057.049725	87.2	false
PFHxS_1	399.0 / 80.0	2.14	258502.90	1010.517651	668.3	true
PFHxS_2	399.0 / 99.0	2.15	86553.24	1163.064021	410.3	true
PFOS_1	499.0 / 80.0	2.87	6075750.29	18172.517248	891.7	false
PFOS_2	499.0 / 99.0	2.88	1175875.00	19570.782994	1056.4	false
PFUnA_1	563.0 / 519.0	3.55	1088887.20	3157.870562	445.7	true
PFUnA_2	563.0 / 269.0	3.55	46713.87	2671.243934	393.8	false
PFTrDA_1	663.0 / 619.0	4.08	352564.65	1385.544148	555.8	true
PFTrDA_2	663.0 / 169.0	4.08	23639.70	1315.007369	525.1	false

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Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:34 PM

Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	172915.82	771.246010	86.8	false
PFHxA_2	313.0 / 119.0	1.77	9059.05	553.907455	59.6	false
PFHxS_1	399.0 / 80.0	2.15	184447.73	674.704423	730.0	false
PFHxS_2	399.0 / 99.0	2.15	57453.77	720.233395	301.4	false
PFOS_1	499.0 / 80.0	2.87	4905296.31	16429.757734	858.3	false
PFOS_2	499.0 / 99.0	2.87	907431.71	16910.273495	1094.8	false
PFUnA_1	563.0 / 519.0	3.55	707412.98	2237.638797	405.1	false
PFUnA_2	563.0 / 269.0	3.54	32405.73	2011.941504	399.6	false
PFTrDA_1	663.0 / 619.0	4.08	144126.40	578.474900	362.1	true
PFTrDA_2	663.0 / 169.0	4.08	9239.96	520.195711	334.2	false

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:31:01 PM

Sample Name	JV05 IB	**Injection Vial**	11
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.540	0.324	
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.200	0.067	
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	1.84	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.040	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.360	0.292	ü
PFOS_1	499.0 / 80.0	2.89	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.170	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.039	
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.070	0.053	ü
PFDoA_1	613.0 / 569.0	4.41	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.110	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.120	0.070	
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.070	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.490	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.380	0.324	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.067	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.51	PFOA	0.150	0.061	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.292	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.185	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.039	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.053	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.070	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.060	ü

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Summary Ion Ratio Report

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Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.080	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.610	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Printed: 05/06/2018 1:31:13 PM

Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.030	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.330	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.50	PFOA	0.090	0.061	
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.220	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.210	0.060	

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Summary Ion Ratio Report

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Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.320	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.080	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.200	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.580	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.330	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.090	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.340	0.324	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.12	PFHpA	0.030	0.020	
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.320	0.293	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.49	PFOA	0.100	0.061	
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.060	

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Summary Ion Ratio 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	2018-06-04T21:11:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.066	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.325	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.243	0.200	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.060	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.055	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.054	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.354	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.190	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.047	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.067	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6243MS-FS-D(7)	**Injection Vial**	34
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:34:54	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.76	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.054	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.14	PFHxS	0.322	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.191	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.046	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.063	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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Sample Name	J6243MSD-FS-D(7)	**Injection Vial**	35
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:45:41	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.76	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.335	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.194	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.043	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.067	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.052	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.312	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.185	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.046	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.064	0.070	ü

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Summary Internal Standard 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	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	13C3-PFBS	302.0 / 99.0	11904.85	92.90
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	11904.85	92.90
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	31938.90	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	31938.90	100.00
PFHpA_1	363.0 / 319.0	2.16	13C4-PFHpA	367.0 / 322.0	37054.13	100.00
PFHpA_2	363.0 / 169.0	1.84	13C4-PFHpA	367.0 / 322.0	37054.13	100.00
PFHxS_1	399.0 / 80.0	2.18	13C3-PFHxS	402.0 / 99.0	10070.80	94.60
PFHxS_2	399.0 / 99.0	2.19	13C3-PFHxS	402.0 / 99.0	10070.80	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	43827.14	100.00
PFOA_2	413.0 / 169.0	2.55	13C8-PFOA	421.0 / 376.0	43827.14	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	46819.98	100.00
PFNA_2	463.0 / 219.0	2.91	13C9-PFNA	472.0 / 427.0	46819.98	100.00
PFOS_1	499.0 / 80.0	2.89	13C8-PFOS	507.0 / 99.0	12279.37	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	12279.37	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	52155.55	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	52155.55	100.00
PFUnA_1	563.0 / 519.0	3.58	13C7-PFUnA	570.0 / 525.0	49489.76	100.00
PFUnA_2	563.0 / 269.0	3.55	13C7-PFUnA	570.0 / 525.0	49489.76	100.00
PFDoA_1	613.0 / 569.0	4.41	13C2-PFDoA	615.0 / 570.0	52349.25	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	52349.25	100.00
PFTrDA_1	663.0 / 619.0	4.12	13C2-PFTeDA	715.0 / 670.0	45705.94	100.00
PFTrDA_2	663.0 / 169.0	4.12	13C2-PFTeDA	715.0 / 670.0	45705.94	100.00
PFTeDA_1	713.0 / 669.0	4.34	13C2-PFTeDA	715.0 / 670.0	45705.94	100.00
PFTeDA_2	713.0 / 169.0	4.34	13C2-PFTeDA	715.0 / 670.0	45705.94	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	10389.75	100.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	10389.75	100.00
NEtFOSAA_1	584.0 / 419.0	3.59	d5-EtFOSAA	589.0 / 419.0	9273.45	100.00
NEtFOSAA_2	584.0 / 483.0	3.60	d5-EtFOSAA	589.0 / 419.0	9273.45	100.00

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Summary Internal Standard Report

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Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	14634.24	92.90
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	14634.24	92.90
PFHxA_1	313.0 / 269.0	N/A	13C5-PFHxA	318.0 / 273.0	41430.67	100.00
PFHxA_2	313.0 / 119.0	N/A	13C5-PFHxA	318.0 / 273.0	41430.67	100.00
PFHpA_1	363.0 / 319.0	N/A	13C4-PFHpA	367.0 / 322.0	46764.86	100.00
PFHpA_2	363.0 / 169.0	N/A	13C4-PFHpA	367.0 / 322.0	46764.86	100.00
PFHxS_1	399.0 / 80.0	N/A	13C3-PFHxS	402.0 / 99.0	13386.91	94.60
PFHxS_2	399.0 / 99.0	N/A	13C3-PFHxS	402.0 / 99.0	13386.91	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	59125.77	100.00
PFOA_2	413.0 / 169.0	2.51	13C8-PFOA	421.0 / 376.0	59125.77	100.00
PFNA_1	463.0 / 419.0	N/A	13C9-PFNA	472.0 / 427.0	63042.66	100.00
PFNA_2	463.0 / 219.0	N/A	13C9-PFNA	472.0 / 427.0	63042.66	100.00
PFOS_1	499.0 / 80.0	N/A	13C8-PFOS	507.0 / 99.0	14843.56	95.70
PFOS_2	499.0 / 99.0	N/A	13C8-PFOS	507.0 / 99.0	14843.56	95.70
PFDA_1	513.0 / 469.0	N/A	13C6-PFDA	519.0 / 474.0	64507.03	100.00
PFDA_2	513.0 / 219.0	N/A	13C6-PFDA	519.0 / 474.0	64507.03	100.00
PFUnA_1	563.0 / 519.0	N/A	13C7-PFUnA	570.0 / 525.0	68150.88	100.00
PFUnA_2	563.0 / 269.0	N/A	13C7-PFUnA	570.0 / 525.0	68150.88	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFDoA	615.0 / 570.0	67662.50	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFDoA	615.0 / 570.0	67662.50	100.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFTeDA	715.0 / 670.0	60461.88	100.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	60461.88	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFTeDA	715.0 / 670.0	60461.88	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFTeDA	715.0 / 670.0	60461.88	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10422.46	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10422.46	100.00
NEtFOSAA_1	584.0 / 419.0	N/A	d5-EtFOSAA	589.0 / 419.0	11383.38	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	11383.38	100.00

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Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	13C3-PFBS	302.0 / 99.0	17058.24	92.90
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	17058.24	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	34416.54	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	34416.54	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	41486.39	100.00
PFHpA_2	363.0 / 169.0	2.15	13C4-PFHpA	367.0 / 322.0	41486.39	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	10262.09	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10262.09	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	54240.63	100.00
PFOA_2	413.0 / 169.0	2.52	13C8-PFOA	421.0 / 376.0	54240.63	100.00
PFNA_1	463.0 / 419.0	2.90	13C9-PFNA	472.0 / 427.0	52423.72	100.00
PFNA_2	463.0 / 219.0	2.90	13C9-PFNA	472.0 / 427.0	52423.72	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	13307.44	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	13307.44	95.70
PFDA_1	513.0 / 469.0	3.25	13C6-PFDA	519.0 / 474.0	53680.93	100.00
PFDA_2	513.0 / 219.0	3.26	13C6-PFDA	519.0 / 474.0	53680.93	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	59001.97	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	59001.97	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	63463.94	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	63463.94	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	55549.29	100.00
PFTrDA_2	663.0 / 169.0	4.10	13C2-PFTeDA	715.0 / 670.0	55549.29	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFTeDA	715.0 / 670.0	55549.29	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	55549.29	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	10358.68	100.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	10358.68	100.00
NEtFOSAA_1	584.0 / 419.0	3.57	d5-EtFOSAA	589.0 / 419.0	12779.00	100.00
NEtFOSAA_2	584.0 / 483.0	3.57	d5-EtFOSAA	589.0 / 419.0	12779.00	100.00

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Summary Internal Standard Report

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Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	18168.74	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	18168.74	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	44009.98	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	44009.98	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	49385.44	100.00
PFHpA_2	363.0 / 169.0	2.14	13C4-PFHpA	367.0 / 322.0	49385.44	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	10784.98	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10784.98	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	47986.19	100.00
PFOA_2	413.0 / 169.0	2.50	13C8-PFOA	421.0 / 376.0	47986.19	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	41203.78	100.00
PFNA_2	463.0 / 219.0	2.91	13C9-PFNA	472.0 / 427.0	41203.78	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	9727.24	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	9727.24	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	58023.15	100.00
PFDA_2	513.0 / 219.0	3.26	13C6-PFDA	519.0 / 474.0	58023.15	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	51534.36	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	51534.36	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	64750.83	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	64750.83	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	60063.24	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	60063.24	100.00
PFTeDA_1	713.0 / 669.0	4.33	13C2-PFTeDA	715.0 / 670.0	60063.24	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	60063.24	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10994.13	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10994.13	100.00
NEtFOSAA_1	584.0 / 419.0	3.56	d5-EtFOSAA	589.0 / 419.0	11833.29	100.00
NEtFOSAA_2	584.0 / 483.0	3.57	d5-EtFOSAA	589.0 / 419.0	11833.29	100.00

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Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	13681.81	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	13681.81	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	35233.48	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	35233.48	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	39299.86	100.00
PFHpA_2	363.0 / 169.0	2.15	13C4-PFHpA	367.0 / 322.0	39299.86	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	10636.70	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	10636.70	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	43205.46	100.00
PFOA_2	413.0 / 169.0	2.52	13C8-PFOA	421.0 / 376.0	43205.46	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	33571.65	100.00
PFNA_2	463.0 / 219.0	2.91	13C9-PFNA	472.0 / 427.0	33571.65	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	7025.33	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	7025.33	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	47701.47	100.00
PFDA_2	513.0 / 219.0	3.25	13C6-PFDA	519.0 / 474.0	47701.47	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	49255.46	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	49255.46	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	52747.09	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	52747.09	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	50190.01	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	50190.01	100.00
PFTeDA_1	713.0 / 669.0	4.33	13C2-PFTeDA	715.0 / 670.0	50190.01	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	50190.01	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	8383.95	100.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	8383.95	100.00
NEtFOSAA_1	584.0 / 419.0	3.57	d5-EtFOSAA	589.0 / 419.0	9625.56	100.00
NEtFOSAA_2	584.0 / 483.0	3.57	d5-EtFOSAA	589.0 / 419.0	9625.56	100.00

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Summary Internal Standard Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	13C3-PFBS	302.0 / 99.0	14516.26	92.90
PFBS_2	298.9 / 99.0	1.51	13C3-PFBS	302.0 / 99.0	14516.26	92.90
PFHxA_1	313.0 / 269.0	1.79	13C5-PFHxA	318.0 / 273.0	40020.19	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	40020.19	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	47479.39	100.00
PFHpA_2	363.0 / 169.0	2.15	13C4-PFHpA	367.0 / 322.0	47479.39	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	12261.01	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	12261.01	94.60
PFOA_1	413.0 / 369.0	2.53	13C8-PFOA	421.0 / 376.0	44299.38	100.00
PFOA_2	413.0 / 169.0	2.52	13C8-PFOA	421.0 / 376.0	44299.38	100.00
PFNA_1	463.0 / 419.0	2.91	13C9-PFNA	472.0 / 427.0	40551.46	100.00
PFNA_2	463.0 / 219.0	2.91	13C9-PFNA	472.0 / 427.0	40551.46	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	8012.77	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	8012.77	95.70
PFDA_1	513.0 / 469.0	3.26	13C6-PFDA	519.0 / 474.0	52309.54	100.00
PFDA_2	513.0 / 219.0	3.26	13C6-PFDA	519.0 / 474.0	52309.54	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	58068.98	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	58068.98	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	60741.79	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	60741.79	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	58474.73	100.00
PFTrDA_2	663.0 / 169.0	4.11	13C2-PFTeDA	715.0 / 670.0	58474.73	100.00
PFTeDA_1	713.0 / 669.0	4.33	13C2-PFTeDA	715.0 / 670.0	58474.73	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	58474.73	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	11509.59	100.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	11509.59	100.00
NEtFOSAA_1	584.0 / 419.0	3.58	d5-EtFOSAA	589.0 / 419.0	10174.81	100.00
NEtFOSAA_2	584.0 / 483.0	3.58	d5-EtFOSAA	589.0 / 419.0	10174.81	100.00

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Summary Internal Standard Report

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Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	13C3-PFBS	302.0 / 99.0	14499.00	92.90
PFBS_2	298.9 / 99.0	1.50	13C3-PFBS	302.0 / 99.0	14499.00	92.90
PFHxA_1	313.0 / 269.0	1.78	13C5-PFHxA	318.0 / 273.0	42506.99	100.00
PFHxA_2	313.0 / 119.0	1.79	13C5-PFHxA	318.0 / 273.0	42506.99	100.00
PFHpA_1	363.0 / 319.0	2.15	13C4-PFHpA	367.0 / 322.0	52394.37	100.00
PFHpA_2	363.0 / 169.0	2.12	13C4-PFHpA	367.0 / 322.0	52394.37	100.00
PFHxS_1	399.0 / 80.0	2.17	13C3-PFHxS	402.0 / 99.0	12295.39	94.60
PFHxS_2	399.0 / 99.0	2.17	13C3-PFHxS	402.0 / 99.0	12295.39	94.60
PFOA_1	413.0 / 369.0	2.52	13C8-PFOA	421.0 / 376.0	47269.70	100.00
PFOA_2	413.0 / 169.0	2.49	13C8-PFOA	421.0 / 376.0	47269.70	100.00
PFNA_1	463.0 / 419.0	2.90	13C9-PFNA	472.0 / 427.0	39089.90	100.00
PFNA_2	463.0 / 219.0	2.90	13C9-PFNA	472.0 / 427.0	39089.90	100.00
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	10535.01	95.70
PFOS_2	499.0 / 99.0	2.90	13C8-PFOS	507.0 / 99.0	10535.01	95.70
PFDA_1	513.0 / 469.0	3.25	13C6-PFDA	519.0 / 474.0	55847.15	100.00
PFDA_2	513.0 / 219.0	3.25	13C6-PFDA	519.0 / 474.0	55847.15	100.00
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	58657.11	100.00
PFUnA_2	563.0 / 269.0	3.57	13C7-PFUnA	570.0 / 525.0	58657.11	100.00
PFDoA_1	613.0 / 569.0	3.86	13C2-PFDoA	615.0 / 570.0	69107.96	100.00
PFDoA_2	613.0 / 319.0	3.86	13C2-PFDoA	615.0 / 570.0	69107.96	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	59616.14	100.00
PFTrDA_2	663.0 / 169.0	4.10	13C2-PFTeDA	715.0 / 670.0	59616.14	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFTeDA	715.0 / 670.0	59616.14	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFTeDA	715.0 / 670.0	59616.14	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	10403.19	100.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	10403.19	100.00
NEtFOSAA_1	584.0 / 419.0	3.57	d5-EtFOSAA	589.0 / 419.0	9445.50	100.00
NEtFOSAA_2	584.0 / 483.0	N/A	d5-EtFOSAA	589.0 / 419.0	9445.50	100.00

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Summary Internal Standard 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	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.86	13C2-PFDA	515.0 / 470.0	48229.56	100.00
d3-MeFOSAA	573.0 / 419.0	3.41	13C4-PFOS	503.0 / 99.0	10538.73	95.50
d5-EtFOSAA	589.0 / 419.0	3.57	13C4-PFOS	503.0 / 99.0	10538.73	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	44094.15	100.00
13C4-PFHpA	367.0 / 322.0	2.15	13C2-PFOA	415.0 / 370.0	44094.15	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	44094.15	100.00
13C9-PFNA	472.0 / 427.0	2.90	13C2-PFOA	415.0 / 370.0	44094.15	100.00
13C6-PFDA	519.0 / 474.0	3.25	13C2-PFDA	515.0 / 470.0	48229.56	100.00
13C7-PFUnA	570.0 / 525.0	3.57	13C2-PFDA	515.0 / 470.0	48229.56	100.00
13C2-PFTeDA	715.0 / 670.0	4.33	13C2-PFDA	515.0 / 470.0	48229.56	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	10538.73	95.50
13C3-PFHxS	402.0 / 99.0	2.17	13C4-PFOS	503.0 / 99.0	10538.73	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	10538.73	95.50

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Summary Internal Standard Report

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Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	38131.04	100.00
d3-MeFOSAA	573.0 / 419.0	3.41	13C4-PFOS	503.0 / 99.0	10423.31	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	10423.31	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	36852.37	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	36852.37	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	36852.37	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	36852.37	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	38131.04	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	38131.04	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	38131.04	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	10423.31	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	10423.31	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	10423.31	95.50

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Summary Internal Standard Report

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Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	38225.90	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	11178.62	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	11178.62	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	38650.53	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	38650.53	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	38650.53	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	38650.53	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	38225.90	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	38225.90	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	38225.90	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	11178.62	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	11178.62	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	11178.62	95.50

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Summary Internal Standard Report

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Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	36647.68	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	7912.25	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	7912.25	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	33933.98	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	33933.98	100.00
13C8-PFOA	421.0 / 376.0	2.53	13C2-PFOA	415.0 / 370.0	33933.98	100.00
13C9-PFNA	472.0 / 427.0	2.90	13C2-PFOA	415.0 / 370.0	33933.98	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	36647.68	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	36647.68	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	36647.68	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	7912.25	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	7912.25	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	7912.25	95.50

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Summary Internal Standard Report

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Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	31100.30	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	6161.19	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	6161.19	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	26647.47	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	26647.47	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	26647.47	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	26647.47	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	31100.30	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	31100.30	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	31100.30	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	6161.19	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	6161.19	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	6161.19	95.50

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Summary Internal Standard Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	38990.20	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	6991.76	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	6991.76	95.50
13C5-PFHxA	318.0 / 273.0	1.78	13C2-PFOA	415.0 / 370.0	33519.48	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	33519.48	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	33519.48	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	33519.48	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	38990.20	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	38990.20	100.00
13C2-PFTeDA	715.0 / 670.0	4.32	13C2-PFDA	515.0 / 470.0	38990.20	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	6991.76	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	6991.76	95.50
13C8-PFOS	507.0 / 99.0	2.89	13C4-PFOS	503.0 / 99.0	6991.76	95.50

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Summary Internal Standard Report

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Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	3.85	13C2-PFDA	515.0 / 470.0	41770.86	100.00
d3-MeFOSAA	573.0 / 419.0	3.40	13C4-PFOS	503.0 / 99.0	8248.06	95.50
d5-EtFOSAA	589.0 / 419.0	3.56	13C4-PFOS	503.0 / 99.0	8248.06	95.50
13C5-PFHxA	318.0 / 273.0	1.77	13C2-PFOA	415.0 / 370.0	38815.58	100.00
13C4-PFHpA	367.0 / 322.0	2.14	13C2-PFOA	415.0 / 370.0	38815.58	100.00
13C8-PFOA	421.0 / 376.0	2.52	13C2-PFOA	415.0 / 370.0	38815.58	100.00
13C9-PFNA	472.0 / 427.0	2.89	13C2-PFOA	415.0 / 370.0	38815.58	100.00
13C6-PFDA	519.0 / 474.0	3.24	13C2-PFDA	515.0 / 470.0	41770.86	100.00
13C7-PFUnA	570.0 / 525.0	3.56	13C2-PFDA	515.0 / 470.0	41770.86	100.00
13C2-PFTeDA	715.0 / 670.0	4.31	13C2-PFDA	515.0 / 470.0	41770.86	100.00
13C3-PFBS	302.0 / 99.0	1.49	13C4-PFOS	503.0 / 99.0	8248.06	95.50
13C3-PFHxS	402.0 / 99.0	2.16	13C4-PFOS	503.0 / 99.0	8248.06	95.50
13C8-PFOS	507.0 / 99.0	2.90	13C4-PFOS	503.0 / 99.0	8248.06	95.50

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Summary Internal Standard 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	2018-06-04T21:11:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.80	13C5-PFHxA	318.0 / 273.0	31154.28	100.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	31154.28	100.00
PFHxS_1	399.0 / 80.0	2.16	13C3-PFHxS	402.0 / 99.0	9081.66	94.60
PFHxS_2	399.0 / 99.0	2.16	13C3-PFHxS	402.0 / 99.0	9081.66	94.60
PFOS_1	499.0 / 80.0	2.90	13C8-PFOS	507.0 / 99.0	10744.66	95.70
PFOS_2	499.0 / 99.0	2.88	13C8-PFOS	507.0 / 99.0	10744.66	95.70
PFUnA_1	563.0 / 519.0	3.57	13C7-PFUnA	570.0 / 525.0	46755.71	100.00
PFUnA_2	563.0 / 269.0	3.55	13C7-PFUnA	570.0 / 525.0	46755.71	100.00
PFTrDA_1	663.0 / 619.0	4.11	13C2-PFTeDA	715.0 / 670.0	43611.52	100.00
PFTrDA_2	663.0 / 169.0	4.10	13C2-PFTeDA	715.0 / 670.0	43611.52	100.00

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Summary Internal Standard Report

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Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.77	13C5-PFHxA	318.0 / 273.0	35375.63	101.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	35375.63	101.00
PFHxS_1	399.0 / 80.0	2.15	13C3-PFHxS	402.0 / 99.0	10550.13	95.55
PFHxS_2	399.0 / 99.0	2.15	13C3-PFHxS	402.0 / 99.0	10550.13	95.55
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	10714.56	96.66
PFOS_2	499.0 / 99.0	2.88	13C8-PFOS	507.0 / 99.0	10714.56	96.66
PFUnA_1	563.0 / 519.0	3.55	13C7-PFUnA	570.0 / 525.0	58590.74	101.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	58590.74	101.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	47771.24	101.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	47771.24	101.00

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Summary Internal Standard Report

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Sample Name	J6243MS-FS-D(7)	**Injection Vial**	34
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:34:54	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.76	13C5-PFHxA	318.0 / 273.0	33323.58	101.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	33323.58	101.00
PFHxS_1	399.0 / 80.0	2.14	13C3-PFHxS	402.0 / 99.0	9461.01	95.55
PFHxS_2	399.0 / 99.0	2.14	13C3-PFHxS	402.0 / 99.0	9461.01	95.55
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	9342.73	96.66
PFOS_2	499.0 / 99.0	2.87	13C8-PFOS	507.0 / 99.0	9342.73	96.66
PFUnA_1	563.0 / 519.0	3.54	13C7-PFUnA	570.0 / 525.0	51531.65	101.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	51531.65	101.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	47636.51	101.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	47636.51	101.00

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Summary Internal Standard Report

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Sample Name	J6243MSD-FS-D(7)	**Injection Vial**	35
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:45:41	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.76	13C5-PFHxA	318.0 / 273.0	33113.46	101.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	33113.46	101.00
PFHxS_1	399.0 / 80.0	2.14	13C3-PFHxS	402.0 / 99.0	9491.94	95.55
PFHxS_2	399.0 / 99.0	2.15	13C3-PFHxS	402.0 / 99.0	9491.94	95.55
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	10779.67	96.66
PFOS_2	499.0 / 99.0	2.88	13C8-PFOS	507.0 / 99.0	10779.67	96.66
PFUnA_1	563.0 / 519.0	3.55	13C7-PFUnA	570.0 / 525.0	54380.65	101.00
PFUnA_2	563.0 / 269.0	3.55	13C7-PFUnA	570.0 / 525.0	54380.65	101.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	44565.03	101.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	44565.03	101.00

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Summary Internal Standard Report

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Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.77	13C5-PFHxA	318.0 / 273.0	33513.78	101.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	33513.78	101.00
PFHxS_1	399.0 / 80.0	2.15	13C3-PFHxS	402.0 / 99.0	10117.74	95.55
PFHxS_2	399.0 / 99.0	2.15	13C3-PFHxS	402.0 / 99.0	10117.74	95.55
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	9625.66	96.66
PFOS_2	499.0 / 99.0	2.87	13C8-PFOS	507.0 / 99.0	9625.66	96.66
PFUnA_1	563.0 / 519.0	3.55	13C7-PFUnA	570.0 / 525.0	49825.29	101.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	49825.29	101.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	42975.49	101.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	42975.49	101.00

Chromatograms

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Chromatogram Report

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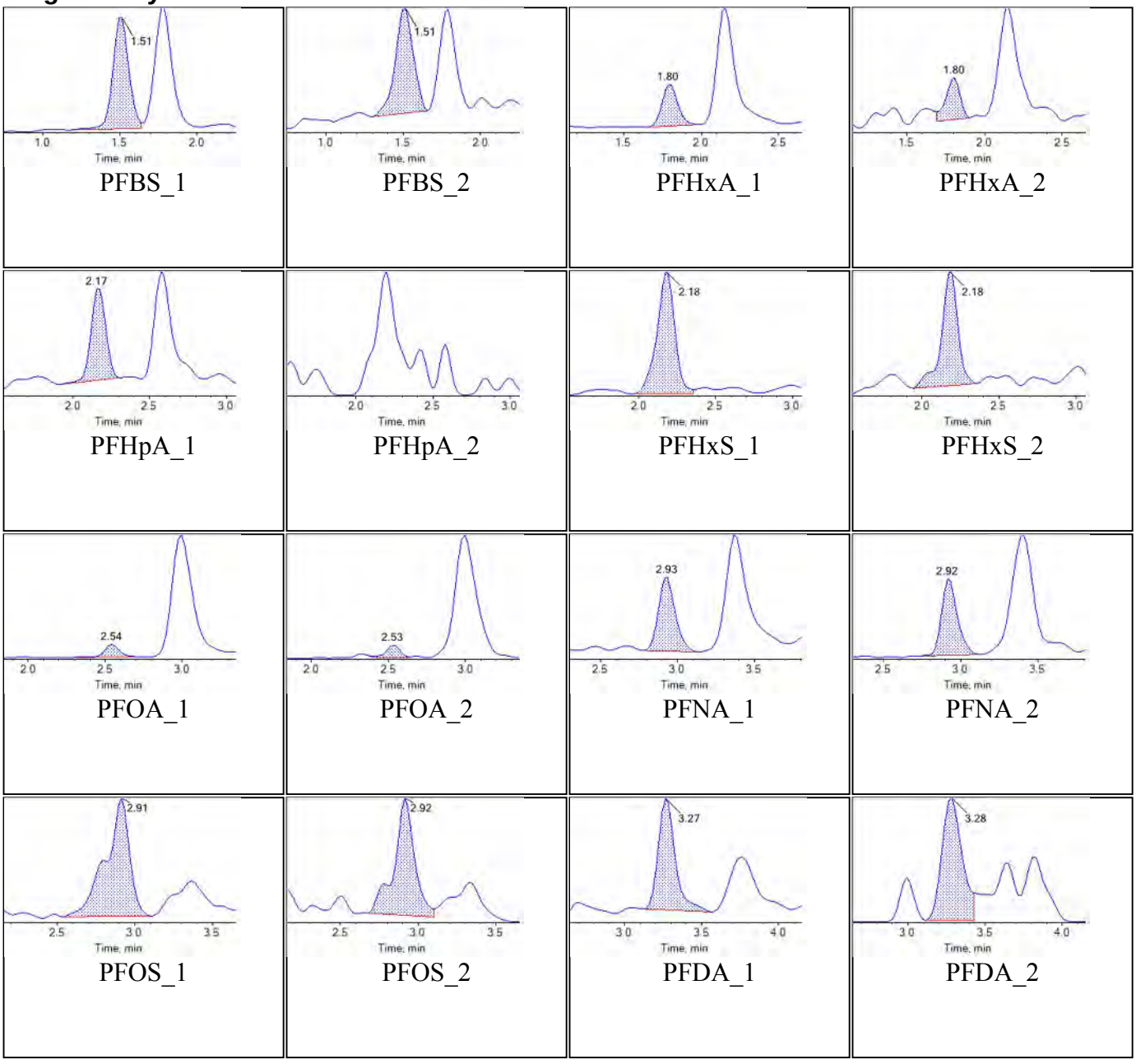
Sample Name	JV20	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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Chromatogram Report

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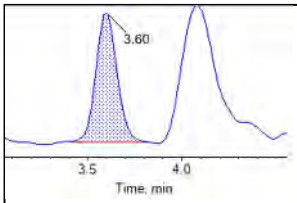
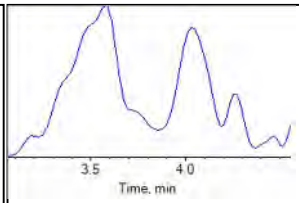
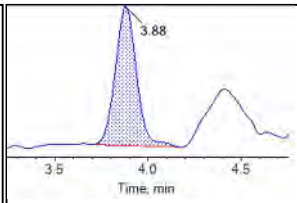


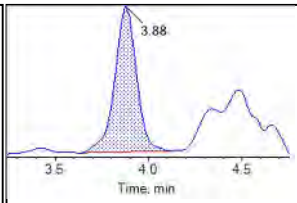
PFUnA_1



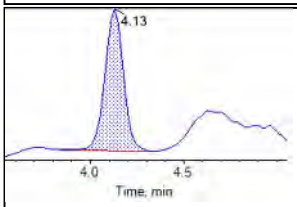
PFUnA_2



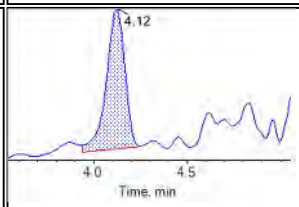
PFDoA_1



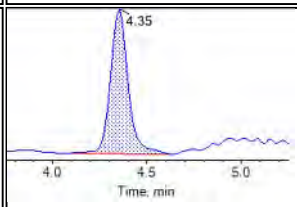
PFDoA_2



PFTrDA_1



PFTrDA_2



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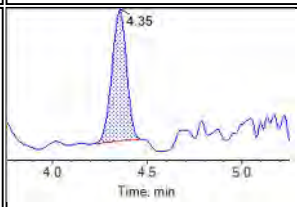
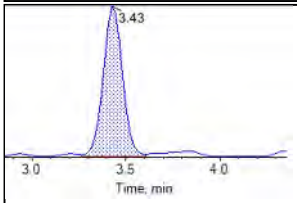


PFTeDA_2



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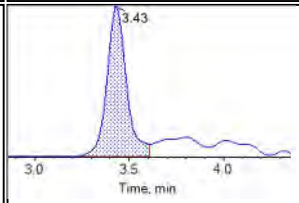

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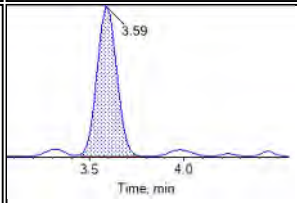

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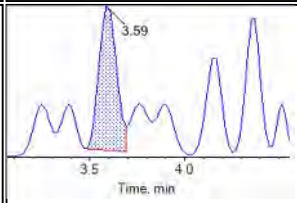

NEtFOSAA_2

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Chromatogram Report

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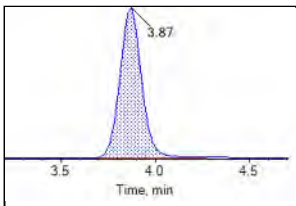
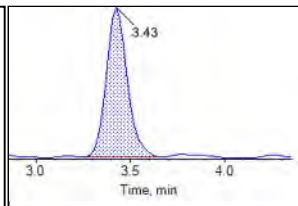
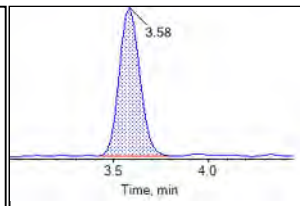
Internal Standards:



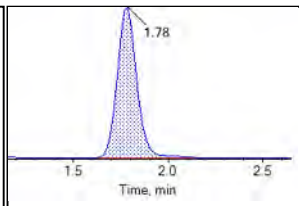
13C2-PFDoA



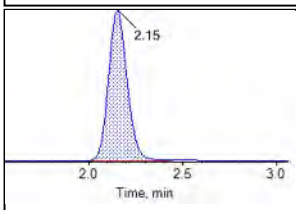
d3-MeFOSAA



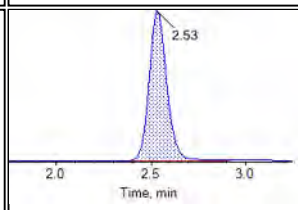
d5-EtFOSAA



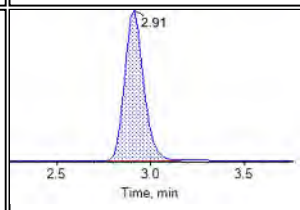
13C5-PFHxA



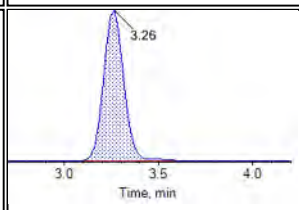
13C4-PFHpA



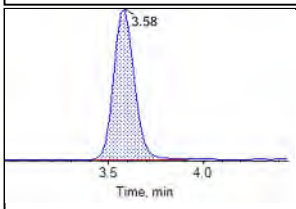
13C8-PFOA



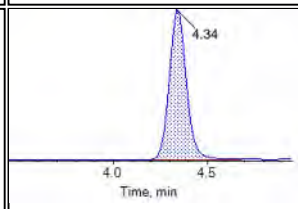
13C9-PFNA



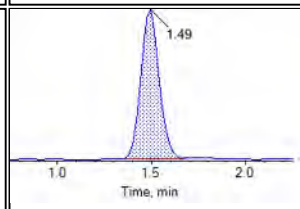
13C6-PFDA



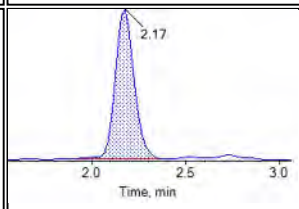
13C7-PFUnA



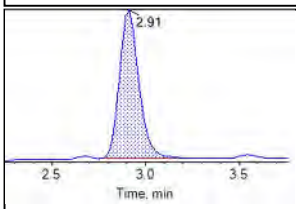
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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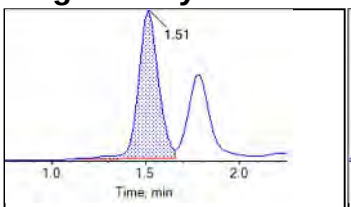
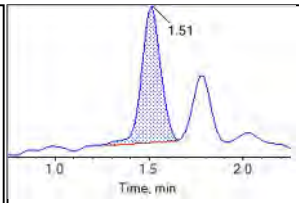
Sample Name	JV21	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

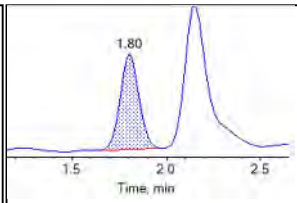
Target Analytes:



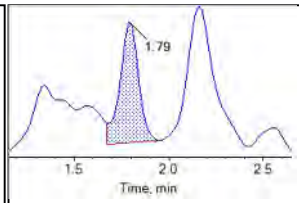
PFBS_1



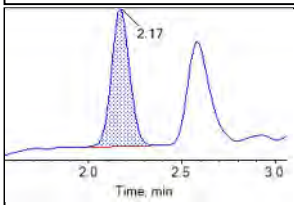
PFBS_2



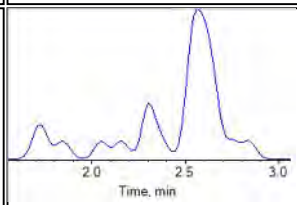
PFHxA_1



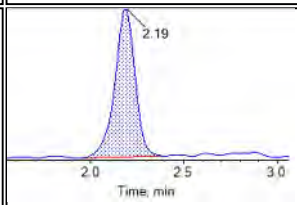
PFHxA_2



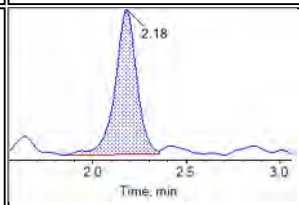
PFHpA_1



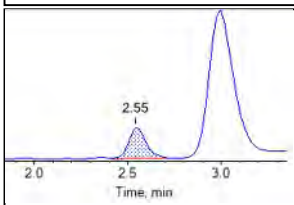
PFHpA_2



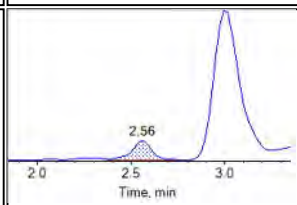
PFHxS_1



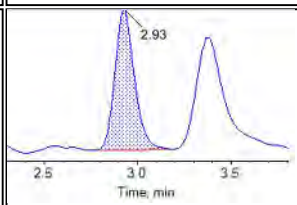
PFHxS_2



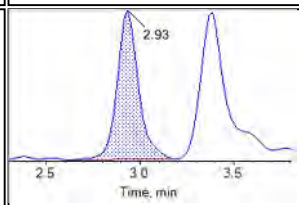
PFOA_1



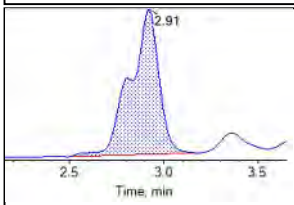
PFOA_2



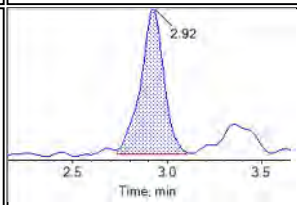
PFNA_1



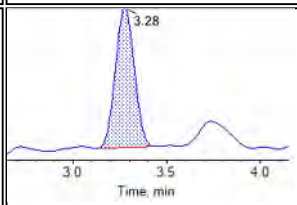
PFNA_2



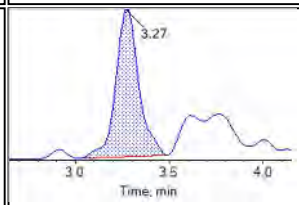
PFOS_1



PFOS_2



PFDA_1



PFDA_2

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Chromatogram Report

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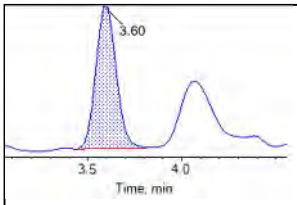
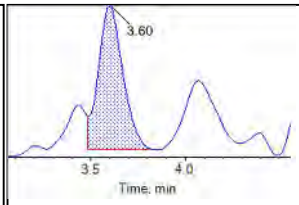
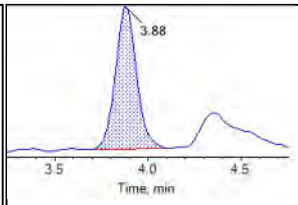


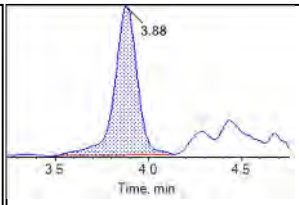
PFUnA_1



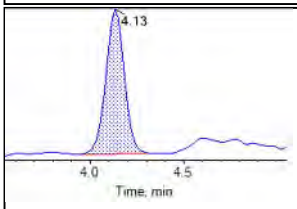
PFUnA_2



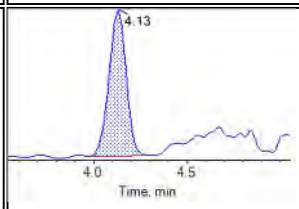
PFDoA_1



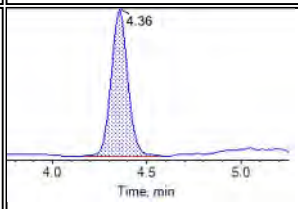
PFDoA_2



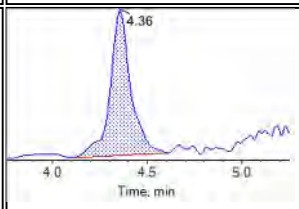
PFTrDA_1



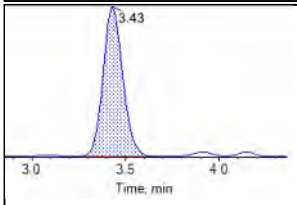
PFTrDA_2



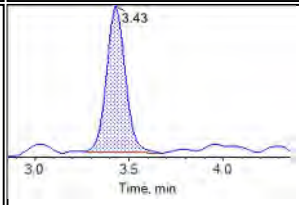
PFTeDA_1



PFTeDA_2



NMeFOSAA_1



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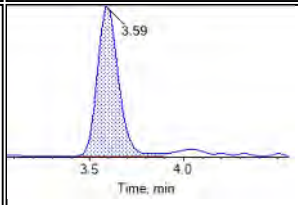

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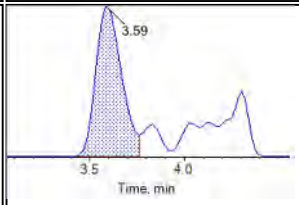

NEtFOSAA_2

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Chromatogram Report

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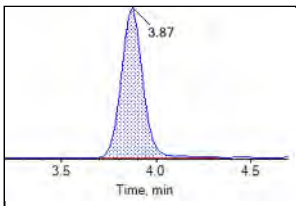
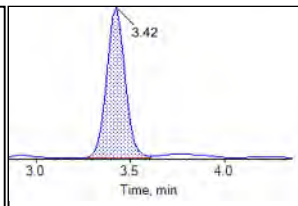
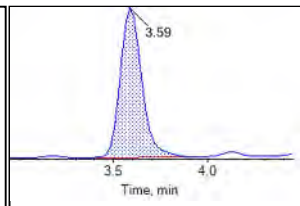


13C2-PFDoA



d3-MeFOSAA



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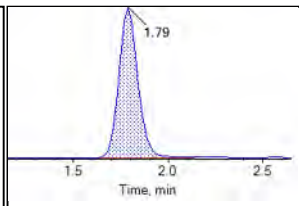
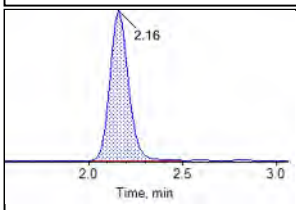
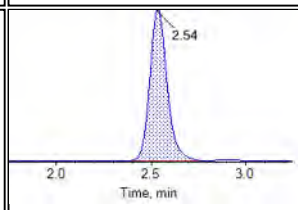


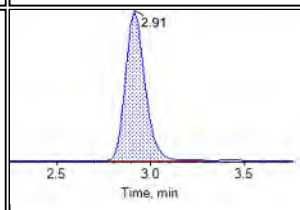
13C5-PFHxA



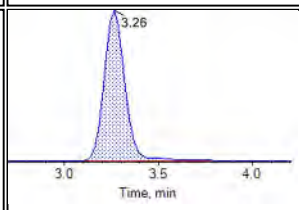
13C4-PFHpA



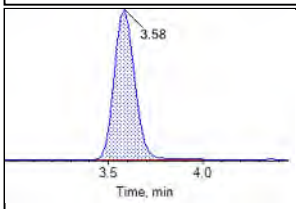
13C8-PFOA



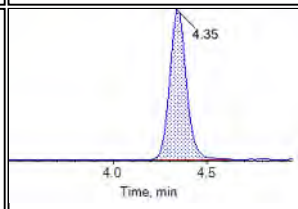
13C9-PFNA



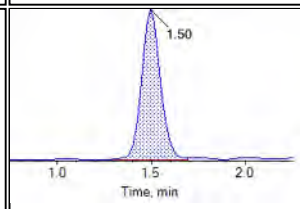
13C6-PFDA



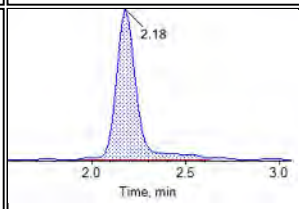
13C7-PFUnA



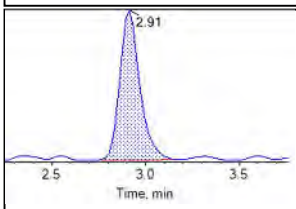
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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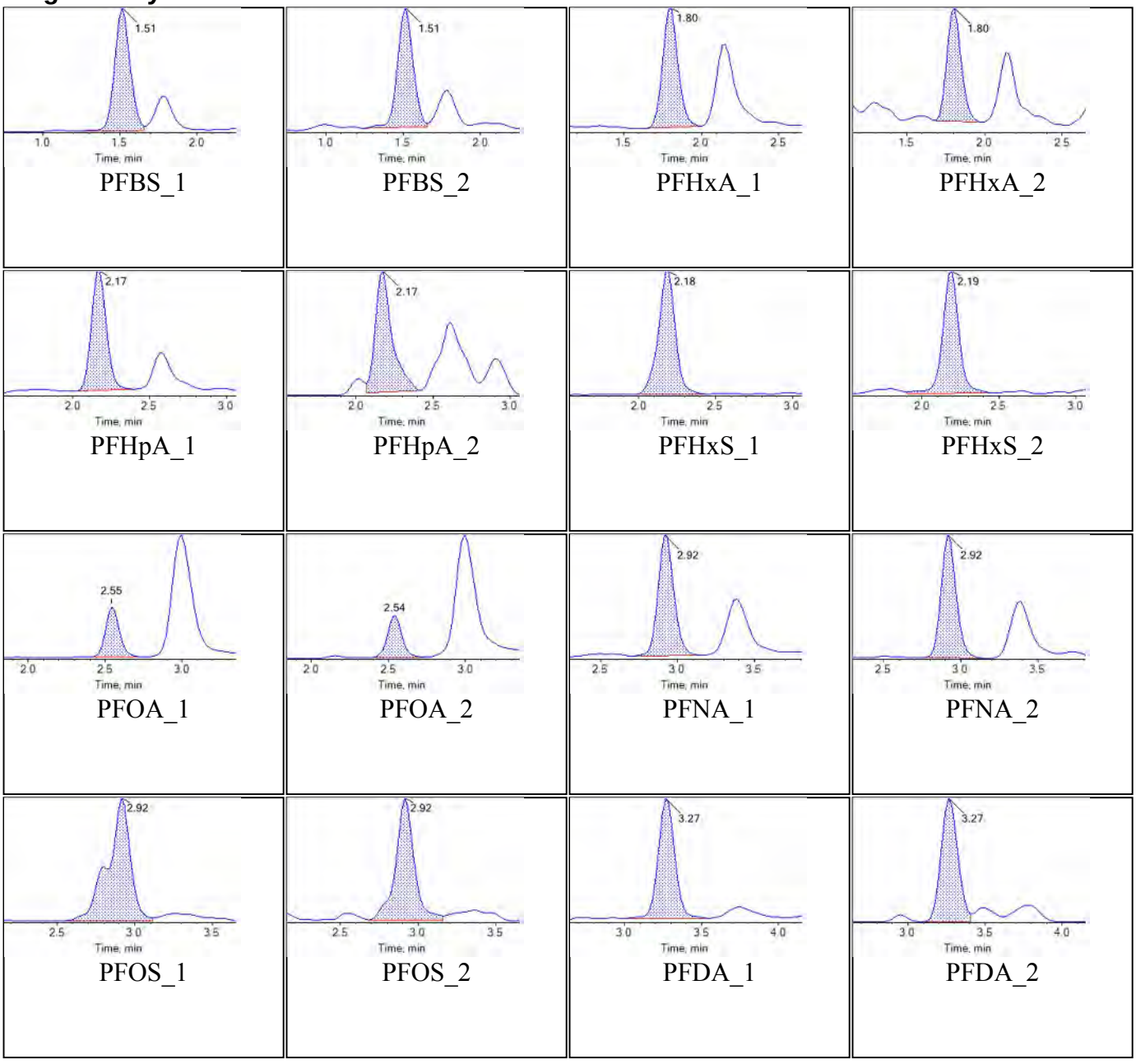

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Chromatogram Report

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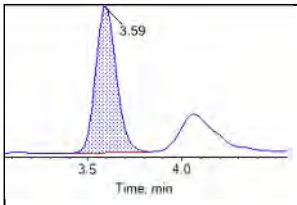

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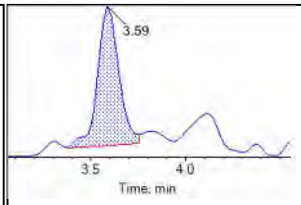
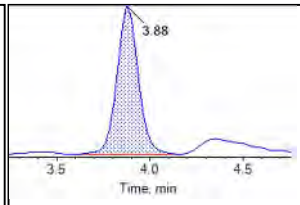
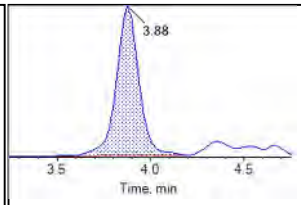


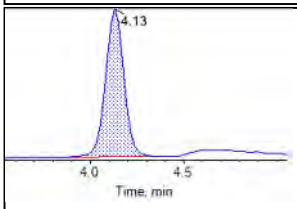
PFUnA_2



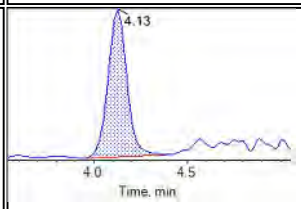
PFDoA_1



PFDoA_2



PFTrDA_1



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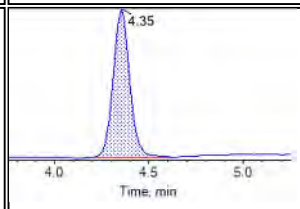

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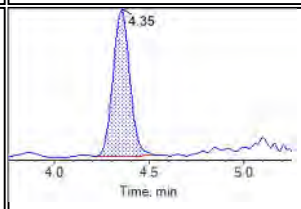

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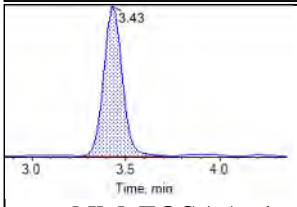

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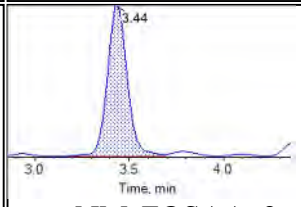

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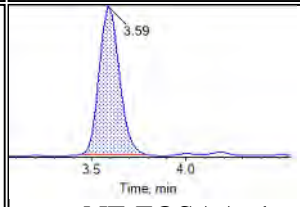

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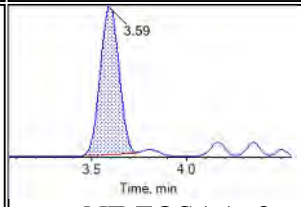

NEtFOSAA_2

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Chromatogram Report

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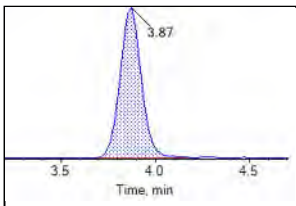

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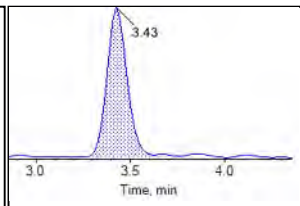
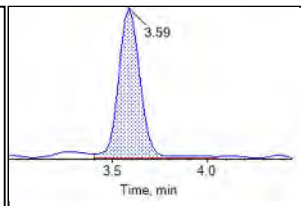
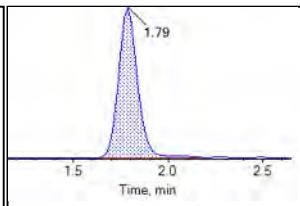


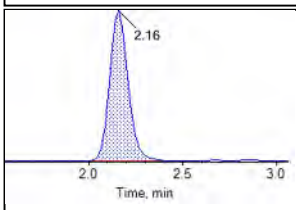
d3-MeFOSAA



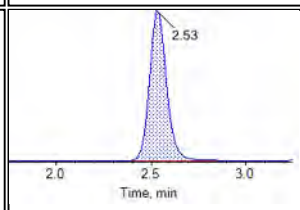
d5-EtFOSAA



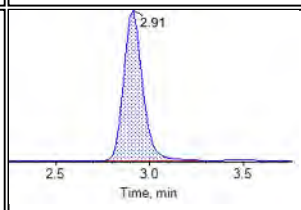
13C5-PFHxA



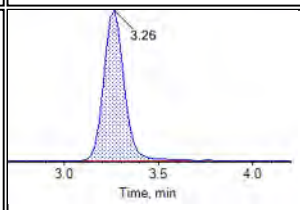
13C4-PFHpA



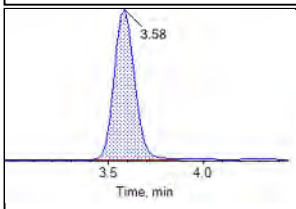
13C8-PFOA



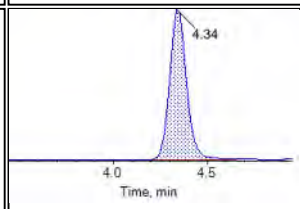
13C9-PFNA



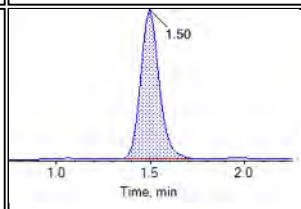
13C6-PFDA



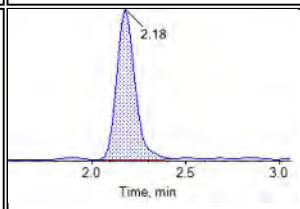
13C7-PFUnA



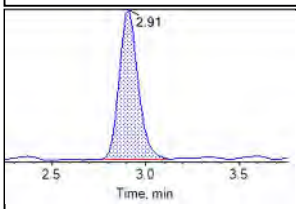
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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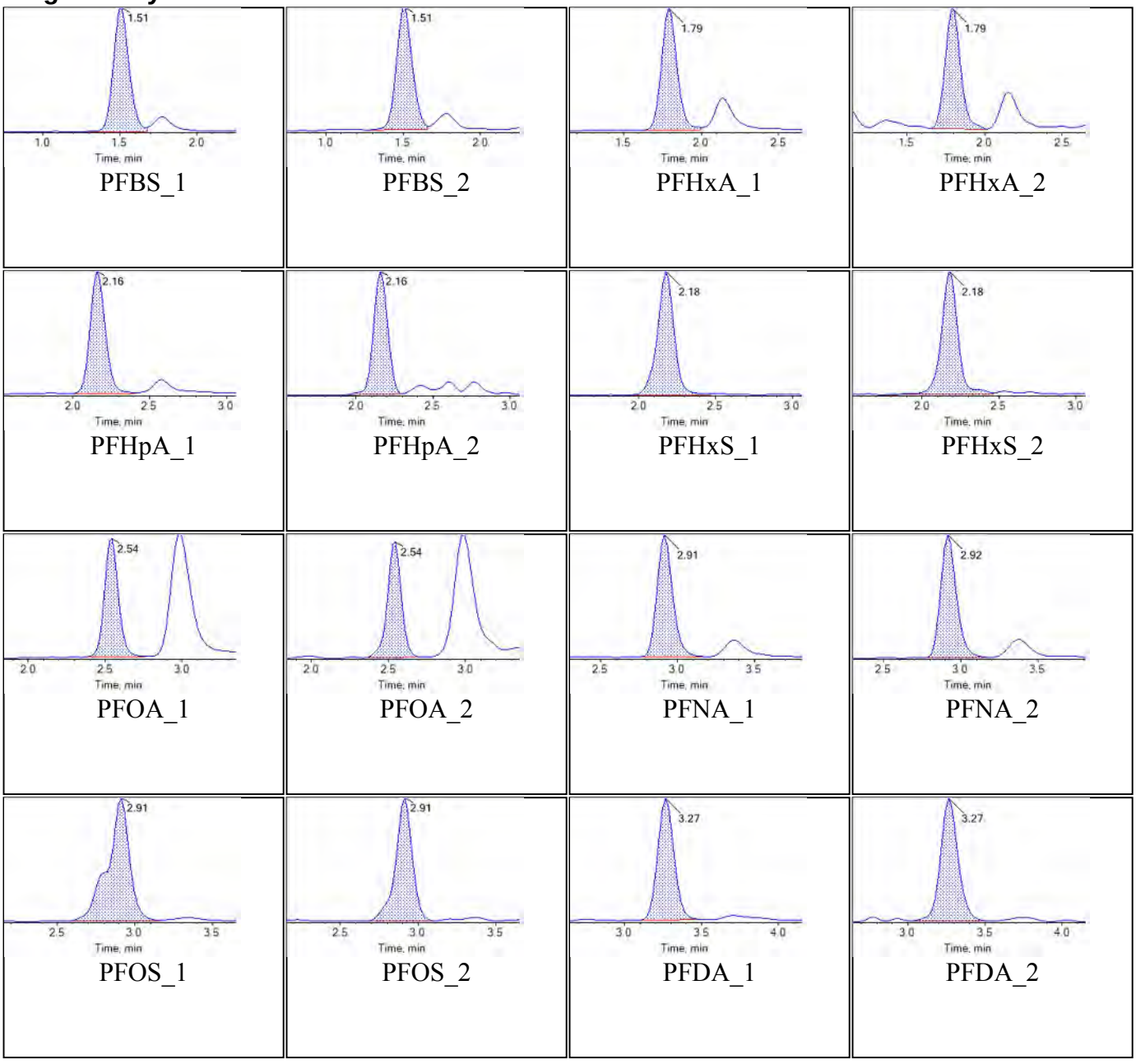

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Chromatogram Report

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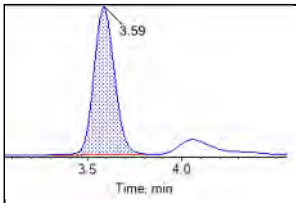
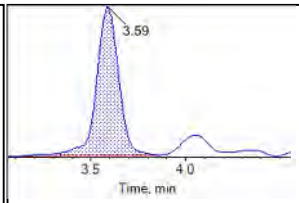
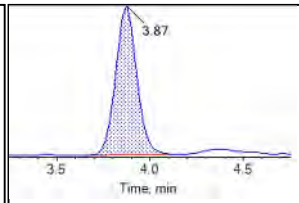


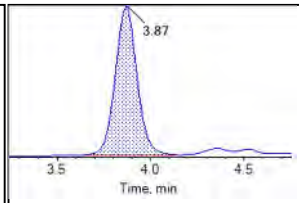
PFUnA_1



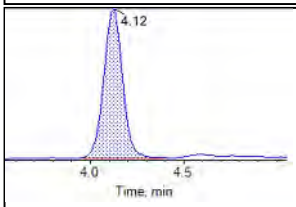
PFUnA_2



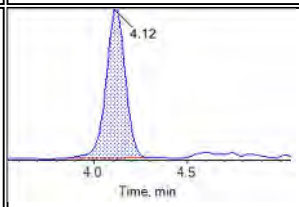
PFDoA_1



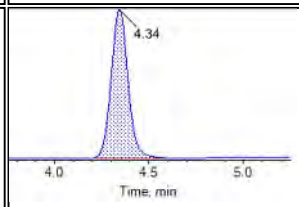
PFDoA_2



PFTrDA_1



PFTrDA_2



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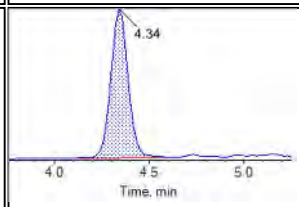
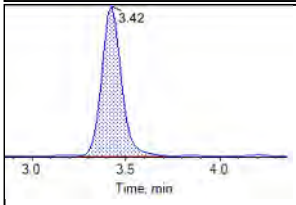
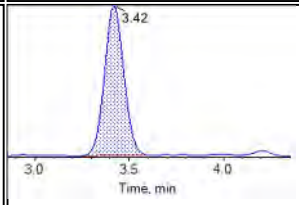


PFTeDA_2



NMeFOSAA_1



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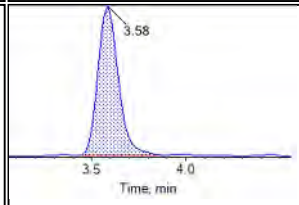

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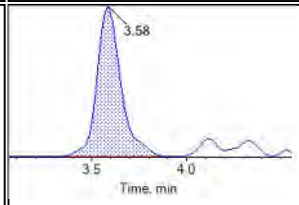

NEtFOSAA_2

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Chromatogram Report

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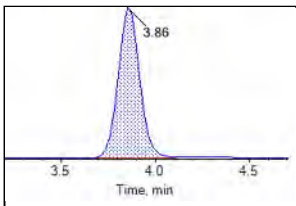
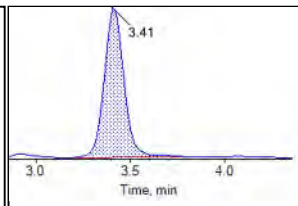
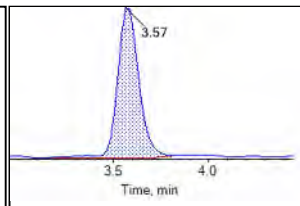


13C2-PFDoA



d3-MeFOSAA



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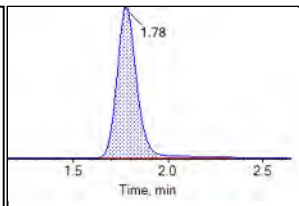
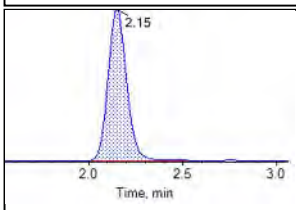
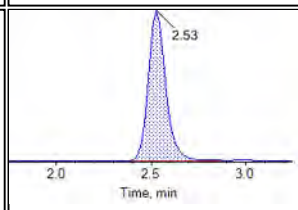


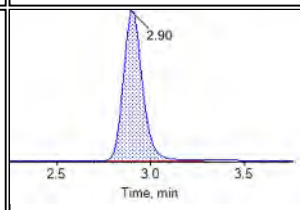
13C5-PFHxA



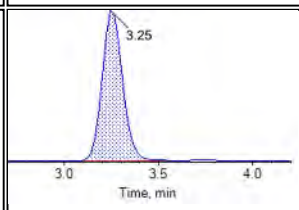
13C4-PFHpA



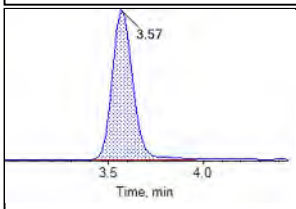
13C8-PFOA



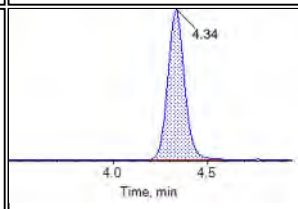
13C9-PFNA



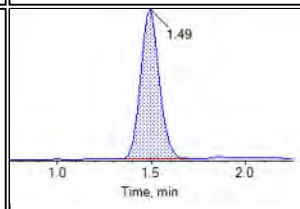
13C6-PFDA



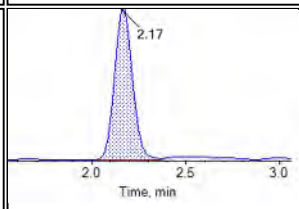
13C7-PFUnA



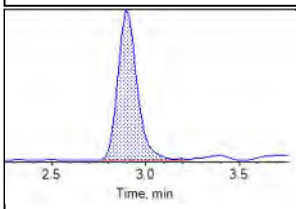
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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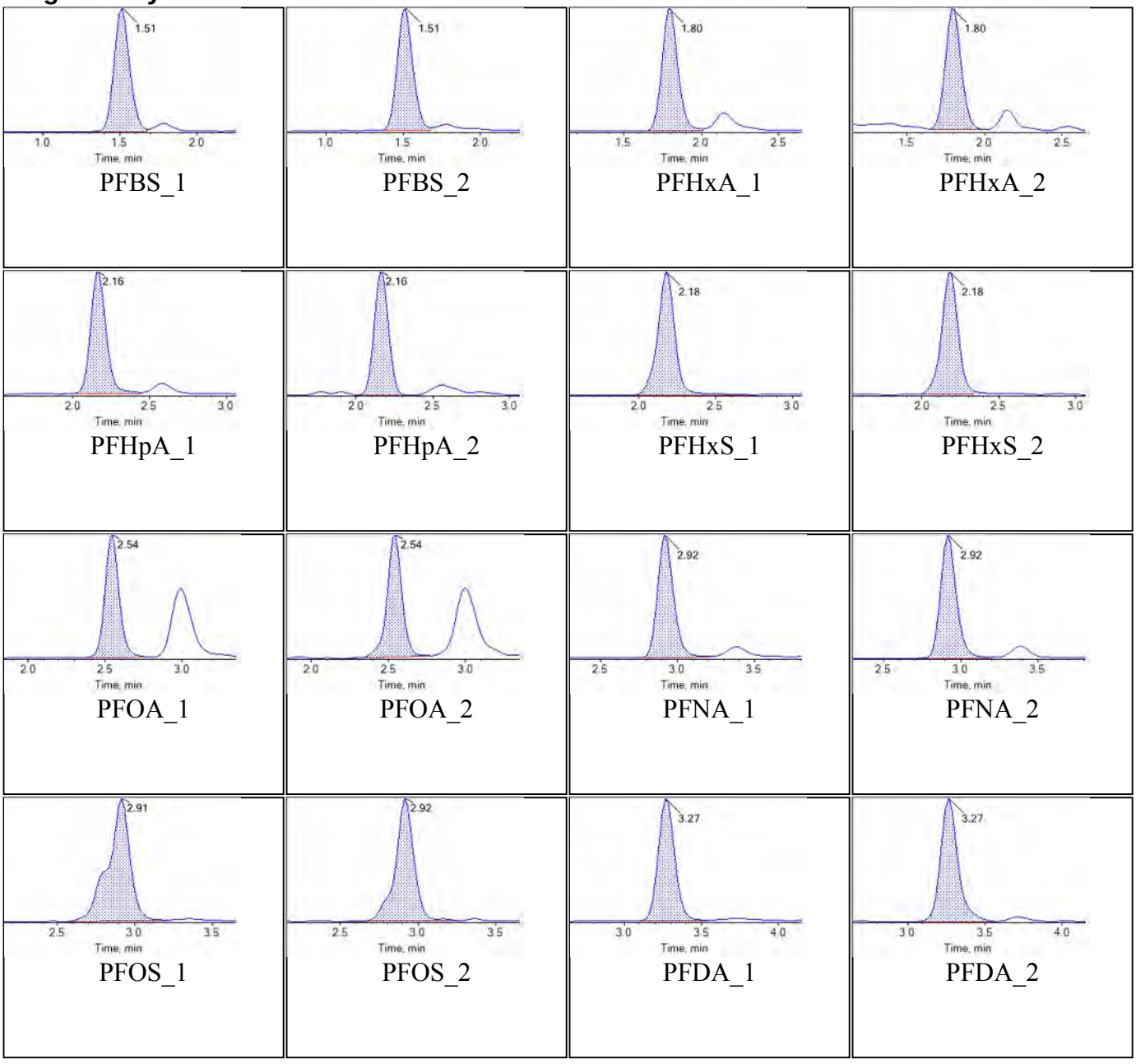

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Chromatogram Report

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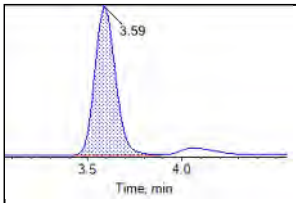

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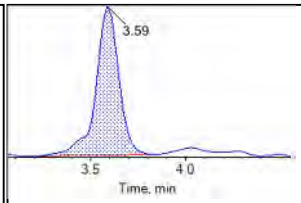
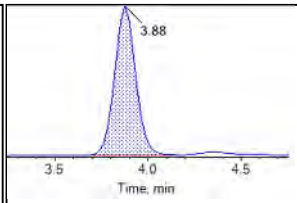


PFUnA_2



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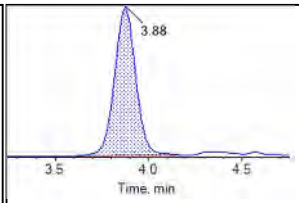
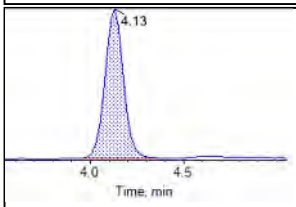
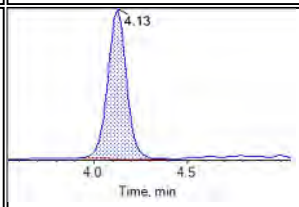


PFDoA_2



PFTrDA_1



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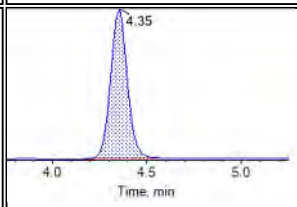

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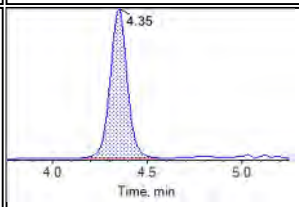

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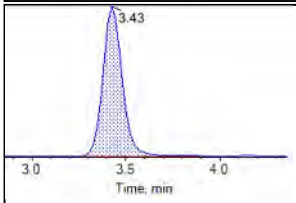

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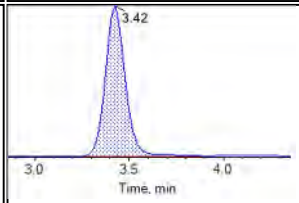

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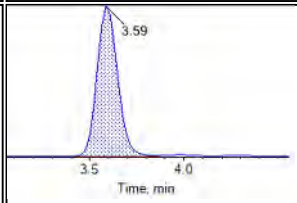

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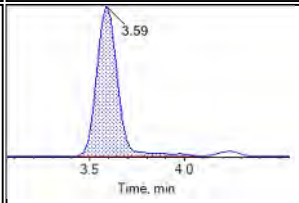

NEtFOSAA_2

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Chromatogram Report

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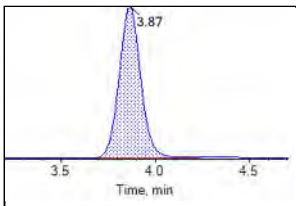
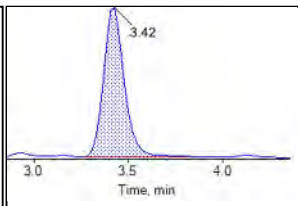
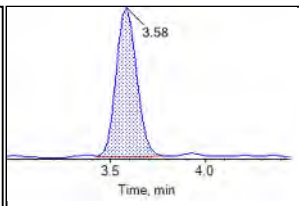


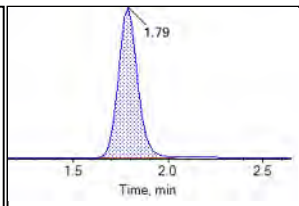
13C2-PFDoA



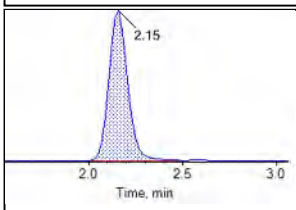
d3-MeFOSAA



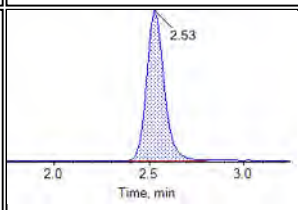
d5-EtFOSAA



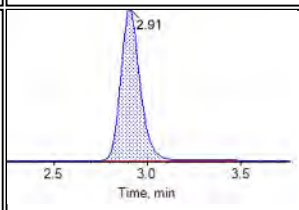
13C5-PFHxA



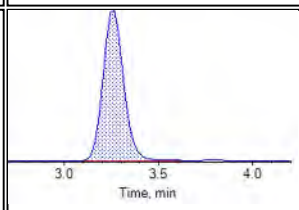
13C4-PFHpA



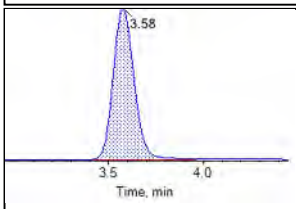
13C8-PFOA



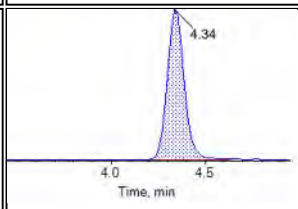
13C9-PFNA



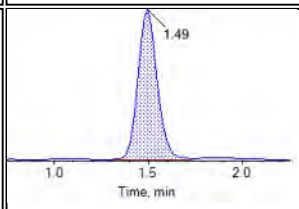
13C6-PFDA



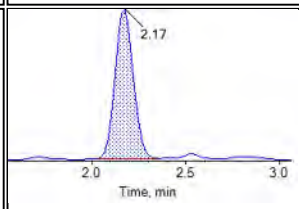
13C7-PFUnA



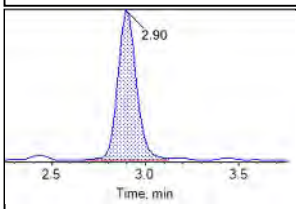
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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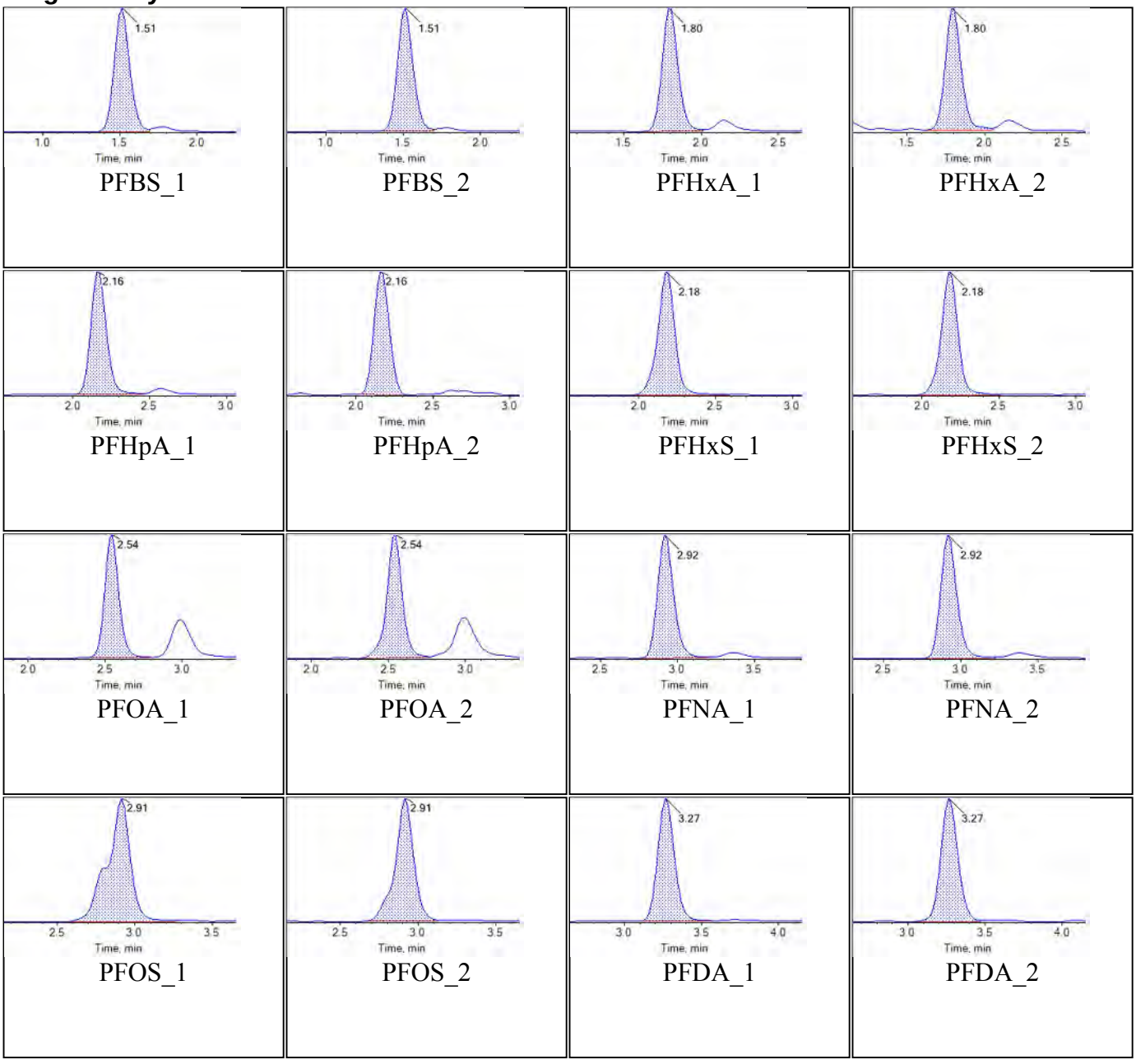

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Chromatogram Report

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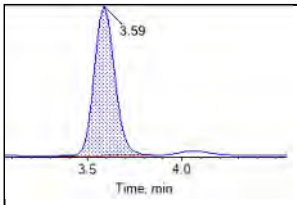

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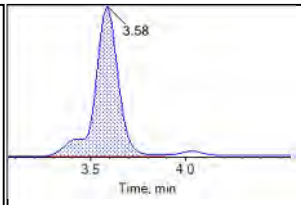
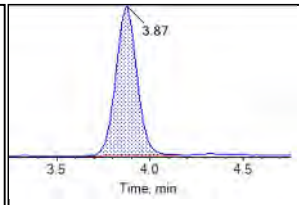
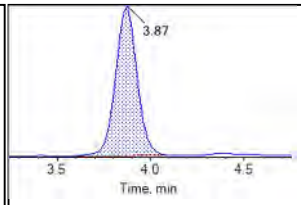


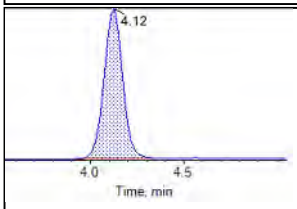
PFUnA_2



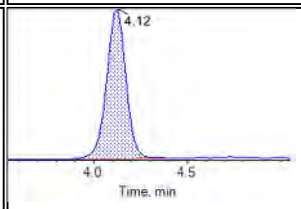
PFDoA_1



PFDoA_2



PFTrDA_1



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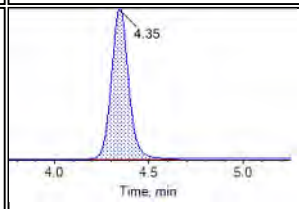

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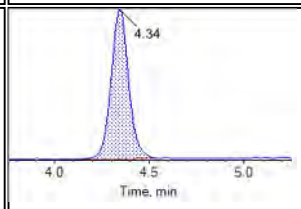

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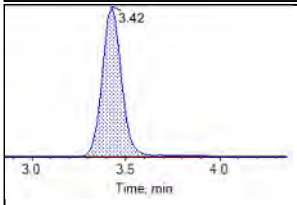

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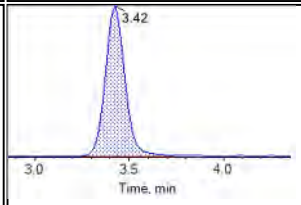

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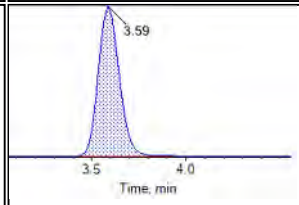

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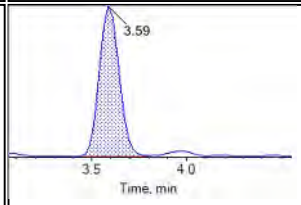

NEtFOSAA_2

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Chromatogram Report

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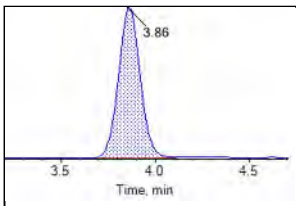
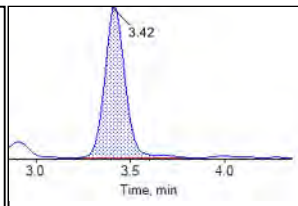
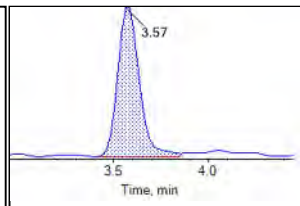


13C2-PFDoA



d3-MeFOSAA



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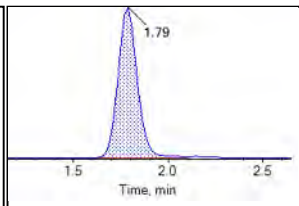

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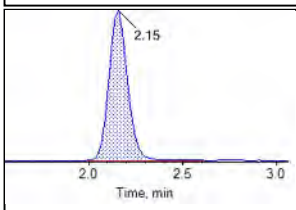
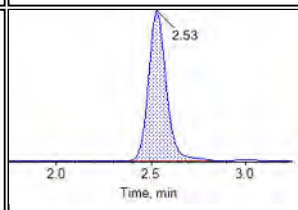
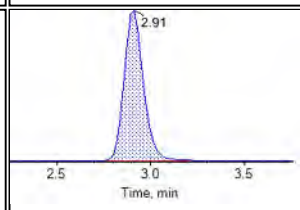


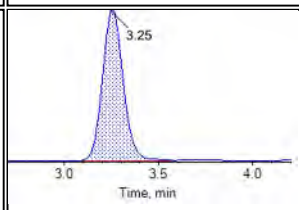
13C4-PFHpA



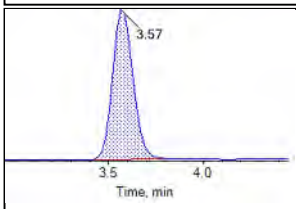
13C8-PFOA



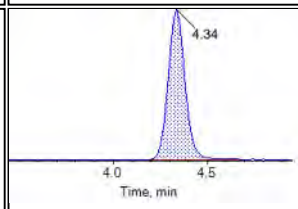
13C9-PFNA



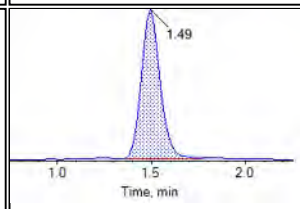
13C6-PFDA



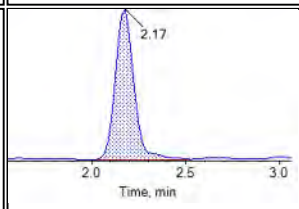
13C7-PFUnA



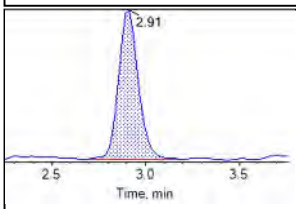
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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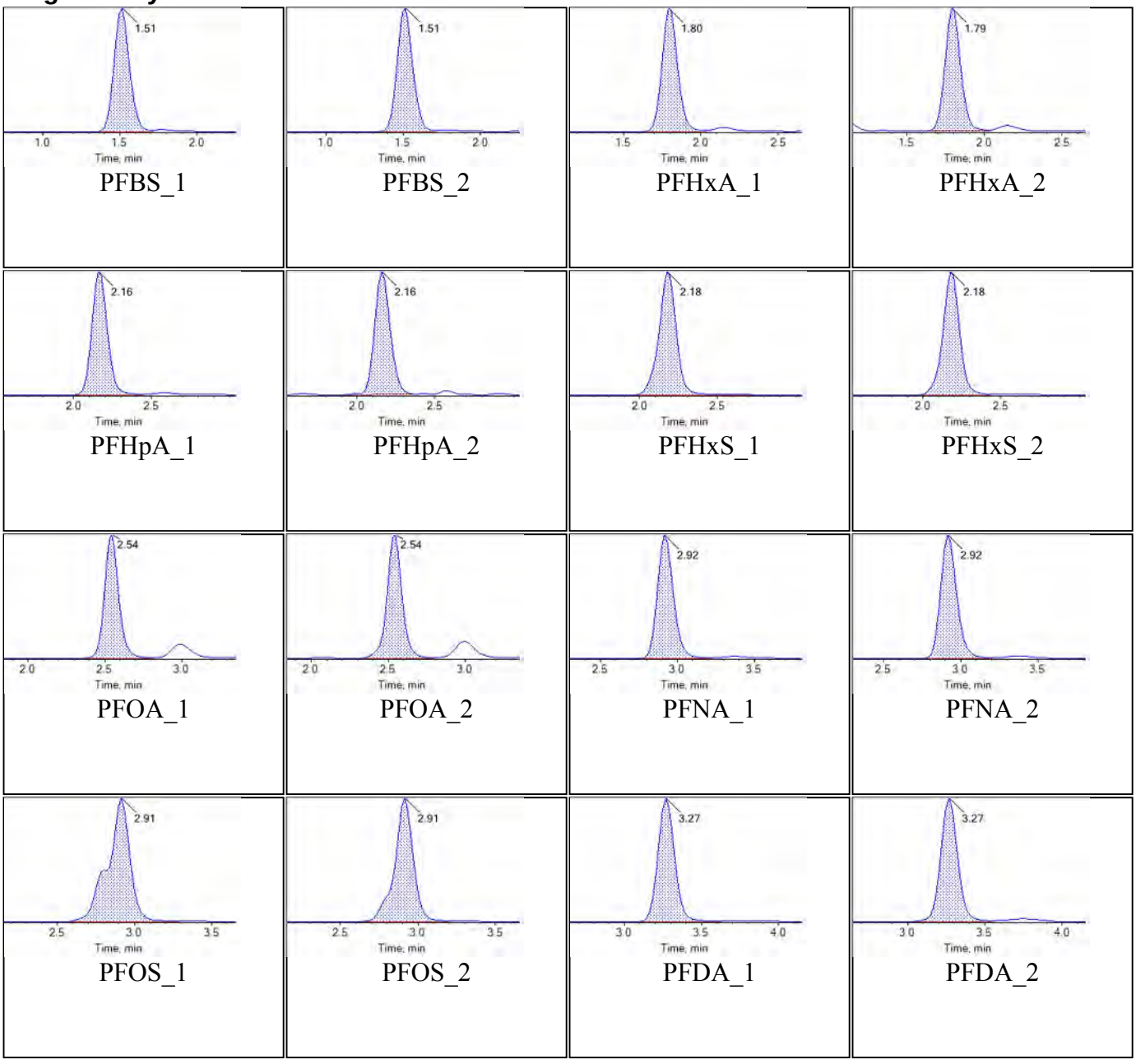

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Chromatogram Report

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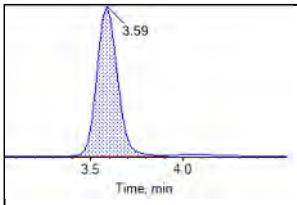

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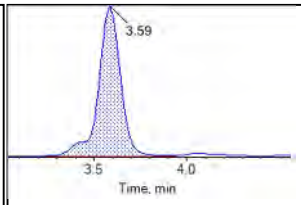

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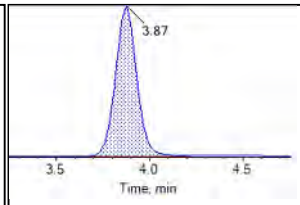

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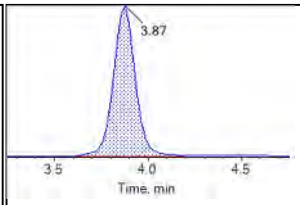
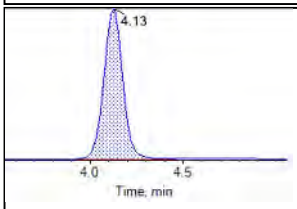


PFDoA_2



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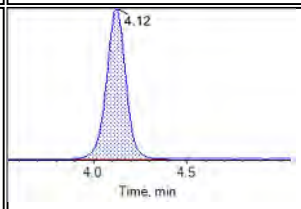

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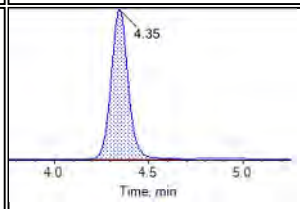

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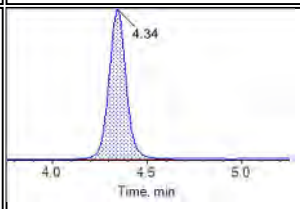

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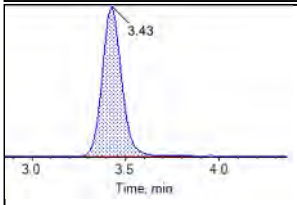

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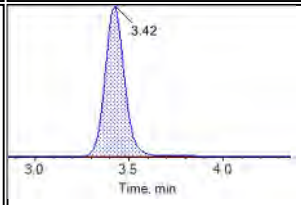

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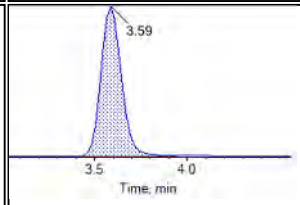

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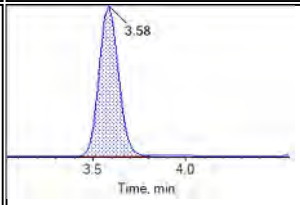

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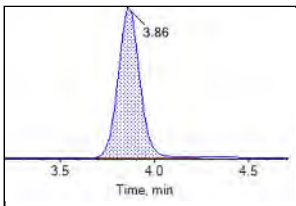

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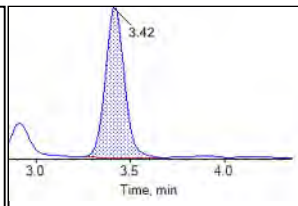
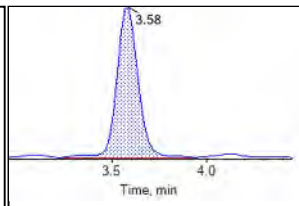
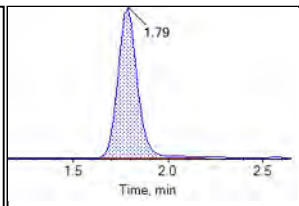


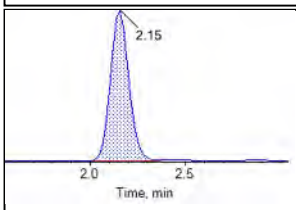
d3-MeFOSAA



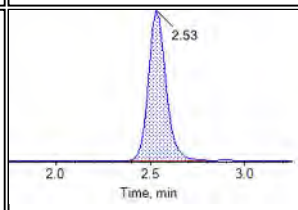
d5-EtFOSAA



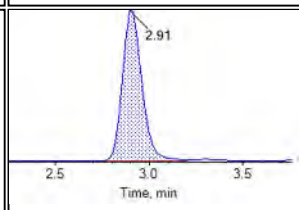
13C5-PFHxA



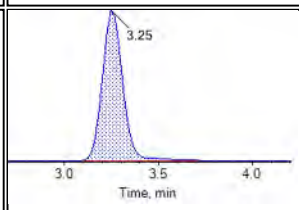
13C4-PFHpA



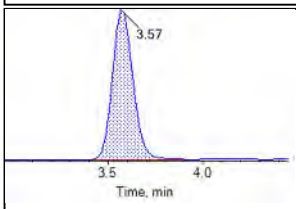
13C8-PFOA



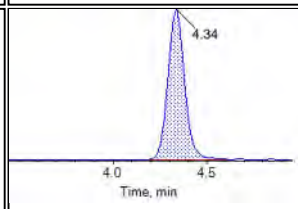
13C9-PFNA



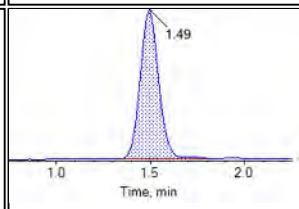
13C6-PFDA



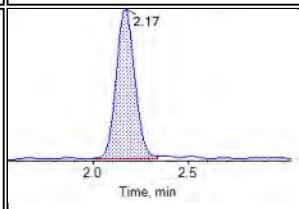
13C7-PFUnA



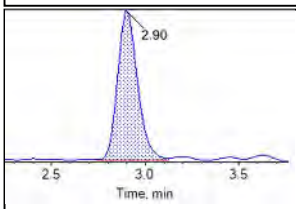
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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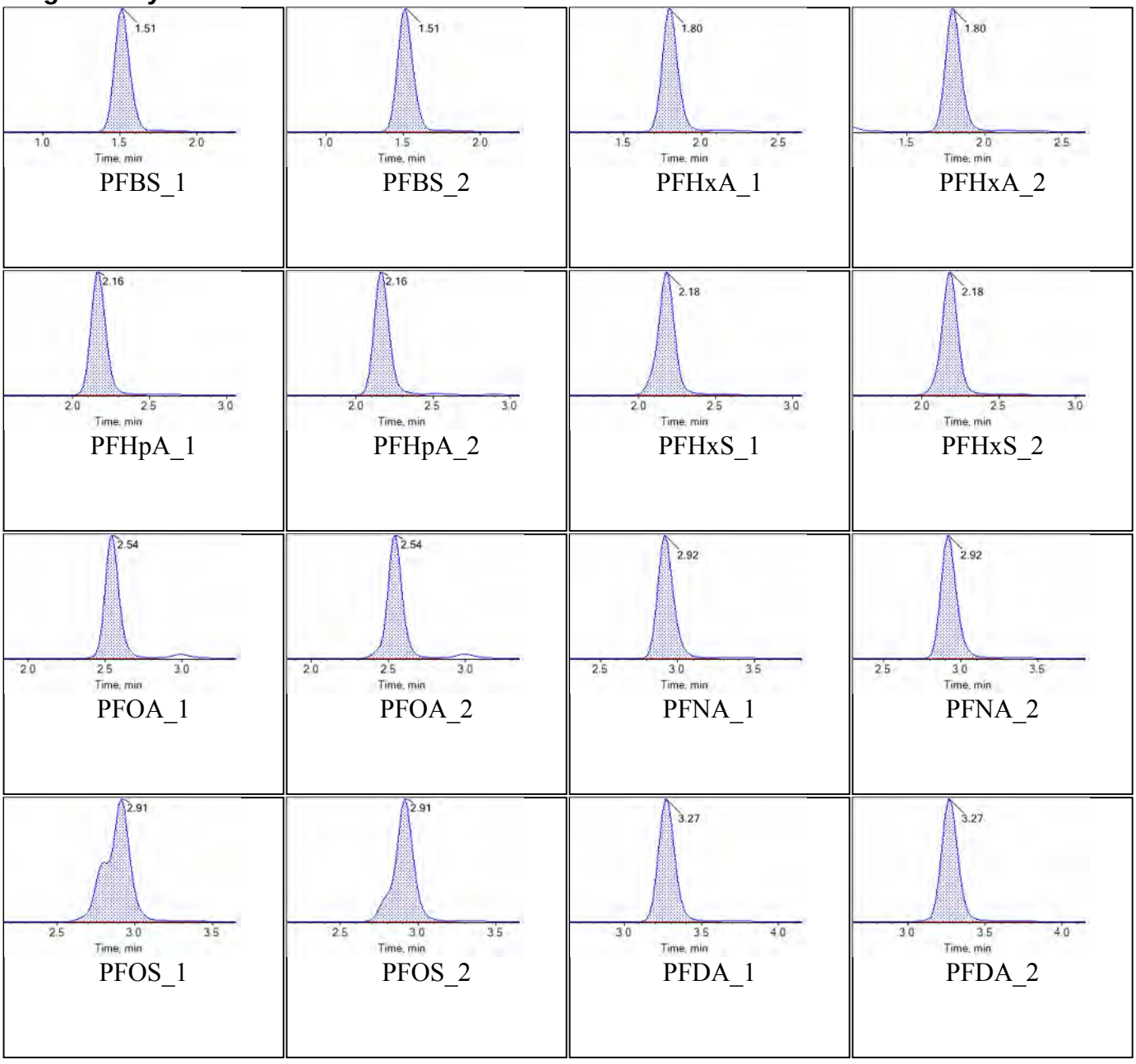

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Chromatogram Report

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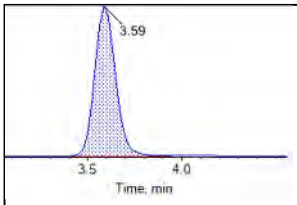

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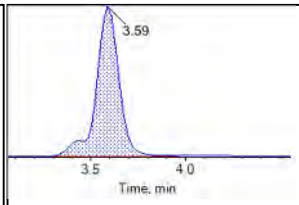
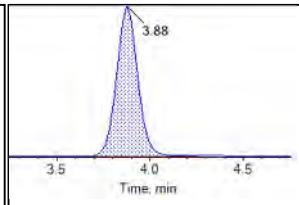
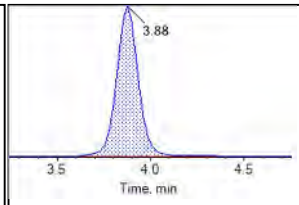


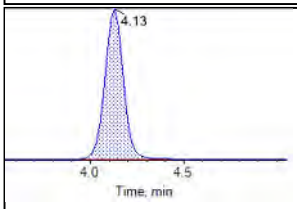
PFUnA_2



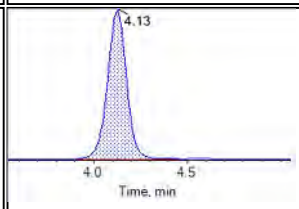
PFDoA_1



PFDoA_2



PFTrDA_1



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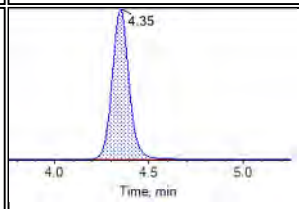

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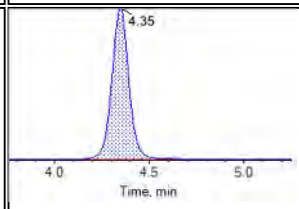

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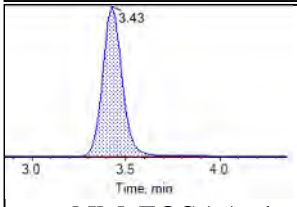

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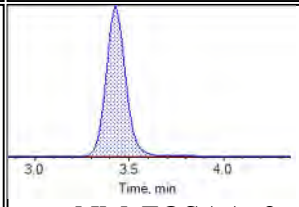

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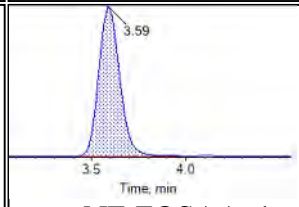

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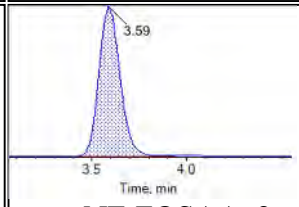

NEtFOSAA_2

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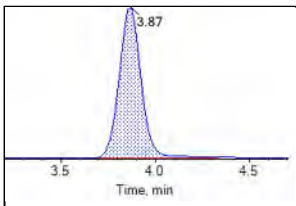
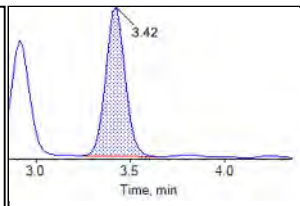
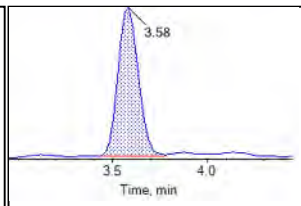


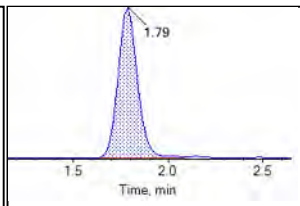
13C2-PFDoA



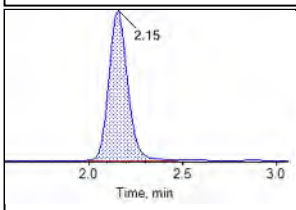
d3-MeFOSAA



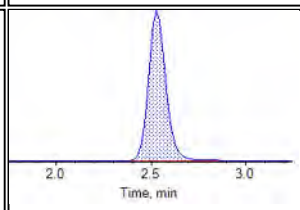
d5-EtFOSAA



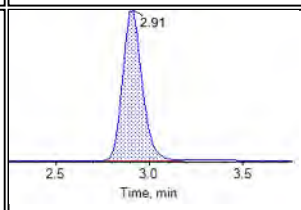
13C5-PFHxA



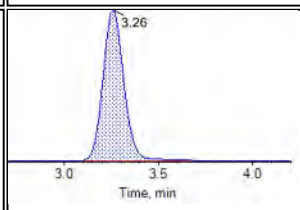
13C4-PFHpA



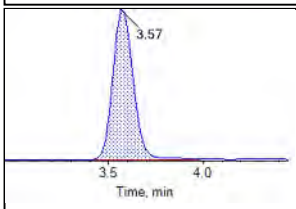
13C8-PFOA



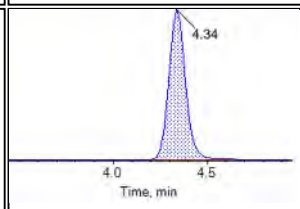
13C9-PFNA



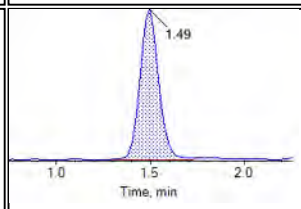
13C6-PFDA



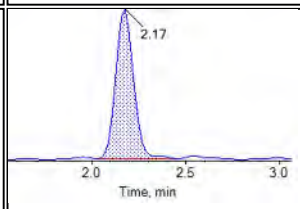
13C7-PFUnA



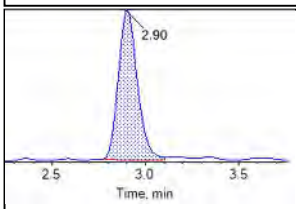
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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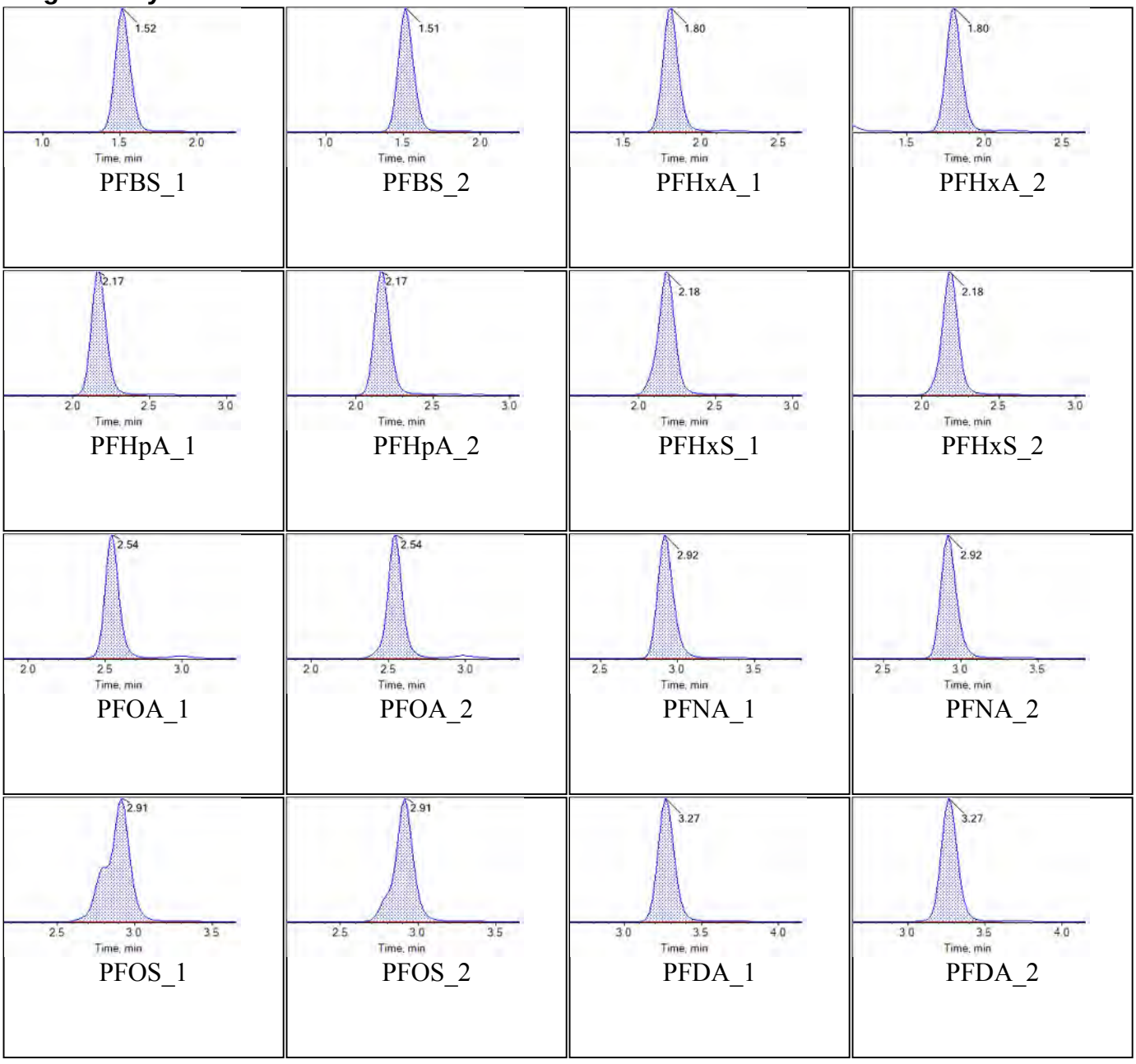
Sample Name	JV28	**Injection Vial**	10
Sample ID	L9	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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Chromatogram Report

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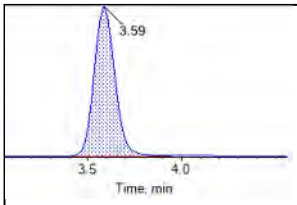
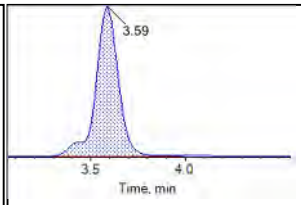
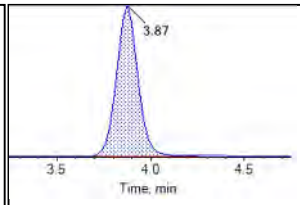


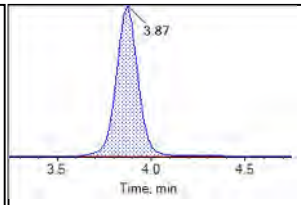
PFUnA_1



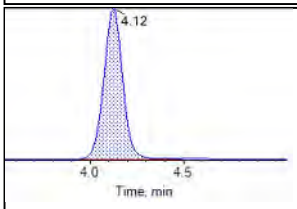
PFUnA_2



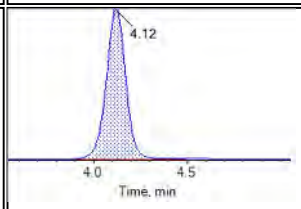
PFDoA_1



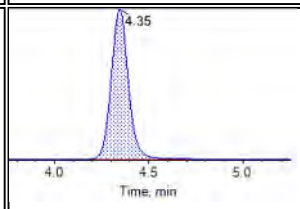
PFDoA_2



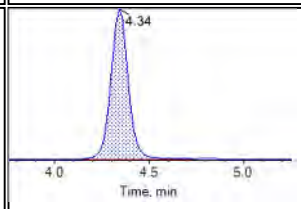
PFTrDA_1



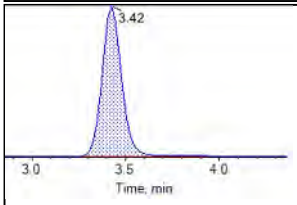
PFTrDA_2



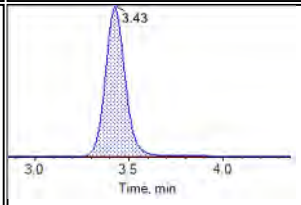
PFTeDA_1



PFTeDA_2



NMeFOSAA_1



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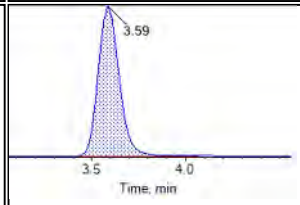

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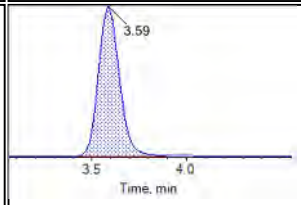

NEtFOSAA_2

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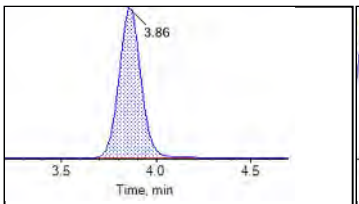
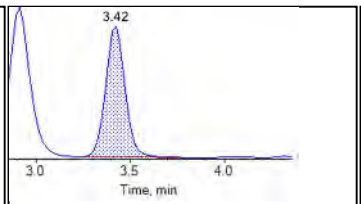
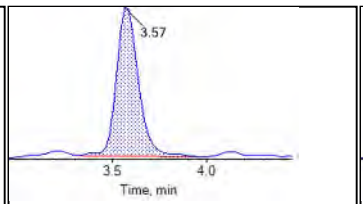
Internal Standards:



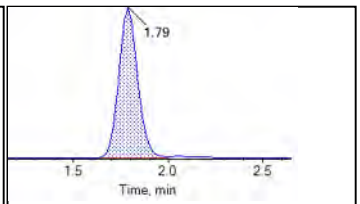
13C2-PFDoA



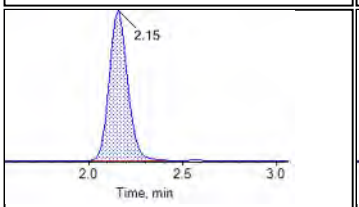
d3-MeFOSAA



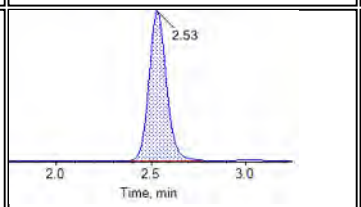
d5-EtFOSAA



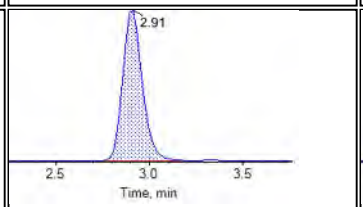
13C5-PFHxA



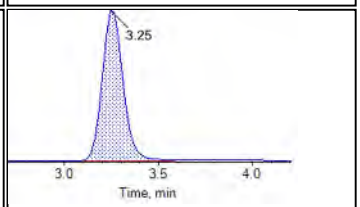
13C4-PFHpA



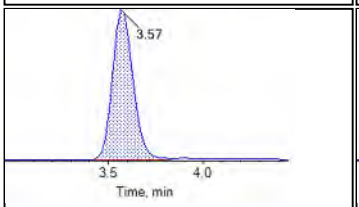
13C8-PFOA



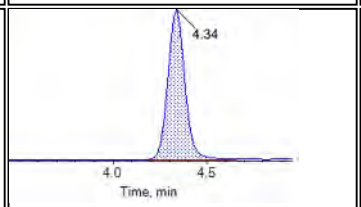
13C9-PFNA



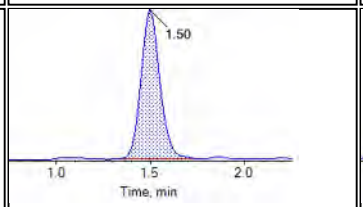
13C6-PFDA



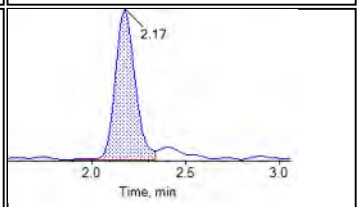
13C7-PFUnA



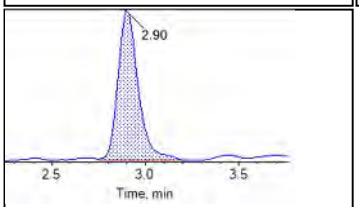
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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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	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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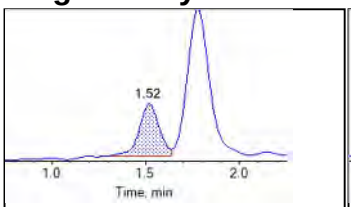

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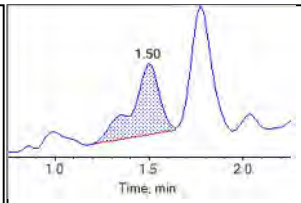
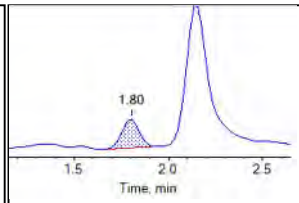
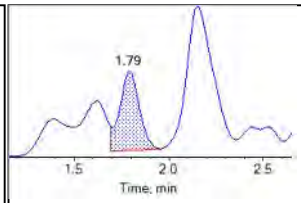


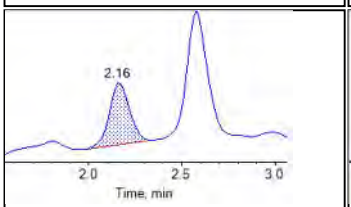
PFBS_2



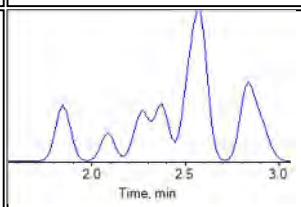
PFHxA_1



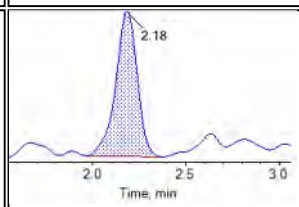
PFHxA_2



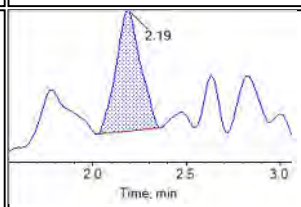
PFHpA_1



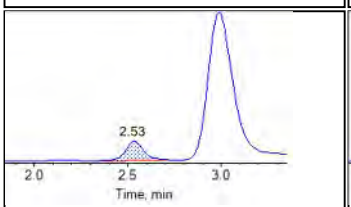
PFHpA_2



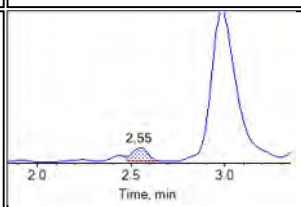
PFHxS_1



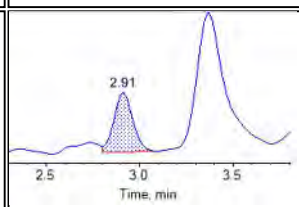
PFHxS_2



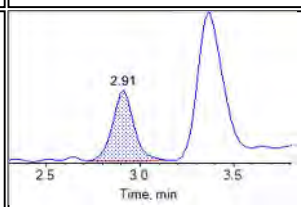
PFOA_1



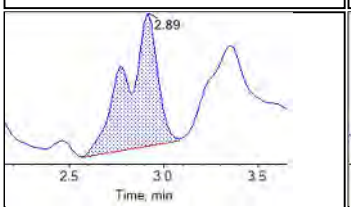
PFOA_2



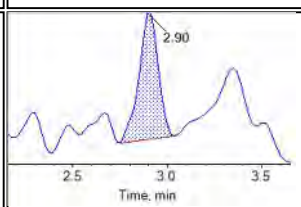
PFNA_1



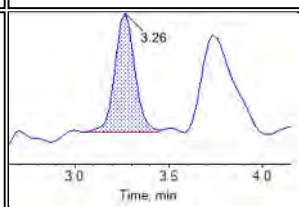
PFNA_2



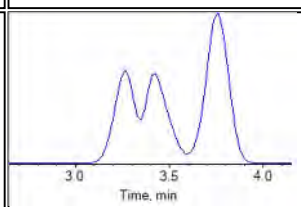
PFOS_1



PFOS_2



PFDA_1



PFDA_2

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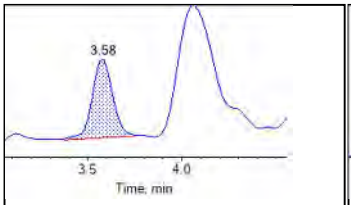
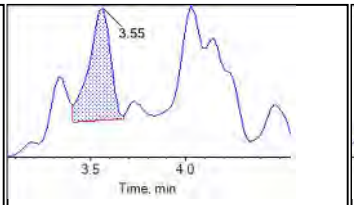


PFUnA_1



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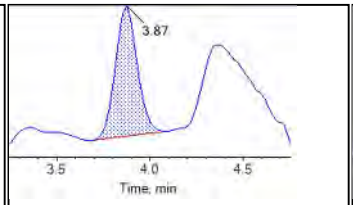

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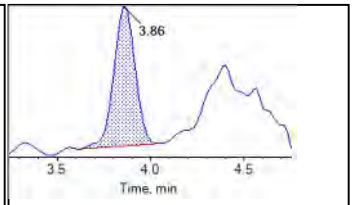

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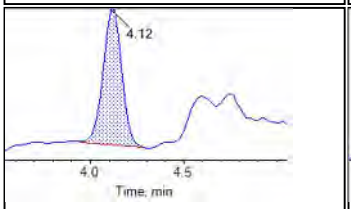

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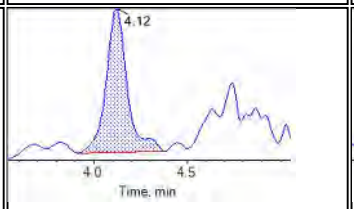

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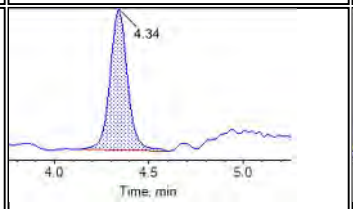

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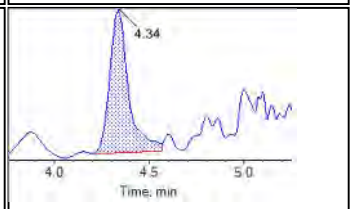

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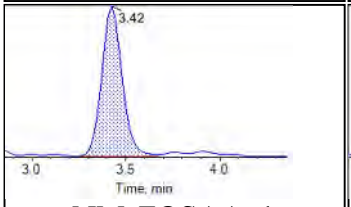

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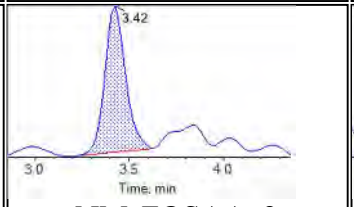

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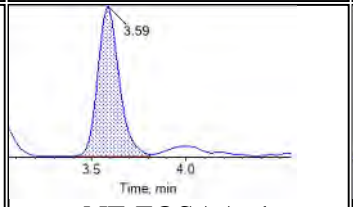

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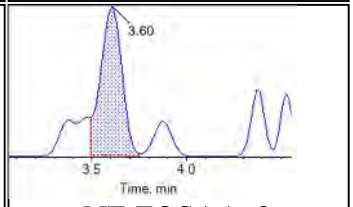
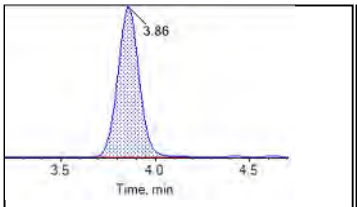
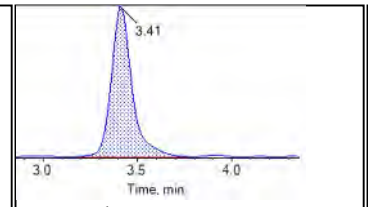


NEtFOSAA_2

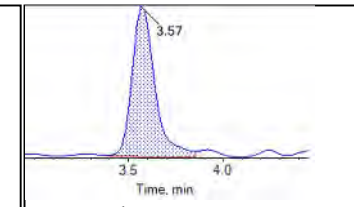
Internal Standards:



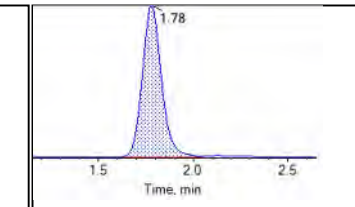
13C2-PFDoA



d3-MeFOSAA



d5-EtFOSAA



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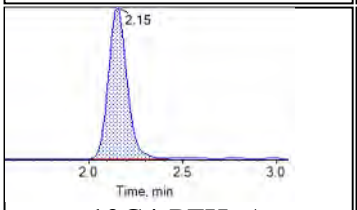
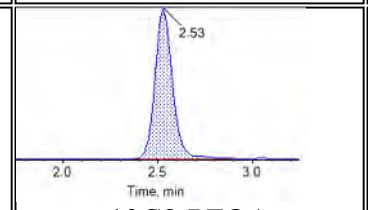
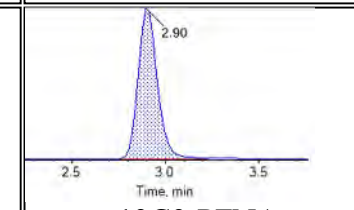


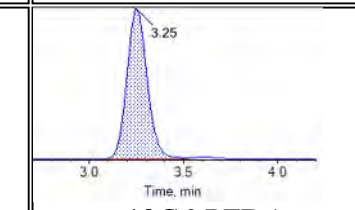
13C4-PFHpA



13C8-PFOA



13C9-PFNA



13C6-PFDA

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Chromatogram Report

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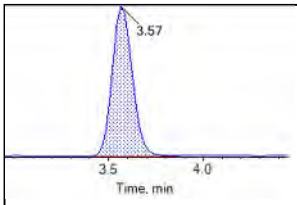
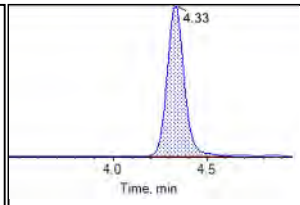
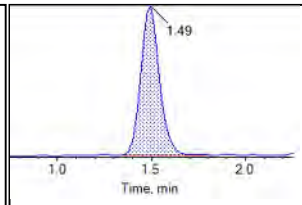


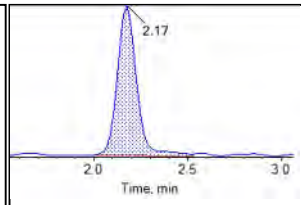
13C7-PFUnA



13C2-PFTeDA



13C3-PFBS



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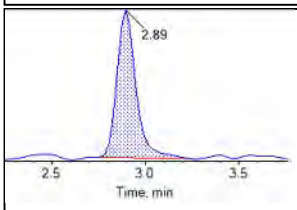

13C8-PFOS

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Chromatogram Report

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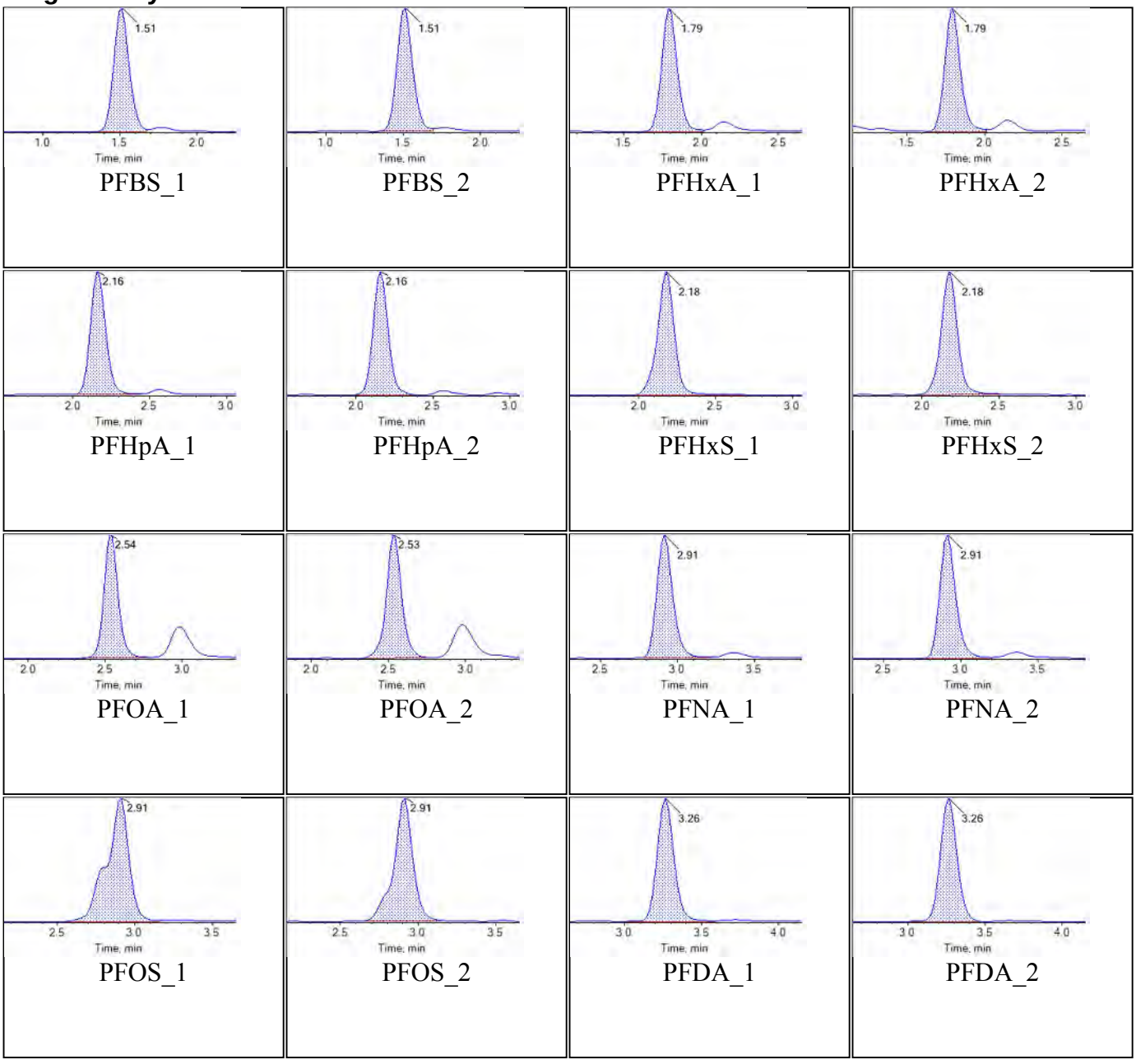
Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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Chromatogram Report

Created with Analyst Reporter
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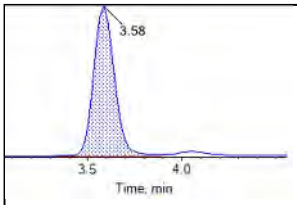

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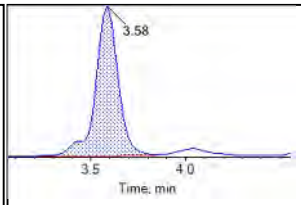
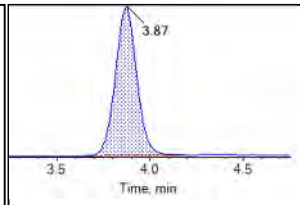


PFUnA_2



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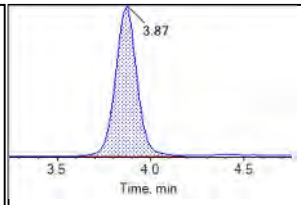

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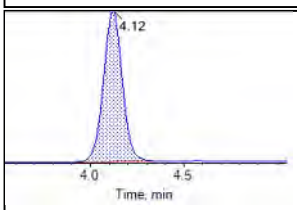
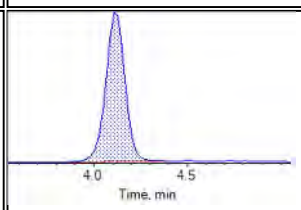


PFTrDA_1



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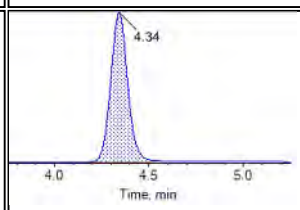

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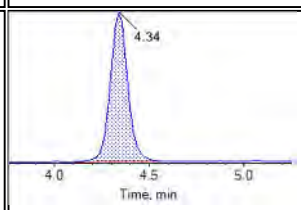
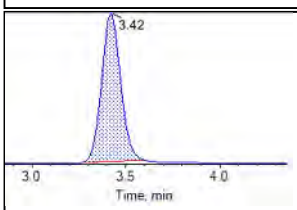
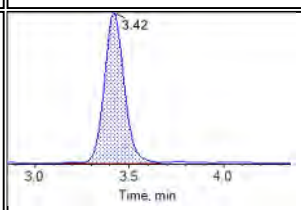


PFTeDA_2



NMeFOSAA_1



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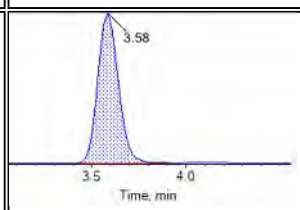

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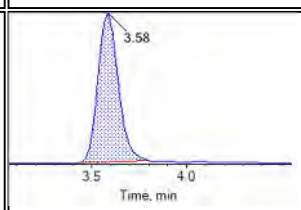

NEtFOSAA_2

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Chromatogram Report

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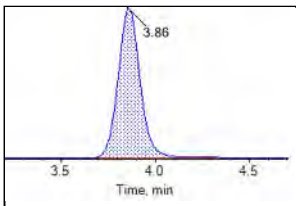
Internal Standards:



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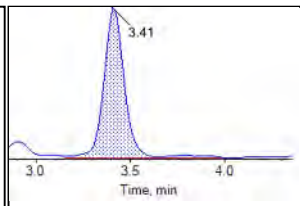
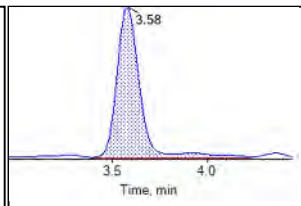
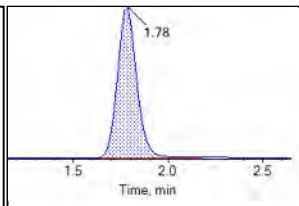


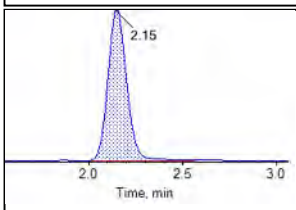
d3-MeFOSAA



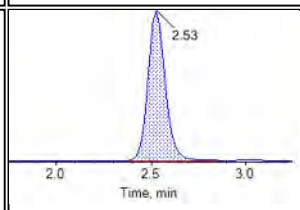
d5-EtFOSAA



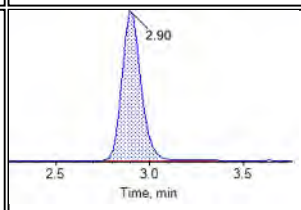
13C5-PFHxA



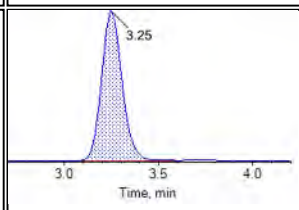
13C4-PFHpA



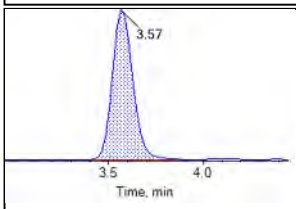
13C8-PFOA



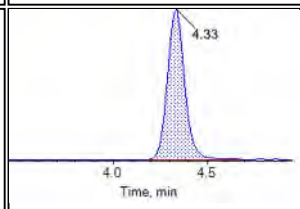
13C9-PFNA



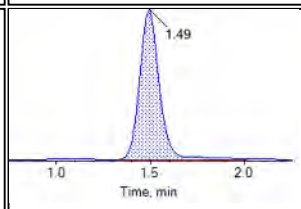
13C6-PFDA



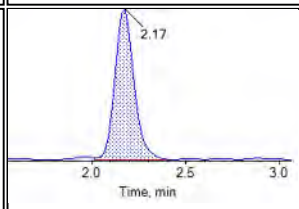
13C7-PFUnA



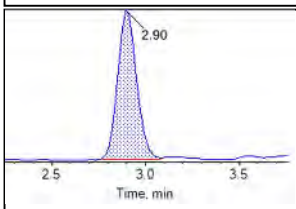
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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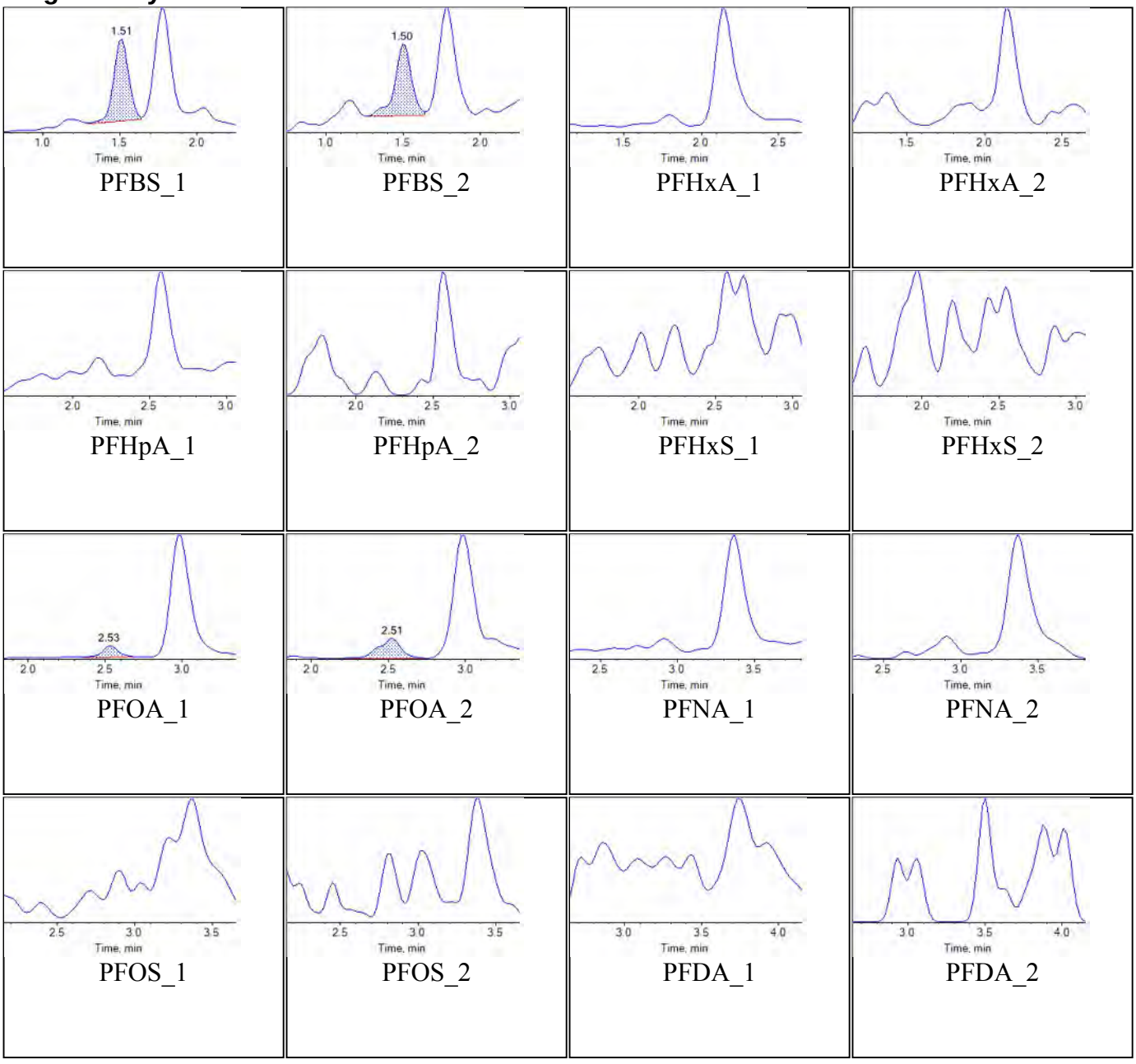
Printed: 05/06/2018 1:41:32 PM

Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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Chromatogram Report

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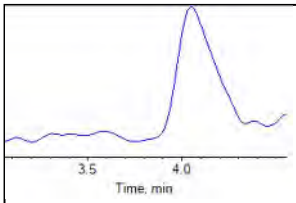
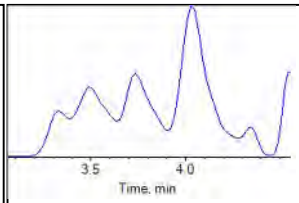
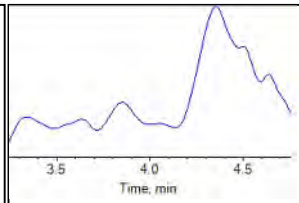
Printed: 05/06/2018 1:41:32 PM



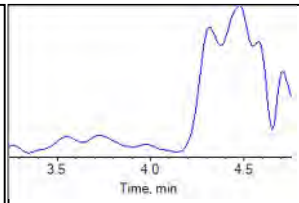
PFUnA_1



PFUnA_2



PFDoA_1



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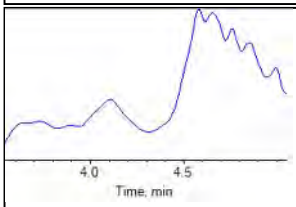

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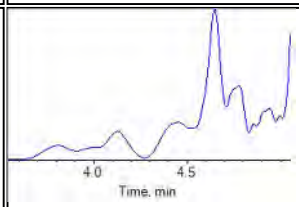

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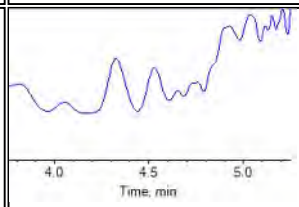

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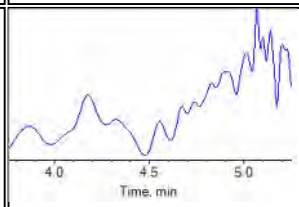

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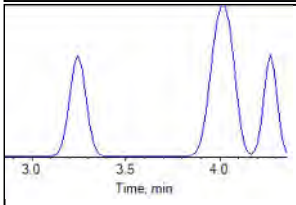

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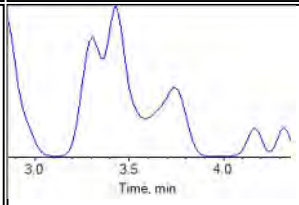

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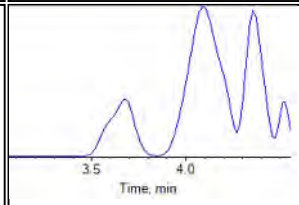

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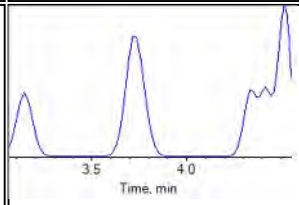

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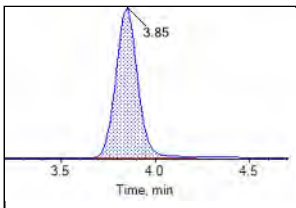

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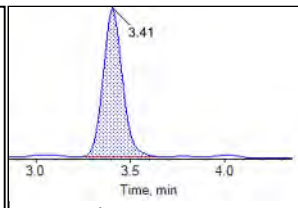

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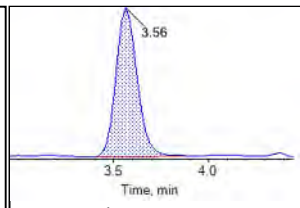

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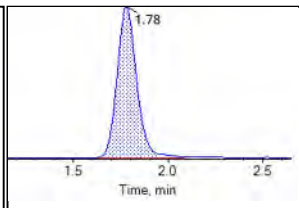

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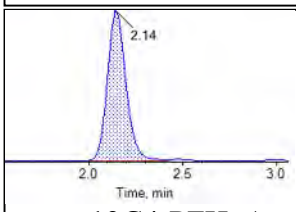

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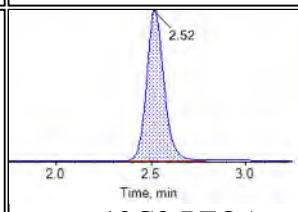
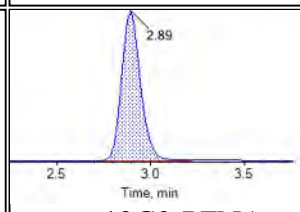
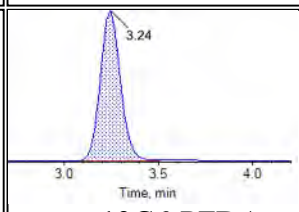


13C8-PFOA



13C9-PFNA



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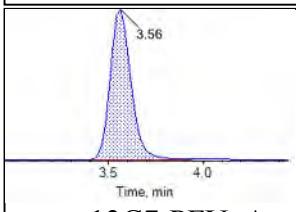

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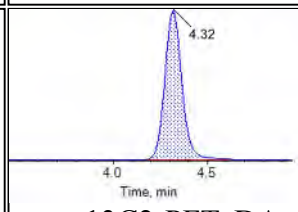

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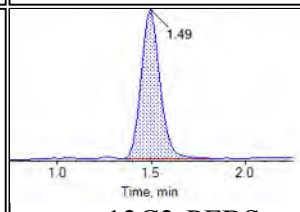

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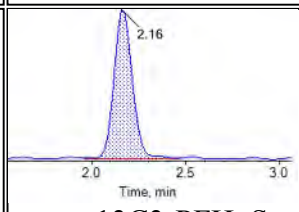

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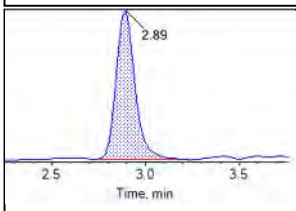

13C8-PFOS

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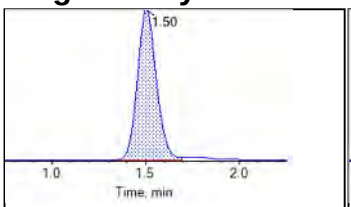
Sample Name	CQ585LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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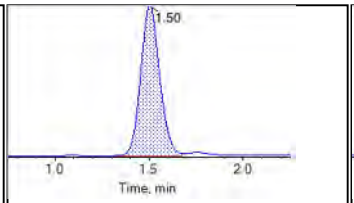

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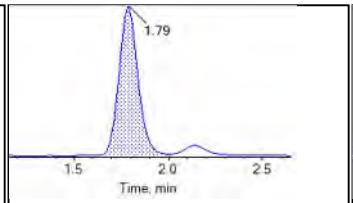

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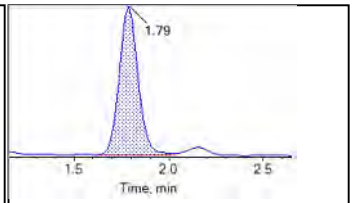

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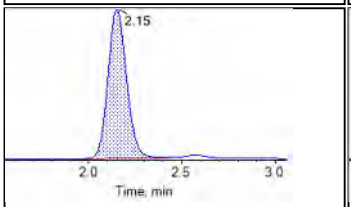

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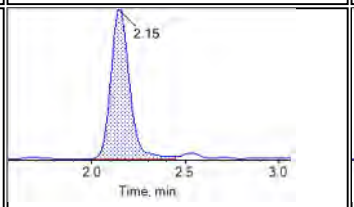

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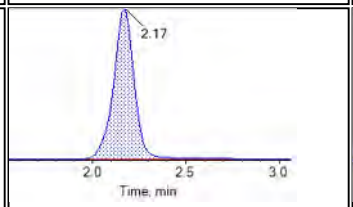

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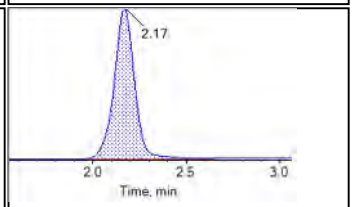

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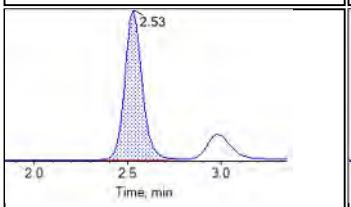

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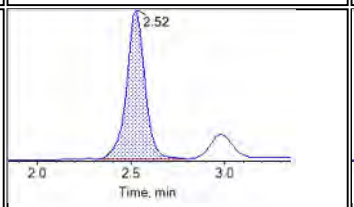

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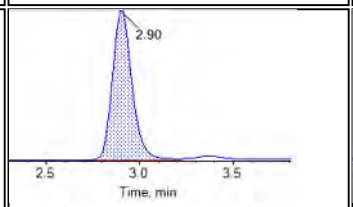

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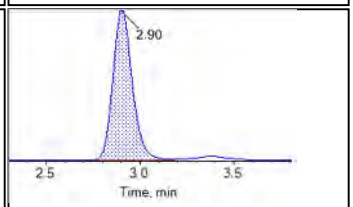

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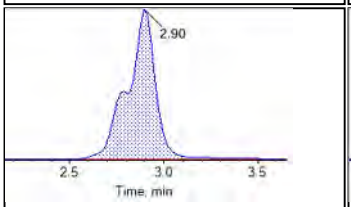

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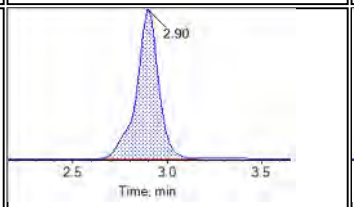

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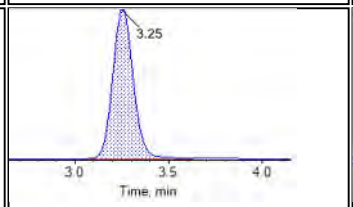

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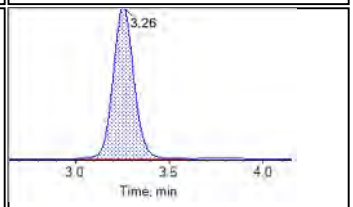

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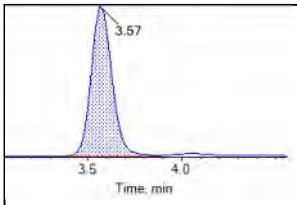

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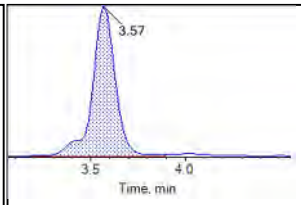

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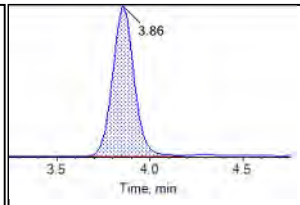

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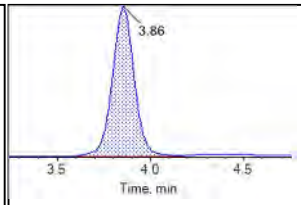

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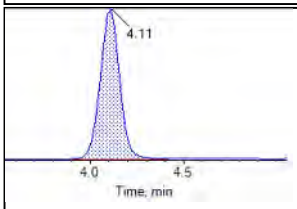

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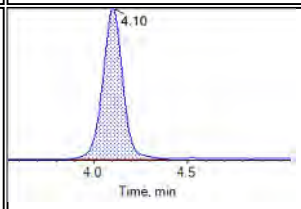

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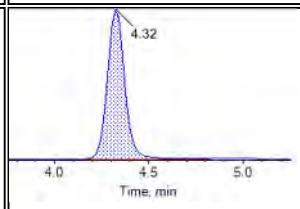

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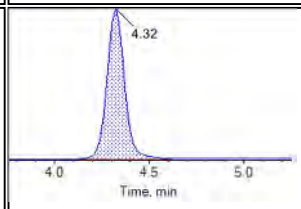

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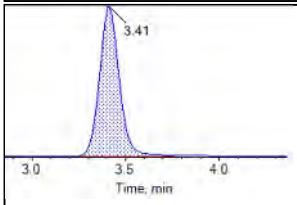

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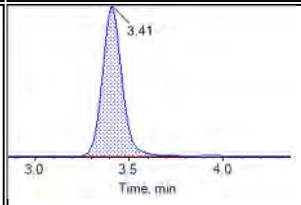

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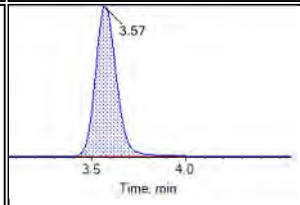

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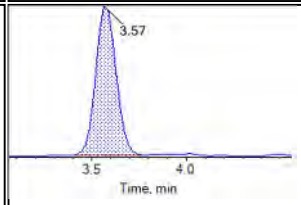

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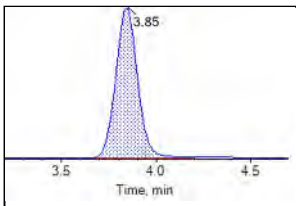

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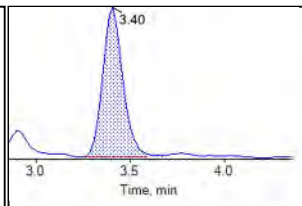

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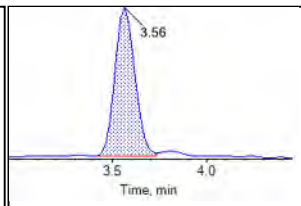

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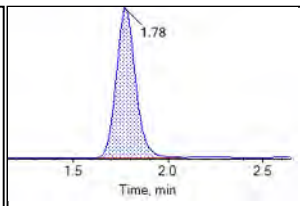

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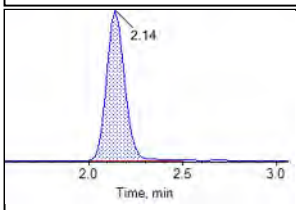
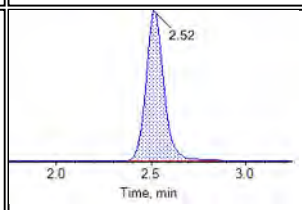
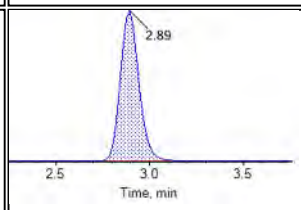


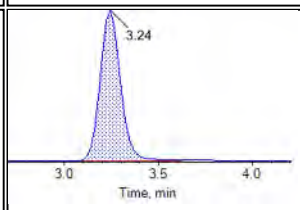
13C4-PFHpA



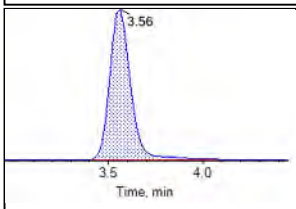
13C8-PFOA



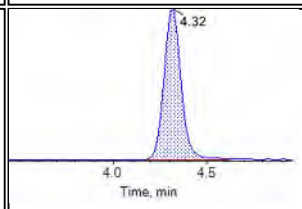
13C9-PFNA



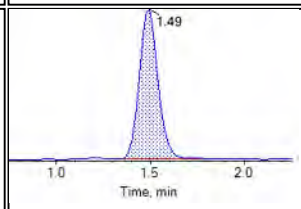
13C6-PFDA



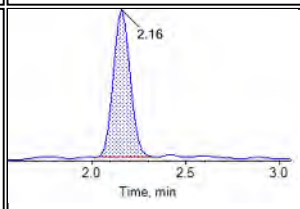
13C7-PFUnA



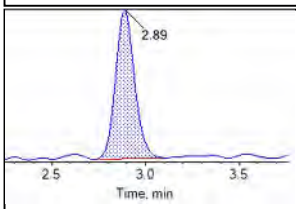
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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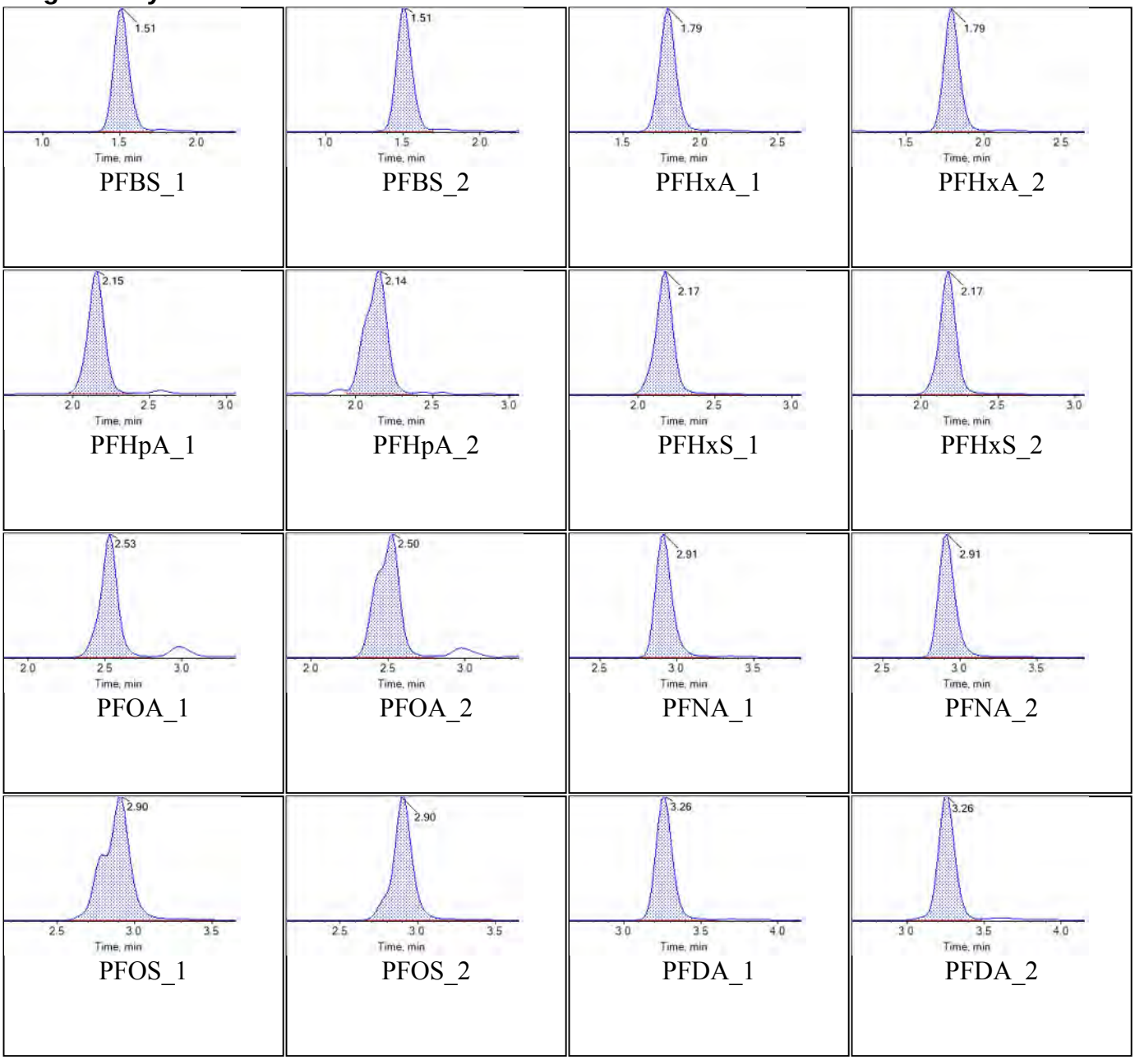
Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



BATTELLE

Chromatogram Report

Created with Analyst Reporter
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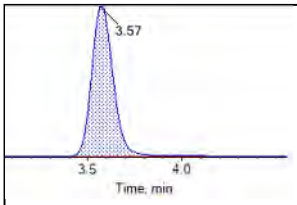
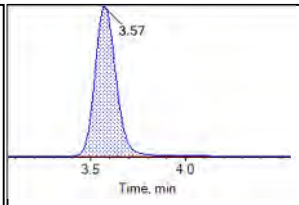
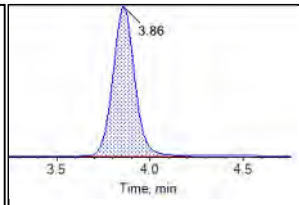


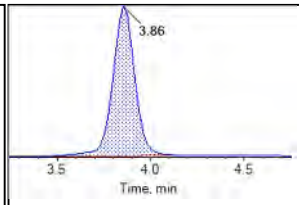
PFUnA_1



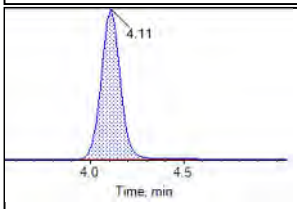
PFUnA_2



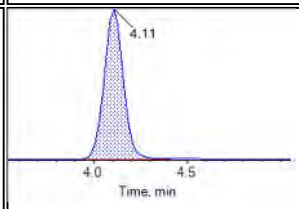
PFDoA_1



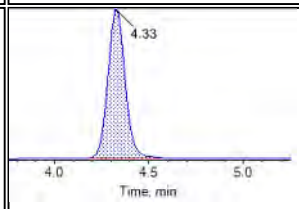
PFDoA_2



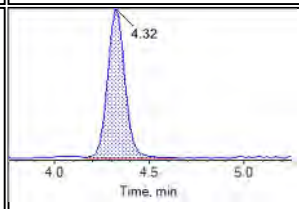
PFTrDA_1



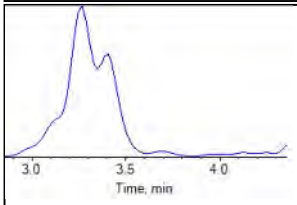
PFTrDA_2



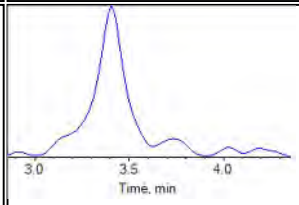
PFTeDA_1



PFTeDA_2



NMeFOSAA_1



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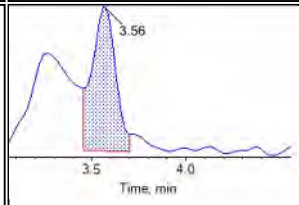
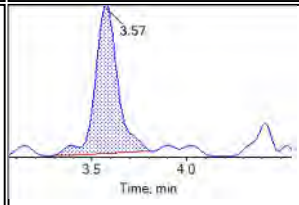


NEtFOSAA_1



NEtFOSAA_2

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Chromatogram Report

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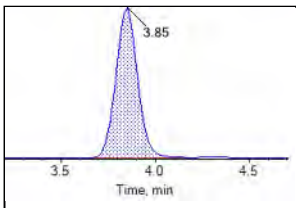
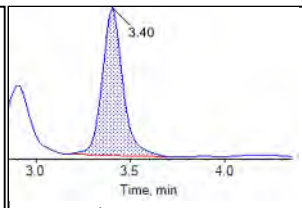
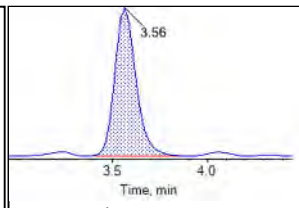
Internal Standards:



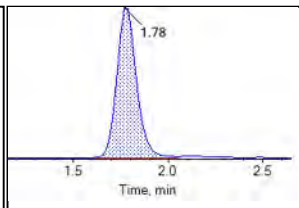
13C2-PFDoA



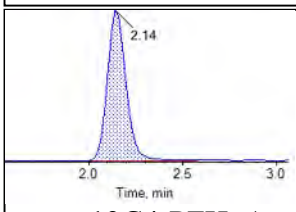
d3-MeFOSAA



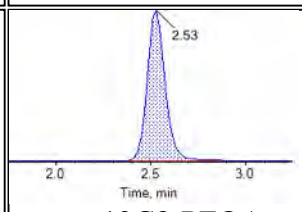
d5-EtFOSAA



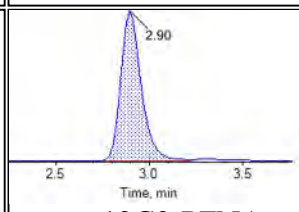
13C5-PFHxA



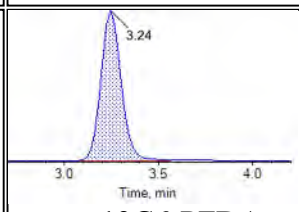
13C4-PFHpA



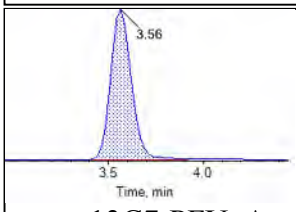
13C8-PFOA



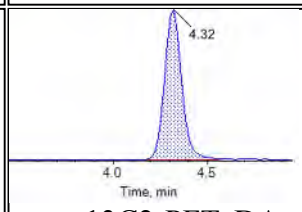
13C9-PFNA



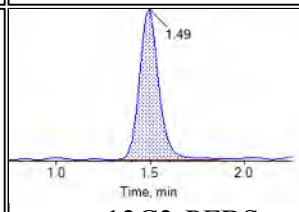
13C6-PFDA



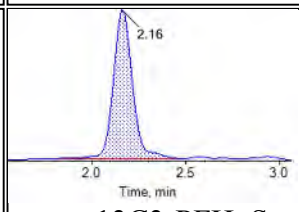
13C7-PFUnA



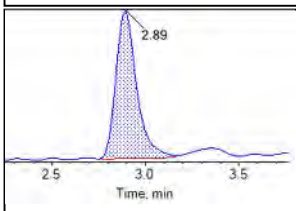
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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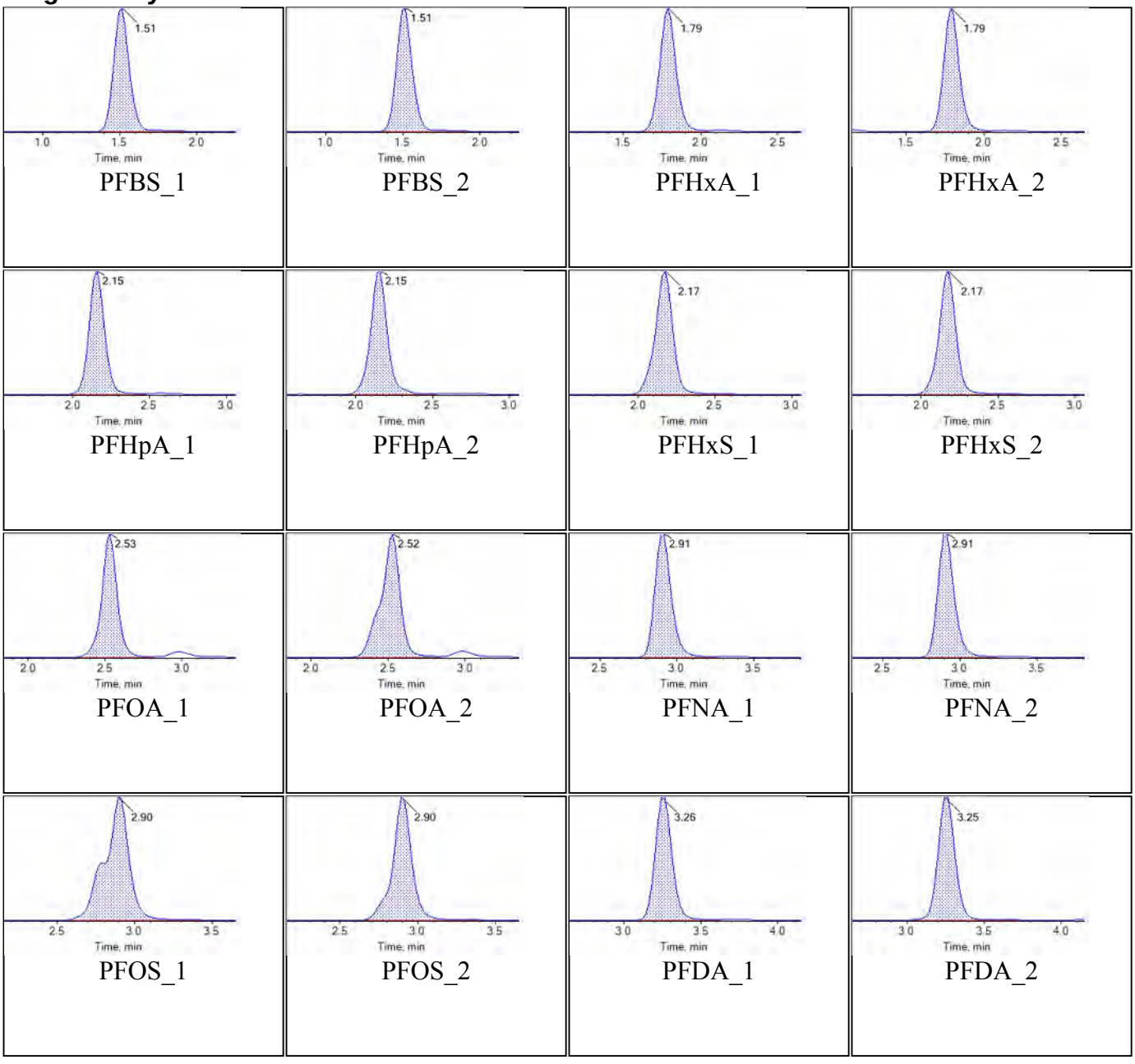
Printed: 05/06/2018 1:41:43 PM

Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

Target Analytes:



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Chromatogram Report

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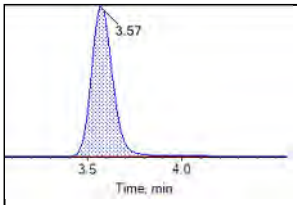
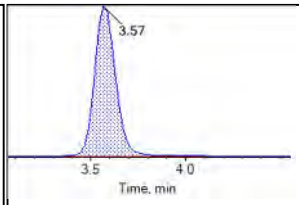
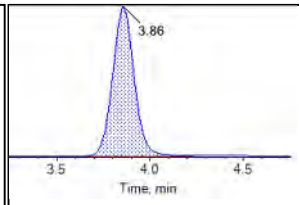


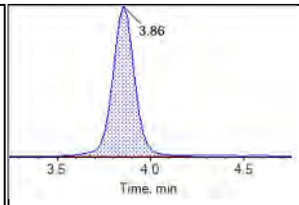
PFUnA_1



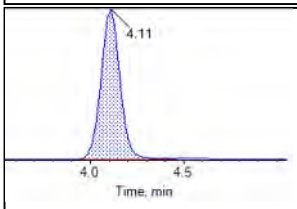
PFUnA_2



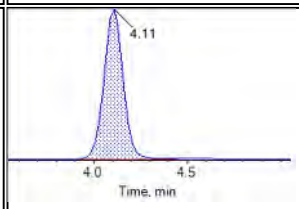
PFDoA_1



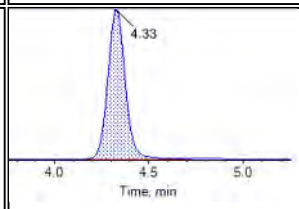
PFDoA_2



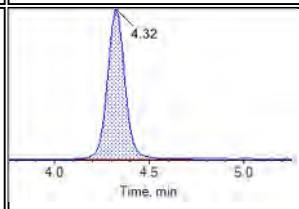
PFTrDA_1



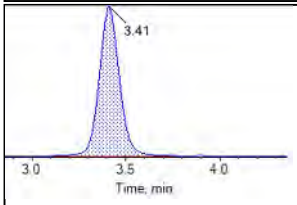
PFTrDA_2



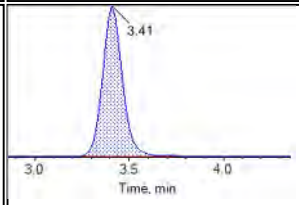
PFTeDA_1



PFTeDA_2



NMeFOSAA_1



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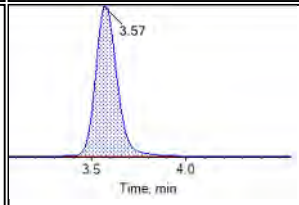

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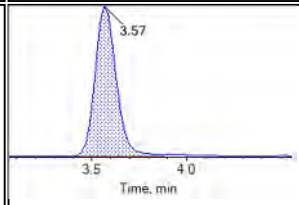

NEtFOSAA_2

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Chromatogram Report

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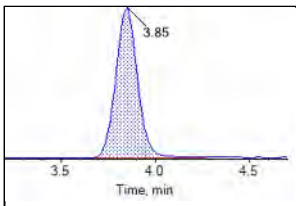
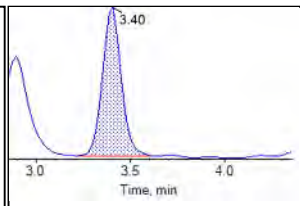
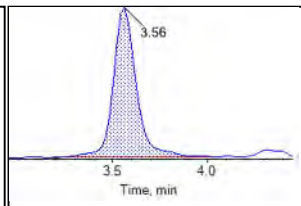
Internal Standards:



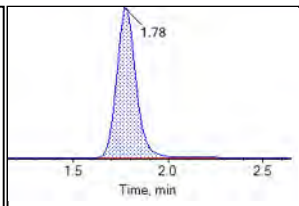
13C2-PFDoA



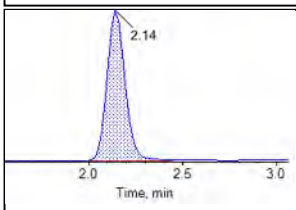
d3-MeFOSAA



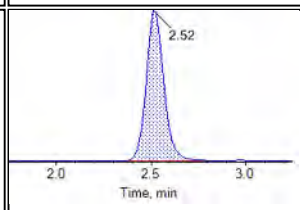
d5-EtFOSAA



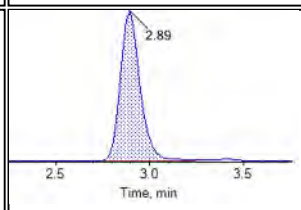
13C5-PFHxA



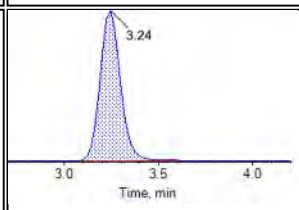
13C4-PFHpA



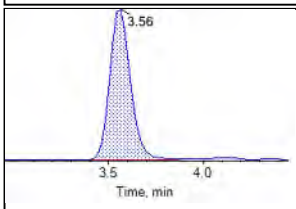
13C8-PFOA



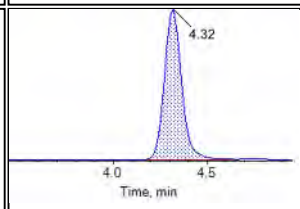
13C9-PFNA



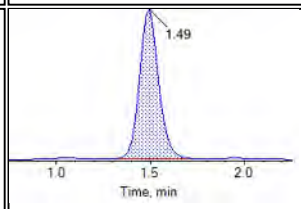
13C6-PFDA



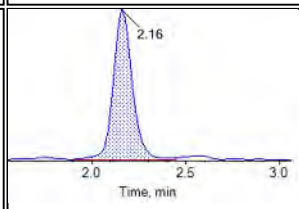
13C7-PFUnA



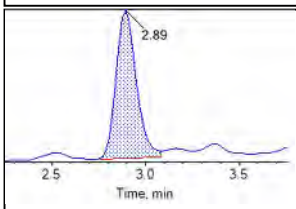
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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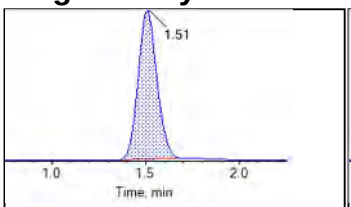
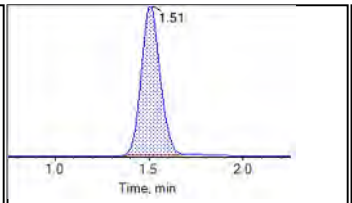
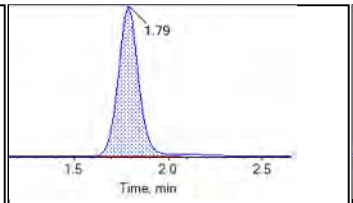


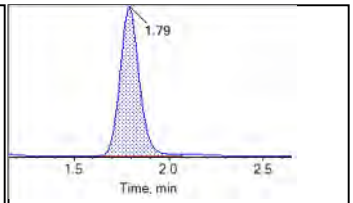
PFBS_1



PFBS_2



PFHxA_1



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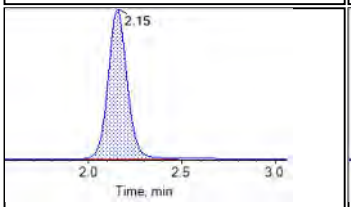
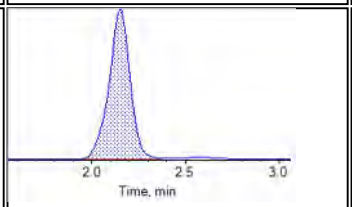
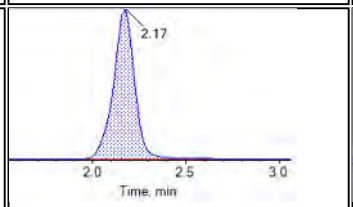


PFHpA_1



PFHpA_2



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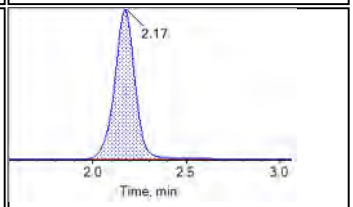
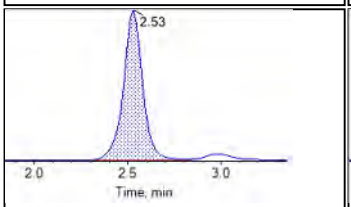
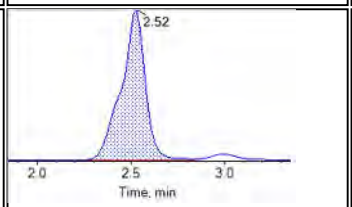


PFHxS_2



PFOA_1



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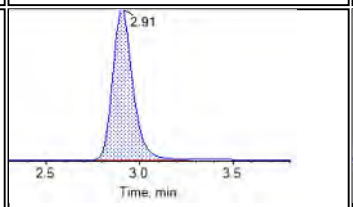

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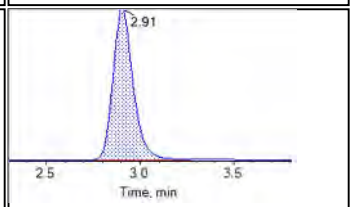

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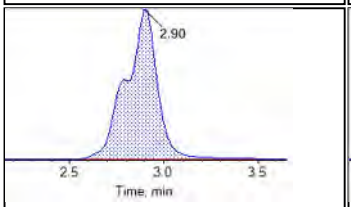

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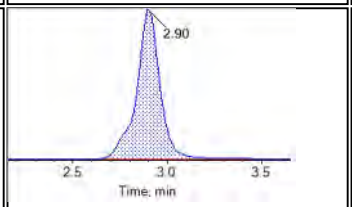

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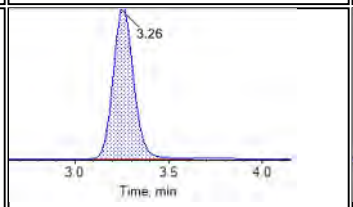

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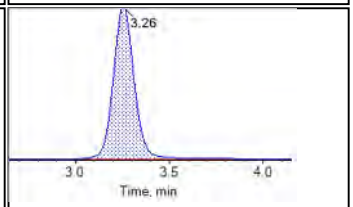

PFDA_2

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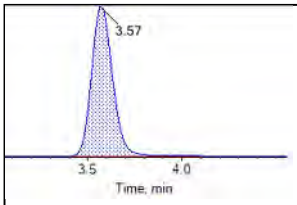
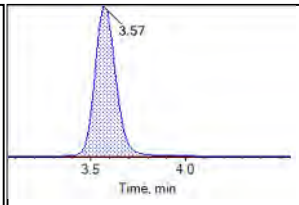
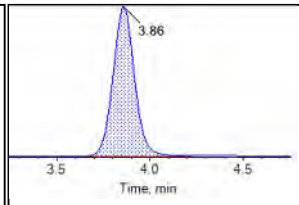


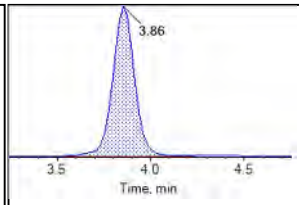
PFUnA_1



PFUnA_2



PFDoA_1



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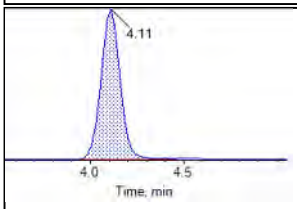
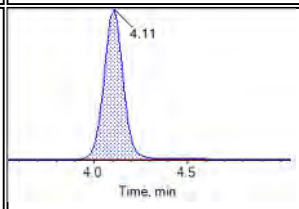


PFTrDA_1



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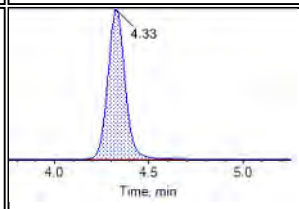

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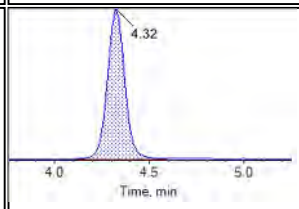
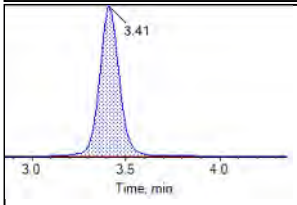


PFTeDA_2



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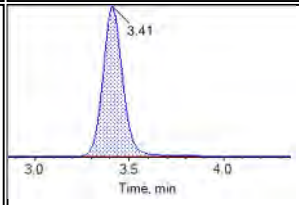

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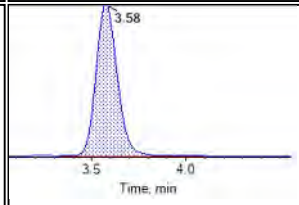

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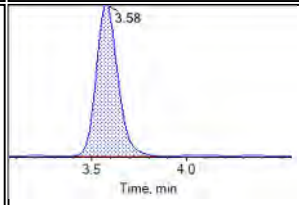

NEtFOSAA_2

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Chromatogram Report

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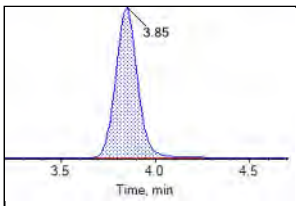
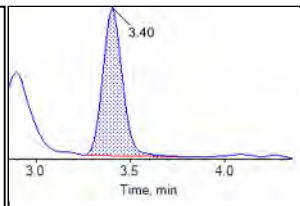
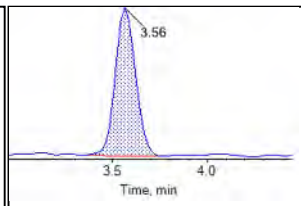
Internal Standards:



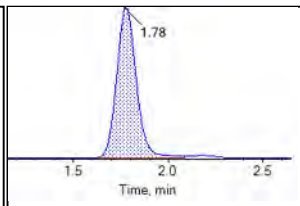
13C2-PFDoA



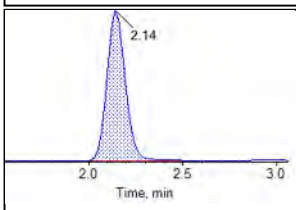
d3-MeFOSAA



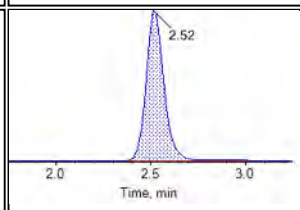
d5-EtFOSAA



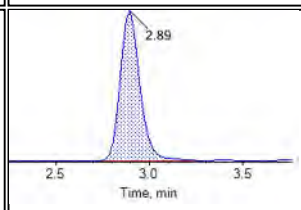
13C5-PFHxA



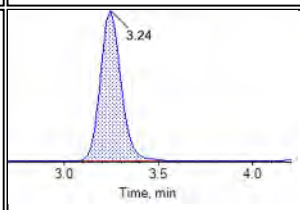
13C4-PFHpA



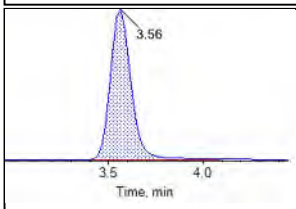
13C8-PFOA



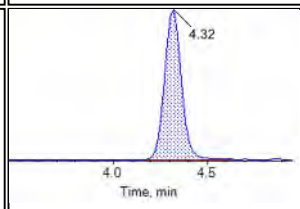
13C9-PFNA



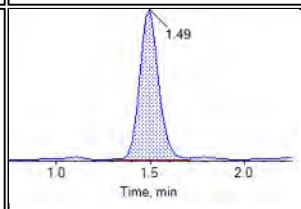
13C6-PFDA



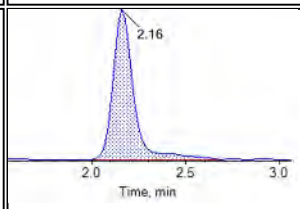
13C7-PFUnA



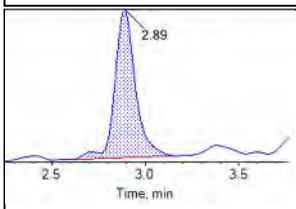
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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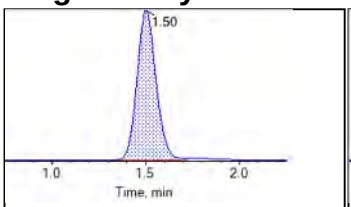
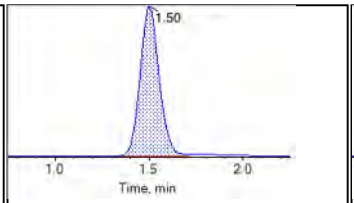
Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

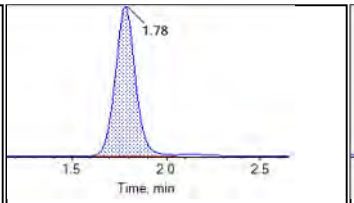
Target Analytes:



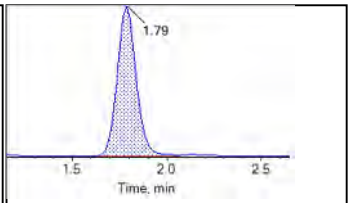
PFBS_1



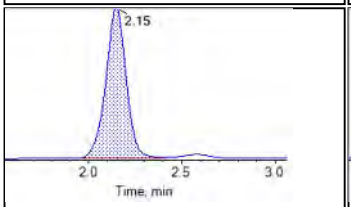
PFBS_2



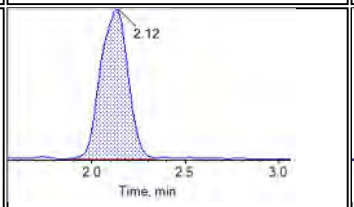
PFHxA_1



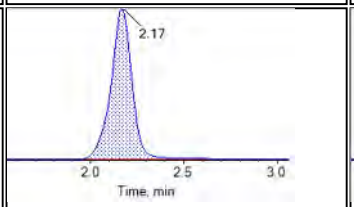
PFHxA_2



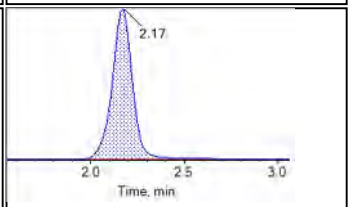
PFHpA_1



PFHpA_2



PFHxS_1



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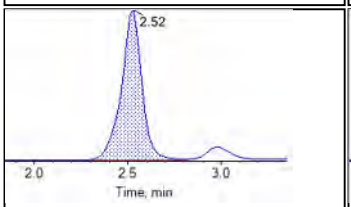

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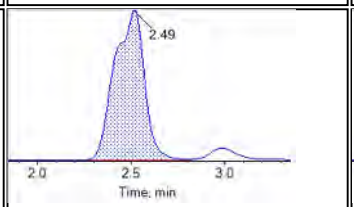

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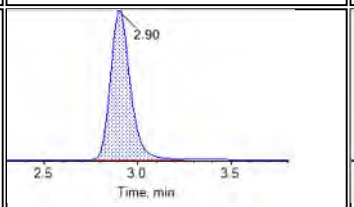

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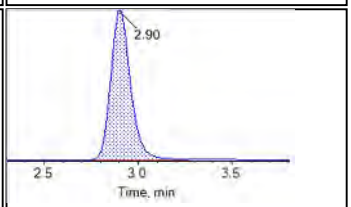

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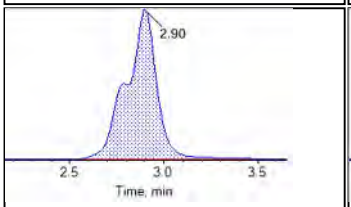

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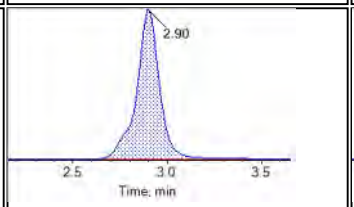

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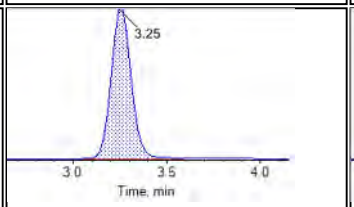

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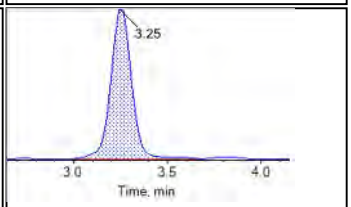

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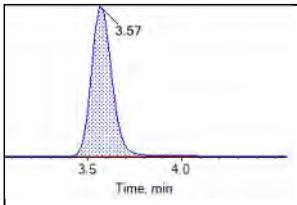

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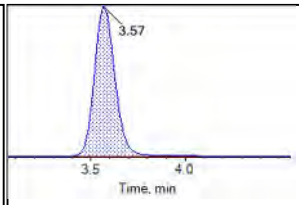

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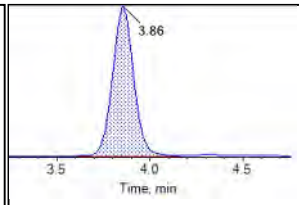

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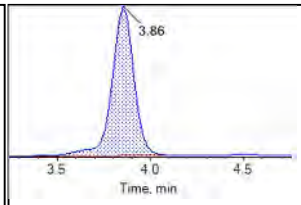

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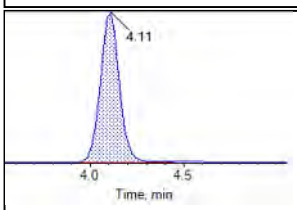

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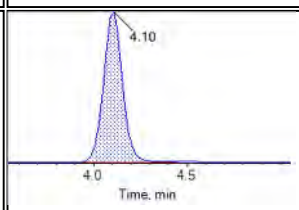

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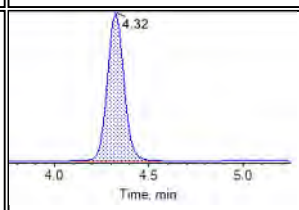

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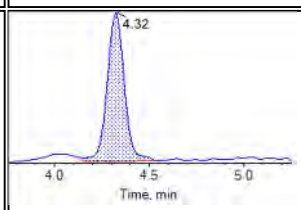

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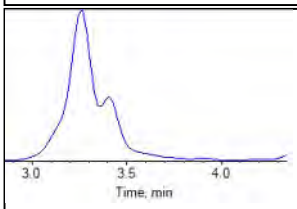

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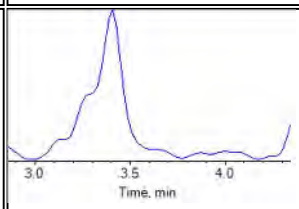

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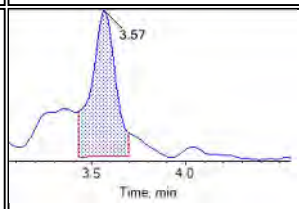

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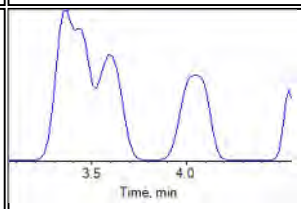

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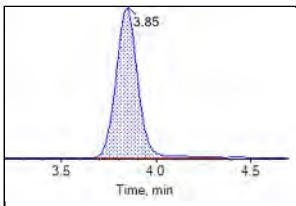

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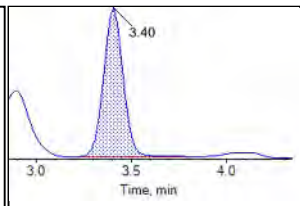

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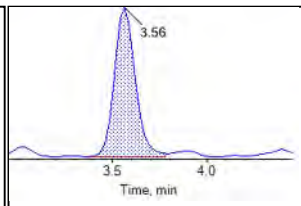

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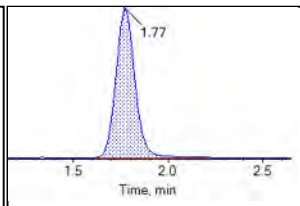

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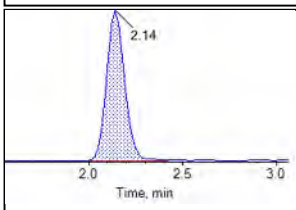

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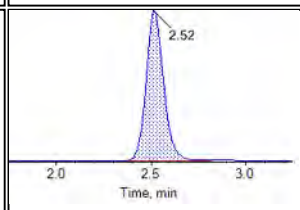

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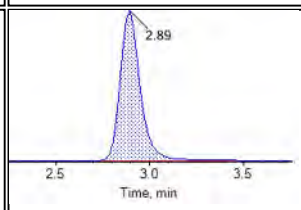

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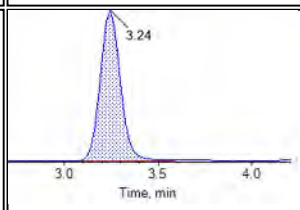

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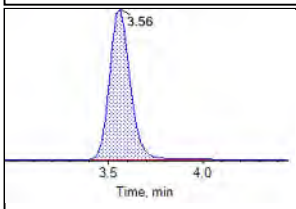

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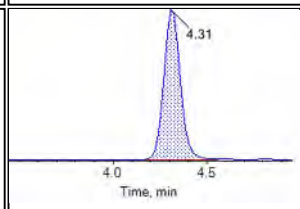

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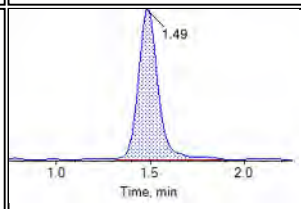

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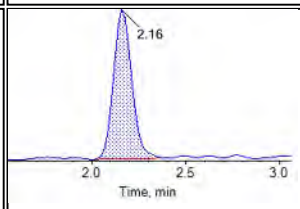

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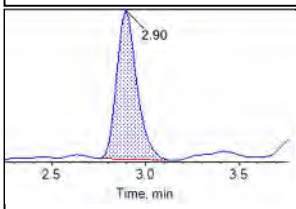

13C8-PFOS

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Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Chromatograms

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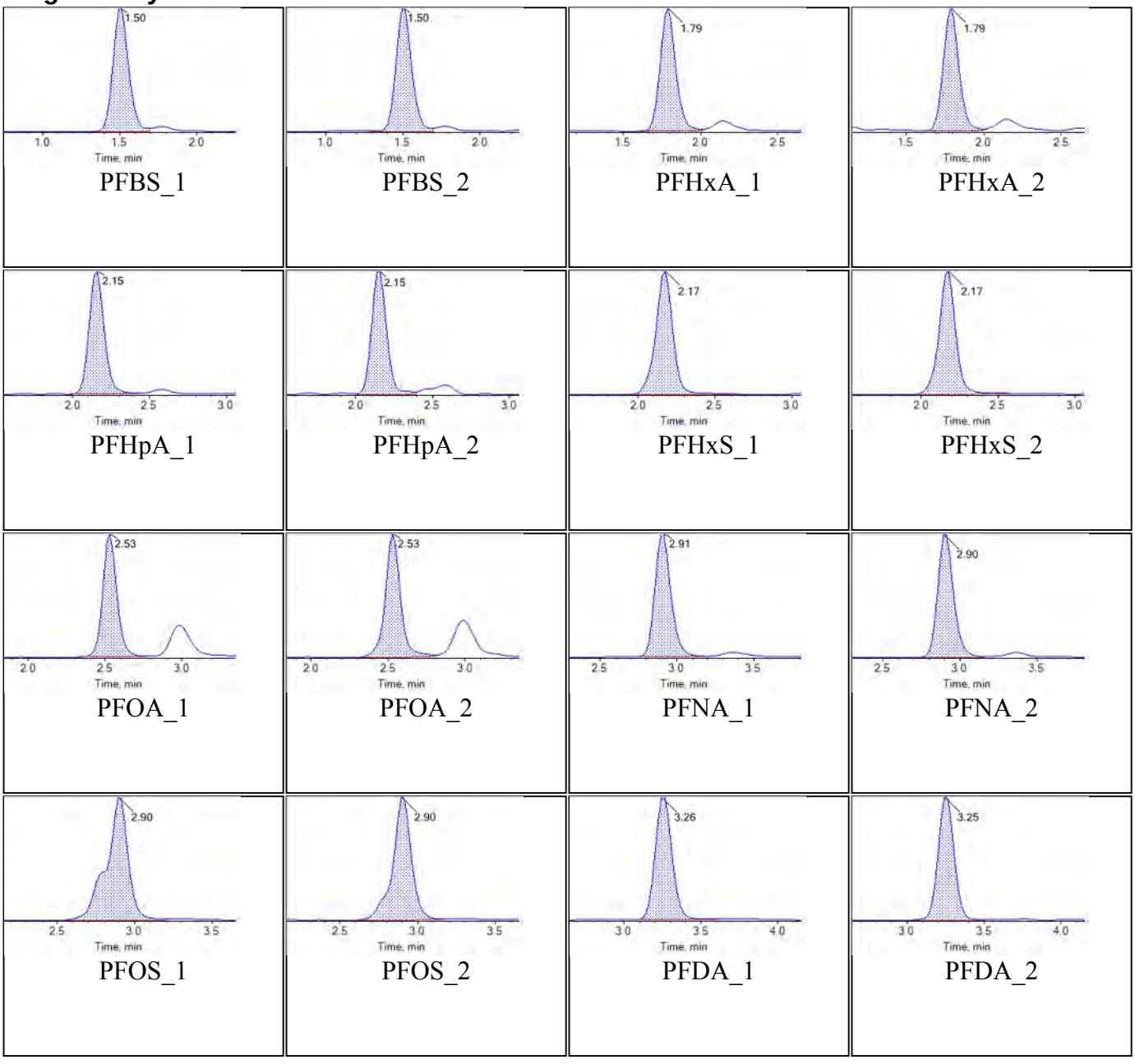

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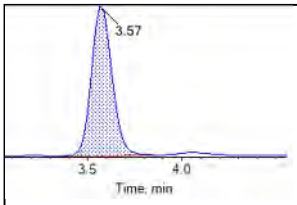

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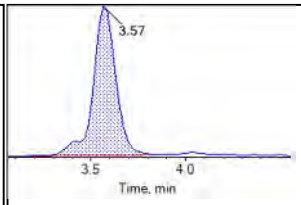

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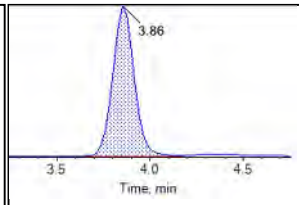

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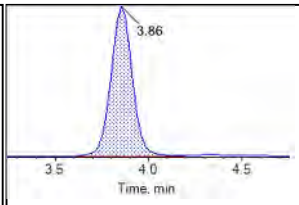

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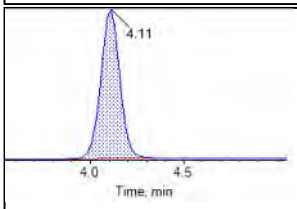

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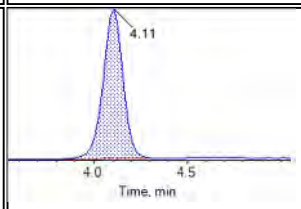

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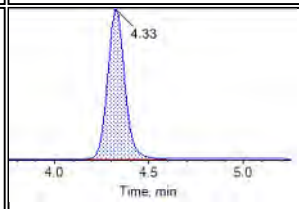

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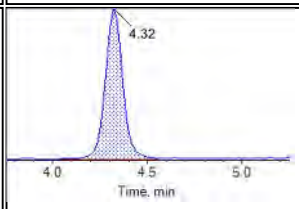

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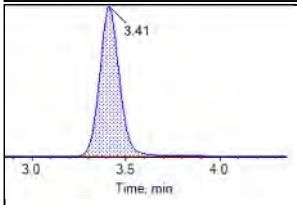

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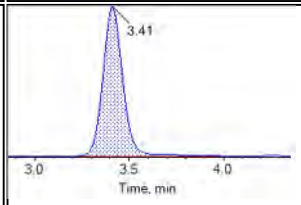

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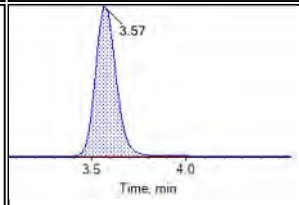

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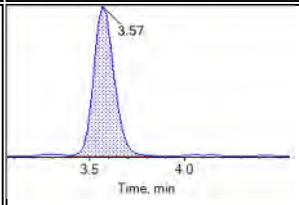

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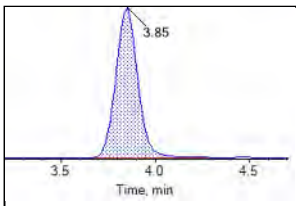

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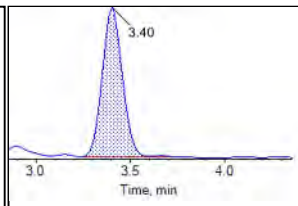

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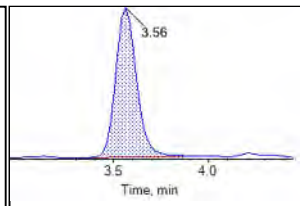

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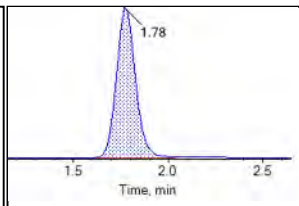

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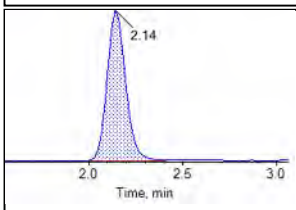

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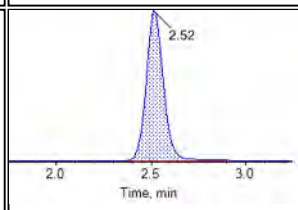

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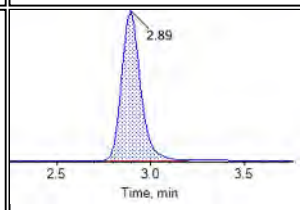

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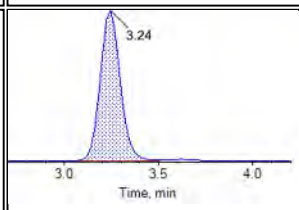

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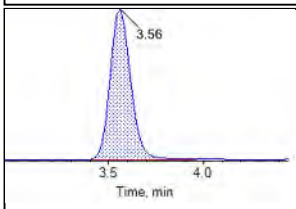
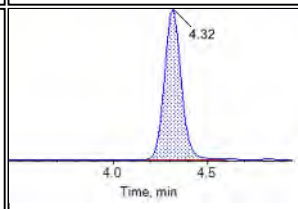
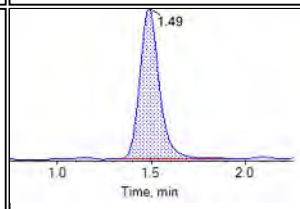


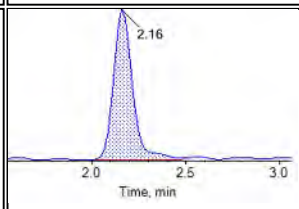
13C7-PFUnA



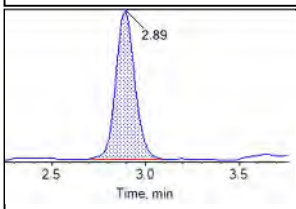
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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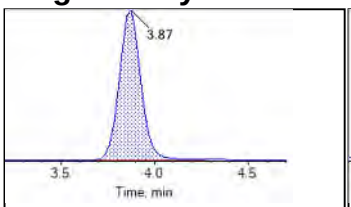
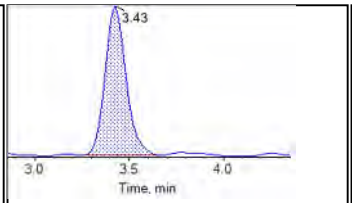
Sample Name	JV20	**Injection Vial**	2
Sample ID	L1	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

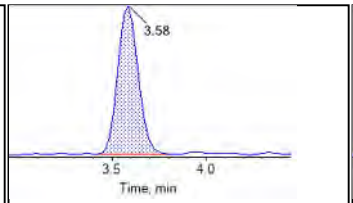
Target Analytes:



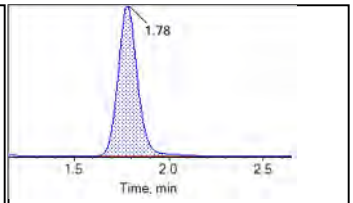
13C2-PFDoA



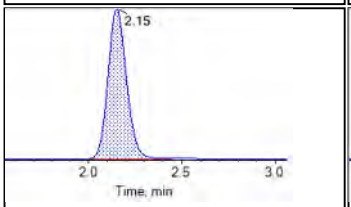
d3-MeFOSAA



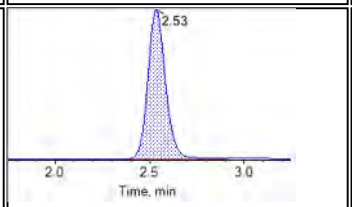
d5-EtFOSAA



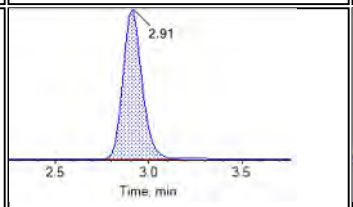
13C5-PFHxA



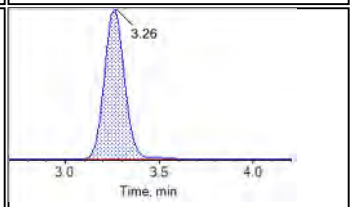
13C4-PFHpA



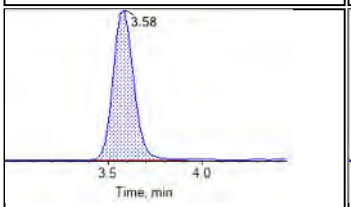
13C8-PFOA



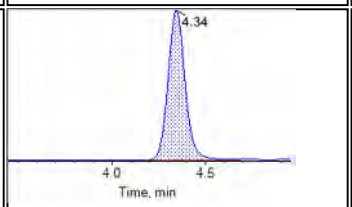
13C9-PFNA



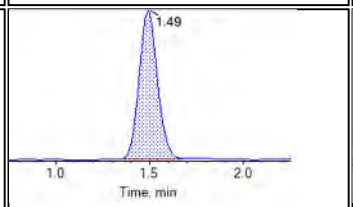
13C6-PFDA



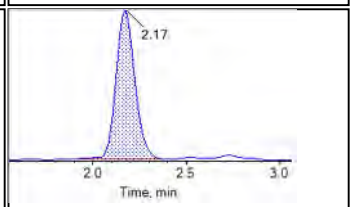
13C7-PFUnA



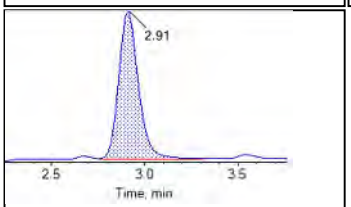
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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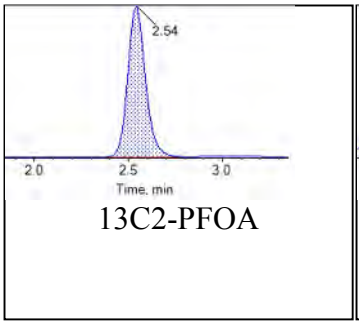
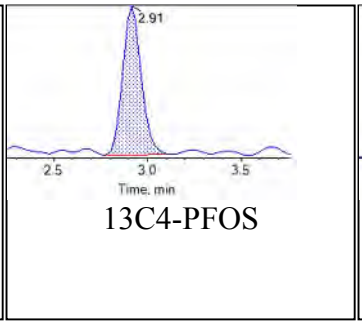
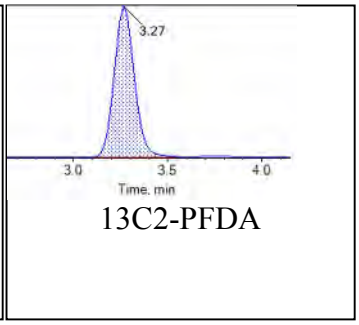
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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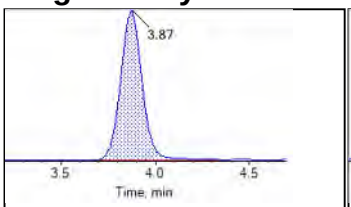
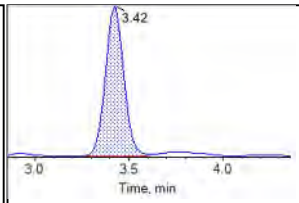
Sample Name	JV21	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

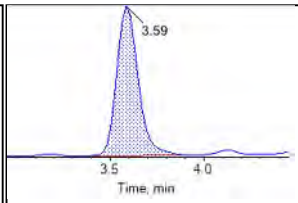
Target Analytes:



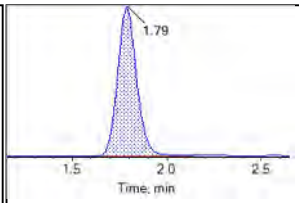
13C2-PFDoA



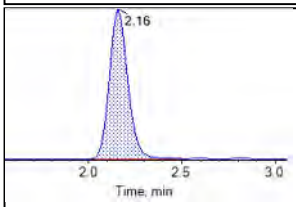
d3-MeFOSAA



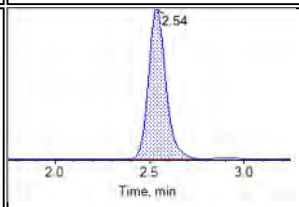
d5-EtFOSAA



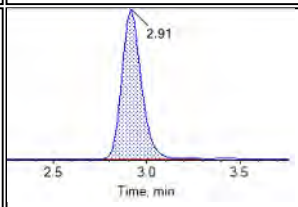
13C5-PFHxA



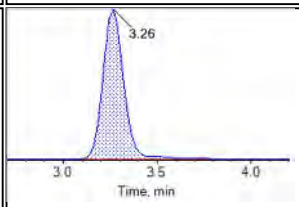
13C4-PFHpA



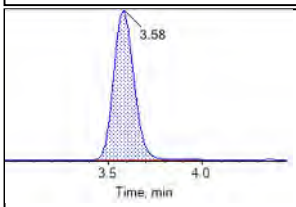
13C8-PFOA



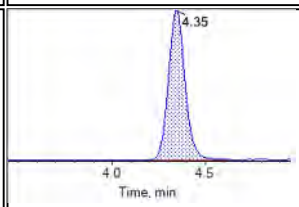
13C9-PFNA



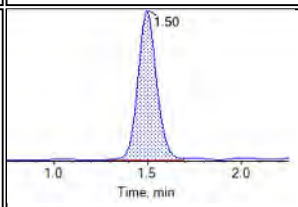
13C6-PFDA



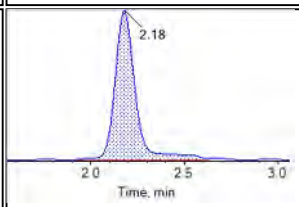
13C7-PFUnA



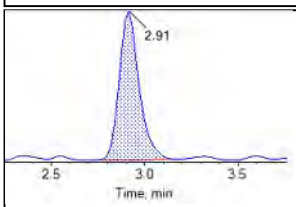
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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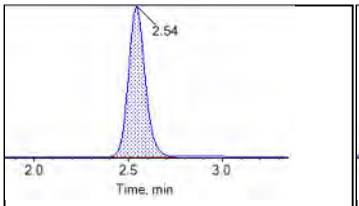
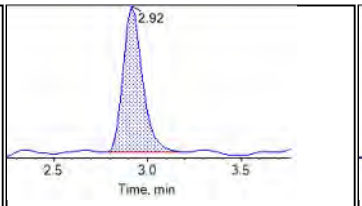
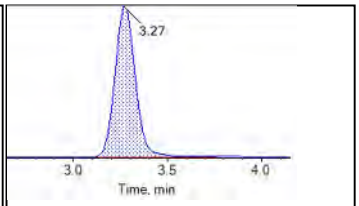


13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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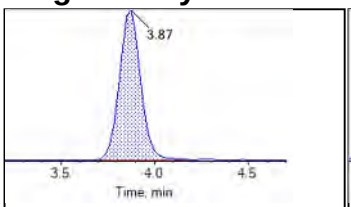
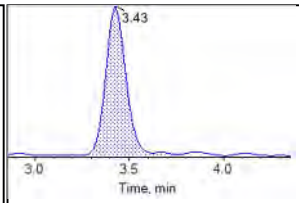
Sample Name	JV22	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

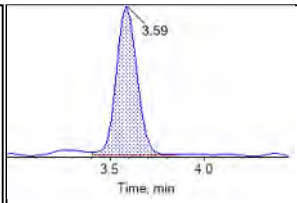
Target Analytes:



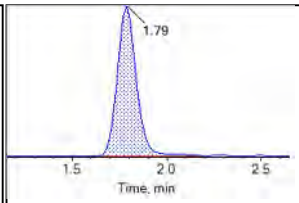
13C2-PFDoA



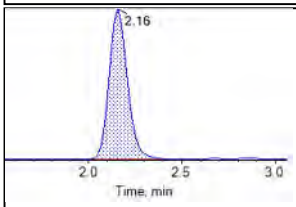
d3-MeFOSAA



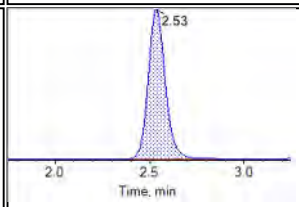
d5-EtFOSAA



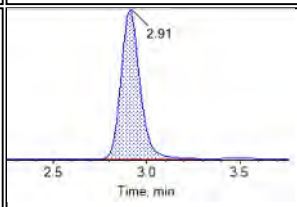
13C5-PFHxA



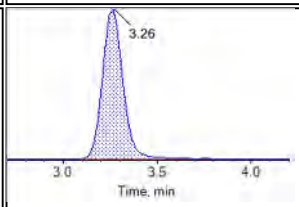
13C4-PFHpA



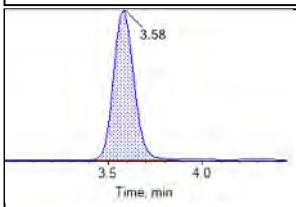
13C8-PFOA



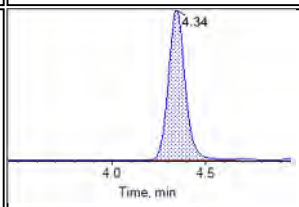
13C9-PFNA



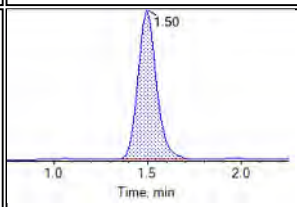
13C6-PFDA



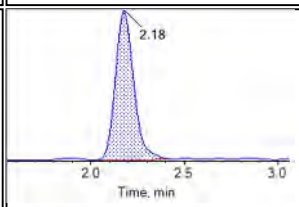
13C7-PFUnA



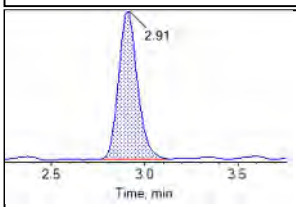
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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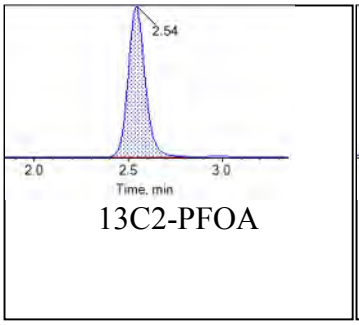
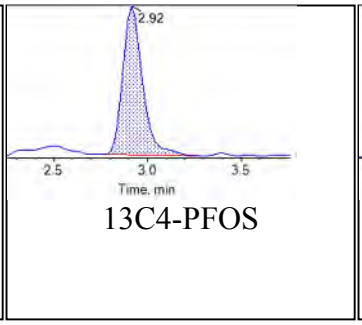
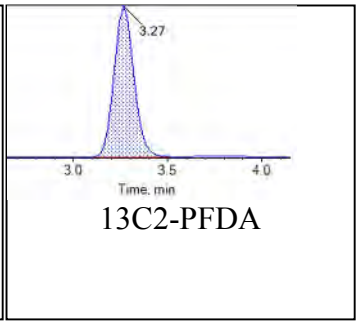
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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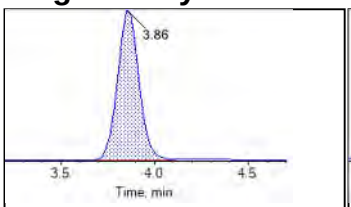
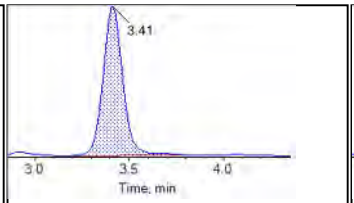
Sample Name	JV23	**Injection Vial**	5
Sample ID	L4	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

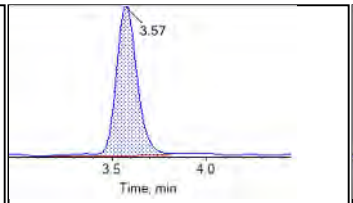
Target Analytes:



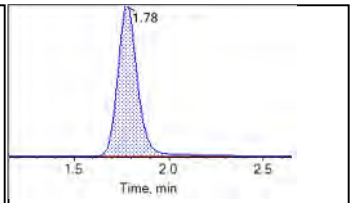
13C2-PFDoA



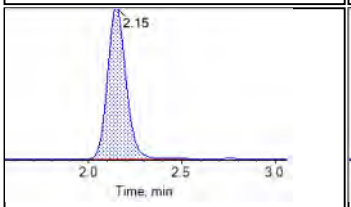
d3-MeFOSAA



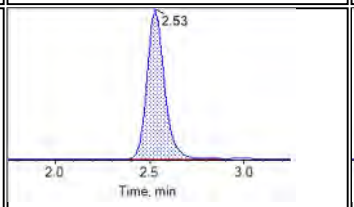
d5-EtFOSAA



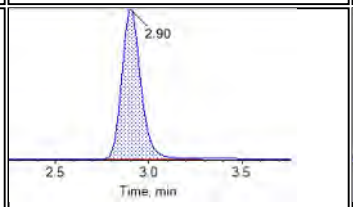
13C5-PFHxA



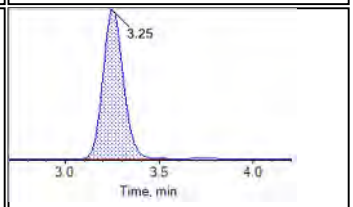
13C4-PFHpA



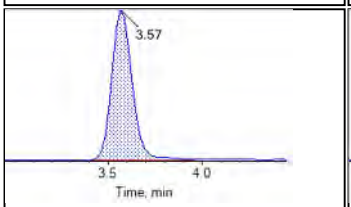
13C8-PFOA



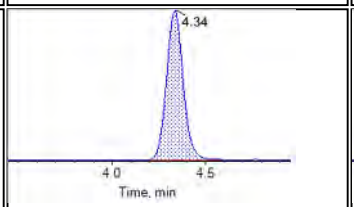
13C9-PFNA



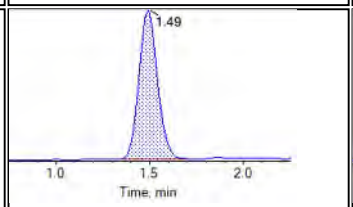
13C6-PFDA



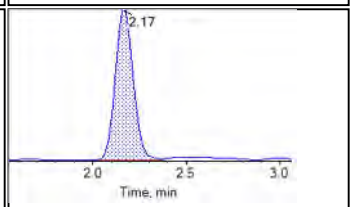
13C7-PFUnA



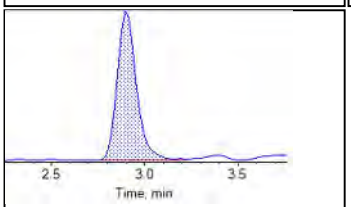
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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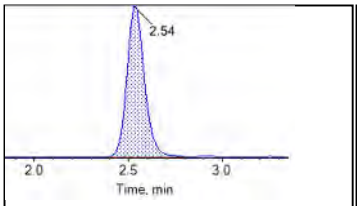
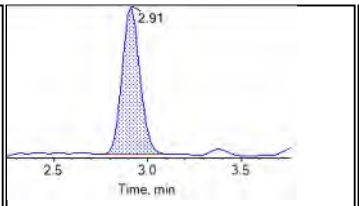
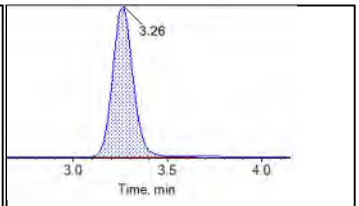
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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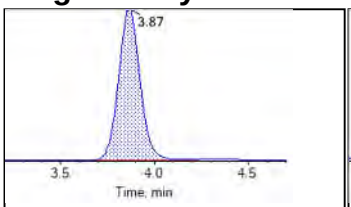
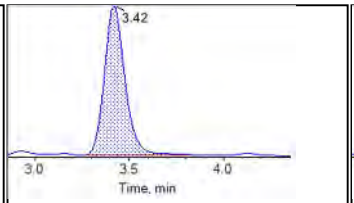
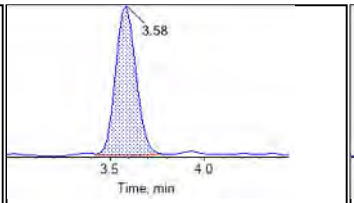


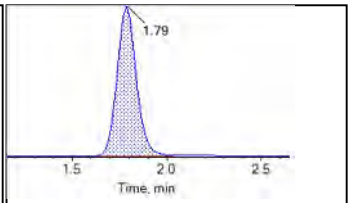
13C2-PFDoA



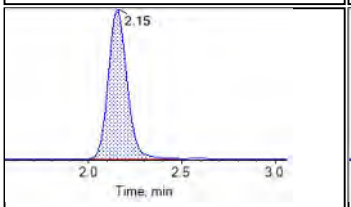
d3-MeFOSAA



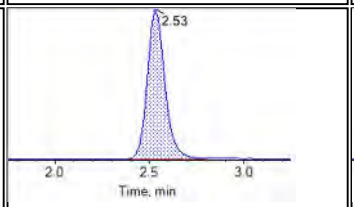
d5-EtFOSAA



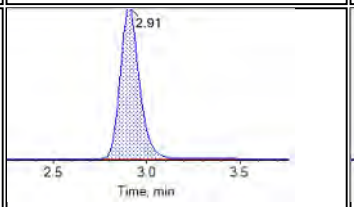
13C5-PFHxA



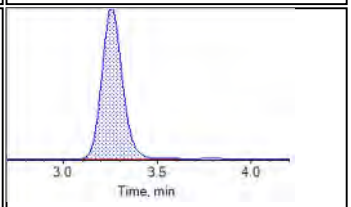
13C4-PFHpA



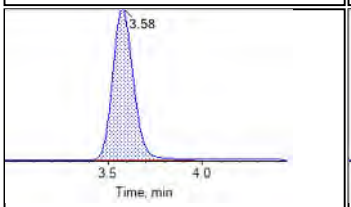
13C8-PFOA



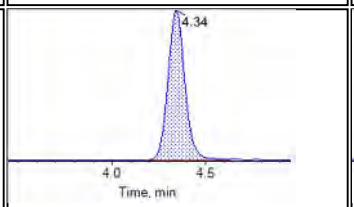
13C9-PFNA



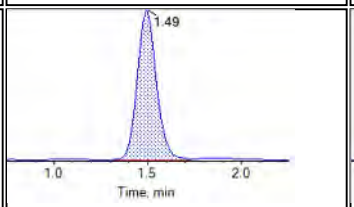
13C6-PFDA



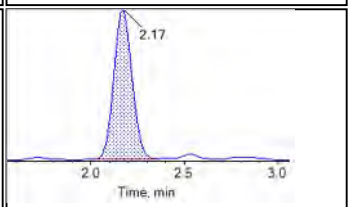
13C7-PFUnA



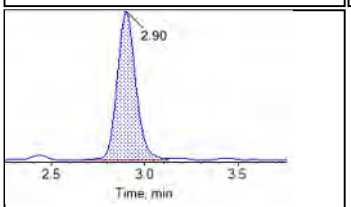
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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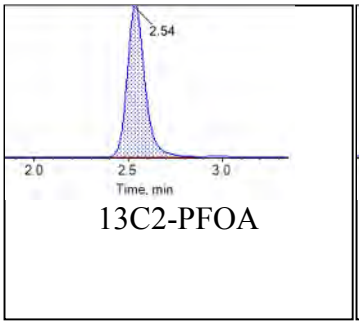
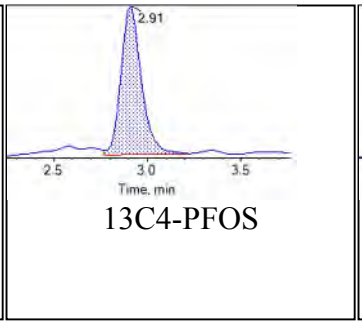
Printed: 07/06/2018 2:44:25 PM

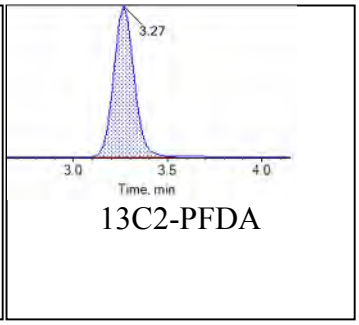
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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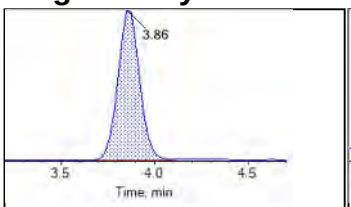
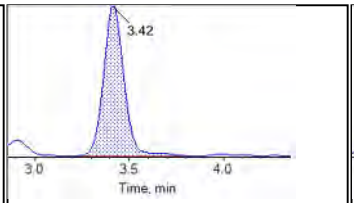
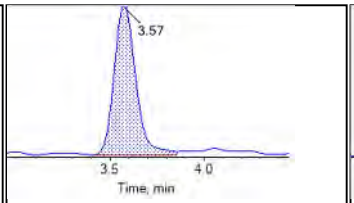


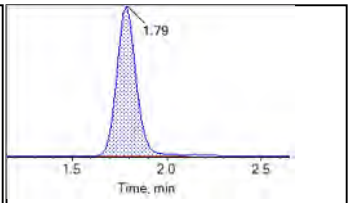
13C2-PFDoA



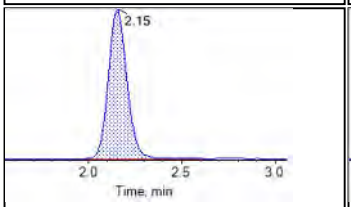
d3-MeFOSAA



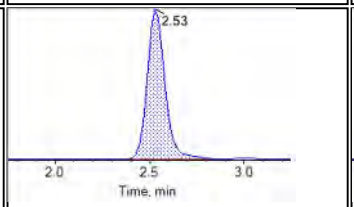
d5-EtFOSAA



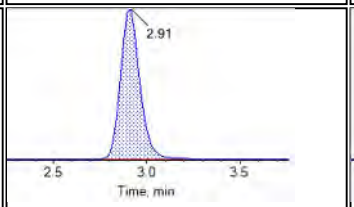
13C5-PFHxA



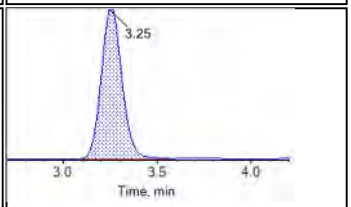
13C4-PFHpA



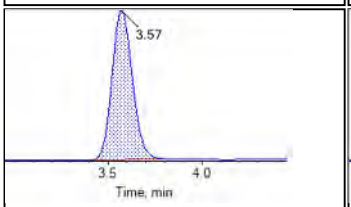
13C8-PFOA



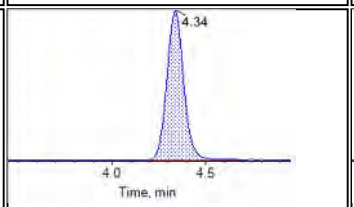
13C9-PFNA



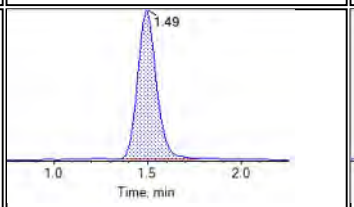
13C6-PFDA



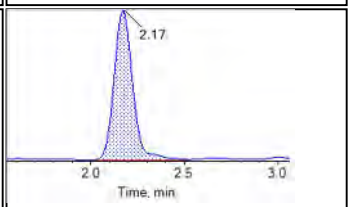
13C7-PFUnA



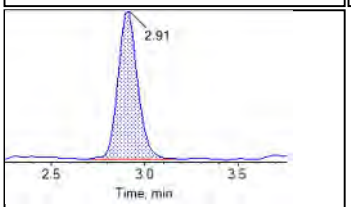
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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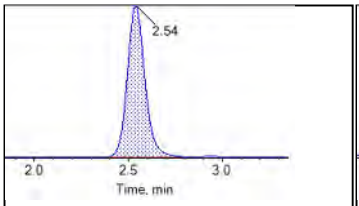
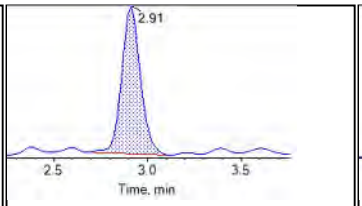
Printed: 07/06/2018 2:44:28 PM

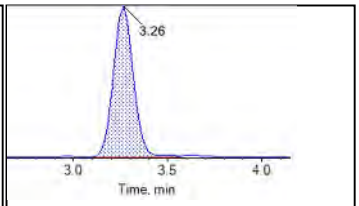
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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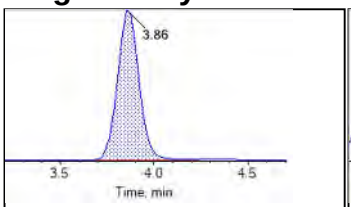
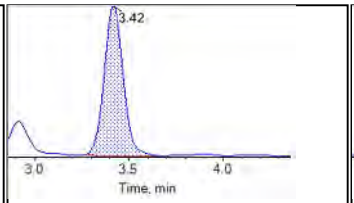
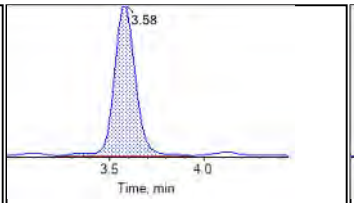


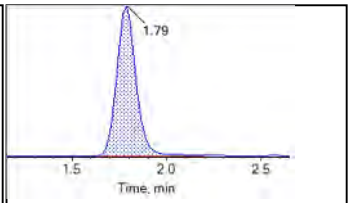
13C2-PFDoA



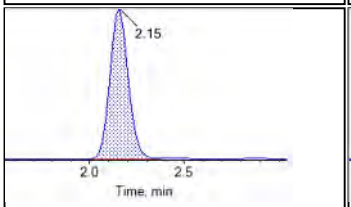
d3-MeFOSAA



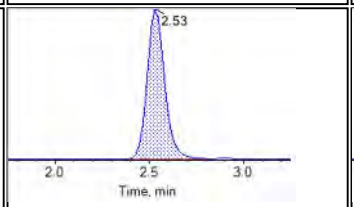
d5-EtFOSAA



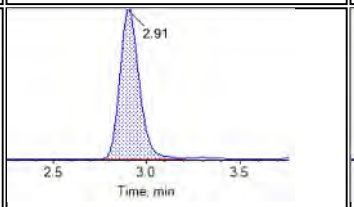
13C5-PFHxA



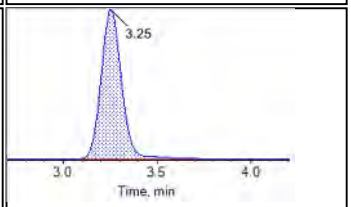
13C4-PFHpA



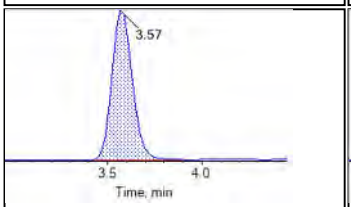
13C8-PFOA



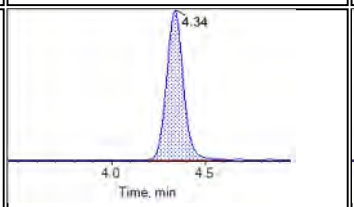
13C9-PFNA



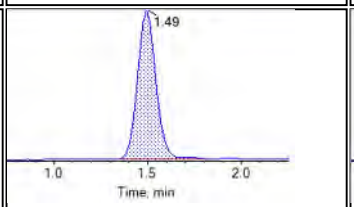
13C6-PFDA



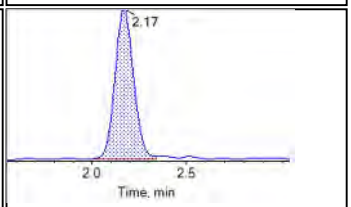
13C7-PFUnA



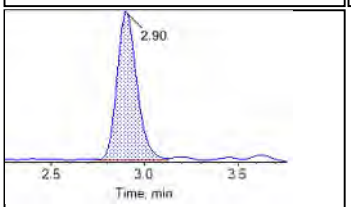
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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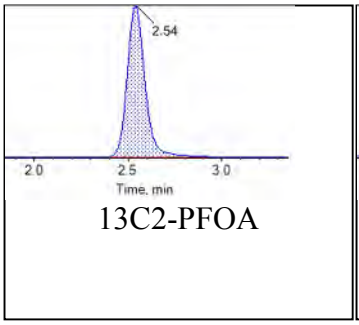
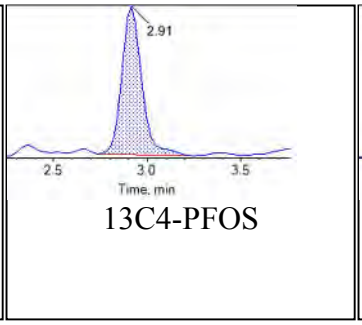
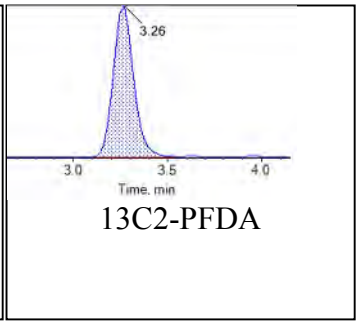
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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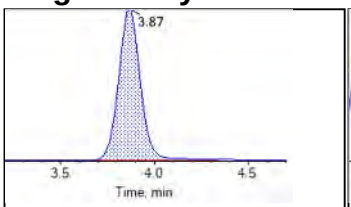
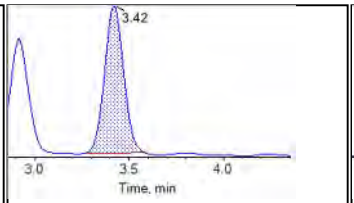
Sample Name	JV27	**Injection Vial**	9
Sample ID	L8	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

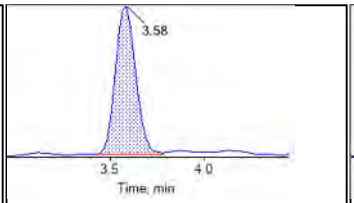
Target Analytes:



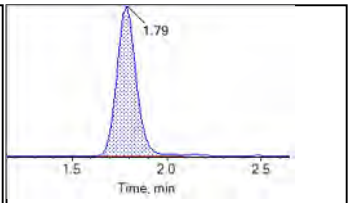
13C2-PFDoA



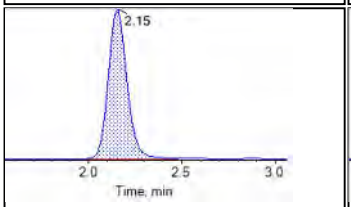
d3-MeFOSAA



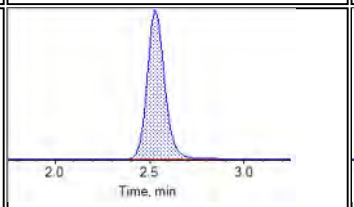
d5-EtFOSAA



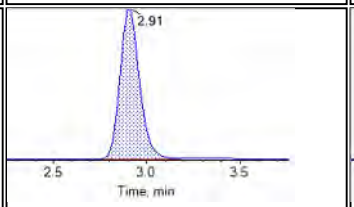
13C5-PFHxA



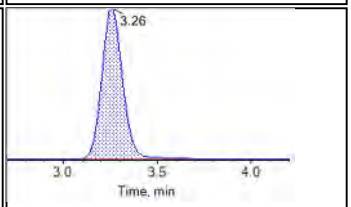
13C4-PFHpA



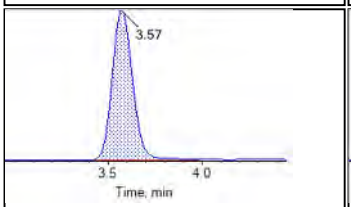
13C8-PFOA



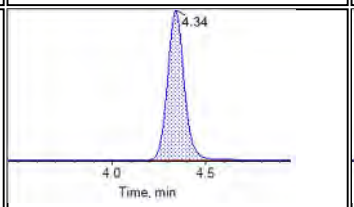
13C9-PFNA



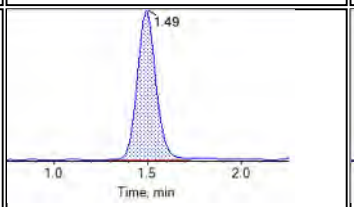
13C6-PFDA



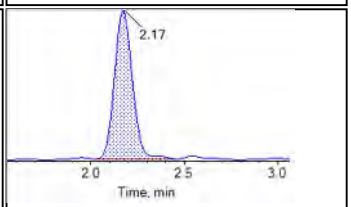
13C7-PFUnA



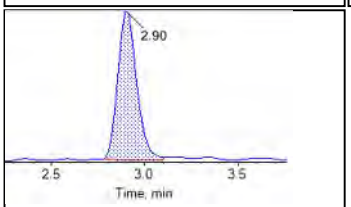
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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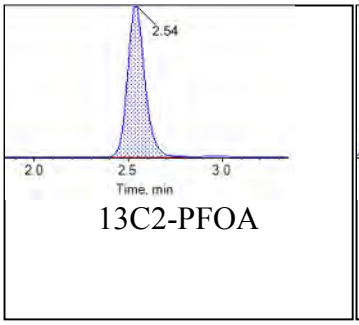
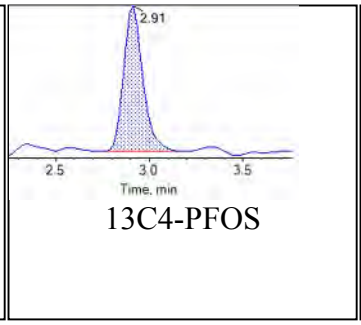
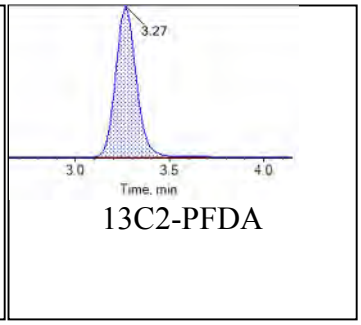
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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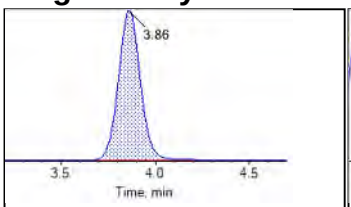
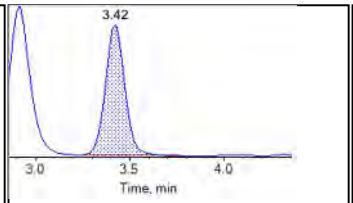
Sample Name	JV28	**Injection Vial**	10
Sample ID	L9	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

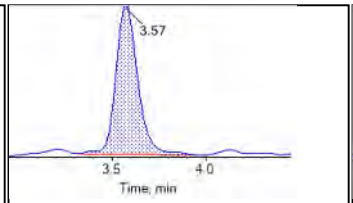
Target Analytes:



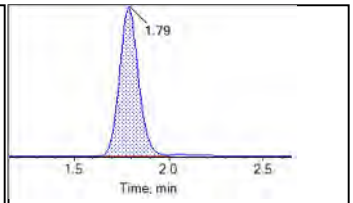
13C2-PFDoA



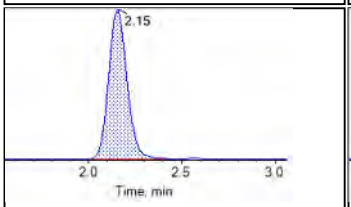
d3-MeFOSAA



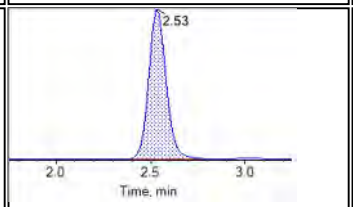
d5-EtFOSAA



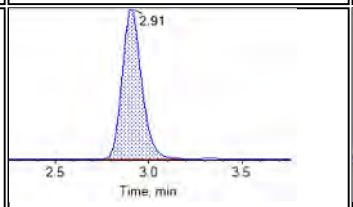
13C5-PFHxA



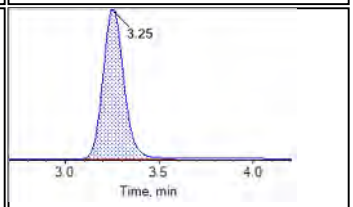
13C4-PFHpA



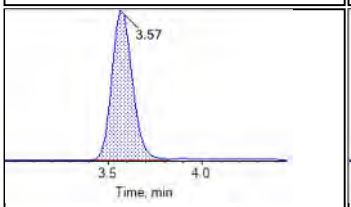
13C8-PFOA



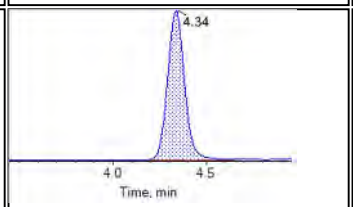
13C9-PFNA



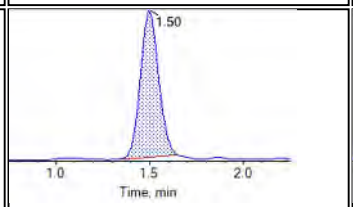
13C6-PFDA



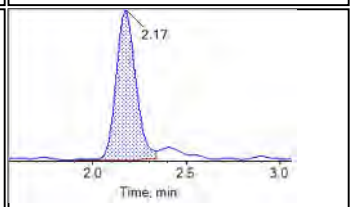
13C7-PFUnA



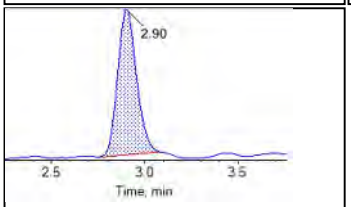
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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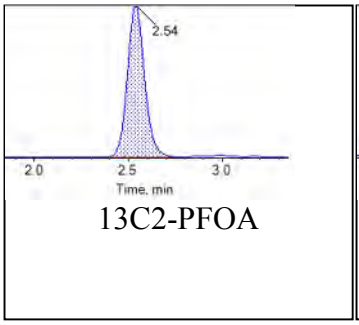
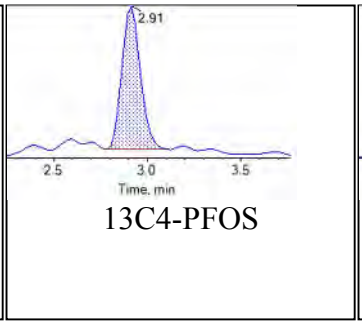
Printed: 07/06/2018 2:44:36 PM

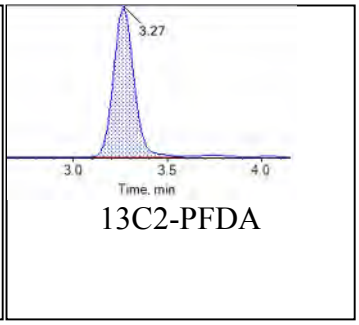
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

Created with Analyst Reporter
Printed: 07/06/2018 2:44:39 PM

Sample Name	JV05 IB	**Injection Vial**	11
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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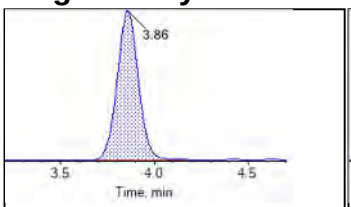
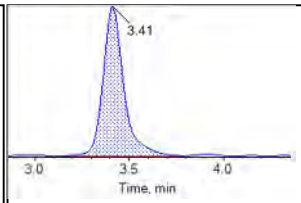
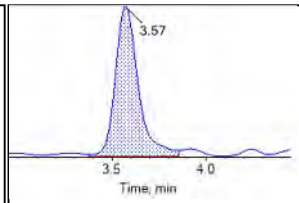


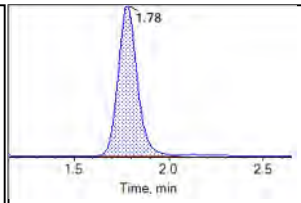
13C2-PFDoA



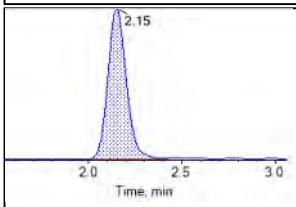
d3-MeFOSAA



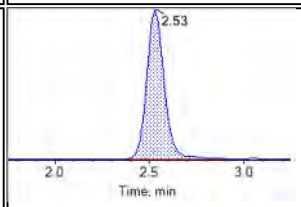
d5-EtFOSAA



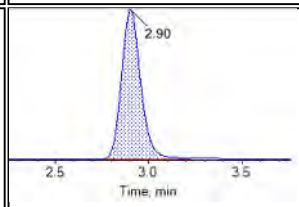
13C5-PFHxA



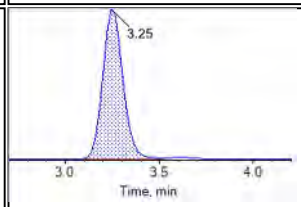
13C4-PFHpA



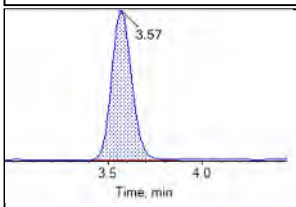
13C8-PFOA



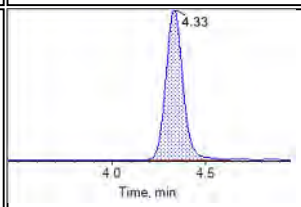
13C9-PFNA



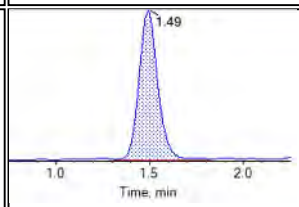
13C6-PFDA



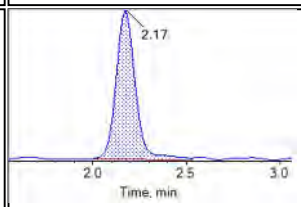
13C7-PFUnA



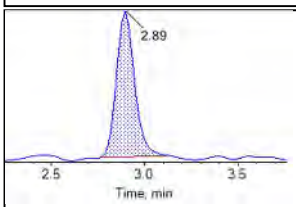
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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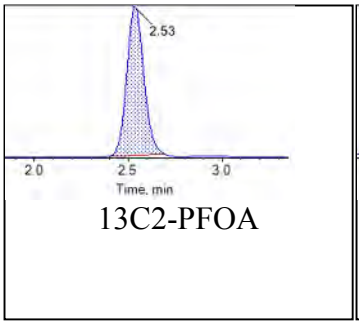
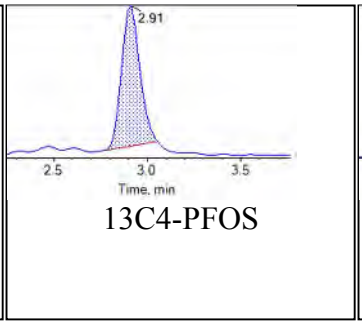
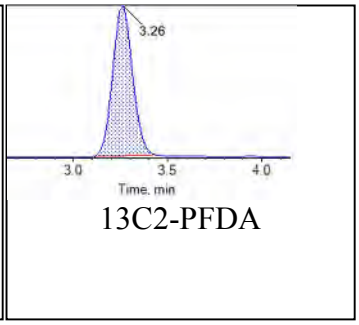
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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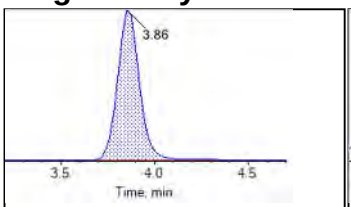
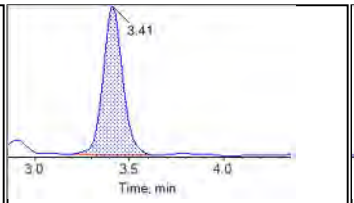
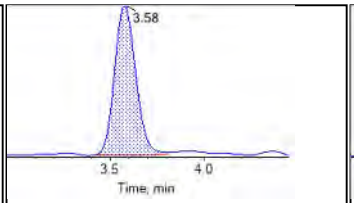


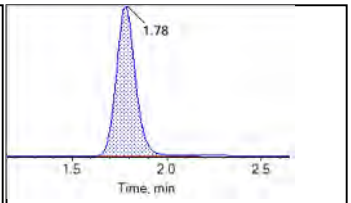
13C2-PFDoA



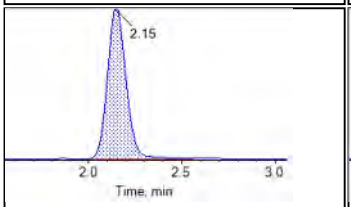
d3-MeFOSAA



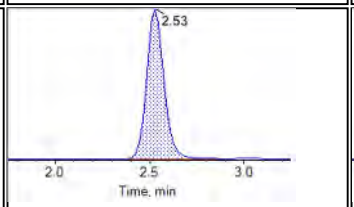
d5-EtFOSAA



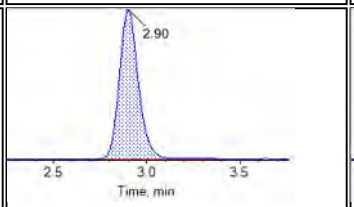
13C5-PFHxA



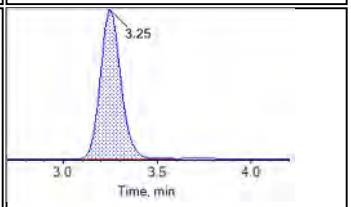
13C4-PFHpA



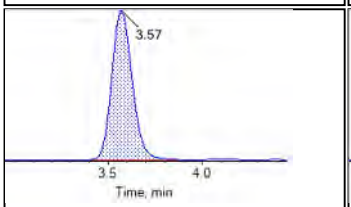
13C8-PFOA



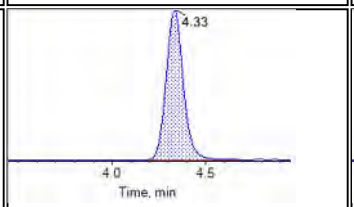
13C9-PFNA



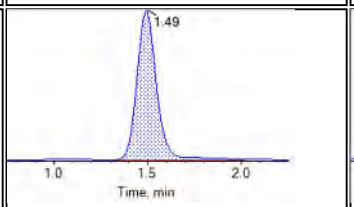
13C6-PFDA



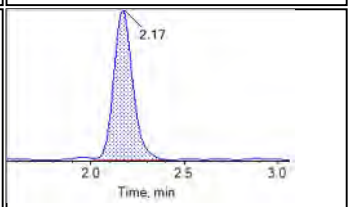
13C7-PFUnA



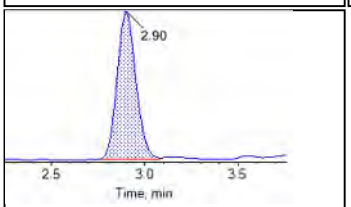
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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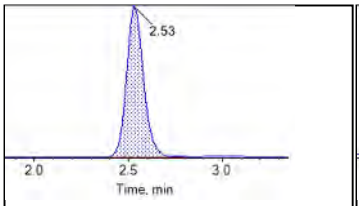
Internal Standards:



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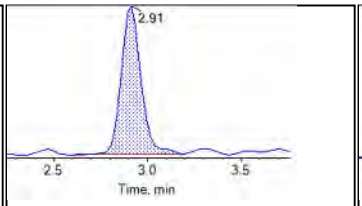
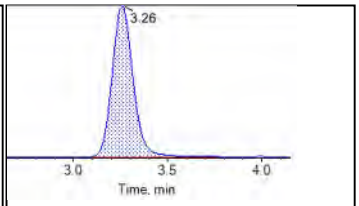


13C4-PFOS



13C2-PFDA

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Chromatogram Report

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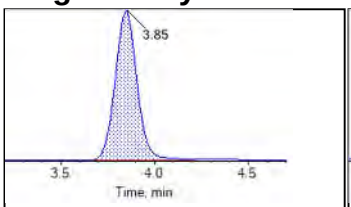
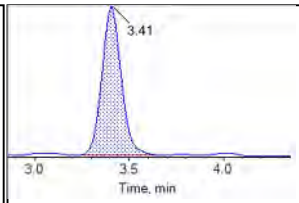
Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

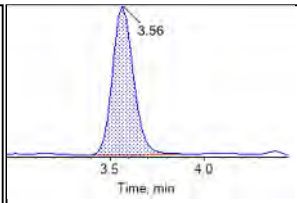
Target Analytes:



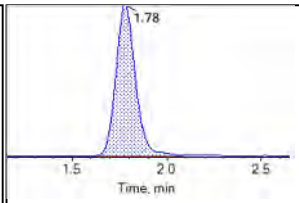
13C2-PFDoA



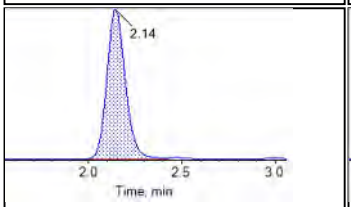
d3-MeFOSAA



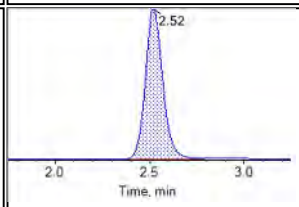
d5-EtFOSAA



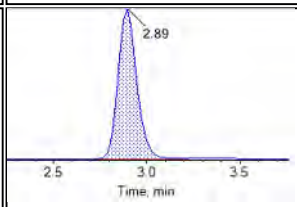
13C5-PFHxA



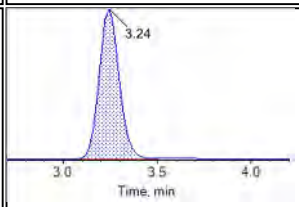
13C4-PFHpA



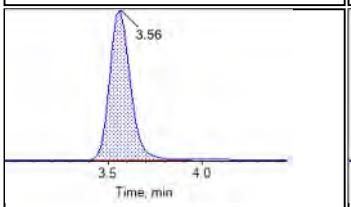
13C8-PFOA



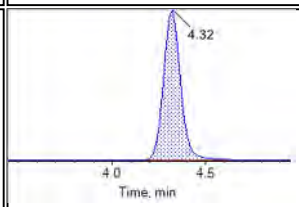
13C9-PFNA



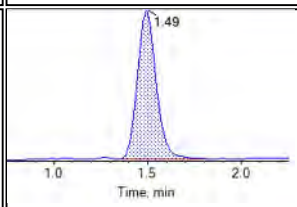
13C6-PFDA



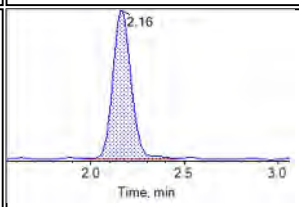
13C7-PFUnA



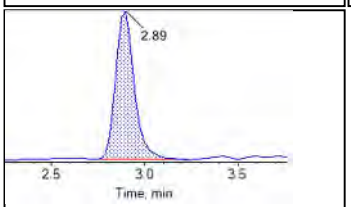
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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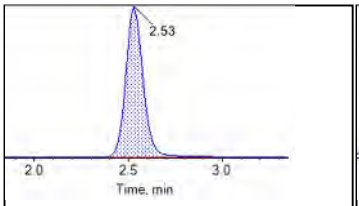
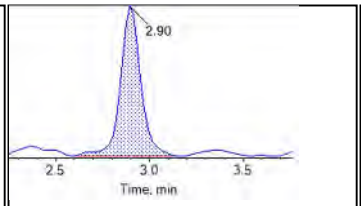
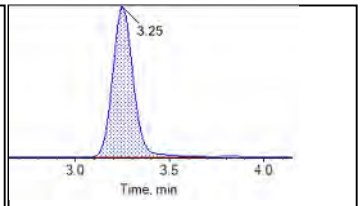
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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Printed: 07/06/2018 2:44:57 PM

Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

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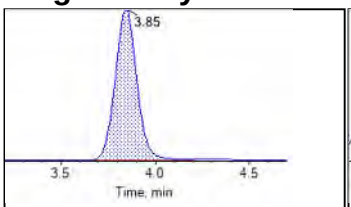
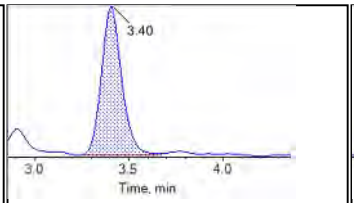
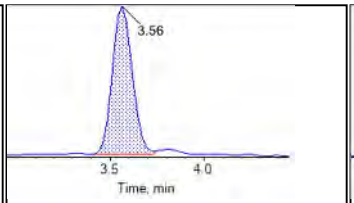


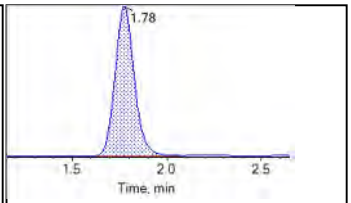
13C2-PFDoA



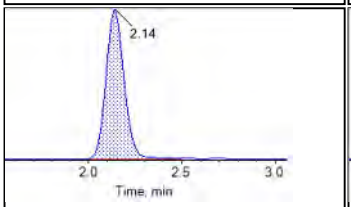
d3-MeFOSAA



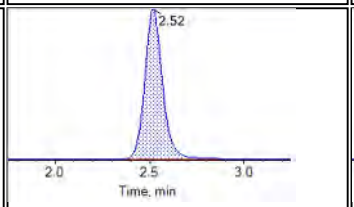
d5-EtFOSAA



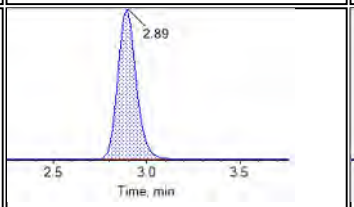
13C5-PFHxA



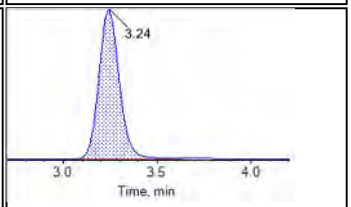
13C4-PFHpA



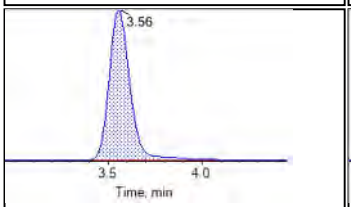
13C8-PFOA



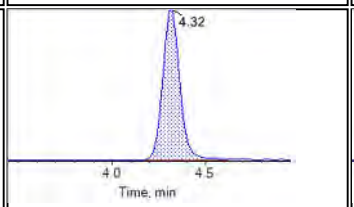
13C9-PFNA



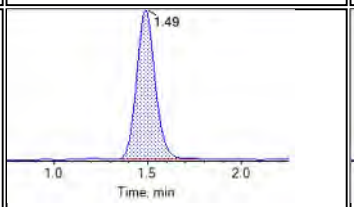
13C6-PFDA



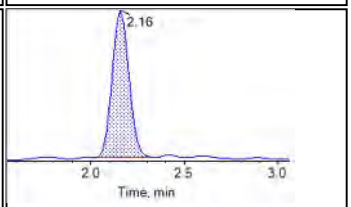
13C7-PFUnA



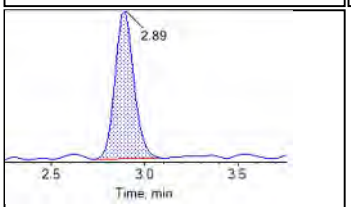
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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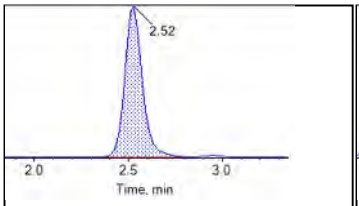
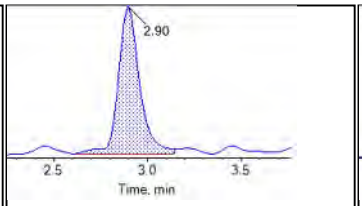
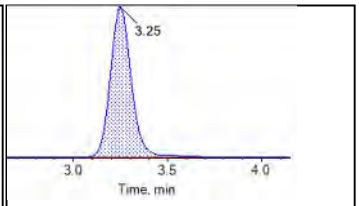


13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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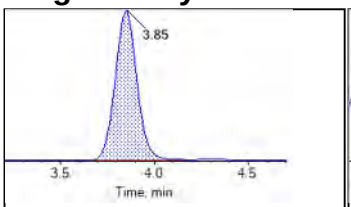
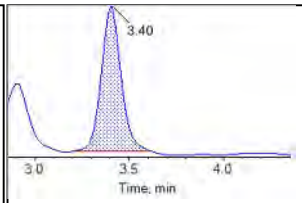
Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

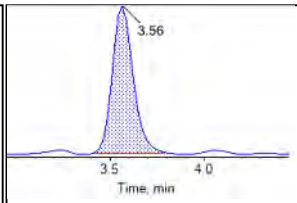
Target Analytes:



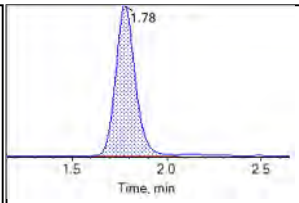
13C2-PFDoA



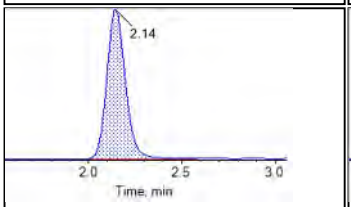
d3-MeFOSAA



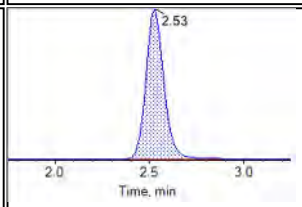
d5-EtFOSAA



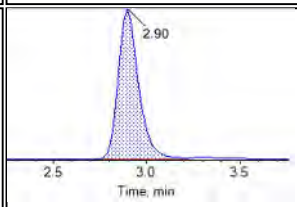
13C5-PFHxA



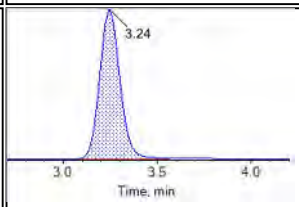
13C4-PFHpA



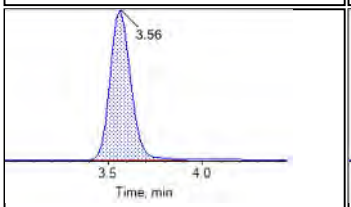
13C8-PFOA



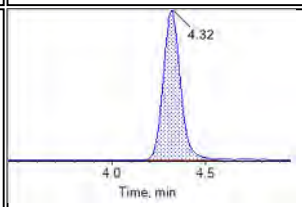
13C9-PFNA



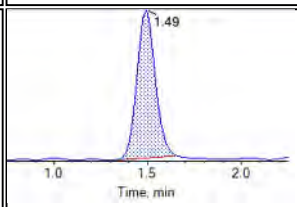
13C6-PFDA



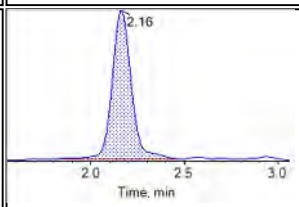
13C7-PFUnA



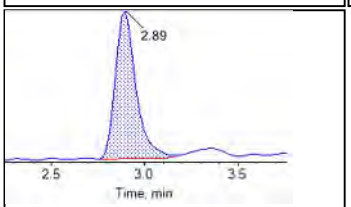
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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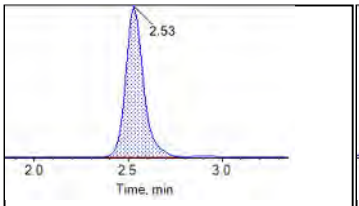
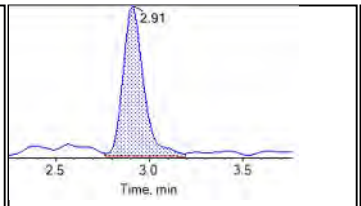
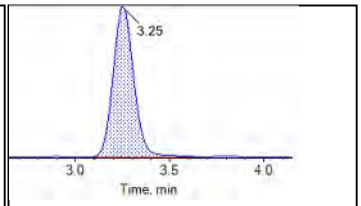
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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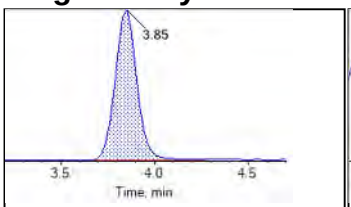
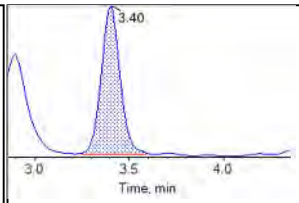
Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

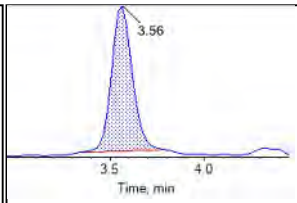
Target Analytes:



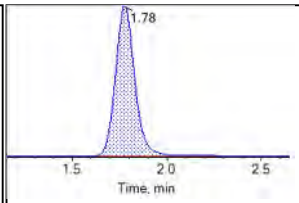
13C2-PFDoA



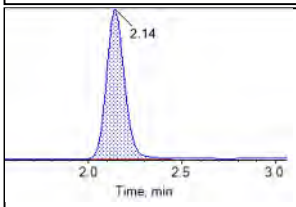
d3-MeFOSAA



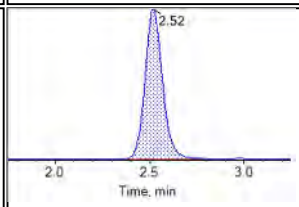
d5-EtFOSAA



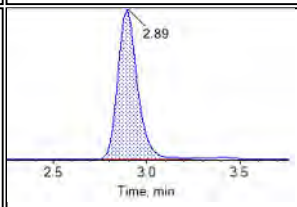
13C5-PFHxA



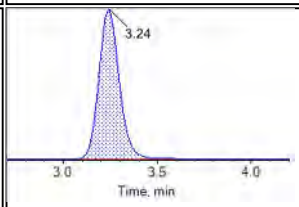
13C4-PFHpA



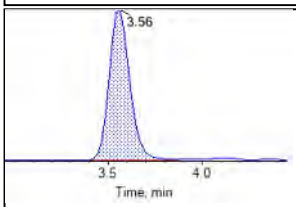
13C8-PFOA



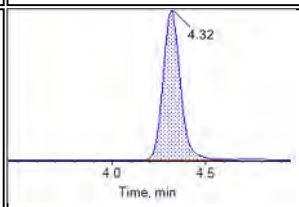
13C9-PFNA



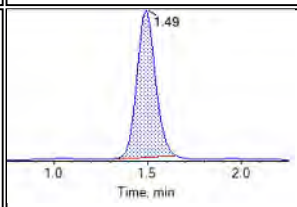
13C6-PFDA



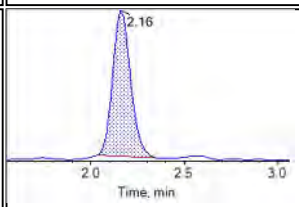
13C7-PFUnA



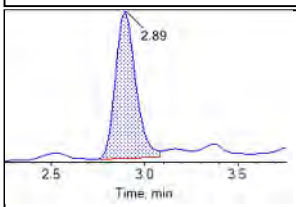
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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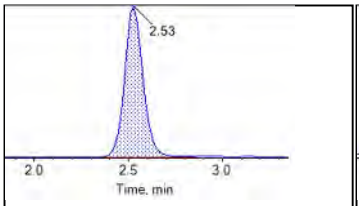
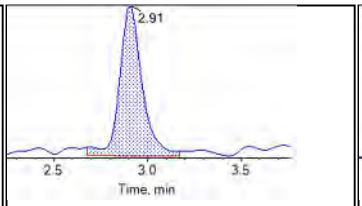
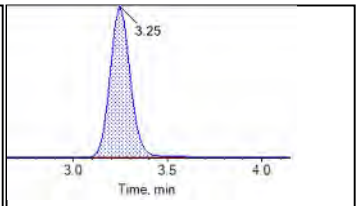
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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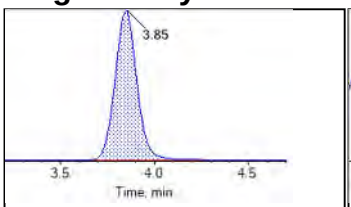
Printed: 07/06/2018 2:45:05 PM

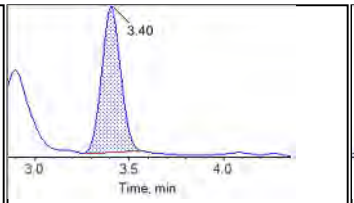
Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

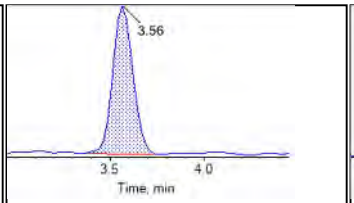
Target Analytes:



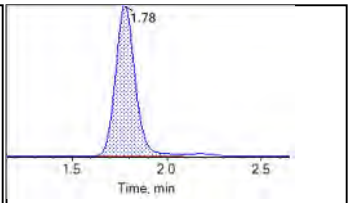
13C2-PFDoA



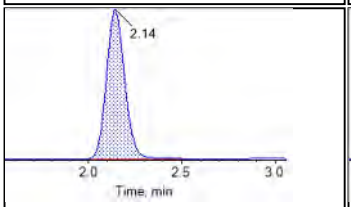
d3-MeFOSAA



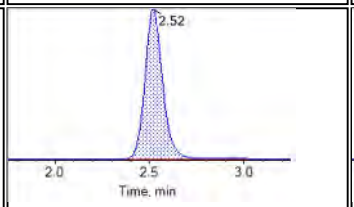
d5-EtFOSAA



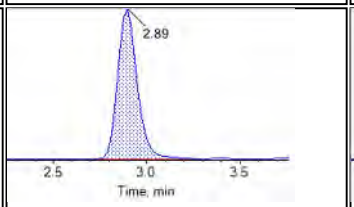
13C5-PFHxA



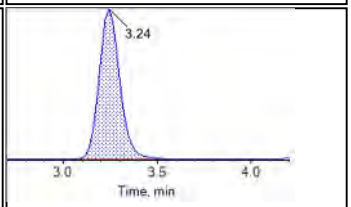
13C4-PFHpA



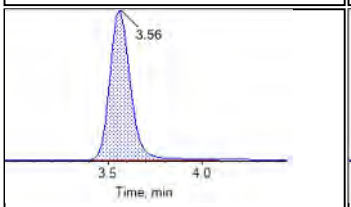
13C8-PFOA



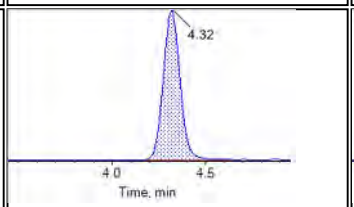
13C9-PFNA



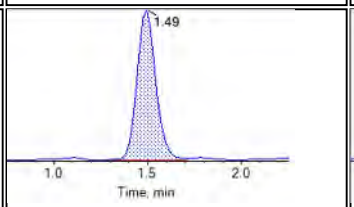
13C6-PFDA



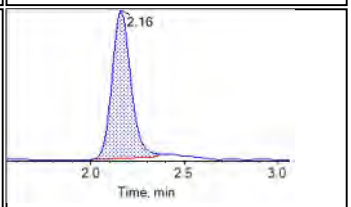
13C7-PFUnA



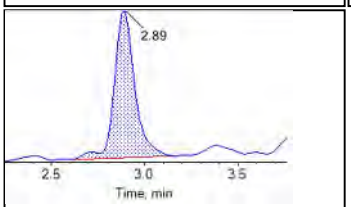
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

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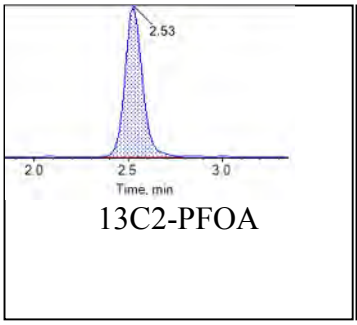
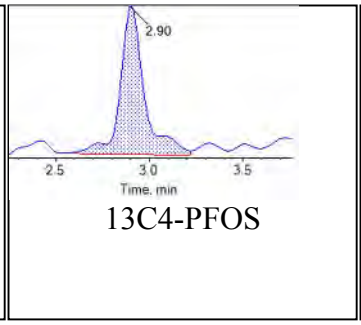
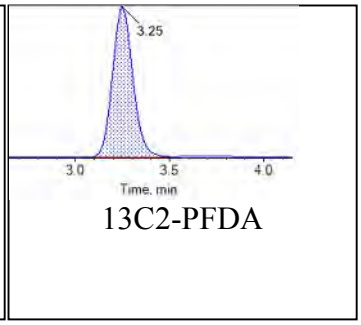
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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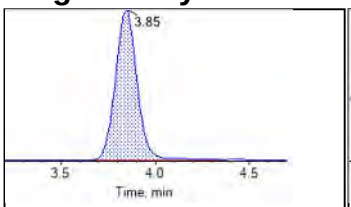
Chromatogram Report

Created with Analyst Reporter
Printed: 07/06/2018 2:45:07 PM

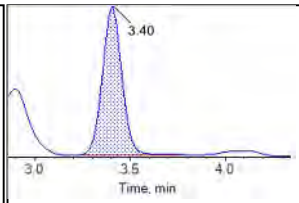
Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

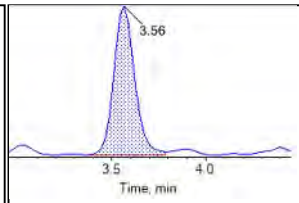
Target Analytes:



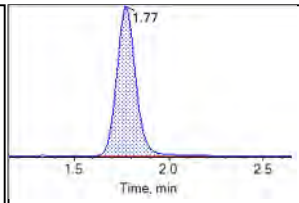
13C2-PFDoA



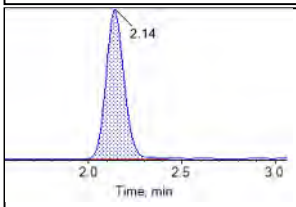
d3-MeFOSAA



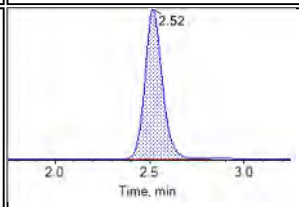
d5-EtFOSAA



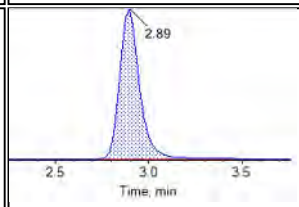
13C5-PFHxA



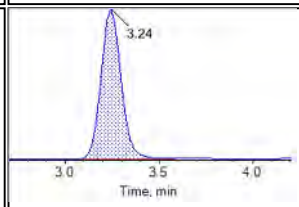
13C4-PFHpA



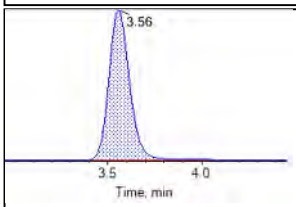
13C8-PFOA



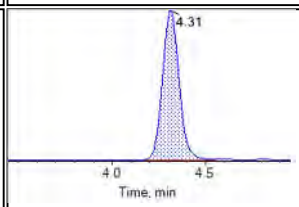
13C9-PFNA



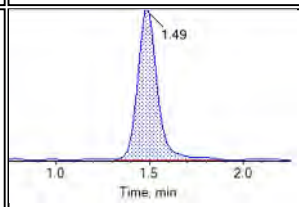
13C6-PFDA



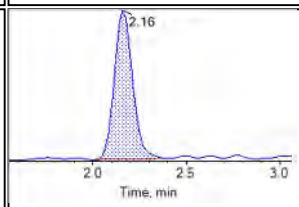
13C7-PFUnA



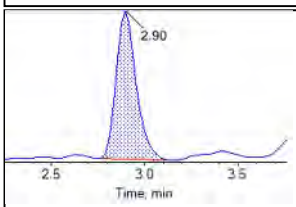
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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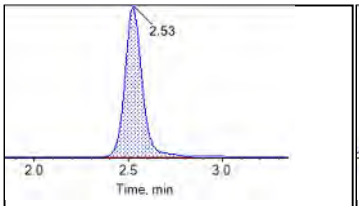
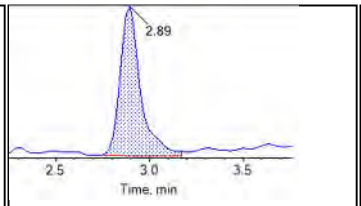
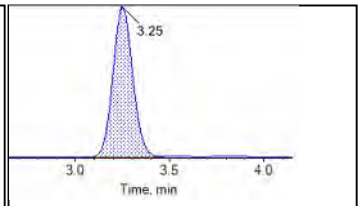
Internal Standards:



13C2-PFOA



13C4-PFOS



13C2-PFDA

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Chromatogram Report

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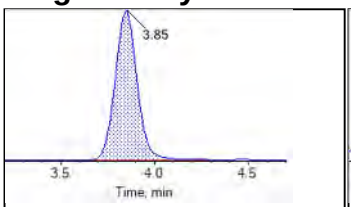
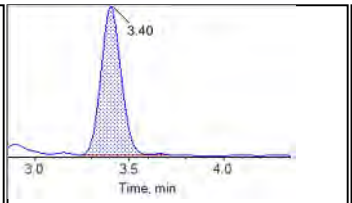
Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Chromatograms

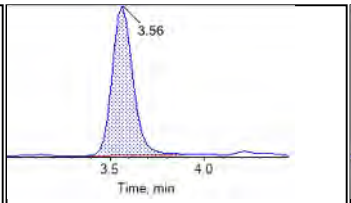
Target Analytes:



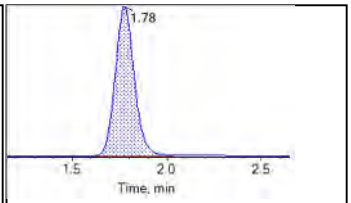
13C2-PFDoA



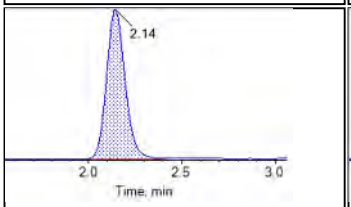
d3-MeFOSAA



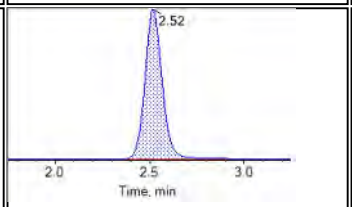
d5-EtFOSAA



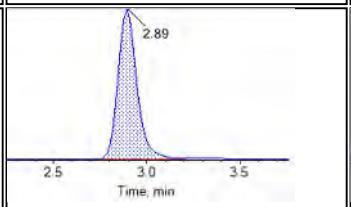
13C5-PFHxA



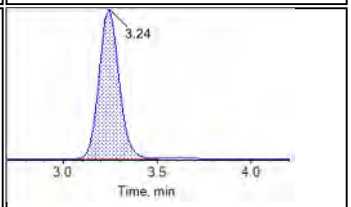
13C4-PFHpA



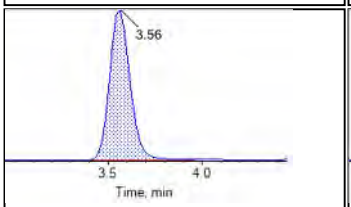
13C8-PFOA



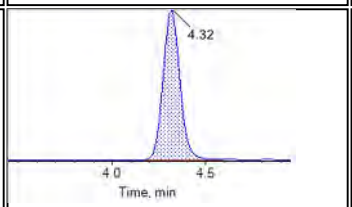
13C9-PFNA



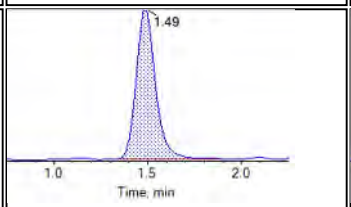
13C6-PFDA



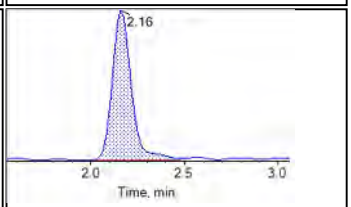
13C7-PFUnA



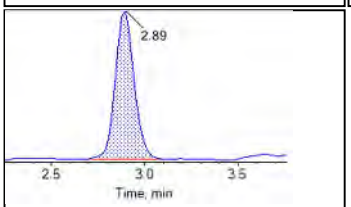
13C2-PFTeDA



13C3-PFBS



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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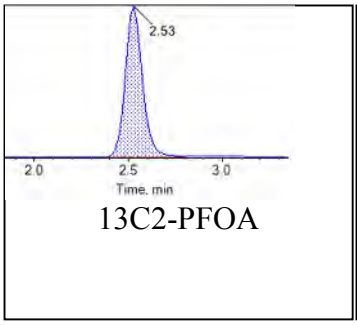
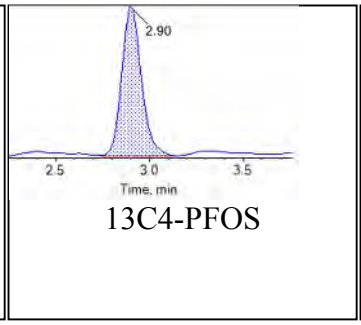
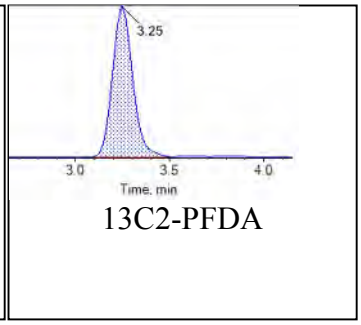


13C2-PFOA



13C4-PFOS



13C2-PFDA

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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	2018-06-04T19:34:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

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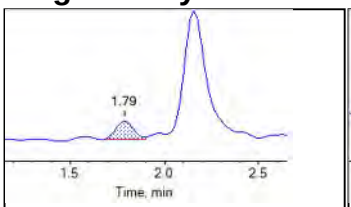
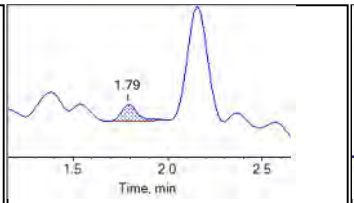
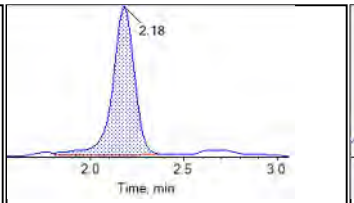


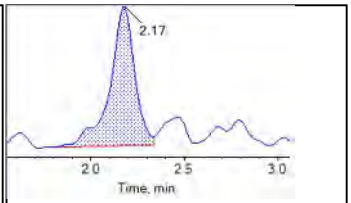
PFHxA_1



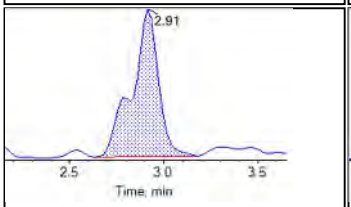
PFHxA_2



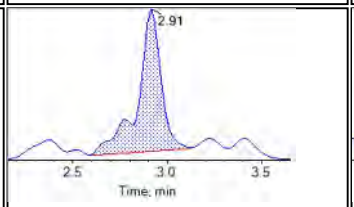
PFHxS_1



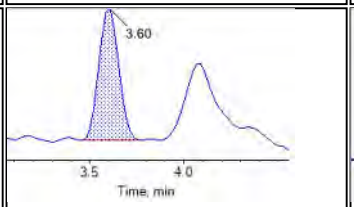
PFHxS_2



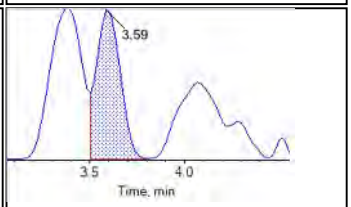
PFOS_1



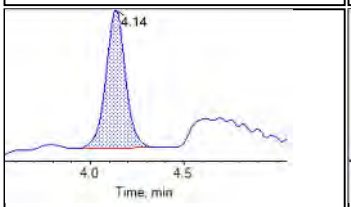
PFOS_2



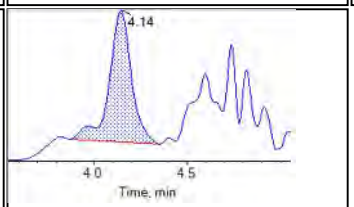
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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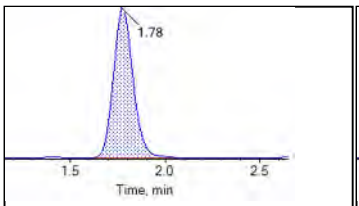
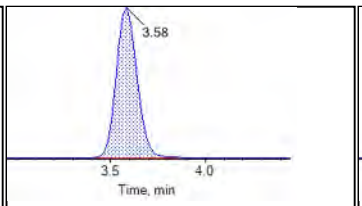
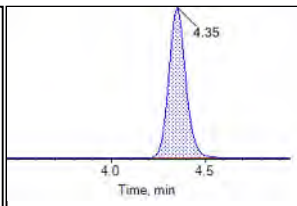


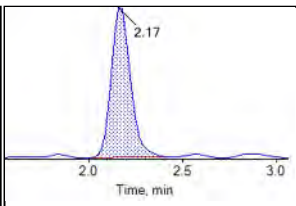
13C5-PFHxA



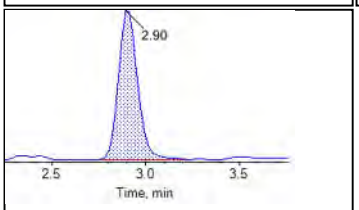
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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Printed: 05/06/2018 1:42:38 PM

Sample Name	JV21	**Injection Vial**	3
Sample ID	L2	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T19:44:51	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

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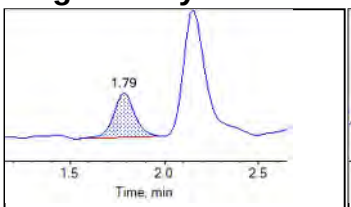
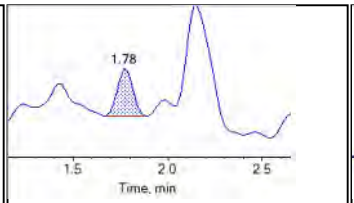
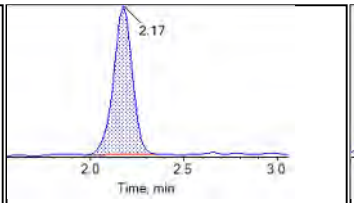


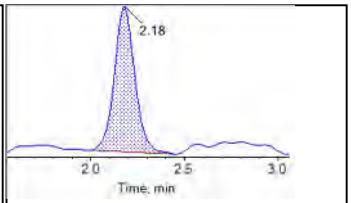
PFHxA_1



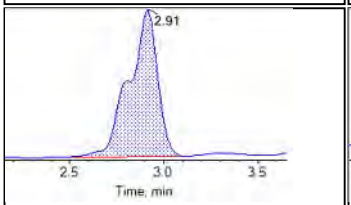
PFHxA_2



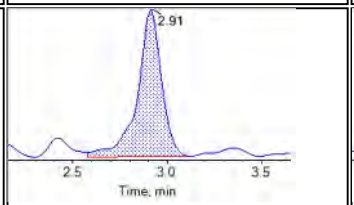
PFHxS_1



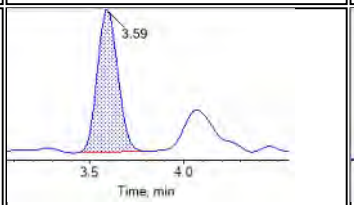
PFHxS_2



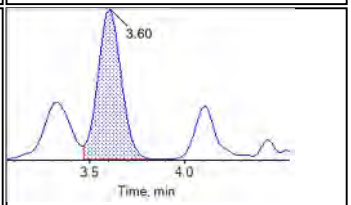
PFOS_1



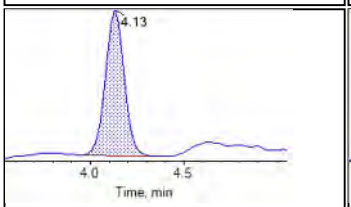
PFOS_2



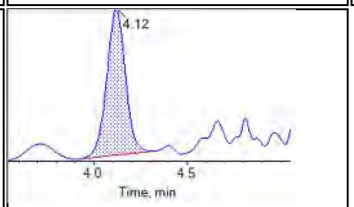
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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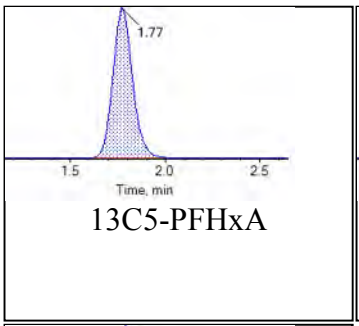
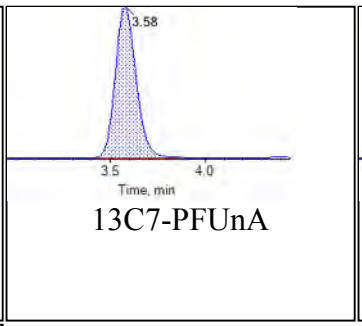
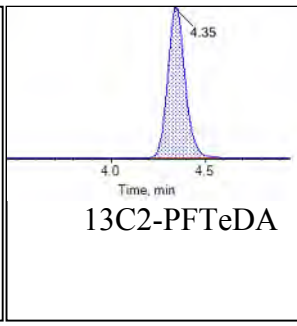


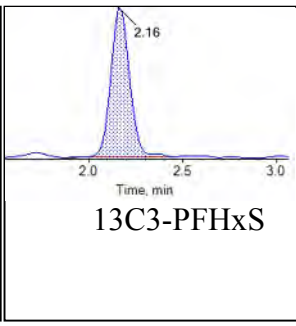
13C5-PFHxA



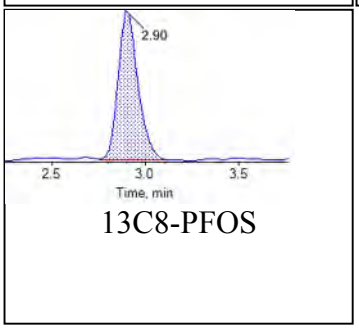
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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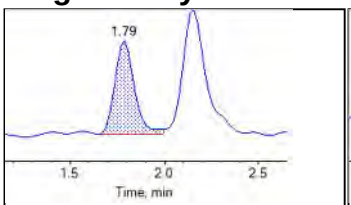
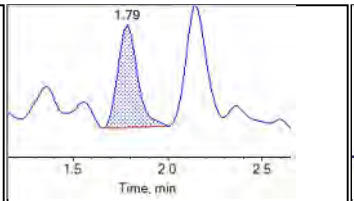
Sample Name	JV22	**Injection Vial**	4
Sample ID	L3	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T19:55:39	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

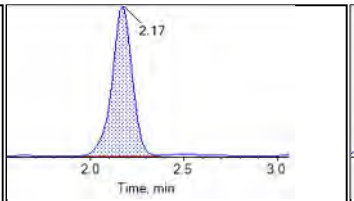
Target Analytes:



PFHxA_1



PFHxA_2



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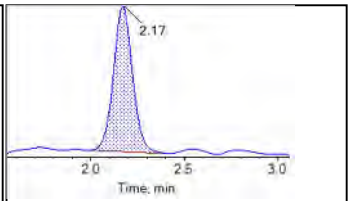
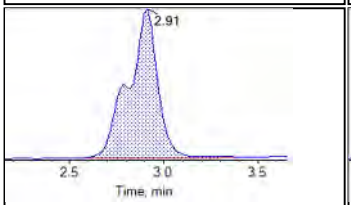
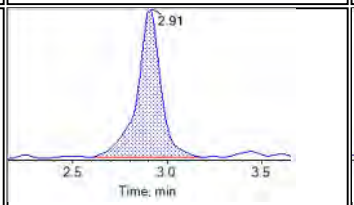


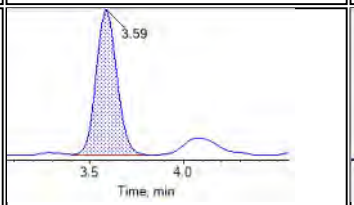
PFHxS_2



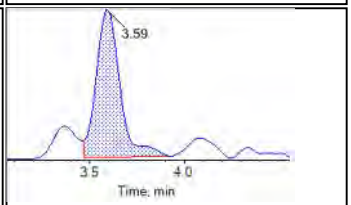
PFOS_1



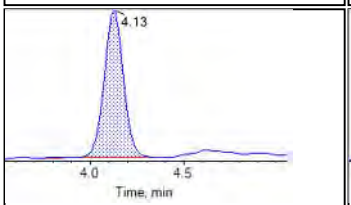
PFOS_2



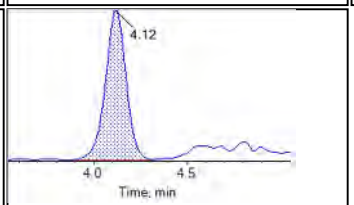
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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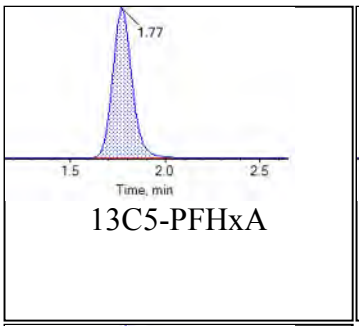
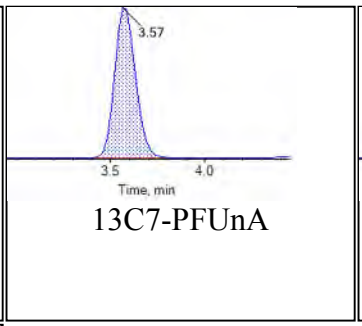
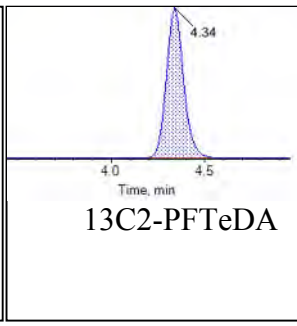


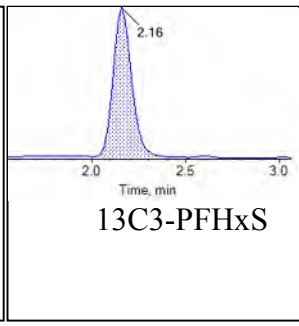
13C5-PFHxA



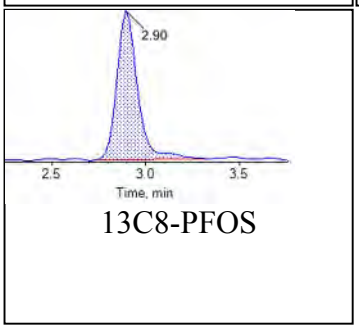
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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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	2018-06-04T20:06:27	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

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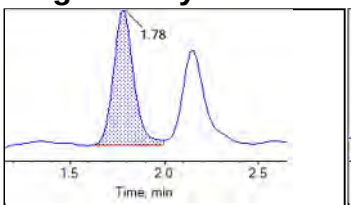
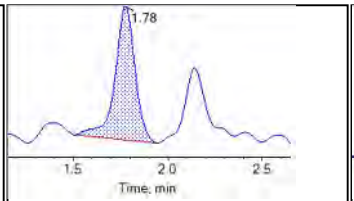
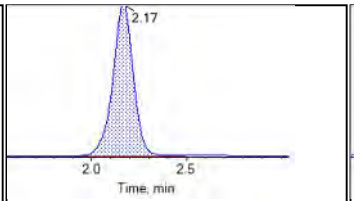


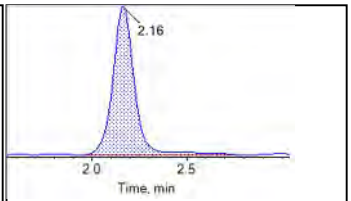
PFHxA_1



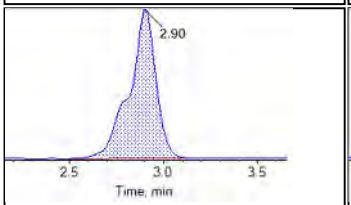
PFHxA_2



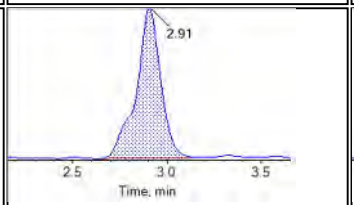
PFHxS_1



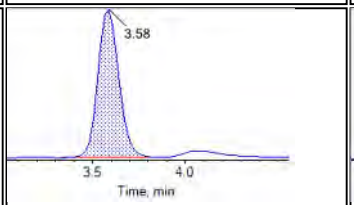
PFHxS_2



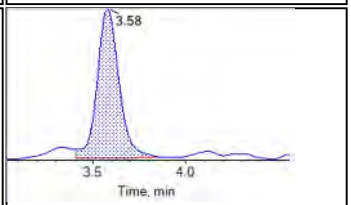
PFOS_1



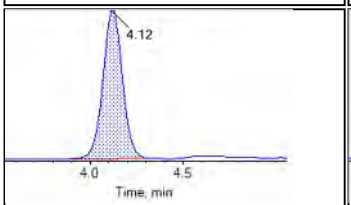
PFOS_2



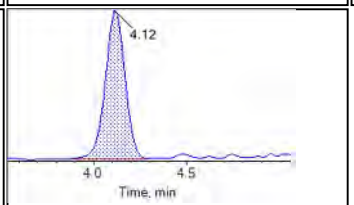
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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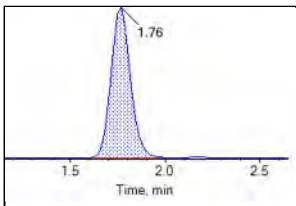
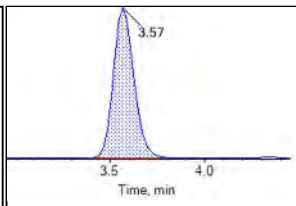
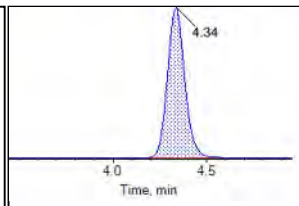


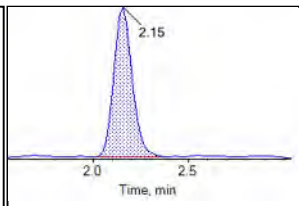
13C5-PFHxA



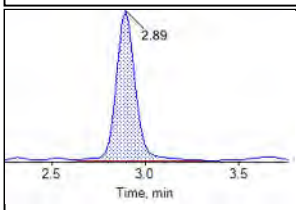
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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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	2018-06-04T20:17:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

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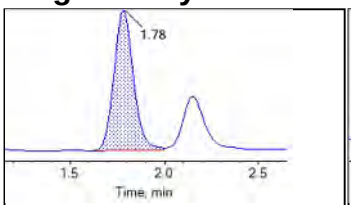
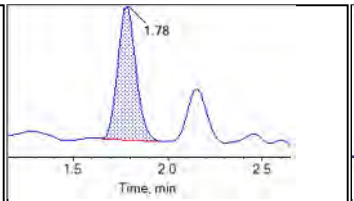
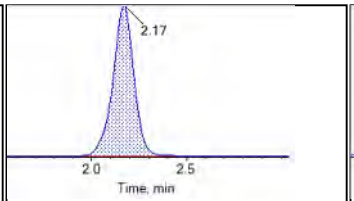


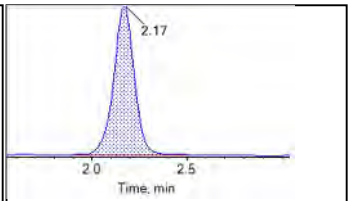
PFHxA_1



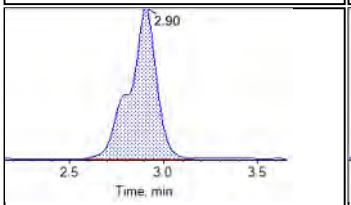
PFHxA_2



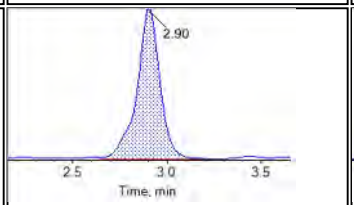
PFHxS_1



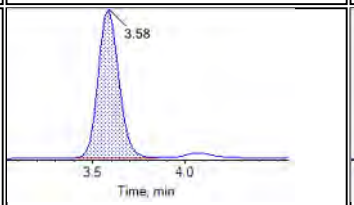
PFHxS_2



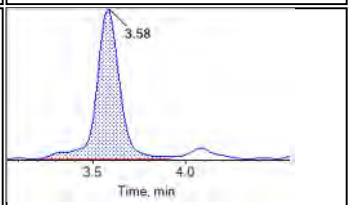
PFOS_1



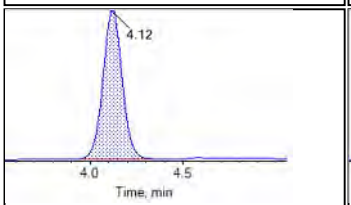
PFOS_2



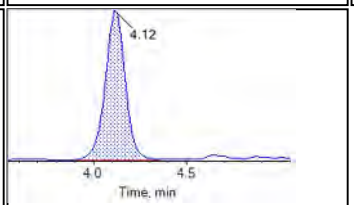
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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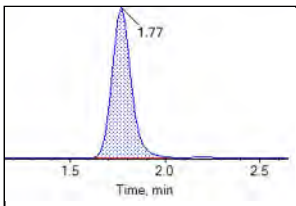
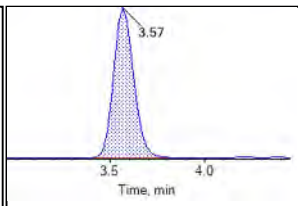
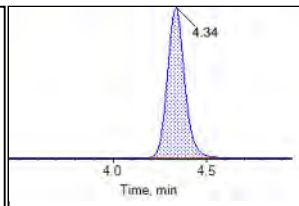


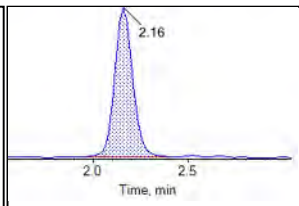
13C5-PFHxA



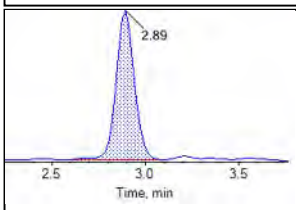
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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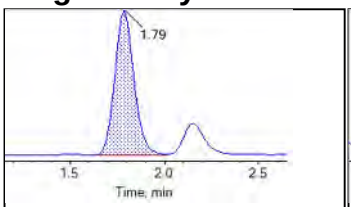
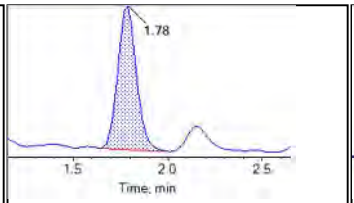
Sample Name	JV25	**Injection Vial**	7
Sample ID	L6	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:28:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

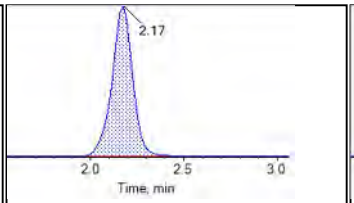
Target Analytes:



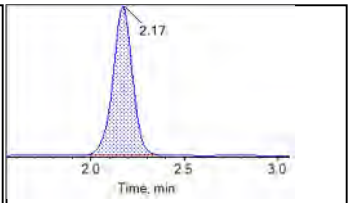
PFHxA_1



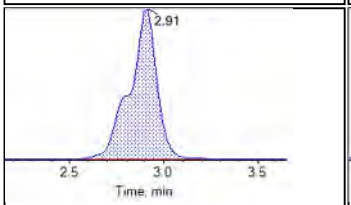
PFHxA_2



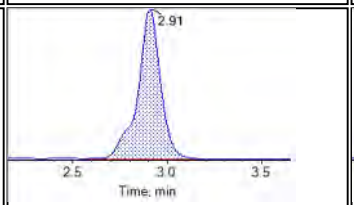
PFHxS_1



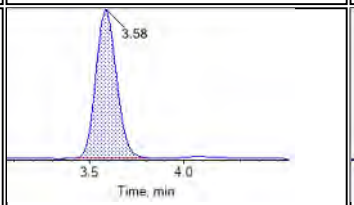
PFHxS_2



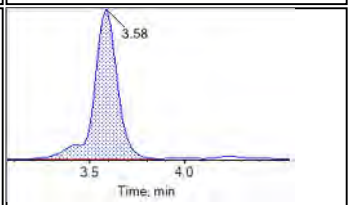
PFOS_1



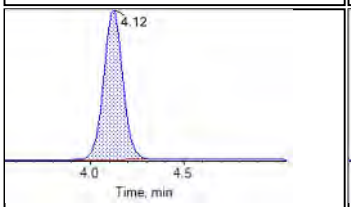
PFOS_2



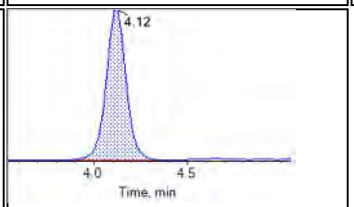
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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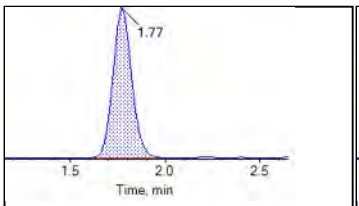
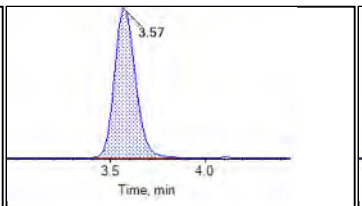
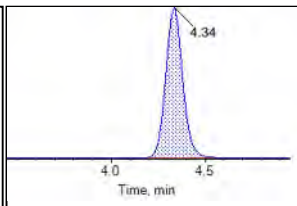
Internal Standards:



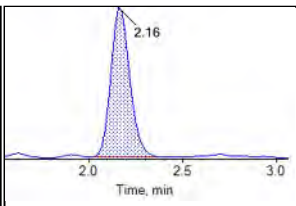
13C5-PFHxA



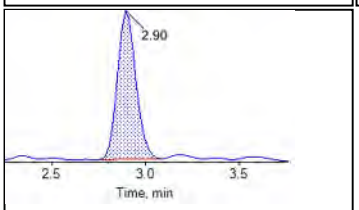
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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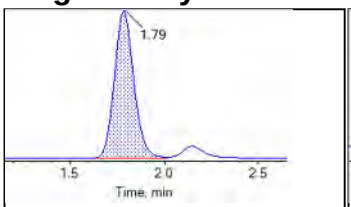
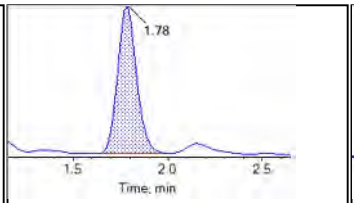
Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:38:50	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

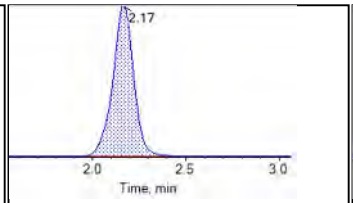
Target Analytes:



PFHxA_1



PFHxA_2



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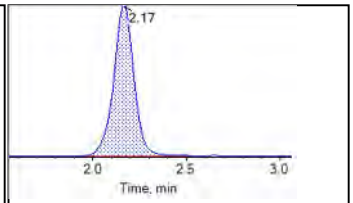

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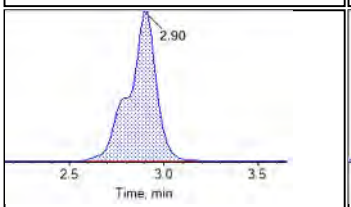
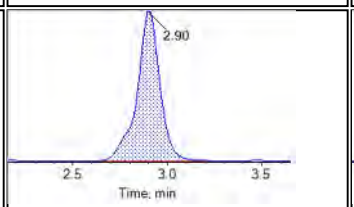


PFOS_1



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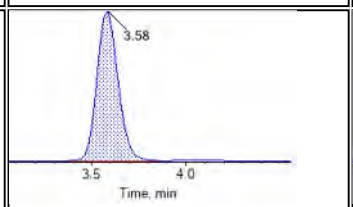
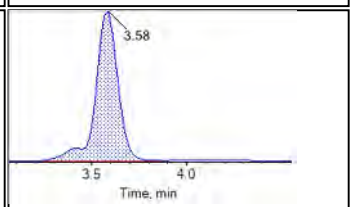


PFUnA_1



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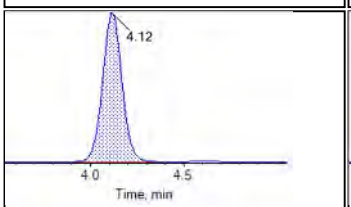
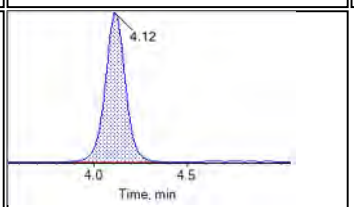


PFTrDA_1



PFTrDA_2

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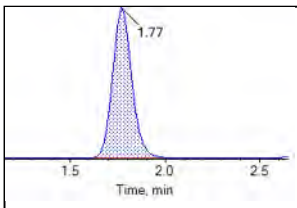
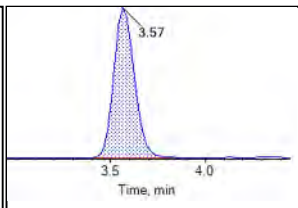
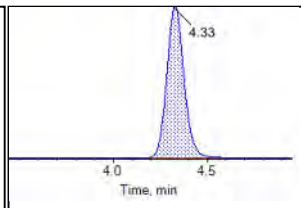
Internal Standards:



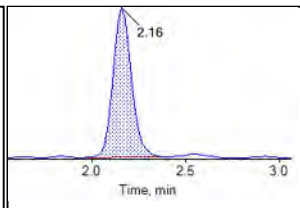
13C5-PFHxA



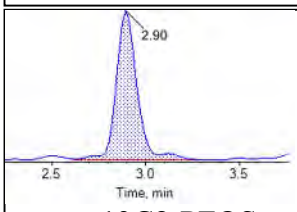
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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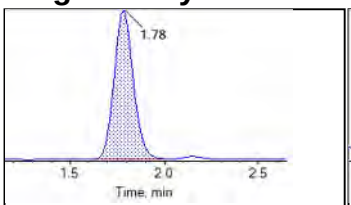
Printed: 05/06/2018 1:42:54 PM

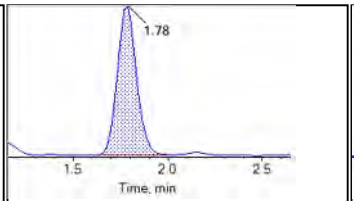
Sample Name	JV27	**Injection Vial**	9
Sample ID	L8	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T20:49:37	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

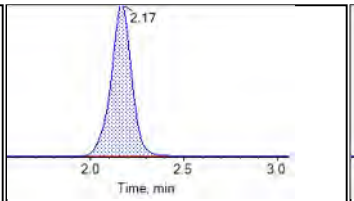
Target Analytes:



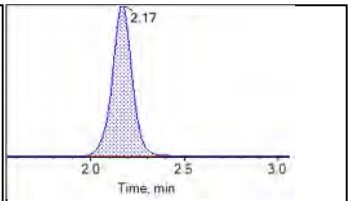
PFHxA_1



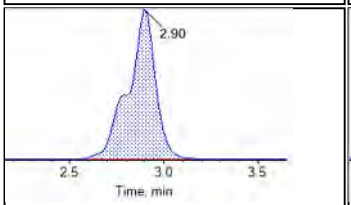
PFHxA_2



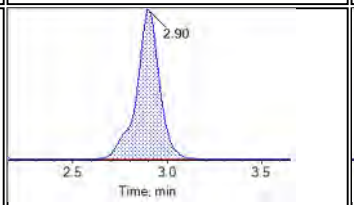
PFHxS_1



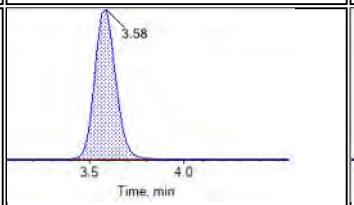
PFHxS_2



PFOS_1



PFOS_2



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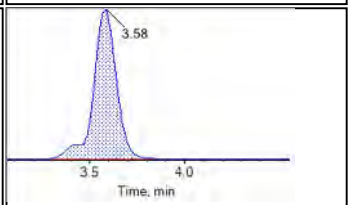
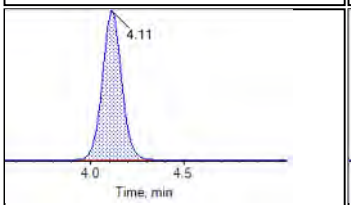
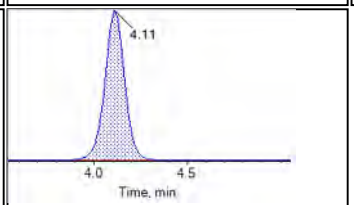


PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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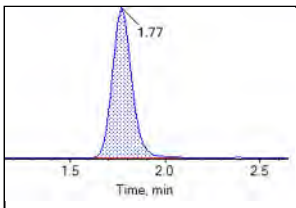
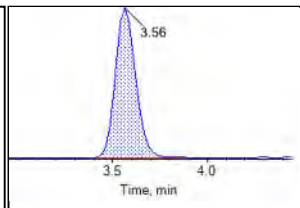
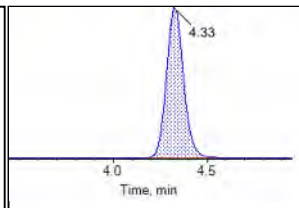
Internal Standards:



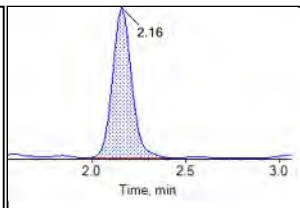
13C5-PFHxA



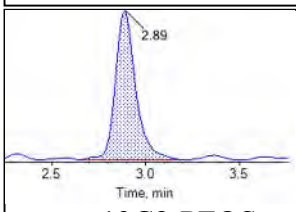
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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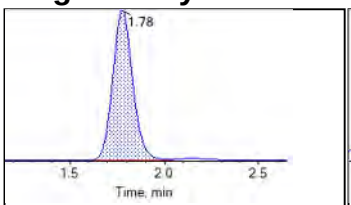
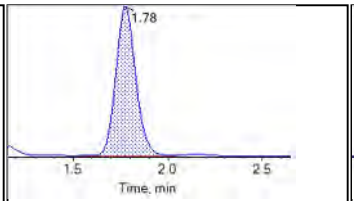
Sample Name	JV28	**Injection Vial**	10
Sample ID	L9	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:00:25	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

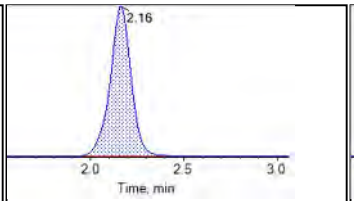
Target Analytes:



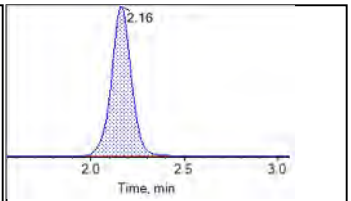
PFHxA_1



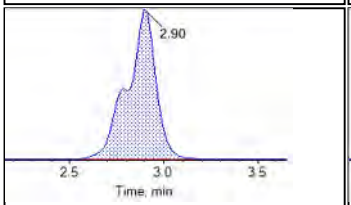
PFHxA_2



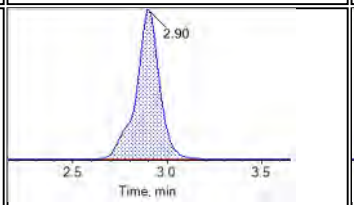
PFHxS_1



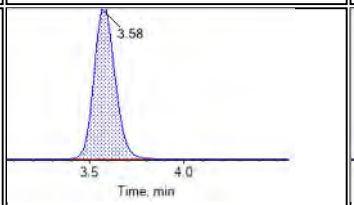
PFHxS_2



PFOS_1



PFOS_2



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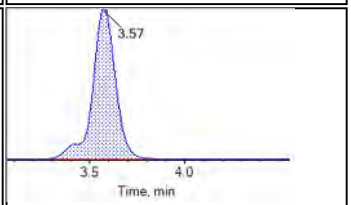
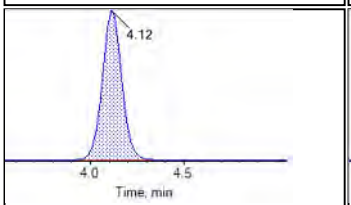
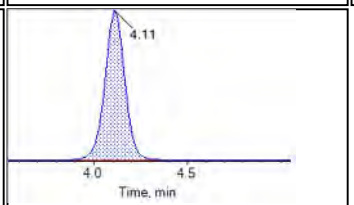


PFUnA_2



PFTrDA_1



PFTrDA_2

BATTELLE

Chromatogram Report

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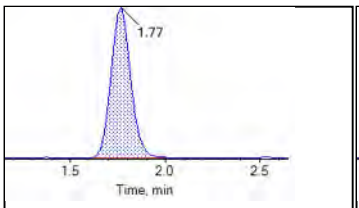
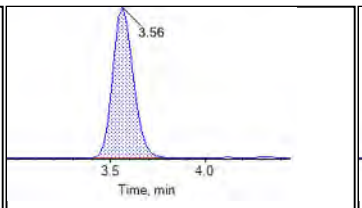
Printed: 05/06/2018 1:42:57 PM

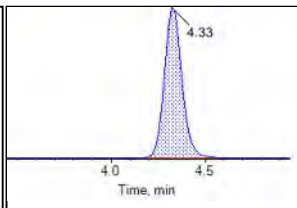
Internal Standards:



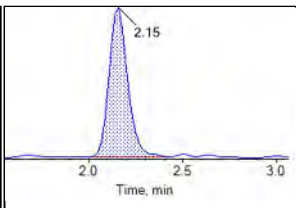
13C5-PFHxA



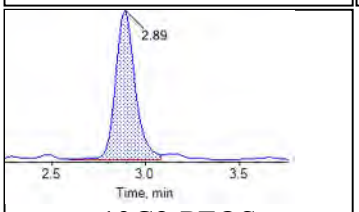
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

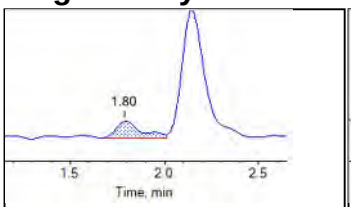
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:03 PM

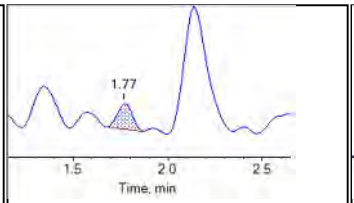
Sample Name	JV05 IB	**Injection Vial**	11
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:11:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

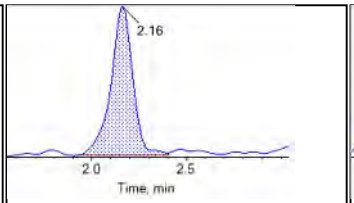
Target Analytes:



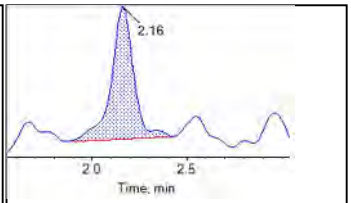
PFHxA_1



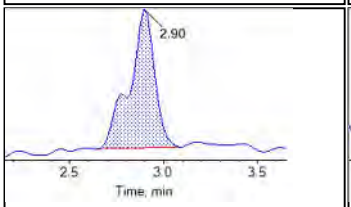
PFHxA_2



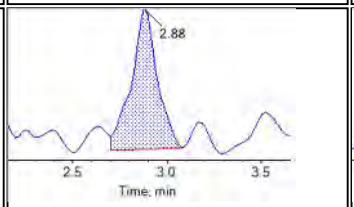
PFHxS_1



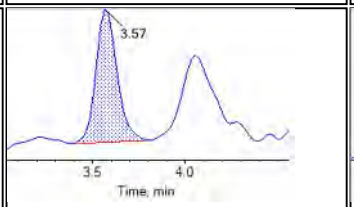
PFHxS_2



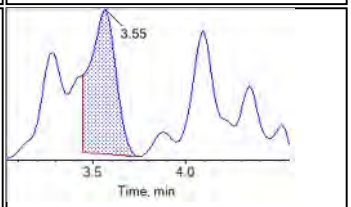
PFOS_1



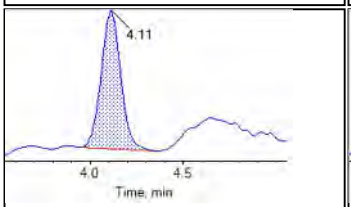
PFOS_2



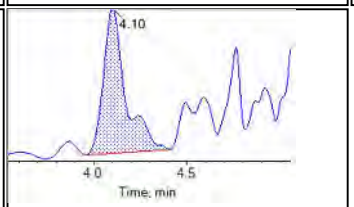
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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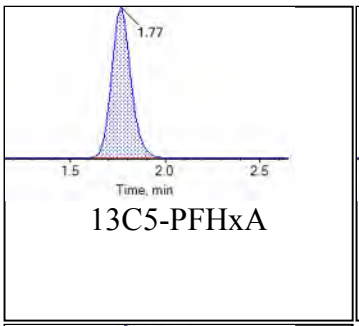
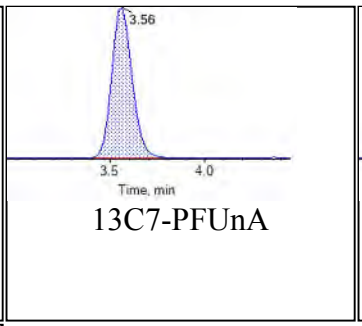
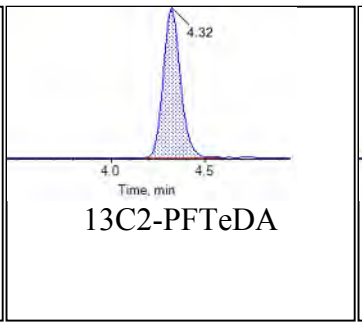
Internal Standards:



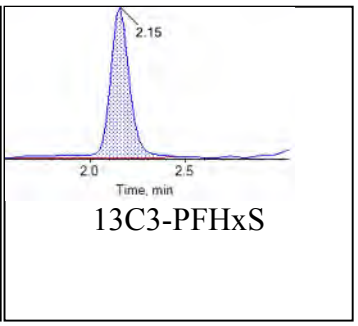
13C5-PFHxA



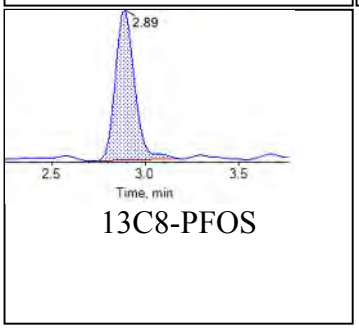
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

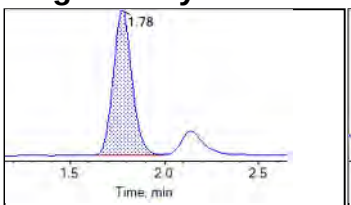
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:06 PM

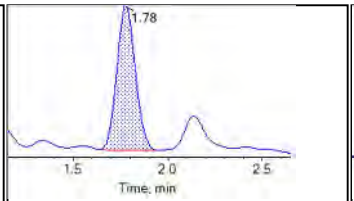
Sample Name	JW32 ICC	**Injection Vial**	12
Sample ID	ICC	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

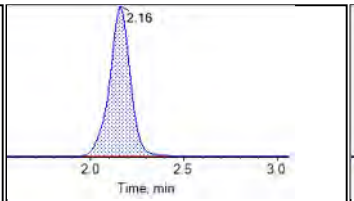
Target Analytes:



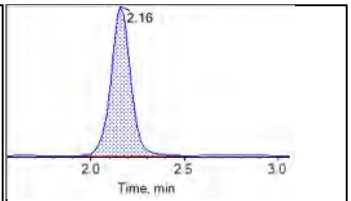
PFHxA_1



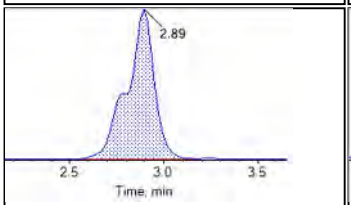
PFHxA_2



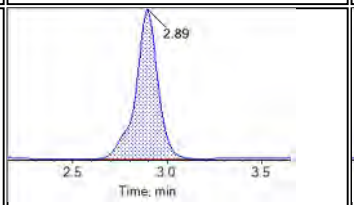
PFHxS_1



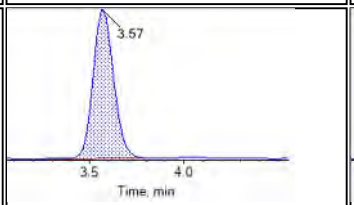
PFHxS_2



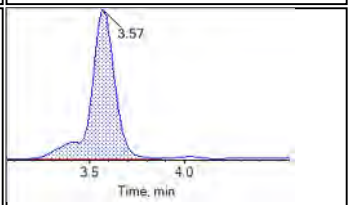
PFOS_1



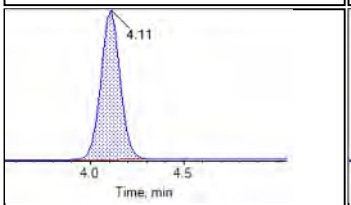
PFOS_2



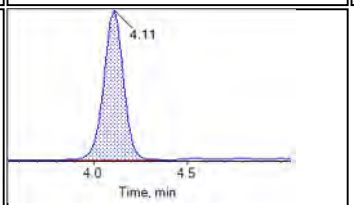
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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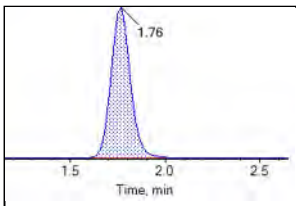
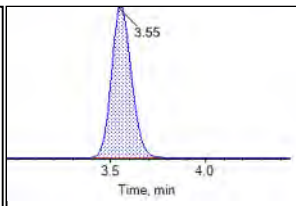
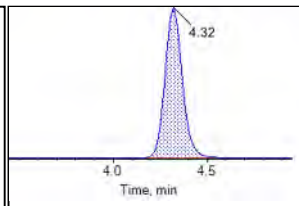
Internal Standards:



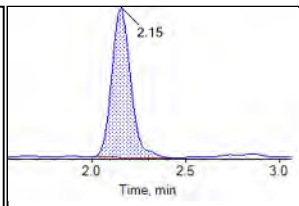
13C5-PFHxA



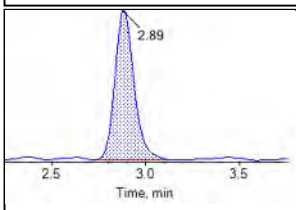
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

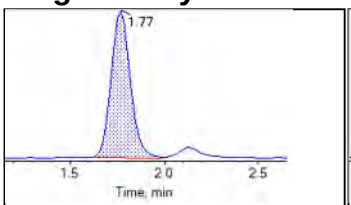
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:15 PM

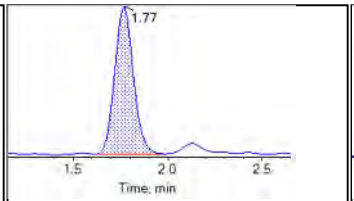
Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

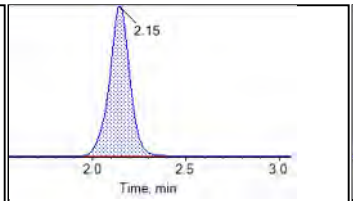
Target Analytes:



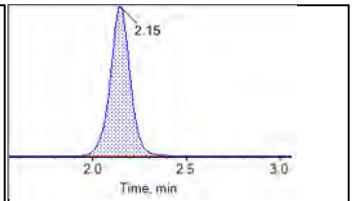
PFHxA_1



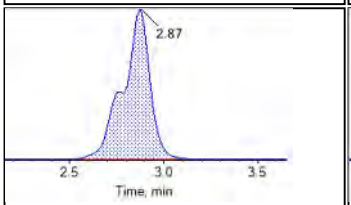
PFHxA_2



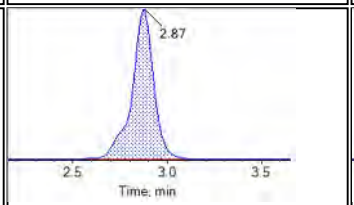
PFHxS_1



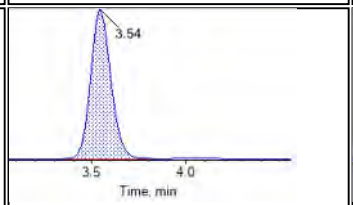
PFHxS_2



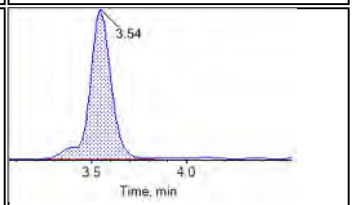
PFOS_1



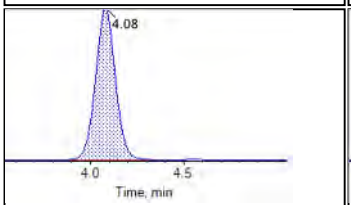
PFOS_2



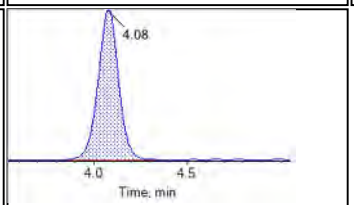
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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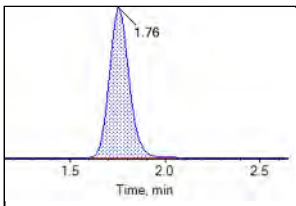
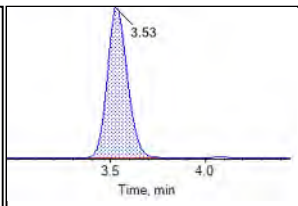
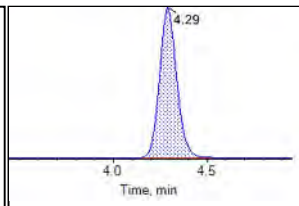
Internal Standards:



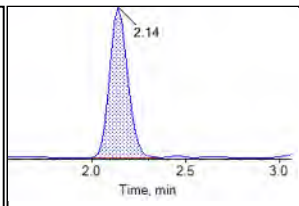
13C5-PFHxA



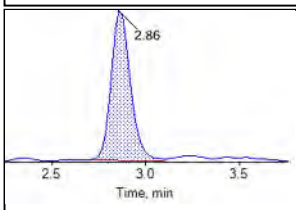
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

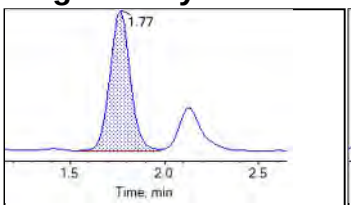
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:21 PM

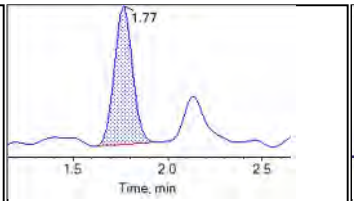
Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

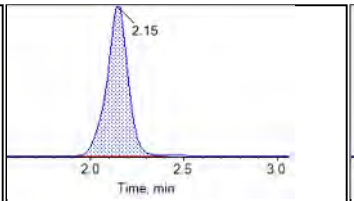
Target Analytes:



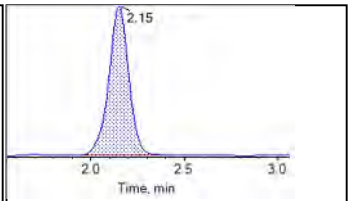
PFHxA_1



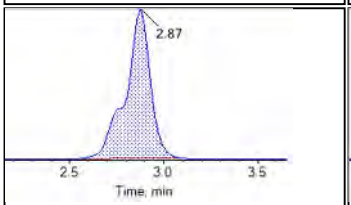
PFHxA_2



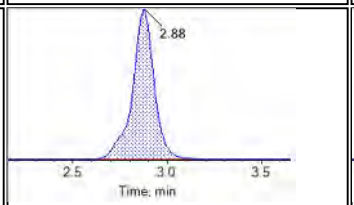
PFHxS_1



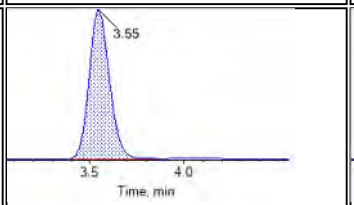
PFHxS_2



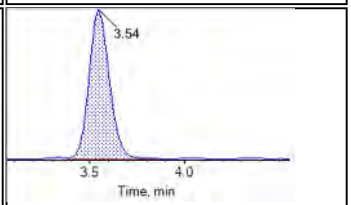
PFOS_1



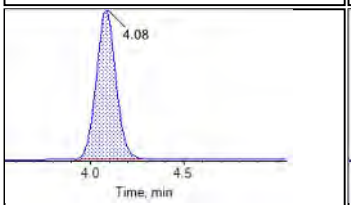
PFOS_2



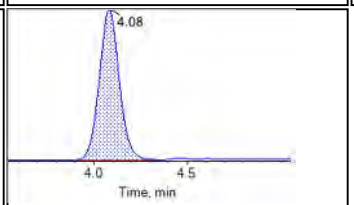
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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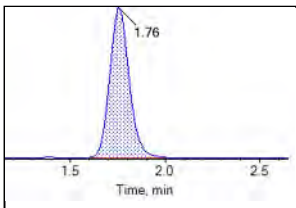
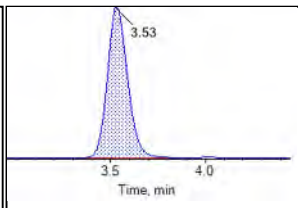
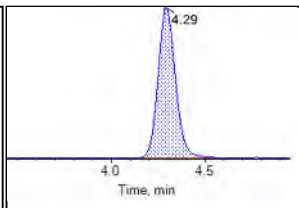
Internal Standards:



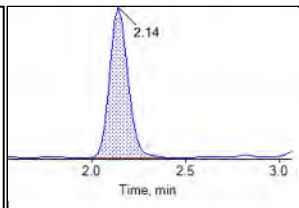
13C5-PFHxA



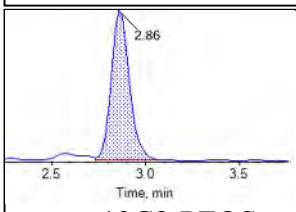
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

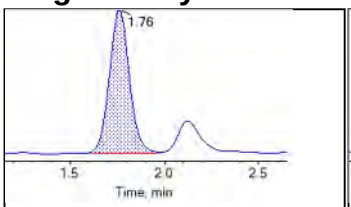
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:24 PM

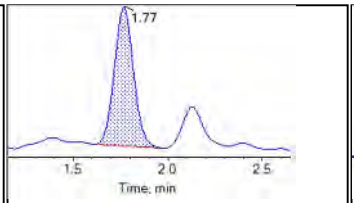
Sample Name	J6243MS-FS-D(7)	**Injection Vial**	34
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:34:54	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

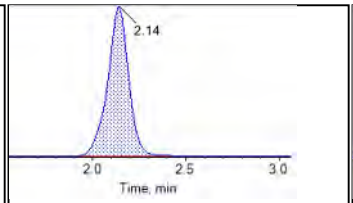
Target Analytes:



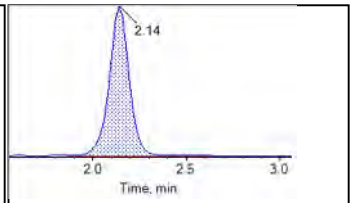
PFHxA_1



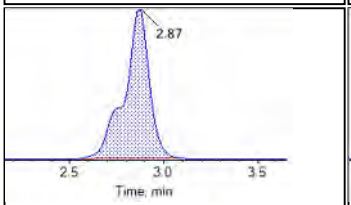
PFHxA_2



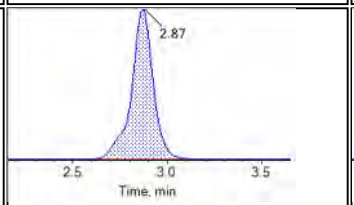
PFHxS_1



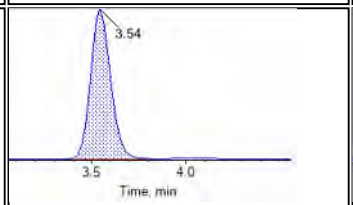
PFHxS_2



PFOS_1



PFOS_2



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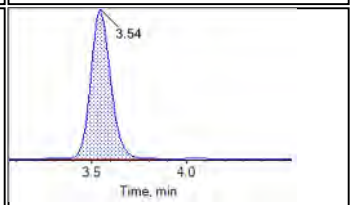
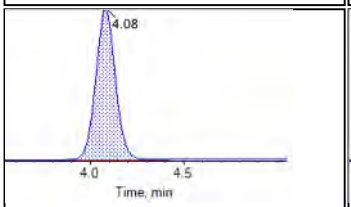
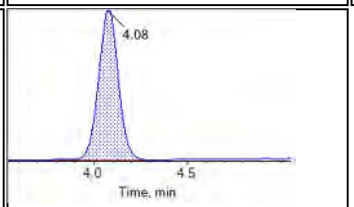


PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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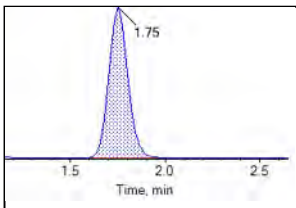
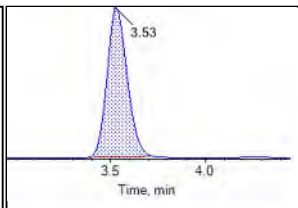
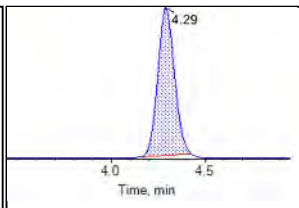
Internal Standards:



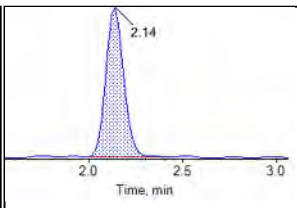
13C5-PFHxA



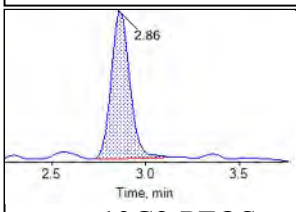
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:26 PM

Sample Name	J6243MSD-FS-D(7)	**Injection Vial**	35
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:45:41	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

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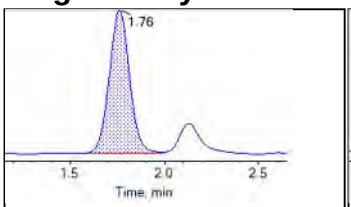
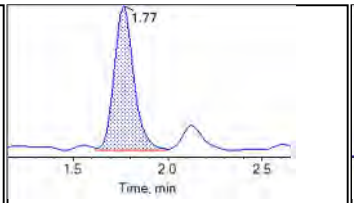
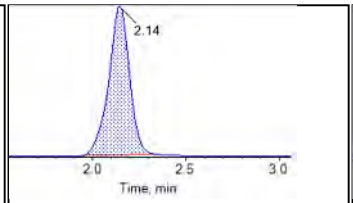


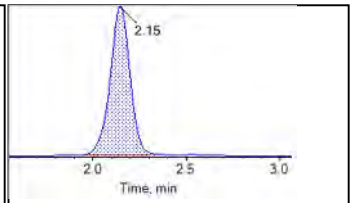
PFHxA_1



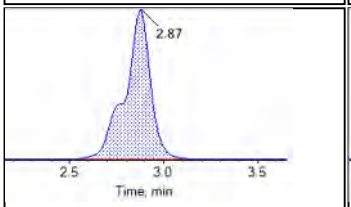
PFHxA_2



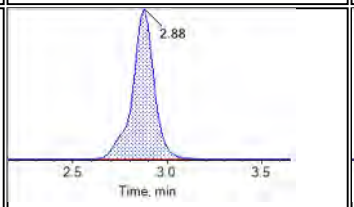
PFHxS_1



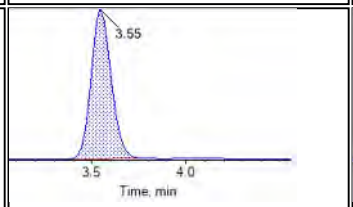
PFHxS_2



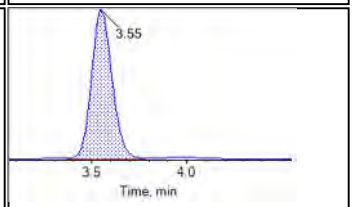
PFOS_1



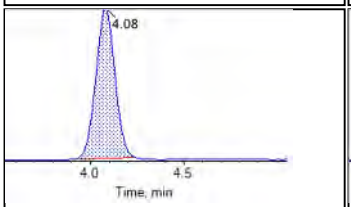
PFOS_2



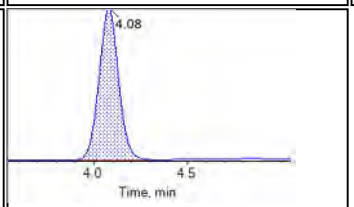
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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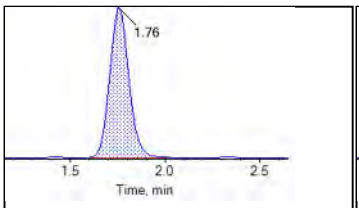
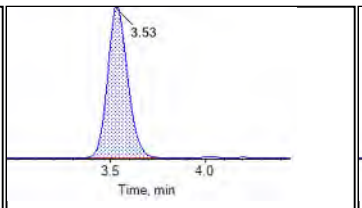
Printed: 05/06/2018 1:43:26 PM

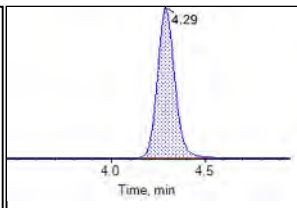
Internal Standards:



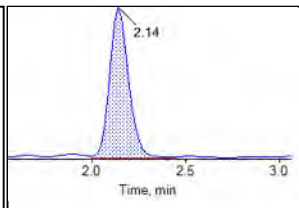
13C5-PFHxA



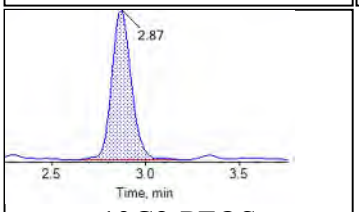
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

BATTELLE

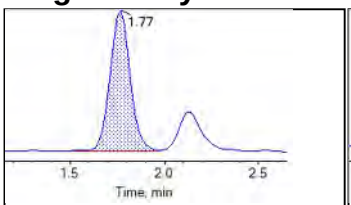
Chromatogram Report

Created with Analyst Reporter
Printed: 05/06/2018 1:43:29 PM

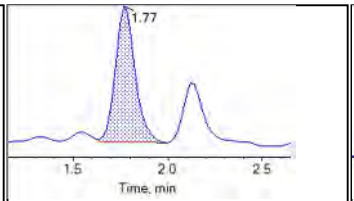
Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

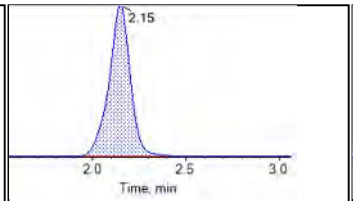
Target Analytes:



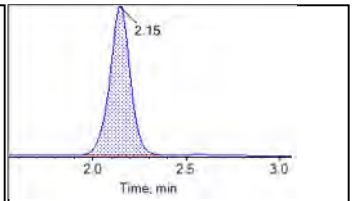
PFHxA_1



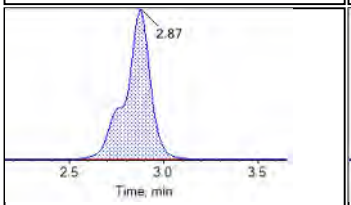
PFHxA_2



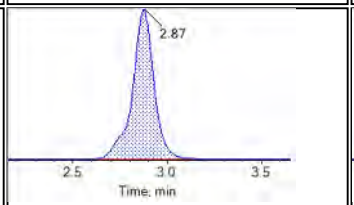
PFHxS_1



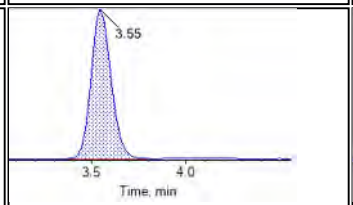
PFHxS_2



PFOS_1



PFOS_2



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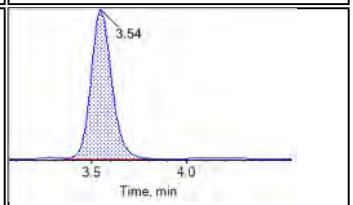
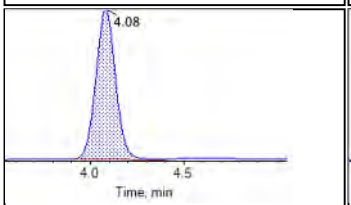
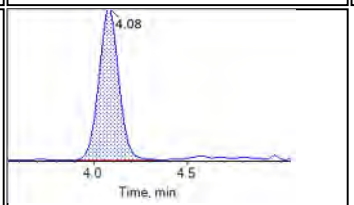


PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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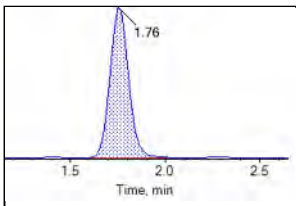
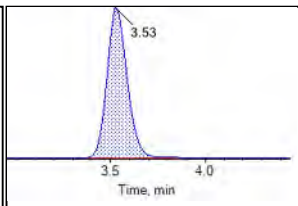
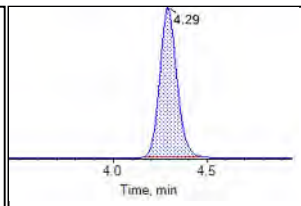
Internal Standards:



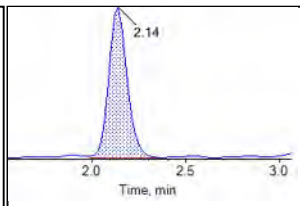
13C5-PFHxA



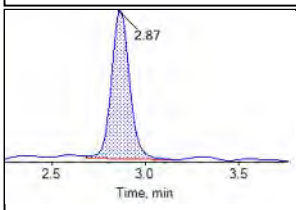
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

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Chromatogram Report

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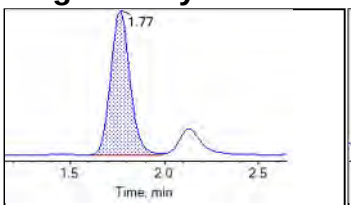
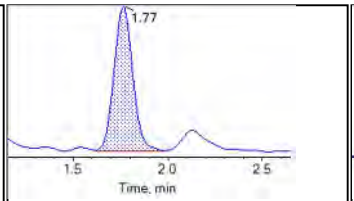
Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Chromatograms

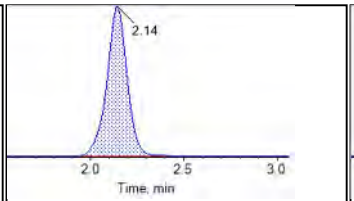
Target Analytes:



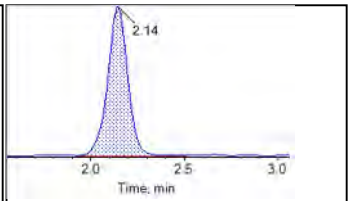
PFHxA_1



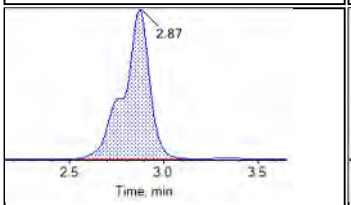
PFHxA_2



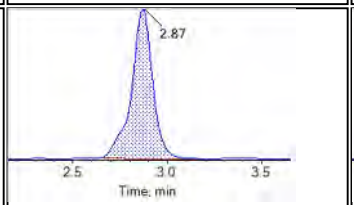
PFHxS_1



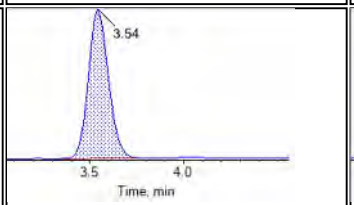
PFHxS_2



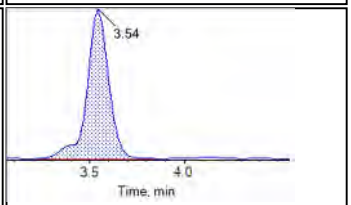
PFOS_1



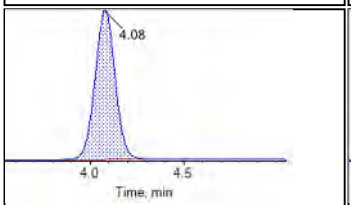
PFOS_2



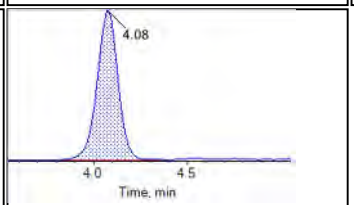
PFUnA_1



PFUnA_2



PFTrDA_1



PFTrDA_2

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Chromatogram Report

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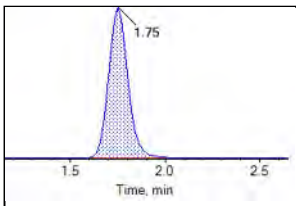
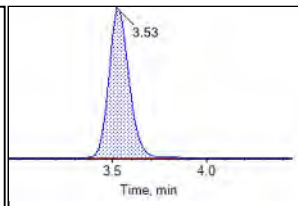
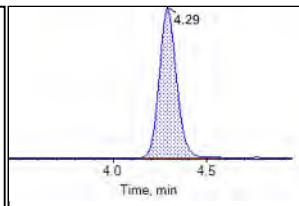
Internal Standards:



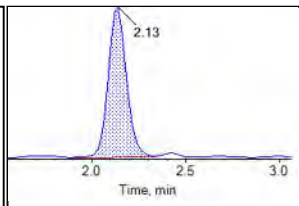
13C5-PFHxA



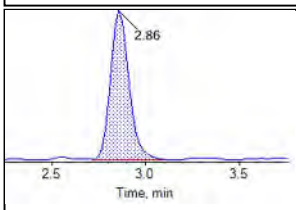
13C7-PFUnA



13C2-PFTeDA



13C3-PFHxS



13C8-PFOS

Unused Data

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

Client ID	FFTA-SD01-052418				
Battelle ID	J6243-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD				
Sample Size	1.620				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	91.86	D	0.33	1.00	5.00
PFHpA	8.10		0.44	1.00	5.00
PFOA	28.85		0.50	1.00	5.00
PFNA	98.42		0.43	1.00	5.00
PFDA	12.44		0.27	1.00	5.00
PFUnA	377.61	D	0.41	1.00	5.00
PFDoA	16.63		0.24	0.50	5.00
PFTrDA	144.46	D	0.28	1.00	5.00
PFTeDA	3.72	J	0.63	2.00	5.00
NMeFOSAA	1.12	U	1.12	2.50	5.00
NEtFOSAA	0.57	U	0.57	2.00	5.00
PFBS	18.92		0.36	1.00	5.00
PFHxS	83.16	D	0.22	0.50	5.00
PFOS	2235.14	D	0.27	1.00	5.00

Surrogate Recoveries (%)	
13C5-PFHxA	125
13C4-PFHpA	127
13C8-PFOA	106
13C9-PFNA	84
13C6-PFDA	118
13C7-PFUnA	100
13C2-PFDoA	114
13C2-PFTeDA	121
d3-MeFOSAA	116
d5-EtFOSAA	127
13C3-PFBS	149
13C3-PFHxS	117
13C8-PFOS	89

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

Client ID	FFTA-FD02-052418				
Battelle ID	J6244-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD DUP				
Sample Size	1.640				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	94.05	D	0.33	1.00	5.00
PFHpA	8.03		0.44	1.00	5.00
PFOA	28.79		0.50	1.00	5.00
PFNA	89.35		0.43	1.00	5.00
PFDA	11.85		0.27	1.00	5.00
PFUnA	272.88	D	0.41	1.00	5.00
PFDoA	10.77		0.24	0.50	5.00
PFTrDA	70.55	D	0.28	1.00	5.00
PFTeDA	1.91	J	0.63	2.00	5.00
NMeFOSAA	1.12	U	1.12	2.50	5.00
NEtFOSAA	0.57	U	0.57	2.00	5.00
PFBS	22.42		0.36	1.00	5.00
PFHxS	82.28	D	0.22	0.50	5.00
PFOS	2003.63	D	0.27	1.00	5.00
Surrogate Recoveries (%)					
13C5-PFHxA	106				
13C4-PFHpA	118				
13C8-PFOA	91				
13C9-PFNA	70				
13C6-PFDA	99				
13C7-PFUnA	100				
13C2-PFDoA	106				
13C2-PFTeDA	106				
d3-MeFOSAA	112				
d5-EtFOSAA	100				
13C3-PFBS	121				
13C3-PFHxS	127				
13C8-PFOS	93				

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

Client ID	JV05 IB			
Battelle ID	JV05 IB_05/30/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	05/30/2018			
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	0.33 U	0.33	1.00	5.00
PFHpA	0.44 U	0.44	1.00	5.00
PFOA	0.50 U	0.50	1.00	5.00
PFNA	0.43 U	0.43	1.00	5.00
PFDA	0.27 U	0.27	1.00	5.00
PFUnA	0.41 U	0.41	1.00	5.00
PFDoA	0.24 U	0.24	0.50	5.00
PFTrDA	0.28 U	0.28	1.00	5.00
PFTeDA	0.63 U	0.63	2.00	5.00
NMeFOSAA	1.12 U	1.12	2.50	5.00
NEtFOSAA	0.57 U	0.57	2.00	5.00
PFBS	0.36 U	0.36	1.00	5.00
PFHxS	0.22 U	0.22	0.50	5.00
PFOS	0.27 U	0.27	1.00	5.00
Surrogate Recoveries (%)				
13C5-PFHxA	70			
13C4-PFHpA	74			
13C8-PFOA	74			
13C9-PFNA	73			
13C6-PFDA	80			
13C7-PFUnA	73			
13C2-PFDoA	70			
13C2-PFTeDA	70			
d3-MeFOSAA	87			
d5-EtFOSAA	78			
13C3-PFBS	79			
13C3-PFHxS	82			
13C8-PFOS	80			

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

Client ID	JV05 IB			
Battelle ID	JV05 IB_06/04/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	06/04/2018			
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	0.33 U	0.33	1.00	5.00
PFHpA	- -	0.44	1.00	5.00
PFOA	- -	0.50	1.00	5.00
PFNA	- -	0.43	1.00	5.00
PFDA	- -	0.27	1.00	5.00
PFUnA	0.41 U	0.41	1.00	5.00
PFDoA	- -	0.24	0.50	5.00
PFTrDA	0.28 U	0.28	1.00	5.00
PFTeDA	- -	0.63	2.00	5.00
NMeFOSAA	- -	1.12	2.50	5.00
NEtFOSAA	- -	0.57	2.00	5.00
PFBS	- -	0.36	1.00	5.00
PFHxS	0.22 U	0.22	0.50	5.00
PFOS	0.27 U	0.27	1.00	5.00
Surrogate Recoveries (%)				
13C5-PFHxA	- -			
13C4-PFHpA	- -			
13C8-PFOA	- -			
13C9-PFNA	- -			
13C6-PFDA	- -			
13C7-PFUnA	- -			
13C2-PFDoA	- -			
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	130709-01: Ottawa Sand			
Battelle ID	CQ857PB-FS			
Sample Type	PB			
Collection Date	05/29/2018			
Extraction Date	05/29/2018			
Analysis Date	05/31/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	SEDIMENT			
Sample Size	1.990			
Size Unit-Basis	g			
Units	ng/g_Dry	MDL	LOD	LOQ
PFHxA	0.33 U	0.33	1.00	5.00
PFHpA	0.44 U	0.44	1.00	5.00
PFOA	0.50 U	0.50	1.00	5.00
PFNA	0.43 U	0.43	1.00	5.00
PFDA	0.27 U	0.27	1.00	5.00
PFUnA	0.41 U	0.41	1.00	5.00
PFDoA	0.24 U	0.24	0.50	5.00
PFTrDA	0.28 U	0.28	1.00	5.00
PFTeDA	0.63 U	0.63	2.00	5.00
NMeFOSAA	1.12 U	1.12	2.50	5.00
NEtFOSAA	0.57 U	0.57	2.00	5.00
PFBS	0.36 U	0.36	1.00	5.00
PFHxS	0.22 U	0.22	0.50	5.00
PFOS	0.27 U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	111
13C8-PFOA	120
13C9-PFNA	118
13C6-PFDA	126
13C7-PFUnA	128
13C2-PFDoA	114
13C2-PFTeDA	117
d3-MeFOSAA	89
d5-EtFOSAA	95
13C3-PFBS	97
13C3-PFHxS	110
13C8-PFOS	103

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

Client ID	130709-01: Ottawa Sand					
Battelle ID	CQ858LCS-FS					
Sample Type	LCS					
Collection Date	05/29/2018					
Extraction Date	05/29/2018					
Analysis Date	05/31/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	SEDIMENT					
Sample Size	2.020					
Size Unit-Basis	g				Control Limits	
Units	ng/g_Dry	Target	Recovery	Qual	Lower	Upper
PFHxA	9.39	10.00	94		45	135
PFHpA	9.30	9.90	94		60	128
PFOA	9.28	9.90	94		56	136
PFNA	9.94	9.90	100		54	130
PFDA	10.15	9.90	103		55	141
PFUnA	9.72	9.90	98		57	137
PFDoA	10.55	9.90	107		62	134
PFTrDA	9.93	9.90	100		51	127
PFTeDA	10.48	9.90	106		34	162
NMeFOSAA	12.02	9.90	121		52	146
NEtFOSAA	9.28	9.90	94		54	124
PFBS	9.00	10.00	90		57	145
PFHxS	10.75	10.00	108		52	132
PFOS	11.50	9.90	116		50	130

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	94
13C8-PFOA	105
13C9-PFNA	94
13C6-PFDA	104
13C7-PFUnA	110
13C2-PFDoA	107
13C2-PFTeDA	107
d3-MeFOSAA	82
d5-EtFOSAA	100
13C3-PFBS	105
13C3-PFHxS	78
13C8-PFOS	86

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

Client ID	FFTA-SD01-052418	FFTA-SD01-052418					
Battelle ID	J6243-FS	J6243MS-FS					
Sample Type	SA	MS					
Collection Date	05/24/2018	05/24/2018					
Extraction Date	05/29/2018	05/29/2018					
Analysis Date	05/31/2018	05/31/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS	Sciex 5500 LC/MS/MS					
% Moisture	NA	NA					
Matrix	SD	SD					
Sample Size	1.620	1.680					
Size Unit-Basis	g	g				Control Limits	
Units	ng/g_Dry	ng/g_Dry	Target	Recovery	Qual	Lower	Upper
PFHxA	91.86 D	126.12 D	30.06	114		45	135
PFHpA	8.10	37.80	29.76	100		60	128
PFOA	28.85	52.78	29.76	80		56	136
PFNA	98.42	120.51	29.76	74		54	130
PFDA	12.44	37.60	29.76	85		55	141
PFUnA	377.61 D	383.57 D	29.76	20	N	57	137
PFDoA	16.63	44.29	29.76	93		62	134
PFTrDA	144.46 D	150.26 D	29.76	19	N	51	127
PFTeDA	3.72 J	31.45	29.76	93		34	162
NMeFOSAA	1.12 U	35.49	29.76	119		52	146
NEtFOSAA	0.57 U	26.23	29.76	88		54	124
PFBS	18.92	51.37	30.06	108		57	145
PFHxS	83.16 D	116.65 D	30.06	111		52	132
PFOS	2235.14 D	2167.47 D	29.76	0	N	50	130
Surrogate Recoveries (%)							
13C5-PFHxA	125	128					
13C4-PFHpA	127	129					
13C8-PFOA	106	121					
13C9-PFNA	84	87					
13C6-PFDA	118	114					
13C7-PFUnA	100	113					
13C2-PFDoA	114	109					
13C2-PFTeDA	121	119					
d3-MeFOSAA	116	120					
d5-EtFOSAA	127	120					
13C3-PFBS	149	146					
13C3-PFHxS	117	135					
13C8-PFOS	89	83					

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

Client ID	FFTA-SD01-052418
Battelle ID	J6243MSD-FS
Sample Type	MSD
Collection Date	05/24/2018
Extraction Date	05/29/2018
Analysis Date	05/31/2018
Analytical Instrument	Sciex 5500 LC/MS/MS
% Moisture	NA
Matrix	SD
Sample Size	1.650
Size Unit-Basis	g

					Control Limits				RPD
Units	ng/g_Dry	Target	Recovery	Qual	Lower	Upper	RPD	Qual	Limit
PFHxA	130.93 D	30.61	128		45	135	11.6		≤ 30
PFHpA	37.31	30.30	96		60	128	4.1		≤ 30
PFOA	60.13	30.30	103		56	136	25.1		≤ 30
PFNA	115.33	30.30	56		54	130	27.7		≤ 30
PFDA	38.47	30.30	86		55	141	1.2		≤ 30
PFUnA	382.77 D	30.30	17	N	57	137	16.2		≤ 30
PFDoA	45.41	30.30	95		62	134	2.1		≤ 30
PFTrDA	167.94 D	30.30	77		51	127	120.8	N	≤ 30
PFTeDA	33.67	30.30	99		34	162	6.3		≤ 30
NMeFOSAA	31.27	30.30	103		52	146	14.4		≤ 30
NEtFOSAA	28.52	30.30	94		54	124	6.6		≤ 30
PFBS	54.69	30.61	117		57	145	8.0		≤ 30
PFHxS	122.49 D	30.61	129		52	132	15.0		≤ 30
PFOS	2202.73 D	30.30	0	N	50	130	0.0		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	124
13C8-PFOA	99
13C9-PFNA	84
13C6-PFDA	100
13C7-PFUnA	106
13C2-PFDoA	100
13C2-PFTeDA	111
d3-MeFOSAA	139
d5-EtFOSAA	127
13C3-PFBS	143
13C3-PFHxS	136
13C8-PFOS	83

BATTELLE
It can be done

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 highers 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

"FFTA-SD01-052418MS" "SOP 5-369" "Dilution" "J6243MS-FS" "BNO" "307-24-4" "PFHxA"
"126.120000" "ng/L" "D" "7.860000" "MDL" "" "T" "114.00" "" "119.050000" "LOQ" "YES"
"30.050000" "J6243MS-FS" "2.020000" ".000500" "23.810000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "375-85-9" "PFHpA"
"37.800000" "ng/L" "" ".520000" "MDL" "" "T" "100.00" "" "5.950000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "1.190000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "335-67-1" "PFOA"
"52.780000" "ng/L" "" ".600000" "MDL" "" "T" "80.00" "" "5.950000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "1.190000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "375-95-1" "PFNA"
"120.510000" "ng/L" "" ".510000" "MDL" "" "T" "74.00" "" "5.950000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "1.190000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "335-76-2" "PFDA"
"37.600000" "ng/L" "" ".320000" "MDL" "" "T" "85.00" "" "5.950000" "LOQ" "YES"
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"FFTA-SD01-052418MS" "SOP 5-369" "Dilution" "J6243MS-FS" "BNO" "2058-94-8" "PFUnA"
"383.570000" "ng/L" "D" "9.760000" "MDL" "" "T" "20.00" "" "119.050000" "LOQ" "YES"
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"44.290000" "ng/L" "" ".290000" "MDL" "" "T" "93.00" "" "5.950000" "LOQ" "YES"
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"150.260000" "ng/L" "D" "6.670000" "MDL" "" "T" "19.00" "" "119.050000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "23.810000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "376-06-7" "PFTeDA"
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"29.760000" "J6243MS-FS" "2.020000" ".000500" "2.380000" ""
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"35.490000" "ng/L" "" "1.330000" "MDL" "" "T" "119.00" "" "5.950000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "2.980000" ""
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"26.230000" "ng/L" "" ".680000" "MDL" "" "T" "88.00" "" "5.950000" "LOQ" "YES"
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"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "375-73-5" "PFBS"
"51.370000" "ng/L" "" ".430000" "MDL" "" "T" "108.00" "" "5.950000" "LOQ" "YES"
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"116.650000" "ng/L" "JD" "5.240000" "MDL" "" "T" "111.00" "" "119.050000" "LOQ"
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"2167.470000" "ng/L" "D" "6.430000" "MDL" "" "T" ".00" "" "119.050000" "LOQ" "YES"
"29.760000" "J6243MS-FS" "2.020000" ".000500" "23.810000" ""
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".720000" "ng/L" "" "-99.000000" "NA" "" "SIS" "121.00" "" "-99.000000" "NA" "YES"
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".520000" "ng/L" "" "-99.000000" "NA" "" "SIS" "87.00" "" "-99.000000" "NA" "YES"

".590000" "J6243MS-FS" "2.020000" ".000500" ".500000" ""
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".590000" "J6243MS-FS" "2.020000" ".000500" ".500000" ""
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".670000" "ng/L" "" "-99.000000" "NA" "" "SIS" "113.00" "" "-99.000000" "NA" "YES"
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"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "BDO-2126" "d5-EtFOSAA"
".710000" "ng/L" "" "-99.000000" "NA" "" "SIS" "120.00" "" "-99.000000" "NA" "YES"
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"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "BDO-2227" "13C3-PFHxS"
".760000" "ng/L" "" "-99.000000" "NA" "" "SIS" "135.00" "" "-99.000000" "NA" "YES"
".560000" "J6243MS-FS" "2.020000" ".000500" ".500000" ""
"FFTA-SD01-052418MS" "SOP 5-369" "Initial" "J6243MS-FS" "BNO" "BDO-2228" "13C8-PFOS"
".470000" "ng/L" "" "-99.000000" "NA" "" "SIS" "83.00" "" "-99.000000" "NA" "YES"
".560000" "J6243MS-FS" "2.020000" ".000500" ".500000" ""
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"130.930000" "ng/L" "D" "8.000000" "MDL" "" "T" "128.00" "11.6" "121.210000" "LOQ"
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"37.310000" "ng/L" "" ".530000" "MDL" "" "T" "96.00" "4.1" "6.060000" "LOQ" "YES"
"30.300000" "J6243MSD-FS" "1.960000" ".000500" "1.210000" ""
"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "335-67-1" "PFOA"
"60.130000" "ng/L" "" ".610000" "MDL" "" "T" "103.00" "25.1" "6.060000" "LOQ" "YES"
"30.300000" "J6243MSD-FS" "1.960000" ".000500" "1.210000" ""
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"115.330000" "ng/L" "" ".520000" "MDL" "" "T" "56.00" "27.7" "6.060000" "LOQ" "YES"
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"38.470000" "ng/L" "" ".330000" "MDL" "" "T" "86.00" "1.2" "6.060000" "LOQ" "YES"
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"30.300000" "J6243MSD-FS" "1.960000" ".000500" "24.240000" ""
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"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "375-73-5" "PFBS"
"54.690000" "ng/L" "" ".440000" "MDL" "" "T" "117.00" "8.0" "6.060000" "LOQ" "YES"
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"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "BDO-2219" "13C8-PFOA"
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".600000" "J6243MSD-FS" "1.960000" ".000500" ".500000" ""
"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "BDO-2221" "13C9-PFNA"
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".600000" "J6243MSD-FS" "1.960000" ".000500" ".500000" ""
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"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "BDO-2112" "13C2-PFDoA"
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MeFOSAA" ".850000" "ng/L" "" "-99.000000" "NA" "" "SIS" "139.00" "" "-99.000000"
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"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "BDO-2126" "d5-EtFOSAA"
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".780000" "ng/L" "" "-99.000000" "NA" "" "SIS" "136.00" "" "-99.000000" "NA" "YES"
".570000" "J6243MSD-FS" "1.960000" ".000500" ".500000" ""
"FFTA-SD01-052418MSD" "SOP 5-369" "Initial" "J6243MSD-FS" "BNO" "BDO-2228" "13C8-PFOS"
".480000" "ng/L" "" "-99.000000" "NA" "" "SIS" "83.00" "" "-99.000000" "NA" "YES"

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"ng/L" "U" ".330000" "MDL" "" "T" "" "" "5.030000" "LOQ" "YES" "-99.000000" ""
"1.990000" ".000500" "1.010000" ""
"CQ857PB-FS" "SOP 5-369" "Initial" "CQ857PB-FS" "BNO" "375-85-9" "PFHpA" "1.010000"
"ng/L" "U" ".440000" "MDL" "" "T" "" "" "5.030000" "LOQ" "YES" "-99.000000" ""
"1.990000" ".000500" "1.010000" ""
"CQ857PB-FS" "SOP 5-369" "Initial" "CQ857PB-FS" "BNO" "335-67-1" "PFOA" "1.010000"
"ng/L" "U" ".500000" "MDL" "" "T" "" "" "5.030000" "LOQ" "YES" "-99.000000" ""
"1.990000" ".000500" "1.010000" ""
"CQ857PB-FS" "SOP 5-369" "Initial" "CQ857PB-FS" "BNO" "375-95-1" "PFNA" "1.010000"
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TETRA TECH

INTERNAL CORRESPONDENCE

TO: **M. PETERSON** **DATE:** **JUNE 15, 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) 18-0339

SAMPLES: 2/Sediment/PFAS

FFTA-FD02-052418 FFTA-SD01-052418

Overview

The sample set for NAS Jacksonville, SDG 18-0339 consisted of two (2) sediment environmental samples. The two (2) samples were analyzed for polyfluoroalkyl substances (PFAS). One field duplicate sample pair was included in this SDG: FFTA-FD02-052418/FFTA-SD01-052418.

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 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 and Equipment Blank Results
*	• Extraction Internal Standard Recoveries
*	• Injection Internal Standard Recoveries
*	• Laboratory Control Sample Recoveries
	• Matrix Spike/Matrix Spike Sample Duplicate Results
	• Field Duplicate Precision
*	• 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 Relative Percent Difference (RPD) for perfluorotridecanoic Acid (PFTRIA) exceeded the 50% quality control limit in the field duplicate pair, FFTA-FD02-052418/FFTA-SD01-052418. The detected results were qualified as estimated, (J), in the field duplicate pair due to field duplicate imprecision.

Additional Comments

The following contaminants were detected in the equipment blank, FFTA-EB01-052418 (SDG 18-0338), at the following concentrations:

Compound	Maximum Concentration (ng/L)	Action Level > or < Limit of Quantitation (LOQ)
Pentadecafluorooctanoic acid (PFOA)	0.19	< LOQ
Perfluorooctanesulfonic Acid (PFOS)	0.89	< LOQ

No validation action was taken in the environmental samples in this SDG because the results for PFOA and PFOS were significantly greater than the LOQ.

The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample FFTA-SD01-052418 had Percent Recoveries (%Rs) for perfluoroundecanoic Acid (PFUNA), PFTRIA, and PFOS below the lower quality control limits. In addition, the RPD for PFTRIA was greater than the 30% quality control criterion. No action was taken in the parent sample because the concentrations in the parent sample were greater than 5X the amount spiked in the MS and MSD samples.

The Field Reagent Blank (FRB) associated with the samples in this SDG (contained in SDG 18-0351) were not applied due to internal laboratory contamination from an outside sample not related to this project. The entire sample extract was used in the analyses; therefore, the laboratory was unable to reanalyze the FRB after the contamination was cleared.

The samples were initially analyzed at a 20X dilution including the quality control samples.

The following samples were analyzed at dilutions:

Sample	Compound	Dilution
FFTA-FD02-052418	Perfluorohexanesulfonic Acid (PFHxS)	400X
	Perfluorohexanoic Acid (PFHxA)	400X
	PFOS	400X
	PFTRIA	400X
	Perfluoroundecanoic Acid (PFUNA)	400X
FFTA-SD01-052418	Perfluorohexanesulfonic Acid (PFHxS)	400X
	Perfluorohexanoic Acid (PFHxA)	400X
	PFOS	400X
	PFTRIA	400X
	Perfluoroundecanoic Acid (PFUNA)	400X

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: None.

Other Factors Affecting Data Quality: Some samples required further dilutions. One equipment blank contained contaminants below the LOQ. Field duplicate imprecision was noted for one compound. Detected results below the LOQ were estimated.

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.

Michelle L. Woeber

Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator

Joseph A. Samchuck

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 method detection limit for sample and method.
J	The analyte was positively identified and 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.
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.

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 x IDL for inorganics and <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	NSAMPLE	FFTA-FD02-052418			FFTA-SD01-052418		
SDG: 18-0339	LAB_ID	J6244-FS			J6243-FS		
FRACTION: PFAS	SAMP_DATE	5/24/2018			5/24/2018		
MEDIA: SEDIMENT	QC_TYPE	NM			NM		
	UNITS	UG/KG			UG/KG		
	PCT_SOLIDS	81.4			80.2		
	DUP_OF	FFTA-SD01-052418					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		0.57	U		0.57	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		1.12	U		1.12	U	
PENTADECAFLUOROOCTANOIC ACID (PFOA)		28.79			28.85		
PERFLUOROBUTANESULFONIC ACID (PFBS)		22.42			18.92		
PERFLUORODECANOIC ACID (PFDA)		11.85			12.44		
PERFLUORODODECANOIC ACID (PFDOA)		10.77			16.63		
PERFLUOROHEPTANOIC ACID (PFHPA)		8.03			8.1		
PERFLUOROHEXANESULFONIC ACID (PFHXS)		82.28			83.16		
PERFLUOROHEXANOIC ACID (PFHXA)		94.05			91.86		
PERFLUORONONANOIC ACID (PFNA)		89.35			98.42		
PERFLUOROOCTANESULFONIC ACID (PFOS)		2003.63			2235.14		
PERFLUOROTETRADECANOIC ACID (PFTEA)		1.91	J	P	3.72	J	P
PERFLUOROTRIDECANOIC ACID (PFTRIA)		70.55	J	G	144.46	J	G
PERFLUOROUNDECANOIC ACID (PFUNA)		272.88			377.61		

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-SD01-052418				
Battelle ID	J6243-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD				
Sample Size	1.620				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	91.86	D	0.33	1.00	5.00
PFHpA	8.10		0.44	1.00	5.00
PFOA	28.85		0.50	1.00	5.00
PFNA	98.42		0.43	1.00	5.00
PFDA	12.44		0.27	1.00	5.00
PFUnA	377.61	D	0.41	1.00	5.00
PFDoA	16.63		0.24	0.50	5.00
PFTrDA	144.46	D	0.28	1.00	5.00
PFTeDA	3.72	J	0.63	2.00	5.00
NMeFOSAA	1.12	U	1.12	2.50	5.00
NEtFOSAA	0.57	U	0.57	2.00	5.00
PFBS	18.92		0.36	1.00	5.00
PFHxS	83.16	D	0.22	0.50	5.00
PFOS	2235.14	D	0.27	1.00	5.00

Surrogate Recoveries (%)	
13C5-PFHxA	125
13C4-PFHpA	127
13C8-PFOA	106
13C9-PFNA	84
13C6-PFDA	118
13C7-PFUnA	100
13C2-PFDoA	114
13C2-PFTeDA	121
d3-MeFOSAA	116
d5-EtFOSAA	127
13C3-PFBS	149
13C3-PFHxS	117
13C8-PFOS	89

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

Client ID	FFTA-FD02-052418				
Battelle ID	J6244-FS				
Sample Type	SA				
Collection Date	05/24/2018				
Extraction Date	05/29/2018				
Analysis Date	05/31/2018				
Analytical Instrument	Sciex 5500 LC/MS/MS				
% Moisture	NA				
Matrix	SD DUP				
Sample Size	1.640				
Size Unit-Basis	g				
Units	ng/g_Dry		MDL	LOD	LOQ
PFHxA	94.05	D	0.33	1.00	5.00
PFHpA	8.03		0.44	1.00	5.00
PFOA	28.79		0.50	1.00	5.00
PFNA	89.35		0.43	1.00	5.00
PFDA	11.85		0.27	1.00	5.00
PFUnA	272.88	D	0.41	1.00	5.00
PFDoA	10.77		0.24	0.50	5.00
PFTrDA	70.55	D	0.28	1.00	5.00
PFTeDA	1.91	J	0.63	2.00	5.00
NMeFOSAA	1.12	U	1.12	2.50	5.00
NEtFOSAA	0.57	U	0.57	2.00	5.00
PFBS	22.42		0.36	1.00	5.00
PFHxS	82.28	D	0.22	0.50	5.00
PFOS	2003.63	D	0.27	1.00	5.00
Surrogate Recoveries (%)					
13C5-PFHxA	106				
13C4-PFHpA	118				
13C8-PFOA	91				
13C9-PFNA	70				
13C6-PFDA	99				
13C7-PFUnA	100				
13C2-PFDoA	106				
13C2-PFTeDA	106				
d3-MeFOSAA	112				
d5-EtFOSAA	100				
13C3-PFBS	121				
13C3-PFHxS	127				
13C8-PFOS	93				

APPENDIX C

SUPPORT DOCUMENTATION

NAS JACKSONVILLE
SDG 18-0339

PFAS Concentration = *$[(PA - b)/m] * C_{IS} * PIV * DF/S$*

Where:

PA	Area of target analyte/ area of internal standard
b	y Intercept from calibration curve
C_{IS}	Concentration of internal standard (ng/L)
m	Slope of calibration
DF	Dilution factor
S	Sample Size
PIV	Pre-injection volume (L)

Target Analyte	PFOS
Sample ID	FFTA-SD01-052418
Laboratory Sample ID	J6243
Sample Size (g)	1.62
Dilution Factor	400
PIV (L)	0.0005
PFOS Area	6016512.43
IS Area	10714.56
IS Amount (ng/L)	96.66
Calibration Curve	y = 2.99639 x + 0.29547
Concentration (ng/g)	2235.14

(((6016512.43/10714.56)-0.29547)/2.99639)*96.66*0.0005*400/1.62

BATTELLE

Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:27 PM

Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	176277.10	744.087921	77.7	false
PFHxA_2	313.0 / 119.0	1.77	9467.82	548.010696	58.3	false
PFHxS_1	399.0 / 80.0	2.15	192008.83	673.568182	690.4	false
PFHxS_2	399.0 / 99.0	2.15	67931.43	818.117285	323.7	false
PFOS_1	499.0 / 80.0	2.87	6016512.43	18104.651725	1006.6	true
PFOS_2	499.0 / 99.0	2.88	1139959.36	19087.705901	1046.9	false
PFUnA_1	563.0 / 519.0	3.55	1136395.23	3058.676015	456.7	false
PFUnA_2	563.0 / 269.0	3.54	53538.72	2844.288564	403.5	false
PFTrDA_1	663.0 / 619.0	4.08	320009.87	1170.097626	525.7	true
PFTrDA_2	663.0 / 169.0	4.08	21373.48	1105.017957	466.9	false

BATTELLE

Summary Internal Standard Report

Created with Analyst Reporter
Printed: 07/06/2018 2:39:34 PM

Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFHxA_1	313.0 / 269.0	1.77	13C5-PFHxA	318.0 / 273.0	35375.63	101.00
PFHxA_2	313.0 / 119.0	1.77	13C5-PFHxA	318.0 / 273.0	35375.63	101.00
PFHxS_1	399.0 / 80.0	2.15	13C3-PFHxS	402.0 / 99.0	10550.13	95.55
PFHxS_2	399.0 / 99.0	2.15	13C3-PFHxS	402.0 / 99.0	10550.13	95.55
PFOS_1	499.0 / 80.0	2.87	13C8-PFOS	507.0 / 99.0	10714.56	96.66
PFOS_2	499.0 / 99.0	2.88	13C8-PFOS	507.0 / 99.0	10714.56	96.66
PFUnA_1	563.0 / 519.0	3.55	13C7-PFUnA	570.0 / 525.0	58590.74	101.00
PFUnA_2	563.0 / 269.0	3.54	13C7-PFUnA	570.0 / 525.0	58590.74	101.00
PFTrDA_1	663.0 / 619.0	4.08	13C2-PFTeDA	715.0 / 670.0	47771.24	101.00
PFTrDA_2	663.0 / 169.0	4.08	13C2-PFTeDA	715.0 / 670.0	47771.24	101.00

NAS JACKSONVILLE
SDG 18-0339

LABORATORY CONTROL SAMPLE

	Result	Target	Calculation	Recovery	Reported Recovery	QC Limits
PFHxA	9.39 ng/g	10.00 ng/g	9.39/10.0*100	94.84	94	45-135

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

	Result	Target	Calculation	Recovery	Reported Recovery	RPD	Reported RPD	QC Limits	RPD Limit
PFHxA									
FFTA-SD01-052418	91.86 ng/g								
MS	126.12 ng/g	30.06 ng/g	(126.12-91.86)/30.06*100	113.97	114			45-135	
MSD	130.93 ng/g	30.61 ng/g	(130.93-91.86)/30.61*100	127.64	128	11.3	11.6	45-135	30

ANALYTE	ORIGINAL	DUPLICATE	RL	RPD	RPD >50%	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2xRL
PENTADECAFLUOROOCTANOIC ACID (PFOA)	28.85	28.79	5	0.21	FALSE	TRUE	TRUE	FALSE
PERFLUOROBUTANESULFONIC ACID (PFBS)	18.92	22.42	5	16.93	FALSE	TRUE	TRUE	FALSE
PERFLUORODECANOIC ACID (PFDA)	12.44	11.85	5	4.86	FALSE	TRUE	TRUE	FALSE
PERFLUORODODECANOIC ACID (PFDOA)	16.63	10.77	5	42.77	FALSE	TRUE	TRUE	FALSE
PERFLUOROHEPTANOIC ACID (PFHPA)	8.1	8.03	5	0.87	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEXANESULFONIC ACID (PFHXS)	83.16	82.28	5	1.06	FALSE	TRUE	TRUE	FALSE
PERFLUOROHEXANOIC ACID (PFHXA)	91.86	94.05	5	2.36	FALSE	TRUE	TRUE	FALSE
PERFLUORONONANOIC ACID (PFNA)	98.42	89.35	5	9.66	FALSE	TRUE	TRUE	FALSE
PERFLUOROOCTANESULFONIC ACID (PFOS)	2235.14	2003.63	5	10.92	FALSE	TRUE	TRUE	TRUE
PERFLUOROTETRADECANOIC ACID (PFTEA)	3.72	1.91	5	64.30	TRUE	FALSE	FALSE	FALSE
PERFLUOROTRIDECANOIC ACID (PFTRIA)	144.46	70.55	5	68.75	TRUE	TRUE	TRUE	TRUE
PERFLUOROUNDECANOIC ACID (PFUNA)	377.61	272.88	5	32.20	FALSE	TRUE	TRUE	TRUE

SDG 18-0339

DRMO-FD03-052418/DRMO-MW11-052418

Example Calculation for PFAS

Calculation of final concentration from area:

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

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:	J6244-FS-D(7)
Client Sample ID:	FFTA-FD02-052418
Sample Size:	1.64
Units:	g
Dilution Factor:	400
PIV (L):	0.0005
Target Analyte:	PFUnA
MRM Transition:	563.0 / 519.0
Data file:	06022018.wiff
Result table:	18-0339_D
Area:	707,412.98
IS Name:	13C7-PFUnA
IS Area:	49,825.29
IS Amount (ng/L):	101
y-intercept	0.03242
slope	0.63938

$$\text{Concentration} = \frac{[(707412.98/49825.29) - 0.03242]}{0.63938} * 101 * 0.0005 * 400 / 1.64$$

ng/g = 272.88

BATTELLE

Summary Quant Report

Created with Analyst Reporter
Printed: 07/06/2018 1:45:34 PM

Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFHxA_1	313.0 / 269.0	1.77	172915.82	771.246010	86.8	false
PFHxA_2	313.0 / 119.0	1.77	9059.05	553.907455	59.6	false
PFHxS_1	399.0 / 80.0	2.15	184447.73	674.704423	730.0	false
PFHxS_2	399.0 / 99.0	2.15	57453.77	720.233395	301.4	false
PFOS_1	499.0 / 80.0	2.87	4905296.31	16429.757734	858.3	false
PFOS_2	499.0 / 99.0	2.87	907431.71	16910.273495	1094.8	false
PFUnA_1	563.0 / 519.0	3.55	707412.98	2237.638797	405.1	false
PFUnA_2	563.0 / 269.0	3.54	32405.73	2011.941504	399.6	false
PFTrDA_1	663.0 / 619.0	4.08	144126.40	578.474900	362.1	true
PFTrDA_2	663.0 / 169.0	4.08	9239.96	520.195711	334.2	false

BATTELLE It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Mark Peterson Sampler Information (print name): Dave Siefken Phone: 904-334-7260 Email: David.Siefken@TetraTech	Sampling Site: NAS JAX	Site Information: DRMO, FFTA, PSC51
	Turnaround Time (TAT) Requested:	Preservative: /	COC #
Project Name: SEO 375 Project No.: NAS JAY PFAS	Normal ☐ Priority ☐ RUSH ☐ Time Zone:	Analysis: PFAS	Page#

	Sample Identification	2018 Sample Date	Sample Time	Matrix Sample Type	~~Matrix~~	Total # of Cont.		
J6241	FFTA-FD01-052418	5/24	1100	SW		2		Cool 4°C
J6242	FFTA-SW01-052418	5/24	1100	SW		2		
J6243	FFTA-SD01-052418	"	1110	SD		1		
J6244	FFTA-FD02-052418	"	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		MSMSD
J6253	DRMO-MW2-052418	"	1455	"		1		

Receipt Temperature:(°C)	Samples Intact: (Yes) / No	Samples on Ice: (Yes) / No	Receipt Comments:
0.7			

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
David Siefken	Tetra Tech	5-24-18 1830		Battelle	5/25/18 1030

Comments:

BATTELLE
It can be done

Chain-of-Custody

Client Contact Information	Project Manager: Mark Peterson	Sampling Site: DRMO	Site Information:
	Sampler Information (print name): Doug Sieffert Phone: 904. 334. 7260 Email:	Preservative: 1	COC #
Project Name: NAS JAX PFAS	Turnaround Time (TAT) Requested: Normal Priority RUSH	Analysis: PFAS	Page#
Project No.: SEO-375	Time Zone:		

Sample Identification	Sample Date	Sample Time	Matrix Sample Type	~~Matrix~~	Total # of Cont.		
J6254 DRMO-FD03-052418	5/24	1405	GW		1		Cool 4c

Receipt Temperature:(°C)	Samples Intact:	Samples on Ice:	Receipt Comments:
0.7	(Yes) No	(Yes) No	

Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
	T +	5-24-18 1830		Battelle	5/25/18 1030
Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time
Relinquished by (Print/Sign)	Company	Date/Time	Received by (Print/Sign)	Company	Date/Time

Comments:

BATTELLE
It can be done

ShpNo SHP-180525-01

Battelle Project No:

Sample Receipt Form

Approved: ☐ **Authorized** ☐

Project Number: NAS JAX PFAS **Client:** Tetratech

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 ☑ Unknown

Initial pH 5-9?: ☐ Yes ☐ No ☑ NA
If no, individual sample adjustments on the Auxiliary Sample Receipt Form

Total Residual Chlorine Present?: ☐ Yes ☐ No ☑ NA
If yes, individual sample adjustments on the Auxiliary Sample Receipt Form

Head Space <1% in samples for water VOC analysis: ☐ Yes ☐ No ☑ NA
Individual sample deviations noted on sample log

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

Storage Location: Custody: Refrigerator - R0119 (NA) **BDO IDs Assigned:** J6241 - J6254

Samples logged in by: Schumitz, Matt **Date/Time:** 05/25/2018 10:30 AM

Approved By: **Approved On:**

Authorized By: **Authorized On:**

BATTELLE
It can be done

ShpNo: SHP-180525-01

Battelle Project No:

Report Corrective Actions

Corrective Action No: 1 **of** 1

Authorized ☐ Approved: ☐

COC Client: Tetratech
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:

BATTELLE
It can be done

ShpNo SHP-180525-01

Battelle Project No: 154-SE0375

Sample Receipt Form Details

Approved: ☐ **Authorized** ☐

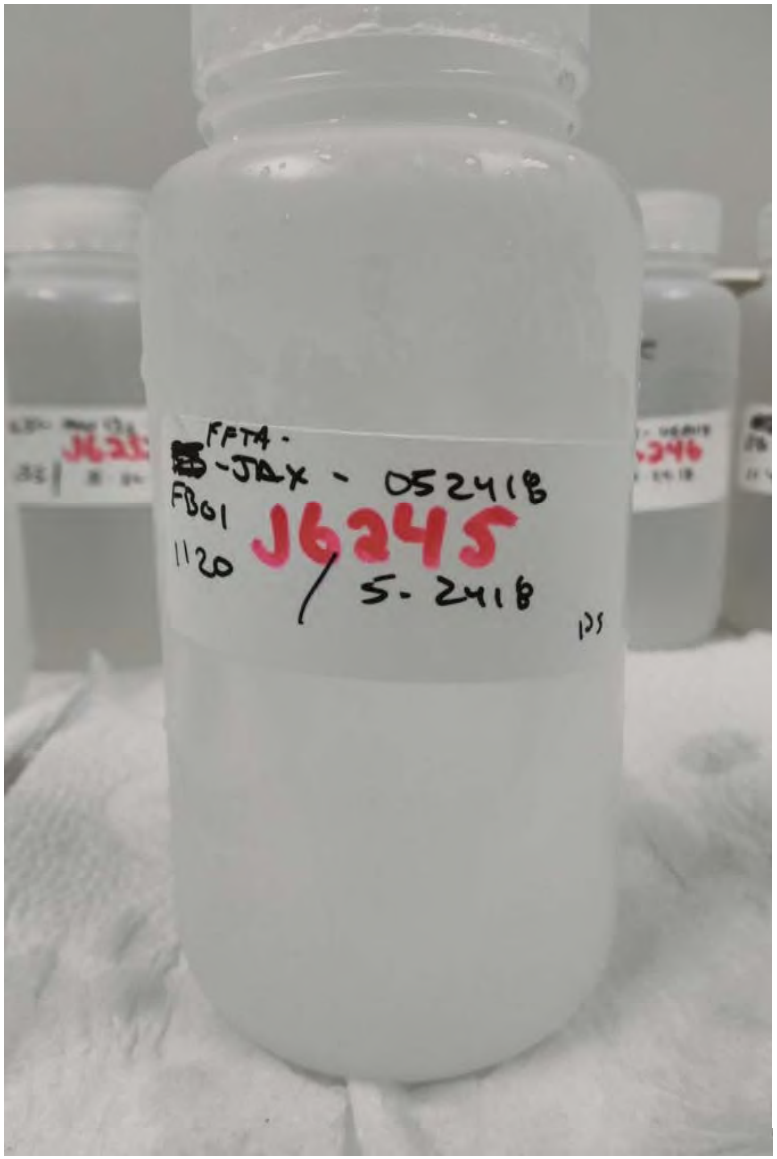
Project Number: NAS JAX PFAS **Client:** Tetratech

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


FFTA -
-JBX - 052418
FB01
1120
J6245
/ 5-2418
DS


FFTA - SD-01 -0524-18
J6243
1110 / 5-24-18 DS
FFTA - SD-02 - 052418
J6244
1110 / 5-24-18 DS

QA/QC Summary
Batch 18-0339

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	SD
Data Set:	DP-18-0132
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 frozen until extraction.
Related samples	Related field blank is extracted and reported in SDG 18-0351.
	METHOD SUMMARIES
Sample Preparation	Solid samples were aliquoted into extraction tubes and spiked with surrogates prior to the addition of solvent. The sediment was serially extracted on the Geno/Grinder with 0.4% NH_3 in methanol. 1 mL of extract was refined using ENVI-carb SPE cartridges. 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/g concentrations on a dry weight basis.
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 (CQ857PB) – PFOA FFTA-SD01-052418 (J6243) – PFOA and NEtFOSAA (NEtFOSAA below the detection limit) FFTA-FD02-052418 (J6244) – PFHpA, PFOA, and NEtFOSAA (NEtFOSAA below the detection limit)

Holding Times	Extraction Date(s)	Analysis Date(s)
	5/29/2018	5/30, 5-31, 6/4, and 6/5/2018

QA/QC Summary
Batch 18-0339

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	No exceedances noted.
	No comments.
Laboratory Control Spike (LCS)	A LCS was prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy.
Laboratory derived control limits for recovery	No exceedances noted.
	No comments.

Matrix Spike (MS) / Duplicate (MSD)	A MS/MSD were prepared with this analytical batch. The percent recoveries of target analytes were calculated to measure accuracy. The relative percent difference was calculated to measure precision.
Laboratory derived control limits for recovery, RPD ≤ 30%	5 recovery and 1 RPD exceedances noted.
	Background sample levels greater than concentration spiked into MS/MSD sample. Extracts were diluted and re-run to verify.

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 quadradic 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.

QA/QC Summary
Batch 18-0339

Instrument Blank (IB)	Immediately following the highest standard analyzed and daily prior to sample analysis.
≤ ½ the LOQ	No exceedances noted.
	No comments.

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Project Client: Tetra Tech
Project Name: CTO-SE0375: Naval Air Station Jacksonville
Project Number: 100119154-SE0375
Preparation Batch: 18-0339
Data Set: DP-18-0132
Test Code: Master_369

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	0	None
Matrix Spike / Matrix Spike Duplicate Recovery	5	Spike amount less than 5 times the background concentration in the unfortified sample. Re-run to confirm results.
Matrix Spike / Matrix Spike Duplicate Precision	1	Spike amount less than 5 times the background concentration in the unfortified sample. Re-run to confirm results.
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

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BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM

Project Title:	CTO-SE0375: Naval Air Station Jackson	**Data Set Number:**	DP-18-0132
Project Number:	100119154-SE0375	**Prep Batch Number:**	18-0339
Entered By:	Denise Schumitz	**Entered On:**	06/05/2018
Test Code (Matrix Type):	Master_369(S)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 4/12/2018

JV28 is not being used in method 18-0339_SIS for NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV20, JV21 and JV22 are not being used in method 18-0339_BASE for PFOS. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV20 is not being used in method 18-0339_D for PFHxA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

JV28 is not being used in method 18-0339_BASE for PFTrDA, PFTeDA and NMeFOSAA. There is no impact on the data once this point is removed from the calibration.
DMS 6/5/2018

Dilutions were made and run for samples J6243, J6243MS, J6243MSD and J6244. The SIS and IS are being reported from the undiluted portion of these samples.
DMS 6/5/2018

JV20 in method 18-0339_BASE has ion ratios of >50% for PFHpA and PFUnA.
DMS 6/5/2018

JV21 in method 18-0339_BASE has ion ratios of >50% for PFHpA .
DMS 6/5/2018

JV05 IB in method 18-0339_BASE has ion ratios of >50% for PFBS, PFHxA,PFDA and PFTrDA.
DMS 6/5/2018

CQ857PB in method 18-0339_BASE has ion ratios of >50% for PFOA.
DMS 6/5/2018

J6243 in method 18-0339_BASE has ion ratios of >50% for PFOA and NEtFOSAA.
DMS 6/5/2018

J6244 in method 18-0339_BASE has ion ratios of >50% for PFHpA, PFOA, NEtFOSAA.
DMS 6/5/2018

Task Leader Approval:

SupervisorApproval:

Digitally signed by Jonathan Thorn
Date: 2018.06.08 13:35:22 -04'00'

PM Approval:

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

Client ID	JV05 IB				
Battelle ID	JV05 IB_05/30/2018				
Sample Type	IB				
Collection Date	NA				
Extraction Date	NA				
Analysis Date	05/30/2018				
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	0.33	U	0.33	1.00	5.00
PFHpA	0.44	U	0.44	1.00	5.00
PFOA	0.50	U	0.50	1.00	5.00
PFNA	0.43	U	0.43	1.00	5.00
PFDA	0.27	U	0.27	1.00	5.00
PFUnA	0.41	U	0.41	1.00	5.00
PFDoA	0.24	U	0.24	0.50	5.00
PFTrDA	0.28	U	0.28	1.00	5.00
PFTeDA	0.63	U	0.63	2.00	5.00
NMeFOSAA	1.12	U	1.12	2.50	5.00
NEtFOSAA	0.57	U	0.57	2.00	5.00
PFBS	0.36	U	0.36	1.00	5.00
PFHxS	0.22	U	0.22	0.50	5.00
PFOS	0.27	U	0.27	1.00	5.00
Surrogate Recoveries (%)					
13C5-PFHxA	70				
13C4-PFHpA	74				
13C8-PFOA	74				
13C9-PFNA	73				
13C6-PFDA	80				
13C7-PFUnA	73				
13C2-PFDoA	70				
13C2-PFTeDA	70				
d3-MeFOSAA	87				
d5-EtFOSAA	78				
13C3-PFBS	79				
13C3-PFHxS	82				
13C8-PFOS	80				

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

Client ID	JV05 IB			
Battelle ID	JV05 IB_06/04/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	06/04/2018			
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	0.33 U	0.33	1.00	5.00
PFHpA	- -	0.44	1.00	5.00
PFOA	- -	0.50	1.00	5.00
PFNA	- -	0.43	1.00	5.00
PFDA	- -	0.27	1.00	5.00
PFUnA	0.41 U	0.41	1.00	5.00
PFDoA	- -	0.24	0.50	5.00
PFTrDA	0.28 U	0.28	1.00	5.00
PFTeDA	- -	0.63	2.00	5.00
NMeFOSAA	- -	1.12	2.50	5.00
NEtFOSAA	- -	0.57	2.00	5.00
PFBS	- -	0.36	1.00	5.00
PFHxS	0.22 U	0.22	0.50	5.00
PFOS	0.27 U	0.27	1.00	5.00
Surrogate Recoveries (%)				
13C5-PFHxA	- -			
13C4-PFHpA	- -			
13C8-PFOA	- -			
13C9-PFNA	- -			
13C6-PFDA	- -			
13C7-PFUnA	- -			
13C2-PFDoA	- -			
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	130709-01: Ottawa Sand			
Battelle ID	CQ857PB-FS			
Sample Type	PB			
Collection Date	05/29/2018			
Extraction Date	05/29/2018			
Analysis Date	05/31/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	SEDIMENT			
Sample Size	1.990			
Size Unit-Basis	g			
Units	ng/g_Dry	MDL	LOD	LOQ
PFHxA	0.33 U	0.33	1.00	5.00
PFHpA	0.44 U	0.44	1.00	5.00
PFOA	0.50 U	0.50	1.00	5.00
PFNA	0.43 U	0.43	1.00	5.00
PFDA	0.27 U	0.27	1.00	5.00
PFUnA	0.41 U	0.41	1.00	5.00
PFDoA	0.24 U	0.24	0.50	5.00
PFTrDA	0.28 U	0.28	1.00	5.00
PFTeDA	0.63 U	0.63	2.00	5.00
NMeFOSAA	1.12 U	1.12	2.50	5.00
NEtFOSAA	0.57 U	0.57	2.00	5.00
PFBS	0.36 U	0.36	1.00	5.00
PFHxS	0.22 U	0.22	0.50	5.00
PFOS	0.27 U	0.27	1.00	5.00

Surrogate Recoveries (%)

13C5-PFHxA	109
13C4-PFHpA	111
13C8-PFOA	120
13C9-PFNA	118
13C6-PFDA	126
13C7-PFUnA	128
13C2-PFDoA	114
13C2-PFTeDA	117
d3-MeFOSAA	89
d5-EtFOSAA	95
13C3-PFBS	97
13C3-PFHxS	110
13C8-PFOS	103

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

Client ID	130709-01: Ottawa Sand					
Battelle ID	CQ858LCS-FS					
Sample Type	LCS					
Collection Date	05/29/2018					
Extraction Date	05/29/2018					
Analysis Date	05/31/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	SEDIMENT					
Sample Size	2.020					
Size Unit-Basis	g				Control Limits	
Units	ng/g_Dry	Target	Recovery	Qual	Lower	Upper
PFHxA	9.39	10.00	94		45	135
PFHpA	9.30	9.90	94		60	128
PFOA	9.28	9.90	94		56	136
PFNA	9.94	9.90	100		54	130
PFDA	10.15	9.90	103		55	141
PFUnA	9.72	9.90	98		57	137
PFDoA	10.55	9.90	107		62	134
PFTrDA	9.93	9.90	100		51	127
PFTeDA	10.48	9.90	106		34	162
NMeFOSAA	12.02	9.90	121		52	146
NEtFOSAA	9.28	9.90	94		54	124
PFBS	9.00	10.00	90		57	145
PFHxS	10.75	10.00	108		52	132
PFOS	11.50	9.90	116		50	130

Surrogate Recoveries (%)

13C5-PFHxA	86
13C4-PFHpA	94
13C8-PFOA	105
13C9-PFNA	94
13C6-PFDA	104
13C7-PFUnA	110
13C2-PFDoA	107
13C2-PFTeDA	107
d3-MeFOSAA	82
d5-EtFOSAA	100
13C3-PFBS	105
13C3-PFHxS	78
13C8-PFOS	86

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

Client ID	FFTA-SD01-052418		FFTA-SD01-052418						
Battelle ID	J6243-FS		J6243MS-FS						
Sample Type	SA		MS						
Collection Date	05/24/2018		05/24/2018						
Extraction Date	05/29/2018		05/29/2018						
Analysis Date	05/31/2018		05/31/2018						
Analytical Instrument	Sciex 5500 LC/MS/MS		Sciex 5500 LC/MS/MS						
% Moisture	NA		NA						
Matrix	SD		SD						
Sample Size	1.620		1.680						
Size Unit-Basis	g		g					Control Limits	
Units	ng/g_Dry		ng/g_Dry		Target	Recovery	Qual	Lower	Upper
PFHxA	91.86	D	126.12	D	30.06	114		45	135
PFHpA	8.10		37.80		29.76	100		60	128
PFOA	28.85		52.78		29.76	80		56	136
PFNA	98.42		120.51		29.76	74		54	130
PFDA	12.44		37.60		29.76	85		55	141
PFUnA	377.61	D	383.57	D	29.76	20	N	57	137
PFDoA	16.63		44.29		29.76	93		62	134
PFTrDA	144.46	D	150.26	D	29.76	19	N	51	127
PFTeDA	3.72	J	31.45		29.76	93		34	162
NMeFOSAA	1.12	U	35.49		29.76	119		52	146
NEtFOSAA	0.57	U	26.23		29.76	88		54	124
PFBS	18.92		51.37		30.06	108		57	145
PFHxS	83.16	D	116.65	D	30.06	111		52	132
PFOS	2235.14	D	2167.47	D	29.76	0	N	50	130
Surrogate Recoveries (%)									
13C5-PFHxA	125		128						
13C4-PFHpA	127		129						
13C8-PFOA	106		121						
13C9-PFNA	84		87						
13C6-PFDA	118		114						
13C7-PFUnA	100		113						
13C2-PFDoA	114		109						
13C2-PFTeDA	121		119						
d3-MeFOSAA	116		120						
d5-EtFOSAA	127		120						
13C3-PFBS	149		146						
13C3-PFHxS	117		135						
13C8-PFOS	89		83						

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

Client ID	FFTA-SD01-052418
Battelle ID	J6243MSD-FS
Sample Type	MSD
Collection Date	05/24/2018
Extraction Date	05/29/2018
Analysis Date	05/31/2018
Analytical Instrument	Sciex 5500 LC/MS/MS
% Moisture	NA
Matrix	SD
Sample Size	1.650
Size Unit-Basis	g

	Units		Target	Recovery	Qual	Control Limits Lower	Upper	RPD	Qual	RPD Limit
PFHxA	ng/g_Dry	130.93 D	30.61	128		45	135	11.6		≤ 30
PFHpA		37.31	30.30	96		60	128	4.1		≤ 30
PFOA		60.13	30.30	103		56	136	25.1		≤ 30
PFNA		115.33	30.30	56		54	130	27.7		≤ 30
PFDA		38.47	30.30	86		55	141	1.2		≤ 30
PFUnA		382.77 D	30.30	17	N	57	137	16.2		≤ 30
PFDoA		45.41	30.30	95		62	134	2.1		≤ 30
PFTrDA		167.94 D	30.30	77		51	127	120.8	N	≤ 30
PFTeDA		33.67	30.30	99		34	162	6.3		≤ 30
NMeFOSAA		31.27	30.30	103		52	146	14.4		≤ 30
NEtFOSAA		28.52	30.30	94		54	124	6.6		≤ 30
PFBS		54.69	30.61	117		57	145	8.0		≤ 30
PFHxS		122.49 D	30.61	129		52	132	15.0		≤ 30
PFOS		2202.73 D	30.30	0	N	50	130	0.0		≤ 30

Surrogate Recoveries (%)

13C5-PFHxA	115
13C4-PFHpA	124
13C8-PFOA	99
13C9-PFNA	84
13C6-PFDA	100
13C7-PFUnA	106
13C2-PFDoA	100
13C2-PFTeDA	111
d3-MeFOSAA	139
d5-EtFOSAA	127
13C3-PFBS	143
13C3-PFHxS	136
13C8-PFOS	83

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

SDG 18-0338

Client ID	FFTA-EB01-052418			
Battelle ID	J6246-FS			
Sample Type	SA			
Collection Date	05/24/2018			
Extraction Date	05/29/2018			
Analysis Date	06/04/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	GW QC			
Sample Size	0.280			
Size Unit-Basis	L			
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	0.19 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
PFTrDA	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	0.89 J	0.19	0.50	5.00
Surrogate Recoveries (%)				
13C5-PFHxA	72			
13C4-PFHpA	69			
13C8-PFOA	85			
13C9-PFNA	87			
13C6-PFDA	74			
13C7-PFUnA	89			
13C2-PFDoA	100			
13C2-PFTeDA	67			
d3-MeFOSAA	91			
d5-EtFOSAA	127			
13C3-PFBS	103			
13C3-PFHxS	98			
13C8-PFOS	98			

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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 highers 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

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Project Client: Tetra Tech
Project Name: CTO-SE0375: Naval Air Station Jacksonville
Project No.: 100119154-SE0375
Preparation Batch: 18-0339
Data Set: DP-18-0132

	CQ857PB-FS (130709-01: Ottawa Sand)	CQ858LCS-FS (130709-01: Ottawa Sand)	J6243MS-FS (FFTA-SD01-052418)	J6243MSD-FS (FFTA-SD01-052418)	J6243-FS (FFTA-SD01-052418)	J6244-FS (FFTA-FD02-052418)
PFHxA	-	L	L	L	L	L
PFHpA	-	L	L	L	L	L
PFOA	-	L	L	L	L	L
PFNA	-	L	L	L	L	L
PFDA	-	L	L	L	L	L
PFUnA	-	L	L	L	L	L
PFDoA	-	L	L	L	L	L
PFTrDA	-	L	L	L	L	L
PFTeDA	-	L	L	L	-	-
NMeFOSAA	-	L	L	L	-	-
NEtFOSAA	-	L	L	L	-	-
PFBS	-	L	L	L	L	L
PFHxS	-	L	L	L	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	5/30/18 20:01	13C2-PFOA	44,742.64	22,371.32	67,113.96

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C2-PFOA	39,583.61	22,371.32	67,113.96	
JV21	L2	5/30/18 19:29	13C2-PFOA	44,329.09	22,371.32	67,113.96	
JV22	L3	5/30/18 19:39	13C2-PFOA	46,078.73	22,371.32	67,113.96	
JV23	L4	5/30/18 19:50	13C2-PFOA	49,111.47	22,371.32	67,113.96	
JV24	L5	5/30/18 20:01	13C2-PFOA	44,742.64	22,371.32	67,113.96	
JV25	L6	5/30/18 20:12	13C2-PFOA	41,903.13	22,371.32	67,113.96	
JV26	L7	5/30/18 20:23	13C2-PFOA	41,373.58	22,371.32	67,113.96	
JV27	L8	5/30/18 20:33	13C2-PFOA	49,163.86	22,371.32	67,113.96	
JV28	L9	5/30/18 20:44	13C2-PFOA	40,299.64	22,371.32	67,113.96	
JV05 IB	Instrument Blank	5/30/18 20:55	13C2-PFOA	44,094.15	22,371.32	67,113.96	
JW32 ICC	ICC	5/30/18 21:06	13C2-PFOA	41,337.14	22,371.32	67,113.96	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C2-PFOA	36,852.37	22,371.32	67,113.96	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C2-PFOA	38,650.53	22,371.32	67,113.96	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C2-PFOA	33,933.98	22,371.32	67,113.96	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C2-PFOA	26,647.47	22,371.32	67,113.96	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C2-PFOA	33,519.48	22,371.32	67,113.96	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C2-PFOA	38,815.58	22,371.32	67,113.96	
JV25 CCV	CCV	5/31/18 1:25	13C2-PFOA	42,893.53	22,371.32	67,113.96	

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	5/30/18 20:01	13C2-PFDA	51,007.91	25,503.96	76,511.87

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C2-PFDA	37,366.93	25,503.96	76,511.87	
JV21	L2	5/30/18 19:29	13C2-PFDA	47,619.29	25,503.96	76,511.87	
JV22	L3	5/30/18 19:39	13C2-PFDA	44,728.98	25,503.96	76,511.87	
JV23	L4	5/30/18 19:50	13C2-PFDA	51,540.81	25,503.96	76,511.87	
JV24	L5	5/30/18 20:01	13C2-PFDA	51,007.91	25,503.96	76,511.87	
JV25	L6	5/30/18 20:12	13C2-PFDA	43,767.12	25,503.96	76,511.87	
JV26	L7	5/30/18 20:23	13C2-PFDA	44,479.24	25,503.96	76,511.87	
JV27	L8	5/30/18 20:33	13C2-PFDA	53,831.70	25,503.96	76,511.87	
JV28	L9	5/30/18 20:44	13C2-PFDA	43,726.41	25,503.96	76,511.87	
JV05 IB	Instrument Blank	5/30/18 20:55	13C2-PFDA	48,229.56	25,503.96	76,511.87	
JW32 ICC	ICC	5/30/18 21:06	13C2-PFDA	48,340.67	25,503.96	76,511.87	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C2-PFDA	38,131.04	25,503.96	76,511.87	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C2-PFDA	38,225.90	25,503.96	76,511.87	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C2-PFDA	36,647.68	25,503.96	76,511.87	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C2-PFDA	31,100.30	25,503.96	76,511.87	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C2-PFDA	38,990.20	25,503.96	76,511.87	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C2-PFDA	41,770.86	25,503.96	76,511.87	
JV25 CCV	CCV	5/31/18 1:25	13C2-PFDA	47,712.10	25,503.96	76,511.87	

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	5/30/18 20:01	13C4-PFOS	12,147.32	6,073.66	18,220.98

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier
JV20	L1	5/30/18 19:18	13C4-PFOS	9,387.42	6,073.66	18,220.98	
JV21	L2	5/30/18 19:29	13C4-PFOS	11,622.78	6,073.66	18,220.98	
JV22	L3	5/30/18 19:39	13C4-PFOS	13,405.00	6,073.66	18,220.98	
JV23	L4	5/30/18 19:50	13C4-PFOS	12,425.77	6,073.66	18,220.98	
JV24	L5	5/30/18 20:01	13C4-PFOS	12,147.32	6,073.66	18,220.98	
JV25	L6	5/30/18 20:12	13C4-PFOS	11,657.77	6,073.66	18,220.98	
JV26	L7	5/30/18 20:23	13C4-PFOS	12,208.14	6,073.66	18,220.98	
JV27	L8	5/30/18 20:33	13C4-PFOS	10,640.25	6,073.66	18,220.98	
JV28	L9	5/30/18 20:44	13C4-PFOS	7,724.08	6,073.66	18,220.98	
JV05 IB	Instrument Blank	5/30/18 20:55	13C4-PFOS	10,538.73	6,073.66	18,220.98	
JW32 ICC	ICC	5/30/18 21:06	13C4-PFOS	11,323.61	6,073.66	18,220.98	
CQ857PB-FS(5)	Procedural Blank	5/31/18 0:20	13C4-PFOS	10,423.31	6,073.66	18,220.98	
CQ858LCS-FS(5)	Laboratory Control Sample	5/31/18 0:31	13C4-PFOS	11,178.62	6,073.66	18,220.98	
J6243-FS(5)	FFTA-SD01-052418	5/31/18 0:42	13C4-PFOS	7,912.25	6,073.66	18,220.98	
J6243MS-FS(5)	FFTA-SD01-052418	5/31/18 0:53	13C4-PFOS	6,161.19	6,073.66	18,220.98	
J6243MSD-FS(5)	FFTA-SD01-052418	5/31/18 1:04	13C4-PFOS	6,991.76	6,073.66	18,220.98	
J6244-FS(5)	FFTA-FD02-052418	5/31/18 1:14	13C4-PFOS	8,248.06	6,073.66	18,220.98	
JV25 CCV	CCV	5/31/18 1:25	13C4-PFOS	13,165.27	6,073.66	18,220.98	

BATTELLE

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:51:26 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 8:23:10 PM	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.51	24	>10
PFBS_2	298.9 / 99.0	1.51	26	>10
PFHxA_1	313.0 / 269.0	1.80	29	>10
PFHxA_2	313.0 / 119.0	1.79	23	>10
PFHpA_1	363.0 / 319.0	2.16	42	>10
PFHpA_2	363.0 / 169.0	2.16	28	>10
PFHxS_1	399.0 / 80.0	2.18	58	>10
PFHxS_2	399.0 / 99.0	2.18	31	>10
PFOA_1	413.0 / 369.0	2.54	31	>10
PFOA_2	413.0 / 169.0	2.54	33	>10
PFNA_1	463.0 / 419.0	2.92	32	>10
PFNA_2	463.0 / 219.0	2.92	31	>10
PFOS_1	499.0 / 80.0	2.91	42	>10
PFOS_2	499.0 / 99.0	2.91	39	>10
PFDA_1	513.0 / 469.0	3.27	33	>10
PFDA_2	513.0 / 219.0	3.27	31	>10
PFUnA_1	563.0 / 519.0	3.59	37	>10
PFUnA_2	563.0 / 269.0	3.59	39	>10
PFDoA_1	613.0 / 569.0	3.87	30	>10
PFDoA_2	613.0 / 319.0	3.87	46	>10
PFTrDA_1	663.0 / 619.0	4.13	35	>10
PFTrDA_2	663.0 / 169.0	4.12	37	>10
PFTeDA_1	713.0 / 669.0	4.35	46	>10
PFTeDA_2	713.0 / 169.0	4.34	42	>10
NMeFOSAA_1	570.0 / 419.0	3.43	34	>10
NMeFOSAA_2	570.0 / 512.0	3.42	39	>10
NEtFOSAA_1	584.0 / 419.0	3.59	29	>10
NEtFOSAA_2	584.0 / 483.0	3.58	30	>10

BATTELLE

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:50:52 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 8:23:10 PM	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
13C2-PFDoA	615.0 / 570.0	3.86	31	>10
d3-MeFOSAA	573.0 / 419.0	3.42	23	>10
d5-EtFOSAA	589.0 / 419.0	3.58	36	>10
13C5-PFHxA	318.0 / 273.0	1.79	33	>10
13C4-PFHpA	367.0 / 322.0	2.15	23	>10
13C8-PFOA	421.0 / 376.0	2.53	28	>10
13C9-PFNA	472.0 / 427.0	2.91	28	>10
13C6-PFDA	519.0 / 474.0	3.25	38	>10
13C7-PFUnA	570.0 / 525.0	3.57	28	>10
13C2-PFTeDA	715.0 / 670.0	4.34	38	>10
13C3-PFBS	302.0 / 99.0	1.49	34	>10
13C3-PFHxS	402.0 / 99.0	2.17	22	>10
13C8-PFOS	507.0 / 99.0	2.90	21	>10

BATTELLE

Mass Spectral Acquisition Rate Report

Created with Analyst Reporter
Printed: 05/06/2018 11:52:05 AM

Sample Name	JV26	**Injection Vial**	8
Sample ID	L7	**Injection Volume**	10.00
Sample Type	Standard	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 8:38:50 PM	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFHxA_1	313.0 / 269.0	1.79	23	>10
PFHxA_2	313.0 / 119.0	1.78	20	>10
PFHxS_1	399.0 / 80.0	2.17	40	>10
PFHxS_2	399.0 / 99.0	2.17	43	>10
PFOS_1	499.0 / 80.0	2.90	43	>10
PFOS_2	499.0 / 99.0	2.90	43	>10
PFUnA_1	563.0 / 519.0	3.58	35	>10
PFUnA_2	563.0 / 269.0	3.58	36	>10
PFTrDA_1	663.0 / 619.0	4.12	38	>10
PFTrDA_2	663.0 / 169.0	4.12	39	>10

BATTELLE
It can be done

Precision and Bias at the LOQ for PFAS in Solids

Analyte	CAS No.	Average (ng/g)	ST DEV	3 Sigma	n
PFBA	375-22-4	11.08	1.57	4.71	20
PFPeA	2706-90-3	10.94	1.44	4.32	20
PFHxA	307-24-4	11.35	2.24	6.72	21
PFHpA	375-85-9	11.48	1.78	5.34	21
PFOA	335-67-1	11.54	1.87	5.61	21
PFNA	375-95-1	11.21	1.67	5.01	21
PFDA	335-76-2	12.01	2.12	6.36	21
PFUnA	2058-94-8	11.74	1.89	5.67	21
PFDoA	307-55-1	11.85	1.53	4.59	21
PFTrDA	72629-94-8	10.96	1.38	4.14	21
PFTeDA	376-06-7	12.19	2.27	6.81	21
NMeFOSAA	2355-31-9	11.78	1.67	5.01	21
NEtFOSAA	2991-50-6	10.88	1.5	4.5	21
PFOSA	754-91-6	10.75	1.63	4.89	4
PFBS	375-73-5	11.89	1.71	5.13	21
PFPeS	BDO-2114	11.67	1.22	3.66	4
PFHxS	355-46-4	11.47	1.78	5.34	21
PFHpS	375-99-6	11.05	1.68	5.04	20
PFOS	1763-23-1	11.16	1.58	4.74	21
PFNS	98789-57-2	10.67	1.01	3.03	4
PFDS	2806-15-7	11.84	2.23	6.69	20
4:2FTS	BDO-2205	12.03	1.86	5.58	20
6:2FTS	27619-97-2	12.48	1.33	3.99	12
8:2FTS	39108-34-4	12.08	2.01	6.03	20

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

Analytical SOP 5-369
Extraction SOP 5-370

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

Analyte	CAS No.	MDL (ng/g)	LOD (ng/g)	LOQ (ng/g)
PFBA	375-22-4	0.36	1.0	5.0
PFPeA	2706-90-3	0.39	1.0	5.0
PFHxA	307-24-4	0.33	1.0	5.0
PFHpA	375-85-9	0.44	1.0	5.0
PFOA	335-67-1	0.50	1.0	5.0
PFNA	375-95-1	0.43	1.0	5.0
PFDA	335-76-2	0.27	1.0	5.0
PFUnA	2058-94-8	0.41	1.0	5.0
PFDoA	307-55-1	0.24	0.5	5.0
PFTrDA	72629-94-8	0.28	1.0	5.0
PFTeDA	376-06-7	0.63	2.0	5.0
NMeFOSAA	2355-31-9	1.12	2.5	5.0
NEtFOSAA	2991-50-6	0.57	2.0	5.0
PFOSA	754-91-6	0.39	1.0	5.0
PFBS	375-73-5	0.36	1.0	5.0
PFPeS	BDO-2114	0.57	2.0	5.0
PFHxS	355-46-4	0.22	0.5	5.0
PFHpS	375-99-6	0.34	1.0	5.0
PFOS	1763-23-1	0.27	1.0	5.0
PFNS	98789-57-2	0.74	2.0	5.0
PFDS	2806-15-7	0.19	0.5	5.0
4:2FTS	BDO-2205	0.29	1.0	5.0
6:2FTS	27619-97-2	2.31	2.5	5.0
8:2FTS	39108-34-4	0.59	2.0	5.0

Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation

ID 595 04/18

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
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTrDA	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. Record10mca.

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	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2^{e}6	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0^{e}6	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4^{e}7	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8^{e}7	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	Width Specs
	Value	Spec	Value	
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	4.54 e6	≥1.2^{e}6	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0^{e}6	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4^{e}7	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8^{e}7	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	Width Specs
	Value	Spec	Value	
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	≥1.0^{e}7	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	≥4.0^{e}7	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	≥8.0^{e}6	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	≥4.0^{e}7	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 ^{e}6	0.1302	<0.35
ER 922.010	0.05	3.89 e7	≥2.8 ^{e}6	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	≥2.4 ^{e}7	0.3740	<0.65
ER 922.010	0.05	2.37 e8	≥6.8 ^{e}7	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 ^{e}7	0.1840	<0.35
ER 601.978	0.05	7.74 e7	≥5.6 ^{e}7	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	≥1.2 ^{e}8	0.4382	<0.65
ER 601.978	0.05	2.55 e8	≥1.6 ^{e}8	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 10e6

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.

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BATTELLE - NORWELL OPERATIONS
ELECTRONIC DRY WEIGHT DETERMINATION

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID:	Ctrs.	*	Tare Wt. (g)	Aliquot Wt. (g)	Dry Wt. (g)	Sample Wet Wt. (g)	% Dry Wt.	% Moisture	Sample Dry Wt. (g)
CQ857PB-FS	NA	--	NA	NA	NA	1.99	100.00	0.00	1.99
CQ858LCS-FS	NA	--	NA	NA	NA	2.02	100.00	0.00	2.02
J6243-FS	1	--	1.08	8.61	7.12	2.02	80.21	19.79	1.62
J6243MS-FS	1	--	1.04	10.58	8.99	2.02	83.33	16.67	1.68
J6243MSD-FS	1	--	1.07	7.07	6.12	1.96	84.17	15.83	1.65
J6244-FS	1	--	1.09	8.46	7.09	2.01	81.41	18.59	1.64

Percent Dry Wt (%) = [(Sample Dry Wt. (g) - Tare Wt. (g))/(Aliquot Wet Wt. (g) - Tare Wt. (g))] * 100
Sample Dry Wt. (%) = [(Sample Wet Wt. (g) * (Percent Dry Wt./100)]
* "C" = Sample Container Is Consumed

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BATTELLE - NORWELL OPERATIONS
SURROGATE SPIKE FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CQ857PB-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
CQ858LCS-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
CQ858LCS-FS	JW44	LCS/MS	1	400	05/29/18 SAS	MDS	NA
J6243-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MS-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MS-FS	JW44	LCS/MS	1	1000	05/29/18 SAS	MDS	NA
J6243MSD-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA
J6243MSD-FS	JW44	LCS/MS	1	1000	05/29/18 SAS	MDS	NA
J6244-FS	JR04	SIS	1	50	05/29/18 SAS	MDS	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JR04	Pipette	D1075429B
JW44	Pipette	C0982448K

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BATTELLE - NORWELL OPERATIONS
SAMPLE EXTRACTION FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CQ857PB-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
CQ858LCS-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243MS-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6243MSD-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA
J6244-FS	05/29/18 SAS	05/29/18 SAS	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
0.4% NH3 in Methanol	RP-180529-1	05/29/18	SHBG7156V	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	
0.4% NH3 in Methanol	RP-180529-1	05/29/18	177965	Per 100 mL, dilute 3.5 mL NH3 to 100 mL in Methanol	

Solvents/Reagents:

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BATTELLE - NORWELL OPERATIONS
COLUMN FRACTIONATION FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Extract Id	Date	Init.	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comments
CQ857PB-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
CQ858LCS-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243MS-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6243MSD-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA
J6244-FS(3)	05/29/18	SAS	NA	NA	NA	NA	NA

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

Elution Volume: 10 mL

Solvents

Reagents

Reagent Prep	Weight g	Name	Expires	Lot No	Procedure
RP-180529-1	Not Measured	0.4% NH3 in Methanol	05/29/18	SHBG7156V	Per 100 mL, dilute 3.5 mL in Methanol
RP-180529-1	Not Measured	0.4% NH3 in Methanol	05/29/18	177965	Per 100 mL, dilute 3.5 mL in Methanol
RP-180529-3	0.50	ENVI-CARB SPE	05/29/18	9025702	Rinse SPE cartridge w

Fractions

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BATTELLE - NORWELL OPERATIONS
EXTRACT SPIKE FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Extract Id	DF	Std. ID	Type	Vial No.	Vol. Added (uL)	Conc (ug/mL)	Added (ng)	Date Spiked/ Spiked By	Witn'd By
J6243-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6243MS-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6243MSD-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS
J6244-FS-D(7)	400	JV83	SIS	1	24	0	0	06/04/18 DMS	SAS

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW02	Pipette	I0793912B

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BATTELLE - NORWELL OPERATIONS
INTERNAL STANDARD SPIKING FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

(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
CQ857PB-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
CQ858LCS-FS(4)	476	24	JW02	24	1	500	20.000	06/04/18 DMS	NA
CQ858LCS-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6243MS-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243MS-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6243MSD-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6243MSD-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS
J6244-FS(5)	475	25	JW02	25	1	500	20.000	05/30/18 SAS	JCT
J6244-FS-D(7)	476	24	JW02	25.25	1	500	400.000	06/04/18 DMS	SAS

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV83	Pipette	I0793912B
JW02	Pipette	I0793912B

Extract Id:	Comments:
CQ857PB-FS	Samples reconstituted in 80/20 methanol/milli-q water (RP-180529-6)

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

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

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BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CQ857PB-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
CQ857PB-FS	2	--	5/29/2018 1:57:00 PM	CQ857PB-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
CQ857PB-FS	3	C	5/29/2018 1:57:00 PM	CQ857PB-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
CQ857PB-FS	4	--	5/29/2018 4:14:00 PM	CQ857PB-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ857PB-FS	5	--	5/29/2018 4:14:00 PM	CQ857PB-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ858LCS-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
CQ858LCS-FS	2	--	5/29/2018 1:57:00 PM	CQ858LCS-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
CQ858LCS-FS	3	C	5/29/2018 1:57:00 PM	CQ858LCS-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
CQ858LCS-FS	4	--	5/29/2018 4:14:00 PM	CQ858LCS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
CQ858LCS-FS	5	--	5/29/2018 4:14:00 PM	CQ858LCS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243-FS	2	--	5/29/2018 1:57:00 PM	J6243-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243-FS	3	C	5/29/2018 1:57:00 PM	J6243-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243-FS	4	--	5/29/2018 4:14:00 PM	J6243-FS	3	11000	5500	2.000	20.000	05/29/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

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BATTELLE - NORWELL OPERATIONS
PREPARATION EXTRACT SPLIT FORM

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6243-FS	5	C	5/29/2018 4:14:00 PM	J6243-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243-FS	6	--	6/4/2018 3:51:00 PM	J6243-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243-FS-D	7	--	6/4/2018 3:51:00 PM	J6243-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6243MS-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243MS-FS	2	--	5/29/2018 1:57:00 PM	J6243MS-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243MS-FS	3	C	5/29/2018 1:57:00 PM	J6243MS-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243MS-FS	4	--	5/29/2018 4:14:00 PM	J6243MS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MS-FS	5	C	5/29/2018 4:14:00 PM	J6243MS-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MS-FS	6	--	6/4/2018 3:51:00 PM	J6243MS-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243MS-FS-D	7	--	6/4/2018 3:51:00 PM	J6243MS-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6243MSD-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6243MSD-FS	2	--	5/29/2018 1:57:00 PM	J6243MSD-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6243MSD-FS	3	C	5/29/2018 1:57:00 PM	J6243MSD-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6243MSD-FS	4	--	5/29/2018 4:14:00 PM	J6243MSD-FS	3	11000	5500	2.000	20.000	05/29/18 SAS

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

BATTELLE
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

18-0339

Sediment PFAS Analysis

SD, SD DUP

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J6243MSD-FS	5	C	5/29/2018 4:14:00 PM	J6243MSD-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6243MSD-FS	6	--	6/4/2018 3:51:00 PM	J6243MSD-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6243MSD-FS-D	7	--	6/4/2018 3:51:00 PM	J6243MSD-FS	5	500	25	20.000	400.000	06/04/18 DMS
J6244-FS	0	C	5/29/2018 11:22:00 AM	NA		NA	NA	1.000	1.000	05/29/18 SAS
J6244-FS	2	--	5/29/2018 1:57:00 PM	J6244-FS	0	10000	9000	1.111	1.111	05/29/18 SAS
J6244-FS	3	C	5/29/2018 1:57:00 PM	J6244-FS	0	10000	1000	10.000	10.000	05/29/18 SAS
J6244-FS	4	--	5/29/2018 4:14:00 PM	J6244-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6244-FS	5	C	5/29/2018 4:14:00 PM	J6244-FS	3	11000	5500	2.000	20.000	05/29/18 SAS
J6244-FS	6	--	6/4/2018 3:51:00 PM	J6244-FS	5	500	475	1.053	21.053	06/04/18 DMS
J6244-FS-D	7	--	6/4/2018 3:51:00 PM	J6244-FS	5	500	25	20.000	400.000	06/04/18 DMS

Extract Id:	**Comments:**
CQ857PB-FS	Samples reconstituted in 80/20 methanol/milli-q water (RP-180529-6)

Total Oil = [Sample Volume (uL) / Aliquot Volume (uL)] * [Aliquot Weight (mg)]
Dilution Factor = [Sample Volume (uL) / Aliqot Volume (uL))] * Prior Dilution Factor
* - "C" = Extract is Consumed

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It can be done

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EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

Project Title(s)
CTO-SE0375: Naval Air Station Jacksonville

Project No.(s)
100119154-SE0375

18-0339
Sediment PFAS Analysis
SD, SD DUP

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	May 30 2018 4:47PM SAS	**Received On/By:**	May 30 2018 5:38PM 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	CQ857PB-FS(5)	500	20	Intact	NA
2	CQ858LCS-FS(5)	500	20	Intact	NA
3	J6243-FS(5)	500	20	Intact	NA
4	J6243MS-FS(5)	500	20	Intact	NA
5	J6243MSD-FS(5)	500	20	Intact	NA
6	J6244-FS(5)	500	20	Intact	NA

Total Extracts: 6

Purpose:	LC-MS/MS TRANSFER	**Last Activity:**	Prep->Inst
Relinquished On/By:	Jun 4 2018 4:07PM DMS	**Received On/By:**	Jun 4 2018 4:07PM 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	J6243-FS-D(7)	500	400	Intact	NA
2	J6243MS-FS-D(7)	500	400	Intact	NA
3	J6243MSD-FS-D(7)	500	400	Intact	NA
4	J6244-FS-D(7)	500	400	Intact	NA

Total Extracts: 4

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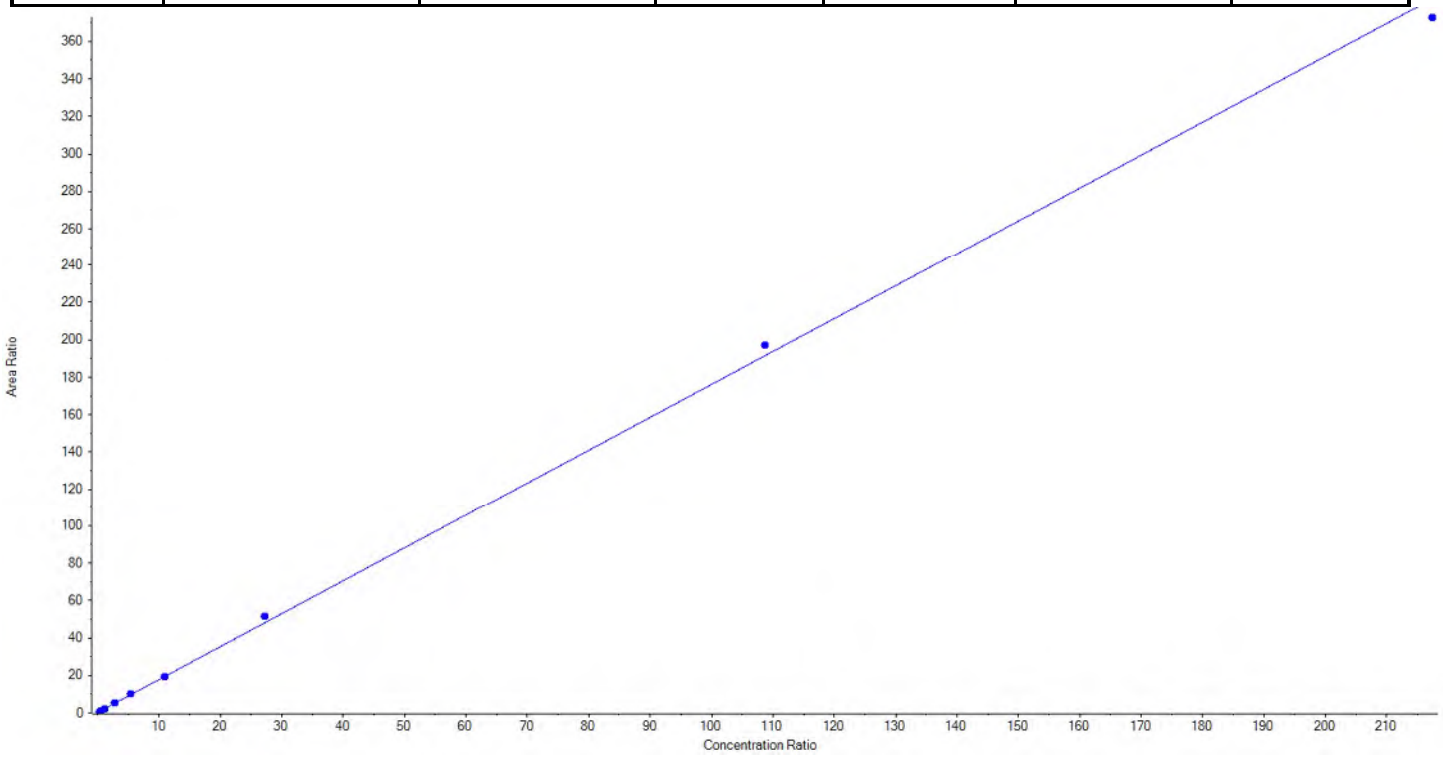
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFBS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	298.9 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 1.75943 x + 0.19290 (r = 0.99940) (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	24.549747	97.2
3	JV21	L2	True	50.50	44.941674	89.0
4	JV22	L3	True	101.00	98.838966	97.9
5	JV23	L4	True	252.50	260.308847	103.1
6	JV24	L5	True	505.00	529.636689	104.9
7	JV25	L6	True	1010.00	1007.354828	99.7
8	JV26	L7	True	2525.00	2720.995698	107.8
9	JV27	L8	True	10100.00	10407.878725	103.1
10	JV28	L9	True	20200.00	19674.744827	97.4



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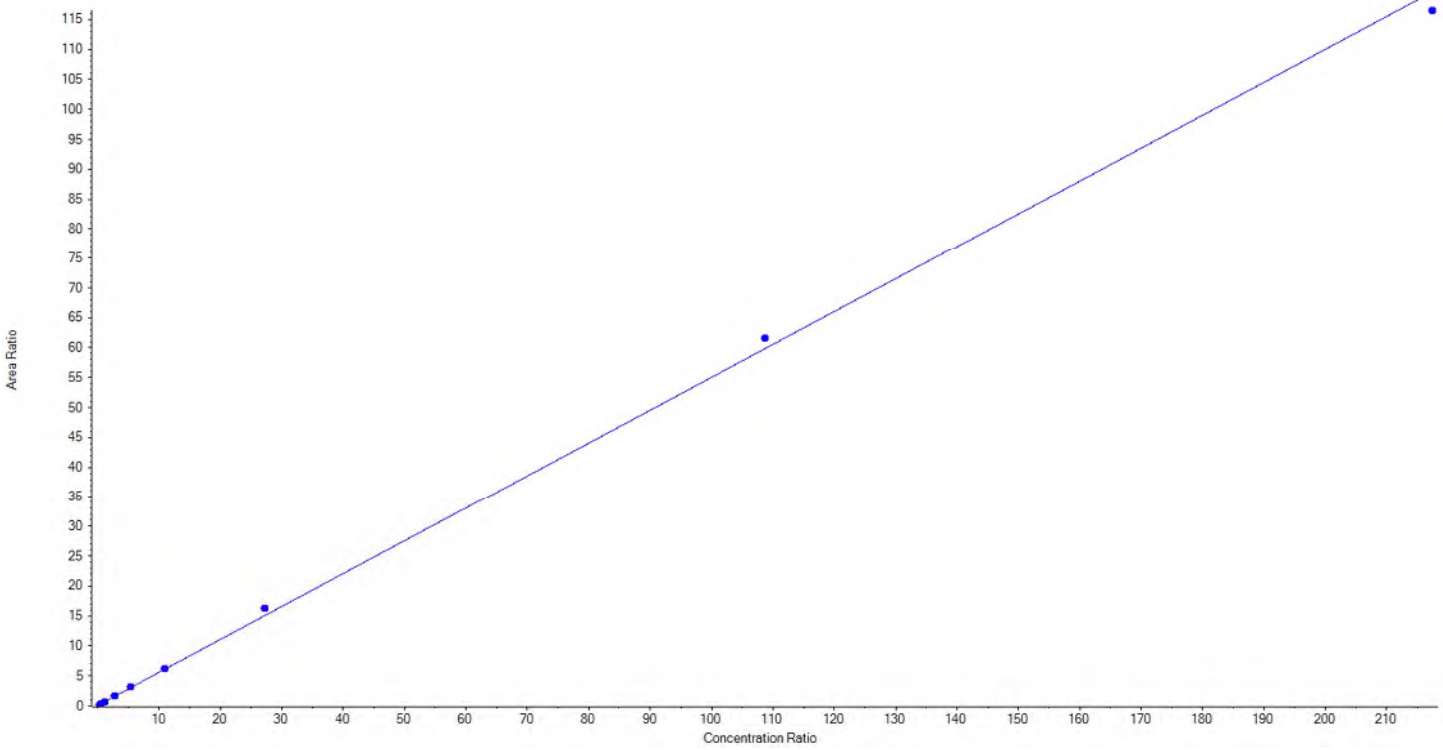
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFBS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	298.9 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFBS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.54951 x + 0.09152 (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	23.503766	93.1
3	JV21	L2	True	50.50	49.490413	98.0
4	JV22	L3	True	101.00	96.848949	95.9
5	JV23	L4	True	252.50	256.099454	101.4
6	JV24	L5	True	505.00	514.367968	101.9
7	JV25	L6	True	1010.00	1022.456183	101.2
8	JV26	L7	True	2525.00	2730.347857	108.1
9	JV27	L8	True	10100.00	10400.315263	103.0
10	JV28	L9	True	20200.00	19675.820147	97.4



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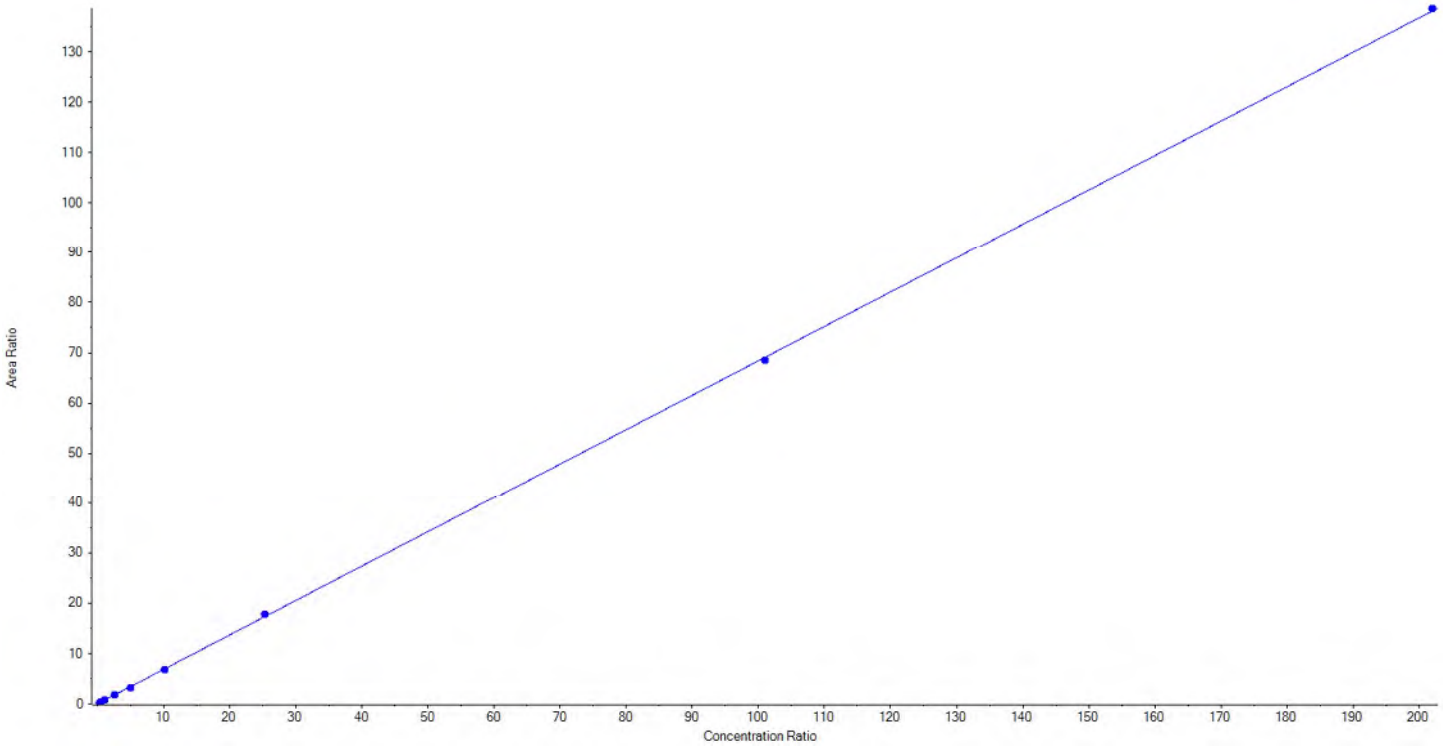
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0339_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.68372 x + 0.01861 (r = 0.99988) (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	25.746829	102.0
3	JV21	L2	True	50.50	48.722186	96.5
4	JV22	L3	True	101.00	105.167862	104.1
5	JV23	L4	True	252.50	265.405638	105.1
6	JV24	L5	True	505.00	469.641061	93.0
7	JV25	L6	True	1010.00	978.456623	96.9
8	JV26	L7	True	2525.00	2601.798445	103.0
9	JV27	L8	True	10100.00	10004.165368	99.1
10	JV28	L9	True	20200.00	20270.145989	100.4



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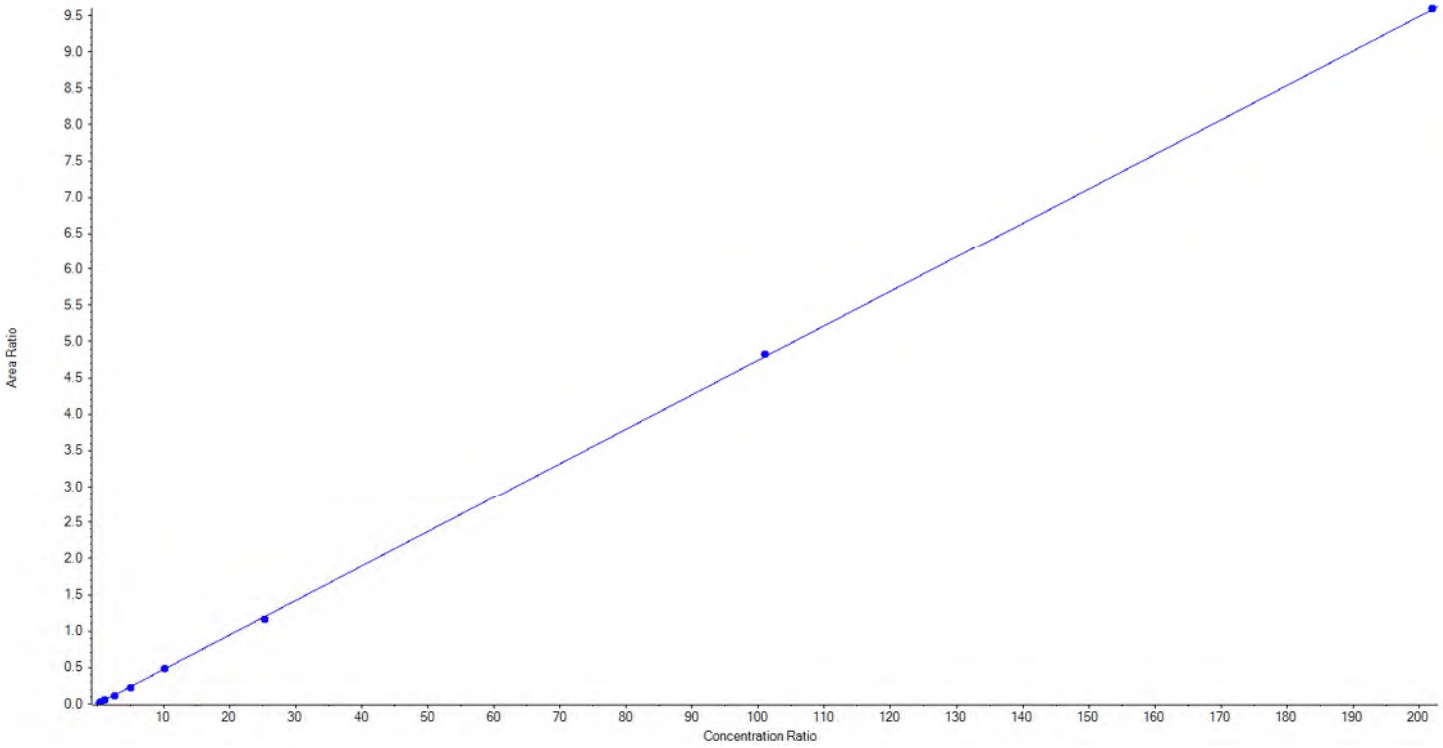
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0339_BASE
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04744 x + -5.04287e-4 (r = 0.99986) (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	29.108558	115.3
3	JV21	L2	True	50.50	45.166418	89.4
4	JV22	L3	True	101.00	108.607947	107.5
5	JV23	L4	True	252.50	247.074365	97.9
6	JV24	L5	True	505.00	458.624174	90.8
7	JV25	L6	True	1010.00	1022.656886	101.3
8	JV26	L7	True	2525.00	2445.599802	96.9
9	JV27	L8	True	10100.00	10183.733424	100.8
10	JV28	L9	True	20200.00	20228.678426	100.1



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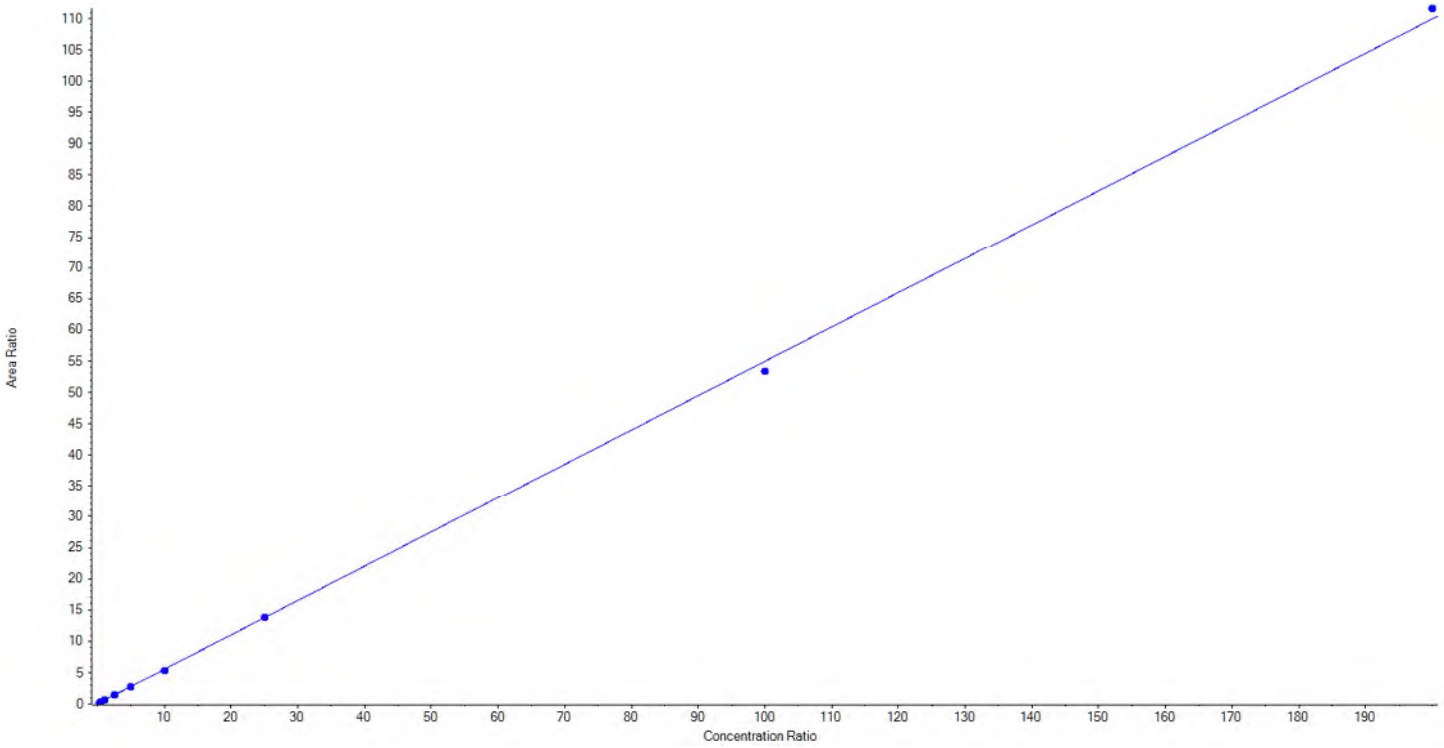
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHpA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	363.0 / 319.0	**Result Table**	18-0339_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.54949 x + 0.03817 (r = 0.99975) (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	23.271004	93.1
3	JV21	L2	True	50.00	46.906580	93.8
4	JV22	L3	True	100.00	113.876496	113.9
5	JV23	L4	True	250.00	266.306411	106.5
6	JV24	L5	True	500.00	485.796331	97.2
7	JV25	L6	True	1000.00	969.822220	97.0
8	JV26	L7	True	2500.00	2495.896047	99.8
9	JV27	L8	True	10000.00	9722.161340	97.2
10	JV28	L9	True	20000.00	20300.963570	101.5



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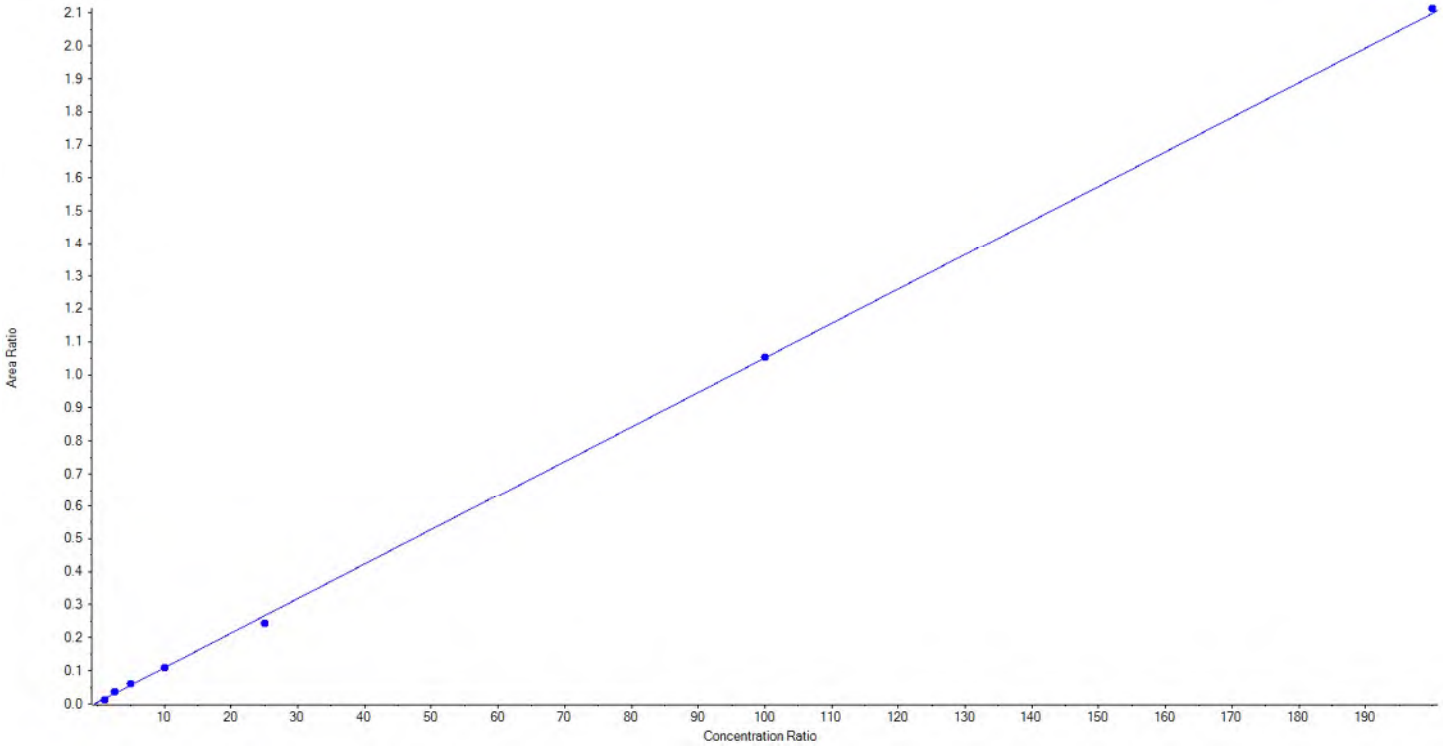
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHpA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	363.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C4-PFHpA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.01047 x + 0.00466 (r = 0.99947) (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	N/A	N/A
4	JV22	L3	True	100.00	85.310875	85.3
5	JV23	L4	True	250.00	294.608259	117.8
6	JV24	L5	True	500.00	529.593649	105.9
7	JV25	L6	True	1000.00	989.128144	98.9
8	JV26	L7	True	2500.00	2273.974971	91.0
9	JV27	L8	True	10000.00	10033.671616	100.3
10	JV28	L9	True	20000.00	20143.712485	100.7



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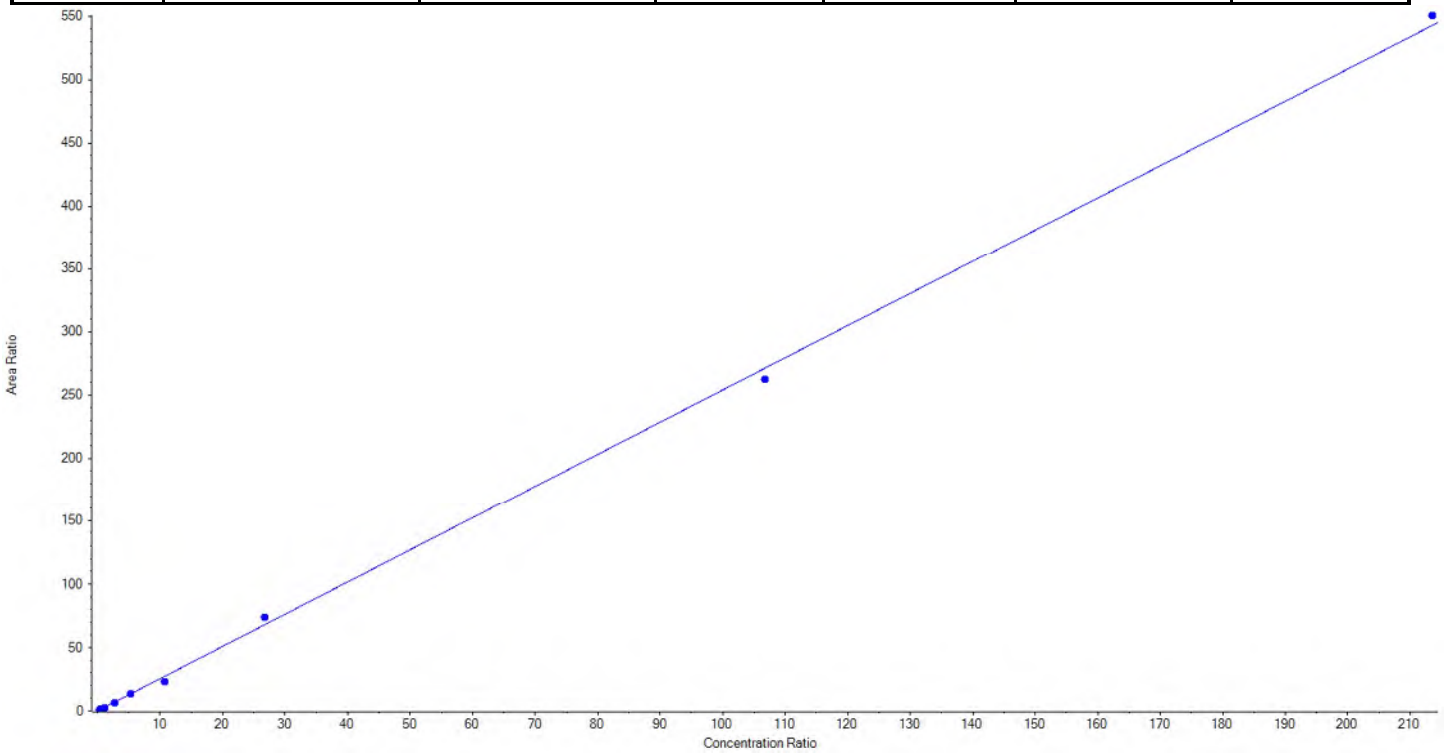
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.54138 x + -0.02650 (r = 0.99904) (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	31.216719	123.6
3	JV21	L2	True	50.50	47.433902	93.9
4	JV22	L3	True	101.00	102.652317	101.6
5	JV23	L4	True	252.50	227.754752	90.2
6	JV24	L5	True	505.00	499.897552	99.0
7	JV25	L6	True	1010.00	852.510410	84.4
8	JV26	L7	True	2525.00	2755.110770	109.1
9	JV27	L8	True	10100.00	9762.550341	96.7
10	JV28	L9	True	20200.00	20490.123237	101.4



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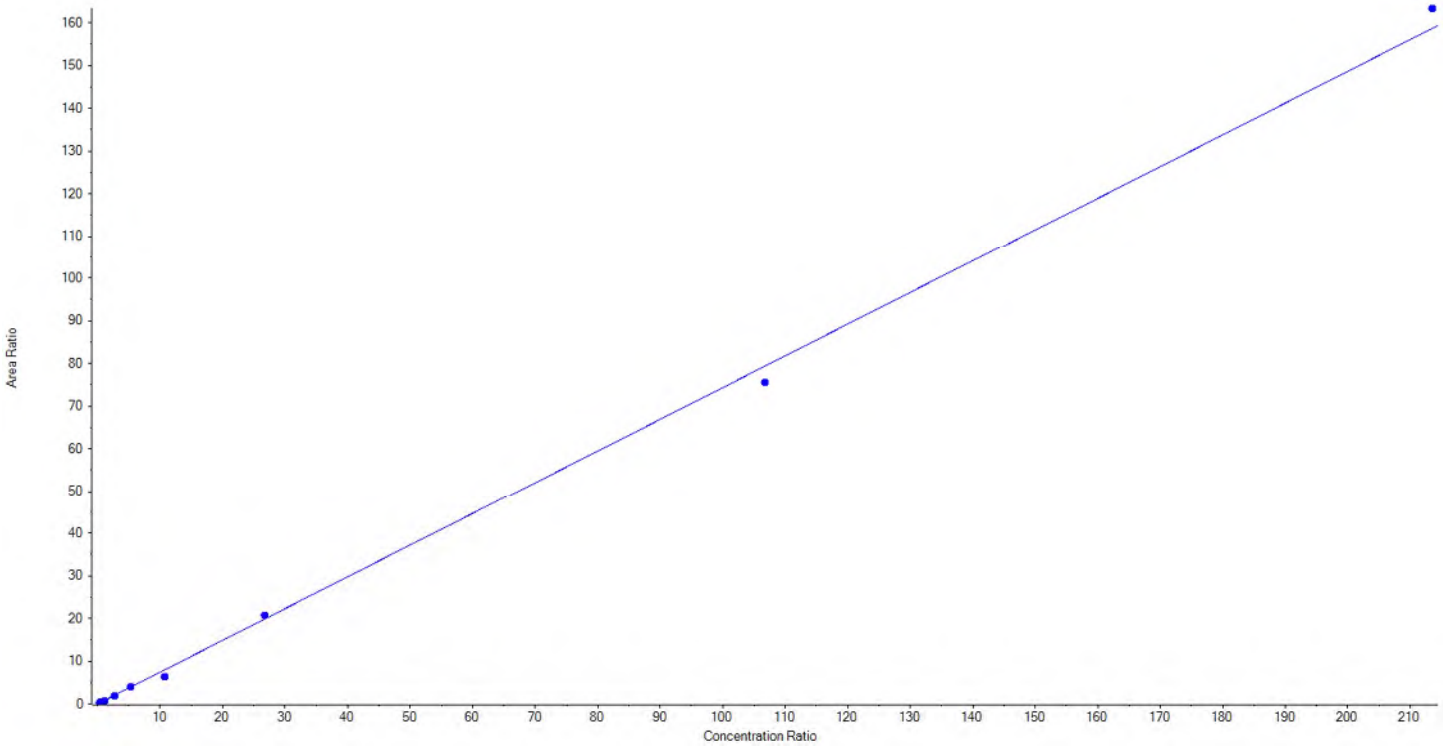
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFHxS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.74328 x + -0.00728 (r = 0.99875) (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	32.084855	127.1
3	JV21	L2	True	50.50	49.445582	97.9
4	JV22	L3	True	101.00	96.943724	96.0
5	JV23	L4	True	252.50	241.382876	95.6
6	JV24	L5	True	505.00	507.648918	100.5
7	JV25	L6	True	1010.00	816.399705	80.8
8	JV26	L7	True	2525.00	2626.421364	104.0
9	JV27	L8	True	10100.00	9610.263750	95.2
10	JV28	L9	True	20200.00	20788.659226	102.9



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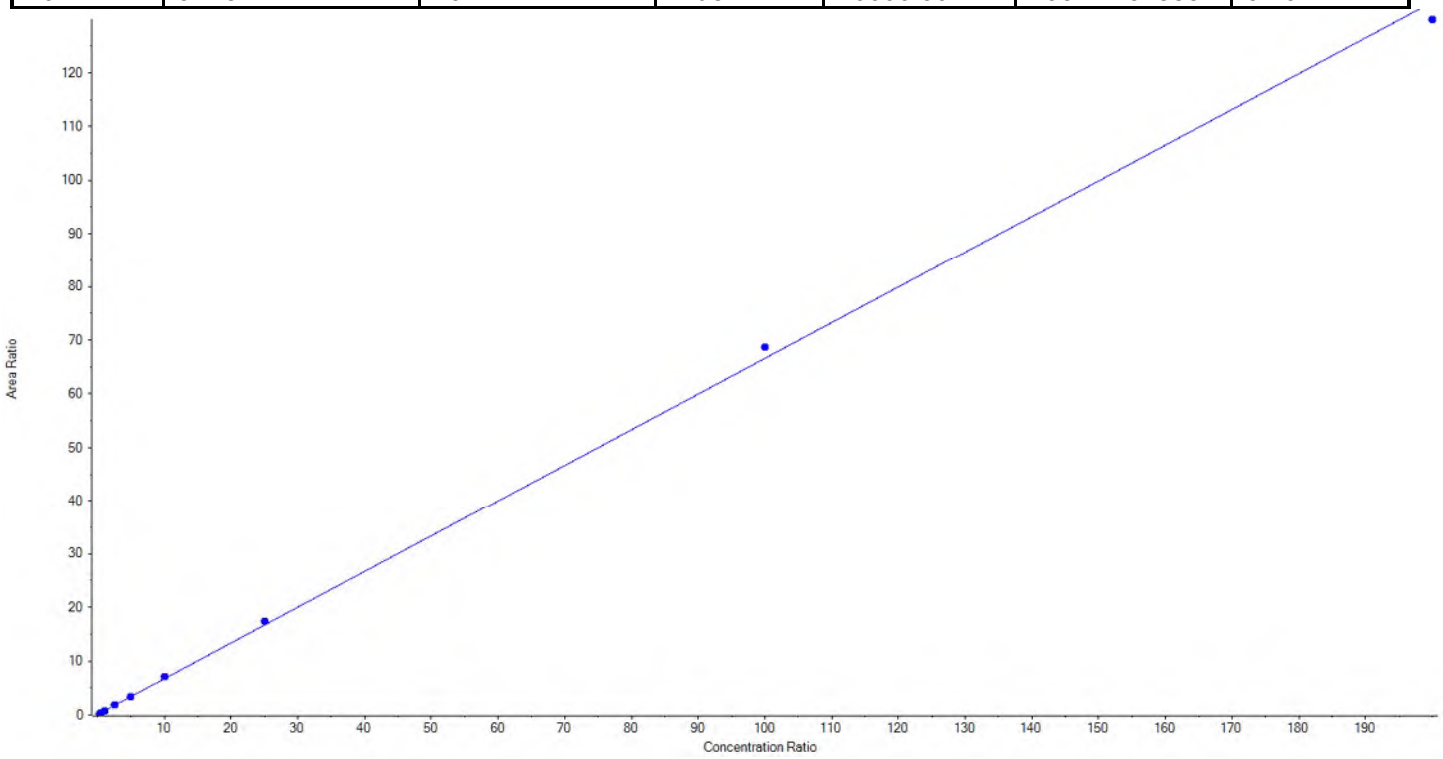
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	413.0 / 369.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66539 x + 0.07281 (r = 0.99953) (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	22.662853	90.7
3	JV21	L2	True	50.00	48.877930	97.8
4	JV22	L3	True	100.00	99.272750	99.3
5	JV23	L4	True	250.00	257.212105	102.9
6	JV24	L5	True	500.00	492.251374	98.5
7	JV25	L6	True	1000.00	1057.707816	105.8
8	JV26	L7	True	2500.00	2610.172916	104.4
9	JV27	L8	True	10000.00	10324.590371	103.3
10	JV28	L9	True	20000.00	19512.251885	97.6



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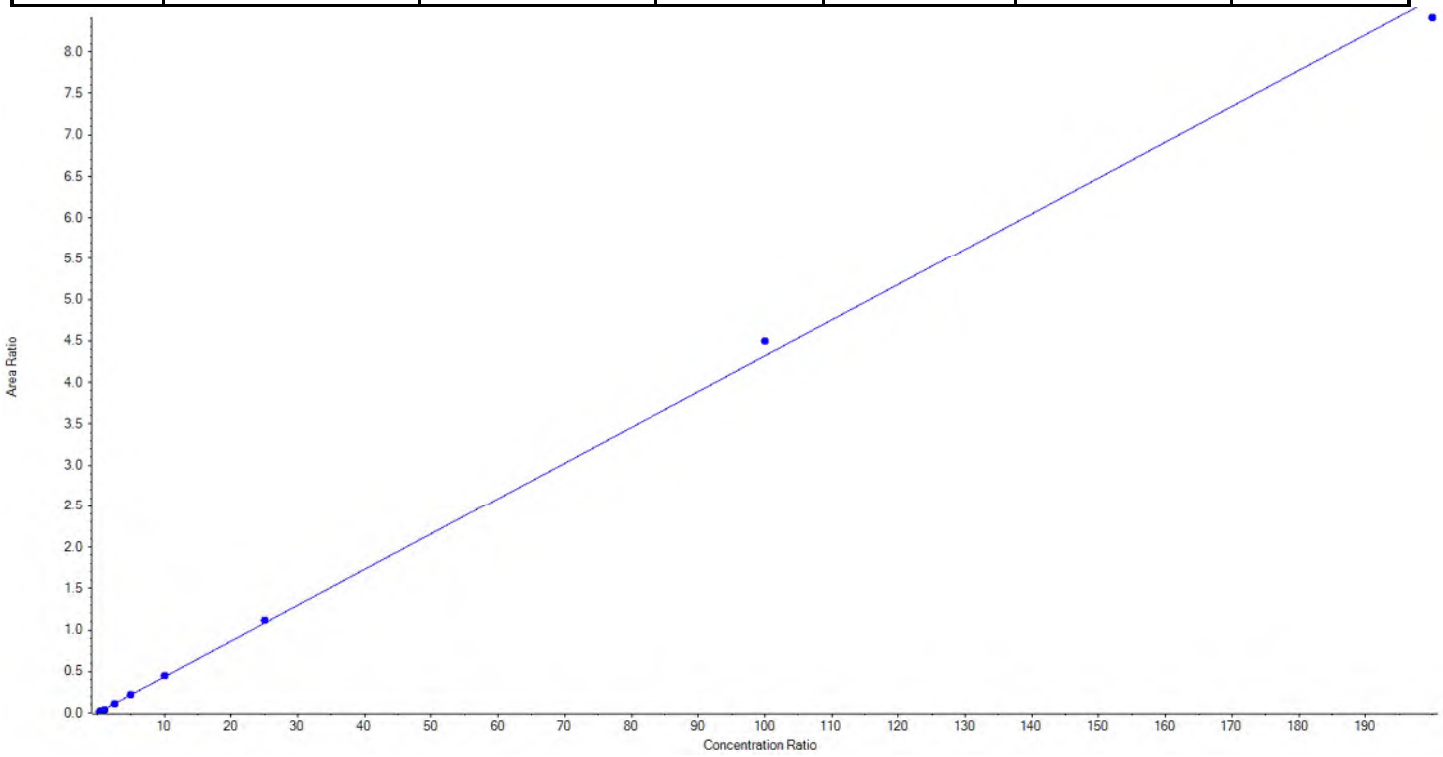
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	413.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04320 x + 0.00111 (r = 0.99942) (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	29.009852	116.0
3	JV21	L2	True	50.00	40.828911	81.7
4	JV22	L3	True	100.00	86.868080	86.9
5	JV23	L4	True	250.00	262.846759	105.1
6	JV24	L5	True	500.00	515.571849	103.1
7	JV25	L6	True	1000.00	1025.267732	102.5
8	JV26	L7	True	2500.00	2579.533856	103.2
9	JV27	L8	True	10000.00	10409.624674	104.1
10	JV28	L9	True	20000.00	19475.448288	97.4



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Calibration Summary Report

Created with Analyst Reporter
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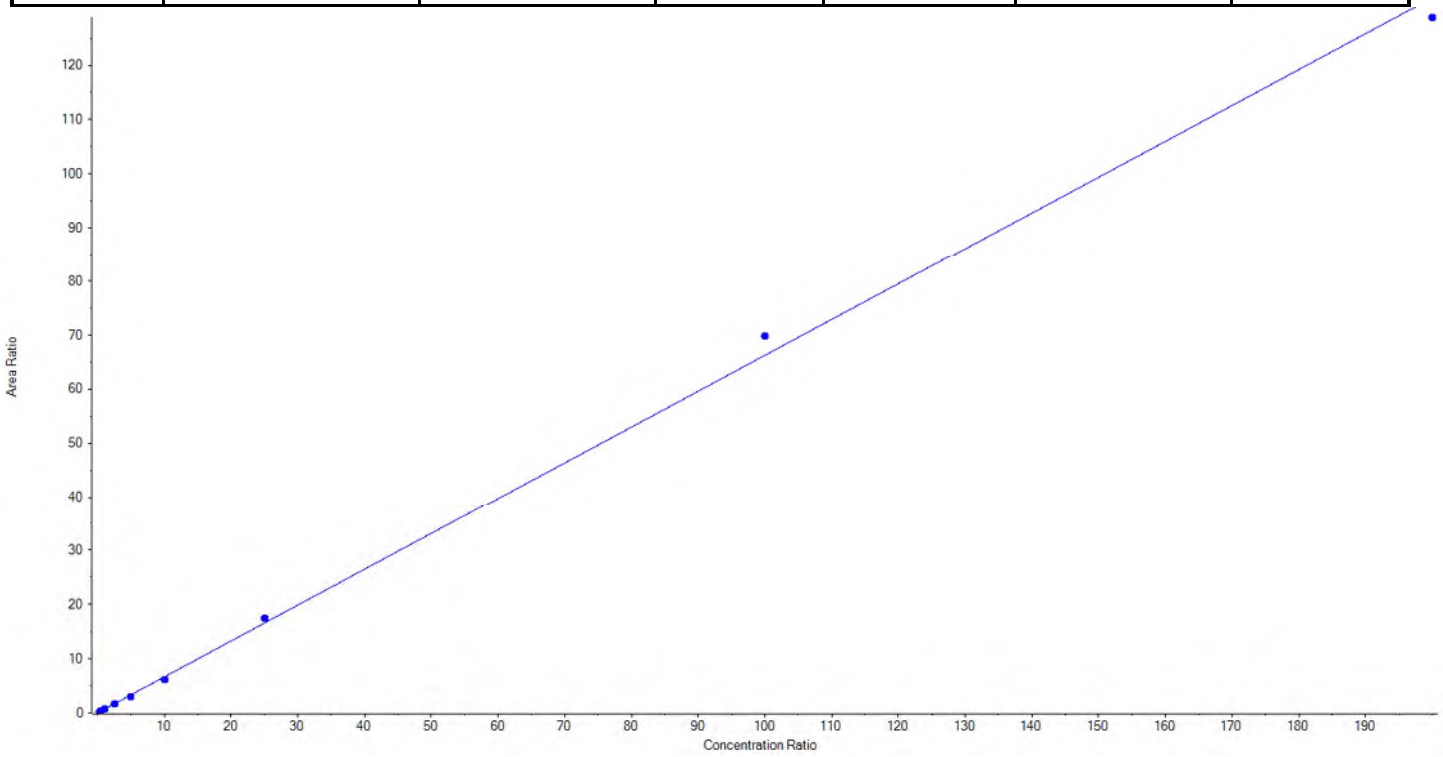
Analyte Name	PFNA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	463.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66225 x + 0.02100 (r = 0.99903) (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	25.746399	103.0
3	JV21	L2	True	50.00	48.387577	96.8
4	JV22	L3	True	100.00	106.737132	106.7
5	JV23	L4	True	250.00	261.078663	104.4
6	JV24	L5	True	500.00	446.575811	89.3
7	JV25	L6	True	1000.00	915.490860	91.6
8	JV26	L7	True	2500.00	2641.421202	105.7
9	JV27	L8	True	10000.00	10530.348900	105.3
10	JV28	L9	True	20000.00	19449.213456	97.3



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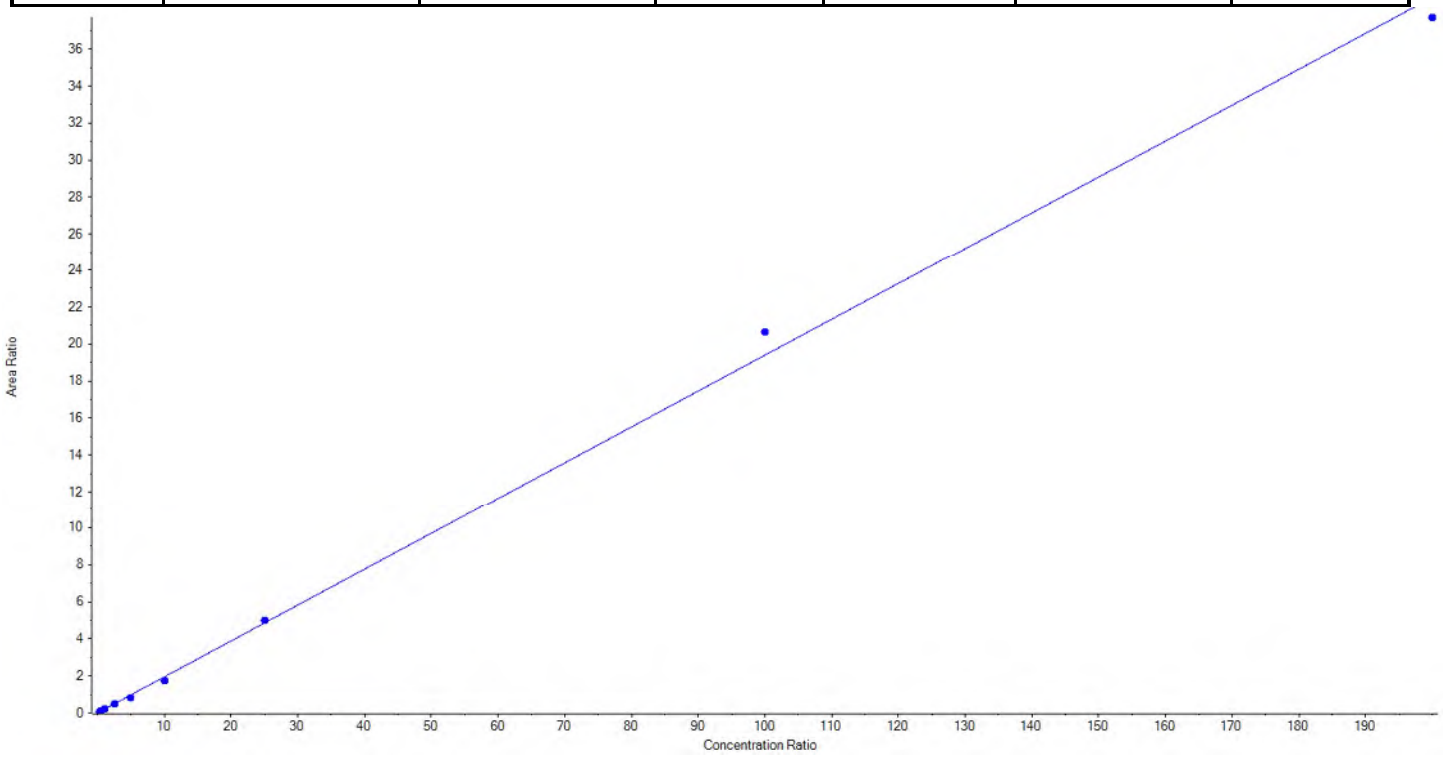
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFNA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	463.0 / 219.0	**Result Table**	18-0339_BASE
Internal Standard	13C9-PFNA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.19384 x + 0.00568 (r = 0.99863) (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	23.974695	95.9
3	JV21	L2	True	50.00	51.495470	103.0
4	JV22	L3	True	100.00	121.786609	121.8
5	JV23	L4	True	250.00	250.114999	100.1
6	JV24	L5	True	500.00	417.273225	83.5
7	JV25	L6	True	1000.00	888.506277	88.9
8	JV26	L7	True	2500.00	2581.898318	103.3
9	JV27	L8	True	10000.00	10649.342884	106.5
10	JV28	L9	True	20000.00	19440.607524	97.2



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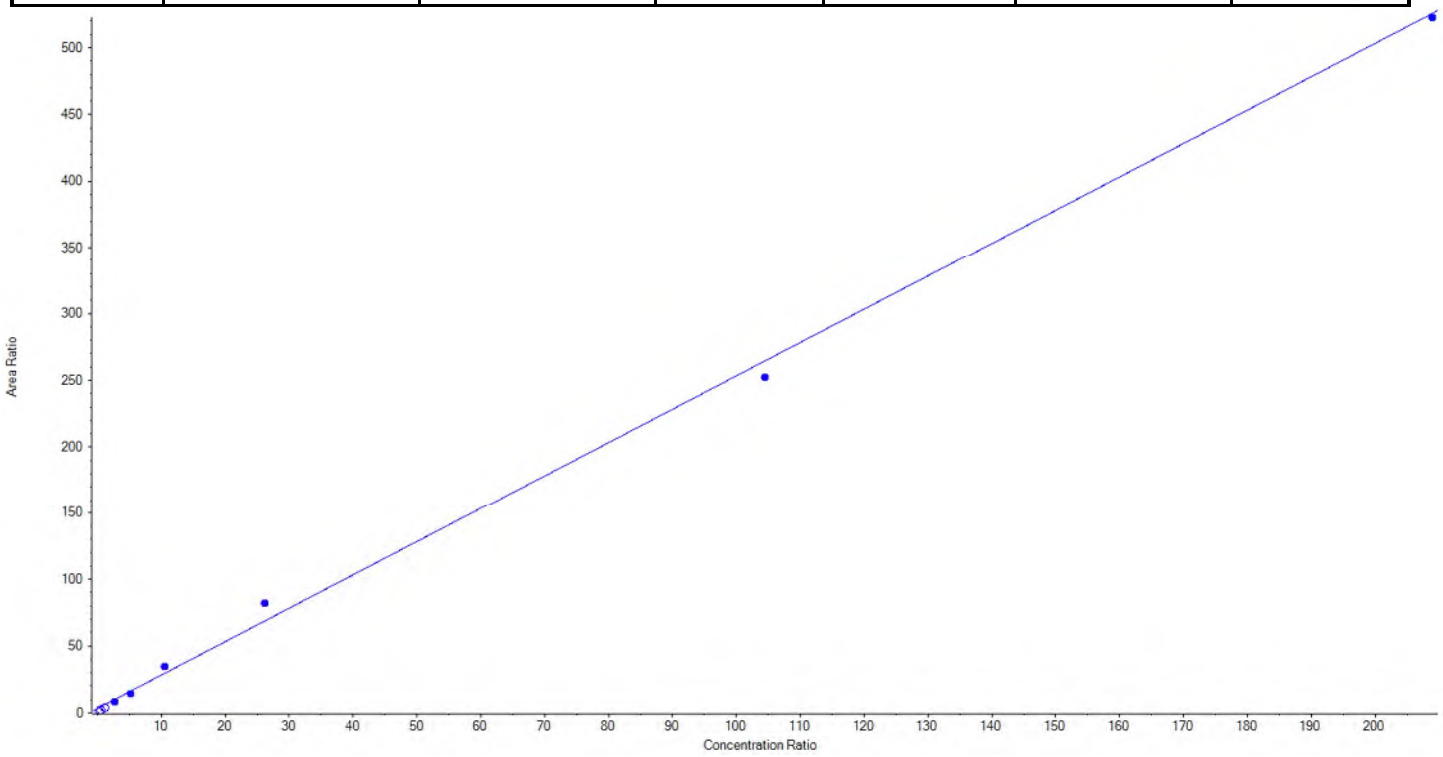
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOS_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.49909 x + 3.36861 (r = 0.99679) (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	False	100.00	6.426016	6.4
5	JV23	L4	True	250.00	199.398097	79.8
6	JV24	L5	True	500.00	421.964097	84.4
7	JV25	L6	True	1000.00	1209.607580	121.0
8	JV26	L7	True	2500.00	3003.553809	120.1
9	JV27	L8	True	10000.00	9533.529906	95.3
10	JV28	L9	True	20000.00	19881.946512	99.4



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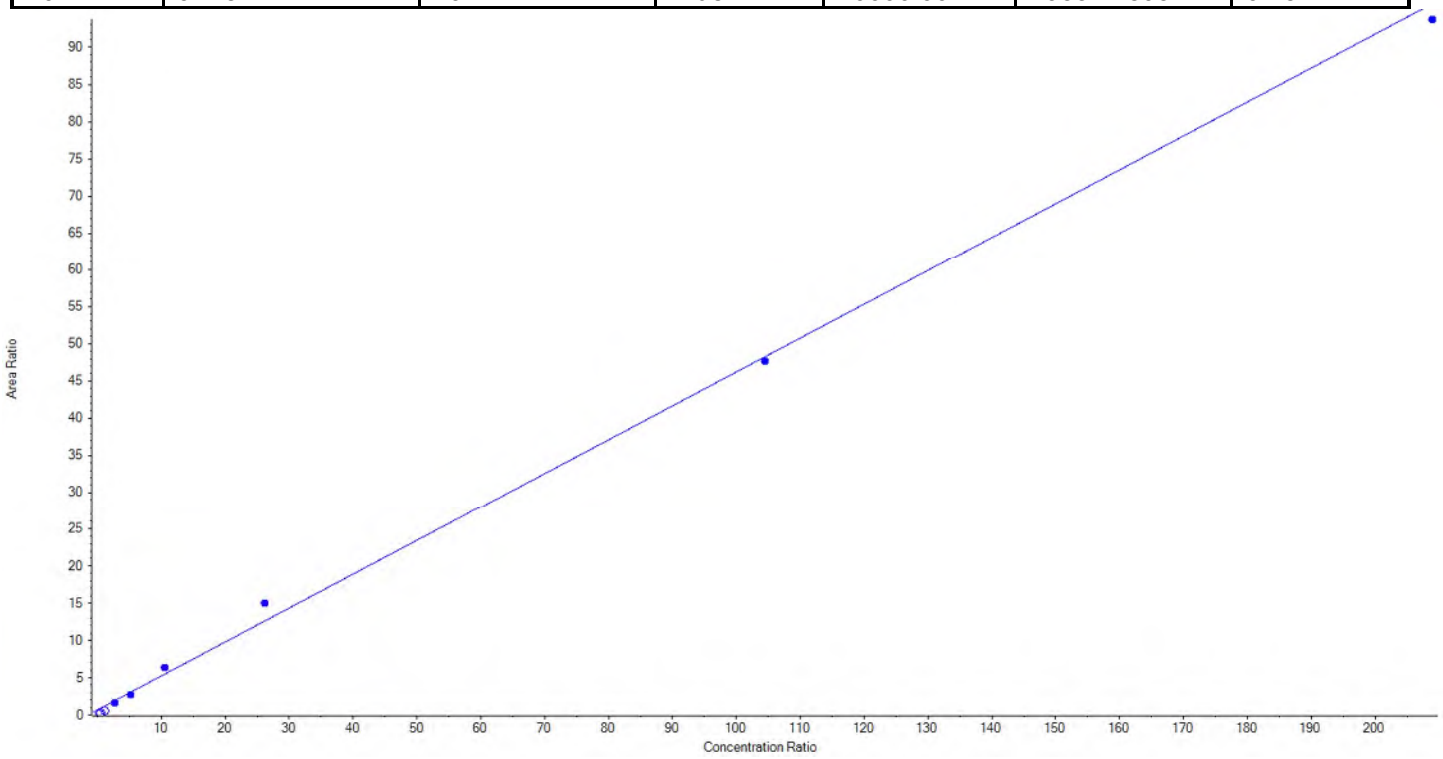
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFOS_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0339_BASE
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.45527 x + 0.68494 (r = 0.99716) (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	False	100.00	< 0	N/A
5	JV23	L4	True	250.00	194.781009	77.9
6	JV24	L5	True	500.00	433.071135	86.6
7	JV25	L6	True	1000.00	1189.251879	118.9
8	JV26	L7	True	2500.00	2999.672319	120.0
9	JV27	L8	True	10000.00	9879.034085	98.8
10	JV28	L9	True	20000.00	19554.189574	97.8



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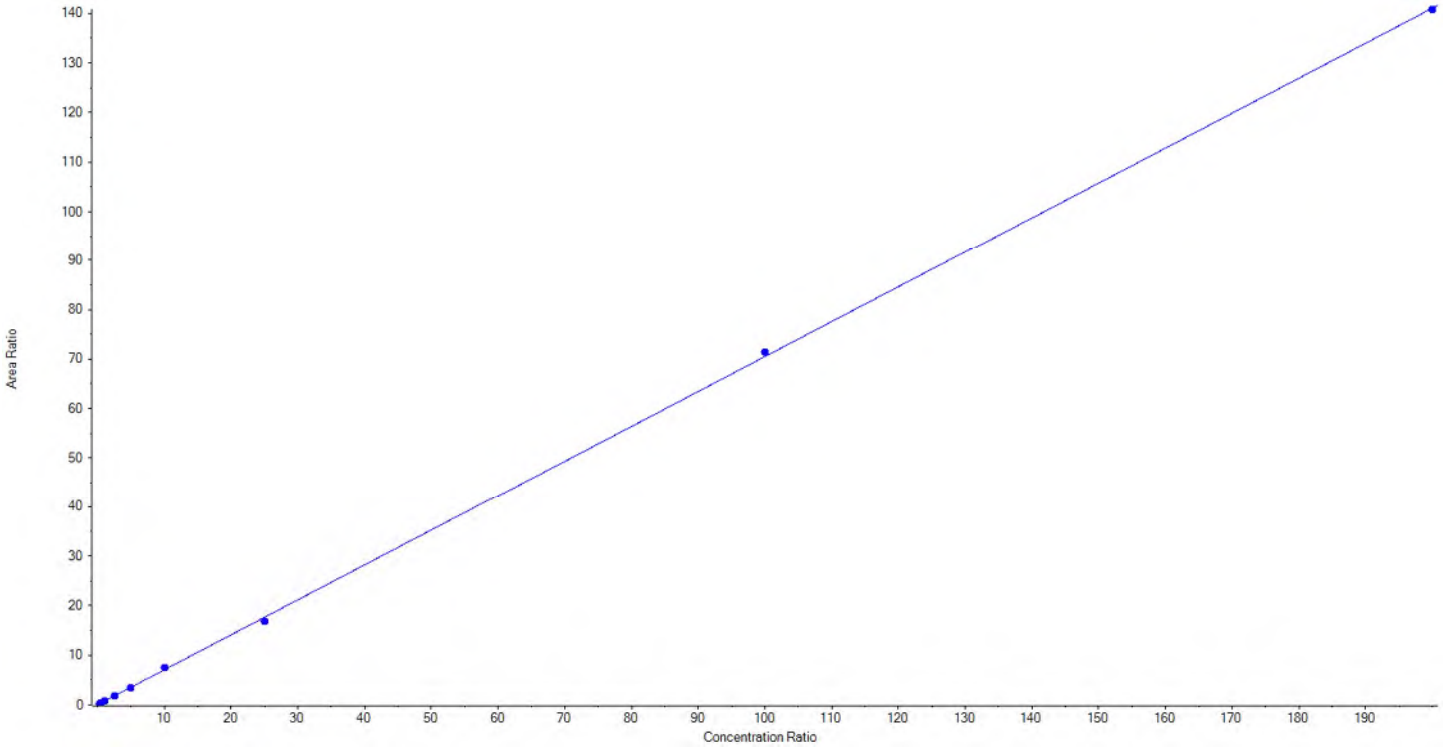
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	513.0 / 469.0	**Result Table**	18-0339_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.70485 x + 0.02327 (r = 0.99974) (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	25.501914	102.0
3	JV21	L2	True	50.00	40.303559	80.6
4	JV22	L3	True	100.00	119.591096	119.6
5	JV23	L4	True	250.00	252.044810	100.8
6	JV24	L5	True	500.00	477.632889	95.5
7	JV25	L6	True	1000.00	1054.342396	105.4
8	JV26	L7	True	2500.00	2375.918116	95.0
9	JV27	L8	True	10000.00	10116.067210	101.2
10	JV28	L9	True	20000.00	19963.598009	99.8



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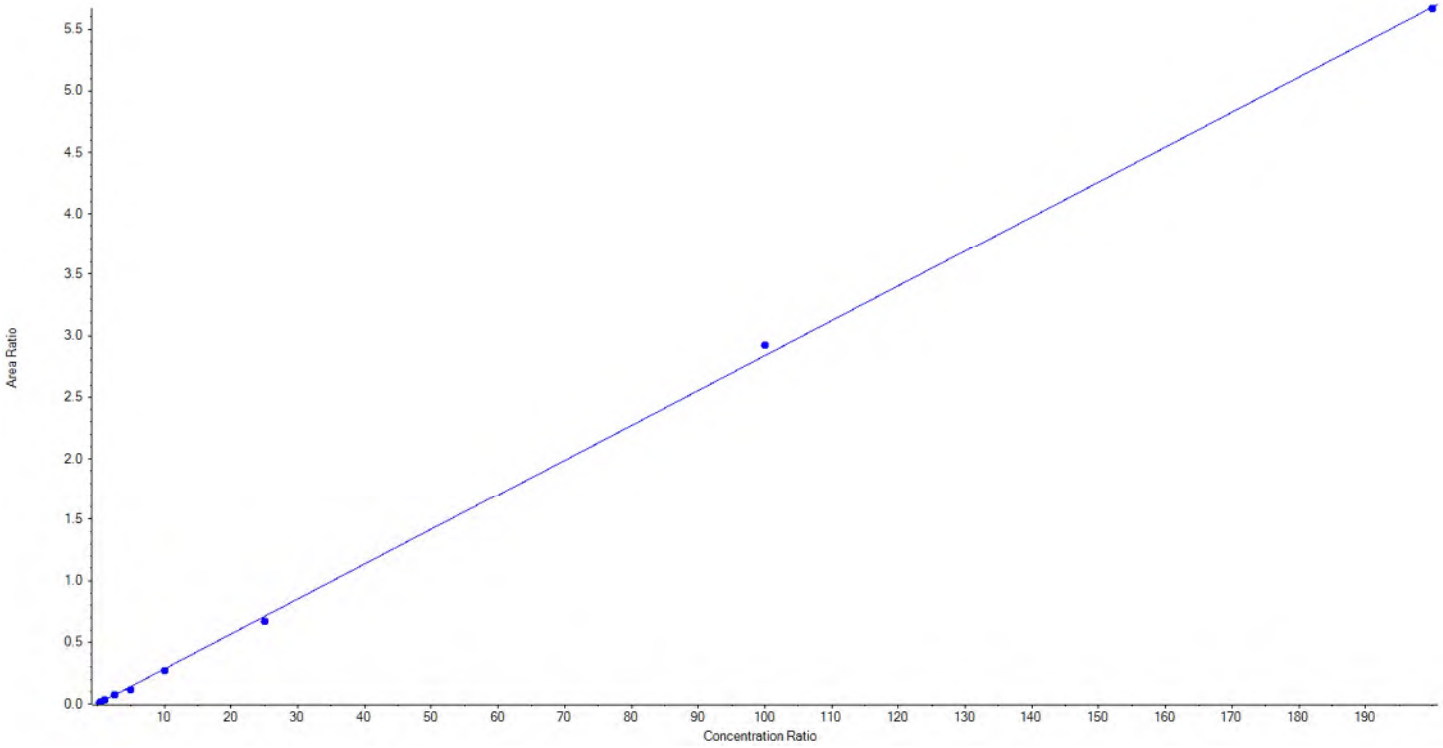
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	513.0 / 219.0	**Result Table**	18-0339_BASE
Internal Standard	13C6-PFDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.02839 x + -3.49067e-4 (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	23.488717	94.0
3	JV21	L2	True	50.00	52.820381	105.6
4	JV22	L3	True	100.00	125.705251	125.7
5	JV23	L4	True	250.00	250.819411	100.3
6	JV24	L5	True	500.00	414.961695	83.0
7	JV25	L6	True	1000.00	946.262950	94.6
8	JV26	L7	True	2500.00	2348.352046	93.9
9	JV27	L8	True	10000.00	10301.138212	103.0
10	JV28	L9	True	20000.00	19961.451337	99.8



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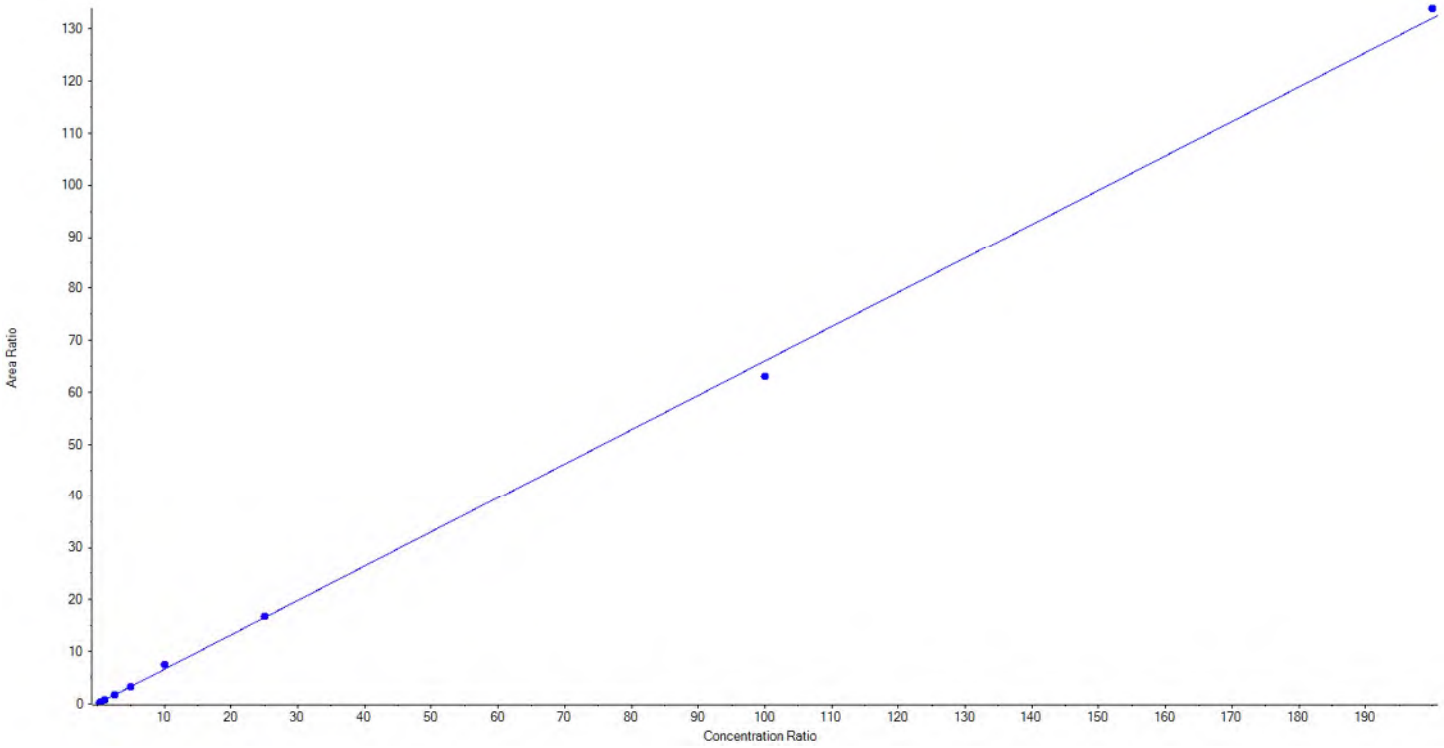
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFUnA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0339_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66031 x + 0.03289 (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	25.00	23.221298	92.9
3	JV21	L2	True	50.00	45.183090	90.4
4	JV22	L3	True	100.00	102.331398	102.3
5	JV23	L4	True	250.00	263.713408	105.5
6	JV24	L5	True	500.00	492.006275	98.4
7	JV25	L6	True	1000.00	1120.974364	112.1
8	JV26	L7	True	2500.00	2535.251355	101.4
9	JV27	L8	True	10000.00	9562.305139	95.6
10	JV28	L9	True	20000.00	20280.013673	101.4



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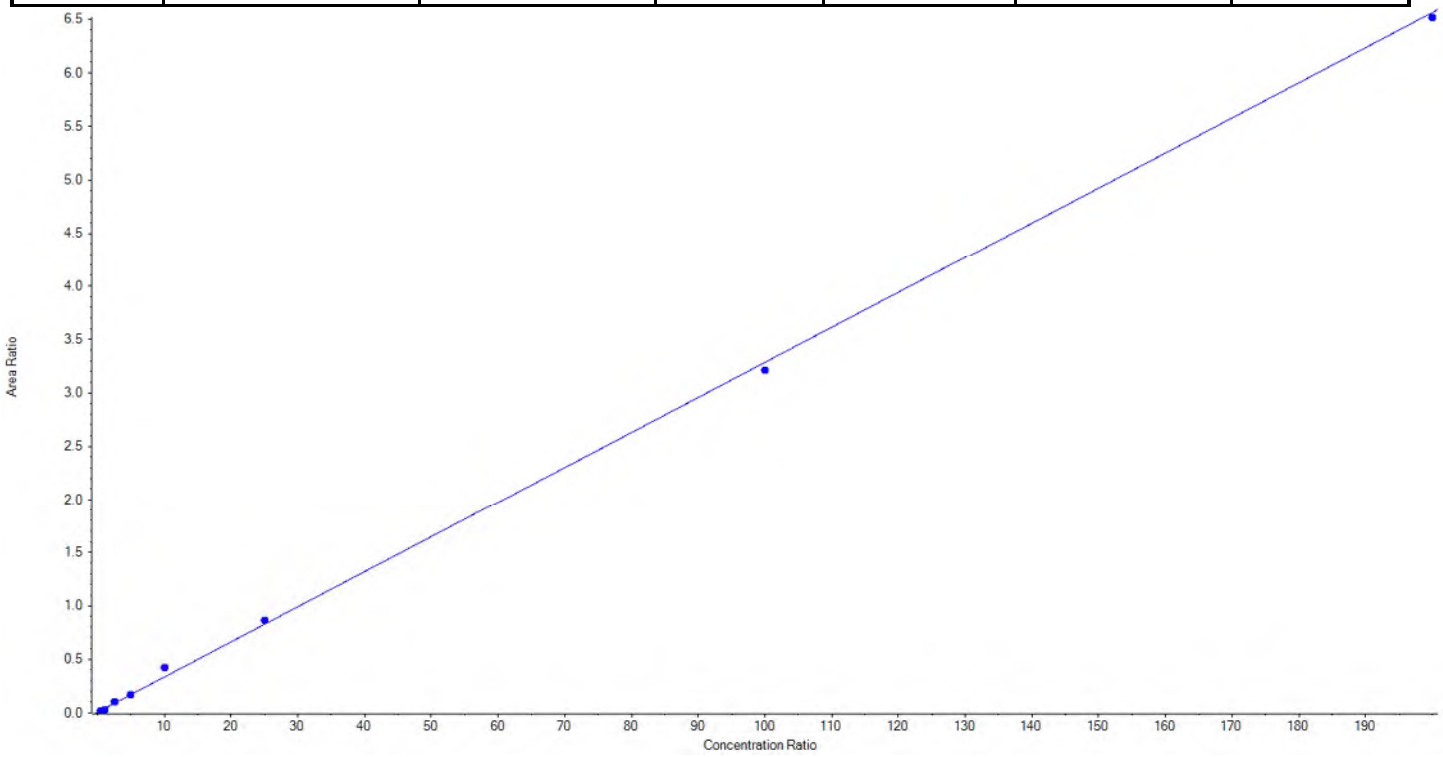
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFUnA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0339_BASE
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03278 x + 0.00712 (r = 0.99865) (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	True	50.00	43.822598	87.7
4	JV22	L3	True	100.00	75.383291	75.4
5	JV23	L4	True	250.00	281.766498	112.7
6	JV24	L5	True	500.00	483.835699	96.8
7	JV25	L6	True	1000.00	1257.023332	125.7
8	JV26	L7	True	2500.00	2616.773431	104.7
9	JV27	L8	True	10000.00	9783.505767	97.8
10	JV28	L9	True	20000.00	19857.889385	99.3



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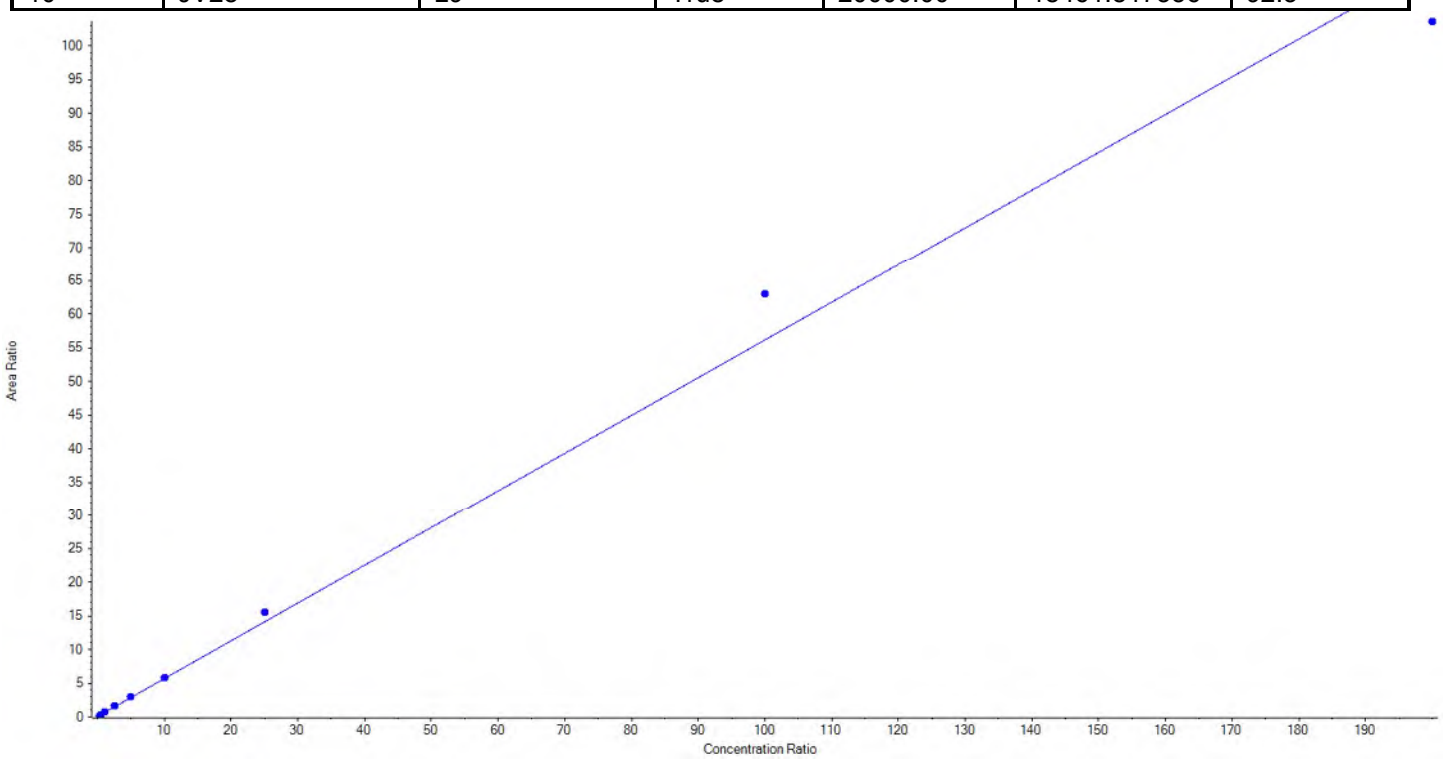
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFDoA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	613.0 / 569.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.56076 x + 0.07008 (r = 0.99552) (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	17.891807	71.6
3	JV21	L2	True	50.00	43.116970	86.2
4	JV22	L3	True	100.00	107.903751	107.9
5	JV23	L4	True	250.00	285.062622	114.0
6	JV24	L5	True	500.00	515.694938	103.1
7	JV25	L6	True	1000.00	1025.203769	102.5
8	JV26	L7	True	2500.00	2753.949739	110.2
9	JV27	L8	True	10000.00	11214.359048	112.1
10	JV28	L9	True	20000.00	18461.817356	92.3



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Calibration Summary Report

Created with Analyst Reporter
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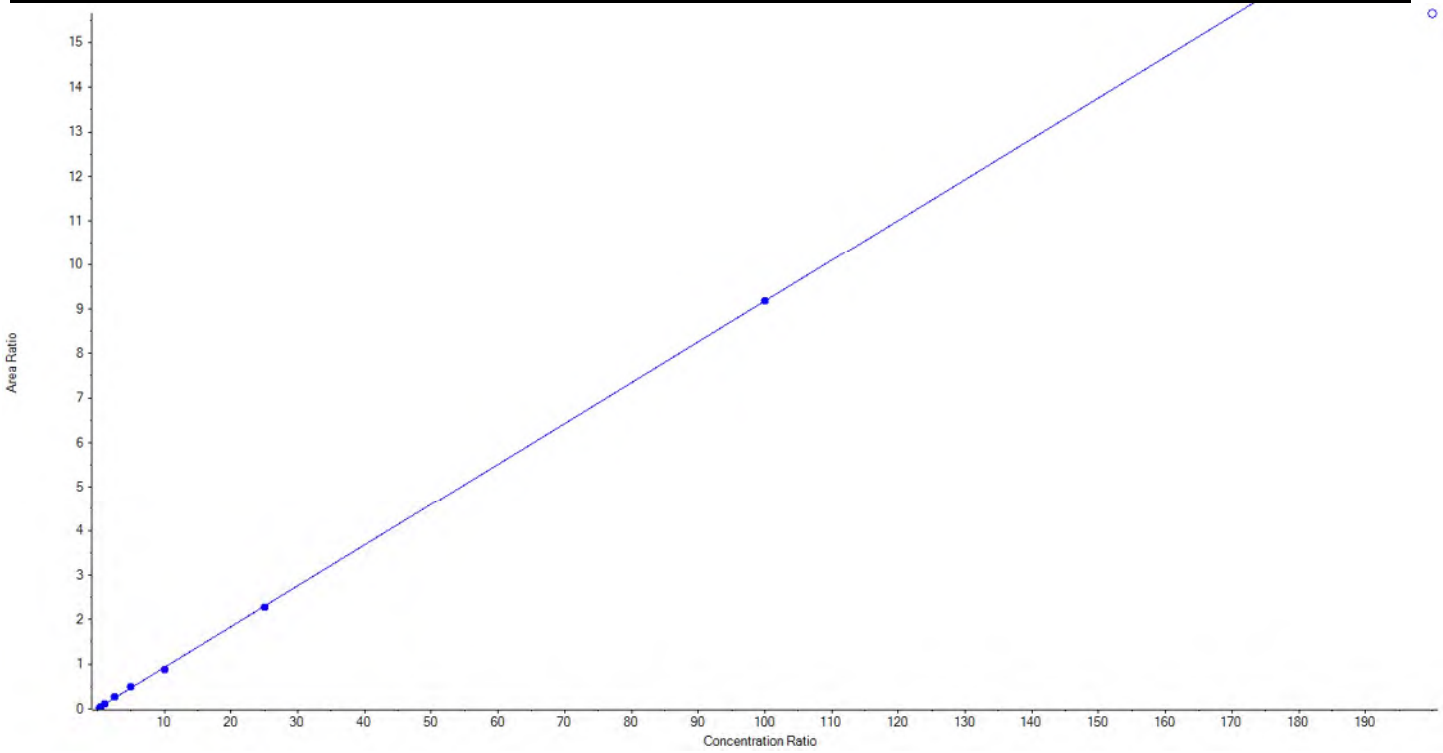
Analyte Name	PFDoA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	613.0 / 319.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFDoA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.09167 x + 0.01094 (r = 0.99959) (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	20.177506	80.7
3	JV21	L2	True	50.00	47.700453	95.4
4	JV22	L3	True	100.00	112.741892	112.7
5	JV23	L4	True	250.00	273.808637	109.5
6	JV24	L5	True	500.00	539.086551	107.8
7	JV25	L6	True	1000.00	945.776999	94.6
8	JV26	L7	True	2500.00	2479.054484	99.2
9	JV27	L8	True	10000.00	10006.653479	100.1
10	JV28	L9	False	20000.00	17061.632418	85.3



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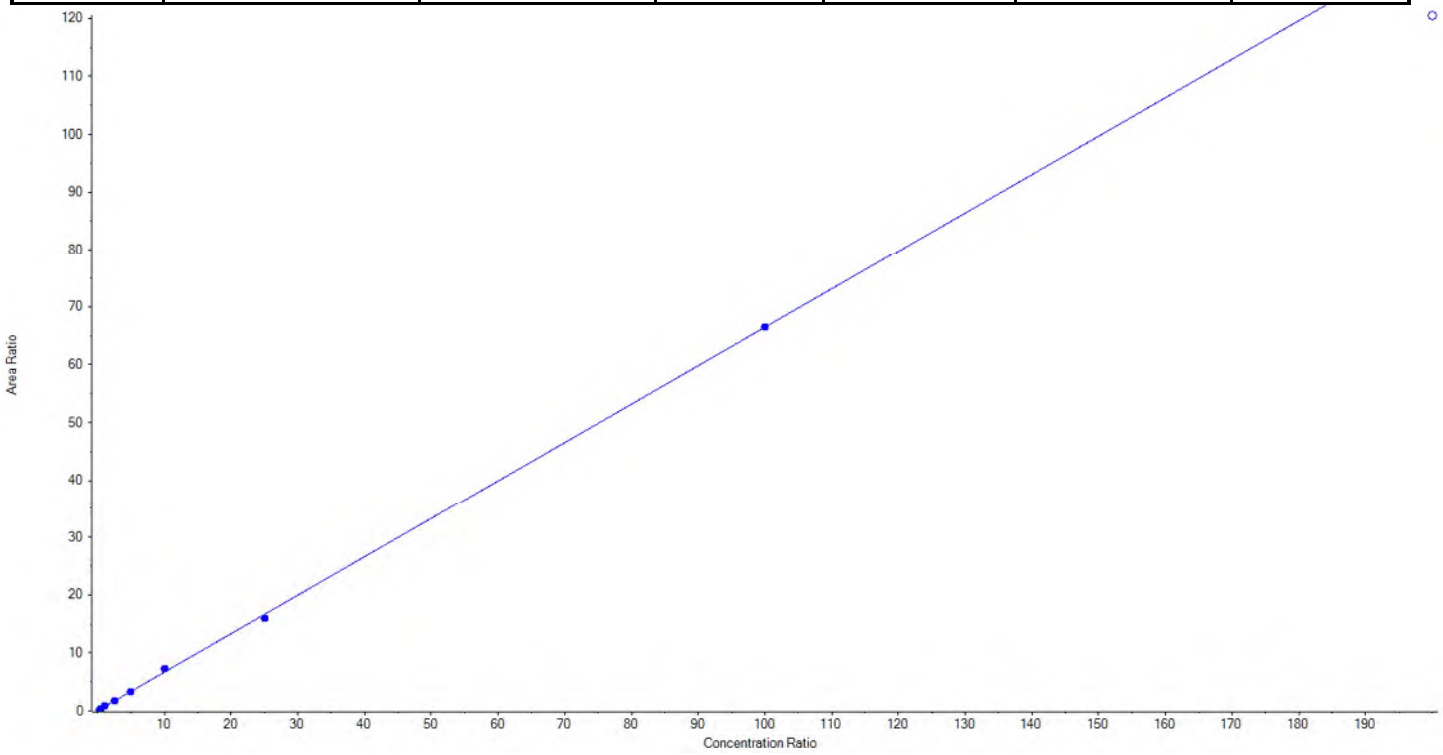
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTrDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.66424 x + 0.04256 (r = 0.99943) (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	19.723843	78.9
3	JV21	L2	True	50.00	48.662584	97.3
4	JV22	L3	True	100.00	115.946966	116.0
5	JV23	L4	True	250.00	265.101241	106.0
6	JV24	L5	True	500.00	489.468121	97.9
7	JV25	L6	True	1000.00	1079.494596	108.0
8	JV26	L7	True	2500.00	2396.096264	95.8
9	JV27	L8	True	10000.00	10010.506386	100.1
10	JV28	L9	False	20000.00	18133.416742	90.7



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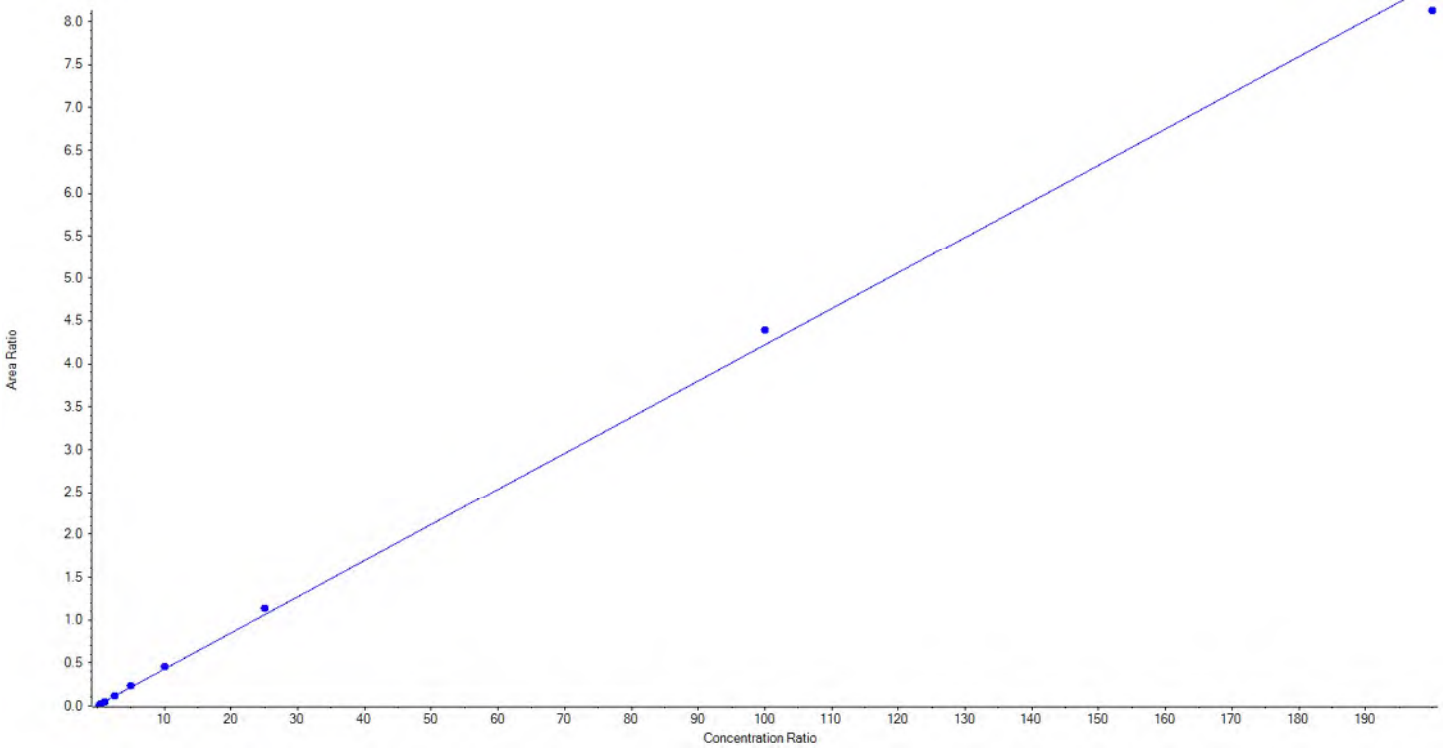
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTrDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04214 x + 0.00690 (r = 0.99896) (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	19.681946	78.7
3	JV21	L2	True	50.00	46.405536	92.8
4	JV22	L3	True	100.00	96.717403	96.7
5	JV23	L4	True	250.00	268.609217	107.4
6	JV24	L5	True	500.00	544.946551	109.0
7	JV25	L6	True	1000.00	1076.216325	107.6
8	JV26	L7	True	2500.00	2677.820269	107.1
9	JV27	L8	True	10000.00	10420.657495	104.2
10	JV28	L9	True	20000.00	19273.945258	96.4



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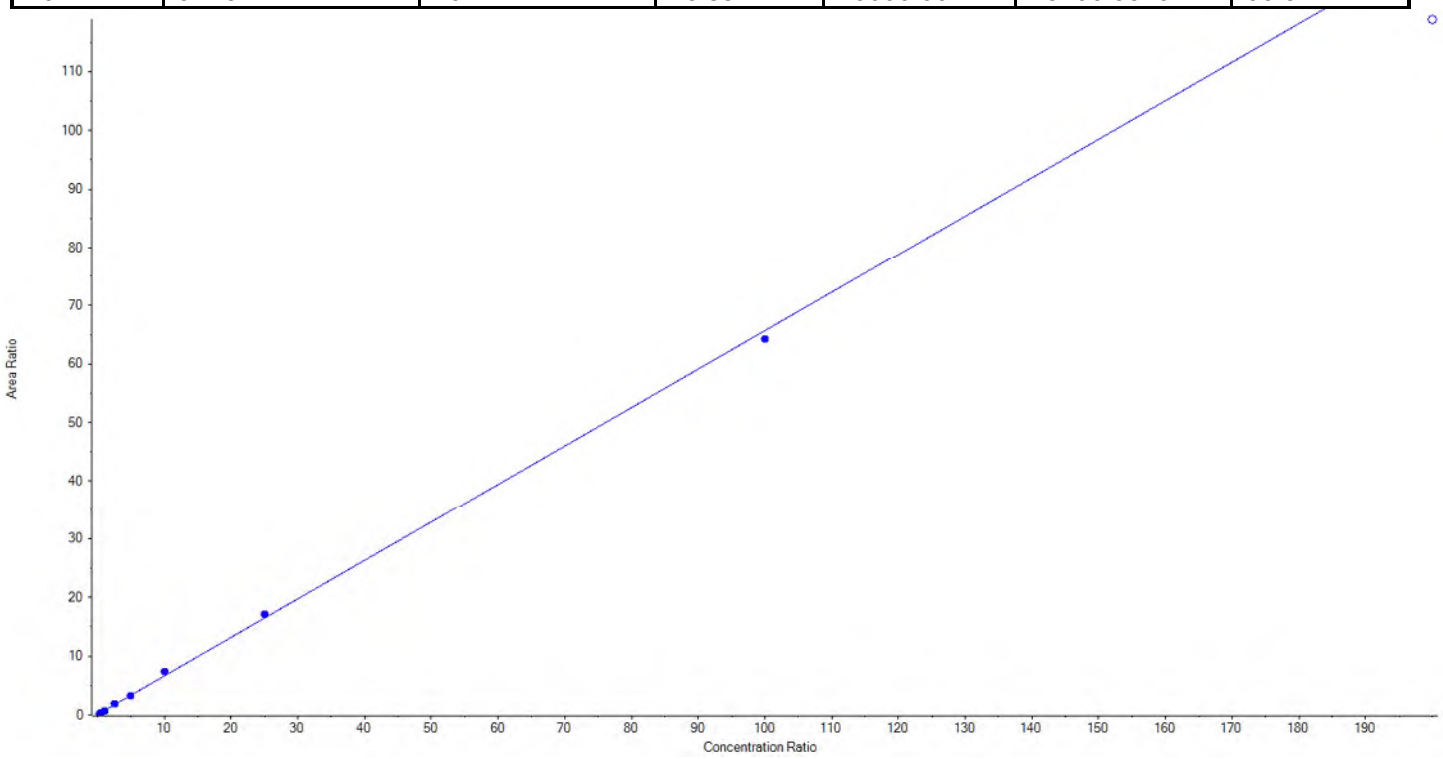
Calibration Summary Report

Analyte Name	PFTeDA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	713.0 / 669.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.65613 x + 0.06973 (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	19.622556	78.5
3	JV21	L2	True	50.00	48.244570	96.5
4	JV22	L3	True	100.00	105.794931	105.8
5	JV23	L4	True	250.00	268.824568	107.5
6	JV24	L5	True	500.00	497.478390	99.5
7	JV25	L6	True	1000.00	1107.322458	110.7
8	JV26	L7	True	2500.00	2589.694266	103.6
9	JV27	L8	True	10000.00	9788.018260	97.9
10	JV28	L9	False	20000.00	18106.532014	90.5



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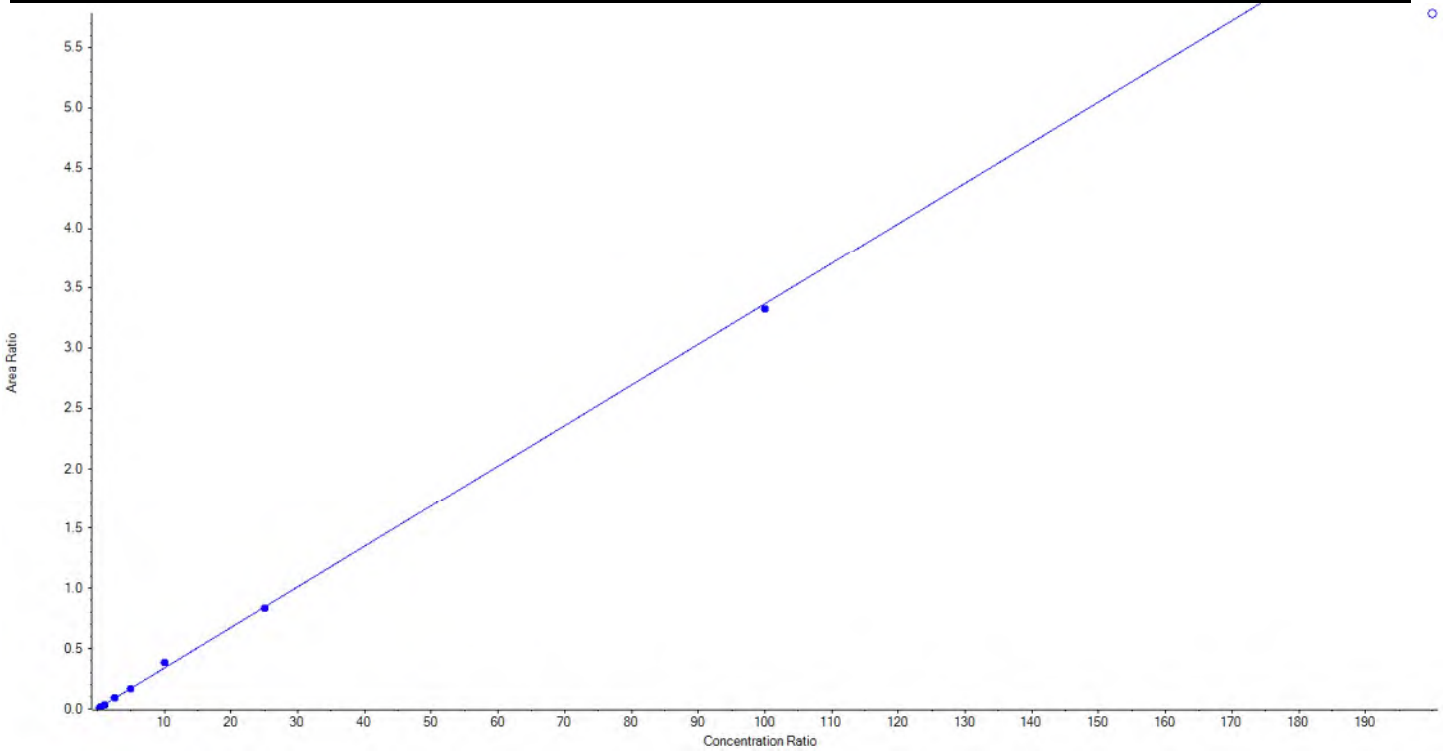
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	PFTeDA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	713.0 / 169.0	**Result Table**	18-0339_BASE
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03365 x + 0.00147 (r = 0.99917) (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	18.113567	72.5
3	JV21	L2	True	50.00	56.211417	112.4
4	JV22	L3	True	100.00	98.635374	98.6
5	JV23	L4	True	250.00	264.144348	105.7
6	JV24	L5	True	500.00	498.661194	99.7
7	JV25	L6	True	1000.00	1132.146052	113.2
8	JV26	L7	True	2500.00	2477.068716	99.1
9	JV27	L8	True	10000.00	9880.019332	98.8
10	JV28	L9	False	20000.00	17173.824448	85.9



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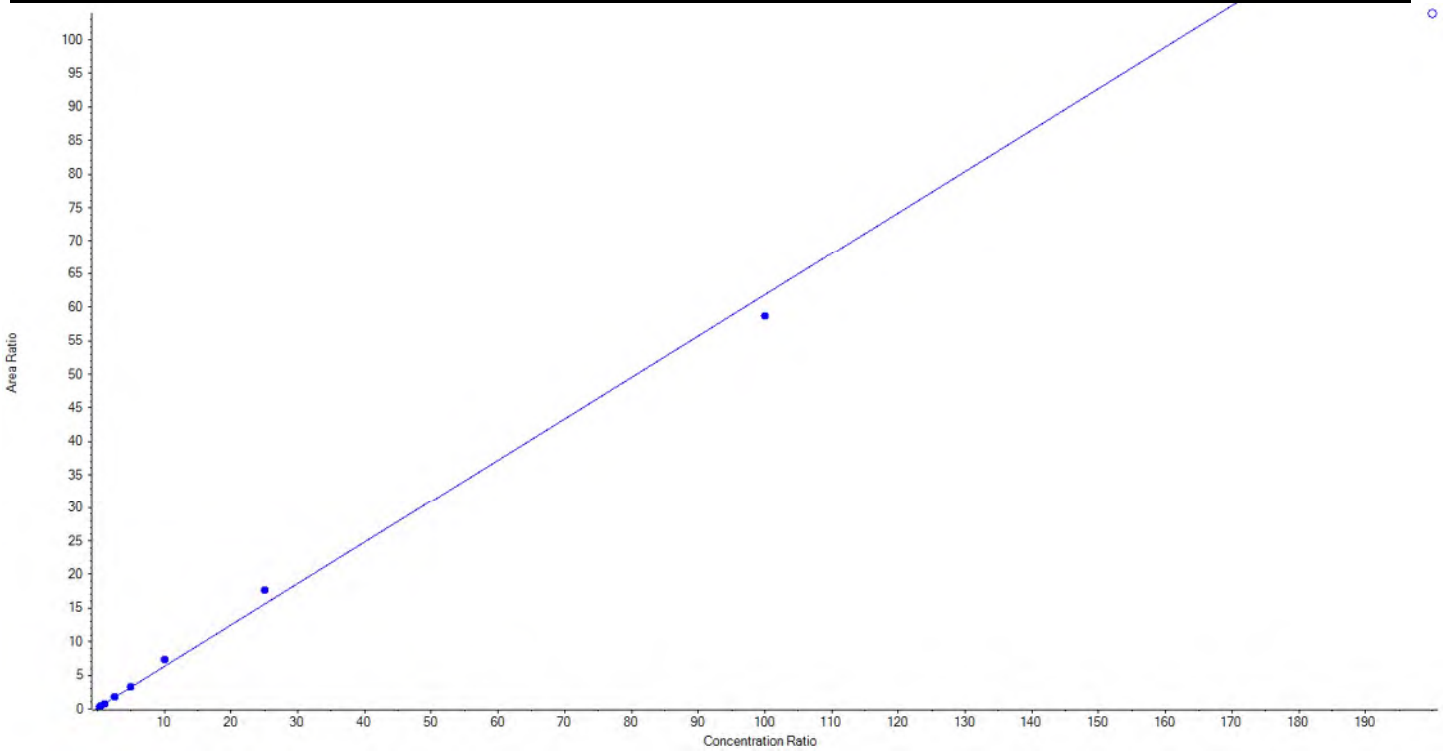
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	NMeFOSAA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	570.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.61718 x + 0.14438 (r = 0.99615) (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	18.857493	75.4
3	JV21	L2	True	50.00	41.403253	82.8
4	JV22	L3	True	100.00	107.734733	107.7
5	JV23	L4	True	250.00	273.400562	109.4
6	JV24	L5	True	500.00	501.530763	100.3
7	JV25	L6	True	1000.00	1157.584702	115.8
8	JV26	L7	True	2500.00	2845.301925	113.8
9	JV27	L8	True	10000.00	9479.186569	94.8
10	JV28	L9	False	20000.00	16807.361536	84.0



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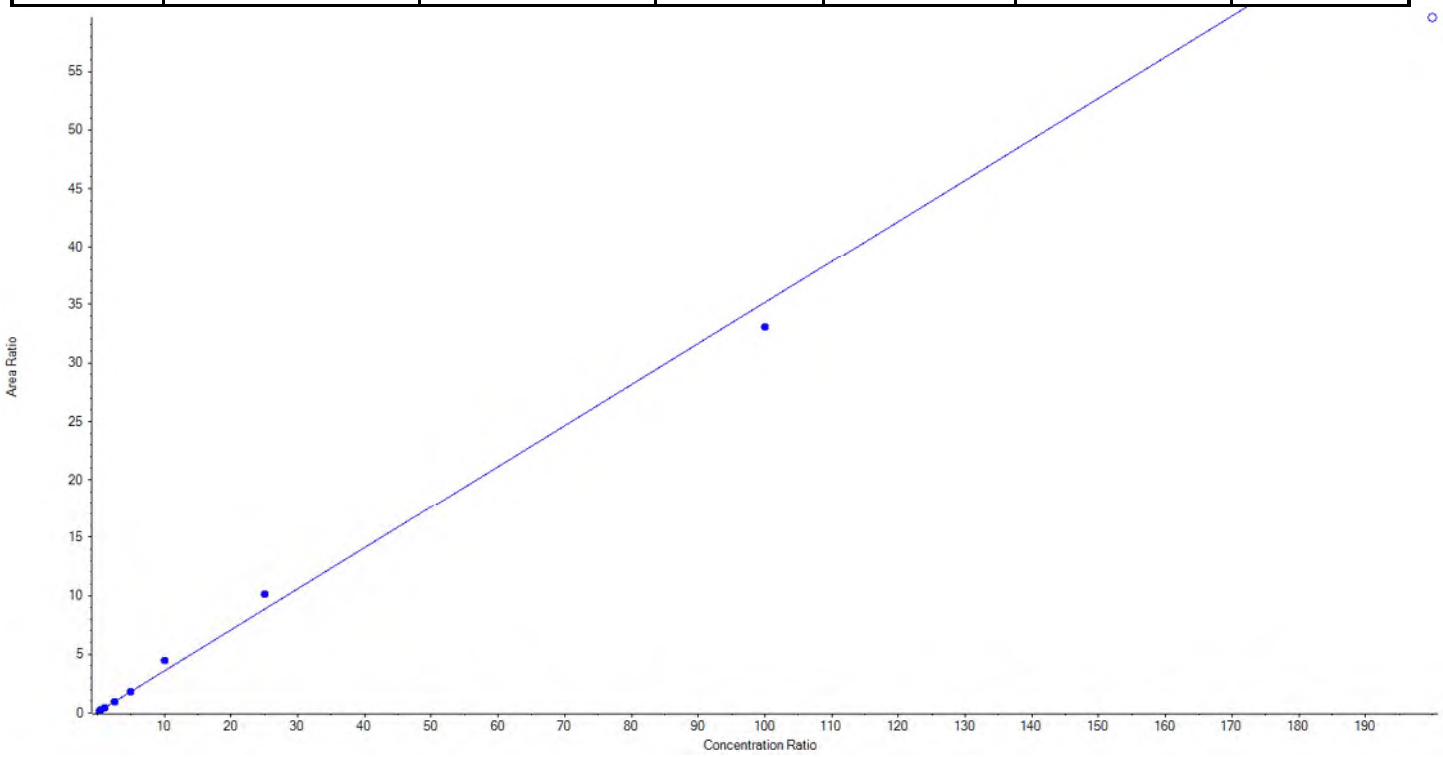
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	NMeFOSAA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	570.0 / 512.0	**Result Table**	18-0339_BASE
Internal Standard	d3-MeFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.35099 x + 0.07007 (r = 0.99439) (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	17.523854	70.1
3	JV21	L2	True	50.00	46.249712	92.5
4	JV22	L3	True	100.00	106.998398	107.0
5	JV23	L4	True	250.00	244.521936	97.8
6	JV24	L5	True	500.00	495.970787	99.2
7	JV25	L6	True	1000.00	1247.856696	124.8
8	JV26	L7	True	2500.00	2865.312512	114.6
9	JV27	L8	True	10000.00	9400.566106	94.0
10	JV28	L9	False	20000.00	16961.628975	84.8



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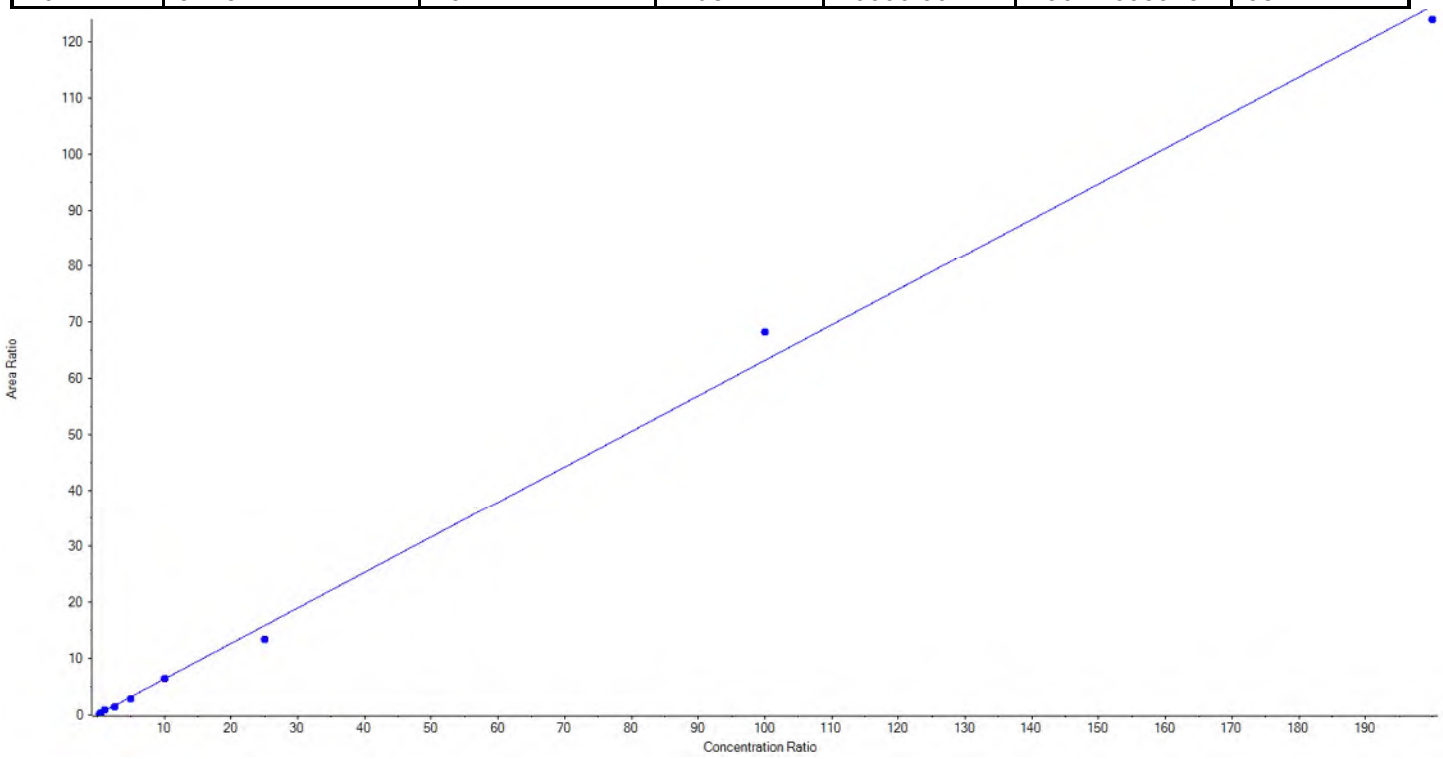
Calibration Summary Report

Analyte Name	NEtFOSAA_1	**Data File**	18-0334_18-0339.wiff
MRM Transition	584.0 / 419.0	**Result Table**	18-0339_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.63180 x + 0.04717 (r = 0.99788) (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	23.829354	95.3
3	JV21	L2	True	50.00	51.985355	104.0
4	JV22	L3	True	100.00	126.998080	127.0
5	JV23	L4	True	250.00	225.203356	90.1
6	JV24	L5	True	500.00	455.422438	91.1
7	JV25	L6	True	1000.00	1019.443509	101.9
8	JV26	L7	True	2500.00	2116.363764	84.7
9	JV27	L8	True	10000.00	10784.058199	107.8
10	JV28	L9	True	20000.00	19621.695945	98.1



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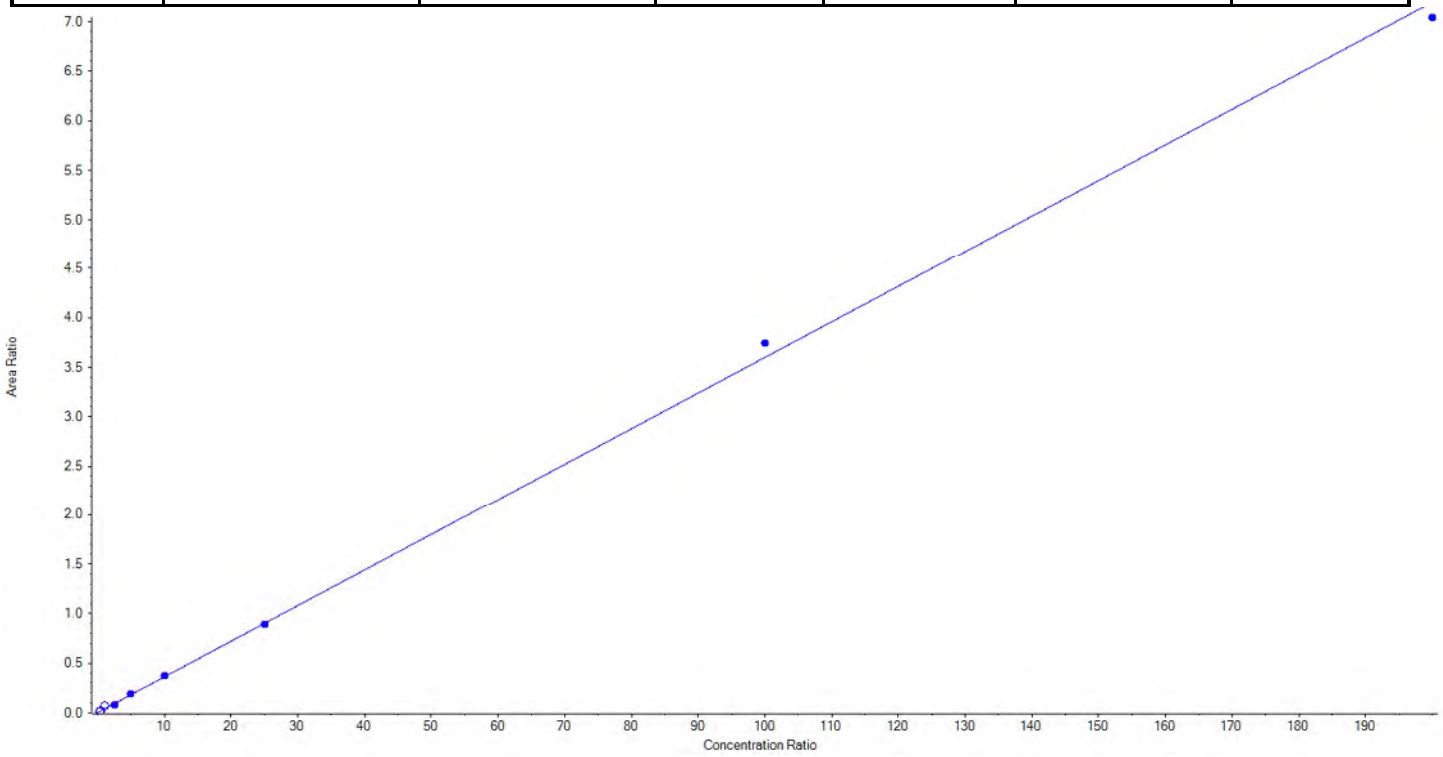
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:54:35 AM

Analyte Name	NEtFOSAA_2	**Data File**	18-0334_18-0339.wiff
MRM Transition	584.0 / 483.0	**Result Table**	18-0339_BASE
Internal Standard	d5-EtFOSAA	**Instrument Name**	QTRAP 5500
Acquisition Date	5/30/2018 7:07:30 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03596 x + 0.00328 (r = 0.99943) (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	16.243728	65.0
3	JV21	L2	False	50.00	49.048899	98.1
4	JV22	L3	False	100.00	198.946648	199.0
5	JV23	L4	True	250.00	220.143007	88.1
6	JV24	L5	True	500.00	540.480909	108.1
7	JV25	L6	True	1000.00	1025.969724	102.6
8	JV26	L7	True	2500.00	2482.358971	99.3
9	JV27	L8	True	10000.00	10410.009450	104.1
10	JV28	L9	True	20000.00	19571.037939	97.9



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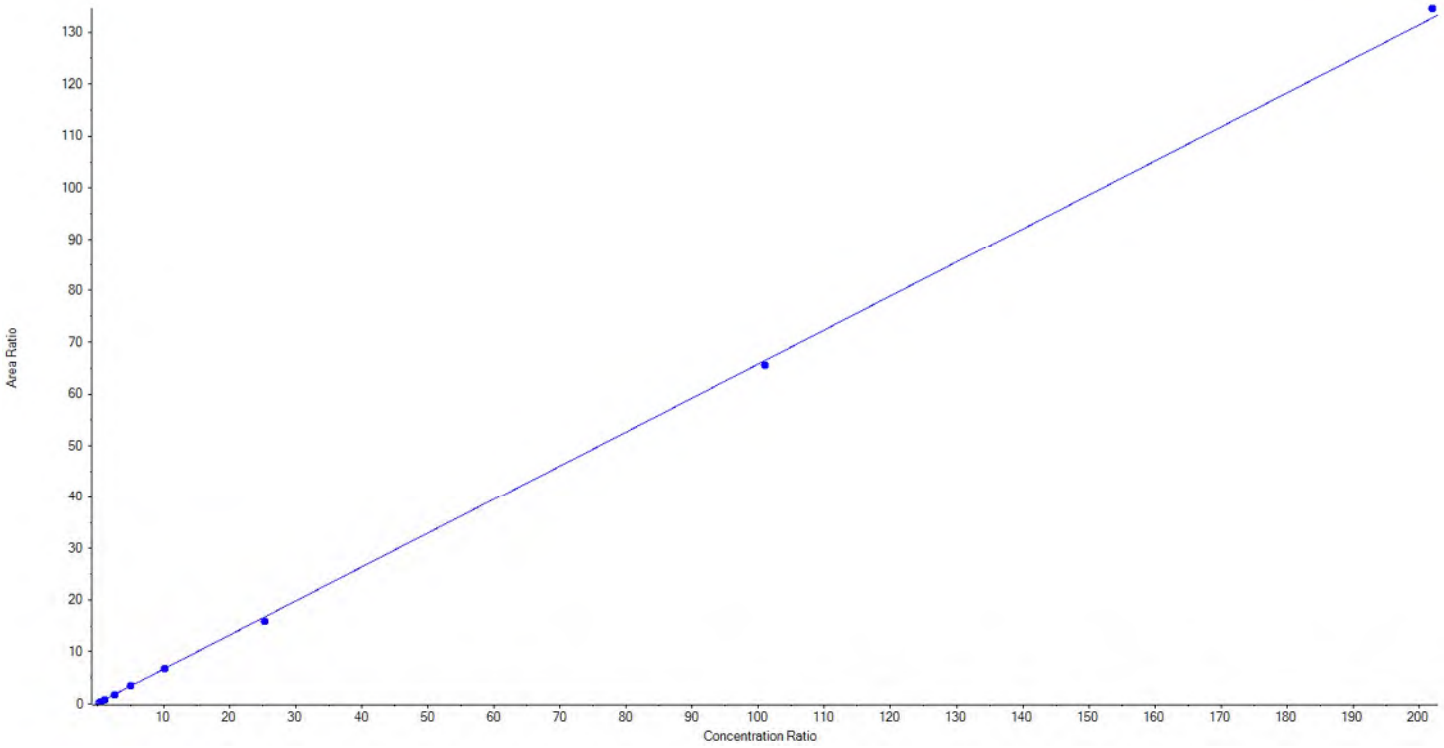
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxA_1	**Data File**	06022018.wiff
MRM Transition	313.0 / 269.0	**Result Table**	18-0339_D
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.65652 x + 0.14626 (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	False	25.25	5.532306	21.9
3	JV21	L2	True	50.50	49.594148	98.2
4	JV22	L3	True	101.00	108.340209	107.3
5	JV23	L4	True	252.50	253.418132	100.4
6	JV24	L5	True	505.00	507.575341	100.5
7	JV25	L6	True	1010.00	999.237196	98.9
8	JV26	L7	True	2525.00	2393.126171	94.8
9	JV27	L8	True	10100.00	9955.372869	98.6
10	JV28	L9	True	20200.00	20477.335935	101.4



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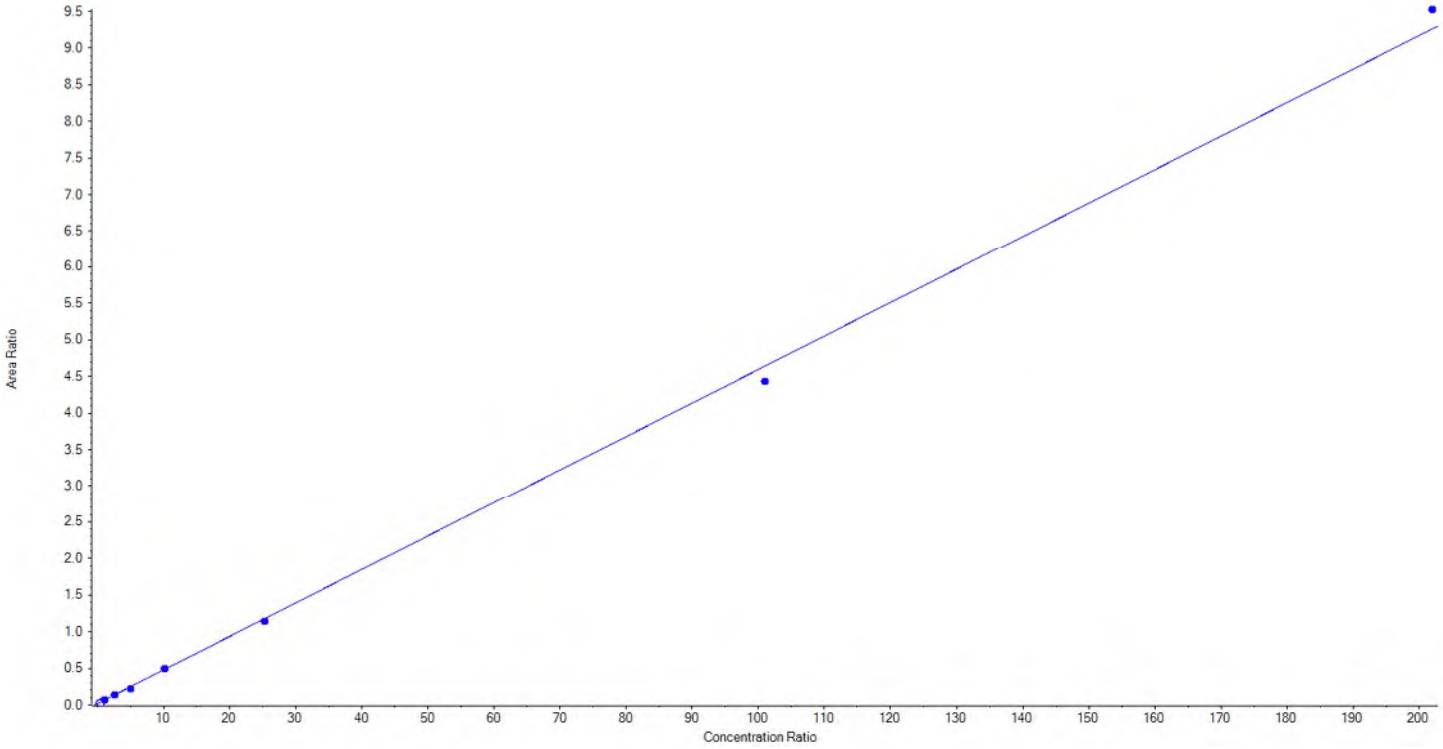
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxA_2	**Data File**	06022018.wiff
MRM Transition	313.0 / 119.0	**Result Table**	18-0339_D
Internal Standard	13C5-PFHxA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.04576 x + 0.01936 (r = 0.99914) (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	< 0	N/A
3	JV21	L2	False	50.50	4.917811	9.7
4	JV22	L3	True	101.00	116.325953	115.2
5	JV23	L4	True	252.50	258.832749	102.5
6	JV24	L5	True	505.00	428.117422	84.8
7	JV25	L6	True	1010.00	1035.349989	102.5
8	JV26	L7	True	2525.00	2443.647059	96.8
9	JV27	L8	True	10100.00	9636.089413	95.4
10	JV28	L9	True	20200.00	20775.137414	102.9



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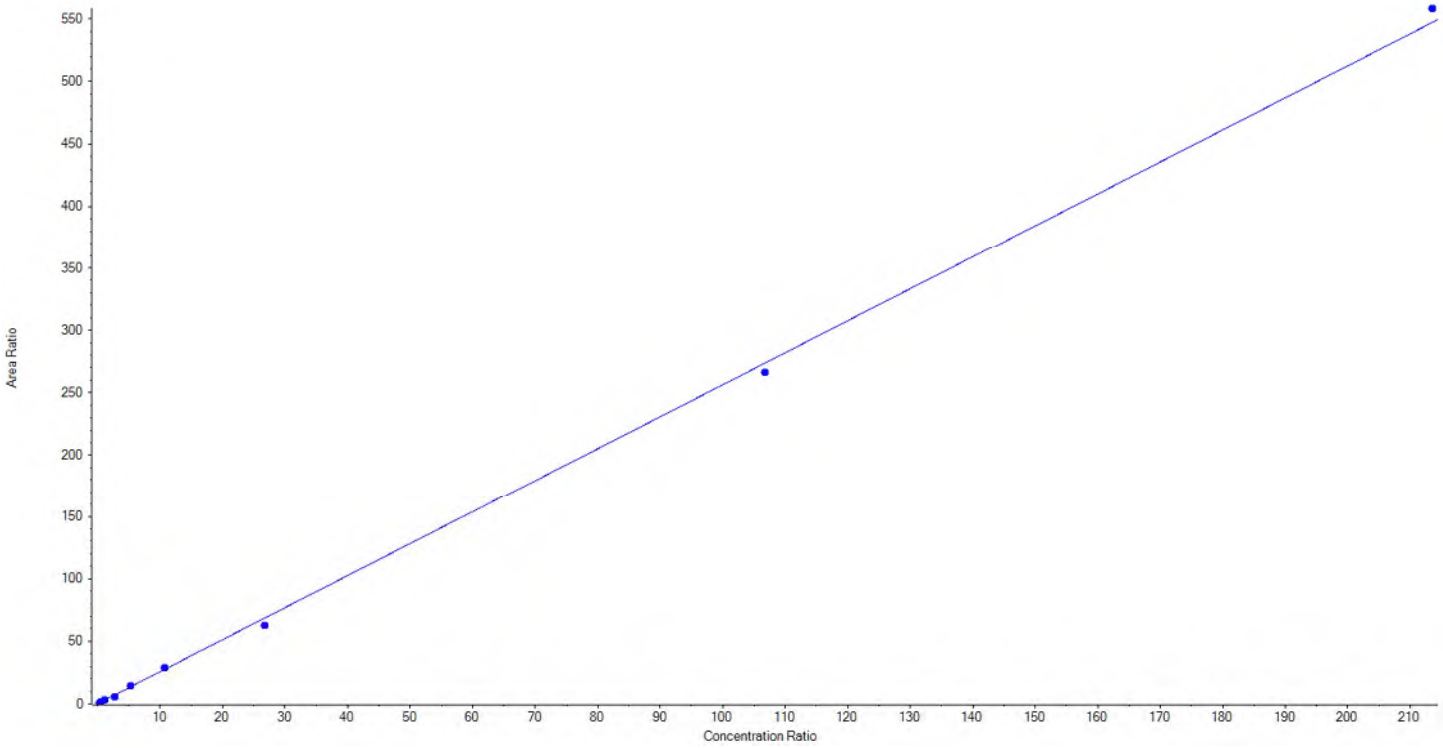
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxS_1	**Data File**	06022018.wiff
MRM Transition	399.0 / 80.0	**Result Table**	18-0339_D
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.56188 x + 0.14000 (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	25.25	27.002198	106.9
3	JV21	L2	True	50.50	48.651543	96.3
4	JV22	L3	True	101.00	111.928455	110.8
5	JV23	L4	True	252.50	215.699165	85.4
6	JV24	L5	True	505.00	518.961762	102.8
7	JV25	L6	True	1010.00	1074.412721	106.4
8	JV26	L7	True	2525.00	2319.270796	91.9
9	JV27	L8	True	10100.00	9841.785586	97.4
10	JV28	L9	True	20200.00	20611.537773	102.0



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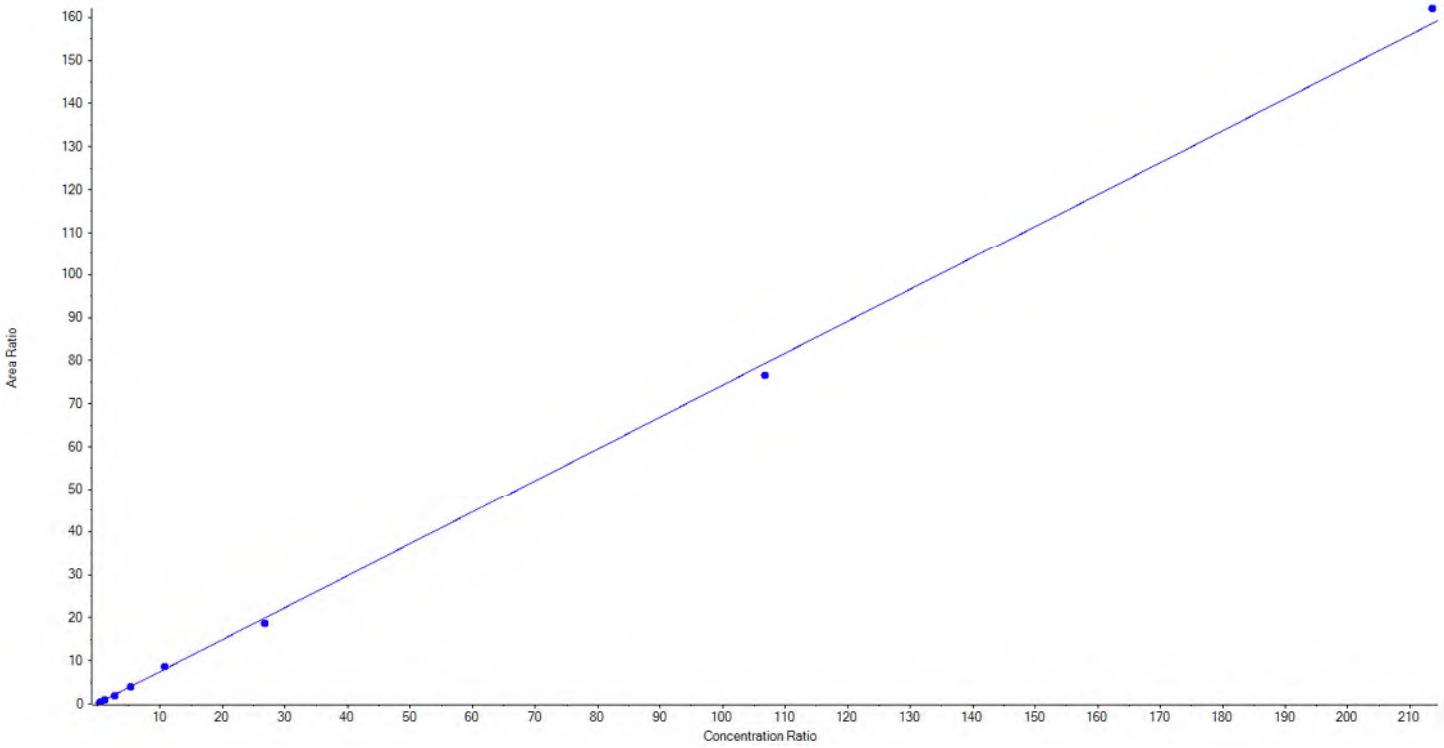
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFHxS_2	**Data File**	06022018.wiff
MRM Transition	399.0 / 99.0	**Result Table**	18-0339_D
Internal Standard	13C3-PFHxS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.74227 x + 0.08346 (r = 0.99939) (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	23.631500	93.6
3	JV21	L2	True	50.50	55.586062	110.1
4	JV22	L3	True	101.00	109.728491	108.6
5	JV23	L4	True	252.50	223.267676	88.4
6	JV24	L5	True	505.00	498.642930	98.7
7	JV25	L6	True	1010.00	1088.100159	107.7
8	JV26	L7	True	2525.00	2374.504861	94.0
9	JV27	L8	True	10100.00	9753.715741	96.6
10	JV28	L9	True	20200.00	20642.072581	102.2



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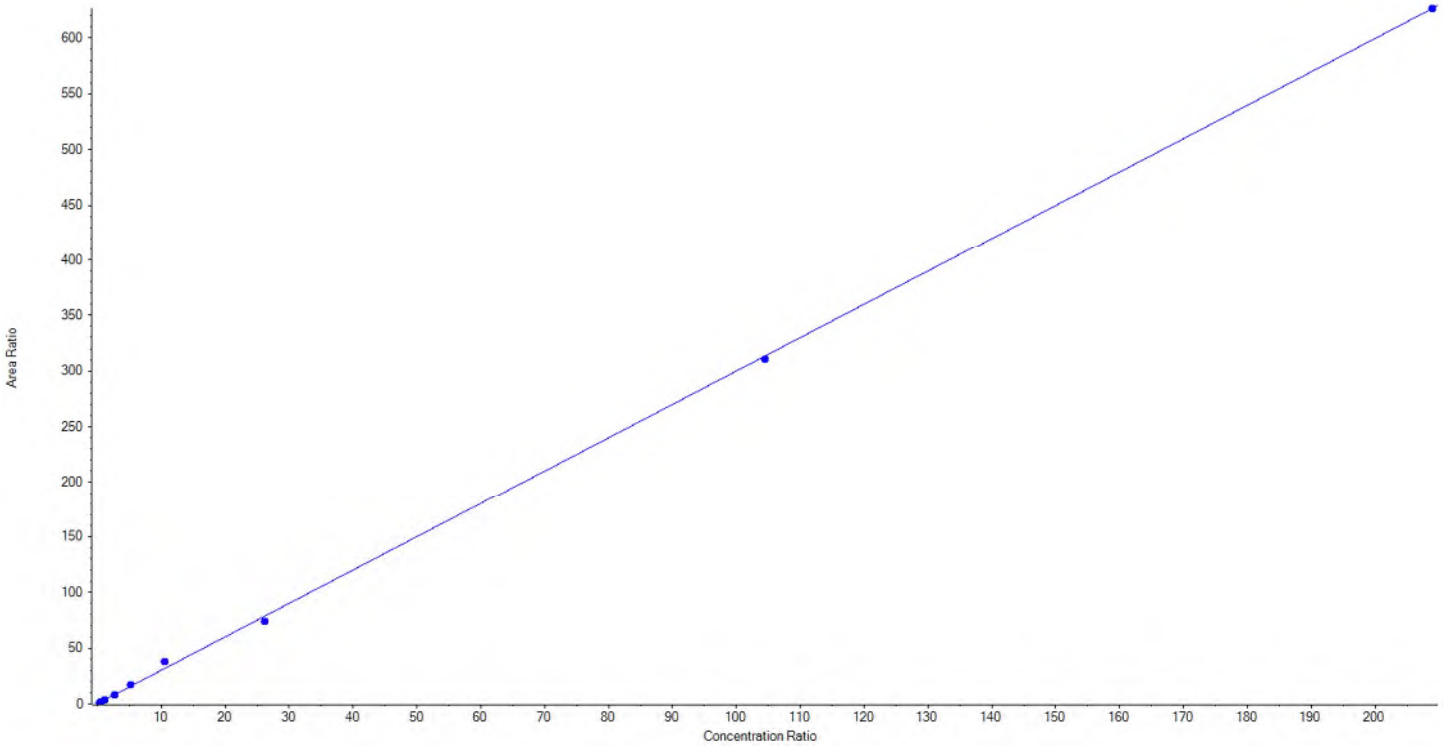
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFOS_1	**Data File**	06022018.wiff
MRM Transition	499.0 / 80.0	**Result Table**	18-0339_D
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 2.99639 x + 0.29547 (r = 0.99916) (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	20.201554	80.8
3	JV21	L2	True	50.00	46.934382	93.9
4	JV22	L3	True	100.00	107.983313	108.0
5	JV23	L4	True	250.00	241.902053	96.8
6	JV24	L5	True	500.00	530.777101	106.2
7	JV25	L6	True	1000.00	1209.203973	120.9
8	JV26	L7	True	2500.00	2360.822596	94.4
9	JV27	L8	True	10000.00	9907.258193	99.1
10	JV28	L9	True	20000.00	19999.916836	100.0



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Calibration Summary Report

Created with Analyst Reporter
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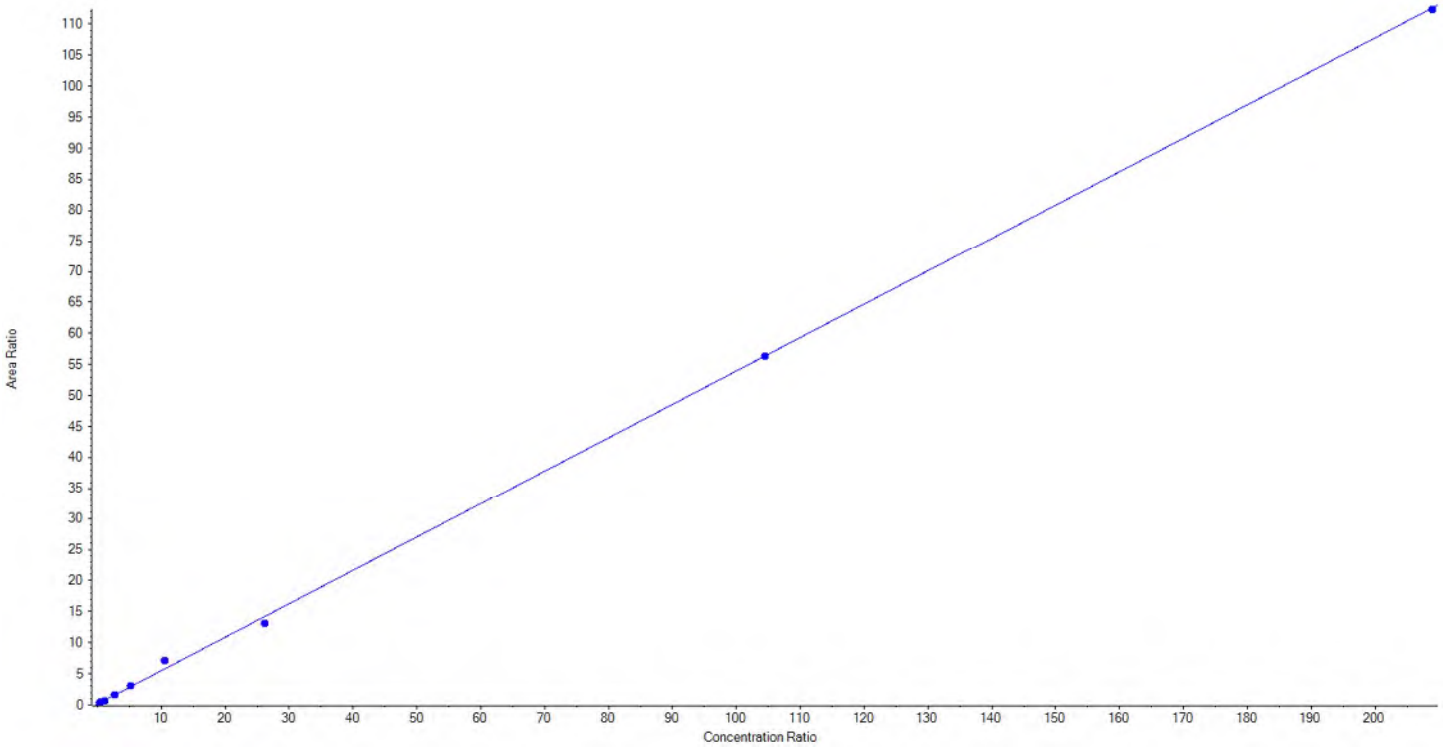
Analyte Name	PFOS_2	**Data File**	06022018.wiff
MRM Transition	499.0 / 99.0	**Result Table**	18-0339_D
Internal Standard	13C8-PFOS	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.53809 x + 0.13612 (r = 0.99871) (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	20.785422	83.1
3	JV21	L2	True	50.00	55.487182	111.0
4	JV22	L3	True	100.00	83.990824	84.0
5	JV23	L4	True	250.00	249.265872	99.7
6	JV24	L5	True	500.00	526.966919	105.4
7	JV25	L6	True	1000.00	1253.612746	125.4
8	JV26	L7	True	2500.00	2295.033107	91.8
9	JV27	L8	True	10000.00	9986.300410	99.9
10	JV28	L9	True	20000.00	19953.557518	99.8



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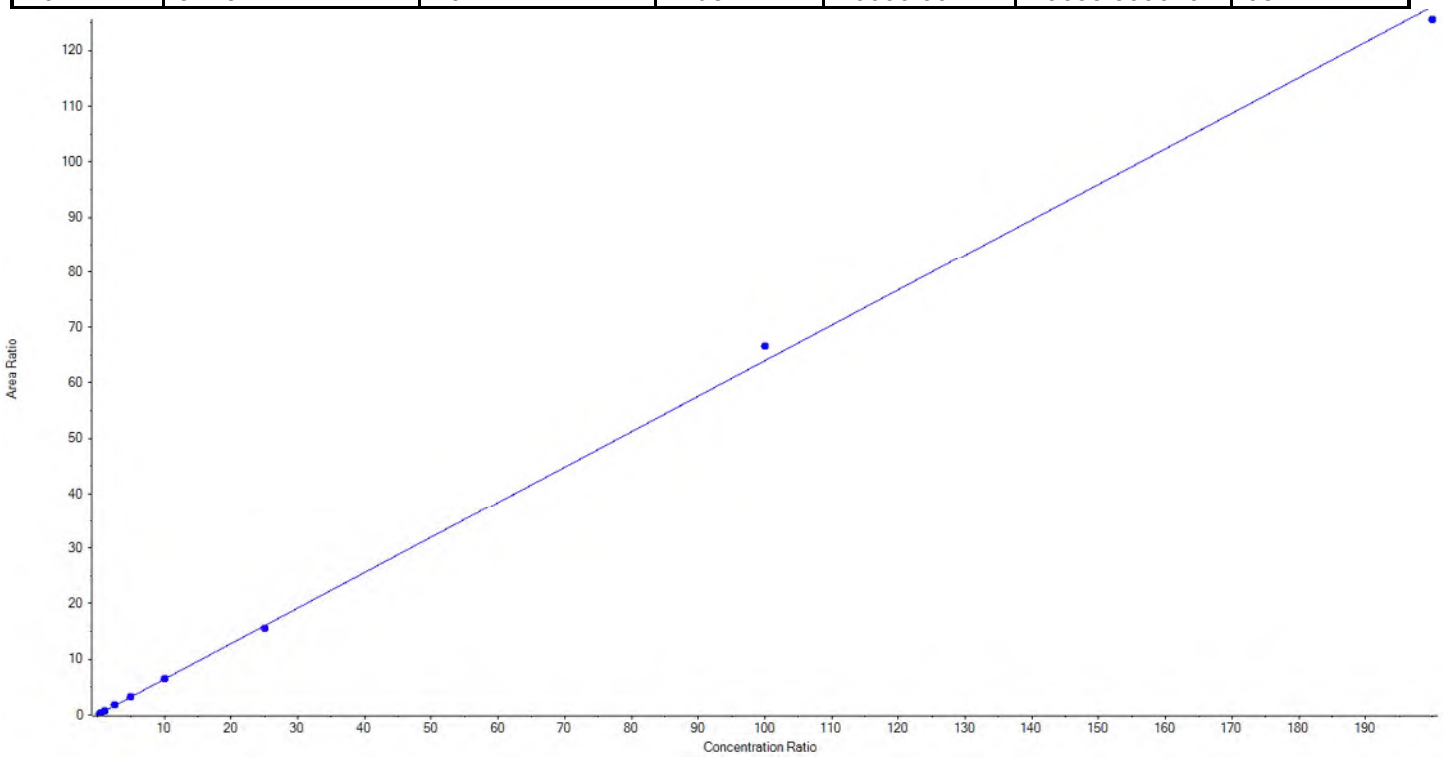
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFUnA_1	**Data File**	06022018.wiff
MRM Transition	563.0 / 519.0	**Result Table**	18-0339_D
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.63938 x + 0.03242 (r = 0.99952) (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	19.847913	79.4
3	JV21	L2	True	50.00	50.062270	100.1
4	JV22	L3	True	100.00	111.452360	111.5
5	JV23	L4	True	250.00	278.465867	111.4
6	JV24	L5	True	500.00	491.554609	98.3
7	JV25	L6	True	1000.00	1001.313491	100.1
8	JV26	L7	True	2500.00	2421.926401	96.9
9	JV27	L8	True	10000.00	10414.777473	104.2
10	JV28	L9	True	20000.00	19635.599616	98.2



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Calibration Summary Report

Created with Analyst Reporter
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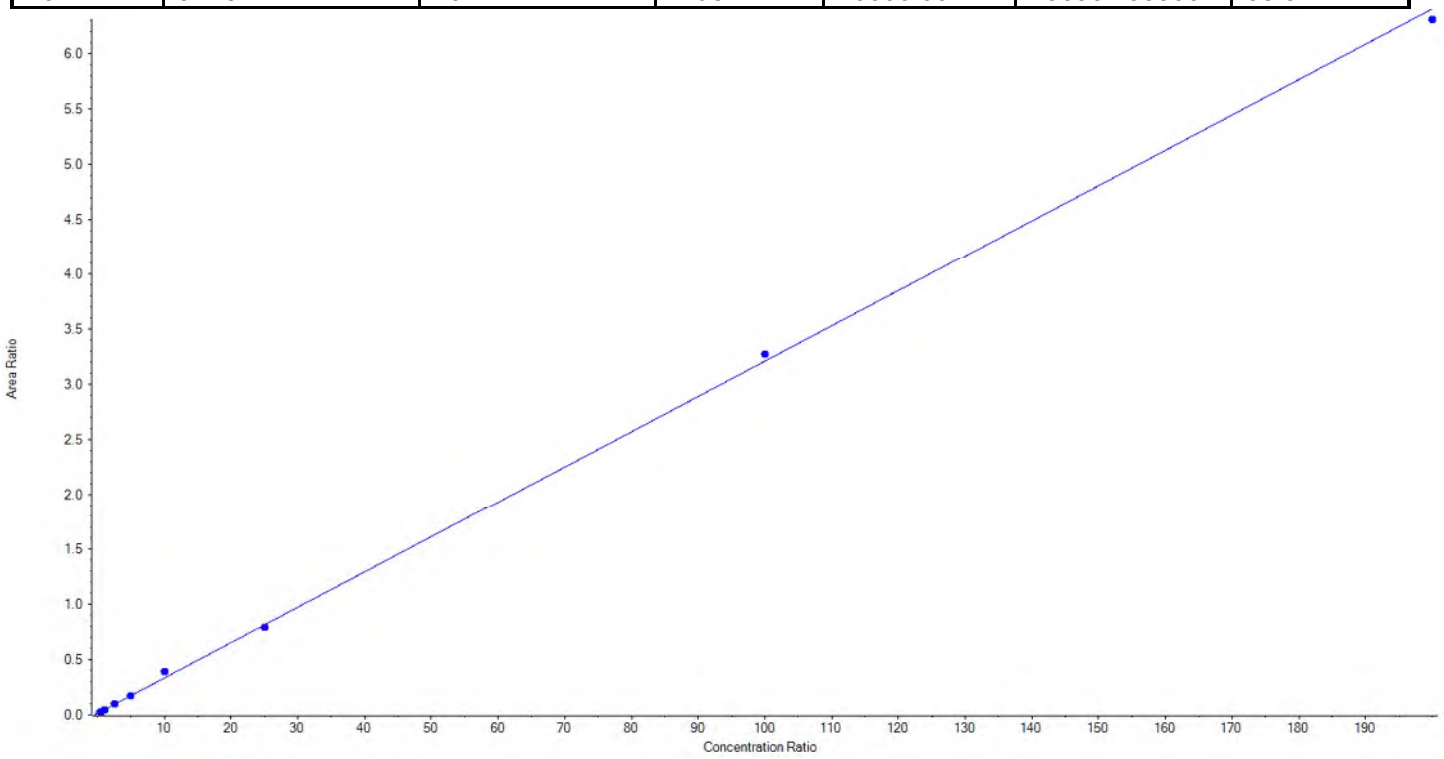
Analyte Name	PFUnA_2	**Data File**	06022018.wiff
MRM Transition	563.0 / 269.0	**Result Table**	18-0339_D
Internal Standard	13C7-PFUnA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = 0.03196 x + 0.01373 (r = 0.99930) (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	43.065320	86.1
4	JV22	L3	True	100.00	89.598884	89.6
5	JV23	L4	True	250.00	280.024039	112.0
6	JV24	L5	True	500.00	486.642009	97.3
7	JV25	L6	True	1000.00	1170.936779	117.1
8	JV26	L7	True	2500.00	2434.180604	97.4
9	JV27	L8	True	10000.00	10198.758865	102.0
10	JV28	L9	True	20000.00	19696.793500	98.5



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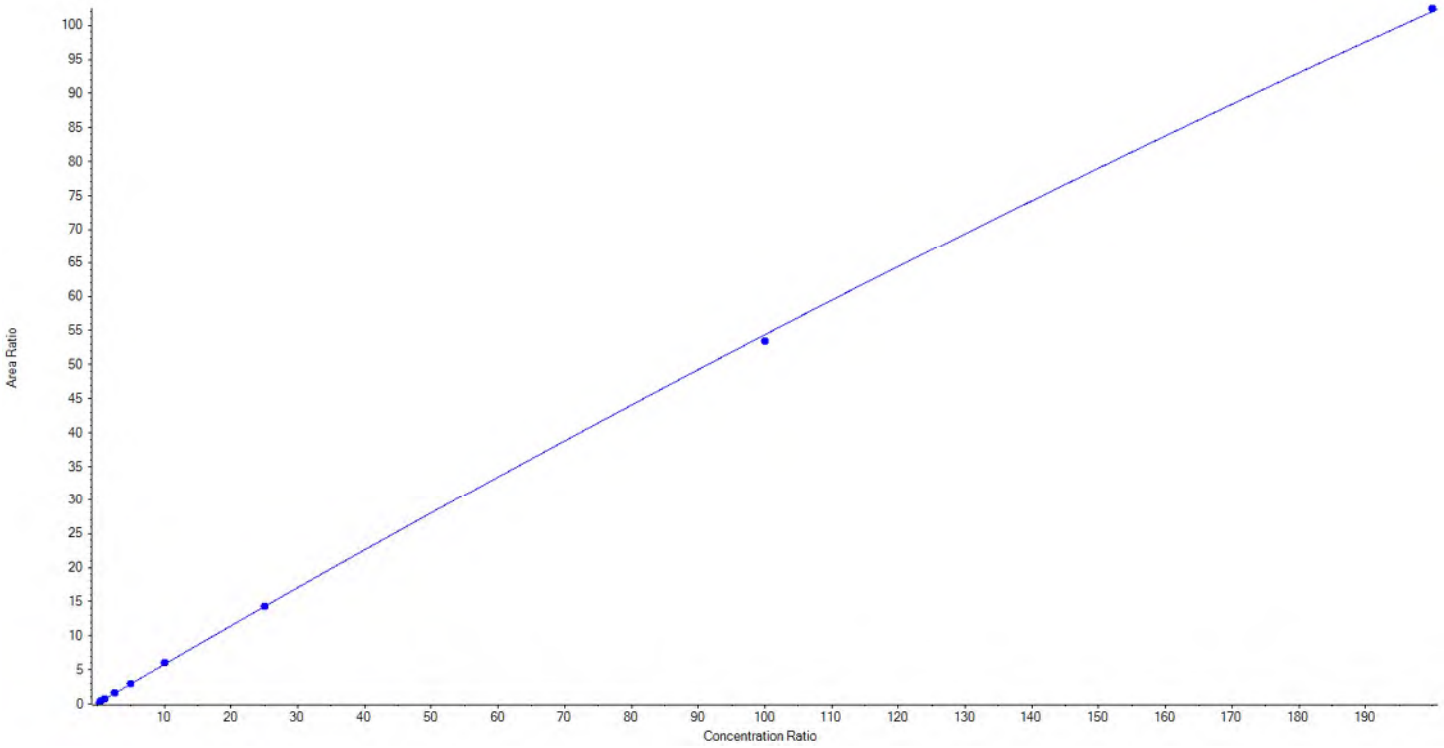
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFTrDA_1	**Data File**	06022018.wiff
MRM Transition	663.0 / 619.0	**Result Table**	18-0339_D
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = -3.35582e-4 x^2 + 0.57688 x + 0.06065 (r = 0.99984) (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	17.820321	71.3
3	JV21	L2	True	50.00	54.011640	108.0
4	JV22	L3	True	100.00	108.910297	108.9
5	JV23	L4	True	250.00	267.690412	107.1
6	JV24	L5	True	500.00	506.930895	101.4
7	JV25	L6	True	1000.00	1039.791932	104.0
8	JV26	L7	True	2500.00	2517.595628	100.7
9	JV27	L8	True	10000.00	9814.361419	98.1
10	JV28	L9	True	20000.00	20101.185251	100.5



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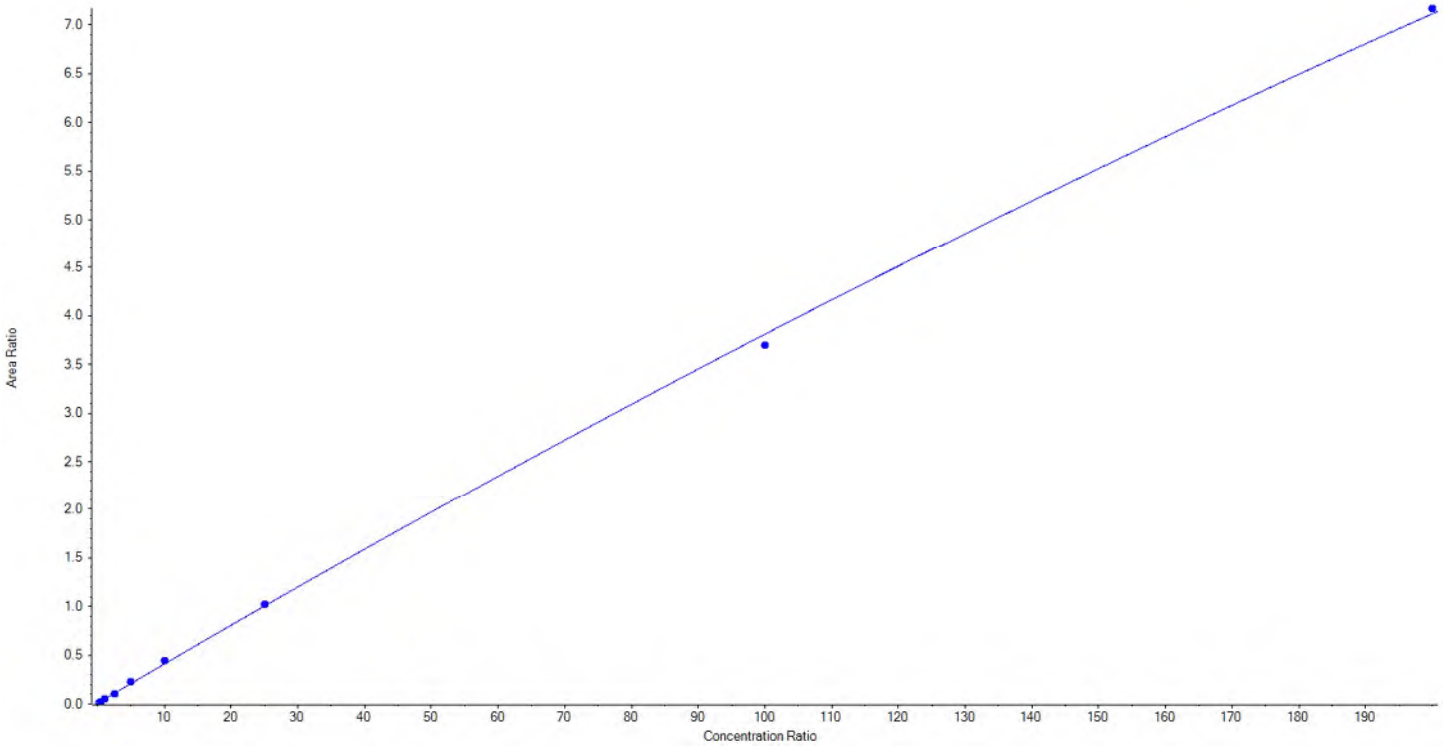
Calibration Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 11:55:01 AM

Analyte Name	PFTrDA_2	**Data File**	06022018.wiff
MRM Transition	663.0 / 169.0	**Result Table**	18-0339_D
Internal Standard	13C2-PFTeDA	**Instrument Name**	QTRAP 5500
Acquisition Date	6/4/2018 7:23:13 PM	**Acquisition Method**	5-0369.dam

Regression Equation: y = -2.49900e-5 x^2 + 0.04054 x + 0.00687 (r = 0.99951) (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	4.270220	17.1
3	JV21	L2	True	50.00	35.468877	70.9
4	JV22	L3	True	100.00	116.693833	116.7
5	JV23	L4	True	250.00	243.784060	97.5
6	JV24	L5	True	500.00	535.379714	107.1
7	JV25	L6	True	1000.00	1087.288041	108.7
8	JV26	L7	True	2500.00	2535.950933	101.4
9	JV27	L8	True	10000.00	9675.448826	96.8
10	JV28	L9	True	20000.00	20176.892858	100.9



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	Calibration Curve Concentrations (ng/L)								
	JV20	JV21	JV22	JV23	JV24	JV25	JV26	JV27	JV28
PFBA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFPeA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxA	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFUnA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFDoA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTrDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFTeDA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NMeFOSAA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
NEtFOSAA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOSA	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFBS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFPeS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFHxS (Branched)	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFHpS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFOS (Branched)	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
PFNS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
PFNS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
4:2FTS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
6:2FTS	25.00	50.00	100.00	250.00	500.00	1,000.00	2,500.00	10,000.00	20,000.00
8:2FTS	25.25	50.50	101.00	252.50	505.00	1,010.00	2,525.00	10,100.00	20,200.00
	Surrogates								
13C4-PFBA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C5-PFPeA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C5-PFHxA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C4-PFHpA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C8-PFOA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C9-PFNA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C6-PFDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C7-PFUnA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFDoA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFTeDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
d3-MeFOSAA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
d5-EtFOSAA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C8-FOSA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C3-PFBS	92.90	92.90	92.90	92.90	92.90	92.90	92.90	92.90	92.90
13C3-PFHxS	94.60	94.60	94.60	94.60	94.60	94.60	94.60	94.60	94.60
13C8-PFOS	95.70	95.70	95.70	95.70	95.70	95.70	95.70	95.70	95.70
13C2-4:2FTS	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50
13C2-6:2FTS	94.90	94.90	94.90	94.90	94.90	94.90	94.90	94.90	94.90
13C2-8:2FTS	95.80	95.80	95.80	95.80	95.80	95.80	95.80	95.80	95.80
	Internal Standards								
13C3-PFBA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFOA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C2-PFDA	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13C4-PFOS	95.50	95.50	95.50	95.50	95.50	95.50	95.50	95.50	95.50

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Summary Ion Ratio 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	2018-05-30T19:18:19	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.350	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.270	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.28	PFDA	0.030	0.039	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.053	
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.090	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.040	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.500	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:29:08	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.370	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.310	0.293	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.050	0.061	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.310	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.150	0.185	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.050	0.039	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	3.60	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.180	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.580	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:39:56	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.050	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.330	0.292	ü
PFOS_1	499.0 / 80.0	2.92	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.160	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.040	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.090	0.060	ü

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Summary Ion Ratio 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	2018-05-30T19:50:45	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.310	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.280	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.510	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:01:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.270	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.030	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:12:22	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.280	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.060	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.610	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:23:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.280	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.570	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.070	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:33:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.88	PFDoA			
PFDoA_2	613.0 / 319.0	3.88	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio 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	2018-05-30T20:44:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.35	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.570	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-06-04T19:34:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.050	0.072	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.309	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.273	0.200	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.072	0.057	ü
PFTrDA_1	663.0 / 619.0	4.14	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.14	PFTrDA	0.053	0.070	ü

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Summary Ion Ratio 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	2018-06-04T19:44:51	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.046	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.357	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.254	0.200	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.60	PFUnA	0.078	0.057	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.057	0.070	ü

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Summary Ion Ratio 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	2018-06-04T19:55:39	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.085	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.298	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.166	0.200	ü
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	3.59	PFUnA	0.057	0.057	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.079	0.070	ü

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Summary Ion Ratio 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	2018-06-04T20:06:27	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.076	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.307	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.195	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.057	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.066	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T20:17:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.062	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.282	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.183	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.053	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.075	0.070	ü

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Summary Ion Ratio 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	2018-06-04T20:28:02	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.074	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.295	0.302	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.188	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.060	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.074	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T20:38:50	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.072	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.297	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.176	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.051	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.071	0.070	ü

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Summary Ion Ratio 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	2018-06-04T20:49:37	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.068	0.072	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.287	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.181	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.069	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-06-04T21:00:25	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.071	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.290	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.179	0.200	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.057	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü

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QC Summary Report

Created with Analyst Reporter
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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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	1169.732262	1010.00	115.82
PFBS_2	298.9 / 99.0	1.51	1150.612478	1010.00	113.92
PFHxA_1	313.0 / 269.0	1.79	1063.400542	1010.00	105.29
PFHxA_2	313.0 / 119.0	1.79	1101.573922	1010.00	109.07
PFHpA_1	363.0 / 319.0	2.16	1086.721282	1000.00	108.67
PFHpA_2	363.0 / 169.0	2.16	1225.269631	1000.00	122.53
PFHxS_1	399.0 / 80.0	2.18	849.596849	1010.00	84.12
PFHxS_2	399.0 / 99.0	2.18	844.885091	1010.00	83.65
PFOA_1	413.0 / 369.0	2.54	1204.923812	1000.00	120.49
PFOA_2	413.0 / 169.0	2.53	1091.284336	1000.00	109.13
PFNA_1	463.0 / 419.0	2.91	1057.100806	1000.00	105.71
PFNA_2	463.0 / 219.0	2.91	1041.029542	1000.00	104.10
PFOS_1	499.0 / 80.0	2.91	1135.583227	1000.00	113.56
PFOS_2	499.0 / 99.0	2.91	1050.552942	1000.00	105.06
PFDA_1	513.0 / 469.0	3.26	1067.681878	1000.00	106.77
PFDA_2	513.0 / 219.0	3.26	992.247705	1000.00	99.22
PFUnA_1	563.0 / 519.0	3.58	1136.485899	1000.00	113.65
PFUnA_2	563.0 / 269.0	3.58	1220.938085	1000.00	122.09
PFDoA_1	613.0 / 569.0	3.87	1046.633089	1000.00	104.66
PFDoA_2	613.0 / 319.0	3.87	1079.718814	1000.00	107.97
PFTrDA_1	663.0 / 619.0	4.12	1128.467939	1000.00	112.85
PFTrDA_2	663.0 / 169.0	4.12	1232.346514	1000.00	123.23
PFTeDA_1	713.0 / 669.0	4.34	1201.578421	1000.00	120.16
PFTeDA_2	713.0 / 169.0	4.34	1180.769046	1000.00	118.08
NMeFOSAA_1	570.0 / 419.0	3.42	1272.767043	1000.00	127.28
NMeFOSAA_2	570.0 / 512.0	3.42	1230.468323	1000.00	123.05
NEtFOSAA_1	584.0 / 419.0	3.58	1155.210098	1000.00	115.52
NEtFOSAA_2	584.0 / 483.0	3.58	1292.597631	1000.00	129.26

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QC Summary Report

Created with Analyst Reporter
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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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_BASE
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.50	1155.841173	1010.00	114.44
PFBS_2	298.9 / 99.0	1.50	1184.144446	1010.00	117.24
PFHxA_1	313.0 / 269.0	1.79	958.691332	1010.00	94.92
PFHxA_2	313.0 / 119.0	1.79	969.001755	1010.00	95.94
PFHpA_1	363.0 / 319.0	2.15	1063.948160	1000.00	106.39
PFHpA_2	363.0 / 169.0	2.15	1220.000842	1000.00	122.00
PFHxS_1	399.0 / 80.0	2.17	1007.017220	1010.00	99.70
PFHxS_2	399.0 / 99.0	2.17	1018.041260	1010.00	100.80
PFOA_1	413.0 / 369.0	2.53	956.593459	1000.00	95.66
PFOA_2	413.0 / 169.0	2.53	937.380141	1000.00	93.74
PFNA_1	463.0 / 419.0	2.91	975.764565	1000.00	97.58
PFNA_2	463.0 / 219.0	2.90	989.283175	1000.00	98.93
PFOS_1	499.0 / 80.0	2.90	1178.966465	1000.00	117.90
PFOS_2	499.0 / 99.0	2.90	1147.778878	1000.00	114.78
PFDA_1	513.0 / 469.0	3.26	939.731465	1000.00	93.97
PFDA_2	513.0 / 219.0	3.25	876.840373	1000.00	87.68
PFUnA_1	563.0 / 519.0	3.57	1050.235934	1000.00	105.02
PFUnA_2	563.0 / 269.0	3.57	996.782859	1000.00	99.68
PFDoA_1	613.0 / 569.0	3.86	1187.865845	1000.00	118.79
PFDoA_2	613.0 / 319.0	3.86	1170.419583	1000.00	117.04
PFTrDA_1	663.0 / 619.0	4.11	948.564719	1000.00	94.86
PFTrDA_2	663.0 / 169.0	4.11	1009.633703	1000.00	100.96
PFTeDA_1	713.0 / 669.0	4.33	1040.514186	1000.00	104.05
PFTeDA_2	713.0 / 169.0	4.32	1057.711695	1000.00	105.77
NMeFOSAA_1	570.0 / 419.0	3.41	1277.696048	1000.00	127.77
NMeFOSAA_2	570.0 / 512.0	3.41	1246.386088	1000.00	124.64
NEtFOSAA_1	584.0 / 419.0	3.57	905.959889	1000.00	90.60
NEtFOSAA_2	584.0 / 483.0	3.57	841.317351	1000.00	84.13

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QC Summary 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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.86	99.591394	100.00	99.59
d3-MeFOSAA	573.0 / 419.0	3.41	87.801702	100.00	87.80
d5-EtFOSAA	589.0 / 419.0	3.58	83.818822	100.00	83.82
13C5-PFHxA	318.0 / 273.0	1.78	108.128172	100.00	108.13
13C4-PFHpA	367.0 / 322.0	2.15	109.123442	100.00	109.12
13C8-PFOA	421.0 / 376.0	2.53	104.576992	100.00	104.58
13C9-PFNA	472.0 / 427.0	2.90	104.945706	100.00	104.95
13C6-PFDA	519.0 / 474.0	3.25	95.718152	100.00	95.72
13C7-PFUnA	570.0 / 525.0	3.57	92.192613	100.00	92.19
13C2-PFTeDA	715.0 / 670.0	4.33	89.822548	100.00	89.82
13C3-PFBS	302.0 / 99.0	1.49	87.725173	92.90	94.43
13C3-PFHxS	402.0 / 99.0	2.17	114.454174	94.60	120.99
13C8-PFOS	507.0 / 99.0	2.90	95.337399	95.70	99.62

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QC Summary 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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_SIS
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
13C2-PFDoA	615.0 / 570.0	3.85	87.293185	100.00	87.29
d3-MeFOSAA	573.0 / 419.0	3.40	79.280068	100.00	79.28
d5-EtFOSAA	589.0 / 419.0	3.56	97.701668	100.00	97.70
13C5-PFHxA	318.0 / 273.0	1.78	101.271645	100.00	101.27
13C4-PFHpA	367.0 / 322.0	2.14	98.072585	100.00	98.07
13C8-PFOA	421.0 / 376.0	2.52	111.444740	100.00	111.44
13C9-PFNA	472.0 / 427.0	2.89	102.027948	100.00	102.03
13C6-PFDA	519.0 / 474.0	3.24	101.520947	100.00	101.52
13C7-PFUnA	570.0 / 525.0	3.56	99.978556	100.00	99.98
13C2-PFTeDA	715.0 / 670.0	4.32	96.004996	100.00	96.00
13C3-PFBS	302.0 / 99.0	1.49	66.397849	92.90	71.47
13C3-PFHxS	402.0 / 99.0	2.16	78.079198	94.60	82.54
13C8-PFOS	507.0 / 99.0	2.89	87.621413	95.70	91.56

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QC Summary Report

Created with Analyst Reporter
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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	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.78	1033.548412	1010.00	102.33
PFHxA_2	313.0 / 119.0	1.78	935.849213	1010.00	92.66
PFHxS_1	399.0 / 80.0	2.16	974.115132	1010.00	96.45
PFHxS_2	399.0 / 99.0	2.16	916.120612	1010.00	90.71
PFOS_1	499.0 / 80.0	2.89	953.947744	1000.00	95.39
PFOS_2	499.0 / 99.0	2.89	921.115125	1000.00	92.11
PFUnA_1	563.0 / 519.0	3.57	1205.245732	1000.00	120.52
PFUnA_2	563.0 / 269.0	3.57	1158.899483	1000.00	115.89
PFTrDA_1	663.0 / 619.0	4.11	1166.321162	1000.00	116.63
PFTrDA_2	663.0 / 169.0	4.11	1147.062964	1000.00	114.71

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QC Summary Report

Created with Analyst Reporter
Printed: 05/06/2018 1:23:06 PM

Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.77	2672.140702	2525.00	105.83
PFHxA_2	313.0 / 119.0	1.77	2665.781990	2525.00	105.58
PFHxS_1	399.0 / 80.0	2.15	2249.535787	2525.00	89.09
PFHxS_2	399.0 / 99.0	2.15	2258.408038	2525.00	89.44
PFOS_1	499.0 / 80.0	2.87	2898.036469	2500.00	115.92
PFOS_2	499.0 / 99.0	2.87	2885.668045	2500.00	115.43
PFUnA_1	563.0 / 519.0	3.54	2647.470596	2500.00	105.90
PFUnA_2	563.0 / 269.0	3.54	2557.649396	2500.00	102.31
PFTrDA_1	663.0 / 619.0	4.08	2697.895501	2500.00	107.92
PFTrDA_2	663.0 / 169.0	4.08	2668.775753	2500.00	106.75

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QC Summary Report

Created with Analyst Reporter
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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	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFHxA_1	313.0 / 269.0	1.77	1025.624963	1010.00	101.55
PFHxA_2	313.0 / 119.0	1.77	1033.652674	1010.00	102.34
PFHxS_1	399.0 / 80.0	2.14	966.118373	1010.00	95.66
PFHxS_2	399.0 / 99.0	2.14	974.944978	1010.00	96.53
PFOS_1	499.0 / 80.0	2.87	1002.472377	1000.00	100.25
PFOS_2	499.0 / 99.0	2.87	1004.266830	1000.00	100.43
PFUnA_1	563.0 / 519.0	3.54	1056.928938	1000.00	105.69
PFUnA_2	563.0 / 269.0	3.54	995.944961	1000.00	99.59
PFTrDA_1	663.0 / 619.0	4.08	1043.506325	1000.00	104.35
PFTrDA_2	663.0 / 169.0	4.08	1008.863669	1000.00	100.89

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Summary Ion Ratio Report

Created with Analyst Reporter
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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	2018-05-30T21:06:24	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.54	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.170	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.170	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio 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	2018-05-31T01:25:46	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.060	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.180	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.550	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio 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	2018-06-04T21:22:01	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.065	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.274	0.302	ü
PFOS_1	499.0 / 80.0	2.89	PFOS			
PFOS_2	499.0 / 99.0	2.89	PFOS	0.176	0.200	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü

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Summary Ion Ratio Report

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Sample Name	JV26 CCV	**Injection Vial**	8
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:02:32	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.292	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.180	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.070	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:25:51 PM

Sample Name	JV25 CCV	**Injection Vial**	7
Sample ID	CCV	**Injection Volume**	10.00
Sample Type	Quality Control	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T03:07:15	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.072	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.14	PFHxS	0.294	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.183	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.049	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.068	0.070	ü

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Summary Ion Ratio Report

Created with Analyst Reporter
Printed: 05/06/2018 1:31:01 PM

Sample Name	JV05 IB	**Injection Vial**	11
Sample ID	Instrument Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-30T20:55:34	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.540	0.324	
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.200	0.067	
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	1.84	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.300	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.040	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.360	0.292	ü
PFOS_1	499.0 / 80.0	2.89	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.170	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.039	
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.070	0.053	ü
PFDoA_1	613.0 / 569.0	4.41	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.110	0.161	ü
PFTrDA_1	663.0 / 619.0	4.12	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.12	PFTrDA	0.120	0.070	
PFTeDA_1	713.0 / 669.0	4.34	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.34	PFTeDA	0.070	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.490	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Sample Name	CQ857PB-FS(5)	**Injection Vial**	26
Sample ID	Procedural Blank	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:20:54	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.380	0.324	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.067	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.020	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.51	PFOA	0.150	0.061	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.292	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.185	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.039	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.053	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTrDA_1	663.0 / 619.0	N/A	PFTrDA			
PFTrDA_2	663.0 / 169.0	N/A	PFTrDA	N/A	0.070	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.060	ü

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Summary Ion Ratio Report

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Sample Name	CQ858LCS-FS(5)	**Injection Vial**	27
Sample ID	Laboratory Control Sample	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:31:43	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.080	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.290	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.070	0.061	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.190	0.185	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.150	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.610	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Sample Name	J6243-FS(5)	**Injection Vial**	28
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:42:31	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.030	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.330	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.50	PFOA	0.090	0.061	
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.220	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.210	0.060	

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Summary Ion Ratio Report

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Sample Name	J6243MS-FS(5)	**Injection Vial**	29
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T00:53:21	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.320	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.080	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.200	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.580	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.060	0.060	ü

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Summary Ion Ratio Report

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Sample Name	J6243MSD-FS(5)	**Injection Vial**	30
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:04:10	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.324	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.020	0.020	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.330	0.293	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.090	0.061	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.300	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.11	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.33	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.560	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.58	NEtFOSAA	0.050	0.060	ü

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Summary Ion Ratio Report

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Sample Name	J6244-FS(5)	**Injection Vial**	31
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-05-31T01:14:58	**Data File**	18-0334_18-0339.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_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	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.340	0.324	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.060	0.067	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.12	PFHpA	0.030	0.020	
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.320	0.293	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.49	PFOA	0.100	0.061	
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.290	0.292	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.210	0.185	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.039	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.053	ü
PFDoA_1	613.0 / 569.0	3.86	PFDoA			
PFDoA_2	613.0 / 319.0	3.86	PFDoA	0.160	0.161	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.050	0.049	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.556	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.060	

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Summary Ion Ratio 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	2018-06-04T21:11:14	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.066	0.072	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.325	0.302	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.243	0.200	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.060	0.057	ü
PFTrDA_1	663.0 / 619.0	4.11	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.10	PFTrDA	0.055	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6243-FS-D(7)	**Injection Vial**	33
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:24:07	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.054	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.354	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.190	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.047	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.067	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6243MS-FS-D(7)	**Injection Vial**	34
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:34:54	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.76	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.054	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.14	PFHxS	0.322	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.191	0.200	ü
PFUnA_1	563.0 / 519.0	3.54	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.046	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.063	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6243MSD-FS-D(7)	**Injection Vial**	35
Sample ID	FFTA-SD01-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:45:41	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.76	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.072	ü
PFHxS_1	399.0 / 80.0	2.14	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.335	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.88	PFOS	0.194	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.55	PFUnA	0.043	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.067	0.070	ü

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Summary Ion Ratio Report

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Sample Name	J6244-FS-D(7)	**Injection Vial**	36
Sample ID	FFTA-FD02-052418	**Injection Volume**	10.00
Sample Type	Unknown	**Instrument Name**	QTRAP 5500
Acquisition Date	2018-06-05T02:56:28	**Data File**	06022018.wiff
Acquisition Method	5-0369.dam	**Result Table**	18-0339_D
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.052	0.072	ü
PFHxS_1	399.0 / 80.0	2.15	PFHxS			
PFHxS_2	399.0 / 99.0	2.15	PFHxS	0.312	0.302	ü
PFOS_1	499.0 / 80.0	2.87	PFOS			
PFOS_2	499.0 / 99.0	2.87	PFOS	0.185	0.200	ü
PFUnA_1	563.0 / 519.0	3.55	PFUnA			
PFUnA_2	563.0 / 269.0	3.54	PFUnA	0.046	0.057	ü
PFTrDA_1	663.0 / 619.0	4.08	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.08	PFTrDA	0.064	0.070	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	18-0339	UST 000015	UST 000015	FFTA-SD01	Sediment e.g., Marine Sediment	440360.06	2147170.13	N6247016D9008	N6945017F0375	TETRA TECH, INC.	FFTA-SD01-052418-D
SOUTHEAST	JACKSONVILLE_NAS	18-0339	UST 000015	UST 000015	FFTA-SD01	Sediment e.g., Marine Sediment	440360.06	2147170.13	N6247016D9008	N6945017F0375	TETRA TECH, INC.	FFTA-SD01-052418

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	18-0339	UST 000015	Sediment	Field duplicate	24-May-18	537_MOD	Perfluoroalkyl Compounds	20190201100027.00
SOUTHEAST	JACKSONVILLE_NAS	18-0339	UST 000015	Sediment	Normal (Regular)	24-May-18	537_MOD	Perfluoroalkyl Compounds	20190201100027.00