



**Off-Base Drinking Water Sample Results,  
Level 4 Laboratory Report, Electronic Data Deliverable,  
Data Validation Report, and the Sample Location Figure,  
SDG 18-0505**

*Naval Air Station Jacksonville  
Jacksonville, Florida*

July 2019

N00207\_004432  
NAS JACKSONVILLE, FL  
SSIC 5000-33c

**LABORATORY DATA PACKAGE 18-0505 NAS JACKSONVILLE FL**  
08/21/2018  
BATTELLE

Approved for public release: distribution unlimited.

**CTO-SE0375: Naval Air Station Jacksonville**  
**Project No 100119154-SE0375**  
**PFAS in drinking water**

*W*

*Batch 18-0505*

*Package DP-18-0222*

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

***BATTELLE***

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

Submitted by:  
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141 Longwater Drive Suite 202  
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Project Manager Approval:		Digitally signed by Jonathan Thorn Date: 2018.08.21 12:44:53 -04'00'



# CTO-SE0375: Naval Air Station Jacksonville

## Project No 100119154-SE0375

### PFAS in drinking water

W

*Batch 18-0505*


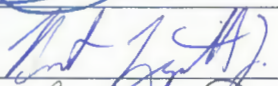



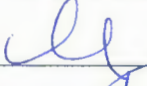
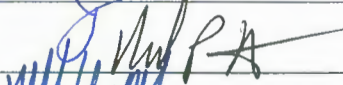

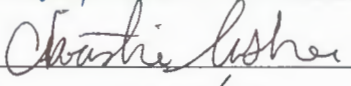
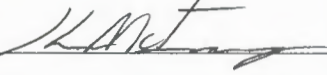
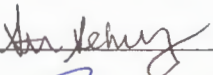

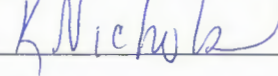

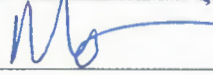

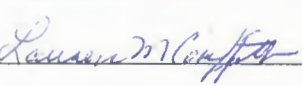
*Package DP-18-0222*

<b>1</b>	<b><i>Work Plan</i></b> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	<b>1</b>
<b>2</b>	<b><i>Tables</i></b> Analytical Data Tables, Qualifier Definitions.	<b>18</b>
<b>3</b>	<b><i>Miscellaneous Documentation</i></b> Case Narrative, Miscellaneous Documentation Form, Quality Control Summary, Example Calculations, Internal Standard Recovery Report, Retention Time Window Report.	<b>29</b>
<b>4</b>	<b><i>Sample Preparation Records</i></b> Sample Preparation Records, Dilution Worksheets, Standard Preparation Records, Certificates Of Analysis, GPC Check Report.	<b>132</b>
<b>5</b>	<b><i>Analytical Calibrations</i></b> Analytical Sequence, Analytical Method, Tune Report, Initial Calibration, Pesticide Degradation Report, RF Summary, Calibration Verifications, Independent Calibration Verification Check.	<b>147</b>
<b>6</b>	<b><i>Analytical Data</i></b> Raw Data Quantification Reports.	<b>215</b>
<b>7</b>	<b><i>Chromatograms</i></b> Sample And Standard Chromatograms.	<b>243</b>
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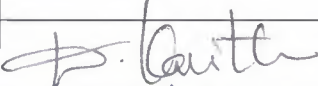





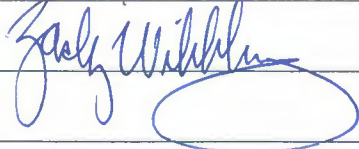
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## Signature Page

Battelle 2018 (1 of 2) Signature Page			
Name (Printed)	Signature	Initials	Date
Jonathan Thorn		JRT	4/4/2018
Robert Lizotte, Jr.		BL	4-4-2018
FRANC PALA		FP	4-4-2018
Carla Devine		CRD	4/4/18
Denise Schmitz		DUS	4/4/18
Carol Ann McManis		CM	4/4/2018
Rich Rostucci		RR	4/4/2018
Monica Mendez		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matrone		KM	4/4/18
Stephanie Schmitz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimico H Brown		CB	4/4/18
Matt Schmitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LMG	4.4.18

## Signature Page

Battelle 2018 (2 of 2)  
Signature Page

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

# Work Plan





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## WORK/QUALITY ASSURANCE PROJECT PLAN

### 1.0 GENERAL PROJECT INFORMATION

**Project Title:** CTO-SE0375: Drinking Water Analysis  
**Project Number:** 100119154-SE0375  
**Client:** Tetra Tech  
 661 Anderson Drive Foster Plaza 7  
 Pittsburgh, PA 15220  
 USA  
  
**Client Contact Information:** Mark Peterson  
 Project Manager  
 (904) 636-6125(V)  
 (904) 636-6165(F)  
 mark.peterson@tetrattech.com  
  
**Effective Date of QAPP:** 8/14/2018  
**Version Number:** 100119154-SE0375(L)-03  
**Project Manager:** Thorn, Jonathan  
**Laboratory Task Manager:** Thorn, Jonathan  
**Deliverable Due Date:** 8/21/2018

### 2.0 SCOPE OF WORK

**Overview:** Analysis of drinking water samples for PFAS.  
**Matrix:** Water

### 2.1 TECHNICAL APPROACH

#### 2.1.1 Sample Receipt, Storage, and Handling

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

**Storage Directions:** Store refrigerated.  
**Sub\_Sampling:** None  
**Procedures:** NA  
**Contact:** NA  
**Comment:** None  
**Archiving:** Store for six months after delivery of final data.  
**Disposal:** Dispose of samples in the appropriate waste stream.



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### 2.1.2 Sample Preparation

Samples to arrive over a period of weeks.

Samples Expected:	Samples Per Batch:	Batches Expected:
50	20	3

Batch quality control samples are defined in Table 1.

Target samples are presented in Attachment 1.

**Table 1: Quality Control Samples**

Type:	Description:	Count:	Rgt:	Reference:	Comment:
PB	Laboratory control reagent blank.	1 per batch	--	NA	
LCS	Laboratory Control Sample	1 per batch	No	NA	
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	MS/MSD identified on COC forms
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	MS/MSD identified on COC forms

### 2.1.3 Extraction/Preparation

#### 2.1.3.1 Extraction

SOP No.-Rev:	<b>5-371-03</b>
SOP Title:	<i>ANALYSIS OF POLY AND PERFLUOROALKYL SUBSTANCES IN DRINKING WATER SAMPLES BY LIQUID CHROMATOGRAPHY AND TANDEM MASS SPECTROMETRY (LC-MS/MS) FOLLOWING EPA METHOD 537.1</i>
Sample Size:	250 ml
SIS and LCS/MS Compounds:	Defined in Table 2.
Deviations:	None.
Comments:	FRB samples to be extracted after review of the initial results. FRB will only be processed if PFAS analytes are present in the field sample.

**Table 2: SIS and LCS/MS Spiking Level**

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - 537.1 Surrogate Solution	JX76 SIS	~ 0.100 - 0.40 ng	50 uL	NA



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## WORK/QUALITY ASSURANCE PROJECT PLAN

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - 537.1 Second Source LCS/MS Solution	JZ28 LCS/MS	~ 4.0 - 5.0 ng	100 uL	Vary MS/MSD samples at 100, 125, and 150 µL across the batches.
PFAS - 537.1 Second Source LCS/MS Solution	JZ28 LCS/MS	~ 2.00 - 2.50	50 uL	Vary LCS samples at 50, 75, 100 µL spikes across batches

### 2.1.3.2 Cleanup

None.

RIS spiking levels are presented in Table 3.

Extract PIV (uL): 1000

**Table 3: RIS Spiking Level**

Standard Type	Standard Contents	Spike Amount (ng)	Volume (uL)	Comment
PFAS - 537.1 Internal Standard Solution	JV59 RIS	~ 0.100 - 0.40 ng	50 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: **5-371-03**
- SOP\_Title: *ANALYSIS OF POLY AND PERFLUOROALKYL SUBSTANCES IN DRINKING WATER SAMPLES BY LIQUID CHROMATOGRAPHY AND TANDEM MASS SPECTROMETRY (LC-MS/MS) FOLLOWING EPA METHOD 537.1*
- Deviations: None.
- Comments: FRB samples to be extracted after review of the initial results. FRB will only be processed if PFAS analytes are present in the field sample.



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### 2.2. DELIVERABLES

<b>Deliverables Due:</b>	8/21/2018
<b>LIMS Reports:</b>	No
<b>Histograms:</b>	No
<b>Excel Tables:</b>	Yes
<b>EICs:</b>	No
<b>Chromatograms:</b>	Yes
<b>EDDs:</b>	Yes
<b>Comments:</b>	<ul style="list-style-type: none"> <li>• Excel data tables due in 7 days, full data package in 14 days</li> <li>• Data package compliant with QSM 5.1 Table B-15</li> <li>• Preliminary data tables will use ND and not the LOD value, tables in full data package will follow QSM reporting criteria</li> <li>• Tetra Tech EDD format</li> </ul>

### 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
Lauren M. Griffith	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



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## WORK/QUALITY ASSURANCE PROJECT PLAN

The project schedule is presented in Table 5.

**Table 5. Schedule of Laboratory Activities**

<b>Activity:</b>	<b>Start Date:</b>	<b>End Date:</b>	<b>TAT (days):</b>	<b>Comment:</b>
Sample Receipt	08/14/2018	08/14/2018	0	NA
Sample Preparation	08/14/2018	08/16/2018	2	NA
Instrument Analysis	08/16/2018	08/20/2018	4	NA
Quality Control Review	08/20/2018	08/21/2018	1	NA
Final Data Reporting	08/21/2018	08/28/2018	7	NA
Quality Assurance Review	08/21/2018	08/21/2018	0	NA

### 6.0 BUDGET

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

**Table 6. Labor Budget (Laboratory Analytical Task)**

<b>Labor Activity:</b>	<b>Hours/ Batch:</b>	<b>Batches:</b>	<b>Total Hours:</b>	<b>Comment:</b>
Sample Receipt	2	1	2	Hours for each task are based on full batches of 20 samples.
Sample Preparation	8	1	8	NA
Instrument Analysis	8	1	8	NA
Quality Control Review	3	1	3	NA
Final Data Reporting	1	1	1	NA
Quality Assurance Review	1	1	1	NA

### 7.0 STAFF DEVELOPMENT

None anticipated.



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### Attachment 1: Target Samples

**Shipment:** SHP-180814-01  
**Status:** Pending  
**Description:** NAS JAX PFAS EVAL  
**Range:** J7403-J7414  
**Comment:** NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J7403	JAX-RES-08132018-0945-27	08/13/2018 9:45 am	W	R0119	(NA)		
2	J7404	JAX-RES-08132018-0945-27-FRB	08/13/2018 9:45 am	W	R0119	(NA)		
3	J7405	JAX-RES-08132018-1100-30	08/13/2018 11:00 am	W	R0119	(NA)		
4	J7406	JAX-RES-08132018-1100-30-FRB	08/13/2018 11:00 am	W	R0119	(NA)		
5	J7407	JAX-RES-08132018-1145-32	08/13/2018 11:45 am	W	R0119	(NA)		
6	J7408	JAX-RES-08132018-1145-32-FRB	08/13/2018 11:45 am	W	R0119	(NA)		
7	J7409	JAX-RES-08132018-1445-16	08/13/2018 2:45 pm	W	R0119	(NA)		
8	J7411	JAX-RES-08132018-1600-13	08/13/2018 4:00 pm	W	R0119	(NA)		
9	J7412	JAX-RES-08132018-1600-13-FRB	08/13/2018 4:00 pm	W	R0119	(NA)		
10	J7413	JAX-RES-08132018-1700-31	08/13/2018 5:00 pm	W	R0119	(NA)		
11	J7414	JAX-RES-08132018-1700-31-FRB	08/13/2018 5:00 pm	W	R0119	(NA)		

**Shipment:** SHP-180815-02  
**Status:** Pending  
**Description:** NAS JAX-PFAS  
**Range:** J7428-J7430  
**Comment:** NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J7428	JAX-RES-08142018-1045-8	08/14/2018 10:45 am	W	R0119	(NA)		
2	J7430	JAX-RES-08142018-1130-9	08/14/2018 11:30 am	W	R0119	(NA)		

**Shipment:** SHP-180816-02  
**Status:** Pending  
**Description:** NAS JAX PFAS  
**Range:** J7445-J7451  
**Comment:** NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
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## WORK/QUALITY ASSURANCE PROJECT PLAN

**Shipment:** SHP-180816-02  
**Status:** Pending  
**Description:** NAS JAX PFAS  
**Range:** J7445-J7451  
**Comment:** NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J7445	JAX-RES-08152018-0930-18	08/15/2018 9:30 am	W	R0119 (NA)			
2	J7447	JAX-RES-08152018-1015-34	08/15/2018 10:15 am	W	R0119 (NA)			
3	J7449	JAX-RES-08152018-1045-33	08/15/2018 10:45 am	W	R0119 (NA)			
4	J7451	JAX-RES-08152018-1130-15	08/15/2018 11:30 am	W	R0119 (NA)			



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## WORK/QUALITY ASSURANCE PROJECT PLAN

## Attachment 2: Test Codes

<b>Project Test Code Name:</b>	Master_371
<b>SOP Reference:</b>	5-371 - ANALYSIS OF POLY AND PERFLUOROALKYL SUBSTANCES IN DRINKING WATER SAMPLES BY LIQUID CHROMATOGRAPHY AND TANDEM MASS SPECTROMETRY (LC-MS/MS) FOLLOWING EPA METHOD 537.1
<b>Description:</b>	PFAS in drinking water
<b>Matrix:</b>	L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits.
<b>Detection Limit Study:</b>	5-371
<b>Instrument:</b>	LC-MS/MS
<b>MQO Criteria</b>	Universal_LC
<b>Standard Report:</b>	Standard Result Report

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

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T	13C2-PFOA		No	No
2	Perfluoro-n-heptanoic Acid	PFHpA	T	13C2-PFOA		No	No
3	Perfluoro-n-octanoic Acid	PFOA	T	13C2-PFOA		No	No
4	Perfluorononanoic Acid	PFNA	T	13C2-PFOA		No	No
5	Perfluoro-n-decanoic Acid	PFDA	T	13C2-PFOA		No	No
6	Perfluoro-n-undecanoic acid	PFUnA	T	13C2-PFOA		No	No
7	Perfluoro-n-dodecanoic acid	PFDoA	T	13C2-PFOA		No	No
8	Perfluoro-n-tridecanoic acid	PFTTrDA	T	13C2-PFOA		No	No
9	Perfluoro-n-tetradecanoic acid	PFTeDA	T	13C2-PFOA		No	No
10	N-methylperfluoro-1-octanesulfonamidoacetic acid	NMeFOSAA	T	d3-MeFOSAA		No	No
11	N-ethylperfluoro-octanesulfonamidoacetic acid	NEtFOSAA	T	d3-MeFOSAA		No	No
12	Perfluoro-1-butanefulfonate	PFBS	T	13C4-PFOS		No	No
13	Perfluoro-1-octanesulfonate	PFOS	T	13C4-PFOS		No	No
14	Perfluoro-1-hexanesulfonate	PFHxS	T	13C4-PFOS		No	No
1	13C2-PFHxA	13C2-PFHxA	SIS			No	No
2	13C2-PFDA	13C2-PFDA	SIS			No	No





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## WORK/QUALITY ASSURANCE PROJECT PLAN

## Attachment 2: Test Codes

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**Project Test Code Name:** Master\_371

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No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
3	d5-EtFOSAA	d5-EtFOSAA	SIS			No	No
<b>Total Analytes:</b>		17					

**Subtract Peaks:**

None

**Sum Peaks:**

None



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### Attachment 2: Test Codes

**Project Test Code Name:** Master\_371

**ICAL Acceptance Criteria:**

Curve Fit:	Limit Mean(%):	Mean Qual:	Limit Ind.:	Ind. Qual:	Min Points:	Points Qual:	Comments:
Linear	NA	NA	0.995	N	5	N	NA
Average RF	15	N	25	N	5	N	NA
Linear (0,0)	NA	NA	0.995	N	5	N	NA
Quadratic	NA	NA	0.995	N	6	N	NA
Quadratic (0,0)	NA	NA	0.995	N	6	N	NA

**Continuing Calibration Verification Criteria:**

**CCV Name:** Standard

Frequency Hrs:	Mean PD(%):	Individual PD(%):	RIS/SIS RT Window (min):	Area Limit Low(%):	Area Limit High(%):	Comment:
12 (N)	20 (N)	25 (N)	0.07 (N)	-50	100 (N)	Lab Default Continuing Calibration Verification Criteria

**Independent Calibration Verification:**

**ICC Name:** Standard

Mean PD Limit(%):	Ind. PD Limit(%):	RIS/SIS Window Limit (Secs):	Area Limit High(%):	Area Limit Low(%):	Comment:
15 (N)	20 (N)	0.07 (N)	-50	100 (N)	Standard laboratory criteria for ICCs

**Mass Discrimination Criteria:**

*None*

**Degradation Check Criteria:**

*None*



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### Attachment 3: Method Quality Objectives

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



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## WORK/QUALITY ASSURANCE PROJECT PLAN

### Attachment 3: Method Quality Objectives

<b>MQO Application</b>	<i>Universal_LC</i>		
<b>MQO:</b>	<b>Acceptance Criteria</b>	<b>Qual:</b>	<b>Corrective Action:</b>
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL.  Organics Results in the Original is less than 5 times the MDL	N  n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-371-3: R-squared greater than or equal to 0.995 Mean RSD less than or equal to 15%, Individual RSD less than or equal to 25%	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Independent Calibration Check Solution	5-371-3: Individual PD less than or equal to 20%. Mean Percent Difference less than or equal to 15%.	N	Review with Project Manager; re-analyze or justify in project records.
Continuing Calibration Verification	5-371-3: Individual PD less than or equal to 25%. Mean Percent Difference less than or equal to 20%.	N	Review with Project Manager; re-analyze or justify in project records.

It can be done

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

**Sample Receipt Form**Approved:  Authorized 

**Project Number:** 112608005-SE0375 **Client:** Tetra Tech  
**Received by:** Schumitz, Matt **Date/Time Received:** Tuesday, August 14, 2018 10:00 AM  
**No. of Shipping Containers:** 1

**SHIPMENT**

**Method of Delivery:** Commercial Carrier **Tracking Number:** 7822 8334 8390  
**COC Forms:**  **Shipped with samples**  **No Forms**

**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smgs
1 of 1	Cooler	7822 8334 8390	Custody Seal	Intact	Intact	Therm_2	0.7	12

**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:** J7403 - J7414

**Samples logged in by:** Schumitz, Matt **Date/Time:** 08/14/2018 10:00 AM

**Approved By:** \_\_\_\_\_ **Approved On:** \_\_\_\_\_

**Authorized By:** \_\_\_\_\_ **Authorized On:** \_\_\_\_\_



It can be done

ShpNo SHP-180814-01

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

Sample Receipt Form Details

Approved:  Authorized

Project Number: 112608005-SE0375 Client: Tetra Tech

Received by: Schumitz, Matt Date/Time Received: Tuesday, August 14, 2018 10:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J7403	JAX-RES-08132018-0945-27	08/13/18 9:45	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7404	JAX-RES-08132018-0945-27-FRB	08/13/18 9:45	08/14/18 10:19	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7405	JAX-RES-08132018-1100-30	08/13/18 11:00	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7406	JAX-RES-08132018-1100-30-FRB	08/13/18 11:00	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7407	JAX-RES-08132018-1145-32	08/13/18 11:45	08/14/18 10:20	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7408	JAX-RES-08132018-1145-32-FRB	08/13/18 11:45	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7409	JAX-RES-08132018-1445-16	08/13/18 14:45	08/14/18 10:21	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7410	JAX-RES-08132018-1445-16-FRB	08/13/18 14:45	08/14/18 10:21	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7411	JAX-RES-08132018-1600-13	08/13/18 16:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7412	JAX-RES-08132018-1600-13-FRB	08/13/18 16:00	08/14/18 10:22	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7413	JAX-RES-08132018-1700-31	08/13/18 17:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7414	JAX-RES-08132018-1700-31-FRB	08/13/18 17:00	08/14/18 10:23	1	W	0.7	NA	NA	NA	R0119 (NA)			

Total Samples: 12



### Chain-of-Custody

<b>Client Contact Information</b> <i>Tetra Tech</i>		Project Manager: <i>Mark Peterson</i>				Sampling Site: <i>NAS JAX</i>		Site Information: <i>Residential</i>			
		Sampler Information (print name): <i>DAVID SIEFKEN</i>						COC # <i>001</i>			
		Phone: <i>904-334-7260</i>									
		Email:									
		Turnaround Time (TAT) Requested:									
Project Name: <i>NAS JAX PFAS Eval.</i>		<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Priority <input type="checkbox"/> RUSH						Page#			
Project No.: <i>112608005-5E0375</i>						Time Zone:					
Sample Identification		2018									
		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Preservative				
							<i>PFAS-537</i>				
<i>J7403</i>	<i>JAX-RES-08132018-0945-27</i>	<i>8-13</i>	<i>0945</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>Bottles 55# 56#</i>			
<i>04</i>	<i>JAX-RES-08132018-0945-27-FRB</i>	<i>8-13</i>	<i>0945</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>21#</i>			
<i>05</i>	<i>JAX-RES-08132018-1100-30</i>	<i>8-13</i>	<i>1100</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>85# 86#</i>			
<i>06</i>	<i>JAX-RES-08132018-1100-30-FRB</i>	<i>8-13</i>	<i>1100</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>7#</i>			
<i>07</i>	<i>JAX-RES-08132018-1145-32</i>	<i>8-13</i>	<i>1145</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>89# 90#</i>			
<i>08</i>	<i>JAX-RES-08132018-1145-32-FRB</i>	<i>8-13</i>	<i>1145</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>16#</i>			
<i>09</i>	<i>JAX-RES-08132018-1445-16</i>	<i>8-13</i>	<i>1445</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>59# 60#</i>			
<i>10</i>	<i>JAX-RES-08132018-1445-16-FRB</i>	<i>8-13</i>	<i>1445</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>8#</i>			
<i>11</i>	<i>JAX-RES-08132018-1600-13</i>	<i>8-13</i>	<i>1600</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>49# 50#</i>			
<i>12</i>	<i>JAX-RES-08132018-1600-13-FRB</i>	<i>8-13</i>	<i>1600</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>22#</i>			
<i>13</i>	<i>JAX-RES-08132018-1700-31</i>	<i>8-13</i>	<i>1700</i>	<i>W</i>		<i>2</i>	<i>2</i>	<i>85# 86#</i>			
<i>J7414</i>	<i>JAX-RES-08132018-1700-31-FRB</i>	<i>8-13</i>	<i>1700</i>	<i>W</i>		<i>1</i>	<i>1</i>	<i>9#</i>			
Receipt Temperature:(°C)		Samples Intact: Yes - No				Samples on Ice: Yes - No				Receipt Comments:	
Relinquished by (Print/Sign): <i>[Signature]</i>		Company: <i>Tetra Tech</i>		Date/Time: <i>8/13/18 1800</i>		Received by (Print/Sign): <i>[Signature]</i>		Company: <i>Battelle</i>		Date/Time: <i>8-14-18 1000</i>	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign): <i>Matt Schumtz</i>		Company:		Date/Time:	
Relinquished by (Print/Sign):		Company:		Date/Time:		Received by (Print/Sign):		Company:		Date/Time:	
Comments: <i>cool 4°C      W= potable water</i>											

ORIGIN ID:NRBA (904) 636-6125  
TETRATECH  
8640 PHILIPS HWY STE 16  
JACKSONVILLE, FL 32256  
UNITED STATES US

SHIP DATE: 13AUG18  
ACTWGT: 60.30 LB  
CAD: 6997708/SSF01904  
DIMS: 28x18x15 IN  
BILL THIRD PARTY

Part # 156297-435 RRD8 EXP 06/19

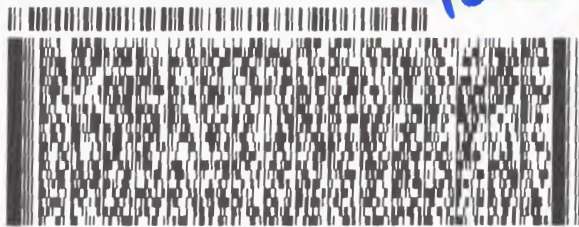
TO **BATTELLE**  
**SAMPLE RECEIVING**  
**141 LONGWATER DR**  
**STE 202**  
**NORWELL MA 02061**

*0.7*  
*Therm. 2*  
*MDS*  
*10:00*

(781) 881-5688  
INVT:  
PO:

REF:

DEPT:



**FedEx**  
Express



J182018072201.0v

TRK# 7822 8334 8390  
0201

**TUE - 14 AUG 10:30A**  
**PRIORITY OVERNIGHT**

**XE XPUA**

**02061**  
**MA-US BOS**





# Data Tables



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

Client ID JAX-RES-08132018-0945-27

Battelle ID J7403-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.270  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	4.11	0.23	0.51	2.57
PFHpA	2.52 J	0.35	1.03	2.57
PFOA	6.97	0.39	1.03	2.57
PFNA	1.03 U	0.38	1.03	2.57
PFDA	1.03 U	0.40	1.03	2.57
PFUnA	1.03 U	0.39	1.03	2.57
PFDaA	1.03 U	0.43	1.03	2.57
PFTTrDA	1.03 U	0.43	1.03	2.57
PFTeDA	1.54 U	0.75	1.54	2.57
NMeFOSAA	1.03 U	0.43	1.03	2.57
NEtFOSAA	1.03 U	0.45	1.03	2.57
PFBS	7.20	0.22	0.51	2.57
PFHxS	11.62	0.35	1.03	2.57
PFOS	9.58	0.31	1.03	2.57

**Surrogate Recoveries (%)**

13C2-PFHxA	98
13C2-PFDA	75
d5-EtFOSAA	74



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

Client ID JAX-RES-08132018-1100-30

Battelle ID J7405-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	6.94	0.22	0.50	2.48
PFHpA	4.14	0.34	0.99	2.48
PFOA	12.19	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	12.63	0.21	0.50	2.48
PFHxS	22.20	0.34	0.99	2.48
PFOS	19.53	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	93
13C2-PFDA	78
d5-EtFOSAA	79



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

Client ID JAX-RES-08132018-1145-32

Battelle ID J7407-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	4.27	0.22	0.50	2.48
PFHpA	2.83	0.34	0.99	2.48
PFOA	7.81	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	8.46	0.21	0.50	2.48
PFHxS	9.24	0.34	0.99	2.48
PFOS	12.44	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	102
13C2-PFDA	88
d5-EtFOSAA	94



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

Client ID JAX-RES-08132018-1445-16

Battelle ID J7409-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.48
PFHpA	0.99 U	0.34	0.99	2.48
PFOA	0.99 U	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	0.50 U	0.21	0.50	2.48
PFHxS	0.99 U	0.34	0.99	2.48
PFOS	0.99 U	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	101
13C2-PFDA	80
d5-EtFOSAA	88



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

Client ID JAX-RES-08132018-1600-13

Battelle ID J7411-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.27 J	0.22	0.50	2.48
PFHpA	0.99 U	0.34	0.99	2.48
PFOA	0.72 J	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDoA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	0.84 J	0.21	0.50	2.48
PFHxS	1.42 J	0.34	0.99	2.48
PFOS	1.90 J	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	98
13C2-PFDA	82
d5-EtFOSAA	70



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

Client ID JAX-RES-08132018-1700-31

Battelle ID J7413-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.270  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.97 J	0.23	0.51	2.57
PFHpA	0.63 J	0.35	1.03	2.57
PFOA	2.48 J	0.39	1.03	2.57
PFNA	1.03 U	0.38	1.03	2.57
PFDA	1.03 U	0.40	1.03	2.57
PFUnA	1.03 U	0.39	1.03	2.57
PFDaA	1.03 U	0.43	1.03	2.57
PFTTrDA	1.03 U	0.43	1.03	2.57
PFTeDA	1.54 U	0.75	1.54	2.57
NMeFOSAA	1.03 U	0.43	1.03	2.57
NEtFOSAA	1.03 U	0.45	1.03	2.57
PFBS	2.31 J	0.22	0.51	2.57
PFHxS	2.71	0.35	1.03	2.57
PFOS	6.50	0.31	1.03	2.57

**Surrogate Recoveries (%)**

13C2-PFHxA	102
13C2-PFDA	75
d5-EtFOSAA	79



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

Client ID	JZ10 IB			
Battelle ID	JZ10 IB_08/20/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	NA			
Sample Size	0.250			
Size Unit-Basis	NA			
Units	ng/L	MDL	LOD	LOQ
<hr/>				
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50
<b>Surrogate Recoveries (%)</b>				
13C2-PFHxA	91			
13C2-PFDA	89			
d5-EtFOSAA	98			





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

Client ID	Procedural Blank			
Battelle ID	CR573PB-FS			
Sample Type	PB			
Collection Date	08/14/2018			
Extraction Date	08/14/2018			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	WATER			
Sample Size	0.250			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	83
13C2-PFDA	78
d5-EtFOSAA	85



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

Client ID	Laboratory Control Sample					
Battelle ID	CR574LCS-FS					
Sample Type	LCS					
Collection Date	08/14/2018					
Extraction Date	08/14/2018					
Analysis Date	08/20/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	9.58	10.00	96		70	130
PFHpA	9.01	10.00	90		70	130
PFOA	8.64	10.00	86		70	130
PFNA	9.46	10.00	95		70	130
PFDA	8.22	10.00	82		70	130
PFUnA	8.05	10.00	81		70	130
PFDoA	8.63	10.00	86		70	130
PFTTrDA	8.30	10.00	83		70	130
PFTeDA	8.31	10.00	83		70	130
NMeFOSAA	8.90	10.00	89		70	130
NEtFOSAA	8.23	10.00	82		70	130
PFBS	7.04	8.85	80		70	130
PFHxS	7.62	9.45	81		70	130
PFOS	7.15	9.55	75		70	130

**Surrogate Recoveries (%)**

13C2-PFHxA	88
13C2-PFDA	87
d5-EtFOSAA	75



## Glossary of Data Qualifiers

Flag:      Application:

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B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
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

**QA/QC Summary**  
**Batch 18-0505**

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	W
Data Set:	DP-18-0222
Analytical SOP:	5-371
Method Reference:	USEPA 537 rev. 1.1, QSM 5.1

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
08/13/2018	08/14/2018	0.7

Corrective Actions	None.
Sample Storage	The water samples were stored refrigerated until extraction.
Related samples	Required FRB samples related to this SDG are reported in SDG 18-0512.

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 60 °C and 65 °C, reconstituted with 96:4 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Samples JAX-RES-08132018-0945-27, JAX-RES-08132018-1100-30, and JAX-RES-08132018-1145-32 had a pale yellow color.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	<p>Samples analyzed on the Sciex 5500.</p> <p>The original analytical run on 8/15/2018 did not pass all criteria for the initial calibration, all samples were re-run on 8/20/2018. The sequence and quant reports for the original run can be found in the unused data section of the full data package.</p> <p>There are no ion ratio exceedences above 50% RPD for any analyte detected above the MDL or the LOQ in this SDG.</p>

Holding Times	Extraction Date(s)	Analysis Date(s)
	8/14/2018	8/20/2018

**QA/QC Summary**  
**Batch 18-0505**

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ 1/3 the MRL	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.
70-130% of true value	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.
70-130% of true value, RPD ≤ 30%	Not applicable. MS/MSD samples were not prepared with this batch of samples.
Surrogates Standard Analytes	Labelled surrogate compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
70-130% of true value	No exceedances noted. No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
ICAL high and low points RPD ≤20%, 50-150% of average area of the ICAL and 70-140% of most recent CCV	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
R <sup>2</sup> >0.99 Target and SIS compounds +/- 30% of true value, Low point 50-150% of true value	No exceedances noted. No comments.

**QA/QC Summary**  
**Batch 18-0505**

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.
Target and SIS compounds +/- 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.
Target and SIS compounds +/- 30% of true value Low point 50-150% of true value	No exceedances noted.
	No comments.



Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project Number: 100119154-SE0375  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222  
 Test Code: Master\_371

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





## BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

<b>Project Title:</b>	CTO-SE0375: Naval Air Station Jackson	<b>Data Set Number:</b>	DP-18-0222
<b>Project Number:</b>	100119154-SE0375	<b>Prep Batch Number:</b>	18-0505
<b>Entered By:</b>	Denise Schumitz	<b>Entered On:</b>	08/20/2018
<b>Test Code (Matrix Type):</b>	Master_371(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).  
DMS 8/21/2018

JZ86 is not being used in this method for NMeFOSAA, NEtFOSAA, PFDA and PFUnA. There is no impact on the data once these points of the calibration are removed.  
DMS 8/21/2018

18-0505 was initially analyzed on 08/15/2018, however the calibration did not meet passing criteria. The calibration curve was remade on 08/20/2018 and a fresh aliquot of each sample was analyzed with the new calibration curve and reported on 8/21/2018. The initial data from 08/15/2018 can be found in the unused data section of this data package.  
DMS 8/21/2018

JZ80 has an ion ratio >50% for PFUnA.  
DMS 8/21/2018

**Task Leader Approval:**

**Supervisor Approval:**

**PM Approval:**

Digitally signed by Jonathan Thorn  
Date: 2018.08.21 11:00:59 -04'00'



## Example Calculation for PFAS

Calculation of final concentration from area:

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

Where:

- PA = Area of target / area of internal standard
- b = y intercept from calibration curve
- CIS = concentration of internal standard (ng/L)
- m = slope of calibration
- DF = dilution factor
- S = Sample Size
- PIV = Pre-injection volume (L)

Sample ID: J7405-FS(2)  
 Client Sample ID: JAX-RES-08132018-1100-30  
 Sample Size: 0.28  
 Units: L  
 Dilution Factor: 1.111  
 PIV (L): 0.001  
 Target Analyte: PFHpA  
 MRM Transition: 363.0 / 319.0  
 Data file: DW\_08202018.wiff  
 Result table: 18-0512DW  
 Area: 382,818.73  
 IS Name: 13C2-PFOA  
 IS Area: 42,613.24  
 IS Amount (ng/L): 100  
 y-intercept: 0.41213  
 slope: 0.82233

$$\text{Concentration} = \frac{[(382818.73/42613.24) - 0.41213]}{0.82233} * 100 * 0.001 * 1.111 / 0.28$$

ng/L = 4.14



Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project No.: 100119154-SE0375  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222

	CR573PB-FS (Procedural Blank)	CR574LCS-FS (Laboratory Control Sample)	J7403-FS (JAX-RES-08132018-0945-27)	J7405-FS (JAX-RES-08132018-1100-30)	J7407-FS (JAX-RES-08132018-1145-32)	J7409-FS (JAX-RES-08132018-1445-16)
PFHxA	-	L	L	L	L	-
PFHpA	-	L	L	L	L	-
PFOA	-	L	L	L	L	-
PFNA	-	L	L	L	L	-
PFDA	-	L	L	-	-	-
PFUnA	-	L	L	-	-	-
PFDoA	-	L	-	-	-	-
PFTTrDA	-	L	-	-	-	-
PFTeDA	-	L	-	-	-	-
NMeFOSAA	-	L	-	-	-	-
NEtFOSAA	-	L	-	-	-	-
PFBS	-	L	L	L	L	-
PFHxS	-	L	L/Br	L/Br	L/Br	-
PFOS	-	L	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  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222

	J7411-FS (JAX-RES-08132018-1600-13)	J7413-FS (JAX-RES-08132018-1700-31)
PFHxA	L	L
PFHpA	L	L
PFOA	L	L
PFNA	L	L
PFDA	-	-
PFUnA	-	-
PFDoA	-	-
PFTTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	L	L
PFHxS	L/Br	L/Br
PFOS	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	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	-	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	-	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	-	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	-	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	-	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	-	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	5.2	
				Average	Lower	Upper
				149,617.65	74,808.83	224,426.48

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	74,808.83	224,426.48		113,622.95	227,245.90	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	74,808.83	224,426.48		113,622.95	227,245.90	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	74,808.83	224,426.48		113,622.95	227,245.90	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	74,808.83	224,426.48		113,622.95	227,245.90	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	74,808.83	224,426.48		113,622.95	227,245.90	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	74,808.83	224,426.48		113,622.95	227,245.90	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	74,808.83	224,426.48		113,622.95	227,245.90	
JZ10 IB	Instrument Blank	8/20/18 16:01	13C4-PFOS	183,690.52	74,808.83	224,426.48		113,622.95	227,245.90	
JZ77 ICC	ICC	8/20/18 16:10	13C4-PFOS	134,938.50	74,808.83	224,426.48		113,622.95	227,245.90	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	13C4-PFOS	212,960.07	74,808.83	224,426.48		113,622.95	227,245.90	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	13C4-PFOS	190,844.01	74,808.83	224,426.48		113,622.95	227,245.90	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	13C4-PFOS	172,367.32	74,808.83	224,426.48		113,622.95	227,245.90	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	13C4-PFOS	179,480.47	74,808.83	224,426.48		113,622.95	227,245.90	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	13C4-PFOS	190,343.32	74,808.83	224,426.48		113,622.95	227,245.90	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	13C4-PFOS	158,092.95	74,808.83	224,426.48		113,622.95	227,245.90	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	13C4-PFOS	175,025.69	74,808.83	224,426.48		113,622.95	227,245.90	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	13C4-PFOS	171,752.39	74,808.83	224,426.48		113,622.95	227,245.90	
JZ83 CCV	CCV	8/20/18 19:00	13C4-PFOS	156,188.42	74,808.83	224,426.48		113,622.95	227,245.90	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	-	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	-	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	-	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	-	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	-	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	-	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	5.6	
				Average	Lower	Upper
				33,344.53	16,672.27	50,016.80

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	16,672.27	50,016.80		23,501.44	47,002.87	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	16,672.27	50,016.80		23,501.44	47,002.87	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	16,672.27	50,016.80		23,501.44	47,002.87	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	16,672.27	50,016.80		23,501.44	47,002.87	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	16,672.27	50,016.80		23,501.44	47,002.87	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	16,672.27	50,016.80		23,501.44	47,002.87	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	16,672.27	50,016.80		23,501.44	47,002.87	
JZ10 IB	Instrument Blank	8/20/18 16:01	13C2-PFOA	43,290.28	16,672.27	50,016.80		23,501.44	47,002.87	
JZ77 ICC	ICC	8/20/18 16:10	13C2-PFOA	28,769.08	16,672.27	50,016.80		23,501.44	47,002.87	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	13C2-PFOA	44,396.07	16,672.27	50,016.80		23,501.44	47,002.87	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	13C2-PFOA	40,556.07	16,672.27	50,016.80		23,501.44	47,002.87	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	13C2-PFOA	40,690.62	16,672.27	50,016.80		23,501.44	47,002.87	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	13C2-PFOA	42,613.24	16,672.27	50,016.80		23,501.44	47,002.87	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	13C2-PFOA	41,488.15	16,672.27	50,016.80		23,501.44	47,002.87	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	13C2-PFOA	34,777.95	16,672.27	50,016.80		23,501.44	47,002.87	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	13C2-PFOA	38,026.33	16,672.27	50,016.80		23,501.44	47,002.87	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	13C2-PFOA	35,937.62	16,672.27	50,016.80		23,501.44	47,002.87	
JZ83 CCV	CCV	8/20/18 19:00	13C2-PFOA	33,466.43	16,672.27	50,016.80		23,501.44	47,002.87	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	-	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	-	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	-	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	-	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	-	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	-	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	4.9	
				Average	Lower	Upper
				26,603.86	13,301.93	39,905.79

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	13,301.93	39,905.79		17,605.69	35,211.39	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	13,301.93	39,905.79		17,605.69	35,211.39	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	13,301.93	39,905.79		17,605.69	35,211.39	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	13,301.93	39,905.79		17,605.69	35,211.39	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	13,301.93	39,905.79		17,605.69	35,211.39	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	13,301.93	39,905.79		17,605.69	35,211.39	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	13,301.93	39,905.79		17,605.69	35,211.39	
JZ10 IB	Instrument Blank	8/20/18 16:01	d3-MeFOSAA	31,459.20	13,301.93	39,905.79		17,605.69	35,211.39	
JZ77 ICC	ICC	8/20/18 16:10	d3-MeFOSAA	22,841.71	13,301.93	39,905.79		17,605.69	35,211.39	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	d3-MeFOSAA	33,912.40	13,301.93	39,905.79		17,605.69	35,211.39	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	d3-MeFOSAA	32,759.58	13,301.93	39,905.79		17,605.69	35,211.39	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	d3-MeFOSAA	31,681.29	13,301.93	39,905.79		17,605.69	35,211.39	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	d3-MeFOSAA	35,161.60	13,301.93	39,905.79		17,605.69	35,211.39	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	d3-MeFOSAA	28,540.13	13,301.93	39,905.79		17,605.69	35,211.39	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	d3-MeFOSAA	23,281.66	13,301.93	39,905.79		17,605.69	35,211.39	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	d3-MeFOSAA	28,873.74	13,301.93	39,905.79		17,605.69	35,211.39	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	d3-MeFOSAA	26,852.56	13,301.93	39,905.79		17,605.69	35,211.39	
JZ83 CCV	CCV	8/20/18 19:00	d3-MeFOSAA	26,849.70	13,301.93	39,905.79		17,605.69	35,211.39	

<b>Sample Name</b>	JZ84	<b>Injection Vial</b>	8
<b>Sample ID</b>	L7	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 3:35:06 PM	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

**Results Summary**

<b>Analyte</b>	<b>MRM Transition</b>	<b>RT</b>	<b>Asymmetry Factor</b>	<b>Passing Range</b>
PFBS_1	298.9 / 80.0	1.56	0.98	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.85	1.39	0.8 – 1.5



Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	8/20/2018 3:35:06 PM	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.56	29	>10
PFBS_2	298.9 / 99.0	1.56	27	>10
PFHxA_1	313.0 / 269.0	1.85	47	>10
PFHxA_2	313.0 / 119.0	1.85	40	>10
PFHpA_1	363.0 / 319.0	2.22	43	>10
PFHpA_2	363.0 / 169.0	2.22	32	>10
PFHxS_1	399.0 / 80.0	2.23	41	>10
PFHxS_2	399.0 / 99.0	2.23	40	>10
PFOA_1	413.0 / 369.0	2.59	36	>10
PFOA_2	413.0 / 169.0	2.59	33	>10
PFNA_1	463.0 / 419.0	2.97	36	>10
PFNA_2	463.0 / 219.0	2.96	34	>10
PFOS_1	499.0 / 80.0	2.96	61	>10
PFOS_2	499.0 / 99.0	2.96	33	>10
PFDA_1	513.0 / 469.0	3.31	30	>10
PFDA_2	513.0 / 219.0	3.31	43	>10
PFUnA_1	563.0 / 519.0	3.65	27	>10
PFUnA_2	563.0 / 269.0	3.65	46	>10
PFDaA_1	613.0 / 569.0	3.94	41	>10
PFDaA_2	613.0 / 319.0	3.94	31	>10
PFTrDA_1	663.0 / 619.0	4.20	53	>10
PFTrDA_2	663.0 / 169.0	4.19	35	>10
PFTeDA_1	713.0 / 669.0	4.43	69	>10
PFTeDA_2	713.0 / 169.0	4.42	45	>10
NMeFOSAA_1	570.0 / 419.0	3.47	37	>10
NMeFOSAA_2	570.0 / 512.0	3.47	34	>10
NEtFOSAA_1	584.0 / 419.0	3.64	31	>10
NEtFOSAA_2	584.0 / 483.0	3.63	49	>10
13C2-PFHxA	315.0 / 270.0	1.84	47	>10
13C2-PFDA	515.0 / 470.0	3.30	31	>10
d5-EtFOSAA	589.0 / 419.0	3.63	26	>10



## Precision and Bias at the LOQ for PFAS in Drinking Water

Analyte	CAS No.	Average (ng/L)	ST DEV	3 Sigma	n
PFHxA	307-24-4	10.71	1.21	3.63	15
PFHpA	375-85-9	10.91	1.35	4.05	15
PFOA	335-67-1	10.82	1.38	4.14	15
PFNA	375-95-1	10.74	1.26	3.78	15
PFDA	335-76-2	10.82	1.33	3.99	15
PFUnA	2058-94-8	10.52	1.54	4.62	15
PFDoA	307-55-1	10.34	1.62	4.86	15
PFTTrDA	72629-94-8	10.56	1.70	5.10	15
PFTeDA	376-06-7	11.95	2.21	6.63	15
NMeFOSAA	2355-31-9	10.67	1.00	3.00	15
NEtFOSAA	2991-50-6	10.27	1.22	3.66	15
PFBS	375-73-5	8.89	1.24	3.72	15
PFHxS	355-46-4	10.11	1.37	4.11	15
PFOS	1763-23-1	9.75	1.36	4.08	15

# BATTELLE DETECTION LIMITS FOR PFAS IN DRINKING WATER

Battelle SOP 5-371 (EPA Method 537 Version 1.1)

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)	MRL (ng/L)
<b>PFHxA</b>	307-24-4	0.22	0.5	2.5	2.5
<b>PFHpA</b>	375-85-9	0.34	1.0	2.5	2.5
<b>PFOA</b>	335-67-1	0.38	1.0	2.5	2.5
<b>PFNA</b>	375-95-1	0.37	1.0	2.5	2.5
<b>PFDA</b>	335-76-2	0.39	1.0	2.5	2.5
<b>PFUnA</b>	2058-94-8	0.38	1.0	2.5	2.5
<b>PFDoA</b>	307-55-1	0.42	1.0	2.5	2.5
<b>PFTrDA</b>	72629-94-8	0.42	1.0	2.5	2.5
<b>PFTeDA</b>	376-06-7	0.73	1.5	2.5	2.5
<b>NMeFOSAA</b>	2355-31-9	0.42	1.0	2.5	2.5
<b>NEtFOSAA</b>	2991-50-6	0.44	1.0	2.5	2.5
<b>PFBS</b>	375-73-5	0.21	0.5	2.5	2.5
<b>PFHxS</b>	3871-99-6	0.34	1.0	2.5	2.5
<b>PFOS</b>	1763-23-1	0.30	1.0	2.5	2.5

*Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation*

## Analytical Transitions for PFAS in drinking water

## SOP 5-371 (EPA 537 Version 1.1)

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
<b>PFHxA</b>	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
<b>PFHpA</b>	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
<b>PFOA</b>	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
<b>PFNA</b>	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
<b>PFDA</b>	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
<b>PFUnA</b>	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
<b>PFDoA</b>	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
<b>PFTTrDA</b>	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
<b>PFTeDA</b>	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
<b>NMeFOSAA</b>	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
<b>NEtFOSAA</b>	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
<b>PFBS</b>	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
<b>PFHxS</b>	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
<b>PFOS</b>	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
<b><sup>13</sup>C<sub>2</sub>-PFHxA</b>	NA	SIS	315.0 / 270.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFDA</b>	NA	SIS	515.0 / 470.0	NA
<b>d<sub>5</sub>-EtFOSAA</b>	NA	SIS	589.0 / 419.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFOA</b>	NA	IS	415.0 / 270.0	NA
<b><sup>13</sup>C<sub>4</sub>-PFOS</b>	NA	IS	503.0 / 80.0	NA
<b>d<sub>3</sub>-MeFOSAA</b>	NA	IS	573.0 / 419.0	NA



## Drinking Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF <sup>1</sup>	Sample Size (L)	Sample Equivalent (ng/L) <sup>2</sup>
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
5,000	1	1	0.250	20.0
10,000	1	1	0.250	40.0

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

<sup>2</sup> - calculated equivalent of a sample based on the ICAL concentration

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

Appendix ZEFPM003-2L

## QTRAP 5500 Preventive Maintenance Checklist

<b>Preventive Maintenance Date:</b>	22-Feb-2017
<b>Request ID:</b>	3683
<b>Company Name:</b>	Battelle Memorial Institute
<b>Instrument ID:</b>	X60666
<b>Instrument Model:</b>	QTRAP 5500
<b>Instrument Serial Number:</b>	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 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.5	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	1.9	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.4	Read Only
<input checked="" type="checkbox"/> CAD High	3.4	Read Only
<input checked="" type="checkbox"/> CAD 12	3.4	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

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

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	1.64 e6	Read Only	0.8095	Read Only
Q1 500.380	2.40 e7	Read Only	0.8592	Read Only
Q1 906.673	2.86 e7	Read Only	0.9633	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	1.26 e6	Read Only	0.6252	Read Only
Q3 500.380	2.19 e7	Read Only	0.7275	Read Only
Q3 906.673	3.02 e7	Read Only	0.7662	Read Only

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

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 19.51% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	7.43 e7	Read Only	0.9981	Read Only
MS/MS 195.1	1.45 e7	Read Only	0.6582	Read Only

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.43 e7	Read Only	0.7330	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.22 e7	Read Only	0.8138	Read Only

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

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.35 e6	Read Only	0.6495	Read Only



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

Appendix ZEFPM003-2L

**PREVENTIVE MAINTENANCE CHECKLIST:**

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: \_\_\_\_\_(200-240VAC).  
If Out-of-Range, notify customer.
  
- Clean Interface
  - Curtain Plate
  - Orifice Plate
  - QJet
  - Q0 Rods.
  
- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable.  N/A
- Clean and inspect built-in divert valve if used.  N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.
  
- Pump down overnight if possible.  N/A
  
- Perform Maintenance on Turbo V source.
  
- Replace Electrode, if necessary.  N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed.  N/A

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

Appendix ZEFPM003-2L

**POST PM PPG PERFORMANCE TESTS:**

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

CAD Settings	Vacuum Reading ( x 10 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.8	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	2.1	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.6	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2 <sup>e6</sup>	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0 <sup>e6</sup>	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4 <sup>e7</sup>	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 <sup>e7</sup>	0.7656	0.6 to 0.8

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	4.54 e6	≥1.2 <sup>e6</sup>	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0 <sup>e6</sup>	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4 <sup>e7</sup>	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8 <sup>e7</sup>	0.7118	0.6 to 0.8

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

Transmission Efficiency: 16.93% (≥ 10.0%)

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

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

Appendix ZEFPM003-2L

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

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.31 e7	$\geq 1.0^{e7}$	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	$\geq 4.0^{e7}$	0.6740	0.6 to 0.8

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

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	1.70 e7	$\geq 8.0^{e6}$	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	$\geq 4.0^{e7}$	0.7292	0.6 to 0.8

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

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.08 e6	$\geq 7.2^{e6}$	0.1302	<0.35
ER 922.010	0.05	3.89 e7	$\geq 2.8^{e6}$	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	$\geq 2.4^{e7}$	0.3740	<0.65
ER 922.010	0.05	2.37 e8	$\geq 6.8^{e7}$	0.5407	<0.65

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.05 e8	$\geq 4.4^{e7}$	0.1840	<0.35
ER 601.978	0.05	7.74 e7	$\geq 5.6^{e7}$	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	$\geq 1.2^{e8}$	0.4382	<0.65
ER 601.978	0.05	2.55 e8	$\geq 1.6^{e8}$	0.6205	<0.65

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

Appendix ZEFPM003-2L

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

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.5 e6	≥2.0 e6	> 4.0 e7	≥6.4 e6

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

Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	3.2 e7	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 <sup>e6</sup>

**REVIEW:**

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

**END OF PREVENTIVE MAINTENANCE CHECKLIST****Document history:**

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

It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JV35**

Description: PFAS - 537.1 Internal Standard 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)
180425-01	EPA-537IS	Neat	~2.66666 6	12/13/22	---	---	1000 uL	1	10	~0.3000

Solution Prepared By: Schultz, Stephanie

Date Prepared: 5/2/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



It can be done

## Standard Solution Concentrations

Approved: 

Standard Laboratory ID Number: JV35

Description: PFAS - 537.1 Internal Standard Stock

Stock ID: 180425-01

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	1000	1.00	1	100.000	1	10	0.10000
13C4-PFOS	1000	2.87	1	100.000	1	10	0.28700
d3-MeFOSAA	1000	4.00	1	100.000	1	10	0.40000

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFOA	.10000
13C4-PFOS	.28700
d3-MeFOSAA	.40000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180425-01	Pipette	I0793912B

Solution Prepared By: Schultz, Stephanie Date Prepared: 5/2/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

It can be done

## Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JV37**

Description: PFAS - 537.1 Surrogate Standard 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)
180425-02	EPA-537SS	Neat	~2.00000 0	11/08/22	---	---	1000 uL	1	10	~0.2000

Solution Prepared By: Schultz, Stephanie

Date Prepared: 5/2/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JV37**

Description: PFAS - 537.1 Surrogate Standard Stock

Stock ID: **180425-02**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	1000	1.00	1	100.000	1	10	0.10000
13C2-PFHxA	1000	1.00	1	100.000	1	10	0.10000
d5-EtFOSAA	1000	4.00	1	100.000	1	10	0.40000

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.10000
13C2-PFHxA	.10000
d5-EtFOSAA	.40000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180425-02	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie Date Prepared: 5/2/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JV43**

Description: PFAS - 537.1 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)
180425-03	EPA-537PDS (calibration)	Neat	~2.00000 0	03/05/23	---	---	250 uL	1	100	~0.0050

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/2/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 4 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise Date: 5/3/2018 3:21:00 PM



It can be done

## Standard Solution Concentrations

Approved: 

Standard Laboratory ID Number: JV43

Description: PFAS - 537.1 Low ICAL Stock

Stock Id: 180425-03

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	250	2.00	1	100.000	1	100	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-1-butanefulfonate	250	1.77	1	100.000	1	100	0.00443
Perfluoro-1-hexanesulfonate	250	1.82	1	100.000	1	100	0.00456
Perfluoro-1-octanesulfonate	250	1.85	1	100.000	1	100	0.00463
Perfluoro-n-decanoic Acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-dodecanoic acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-heptanoic Acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-hexanoic acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-nonanoic Acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-octanoic Acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-tetradecanoic acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-tridecanoic acid	250	2.00	1	100.000	1	100	0.00500
Perfluoro-n-undecanoic acid	250	2.00	1	100.000	1	100	0.00500

## Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanefulfonate	.00443
Perfluoro-1-hexanesulfonate	.00456
Perfluoro-1-octanesulfonate	.00463
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00500
Perfluoro-n-nonanoic Acid	.00500
Perfluoro-n-octanoic Acid	.00500
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180425-03	Pipette	B1100330B

Solution Prepared By: Schultz, Stephanie Date Prepared: 5/2/2018 Expiration Date: 5/2/2019

Solution Volume 40 mL X 4 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise Date: 5/3/2018 3:21:00 PM

It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JV59**

Description: PFAS - 537.1 Internal Standard Solution

Assigned Lab ID (from receipt lcg)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV35	PFAS - 537.1 Internal Standard Stock	Solution	~0	05/02/19	---	---	500 uL	1	25	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/2/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Thorn, Jonathan Date: 5/3/2018 8:27:00 AM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JV59**

Description: PFAS - 537.1 Internal Standard Solution

Stock Id: **JV35**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	500	0.10	---	---	1	25	0.00200
13C4-PFOS	500	0.29	---	---	1	25	0.00574
d3-MeFOSAA	500	0.40	---	---	1	25	0.00800

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFOA	.00200
13C4-PFOS	.00574
d3-MeFOSAA	.00800

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV35	Pipette	I0400533B

Solution Prepared By: Schultz, Stephanie      Date Prepared: 5/2/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Thorn, Jonathan      Date: 5/3/2018 8:27:00 AM

It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JV61**

Description: PFAS - 537.1 Internal Standard Calibration 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)
JV35	PFAS - 537.1 Internal Standard Stock	Solution	~0	05/02/19	---	---	1000 uL	1	5	~0.0000

Solution Prepared By: Schultz, Stephanie

Date Prepared: 5/2/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise Date: 5/3/2018 3:23:00 PM

**BATTELLE**

It can be done

**Standard Solution Concentrations**Approved: Standard Laboratory ID Number: **JV61**

Description: PFAS - 537.1 Internal Standard Calibration Stock Solution

Stock Id: **JV35**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	1000	0.10	---	---	1	5	0.02000
13C4-PFOS	1000	0.29	---	---	1	5	0.05740
d3-MeFOSAA	1000	0.40	---	---	1	5	0.08000

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFOA	.02000
13C4-PFOS	.05740
d3-MeFOSAA	.08000

## Syringes/Pipettes:

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/2/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise Date: 5/3/2018 3:23:00 PM

It can be done

## Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: **JV62**

Description: PFAS - 537.1 Surrogate Calibration 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)
JV37	PFAS - 537.1 Surrogate Standard Stock	Solution	~0	05/02/19	---	---	1000 uL	1	5	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 5/2/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise Date: 5/3/2018 3:23:00 PM

**BATTELLE**

It can be done

**Standard Solution Concentrations**Approved: Standard Laboratory ID Number: **JV62**

Description: PFAS - 537.1 Surrogate Calibration Stock Solution

Stock Id: **JV37**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	1000	0.10	---	---	1	5	0.02000
13C2-PFHxA	1000	0.10	---	---	1	5	0.02000
d5-EtFOSAA	1000	0.40	---	---	1	5	0.08000

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.02000
13C2-PFHxA	.02000
d5-EtFOSAA	.08000

## Syringes/Pipettes:

Solution Prepared By: Schultz, Stephanie      Date Prepared: 5/2/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180502-2)

Approved By: Schumitz, Denise      Date: 5/3/2018 3:23:00 PM





It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JX76

Description: PFAS - 537.1 Surrogate 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)
JV37	PFAS - 537.1 Surrogate Standard Stock	Solution	~0	05/02/19	---	---	500 uL	1	25	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 6/28/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/milli-q water (RP-180628-1)

Approved By: Lizotte Jr, Robert Date: 6/29/2018 9:29:00 AM



It can be done

## Standard Solution Concentrations

Approved: 

Standard Laboratory ID Number: JX76

Description: PFAS - 537.1 Surrogate Solution

Stock Id: JV37

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	500	0.10	---	---	1	25	0.00200
13C2-PFHxA	500	0.10	---	---	1	25	0.00200
d5-EtFOSAA	500	0.40	---	---	1	25	0.00800

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00200
13C2-PFHxA	.00200
d5-EtFOSAA	.00800

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV37	Pipette	B820865811

Solution Prepared By: Schultz, Stephanie Date Prepared: 6/28/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/milli-q water (RP-180628-1)

Approved By: Lizotte Jr, Robert Date: 6/29/2018 9:29:00 AM



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ10**

Description: PFAS - 537.1 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)
JV61	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JV62	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 7/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q water

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ10**

Description: PFAS - 537.1 Instrument Blank

Stock Id: **JV61**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029

Stock Id: **JV62**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV61	Pipette	B814659662
JV62	Pipette	B814659662

Solution Prepared By: Schultz, Stephanie      Date Prepared: 7/20/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q water

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ28**

Description: PFAS - 537.1 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)
180705-01	EPA-537PDS-L	Neat	~2.00000 0	03/05/23	---	---	500 uL	1	20	~0.0500

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 7/25/2018	<b>Expiration Date:</b> 7/25/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 7/31/2018 11:39:00 AM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ28**

Description: PFAS - 537.1 Second Source LCS/MS Solution

Stock Id: **180705-01**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	500	2.00	1	100.000	1	20	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-1-butanefluoride	500	1.77	1	100.000	1	20	0.04425
Perfluoro-1-hexanesulfonate	500	1.89	1	100.000	1	20	0.04725
Perfluoro-1-octanesulfonate	500	1.91	1	100.000	1	20	0.04775
Perfluoro-n-decanoic Acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-dodecanoic acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-heptanoic Acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-hexanoic acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-octanoic Acid	500	2.00	1	100.000	1	20	0.05000
Perfluorononanoic Acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-tetradecanoic acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-tridecanoic acid	500	2.00	1	100.000	1	20	0.05000
Perfluoro-n-undecanoic acid	500	2.00	1	100.000	1	20	0.05000

## Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefluoride	.04425
Perfluoro-1-hexanesulfonate	.04725
Perfluoro-1-octanesulfonate	.04775
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05000
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180705-01	Pipette	B820865811

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 7/25/2018	<b>Expiration Date:</b> 7/25/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Comment: 96/4 Methanol/Milli-q water

Approved By: Schumitz, Denise Date: 7/31/2018 11:39:00 AM



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ74**

Description: PFAS - 537.1 Internal Standard Calibration 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)
JV35	PFAS - 537.1 Internal Standard Stock	Solution	~0	05/02/19	---	---	1000 uL	1	5	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ74**

Description: PFAS - 537.1 Internal Standard Calibration Stock Solution

Stock Id: **JV35**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	1000	0.10	---	---	1	5	0.02000
13C4-PFOS	1000	0.29	---	---	1	5	0.05740

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFOA	.02000
13C4-PFOS	.05740
d3-MeFOSAA	.08000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV35	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie      Date Prepared: 8/20/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise      Date: 8/20/2018 2:19:00 PM





It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ75**

Description: PFAS - 537.1 Surrogate Calibration 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)
JV37	PFAS - 537.1 Surrogate Standard Stock	Solution	~0	05/02/19	---	---	1000 uL	1	5	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 4 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ75**

Description: PFAS - 537.1 Surrogate Calibration Stock Solution

Stock Id: **JV37**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFDA	1000	0.10	---	---	1	5	0.02000
13C2-PFHxA	1000	0.10	---	---	1	5	0.02000
d5-EtFOSAA	1000	0.40	---	---	1	5	0.08000

## Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.02000
13C2-PFHxA	.02000
d5-EtFOSAA	.08000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV37	Pipette	C0982448K

Solution Prepared By: Schultz, Stephanie      Date Prepared: 8/20/2018      Expiration Date: 5/2/2019

Solution Volume 4 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise      Date: 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Prep Form II

Approved: 

Standard Laboratory ID Number: JZ76

Description: PFAS - 537.1 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)
180425-03	EPA-537PDS (calibration)	Neat	~2.00000 0	03/05/23	---	---	250 uL	1	10	~0.0500

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 8/20/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ76**

Description: PFAS - 537.1 High ICAL Stock

Stock Id: **180425-03**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	250	2.00	1	100.000	1	10	0.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-1-butanefluoride	250	1.77	1	100.000	1	10	0.04425
Perfluoro-1-hexanesulfonate	250	1.82	1	100.000	1	10	0.04560
Perfluoro-1-octanesulfonate	250	1.85	1	100.000	1	10	0.04628
Perfluoro-n-decanoic Acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-dodecanoic acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-heptanoic Acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-hexanoic acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-octanoic Acid	250	2.00	1	100.000	1	10	0.05000
Perfluorononanoic Acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-tetradecanoic acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-tridecanoic acid	250	2.00	1	100.000	1	10	0.05000
Perfluoro-n-undecanoic acid	250	2.00	1	100.000	1	10	0.05000

## Final Concentrations:

Analyte:	Conc (ug/mL):
N-ethylperfluoro-octanesulfonamidoacetic acid	.05000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.05000
Perfluoro-1-butanefluoride	.04425
Perfluoro-1-hexanesulfonate	.04560
Perfluoro-1-octanesulfonate	.04628
Perfluoro-n-decanoic Acid	.05000
Perfluoro-n-dodecanoic acid	.05000
Perfluoro-n-heptanoic Acid	.05000
Perfluoro-n-hexanoic acid	.05000
Perfluoro-n-octanoic Acid	.05000
Perfluorononanoic Acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000

## Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
180425-03	Pipette	B814657482

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 8/20/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

**Comment:** 96/4 methanol/milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise **Date:** 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Prep Form II

Approved: 

Standard Laboratory ID Number: JZ77

Description: PFAS - 537.1 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)
JZ28	PFAS - 537.1 Second Source LCS/MS Solution	Solution	~0	07/25/19	---	---	200 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ77**

Description: PFAS - 537.1 ICC

**Stock Id: JZ28**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefluorobutanoate	200	0.04	---	---	1	10	0.00089
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00095
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00095
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	0.00100
Perfluoro-n-octanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluorononanoic 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

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 methanol/milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:19:00 PM



It can be done

**Standard Solution Concentrations** Approved:

**Standard Laboratory ID Number:** JZ77

**Description:** PFAS - 537.1 ICC

N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.00089
Perfluoro-1-hexanesulfonate	.00095
Perfluoro-1-octanesulfonate	.00095
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00100
Perfluoro-n-octanoic Acid	.00100
Perfluorononanoic Acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100

**Syringes/Pipettes:**

Stock ID:	Type:	Battelle ID:
JZ28	Pipette	B814657482
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 <b>Vials Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107		
<b>Comment:</b> 96/4 methanol/milli-q (RP-180820-2)		

**Approved By:** Schumitz, Denise **Date:** 8/20/2018 2:19:00 PM



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ80**

Description: PFAS - 537.1 ICAL 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)
JV43	PFAS - 537.1 Low ICAL Stock	Solution	~0	05/02/19	---	---	200 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM





It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ80**

Description: PFAS - 537.1 ICAL L3

**Stock Id: JV43**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefluorobutanoate	200	0.00	---	---	1	10	0.00009
Perfluoro-1-hexanesulfonate	200	0.00	---	---	1	10	0.00009
Perfluoro-1-octanesulfonate	200	0.00	---	---	1	10	0.00009
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-nonanoic Acid	200	0.01	---	---	1	10	0.00010
Perfluoro-n-octanoic 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

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved:

**Standard Laboratory ID Number:** JZ80

**Description:** PFAS - 537.1 ICAL L3

N-ethylperfluoro-octanesulfonamidoacetic acid	.00010
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanefluoride	.00009
Perfluoro-1-hexanesulfonate	.00009
Perfluoro-1-octanesulfonate	.00009
Perfluoro-n-decanoic Acid	.00010
Perfluoro-n-dodecanoic acid	.00010
Perfluoro-n-heptanoic Acid	.00010
Perfluoro-n-hexanoic acid	.00010
Perfluoro-n-nonanoic Acid	.00010
Perfluoro-n-octanoic Acid	.00010
Perfluoro-n-tetradecanoic acid	.00010
Perfluoro-n-tridecanoic acid	.00010
Perfluoro-n-undecanoic acid	.00010

### Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV43	Pipette	B814657482
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662

**Solution Prepared By:** Schultz, Stephanie      **Date Prepared:** 8/20/2018      **Expiration Date:** 5/2/2019

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

**Comment:** 96/4 Methanol/Milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise      **Date:** 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Prep Form II

Approved: 

Standard Laboratory ID Number: JZ81

Description: PFAS - 537.1 ICAL 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)
JV43	PFAS - 537.1 Low ICAL Stock	Solution	~0	05/02/19	---	---	500 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ81**

Description: PFAS - 537.1 ICAL L4

**Stock Id: JV43**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefluorobutane	500	0.00	---	---	1	10	0.00022
Perfluoro-1-hexanesulfonate	500	0.00	---	---	1	10	0.00023
Perfluoro-1-octanesulfonate	500	0.00	---	---	1	10	0.00023
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-nonanoic Acid	500	0.01	---	---	1	10	0.00025
Perfluoro-n-octanoic 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

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved:

**Standard Laboratory ID Number:** JZ81

**Description:** PFAS - 537.1 ICAL L4

N-ethylperfluoro-octanesulfonamidoacetic acid	.00025
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanefluoride	.00022
Perfluoro-1-hexanesulfonate	.00023
Perfluoro-1-octanesulfonate	.00023
Perfluoro-n-decanoic Acid	.00025
Perfluoro-n-dodecanoic acid	.00025
Perfluoro-n-heptanoic Acid	.00025
Perfluoro-n-hexanoic acid	.00025
Perfluoro-n-nonanoic Acid	.00025
Perfluoro-n-octanoic Acid	.00025
Perfluoro-n-tetradecanoic acid	.00025
Perfluoro-n-tridecanoic acid	.00025
Perfluoro-n-undecanoic acid	.00025

### Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JV43	Pipette	C0982448K
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662

**Solution Prepared By:** Schultz, Stephanie      **Date Prepared:** 8/20/2018      **Expiration Date:** 5/2/2019

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

**Comment:** 96/4 Methanol/Milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise      **Date:** 8/20/2018 2:20:00 PM



It can be done

Standard Solution Prep Form II

Approved:

Standard Laboratory ID Number: JZ82

Description: PFAS - 537.1 ICAL 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)
JV43	PFAS - 537.1 Low ICAL Stock	Solution	~0	05/02/19	---	---	1000 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ82**

Description: PFAS - 537.1 ICAL L5

**Stock Id: JV43**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.01	---	---	1	10	0.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-1-butanefluorobutane	1000	0.00	---	---	1	10	0.00044
Perfluoro-1-hexanesulfonate	1000	0.00	---	---	1	10	0.00046
Perfluoro-1-octanesulfonate	1000	0.00	---	---	1	10	0.00046
Perfluoro-n-decanoic Acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-dodecanoic acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-heptanoic Acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-hexanoic acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-nonanoic Acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-octanoic Acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-tetradecanoic acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-tridecanoic acid	1000	0.01	---	---	1	10	0.00050
Perfluoro-n-undecanoic acid	1000	0.01	---	---	1	10	0.00050

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

**Standard Solution Concentrations** Approved:

**Standard Laboratory ID Number: JZ82**

**Description:** PFAS - 537.1 ICAL L5

N-ethylperfluoro-octanesulfonamidoacetic acid	.00050
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00050
Perfluoro-1-butanefulfonate	.00044
Perfluoro-1-hexanesulfonate	.00046
Perfluoro-1-octanesulfonate	.00046
Perfluoro-n-decanoic Acid	.00050
Perfluoro-n-dodecanoic acid	.00050
Perfluoro-n-heptanoic Acid	.00050
Perfluoro-n-hexanoic acid	.00050
Perfluoro-n-nonanoic Acid	.00050
Perfluoro-n-octanoic Acid	.00050
Perfluoro-n-tetradecanoic acid	.00050
Perfluoro-n-tridecanoic acid	.00050
Perfluoro-n-undecanoic acid	.00050

**Syringes/Pipettes:**

Stock ID:	Type:	Battelle ID:
JV43	Pipette	C0982448K
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662

<b>Solution Prepared By:</b> Schultz, Stephanie		<b>Date Prepared:</b> 8/20/2018		<b>Expiration Date:</b> 5/2/2019	
<b>Solution Volume</b>	40 mL X 1	<b>Vials</b>	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107		
<b>Comment:</b> 96/4 Methanol/Milli-q (RP-180820-2)					

**Approved By:** Schumitz, Denise **Date:** 8/20/2018 2:20:00 PM





It can be done

## Standard Solution Prep Form II

Approved: 

Standard Laboratory ID Number: JZ83

Description: PFAS - 537.1 ICAL 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)
JZ76	PFAS - 537.1 High ICAL Stock	Solution	~0	08/20/19	---	---	200 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ83**

Description: PFAS - 537.1 ICAL L6

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ76**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefulfonate	200	0.04	---	---	1	10	0.00089
Perfluoro-1-hexanesulfonate	200	0.05	---	---	1	10	0.00091
Perfluoro-1-octanesulfonate	200	0.05	---	---	1	10	0.00093
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	0.00100
Perfluoro-n-nonanoic Acid	200	0.05	---	---	1	10	0.00100
Perfluoro-n-octanoic 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

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie      Date Prepared: 8/20/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise      Date: 8/20/2018 2:20:00 PM



It can be done

**Standard Solution Concentrations** Approved:

**Standard Laboratory ID Number: JZ83**

**Description:** PFAS - 537.1 ICAL L6

N-ethylperfluoro-octanesulfonamidoacetic acid	.00100
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefluoride	.00089
Perfluoro-1-hexanesulfonate	.00091
Perfluoro-1-octanesulfonate	.00093
Perfluoro-n-decanoic Acid	.00100
Perfluoro-n-dodecanoic acid	.00100
Perfluoro-n-heptanoic Acid	.00100
Perfluoro-n-hexanoic acid	.00100
Perfluoro-n-nonanoic Acid	.00100
Perfluoro-n-octanoic Acid	.00100
Perfluoro-n-tetradecanoic acid	.00100
Perfluoro-n-tridecanoic acid	.00100
Perfluoro-n-undecanoic acid	.00100

**Syringes/Pipettes:**

Stock ID:	Type:	Battelle ID:
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662
JZ76	Pipette	B814657482

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

**Comment:** 96/4 Methanol/Milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise **Date:** 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ84**

Description: PFAS - 537.1 ICAL 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)
JZ76	PFAS - 537.1 High ICAL Stock	Solution	~0	08/20/19	---	---	500 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ84**

Description: PFAS - 537.1 ICAL L7

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ76**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefluorobutane	500	0.04	---	---	1	10	0.00221
Perfluoro-1-hexanesulfonate	500	0.05	---	---	1	10	0.00228
Perfluoro-1-octanesulfonate	500	0.05	---	---	1	10	0.00231
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	0.00250
Perfluoro-n-nonanoic Acid	500	0.05	---	---	1	10	0.00250
Perfluoro-n-octanoic 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

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie      Date Prepared: 8/20/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise      Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved:

**Standard Laboratory ID Number:** JZ84

**Description:** PFAS - 537.1 ICAL L7

N-ethylperfluoro-octanesulfonamidoacetic acid	.00250
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefluoride	.00221
Perfluoro-1-hexanesulfonate	.00228
Perfluoro-1-octanesulfonate	.00231
Perfluoro-n-decanoic Acid	.00250
Perfluoro-n-dodecanoic acid	.00250
Perfluoro-n-heptanoic Acid	.00250
Perfluoro-n-hexanoic acid	.00250
Perfluoro-n-nonanoic Acid	.00250
Perfluoro-n-octanoic Acid	.00250
Perfluoro-n-tetradecanoic acid	.00250
Perfluoro-n-tridecanoic acid	.00250
Perfluoro-n-undecanoic acid	.00250

### Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662
JZ76	Pipette	C0982448K

**Solution Prepared By:** Schultz, Stephanie      **Date Prepared:** 8/20/2018      **Expiration Date:** 5/2/2019

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

**Comment:** 96/4 Methanol/Milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise      **Date:** 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Prep Form II

Approved: 

Standard Laboratory ID Number: JZ85

Description: PFAS - 537.1 ICAL 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)
JZ76	PFAS - 537.1 High ICAL Stock	Solution	~0	08/20/19	---	---	1000 uL	1	10	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000

Solution Prepared By: Schultz, Stephanie	Date Prepared: 8/20/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ85**

Description: PFAS - 537.1 ICAL L8

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	50	0.02	---	---	1	10	0.00010
13C4-PFOS	50	0.06	---	---	1	10	0.00029
d3-MeFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ75**

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-PFHxA	50	0.02	---	---	1	10	0.00010
d5-EtFOSAA	50	0.08	---	---	1	10	0.00040

**Stock Id: JZ76**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
N-ethylperfluoro-octanesulfonamidoacetic acid	1000	0.05	---	---	1	10	0.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-1-butanefulfonate	1000	0.04	---	---	1	10	0.00443
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	10	0.00456
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	10	0.00463
Perfluoro-n-decanoic Acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-dodecanoic acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-heptanoic Acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-hexanoic acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-nonanoic Acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-octanoic Acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-tetradecanoic acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-tridecanoic acid	1000	0.05	---	---	1	10	0.00500
Perfluoro-n-undecanoic acid	1000	0.05	---	---	1	10	0.00500

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie      Date Prepared: 8/20/2018      Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise      Date: 8/20/2018 2:20:00 PM





It can be done

**Standard Solution Concentrations** Approved:

**Standard Laboratory ID Number: JZ85**

**Description:** PFAS - 537.1 ICAL L8

N-ethylperfluoro-octanesulfonamidoacetic acid	.00500
N-methylperfluoro-1-octanesulfonamidoacetic acid	.00500
Perfluoro-1-butanefluorobutanoate	.00443
Perfluoro-1-hexanesulfonate	.00456
Perfluoro-1-octanesulfonate	.00463
Perfluoro-n-decanoic Acid	.00500
Perfluoro-n-dodecanoic acid	.00500
Perfluoro-n-heptanoic Acid	.00500
Perfluoro-n-hexanoic acid	.00500
Perfluoro-n-nonanoic Acid	.00500
Perfluoro-n-octanoic Acid	.00500
Perfluoro-n-tetradecanoic acid	.00500
Perfluoro-n-tridecanoic acid	.00500
Perfluoro-n-undecanoic acid	.00500

**Syringes/Pipettes:**

Stock ID:	Type:	Battelle ID:
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662
JZ76	Pipette	C0982448K

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 <b>Vials Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107		
<b>Comment:</b> 96/4 Methanol/Milli-q (RP-180820-2)		

**Approved By:** Schumitz, Denise **Date:** 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Prep Form II

Approved: Standard Laboratory ID Number: **JZ86**

Description: PFAS - 537.1 ICAL 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)
JZ76	PFAS - 537.1 High ICAL Stock	Solution	~0	08/20/19	---	---	1000 uL	1	5	~0.0000
JZ74	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	25 uL	1	5	~0.0000
JZ75	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	25 uL	1	5	~0.0000

<b>Solution Prepared By:</b> Schultz, Stephanie	<b>Date Prepared:</b> 8/20/2018	<b>Expiration Date:</b> 5/2/2019
<b>Solution Volume</b> 40 mL X 1 Vials	<b>Refrigerator/Freezer No:</b> LC Laboratory: Refrigerator - R0107	

Balance ID: \_\_\_\_\_

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved: Standard Laboratory ID Number: **JZ86**

Description: PFAS - 537.1 ICAL L9

**Stock Id: JZ74**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
13C2-PFOA	25	0.02	---	---	1	5	0.00010
13C4-PFOS	25	0.06	---	---	1	5	0.00029
d3-MeFOSAA	25	0.08	---	---	1	5	0.00040

**Stock Id: JZ75**

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-PFHxA	25	0.02	---	---	1	5	0.00010
d5-EtFOSAA	25	0.08	---	---	1	5	0.00040

**Stock Id: JZ76**

Chemical Name	Stock Amount uL	Initial Conc. (ug/mL)	Density (g/mL)	Purity	Conv. Factor	Final Vol mL	Concentration (ug/mL)
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-butanefulfonate	1000	0.04	---	---	1	5	0.00885
Perfluoro-1-hexanesulfonate	1000	0.05	---	---	1	5	0.00912
Perfluoro-1-octanesulfonate	1000	0.05	---	---	1	5	0.00925
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	0.01000
Perfluoro-n-nonanoic Acid	1000	0.05	---	---	1	5	0.01000
Perfluoro-n-octanoic 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

**Final Concentrations:**

Analyte:	Conc (ug/mL):
13C2-PFDA	.00010
13C2-PFHxA	.00010
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00040

Solution Prepared By: Schultz, Stephanie Date Prepared: 8/20/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 Methanol/Milli-q (RP-180820-2)

Approved By: Schumitz, Denise Date: 8/20/2018 2:20:00 PM



It can be done

## Standard Solution Concentrations

Approved:

**Standard Laboratory ID Number:** JZ86

**Description:** PFAS - 537.1 ICAL L9

N-ethylperfluoro-octanesulfonamidoacetic acid	.01000
N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefluoride	.00885
Perfluoro-1-hexanesulfonate	.00912
Perfluoro-1-octanesulfonate	.00925
Perfluoro-n-decanoic Acid	.01000
Perfluoro-n-dodecanoic acid	.01000
Perfluoro-n-heptanoic Acid	.01000
Perfluoro-n-hexanoic acid	.01000
Perfluoro-n-nonanoic Acid	.01000
Perfluoro-n-octanoic Acid	.01000
Perfluoro-n-tetradecanoic acid	.01000
Perfluoro-n-tridecanoic acid	.01000
Perfluoro-n-undecanoic acid	.01000

### Syringes/Pipettes:

Stock ID:	Type:	Battelle ID:
JZ74	Pipette	B814659662
JZ75	Pipette	B814659662
JZ76	Pipette	C0982448K

**Solution Prepared By:** Schultz, Stephanie      **Date Prepared:** 8/20/2018      **Expiration Date:** 5/2/2019

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

**Comment:** 96/4 Methanol/Milli-q (RP-180820-2)

**Approved By:** Schumitz, Denise      **Date:** 8/20/2018 2:20:00 PM

**It can be done**BDO Id: 180425-01**Reagent Receipt Report**Approved:  Authorized 

Name: EPA-537IS Received: 4/25/2018  
Vendor: Wellington Laboratories Custodian: Schumitz, Matt  
Catalogue No: EPA-537IS Expires: 12/13/2022  
Type: Solution Consumed: \_\_\_\_\_  
Lot No: 537IS1217 Stored In: AqChem Laboratory - R0124  
Quantity: 1 ea mL % Moisture: \_\_\_\_\_  
Description: EPA-537IS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
d3-N-MeFOSAA	BDO-1838	4.0000	100.00	--	--	<input type="checkbox"/>			
M2PFOA	BDO-1842	1.0000	100.00	--	--	<input type="checkbox"/>			
MPFOS	BDO-1840	2.8700	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 3

Notes:

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

**WELLINGTON  
LABORATORIES****CERTIFICATE OF ANALYSIS  
DOCUMENTATION****EPA-537IS****Internal Standard  
Primary Dilution Standard**

**PRODUCT CODE:** EPA-537IS  
**LOT NUMBER:** 537IS1217  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 12/13/2017  
**LAST TESTED:** (mm/dd/yyyy) 12/13/2017  
**EXPIRY DATE:** (mm/dd/yyyy) 12/13/2022  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

EPA-537IS is a solution/mixture of a mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acid, a mass-labelled (<sup>13</sup>C) perfluoroalkylsulfonate, and a mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoacetic acid. The components and their concentrations are given in Table A.

The mass-labelled perfluoroalkylcarboxylic acid and the mass-labelled perfluoroalkylsulfonate both have chemical purities of >98% and isotopic purities of ≥99%. The mass-labelled perfluorooctanesulfonamidoacetic acid has a chemical purity of >98% and an isotopic purity of ≥98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (TIC)  
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**

**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

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

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

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

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

**TRACEABILITY:**

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

**EXPIRY DATE / PERIOD OF VALIDITY:**

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

**LIMITED WARRANTY:**

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

**QUALITY MANAGEMENT:**

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

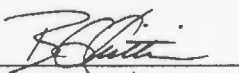


\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

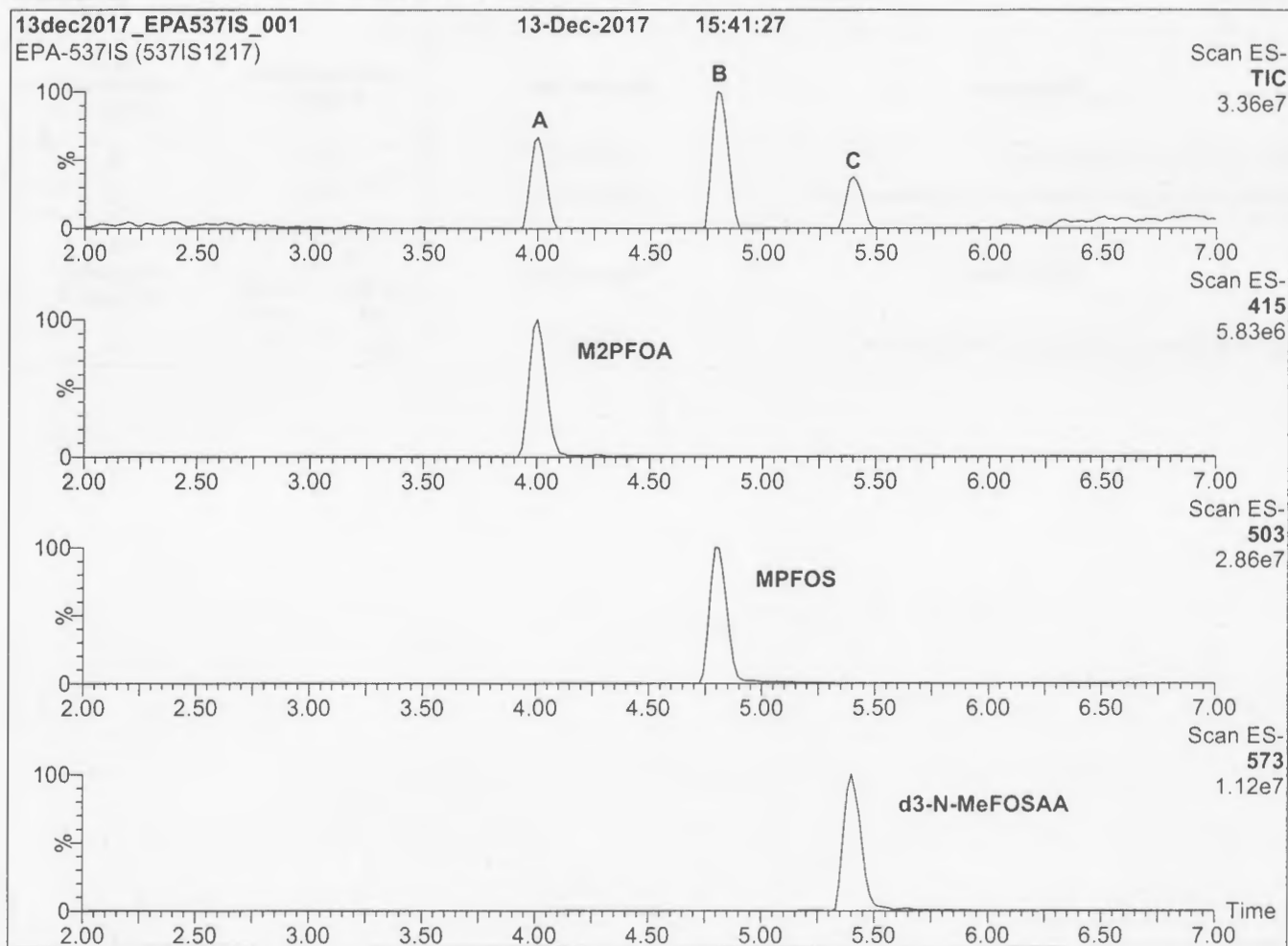
**Table A: EPA-537IS; Components and Concentrations (ng/ml;  $\pm$  5% in Methanol / Water (<1%))**

Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-[1,2- <sup>13</sup> C <sub>2</sub> ]octanoic acid	M2PFOA	1000		A
N-methyl-d <sub>3</sub> -perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	4000		C
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Sodium perfluoro-1-[1,2,3,4- <sup>13</sup> C <sub>4</sub> ]octanesulfonate	MPFOS	3000	2870	B

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

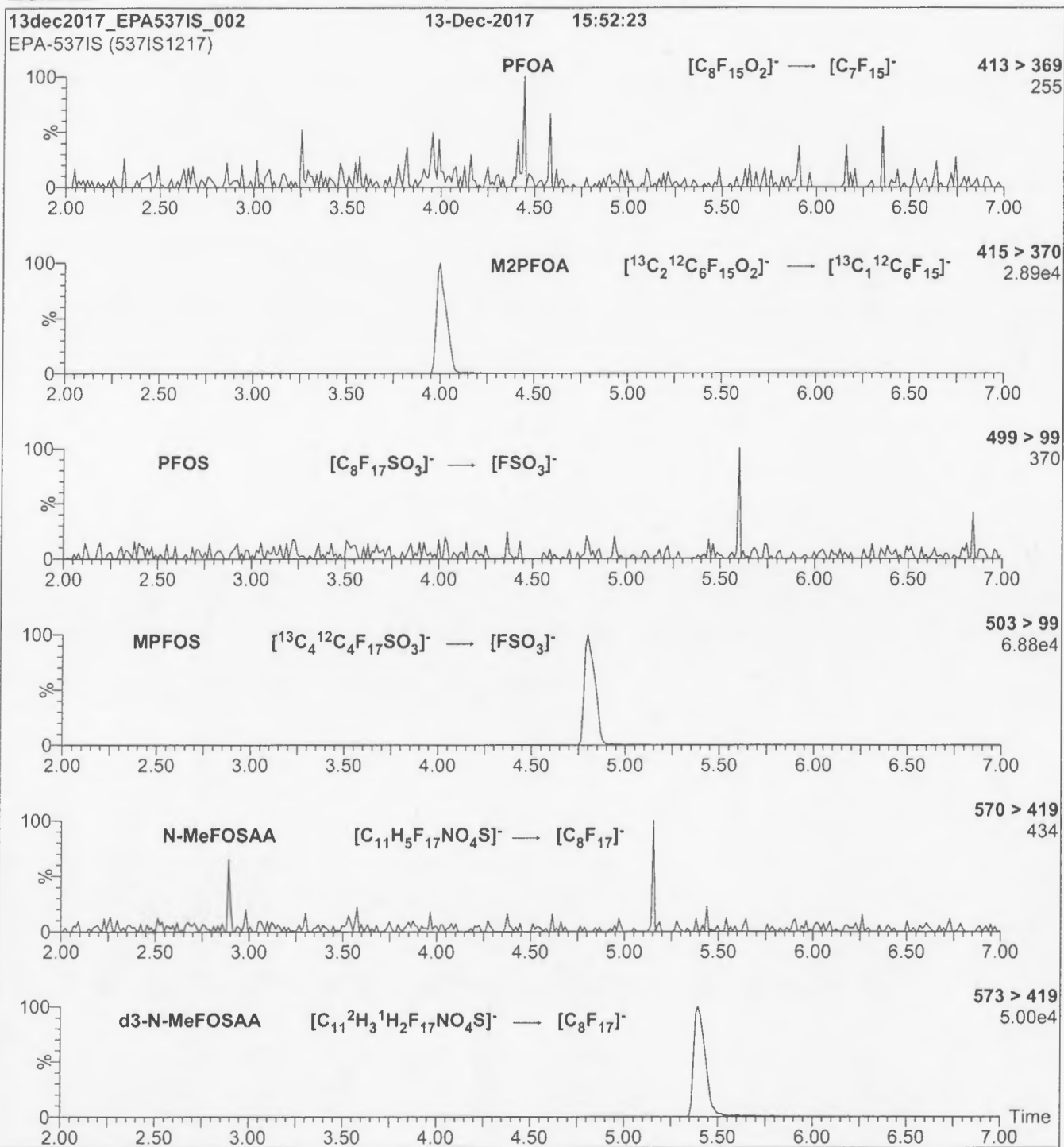
  
 B.G. Chittim, General Manager
Date: 12/22/2017  
(mm/dd/yyyy)



**Figure 1: EPA-537IS; LC/MS Data (Total Ion Current Chromatogram)****Conditions for Figure 1:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mmMobile phase: Gradient  
Start: 40% (80:20 MeOH:ACN) / 60% H<sub>2</sub>O  
(both with 10 mM NH<sub>4</sub>OAc buffer)  
Ramp to 90% organic over 7 min  
and hold for 2 min before returning  
to initial conditions in 0.5 min.  
Time: 10 minFlow: 300  $\mu$ l/min**MS Parameters**

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)  
Capillary Voltage (kV) = 3.00  
Cone Voltage (V) = 25.00  
Cone Gas Flow (l/hr) = 100  
Desolvation Gas Flow (l/hr) = 750

**Figure 2: EPA-537IS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (EPA-537IS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ l/min**MS Parameters**

Collision Gas (mbar) = 3.28e-3

Collision Energy (eV) = 11-40 (variable)

It can be done

BDO Id: 180425-02

## Reagent Receipt Report

Approved:  Authorized

Name: EPA-537SS Received: 4/25/2018  
Vendor: Wellington Laboratories Custodian: Schumitz, Matt  
Catalogue No: EPA-537SS Expires: 11/8/2022  
Type: Solution Consumed: \_\_\_\_\_  
Lot No: 537SS1117 Stored In: AqChem Laboratory - R0124  
Quantity: 1 ea ml % Moisture: \_\_\_\_\_  
Description: EPA-537SS

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	1.0000	100.00	--	--	<input type="checkbox"/>			
13C2-PFHxA	BDO-2106	1.0000	100.00	--	--	<input type="checkbox"/>			
d5-EtFOSAA	BDO-1839	4.0000	100.00	--	--	<input type="checkbox"/>			

Total Analytes: 3

Notes:

Approved by: Thorn, Jonathan Approved on: 5/2/2018 10:00:00 AM  
Authorized by: \_\_\_\_\_ Authorized on: \_\_\_\_\_

**WELLINGTON  
LABORATORIES****CERTIFICATE OF ANALYSIS  
DOCUMENTATION****EPA-537SS****Surrogate Primary Dilution Standard**

**PRODUCT CODE:** EPA-537SS  
**LOT NUMBER:** 537SS1117  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 11/06/2017  
**LAST TESTED:** (mm/dd/yyyy) 11/08/2017  
**EXPIRY DATE:** (mm/dd/yyyy) 11/08/2022  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

EPA-537SS is a solution/mixture of two mass-labelled (<sup>13</sup>C) perfluoroalkylcarboxylic acids and a mass-labelled (<sup>2</sup>H) perfluorooctanesulfonamidoacetic acid. The components and their concentrations are given in Table A.

The mass-labelled perfluoroalkylcarboxylic acids both have chemical purities of >98% and isotopic purities of ≥99%. The mass-labelled perfluorooctanesulfonamidoacetic acid has a chemical purity of >98% and an isotopic purity of ≥98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Figure 1: LC/MS Data (TIC)  
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.

**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:**

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**HAZARDS:**

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**SYNTHESIS / CHARACTERIZATION:**

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

**HOMOGENEITY:**

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

**UNCERTAINTY:**

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

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

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

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

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

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

**TRACEABILITY:**

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

**EXPIRY DATE / PERIOD OF VALIDITY:**

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

**LIMITED WARRANTY:**

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

**QUALITY MANAGEMENT:**

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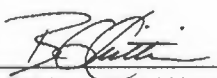


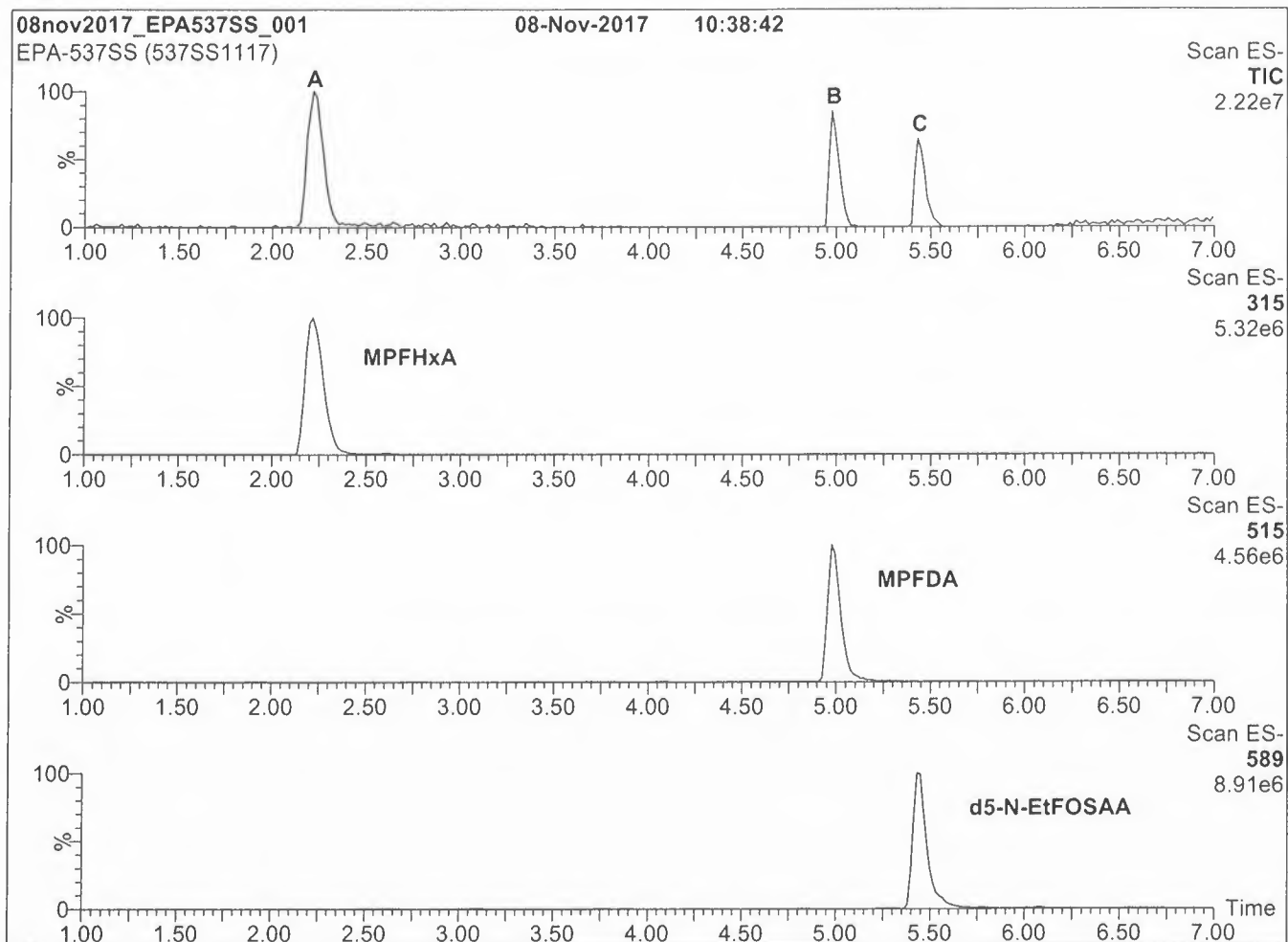
\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: EPA-537SS; Components and Concentrations (ng/ml; ± 5% in Methanol / Water (<1%))**

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[1,2- <sup>13</sup> C <sub>2</sub> ]hexanoic acid	MPFHxA	1000	A
Perfluoro-n-[1,2- <sup>13</sup> C <sub>2</sub> ]decanoic acid	MPFDA	1000	B
N-ethyl-d <sub>5</sub> -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	4000	C

Certified By:

  
B.G. Chittim, General ManagerDate: 11/13/2017  
(mm/dd/yyyy)

**Figure 1: EPA-537SS; LC/MS Data (Total Ion Current Chromatogram)****Conditions for Figure 1:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 45% (80:20 MeOH:ACN) / 55% H<sub>2</sub>O  
(both with 10 mM NH<sub>4</sub>OAc buffer)Ramp to 90% organic over 7 min  
and hold for 2 min before returning  
to initial conditions in 0.5 min.

Time: 10 min

Flow: 300  $\mu$ l/min**MS Parameters**

Experiment: Full Scan (225 - 850 amu)

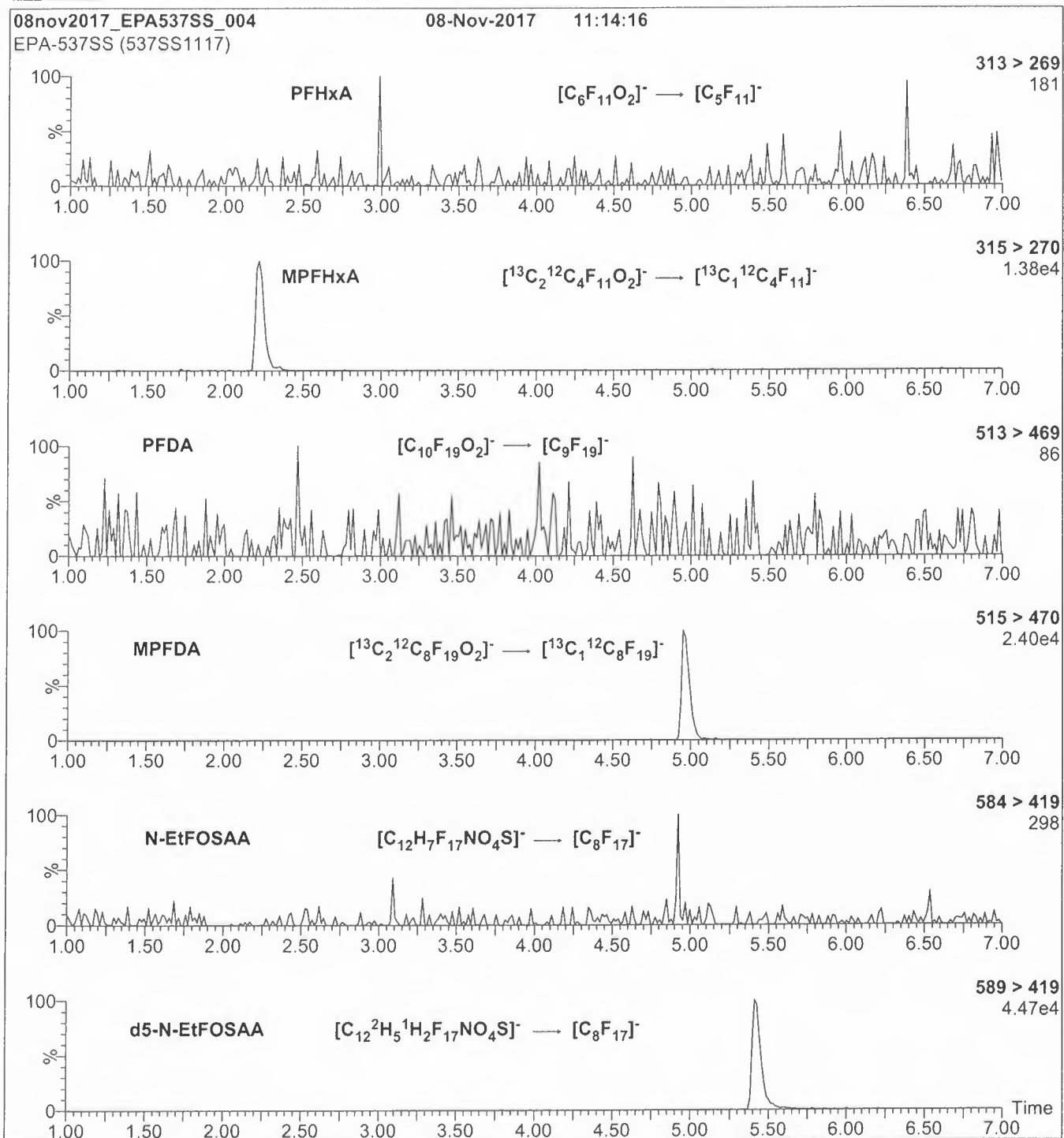
Source: Electrospray (negative)

Capillary Voltage (kV) = 3.00

Cone Voltage (V) = 25.00

Cone Gas Flow (l/hr) = 100

Desolvation Gas Flow (l/hr) = 750

**Figure 2: EPA-537SS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (EPA-537SS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ l/min**MS Parameters**

Collision Gas (mbar) = 3.50e-3

Collision Energy (eV) = 9-40 (variable)





It can be done

BDO Id: 180425-03

## Reagent Receipt Report

Approved:  Authorized

<b>Name:</b>	<u>EPA-537PDS (calibration)</u>	<b>Received:</b>	<u>4/25/2018</u>
<b>Vendor:</b>	<u>Wellington Laboratories</u>	<b>Custodian:</b>	<u>Schumitz, Matt</u>
<b>Catalogue No:</b>	<u>EPA-537PDS</u>	<b>Expires:</b>	<u>3/5/2023</u>
<b>Type:</b>	<u>Solution</u>	<b>Consumed:</b>	<u></u>
<b>Lot No:</b>	<u>537PDS0318</u>	<b>Stored In:</b>	<u>AqChem Laboratory - R0124</u>
<b>Quantity:</b>	<u>1 ea</u> <u>ml</u>	<b>% Moisture:</b>	<u></u>
<b>Description:</b>	<u>EPA-537PDS</u>		

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert	Cert Val:	Lower Limit:	Upper Limit:
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	2.0000	100.00	--	--	<input type="checkbox"/>			1
N-methylperfluoro-1-octanesulfonami	2355-31-9	2.0000	100.00	--	--	<input type="checkbox"/>			2
Perfluoro-1-butanefulfonate	375-73-5	1.7700	100.00	--	--	<input type="checkbox"/>			3
Perfluoro-1-hexanesulfonate	355-46-4	1.8240	100.00	--	--	<input type="checkbox"/>			4
Perfluoro-1-octanesulfonate	1763-23-1	1.8510	100.00	--	--	<input type="checkbox"/>			5
Perfluoro-n-decanoic Acid	335-76-2	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-dodecanoic acid	307-55-1	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-heptanoic Acid	375-85-9	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-hexanoic acid	307-24-4	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-nonanoic Acid	375-95-1	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-octanoic Acid	335-67-1	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tetradecanoic acid	376-06-7	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-tridecanoic acid	72629-94-8	2.0000	100.00	--	--	<input type="checkbox"/>			
Perfluoro-n-undecanoic acid	2058-94-8	2.0000	100.00	--	--	<input type="checkbox"/>			

**Total Analytes:** 14

**Notes:**

Analyte:	Comment:
1 N-ethylperfluoro-octanesulfonamidoacetic acid	sum of branched and linear isomers
2 N-methylperfluoro-1-octanesulfonamidoacetic acid	sum of branched and linear isomers
3 Perfluoro-1-butanefulfonate	2000 ng/ml as the salt, 1770 ng/ml as the anion
4 Perfluoro-1-hexanesulfonate	1998 ng/ml as the salt, 1824 ng/ml as the anion. sum of branched and linear isomers.
5 Perfluoro-1-octanesulfonate	2002 ng/ml as the salt, 1851 ng/ml as the anion. sum of branched and linear isomers.

<b>Approved by:</b>	<u>Thorn, Jonathan</u>	<b>Approved on:</b>	<u>5/2/2018 10:05:00 AM</u>
<b>Authorized by:</b>	<u></u>	<b>Authorized on:</b>	<u></u>

**WELLINGTON**  
LABORATORIES**CERTIFICATE OF ANALYSIS**  
DOCUMENTATION**EPA-537PDS****Native PFAS Primary Dilution  
Standard Solution/Mixture**

**PRODUCT CODE:** EPA-537PDS  
**LOT NUMBER:** 537PDS0318  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 03/02/2018  
**LAST TESTED:** (mm/dd/yyyy) 03/05/2018  
**EXPIRY DATE:** (mm/dd/yyyy) 03/05/2023  
**RECOMMENDED STORAGE:** Refrigerate ampoule

*for calibration  
Jnr 5/2/2018*

**DESCRIPTION:**

EPA-537PDS is a solution/mixture of nine native linear perfluoroalkylcarboxylic acids (C<sub>6</sub>-C<sub>14</sub>), three native perfluoroalkylsulfonates (C<sub>4</sub> linear; C<sub>6</sub> and C<sub>8</sub> linear and branched), and two native perfluorooctanesulfonamidoacetic acids (linear and branched). The components and their concentrations are given in Table A.

The native perfluoroalkylcarboxylic acids, native perfluoroalkylsulfonates, and native perfluorooctanesulfonamidoacetic acids have chemical purities of >98%.

**DOCUMENTATION/ DATA ATTACHED:**

Table A: Components and Concentrations of the Solution/Mixture  
Table B: Isomeric Components and Percent Composition of N-MeFOSAA  
Table C: Isomeric Components and Percent Composition of N-EtFOSAA  
Table D: Isomeric Components and Percent Composition of PFHxSK  
Table E: Isomeric Components and Percent Composition of PFOSK  
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.

**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.

**HANDLING:**

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:**

Our products are synthesized using single-product unambiguous routes whenever possible. 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. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

**UNCERTAINTY:**

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

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

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

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

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

**TRACEABILITY:**

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. 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 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A:** EPA-537PDS; Components and Concentrations (ng/ml;  $\pm$  5% in Methanol / Water (<1%))

Compound	Abbreviation	Concentration * (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-hexanoic acid ✓	PFHxA	2000		B
Perfluoro-n-heptanoic acid ✓	PFHpA	2000		C
Perfluoro-n-octanoic acid ✓	PFOA	2000		F
Perfluoro-n-nonanoic acid ✓	PFNA	2000		G
Perfluoro-n-decanoic acid ✓	PFDA	2000		J
Perfluoro-n-undecanoic acid ✓	PFUdA	2000		O
Perfluoro-n-dodecanoic acid ✓	PFDoA	2000		P
Perfluoro-n-tridecanoic acid ✓	PFTrDA	2000		Q
Perfluoro-n-tetradecanoic acid ✓	PFTeDA	2000		R
N-methylperfluorooctanesulfonamidoacetic acid <sup>a</sup> ✓	N-MeFOSAA: linear isomer ✓	1520		L
	N-MeFOSAA: $\Sigma$ branched isomers	480		K
N-ethylperfluorooctanesulfonamidoacetic acid <sup>b</sup> ✓	N-EtFOSAA: linear isomer ✓	1550		N
	N-EtFOSAA: $\Sigma$ branched isomers	450		M
Compound	Abbreviation	Concentration * (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Potassium perfluoro-1-butanesulfonate ✓	L-PFBS ✓	2000	1770	A
Potassium perfluorohexanesulfonate <sup>c</sup>	PFHxSK: linear isomer	1620	1480	E
	PFHxSK: $\Sigma$ branched isomers	378	344	D
Potassium perfluorooctanesulfonate <sup>d</sup>	PFOSK: linear isomer	1580	1460	I
	PFOSK: $\Sigma$ branched isomers	422	391	H

<sup>a</sup> See Table B for percent composition of linear and branched N-MeFOSAA isomers.

<sup>b</sup> See Table C for percent composition of linear and branched N-EtFOSAA isomers.

<sup>c</sup> See Table D for percent composition of linear and branched PFHxSK isomers.

<sup>d</sup> See Table E for percent composition of linear and branched PFOSK isomers.

\* Concentrations have been rounded to three significant figures.

**Table B: N-MeFOSAA; Isomeric Components and Percent Composition (by <sup>19</sup>F-NMR)\***

Isomer	Name	Structure	Percent Composition by <sup>19</sup> F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad  $ $\quad \quad \quad \text{CH}_3$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{CH}_3$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\   \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\   \\ \text{CF}_3 \end{array}$ $\quad \quad \quad  $ $\quad \quad \quad \text{CH}_3$	0.2	
7	Other Unidentified Isomers		1.1	

\* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

**Table C: N-EtFOSAA; Isomeric Components and Percent Composition (by  $^{19}\text{F}$ -NMR)\***

Isomer	Name	Structure	Percent Composition by $^{19}\text{F}$ -NMR	
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	77.5	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	2.3	22.5
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	2.2	
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\text{CF}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	5.4	
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $\quad \quad \quad   \quad \quad \quad  $ $\quad \quad \quad \text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	10.4	
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3$ $ $ $\text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $ $ $\text{CF}_3 \quad \quad \quad  $ $\quad \quad \quad \text{C}_2\text{H}_5$	0.3	
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3$ $ $ $\text{CF}_3\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $  \quad \quad \quad  $ $\text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	0.3	
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$\text{CF}_3$ $ $ $\text{CF}_3\text{CF}(\text{CF}_2)_2\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ $  \quad \quad \quad  $ $\text{CF}_3 \quad \quad \quad \text{C}_2\text{H}_5$	0.3	
9	Other Unidentified Isomers		1.3	

\* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

**Table D: PFHxSK; Isomeric Components and Percent Composition (by <sup>19</sup>F-NMR)\***

Isomer	Name	Structure	Percent Composition by <sup>19</sup> F-NMR	
1	Potassium perfluoro-1-hexanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )K <sup>+</sup>   CF <sub>3</sub>	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	CF <sub>3</sub> CF(CF <sub>3</sub> )CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CCF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.2	
7	Other Unidentified Isomers		0.5	

\* Percent of total perfluorohexanesulfonate isomers only.  
 \*\* Systematic Name: Potassium perfluorohexane-2-sulfonate.



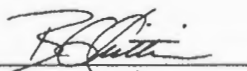
**Table E: PFOSK; Isomeric Components and Percent Composition (by <sup>19</sup>F-NMR)\***

Isomer	Name	Structure	Percent Composition by <sup>19</sup> F-NMR	
1	Potassium perfluoro-1-octanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )K <sup>+</sup>   CF <sub>3</sub>	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> K <sup>+</sup>   CF <sub>3</sub>	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF <sub>2</sub> K <sup>+</sup>   CF <sub>3</sub>	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> K <sup>+</sup>   CF <sub>3</sub>	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> K <sup>+</sup>   CF <sub>3</sub>	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF <sub>3</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> K <sup>+</sup>   CF <sub>3</sub>	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF <sub>2</sub> CCF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF <sub>2</sub> CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF <sub>3</sub>   CF <sub>3</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> CF(SO <sub>3</sub> <sup>-</sup> )CF <sub>2</sub> SO <sub>3</sub> <sup>-</sup> K <sup>+</sup>   CF <sub>3</sub>	0.07	

\* Percent of total perfluorooctanesulfonate isomers only.

\*\* Systematic Name: Potassium perfluorooctane-2-sulfonate.

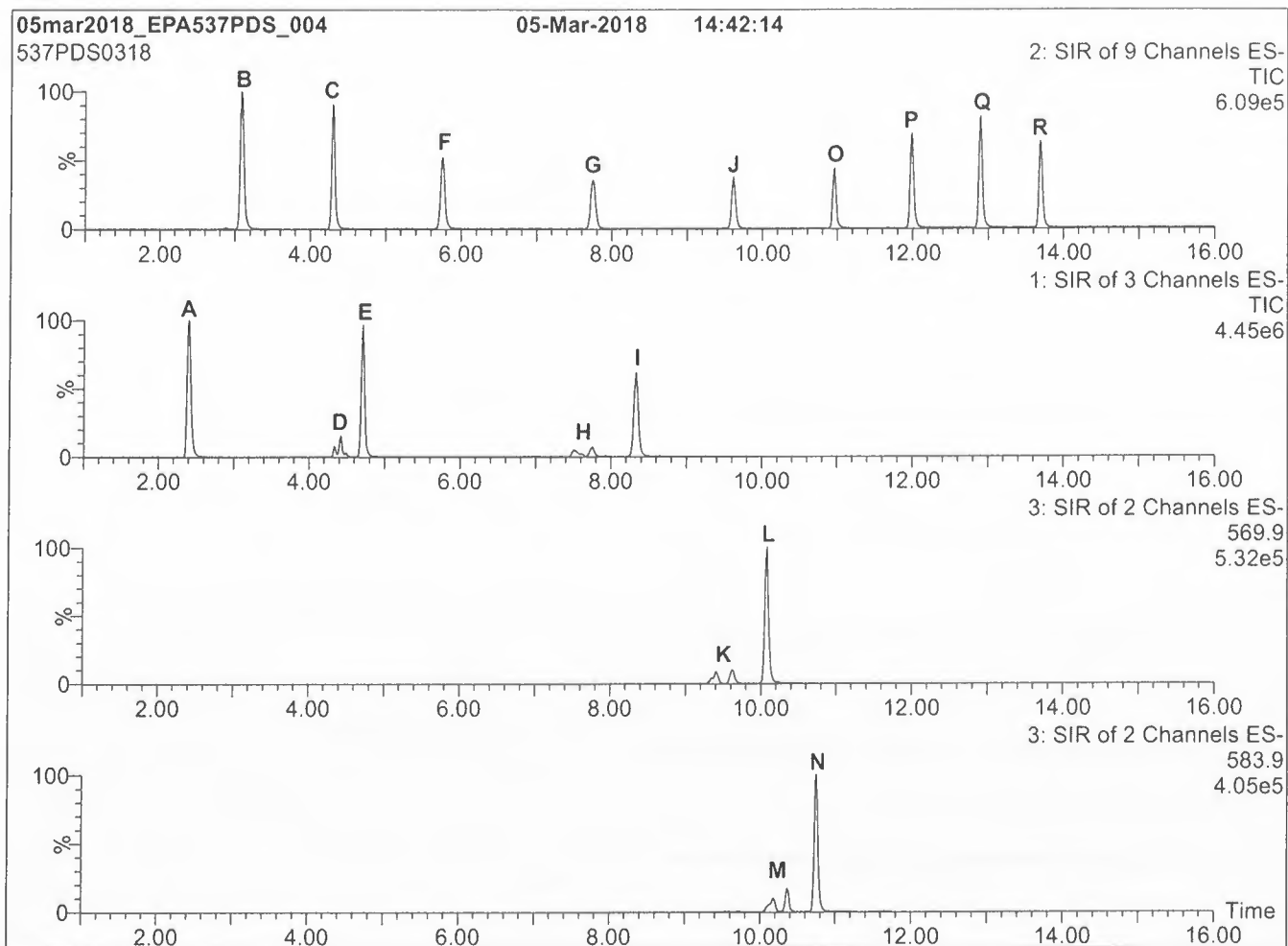
Certified By:



B.G. Chittim, General Manager

Date: 04/02/2018

(mm/dd/yyyy)

**Figure 1: EPA-537PDS; LC/MS Data (SIR)****Conditions for Figure 1:****LC:** Waters Acquity Ultra Performance LC**MS:** Micromass Quattro *micro* API MS**Chromatographic Conditions**Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 40% (80:20 MeOH:ACN) / 60% H<sub>2</sub>O  
(both with 10 mM NH<sub>4</sub>OAc buffer)

Ramp to 55% organic over 3.5 min.

Ramp to 70% organic over 6.5 min.

Ramp to 85% organic over 5 min and hold for

1 min before returning to initial conditions in 0.5 min.

Time: 17 min

Flow: 300  $\mu$ l/min**MS Parameters**

Experiment: SIR

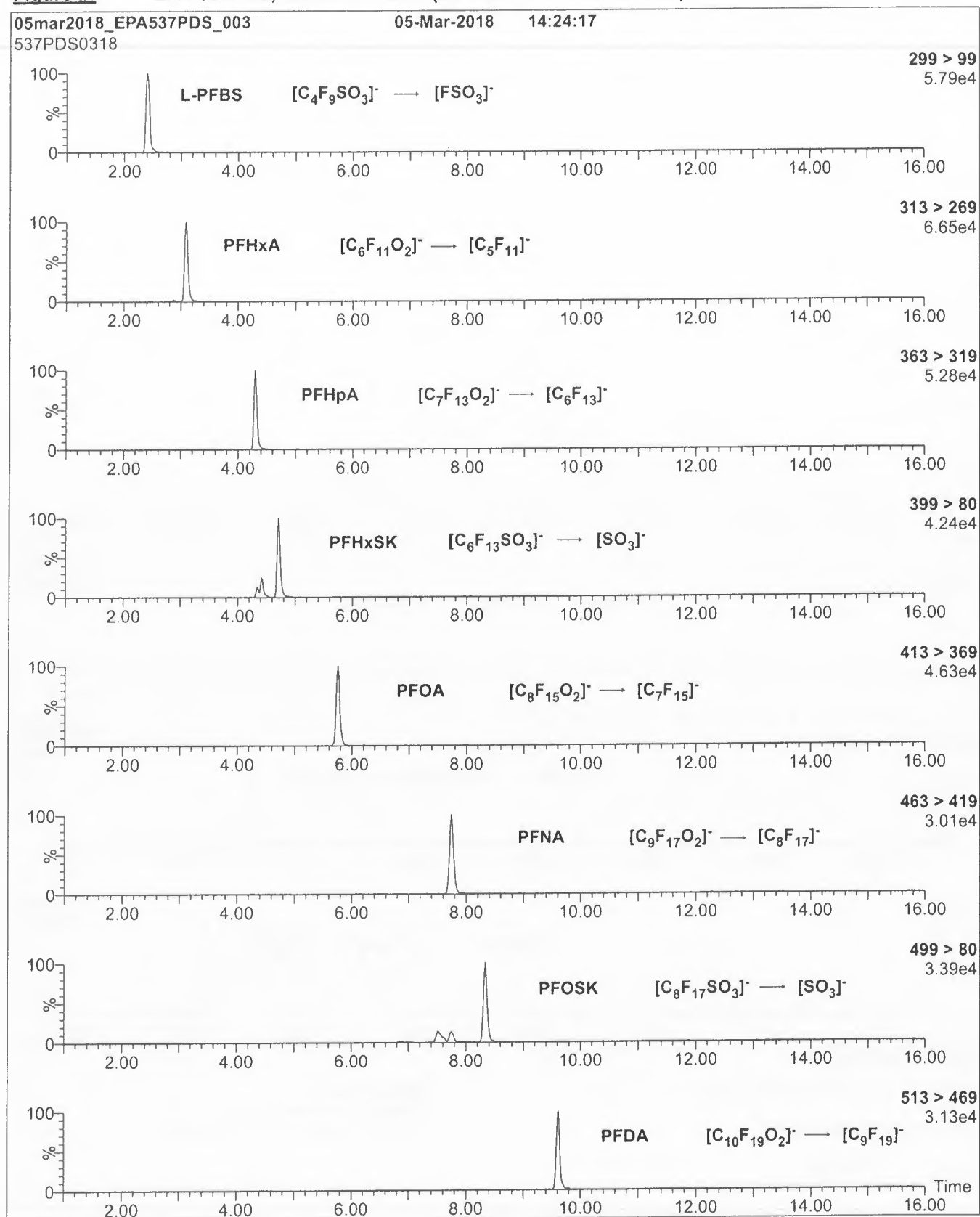
Source: Electrospray (negative)

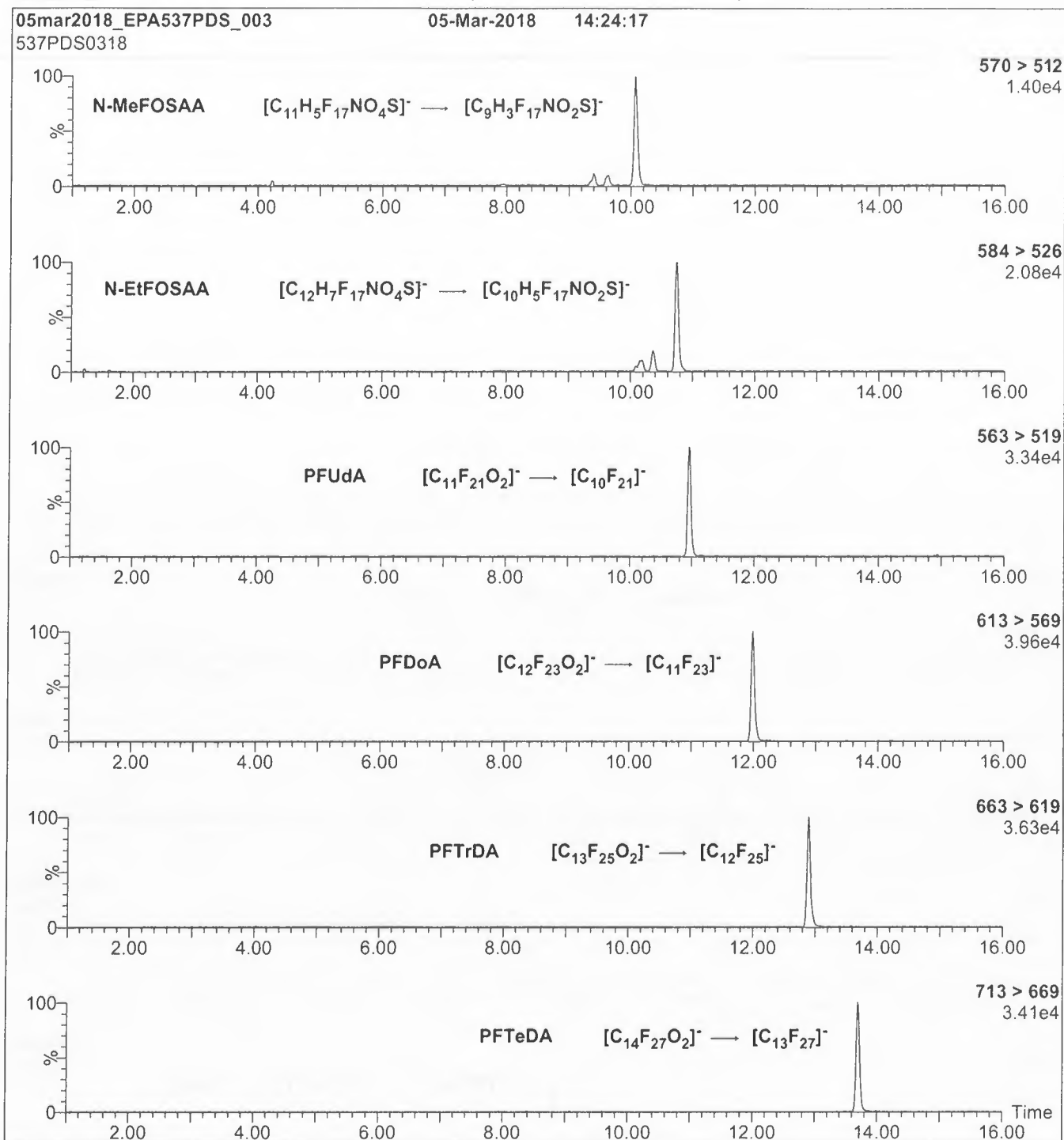
Capillary Voltage (kV) = 3.00

Cone Voltage (V) = variable (15-60)

Cone Gas Flow (l/hr) = 100

Desolvation Gas Flow (l/hr) = 750

**Figure 2: EPA-537PDS; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: EPA-537PDS; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (EPA-537PDS)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ l/min**MS Parameters**

Collision Gas (mbar) = 3.10e-3

Collision Energy (eV) = 10-40 (variable)

**WELLINGTON**  
LABORATORIESCERTIFICATE OF ANALYSIS  
DOCUMENTATION**EPA-537PDS-L**Native PFAS Linear Primary Dilution  
Standard Solution/Mixture

**PRODUCT CODE:** EPA-537PDS-L  
**LOT NUMBER:** 537PDSL0318  
**SOLVENT(S):** Methanol / Water (<1%)  
**DATE PREPARED:** (mm/dd/yyyy) 03/02/2018  
**LAST TESTED:** (mm/dd/yyyy) 03/05/2018  
**EXPIRY DATE:** (mm/dd/yyyy) 03/05/2023  
**RECOMMENDED STORAGE:** Refrigerate ampoule

**DESCRIPTION:**

EPA-537PDS-L is a solution/mixture of native linear perfluoroalkylcarboxylic acids (C<sub>6</sub>-C<sub>14</sub>), native linear perfluoroalkylsulfonates (C<sub>4</sub>, C<sub>6</sub>, and C<sub>8</sub>), and native linear perfluorooctanesulfonamidoacetic acids. The components and their concentrations are given in Table A.

The native perfluoroalkylcarboxylic acids, native perfluoroalkylsulfonates, and native perfluorooctanesulfonamidoacetic acids have chemical 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.

**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.

**HANDLING:**

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:**

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**UNCERTAINTY:**

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

The combined relative standard uncertainty,  $u_c(y)$ , of a value  $y$  and the uncertainty of the independent parameters  $x_1, x_2, \dots, x_n$  on which it depends is:

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

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

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

**TRACEABILITY:**

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**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 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).



\*\*For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at [www.well-labs.com](http://www.well-labs.com) or contact us directly at [info@well-labs.com](mailto:info@well-labs.com)\*\*

**Table A: EPA-537PDS-L; Components and Concentrations (ng/ml;  $\pm$  5% in Methanol / Water (<1%))**

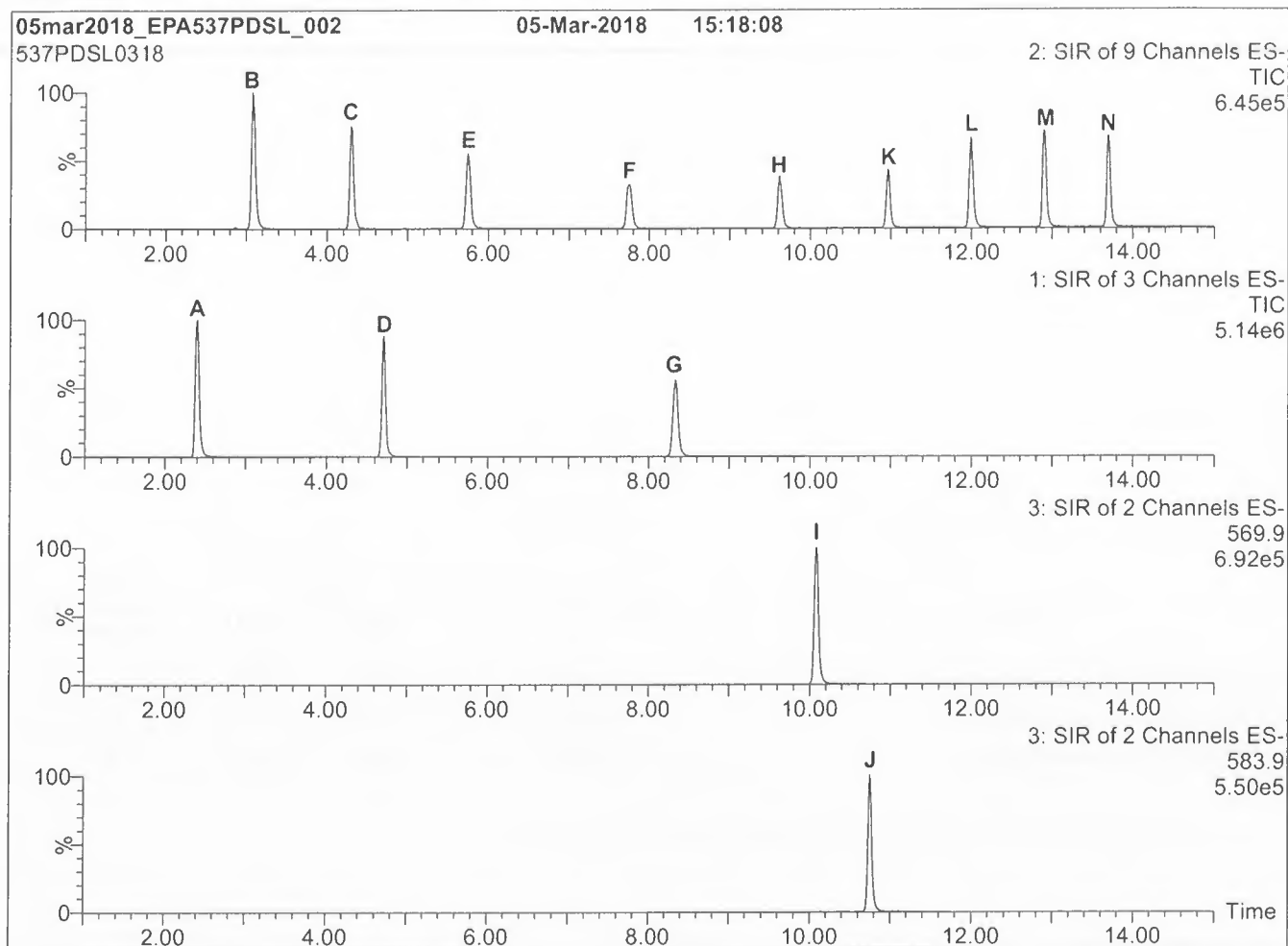
Compound	Abbreviation	Concentration *		Peak Assignment in Figure 1
		as the salt	as the anion	
Perfluoro-n-hexanoic acid	PFHxA	2000		B
Perfluoro-n-heptanoic acid	PFHpA	2000		C
Perfluoro-n-octanoic acid	PFOA	2000		E
Perfluoro-n-nonanoic acid	PFNA	2000		F
Perfluoro-n-decanoic acid	PFDA	2000		H
Perfluoro-n-undecanoic acid	PFUdA	2000		K
Perfluoro-n-dodecanoic acid	PFDoA	2000		L
Perfluoro-n-tridecanoic acid	PFTTrDA	2000		M
Perfluoro-n-tetradecanoic acid	PFTeDA	2000		N
N-methylperfluoro-1-octanesulfonamidoacetic acid	N-MeFOSAA	2000		I
N-ethylperfluoro-1-octanesulfonamidoacetic acid	N-EtFOSAA	2000		J
Compound	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Potassium perfluoro-1-butanesulfonate	L-PFBS	2000	1770	A
Sodium perfluoro-1-hexanesulfonate	L-PFHxS	2000	1890	D
Sodium perfluoro-1-octanesulfonate	L-PFOS	2000	1910	G

\* Concentrations have been rounded to three significant figures.

Certified By: 

B.G. Chittim, General Manager

Date: 04/02/2018  
(mm/dd/yyyy)

**Figure 1: EPA-537PDS-L; LC/MS Data (SIR)****Conditions for Figure 1:**

**LC:** Waters Acquity Ultra Performance LC  
**MS:** Micromass Quattro *micro* API MS

**Chromatographic Conditions**

Column: Acquity UPLC BEH Shield RP<sub>18</sub>  
 1.7  $\mu$ m, 2.1 x 100 mm

Mobile phase: Gradient  
 Start: 40% (80:20 MeOH:ACN) / 60% H<sub>2</sub>O  
 (both with 10 mM NH<sub>4</sub>OAc buffer)  
 Ramp to 55% organic over 3.5 min.  
 Ramp to 70% organic over 6.5 min.  
 Ramp to 85% organic over 5 min and hold for  
 1 min before returning to initial conditions in 0.5 min.  
 Time: 17 min

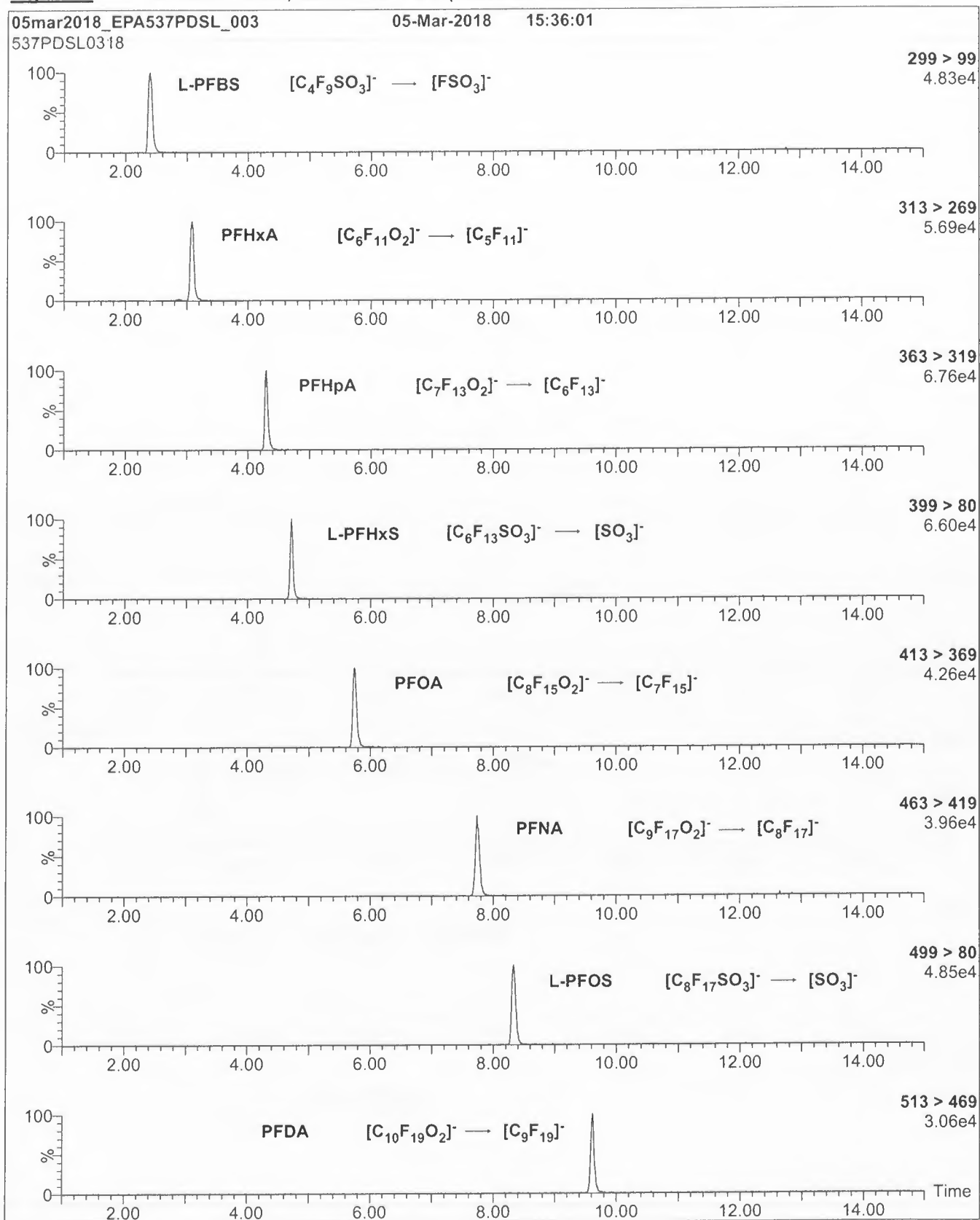
Flow: 300  $\mu$ l/min

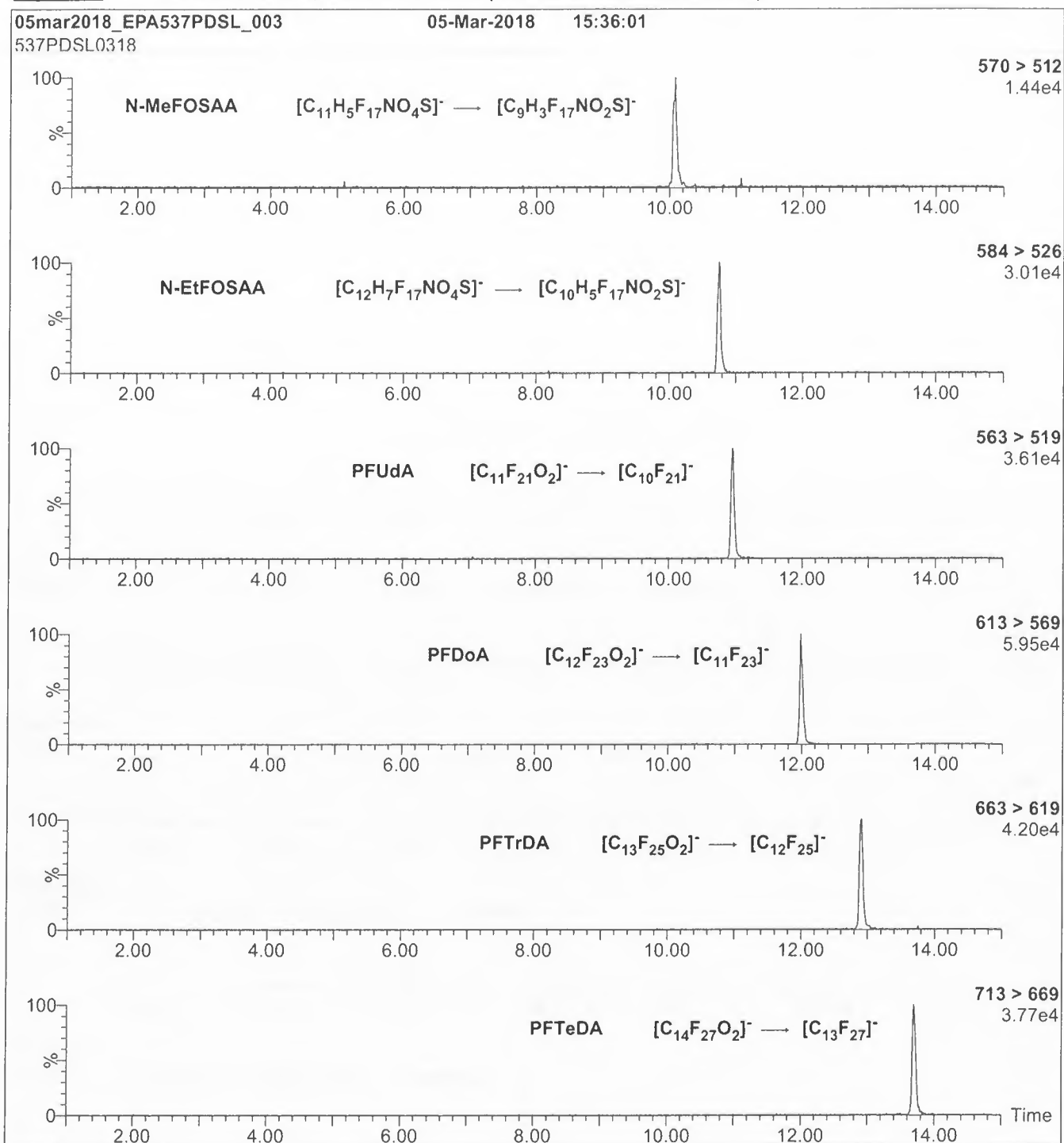
**MS Parameters**

Experiment: SIR

Source: Electrospray (negative)  
 Capillary Voltage (kV) = 3.00  
 Cone Voltage (V) = variable (15-60)  
 Cone Gas Flow (l/hr) = 100  
 Desolvation Gas Flow (l/hr) = 750



**Figure 2: EPA-537PDS-L; LC/MS/MS Data (Selected MRM Transitions)**

**Figure 2: EPA-537PDS-L; LC/MS/MS Data (Selected MRM Transitions)****Conditions for Figure 2:**

Injection: On-column (EPA-537PDS-L)

Mobile phase: Same as Figure 1

Flow: 300  $\mu$ l/min**MS Parameters**

Collision Gas (mbar) = 3.17e-3

Collision Energy (eV) = 10-40 (variable)

# Sample Preparation



It can be done

**BATTELLE - NORWELL OPERATIONS  
SAMPLE PREPARATION RECORDS**

<b><u>Project Title(s)</u></b>	<b><u>Project No.(s)</u></b>
CTO-SE0375: Naval Air Station Jacksonville	100119154- SE0375
<b>18-0505</b>	
<b>CTO-SE0375: Drinking Water Analysis</b>	
<b>W</b>	
SOP Numbers (see workplan for modifications)	
VOASOP No.	5-371

<b>This Batch Contains The Following Samples:</b>	
CR573PB-FS	J7411-FS
CR574LCS-FS	J7413-FS
J7403-FS	
J7405-FS	
J7407-FS	
J7409-FS	

Laboratory Preparation Records  
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	08/20/2018	DMS



It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE IDENTIFICATION PAGE

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Description
CR573PB-FS	Procedural Blank
CR574LCS-FS	Laboratory Control Sample
J7403-FS	JAX-RES-08132018-0945-27
J7405-FS	JAX-RES-08132018-1100-30
J7407-FS	JAX-RES-08132018-1145-32
J7409-FS	JAX-RES-08132018-1445-16
J7411-FS	JAX-RES-08132018-1600-13
J7413-FS	JAX-RES-08132018-1700-31

Samples Assigned By:

Jonathan Thorn

Date : August 14, 2018

Comments:



It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Requested On/By:</b> 08/14/2018 SAS	<b>Purpose:</b> Sample Preparation
<b>Relinquished On/By:</b> 08/14/2018 MDS	<b>Last Activity:</b> Transfer
<b>Accepted On/By:</b> 08/14/2018 SAS <b>Stored In Facility:</b> Sample Preparation <b>Stored Until:</b> 08/14/2018 <b>Stored Comment:</b> NA	<b>Returned On/To:</b> <b>Returned To Facility:</b> <b>Returned Comment:</b> NA

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:	
1	J7403	1	C	Consumed	NA	
2	J7405	1	C	Consumed	NA	
3	J7407	1	C	Consumed	NA	
4	J7409	1	C	Consumed	NA	
5	J7411	1	C	Consumed	NA	
6	J7413	1	C	Consumed	NA	
<b>Total Samples</b>		6	* "C" = Consumed Container			



It can be done

## BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR573PB-FS	Procedural Blank	250.0	NA	--	08/14/18 SAS
CR574LCS-FS	Laboratory Control Sample	250.0	NA	--	08/14/18 SAS
J7403-FS	JAX-RES-08132018-0945-27	270.0	1	C	08/15/18 SAS
J7405-FS	JAX-RES-08132018-1100-30	280.0	1	C	08/15/18 SAS
J7407-FS	JAX-RES-08132018-1145-32	280.0	1	C	08/15/18 SAS
J7409-FS	JAX-RES-08132018-1445-16	280.0	1	C	08/15/18 SAS
J7411-FS	JAX-RES-08132018-1600-13	280.0	1	C	08/15/18 SAS
J7413-FS	JAX-RES-08132018-1700-31	270.0	1	C	08/15/18 SAS

**Comments:**

Sample ID:	Comments:
CR573PB-FS	1.25g Trizma(180502-01) weighed on BAL-009
CR574LCS-FS	1.27g Trizma(180502-01) weighed on BAL-009

Samples Assigned By

Jonathan Thorn

Date : August 14, 2018

\* - "C" = Sample is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR573PB-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
CR574LCS-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
CR574LCS-FS	JZ28	LCS/MS	1	50	08/14/18 SAS	JCT	NA
J7403-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7405-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7407-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7409-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7411-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7413-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA

## Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JX76	Pipette	I0793912B
JZ28	Pipette	I0793912B





It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CR573PB-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
CR574LCS-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7403-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7405-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7407-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7409-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7411-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA
J7413-FS	08/14/18 SAS	NA	NA	NA	NA	NA	NA	NA

**Solvents/Reagent Preparations:**

Name	ID	Expires	Lot No	Procedure	Comments
Pre-packed SPE Column	RP-180814-3	08/14/18	S214-0075	Pre-packed SPE Column	

**Solvents/Reagents:**

Name	Lot No	Comments
Methanol (HPLC) (180724-02)	181704	



It can be done

## BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W****(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
CR573PB-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
CR574LCS-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7403-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7403-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7405-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7405-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7407-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7407-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7409-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7409-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7411-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7411-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7413-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7413-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS

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

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



It can be done

## BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W****(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
------------	-----------------	------------	---------	-------------	----------	---------------------	------------------	------------------------	-----------

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV59	Pipette	I0793912B

<b>Extract Id:</b>	<b>Comments:</b>
CR573PB-FS	Samples reconstituted in 96/4 Methanol/Milli-q water (RP-180515-2)

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

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



It can be done

## BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR573PB-FS	0	--	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
CR574LCS-FS	0	--	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7403-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7403-FS	2	--	8/15/2018 2:33:00 PM	J7403-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7403-FS-D	3	--	8/15/2018 2:33:00 PM	J7403-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7405-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7405-FS	2	--	8/15/2018 2:33:00 PM	J7405-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7405-FS-D	3	--	8/15/2018 2:33:00 PM	J7405-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7407-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7407-FS	2	--	8/15/2018 2:33:00 PM	J7407-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7407-FS-D	3	--	8/15/2018 2:33:00 PM	J7407-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7409-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7409-FS	2	--	8/15/2018 2:33:00 PM	J7409-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7409-FS-D	3	--	8/15/2018 2:33:00 PM	J7409-FS	0	1000	100	10.000	10.000	08/15/18 SAS

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

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

\* - "C" = Extract is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J7411-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7411-FS	2	--	8/15/2018 2:33:00 PM	J7411-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7411-FS-D	3	--	8/15/2018 2:33:00 PM	J7411-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7413-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7413-FS	2	--	8/15/2018 2:33:00 PM	J7413-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7413-FS-D	3	--	8/15/2018 2:33:00 PM	J7413-FS	0	1000	100	10.000	10.000	08/15/18 SAS

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

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

\* - "C" = Extract is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Purpose:</b> LC-MS/MS TRANSFER		<b>Last Activity:</b> Prep->Inst	
<b>Relinquished On/By:</b> Aug 15 2018 4:14PM SAS		<b>Received On/By:</b> Aug 15 2018 5:14PM DMS	
<b>Relinquished From:</b> Sample Preparation: NA		<b>Received Location:</b> LC Laboratory: NA	
<b>Relinquish Comment:</b> NA		<b>Received Comment:</b> NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR573PB-FS(0)	1000	1	Intact	NA
2	CR574LCS-FS(0)	1000	1	Intact	NA
3	J7403-FS(2)	1000	1.111	Intact	NA
4	J7403-FS-D(3)	1000	10	Intact	NA
5	J7405-FS(2)	1000	1.111	Intact	NA
6	J7405-FS-D(3)	1000	10	Intact	NA
7	J7407-FS(2)	1000	1.111	Intact	NA
8	J7407-FS-D(3)	1000	10	Intact	NA
9	J7409-FS(2)	1000	1.111	Intact	NA
10	J7409-FS-D(3)	1000	10	Intact	NA
11	J7411-FS(2)	1000	1.111	Intact	NA
12	J7411-FS-D(3)	1000	10	Intact	NA
13	J7413-FS(2)	1000	1.111	Intact	NA
14	J7413-FS-D(3)	1000	10	Intact	NA

**Total Extracts:** 14



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**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Purpose:</b> LC-MS/MS TRANSFER		<b>Last Activity:</b> Prep->Inst			
<b>Relinquished On/By:</b> Aug 17 2018 1:42PM LMG		<b>Received On/By:</b> Aug 17 2018 1:42PM LMG			
<b>Relinquished From:</b> Sample Preparation: NA		<b>Received Location:</b> LC Laboratory: NA			
<b>Relinquish Comment:</b> NA		<b>Received Comment:</b> NA			
No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR574LCS-FS(0)	1000	1	Intact	NA
2	J7403-FS(2)	1000	1.111	Intact	NA
3	J7411-FS(2)	1000	1.111	Intact	NA
4	J7413-FS(2)	1000	1.111	Intact	NA
<b>Total Extracts:</b>		4			



It can be done

**BATTELLE - NORWELL OPERATIONS  
MISCELLANEOUS DOCUMENTATION FORM**

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**

100119154-  
SE0375

**18-0505**

**CTO-SE0375: Drinking Water Analysis**

**W**

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Entered By: \_\_\_\_\_ On: \_\_\_\_\_

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Task Leader Approval:

On:

SupervisorApproval:

On:

PM Approval:

On:

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It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID:	Comment:	Date/Initials:
CR573PB-FS	Extraction for all samples began at 1:45pm	08/14/18 SAS
CR573PB-FS	Sample extraction ended at 2:19pm	08/14/18 SAS
CR574LCS-FS	Sample extraction ended at 2:19pm	08/14/18 SAS
J7403-FS	Sample was a pale yellow color.	08/14/18 SAS
J7403-FS	Sample extraction ended at 2:22pm	08/14/18 SAS
J7405-FS	Sample was a pale yellow color.	08/14/18 SAS
J7405-FS	Sample extraction ended at 2:24pm	08/14/18 SAS
J7407-FS	Sample was a pale yellow color.	08/14/18 SAS
J7407-FS	Sample extraction ended at 2:27pm	08/14/18 SAS
J7409-FS	Sample extraction ended at 2:27pm	08/14/18 SAS
J7411-FS	Sample extraction ended at 2:25pm	08/14/18 SAS
J7413-FS	Sample extraction ended at 2:22pm	08/14/18 SAS

# Analytical Calibrations

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		8/20/2018 2:32:30 PM	5-0371.dam	DW_08202018.wiff
4	JZ80	L3	8/20/2018 2:59:21 PM	5-0371.dam	DW_08202018.wiff
5	JZ81	L4	8/20/2018 3:08:18 PM	5-0371.dam	DW_08202018.wiff
6	JZ82	L5	8/20/2018 3:17:14 PM	5-0371.dam	DW_08202018.wiff
7	JZ83	L6	8/20/2018 3:26:11 PM	5-0371.dam	DW_08202018.wiff
8	JZ84	L7	8/20/2018 3:35:06 PM	5-0371.dam	DW_08202018.wiff
9	JZ85	L8	8/20/2018 3:44:02 PM	5-0371.dam	DW_08202018.wiff
10	JZ86	L9	8/20/2018 3:52:58 PM	5-0371.dam	DW_08202018.wiff
11	JZ10 IB	Instrument Blank	8/20/2018 4:01:53 PM	5-0371.dam	DW_08202018.wiff
12	JZ77 ICC	ICC	8/20/2018 4:10:51 PM	5-0371.dam	DW_08202018.wiff
13	MeOH		8/20/2018 4:19:47 PM	5-0371.dam	DW_08202018.wiff
44	<del>CR612PB-FS(0)</del>	<del>Procedural Blank</del>	<del>8/20/2018 4:28:42 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
45	<del>CR613LCS-FS(0)</del>	<del>Laboratory Control Sample</del>	<del>8/20/2018 4:37:39 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
46	<del>J7404-FS(0)</del>	<del>JAX-RES-08132018-0945-27-FRB</del>	<del>8/20/2018 4:46:36 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
47	<del>J7406-FS(0)</del>	<del>JAX-RES-08132018-1100-30-FRB</del>	<del>8/20/2018 4:55:32 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
48	<del>J7408-FS(0)</del>	<del>JAX-RES-08132018-1145-32-FRB</del>	<del>8/20/2018 5:04:27 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
49	<del>J7412-FS(0)</del>	<del>JAX-RES-08132018-1600-13-FRB</del>	<del>8/20/2018 5:13:23 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
20	<del>J7414-FS(0)</del>	<del>JAX-RES-08132018-1700-31-FRB</del>	<del>8/20/2018 5:22:20 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
21	JZ82 CCV	CCV	8/20/2018 5:31:16 PM	5-0371.dam	DW_08202018.wiff
22	MeOH		8/20/2018 5:40:13 PM	5-0371.dam	DW_08202018.wiff
23	CR573PB-FS(0)	Procedural Blank	8/20/2018 5:49:10 PM	5-0371.dam	DW_08202018.wiff
24	CR574LCS-FS(0)	Laboratory Control Sample	8/20/2018 5:58:06 PM	5-0371.dam	DW_08202018.wiff
25	J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/2018 6:07:03 PM	5-0371.dam	DW_08202018.wiff
26	J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/2018 6:15:58 PM	5-0371.dam	DW_08202018.wiff
27	J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/2018 6:24:56 PM	5-0371.dam	DW_08202018.wiff
28	J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/2018 6:33:52 PM	5-0371.dam	DW_08202018.wiff
29	J7411-FS(2)	JAX-RES-08132018-	8/20/2018 6:42:49	5-0371.dam	DW_08202018.wiff

1 ↓

1 Samples from another batch, reported separately DMS 8/21/2018



Sequence Report

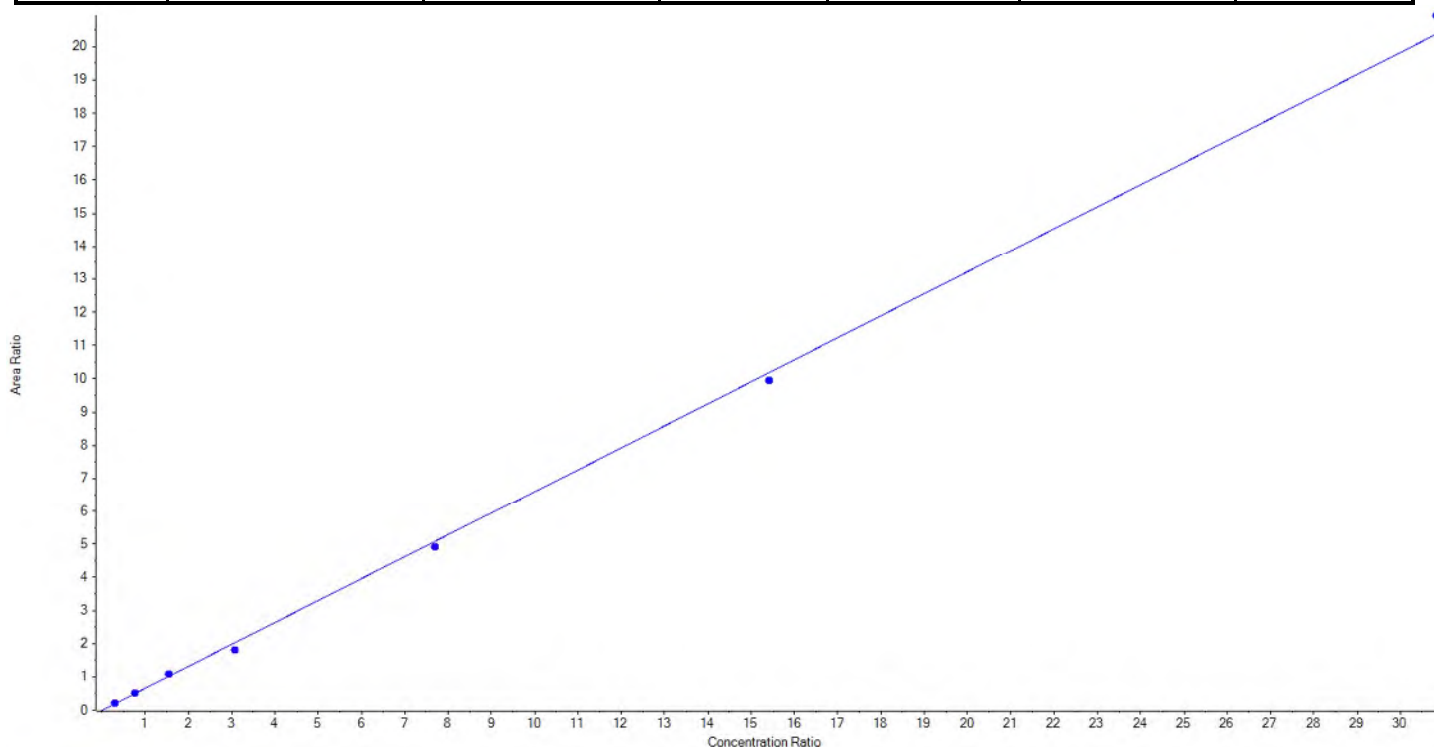
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Printed: 21/08/2018 10:51:31 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
		1600-13	PM		
30	J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/2018 6:51:46 PM	5-0371.dam	DW_08202018.wiff
31	JZ83 CCV	CCV	8/20/2018 7:00:42 PM	5-0371.dam	DW_08202018.wiff

<b>Analyte Name</b>	PFBS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.66086 x + -0.00678$  (r = 0.99915) (weighting: 1 / x)

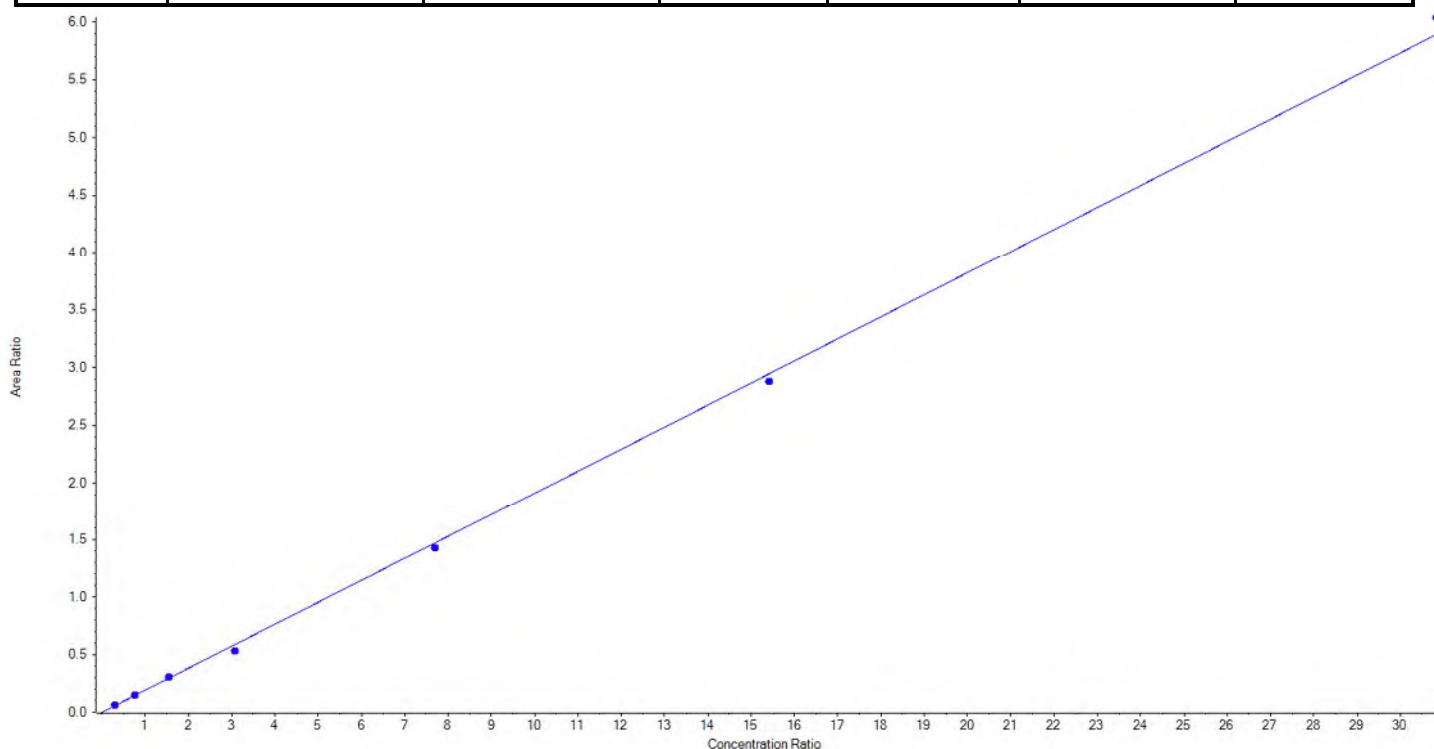
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	92.373246	104.3
5	JZ81	L4	True	221.50	228.227234	103.0
6	JZ82	L5	True	443.00	473.621611	106.9
7	JZ83	L6	True	885.00	787.235152	89.0
8	JZ84	L7	True	2212.50	2136.140902	96.6
9	JZ85	L8	True	4425.00	4317.657703	97.6
10	JZ86	L9	True	8850.00	9090.344152	102.7



<b>Analyte Name</b>	PFBS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.19104 x + -0.00133$  (r = 0.99933) (weighting: 1 / x)

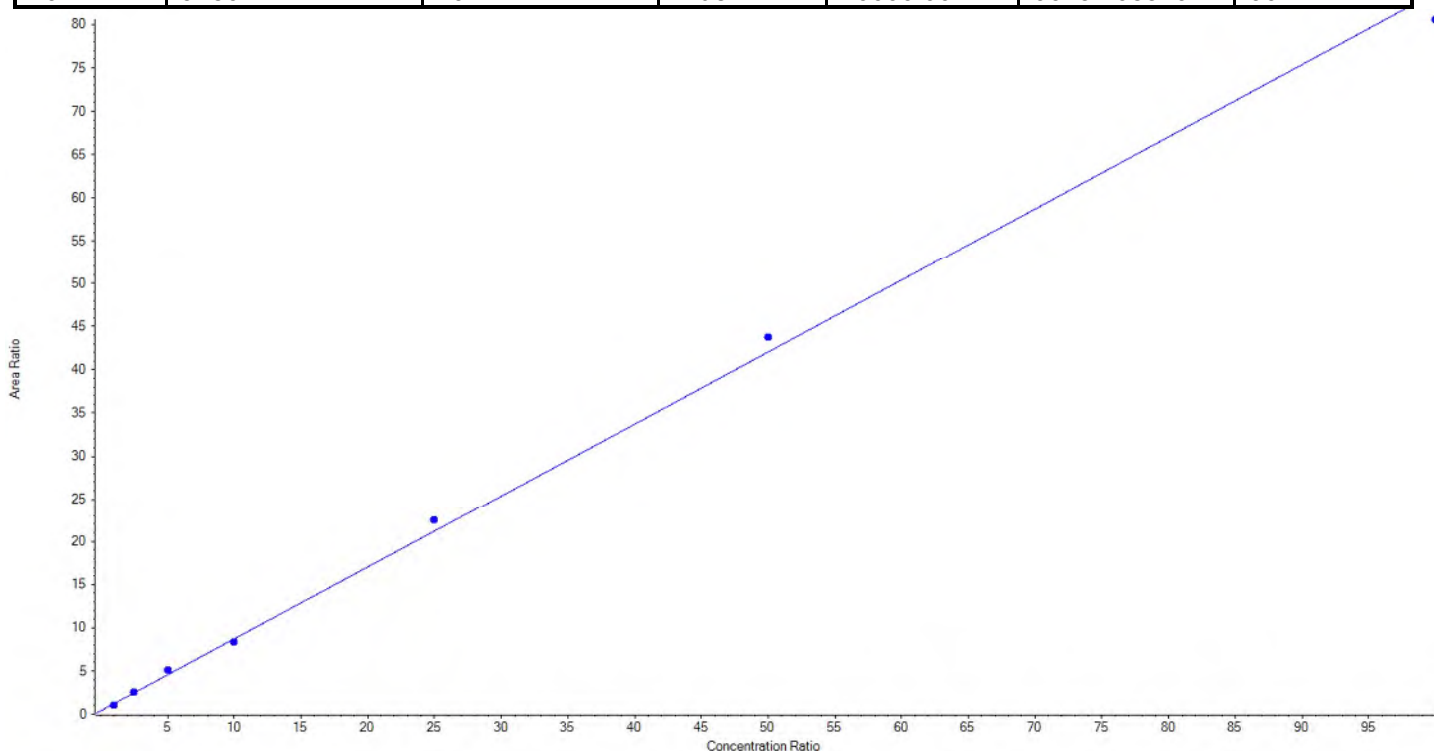
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	93.214828	105.2
5	JZ81	L4	True	221.50	227.341080	102.6
6	JZ82	L5	True	443.00	463.948422	104.7
7	JZ83	L6	True	885.00	796.949611	90.1
8	JZ84	L7	True	2212.50	2149.034279	97.1
9	JZ85	L8	True	4425.00	4326.418052	97.8
10	JZ86	L9	True	8850.00	9068.693729	102.5



<b>Analyte Name</b>	PFHxA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.83313x + 0.38835$  (r = 0.99851) (weighting: 1 / x)

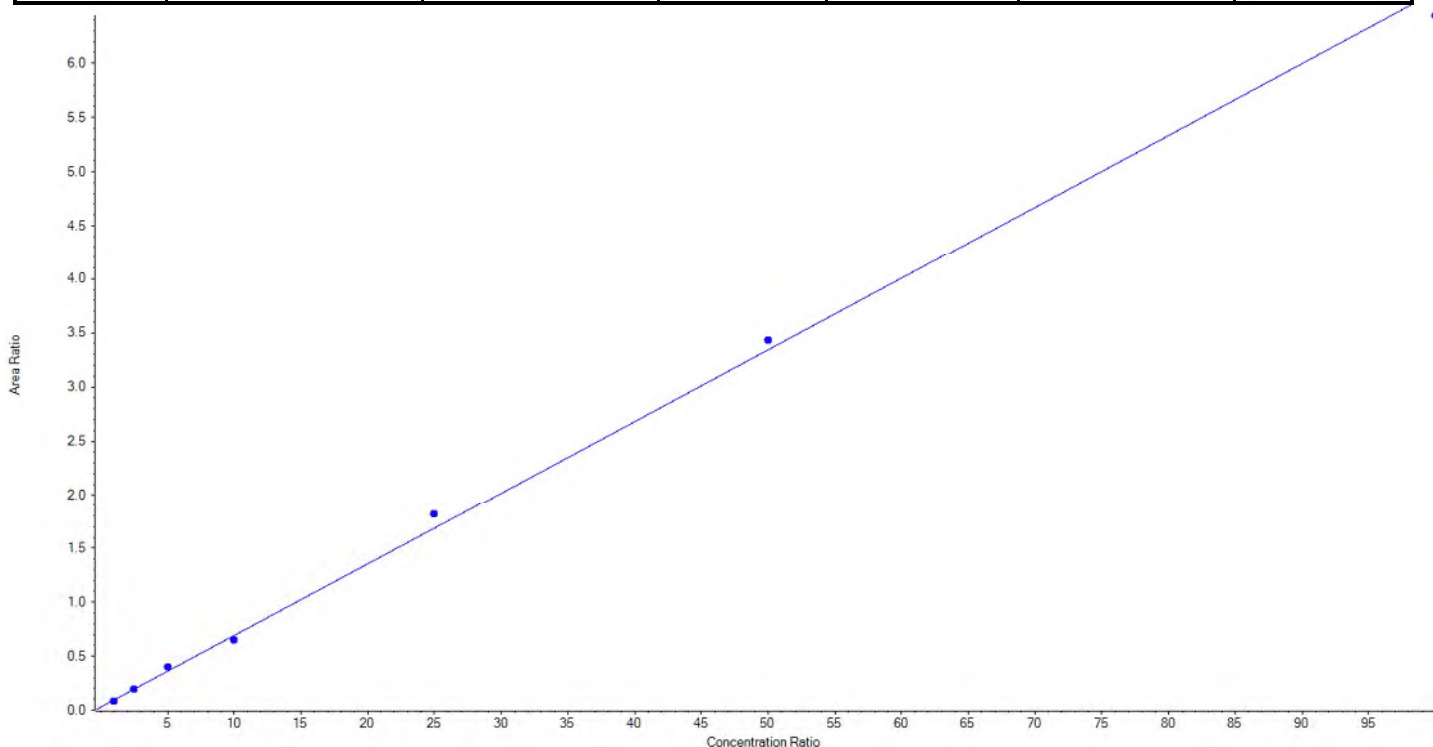
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	78.044303	78.0
5	JZ81	L4	True	250.00	265.769546	106.3
6	JZ82	L5	True	500.00	568.874261	113.8
7	JZ83	L6	True	1000.00	954.283032	95.4
8	JZ84	L7	True	2500.00	2650.811567	106.0
9	JZ85	L8	True	5000.00	5209.008771	104.2
10	JZ86	L9	True	10000.00	9623.208520	96.2



<b>Analyte Name</b>	PFHxA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 119.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06630 x + 0.02846$  (r = 0.99864) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	86.317867	86.3
5	JZ81	L4	True	250.00	247.710359	99.1
6	JZ82	L5	True	500.00	564.939492	113.0
7	JZ83	L6	True	1000.00	940.194006	94.0
8	JZ84	L7	True	2500.00	2702.578330	108.1
9	JZ85	L8	True	5000.00	5140.495784	102.8
10	JZ86	L9	True	10000.00	9667.764162	96.7

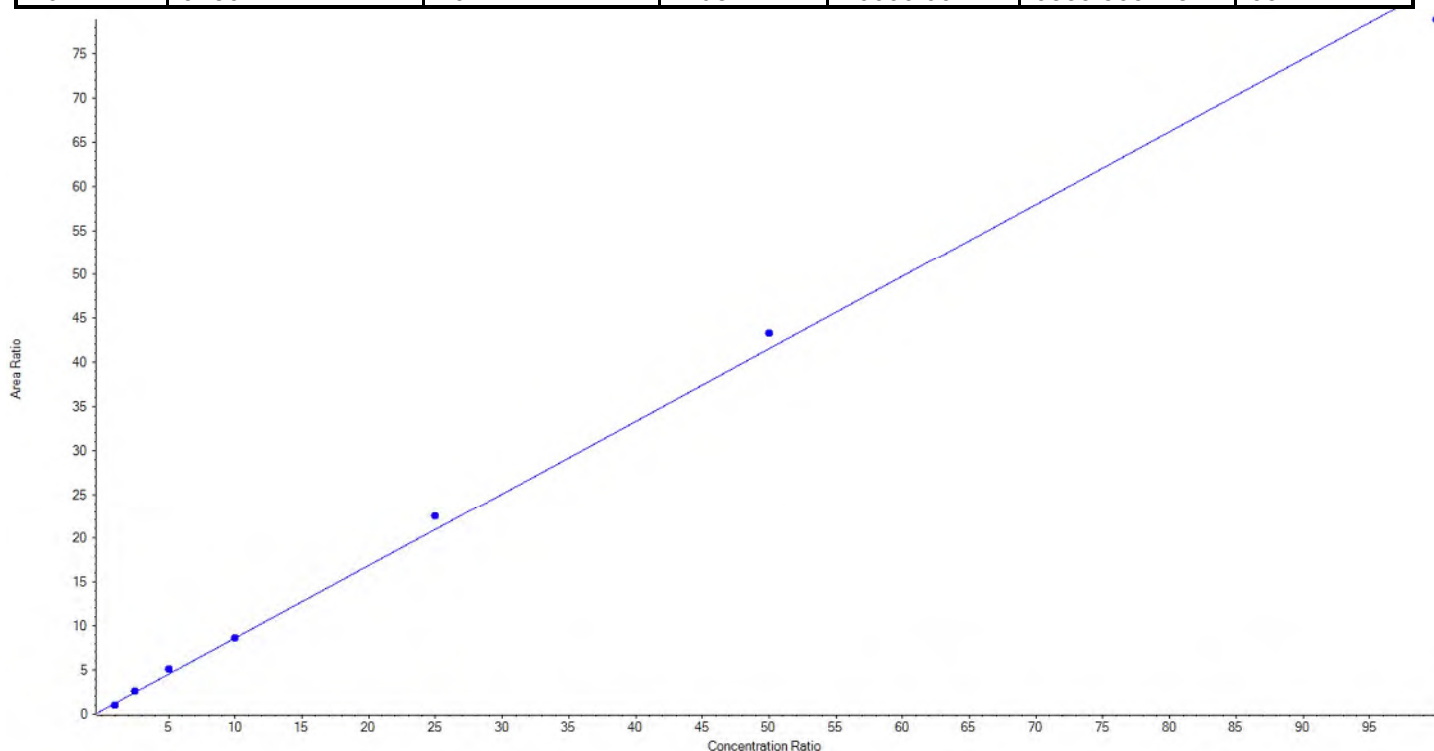




<b>Analyte Name</b>	PFHpA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.82233x + 0.41213$  (r = 0.99811) (weighting: 1 / x)

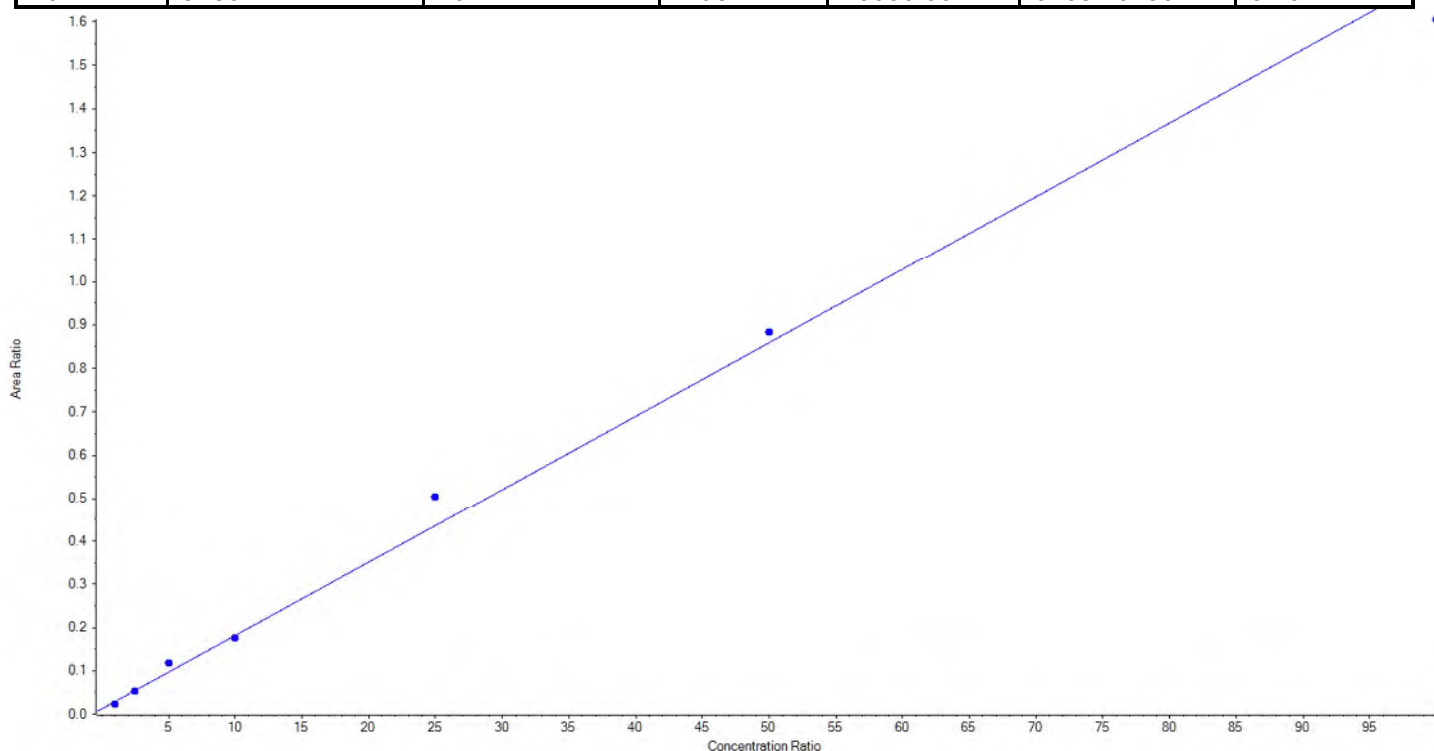
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.016068	73.0
5	JZ81	L4	True	250.00	261.130318	104.5
6	JZ82	L5	True	500.00	574.230055	114.9
7	JZ83	L6	True	1000.00	1005.928310	100.6
8	JZ84	L7	True	2500.00	2688.604760	107.5
9	JZ85	L8	True	5000.00	5207.786711	104.2
10	JZ86	L9	True	10000.00	9539.303778	95.4



<b>Analyte Name</b>	PFHpA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.01694 x + 0.01216$  (r = 0.99569) (weighting: 1 / x)

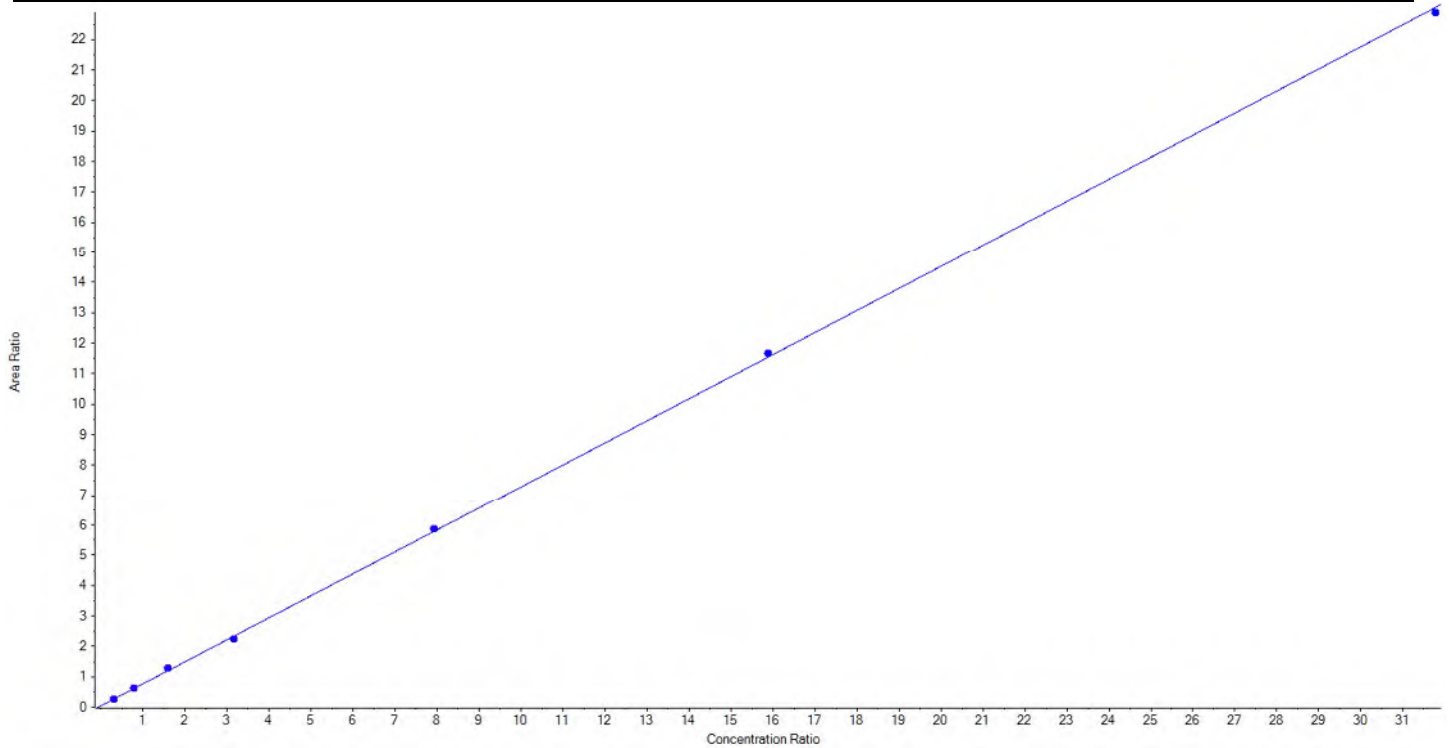
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.272325	70.3
5	JZ81	L4	True	250.00	239.260354	95.7
6	JZ82	L5	True	500.00	619.165193	123.8
7	JZ83	L6	True	1000.00	971.164630	97.1
8	JZ84	L7	True	2500.00	2905.414878	116.2
9	JZ85	L8	True	5000.00	5141.021060	102.8
10	JZ86	L9	True	10000.00	9403.701561	94.0



<b>Analyte Name</b>	PFHxS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.72416x + 0.03976$  (r = 0.99978) (weighting: 1 / x)

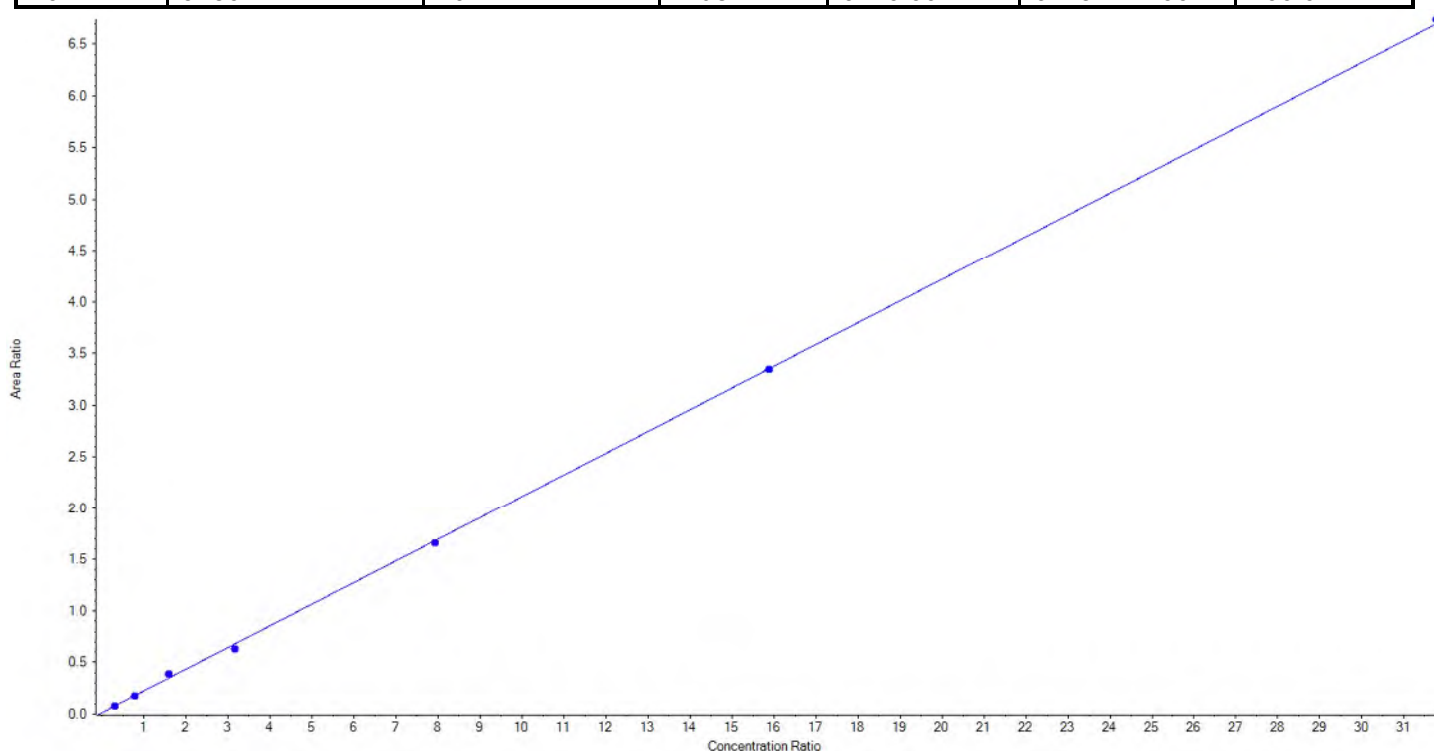
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	83.545773	91.6
5	JZ81	L4	True	228.00	236.640313	103.8
6	JZ82	L5	True	456.00	490.800076	107.6
7	JZ83	L6	True	912.00	872.158270	95.6
8	JZ84	L7	True	2280.00	2303.866920	101.1
9	JZ85	L8	True	4560.00	4606.569585	101.0
10	JZ86	L9	True	9120.00	9053.619063	99.3



<b>Analyte Name</b>	PFHxS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.21033x + 0.01337$  (r = 0.99964) (weighting: 1 / x)

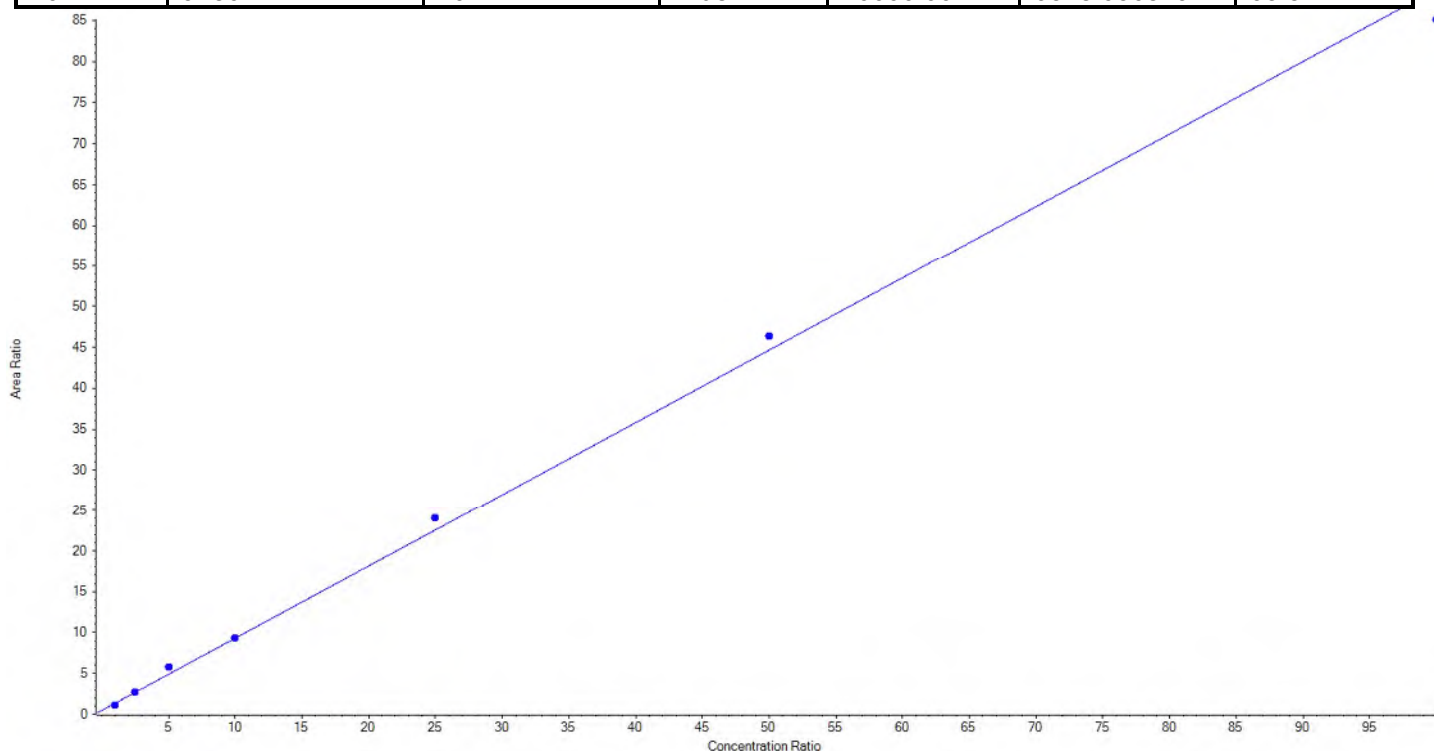
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	89.539693	98.2
5	JZ81	L4	True	228.00	224.603434	98.5
6	JZ82	L5	True	456.00	506.958424	111.2
7	JZ83	L6	True	912.00	847.353462	92.9
8	JZ84	L7	True	2280.00	2253.455709	98.8
9	JZ85	L8	True	4560.00	4550.078070	99.8
10	JZ86	L9	True	9120.00	9175.211206	100.6



<b>Analyte Name</b>	PFOA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 369.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.88380 x + 0.45664$  (r = 0.99819) (weighting: 1 / x)

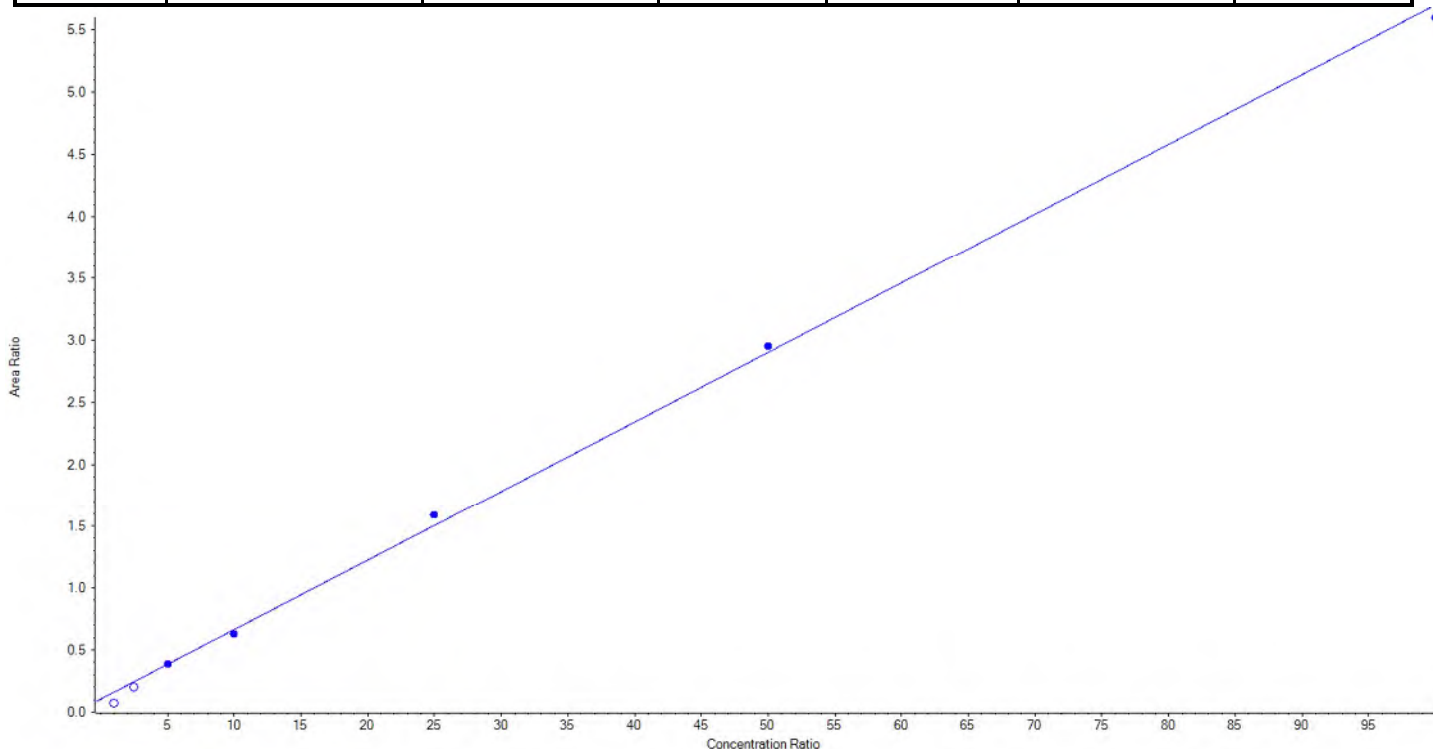
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.344758	75.3
5	JZ81	L4	True	250.00	248.563445	99.4
6	JZ82	L5	True	500.00	595.816684	119.2
7	JZ83	L6	True	1000.00	999.884858	100.0
8	JZ84	L7	True	2500.00	2662.530234	106.5
9	JZ85	L8	True	5000.00	5189.823202	103.8
10	JZ86	L9	True	10000.00	9578.036819	95.8



<b>Analyte Name</b>	PFOA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.05595x + 0.10513$  (r = 0.99926) (weighting: 1 / x)

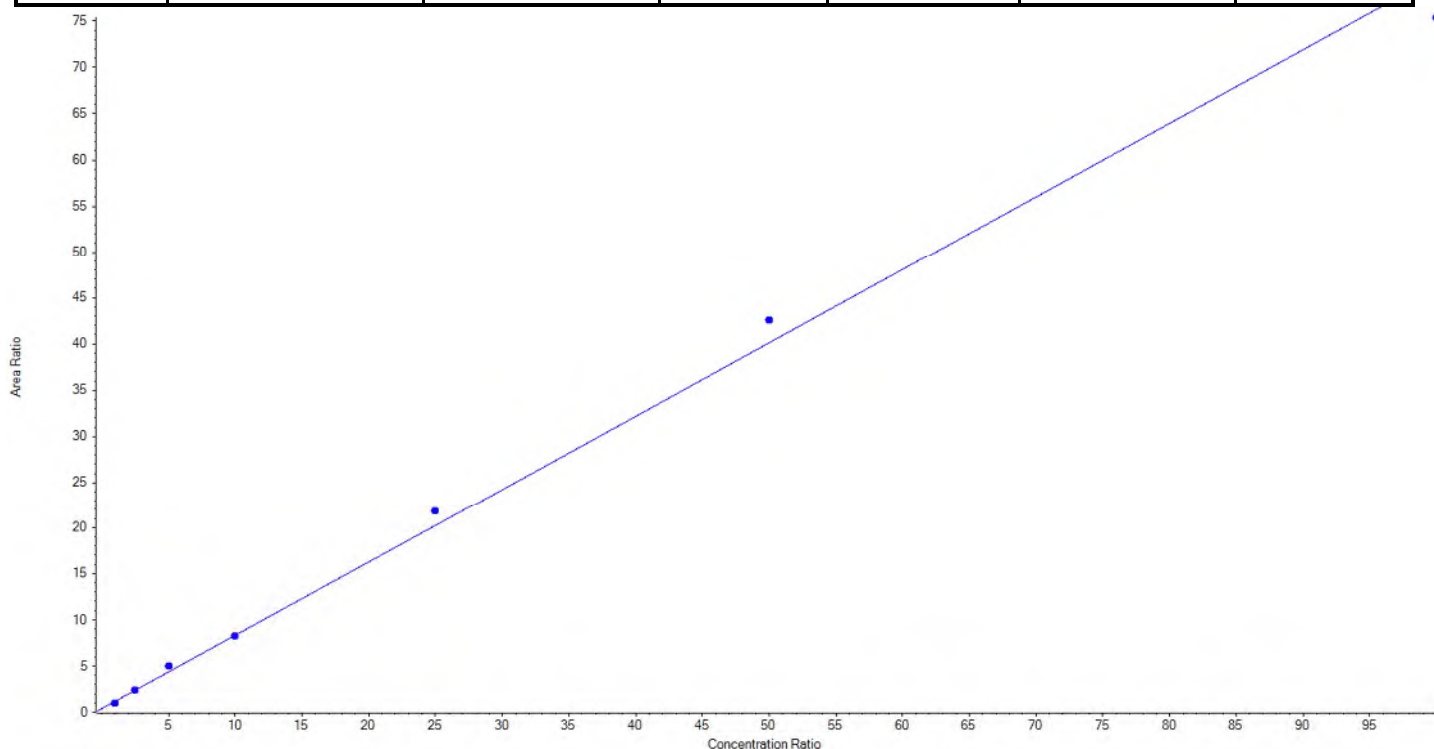
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	False	100.00	< 0	N/A
5	JZ81	L4	False	250.00	175.390457	70.2
6	JZ82	L5	True	500.00	501.263267	100.3
7	JZ83	L6	True	1000.00	937.002604	93.7
8	JZ84	L7	True	2500.00	2649.237787	106.0
9	JZ85	L8	True	5000.00	5095.261135	101.9
10	JZ86	L9	True	10000.00	9817.235206	98.2



<b>Analyte Name</b>	PFNA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.79456 x + 0.38579$  (r = 0.99739) (weighting: 1 / x)

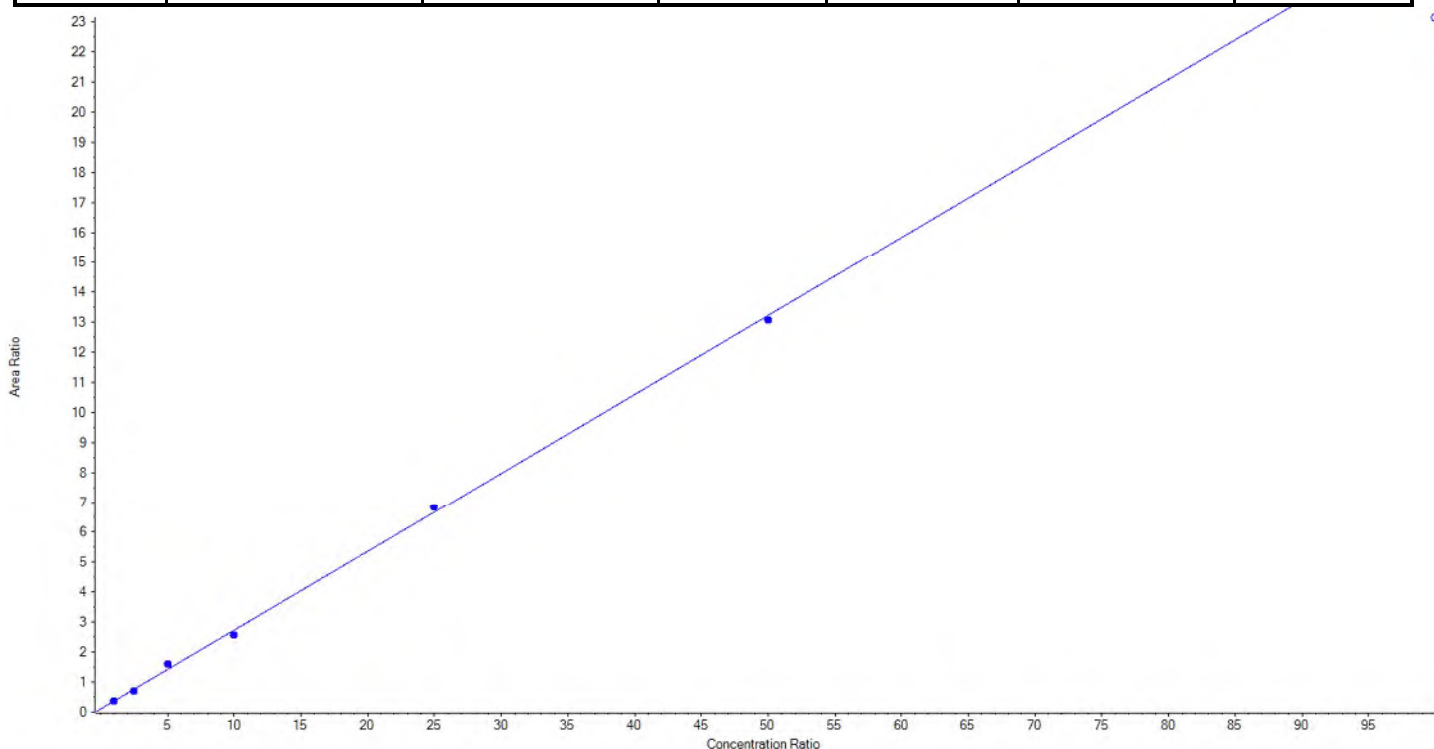
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.842400	73.8
5	JZ81	L4	True	250.00	253.735140	101.5
6	JZ82	L5	True	500.00	583.193244	116.6
7	JZ83	L6	True	1000.00	996.921572	99.7
8	JZ84	L7	True	2500.00	2692.800630	107.7
9	JZ85	L8	True	5000.00	5312.564204	106.3
10	JZ86	L9	True	10000.00	9436.942809	94.4



<b>Analyte Name</b>	PFNA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.26245x + 0.10725$  (r = 0.99871) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	98.915434	98.9
5	JZ81	L4	True	250.00	225.999392	90.4
6	JZ82	L5	True	500.00	574.910926	115.0
7	JZ83	L6	True	1000.00	943.227550	94.3
8	JZ84	L7	True	2500.00	2562.046738	102.5
9	JZ85	L8	True	5000.00	4944.899960	98.9
10	JZ86	L9	False	10000.00	8779.689356	87.8

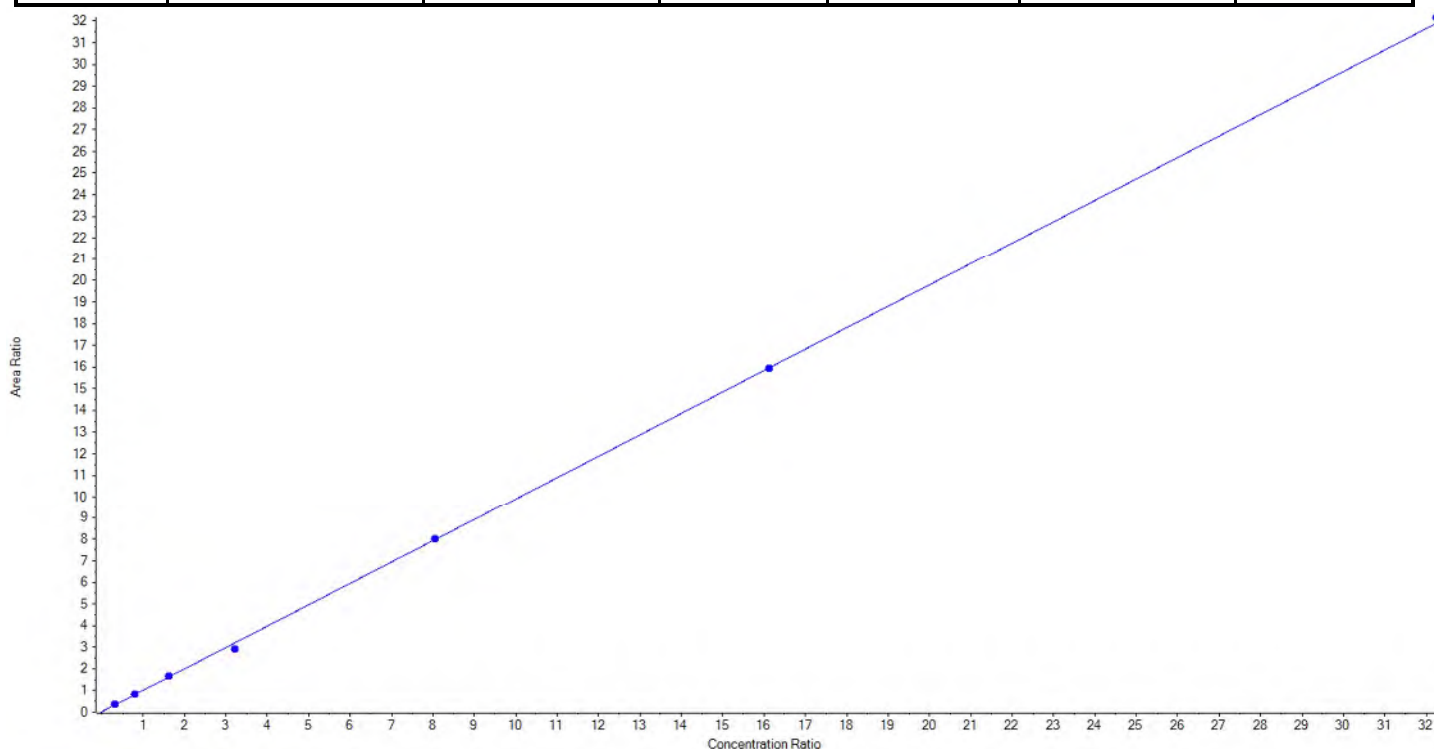




<b>Analyte Name</b>	PFOS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98838x + 0.02218$  (r = 0.99967) (weighting: 1 / x)

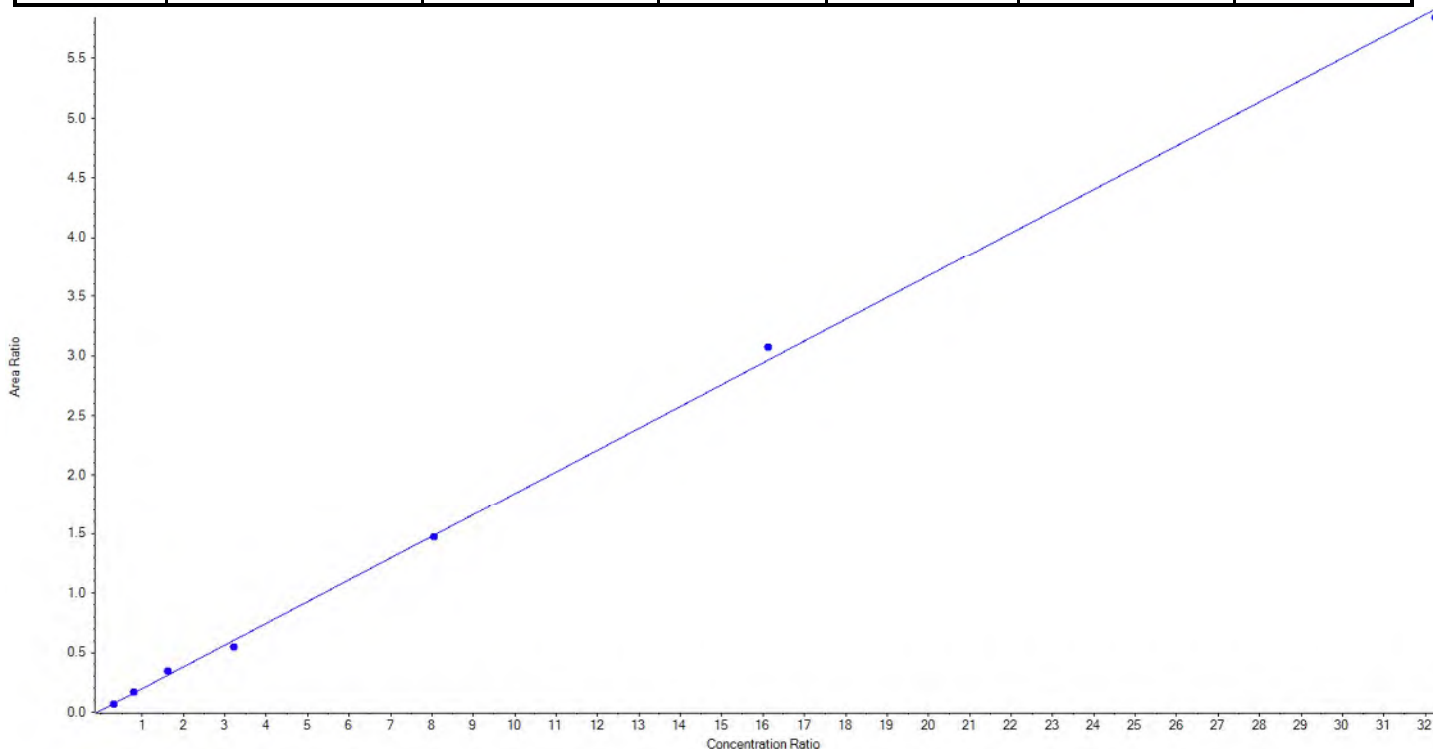
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	97.996148	105.8
5	JZ81	L4	True	231.50	229.918802	99.3
6	JZ82	L5	True	463.00	480.701559	103.8
7	JZ83	L6	True	925.60	836.163976	90.3
8	JZ84	L7	True	2314.00	2315.988544	100.1
9	JZ85	L8	True	4628.00	4618.435786	99.8
10	JZ86	L9	True	9256.00	9331.495186	100.8



<b>Analyte Name</b>	PFOS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.18289x + 0.01429$  (r = 0.99916) (weighting: 1 / x)

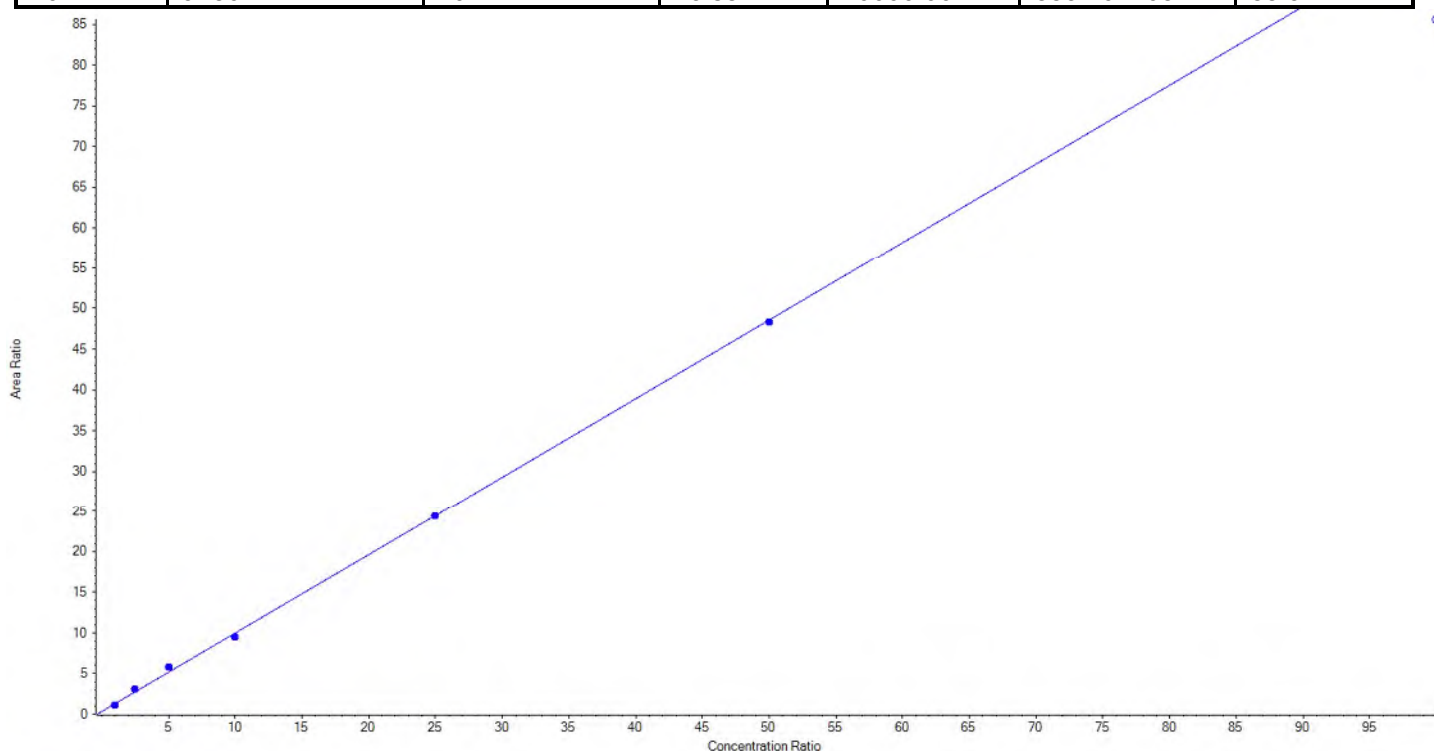
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	85.330602	92.2
5	JZ81	L4	True	231.50	239.054912	103.3
6	JZ82	L5	True	463.00	523.798062	113.1
7	JZ83	L6	True	925.60	835.646773	90.3
8	JZ84	L7	True	2314.00	2283.143402	98.7
9	JZ85	L8	True	4628.00	4800.356255	103.7
10	JZ86	L9	True	9256.00	9143.369993	98.8



<b>Analyte Name</b>	PFDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 469.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96480x + 0.33130$  (r = 0.99876) (weighting: 1 / x)

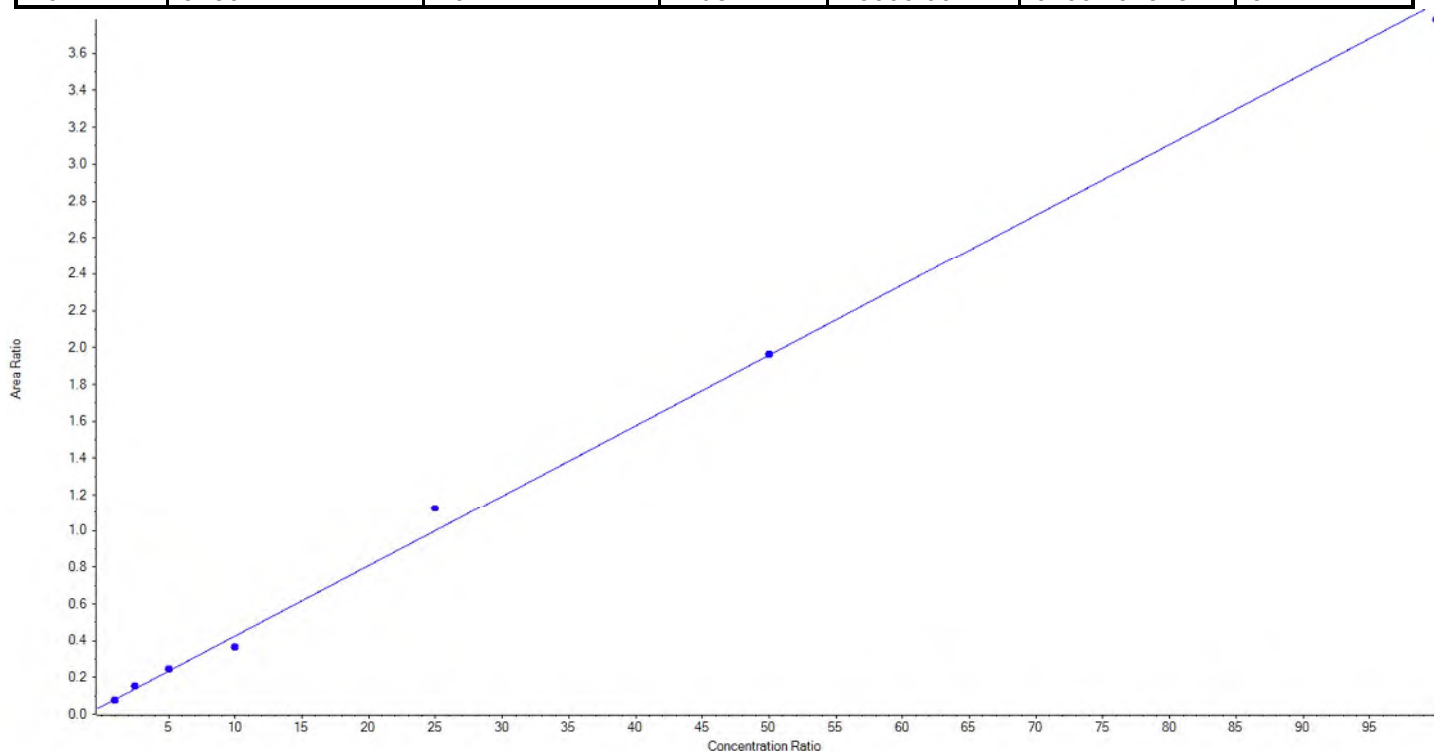
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	80.106807	80.1
5	JZ81	L4	True	250.00	280.729423	112.3
6	JZ82	L5	True	500.00	563.698304	112.7
7	JZ83	L6	True	1000.00	954.476766	95.5
8	JZ84	L7	True	2500.00	2499.715620	100.0
9	JZ85	L8	True	5000.00	4971.273080	99.4
10	JZ86	L9	False	10000.00	8834.017081	88.3



<b>Analyte Name</b>	PFDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.03832 x + 0.04215$  (r = 0.99749) (weighting: 1 / x)

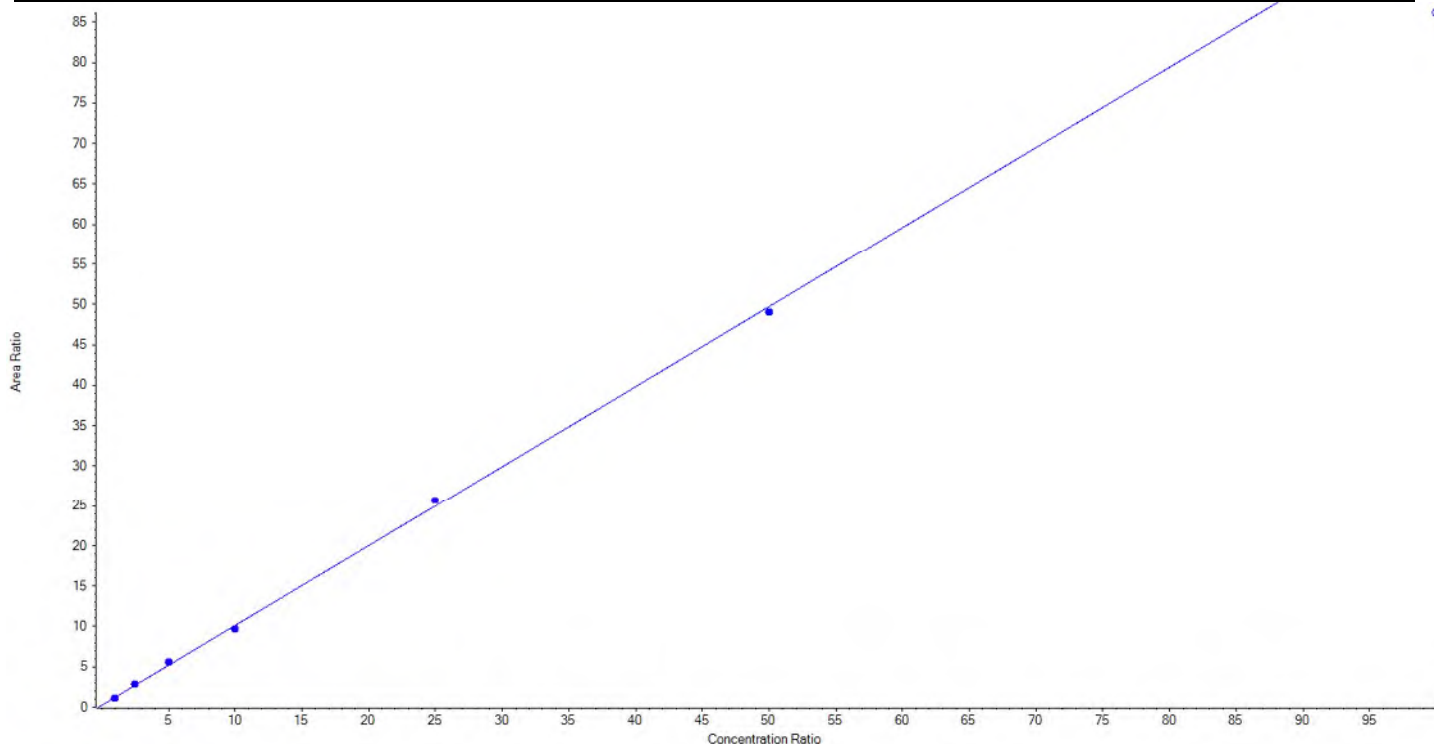
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.659189	82.7
5	JZ81	L4	True	250.00	291.516310	116.6
6	JZ82	L5	True	500.00	526.038890	105.2
7	JZ83	L6	True	1000.00	845.483275	84.6
8	JZ84	L7	True	2500.00	2828.003878	113.1
9	JZ85	L8	True	5000.00	5009.504139	100.2
10	JZ86	L9	True	10000.00	9766.794318	97.7



<b>Analyte Name</b>	PFUnA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 519.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98972 x + 0.23163$  (r = 0.99936) (weighting: 1 / x)

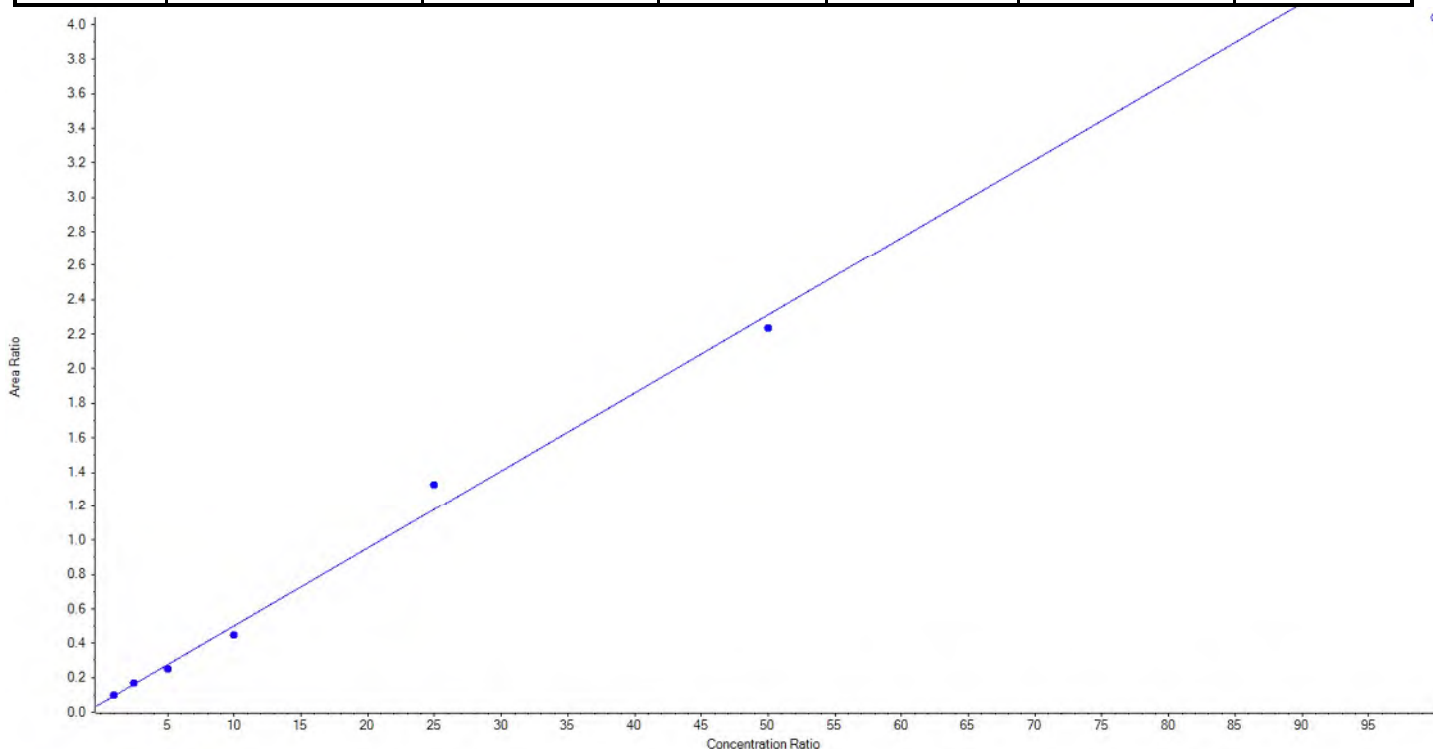
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	90.745593	90.8
5	JZ81	L4	True	250.00	261.466823	104.6
6	JZ82	L5	True	500.00	537.055487	107.4
7	JZ83	L6	True	1000.00	956.627338	95.7
8	JZ84	L7	True	2500.00	2575.587569	103.0
9	JZ85	L8	True	5000.00	4928.517189	98.6
10	JZ86	L9	False	10000.00	8681.593682	86.8



<b>Analyte Name</b>	PFUnA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04526 x + 0.04900$  (r = 0.99522) (weighting: 1 / x)

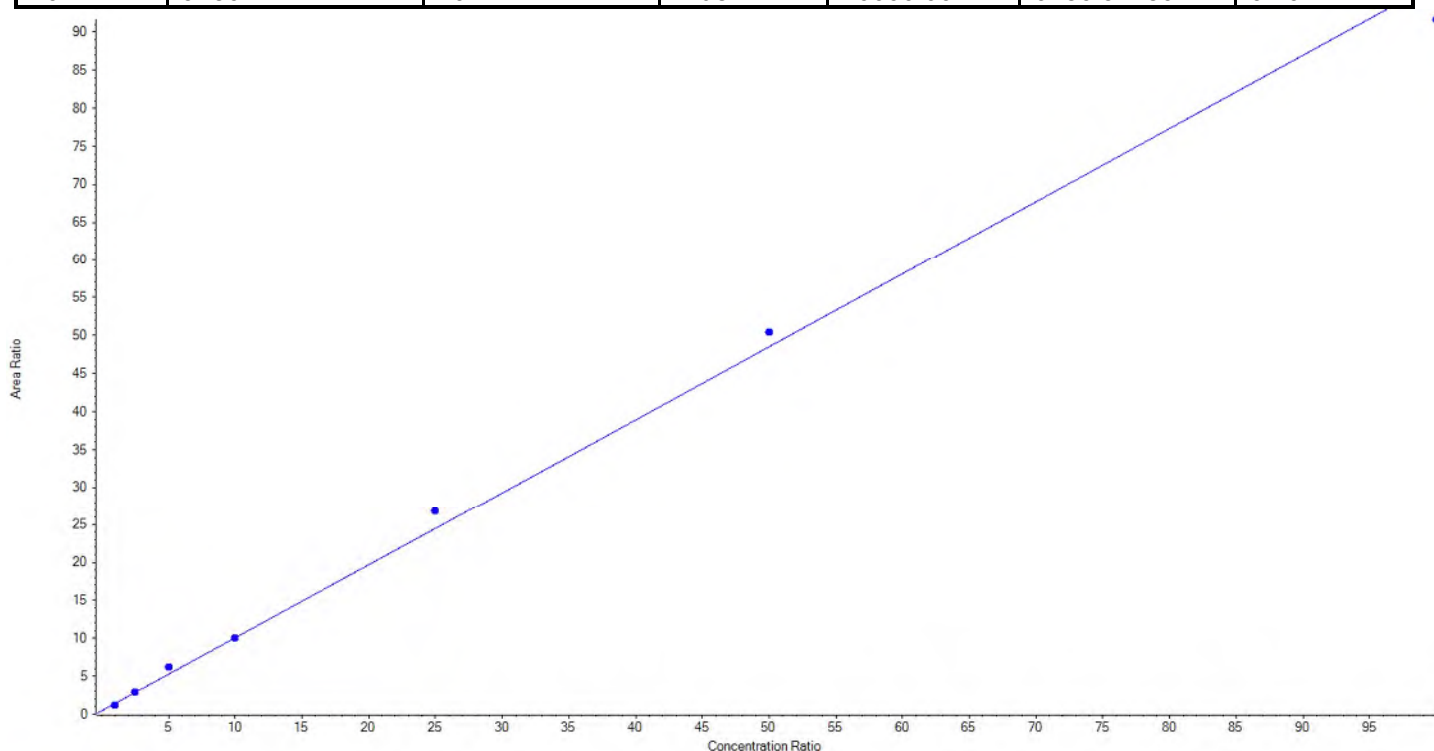
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	108.896169	108.9
5	JZ81	L4	True	250.00	263.189166	105.3
6	JZ82	L5	True	500.00	440.534454	88.1
7	JZ83	L6	True	1000.00	881.098760	88.1
8	JZ84	L7	True	2500.00	2824.288451	113.0
9	JZ85	L8	True	5000.00	4831.993000	96.6
10	JZ86	L9	False	10000.00	8817.375193	88.2



<b>Analyte Name</b>	PFD <sub>o</sub> A_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 569.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96118x + 0.45533$  (r = 0.99745) (weighting: 1 / x)

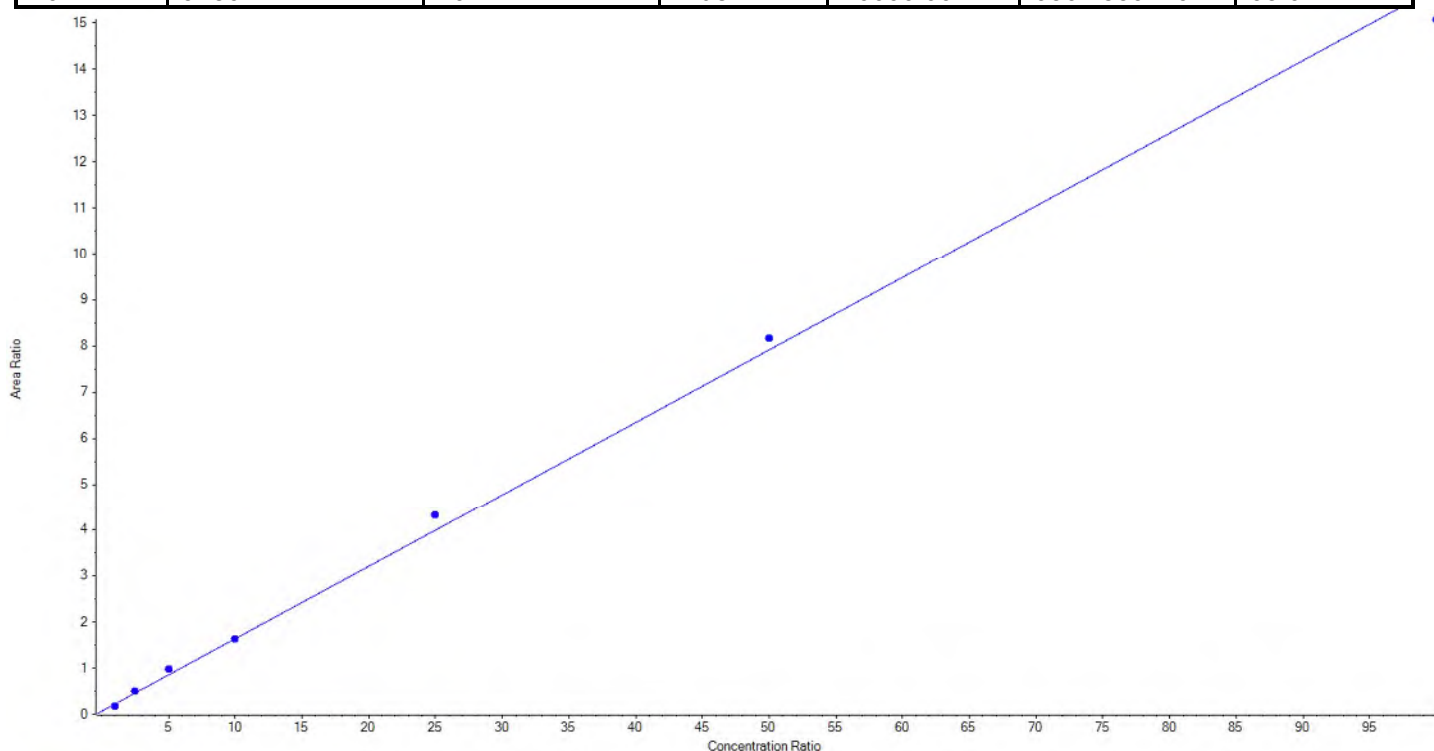
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.165430	70.2
5	JZ81	L4	True	250.00	255.545507	102.2
6	JZ82	L5	True	500.00	595.482174	119.1
7	JZ83	L6	True	1000.00	999.847927	100.0
8	JZ84	L7	True	2500.00	2741.086918	109.6
9	JZ85	L8	True	5000.00	5201.294237	104.0
10	JZ86	L9	True	10000.00	9486.577807	94.9



<b>Analyte Name</b>	PFD <sub>o</sub> A_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.15690x + 0.06506$  (r = 0.99787) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	65.429332	65.4
5	JZ81	L4	True	250.00	279.451874	111.8
6	JZ82	L5	True	500.00	582.305679	116.5
7	JZ83	L6	True	1000.00	991.062905	99.1
8	JZ84	L7	True	2500.00	2710.804043	108.4
9	JZ85	L8	True	5000.00	5158.086891	103.2
10	JZ86	L9	True	10000.00	9562.859276	95.6

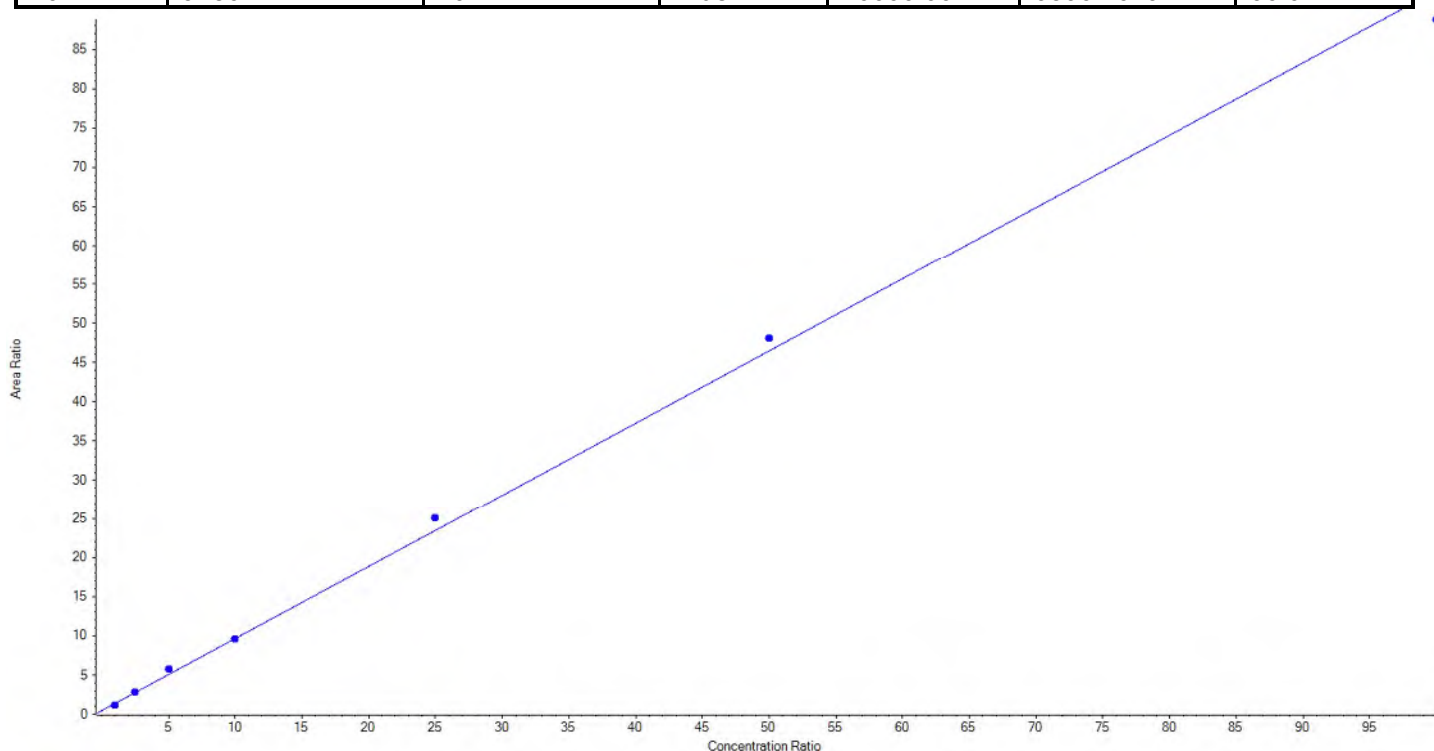




<b>Analyte Name</b>	PFTTrDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 619.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92044 x + 0.45193$  (r = 0.99838) (weighting: 1 / x)

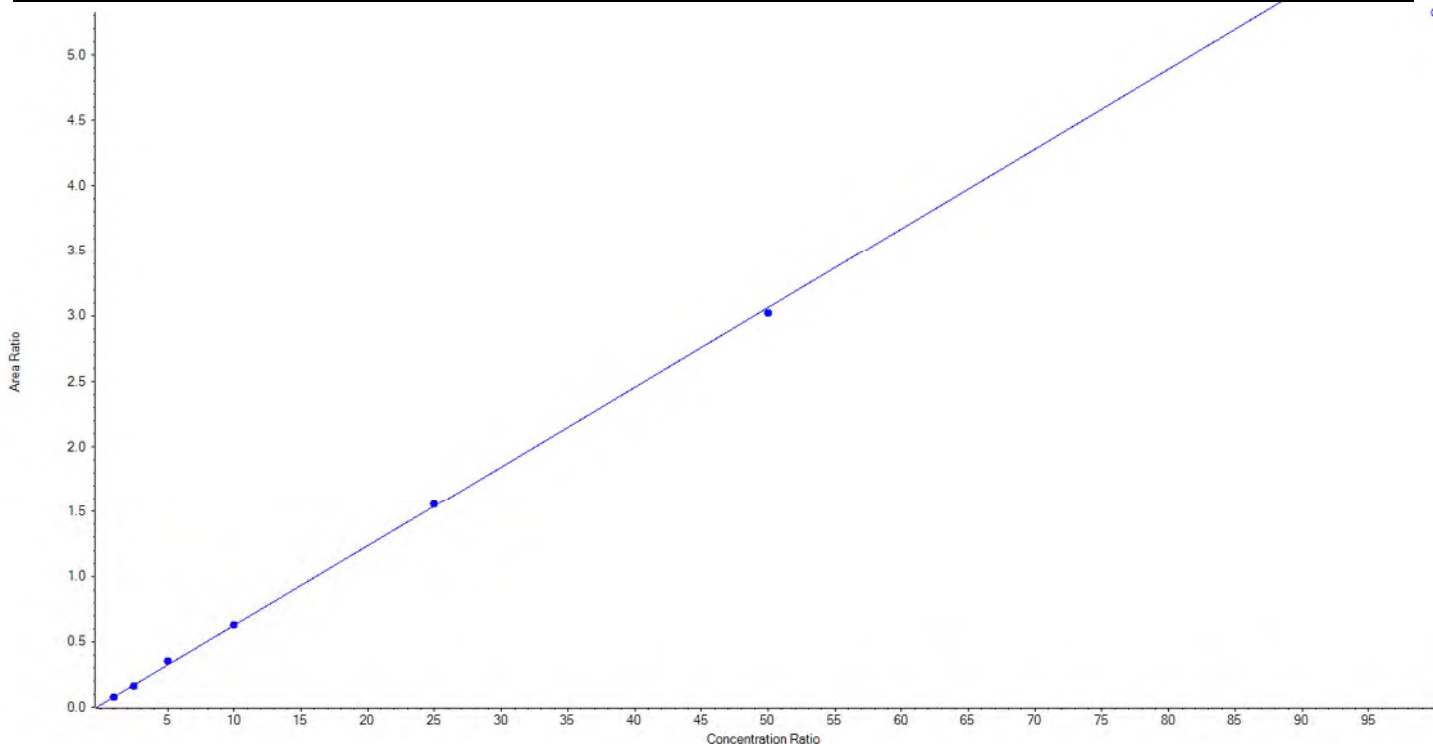
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.193967	75.2
5	JZ81	L4	True	250.00	256.669564	102.7
6	JZ82	L5	True	500.00	582.232667	116.5
7	JZ83	L6	True	1000.00	994.209819	99.4
8	JZ84	L7	True	2500.00	2670.073088	106.8
9	JZ85	L8	True	5000.00	5175.155953	103.5
10	JZ86	L9	True	10000.00	9596.464942	96.0



<b>Analyte Name</b>	PFTrDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06093x + 0.01745$  (r = 0.99946) (weighting: 1 / x)

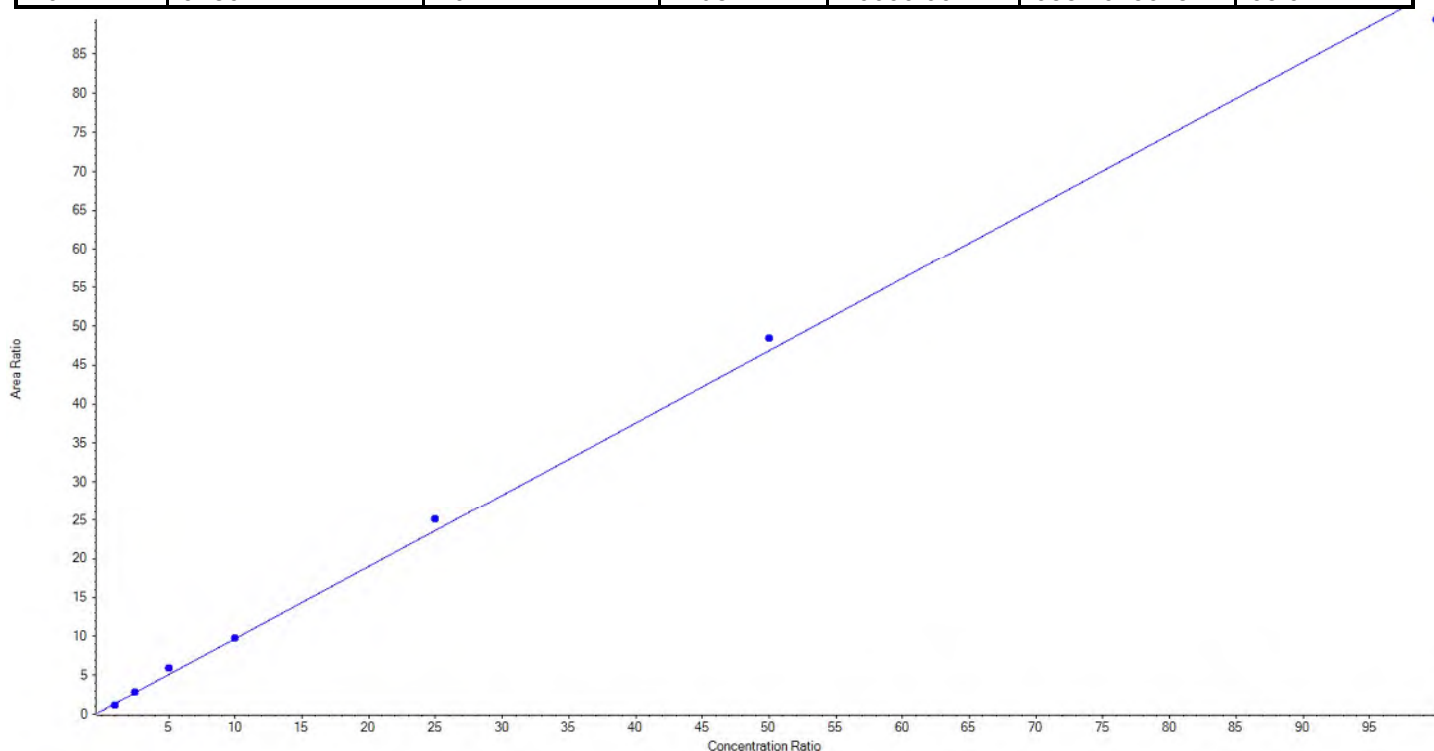
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	94.956102	95.0
5	JZ81	L4	True	250.00	235.261163	94.1
6	JZ82	L5	True	500.00	552.992832	110.6
7	JZ83	L6	True	1000.00	1005.695204	100.6
8	JZ84	L7	True	2500.00	2527.472597	101.1
9	JZ85	L8	True	5000.00	4933.622102	98.7
10	JZ86	L9	False	10000.00	8706.882200	87.1



<b>Analyte Name</b>	PFTeDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 669.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92843x + 0.43240$  (r = 0.99832) (weighting: 1 / x)

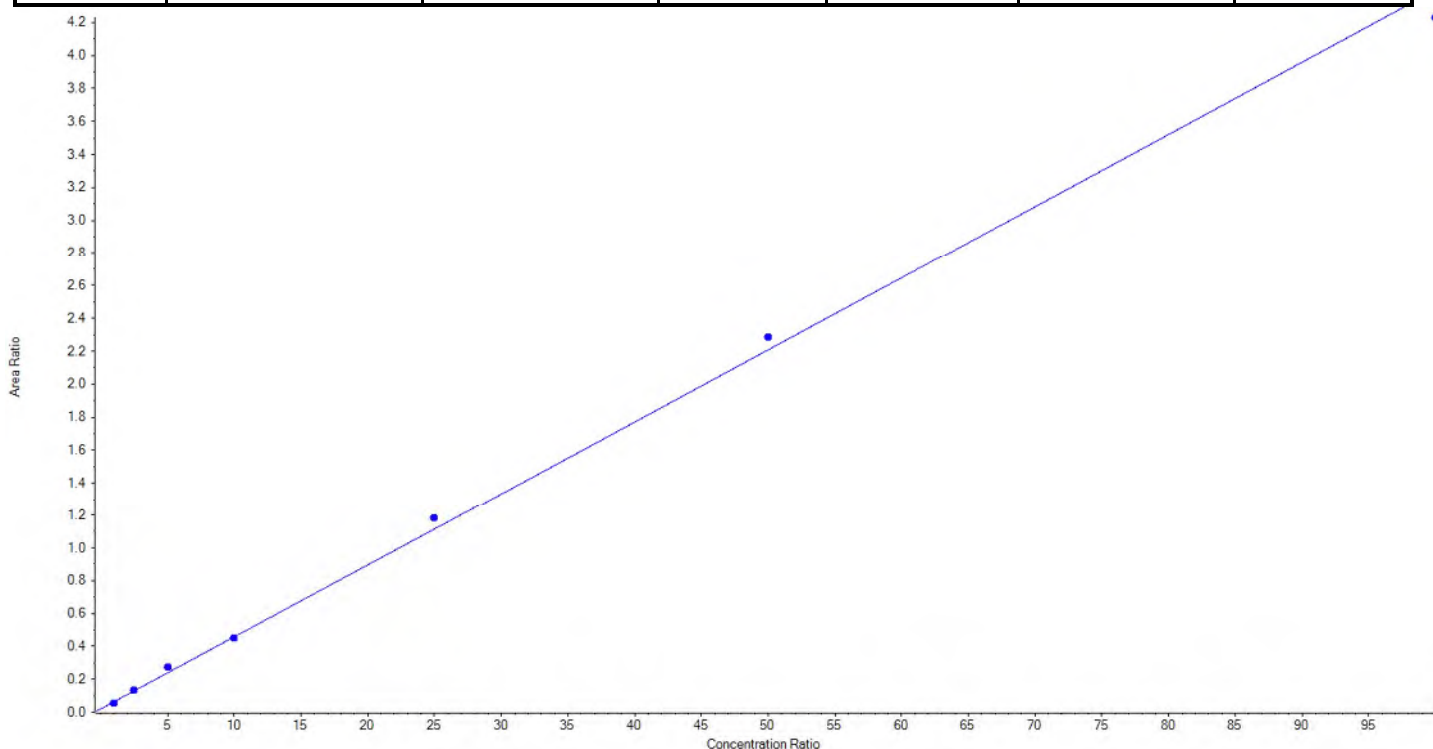
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	74.139371	74.1
5	JZ81	L4	True	250.00	252.243928	100.9
6	JZ82	L5	True	500.00	588.041720	117.6
7	JZ83	L6	True	1000.00	1015.343392	101.5
8	JZ84	L7	True	2500.00	2664.593960	106.6
9	JZ85	L8	True	5000.00	5168.023982	103.4
10	JZ86	L9	True	10000.00	9587.613648	95.9



<b>Analyte Name</b>	PFTeDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04376 x + 0.01999$  (r = 0.99850) (weighting: 1 / x)

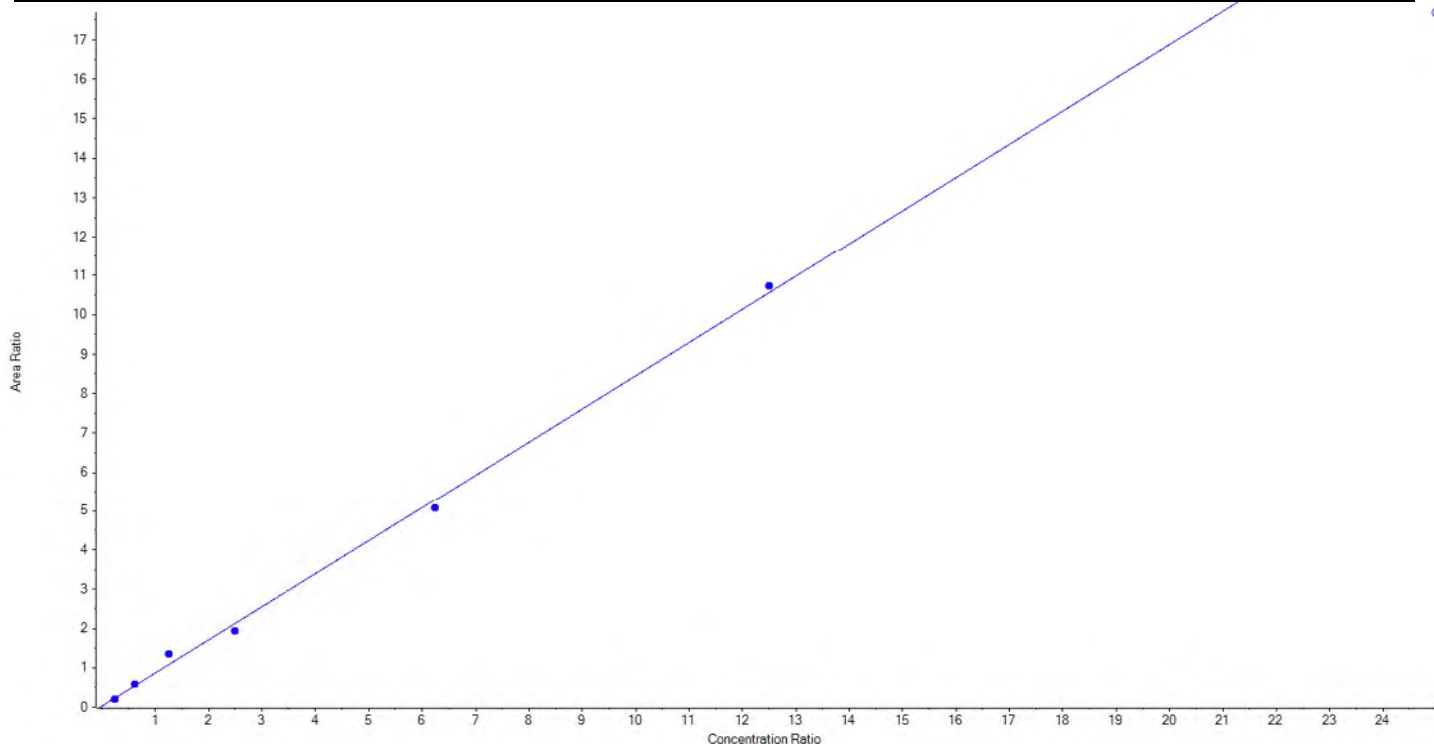
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	76.152455	76.2
5	JZ81	L4	True	250.00	259.120924	103.7
6	JZ82	L5	True	500.00	579.712333	115.9
7	JZ83	L6	True	1000.00	982.560002	98.3
8	JZ84	L7	True	2500.00	2656.578647	106.3
9	JZ85	L8	True	5000.00	5177.880651	103.6
10	JZ86	L9	True	10000.00	9617.994988	96.2



<b>Analyte Name</b>	NMeFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.84277 x + 0.02369$  (r = 0.99674) (weighting: 1 / x)

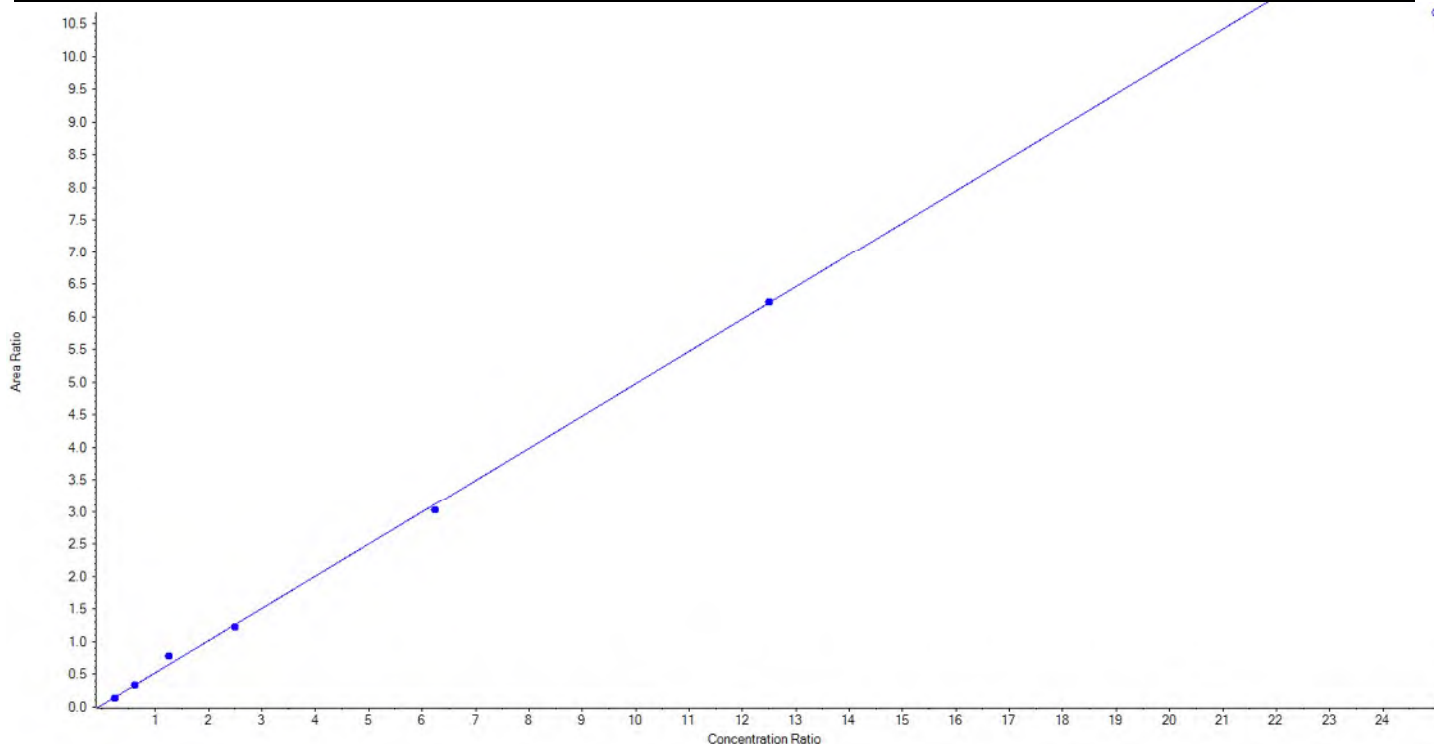
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.204585	82.2
5	JZ81	L4	True	250.00	261.230549	104.5
6	JZ82	L5	True	500.00	623.939609	124.8
7	JZ83	L6	True	1000.00	912.649748	91.3
8	JZ84	L7	True	2500.00	2392.539451	95.7
9	JZ85	L8	True	5000.00	5077.436058	101.6
10	JZ86	L9	False	10000.00	8383.981366	83.8



<b>Analyte Name</b>	NMeFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 512.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.49493x + 0.03076$  (r = 0.99787) (weighting: 1 / x)

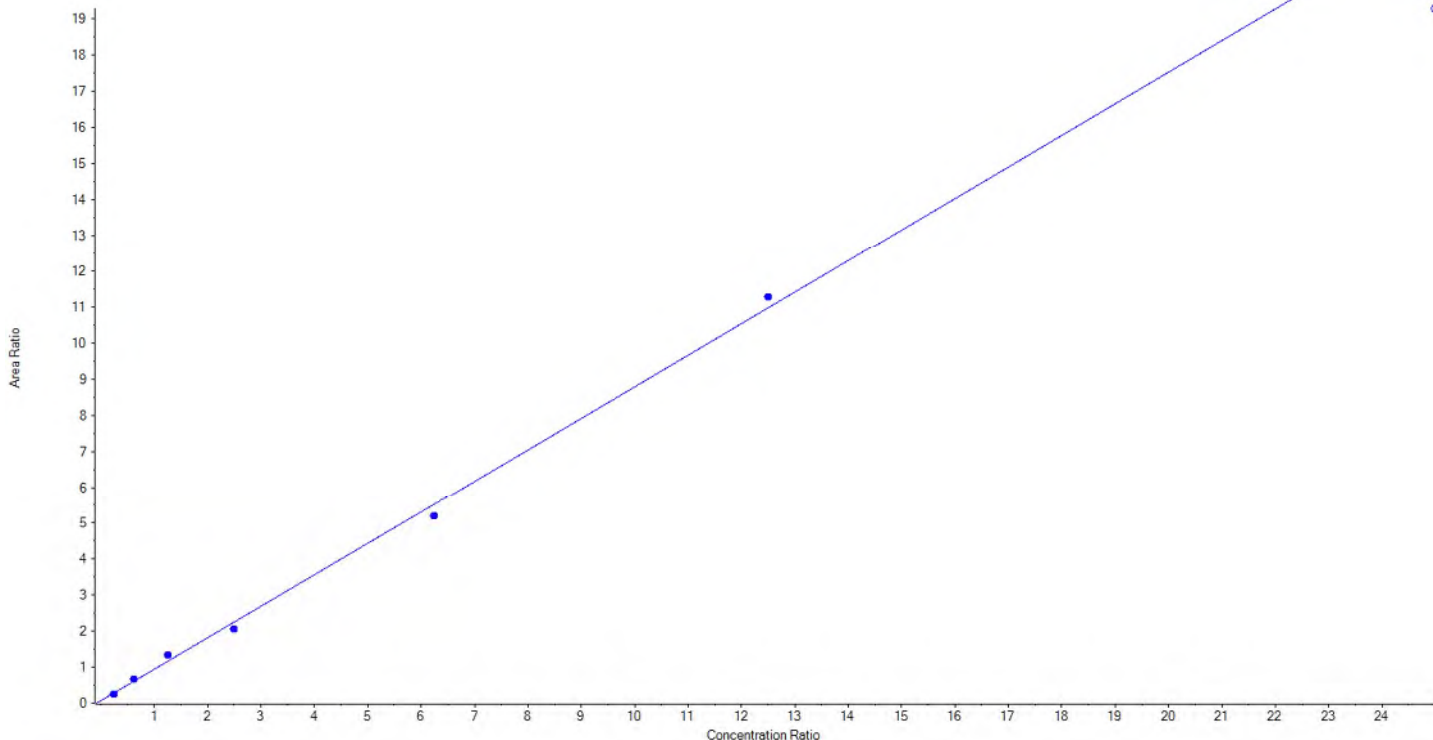
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	83.849866	83.9
5	JZ81	L4	True	250.00	249.432489	99.8
6	JZ82	L5	True	500.00	612.660544	122.5
7	JZ83	L6	True	1000.00	964.777836	96.5
8	JZ84	L7	True	2500.00	2429.083037	97.2
9	JZ85	L8	True	5000.00	5010.196228	100.2
10	JZ86	L9	False	10000.00	8603.598683	86.0



<b>Analyte Name</b>	NEtFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.87347 x + 0.06627$  (r = 0.99734) (weighting: 1 / x)

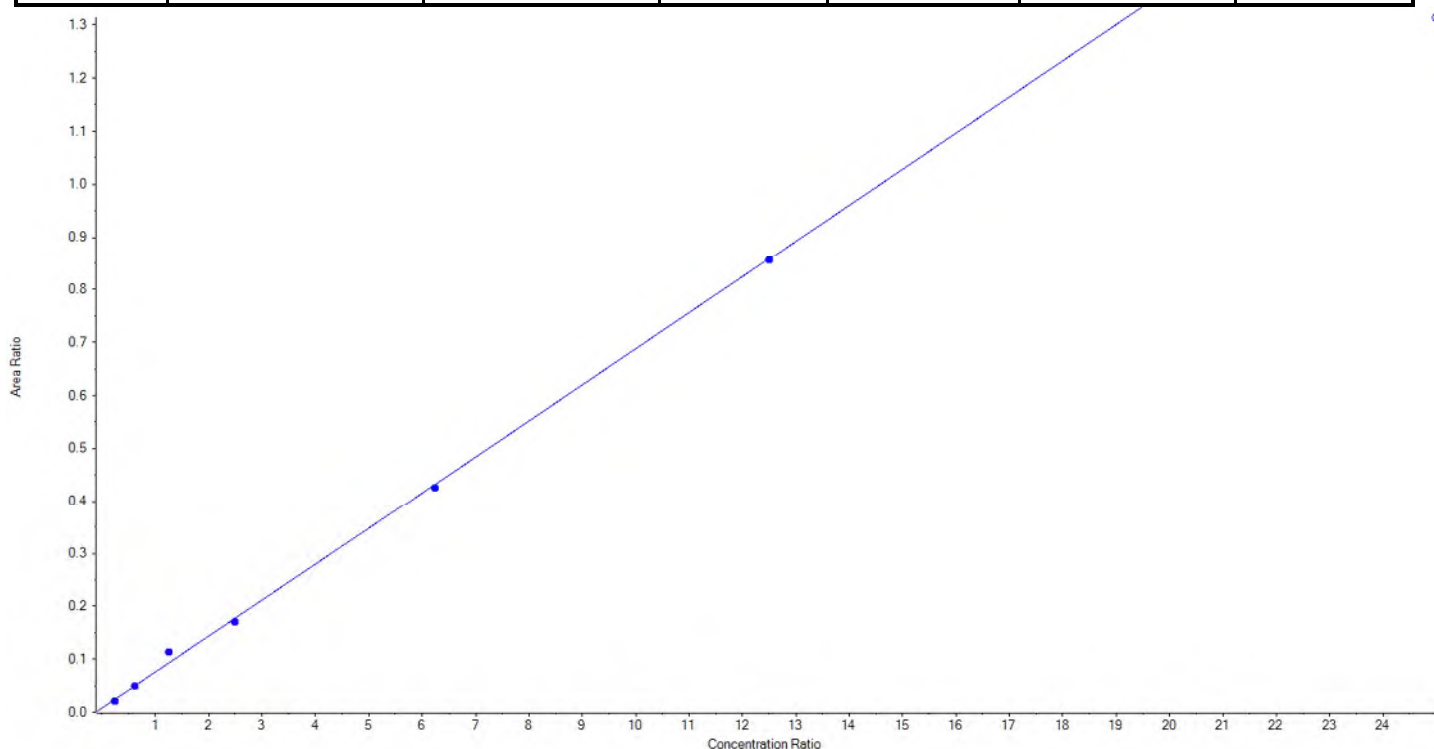
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	84.758563	84.8
5	JZ81	L4	True	250.00	275.112837	110.1
6	JZ82	L5	True	500.00	583.472638	116.7
7	JZ83	L6	True	1000.00	917.942369	91.8
8	JZ84	L7	True	2500.00	2346.663317	93.9
9	JZ85	L8	True	5000.00	5142.050277	102.8
10	JZ86	L9	False	10000.00	8804.104625	88.0



<b>Analyte Name</b>	NEtFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 483.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06807 x + 0.00743$  (r = 0.99771) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.387514	82.4
5	JZ81	L4	True	250.00	249.755816	99.9
6	JZ82	L5	True	500.00	618.499663	123.7
7	JZ83	L6	True	1000.00	961.057859	96.1
8	JZ84	L7	True	2500.00	2456.922918	98.3
9	JZ85	L8	True	5000.00	4981.376230	99.6
10	JZ86	L9	False	10000.00	7676.823562	76.8

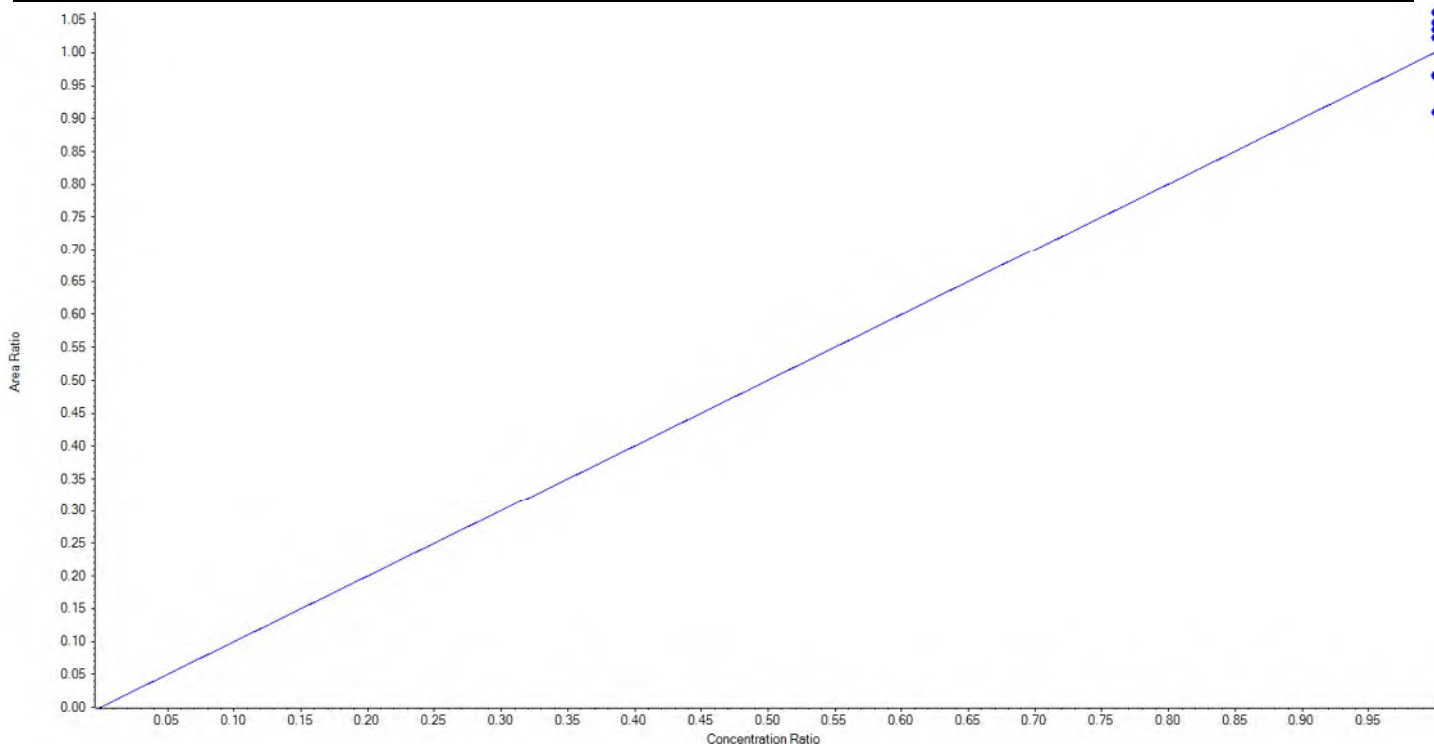




<b>Analyte Name</b>	13C2-PFHxA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	315.0 / 270.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.00047 x$  (std. dev. = 0.05493) (weighting: 1 / x)

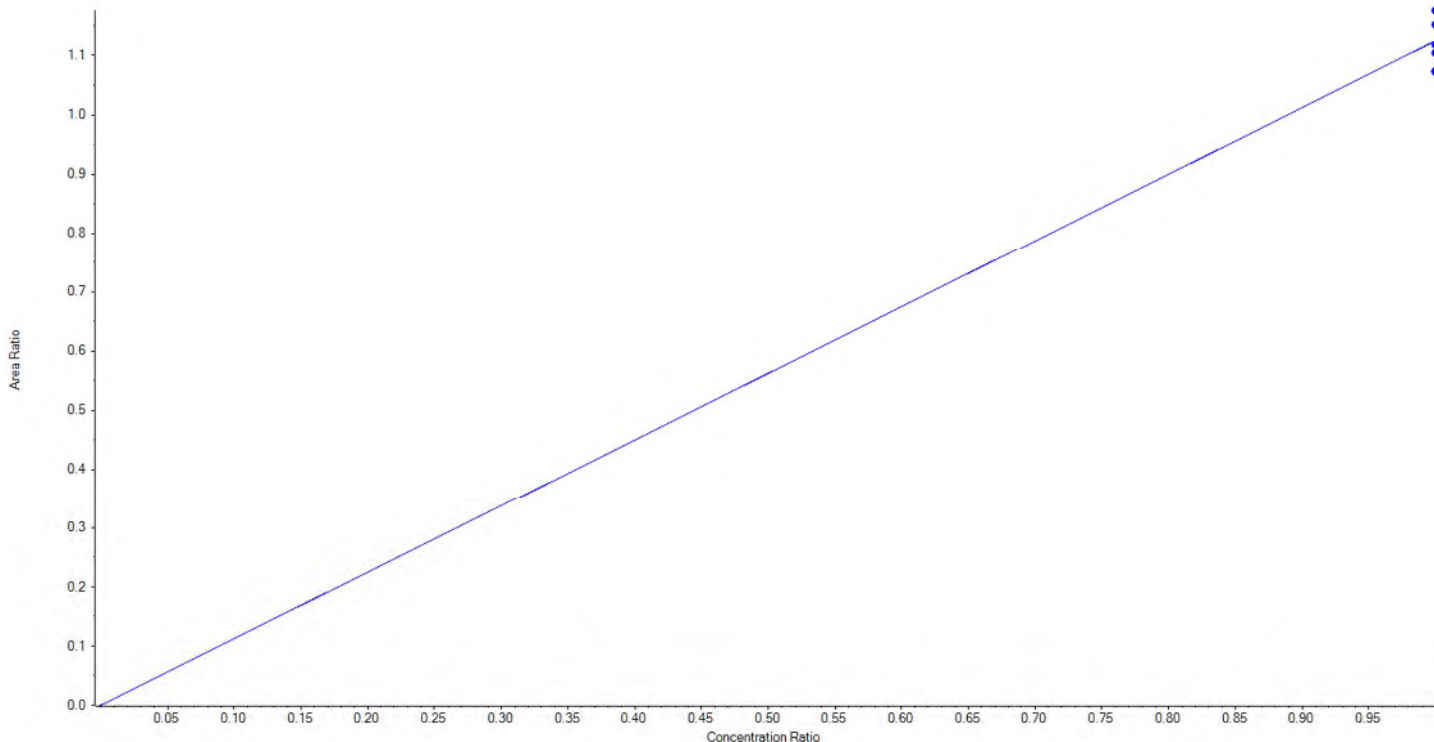
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	96.439494	96.4
5	JZ81	L4	True	100.00	96.506267	96.5
6	JZ82	L5	True	100.00	104.533761	104.5
7	JZ83	L6	True	100.00	103.436575	103.4
8	JZ84	L7	True	100.00	102.139355	102.1
9	JZ85	L8	True	100.00	106.033981	106.0
10	JZ86	L9	True	100.00	90.910566	90.9



<b>Analyte Name</b>	13C2-PFDA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	515.0 / 470.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.12453 x$  (std. dev. = 0.04396) (weighting: 1 / x)

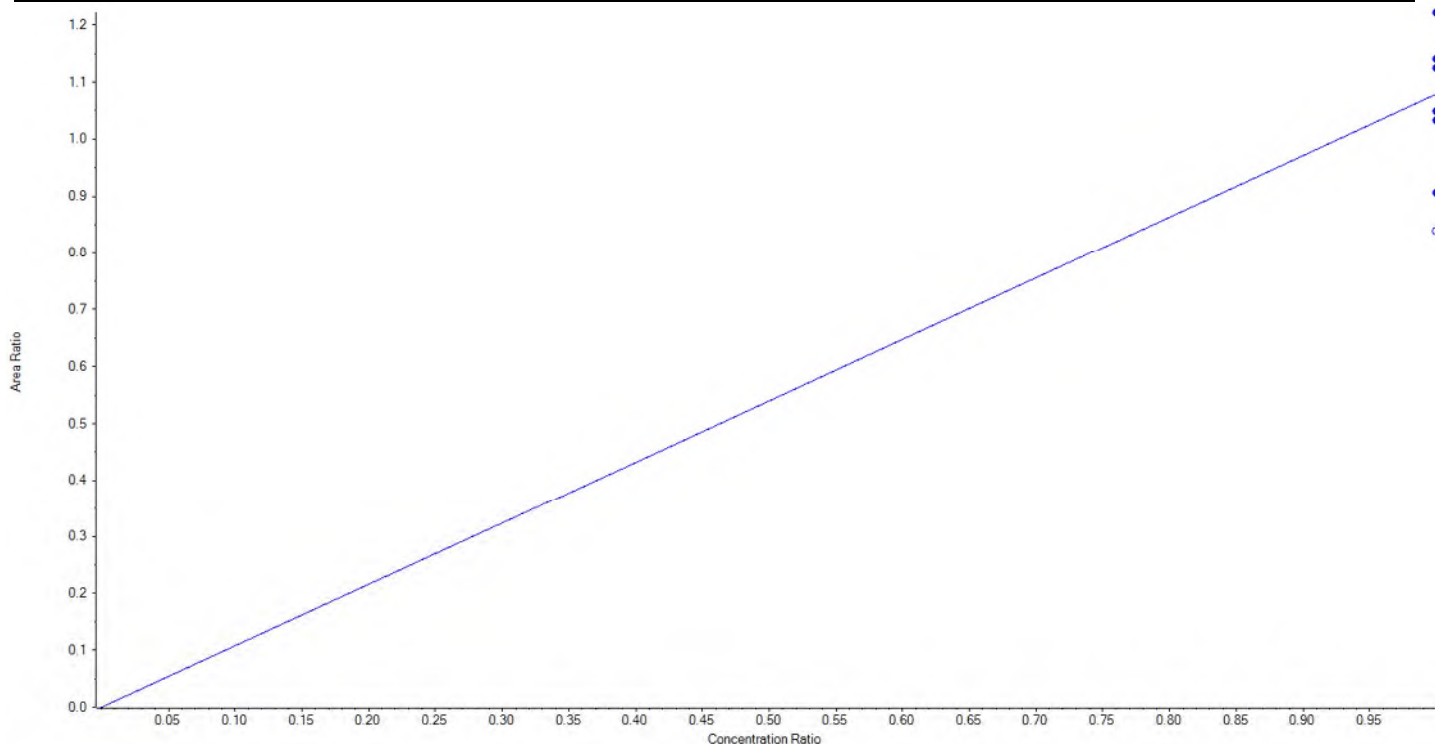
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	104.516087	104.5
5	JZ81	L4	True	100.00	98.256587	98.3
6	JZ82	L5	True	100.00	95.457273	95.5
7	JZ83	L6	True	100.00	102.404610	102.4
8	JZ84	L7	True	100.00	104.507065	104.5
9	JZ85	L8	True	100.00	99.466561	99.5
10	JZ86	L9	True	100.00	95.391818	95.4



<b>Analyte Name</b>	d5-EtFOSAA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	589.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.07933 x$  (std. dev. = 0.10858) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	400.00	336.154687	84.0
5	JZ81	L4	True	400.00	382.599033	95.7
6	JZ82	L5	True	400.00	452.712991	113.2
7	JZ83	L6	True	400.00	416.933912	104.2
8	JZ84	L7	True	400.00	388.706932	97.2
9	JZ85	L8	True	400.00	422.892445	105.7
10	JZ86	L9	False	400.00	311.251208	77.8





Sample Name	JZ80	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T14:59:21	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	29423.40	92.373246	236.0	false
PFBS_2	298.9 / 99.0	1.56	8676.60	93.214828	199.8	false
PFHxA_1	313.0 / 269.0	1.86	33319.87	78.044303	108.0	false
PFHxA_2	313.0 / 119.0	1.86	2749.15	86.317867	65.8	false
PFHpA_1	363.0 / 319.0	2.22	32485.70	73.016068	110.5	false
PFHpA_2	363.0 / 169.0	2.22	771.99	70.272325	45.5	false
PFHxS_1	399.0 / 80.0	2.24	35802.91	83.545773	129.0	false
PFHxS_2	399.0 / 99.0	2.23	11286.56	89.539693	164.7	false
PFOA_1	413.0 / 369.0	2.60	36014.10	75.344758	114.3	false
PFOA_2	413.0 / 169.0	2.60	2435.55	< 0	71.8	false
PFNA_1	463.0 / 419.0	2.97	31200.74	73.842400	118.0	false
PFNA_2	463.0 / 219.0	2.97	11769.67	98.915434	159.1	false
PFOS_1	499.0 / 80.0	2.96	51391.91	97.996148	93.1	false
PFOS_2	499.0 / 99.0	2.96	9812.00	85.330602	151.3	false
PFDA_1	513.0 / 469.0	3.32	35424.95	80.106807	136.7	true
PFDA_2	513.0 / 219.0	3.33	2368.29	82.659189	51.4	true
PFUnA_1	563.0 / 519.0	3.65	36245.83	90.745593	138.7	false
PFUnA_2	563.0 / 269.0	3.65	3153.41	108.896169	39.2	false
PFDaA_1	613.0 / 569.0	3.95	36245.45	70.165430	150.6	true
PFDaA_2	613.0 / 319.0	3.95	5380.85	65.429332	93.3	true
PFTrDA_1	663.0 / 619.0	4.21	36704.17	75.193967	211.4	false
PFTrDA_2	663.0 / 169.0	4.21	2415.84	94.956102	89.3	false
PFTeDA_1	713.0 / 669.0	4.44	35956.05	74.139371	398.3	false
PFTeDA_2	713.0 / 169.0	4.44	1710.59	76.152455	144.1	false
NMeFOSAA_1	570.0 / 419.0	3.48	5709.02	82.204585	131.7	false
NMeFOSAA_2	570.0 / 512.0	3.48	3900.43	83.849866	82.9	false
NEtFOSAA_1	584.0 / 419.0	3.64	7288.37	84.758563	168.2	false
NEtFOSAA_2	584.0 / 483.0	3.64	621.98	82.387514	25.0	false
13C2-PFHxA	315.0 / 270.0	1.85	30954.95	96.439494	1026.5	false
13C2-PFDA	515.0 / 470.0	3.31	37707.47	104.516087	843.6	true
d5-EtFOSAA	589.0 / 419.0	3.64	26301.82	336.154687	209.1	true

Sample Name	JZ81	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:08:18	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	80422.85	228.227234	544.6	false
PFBS_2	298.9 / 99.0	1.56	23255.98	227.341080	392.2	false
PFHxA_1	313.0 / 269.0	1.86	88464.27	265.769546	155.3	false
PFHxA_2	313.0 / 119.0	1.86	6549.80	247.710359	116.2	false
PFHpA_1	363.0 / 319.0	2.22	86999.92	261.130318	150.5	false
PFHpA_2	363.0 / 169.0	2.23	1790.97	239.260354	99.1	false
PFHxS_1	399.0 / 80.0	2.23	98733.77	236.640313	188.1	false
PFHxS_2	399.0 / 99.0	2.23	27591.88	224.603434	279.8	false
PFOA_1	413.0 / 369.0	2.59	90194.06	248.563445	180.3	false
PFOA_2	413.0 / 169.0	2.59	6909.07	175.390457	125.1	false
PFNA_1	463.0 / 419.0	2.97	81642.26	253.735140	181.0	false
PFNA_2	463.0 / 219.0	2.97	23806.84	225.999392	178.3	false
PFOS_1	499.0 / 80.0	2.96	126195.36	229.918802	123.2	false
PFOS_2	499.0 / 99.0	2.96	25832.85	239.054912	291.3	false
PFDA_1	513.0 / 469.0	3.32	103326.43	280.729423	218.0	false
PFDA_2	513.0 / 219.0	3.33	5229.31	291.516310	84.5	false
PFUnA_1	563.0 / 519.0	3.65	95836.06	261.466823	199.3	false
PFUnA_2	563.0 / 269.0	3.65	5714.97	263.189166	77.9	false
PFDaA_1	613.0 / 569.0	3.94	98968.51	255.545507	198.0	false
PFDaA_2	613.0 / 319.0	3.94	17115.29	279.451874	195.4	false
PFTrDA_1	663.0 / 619.0	4.20	95666.02	256.669564	356.6	false
PFTrDA_2	663.0 / 169.0	4.20	5465.16	235.261163	179.5	false
PFTeDA_1	713.0 / 669.0	4.44	94302.05	252.243928	558.4	false
PFTeDA_2	713.0 / 169.0	4.43	4534.00	259.120924	264.2	false
NMeFOSAA_1	570.0 / 419.0	3.47	15286.55	261.230549	264.5	false
NMeFOSAA_2	570.0 / 512.0	3.47	9037.37	249.432489	173.2	false
NEtFOSAA_1	584.0 / 419.0	3.64	17761.47	275.112837	336.4	false
NEtFOSAA_2	584.0 / 483.0	3.65	1329.53	249.755816	36.8	false
13C2-PFHxA	315.0 / 270.0	1.84	32819.11	96.506267	938.0	false
13C2-PFDA	515.0 / 470.0	3.31	37557.96	98.256587	1102.0	true
d5-EtFOSAA	589.0 / 419.0	3.63	27490.19	382.599033	256.0	true

Sample Name	JZ82	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:17:14	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	175920.92	473.621611	901.7	false
PFBS_2	298.9 / 99.0	1.56	49913.91	463.948422	508.5	false
PFHxA_1	313.0 / 269.0	1.85	178937.19	568.874261	195.4	false
PFHxA_2	313.0 / 119.0	1.85	14063.16	564.939492	174.4	false
PFHpA_1	363.0 / 319.0	2.21	179159.44	574.230055	260.7	false
PFHpA_2	363.0 / 169.0	2.21	4084.34	619.165193	157.9	false
PFHxS_1	399.0 / 80.0	2.23	207466.65	490.800076	199.0	false
PFHxS_2	399.0 / 99.0	2.23	62476.88	506.958424	255.3	false
PFOA_1	413.0 / 369.0	2.59	199687.99	595.816684	220.4	false
PFOA_2	413.0 / 169.0	2.59	13454.99	501.263267	149.5	false
PFNA_1	463.0 / 419.0	2.97	175160.61	583.193244	298.1	false
PFNA_2	463.0 / 219.0	2.96	56393.93	574.910926	294.0	false
PFOS_1	499.0 / 80.0	2.96	272311.93	480.701559	116.6	false
PFOS_2	499.0 / 99.0	2.96	56498.90	523.798062	278.5	false
PFDA_1	513.0 / 469.0	3.32	201342.58	563.698304	293.7	false
PFDA_2	513.0 / 219.0	3.32	8504.05	526.038890	135.9	false
PFUnA_1	563.0 / 519.0	3.65	193564.69	537.055487	286.4	false
PFUnA_2	563.0 / 269.0	3.65	8668.21	440.534454	84.5	true
PFDaA_1	613.0 / 569.0	3.94	215618.19	595.482174	306.6	false
PFDaA_2	613.0 / 319.0	3.94	34152.09	582.305679	264.3	false
PFTrDA_1	663.0 / 619.0	4.20	202778.98	582.232667	479.9	false
PFTrDA_2	663.0 / 169.0	4.20	12365.52	552.992832	253.2	false
PFTeDA_1	713.0 / 669.0	4.43	205601.61	588.041720	785.2	false
PFTeDA_2	713.0 / 169.0	4.43	9550.24	579.712333	414.3	false
NMeFOSAA_1	570.0 / 419.0	3.47	33659.05	623.939609	514.2	false
NMeFOSAA_2	570.0 / 512.0	3.47	19839.84	612.660544	477.1	false
NEtFOSAA_1	584.0 / 419.0	3.64	33711.90	583.472638	411.4	false
NEtFOSAA_2	584.0 / 483.0	3.64	2833.92	618.499663	69.7	true
13C2-PFHxA	315.0 / 270.0	1.84	36494.58	104.533761	1027.4	false
13C2-PFDA	515.0 / 470.0	3.31	37458.46	95.457273	750.6	true
d5-EtFOSAA	589.0 / 419.0	3.63	30723.70	452.712991	278.4	true

Sample Name	JZ83	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:26:11	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	282446.86	787.235152	1271.4	false
PFBS_2	298.9 / 99.0	1.56	82761.71	796.949611	780.6	false
PFHxA_1	313.0 / 269.0	1.85	279961.77	954.283032	239.2	false
PFHxA_2	313.0 / 119.0	1.85	21883.12	940.194006	259.7	false
PFHpA_1	363.0 / 319.0	2.22	291557.62	1005.928310	256.8	false
PFHpA_2	363.0 / 169.0	2.22	5931.56	971.164630	145.2	false
PFHxS_1	399.0 / 80.0	2.23	350392.81	872.158270	306.7	false
PFHxS_2	399.0 / 99.0	2.23	99214.35	847.353462	435.2	false
PFOA_1	413.0 / 369.0	2.59	312019.61	999.884858	277.3	false
PFOA_2	413.0 / 169.0	2.59	21130.14	937.002604	222.6	false
PFNA_1	463.0 / 419.0	2.97	278891.49	996.921572	365.2	false
PFNA_2	463.0 / 219.0	2.97	86710.83	943.227550	361.8	false
PFOS_1	499.0 / 80.0	2.96	453836.23	836.163976	167.4	false
PFOS_2	499.0 / 99.0	2.96	85517.80	835.646773	405.8	false
PFDA_1	513.0 / 469.0	3.32	320295.72	954.476766	365.3	false
PFDA_2	513.0 / 219.0	3.32	12291.19	845.483275	154.9	false
PFUnA_1	563.0 / 519.0	3.65	325649.43	956.627338	382.3	false
PFUnA_2	563.0 / 269.0	3.65	15035.09	881.098760	124.0	true
PFDaA_1	613.0 / 569.0	3.94	337939.54	999.847927	347.6	false
PFDaA_2	613.0 / 319.0	3.94	54390.41	991.062905	289.4	false
PFTrDA_1	663.0 / 619.0	4.21	322408.52	994.209819	575.0	false
PFTrDA_2	663.0 / 169.0	4.20	21156.97	1005.695204	355.2	false
PFTeDA_1	713.0 / 669.0	4.43	331005.28	1015.343392	975.7	false
PFTeDA_2	713.0 / 169.0	4.43	15107.16	982.560002	483.6	false
NMeFOSAA_1	570.0 / 419.0	3.47	51616.94	912.649748	791.3	false
NMeFOSAA_2	570.0 / 512.0	3.47	32470.36	964.777836	425.6	false
NEtFOSAA_1	584.0 / 419.0	3.64	54909.94	917.942369	489.2	false
NEtFOSAA_2	584.0 / 483.0	3.64	4533.51	961.057859	122.9	false
13C2-PFHxA	315.0 / 270.0	1.84	34743.56	103.436575	1021.5	false
13C2-PFDA	515.0 / 470.0	3.31	38662.39	102.404610	985.8	true
d5-EtFOSAA	589.0 / 419.0	3.63	29832.18	416.933912	284.8	true



Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:35:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	758157.27	2136.140902	2078.4	false
PFBS_2	298.9 / 99.0	1.56	220594.37	2149.034279	1236.4	false
PFHxA_1	313.0 / 269.0	1.85	757032.90	2650.811567	396.5	false
PFHxA_2	313.0 / 119.0	1.85	61316.81	2702.578330	386.4	false
PFHpA_1	363.0 / 319.0	2.22	758656.95	2688.604760	420.8	false
PFHpA_2	363.0 / 169.0	2.22	16989.17	2905.414878	277.1	false
PFHxS_1	399.0 / 80.0	2.23	903376.15	2303.866920	480.2	false
PFHxS_2	399.0 / 99.0	2.23	256967.85	2253.455709	740.4	false
PFOA_1	413.0 / 369.0	2.59	808068.41	2662.530234	425.0	false
PFOA_2	413.0 / 169.0	2.59	53471.41	2649.237787	352.7	false
PFNA_1	463.0 / 419.0	2.97	733740.27	2692.800630	505.2	false
PFNA_2	463.0 / 219.0	2.96	230118.75	2562.046738	576.9	false
PFOS_1	499.0 / 80.0	2.96	1234484.76	2315.988544	199.9	false
PFOS_2	499.0 / 99.0	2.96	226765.60	2283.143402	541.1	false
PFDA_1	513.0 / 469.0	3.31	823583.41	2499.715620	576.8	false
PFDA_2	513.0 / 219.0	3.31	37920.94	2828.003878	328.9	false
PFUnA_1	563.0 / 519.0	3.65	866505.09	2575.587569	542.6	false
PFUnA_2	563.0 / 269.0	3.65	44715.34	2824.288451	205.0	false
PFDoA_1	613.0 / 569.0	3.94	902861.24	2741.086918	504.4	false
PFDoA_2	613.0 / 319.0	3.94	145467.89	2710.804043	410.3	false
PFTrDA_1	663.0 / 619.0	4.20	843113.52	2670.073088	651.4	false
PFTrDA_2	663.0 / 169.0	4.19	52460.00	2527.472597	430.7	false
PFTeDA_1	713.0 / 669.0	4.43	847923.31	2664.593960	1333.6	false
PFTeDA_2	713.0 / 169.0	4.42	39835.42	2656.578647	826.8	false
NMeFOSAA_1	570.0 / 419.0	3.47	141925.97	2392.539451	1034.9	false
NMeFOSAA_2	570.0 / 512.0	3.47	85088.45	2429.083037	644.3	false
NEtFOSAA_1	584.0 / 419.0	3.64	145457.83	2346.663317	741.0	false
NEtFOSAA_2	584.0 / 483.0	3.63	11924.09	2456.922918	185.1	false
13C2-PFHxA	315.0 / 270.0	1.84	34423.02	102.139355	1017.7	false
13C2-PFDA	515.0 / 470.0	3.30	39588.64	104.507065	948.6	true
d5-EtFOSAA	589.0 / 419.0	3.63	29392.44	388.706932	208.5	false

Sample Name	JZ85	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:44:02	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	1397458.18	4317.657703	2437.2	false
PFBS_2	298.9 / 99.0	1.56	404893.31	4326.418052	1721.9	false
PFHxA_1	313.0 / 269.0	1.85	1394067.44	5209.008771	524.6	false
PFHxA_2	313.0 / 119.0	1.85	109412.75	5140.495784	466.0	false
PFHpA_1	363.0 / 319.0	2.22	1376589.31	5207.786711	535.8	false
PFHpA_2	363.0 / 169.0	2.21	28114.53	5141.021060	384.2	false
PFHxS_1	399.0 / 80.0	2.23	1640475.23	4606.569585	642.2	false
PFHxS_2	399.0 / 99.0	2.23	470915.73	4550.078070	902.2	false
PFOA_1	413.0 / 369.0	2.59	1474876.64	5189.823202	625.0	false
PFOA_2	413.0 / 169.0	2.59	94108.47	5095.261135	490.8	false
PFNA_1	463.0 / 419.0	2.96	1356209.48	5312.564204	718.5	false
PFNA_2	463.0 / 219.0	2.96	416599.22	4944.899960	717.9	false
PFOS_1	499.0 / 80.0	2.96	2240276.21	4618.435786	253.2	false
PFOS_2	499.0 / 99.0	2.95	432269.30	4800.356255	790.3	false
PFDA_1	513.0 / 469.0	3.31	1537599.03	4971.273080	904.5	false
PFDA_2	513.0 / 219.0	3.31	62452.37	5009.504139	485.1	false
PFUnA_1	563.0 / 519.0	3.64	1560393.99	4928.517189	879.3	false
PFUnA_2	563.0 / 269.0	3.64	71195.98	4831.993000	285.0	false
PFDoA_1	613.0 / 569.0	3.93	1606201.19	5201.294237	714.4	false
PFDoA_2	613.0 / 319.0	3.93	259738.55	5158.086891	580.9	false
PFTrDA_1	663.0 / 619.0	4.19	1530974.56	5175.155953	792.6	false
PFTrDA_2	663.0 / 169.0	4.19	96254.79	4933.622102	567.5	false
PFTeDA_1	713.0 / 669.0	4.42	1541399.81	5168.023982	1614.5	false
PFTeDA_2	713.0 / 169.0	4.42	72778.48	5177.880651	1131.2	false
NMeFOSAA_1	570.0 / 419.0	3.47	260608.95	5077.436058	1339.4	false
NMeFOSAA_2	570.0 / 512.0	3.47	151435.52	5010.196228	708.0	false
NEtFOSAA_1	584.0 / 419.0	3.63	274546.21	5142.050277	849.1	false
NEtFOSAA_2	584.0 / 483.0	3.63	20784.52	4981.376230	346.5	false
13C2-PFHxA	315.0 / 270.0	1.84	33774.99	106.033981	1110.5	false
13C2-PFDA	515.0 / 470.0	3.30	35612.00	99.466561	743.3	true
d5-EtFOSAA	589.0 / 419.0	3.62	27737.08	422.892445	215.3	true

Sample Name	JZ86	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:52:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	2839120.10	9090.344152	4256.5	false
PFBS_2	298.9 / 99.0	1.56	818876.96	9068.693729	2364.8	false
PFHxA_1	313.0 / 269.0	1.85	2734093.83	9623.208520	714.5	false
PFHxA_2	313.0 / 119.0	1.85	218492.54	9667.764162	698.4	false
PFHpA_1	363.0 / 319.0	2.22	2676205.23	9539.303778	700.5	false
PFHpA_2	363.0 / 169.0	2.22	54474.90	9403.701561	445.2	false
PFHxS_1	399.0 / 80.0	2.23	3104870.59	9053.619063	895.5	false
PFHxS_2	399.0 / 99.0	2.23	914160.79	9175.211206	1289.2	false
PFOA_1	413.0 / 369.0	2.59	2888345.24	9578.036819	732.3	false
PFOA_2	413.0 / 169.0	2.58	189973.39	9817.235206	560.9	false
PFNA_1	463.0 / 419.0	2.96	2557801.06	9436.942809	1009.4	false
PFNA_2	463.0 / 219.0	2.96	785629.42	8779.689356	1037.5	false
PFOS_1	499.0 / 80.0	2.95	4363243.46	9331.495186	322.9	false
PFOS_2	499.0 / 99.0	2.95	792471.90	9143.369993	961.5	false
PFDA_1	513.0 / 469.0	3.31	2903784.15	8834.017081	1146.5	false
PFDA_2	513.0 / 219.0	3.31	128431.73	9766.794318	573.0	false
PFUnA_1	563.0 / 519.0	3.64	2923913.43	8681.593682	1026.2	false
PFUnA_2	563.0 / 269.0	3.64	137113.81	8817.375193	298.9	false
PFDoA_1	613.0 / 569.0	3.93	3109990.91	9486.577807	788.2	false
PFDoA_2	613.0 / 319.0	3.93	511413.98	9562.859276	723.4	false
PFTTrDA_1	663.0 / 619.0	4.19	3013051.26	9596.464942	1275.8	false
PFTTrDA_2	663.0 / 169.0	4.19	180620.43	8706.882200	820.0	false
PFTeDA_1	713.0 / 669.0	4.42	3035602.40	9587.613648	1961.0	false
PFTeDA_2	713.0 / 169.0	4.42	143520.42	9617.994988	1413.0	false
NMeFOSAA_1	570.0 / 419.0	3.46	488506.19	8383.981366	1107.6	false
NMeFOSAA_2	570.0 / 512.0	3.46	294856.07	8603.598683	779.0	false
NEtFOSAA_1	584.0 / 419.0	3.63	532790.74	8804.104625	1056.2	false
NEtFOSAA_2	584.0 / 483.0	3.63	36282.60	7676.823562	391.3	false
13C2-PFHxA	315.0 / 270.0	1.84	30867.38	90.910566	1147.6	false
13C2-PFDA	515.0 / 470.0	3.30	36405.38	95.391818	854.3	true
d5-EtFOSAA	589.0 / 419.0	3.62	23195.05	311.251208	189.1	false

<b>Sample Name</b>	JZ80	<b>Injection Vial</b>	4
<b>Sample ID</b>	L3	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T14:59:21	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.295	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.083	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.24	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.315	0.292	ü
PFOA_1	413.0 / 369.0	2.60	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.377	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.191	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.067	0.047	ü
PFAUnA_1	563.0 / 519.0	3.65	PFAUnA			
PFAUnA_2	563.0 / 269.0	3.65	PFAUnA	0.087	0.056	
PFADoA_1	613.0 / 569.0	3.95	PFADoA			
PFADoA_2	613.0 / 319.0	3.95	PFADoA	0.149	0.161	ü
PFATrDA_1	663.0 / 619.0	4.21	PFATrDA			
PFATrDA_2	663.0 / 169.0	4.21	PFATrDA	0.066	0.062	ü
PFATeDA_1	713.0 / 669.0	4.44	PFATeDA			
PFATeDA_2	713.0 / 169.0	4.44	PFATeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.48	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.48	NMeFOSAA	0.683	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.085	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.85				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.64		N/A	N/A	ü

<b>Sample Name</b>	JZ81	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:08:18	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.289	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.074	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.280	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.077	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.292	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.205	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.051	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.060	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.173	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.057	0.062	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.591	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.65	NEtFOSAA	0.075	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ82	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:17:14	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.284	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.023	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.301	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.067	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.322	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.208	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.042	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.045	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.158	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.061	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.589	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.084	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ83	<b>Injection Vial</b>	7
<b>Sample ID</b>	L6	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:26:11	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.293	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.078	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.311	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.188	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.21	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.066	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.629	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.083	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:35:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

**Results Summary**

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.081	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.022	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.285	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.314	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.184	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.046	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.052	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.600	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.082	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü



<b>Sample Name</b>	JZ85	<b>Injection Vial</b>	9
<b>Sample ID</b>	L8	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:44:02	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.287	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.064	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.193	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.041	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.162	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.581	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.076	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	JZ86	<b>Injection Vial</b>	10
<b>Sample ID</b>	L9	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:52:58	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.288	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.294	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.182	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.044	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.047	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.164	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.060	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.604	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.068	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

Sample Name	JZ80	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T14:59:21	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.57	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFHxA_1	313.0 / 269.0	1.86	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFHxA_2	313.0 / 119.0	1.86	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFHpA_2	363.0 / 169.0	2.22	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFHxS_1	399.0 / 80.0	2.24	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFOA_1	413.0 / 369.0	2.60	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFOA_2	413.0 / 169.0	2.60	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFNA_1	463.0 / 419.0	2.97	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFNA_2	463.0 / 219.0	2.97	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFOS_2	499.0 / 99.0	2.96	13C4-PFOS	503.0 / 80.0	142888.22	287.00
PFDA_1	513.0 / 469.0	3.32	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFDA_2	513.0 / 219.0	3.33	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFUnA_1	563.0 / 519.0	3.65	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFUnA_2	563.0 / 269.0	3.65	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFDaA_1	613.0 / 569.0	3.95	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFDaA_2	613.0 / 319.0	3.95	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFTTrDA_1	663.0 / 619.0	4.21	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFTTrDA_2	663.0 / 169.0	4.21	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFTTeDA_1	713.0 / 669.0	4.44	13C2-PFOA	415.0 / 370.0	32082.74	100.00
PFTTeDA_2	713.0 / 169.0	4.44	13C2-PFOA	415.0 / 370.0	32082.74	100.00
NMeFOSAA_1	570.0 / 419.0	3.48	d3-MeFOSAA	573.0 / 419.0	28996.86	400.00
NMeFOSAA_2	570.0 / 512.0	3.48	d3-MeFOSAA	573.0 / 419.0	28996.86	400.00
NEtFOSAA_1	584.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	28996.86	400.00
NEtFOSAA_2	584.0 / 483.0	3.64	d3-MeFOSAA	573.0 / 419.0	28996.86	400.00
13C2-PFHxA	315.0 / 270.0	1.85	13C2-PFOA	415.0 / 370.0	32082.74	100.00
13C2-PFDA	515.0 / 470.0	3.31	13C2-PFOA	415.0 / 370.0	32082.74	100.00
d5-EtFOSAA	589.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	28996.86	400.00

Sample Name	JZ81	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:08:18	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFHxA_1	313.0 / 269.0	1.86	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFHxA_2	313.0 / 119.0	1.86	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFHpA_2	363.0 / 169.0	2.23	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFOA_2	413.0 / 169.0	2.59	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFNA_1	463.0 / 419.0	2.97	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFNA_2	463.0 / 219.0	2.97	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFOS_2	499.0 / 99.0	2.96	13C4-PFOS	503.0 / 80.0	155034.01	287.00
PFDA_1	513.0 / 469.0	3.32	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFDA_2	513.0 / 219.0	3.33	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFUnA_1	563.0 / 519.0	3.65	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFUnA_2	563.0 / 269.0	3.65	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFDaA_1	613.0 / 569.0	3.94	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFDaA_2	613.0 / 319.0	3.94	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFTrDA_1	663.0 / 619.0	4.20	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFTrDA_2	663.0 / 169.0	4.20	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFTeDA_1	713.0 / 669.0	4.44	13C2-PFOA	415.0 / 370.0	33991.28	100.00
PFTeDA_2	713.0 / 169.0	4.43	13C2-PFOA	415.0 / 370.0	33991.28	100.00
NMeFOSAA_1	570.0 / 419.0	3.47	d3-MeFOSAA	573.0 / 419.0	26627.99	400.00
NMeFOSAA_2	570.0 / 512.0	3.47	d3-MeFOSAA	573.0 / 419.0	26627.99	400.00
NEtFOSAA_1	584.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	26627.99	400.00
NEtFOSAA_2	584.0 / 483.0	3.65	d3-MeFOSAA	573.0 / 419.0	26627.99	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	33991.28	100.00
13C2-PFDA	515.0 / 470.0	3.31	13C2-PFOA	415.0 / 370.0	33991.28	100.00
d5-EtFOSAA	589.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	26627.99	400.00

Sample Name	JZ82	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:17:14	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFHpA_1	363.0 / 319.0	2.21	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFHpA_2	363.0 / 169.0	2.21	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFOA_2	413.0 / 169.0	2.59	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFNA_1	463.0 / 419.0	2.97	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFOS_2	499.0 / 99.0	2.96	13C4-PFOS	503.0 / 80.0	162318.50	287.00
PFDA_1	513.0 / 469.0	3.32	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFDA_2	513.0 / 219.0	3.32	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFUnA_1	563.0 / 519.0	3.65	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFUnA_2	563.0 / 269.0	3.65	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFDaA_1	613.0 / 569.0	3.94	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFDaA_2	613.0 / 319.0	3.94	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFTrDA_1	663.0 / 619.0	4.20	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFTrDA_2	663.0 / 169.0	4.20	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFTeDA_1	713.0 / 669.0	4.43	13C2-PFOA	415.0 / 370.0	34895.40	100.00
PFTeDA_2	713.0 / 169.0	4.43	13C2-PFOA	415.0 / 370.0	34895.40	100.00
NMeFOSAA_1	570.0 / 419.0	3.47	d3-MeFOSAA	573.0 / 419.0	25150.99	400.00
NMeFOSAA_2	570.0 / 512.0	3.47	d3-MeFOSAA	573.0 / 419.0	25150.99	400.00
NEtFOSAA_1	584.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	25150.99	400.00
NEtFOSAA_2	584.0 / 483.0	3.64	d3-MeFOSAA	573.0 / 419.0	25150.99	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	34895.40	100.00
13C2-PFDA	515.0 / 470.0	3.31	13C2-PFOA	415.0 / 370.0	34895.40	100.00
d5-EtFOSAA	589.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	25150.99	400.00

Sample Name	JZ83	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:26:11	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFHpA_2	363.0 / 169.0	2.22	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFOA_2	413.0 / 169.0	2.59	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFNA_1	463.0 / 419.0	2.97	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFNA_2	463.0 / 219.0	2.97	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFOS_2	499.0 / 99.0	2.96	13C4-PFOS	503.0 / 80.0	156398.53	287.00
PFDA_1	513.0 / 469.0	3.32	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFDA_2	513.0 / 219.0	3.32	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFUnA_1	563.0 / 519.0	3.65	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFUnA_2	563.0 / 269.0	3.65	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFDaA_1	613.0 / 569.0	3.94	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFDaA_2	613.0 / 319.0	3.94	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFTTrDA_1	663.0 / 619.0	4.21	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFTTrDA_2	663.0 / 169.0	4.20	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFTeDA_1	713.0 / 669.0	4.43	13C2-PFOA	415.0 / 370.0	33573.48	100.00
PFTeDA_2	713.0 / 169.0	4.43	13C2-PFOA	415.0 / 370.0	33573.48	100.00
NMeFOSAA_1	570.0 / 419.0	3.47	d3-MeFOSAA	573.0 / 419.0	26516.87	400.00
NMeFOSAA_2	570.0 / 512.0	3.47	d3-MeFOSAA	573.0 / 419.0	26516.87	400.00
NEtFOSAA_1	584.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	26516.87	400.00
NEtFOSAA_2	584.0 / 483.0	3.64	d3-MeFOSAA	573.0 / 419.0	26516.87	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	33573.48	100.00
13C2-PFDA	515.0 / 470.0	3.31	13C2-PFOA	415.0 / 370.0	33573.48	100.00
d5-EtFOSAA	589.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	26516.87	400.00

Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:35:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFHpA_2	363.0 / 169.0	2.22	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFOA_2	413.0 / 169.0	2.59	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFNA_1	463.0 / 419.0	2.97	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFOS_2	499.0 / 99.0	2.96	13C4-PFOS	503.0 / 80.0	154347.92	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFUnA_1	563.0 / 519.0	3.65	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFUnA_2	563.0 / 269.0	3.65	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFDaA_1	613.0 / 569.0	3.94	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFDaA_2	613.0 / 319.0	3.94	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFTrDA_1	663.0 / 619.0	4.20	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFTrDA_2	663.0 / 169.0	4.19	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFTeDA_1	713.0 / 669.0	4.43	13C2-PFOA	415.0 / 370.0	33686.21	100.00
PFTeDA_2	713.0 / 169.0	4.42	13C2-PFOA	415.0 / 370.0	33686.21	100.00
NMeFOSAA_1	570.0 / 419.0	3.47	d3-MeFOSAA	573.0 / 419.0	28023.21	400.00
NMeFOSAA_2	570.0 / 512.0	3.47	d3-MeFOSAA	573.0 / 419.0	28023.21	400.00
NEtFOSAA_1	584.0 / 419.0	3.64	d3-MeFOSAA	573.0 / 419.0	28023.21	400.00
NEtFOSAA_2	584.0 / 483.0	3.63	d3-MeFOSAA	573.0 / 419.0	28023.21	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	33686.21	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	33686.21	100.00
d5-EtFOSAA	589.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	28023.21	400.00

Sample Name	JZ85	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:44:02	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFHpA_2	363.0 / 169.0	2.21	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFOA_2	413.0 / 169.0	2.59	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFNA_1	463.0 / 419.0	2.96	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFOS_1	499.0 / 80.0	2.96	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	140656.25	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFDaA_2	613.0 / 319.0	3.93	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFTrDA_1	663.0 / 619.0	4.19	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFTrDA_2	663.0 / 169.0	4.19	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFTeDA_1	713.0 / 669.0	4.42	13C2-PFOA	415.0 / 370.0	31838.05	100.00
PFTeDA_2	713.0 / 169.0	4.42	13C2-PFOA	415.0 / 370.0	31838.05	100.00
NMeFOSAA_1	570.0 / 419.0	3.47	d3-MeFOSAA	573.0 / 419.0	24307.22	400.00
NMeFOSAA_2	570.0 / 512.0	3.47	d3-MeFOSAA	573.0 / 419.0	24307.22	400.00
NEtFOSAA_1	584.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	24307.22	400.00
NEtFOSAA_2	584.0 / 483.0	3.63	d3-MeFOSAA	573.0 / 419.0	24307.22	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	31838.05	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	31838.05	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	24307.22	400.00



Sample Name	JZ86	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:52:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFHpA_1	363.0 / 319.0	2.22	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFHpA_2	363.0 / 169.0	2.22	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFOA_2	413.0 / 169.0	2.58	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFNA_1	463.0 / 419.0	2.96	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFOS_1	499.0 / 80.0	2.95	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	135680.11	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFDaA_2	613.0 / 319.0	3.93	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFTTrDA_1	663.0 / 619.0	4.19	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFTTrDA_2	663.0 / 169.0	4.19	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFTeDA_1	713.0 / 669.0	4.42	13C2-PFOA	415.0 / 370.0	33937.64	100.00
PFTeDA_2	713.0 / 169.0	4.42	13C2-PFOA	415.0 / 370.0	33937.64	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	27617.78	400.00
NMeFOSAA_2	570.0 / 512.0	3.46	d3-MeFOSAA	573.0 / 419.0	27617.78	400.00
NEtFOSAA_1	584.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	27617.78	400.00
NEtFOSAA_2	584.0 / 483.0	3.63	d3-MeFOSAA	573.0 / 419.0	27617.78	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	33937.64	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	33937.64	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	27617.78	400.00

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	841.565895	885.00	95.09
PFBS_2	298.9 / 99.0	1.56	874.300913	885.00	98.79
PFHxA_1	313.0 / 269.0	1.85	1062.726354	1000.00	106.27
PFHxA_2	313.0 / 119.0	1.85	1018.158141	1000.00	101.82
PFHpA_1	363.0 / 319.0	2.21	1060.501779	1000.00	106.05
PFHpA_2	363.0 / 169.0	2.21	1078.405828	1000.00	107.84
PFHxS_1	399.0 / 80.0	2.23	937.846931	912.00	102.83
PFHxS_2	399.0 / 99.0	2.23	897.714357	912.00	98.43
PFOA_1	413.0 / 369.0	2.58	1062.648816	1000.00	106.26
PFOA_2	413.0 / 169.0	2.58	968.370040	1000.00	96.84
PFNA_1	463.0 / 419.0	2.96	1090.862692	1000.00	109.09
PFNA_2	463.0 / 219.0	2.96	1044.682874	1000.00	104.47
PFOS_1	499.0 / 80.0	2.95	872.255529	925.60	94.24
PFOS_2	499.0 / 99.0	2.95	980.456621	925.60	105.93
PFDA_1	513.0 / 469.0	3.31	1013.511468	1000.00	101.35
PFDA_2	513.0 / 219.0	3.31	1123.488192	1000.00	112.35
PFUnA_1	563.0 / 519.0	3.64	1013.728757	1000.00	101.37
PFUnA_2	563.0 / 269.0	3.64	1114.846944	1000.00	111.48
PFDoA_1	613.0 / 569.0	3.93	1083.332675	1000.00	108.33
PFDoA_2	613.0 / 319.0	3.93	1098.130149	1000.00	109.81
PFTTrDA_1	663.0 / 619.0	4.19	1075.423268	1000.00	107.54
PFTTrDA_2	663.0 / 169.0	4.18	1017.730417	1000.00	101.77
PFTeDA_1	713.0 / 669.0	4.41	1061.391737	1000.00	106.14
PFTeDA_2	713.0 / 169.0	4.41	1023.088379	1000.00	102.31
NMeFOSAA_1	570.0 / 419.0	3.46	1163.312391	1000.00	116.33
NMeFOSAA_2	570.0 / 512.0	3.46	1026.080779	1000.00	102.61
NEtFOSAA_1	584.0 / 419.0	3.63	1147.648798	1000.00	114.76
NEtFOSAA_2	584.0 / 483.0	3.62	753.328653	1000.00	75.33
13C2-PFHxA	315.0 / 270.0	1.84	104.596106	100.00	104.60
13C2-PFDA	515.0 / 470.0	3.30	100.438626	100.00	100.44
d5-EtFOSAA	589.0 / 419.0	3.62	417.249639	400.00	104.31

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	463.050394	443.00	104.53
PFBS_2	298.9 / 99.0	1.55	464.689741	443.00	104.90
PFHxA_1	313.0 / 269.0	1.84	555.081360	500.00	111.02
PFHxA_2	313.0 / 119.0	1.83	528.853214	500.00	105.77
PFHpA_1	363.0 / 319.0	2.20	523.851662	500.00	104.77
PFHpA_2	363.0 / 169.0	2.20	499.244467	500.00	99.85
PFHxS_1	399.0 / 80.0	2.21	494.099907	456.00	108.36
PFHxS_2	399.0 / 99.0	2.21	479.221760	456.00	105.09
PFOA_1	413.0 / 369.0	2.57	529.305895	500.00	105.86
PFOA_2	413.0 / 169.0	2.56	416.724418	500.00	83.34
PFNA_1	463.0 / 419.0	2.94	530.586304	500.00	106.12
PFNA_2	463.0 / 219.0	2.94	582.821691	500.00	116.56
PFOS_1	499.0 / 80.0	2.93	500.061742	500.00	100.01
PFOS_2	499.0 / 99.0	2.93	518.148049	463.00	111.91
PFDA_1	513.0 / 469.0	3.29	498.895860	500.00	99.78
PFDA_2	513.0 / 219.0	3.29	401.168403	500.00	80.23
PFUnA_1	563.0 / 519.0	3.61	548.758552	500.00	109.75
PFUnA_2	563.0 / 269.0	3.61	534.019511	500.00	106.80
PFDoA_1	613.0 / 569.0	3.90	548.652897	500.00	109.73
PFDoA_2	613.0 / 319.0	3.90	557.341014	500.00	111.47
PFTrDA_1	663.0 / 619.0	4.16	525.313165	500.00	105.06
PFTrDA_2	663.0 / 169.0	4.16	560.828526	500.00	112.17
PFTeDA_1	713.0 / 669.0	4.39	550.815384	500.00	110.16
PFTeDA_2	713.0 / 169.0	4.39	579.750348	500.00	115.95
NMeFOSAA_1	570.0 / 419.0	3.44	617.452878	500.00	123.49
NMeFOSAA_2	570.0 / 512.0	3.44	602.145222	500.00	120.43
NEtFOSAA_1	584.0 / 419.0	3.61	616.062597	500.00	123.21
NEtFOSAA_2	584.0 / 483.0	3.60	562.508946	500.00	112.50
13C2-PFHxA	315.0 / 270.0	1.83	107.031807	100.00	107.03
13C2-PFDA	515.0 / 470.0	3.28	93.376073	100.00	93.38
d5-EtFOSAA	589.0 / 419.0	3.59	457.896528	400.00	114.47

Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	806.231398	885.00	91.10
PFBS_2	298.9 / 99.0	1.54	810.369744	885.00	91.57
PFHxA_1	313.0 / 269.0	1.83	1035.206375	1000.00	103.52
PFHxA_2	313.0 / 119.0	1.83	982.603081	1000.00	98.26
PFHpA_1	363.0 / 319.0	2.18	998.626779	1000.00	99.86
PFHpA_2	363.0 / 169.0	2.18	980.458516	1000.00	98.05
PFHxS_1	399.0 / 80.0	2.20	823.362936	912.00	90.28
PFHxS_2	399.0 / 99.0	2.20	806.399314	912.00	88.42
PFOA_1	413.0 / 369.0	2.55	1004.497885	1000.00	100.45
PFOA_2	413.0 / 169.0	2.55	887.966537	1000.00	88.80
PFNA_1	463.0 / 419.0	2.92	1025.361386	1000.00	102.54
PFNA_2	463.0 / 219.0	2.92	972.973976	1000.00	97.30
PFOS_1	499.0 / 80.0	2.91	870.901288	925.60	94.09
PFOS_2	499.0 / 99.0	2.91	856.448928	925.60	92.53
PFDA_1	513.0 / 469.0	3.26	919.567747	1000.00	91.96
PFDA_2	513.0 / 219.0	3.26	865.392365	1000.00	86.54
PFUnA_1	563.0 / 519.0	3.58	1053.504804	1000.00	105.35
PFUnA_2	563.0 / 269.0	3.58	1249.574105	1000.00	124.96
PFDoA_1	613.0 / 569.0	3.87	993.640967	1000.00	99.36
PFDoA_2	613.0 / 319.0	3.87	990.814427	1000.00	99.08
PFTrDA_1	663.0 / 619.0	4.13	989.387819	1000.00	98.94
PFTrDA_2	663.0 / 169.0	4.13	962.771293	1000.00	96.28
PFTeDA_1	713.0 / 669.0	4.36	976.895780	1000.00	97.69
PFTeDA_2	713.0 / 169.0	4.36	1006.984838	1000.00	100.70
NMeFOSAA_1	570.0 / 419.0	3.41	982.124418	1000.00	98.21
NMeFOSAA_2	570.0 / 512.0	3.41	990.955253	1000.00	99.10
NEtFOSAA_1	584.0 / 419.0	3.57	889.224584	1000.00	88.92
NEtFOSAA_2	584.0 / 483.0	3.57	713.329571	1000.00	71.33
13C2-PFHxA	315.0 / 270.0	1.82	105.043945	100.00	105.04
13C2-PFDA	515.0 / 470.0	3.25	97.833171	100.00	97.83
d5-EtFOSAA	589.0 / 419.0	3.57	402.491028	400.00	100.62

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	260572.70	841.565895	1179.8	false
PFBS_2	298.9 / 99.0	1.56	78353.61	874.300913	744.4	false
PFHxA_1	313.0 / 269.0	1.85	265891.04	1062.726354	235.4	false
PFHxA_2	313.0 / 119.0	1.85	20238.67	1018.158141	196.8	false
PFHpA_1	363.0 / 319.0	2.21	262746.16	1060.501779	294.7	false
PFHpA_2	363.0 / 169.0	2.21	5605.38	1078.405828	172.8	false
PFHxS_1	399.0 / 80.0	2.23	324679.46	937.846931	228.8	false
PFHxS_2	399.0 / 99.0	2.23	90581.10	897.714357	337.9	false
PFOA_1	413.0 / 369.0	2.58	283327.67	1062.648816	291.3	false
PFOA_2	413.0 / 169.0	2.58	18611.28	968.370040	232.6	false
PFNA_1	463.0 / 419.0	2.96	260455.47	1090.862692	351.3	false
PFNA_2	463.0 / 219.0	2.96	81962.62	1044.682874	327.6	false
PFOS_1	499.0 / 80.0	2.95	408335.60	872.255529	282.2	false
PFOS_2	499.0 / 99.0	2.95	86235.36	980.456621	506.6	false
PFDA_1	513.0 / 469.0	3.31	290847.01	1013.511468	401.0	false
PFDA_2	513.0 / 219.0	3.31	13596.76	1123.488192	230.0	false
PFUnA_1	563.0 / 519.0	3.64	295307.35	1013.728757	346.6	false
PFUnA_2	563.0 / 269.0	3.64	15927.48	1114.846944	114.2	false
PFDaA_1	613.0 / 569.0	3.93	312665.39	1083.332675	324.4	false
PFDaA_2	613.0 / 319.0	3.93	51439.96	1098.130149	270.1	false
PFTrDA_1	663.0 / 619.0	4.19	297777.05	1075.423268	556.3	false
PFTrDA_2	663.0 / 169.0	4.18	18340.33	1017.730417	286.0	false
PFTeDA_1	713.0 / 669.0	4.41	295937.54	1061.391737	1020.0	false
PFTeDA_2	713.0 / 169.0	4.41	13455.55	1023.088379	518.7	false
NMeFOSAA_1	570.0 / 419.0	3.46	56526.31	1163.312391	793.1	false
NMeFOSAA_2	570.0 / 512.0	3.46	29702.66	1026.080779	426.8	false
NEtFOSAA_1	584.0 / 419.0	3.63	58757.08	1147.648798	535.3	false
NEtFOSAA_2	584.0 / 483.0	3.62	3097.77	753.328653	106.5	false
13C2-PFHxA	315.0 / 270.0	1.84	30105.45	104.596106	1000.6	false
13C2-PFDA	515.0 / 470.0	3.30	32493.72	100.438626	741.1	false
d5-EtFOSAA	589.0 / 419.0	3.62	25716.98	417.249639	221.4	false

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	141015.13	463.050394	665.4	false
PFBS_2	298.9 / 99.0	1.55	40995.05	464.689741	577.6	false
PFHxA_1	313.0 / 269.0	1.84	144323.87	555.081360	180.8	false
PFHxA_2	313.0 / 119.0	1.83	10914.02	528.853214	157.8	false
PFHpA_1	363.0 / 319.0	2.20	135888.43	523.851662	208.7	false
PFHpA_2	363.0 / 169.0	2.20	2784.92	499.244467	105.4	false
PFHxS_1	399.0 / 80.0	2.21	171230.75	494.099907	237.2	false
PFHxS_2	399.0 / 99.0	2.21	48525.41	479.221760	326.9	false
PFOA_1	413.0 / 369.0	2.57	147829.03	529.305895	220.6	false
PFOA_2	413.0 / 169.0	2.56	9739.32	416.724418	163.2	false
PFNA_1	463.0 / 419.0	2.94	132482.20	530.586304	240.1	false
PFNA_2	463.0 / 219.0	2.94	47125.59	582.821691	274.9	false
PFOS_1	499.0 / 80.0	2.93	232169.91	500.061742	120.5	false
PFOS_2	499.0 / 99.0	2.93	45849.86	518.148049	314.4	false
PFDA_1	513.0 / 469.0	3.29	148117.55	498.895860	299.6	false
PFDA_2	513.0 / 219.0	3.29	5638.80	401.168403	107.3	false
PFUnA_1	563.0 / 519.0	3.61	163035.44	548.758552	271.7	false
PFUnA_2	563.0 / 269.0	3.61	8370.00	534.019511	97.4	true
PFDoA_1	613.0 / 569.0	3.90	164936.97	548.652897	277.4	false
PFDoA_2	613.0 / 319.0	3.90	27049.49	557.341014	219.0	false
PFTrDA_1	663.0 / 619.0	4.16	152219.28	525.313165	339.6	false
PFTrDA_2	663.0 / 169.0	4.16	10339.63	560.828526	227.3	false
PFTeDA_1	713.0 / 669.0	4.39	159681.21	550.815384	733.2	false
PFTeDA_2	713.0 / 169.0	4.39	7879.91	579.750348	377.7	false
NMeFOSAA_1	570.0 / 419.0	3.44	26209.67	617.452878	419.2	true
NMeFOSAA_2	570.0 / 512.0	3.44	15350.86	602.145222	201.2	false
NEtFOSAA_1	584.0 / 419.0	3.61	27929.81	616.062597	407.9	false
NEtFOSAA_2	584.0 / 483.0	3.60	2040.97	562.508946	202.0	false
13C2-PFHxA	315.0 / 270.0	1.83	30829.42	107.031807	951.4	false
13C2-PFDA	515.0 / 470.0	3.28	30231.33	93.376073	1120.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	24447.57	457.896528	241.3	false

Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	288899.36	806.231398	1231.8	false
PFBS_2	298.9 / 99.0	1.54	84045.79	810.369744	699.8	false
PFHxA_1	313.0 / 269.0	1.83	301632.02	1035.206375	214.5	false
PFHxA_2	313.0 / 119.0	1.83	22754.31	982.603081	228.6	false
PFHpA_1	363.0 / 319.0	2.18	288618.50	998.626779	283.0	false
PFHpA_2	363.0 / 169.0	2.18	5965.33	980.458516	183.3	false
PFHxS_1	399.0 / 80.0	2.20	330692.18	823.362936	275.1	false
PFHxS_2	399.0 / 99.0	2.20	94393.21	806.399314	424.3	false
PFOA_1	413.0 / 369.0	2.55	312389.08	1004.497885	251.9	false
PFOA_2	413.0 / 169.0	2.55	20144.62	887.966537	230.0	false
PFNA_1	463.0 / 419.0	2.92	285564.60	1025.361386	331.3	false
PFNA_2	463.0 / 219.0	2.92	89047.00	972.973976	384.5	false
PFOS_1	499.0 / 80.0	2.91	471911.28	870.901288	166.4	false
PFOS_2	499.0 / 99.0	2.91	87473.32	856.448928	414.0	false
PFDA_1	513.0 / 469.0	3.26	308002.76	919.567747	359.8	false
PFDA_2	513.0 / 219.0	3.26	12507.28	865.392365	172.3	true
PFUnA_1	563.0 / 519.0	3.58	356699.29	1053.504804	372.2	false
PFUnA_2	563.0 / 269.0	3.58	20569.00	1249.574105	143.3	false
PFDaA_1	613.0 / 569.0	3.87	334865.33	993.640967	354.4	false
PFDaA_2	613.0 / 319.0	3.87	54203.93	990.814427	293.3	false
PFTrDA_1	663.0 / 619.0	4.13	319895.08	989.387819	486.8	false
PFTrDA_2	663.0 / 169.0	4.13	20214.31	962.771293	315.7	false
PFTeDA_1	713.0 / 669.0	4.36	318003.68	976.895780	972.5	false
PFTeDA_2	713.0 / 169.0	4.36	15416.70	1006.984838	616.0	false
NMeFOSAA_1	570.0 / 419.0	3.41	56195.03	982.124418	826.3	false
NMeFOSAA_2	570.0 / 512.0	3.41	33747.59	990.955253	703.4	false
NEtFOSAA_1	584.0 / 419.0	3.57	53915.39	889.224584	502.4	false
NEtFOSAA_2	584.0 / 483.0	3.57	3458.58	713.329571	117.2	false
13C2-PFHxA	315.0 / 270.0	1.82	35170.95	105.043945	1150.7	false
13C2-PFDA	515.0 / 470.0	3.25	36818.68	97.833171	1121.5	false
d5-EtFOSAA	589.0 / 419.0	3.57	29160.25	402.491028	253.7	false



Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.301	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.279	0.292	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.315	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.211	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.047	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.054	0.056	ü
PFDoA_1	613.0 / 569.0	3.93	PFDoA			
PFDoA_2	613.0 / 319.0	3.93	PFDoA	0.165	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.19	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.18	PFTTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.526	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.053	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü



<b>Sample Name</b>	JZ82 CCV	<b>Injection Vial</b>	21
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:31:16	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.356	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.198	0.193	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.051	0.056	ü
PFDoA_1	613.0 / 569.0	3.90	PFDoA			
PFDoA_2	613.0 / 319.0	3.90	PFDoA	0.164	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.068	0.062	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.586	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.073	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.59		N/A	N/A	ü

Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.075	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.285	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.065	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.312	0.320	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.185	0.193	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.041	0.047	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.058	0.056	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.162	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.601	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.064	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHpA_1	363.0 / 319.0	2.21	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHpA_2	363.0 / 169.0	2.21	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFOA_1	413.0 / 369.0	2.58	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFOA_2	413.0 / 169.0	2.58	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFNA_1	463.0 / 419.0	2.96	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFOS_1	499.0 / 80.0	2.95	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDaA_2	613.0 / 319.0	3.93	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTTrDA_1	663.0 / 619.0	4.19	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTTrDA_2	663.0 / 169.0	4.18	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTTeDA_1	713.0 / 669.0	4.41	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTTeDA_2	713.0 / 169.0	4.41	13C2-PFOA	415.0 / 370.0	28769.08	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NMeFOSAA_2	570.0 / 512.0	3.46	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NEtFOSAA_1	584.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NEtFOSAA_2	584.0 / 483.0	3.62	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	28769.08	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	28769.08	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00

<b>Sample Name</b>	JZ82 CCV	<b>Injection Vial</b>	21
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:31:16	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFHxA_1	313.0 / 269.0	1.84	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHpA_1	363.0 / 319.0	2.20	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHpA_2	363.0 / 169.0	2.20	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHxS_1	399.0 / 80.0	2.21	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFHxS_2	399.0 / 99.0	2.21	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTrDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTrDA_2	663.0 / 169.0	4.16	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTeDA_1	713.0 / 669.0	4.39	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTeDA_2	713.0 / 169.0	4.39	13C2-PFOA	415.0 / 370.0	28790.47	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
13C2-PFHxA	315.0 / 270.0	1.83	13C2-PFOA	415.0 / 370.0	28790.47	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	28790.47	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00

Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFBS_2	298.9 / 99.0	1.54	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	156188.42	287.00
PFDA_1	513.0 / 469.0	3.26	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFDA_2	513.0 / 219.0	3.26	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFUnA_1	563.0 / 519.0	3.58	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFUnA_2	563.0 / 269.0	3.58	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFDaA_1	613.0 / 569.0	3.87	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFDaA_2	613.0 / 319.0	3.87	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFTrDA_1	663.0 / 619.0	4.13	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFTrDA_2	663.0 / 169.0	4.13	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFOA	415.0 / 370.0	33466.43	100.00
PFTeDA_2	713.0 / 169.0	4.36	13C2-PFOA	415.0 / 370.0	33466.43	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	26849.70	400.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	26849.70	400.00
NEtFOSAA_1	584.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	26849.70	400.00
NEtFOSAA_2	584.0 / 483.0	3.57	d3-MeFOSAA	573.0 / 419.0	26849.70	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	33466.43	100.00
13C2-PFDA	515.0 / 470.0	3.25	13C2-PFOA	415.0 / 370.0	33466.43	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	26849.70	400.00

# Raw Analytical Data

Sample Name	JZ10 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:01:53	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	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	2.59	2436.97	< 0	19.4	true
PFOA_2	413.0 / 169.0	2.60	258.24	< 0	11.9	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.42	2862.15	< 0	88.8	false
PFTeDA_2	713.0 / 169.0	4.44	140.89	< 0	16.7	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
13C2-PFHxA	315.0 / 270.0	1.84	39242.30	90.606725	1217.2	false
13C2-PFDA	515.0 / 470.0	3.30	43380.39	89.110800	902.4	false
d5-EtFOSAA	589.0 / 419.0	3.62	33206.27	391.180329	267.9	false

Sample Name	CR573PB-FS(0)	Injection Vial	23
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:49:10	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	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	2.56	4698.28	< 0	35.0	true
PFOA_2	413.0 / 169.0	2.55	522.94	< 0	18.7	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	2.93	7178.19	3.346321	19.3	false
PFOS_2	499.0 / 99.0	2.93	2129.01	< 0	21.4	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	36863.61	82.994554	953.6	false
13C2-PFDA	515.0 / 470.0	3.27	39168.81	78.455439	831.2	false
d5-EtFOSAA	589.0 / 419.0	3.58	31016.99	338.957787	262.1	false



Sample Name	CR574LCS-FS(0)	Injection Vial	24
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:58:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	771594.82	1758.777402	1574.4	false
PFBS_2	298.9 / 99.0	1.55	224284.42	1767.491428	846.6	false
PFHxA_1	313.0 / 269.0	1.84	825025.88	2395.121436	340.6	false
PFHxA_2	313.0 / 119.0	1.84	67729.00	2475.988860	335.5	false
PFHpA_1	363.0 / 319.0	2.20	768155.78	2253.170078	354.2	false
PFHpA_2	363.0 / 169.0	2.20	16169.05	2281.729896	261.9	false
PFHxS_1	399.0 / 80.0	2.21	924574.48	1904.295171	399.9	false
PFHxS_2	399.0 / 99.0	2.21	269241.27	1906.780016	582.2	false
PFOA_1	413.0 / 369.0	2.56	792698.68	2159.887667	547.5	false
PFOA_2	413.0 / 169.0	2.56	55121.86	2241.386447	344.9	false
PFNA_1	463.0 / 419.0	2.94	777661.60	2364.737720	543.4	false
PFNA_2	463.0 / 219.0	2.94	248302.65	2291.975566	650.3	false
PFOS_1	499.0 / 80.0	2.93	1178866.93	1787.234386	518.7	false
PFOS_2	499.0 / 99.0	2.93	249432.41	2028.623041	782.3	false
PFDA_1	513.0 / 469.0	3.28	817740.28	2055.534941	603.2	false
PFDA_2	513.0 / 219.0	3.28	37712.56	2316.921164	265.0	false
PFUnA_1	563.0 / 519.0	3.61	817373.19	2012.936808	615.5	false
PFUnA_2	563.0 / 269.0	3.61	41193.02	2135.669322	206.6	false
PFDoA_1	613.0 / 569.0	3.90	859587.60	2157.735008	502.8	false
PFDoA_2	613.0 / 319.0	3.90	135724.29	2091.469966	480.8	false
PFTTrDA_1	663.0 / 619.0	4.15	792705.03	2074.431740	686.0	false
PFTTrDA_2	663.0 / 169.0	4.15	49812.04	1987.322213	495.1	false
PFTeDA_1	713.0 / 669.0	4.38	799665.90	2077.182731	1328.2	false
PFTeDA_2	713.0 / 169.0	4.38	36510.29	2011.483388	800.1	false
NMeFOSAA_1	570.0 / 419.0	3.43	154393.88	2225.637878	1150.1	false
NMeFOSAA_2	570.0 / 512.0	3.44	82725.14	2015.988830	745.2	false
NEtFOSAA_1	584.0 / 419.0	3.60	149319.14	2056.972713	903.9	false
NEtFOSAA_2	584.0 / 483.0	3.60	9319.05	1628.072250	249.5	false
13C2-PFHxA	315.0 / 270.0	1.83	35898.37	88.473906	721.6	false
13C2-PFDA	515.0 / 470.0	3.27	39650.89	86.940932	895.4	false
d5-EtFOSAA	589.0 / 419.0	3.59	26623.17	301.179776	226.3	false

Sample Name	J7403-FS(2)	Injection Vial	25
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:07:03	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	693649.16	1750.606105	338.5	false
PFBS_2	298.9 / 99.0	1.55	141831.03	1238.119899	457.7	false
PFHxA_1	313.0 / 269.0	1.83	354755.38	999.843992	130.9	false
PFHxA_2	313.0 / 119.0	1.83	27528.76	977.510883	135.8	false
PFHpA_1	363.0 / 319.0	2.18	221813.99	612.784799	129.6	false
PFHpA_2	363.0 / 169.0	2.18	5479.80	723.207489	108.5	false
PFHxS_1	399.0 / 80.0	2.20	1234761.56	2823.325464	264.2	false
PFHxS_2	399.0 / 99.0	2.20	359590.16	2828.350732	443.2	false
PFOA_1	413.0 / 369.0	2.55	628166.26	1695.062709	250.9	false
PFOA_2	413.0 / 169.0	2.53	59256.42	2414.966609	211.0	false
PFNA_1	463.0 / 419.0	2.92	38826.78	71.537523	86.5	false
PFNA_2	463.0 / 219.0	2.93	14471.39	94.644317	126.6	false
PFOS_1	499.0 / 80.0	2.86	1385578.43	2327.736033	142.7	false
PFOS_2	499.0 / 99.0	2.92	148125.83	1326.154909	314.5	false
PFDA_1	513.0 / 469.0	3.27	26285.74	32.616949	90.8	false
PFDA_2	513.0 / 219.0	3.27	2223.15	32.594177	55.1	true
PFUnA_1	563.0 / 519.0	3.59	20673.65	27.930938	76.7	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.89	17849.81	< 0	125.9	false
PFDoA_2	613.0 / 319.0	3.89	3495.17	13.280520	89.2	false
PFTTrDA_1	663.0 / 619.0	4.14	17803.71	< 0	167.3	false
PFTTrDA_2	663.0 / 169.0	4.14	1045.51	13.534555	48.8	false
PFTeDA_1	713.0 / 669.0	4.37	16652.77	< 0	216.5	false
PFTeDA_2	713.0 / 169.0	4.37	1050.53	13.310391	93.5	false
NMeFOSAA_1	570.0 / 419.0	3.43	3312.98	38.390993	97.7	false
NMeFOSAA_2	570.0 / 512.0	3.42	2258.14	32.743826	74.9	false
NEtFOSAA_1	584.0 / 419.0	3.58	2782.96	9.881136	74.0	true
NEtFOSAA_2	584.0 / 483.0	3.60	554.46	59.182604	21.0	true
13C2-PFHxA	315.0 / 270.0	1.82	35787.59	87.909239	423.7	false
13C2-PFDA	515.0 / 470.0	3.26	30916.11	67.564386	812.1	true
d5-EtFOSAA	589.0 / 419.0	3.57	22900.52	267.884083	212.9	true

Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	1314364.43	3183.264366	475.4	false
PFBS_2	298.9 / 99.0	1.54	320098.74	2681.244839	617.1	false
PFHxA_1	313.0 / 269.0	1.83	637394.23	1748.741893	144.3	false
PFHxA_2	313.0 / 119.0	1.83	45708.08	1574.940893	173.3	false
PFHpA_1	363.0 / 319.0	2.18	382818.73	1042.337205	107.0	false
PFHpA_2	363.0 / 169.0	2.17	9182.77	1200.308851	161.2	false
PFHxS_1	399.0 / 80.0	2.20	2540972.21	5595.145622	328.0	false
PFHxS_2	399.0 / 99.0	2.20	738123.70	5593.326545	655.1	false
PFOA_1	413.0 / 369.0	2.55	1176324.58	3071.736587	253.1	false
PFOA_2	413.0 / 169.0	2.53	109347.22	4398.528836	310.7	false
PFNA_1	463.0 / 419.0	2.92	42190.06	76.052531	89.1	false
PFNA_2	463.0 / 219.0	2.92	15095.06	94.106987	111.4	false
PFOS_1	499.0 / 80.0	2.86	3045965.85	4921.499498	179.3	false
PFOS_2	499.0 / 99.0	2.91	321809.66	2791.313207	540.2	false
PFDA_1	513.0 / 469.0	3.27	12707.29	< 0	56.7	false
PFDA_2	513.0 / 219.0	3.27	1124.99	< 0	32.7	false
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
13C2-PFHxA	315.0 / 270.0	1.82	35543.87	83.371279	430.7	false
13C2-PFDA	515.0 / 470.0	3.26	33560.59	70.034533	632.5	true
d5-EtFOSAA	589.0 / 419.0	3.57	26832.30	282.809362	209.2	true

Sample Name	J7407-FS(2)	Injection Vial	27
Sample ID	JAX-RES-08132018-1145-32	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:24:56	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	933291.06	2132.317702	538.2	false
PFBS_2	298.9 / 99.0	1.55	248617.21	1964.179574	558.1	false
PFHxA_1	313.0 / 269.0	1.83	388444.20	1077.192592	137.6	false
PFHxA_2	313.0 / 119.0	1.83	29146.53	1016.709431	171.1	false
PFHpA_1	363.0 / 319.0	2.18	260257.18	712.722448	103.4	false
PFHpA_2	363.0 / 169.0	2.18	6037.49	787.276869	112.1	false
PFHxS_1	399.0 / 80.0	2.20	1126343.41	2329.459423	278.6	false
PFHxS_2	399.0 / 99.0	2.20	334655.60	2380.773008	461.2	false
PFOA_1	413.0 / 369.0	2.55	740466.62	1967.753484	237.5	false
PFOA_2	413.0 / 169.0	2.52	67595.46	2724.186986	249.5	false
PFNA_1	463.0 / 419.0	2.92	35780.32	59.987378	90.3	false
PFNA_2	463.0 / 219.0	2.92	10226.01	53.049446	99.4	false
PFOS_1	499.0 / 80.0	2.88	2059890.80	3135.978513	173.3	false
PFOS_2	499.0 / 99.0	2.91	235031.16	1915.286863	480.4	false
PFDA_1	513.0 / 469.0	3.27	7922.62	< 0	39.2	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	38212.89	92.062351	359.1	false
13C2-PFDA	515.0 / 470.0	3.26	37119.97	79.562917	775.7	false
d5-EtFOSAA	589.0 / 419.0	3.57	26089.86	338.781967	276.1	false

Sample Name	J7409-FS(2)	Injection Vial	28
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:33:52	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	31525.46	90.605343	435.8	false
13C2-PFDA	515.0 / 470.0	3.26	28029.65	71.670580	632.2	false
d5-EtFOSAA	589.0 / 419.0	3.58	19907.70	316.892144	212.1	false

Sample Name	J7411-FS(2)	Injection Vial	29
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:42:49	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	84458.60	212.509036	167.2	false
PFBS_2	298.9 / 99.0	1.55	19949.07	173.217890	140.4	false
PFHxA_1	313.0 / 269.0	1.83	36374.51	68.201982	56.2	true
PFHxA_2	313.0 / 119.0	1.83	3537.04	97.367794	62.9	false
PFHpA_1	363.0 / 319.0	2.18	19340.23	11.731664	45.6	false
PFHpA_2	363.0 / 169.0	2.16	504.16	6.491874	22.9	false
PFHxS_1	399.0 / 80.0	2.20	165293.24	358.526478	157.8	false
PFHxS_2	399.0 / 99.0	2.20	46158.06	341.606923	203.0	false
PFOA_1	413.0 / 369.0	2.55	77938.15	180.237753	128.4	false
PFOA_2	413.0 / 169.0	2.50	7382.81	159.107251	74.9	true
PFNA_1	463.0 / 419.0	2.92	2331.49	< 0	17.0	true
PFNA_2	463.0 / 219.0	2.92	869.14	< 0	17.7	true
PFOS_1	499.0 / 80.0	2.88	291830.91	477.716804	79.9	false
PFOS_2	499.0 / 99.0	2.92	44697.43	378.328260	178.0	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	33606.63	88.335803	585.5	false
13C2-PFDA	515.0 / 470.0	3.26	31450.68	73.548334	826.4	false
d5-EtFOSAA	589.0 / 419.0	3.58	19650.12	252.212503	206.1	true

Sample Name	J7413-FS(2)	Injection Vial	30
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:51:46	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	220465.06	560.400188	321.0	false
PFBS_2	298.9 / 99.0	1.54	58449.81	513.235456	322.5	false
PFHxA_1	313.0 / 269.0	1.83	84873.13	236.857149	87.5	true
PFHxA_2	313.0 / 119.0	1.83	7174.15	258.174324	89.2	false
PFHpA_1	363.0 / 319.0	2.18	59931.24	152.678429	84.2	false
PFHpA_2	363.0 / 169.0	2.17	1435.26	163.985069	68.3	false
PFHxS_1	399.0 / 80.0	2.20	292135.70	658.352544	190.6	false
PFHxS_2	399.0 / 99.0	2.20	88137.57	681.973359	270.5	false
PFOA_1	413.0 / 369.0	2.55	207827.66	602.666367	187.0	false
PFOA_2	413.0 / 169.0	2.52	21081.57	860.584953	155.2	true
PFNA_1	463.0 / 419.0	2.92	12099.47	< 0	57.8	false
PFNA_2	463.0 / 219.0	2.93	4121.71	2.833595	54.6	false
PFOS_1	499.0 / 80.0	2.88	937746.56	1578.964174	140.0	false
PFOS_2	499.0 / 99.0	2.92	138077.75	1239.174749	274.3	true
PFDA_1	513.0 / 469.0	3.27	3746.62	< 0	27.6	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	32859.24	91.391219	488.5	false
13C2-PFDA	515.0 / 470.0	3.26	27455.13	67.936233	804.1	true
d5-EtFOSAA	589.0 / 419.0	3.57	20721.21	285.978778	222.0	true

Sample Name	JZ10 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:01:53	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.106	0.066	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü



Sample Name	CR573PB-FS(0)	Injection Vial	23
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:49:10	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.111	0.066	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.297	0.193	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.27		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

<b>Sample Name</b>	CR574LCS-FS(0)	<b>Injection Vial</b>	24
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:58:06	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.082	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.066	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.319	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.212	0.193	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	3.28	PFDA	0.046	0.047	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.056	ü
PFDoA_1	613.0 / 569.0	3.90	PFDoA			
PFDoA_2	613.0 / 319.0	3.90	PFDoA	0.158	0.161	ü
PFTrDA_1	663.0 / 619.0	4.15	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.15	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.536	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.062	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.27		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.59		N/A	N/A	ü

Sample Name	J7403-FS(2)	Injection Vial	25
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:07:03	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.205	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.078	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.025	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.094	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.373	0.320	ü
PFOS_1	499.0 / 80.0	2.86	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.107	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.085	0.047	
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	
PFDoA_1	613.0 / 569.0	3.89	PFDoA			
PFDoA_2	613.0 / 319.0	3.89	PFDoA	0.196	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.059	0.062	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.063	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.682	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.199	0.081	
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü

Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.244	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.072	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.093	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.358	0.320	ü
PFOS_1	499.0 / 80.0	2.86	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.106	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.089	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü

<b>Sample Name</b>	J7407-FS(2)	<b>Injection Vial</b>	27
<b>Sample ID</b>	JAX-RES-08132018-1145-32	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T18:24:56	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.266	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.075	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.023	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.297	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.091	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.286	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.114	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü



Sample Name	J7409-FS(2)	Injection Vial	28
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:33:52	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

Sample Name	J7411-FS(2)	Injection Vial	29
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:42:49	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.236	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.097	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.026	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.279	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.50	PFOA	0.095	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.373	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.153	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

Sample Name	J7413-FS(2)	Injection Vial	30
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:51:46	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.265	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.085	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.302	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.101	0.066	
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.341	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.147	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü



Sample Name	JZ10 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:01:53	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFBS_2	298.9 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFHxA_1	313.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFHxA_2	313.0 / 119.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFHpA_1	363.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFHpA_2	363.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFHxS_1	399.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFHxS_2	399.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFOA_1	413.0 / 369.0	2.59	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFOA_2	413.0 / 169.0	2.60	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFNA_1	463.0 / 419.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFNA_2	463.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFOS_1	499.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFOS_2	499.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	183690.52	287.00
PFDA_1	513.0 / 469.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFTeDA_1	713.0 / 669.0	4.42	13C2-PFOA	415.0 / 370.0	43290.28	100.00
PFTeDA_2	713.0 / 169.0	4.44	13C2-PFOA	415.0 / 370.0	43290.28	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	31459.20	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	31459.20	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	31459.20	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	31459.20	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	43290.28	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	43290.28	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	31459.20	400.00

Sample Name	CR573PB-FS(0)	Injection Vial	23
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:49:10	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFBS_2	298.9 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFHxA_1	313.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFHxA_2	313.0 / 119.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFHpA_1	363.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFHpA_2	363.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFHxS_1	399.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFHxS_2	399.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFNA_1	463.0 / 419.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFNA_2	463.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	212960.07	287.00
PFDA_1	513.0 / 469.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	44396.07	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	33912.40	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	33912.40	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	33912.40	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	33912.40	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	44396.07	100.00
13C2-PFDA	515.0 / 470.0	3.27	13C2-PFOA	415.0 / 370.0	44396.07	100.00
d5-EtFOSAA	589.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	33912.40	400.00

Sample Name	CR574LCS-FS(0)	Injection Vial	24
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:58:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFHxA_1	313.0 / 269.0	1.84	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFHxA_2	313.0 / 119.0	1.84	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFHpA_1	363.0 / 319.0	2.20	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFHpA_2	363.0 / 169.0	2.20	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFHxS_1	399.0 / 80.0	2.21	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFHxS_2	399.0 / 99.0	2.21	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	190844.01	287.00
PFDA_1	513.0 / 469.0	3.28	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFDA_2	513.0 / 219.0	3.28	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFDoA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFDoA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFTTrDA_1	663.0 / 619.0	4.15	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFTTrDA_2	663.0 / 169.0	4.15	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFOA	415.0 / 370.0	40556.07	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFOA	415.0 / 370.0	40556.07	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	32759.58	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	32759.58	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	32759.58	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	32759.58	400.00
13C2-PFHxA	315.0 / 270.0	1.83	13C2-PFOA	415.0 / 370.0	40556.07	100.00
13C2-PFDA	515.0 / 470.0	3.27	13C2-PFOA	415.0 / 370.0	40556.07	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	32759.58	400.00

Sample Name	J7403-FS(2)	Injection Vial	25
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:07:03	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFNA_2	463.0 / 219.0	2.93	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFOS_1	499.0 / 80.0	2.86	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFOS_2	499.0 / 99.0	2.92	13C4-PFOS	503.0 / 80.0	172367.32	287.00
PFDA_1	513.0 / 469.0	3.27	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFDA_2	513.0 / 219.0	3.27	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFUnA_1	563.0 / 519.0	3.59	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFDoA_1	613.0 / 569.0	3.89	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFDoA_2	613.0 / 319.0	3.89	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFTTrDA_1	663.0 / 619.0	4.14	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFTTrDA_2	663.0 / 169.0	4.14	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFOA	415.0 / 370.0	40690.62	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFOA	415.0 / 370.0	40690.62	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	31681.29	400.00
NMeFOSAA_2	570.0 / 512.0	3.42	d3-MeFOSAA	573.0 / 419.0	31681.29	400.00
NEtFOSAA_1	584.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	31681.29	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	31681.29	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	40690.62	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	40690.62	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	31681.29	400.00

Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFBS_2	298.9 / 99.0	1.54	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFOS_1	499.0 / 80.0	2.86	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFDA_1	513.0 / 469.0	3.27	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDA_2	513.0 / 219.0	3.27	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	42613.24	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	42613.24	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00

Sample Name	J7407-FS(2)	Injection Vial	27
Sample ID	JAX-RES-08132018-1145-32	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:24:56	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFOS_1	499.0 / 80.0	2.88	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	190343.32	287.00
PFDA_1	513.0 / 469.0	3.27	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	41488.15	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	28540.13	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	28540.13	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	28540.13	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	28540.13	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	41488.15	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	41488.15	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	28540.13	400.00

Sample Name	J7409-FS(2)	Injection Vial	28
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:33:52	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFBS_2	298.9 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFHxA_1	313.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFHxA_2	313.0 / 119.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFHpA_1	363.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFHpA_2	363.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFHxS_1	399.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFHxS_2	399.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFOA_1	413.0 / 369.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFOA_2	413.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFNA_1	463.0 / 419.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFNA_2	463.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFOS_1	499.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFOS_2	499.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	158092.95	287.00
PFDA_1	513.0 / 469.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	34777.95	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	23281.66	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	23281.66	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	23281.66	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	23281.66	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	34777.95	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	34777.95	100.00
d5-EtFOSAA	589.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	23281.66	400.00

Sample Name	J7411-FS(2)	Injection Vial	29
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:42:49	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFHpA_2	363.0 / 169.0	2.16	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFOA_2	413.0 / 169.0	2.50	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFOS_1	499.0 / 80.0	2.88	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFOS_2	499.0 / 99.0	2.92	13C4-PFOS	503.0 / 80.0	175025.69	287.00
PFDA_1	513.0 / 469.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	38026.33	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	28873.74	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	28873.74	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	28873.74	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	28873.74	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	38026.33	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	38026.33	100.00
d5-EtFOSAA	589.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	28873.74	400.00



Sample Name	J7413-FS(2)	Injection Vial	30
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:51:46	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

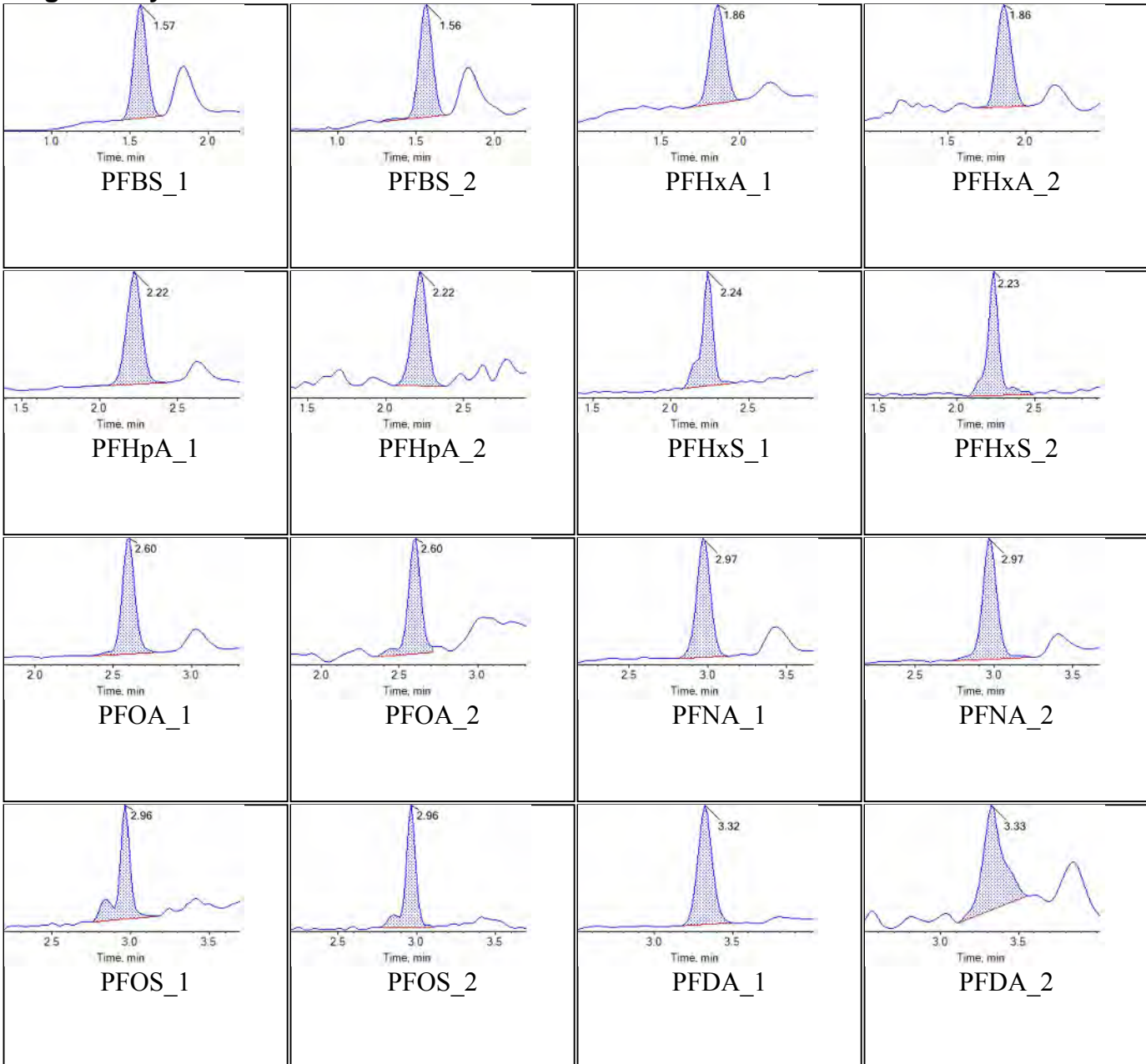
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFBS_2	298.9 / 99.0	1.54	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFNA_2	463.0 / 219.0	2.93	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFOS_1	499.0 / 80.0	2.88	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFOS_2	499.0 / 99.0	2.92	13C4-PFOS	503.0 / 80.0	171752.39	287.00
PFDA_1	513.0 / 469.0	3.27	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	35937.62	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	26852.56	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	26852.56	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	26852.56	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	26852.56	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	35937.62	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	35937.62	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	26852.56	400.00

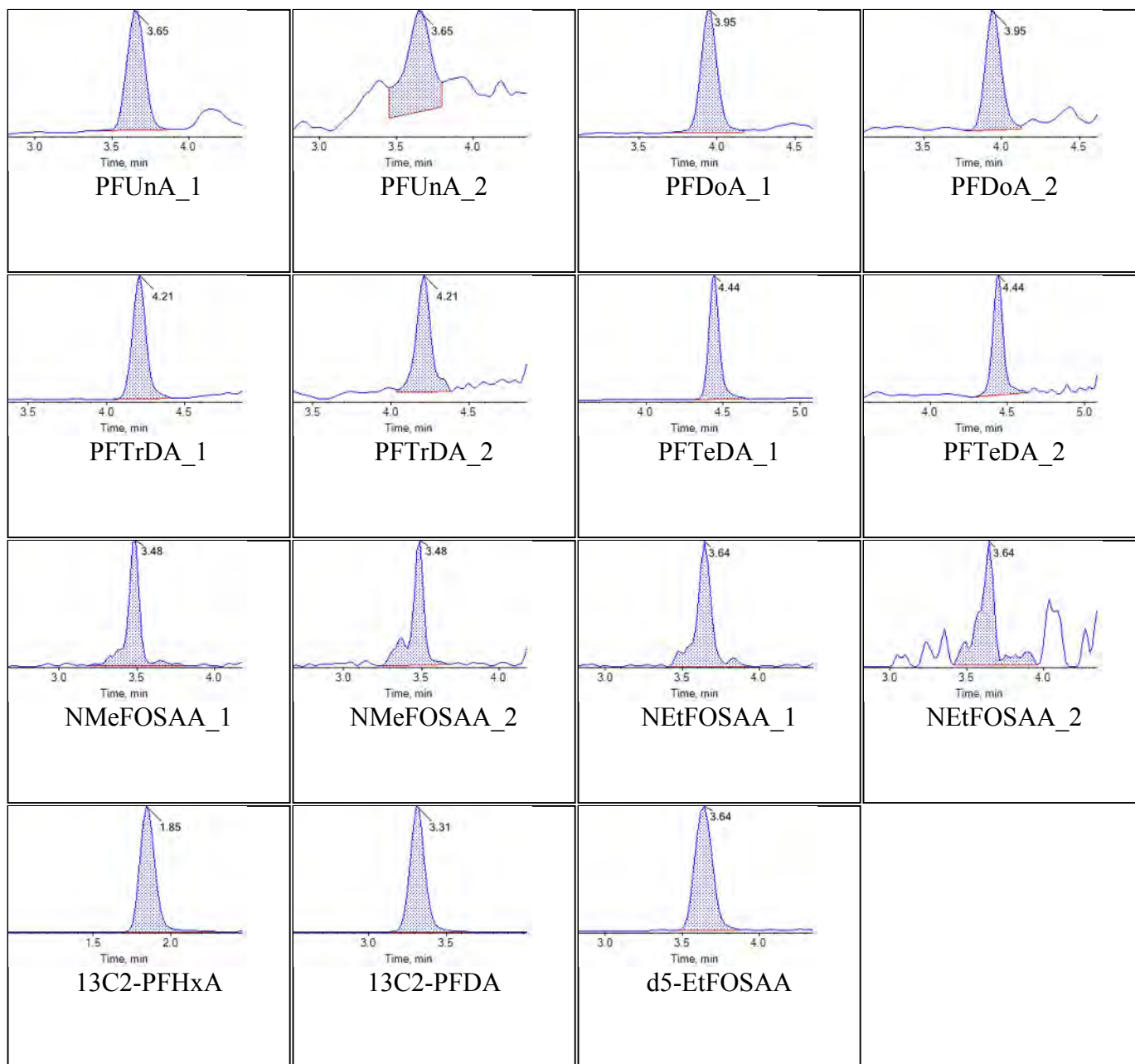
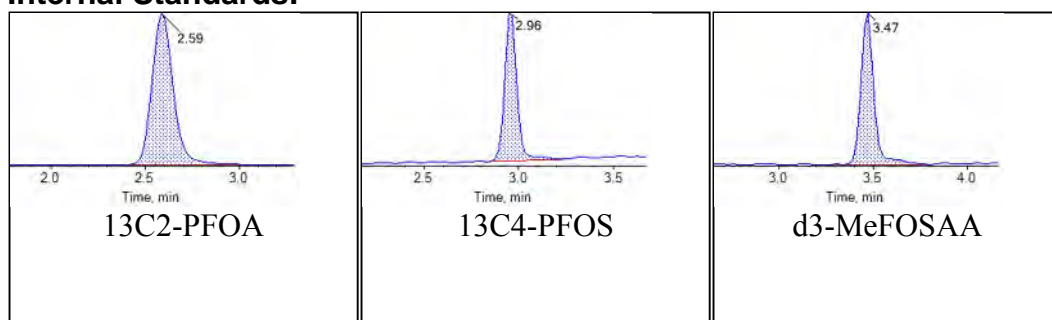
# Chromatograms

<b>Sample Name</b>	JZ80	<b>Injection Vial</b>	4
<b>Sample ID</b>	L3	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T14:59:21	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

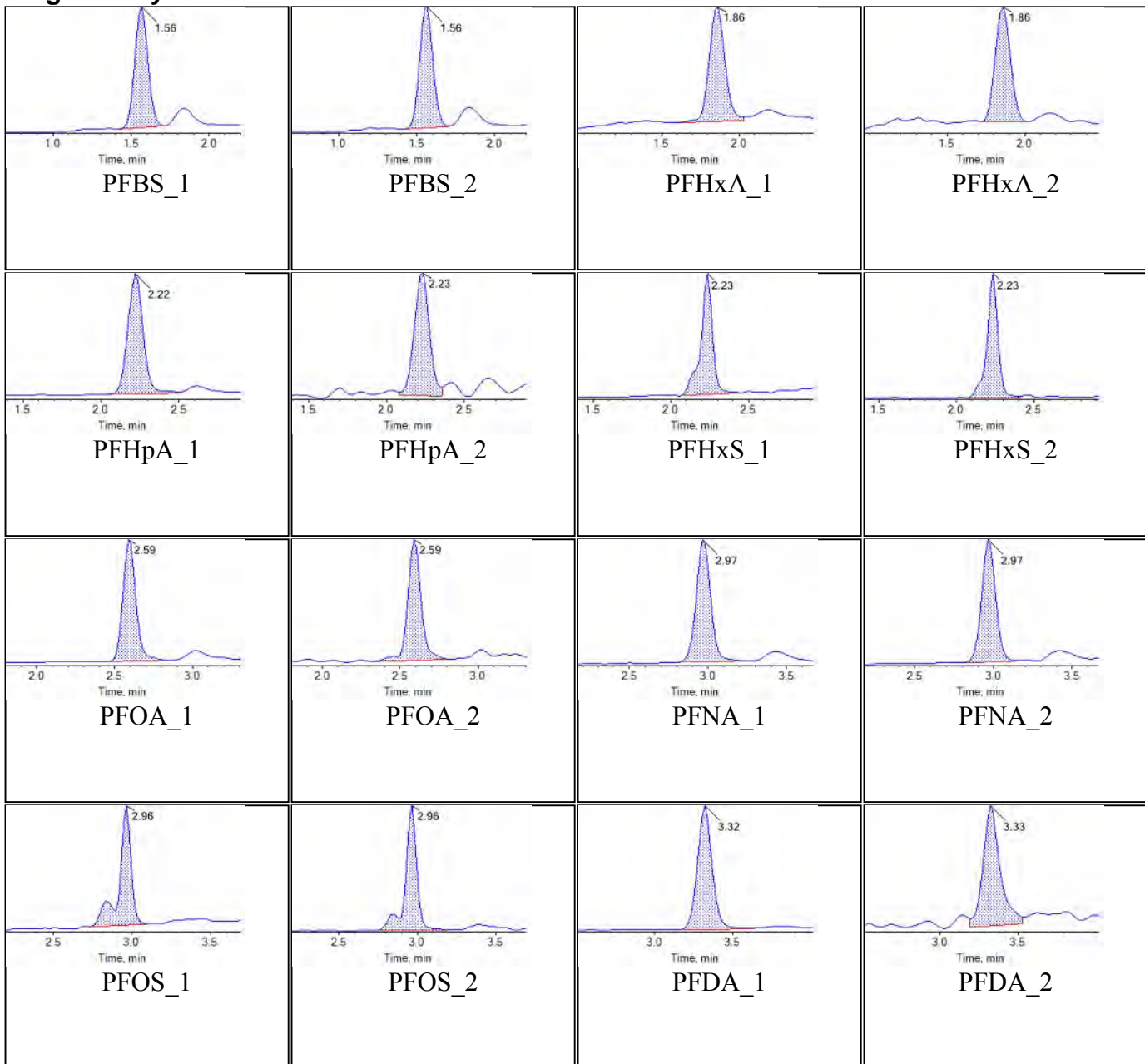


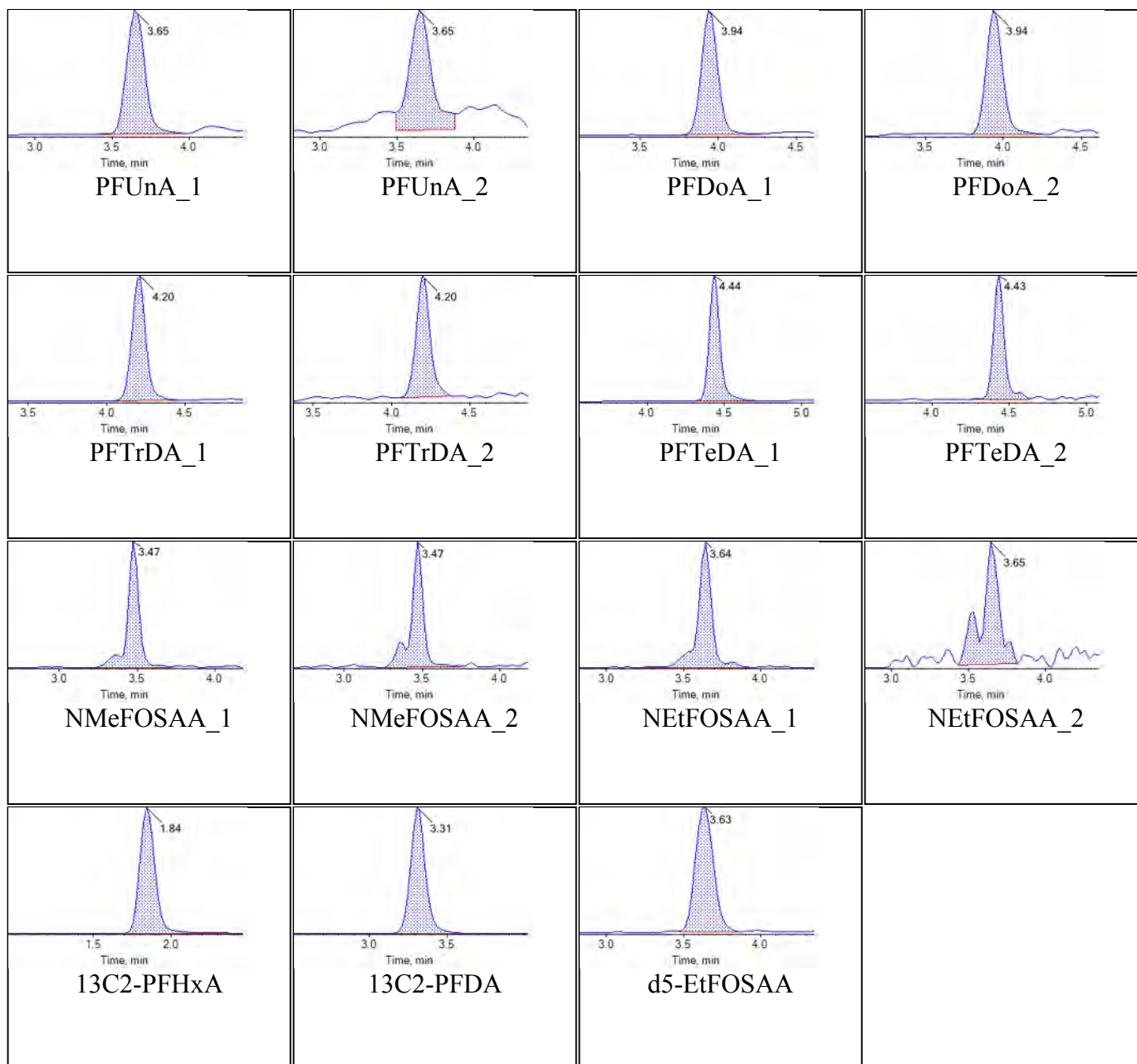
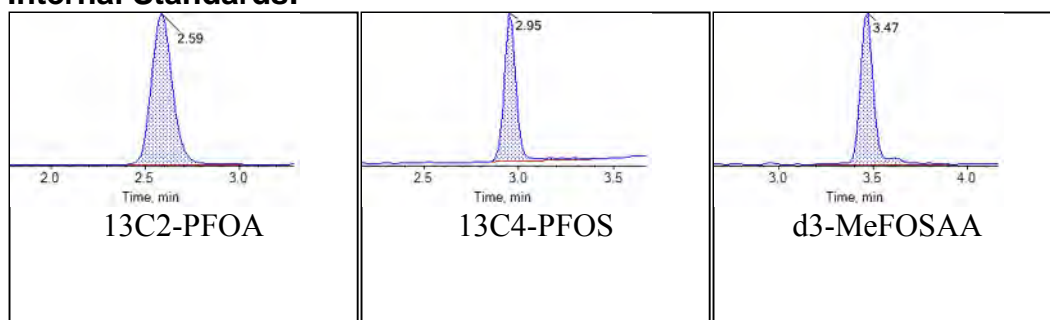
**Internal Standards:**

<b>Sample Name</b>	JZ81	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:08:18	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

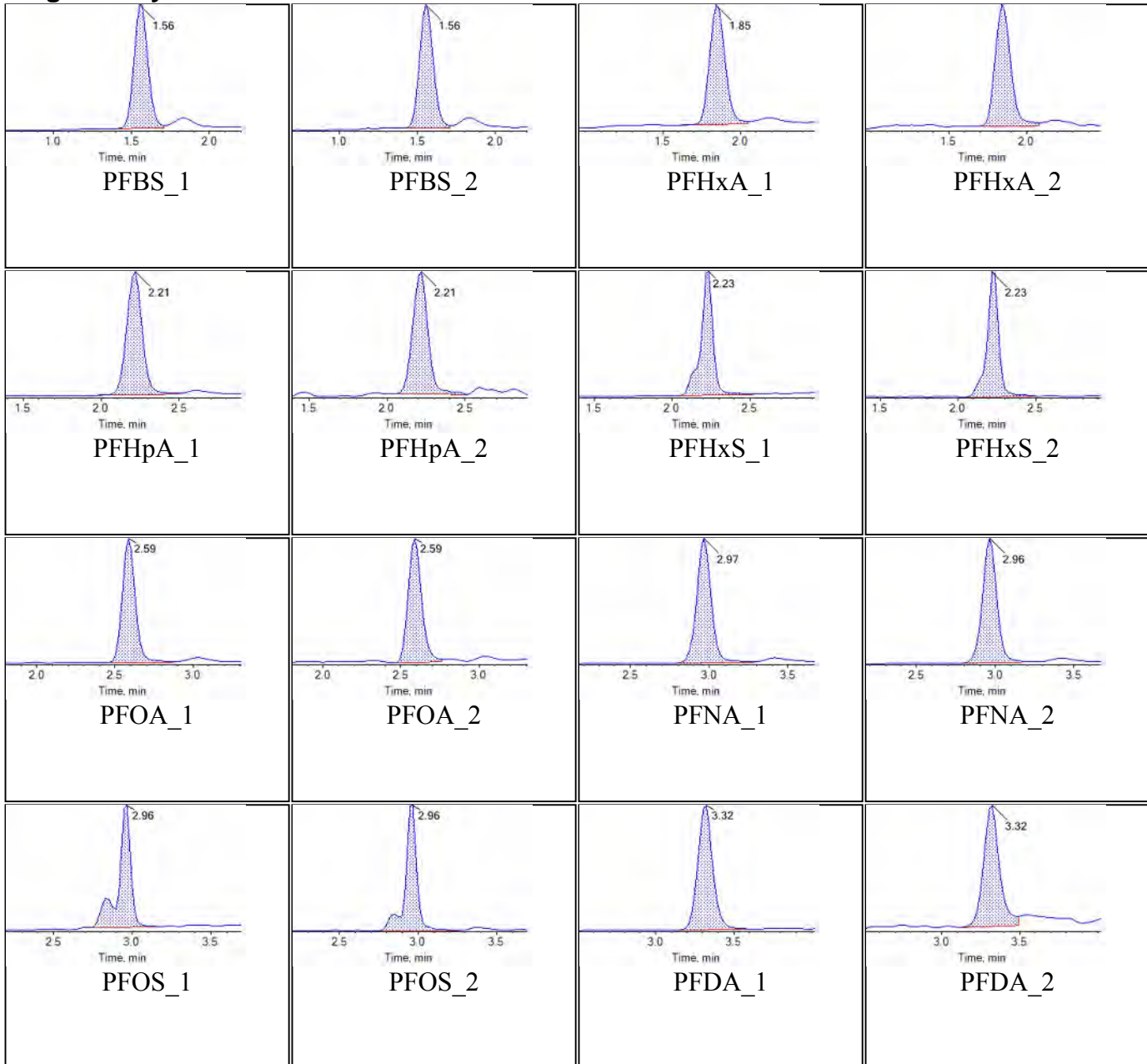


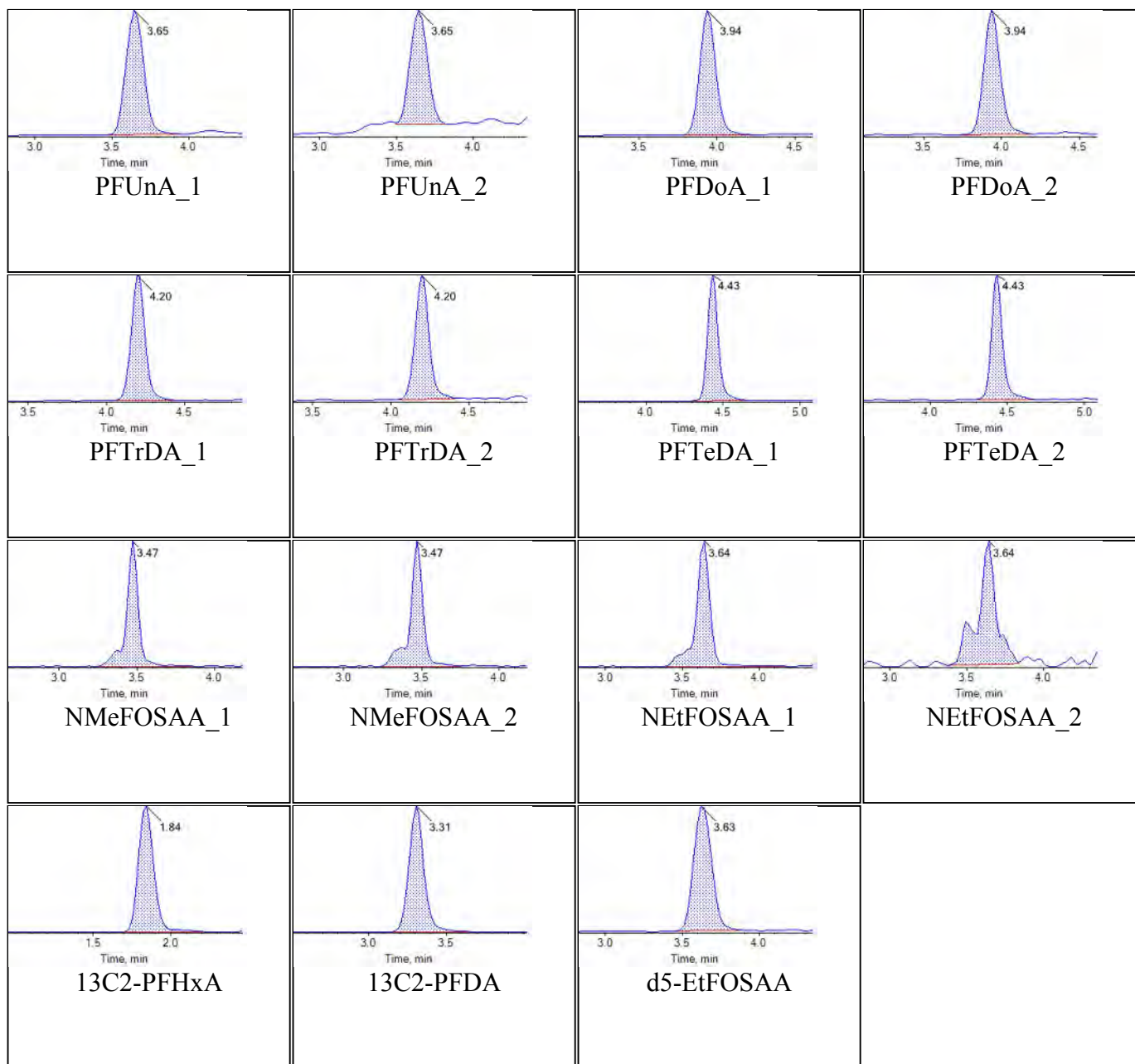
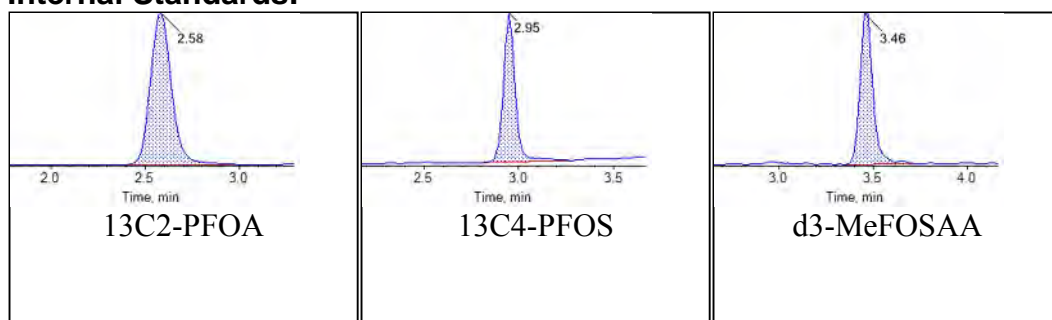
**Internal Standards:**

Sample Name	JZ82	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:17:14	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:



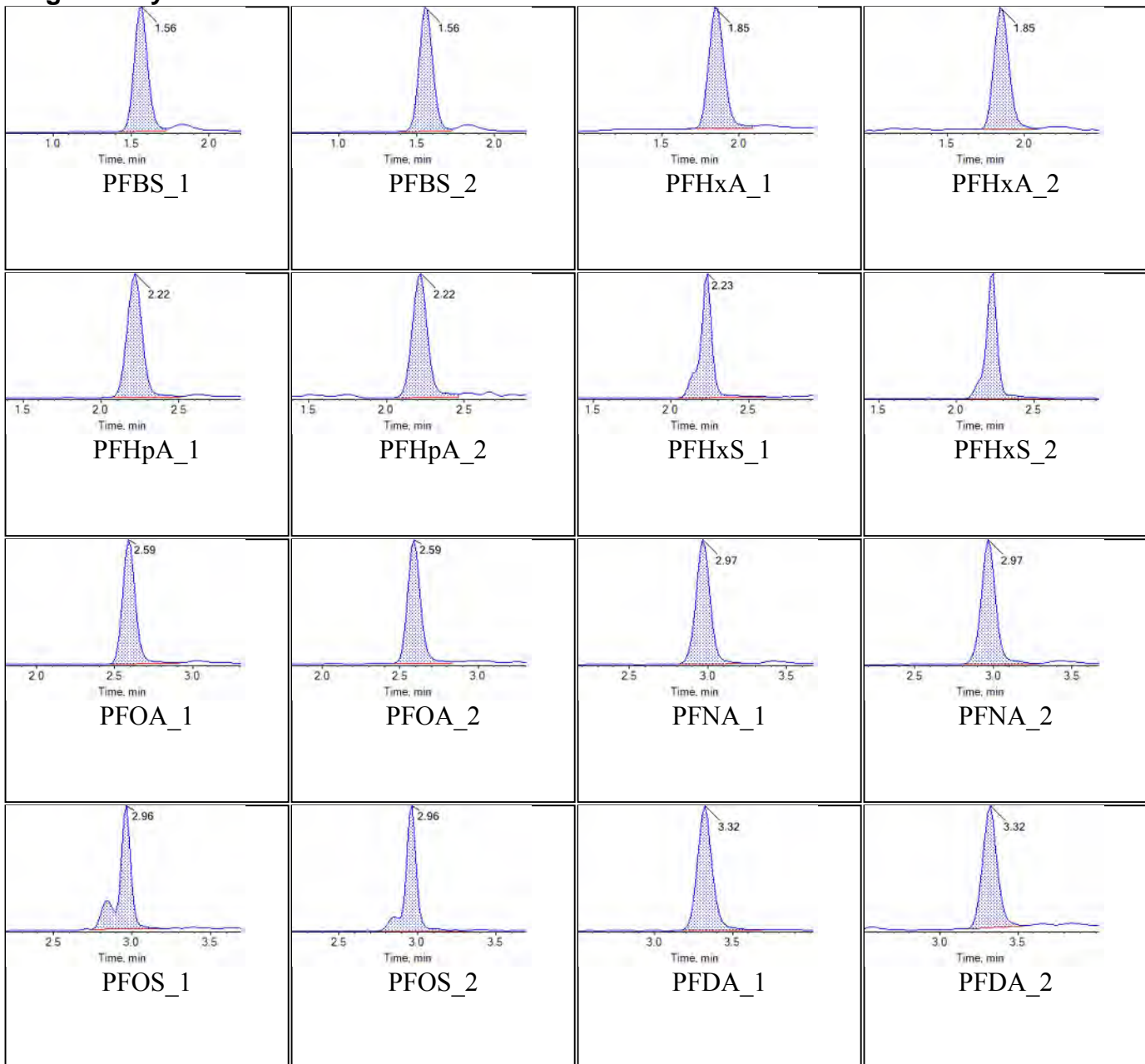
**Internal Standards:**

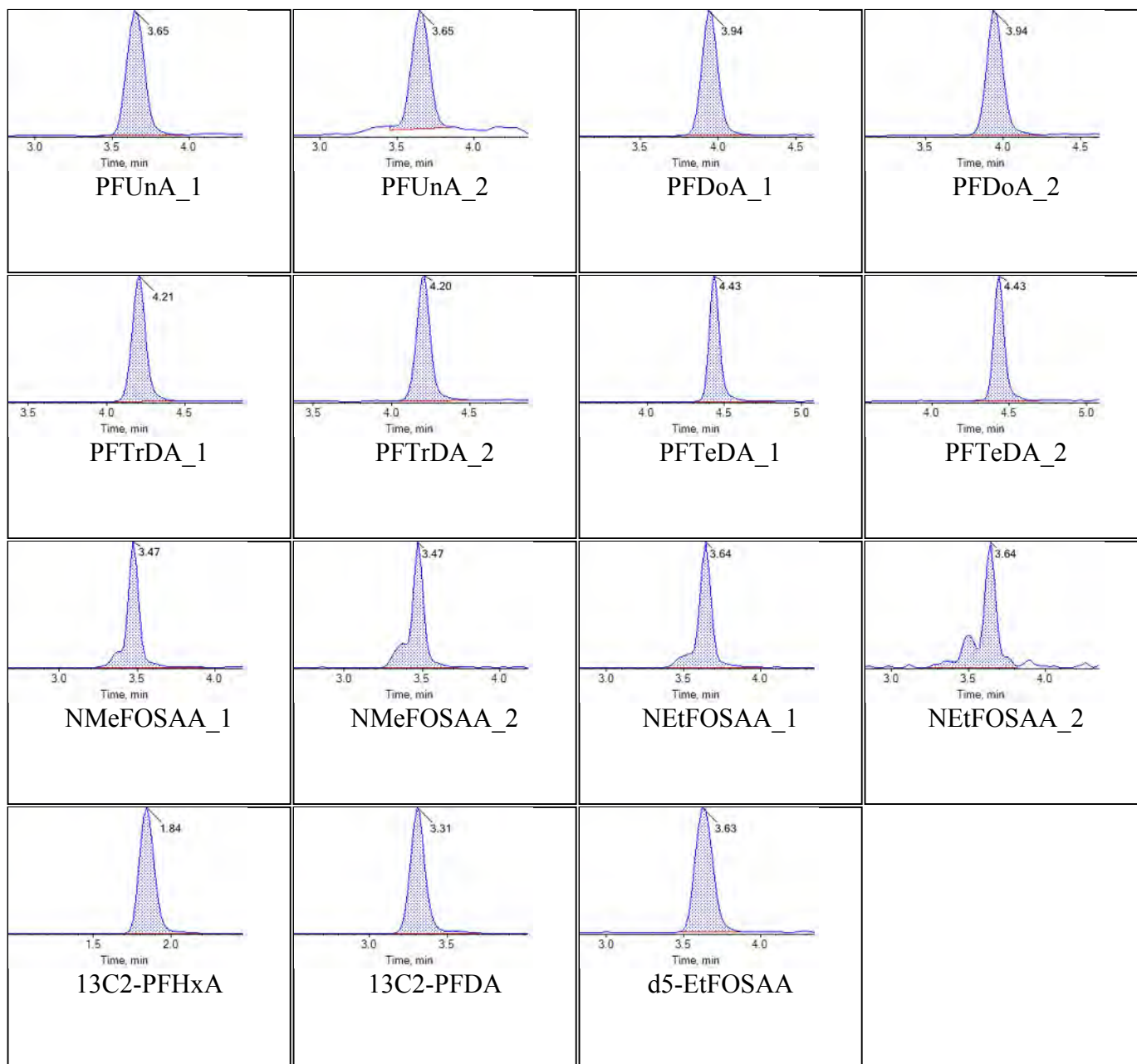
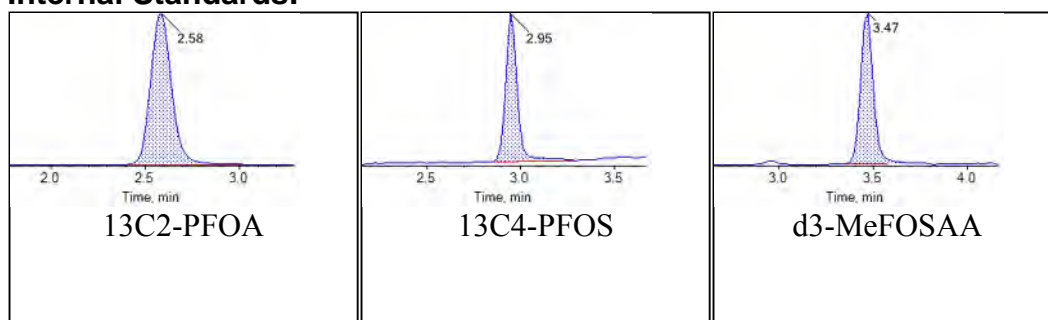


<b>Sample Name</b>	JZ83	<b>Injection Vial</b>	7
<b>Sample ID</b>	L6	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:26:11	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

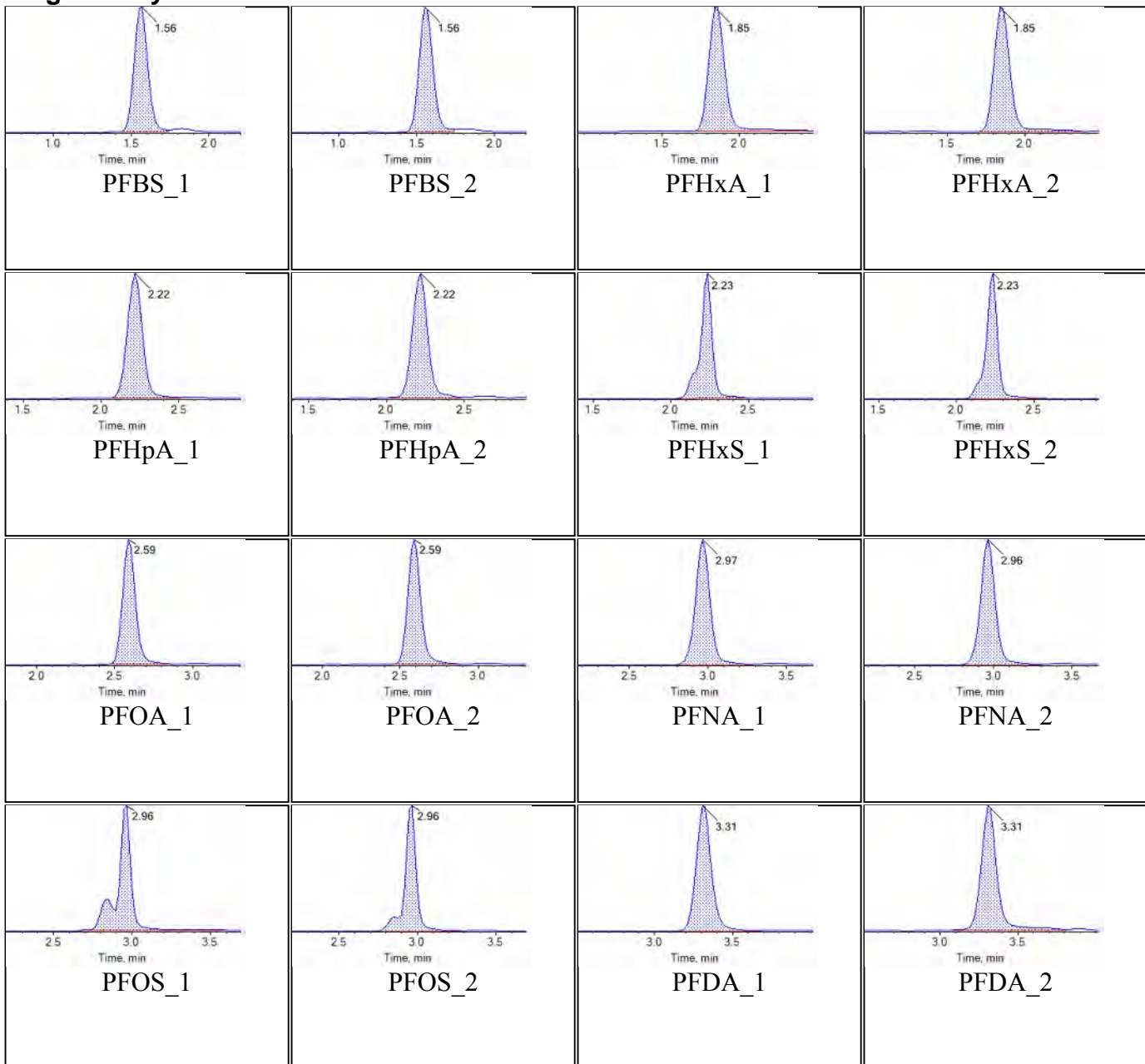


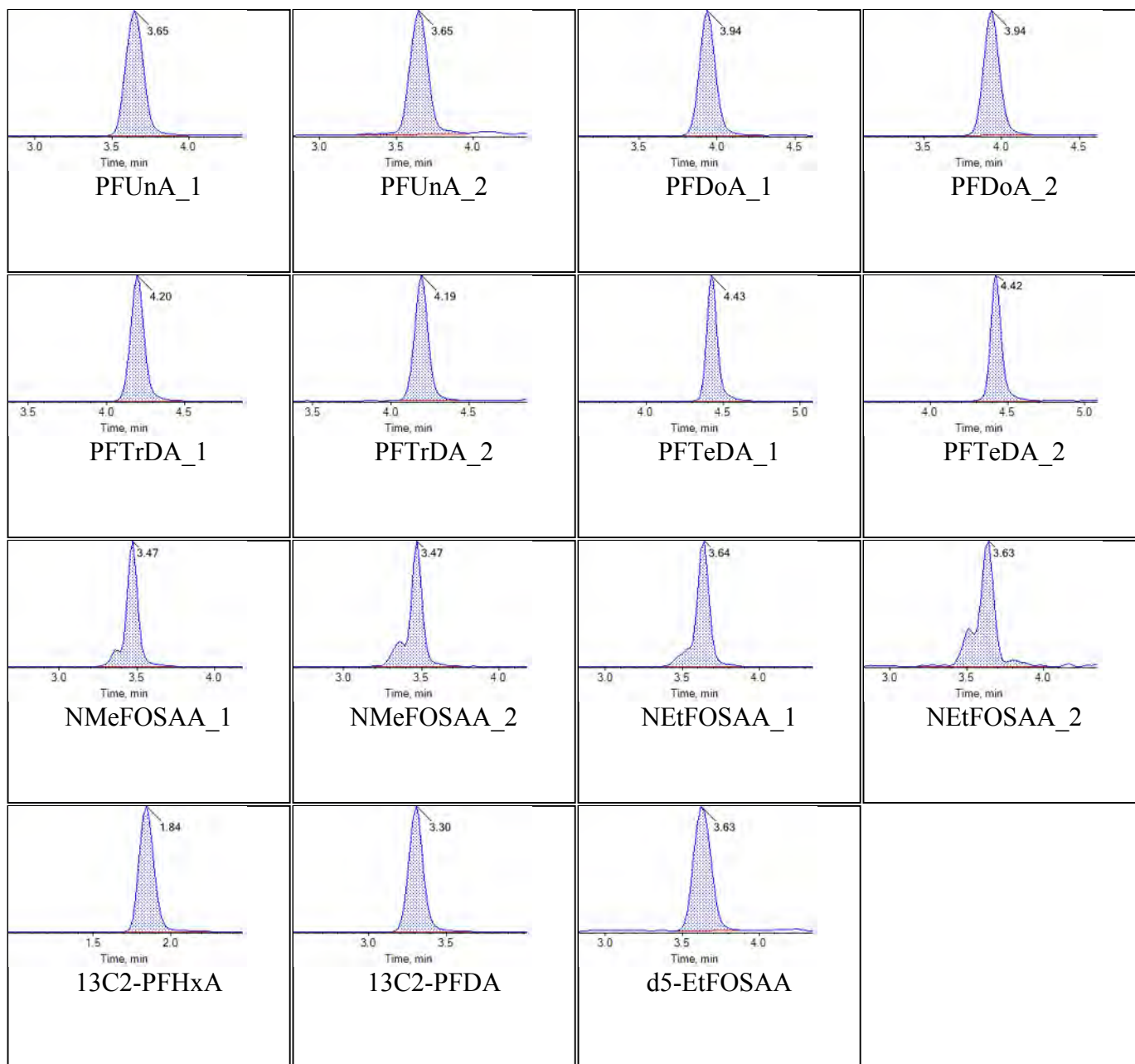
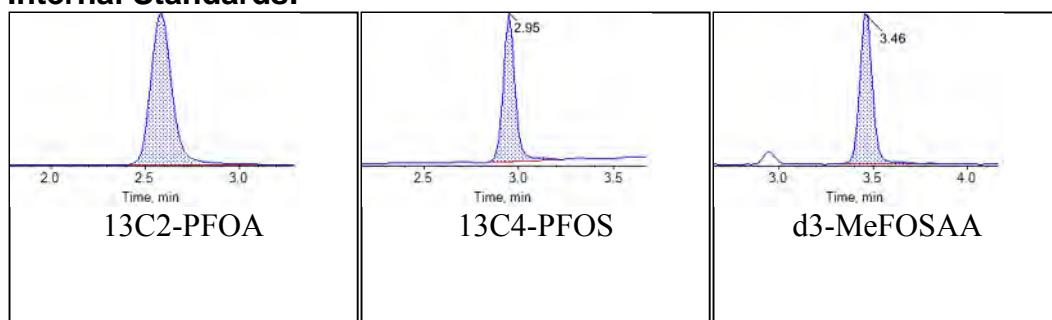
**Internal Standards:**

Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:35:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:

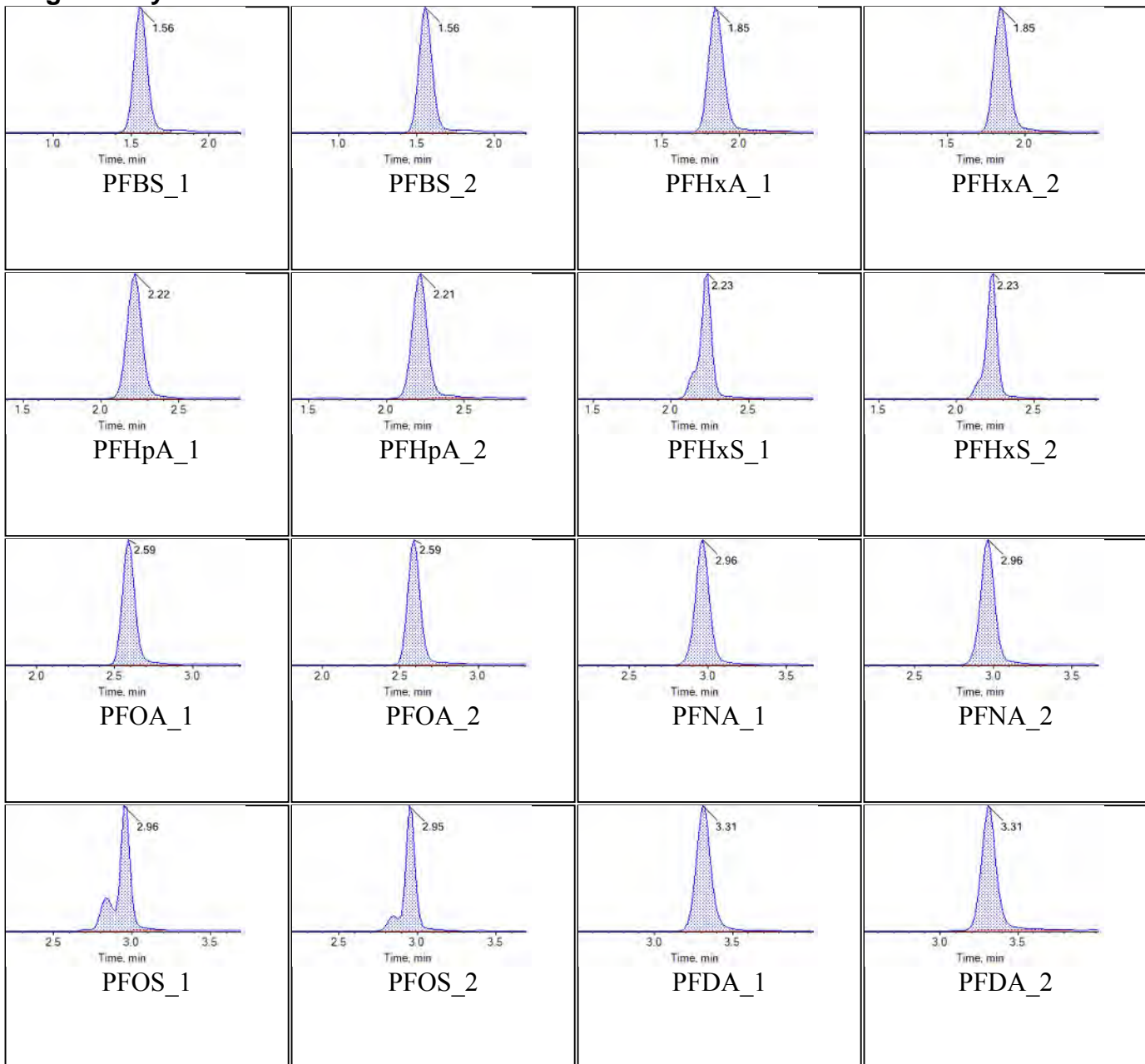


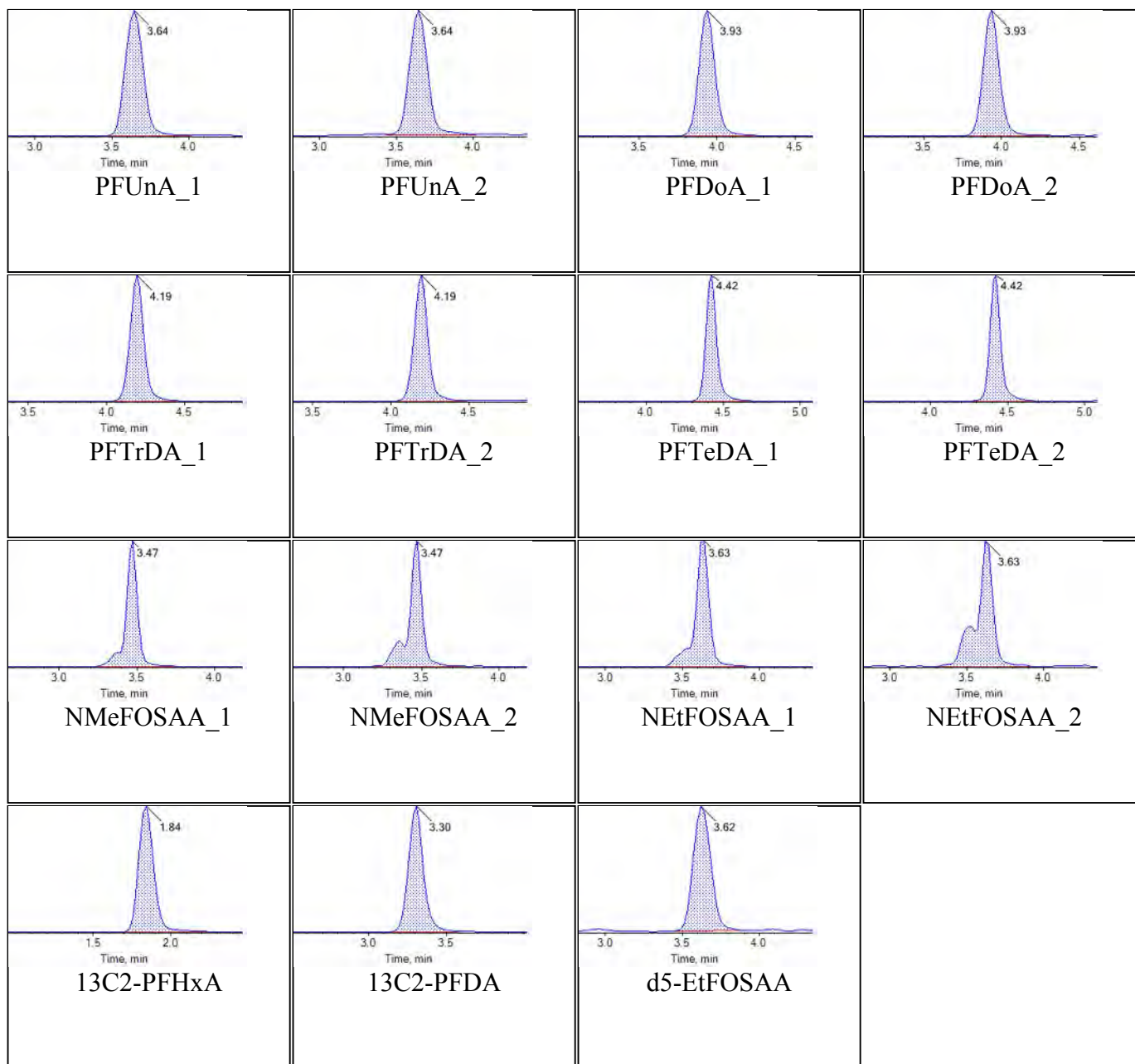
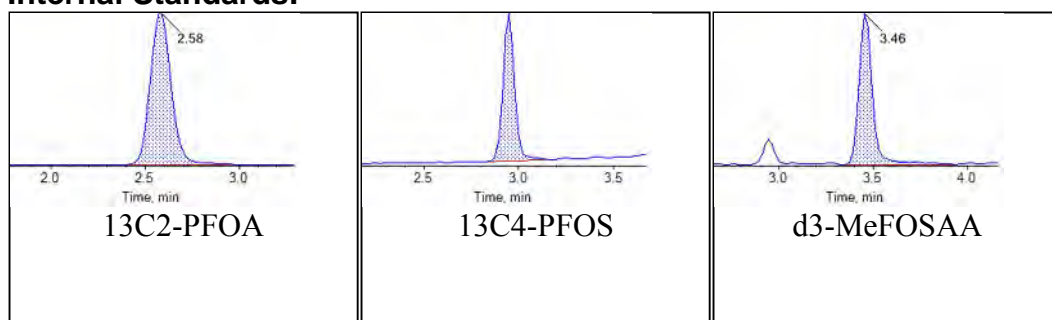
**Internal Standards:**

Sample Name	JZ85	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:44:02	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:

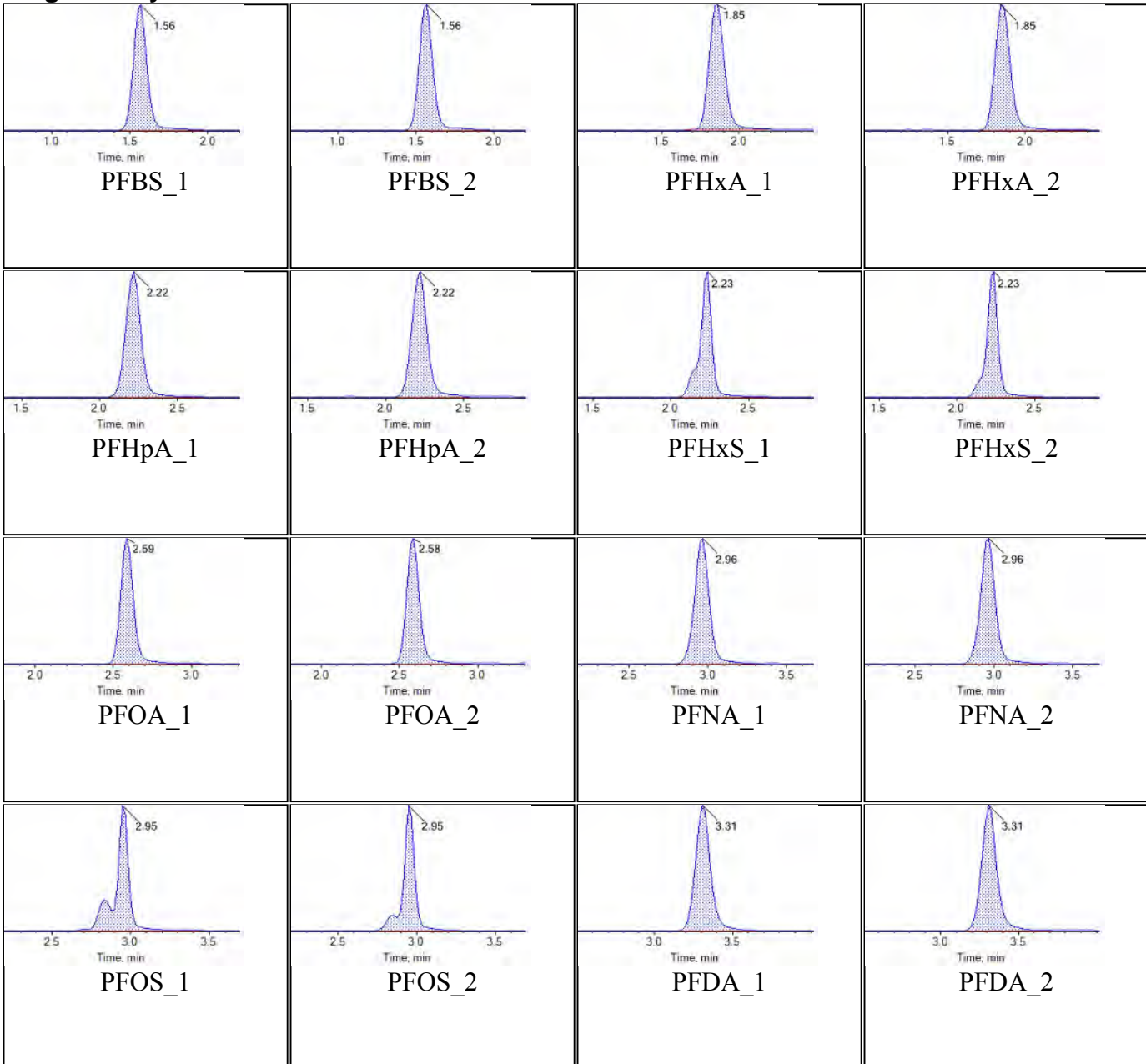


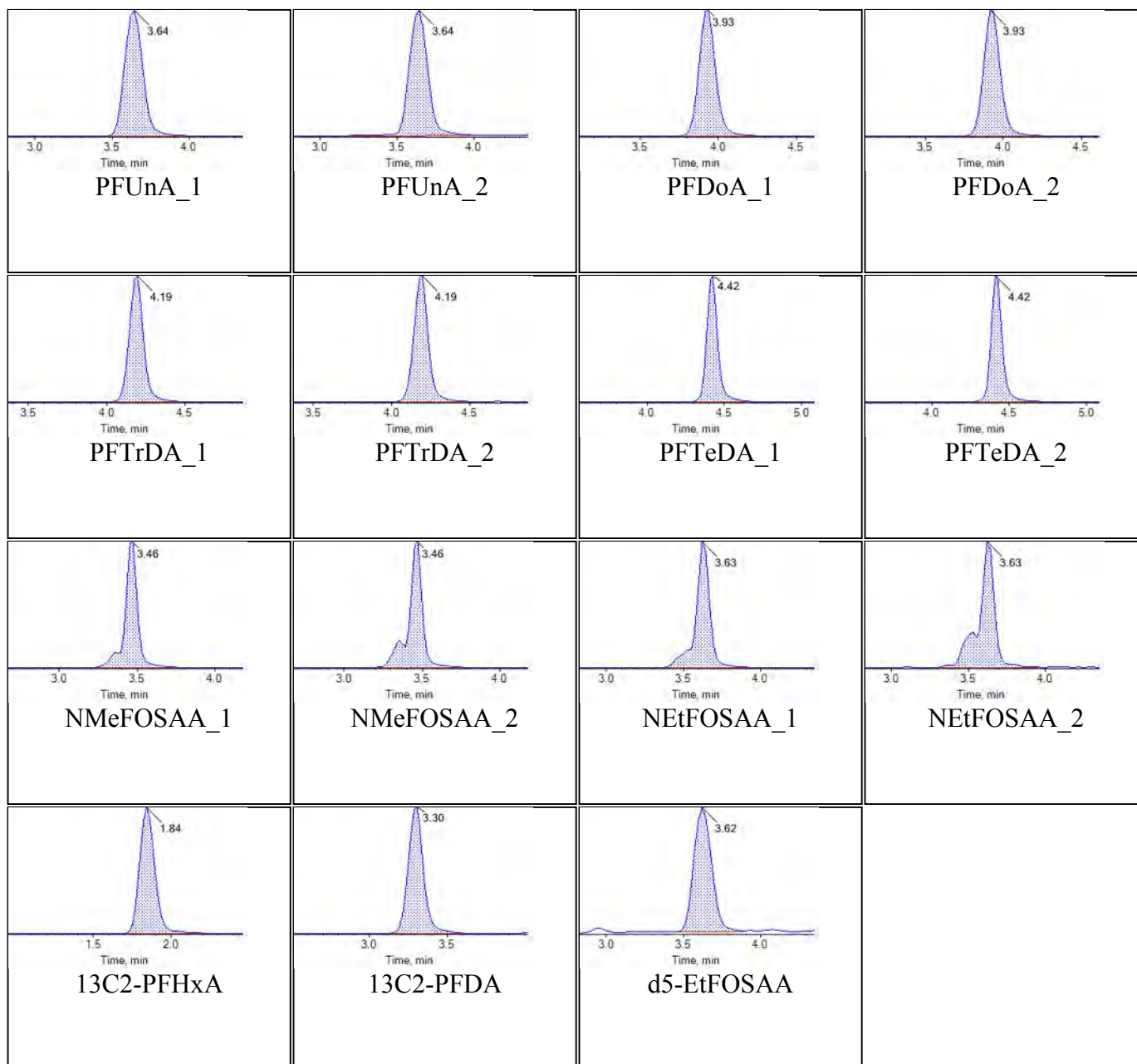
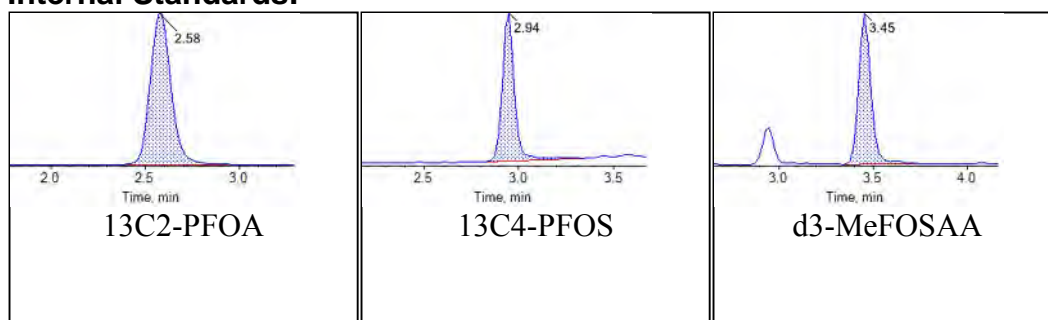
**Internal Standards:**

Sample Name	JZ86	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:52:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:



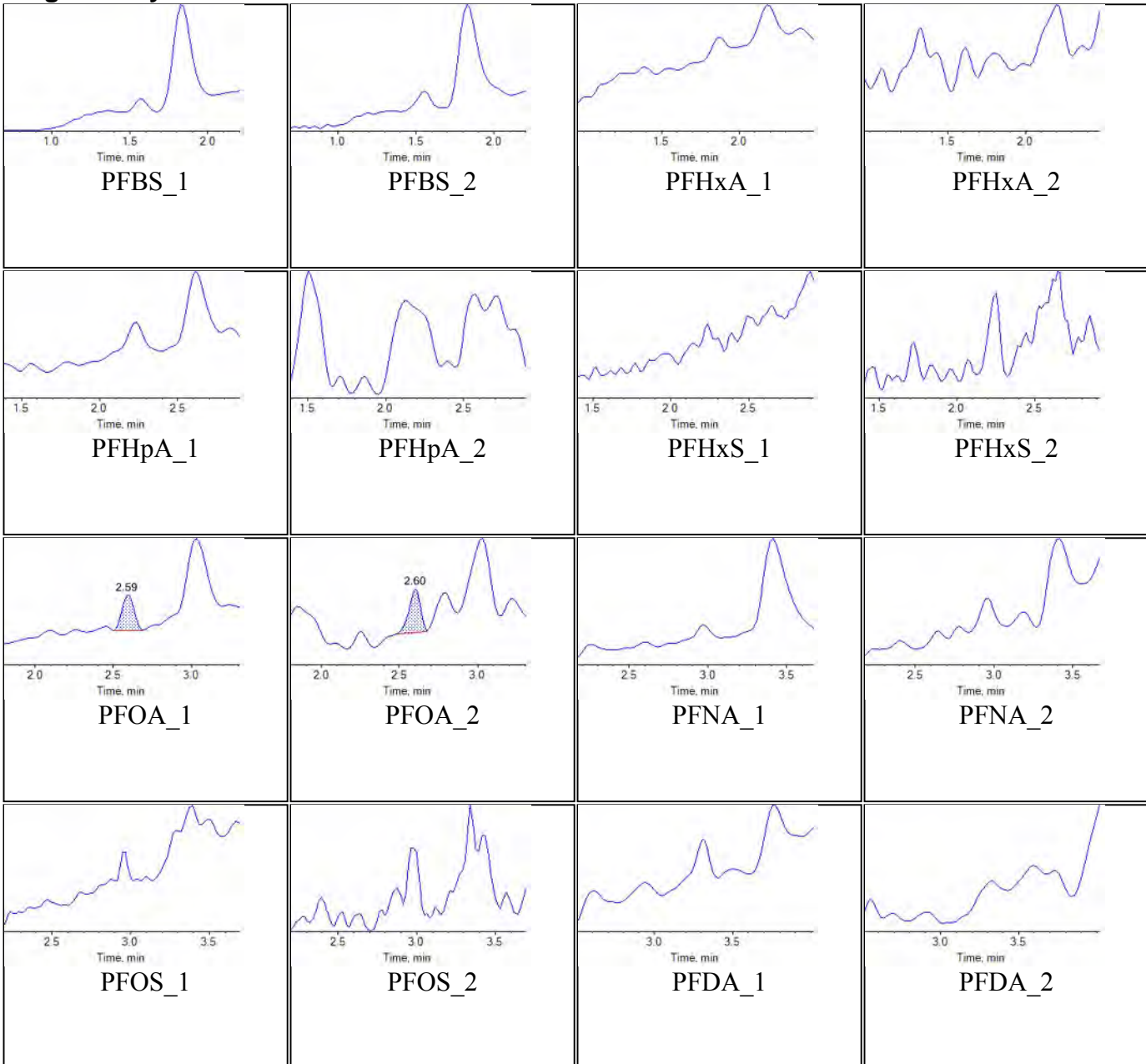
**Internal Standards:**

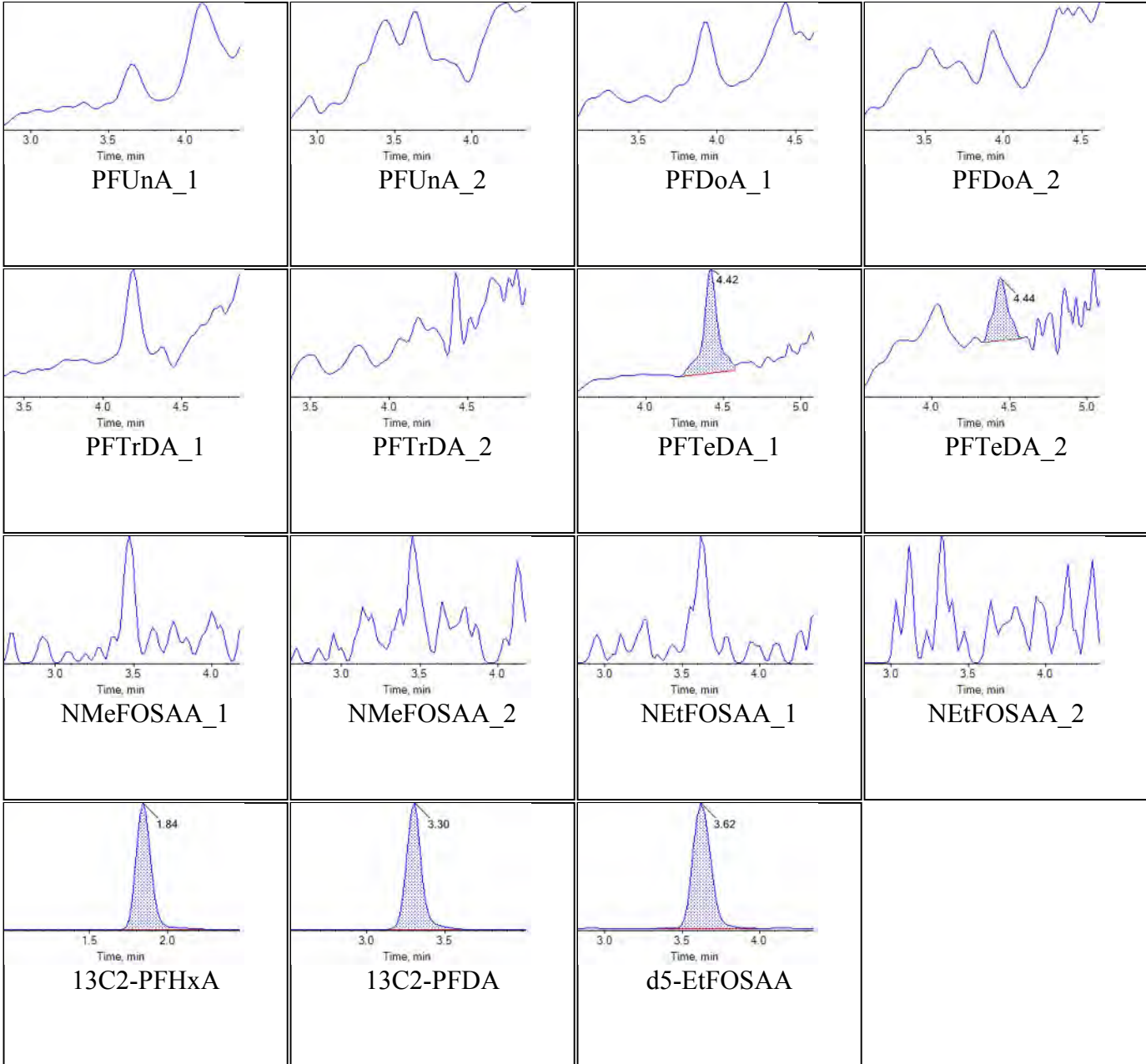
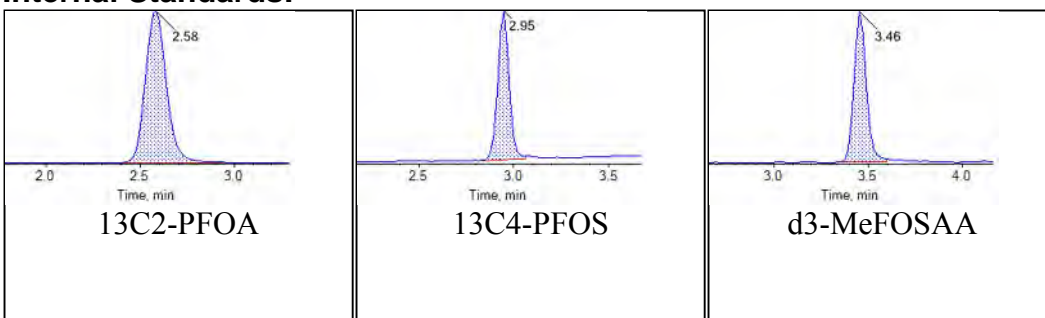


Sample Name	JZ10 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:01:53	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:

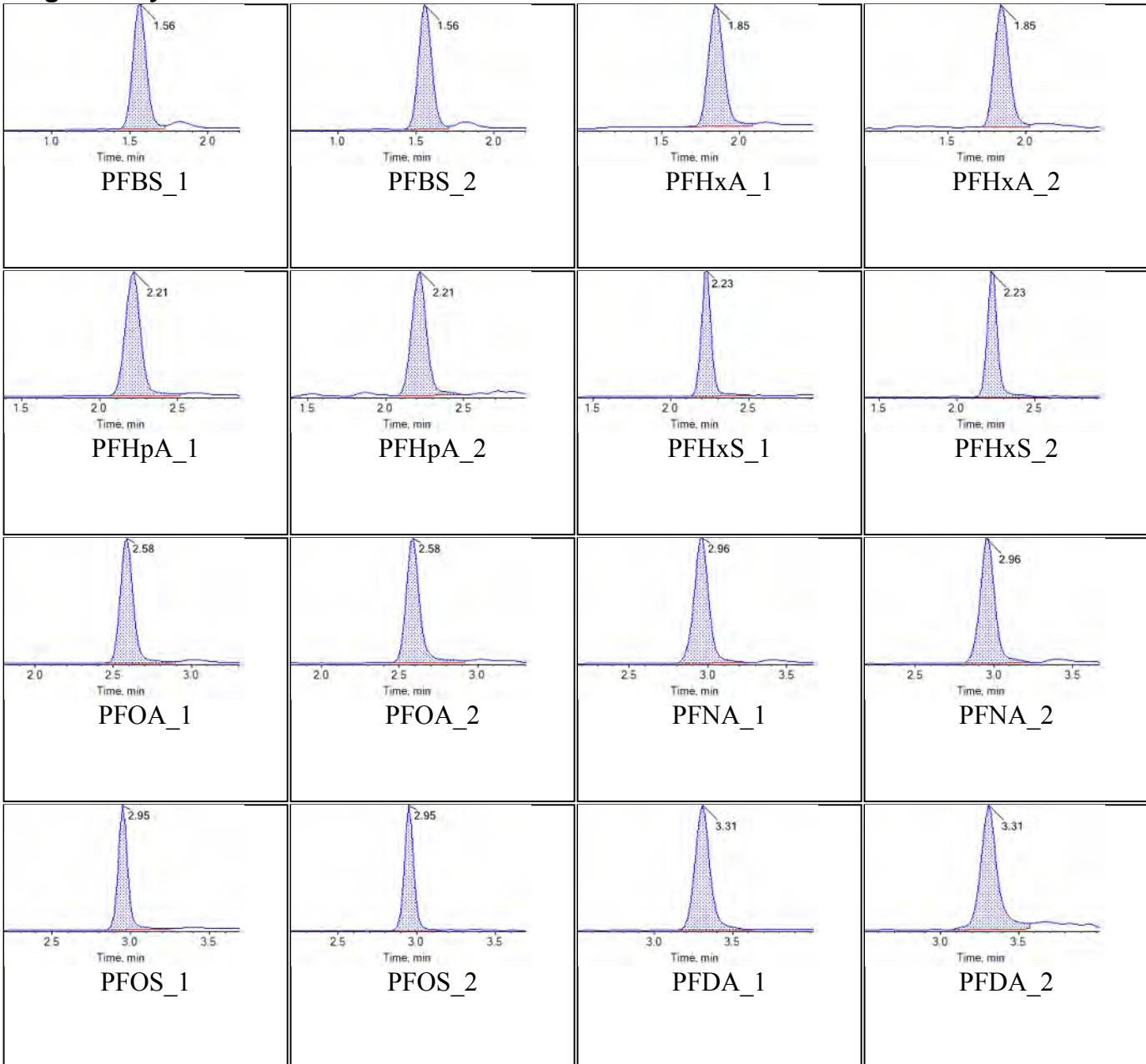


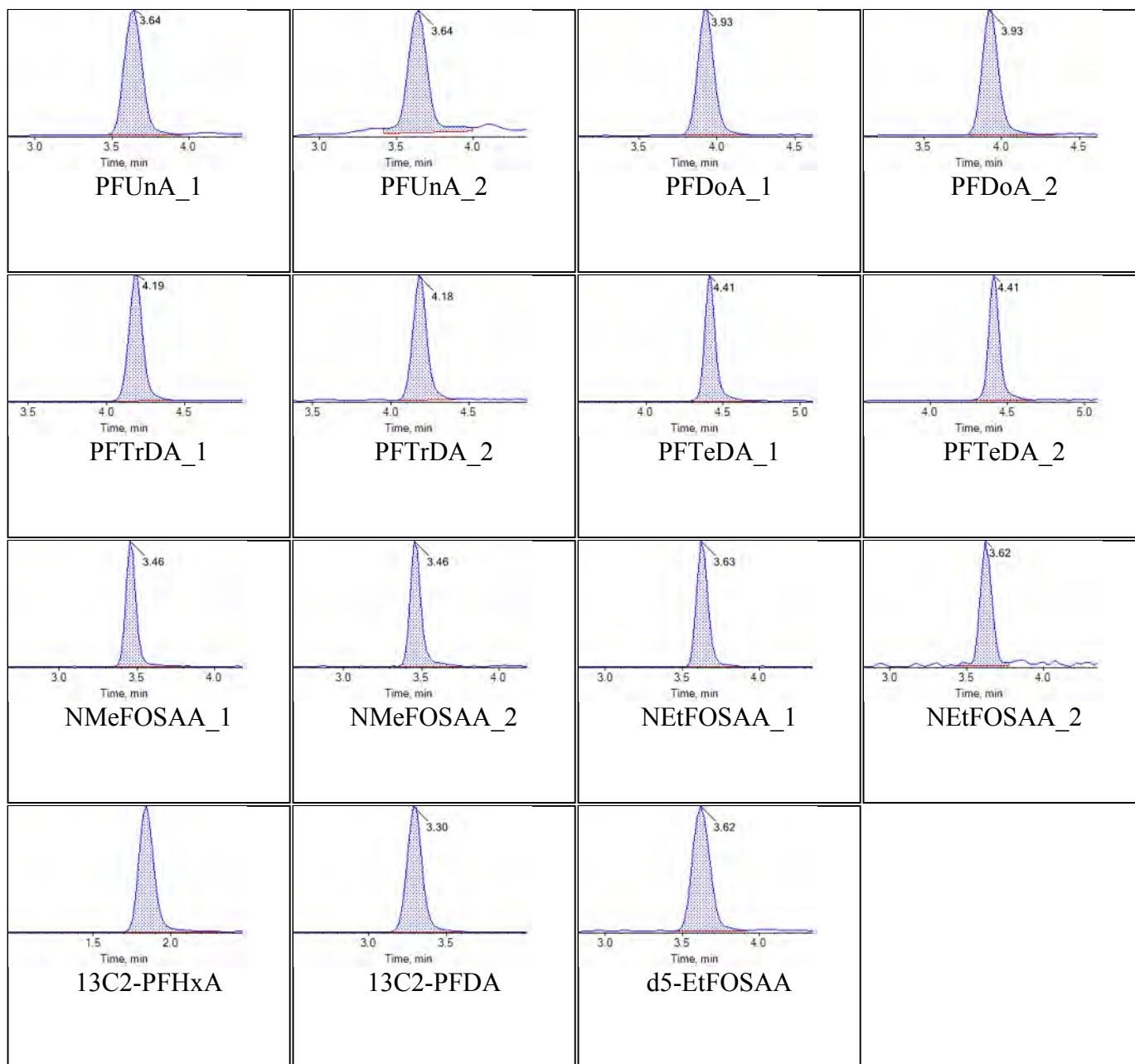
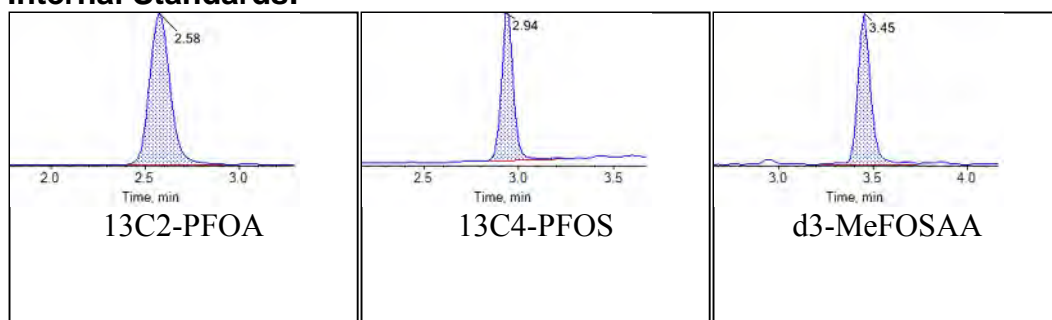
**Internal Standards:**

<b>Sample Name</b>	JZ77 ICC	<b>Injection Vial</b>	12
<b>Sample ID</b>	ICC	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:10:51	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

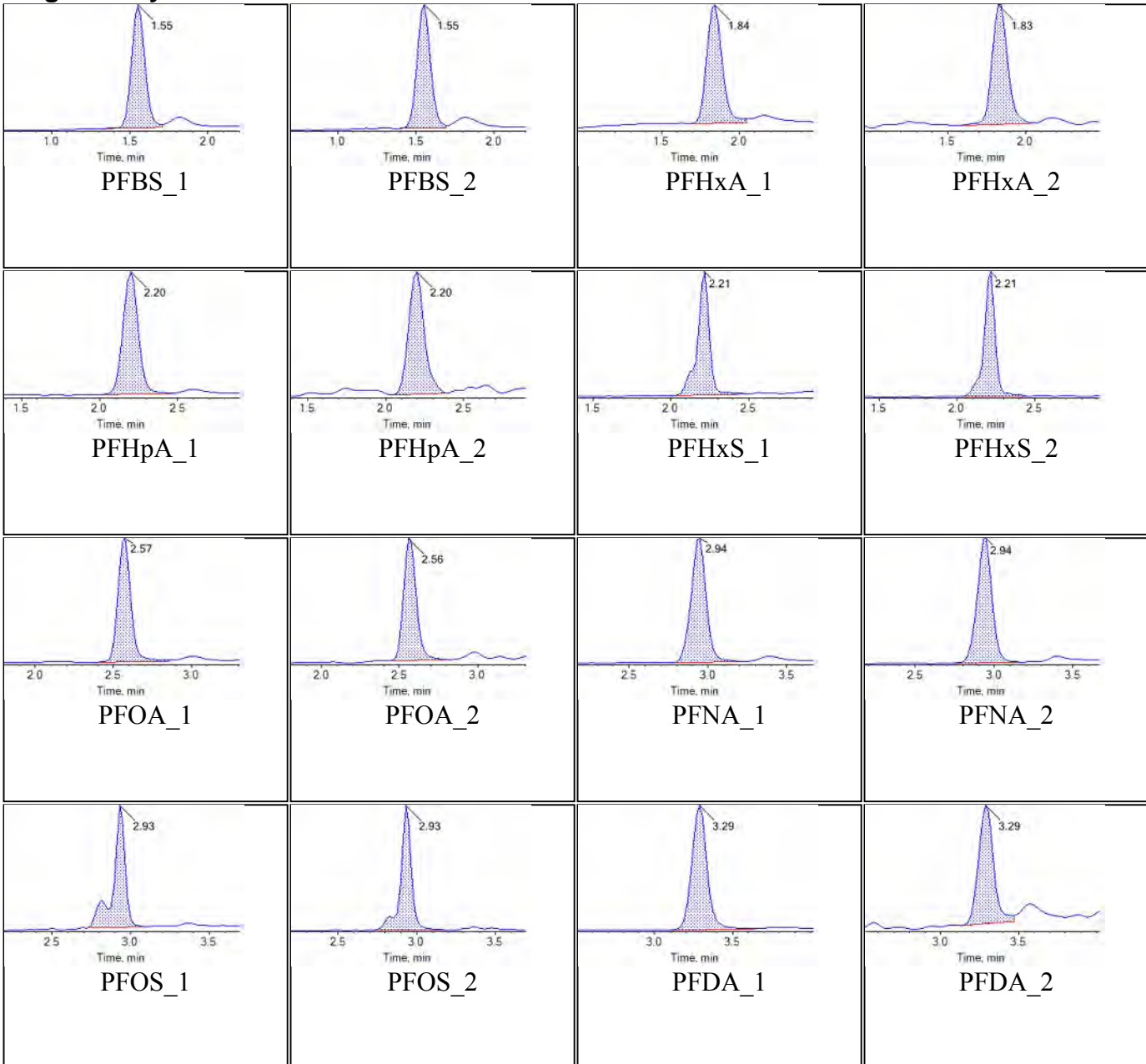


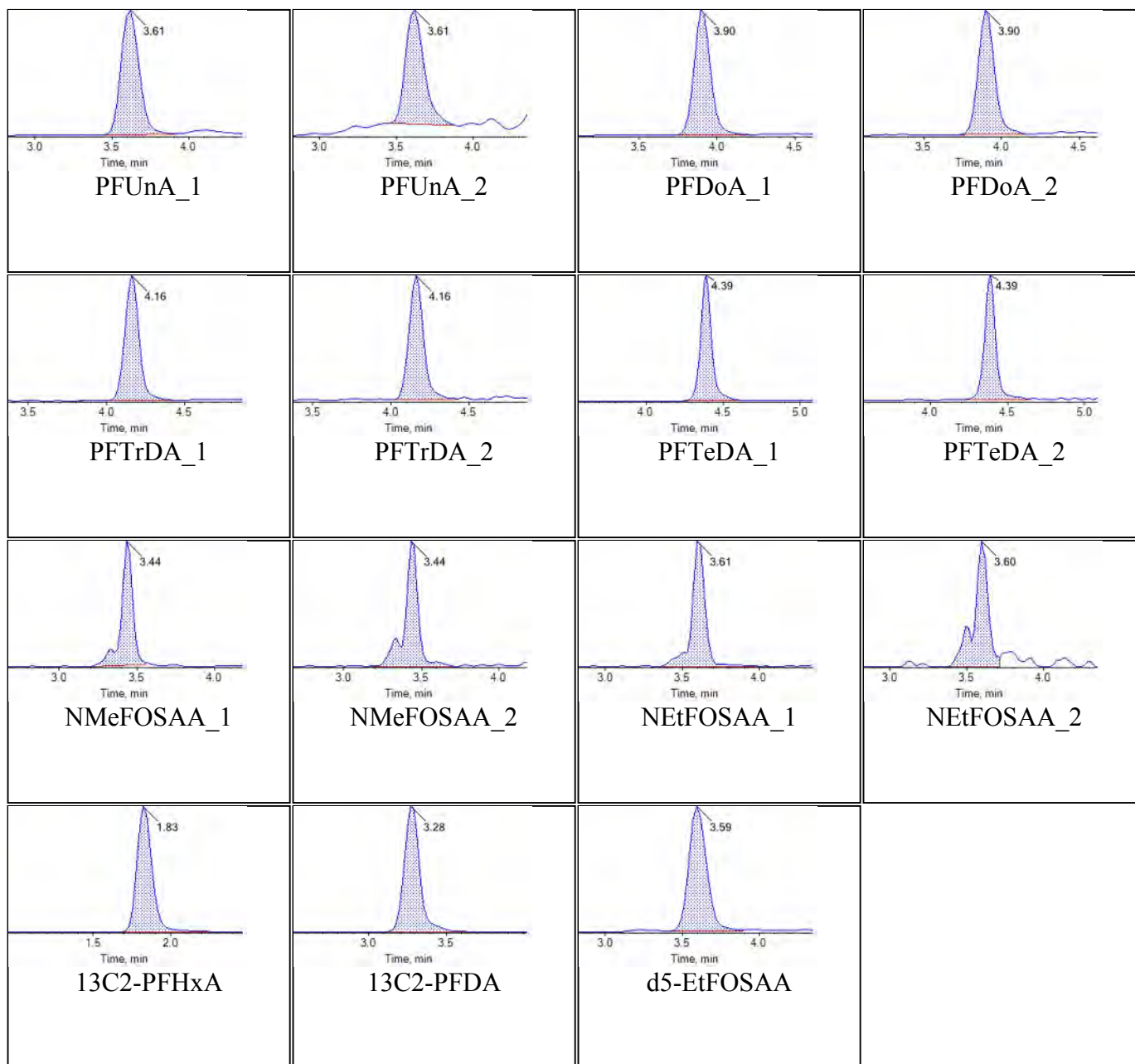
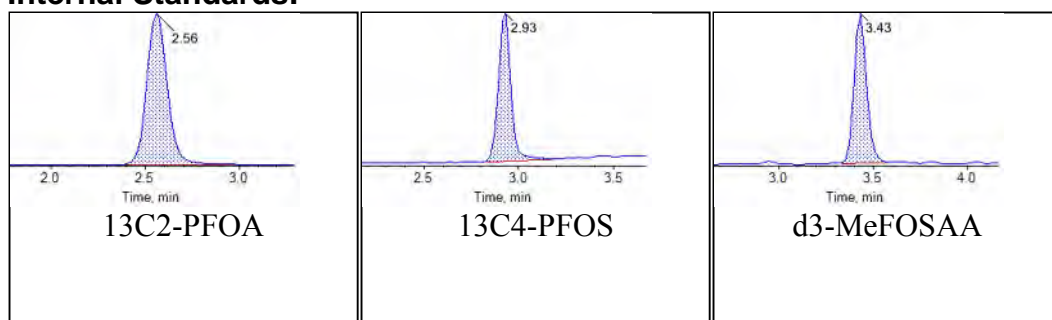
**Internal Standards:**

<b>Sample Name</b>	JZ82 CCV	<b>Injection Vial</b>	21
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:31:16	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

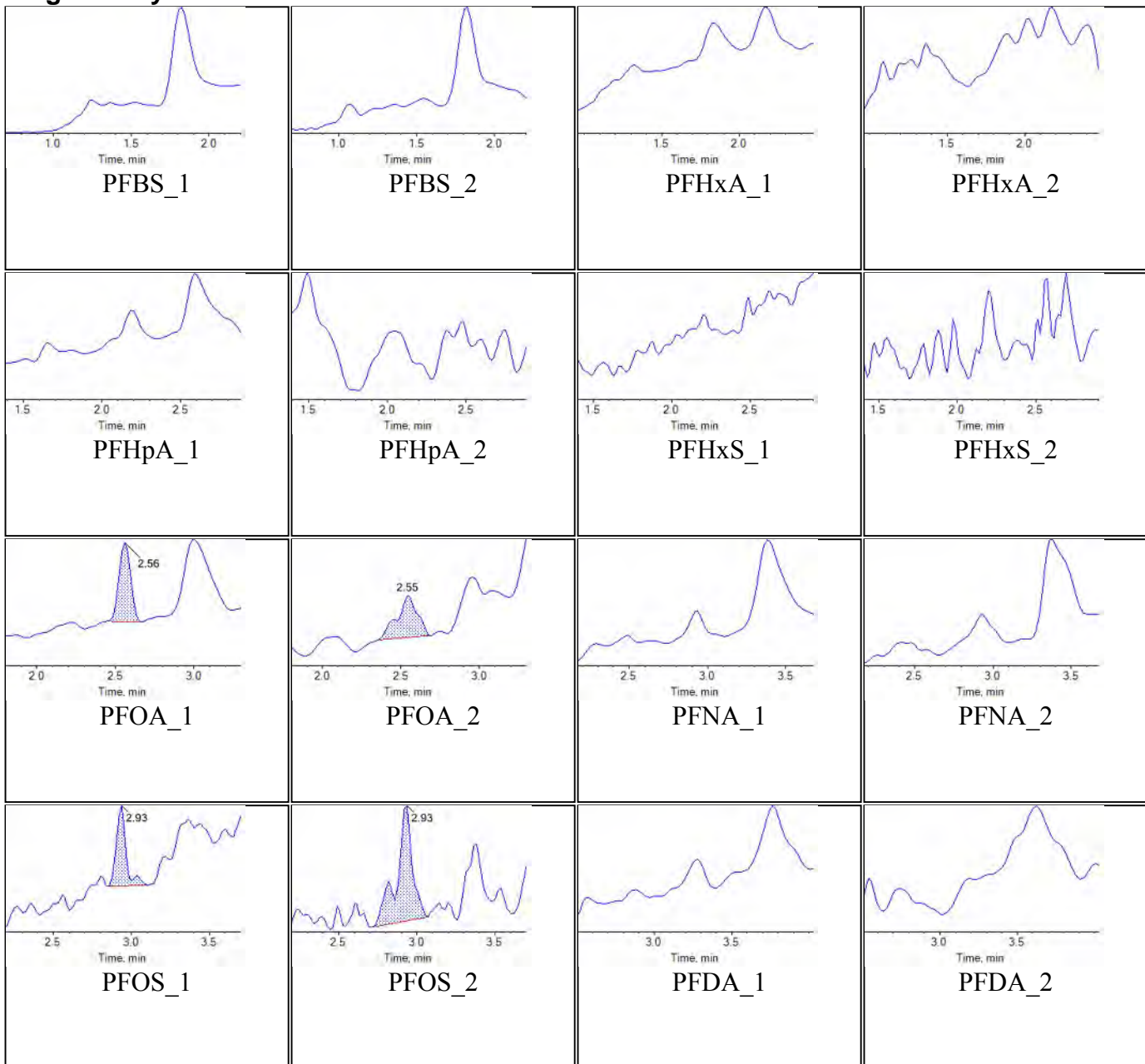


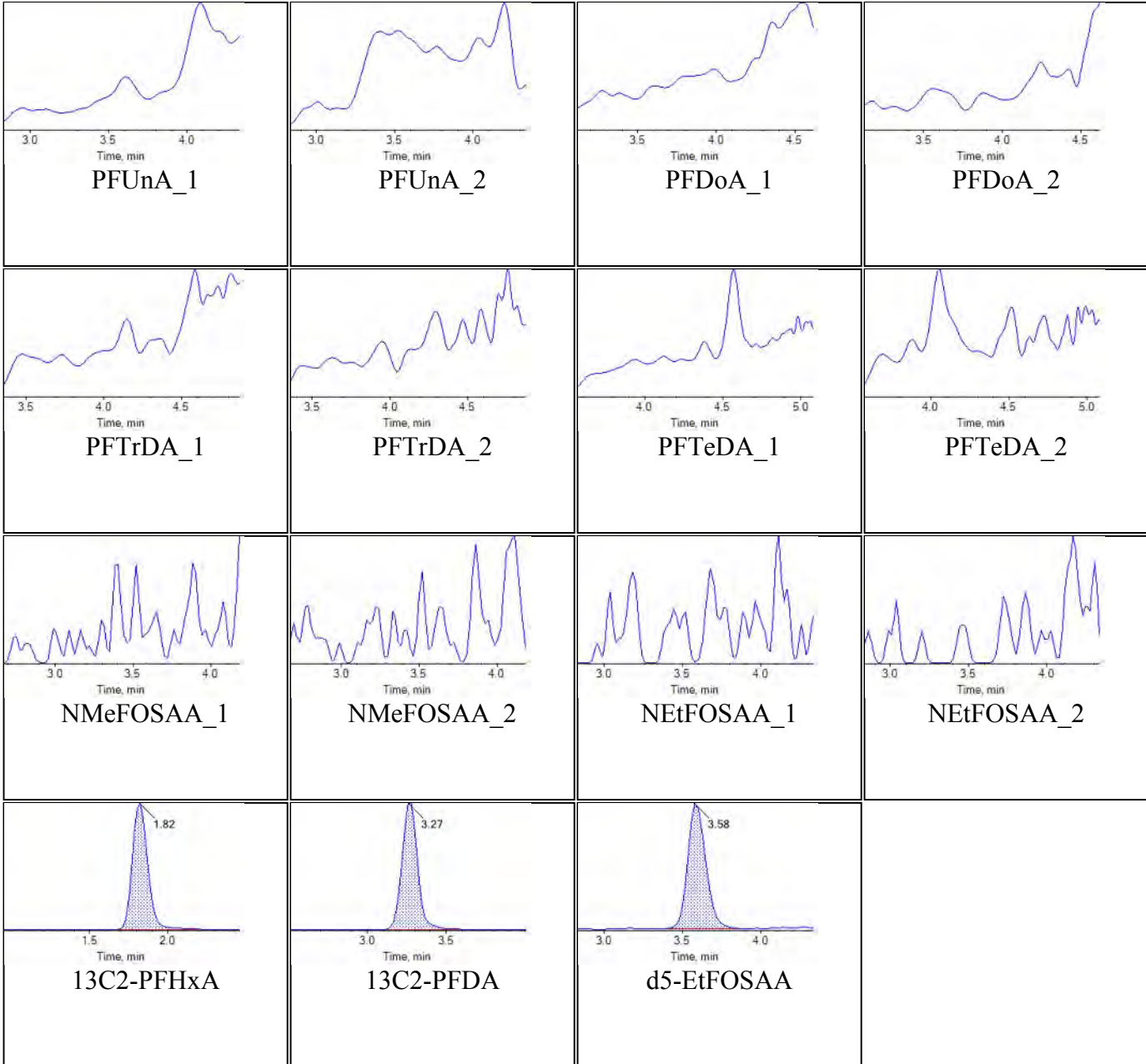
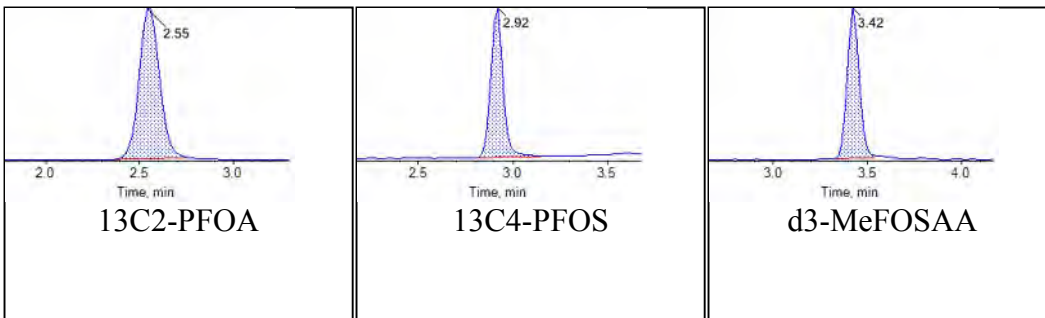
**Internal Standards:**

Sample Name	CR573PB-FS(0)	Injection Vial	23
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:49:10	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:



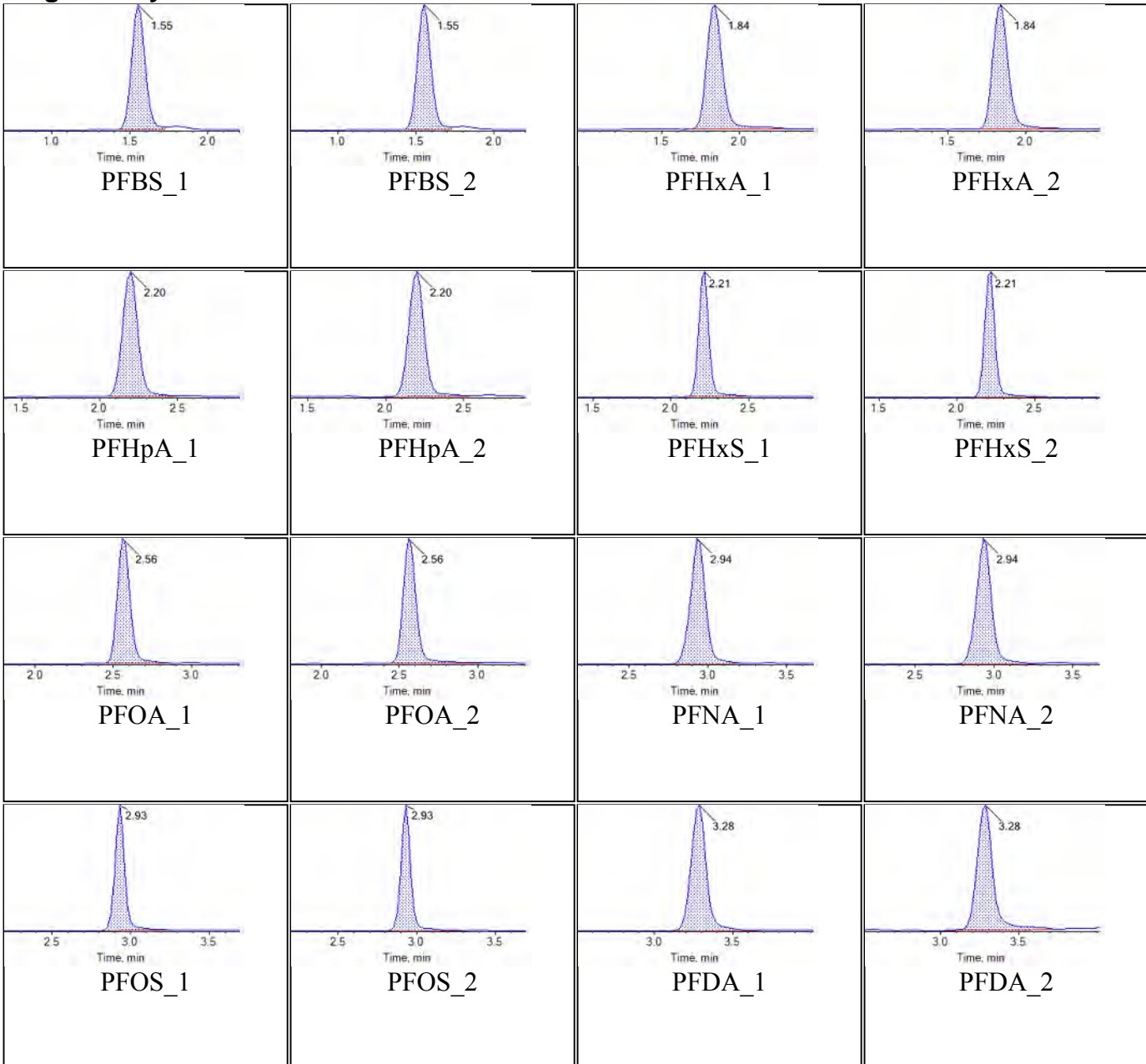
**Internal Standards:**

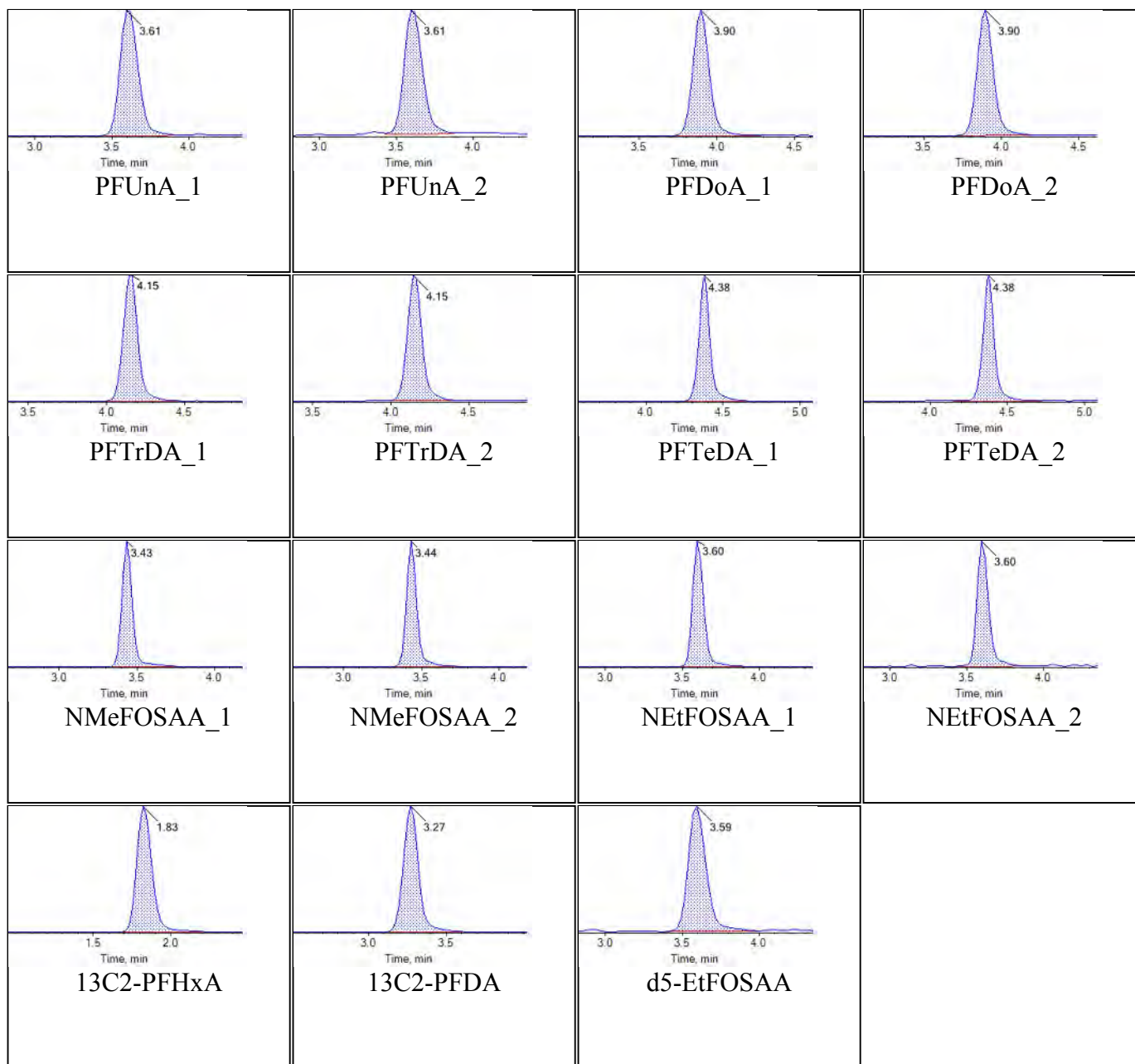
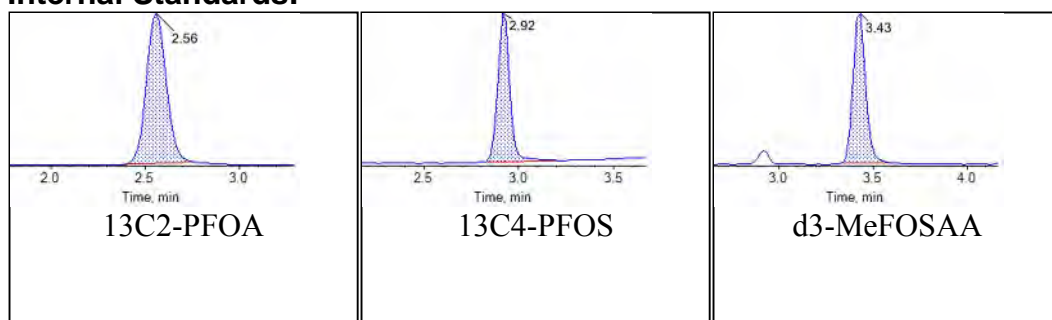


<b>Sample Name</b>	CR574LCS-FS(0)	<b>Injection Vial</b>	24
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:58:06	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

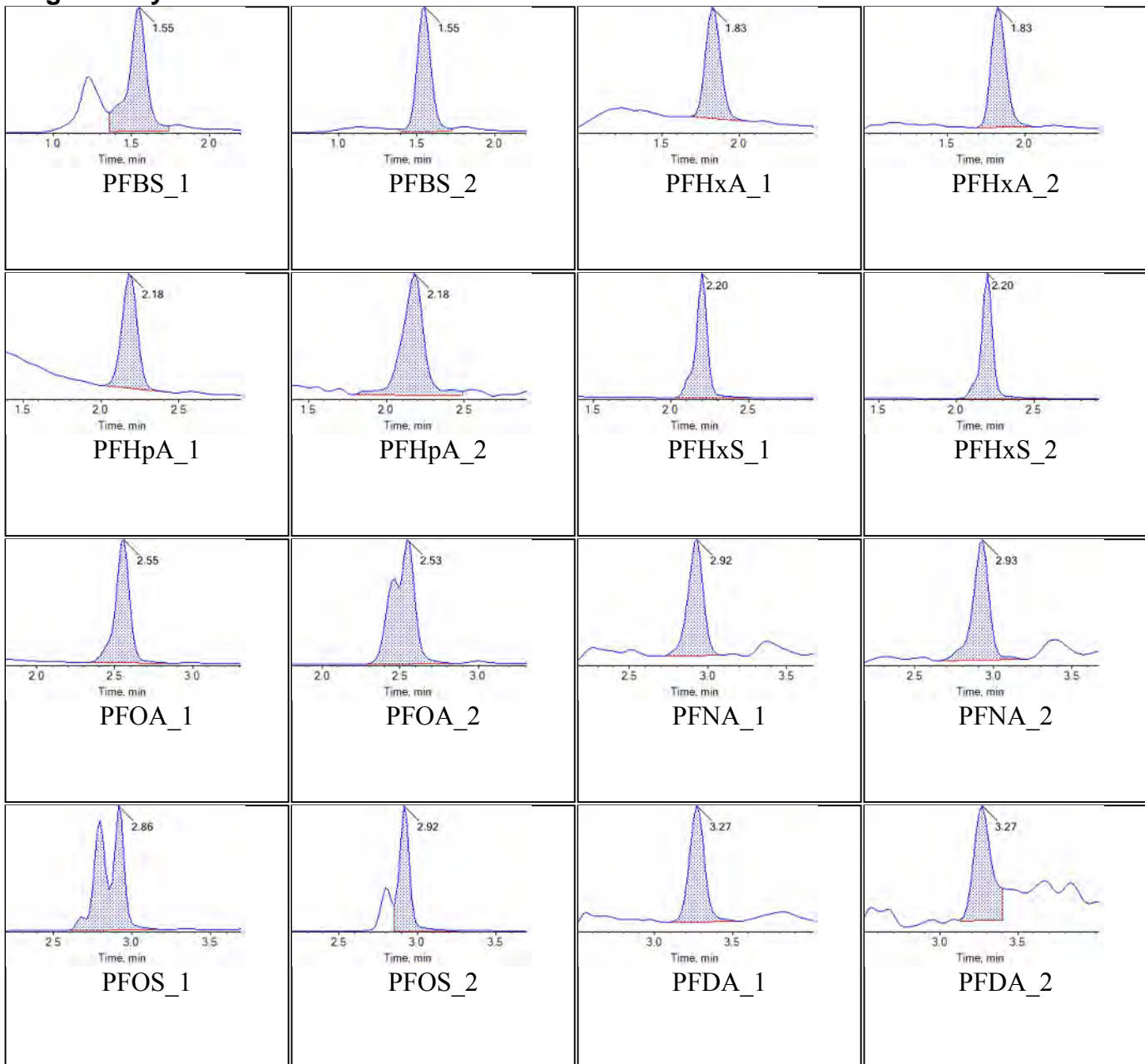


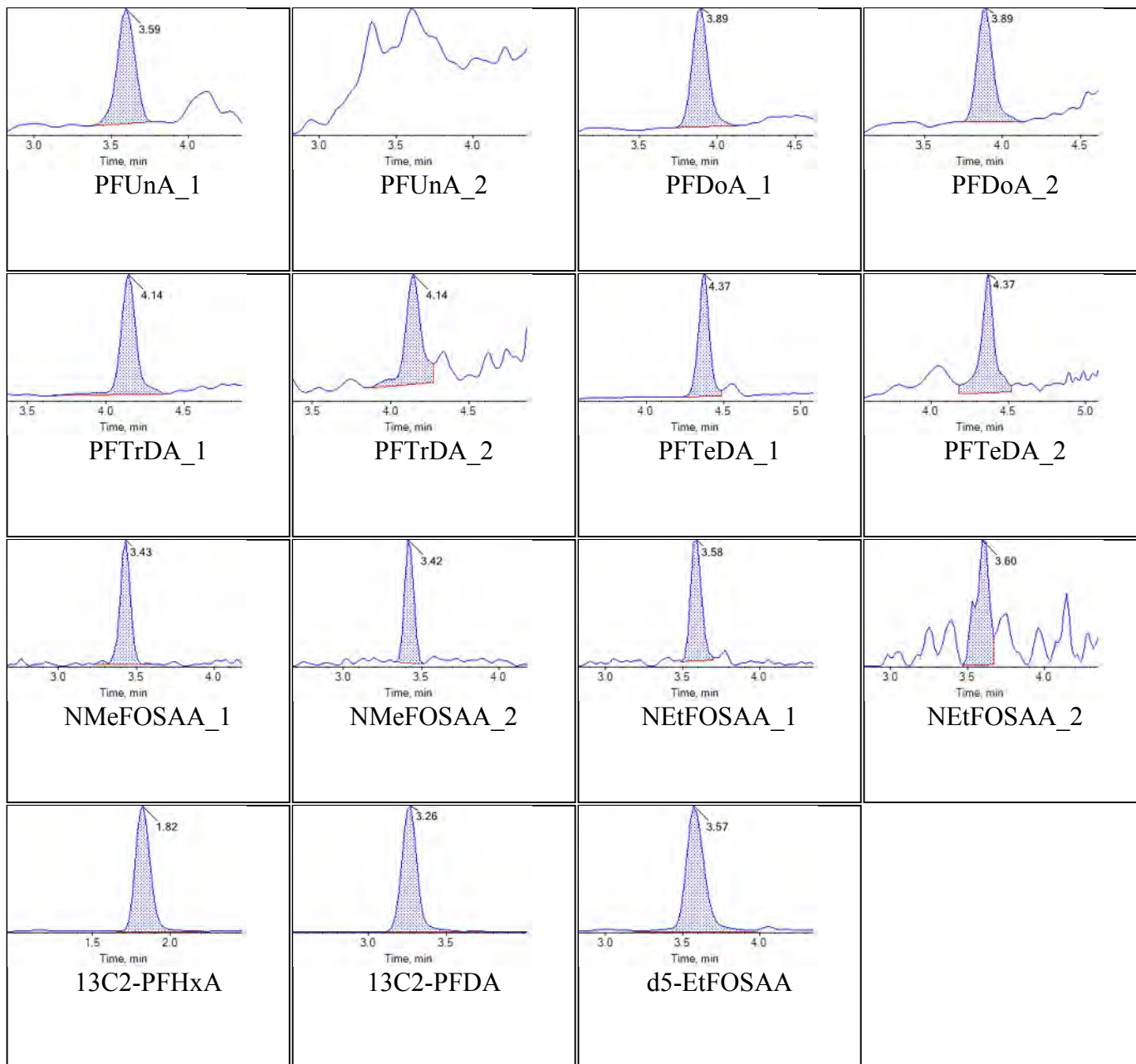
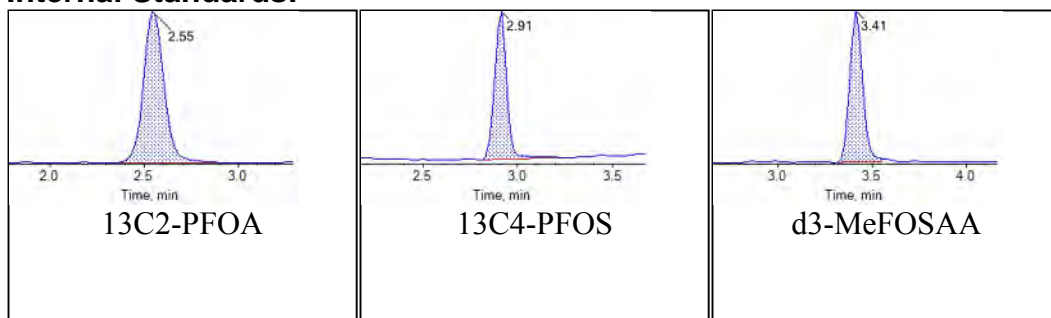
**Internal Standards:**

<b>Sample Name</b>	J7403-FS(2)	<b>Injection Vial</b>	25
<b>Sample ID</b>	JAX-RES-08132018-0945-27	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T18:07:03	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

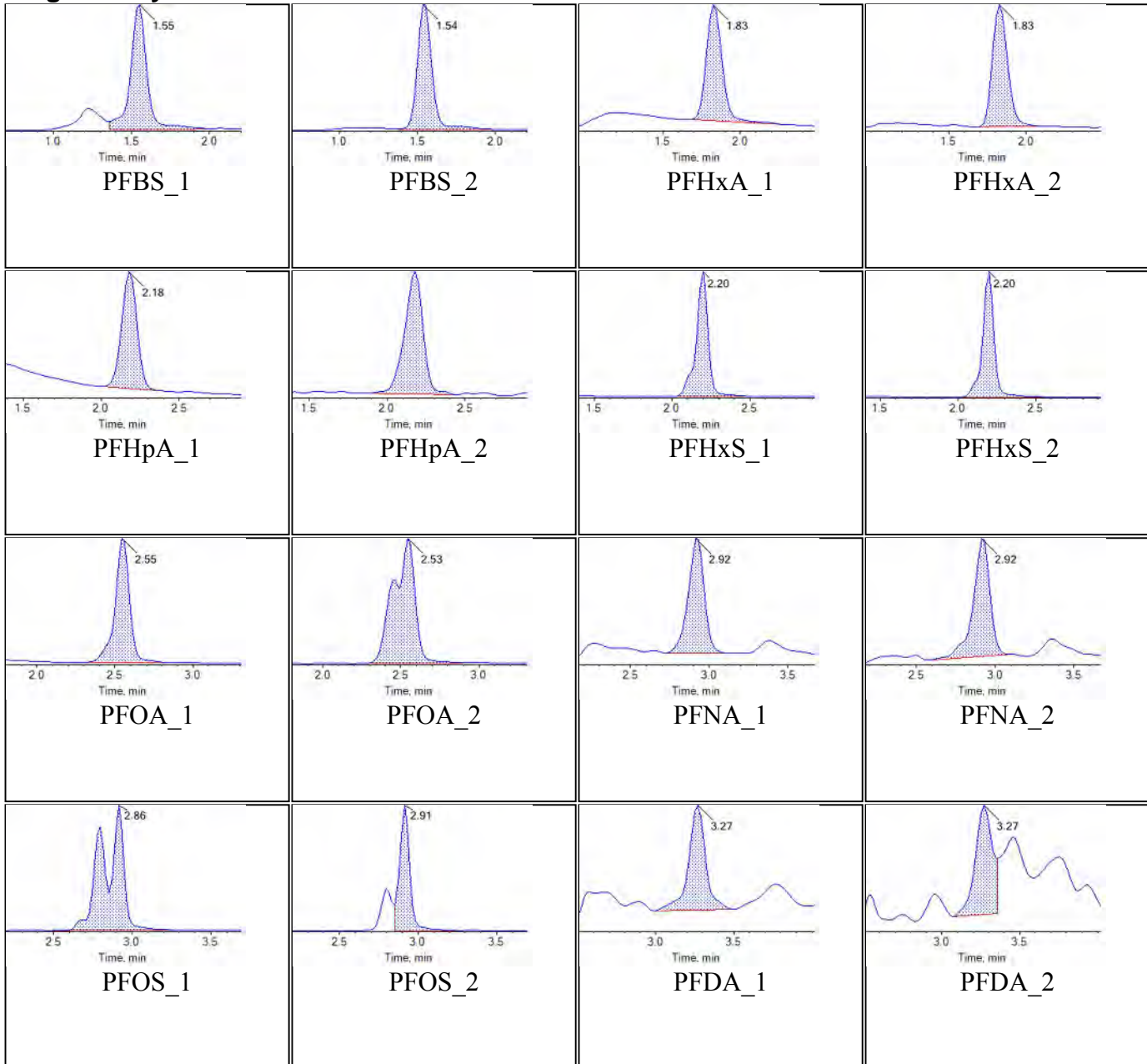


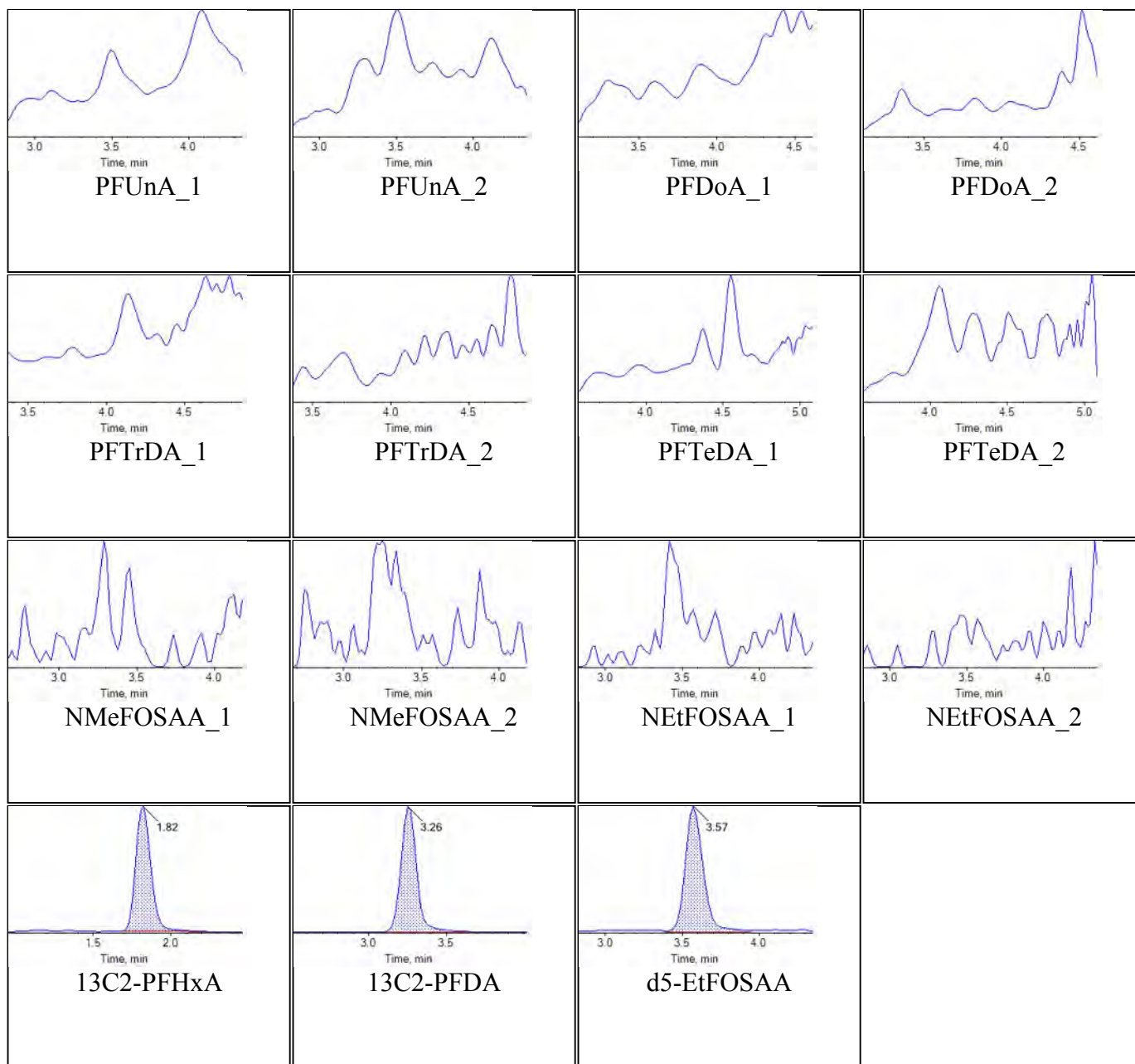
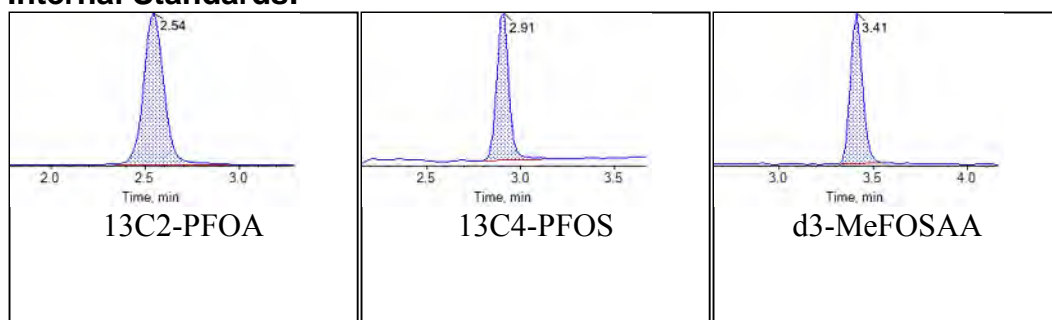
**Internal Standards:**

<b>Sample Name</b>	J7405-FS(2)	<b>Injection Vial</b>	26
<b>Sample ID</b>	JAX-RES-08132018-1100-30	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T18:15:58	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

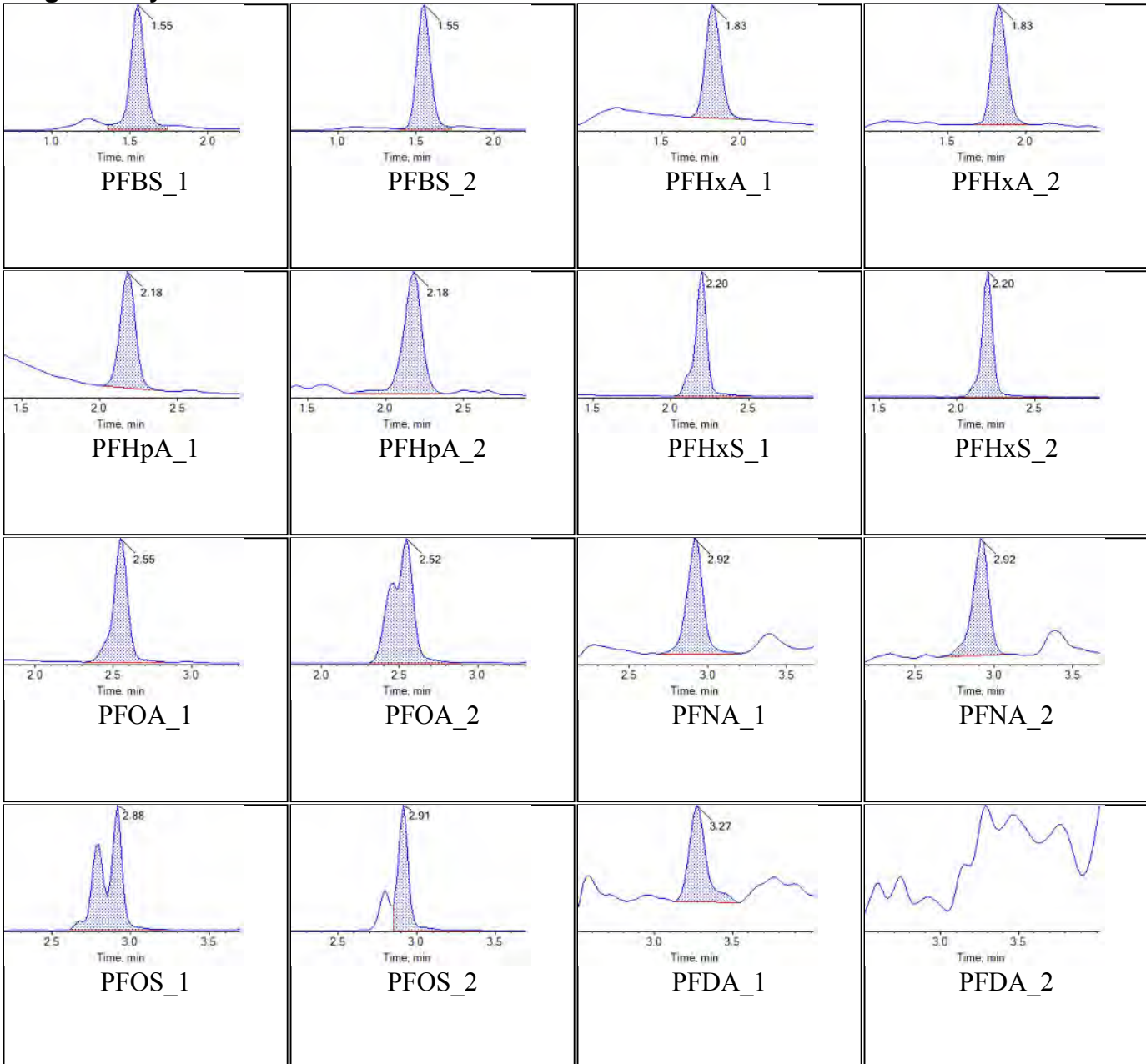


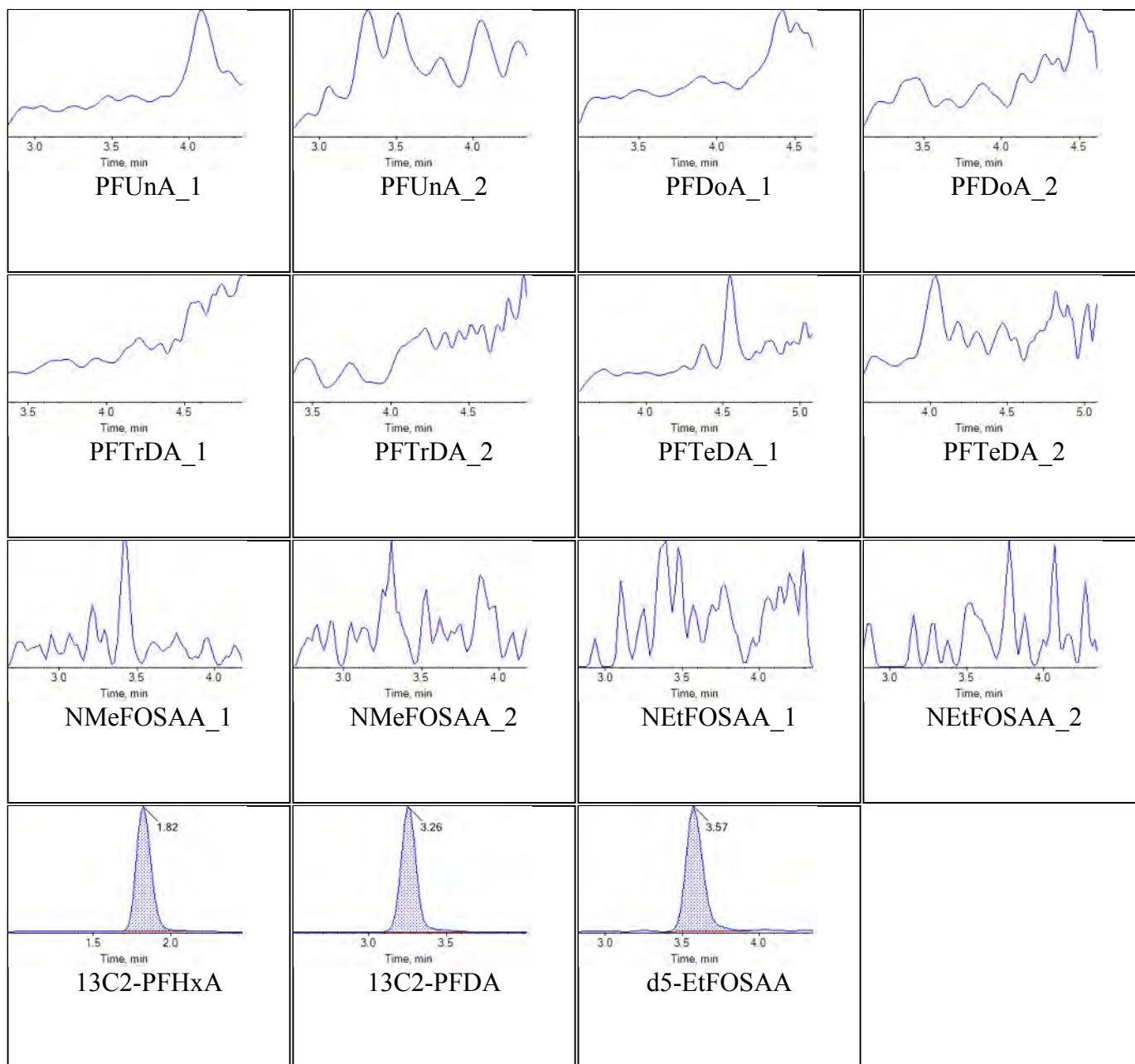
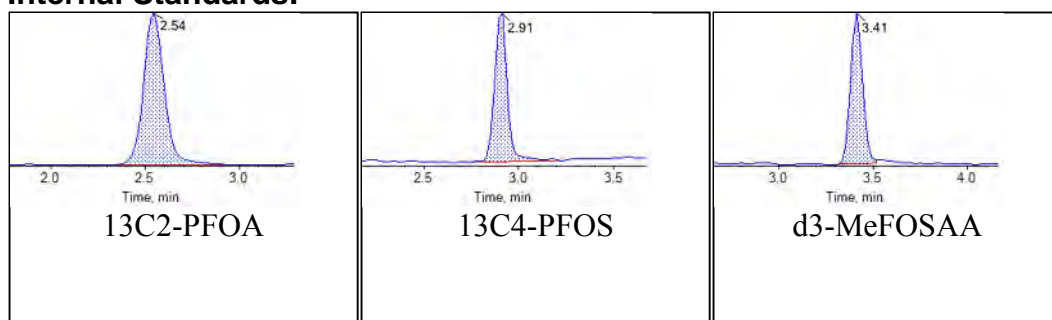
**Internal Standards:**

<b>Sample Name</b>	J7407-FS(2)	<b>Injection Vial</b>	27
<b>Sample ID</b>	JAX-RES-08132018-1145-32	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T18:24:56	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:



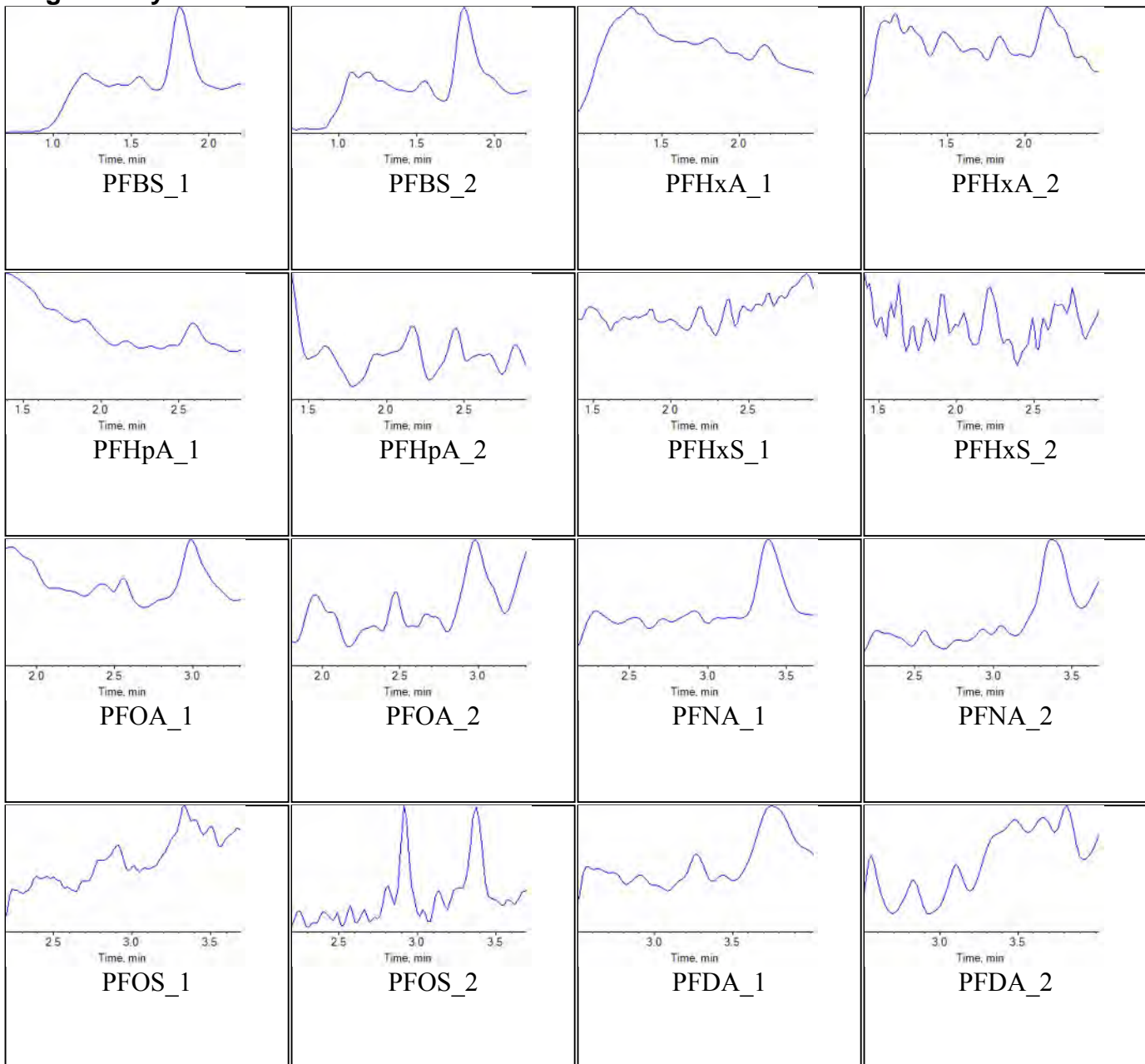
**Internal Standards:**

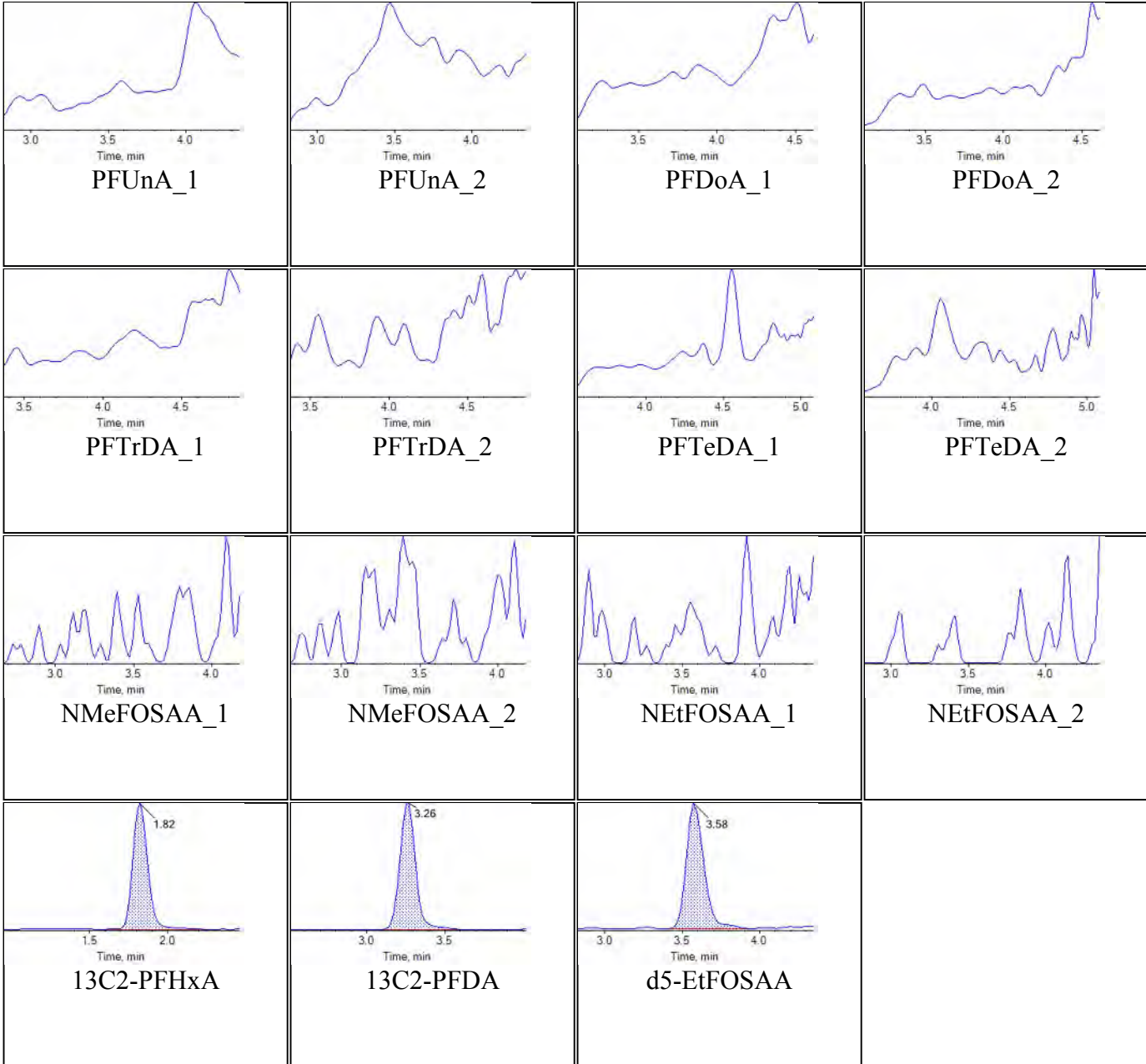
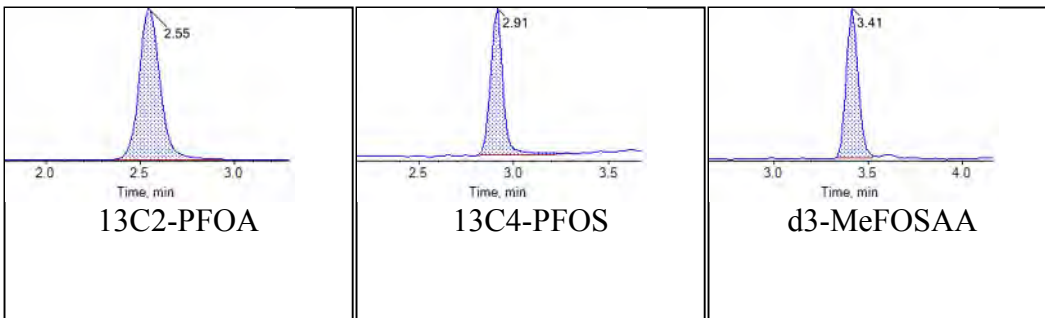


Sample Name	J7409-FS(2)	Injection Vial	28
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:33:52	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:

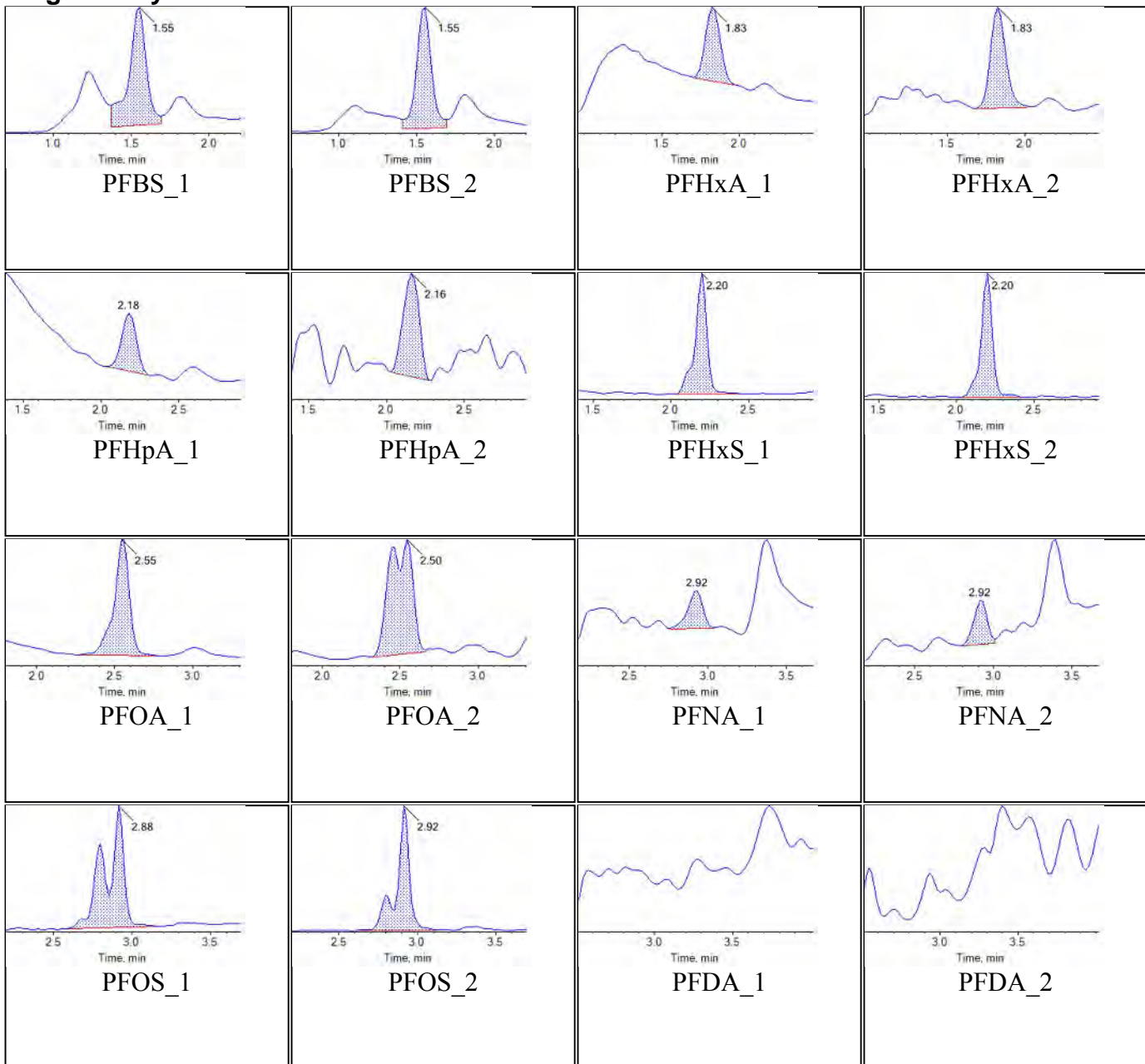


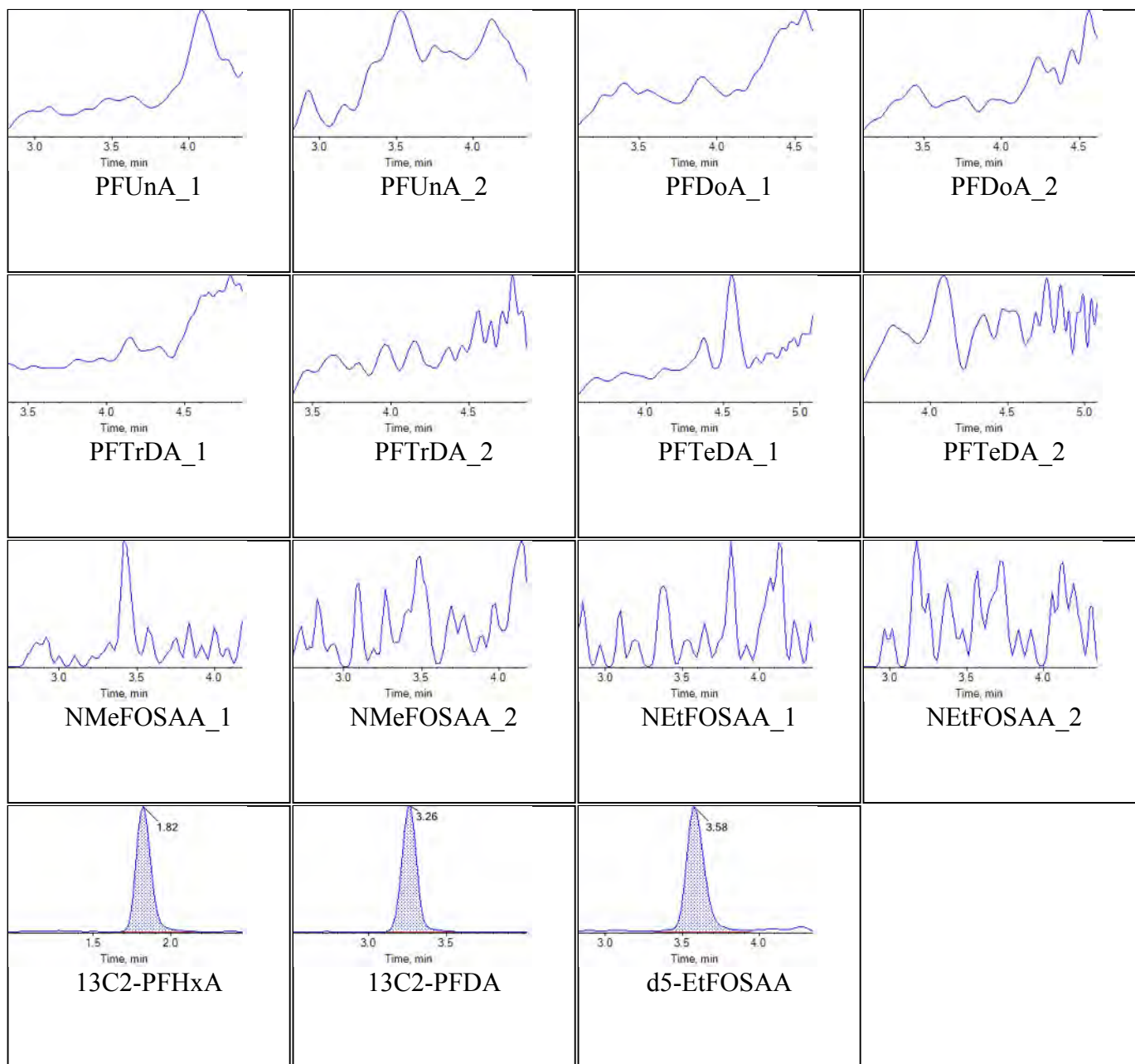
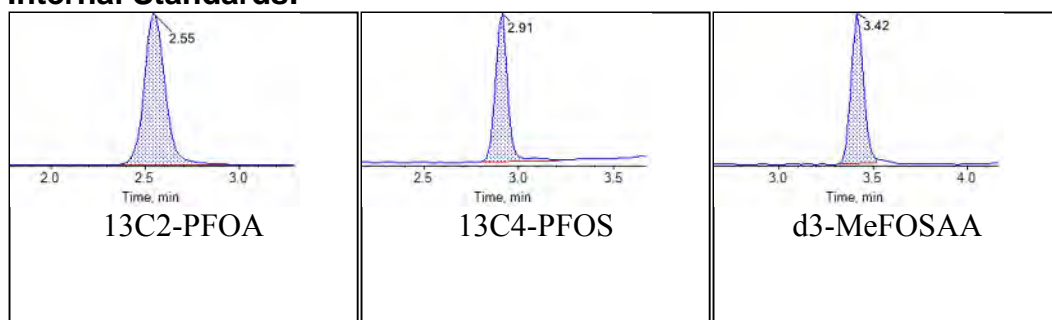
**Internal Standards:**

Sample Name	J7411-FS(2)	Injection Vial	29
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:42:49	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:

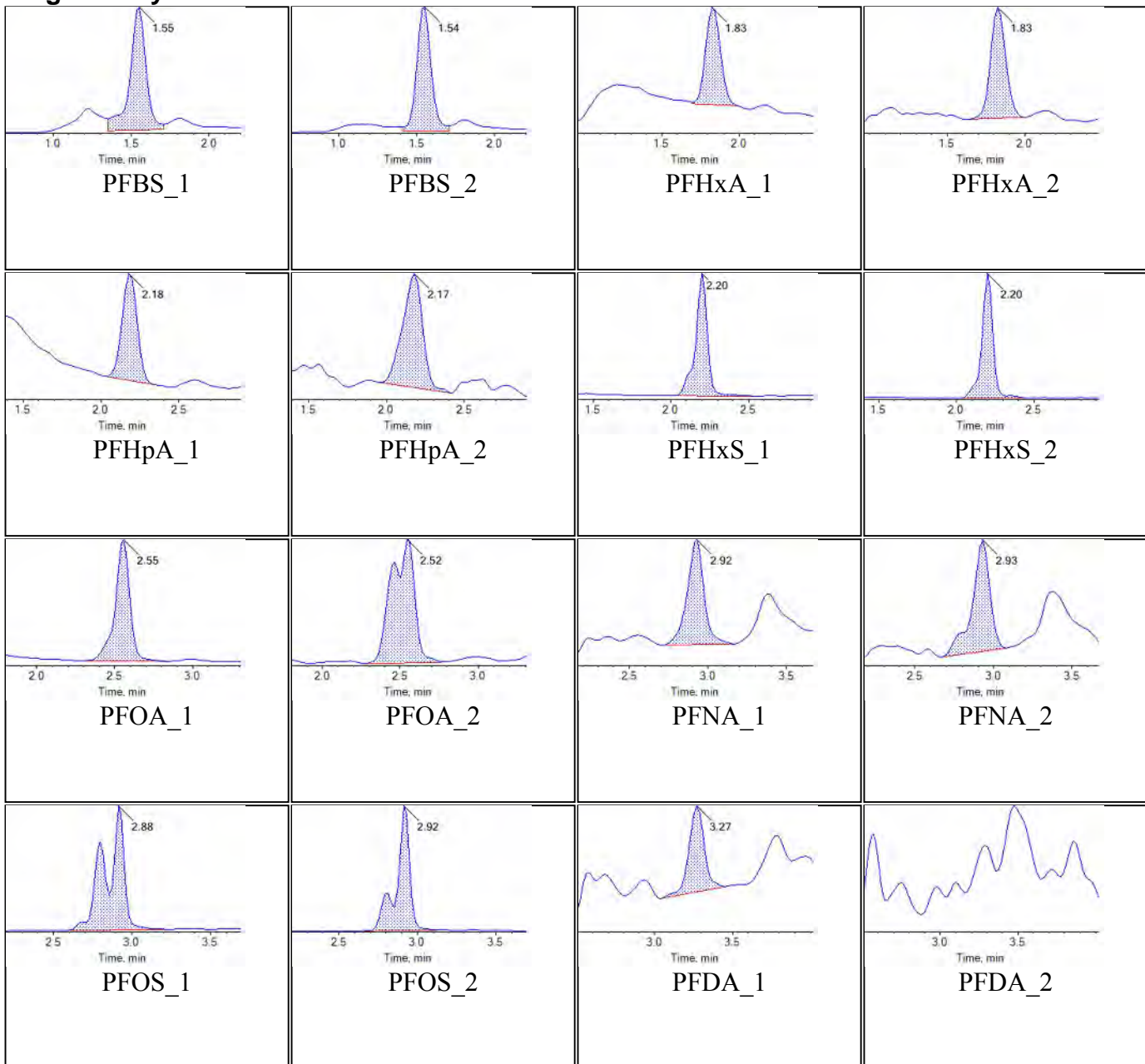


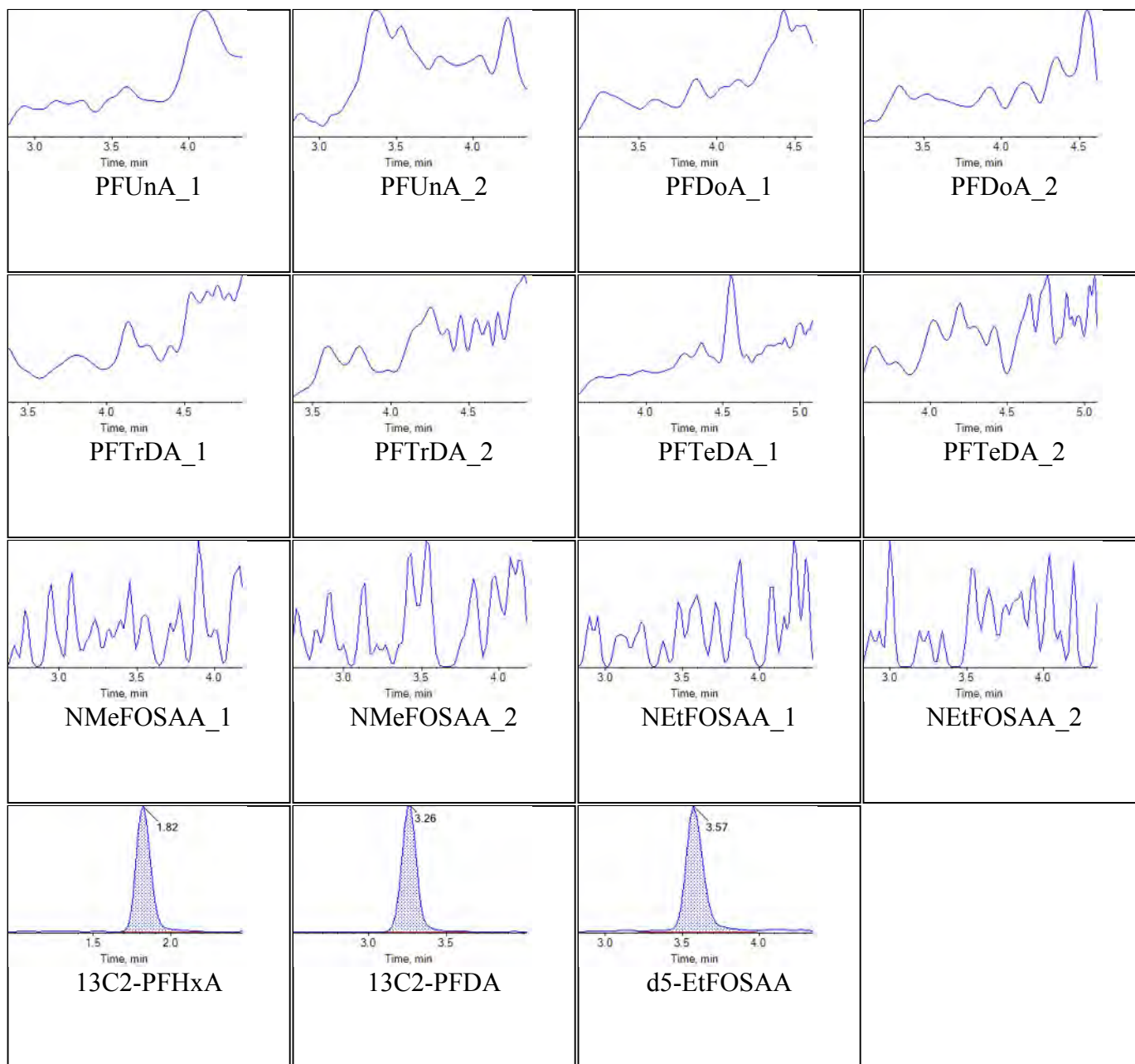
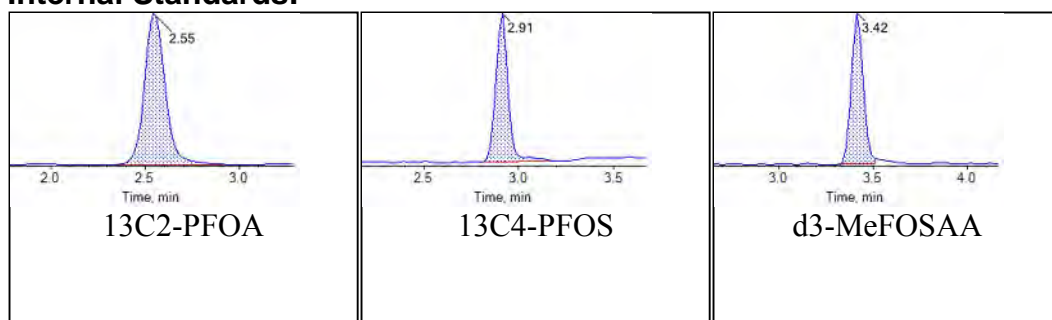
**Internal Standards:**

<b>Sample Name</b>	J7413-FS(2)	<b>Injection Vial</b>	30
<b>Sample ID</b>	JAX-RES-08132018-1700-31	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T18:51:46	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Chromatograms

### Target Analytes:

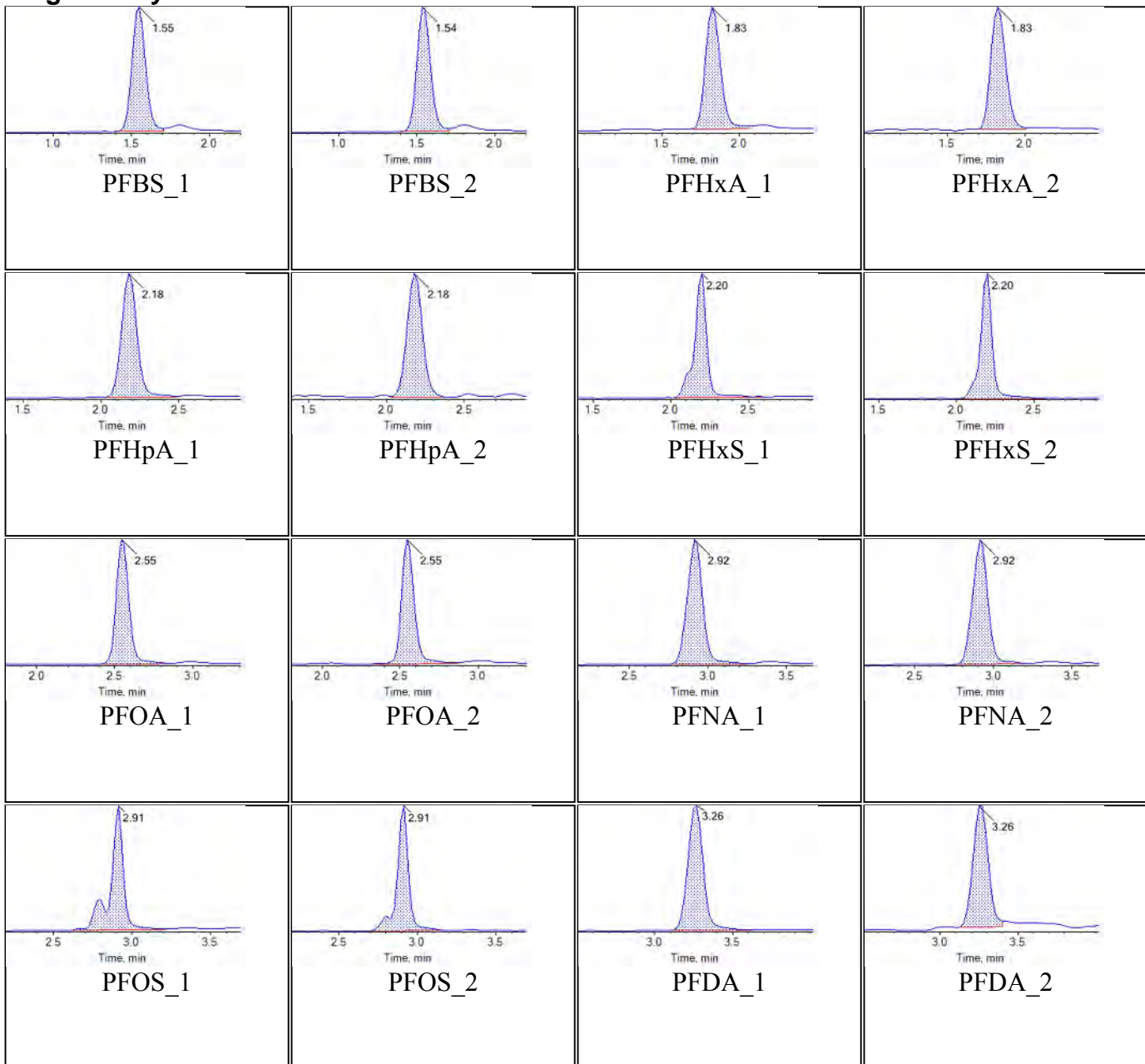


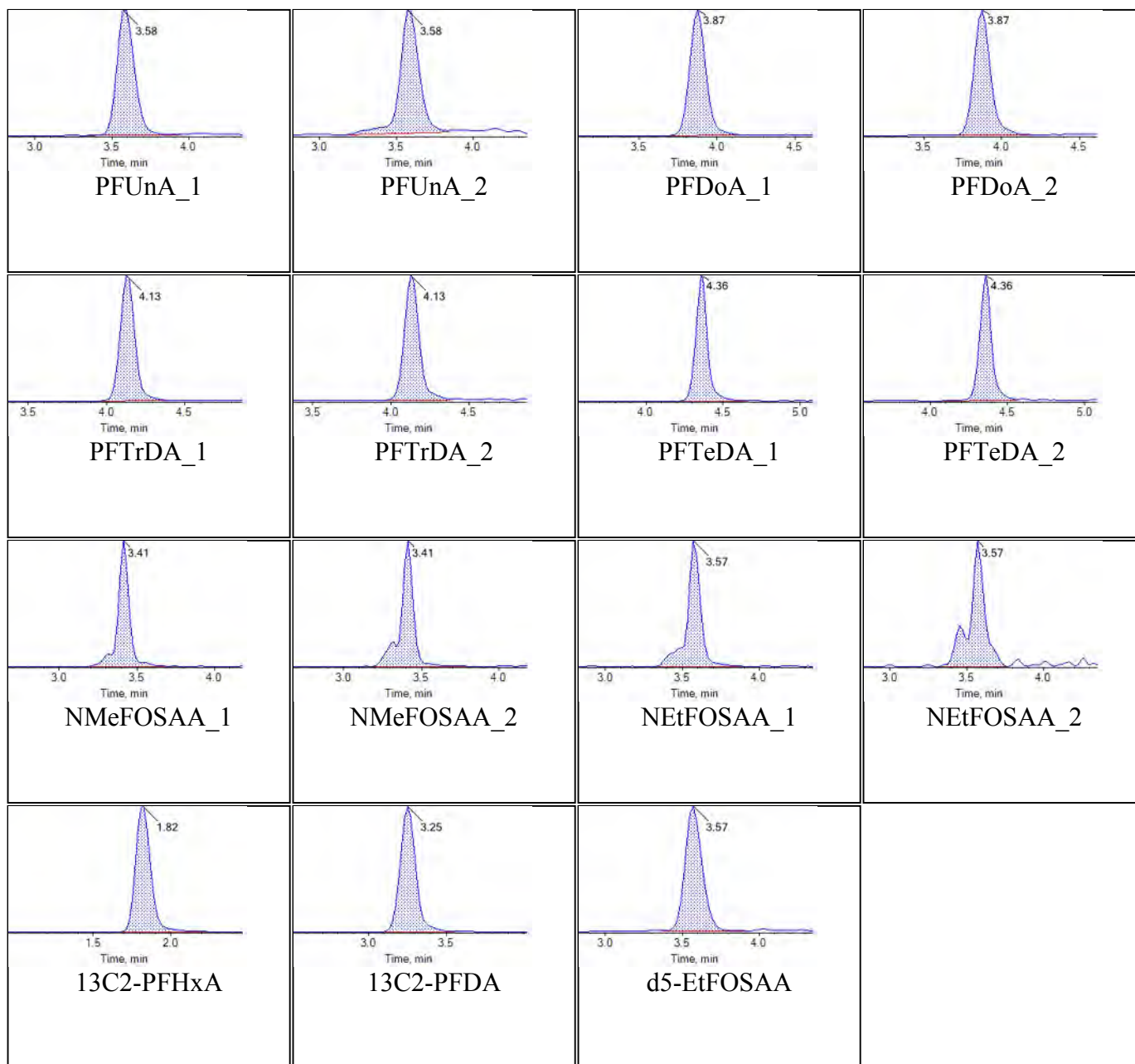
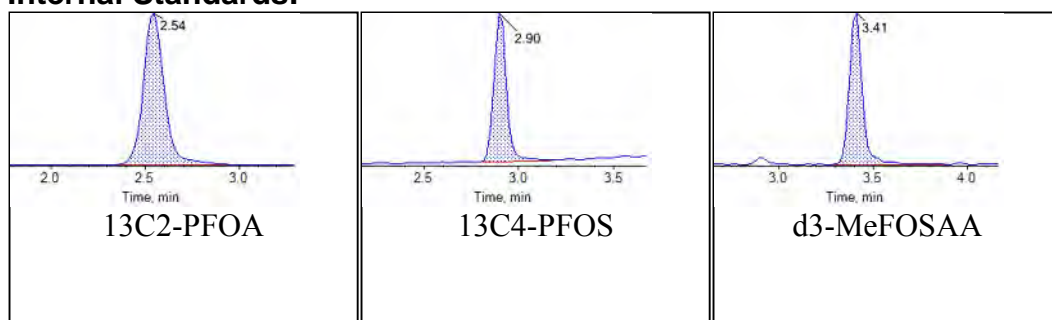
**Internal Standards:**

Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Chromatograms

### Target Analytes:



**Internal Standards:**



# Unused Data

Sequence Report

Created with Analyst Reporter  
 Printed: 21/08/2018 11:06:05 AM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
6	JX71	conditioner	8/15/2018 3:42:13 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 3:51:14 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 4:00:15 PM	5-0371.dam	DW08152018.wiff
2	JX67	conditioner	8/15/2018 4:09:16 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 4:22:18 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 4:31:19 PM	5-0371.dam	DW08152018.wiff
2	JX67	L1	8/15/2018 4:40:20 PM	5-0371.dam	DW08152018.wiff
3	JX68	L2	8/15/2018 4:49:21 PM	5-0371.dam	DW08152018.wiff
4	JX69	L3	8/15/2018 4:58:22 PM	5-0371.dam	DW08152018.wiff
5	JX70	L4	8/15/2018 5:07:23 PM	5-0371.dam	DW08152018.wiff
6	JX71	L5	8/15/2018 5:16:24 PM	5-0371.dam	DW08152018.wiff
7	JX72	L6	8/15/2018 5:25:24 PM	5-0371.dam	DW08152018.wiff
8	JX73	L7	8/15/2018 5:34:26 PM	5-0371.dam	DW08152018.wiff
9	JX74	L8	8/15/2018 5:43:27 PM	5-0371.dam	DW08152018.wiff
10	JZ37	L9	8/15/2018 5:52:27 PM	5-0371.dam	DW08152018.wiff
11	JZ10 IB	Instrument Blank	8/15/2018 6:01:28 PM	5-0371.dam	DW08152018.wiff
12	JX66 ICC	ICC	8/15/2018 6:10:30 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 6:19:30 PM	5-0371.dam	DW08152018.wiff
13	SPE PB	SPE Check	8/15/2018 6:28:32 PM	5-0371.dam	DW08152018.wiff
14	SPE LCS	SPE check	8/15/2018 6:37:33 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 6:46:34 PM	5-0371.dam	DW08152018.wiff
15	CR573PB-FS(0)	Procedural Blank	8/15/2018 6:55:35 PM	5-0371.dam	DW08152018.wiff
16	CR574LCS-FS(0)	Laboratory Control Sample	8/15/2018 7:04:36 PM	5-0371.dam	DW08152018.wiff
17	J7403-FS(2)	JAX-RES-08132018-0945-27	8/15/2018 7:13:37 PM	5-0371.dam	DW08152018.wiff
18	J7403-FS-D(3)	JAX-RES-08132018-0945-27	8/15/2018 7:22:37 PM	5-0371.dam	DW08152018.wiff
19	J7405-FS(2)	JAX-RES-08132018-1100-30	8/15/2018 7:31:38 PM	5-0371.dam	DW08152018.wiff
20	J7405-FS-D(3)	JAX-RES-08132018-	8/15/2018 7:40:39	5-0371.dam	DW08152018.wiff

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
		1100-30	PM		
21	J7407-FS(2)	JAX-RES-08132018-1145-32	8/15/2018 7:49:41 PM	5-0371.dam	DW08152018.wiff
22	J7407-FS-D(3)	JAX-RES-08132018-1145-32	8/15/2018 7:58:42 PM	5-0371.dam	DW08152018.wiff
6	JX71 CCV	L5 CCV	8/15/2018 8:07:42 PM	5-0371.dam	DW08152018.wiff
1	MeOH	Solvent	8/15/2018 8:16:43 PM	5-0371.dam	DW08152018.wiff
23	J7409-FS(2)	JAX-RES-08132018-1445-16	8/15/2018 8:25:44 PM	5-0371.dam	DW08152018.wiff
24	J7409-FS-D(3)	JAX-RES-08132018-1445-16	8/15/2018 8:34:45 PM	5-0371.dam	DW08152018.wiff
25	J7411-FS(2)	JAX-RES-08132018-1600-13	8/15/2018 8:43:46 PM	5-0371.dam	DW08152018.wiff
26	J7411FS-D(3)	JAX-RES-08132018-1600-13	8/15/2018 8:52:48 PM	5-0371.dam	DW08152018.wiff
27	J7413-FS(2)	JAX-RES-08132018-1700-31	8/15/2018 9:01:49 PM	5-0371.dam	DW08152018.wiff
28	J7413-FS-D(3)	JAX-RES-08132018-1700-31	8/15/2018 9:10:50 PM	5-0371.dam	DW08152018.wiff
5	JX70 CCV	L4 CCV	8/15/2018 9:19:51 PM	5-0371.dam	DW08152018.wiff

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T16:40:20	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	10099.438	30.106	109.6	true
PFBS_2	298.9 / 99.0	1.54	3258.141	31.114	69.7	true
PFHxA_1	313.0 / 269.0	1.84	12304.088	25.727	24.2	true
PFHxA_2	313.0 / 119.0	1.83	1070.592	25.086	10.1	true
PFHpA_1	363.0 / 319.0	2.21	11805.721	28.475	30.3	true
PFHpA_2	363.0 / 169.0	2.20	512.971	64.292	16.2	false
PFHxS_1	399.0 / 80.0	2.23	16079.908	30.878	34.6	false
PFHxS_2	399.0 / 99.0	2.23	5546.988	33.367	35.3	false
PFOA_1	413.0 / 369.0	2.60	13397.278	24.944	27.3	true
PFOA_2	413.0 / 169.0	2.60	1068.722	27.543	9.5	true
PFNA_1	463.0 / 419.0	2.98	11318.517	23.146	29.7	true
PFNA_2	463.0 / 219.0	2.97	4385.436	26.432	29.9	true
PFOS_1	499.0 / 80.0	2.97	25250.107	26.255	30.7	false
PFOS_2	499.0 / 99.0	2.97	6920.691	49.864	39.5	false
PFDA_1	513.0 / 469.0	3.32	13815.122	26.972	35.7	false
PFDA_2	513.0 / 219.0	3.36	2139.597	60.873	6.8	false
PFUnA_1	563.0 / 519.0	3.65	11822.531	20.534	38.2	false
PFUnA_2	563.0 / 269.0	3.64	2056.379	27.406	12.9	false
PFDaA_1	613.0 / 569.0	3.94	13611.190	26.773	62.9	false
PFDaA_2	613.0 / 319.0	3.93	2582.187	23.075	22.4	false
PFTrDA_1	663.0 / 619.0	4.19	14326.253	27.156	81.3	false
PFTrDA_2	663.0 / 169.0	4.19	906.311	22.250	15.9	false
PFTeDA_1	713.0 / 669.0	4.42	13354.469	27.695	112.3	false
PFTeDA_2	713.0 / 169.0	4.41	725.055	23.641	24.1	false
NMeFOSAA_1	570.0 / 419.0	3.49	1978.563	26.140	36.6	true
NMeFOSAA_2	570.0 / 512.0	3.47	1195.854	24.602	22.1	false
NEtFOSAA_1	584.0 / 419.0	3.65	1600.197	24.062	26.3	false
NEtFOSAA_2	584.0 / 483.0	4.03	165.977	5.092	3.3	false
13C2-PFHxA	315.0 / 270.0	1.83	47981.478	101.896	508.0	false
13C2-PFDA	515.0 / 470.0	3.32	52456.363	107.865	477.6	false
d5-EtFOSAA	589.0 / 419.0	3.63	39355.504	396.763	274.1	false

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T16:49:21	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	21033.321	48.369	182.8	false
PFBS_2	298.9 / 99.0	1.55	6031.890	46.643	102.1	false
PFHxA_1	313.0 / 269.0	1.82	26133.511	55.126	37.1	false
PFHxA_2	313.0 / 119.0	1.82	2261.363	58.356	17.1	true
PFHpA_1	363.0 / 319.0	2.16	23495.532	52.688	43.7	false
PFHpA_2	363.0 / 169.0	2.14	406.590	50.284	16.9	false
PFHxS_1	399.0 / 80.0	2.17	30956.369	51.543	46.5	false
PFHxS_2	399.0 / 99.0	2.17	8653.150	47.639	48.2	false
PFOA_1	413.0 / 369.0	2.54	28658.516	56.895	55.4	false
PFOA_2	413.0 / 169.0	2.55	1893.715	51.664	15.3	false
PFNA_1	463.0 / 419.0	2.92	22056.805	48.675	48.0	false
PFNA_2	463.0 / 219.0	2.92	8119.763	55.017	41.9	false
PFOS_1	499.0 / 80.0	2.92	51735.775	57.297	50.4	false
PFOS_2	499.0 / 99.0	2.92	8224.834	56.128	40.3	false
PFDA_1	513.0 / 469.0	3.28	25715.750	51.638	66.2	false
PFDA_2	513.0 / 219.0	3.50	1852.818	42.273	8.1	false
PFUnA_1	563.0 / 519.0	3.60	28198.602	55.837	70.7	false
PFUnA_2	563.0 / 269.0	3.60	2284.153	33.524	9.7	false
PFDaA_1	613.0 / 569.0	3.88	27065.626	53.880	91.8	false
PFDaA_2	613.0 / 319.0	3.88	4759.391	49.324	59.7	false
PFTrDA_1	663.0 / 619.0	4.13	25957.124	51.354	133.6	false
PFTrDA_2	663.0 / 169.0	4.13	2417.846	71.947	28.0	false
PFTeDA_1	713.0 / 669.0	4.36	25018.298	52.203	188.0	false
PFTeDA_2	713.0 / 169.0	4.35	1371.064	51.878	41.4	false
NMeFOSAA_1	570.0 / 419.0	3.43	3729.110	50.638	53.2	false
NMeFOSAA_2	570.0 / 512.0	3.42	1645.952	36.110	22.6	false
NEtFOSAA_1	584.0 / 419.0	3.60	2764.108	39.969	28.6	false
NEtFOSAA_2	584.0 / 483.0	3.59	146.930	1.782	5.4	false
13C2-PFHxA	315.0 / 270.0	1.80	50051.909	101.910	577.5	false
13C2-PFDA	515.0 / 470.0	3.26	53739.961	105.948	422.5	false
d5-EtFOSAA	589.0 / 419.0	3.58	40170.444	410.863	230.7	false

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T16:58:22	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	34426.114	93.627	243.1	false
PFBS_2	298.9 / 99.0	1.57	10565.908	96.350	146.7	false
PFHxA_1	313.0 / 269.0	1.84	41935.895	112.539	51.5	false
PFHxA_2	313.0 / 119.0	1.84	3057.957	103.066	26.7	false
PFHpA_1	363.0 / 319.0	2.15	38819.130	106.256	64.2	false
PFHpA_2	363.0 / 169.0	2.14	644.714	93.307	17.9	false
PFHxS_1	399.0 / 80.0	2.16	43403.538	92.875	70.4	false
PFHxS_2	399.0 / 99.0	2.16	13144.189	94.311	79.5	false
PFOA_1	413.0 / 369.0	2.46	39567.962	101.513	56.4	false
PFOA_2	413.0 / 169.0	2.45	2989.057	108.026	17.6	false
PFNA_1	463.0 / 419.0	2.80	38740.306	113.623	72.1	false
PFNA_2	463.0 / 219.0	2.79	10558.039	95.321	50.8	false
PFOS_1	499.0 / 80.0	2.79	57444.912	89.883	56.3	false
PFOS_2	499.0 / 99.0	2.79	10675.101	97.542	58.8	true
PFDA_1	513.0 / 469.0	3.14	41140.379	107.059	95.1	false
PFDA_2	513.0 / 219.0	3.14	1955.712	70.618	14.1	false
PFUnA_1	563.0 / 519.0	3.47	44635.100	116.492	97.1	false
PFUnA_2	563.0 / 269.0	3.47	3684.412	134.243	20.4	false
PFDoA_1	613.0 / 569.0	3.78	40597.152	103.126	126.9	false
PFDoA_2	613.0 / 319.0	3.78	8310.677	120.049	64.5	false
PFTTrDA_1	663.0 / 619.0	4.06	41379.419	107.283	164.1	false
PFTTrDA_2	663.0 / 169.0	4.06	2448.858	93.040	43.5	false
PFTeDA_1	713.0 / 669.0	4.31	39235.079	104.654	216.0	false
PFTeDA_2	713.0 / 169.0	4.31	1974.765	101.604	42.1	false
NMeFOSAA_1	570.0 / 419.0	3.30	5667.926	99.483	61.1	false
NMeFOSAA_2	570.0 / 512.0	3.29	3499.782	106.232	43.7	false
NEtFOSAA_1	584.0 / 419.0	3.46	6183.801	109.315	68.8	false
NEtFOSAA_2	584.0 / 483.0	3.45	241.983	34.286	5.9	false
13C2-PFHxA	315.0 / 270.0	1.83	40512.098	102.493	606.8	false
13C2-PFDA	515.0 / 470.0	3.13	41604.403	101.918	259.9	false
d5-EtFOSAA	589.0 / 419.0	3.46	28339.055	372.085	219.0	false

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:07:23	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	99026.492	204.119	516.2	false
PFBS_2	298.9 / 99.0	1.55	28976.680	202.194	332.0	false
PFHxA_1	313.0 / 269.0	1.82	112322.361	245.506	97.2	false
PFHxA_2	313.0 / 119.0	1.82	8565.175	241.438	68.5	false
PFHpA_1	363.0 / 319.0	2.15	108731.866	237.127	165.9	false
PFHpA_2	363.0 / 169.0	2.14	2210.486	246.883	40.8	false
PFHxS_1	399.0 / 80.0	2.15	119155.489	200.415	124.6	false
PFHxS_2	399.0 / 99.0	2.16	35943.038	205.468	168.2	false
PFOA_1	413.0 / 369.0	2.49	114812.044	244.212	127.2	false
PFOA_2	413.0 / 169.0	2.49	8471.905	255.202	57.0	false
PFNA_1	463.0 / 419.0	2.88	100124.252	242.957	141.7	false
PFNA_2	463.0 / 219.0	2.88	31134.777	240.432	151.0	false
PFOS_1	499.0 / 80.0	2.87	162880.500	216.236	77.0	false
PFOS_2	499.0 / 99.0	2.87	30284.419	222.866	125.6	false
PFDA_1	513.0 / 469.0	3.22	114692.578	245.618	236.9	false
PFDA_2	513.0 / 219.0	3.22	6911.491	290.487	50.1	false
PFUnA_1	563.0 / 519.0	3.52	119370.411	258.538	197.2	false
PFUnA_2	563.0 / 269.0	3.52	6728.629	228.511	42.7	false
PFDoA_1	613.0 / 569.0	3.81	120611.896	250.795	251.3	false
PFDoA_2	613.0 / 319.0	3.81	21695.641	264.340	111.6	false
PFTrDA_1	663.0 / 619.0	4.08	114785.842	246.361	328.8	false
PFTrDA_2	663.0 / 169.0	4.08	7074.421	228.974	82.1	false
PFTeDA_1	713.0 / 669.0	4.32	112728.810	245.912	486.8	false
PFTeDA_2	713.0 / 169.0	4.31	5949.394	262.008	103.1	false
NMeFOSAA_1	570.0 / 419.0	3.37	16736.518	242.506	121.3	false
NMeFOSAA_2	570.0 / 512.0	3.37	9700.565	247.719	70.2	false
NEtFOSAA_1	584.0 / 419.0	3.52	19083.286	272.823	164.0	false
NEtFOSAA_2	584.0 / 483.0	3.51	652.302	109.282	17.1	false
13C2-PFHxA	315.0 / 270.0	1.81	47276.673	96.208	481.7	false
13C2-PFDA	515.0 / 470.0	3.21	48084.992	94.749	510.2	false
d5-EtFOSAA	589.0 / 419.0	3.51	35603.421	384.276	268.6	false

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:16:24	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	281714.428	403.397	1041.9	false
PFBS_2	298.9 / 99.0	1.56	81423.565	395.508	581.6	false
PFHxA_1	313.0 / 269.0	1.82	313790.980	489.660	251.2	false
PFHxA_2	313.0 / 119.0	1.82	24252.389	492.931	131.8	false
PFHpA_1	363.0 / 319.0	2.13	312523.035	482.125	278.8	false
PFHpA_2	363.0 / 169.0	2.13	6984.691	546.595	85.6	false
PFHxS_1	399.0 / 80.0	2.14	359462.853	425.410	174.6	false
PFHxS_2	399.0 / 99.0	2.14	103773.183	420.091	292.7	false
PFOA_1	413.0 / 369.0	2.44	322852.410	493.120	200.4	false
PFOA_2	413.0 / 169.0	2.44	21761.354	471.264	131.7	false
PFNA_1	463.0 / 419.0	2.78	301717.058	527.052	341.8	false
PFNA_2	463.0 / 219.0	2.78	87673.045	491.240	203.7	false
PFOS_1	499.0 / 80.0	2.77	470637.205	453.706	139.3	false
PFOS_2	499.0 / 99.0	2.77	89295.443	467.638	278.0	false
PFDA_1	513.0 / 469.0	3.12	324330.023	497.744	375.9	false
PFDA_2	513.0 / 219.0	3.12	15210.070	481.392	104.1	false
PFUnA_1	563.0 / 519.0	3.45	321789.938	501.247	312.4	false
PFUnA_2	563.0 / 269.0	3.45	16481.259	446.855	84.6	false
PFDoA_1	613.0 / 569.0	3.76	328879.275	488.574	363.8	false
PFDoA_2	613.0 / 319.0	3.76	57260.803	505.187	297.6	false
PFTrDA_1	663.0 / 619.0	4.04	325740.061	502.239	538.6	false
PFTrDA_2	663.0 / 169.0	4.04	21147.460	496.913	160.8	false
PFTeDA_1	713.0 / 669.0	4.30	319987.222	498.846	716.0	false
PFTeDA_2	713.0 / 169.0	4.29	16615.794	530.560	260.5	false
NMeFOSAA_1	570.0 / 419.0	3.28	47671.199	522.228	356.7	false
NMeFOSAA_2	570.0 / 512.0	3.28	28759.541	559.863	212.3	false
NEtFOSAA_1	584.0 / 419.0	3.45	50020.401	536.943	167.0	false
NEtFOSAA_2	584.0 / 483.0	3.44	3828.597	578.136	41.8	false
13C2-PFHxA	315.0 / 270.0	1.82	70452.856	101.816	636.4	false
13C2-PFDA	515.0 / 470.0	3.11	77368.661	108.263	552.7	false
d5-EtFOSAA	589.0 / 419.0	3.44	52626.259	428.759	311.7	false



Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:25:24	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	375673.708	720.622	830.9	false
PFBS_2	298.9 / 99.0	1.55	110049.430	716.394	889.6	false
PFHxA_1	313.0 / 269.0	1.85	379207.452	853.482	254.1	false
PFHxA_2	313.0 / 119.0	1.84	31141.490	917.083	168.1	false
PFHpA_1	363.0 / 319.0	2.20	408783.601	905.889	302.4	false
PFHpA_2	363.0 / 169.0	2.20	9524.630	1066.877	147.0	false
PFHxS_1	399.0 / 80.0	2.21	472279.776	753.678	290.0	false
PFHxS_2	399.0 / 99.0	2.21	131552.894	719.796	349.5	false
PFOA_1	413.0 / 369.0	2.51	442397.931	977.675	253.8	false
PFOA_2	413.0 / 169.0	2.50	32549.552	1022.395	198.6	false
PFNA_1	463.0 / 419.0	2.82	399073.141	1008.821	423.4	false
PFNA_2	463.0 / 219.0	2.81	125823.405	1025.641	369.8	false
PFOS_1	499.0 / 80.0	2.81	632242.041	832.316	134.7	false
PFOS_2	499.0 / 99.0	2.81	119182.432	845.211	365.5	false
PFDA_1	513.0 / 469.0	3.14	417525.506	925.891	362.8	false
PFDA_2	513.0 / 219.0	3.14	20518.169	980.336	126.3	false
PFUnA_1	563.0 / 519.0	3.46	426803.615	962.973	369.0	false
PFUnA_2	563.0 / 269.0	3.46	22322.449	934.303	120.0	false
PFDaA_1	613.0 / 569.0	3.76	429376.149	920.664	482.1	false
PFDaA_2	613.0 / 319.0	3.76	72280.021	926.757	314.3	false
PFTrDA_1	663.0 / 619.0	4.04	413841.386	922.907	573.6	false
PFTrDA_2	663.0 / 169.0	4.04	26056.667	888.532	269.3	false
PFTeDA_1	713.0 / 669.0	4.29	403706.267	908.187	910.2	false
PFTeDA_2	713.0 / 169.0	4.29	21000.007	974.026	317.6	false
NMeFOSAA_1	570.0 / 419.0	3.29	60510.742	1025.729	437.3	false
NMeFOSAA_2	570.0 / 512.0	3.30	36558.851	1104.794	303.6	false
NEtFOSAA_1	584.0 / 419.0	3.46	66363.051	1098.491	464.6	false
NEtFOSAA_2	584.0 / 483.0	3.46	4138.084	984.646	49.4	false
13C2-PFHxA	315.0 / 270.0	1.84	45669.664	94.976	431.1	false
13C2-PFDA	515.0 / 470.0	3.13	44111.411	88.825	379.9	false
d5-EtFOSAA	589.0 / 419.0	3.44	35969.995	453.163	222.5	false

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:34:26	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.58	871039.638	1847.695	1721.4	false
PFBS_2	298.9 / 99.0	1.57	257768.685	1856.652	1123.5	false
PFHxA_1	313.0 / 269.0	1.84	964279.882	2354.482	307.7	false
PFHxA_2	313.0 / 119.0	1.83	72859.378	2334.434	250.4	false
PFHpA_1	363.0 / 319.0	2.13	990189.307	2372.916	405.2	false
PFHpA_2	363.0 / 169.0	2.13	19382.370	2343.528	246.1	false
PFHxS_1	399.0 / 80.0	2.13	1109954.446	1968.355	257.5	false
PFHxS_2	399.0 / 99.0	2.13	315592.815	1921.870	544.0	false
PFOA_1	413.0 / 369.0	2.43	954404.685	2290.966	372.1	false
PFOA_2	413.0 / 169.0	2.42	66287.907	2262.786	196.9	false
PFNA_1	463.0 / 419.0	2.76	877632.474	2410.757	350.1	false
PFNA_2	463.0 / 219.0	2.75	263002.641	2334.402	389.1	false
PFOS_1	499.0 / 80.0	2.75	1336932.270	1974.311	192.4	false
PFOS_2	499.0 / 99.0	2.75	253677.387	2006.228	707.6	true
PFDA_1	513.0 / 469.0	3.10	963378.426	2319.786	544.6	false
PFDA_2	513.0 / 219.0	3.10	43043.760	2288.649	209.7	false
PFUnA_1	563.0 / 519.0	3.43	922957.644	2263.952	555.6	false
PFUnA_2	563.0 / 269.0	3.43	48592.619	2292.696	170.0	false
PFDoA_1	613.0 / 569.0	3.75	992962.169	2309.951	565.1	false
PFDoA_2	613.0 / 319.0	3.75	161603.729	2259.292	484.4	false
PFTrDA_1	663.0 / 619.0	4.03	953270.222	2310.233	583.3	false
PFTrDA_2	663.0 / 169.0	4.03	64937.325	2413.948	374.0	false
PFTeDA_1	713.0 / 669.0	4.29	948130.447	2314.159	1107.7	false
PFTeDA_2	713.0 / 169.0	4.28	46685.850	2360.142	577.0	false
NMeFOSAA_1	570.0 / 419.0	3.26	146140.645	2386.875	540.7	false
NMeFOSAA_2	570.0 / 512.0	3.26	90695.641	2645.896	395.7	false
NEtFOSAA_1	584.0 / 419.0	3.43	146580.802	2333.567	654.2	false
NEtFOSAA_2	584.0 / 483.0	3.43	9930.619	2311.763	65.5	false
13C2-PFHxA	315.0 / 270.0	1.82	46223.902	104.081	476.4	false
13C2-PFDA	515.0 / 470.0	3.09	46787.284	102.008	387.0	false
d5-EtFOSAA	589.0 / 419.0	3.42	35120.807	426.152	224.4	false

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:43:27	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	2248769.311	3950.438	2519.6	false
PFBS_2	298.9 / 99.0	1.57	646714.097	3858.858	1668.8	false
PFHxA_1	313.0 / 269.0	1.83	2319548.188	4575.458	654.1	false
PFHxA_2	313.0 / 119.0	1.83	181789.540	4710.398	494.4	false
PFHpA_1	363.0 / 319.0	2.12	2341611.612	4529.224	557.9	false
PFHpA_2	363.0 / 169.0	2.12	48304.103	4709.728	300.6	false
PFHxS_1	399.0 / 80.0	2.13	2722420.283	4005.234	498.0	false
PFHxS_2	399.0 / 99.0	2.13	790430.673	3995.348	846.1	false
PFOA_1	413.0 / 369.0	2.42	2414143.830	4684.678	482.5	false
PFOA_2	413.0 / 169.0	2.42	171249.347	4727.558	400.8	false
PFNA_1	463.0 / 419.0	2.75	2073197.028	4603.835	803.5	false
PFNA_2	463.0 / 219.0	2.75	654237.200	4699.246	869.7	false
PFOS_1	499.0 / 80.0	2.74	3336834.977	4101.343	268.8	false
PFOS_2	499.0 / 99.0	2.74	621121.478	4079.407	758.6	false
PFDA_1	513.0 / 469.0	3.10	2368622.148	4609.609	774.5	false
PFDA_2	513.0 / 219.0	3.09	105697.622	4585.575	336.2	false
PFUnA_1	563.0 / 519.0	3.43	2355343.564	4672.219	761.1	false
PFUnA_2	563.0 / 269.0	3.43	120844.471	4670.986	315.8	false
PFDoA_1	613.0 / 569.0	3.75	2490540.369	4681.277	885.5	false
PFDoA_2	613.0 / 319.0	3.75	410119.119	4641.183	729.4	false
PFTrDA_1	663.0 / 619.0	4.03	2302955.885	4511.773	744.5	false
PFTrDA_2	663.0 / 169.0	4.03	151599.130	4558.768	532.5	false
PFTeDA_1	713.0 / 669.0	4.28	2328038.891	4590.979	1605.7	false
PFTeDA_2	713.0 / 169.0	4.28	112784.014	4614.204	868.7	false
NMeFOSAA_1	570.0 / 419.0	3.26	345450.158	4447.110	999.5	false
NMeFOSAA_2	570.0 / 512.0	3.26	211949.575	4876.685	743.5	false
NEtFOSAA_1	584.0 / 419.0	3.43	356403.460	4468.875	724.8	false
NEtFOSAA_2	584.0 / 483.0	3.43	22871.491	4218.318	106.9	false
13C2-PFHxA	315.0 / 270.0	1.82	58473.977	106.309	547.4	false
13C2-PFDA	515.0 / 470.0	3.09	58028.530	102.153	532.0	false
d5-EtFOSAA	589.0 / 419.0	3.42	42151.054	403.071	245.1	false

Sample Name	JZ37	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T17:52:27	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	6357497.130	9893.675	4599.0	false
PFBS_2	298.9 / 99.0	1.56	1889542.826	9988.338	3750.3	false
PFHxA_1	313.0 / 269.0	1.83	6722609.572	10713.021	1019.4	false
PFHxA_2	313.0 / 119.0	1.83	503347.601	10542.207	788.1	false
PFHpA_1	363.0 / 319.0	2.13	6857938.981	10710.300	1047.4	false
PFHpA_2	363.0 / 169.0	2.13	131439.380	10342.796	717.8	false
PFHxS_1	399.0 / 80.0	2.13	7809949.958	10187.212	729.4	false
PFHxS_2	399.0 / 99.0	2.13	2292628.772	10277.710	1056.5	false
PFOA_1	413.0 / 369.0	2.43	6728160.525	10550.997	1169.6	false
PFOA_2	413.0 / 169.0	2.43	470625.999	10501.105	639.2	false
PFNA_1	463.0 / 419.0	2.76	5820328.070	10446.135	985.2	false
PFNA_2	463.0 / 219.0	2.76	1800508.803	10457.269	1076.1	false
PFOS_1	499.0 / 80.0	2.75	9369018.847	10228.804	504.3	false
PFOS_2	499.0 / 99.0	2.75	1747486.489	10181.980	1126.8	true
PFDA_1	513.0 / 469.0	3.10	6766491.140	10640.681	1143.0	false
PFDA_2	513.0 / 219.0	3.10	301397.821	10623.561	737.3	false
PFUnA_1	563.0 / 519.0	3.44	6594483.703	10573.207	1214.5	false
PFUnA_2	563.0 / 269.0	3.44	338229.087	10642.407	627.4	false
PFDoA_1	613.0 / 569.0	3.75	6973680.167	10589.959	1221.3	false
PFDoA_2	613.0 / 319.0	3.75	1162158.189	10635.794	1182.8	false
PFTrDA_1	663.0 / 619.0	4.03	6786674.604	10745.693	1303.8	false
PFTrDA_2	663.0 / 169.0	4.03	438025.983	10650.629	966.2	false
PFTeDA_1	713.0 / 669.0	4.28	6704810.451	10682.366	1967.5	false
PFTeDA_2	713.0 / 169.0	4.28	317572.546	10506.937	1366.1	false
NMeFOSAA_1	570.0 / 419.0	3.26	957621.650	10624.291	1328.1	false
NMeFOSAA_2	570.0 / 512.0	3.26	495204.825	9823.099	770.0	false
NEtFOSAA_1	584.0 / 419.0	3.43	975920.700	10540.954	1211.3	false
NEtFOSAA_2	584.0 / 483.0	3.43	68355.179	10907.137	397.2	false
13C2-PFHxA	315.0 / 270.0	1.82	61508.821	90.312	487.4	false
13C2-PFDA	515.0 / 470.0	3.09	62087.921	88.270	308.5	false
d5-EtFOSAA	589.0 / 419.0	3.42	39423.906	324.867	243.0	false

<b>Sample Name</b>	JX66 ICC	<b>Injection Vial</b>	12
<b>Sample ID</b>	ICC	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-15T18:10:30	<b>Data File</b>	DW08152018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0505-DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.57	381554.727	751.659	1047.3	false
PFBS_2	298.9 / 99.0	1.57	112234.366	750.325	694.6	false
PFHxA_1	313.0 / 269.0	1.84	407057.009	880.696	280.1	false
PFHxA_2	313.0 / 119.0	1.83	31180.191	882.315	133.8	true
PFHpA_1	363.0 / 319.0	2.12	416880.388	888.020	343.7	false
PFHpA_2	363.0 / 169.0	2.12	9087.862	978.946	150.7	false
PFHxS_1	399.0 / 80.0	2.13	498638.910	817.255	291.2	false
PFHxS_2	399.0 / 99.0	2.13	143517.689	806.522	370.1	false
PFOA_1	413.0 / 369.0	2.42	429092.092	911.103	253.5	false
PFOA_2	413.0 / 169.0	2.42	30302.173	914.137	136.6	false
PFNA_1	463.0 / 419.0	2.75	384209.751	933.093	270.5	false
PFNA_2	463.0 / 219.0	2.75	118297.753	925.872	271.4	false
PFOS_1	499.0 / 80.0	2.75	583590.305	789.205	197.8	false
PFOS_2	499.0 / 99.0	2.74	121923.671	888.477	413.8	false
PFDA_1	513.0 / 469.0	3.10	412384.087	878.778	341.4	false
PFDA_2	513.0 / 219.0	3.10	18010.421	819.515	110.7	false
PFUnA_1	563.0 / 519.0	3.44	422307.811	915.518	326.9	false
PFUnA_2	563.0 / 269.0	3.44	23737.782	956.467	136.5	false
PFDoA_1	613.0 / 569.0	3.75	436898.026	900.373	363.4	false
PFDoA_2	613.0 / 319.0	3.75	75657.606	932.489	294.7	false
PFTrDA_1	663.0 / 619.0	4.03	420953.441	902.214	439.3	false
PFTrDA_2	663.0 / 169.0	4.03	27878.875	914.053	217.5	false
PFTeDA_1	713.0 / 669.0	4.28	417370.477	902.473	797.9	false
PFTeDA_2	713.0 / 169.0	4.28	21205.045	945.045	294.9	false
NMeFOSAA_1	570.0 / 419.0	3.26	72361.763	1035.843	337.3	false
NMeFOSAA_2	570.0 / 512.0	3.26	39342.784	1003.601	284.5	false
NEtFOSAA_1	584.0 / 419.0	3.43	73696.865	1030.334	477.4	false
NEtFOSAA_2	584.0 / 483.0	3.43	5399.427	1087.742	67.6	false
13C2-PFHxA	315.0 / 270.0	1.82	50960.388	101.866	905.1	false
13C2-PFDA	515.0 / 470.0	3.09	49528.779	95.864	435.0	false
d5-EtFOSAA	589.0 / 419.0	3.42	39181.710	416.850	227.1	false

Sample Name	JX71 CCV	Injection Vial	6
Sample ID	L5 CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T20:07:42	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	312560.967	421.383	895.6	false
PFBS_2	298.9 / 99.0	1.52	90743.314	414.968	631.1	false
PFHxA_1	313.0 / 269.0	1.78	323538.310	500.697	219.2	false
PFHxA_2	313.0 / 119.0	1.77	26255.605	529.714	162.9	false
PFHpA_1	363.0 / 319.0	2.11	320107.751	489.658	284.1	false
PFHpA_2	363.0 / 169.0	2.11	6079.844	472.610	72.0	false
PFHxS_1	399.0 / 80.0	2.12	367072.303	409.740	192.9	false
PFHxS_2	399.0 / 99.0	2.12	105274.154	401.910	279.9	false
PFOA_1	413.0 / 369.0	2.49	345924.125	524.271	217.4	false
PFOA_2	413.0 / 169.0	2.49	24202.103	520.444	115.2	false
PFNA_1	463.0 / 419.0	2.88	295172.711	511.110	294.2	false
PFNA_2	463.0 / 219.0	2.88	97347.227	541.928	241.7	false
PFOS_1	499.0 / 80.0	2.87	476110.737	432.375	135.5	false
PFOS_2	499.0 / 99.0	2.87	91257.849	450.598	273.8	false
PFDA_1	513.0 / 469.0	3.24	348508.446	530.659	362.8	false
PFDA_2	513.0 / 219.0	3.24	15054.805	471.582	117.4	true
PFUnA_1	563.0 / 519.0	3.57	362120.358	560.140	345.6	false
PFUnA_2	563.0 / 269.0	3.57	20722.347	573.611	103.8	false
PFDaA_1	613.0 / 569.0	3.84	380423.155	560.869	397.0	false
PFDaA_2	613.0 / 319.0	3.84	62730.953	549.769	257.0	false
PFTrDA_1	663.0 / 619.0	4.06	379330.017	580.841	527.7	false
PFTrDA_2	663.0 / 169.0	4.06	25139.892	587.499	222.3	false
PFTeDA_1	713.0 / 669.0	4.25	359196.849	555.627	854.2	false
PFTeDA_2	713.0 / 169.0	4.25	17056.142	540.254	259.0	false
NMeFOSAA_1	570.0 / 419.0	3.40	43902.031	413.940	417.8	false
NMeFOSAA_2	570.0 / 512.0	3.40	31674.375	530.670	261.3	false
NEtFOSAA_1	584.0 / 419.0	3.56	52653.670	486.921	421.9	false
NEtFOSAA_2	584.0 / 483.0	3.57	3009.256	382.395	46.0	false
13C2-PFHxA	315.0 / 270.0	1.77	70000.061	100.313	1020.4	false
13C2-PFDA	515.0 / 470.0	3.23	78613.343	109.083	589.8	false
d5-EtFOSAA	589.0 / 419.0	3.56	53747.067	377.025	283.0	false

<b>Sample Name</b>	JX70 CCV	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4 CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-15T21:19:51	<b>Data File</b>	DW08152018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0505-DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	140404.720	214.753	555.2	false
PFBS_2	298.9 / 99.0	1.52	41309.219	213.869	435.5	false
PFHxA_1	313.0 / 269.0	1.80	162097.019	286.732	170.8	false
PFHxA_2	313.0 / 119.0	1.80	11954.993	273.250	66.5	true
PFHpA_1	363.0 / 319.0	2.17	152520.907	268.537	150.8	false
PFHpA_2	363.0 / 169.0	2.17	4204.736	376.283	70.6	false
PFHxS_1	399.0 / 80.0	2.19	164084.260	205.246	137.0	false
PFHxS_2	399.0 / 99.0	2.19	48165.886	204.927	216.5	false
PFOA_1	413.0 / 369.0	2.55	157166.278	270.714	149.4	false
PFOA_2	413.0 / 169.0	2.55	10547.123	256.772	73.8	false
PFNA_1	463.0 / 419.0	2.93	146856.691	289.113	199.9	false
PFNA_2	463.0 / 219.0	2.92	44922.875	282.054	158.7	false
PFOS_1	499.0 / 80.0	2.92	223795.274	221.260	110.3	false
PFOS_2	499.0 / 99.0	2.92	42552.659	232.959	182.8	false
PFDA_1	513.0 / 469.0	3.27	155991.085	270.381	215.0	false
PFDA_2	513.0 / 219.0	3.27	8957.308	306.511	68.9	false
PFUnA_1	563.0 / 519.0	3.60	170619.782	299.676	188.9	false
PFUnA_2	563.0 / 269.0	3.59	7652.748	204.604	50.0	true
PFDaA_1	613.0 / 569.0	3.89	164806.270	277.240	301.9	false
PFDaA_2	613.0 / 319.0	3.89	29073.365	287.160	161.7	false
PFTrDA_1	663.0 / 619.0	4.13	171620.531	298.822	419.0	false
PFTrDA_2	663.0 / 169.0	4.13	11239.436	296.694	126.7	false
PFTeDA_1	713.0 / 669.0	4.33	162410.640	286.793	562.7	false
PFTeDA_2	713.0 / 169.0	4.33	7557.643	269.243	150.5	false
NMeFOSAA_1	570.0 / 419.0	3.42	27299.990	255.916	165.3	false
NMeFOSAA_2	570.0 / 512.0	3.43	17012.272	281.614	154.0	true
NEtFOSAA_1	584.0 / 419.0	3.59	26458.598	244.985	258.9	false
NEtFOSAA_2	584.0 / 483.0	3.58	1663.160	198.022	22.7	true
13C2-PFHxA	315.0 / 270.0	1.79	68201.312	112.150	629.8	false
13C2-PFDA	515.0 / 470.0	3.26	67040.337	106.744	286.2	false
d5-EtFOSAA	589.0 / 419.0	3.58	53457.397	373.224	288.0	false

Sample Name	JZ10 IB	Injection Vial	11
Sample ID	Instrument Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T18:01:28	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.58	2132.757	14.952	36.2	true
PFBS_2	298.9 / 99.0	1.56	728.958	14.730	22.4	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	2.13	5370.498	12.593	10.5	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	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	2.77	2401.126	< 0	8.4	true
PFNA_2	463.0 / 219.0	N/A	N/A	N/A	N/A	true
PFOS_1	499.0 / 80.0	2.77	4932.681	< 0	11.2	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	3.45	3411.902	0.137	13.2	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.75	3446.935	3.600	13.9	false
PFDoA_2	613.0 / 319.0	3.76	887.013	< 0	8.3	false
PFTTrDA_1	663.0 / 619.0	4.04	3162.889	0.772	22.6	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.28	3210.473	3.490	29.0	false
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	3.29	748.781	8.055	11.3	false
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
13C2-PFHxA	315.0 / 270.0	1.81	57808.745	109.116	491.5	false
13C2-PFDA	515.0 / 470.0	3.10	58331.749	106.610	362.2	false
d5-EtFOSAA	589.0 / 419.0	3.43	41553.711	361.565	272.5	false



Sample Name	CR573PB-FS(0)	Injection Vial	15
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T18:55:35	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	N/A	N/A	N/A	N/A	true
PFHxA_1	313.0 / 269.0	1.82	17246.120	28.933	16.7	true
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	2.09	8475.706	17.013	18.6	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	2.37	10459.197	13.389	14.1	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	true
PFNA_1	463.0 / 419.0	2.67	2908.817	< 0	8.5	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	2.66	1869.528	13.779	20.1	false
PFDA_1	513.0 / 469.0	N/A	N/A	N/A	N/A	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.34	2222.943	< 0	8.3	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
PFTTrDA_1	663.0 / 619.0	3.95	989.581	< 0	6.8	false
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	N/A	N/A	N/A	N/A	true
PFTeDA_2	713.0 / 169.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_1	570.0 / 419.0	N/A	N/A	N/A	N/A	true
NMeFOSAA_2	570.0 / 512.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_1	584.0 / 419.0	N/A	N/A	N/A	N/A	true
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true
13C2-PFHxA	315.0 / 270.0	1.81	49793.263	83.969	505.4	false
13C2-PFDA	515.0 / 470.0	2.99	44488.835	72.644	271.1	false
d5-EtFOSAA	589.0 / 419.0	3.32	31900.881	329.187	232.4	false

Sample Name	CR574LCS-FS(0)	Injection Vial	16
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:04:36	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.58	1000964.133	1784.285	1981.4	false
PFBS_2	298.9 / 99.0	1.57	283953.724	1719.121	955.2	false
PFHxA_1	313.0 / 269.0	1.82	1148598.462	2349.538	438.6	false
PFHxA_2	313.0 / 119.0	1.82	79552.135	2134.731	255.7	true
PFHpA_1	363.0 / 319.0	2.09	1075571.417	2159.529	428.1	false
PFHpA_2	363.0 / 169.0	2.09	21407.178	2168.876	233.9	false
PFHxS_1	399.0 / 80.0	2.10	1230714.291	1834.045	338.1	false
PFHxS_2	399.0 / 99.0	2.10	356170.104	1822.466	635.2	false
PFOA_1	413.0 / 369.0	2.37	1057743.675	2126.717	376.0	false
PFOA_2	413.0 / 169.0	2.36	77983.594	2230.057	271.4	false
PFNA_1	463.0 / 419.0	2.66	956683.003	2201.024	502.4	false
PFNA_2	463.0 / 219.0	2.66	288029.289	2140.920	395.0	false
PFOS_1	499.0 / 80.0	2.66	1390812.843	1724.757	350.2	false
PFOS_2	499.0 / 99.0	2.66	289313.498	1922.400	541.7	false
PFDA_1	513.0 / 469.0	2.99	1021833.004	2060.863	574.4	false
PFDA_2	513.0 / 219.0	2.99	46376.397	2061.061	279.9	false
PFUnA_1	563.0 / 519.0	3.31	972947.324	1998.585	478.6	false
PFUnA_2	563.0 / 269.0	3.31	50646.525	1993.462	230.8	false
PFDoA_1	613.0 / 569.0	3.63	1005070.851	1958.322	523.9	false
PFDoA_2	613.0 / 319.0	3.63	167403.930	1959.220	470.5	false
PFTTrDA_1	663.0 / 619.0	3.91	957991.223	1944.125	605.6	false
PFTTrDA_2	663.0 / 169.0	3.91	63723.567	1982.808	361.5	false
PFTeDA_1	713.0 / 669.0	4.17	879213.807	1797.116	1063.7	false
PFTeDA_2	713.0 / 169.0	4.17	43300.411	1831.394	537.6	false
NMeFOSAA_1	570.0 / 419.0	3.15	166210.777	2105.345	658.2	false
NMeFOSAA_2	570.0 / 512.0	3.15	90858.454	2054.782	577.1	false
NEtFOSAA_1	584.0 / 419.0	3.32	157978.457	1951.060	858.6	false
NEtFOSAA_2	584.0 / 483.0	3.31	8465.035	1519.053	118.9	false
13C2-PFHxA	315.0 / 270.0	1.81	48091.759	90.719	772.8	false
13C2-PFDA	515.0 / 470.0	2.98	44309.913	80.934	418.0	false
d5-EtFOSAA	589.0 / 419.0	3.30	28646.971	269.589	193.9	false

Sample Name	J7403-FS(2)	Injection Vial	17
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:13:37	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.58	538605.202	1755.306	315.8	false
PFBS_2	298.9 / 99.0	1.58	113290.306	1256.745	376.5	false
PFHxA_1	313.0 / 269.0	1.82	284450.259	995.107	90.1	false
PFHxA_2	313.0 / 119.0	1.82	21780.599	997.177	92.6	false
PFHpA_1	363.0 / 319.0	2.09	186531.230	642.754	94.2	false
PFHpA_2	363.0 / 169.0	2.08	4708.445	820.785	53.4	false
PFHxS_1	399.0 / 80.0	2.09	1007948.849	2742.870	218.9	false
PFHxS_2	399.0 / 99.0	2.09	290022.081	2710.914	362.8	false
PFOA_1	413.0 / 369.0	2.35	499277.517	1718.380	162.2	false
PFOA_2	413.0 / 169.0	2.33	52784.660	2586.538	129.0	false
PFNA_1	463.0 / 419.0	2.65	30135.651	112.838	40.0	false
PFNA_2	463.0 / 219.0	2.65	9065.495	105.535	40.9	false
PFOS_1	499.0 / 80.0	2.59	1078005.452	2446.500	111.5	false
PFOS_2	499.0 / 99.0	2.64	141760.107	1722.165	215.3	true
PFDA_1	513.0 / 469.0	2.97	19051.842	61.493	44.0	false
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.29	12573.043	37.490	40.4	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.60	14145.002	44.151	46.8	false
PFDoA_2	613.0 / 319.0	3.60	1781.578	24.777	14.8	false
PFTTrDA_1	663.0 / 619.0	3.89	12691.398	38.574	55.7	false
PFTTrDA_2	663.0 / 169.0	3.89	747.841	30.399	9.7	false
PFTeDA_1	713.0 / 669.0	4.14	10283.377	32.976	63.0	false
PFTeDA_2	713.0 / 169.0	4.13	564.758	30.069	12.0	false
NMeFOSAA_1	570.0 / 419.0	3.13	2615.789	58.746	43.0	false
NMeFOSAA_2	570.0 / 512.0	3.12	1728.804	65.861	27.7	false
NEtFOSAA_1	584.0 / 419.0	3.30	2048.657	48.247	41.5	false
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true
13C2-PFHxA	315.0 / 270.0	1.81	27884.290	90.095	327.3	false
13C2-PFDA	515.0 / 470.0	2.97	21517.062	67.317	247.6	false
d5-EtFOSAA	589.0 / 419.0	3.28	13279.559	224.205	98.3	false

Sample Name	J7403-FS-D(3)	Injection Vial	18
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:22:37	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	64591.343	139.314	170.0	false
PFBS_2	298.9 / 99.0	1.54	14996.327	111.535	138.3	false
PFHxA_1	313.0 / 269.0	1.84	42687.462	90.680	42.9	false
PFHxA_2	313.0 / 119.0	1.84	3860.753	103.608	24.0	false
PFHpA_1	363.0 / 319.0	2.19	27114.581	59.879	37.9	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.20	151747.979	257.856	135.9	false
PFHxS_2	399.0 / 99.0	2.20	44653.096	258.633	164.3	false
PFOA_1	413.0 / 369.0	2.49	73781.329	153.308	75.4	false
PFOA_2	413.0 / 169.0	2.48	8851.877	264.093	34.1	false
PFNA_1	463.0 / 419.0	2.77	4359.979	4.485	11.8	true
PFNA_2	463.0 / 219.0	2.77	1287.144	< 0	6.7	true
PFOS_1	499.0 / 80.0	2.72	165245.333	223.371	60.2	false
PFOS_2	499.0 / 99.0	2.76	23322.030	175.053	87.1	false
PFDA_1	513.0 / 469.0	3.04	4219.782	4.642	11.9	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.33	2762.641	< 0	7.5	true
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDoA_1	613.0 / 569.0	3.62	1621.410	0.246	12.6	true
PFDoA_2	613.0 / 319.0	N/A	N/A	N/A	N/A	true
PFTTrDA_1	663.0 / 619.0	3.90	3048.484	0.954	18.1	false
PFTTrDA_2	663.0 / 169.0	3.88	465.483	5.885	6.9	false
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
13C2-PFHxA	315.0 / 270.0	1.83	4141.863	8.341	105.8	false
13C2-PFDA	515.0 / 470.0	3.04	3357.736	6.547	67.1	false
d5-EtFOSAA	589.0 / 419.0	3.33	2358.370	29.224	25.5	false

Sample Name	J7405-FS(2)	Injection Vial	19
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:31:38	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	1522227.961	2702.915	447.3	false
PFBS_2	298.9 / 99.0	1.56	366738.128	2213.454	527.4	false
PFHxA_1	313.0 / 269.0	1.80	754061.113	1412.375	128.4	false
PFHxA_2	313.0 / 119.0	1.80	58534.514	1436.915	142.9	false
PFHpA_1	363.0 / 319.0	2.08	506206.059	932.353	133.1	false
PFHpA_2	363.0 / 169.0	2.08	11432.310	1064.393	90.0	false
PFHxS_1	399.0 / 80.0	2.09	3320141.408	4929.151	279.1	false
PFHxS_2	399.0 / 99.0	2.08	958183.112	4887.955	405.5	false
PFOA_1	413.0 / 369.0	2.36	1529745.179	2820.165	270.6	false
PFOA_2	413.0 / 169.0	2.34	155033.845	4068.213	197.1	false
PFNA_1	463.0 / 419.0	2.65	60160.253	120.936	60.0	false
PFNA_2	463.0 / 219.0	2.66	19247.366	121.291	66.0	false
PFOS_1	499.0 / 80.0	2.60	3651369.852	4530.826	171.7	false
PFOS_2	499.0 / 99.0	2.64	539909.435	3579.637	449.8	false
PFDA_1	513.0 / 469.0	2.96	15435.857	24.126	30.7	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.79	43301.920	74.849	358.6	false
13C2-PFDA	515.0 / 470.0	2.96	43437.336	72.702	271.1	false
d5-EtFOSAA	589.0 / 419.0	3.26	28919.774	281.169	187.9	false

Sample Name	J7405-FS-D(3)	Injection Vial	20
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:40:39	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	156648.413	321.046	405.9	false
PFBS_2	298.9 / 99.0	1.56	40811.332	284.683	264.6	false
PFHxA_1	313.0 / 269.0	1.81	84071.514	179.038	84.9	false
PFHxA_2	313.0 / 119.0	1.81	6648.224	181.537	46.6	false
PFHpA_1	363.0 / 319.0	2.08	50830.877	109.418	61.0	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.09	324932.221	544.514	147.3	false
PFHxS_2	399.0 / 99.0	2.08	89037.328	511.131	196.4	false
PFOA_1	413.0 / 369.0	2.35	130677.131	272.508	124.5	false
PFOA_2	413.0 / 169.0	2.33	14984.413	446.614	45.0	false
PFNA_1	463.0 / 419.0	2.63	5847.854	7.984	10.8	true
PFNA_2	463.0 / 219.0	2.64	2049.385	5.709	11.7	true
PFOS_1	499.0 / 80.0	2.58	356706.258	488.953	64.9	false
PFOS_2	499.0 / 99.0	2.62	49040.719	365.278	172.5	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.80	4643.117	9.242	125.4	false
13C2-PFDA	515.0 / 470.0	2.93	4366.045	8.415	60.5	false
d5-EtFOSAA	589.0 / 419.0	3.24	1220.221	13.639	23.6	false

Sample Name	J7407-FS(2)	Injection Vial	21
Sample ID	JAX-RES-08132018-1145-32	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:49:41	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	1174264.262	2090.801	506.5	false
PFBS_2	298.9 / 99.0	1.55	307898.146	1862.816	580.3	false
PFHxA_1	313.0 / 269.0	1.79	500232.766	979.101	128.9	false
PFHxA_2	313.0 / 119.0	1.79	38496.550	986.050	130.3	false
PFHpA_1	363.0 / 319.0	2.09	369306.796	711.823	136.1	false
PFHpA_2	363.0 / 169.0	2.08	8781.665	856.264	102.4	false
PFHxS_1	399.0 / 80.0	2.10	1508930.433	2246.842	219.0	false
PFHxS_2	399.0 / 99.0	2.10	448901.622	2295.485	342.2	false
PFOA_1	413.0 / 369.0	2.43	995968.103	1918.565	239.7	false
PFOA_2	413.0 / 169.0	2.42	106121.997	2910.429	210.8	false
PFNA_1	463.0 / 419.0	2.76	44458.201	92.049	58.8	false
PFNA_2	463.0 / 219.0	2.76	15155.174	98.038	66.1	false
PFOS_1	499.0 / 80.0	2.72	2713969.797	3371.051	190.5	false
PFOS_2	499.0 / 99.0	2.75	408328.849	2711.816	472.2	false
PFDA_1	513.0 / 469.0	3.05	8931.313	12.837	23.4	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.33	1085.296	< 0	11.4	false
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
13C2-PFHxA	315.0 / 270.0	1.78	47401.739	85.693	421.2	false
13C2-PFDA	515.0 / 470.0	3.04	45071.958	78.897	455.3	false
d5-EtFOSAA	589.0 / 419.0	3.33	26085.408	259.031	194.9	false

Sample Name	J7407-FS-D(3)	Injection Vial	22
Sample ID	JAX-RES-08132018-1145-32	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T19:58:42	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	112955.789	220.621	342.0	false
PFBS_2	298.9 / 99.0	1.53	30203.928	200.683	225.5	false
PFHxA_1	313.0 / 269.0	1.82	46714.843	103.419	58.7	false
PFHxA_2	313.0 / 119.0	1.82	4067.843	114.067	23.1	false
PFHpA_1	363.0 / 319.0	2.18	36617.088	83.251	52.8	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.20	136784.142	218.415	125.7	false
PFHxS_2	399.0 / 99.0	2.20	38042.503	206.958	172.7	false
PFOA_1	413.0 / 369.0	2.56	87935.548	191.057	89.8	false
PFOA_2	413.0 / 169.0	2.55	9331.679	289.798	42.0	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	2.90	260478.139	332.483	63.9	false
PFOS_2	499.0 / 99.0	2.93	39449.425	275.810	158.6	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.81	4840.107	10.122	118.0	false
13C2-PFDA	515.0 / 470.0	3.27	3838.423	7.773	78.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	2914.464	28.491	44.8	false



Sample Name	J7409-FS(2)	Injection Vial	23
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T20:25:44	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	1.50	2789.341	28.676	26.0	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	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	4.48	1387.736	0.177	11.8	false
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
13C2-PFHxA	315.0 / 270.0	1.80	44476.039	96.406	370.5	false
13C2-PFDA	515.0 / 470.0	3.24	39513.390	82.932	342.5	false
d5-EtFOSAA	589.0 / 419.0	3.56	27376.872	277.566	172.2	false

Sample Name	J7409-FS-D(3)	Injection Vial	24
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T20:34:45	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	N/A	N/A	N/A	N/A	true
PFBS_2	298.9 / 99.0	1.51	630.920	15.245	15.4	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	N/A	N/A	N/A	N/A	true
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.80	3460.317	8.480	63.2	false
13C2-PFDA	515.0 / 470.0	3.26	3861.651	9.163	43.8	false
d5-EtFOSAA	589.0 / 419.0	3.57	2784.249	33.017	27.7	false

Sample Name	J7411-FS(2)	Injection Vial	25
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T20:43:46	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	110245.463	218.468	137.8	false
PFBS_2	298.9 / 99.0	1.53	24578.850	167.477	143.3	false
PFHxA_1	313.0 / 269.0	1.81	58376.325	117.630	37.5	true
PFHxA_2	313.0 / 119.0	1.82	4285.826	108.734	21.6	false
PFHpA_1	363.0 / 319.0	2.17	29140.902	60.625	32.2	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.19	235120.659	376.209	93.5	false
PFHxS_2	399.0 / 99.0	2.19	66355.160	363.029	151.0	false
PFOA_1	413.0 / 369.0	2.55	109048.129	215.686	83.2	false
PFOA_2	413.0 / 169.0	2.51	13068.595	370.178	42.6	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	2.89	366821.301	477.539	66.8	false
PFOS_2	499.0 / 99.0	2.92	59788.230	422.737	189.8	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.80	44538.531	84.524	440.3	false
13C2-PFDA	515.0 / 470.0	3.26	41144.905	75.607	355.7	false
d5-EtFOSAA	589.0 / 419.0	3.58	24777.773	223.781	159.9	false

Sample Name	J7411FS-D(3)	Injection Vial	26
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T20:52:48	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	6540.604	23.392	57.7	true
PFBS_2	298.9 / 99.0	1.53	2277.128	24.786	48.3	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	2.20	17549.566	32.780	29.2	false
PFHxS_2	399.0 / 99.0	2.20	5538.470	32.923	43.4	false
PFOA_1	413.0 / 369.0	2.56	12857.406	22.062	21.3	false
PFOA_2	413.0 / 169.0	N/A	N/A	N/A	N/A	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	2.90	33249.577	36.021	22.5	false
PFOS_2	499.0 / 99.0	2.93	5996.965	42.930	42.5	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.80	3316.223	6.642	104.9	false
13C2-PFDA	515.0 / 470.0	3.27	3714.914	7.205	64.1	false
d5-EtFOSAA	589.0 / 419.0	3.58	2034.992	19.205	29.6	false

Sample Name	J7413-FS(2)	Injection Vial	27
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T21:01:49	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.54	211935.236	481.009	226.8	true
PFBS_2	298.9 / 99.0	1.54	66051.985	507.807	283.4	false
PFHxA_1	313.0 / 269.0	1.83	102725.554	244.549	70.1	false
PFHxA_2	313.0 / 119.0	1.82	8172.324	251.204	44.3	false
PFHpA_1	363.0 / 319.0	2.19	76903.149	183.091	59.2	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.21	348191.469	652.940	129.5	false
PFHxS_2	399.0 / 99.0	2.21	99488.174	639.302	203.0	false
PFOA_1	413.0 / 369.0	2.57	253617.429	595.258	140.7	false
PFOA_2	413.0 / 169.0	2.53	26609.282	889.940	80.6	true
PFNA_1	463.0 / 419.0	2.95	12756.500	28.330	25.0	false
PFNA_2	463.0 / 219.0	2.94	4727.881	31.050	29.2	false
PFOS_1	499.0 / 80.0	2.91	1047014.422	1623.696	112.5	false
PFOS_2	499.0 / 99.0	2.94	156393.523	1300.516	272.7	false
PFDA_1	513.0 / 469.0	3.29	4223.985	5.569	11.4	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	38503.703	85.345	477.1	false
13C2-PFDA	515.0 / 470.0	3.28	32154.095	69.010	346.1	false
d5-EtFOSAA	589.0 / 419.0	3.60	22380.508	247.732	212.6	false

Sample Name	J7413-FS-D(3)	Injection Vial	28
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-15T21:10:50	Data File	DW08152018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0505-DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.53	22382.408	50.315	111.4	true
PFBS_2	298.9 / 99.0	1.53	6693.328	50.155	97.0	false
PFHxA_1	313.0 / 269.0	1.81	14174.012	27.868	21.2	false
PFHxA_2	313.0 / 119.0	N/A	N/A	N/A	N/A	true
PFHpA_1	363.0 / 319.0	2.18	10772.529	24.526	22.4	false
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.20	44214.238	70.333	65.1	false
PFHxS_2	399.0 / 99.0	2.20	12570.921	66.753	68.2	false
PFOA_1	413.0 / 369.0	2.55	29861.147	57.805	40.9	false
PFOA_2	413.0 / 169.0	2.51	3804.715	107.738	15.2	false
PFNA_1	463.0 / 419.0	2.94	2875.431	0.719	8.3	true
PFNA_2	463.0 / 219.0	2.93	651.353	< 0	9.7	true
PFOS_1	499.0 / 80.0	2.90	136225.822	159.555	46.3	false
PFOS_2	499.0 / 99.0	2.92	17388.415	115.085	78.0	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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.81	4436.855	8.796	84.4	false
13C2-PFDA	515.0 / 470.0	3.26	3840.899	7.373	62.2	false
d5-EtFOSAA	589.0 / 419.0	3.57	2536.734	23.321	33.0	false

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "307-24-4" "PFHxA" ".500000"  
"ng/L" "U" ".22" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" ".50" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "375-85-9" "PFHpA" "1.000000"  
"ng/L" "U" ".34" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "335-67-1" "PFOA" "1.000000"  
"ng/L" "U" ".38" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "375-95-1" "PFNA" "1.000000"  
"ng/L" "U" ".37" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "335-76-2" "PFDA" "1.000000"  
"ng/L" "U" ".39" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "2058-94-8" "PFUnA" "1.000000"  
"ng/L" "U" ".38" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "307-55-1" "PFD<sub>o</sub>A" "1.000000"  
"ng/L" "U" ".42" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "72629-94-8" "PFT<sub>r</sub>DA" "1.000000"  
"ng/L" "U" ".42" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "376-06-7" "PFT<sub>e</sub>DA" "1.500000"  
"ng/L" "U" ".73" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.50" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "2355-31-9" "NM<sub>e</sub>FOSAA" "1.000000"  
"ng/L" "U" ".42" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "2991-50-6" "NE<sub>t</sub>FOSAA" "1.000000"  
"ng/L" "U" ".44" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "375-73-5" "PFBS" ".500000" "ng/L"  
"U" ".21" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000" ".000500"  
".50" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "1763-23-1" "PFOS" "1.000000"  
"ng/L" "U" ".30" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "355-46-4" "PFH<sub>x</sub>S" "1.000000"  
"ng/L" "U" ".34" "MDL" "" "T" "" "" "2.50" "LOQ" "YES" "-99.000000" "" ".250000"  
".000500" "1.00" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "BDO-2106" "13C2-PFH<sub>x</sub>A" ".330000"  
"ng/L" "" "-99.00" "NA" "" "SIS" "83.00" "" "-99.00" "NA" "YES" ".400000" ""  
".250000" ".000500" ".50" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "BDO-2110" "13C2-PFDA" ".310000"  
"ng/L" "" "-99.00" "NA" "" "SIS" "78.00" "" "-99.00" "NA" "YES" ".400000" ""  
".250000" ".000500" ".50" ""

"CR573PB-FS" "SOP 5-369" "Initial" "CR573PB-FS" "BNO" "BDO-1839" "d<sub>5</sub>-EtFOSAA"  
"1.360000" "ng/L" "" "-99.00" "NA" "" "SIS" "85.00" "" "-99.00" "NA" "YES" "1.600000"  
"" ".250000" ".000500" ".50" ""

"CR574LCS-FS" "SOP 5-369" "Initial" "CR574LCS-FS" "BNO" "307-24-4" "PFH<sub>x</sub>A" "9.580000"  
"ng/L" "" ".22" "MDL" "" "T" "96.00" "" "2.50" "LOQ" "YES" "10.000000" "" ".250000"

".000500"	".50"	""	"Initial"	"CR574LCS-FS"	"BNO"	"375-85-9"	"PFHpA"	"9.010000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"90.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".34"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"335-67-1"	"PFOA"	"8.640000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"86.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".38"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"375-95-1"	"PFNA"	"9.460000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"95.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".37"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"335-76-2"	"PFDA"	"8.220000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"82.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".39"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"2058-94-8"	"PFUnA"	"8.050000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"81.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".38"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"307-55-1"	"PFDaA"	"8.630000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"86.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".42"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"72629-94-8"	"PFTTrDA"	"8.300000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"83.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".42"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"376-06-7"	"PFTeDA"	"8.310000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"83.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".000500"	".73"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.50"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"2355-31-9"	"NMeFOSAA"	
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"89.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".8.900000"	".42"	"MDL"	""	""	""	""	""	""
".250000"	".000500"	"1.00"	""	""	""	""	""	""
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"2991-50-6"	"NEtFOSAA"	
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"82.00"	"2.50"	"LOQ"	"YES"	"10.000000"
".8.230000"	".44"	"MDL"	""	""	""	""	""	""
".250000"	".000500"	"1.00"	""	""	""	""	""	""
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"375-73-5"	"PFBS"	"7.040000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"80.00"	"2.50"	"LOQ"	"YES"	"8.850000"
".000500"	".21"	"MDL"	""	""	""	""	""	".250000"
".000500"	".50"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"1763-23-1"	"PFOS"	"7.150000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"75.00"	"2.50"	"LOQ"	"YES"	"9.550000"
".000500"	".30"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"355-46-4"	"PFHxS"	"7.620000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"81.00"	"2.50"	"LOQ"	"YES"	"9.450000"
".000500"	".34"	"MDL"	""	""	""	""	""	".250000"
".000500"	"1.00"	""						
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"BDO-2106"	"13C2-PFHxA"	
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"-99.00"	"NA"	"SIS"	"88.00"	"-99.00"
".350000"	"-99.00"	"NA"	""	""	""	""	""	"NA"
""	".250000"	".000500"	".50"	""	""	""	""	"YES"
""	".250000"	".000500"	".50"	""	""	""	""	".400000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"BDO-2110"	"13C2-PFDA"	
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"-99.00"	"NA"	"SIS"	"87.00"	"-99.00"
".350000"	"-99.00"	"NA"	""	""	""	""	""	"NA"
""	".250000"	".000500"	".50"	""	""	""	""	"YES"
""	".250000"	".000500"	".50"	""	""	""	""	".400000"
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"Initial"	"CR574LCS-FS"	"BNO"	"BDO-1839"	"d5-EtFOSAA"	
"CR574LCS-FS"	"SOP 5-369"	"ng/L"	"T"	"-99.00"	"NA"	"SIS"	"75.00"	"-99.00"
".1.200000"	"-99.00"	"NA"	""	""	""	""	""	"NA"
""	".250000"	".000500"	".50"	""	""	""	""	"YES"
""	".250000"	".000500"	".50"	""	""	""	""	"1.600000"
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"ng/L"	"Initial"	"J7403-FS"	"BNO"	"307-24-4"	"PFHxA"	
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"ng/L"	"T"	""	""	"2.57"	"LOQ"	"YES"
".4.110000"	".23"	"MDL"	""	""	""	""	""	"-99.000000"
".270000"	".000500"	".51"	""	""	""	""	""	""
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"ng/L"	"Initial"	"J7403-FS"	"BNO"	"375-85-9"	"PFHpA"	
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"ng/L"	"T"	""	""	"2.57"	"LOQ"	"YES"
".2.520000"	".35"	"MDL"	""	""	""	""	""	"-99.000000"
""	"J"	"MDL"	""	""	""	""	""	""



".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"335-67-1"	"PFOA"			
"6.970000"	"ng/L"	""	".39"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"375-95-1"	"PFNA"			
"1.030000"	"ng/L"	"U"	".38"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"335-76-2"	"PFDA"			
"1.030000"	"ng/L"	"U"	".40"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"2058-94-8"	"PFUnA"			
"1.030000"	"ng/L"	"U"	".39"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"307-55-1"	"PFDoA"			
"1.030000"	"ng/L"	"U"	".43"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"72629-94-8"	"PFTrDA"			
"1.030000"	"ng/L"	"U"	".43"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"376-06-7"	"PFTeDA"			
"1.540000"	"ng/L"	"U"	".75"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.54"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"2355-31-9"	"NMeFOSAA"			
"1.030000"	"ng/L"	"U"	".43"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"2991-50-6"	"NEtFOSAA"			
"1.030000"	"ng/L"	"U"	".45"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"375-73-5"	"PFBS"			
"7.200000"	"ng/L"	""	".22"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	".51"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"1763-23-1"	"PFOS"			
"9.580000"	"ng/L"	""	".31"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"355-46-4"	"PFHxS"			
"11.620000"	"ng/L"	""	".35"	"MDL"	""	"T"	""	"2.57"	"LOQ" "YES" "-99.000000" ""
".270000"	".000500"	"1.03"	""						
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"BDO-2106"	"13C2-PFHxA"	".360000"	"ng/L"	""
""	""	""	"-99.00"	"NA"	""	"SIS"	"98.00"	""	"-99.00" "NA" "YES"
".370000"	""	".270000"	".000500"	".50"	""				
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"BDO-2110"	"13C2-PFDA"	".280000"	"ng/L"	""
""	""	""	"-99.00"	"NA"	""	"SIS"	"75.00"	""	"-99.00" "NA" "YES" ".370000"
""	".270000"	".000500"	".50"	""					
"JAX-RES-08132018-0945-27"	"SOP 5-369"	"Initial"	"J7403-FS"	"BNO"	"BDO-1839"	"d5-EtFOSAA"	"1.100000"	"ng/L"	""
""	""	""	"-99.00"	"NA"	""	"SIS"	"74.00"	""	"-99.00" "NA" "YES"
"1.480000"	""	".270000"	".000500"	".50"	""				
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"307-24-4"	"PFHxA"	".6.940000"	"ng/L"	""
""	""	""	".22"	"MDL"	""	"T"	""	"2.48"	"LOQ" "YES" "-99.000000" ""
".280000"	".000500"	".50"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"375-85-9"	"PFHpA"	".4.140000"	"ng/L"	""
""	""	""	".34"	"MDL"	""	"T"	""	"2.48"	"LOQ" "YES" "-99.000000" ""
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"335-67-1"	"PFOA"	".12.190000"	"ng/L"	""
""	""	""	".38"	"MDL"	""	"T"	""	"2.48"	"LOQ" "YES" "-99.000000" ""

".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"375-95-1"	"PFNA"			
".990000"	"ng/L"	"U"	".37"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"335-76-2"	"PFDA"			
".990000"	"ng/L"	"U"	".39"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"2058-94-8"	"PFUnA"			
".990000"	"ng/L"	"U"	".38"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"307-55-1"	"PFDoA"			
".990000"	"ng/L"	"U"	".42"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"72629-94-8"	"PFTrDA"			
".990000"	"ng/L"	"U"	".42"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"376-06-7"	"PFTeDA"			
"1.490000"	"ng/L"	"U"	".72"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".1.49"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"2355-31-9"	"NMeFOSAA"			
".990000"	"ng/L"	"U"	".42"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"2991-50-6"	"NEtFOSAA"			
".990000"	"ng/L"	"U"	".44"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"375-73-5"	"PFBS"			
"12.630000"	"ng/L"	""	".21"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".50"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"1763-23-1"	"PFOS"			
"19.530000"	"ng/L"	""	".30"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"355-46-4"	"PFHxS"			
"22.200000"	"ng/L"	""	".34"	"MDL"	""	"T"	""	"2.48"	"LOQ"
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"BDO-2106"	"13C2-PFHxA"	".330000"	"ng/L"	""
".99.00"	"NA"	""	"SIS"	"93.00"	""	"-99.00"	"NA"	"YES"	
".360000"	""	".280000"	".000500"	".50"	""				
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"BDO-2110"	"13C2-PFDA"	".280000"	"ng/L"	""
"-99.00"	"NA"	""	"SIS"	"78.00"	""	"-99.00"	"NA"	"YES"	".360000"
""	".280000"	".000500"	".50"	""					
"JAX-RES-08132018-1100-30"	"SOP 5-369"	"Initial"	"J7405-FS"	"BNO"	"BDO-1839"	"d5-EtFOSAA"	"1.120000"	"ng/L"	""
"-99.00"	"NA"	""	"SIS"	"79.00"	""	"-99.00"	"NA"	"YES"	
"1.430000"	""	".280000"	".000500"	".50"	""				
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"307-24-4"	"PFHxA"	"4.270000"	"ng/L"	""
".22"	"MDL"	""	"T"	""	"2.48"	"LOQ"	"YES"	"-99.000000"	""
".280000"	".000500"	".50"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"375-85-9"	"PFHpA"	"2.830000"	"ng/L"	""
".34"	"MDL"	""	"T"	""	"2.48"	"LOQ"	"YES"	"-99.000000"	""
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"335-67-1"	"PFOA"	"7.810000"	"ng/L"	""
".38"	"MDL"	""	"T"	""	"2.48"	"LOQ"	"YES"	"-99.000000"	""
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"375-95-1"	"PFNA"	".990000"	"ng/L"	"U"
".37"	"MDL"	""	"T"	""	"2.48"	"LOQ"	"YES"	"-99.000000"	""

".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"335-76-2"	"PFDA"			
".990000"	"ng/L"	"U"	".39"	"MDL"	""	"T"	""	"2.48"	"LOQ"
"YES"	"-99.000000"	""							
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"2058-94-8"	"PFUnA"			
".990000"	"ng/L"	"U"	".38"	"MDL"	""	"T"	""	"2.48"	"LOQ"
"YES"	"-99.000000"	""							
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"307-55-1"	"PFDoA"			
".990000"	"ng/L"	"U"	".42"	"MDL"	""	"T"	""	"2.48"	"LOQ"
"YES"	"-99.000000"	""							
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"72629-94-8"	"PFTTrDA"			
".990000"	"ng/L"	"U"	".42"	"MDL"	""	"T"	""	"2.48"	"LOQ"
"YES"	"-99.000000"	""							
".280000"	".000500"	".99"	""						
"JAX-RES-08132018-1145-32"	"SOP 5-369"	"Initial"	"J7407-FS"	"BNO"	"376-06-7"	"PFTeDA"			
"1.490000"	"ng/L"	"U"	".72"	"MDL"	""	"T"	""	"2.48"	"LOQ"
"YES"	"-99.000000"	""							
".280000"	".000500"	".1.49"	""						
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"08/20/2018 18:15" "BNO" "COA" "NA" "T" "1.111" "NA" "NA" "" "100.000000" "18-0505"  
"18-0505" "DP-18-0222" "DP-18-0222" "18-0505" "08/14/2018 10:00" "08/21/2018 13:25" ""  
"112G08005-SE0375" "SE0375 – NAS Jacksonville" "JAX-RES-08132018-1145-32" "08/13/2018 11:45" "W"  
"J7407-FS" "NM" "SHP-180814-01" ".700000" "SOP 5-369" "Gen Prep" "Initial" "08/14/2018 13:45"  
"08/20/2018 18:24" "BNO" "COA" "NA" "T" "1.111" "NA" "NA" "" "100.000000" "18-0505"  
"18-0505" "DP-18-0222" "DP-18-0222" "18-0505" "08/14/2018 10:00" "08/21/2018 13:25" ""  
"112G08005-SE0375" "SE0375 – NAS Jacksonville" "JAX-RES-08132018-1445-16" "08/13/2018 14:45" "W"  
"J7409-FS" "NM" "SHP-180814-01" ".700000" "SOP 5-369" "Gen Prep" "Initial" "08/14/2018 13:45"  
"08/20/2018 18:33" "BNO" "COA" "NA" "T" "1.111" "NA" "NA" "" "100.000000" "18-0505"

"18-0505" "DP-18-0222" "DP-18-0222" "18-0505" "08/14/2018 10:00" "08/21/2018 13:25" ""  
"112G08005-SE0375" "SE0375 – NAS Jacksonville" "JAX-RES-08132018-1600-13" "08/13/2018 16:00" "W"  
"J7411-FS" "NM" "SHP-180814-01" ".700000" "SOP 5-369" "Gen Prep" "Initial" "08/14/2018 13:45"  
"08/20/2018 18:42" "BNO" "COA" "NA" "T" "1.111" "NA" "NA" "" "100.000000" "18-0505"  
"18-0505" "DP-18-0222" "DP-18-0222" "18-0505" "08/14/2018 10:00" "08/21/2018 13:25" ""  
"112G08005-SE0375" "SE0375 – NAS Jacksonville" "JAX-RES-08132018-1700-31" "08/13/2018 17:00" "W"  
"J7413-FS" "NM" "SHP-180814-01" ".700000" "SOP 5-369" "Gen Prep" "Initial" "08/14/2018 13:45"  
"08/20/2018 18:51" "BNO" "COA" "NA" "T" "1.111" "NA" "NA" "" "100.000000" "18-0505"  
"18-0505" "DP-18-0222" "DP-18-0222" "18-0505" "08/14/2018 10:00" "08/21/2018 13:25" ""



**TO:** M. PETERSON **DATE:** AUGUST 23, 2018  
**FROM:** MICHELLE L. WOEBER **COPIES:** DV FILE  
**SUBJECT:** ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)  
 NAVAL AIR STATION (NAS), JACKSONVILLE  
 JACKSONVILLE, FLORIDA  
 SAMPLE DELIVERY GROUPS (SDGs) 18-0505 & 18-0512

**SAMPLES:** SDG 18-0505

6/Drinking Water/PFAS

JAX-RES-08132018-0945-27  
 JAX-RES-08132018-1145-32  
 JAX-RES-08132018-1600-13

JAX-RES-08132018-1100-30  
 JAX-RES-08132018-1445-16  
 JAX-RES-08132018-1700-31

SDG 18-0512

5/Field Reagent Blanks (FRBs)/PFAS

JAX-RES-08132018-0945-27-FRB  
 JAX-RES-08132018-1145-32-FRB  
 JAX-RES-08132018-1700-31-FRB

JAX-RES-08132018-1100-30-FRB  
 JAX-RES-08132018-1600-13-FRB

**Overview**

The sample set for NAS Jacksonville, SDGs 18-0505 & 18-0512 consisted of six (6) aqueous environmental samples and five (5) FRBs. All eleven (11) samples were analyzed for PFAS. No field duplicate sample pair was included in this SDG.

The samples were collected by Tetra Tech, Inc. on August 13, 2018 and analyzed by Battelle Norwell Operations. All analyses were conducted in accordance with EPA Method 537 version 1.1 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
- \* ● Asymmetry Factor Results
- \* ● Initial/Continuing Calibrations
- \* ● Laboratory Preparation/Method Blank Results
- \* ● Field Reagent Blank (FRB) Results
- \* ● Surrogate Spike Recoveries
- \* ● Injection Internal Standard Recoveries



- \* • Laboratory Control Sample Recoveries
- \* • Compound Identification
- \* • Compound Quantitation
- \* • Detection Limits

The symbol (\*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

### **PFAS**

No issues were identified.

### **Additional Comments**

The injected internal standard, N-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-MeFOSAA), was above the 140% quality control limit in samples SJAX-RES-08132018-0945-27-FRB and JAX-RES-08132018-1145-32-FRB. No action was taken because no PFAS compounds were detected in these samples.

The laboratory uses a primary transition for the quantitation of a compound and a secondary transition for confirmation.

The FRB was analyzed if the corresponding sample had one or more detections. No contamination was detected in the FRBs associated with the corresponding samples in SDG 18-0505.

The buffering agent Trizma was added to all drinking water samples and FRBs.

Detected results reported below the Limit of Quantitation (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:** Injected internal standard recoveries were high in two FRBs.

**Other Factors Affecting Data Quality:** Detected results below the LOQ were estimated.

TO: M. PETERSON  
SDGs: 18-0505 & 18-0512

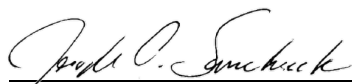
PAGE 3

The data for these analyses were reviewed with reference to the Environmental Protection Agency document EPA/600/R-08/092, Method 537, "Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)", (September 2009), US EPA National Functional Guidelines for Organic Data Review (January 2017), and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories version 5.1" (2017) as applicable. The text of this report has been formulated to address only those areas affecting data quality.



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



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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.

<b>U</b>	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
<b>J</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>UJ</b>	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
<b>NJ</b>	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
<b>R</b>	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.
<b>UR</b>	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.
<b>X</b>	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

**APPENDIX A**

**QUALIFIED ANALYTICAL RESULTS**

**Qualifier Codes:**

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's  $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ( $< 2 \times$  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

<b>PROJ_NO: 08005-SE03</b> <b>SDG: 18-0505</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	JAX-RES-08132018-0945-27			JAX-RES-08132018-1100-30			JAX-RES-08132018-1145-32			JAX-RES-08132018-1445-16		
	LAB_ID	J7403-FS			J7405-FS			J7407-FS			J7409-FS		
	SAMP_DATE	8/13/2018			8/13/2018			8/13/2018			8/13/2018		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	0.45	U		0.44	U		0.44	U		0.44	U		
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	0.43	U		0.42	U		0.42	U		0.42	U		
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	6.97			12.19			7.81			0.38	U		
PERFLUOROBUTANESULFONIC ACID (PFBS)	7.2			12.63			8.46			0.21	U		
PERFLUORODECANOIC ACID (PFDA)	0.4	U		0.39	U		0.39	U		0.39	U		
PERFLUORODODECANOIC ACID (PFDOA)	0.43	U		0.42	U		0.42	U		0.42	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	2.52	J	P	4.14			2.83			0.34	U		
PERFLUOROHEXANESULFONIC ACID (PFHXS)	11.62			22.2			9.24			0.34	U		
PERFLUOROHEXANOIC ACID (PFHXA)	4.11			6.94			4.27			0.22	U		
PERFLUORONONANOIC ACID (PFNA)	0.38	U		0.37	U		0.37	U		0.37	U		
PERFLUOROOCCTANESULFONIC ACID (PFOS)	9.58			19.53			12.44			0.3	U		
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.75	U		0.72	U		0.72	U		0.72	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.43	U		0.42	U		0.42	U		0.42	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	0.39	U		0.38	U		0.38	U		0.38	U		

<b>PROJ_NO: 08005-SE03</b> <b>SDG: 18-0505</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	JAX-RES-08132018-1600-13			JAX-RES-08132018-1700-31		
	LAB_ID	J7411-FS			J7413-FS		
	SAMP_DATE	8/13/2018			8/13/2018		
	QC_TYPE	NM			NM		
	UNITS	NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)	0.44	U		0.45	U		
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)	0.42	U		0.43	U		
PENTADECAFLUOROOCTANOIC ACID (PFOA)	0.72	J	P	2.48	J	P	
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.84	J	P	2.31	J	P	
PERFLUORODECANOIC ACID (PFDA)	0.39	U		0.4	U		
PERFLUORODODECANOIC ACID (PFDOA)	0.42	U		0.43	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	0.34	U		0.63	J	P	
PERFLUOROHEXANESULFONIC ACID (PFHXS)	1.42	J	P	2.71			
PERFLUOROHEXANOIC ACID (PFHXA)	0.27	J	P	0.97	J	P	
PERFLUORONONANOIC ACID (PFNA)	0.37	U		0.38	U		
PERFLUOROOCTANESULFONIC ACID (PFOS)	1.9	J	P	6.5			
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.72	U		0.75	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.42	U		0.43	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	0.38	U		0.39	U		

<b>PROJ_NO: 08005-SE03</b> <b>SDG: 18-0512</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	JAX-RES-08132018-0945-27-FRB			JAX-RES-08132018-1100-30-FRB			JAX-RES-08132018-1145-32-FRB			JAX-RES-08132018-1600-13-FRB		
	LAB_ID	J7404-FS			J7406-FS			J7408-FS			J7412-FS		
	SAMP_DATE	8/13/2018			8/13/2018			8/13/2018			8/13/2018		
	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NEFOSA)	0.44	U		0.44	U		0.44	U		0.44	U		
N-METHYLPERFLUOROOCCTANE SULFONAMIDOACETATE(NMFOSA)	0.42	U		0.42	U		0.42	U		0.42	U		
PENTADEC AFLUOROOCCTANOIC ACID (PFOA)	0.38	U		0.38	U		0.38	U		0.38	U		
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.21	U		0.21	U		0.21	U		0.21	U		
PERFLUORODECANOIC ACID (PFDA)	0.39	U		0.39	U		0.39	U		0.39	U		
PERFLUORODODECANOIC ACID (PFDOA)	0.42	U		0.42	U		0.42	U		0.42	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	0.34	U		0.34	U		0.34	U		0.34	U		
PERFLUOROHEXANESULFONIC ACID (PFHXS)	0.34	U		0.34	U		0.34	U		0.34	U		
PERFLUOROHEXANOIC ACID (PFHXA)	0.22	U		0.22	U		0.22	U		0.22	U		
PERFLUORONONANOIC ACID (PFNA)	0.37	U		0.37	U		0.37	U		0.37	U		
PERFLUOROOCCTANESULFONIC ACID (PFOS)	0.3	U		0.3	U		0.3	U		0.3	U		
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.73	U		0.73	U		0.73	U		0.73	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.42	U		0.42	U		0.42	U		0.42	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	0.38	U		0.38	U		0.38	U		0.38	U		



<b>PROJ_NO: 08005-SE03</b> <b>SDG: 18-0512</b> <b>FRACTION: PFAS</b> <b>MEDIA: WATER</b>	NSAMPLE	JAX-RES-08132018-1700-31-FRB		
	LAB_ID	J7414-FS		
	SAMP_DATE	8/13/2018		
	QC_TYPE	NM		
	UNITS	NG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER	RESULT	VQL	QLCD	
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)	0.44	U		
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)	0.42	U		
PENTADEC AFLUOROOCTANOIC ACID (PFOA)	0.38	U		
PERFLUOROBUTANESULFONIC ACID (PFBS)	0.21	U		
PERFLUORODECANOIC ACID (PFDA)	0.39	U		
PERFLUORODODECANOIC ACID (PFDOA)	0.42	U		
PERFLUOROHEPTANOIC ACID (PFHPA)	0.34	U		
PERFLUOROHEXANESULFONIC ACID (PFHXS)	0.34	U		
PERFLUOROHEXANOIC ACID (PFHXA)	0.22	U		
PERFLUORONONANOIC ACID (PFNA)	0.37	U		
PERFLUOROOCTANESULFONIC ACID (PFOS)	0.3	U		
PERFLUOROTETRADECANOIC ACID (PFTEA)	0.73	U		
PERFLUOROTRIDECANOIC ACID (PFTRIA)	0.42	U		
PERFLUOROUNDECANOIC ACID (PFUNA)	0.38	U		

**APPENDIX B**

**RESULTS AS REPORTED BY THE LABORATORY**



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

Client ID JAX-RES-08132018-0945-27

Battelle ID J7403-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.270  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	4.11	0.23	0.51	2.57
PFHpA	2.52 J	0.35	1.03	2.57
PFOA	6.97	0.39	1.03	2.57
PFNA	1.03 U	0.38	1.03	2.57
PFDA	1.03 U	0.40	1.03	2.57
PFUnA	1.03 U	0.39	1.03	2.57
PFDaA	1.03 U	0.43	1.03	2.57
PFTTrDA	1.03 U	0.43	1.03	2.57
PFTeDA	1.54 U	0.75	1.54	2.57
NMeFOSAA	1.03 U	0.43	1.03	2.57
NEtFOSAA	1.03 U	0.45	1.03	2.57
PFBS	7.20	0.22	0.51	2.57
PFHxS	11.62	0.35	1.03	2.57
PFOS	9.58	0.31	1.03	2.57

**Surrogate Recoveries (%)**

13C2-PFHxA	98
13C2-PFDA	75
d5-EtFOSAA	74



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

Client ID JAX-RES-08132018-1100-30

Battelle ID	J7405-FS			
Sample Type	SA			
Collection Date	08/13/2018			
Extraction Date	08/14/2018			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	W			
Sample Size	0.280			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	6.94	0.22	0.50	2.48
PFHpA	4.14	0.34	0.99	2.48
PFOA	12.19	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	12.63	0.21	0.50	2.48
PFHxS	22.20	0.34	0.99	2.48
PFOS	19.53	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	93
13C2-PFDA	78
d5-EtFOSAA	79



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

Client ID JAX-RES-08132018-1145-32

Battelle ID	J7407-FS			
Sample Type	SA			
Collection Date	08/13/2018			
Extraction Date	08/14/2018			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	W			
Sample Size	0.280			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	4.27	0.22	0.50	2.48
PFHpA	2.83	0.34	0.99	2.48
PFOA	7.81	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	8.46	0.21	0.50	2.48
PFHxS	9.24	0.34	0.99	2.48
PFOS	12.44	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	102
13C2-PFDA	88
d5-EtFOSAA	94



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

Client ID JAX-RES-08132018-1445-16

Battelle ID J7409-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.48
PFHpA	0.99 U	0.34	0.99	2.48
PFOA	0.99 U	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	0.50 U	0.21	0.50	2.48
PFHxS	0.99 U	0.34	0.99	2.48
PFOS	0.99 U	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	101
13C2-PFDA	80
d5-EtFOSAA	88



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

Client ID JAX-RES-08132018-1600-13

Battelle ID J7411-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.280  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.27 J	0.22	0.50	2.48
PFHpA	0.99 U	0.34	0.99	2.48
PFOA	0.72 J	0.38	0.99	2.48
PFNA	0.99 U	0.37	0.99	2.48
PFDA	0.99 U	0.39	0.99	2.48
PFUnA	0.99 U	0.38	0.99	2.48
PFDaA	0.99 U	0.42	0.99	2.48
PFTTrDA	0.99 U	0.42	0.99	2.48
PFTeDA	1.49 U	0.72	1.49	2.48
NMeFOSAA	0.99 U	0.42	0.99	2.48
NEtFOSAA	0.99 U	0.44	0.99	2.48
PFBS	0.84 J	0.21	0.50	2.48
PFHxS	1.42 J	0.34	0.99	2.48
PFOS	1.90 J	0.30	0.99	2.48

**Surrogate Recoveries (%)**

13C2-PFHxA	98
13C2-PFDA	82
d5-EtFOSAA	70



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

Client ID JAX-RES-08132018-1700-31

Battelle ID J7413-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/14/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.270  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.97 J	0.23	0.51	2.57
PFHpA	0.63 J	0.35	1.03	2.57
PFOA	2.48 J	0.39	1.03	2.57
PFNA	1.03 U	0.38	1.03	2.57
PFDA	1.03 U	0.40	1.03	2.57
PFUnA	1.03 U	0.39	1.03	2.57
PFDaA	1.03 U	0.43	1.03	2.57
PFTTrDA	1.03 U	0.43	1.03	2.57
PFTeDA	1.54 U	0.75	1.54	2.57
NMeFOSAA	1.03 U	0.43	1.03	2.57
NEtFOSAA	1.03 U	0.45	1.03	2.57
PFBS	2.31 J	0.22	0.51	2.57
PFHxS	2.71	0.35	1.03	2.57
PFOS	6.50	0.31	1.03	2.57

**Surrogate Recoveries (%)**

13C2-PFHxA	102
13C2-PFDA	75
d5-EtFOSAA	79





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

Client ID JAX-RES-08132018-0945-27-FRB

Battelle ID J7404-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/17/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.250  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	Units	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDoA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	80
13C2-PFDA	71
d5-EtFOSAA	72



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

Client ID JAX-RES-08132018-1100-30-FRB

Battelle ID J7406-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/17/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.250  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDoA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	85
13C2-PFDA	74
d5-EtFOSAA	76



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

Client ID JAX-RES-08132018-1145-32-FRB

Battelle ID J7408-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/17/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.250  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDoA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	85
13C2-PFDA	73
d5-EtFOSAA	71



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

Client ID JAX-RES-08132018-1600-13-FRB

Battelle ID J7412-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/17/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.250  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDoA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	81
13C2-PFDA	74
d5-EtFOSAA	75



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

Client ID JAX-RES-08132018-1700-31-FRB

Battelle ID J7414-FS  
 Sample Type SA  
 Collection Date 08/13/2018  
 Extraction Date 08/17/2018  
 Analysis Date 08/20/2018  
 Analytical Instrument Sciex 5500 LC/MS/MS  
 % Moisture NA  
 Matrix W  
 Sample Size 0.250  
 Size Unit-Basis L  
 Units ng/L MDL LOD LOQ

Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDoA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	91
13C2-PFDA	73
d5-EtFOSAA	71

**APPENDIX C**

**SUPPORT DOCUMENTATION**

NAS JACKSONVILLE  
SDG 18-0505

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

Where:

PA	Area of target analyte/ area of internal standard
b	y Intercept from calibration curve
C <sub>IS</sub>	Concentration of internal standard (ng/L)
m	Slope of calibration
DF	Dilution factor
S	Sample Size
PIV	Pre-injection volume (L)

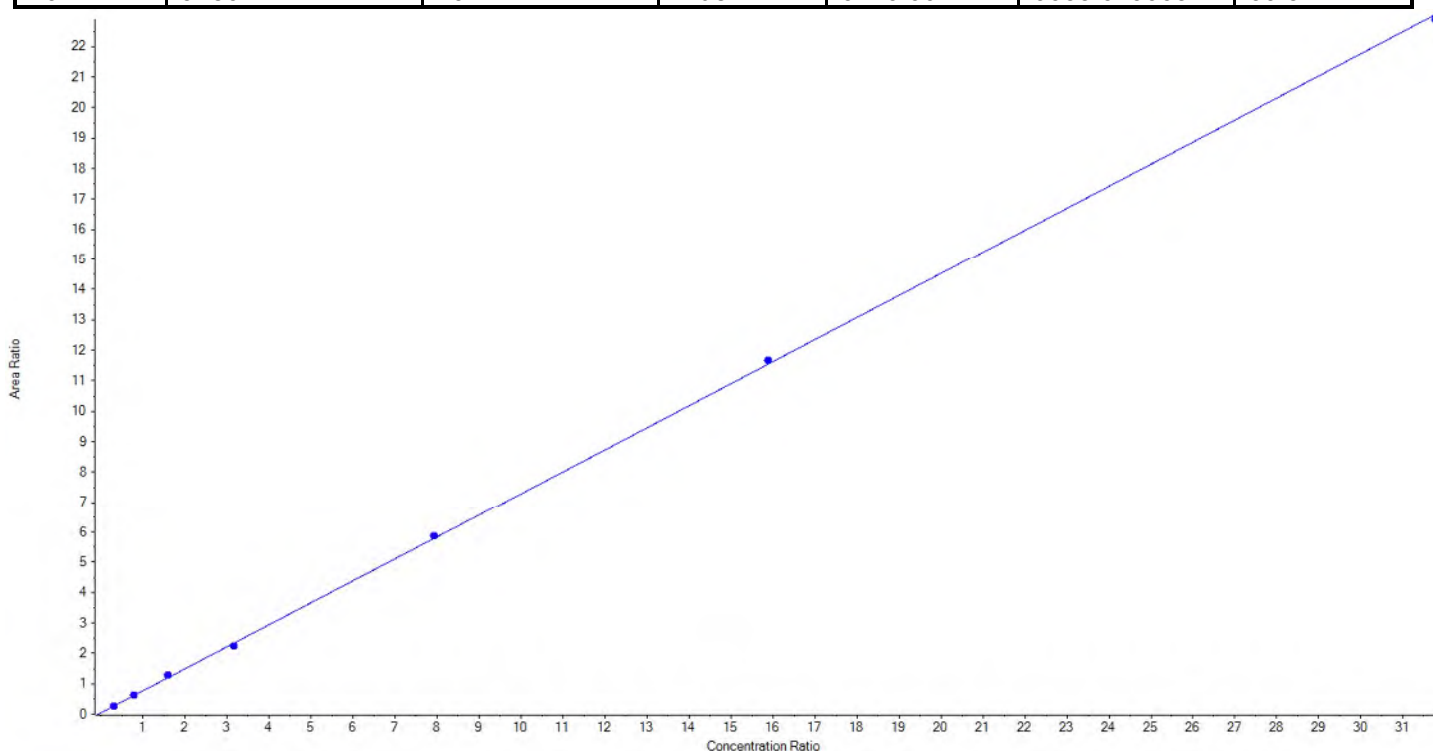
Target Analyte	PFHxS
Sample ID	JAX-RES-08132018-1100-30
Laboratory Sample ID	J7405-FS
Sample Size (L)	0.28
Dilution Factor	1.111
PIV (L)	0.001
PFHxS Area	2540972.21
IS Area	179480.47
IS Amount (ng/L)	287
Calibration Curve	y = 0.72416 x + 0.03976
Concentration (ng/L)	22.20

$$(((2540972.21/179480.47)-0.03976)/0.72416)*287*0.001*1.111/0.280$$

<b>Analyte Name</b>	PFHxS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.72416x + 0.03976$  (r = 0.99978) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	83.545773	91.6
5	JZ81	L4	True	228.00	236.640313	103.8
6	JZ82	L5	True	456.00	490.800076	107.6
7	JZ83	L6	True	912.00	872.158270	95.6
8	JZ84	L7	True	2280.00	2303.866920	101.1
9	JZ85	L8	True	4560.00	4606.569585	101.0
10	JZ86	L9	True	9120.00	9053.619063	99.3





Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	1314364.43	3183.264366	475.4	false
PFBS_2	298.9 / 99.0	1.54	320098.74	2681.244839	617.1	false
PFHxA_1	313.0 / 269.0	1.83	637394.23	1748.741893	144.3	false
PFHxA_2	313.0 / 119.0	1.83	45708.08	1574.940893	173.3	false
PFHpA_1	363.0 / 319.0	2.18	382818.73	1042.337205	107.0	false
PFHpA_2	363.0 / 169.0	2.17	9182.77	1200.308851	161.2	false
PFHxS_1	399.0 / 80.0	2.20	2540972.21	5595.145622	328.0	false
PFHxS_2	399.0 / 99.0	2.20	738123.70	5593.326545	655.1	false
PFOA_1	413.0 / 369.0	2.55	1176324.58	3071.736587	253.1	false
PFOA_2	413.0 / 169.0	2.53	109347.22	4398.528836	310.7	false
PFNA_1	463.0 / 419.0	2.92	42190.06	76.052531	89.1	false
PFNA_2	463.0 / 219.0	2.92	15095.06	94.106987	111.4	false
PFOS_1	499.0 / 80.0	2.86	3045965.85	4921.499498	179.3	false
PFOS_2	499.0 / 99.0	2.91	321809.66	2791.313207	540.2	false
PFDA_1	513.0 / 469.0	3.27	12707.29	< 0	56.7	false
PFDA_2	513.0 / 219.0	3.27	1124.99	< 0	32.7	false
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
PFTTrDA_1	663.0 / 619.0	N/A	N/A	N/A	N/A	true
PFTTrDA_2	663.0 / 169.0	N/A	N/A	N/A	N/A	true
PFTeDA_1	713.0 / 669.0	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
13C2-PFHxA	315.0 / 270.0	1.82	35543.87	83.371279	430.7	false
13C2-PFDA	515.0 / 470.0	3.26	33560.59	70.034533	632.5	true
d5-EtFOSAA	589.0 / 419.0	3.57	26832.30	282.809362	209.2	true

Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFBS_2	298.9 / 99.0	1.54	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFHxA_1	313.0 / 269.0	1.83	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFNA_1	463.0 / 419.0	2.92	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFOS_1	499.0 / 80.0	2.86	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	179480.47	287.00
PFDA_1	513.0 / 469.0	3.27	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDA_2	513.0 / 219.0	3.27	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDoA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFDoA_2	613.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTTrDA_1	663.0 / 619.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTTrDA_2	663.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTeDA_1	713.0 / 669.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
PFTeDA_2	713.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	42613.24	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00
13C2-PFHxA	315.0 / 270.0	1.82	13C2-PFOA	415.0 / 370.0	42613.24	100.00
13C2-PFDA	515.0 / 470.0	3.26	13C2-PFOA	415.0 / 370.0	42613.24	100.00
d5-EtFOSAA	589.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	35161.60	400.00

NAS JACKSONVILLE  
SDG 18-0505

LABORATORY CONTROL SAMPLE

	Result	Target	Calculation	Recovery	Reported Recovery
PFHxA	9.58 ng/L	10.0 ng/L	$9.58/10*100$	95.8	96



### Chain-of-Custody

<b>Client Contact Information</b> Tetra Tech		Project Manager: <u>Mark Peterson</u> Sampler Information (print name): <u>DAVID SIEFKEN</u> Phone: <u>904.334.7260</u> Email: _____			Sampling Site: <u>NAS JAX</u>		Site Information: <u>Residential</u>		
Project Name: <u>NAS JAX PFAS Eval.</u>		Turnaround Time (TAT) Requested: _____ Normal <input checked="" type="checkbox"/> <del>Priority</del> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>			Preservative: <u>PFAS</u> Analysis: <u>PFAS-537</u>		COC # <u>001</u>		
Project No.: <u>112608005-5E0375</u>		Time Zone: _____					Page# _____		
Sample Identification		2018	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Bottles#	
J7403	JAX-RES-08132018-0945-27	8-13	0945	W			2	2	Bottles 55# 56#
04	JAX-RES-08132018-0945-27-FRB	8-13	0945	W			1	1	21#
05	JAX-RES-08132018-1100-30	8-13	1100	W			2	2	85# 86#
06	JAX-RES-08132018-1100-30-FRB	8-13	1100	W			1	1	7#
07	JAX-RES-08132018-1145-32	8-13	1145	W			2	2	89# 90#
08	JAX-RES-08132018-1145-32-FRB	8-13	1145	W			1	1	16#
09	JAX-RES-08132018-1445-16	8-13	1445	W			2	2	59# 60#
10	JAX-RES-08132018-1445-16-FRB	8-13	1445	W			1	1	8#
11	JAX-RES-08132018-1600-13	8-13	1600	W			2	2	49# 50#
12	JAX-RES-08132018-1600-13-FRB	8-13	1600	W			1	1	22#
13	JAX-RES-08132018-1700-31	8-13	1700	W			2	2	65# 66#
J7414	JAX-RES-08132018-1700-31-FRB	8-13	1700	W			1	1	9#
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:	
Relinquished by (Print/Sign): <u>[Signature]</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>8/13/18 1800</u>		Received by (Print/Sign): <u>[Signature]</u>		Company: _____ Date/Time: _____	
Relinquished by (Print/Sign): _____		Company: _____		Date/Time: _____		Received by (Print/Sign): <u>[Signature]</u>		Company: <u>Battelle</u> Date/Time: <u>8-14-18 1000</u>	
Relinquished by (Print/Sign): _____		Company: _____		Date/Time: _____		Received by (Print/Sign): _____		Company: _____ Date/Time: _____	
Comments: <u>cool 4°C</u> <u>W= potable water</u>									

It can be done

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

**Sample Receipt Form**Approved:  Authorized 

**Project Number:** 112608005-SE0375 **Client:** Tetra Tech  
**Received by:** Schumitz, Matt **Date/Time Received:** Tuesday, August 14, 2018 10:00 AM  
**No. of Shipping Containers:** 1

**SHIPMENT**

**Method of Delivery:** Commercial Carrier **Tracking Number:** 7822 8334 8390  
**COC Forms:**  **Shipped with samples**  **No Forms**

**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smgs
1 of 1	Cooler	7822 8334 8390	Custody Seal	Intact	Intact	Therm_2	0.7	12

**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:** J7403 - J7414

**Samples logged in by:** Schumitz, Matt **Date/Time:** 08/14/2018 10:00 AM

**Approved By:** \_\_\_\_\_ **Approved On:** \_\_\_\_\_

**Authorized By:** \_\_\_\_\_ **Authorized On:** \_\_\_\_\_



It can be done

ShpNo SHP-180814-01

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

Sample Receipt Form Details

Approved:  Authorized

Project Number: 112608005-SE0375 Client: Tetra Tech

Received by: Schumitz, Matt Date/Time Received: Tuesday, August 14, 2018 10:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J7403	JAX-RES-08132018-0945-27	08/13/18 9:45	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7404	JAX-RES-08132018-0945-27-FRB	08/13/18 9:45	08/14/18 10:19	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7405	JAX-RES-08132018-1100-30	08/13/18 11:00	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7406	JAX-RES-08132018-1100-30-FRB	08/13/18 11:00	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7407	JAX-RES-08132018-1145-32	08/13/18 11:45	08/14/18 10:20	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7408	JAX-RES-08132018-1145-32-FRB	08/13/18 11:45	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7409	JAX-RES-08132018-1445-16	08/13/18 14:45	08/14/18 10:21	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7410	JAX-RES-08132018-1445-16-FRB	08/13/18 14:45	08/14/18 10:21	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7411	JAX-RES-08132018-1600-13	08/13/18 16:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7412	JAX-RES-08132018-1600-13-FRB	08/13/18 16:00	08/14/18 10:22	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7413	JAX-RES-08132018-1700-31	08/13/18 17:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7414	JAX-RES-08132018-1700-31-FRB	08/13/18 17:00	08/14/18 10:23	1	W	0.7	NA	NA	NA	R0119 (NA)			

Total Samples: 12

**QA/QC Summary**  
**Batch 18-0505**

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	W
Data Set:	DP-18-0222
Analytical SOP:	5-371
Method Reference:	USEPA 537 rev. 1.1, QSM 5.1

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
08/13/2018	08/14/2018	0.7

Corrective Actions	None.
Sample Storage	The water samples were stored refrigerated until extraction.
Related samples	Required FRB samples related to this SDG are reported in SDG 18-0512.

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 60 °C and 65 °C, reconstituted with 96:4 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	Samples JAX-RES-08132018-0945-27, JAX-RES-08132018-1100-30, and JAX-RES-08132018-1145-32 had a pale yellow color.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	<p>Samples analyzed on the Sciex 5500.</p> <p>The original analytical run on 8/15/2018 did not pass all criteria for the initial calibration, all samples were re-run on 8/20/2018. The sequence and quant reports for the original run can be found in the unused data section of the full data package.</p> <p>There are no ion ratio exceedences above 50% RPD for any analyte detected above the MDL or the LOQ in this SDG.</p>

Holding Times	Extraction Date(s)	Analysis Date(s)
	8/14/2018	8/20/2018

**QA/QC Summary**  
**Batch 18-0505**

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ 1/3 the MRL	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.
70-130% of true value	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.
70-130% of true value, RPD ≤ 30%	Not applicable. MS/MSD samples were not prepared with this batch of samples.
Surrogates Standard Analytes	Labelled surrogate compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
70-130% of true value	No exceedances noted. No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
ICAL high and low points RPD ≤20%, 50-150% of average area of the ICAL and 70-140% of most recent CCV	No exceedances noted. No comments.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
R <sup>2</sup> >0.99 Target and SIS compounds +/- 30% of true value, Low point 50-150% of true value	No exceedances noted. No comments.



**QA/QC Summary**  
**Batch 18-0505**

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.
Target and SIS compounds +/- 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.
Target and SIS compounds +/- 30% of true value Low point 50-150% of true value	No exceedances noted.
	No comments.



Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project Number: 100119154-SE0375  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222  
 Test Code: Master\_371

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



## BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

<b>Project Title:</b>	CTO-SE0375: Naval Air Station Jackson	<b>Data Set Number:</b>	DP-18-0222
<b>Project Number:</b>	100119154-SE0375	<b>Prep Batch Number:</b>	18-0505
<b>Entered By:</b>	Denise Schumitz	<b>Entered On:</b>	08/20/2018
<b>Test Code (Matrix Type):</b>	Master_371(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).  
DMS 8/21/2018

JZ86 is not being used in this method for NMeFOSAA, NEtFOSAA, PFDA and PFUnA. There is no impact on the data once these points of the calibration are removed.  
DMS 8/21/2018

18-0505 was initially analyzed on 08/15/2018, however the calibration did not meet passing criteria. The calibration curve was remade on 08/20/2018 and a fresh aliquot of each sample was analyzed with the new calibration curve and reported on 8/21/2018. The initial data from 08/15/2018 can be found in the unused data section of this data package.  
DMS 8/21/2018

JZ80 has an ion ratio >50% for PFUnA.  
DMS 8/21/2018

**Task Leader Approval:**

**Supervisor Approval:**

**PM Approval:**

Digitally signed by Jonathan Thorn  
Date: 2018.08.21 11:00:59 -04'00'



## Glossary of Data Qualifiers

Flag:      Application:

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B	Analyte found in the sample at a concentration <10x the level found in the procedural blank
D	Dilution Run. Initial run outside the initial calibration range of the instrument
E	Estimate, result is greater than the highest concentration level in the calibration
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



## Example Calculation for PFAS

Calculation of final concentration from area:

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

Where:

- PA = Area of target / area of internal standard
- b = y intercept from calibration curve
- CIS = concentration of internal standard (ng/L)
- m = slope of calibration
- DF = dilution factor
- S = Sample Size
- PIV = Pre-injection volume (L)

Sample ID: J7405-FS(2)  
 Client Sample ID: JAX-RES-08132018-1100-30  
 Sample Size: 0.28  
 Units: L  
 Dilution Factor: 1.111  
 PIV (L): 0.001  
 Target Analyte: PFHpA  
 MRM Transition: 363.0 / 319.0  
 Data file: DW\_08202018.wiff  
 Result table: 18-0512DW  
 Area: 382,818.73  
 IS Name: 13C2-PFOA  
 IS Area: 42,613.24  
 IS Amount (ng/L): 100  
 y-intercept: 0.41213  
 slope: 0.82233

$$\text{Concentration} = \frac{[(382818.73/42613.24) - 0.41213]}{0.82233} * 100 * 0.001 * 1.111 / 0.28$$

ng/L = 4.14



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

Client ID	JZ10 IB			
Battelle ID	JZ10 IB_08/20/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	NA			
Sample Size	0.250			
Size Unit-Basis	NA			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	91
13C2-PFDA	89
d5-EtFOSAA	98



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

Client ID	Procedural Blank			
Battelle ID	CR573PB-FS			
Sample Type	PB			
Collection Date	08/14/2018			
Extraction Date	08/14/2018			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	WATER			
Sample Size	0.250			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	83
13C2-PFDA	78
d5-EtFOSAA	85



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

Client ID	Laboratory Control Sample					
Battelle ID	CR574LCS-FS					
Sample Type	LCS					
Collection Date	08/14/2018					
Extraction Date	08/14/2018					
Analysis Date	08/20/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	9.58	10.00	96		70	130
PFHpA	9.01	10.00	90		70	130
PFOA	8.64	10.00	86		70	130
PFNA	9.46	10.00	95		70	130
PFDA	8.22	10.00	82		70	130
PFUnA	8.05	10.00	81		70	130
PFDoA	8.63	10.00	86		70	130
PFTTrDA	8.30	10.00	83		70	130
PFTeDA	8.31	10.00	83		70	130
NMeFOSAA	8.90	10.00	89		70	130
NEtFOSAA	8.23	10.00	82		70	130
PFBS	7.04	8.85	80		70	130
PFHxS	7.62	9.45	81		70	130
PFOS	7.15	9.55	75		70	130

**Surrogate Recoveries (%)**

13C2-PFHxA	88
13C2-PFDA	87
d5-EtFOSAA	75





Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project No.: 100119154-SE0375  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222

	CR573PB-FS (Procedural Blank)	CR574LCS-FS (Laboratory Control Sample)	J7403-FS (JAX-RES-08132018-0945-27)	J7405-FS (JAX-RES-08132018-1100-30)	J7407-FS (JAX-RES-08132018-1145-32)	J7409-FS (JAX-RES-08132018-1445-16)
PFHxA	-	L	L	L	L	-
PFHpA	-	L	L	L	L	-
PFOA	-	L	L	L	L	-
PFNA	-	L	L	L	L	-
PFDA	-	L	L	-	-	-
PFUnA	-	L	L	-	-	-
PFDoA	-	L	-	-	-	-
PFTTrDA	-	L	-	-	-	-
PFTeDA	-	L	-	-	-	-
NMeFOSAA	-	L	-	-	-	-
NEtFOSAA	-	L	-	-	-	-
PFBS	-	L	L	L	L	-
PFHxS	-	L	L/Br	L/Br	L/Br	-
PFOS	-	L	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  
 Preparation Batch: 18-0505  
 Data Set: DP-18-0222

	J7411-FS (JAX-RES-08132018-1600-13)	J7413-FS (JAX-RES-08132018-1700-31)
PFHxA	L	L
PFHpA	L	L
PFOA	L	L
PFNA	L	L
PFDA	-	-
PFUnA	-	-
PFDoA	-	-
PFTTrDA	-	-
PFTeDA	-	-
NMeFOSAA	-	-
NEtFOSAA	-	-
PFBS	L	L
PFHxS	L/Br	L/Br
PFOS	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	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	-	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	-	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	-	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	-	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	-	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	-	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	5.2	
				Average	Lower	Upper
				149,617.65	74,808.83	224,426.48

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	74,808.83	224,426.48		113,622.95	227,245.90	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	74,808.83	224,426.48		113,622.95	227,245.90	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	74,808.83	224,426.48		113,622.95	227,245.90	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	74,808.83	224,426.48		113,622.95	227,245.90	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	74,808.83	224,426.48		113,622.95	227,245.90	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	74,808.83	224,426.48		113,622.95	227,245.90	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	74,808.83	224,426.48		113,622.95	227,245.90	
JZ10 IB	Instrument Blank	8/20/18 16:01	13C4-PFOS	183,690.52	74,808.83	224,426.48		113,622.95	227,245.90	
JZ77 ICC	ICC	8/20/18 16:10	13C4-PFOS	134,938.50	74,808.83	224,426.48		113,622.95	227,245.90	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	13C4-PFOS	212,960.07	74,808.83	224,426.48		113,622.95	227,245.90	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	13C4-PFOS	190,844.01	74,808.83	224,426.48		113,622.95	227,245.90	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	13C4-PFOS	172,367.32	74,808.83	224,426.48		113,622.95	227,245.90	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	13C4-PFOS	179,480.47	74,808.83	224,426.48		113,622.95	227,245.90	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	13C4-PFOS	190,343.32	74,808.83	224,426.48		113,622.95	227,245.90	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	13C4-PFOS	158,092.95	74,808.83	224,426.48		113,622.95	227,245.90	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	13C4-PFOS	175,025.69	74,808.83	224,426.48		113,622.95	227,245.90	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	13C4-PFOS	171,752.39	74,808.83	224,426.48		113,622.95	227,245.90	
JZ83 CCV	CCV	8/20/18 19:00	13C4-PFOS	156,188.42	74,808.83	224,426.48		113,622.95	227,245.90	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	-	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	-	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	-	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	-	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	-	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	-	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	5.6	
				Average	Lower	Upper
				33,344.53	16,672.27	50,016.80

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	16,672.27	50,016.80		23,501.44	47,002.87	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	16,672.27	50,016.80		23,501.44	47,002.87	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	16,672.27	50,016.80		23,501.44	47,002.87	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	16,672.27	50,016.80		23,501.44	47,002.87	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	16,672.27	50,016.80		23,501.44	47,002.87	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	16,672.27	50,016.80		23,501.44	47,002.87	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	16,672.27	50,016.80		23,501.44	47,002.87	
JZ10 IB	Instrument Blank	8/20/18 16:01	13C2-PFOA	43,290.28	16,672.27	50,016.80		23,501.44	47,002.87	
JZ77 ICC	ICC	8/20/18 16:10	13C2-PFOA	28,769.08	16,672.27	50,016.80		23,501.44	47,002.87	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	13C2-PFOA	44,396.07	16,672.27	50,016.80		23,501.44	47,002.87	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	13C2-PFOA	40,556.07	16,672.27	50,016.80		23,501.44	47,002.87	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	13C2-PFOA	40,690.62	16,672.27	50,016.80		23,501.44	47,002.87	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	13C2-PFOA	42,613.24	16,672.27	50,016.80		23,501.44	47,002.87	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	13C2-PFOA	41,488.15	16,672.27	50,016.80		23,501.44	47,002.87	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	13C2-PFOA	34,777.95	16,672.27	50,016.80		23,501.44	47,002.87	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	13C2-PFOA	38,026.33	16,672.27	50,016.80		23,501.44	47,002.87	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	13C2-PFOA	35,937.62	16,672.27	50,016.80		23,501.44	47,002.87	
JZ83 CCV	CCV	8/20/18 19:00	13C2-PFOA	33,466.43	16,672.27	50,016.80		23,501.44	47,002.87	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	-	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	-	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	-	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	-	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	-	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	-	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	4.9	
				Average	Lower	Upper
				26,603.86	13,301.93	39,905.79

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	13,301.93	39,905.79		17,605.69	35,211.39	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	13,301.93	39,905.79		17,605.69	35,211.39	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	13,301.93	39,905.79		17,605.69	35,211.39	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	13,301.93	39,905.79		17,605.69	35,211.39	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	13,301.93	39,905.79		17,605.69	35,211.39	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	13,301.93	39,905.79		17,605.69	35,211.39	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	13,301.93	39,905.79		17,605.69	35,211.39	
JZ10 IB	Instrument Blank	8/20/18 16:01	d3-MeFOSAA	31,459.20	13,301.93	39,905.79		17,605.69	35,211.39	
JZ77 ICC	ICC	8/20/18 16:10	d3-MeFOSAA	22,841.71	13,301.93	39,905.79		17,605.69	35,211.39	
CR573PB-FS(0)	Procedural Blank	8/20/18 17:49	d3-MeFOSAA	33,912.40	13,301.93	39,905.79		17,605.69	35,211.39	
CR574LCS-FS(0)	Laboratory Control Sample	8/20/18 17:58	d3-MeFOSAA	32,759.58	13,301.93	39,905.79		17,605.69	35,211.39	
J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/18 18:07	d3-MeFOSAA	31,681.29	13,301.93	39,905.79		17,605.69	35,211.39	
J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/18 18:15	d3-MeFOSAA	35,161.60	13,301.93	39,905.79		17,605.69	35,211.39	
J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/18 18:24	d3-MeFOSAA	28,540.13	13,301.93	39,905.79		17,605.69	35,211.39	
J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/18 18:33	d3-MeFOSAA	23,281.66	13,301.93	39,905.79		17,605.69	35,211.39	
J7411-FS(2)	JAX-RES-08132018-1600-13	8/20/18 18:42	d3-MeFOSAA	28,873.74	13,301.93	39,905.79		17,605.69	35,211.39	
J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/18 18:51	d3-MeFOSAA	26,852.56	13,301.93	39,905.79		17,605.69	35,211.39	
JZ83 CCV	CCV	8/20/18 19:00	d3-MeFOSAA	26,849.70	13,301.93	39,905.79		17,605.69	35,211.39	

<b>Sample Name</b>	JZ84	<b>Injection Vial</b>	8
<b>Sample ID</b>	L7	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 3:35:06 PM	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

**Results Summary**

<b>Analyte</b>	<b>MRM Transition</b>	<b>RT</b>	<b>Asymmetry Factor</b>	<b>Passing Range</b>
PFBS_1	298.9 / 80.0	1.56	0.98	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.85	1.39	0.8 – 1.5

Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	8/20/2018 3:35:06 PM	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.56	29	>10
PFBS_2	298.9 / 99.0	1.56	27	>10
PFHxA_1	313.0 / 269.0	1.85	47	>10
PFHxA_2	313.0 / 119.0	1.85	40	>10
PFHpA_1	363.0 / 319.0	2.22	43	>10
PFHpA_2	363.0 / 169.0	2.22	32	>10
PFHxS_1	399.0 / 80.0	2.23	41	>10
PFHxS_2	399.0 / 99.0	2.23	40	>10
PFOA_1	413.0 / 369.0	2.59	36	>10
PFOA_2	413.0 / 169.0	2.59	33	>10
PFNA_1	463.0 / 419.0	2.97	36	>10
PFNA_2	463.0 / 219.0	2.96	34	>10
PFOS_1	499.0 / 80.0	2.96	61	>10
PFOS_2	499.0 / 99.0	2.96	33	>10
PFDA_1	513.0 / 469.0	3.31	30	>10
PFDA_2	513.0 / 219.0	3.31	43	>10
PFUnA_1	563.0 / 519.0	3.65	27	>10
PFUnA_2	563.0 / 269.0	3.65	46	>10
PFDaA_1	613.0 / 569.0	3.94	41	>10
PFDaA_2	613.0 / 319.0	3.94	31	>10
PFTrDA_1	663.0 / 619.0	4.20	53	>10
PFTrDA_2	663.0 / 169.0	4.19	35	>10
PFTeDA_1	713.0 / 669.0	4.43	69	>10
PFTeDA_2	713.0 / 169.0	4.42	45	>10
NMeFOSAA_1	570.0 / 419.0	3.47	37	>10
NMeFOSAA_2	570.0 / 512.0	3.47	34	>10
NEtFOSAA_1	584.0 / 419.0	3.64	31	>10
NEtFOSAA_2	584.0 / 483.0	3.63	49	>10
13C2-PFHxA	315.0 / 270.0	1.84	47	>10
13C2-PFDA	515.0 / 470.0	3.30	31	>10
d5-EtFOSAA	589.0 / 419.0	3.63	26	>10



## Precision and Bias at the LOQ for PFAS in Drinking Water

Analyte	CAS No.	Average (ng/L)	ST DEV	3 Sigma	n
PFHxA	307-24-4	10.71	1.21	3.63	15
PFHpA	375-85-9	10.91	1.35	4.05	15
PFOA	335-67-1	10.82	1.38	4.14	15
PFNA	375-95-1	10.74	1.26	3.78	15
PFDA	335-76-2	10.82	1.33	3.99	15
PFUnA	2058-94-8	10.52	1.54	4.62	15
PFDoA	307-55-1	10.34	1.62	4.86	15
PFTTrDA	72629-94-8	10.56	1.70	5.10	15
PFTeDA	376-06-7	11.95	2.21	6.63	15
NMeFOSAA	2355-31-9	10.67	1.00	3.00	15
NEtFOSAA	2991-50-6	10.27	1.22	3.66	15
PFBS	375-73-5	8.89	1.24	3.72	15
PFHxS	355-46-4	10.11	1.37	4.11	15
PFOS	1763-23-1	9.75	1.36	4.08	15



# BATTELLE DETECTION LIMITS FOR PFAS IN DRINKING WATER

Battelle SOP 5-371 (EPA Method 537 Version 1.1)

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)	MRL (ng/L)
<b>PFHxA</b>	307-24-4	0.22	0.5	2.5	2.5
<b>PFHpA</b>	375-85-9	0.34	1.0	2.5	2.5
<b>PFOA</b>	335-67-1	0.38	1.0	2.5	2.5
<b>PFNA</b>	375-95-1	0.37	1.0	2.5	2.5
<b>PFDA</b>	335-76-2	0.39	1.0	2.5	2.5
<b>PFUnA</b>	2058-94-8	0.38	1.0	2.5	2.5
<b>PFDoA</b>	307-55-1	0.42	1.0	2.5	2.5
<b>PFTrDA</b>	72629-94-8	0.42	1.0	2.5	2.5
<b>PFTeDA</b>	376-06-7	0.73	1.5	2.5	2.5
<b>NMeFOSAA</b>	2355-31-9	0.42	1.0	2.5	2.5
<b>NEtFOSAA</b>	2991-50-6	0.44	1.0	2.5	2.5
<b>PFBS</b>	375-73-5	0.21	0.5	2.5	2.5
<b>PFHxS</b>	3871-99-6	0.34	1.0	2.5	2.5
<b>PFOS</b>	1763-23-1	0.30	1.0	2.5	2.5

*Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation*

## Analytical Transitions for PFAS in drinking water

SOP 5-371 (EPA 537 Version 1.1)

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
<b>PFHxA</b>	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
<b>PFHpA</b>	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
<b>PFOA</b>	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
<b>PFNA</b>	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
<b>PFDA</b>	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
<b>PFUnA</b>	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
<b>PFDoA</b>	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
<b>PFTTrDA</b>	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
<b>PFTeDA</b>	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
<b>NMeFOSAA</b>	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
<b>NEtFOSAA</b>	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
<b>PFBS</b>	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
<b>PFHxS</b>	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
<b>PFOS</b>	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
<b><sup>13</sup>C<sub>2</sub>-PFHxA</b>	NA	SIS	315.0 / 270.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFDA</b>	NA	SIS	515.0 / 470.0	NA
<b>d<sub>5</sub>-EtFOSAA</b>	NA	SIS	589.0 / 419.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFOA</b>	NA	IS	415.0 / 270.0	NA
<b><sup>13</sup>C<sub>4</sub>-PFOS</b>	NA	IS	503.0 / 80.0	NA
<b>d<sub>3</sub>-MeFOSAA</b>	NA	IS	573.0 / 419.0	NA



### Drinking Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF <sup>1</sup>	Sample Size (L)	Sample Equivalent (ng/L) <sup>2</sup>
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
5,000	1	1	0.250	20.0
10,000	1	1	0.250	40.0

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

<sup>2</sup> - calculated equivalent of a sample based on the ICAL concentration

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

Appendix ZEFPM003-2L

## QTRAP 5500 Preventive Maintenance Checklist

<b>Preventive Maintenance Date:</b>	22-Feb-2017
<b>Request ID:</b>	3683
<b>Company Name:</b>	Battelle Memorial Institute
<b>Instrument ID:</b>	X60666
<b>Instrument Model:</b>	QTRAP 5500
<b>Instrument Serial Number:</b>	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 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.5	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	1.9	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.4	Read Only
<input checked="" type="checkbox"/> CAD High	3.4	Read Only
<input checked="" type="checkbox"/> CAD 12	3.4	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

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

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	1.64 e6	Read Only	0.8095	Read Only
Q1 500.380	2.40 e7	Read Only	0.8592	Read Only
Q1 906.673	2.86 e7	Read Only	0.9633	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	1.26 e6	Read Only	0.6252	Read Only
Q3 500.380	2.19 e7	Read Only	0.7275	Read Only
Q3 906.673	3.02 e7	Read Only	0.7662	Read Only

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

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 19.51% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	7.43 e7	Read Only	0.9981	Read Only
MS/MS 195.1	1.45 e7	Read Only	0.6582	Read Only

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.43 e7	Read Only	0.7330	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.22 e7	Read Only	0.8138	Read Only

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

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.35 e6	Read Only	0.6495	Read Only

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Phone: 1.866.854.7988

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

Appendix ZEFPM003-2L

**PREVENTIVE MAINTENANCE CHECKLIST:**

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: \_\_\_\_\_(200-240VAC).  
If Out-of-Range, notify customer.
  
- Clean Interface
  - Curtain Plate
  - Orifice Plate
  - QJet
  - Q0 Rods.
  
- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable.  N/A
- Clean and inspect built-in divert valve if used.  N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.
  
- Pump down overnight if possible.  N/A
  
- Perform Maintenance on Turbo V source.
  
- Replace Electrode, if necessary.  N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed.  N/A

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

Appendix ZEFPM003-2L

**POST PM PPG PERFORMANCE TESTS:**

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

CAD Settings	Vacuum Reading ( x 10 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.8	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	2.1	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.6	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2 <sup>e6</sup>	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0 <sup>e6</sup>	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4 <sup>e7</sup>	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 <sup>e7</sup>	0.7656	0.6 to 0.8

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	4.54 e6	≥1.2 <sup>e6</sup>	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0 <sup>e6</sup>	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4 <sup>e7</sup>	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8 <sup>e7</sup>	0.7118	0.6 to 0.8

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

Transmission Efficiency: 16.93% (≥ 10.0%)

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



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

Appendix ZEFPM003-2L

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

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.31 e7	$\geq 1.0^{e7}$	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	$\geq 4.0^{e7}$	0.6740	0.6 to 0.8

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

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	1.70 e7	$\geq 8.0^{e6}$	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	$\geq 4.0^{e7}$	0.7292	0.6 to 0.8

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

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.08 e6	$\geq 7.2^{e6}$	0.1302	<0.35
ER 922.010	0.05	3.89 e7	$\geq 2.8^{e6}$	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	$\geq 2.4^{e7}$	0.3740	<0.65
ER 922.010	0.05	2.37 e8	$\geq 6.8^{e7}$	0.5407	<0.65

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.05 e8	$\geq 4.4^{e7}$	0.1840	<0.35
ER 601.978	0.05	7.74 e7	$\geq 5.6^{e7}$	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	$\geq 1.2^{e8}$	0.4382	<0.65
ER 601.978	0.05	2.55 e8	$\geq 1.6^{e8}$	0.6205	<0.65

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

Appendix ZEFPM003-2L

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

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.5 e6	≥2.0 e6	> 4.0 e7	≥6.4 e6

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

Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	3.2 e7	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 <sup>e6</sup>

**REVIEW:**

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

**END OF PREVENTIVE MAINTENANCE CHECKLIST****Document history:**

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



It can be done

**BATTELLE - NORWELL OPERATIONS  
SAMPLE PREPARATION RECORDS**

<b><u>Project Title(s)</u></b>	<b><u>Project No.(s)</u></b>
CTO-SE0375: Naval Air Station Jacksonville	100119154- SE0375
<b>18-0505</b>	
<b>CTO-SE0375: Drinking Water Analysis</b>	
<b>W</b>	
SOP Numbers (see workplan for modifications)	
VOASOP No.	5-371

<b>This Batch Contains The Following Samples:</b>	
CR573PB-FS	J7411-FS
CR574LCS-FS	J7413-FS
J7403-FS	
J7405-FS	
J7407-FS	
J7409-FS	

Laboratory Preparation Records  
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	08/20/2018	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**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Sample ID</b>	<b>Description</b>
CR573PB-FS	Procedural Blank
CR574LCS-FS	Laboratory Control Sample
J7403-FS	JAX-RES-08132018-0945-27
J7405-FS	JAX-RES-08132018-1100-30
J7407-FS	JAX-RES-08132018-1145-32
J7409-FS	JAX-RES-08132018-1445-16
J7411-FS	JAX-RES-08132018-1600-13
J7413-FS	JAX-RES-08132018-1700-31

Samples Assigned By:

Jonathan Thorn

Date : August 14, 2018

Comments:



It can be done

## BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR573PB-FS	Procedural Blank	250.0	NA	--	08/14/18 SAS
CR574LCS-FS	Laboratory Control Sample	250.0	NA	--	08/14/18 SAS
J7403-FS	JAX-RES-08132018-0945-27	270.0	1	C	08/15/18 SAS
J7405-FS	JAX-RES-08132018-1100-30	280.0	1	C	08/15/18 SAS
J7407-FS	JAX-RES-08132018-1145-32	280.0	1	C	08/15/18 SAS
J7409-FS	JAX-RES-08132018-1445-16	280.0	1	C	08/15/18 SAS
J7411-FS	JAX-RES-08132018-1600-13	280.0	1	C	08/15/18 SAS
J7413-FS	JAX-RES-08132018-1700-31	270.0	1	C	08/15/18 SAS

**Comments:**

Sample ID:	Comments:
CR573PB-FS	1.25g Trizma(180502-01) weighed on BAL-009
CR574LCS-FS	1.27g Trizma(180502-01) weighed on BAL-009

Samples Assigned By

Jonathan Thorn

Date : August 14, 2018

\* - "C" = Sample is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR573PB-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
CR574LCS-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
CR574LCS-FS	JZ28	LCS/MS	1	50	08/14/18 SAS	JCT	NA
J7403-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7405-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7407-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7409-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7411-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA
J7413-FS	JX76	SIS	1	50	08/14/18 SAS	JCT	NA

## Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JX76	Pipette	I0793912B
JZ28	Pipette	I0793912B



It can be done

## BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W****(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
CR573PB-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
CR574LCS-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7403-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7403-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7405-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7405-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7407-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7407-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7409-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7409-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7411-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7411-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS
J7413-FS(0)	950	50	JV59	50	1	1000	1.000	08/15/18 SAS	DMS
J7413-FS-D(3)	955	45	JV59	50	1	1000	10.000	08/15/18 SAS	DMS

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

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



It can be done

## BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W****(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
------------	-----------------	------------	---------	-------------	----------	---------------------	------------------	------------------------	-----------

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV59	Pipette	I0793912B

<b>Extract Id:</b>	<b>Comments:</b>
CR573PB-FS	Samples reconstituted in 96/4 Methanol/Milli-q water (RP-180515-2)

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

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





It can be done

## BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR573PB-FS	0	--	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
CR574LCS-FS	0	--	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7403-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7403-FS	2	--	8/15/2018 2:33:00 PM	J7403-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7403-FS-D	3	--	8/15/2018 2:33:00 PM	J7403-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7405-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7405-FS	2	--	8/15/2018 2:33:00 PM	J7405-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7405-FS-D	3	--	8/15/2018 2:33:00 PM	J7405-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7407-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7407-FS	2	--	8/15/2018 2:33:00 PM	J7407-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7407-FS-D	3	--	8/15/2018 2:33:00 PM	J7407-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7409-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7409-FS	2	--	8/15/2018 2:33:00 PM	J7409-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7409-FS-D	3	--	8/15/2018 2:33:00 PM	J7409-FS	0	1000	100	10.000	10.000	08/15/18 SAS

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

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

\* - "C" = Extract is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
J7411-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7411-FS	2	--	8/15/2018 2:33:00 PM	J7411-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7411-FS-D	3	--	8/15/2018 2:33:00 PM	J7411-FS	0	1000	100	10.000	10.000	08/15/18 SAS
J7413-FS	0	C	8/14/2018 1:45:00 PM	NA		NA	NA	1.000	1.000	08/14/18 SAS
J7413-FS	2	--	8/15/2018 2:33:00 PM	J7413-FS	0	1000	900	1.111	1.111	08/15/18 SAS
J7413-FS-D	3	--	8/15/2018 2:33:00 PM	J7413-FS	0	1000	100	10.000	10.000	08/15/18 SAS

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

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

\* - "C" = Extract is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Purpose:</b> LC-MS/MS TRANSFER		<b>Last Activity:</b> Prep->Inst	
<b>Relinquished On/By:</b> Aug 15 2018 4:14PM SAS		<b>Received On/By:</b> Aug 15 2018 5:14PM DMS	
<b>Relinquished From:</b> Sample Preparation: NA		<b>Received Location:</b> LC Laboratory: NA	
<b>Relinquish Comment:</b> NA		<b>Received Comment:</b> NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR573PB-FS(0)	1000	1	Intact	NA
2	CR574LCS-FS(0)	1000	1	Intact	NA
3	J7403-FS(2)	1000	1.111	Intact	NA
4	J7403-FS-D(3)	1000	10	Intact	NA
5	J7405-FS(2)	1000	1.111	Intact	NA
6	J7405-FS-D(3)	1000	10	Intact	NA
7	J7407-FS(2)	1000	1.111	Intact	NA
8	J7407-FS-D(3)	1000	10	Intact	NA
9	J7409-FS(2)	1000	1.111	Intact	NA
10	J7409-FS-D(3)	1000	10	Intact	NA
11	J7411-FS(2)	1000	1.111	Intact	NA
12	J7411-FS-D(3)	1000	10	Intact	NA
13	J7413-FS(2)	1000	1.111	Intact	NA
14	J7413-FS-D(3)	1000	10	Intact	NA

**Total Extracts:** 14



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**18-0505****CTO-SE0375: Drinking Water Analysis****W**

<b>Purpose:</b>	LC-MS/MS TRANSFER	<b>Last Activity:</b>	Prep->Inst		
<b>Relinquished On/By:</b>	Aug 17 2018 1:42PM LMG	<b>Received On/By:</b>	Aug 17 2018 1:42PM LMG		
<b>Relinquished From:</b>	Sample Preparation: NA	<b>Received Location:</b>	LC Laboratory: NA		
<b>Relinquish Comment:</b>	NA	<b>Received Comment:</b>	NA		
No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR574LCS-FS(0)	1000	1	Intact	NA
2	J7403-FS(2)	1000	1.111	Intact	NA
3	J7411-FS(2)	1000	1.111	Intact	NA
4	J7413-FS(2)	1000	1.111	Intact	NA
<b>Total Extracts:</b>	4				



It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0505****CTO-SE0375: Drinking Water Analysis****W**

Sample ID:	Comment:	Date/Initials:
CR573PB-FS	Extraction for all samples began at 1:45pm	08/14/18 SAS
CR573PB-FS	Sample extraction ended at 2:19pm	08/14/18 SAS
CR574LCS-FS	Sample extraction ended at 2:19pm	08/14/18 SAS
J7403-FS	Sample was a pale yellow color.	08/14/18 SAS
J7403-FS	Sample extraction ended at 2:22pm	08/14/18 SAS
J7405-FS	Sample was a pale yellow color.	08/14/18 SAS
J7405-FS	Sample extraction ended at 2:24pm	08/14/18 SAS
J7407-FS	Sample was a pale yellow color.	08/14/18 SAS
J7407-FS	Sample extraction ended at 2:27pm	08/14/18 SAS
J7409-FS	Sample extraction ended at 2:27pm	08/14/18 SAS
J7411-FS	Sample extraction ended at 2:25pm	08/14/18 SAS
J7413-FS	Sample extraction ended at 2:22pm	08/14/18 SAS

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		8/20/2018 2:32:30 PM	5-0371.dam	DW_08202018.wiff
4	JZ80	L3	8/20/2018 2:59:21 PM	5-0371.dam	DW_08202018.wiff
5	JZ81	L4	8/20/2018 3:08:18 PM	5-0371.dam	DW_08202018.wiff
6	JZ82	L5	8/20/2018 3:17:14 PM	5-0371.dam	DW_08202018.wiff
7	JZ83	L6	8/20/2018 3:26:11 PM	5-0371.dam	DW_08202018.wiff
8	JZ84	L7	8/20/2018 3:35:06 PM	5-0371.dam	DW_08202018.wiff
9	JZ85	L8	8/20/2018 3:44:02 PM	5-0371.dam	DW_08202018.wiff
10	JZ86	L9	8/20/2018 3:52:58 PM	5-0371.dam	DW_08202018.wiff
11	JZ10 IB	Instrument Blank	8/20/2018 4:01:53 PM	5-0371.dam	DW_08202018.wiff
12	JZ77 ICC	ICC	8/20/2018 4:10:51 PM	5-0371.dam	DW_08202018.wiff
13	MeOH		8/20/2018 4:19:47 PM	5-0371.dam	DW_08202018.wiff
44	<del>CR612PB-FS(0)</del>	<del>Procedural Blank</del>	<del>8/20/2018 4:28:42 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
45	<del>CR613LCS-FS(0)</del>	<del>Laboratory Control Sample</del>	<del>8/20/2018 4:37:39 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
46	<del>J7404-FS(0)</del>	<del>JAX-RES-08132018-0945-27-FRB</del>	<del>8/20/2018 4:46:36 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
47	<del>J7406-FS(0)</del>	<del>JAX-RES-08132018-1100-30-FRB</del>	<del>8/20/2018 4:55:32 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
48	<del>J7408-FS(0)</del>	<del>JAX-RES-08132018-1145-32-FRB</del>	<del>8/20/2018 5:04:27 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
49	<del>J7412-FS(0)</del>	<del>JAX-RES-08132018-1600-13-FRB</del>	<del>8/20/2018 5:13:23 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
20	<del>J7414-FS(0)</del>	<del>JAX-RES-08132018-1700-31-FRB</del>	<del>8/20/2018 5:22:20 PM</del>	<del>5-0371.dam</del>	<del>DW_08202018.wiff</del>
21	JZ82 CCV	CCV	8/20/2018 5:31:16 PM	5-0371.dam	DW_08202018.wiff
22	MeOH		8/20/2018 5:40:13 PM	5-0371.dam	DW_08202018.wiff
23	CR573PB-FS(0)	Procedural Blank	8/20/2018 5:49:10 PM	5-0371.dam	DW_08202018.wiff
24	CR574LCS-FS(0)	Laboratory Control Sample	8/20/2018 5:58:06 PM	5-0371.dam	DW_08202018.wiff
25	J7403-FS(2)	JAX-RES-08132018-0945-27	8/20/2018 6:07:03 PM	5-0371.dam	DW_08202018.wiff
26	J7405-FS(2)	JAX-RES-08132018-1100-30	8/20/2018 6:15:58 PM	5-0371.dam	DW_08202018.wiff
27	J7407-FS(2)	JAX-RES-08132018-1145-32	8/20/2018 6:24:56 PM	5-0371.dam	DW_08202018.wiff
28	J7409-FS(2)	JAX-RES-08132018-1445-16	8/20/2018 6:33:52 PM	5-0371.dam	DW_08202018.wiff
29	J7411-FS(2)	JAX-RES-08132018-	8/20/2018 6:42:49	5-0371.dam	DW_08202018.wiff

1 ↓

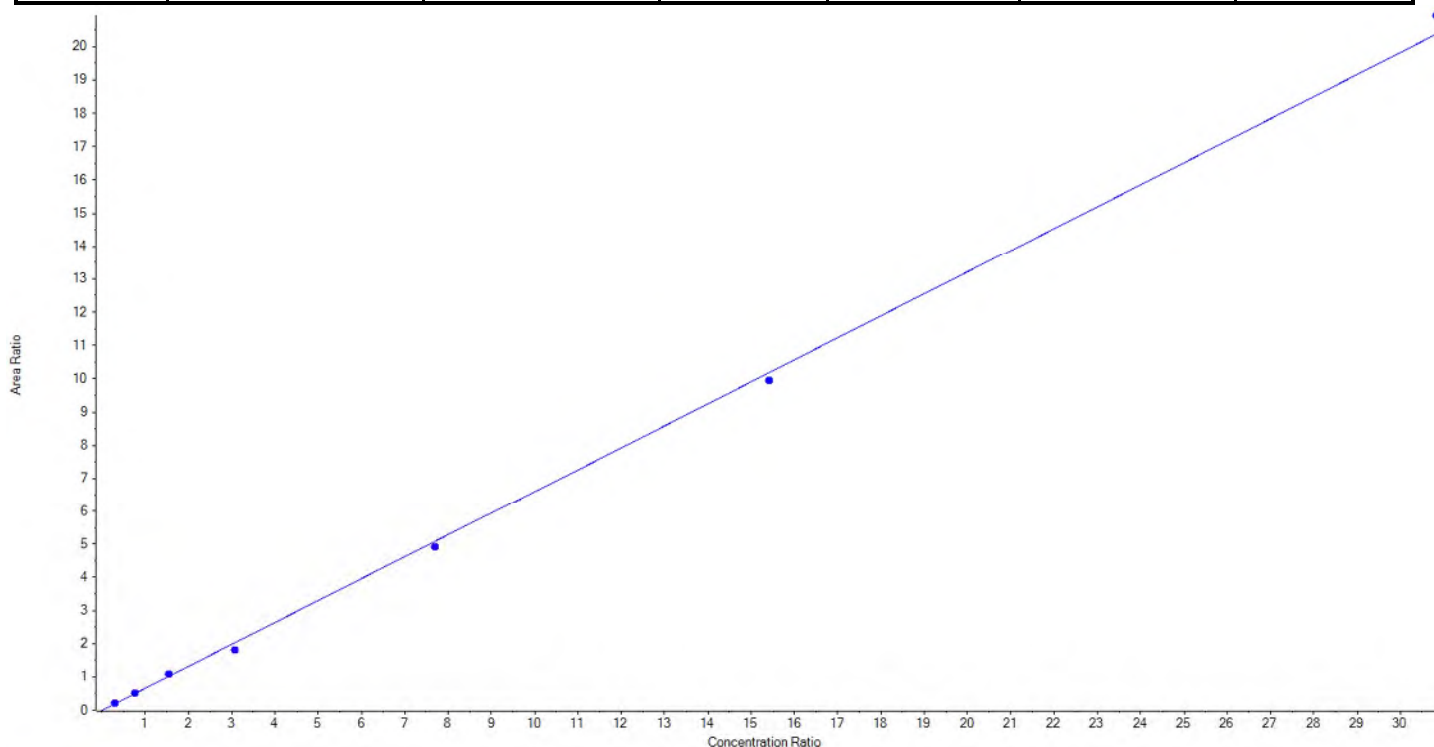
1 Samples from another batch, reported separately DMS 8/21/2018

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
		1600-13	PM		
30	J7413-FS(2)	JAX-RES-08132018-1700-31	8/20/2018 6:51:46 PM	5-0371.dam	DW_08202018.wiff
31	JZ83 CCV	CCV	8/20/2018 7:00:42 PM	5-0371.dam	DW_08202018.wiff

<b>Analyte Name</b>	PFBS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.66086 x + -0.00678$  (r = 0.99915) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	92.373246	104.3
5	JZ81	L4	True	221.50	228.227234	103.0
6	JZ82	L5	True	443.00	473.621611	106.9
7	JZ83	L6	True	885.00	787.235152	89.0
8	JZ84	L7	True	2212.50	2136.140902	96.6
9	JZ85	L8	True	4425.00	4317.657703	97.6
10	JZ86	L9	True	8850.00	9090.344152	102.7

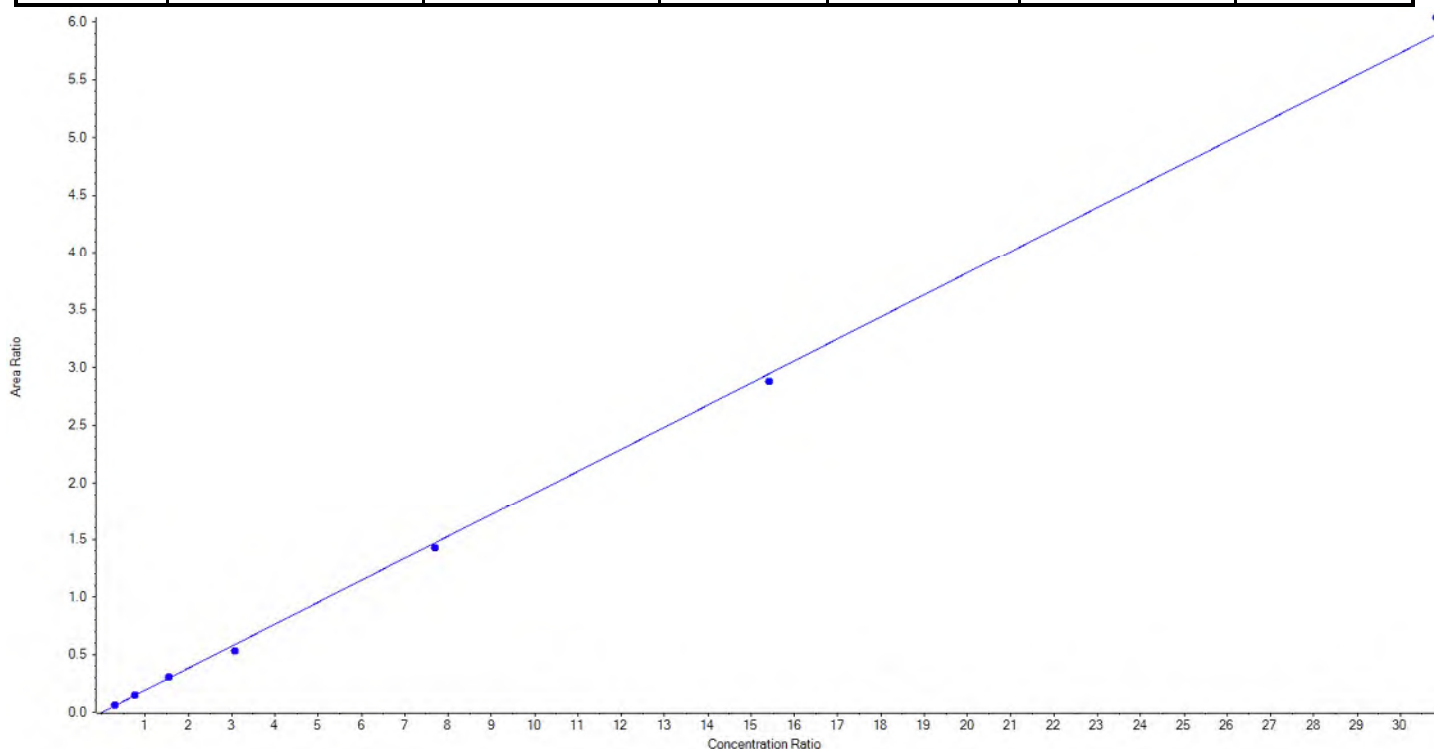




<b>Analyte Name</b>	PFBS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.19104 x + -0.00133$  (r = 0.99933) (weighting: 1 / x)

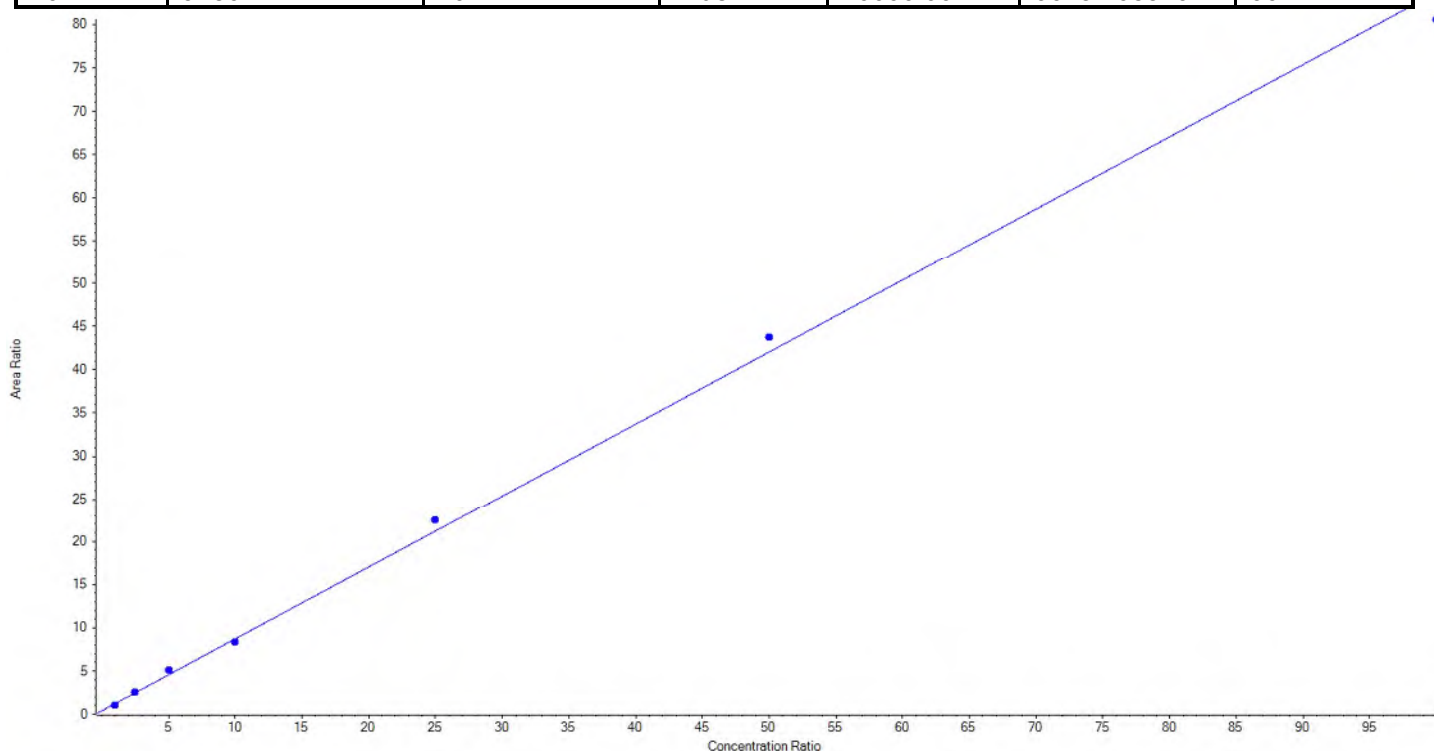
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	93.214828	105.2
5	JZ81	L4	True	221.50	227.341080	102.6
6	JZ82	L5	True	443.00	463.948422	104.7
7	JZ83	L6	True	885.00	796.949611	90.1
8	JZ84	L7	True	2212.50	2149.034279	97.1
9	JZ85	L8	True	4425.00	4326.418052	97.8
10	JZ86	L9	True	8850.00	9068.693729	102.5



<b>Analyte Name</b>	PFHxA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.83313x + 0.38835$  (r = 0.99851) (weighting: 1 / x)

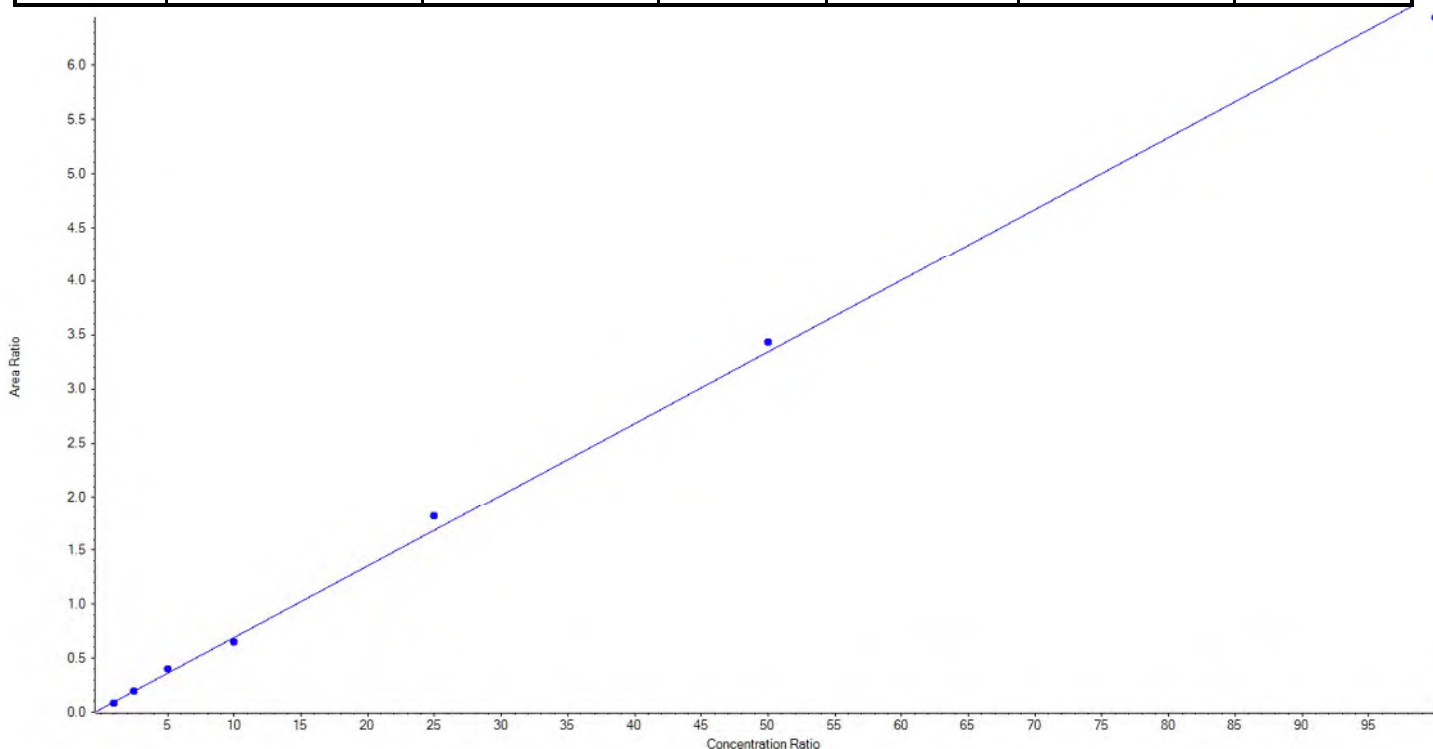
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	78.044303	78.0
5	JZ81	L4	True	250.00	265.769546	106.3
6	JZ82	L5	True	500.00	568.874261	113.8
7	JZ83	L6	True	1000.00	954.283032	95.4
8	JZ84	L7	True	2500.00	2650.811567	106.0
9	JZ85	L8	True	5000.00	5209.008771	104.2
10	JZ86	L9	True	10000.00	9623.208520	96.2



<b>Analyte Name</b>	PFHxA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 119.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06630 x + 0.02846$  (r = 0.99864) (weighting: 1 / x)

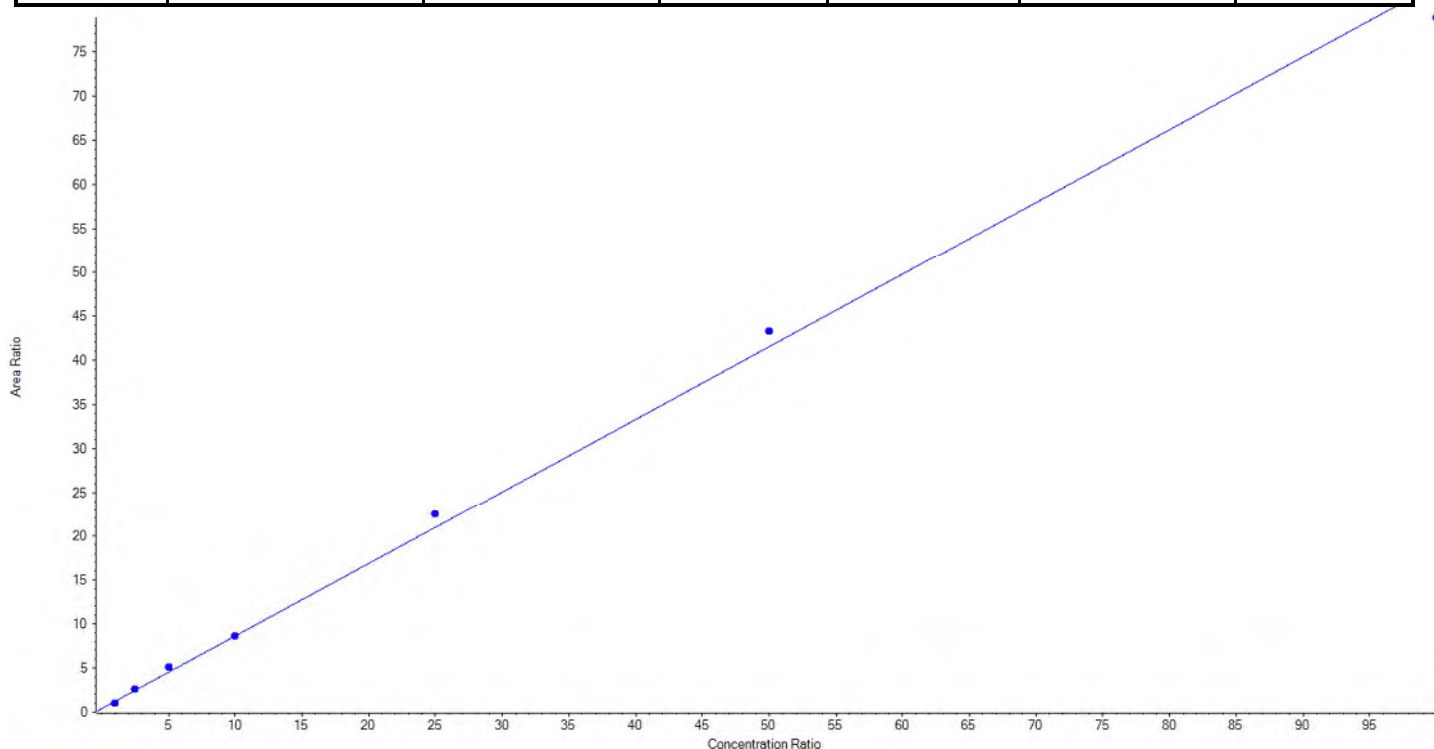
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	86.317867	86.3
5	JZ81	L4	True	250.00	247.710359	99.1
6	JZ82	L5	True	500.00	564.939492	113.0
7	JZ83	L6	True	1000.00	940.194006	94.0
8	JZ84	L7	True	2500.00	2702.578330	108.1
9	JZ85	L8	True	5000.00	5140.495784	102.8
10	JZ86	L9	True	10000.00	9667.764162	96.7



<b>Analyte Name</b>	PFHpA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.82233x + 0.41213$  (r = 0.99811) (weighting: 1 / x)

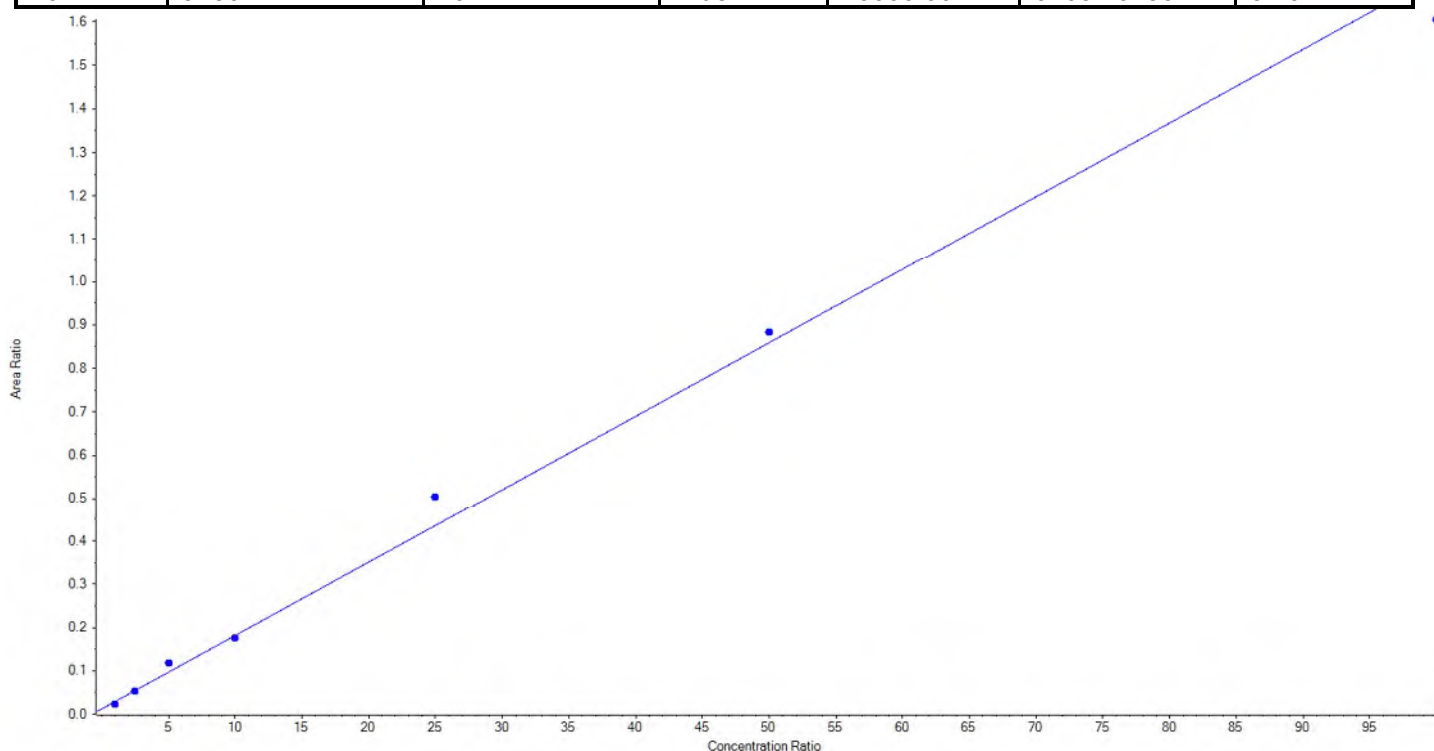
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.016068	73.0
5	JZ81	L4	True	250.00	261.130318	104.5
6	JZ82	L5	True	500.00	574.230055	114.9
7	JZ83	L6	True	1000.00	1005.928310	100.6
8	JZ84	L7	True	2500.00	2688.604760	107.5
9	JZ85	L8	True	5000.00	5207.786711	104.2
10	JZ86	L9	True	10000.00	9539.303778	95.4



<b>Analyte Name</b>	PFHpA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.01694 x + 0.01216$  (r = 0.99569) (weighting: 1 / x)

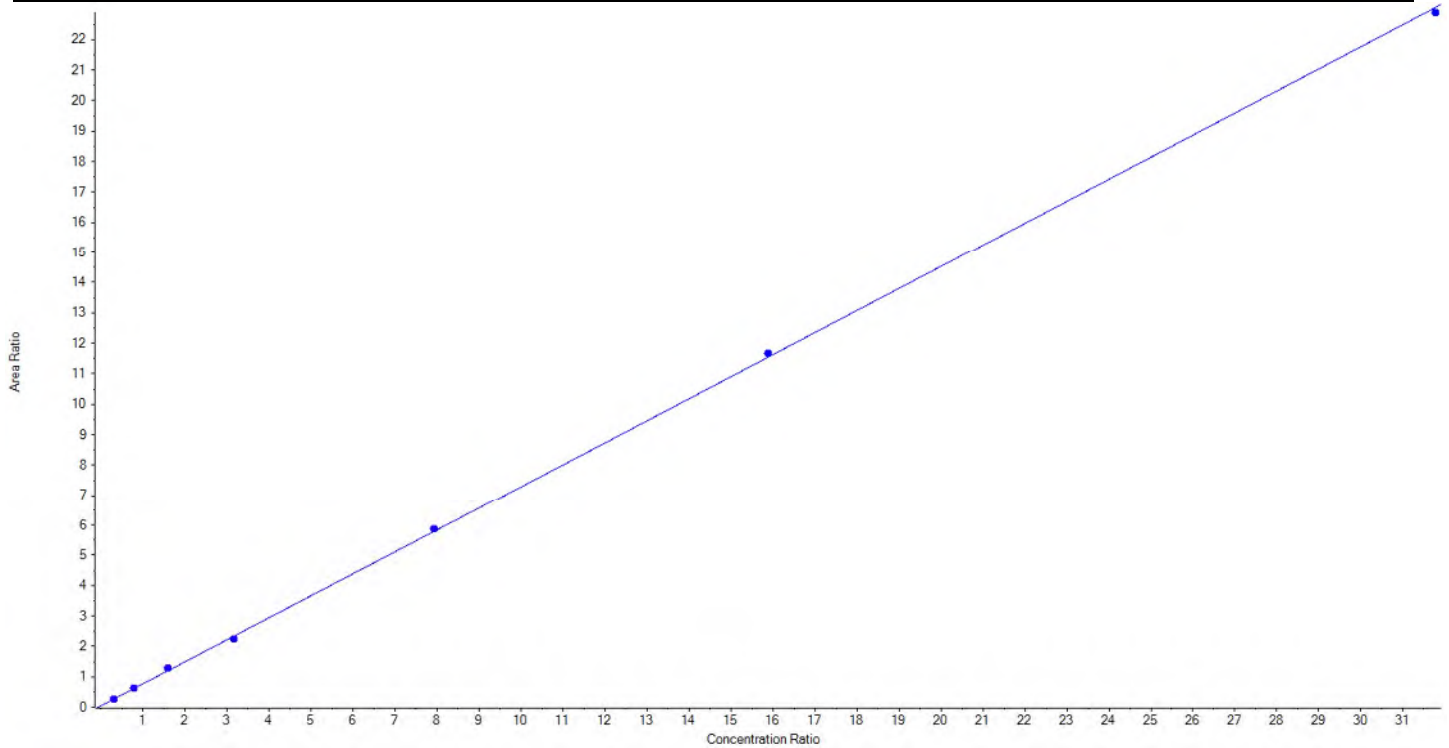
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.272325	70.3
5	JZ81	L4	True	250.00	239.260354	95.7
6	JZ82	L5	True	500.00	619.165193	123.8
7	JZ83	L6	True	1000.00	971.164630	97.1
8	JZ84	L7	True	2500.00	2905.414878	116.2
9	JZ85	L8	True	5000.00	5141.021060	102.8
10	JZ86	L9	True	10000.00	9403.701561	94.0



<b>Analyte Name</b>	PFHxS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.72416x + 0.03976$  (r = 0.99978) (weighting: 1 / x)

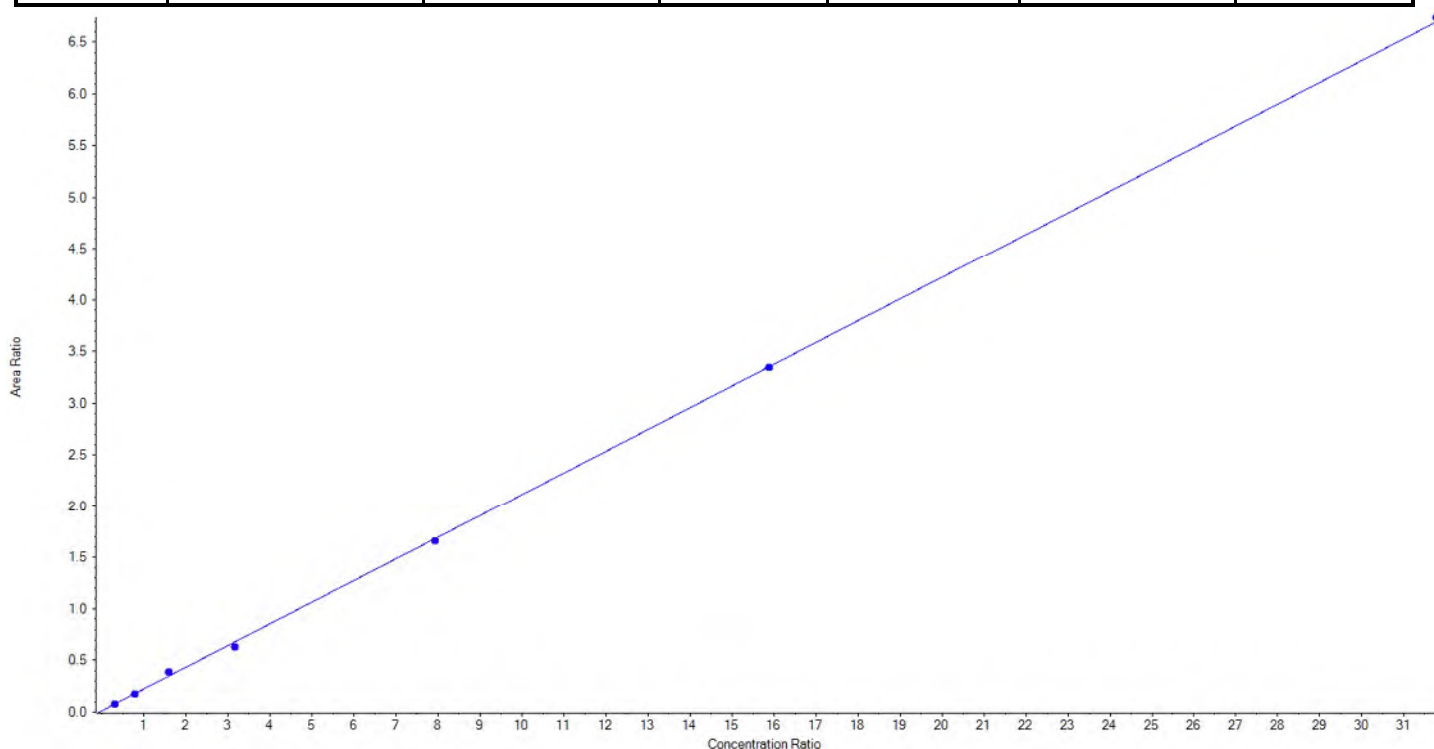
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	83.545773	91.6
5	JZ81	L4	True	228.00	236.640313	103.8
6	JZ82	L5	True	456.00	490.800076	107.6
7	JZ83	L6	True	912.00	872.158270	95.6
8	JZ84	L7	True	2280.00	2303.866920	101.1
9	JZ85	L8	True	4560.00	4606.569585	101.0
10	JZ86	L9	True	9120.00	9053.619063	99.3



<b>Analyte Name</b>	PFHxS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.21033x + 0.01337$  (r = 0.99964) (weighting: 1 / x)

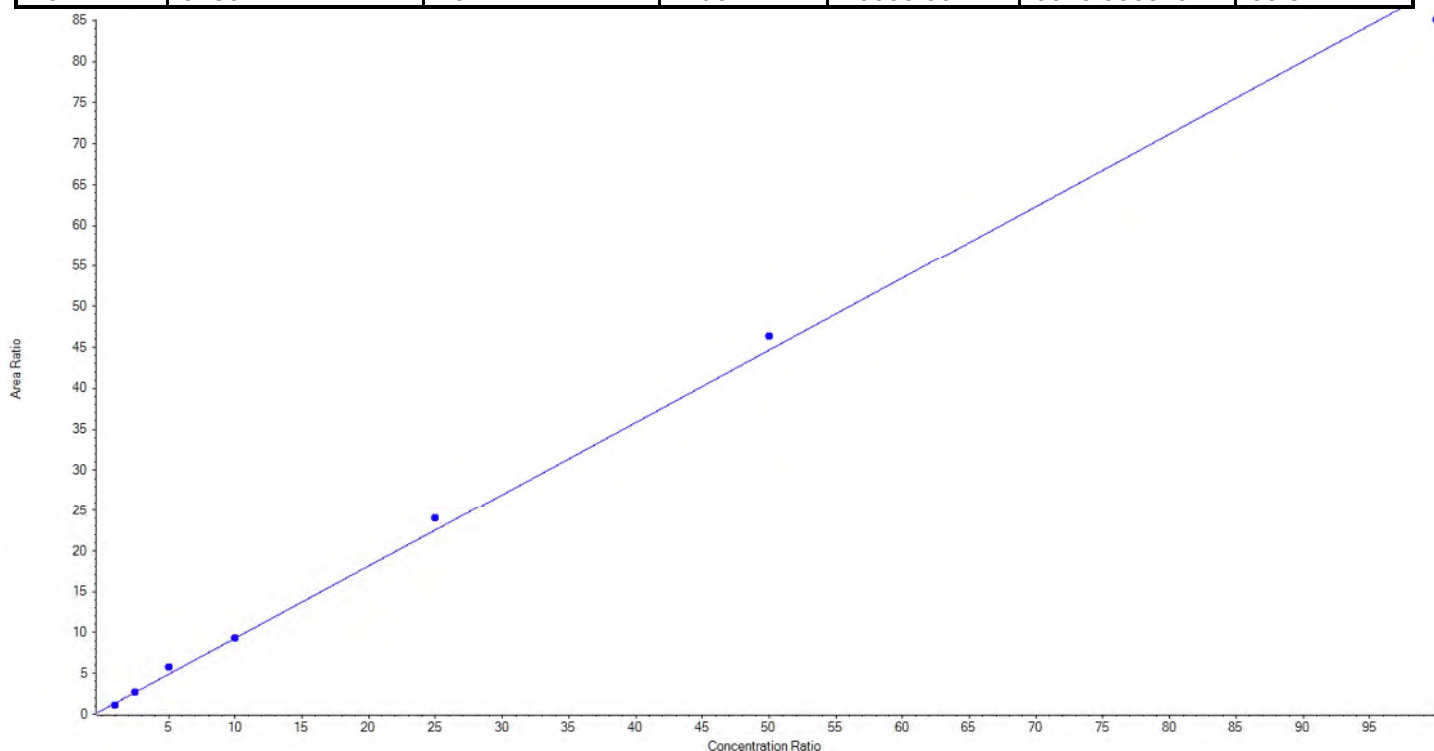
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	89.539693	98.2
5	JZ81	L4	True	228.00	224.603434	98.5
6	JZ82	L5	True	456.00	506.958424	111.2
7	JZ83	L6	True	912.00	847.353462	92.9
8	JZ84	L7	True	2280.00	2253.455709	98.8
9	JZ85	L8	True	4560.00	4550.078070	99.8
10	JZ86	L9	True	9120.00	9175.211206	100.6



<b>Analyte Name</b>	PFOA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 369.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.88380 x + 0.45664$  (r = 0.99819) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.344758	75.3
5	JZ81	L4	True	250.00	248.563445	99.4
6	JZ82	L5	True	500.00	595.816684	119.2
7	JZ83	L6	True	1000.00	999.884858	100.0
8	JZ84	L7	True	2500.00	2662.530234	106.5
9	JZ85	L8	True	5000.00	5189.823202	103.8
10	JZ86	L9	True	10000.00	9578.036819	95.8

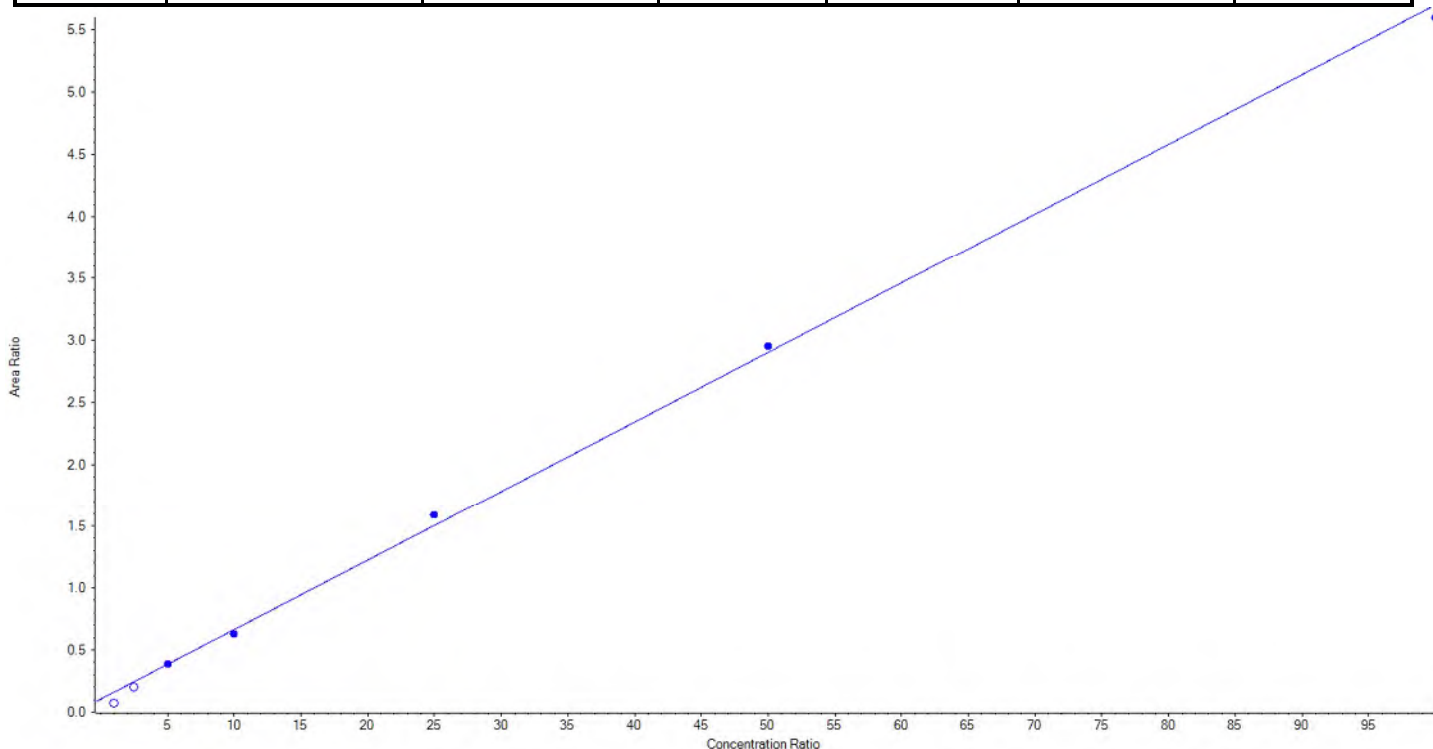




<b>Analyte Name</b>	PFOA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.05595x + 0.10513$  (r = 0.99926) (weighting: 1 / x)

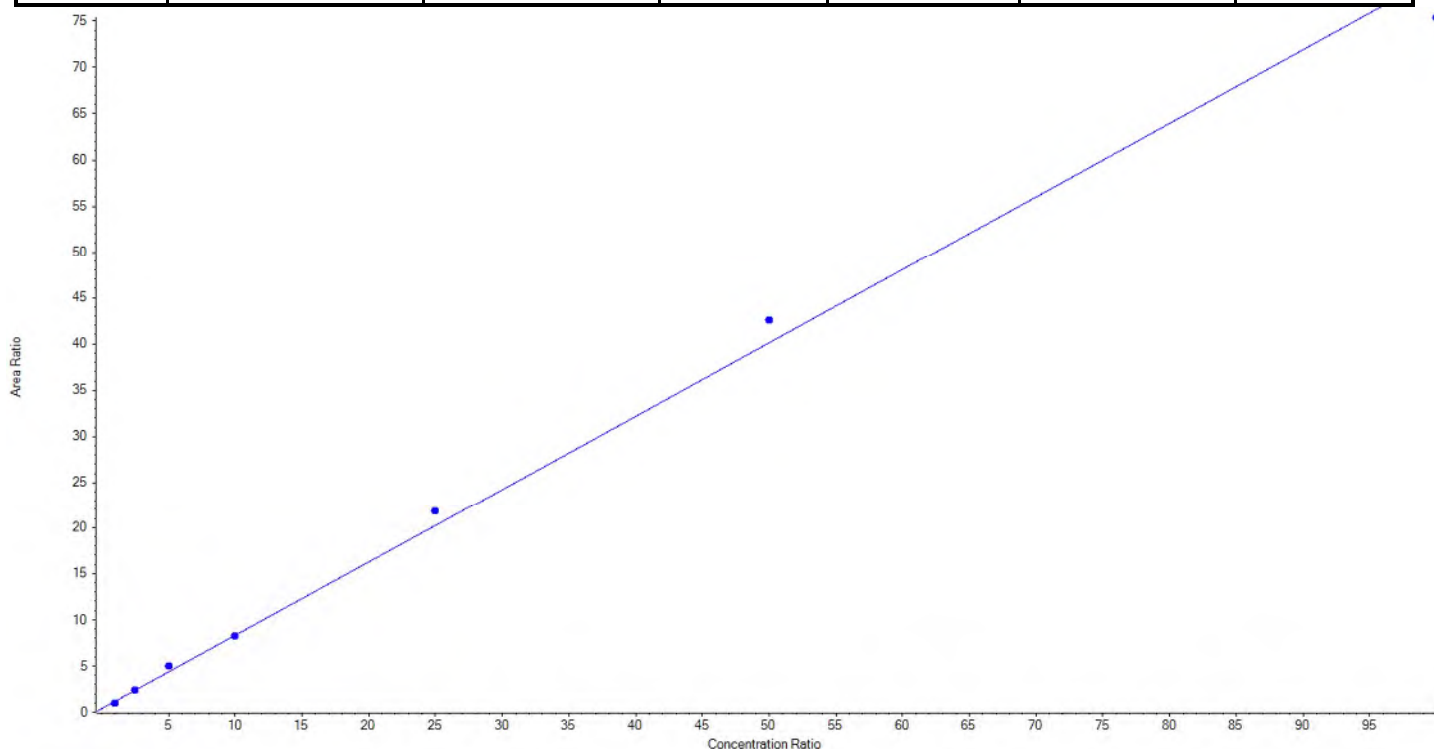
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	False	100.00	< 0	N/A
5	JZ81	L4	False	250.00	175.390457	70.2
6	JZ82	L5	True	500.00	501.263267	100.3
7	JZ83	L6	True	1000.00	937.002604	93.7
8	JZ84	L7	True	2500.00	2649.237787	106.0
9	JZ85	L8	True	5000.00	5095.261135	101.9
10	JZ86	L9	True	10000.00	9817.235206	98.2



<b>Analyte Name</b>	PFNA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.79456 x + 0.38579$  (r = 0.99739) (weighting: 1 / x)

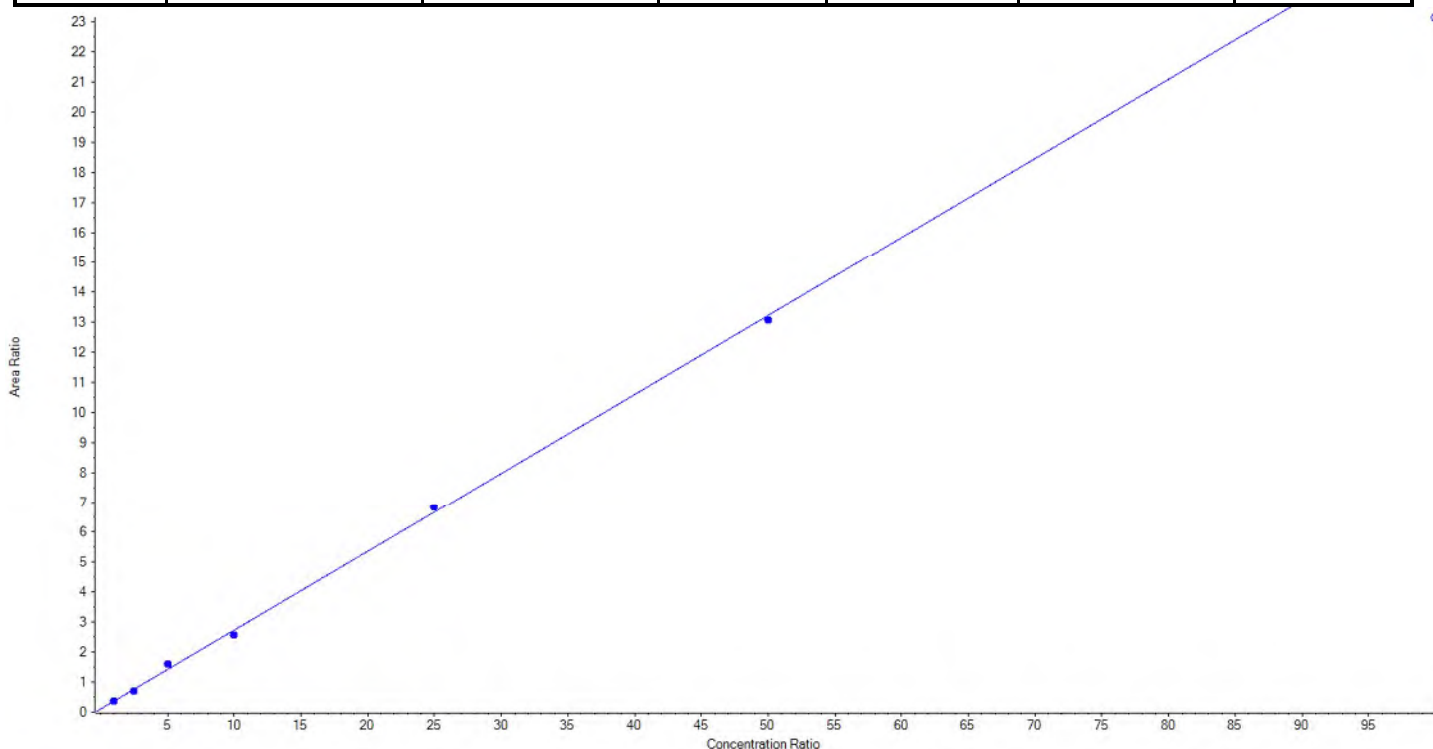
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.842400	73.8
5	JZ81	L4	True	250.00	253.735140	101.5
6	JZ82	L5	True	500.00	583.193244	116.6
7	JZ83	L6	True	1000.00	996.921572	99.7
8	JZ84	L7	True	2500.00	2692.800630	107.7
9	JZ85	L8	True	5000.00	5312.564204	106.3
10	JZ86	L9	True	10000.00	9436.942809	94.4



<b>Analyte Name</b>	PFNA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.26245x + 0.10725$  (r = 0.99871) (weighting: 1 / x)

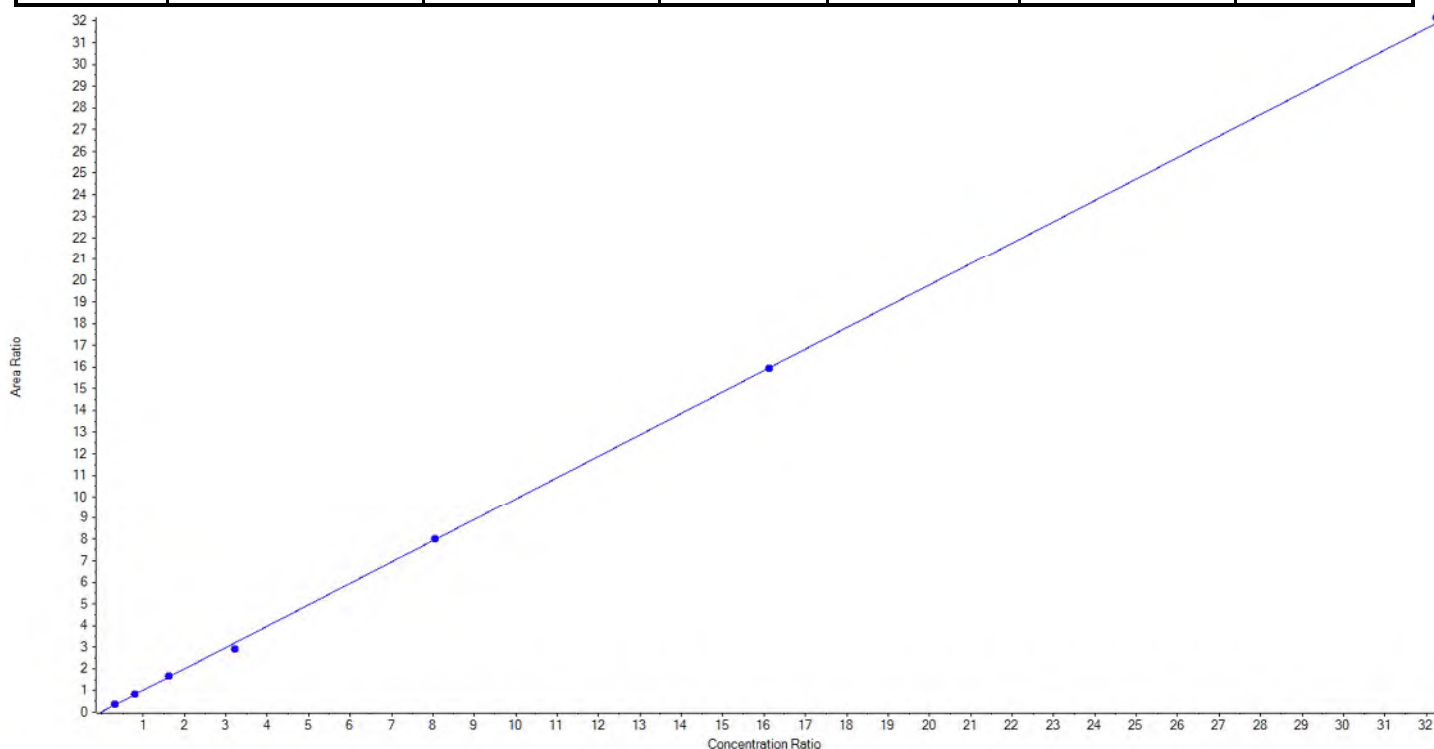
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	98.915434	98.9
5	JZ81	L4	True	250.00	225.999392	90.4
6	JZ82	L5	True	500.00	574.910926	115.0
7	JZ83	L6	True	1000.00	943.227550	94.3
8	JZ84	L7	True	2500.00	2562.046738	102.5
9	JZ85	L8	True	5000.00	4944.899960	98.9
10	JZ86	L9	False	10000.00	8779.689356	87.8



<b>Analyte Name</b>	PFOS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98838x + 0.02218$  (r = 0.99967) (weighting: 1 / x)

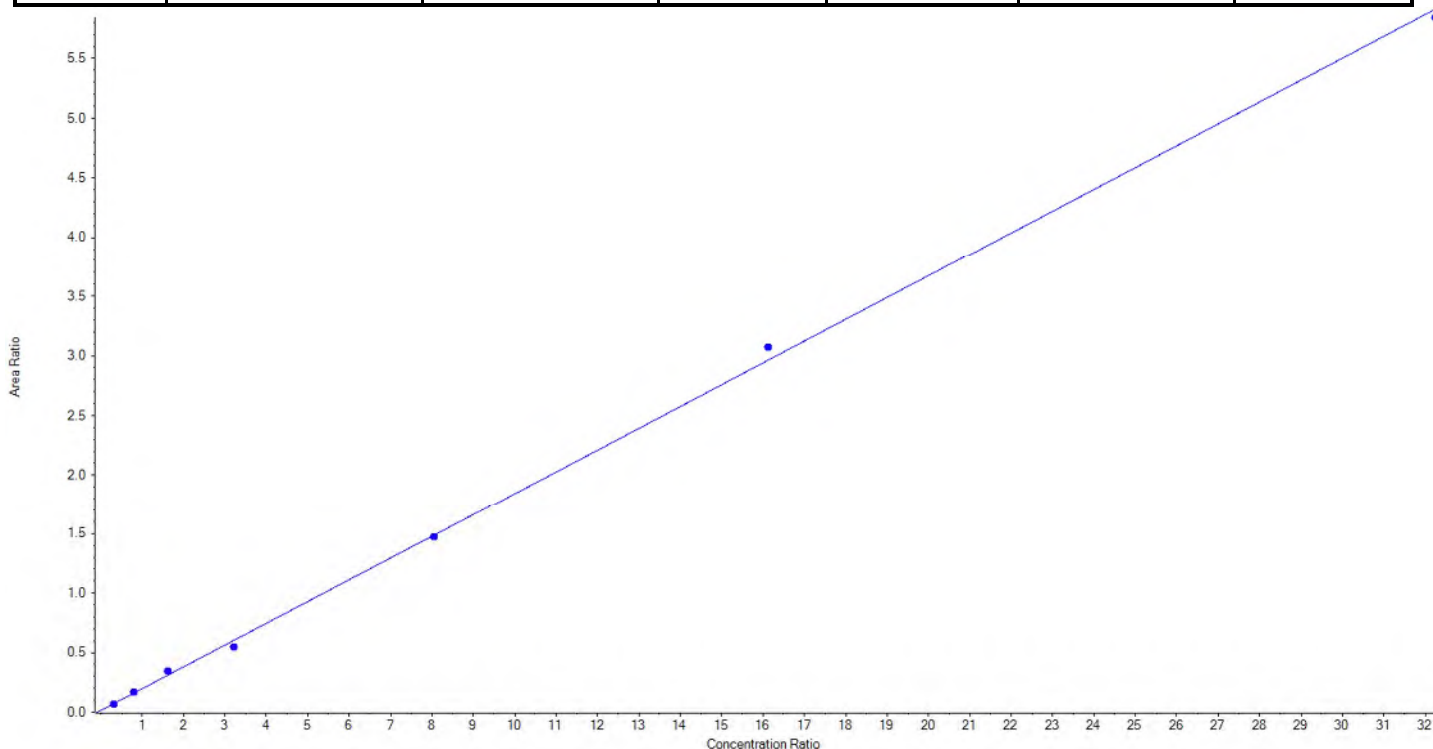
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	97.996148	105.8
5	JZ81	L4	True	231.50	229.918802	99.3
6	JZ82	L5	True	463.00	480.701559	103.8
7	JZ83	L6	True	925.60	836.163976	90.3
8	JZ84	L7	True	2314.00	2315.988544	100.1
9	JZ85	L8	True	4628.00	4618.435786	99.8
10	JZ86	L9	True	9256.00	9331.495186	100.8



<b>Analyte Name</b>	PFOS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.18289x + 0.01429$  (r = 0.99916) (weighting: 1 / x)

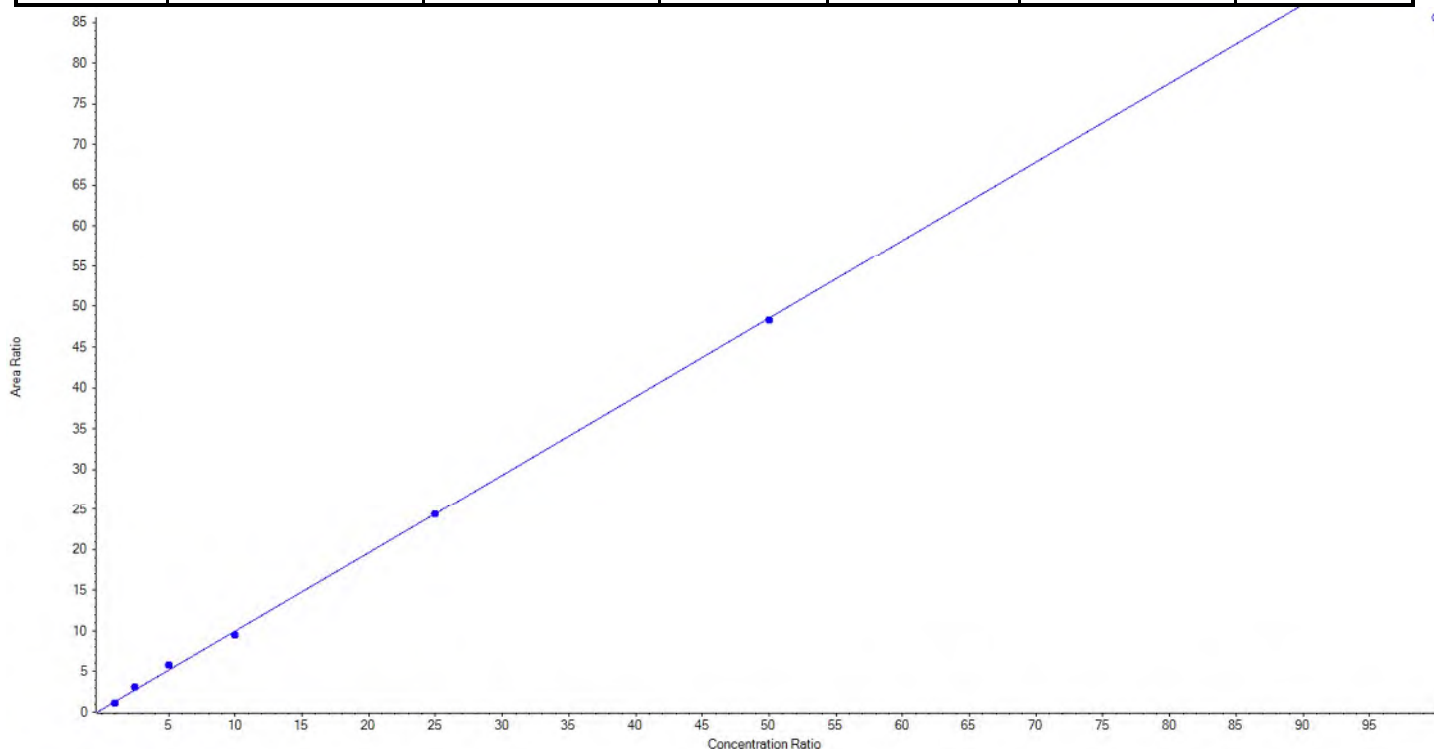
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	85.330602	92.2
5	JZ81	L4	True	231.50	239.054912	103.3
6	JZ82	L5	True	463.00	523.798062	113.1
7	JZ83	L6	True	925.60	835.646773	90.3
8	JZ84	L7	True	2314.00	2283.143402	98.7
9	JZ85	L8	True	4628.00	4800.356255	103.7
10	JZ86	L9	True	9256.00	9143.369993	98.8



<b>Analyte Name</b>	PFDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 469.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96480x + 0.33130$  ( $r = 0.99876$ ) (weighting: 1 / x)

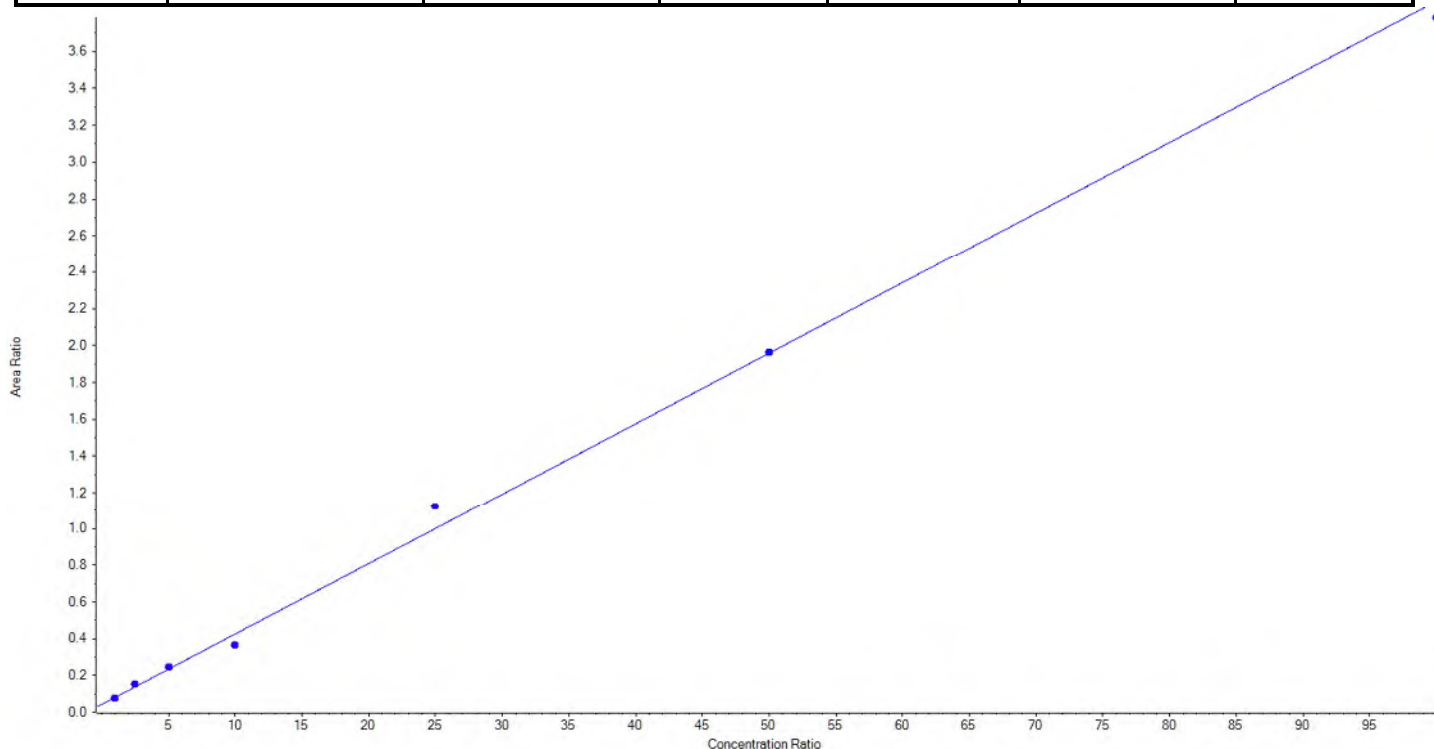
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	80.106807	80.1
5	JZ81	L4	True	250.00	280.729423	112.3
6	JZ82	L5	True	500.00	563.698304	112.7
7	JZ83	L6	True	1000.00	954.476766	95.5
8	JZ84	L7	True	2500.00	2499.715620	100.0
9	JZ85	L8	True	5000.00	4971.273080	99.4
10	JZ86	L9	False	10000.00	8834.017081	88.3



<b>Analyte Name</b>	PFDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.03832 x + 0.04215$  (r = 0.99749) (weighting: 1 / x)

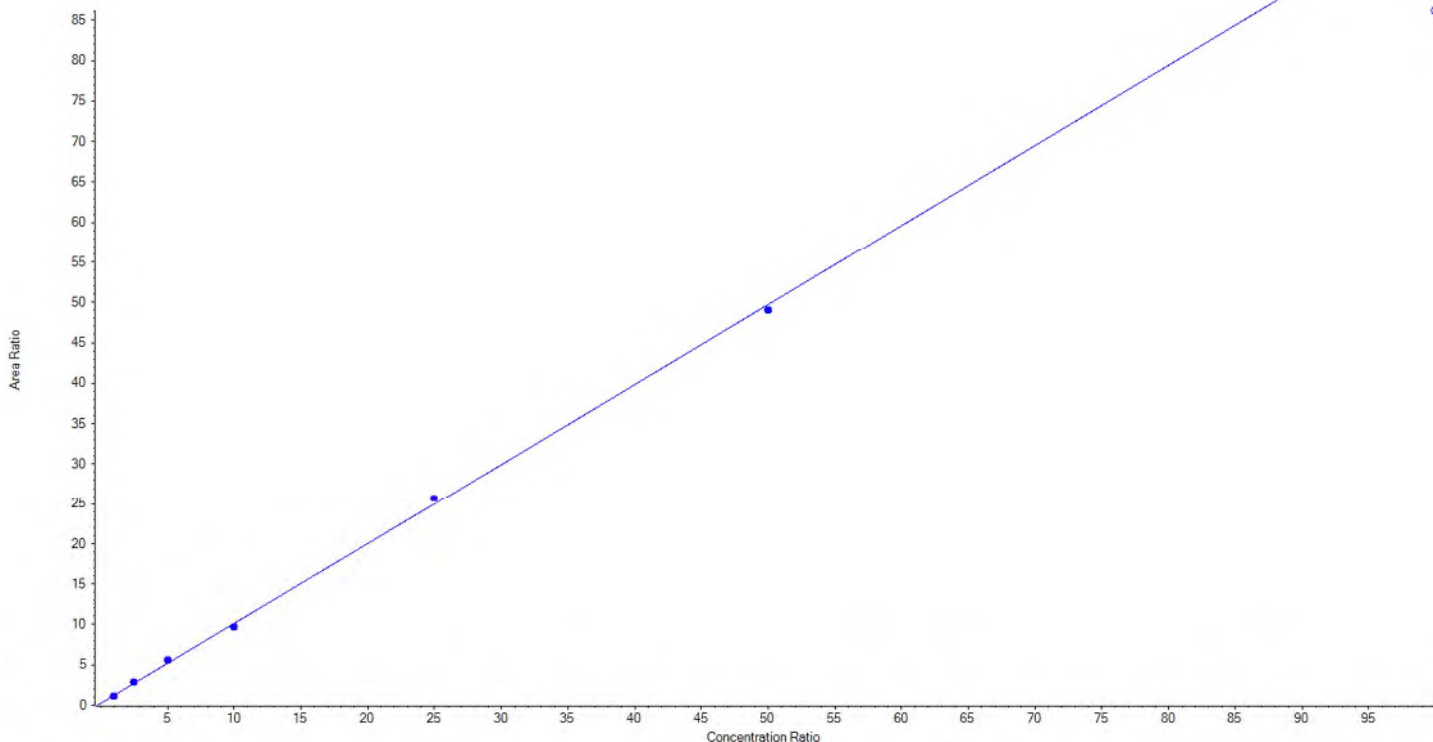
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.659189	82.7
5	JZ81	L4	True	250.00	291.516310	116.6
6	JZ82	L5	True	500.00	526.038890	105.2
7	JZ83	L6	True	1000.00	845.483275	84.6
8	JZ84	L7	True	2500.00	2828.003878	113.1
9	JZ85	L8	True	5000.00	5009.504139	100.2
10	JZ86	L9	True	10000.00	9766.794318	97.7



<b>Analyte Name</b>	PFUnA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 519.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98972 x + 0.23163$  (r = 0.99936) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	90.745593	90.8
5	JZ81	L4	True	250.00	261.466823	104.6
6	JZ82	L5	True	500.00	537.055487	107.4
7	JZ83	L6	True	1000.00	956.627338	95.7
8	JZ84	L7	True	2500.00	2575.587569	103.0
9	JZ85	L8	True	5000.00	4928.517189	98.6
10	JZ86	L9	False	10000.00	8681.593682	86.8

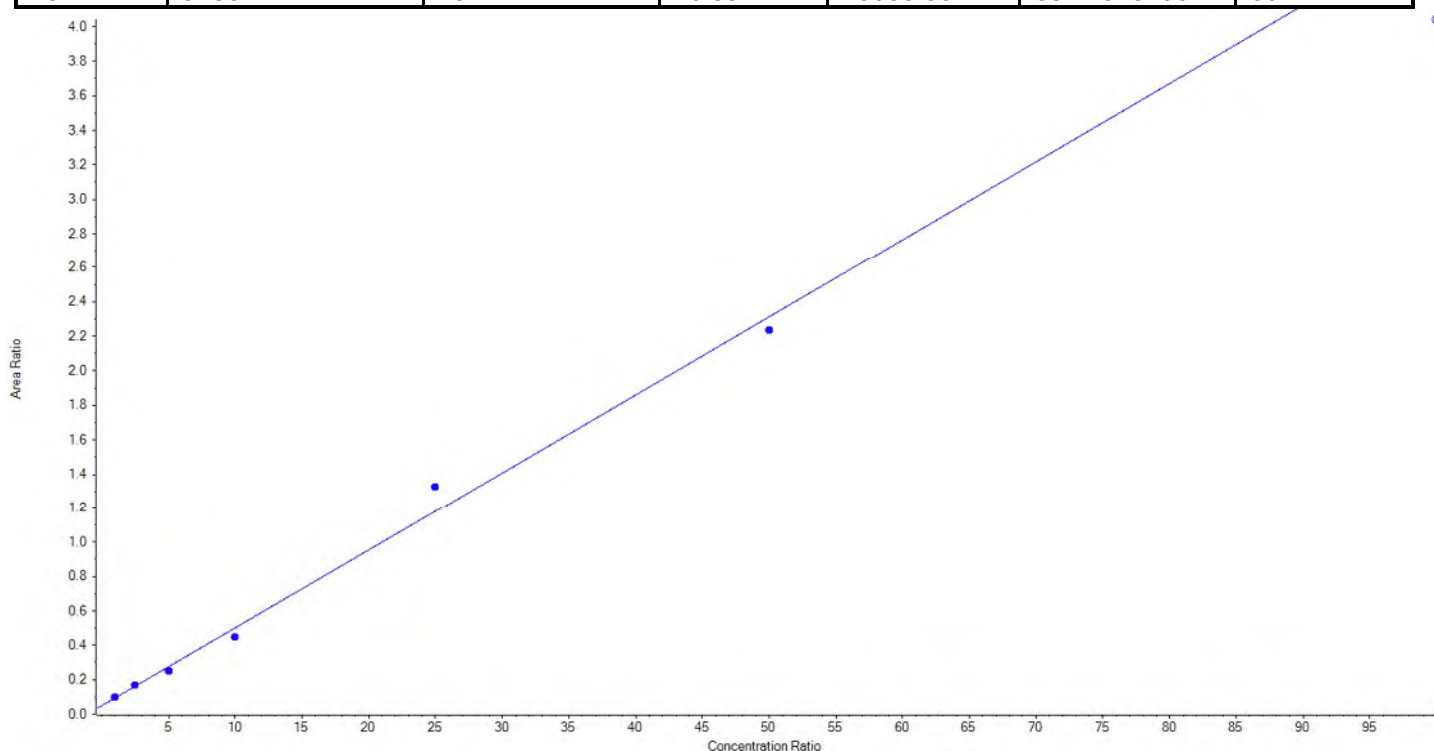




<b>Analyte Name</b>	PFUnA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04526 x + 0.04900$  (r = 0.99522) (weighting: 1 / x)

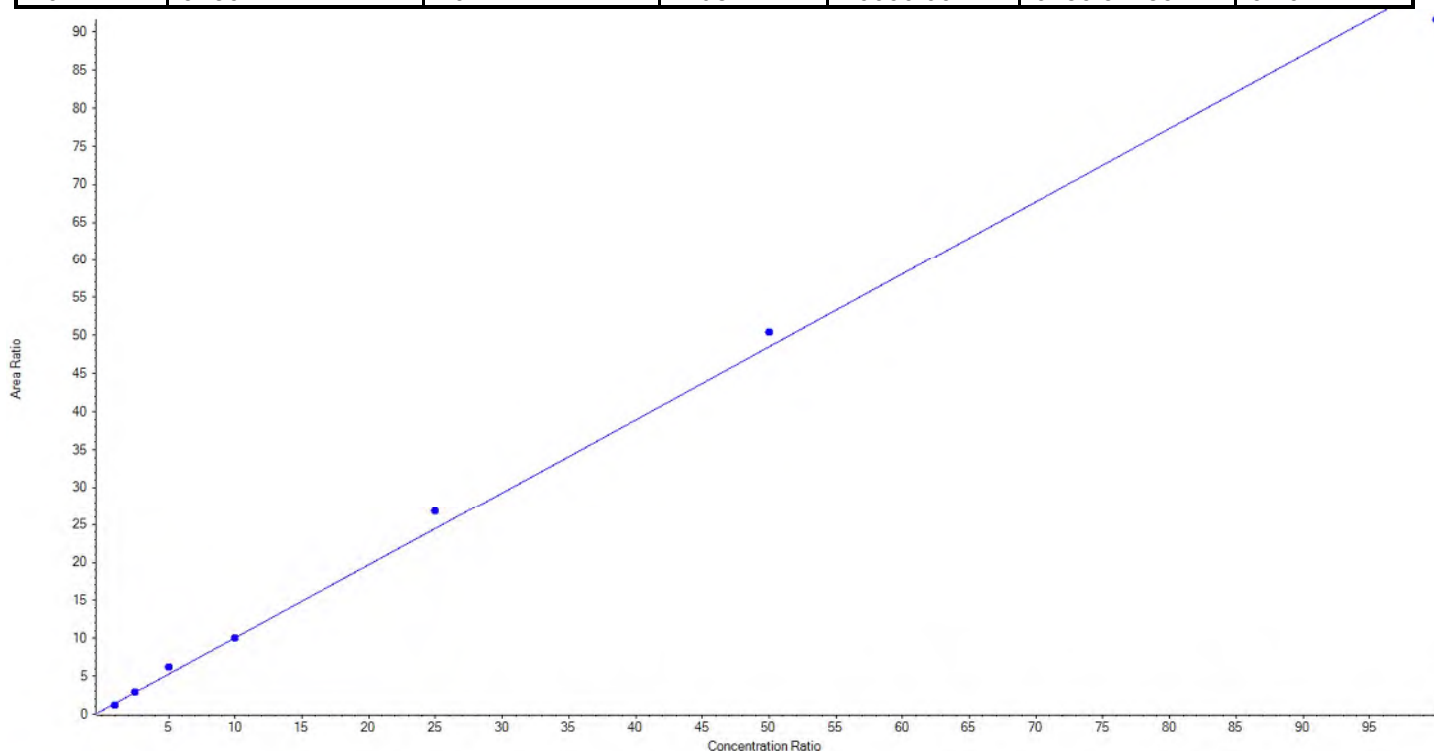
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	108.896169	108.9
5	JZ81	L4	True	250.00	263.189166	105.3
6	JZ82	L5	True	500.00	440.534454	88.1
7	JZ83	L6	True	1000.00	881.098760	88.1
8	JZ84	L7	True	2500.00	2824.288451	113.0
9	JZ85	L8	True	5000.00	4831.993000	96.6
10	JZ86	L9	False	10000.00	8817.375193	88.2



<b>Analyte Name</b>	PFD <sub>o</sub> A_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 569.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96118x + 0.45533$  (r = 0.99745) (weighting: 1 / x)

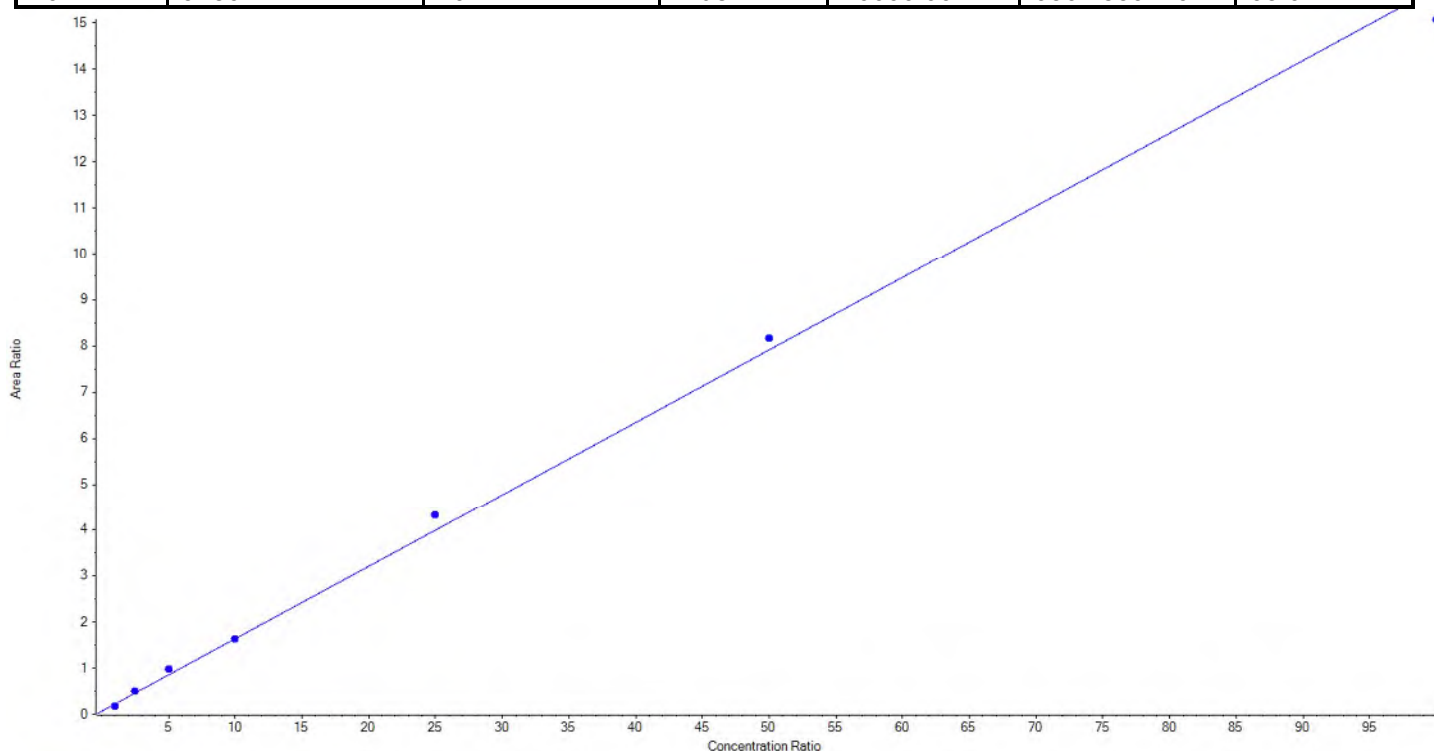
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.165430	70.2
5	JZ81	L4	True	250.00	255.545507	102.2
6	JZ82	L5	True	500.00	595.482174	119.1
7	JZ83	L6	True	1000.00	999.847927	100.0
8	JZ84	L7	True	2500.00	2741.086918	109.6
9	JZ85	L8	True	5000.00	5201.294237	104.0
10	JZ86	L9	True	10000.00	9486.577807	94.9



<b>Analyte Name</b>	PFD <sub>o</sub> A_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.15690x + 0.06506$  ( $r = 0.99787$ ) (weighting:  $1/x$ )

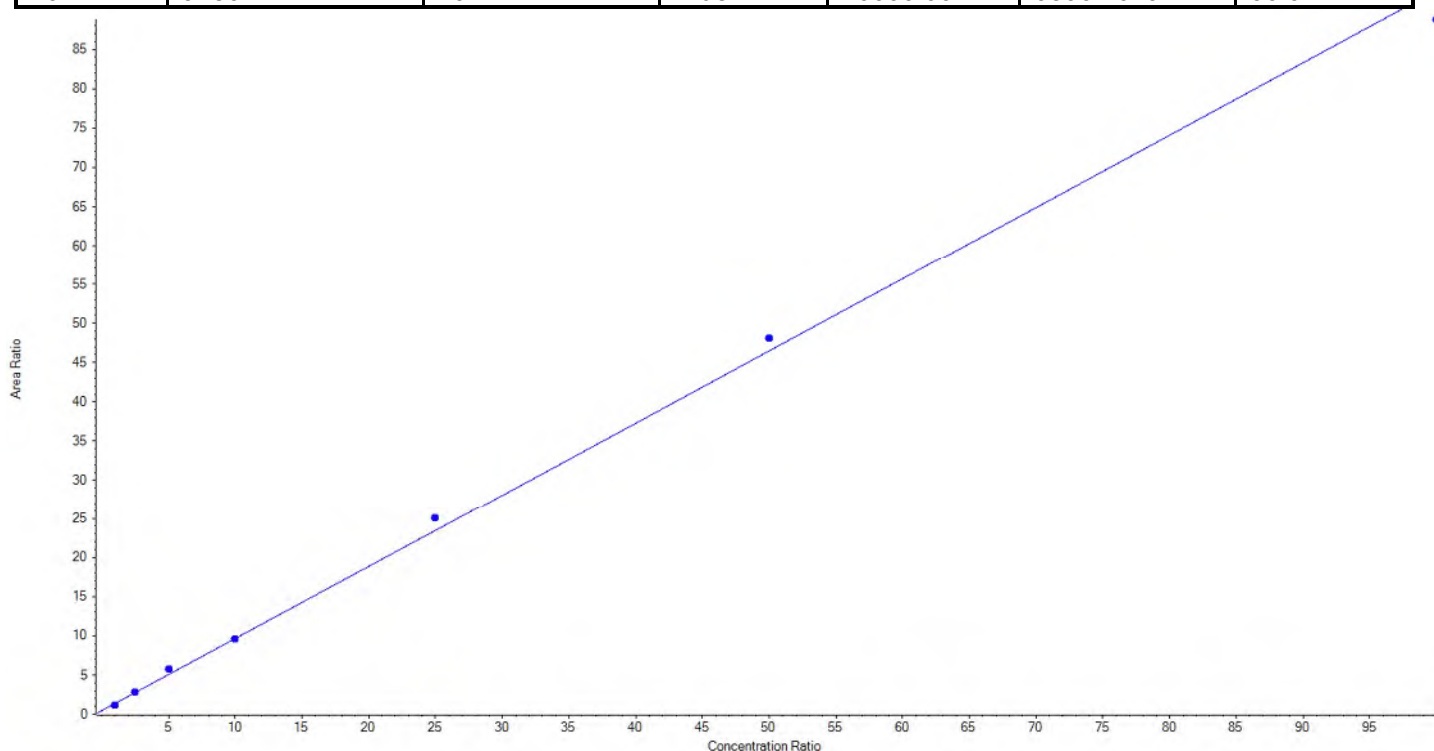
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	65.429332	65.4
5	JZ81	L4	True	250.00	279.451874	111.8
6	JZ82	L5	True	500.00	582.305679	116.5
7	JZ83	L6	True	1000.00	991.062905	99.1
8	JZ84	L7	True	2500.00	2710.804043	108.4
9	JZ85	L8	True	5000.00	5158.086891	103.2
10	JZ86	L9	True	10000.00	9562.859276	95.6



<b>Analyte Name</b>	PFTrDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 619.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92044 x + 0.45193$  (r = 0.99838) (weighting: 1 / x)

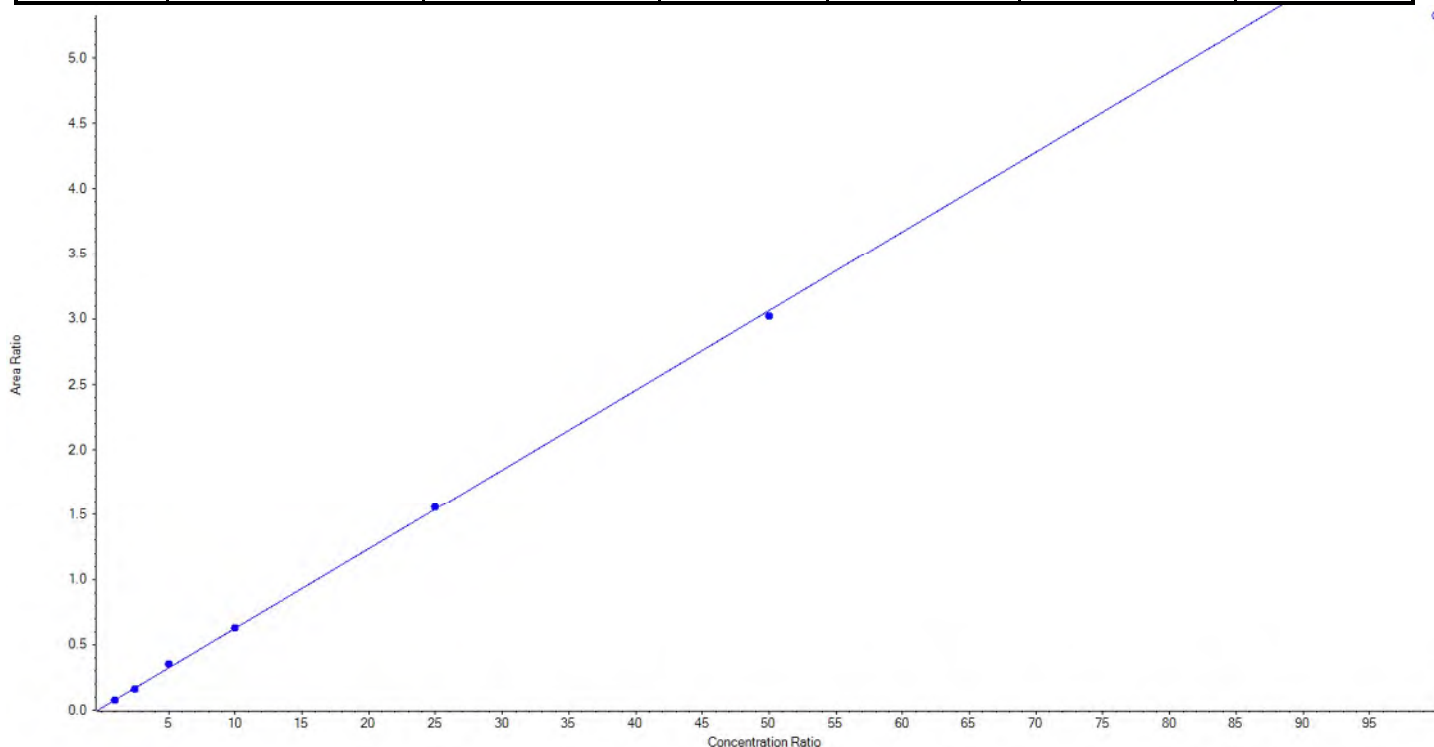
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.193967	75.2
5	JZ81	L4	True	250.00	256.669564	102.7
6	JZ82	L5	True	500.00	582.232667	116.5
7	JZ83	L6	True	1000.00	994.209819	99.4
8	JZ84	L7	True	2500.00	2670.073088	106.8
9	JZ85	L8	True	5000.00	5175.155953	103.5
10	JZ86	L9	True	10000.00	9596.464942	96.0



<b>Analyte Name</b>	PFTrDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06093x + 0.01745$  (r = 0.99946) (weighting: 1 / x)

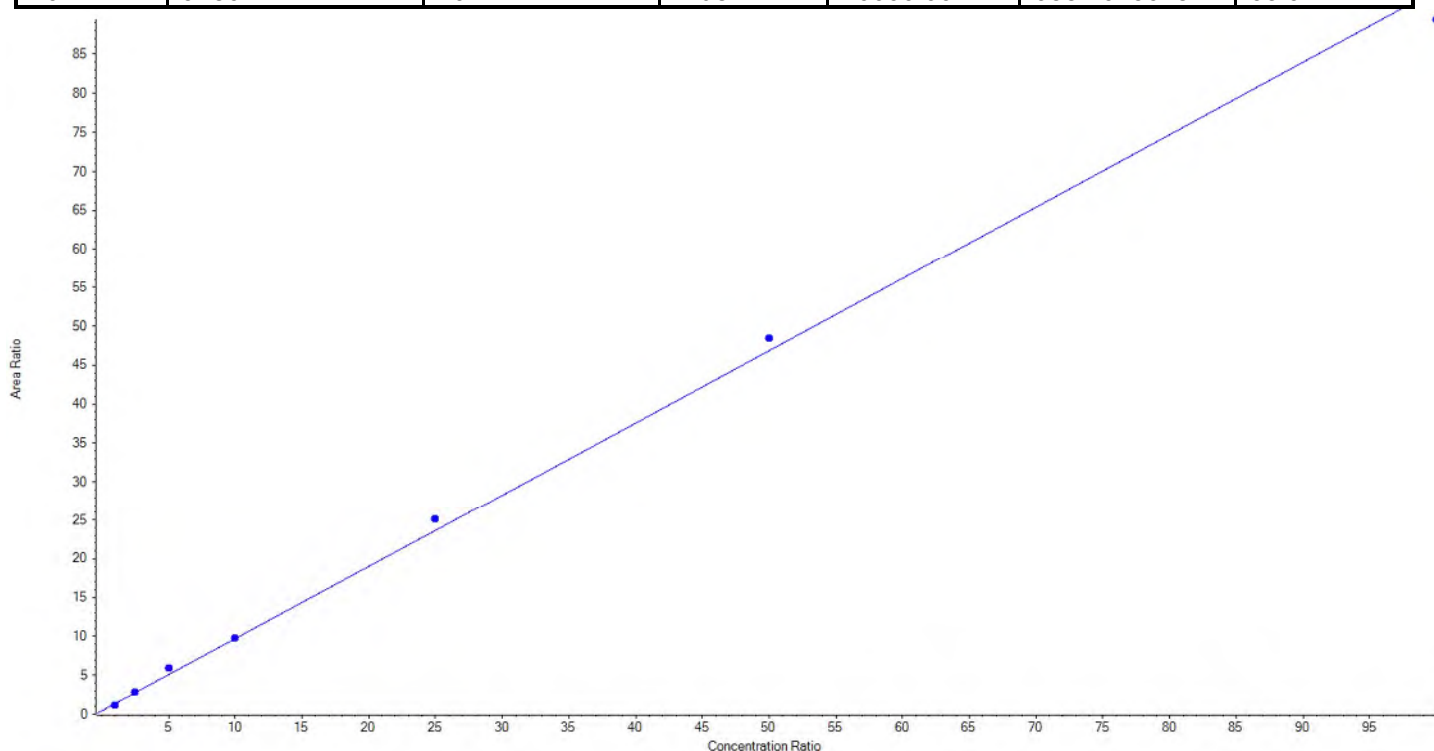
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	94.956102	95.0
5	JZ81	L4	True	250.00	235.261163	94.1
6	JZ82	L5	True	500.00	552.992832	110.6
7	JZ83	L6	True	1000.00	1005.695204	100.6
8	JZ84	L7	True	2500.00	2527.472597	101.1
9	JZ85	L8	True	5000.00	4933.622102	98.7
10	JZ86	L9	False	10000.00	8706.882200	87.1



<b>Analyte Name</b>	PFTeDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 669.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92843x + 0.43240$  (r = 0.99832) (weighting: 1 / x)

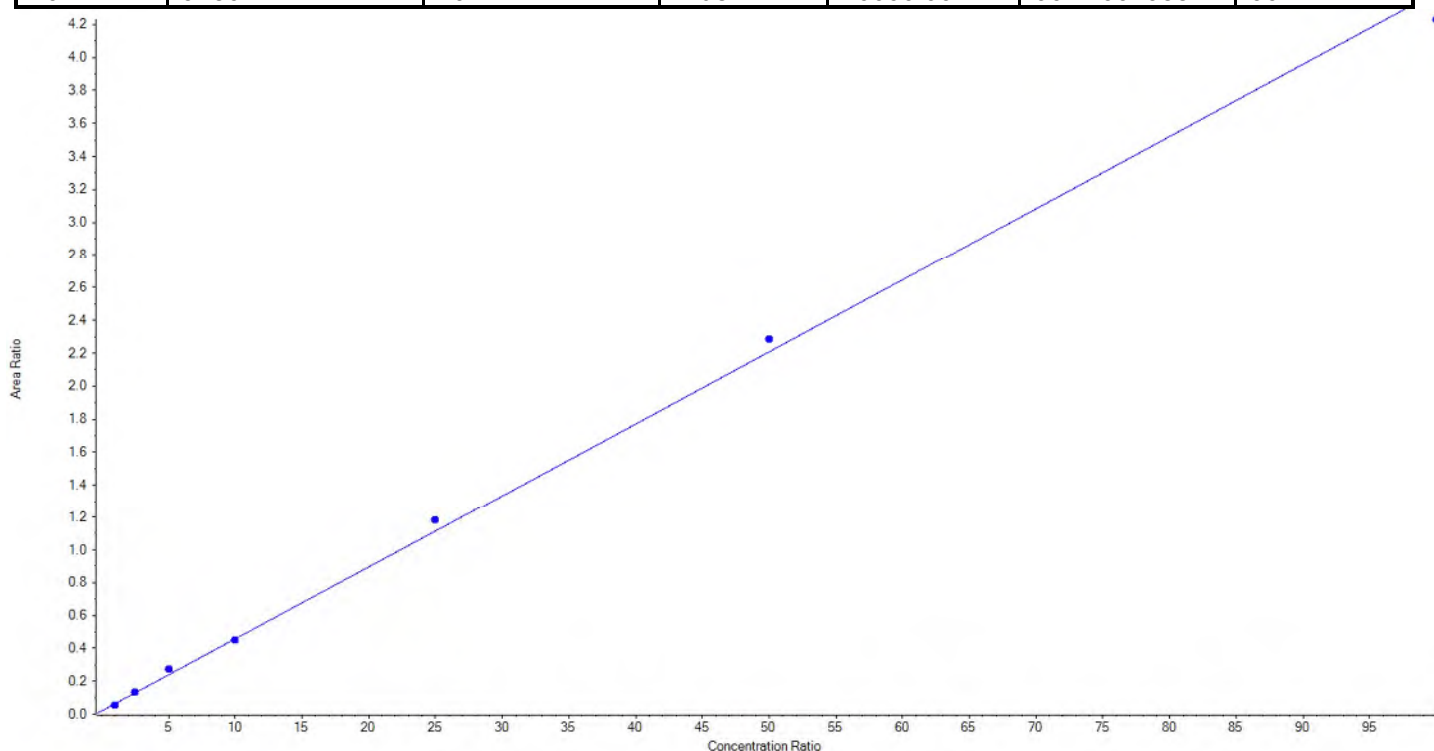
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	74.139371	74.1
5	JZ81	L4	True	250.00	252.243928	100.9
6	JZ82	L5	True	500.00	588.041720	117.6
7	JZ83	L6	True	1000.00	1015.343392	101.5
8	JZ84	L7	True	2500.00	2664.593960	106.6
9	JZ85	L8	True	5000.00	5168.023982	103.4
10	JZ86	L9	True	10000.00	9587.613648	95.9



<b>Analyte Name</b>	PFTeDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04376 x + 0.01999$  (r = 0.99850) (weighting: 1 / x)

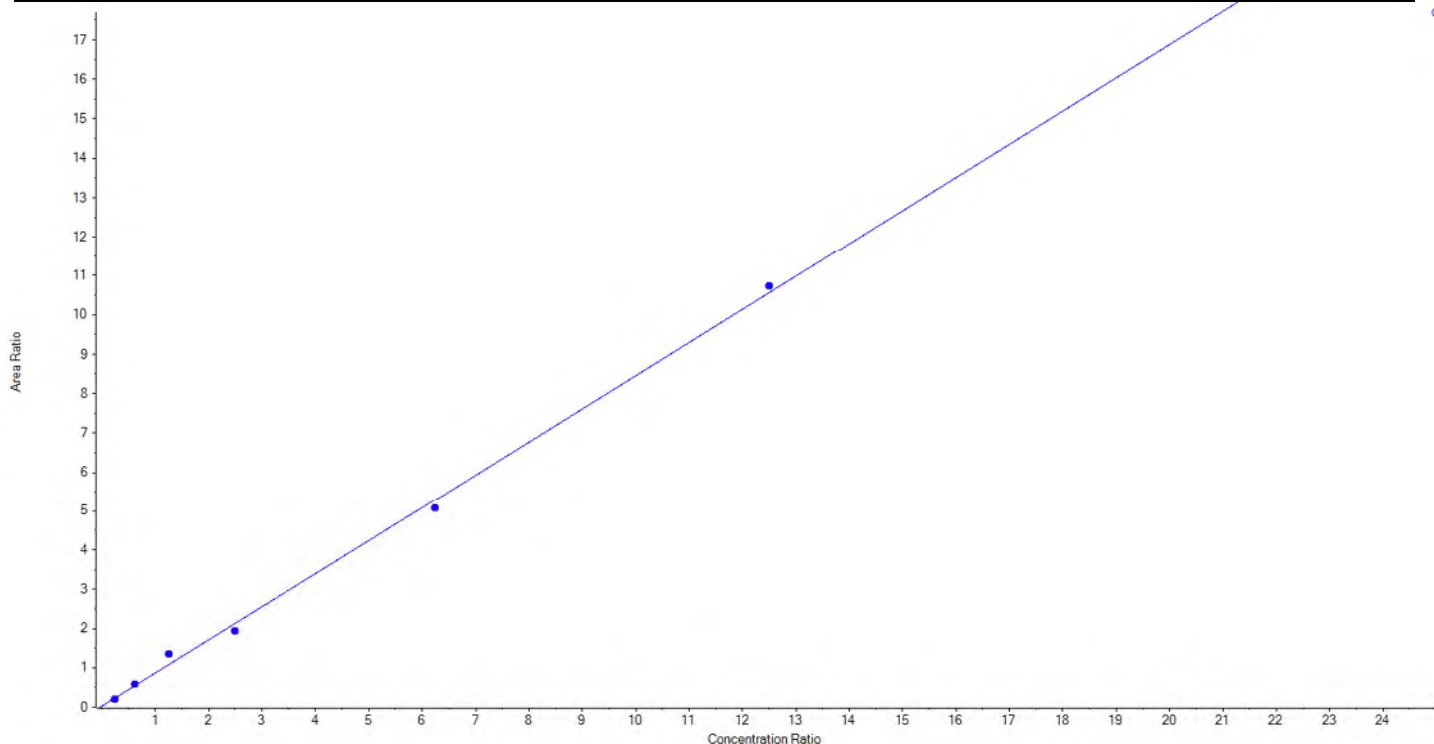
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	76.152455	76.2
5	JZ81	L4	True	250.00	259.120924	103.7
6	JZ82	L5	True	500.00	579.712333	115.9
7	JZ83	L6	True	1000.00	982.560002	98.3
8	JZ84	L7	True	2500.00	2656.578647	106.3
9	JZ85	L8	True	5000.00	5177.880651	103.6
10	JZ86	L9	True	10000.00	9617.994988	96.2



<b>Analyte Name</b>	NMeFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.84277 x + 0.02369$  (r = 0.99674) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.204585	82.2
5	JZ81	L4	True	250.00	261.230549	104.5
6	JZ82	L5	True	500.00	623.939609	124.8
7	JZ83	L6	True	1000.00	912.649748	91.3
8	JZ84	L7	True	2500.00	2392.539451	95.7
9	JZ85	L8	True	5000.00	5077.436058	101.6
10	JZ86	L9	False	10000.00	8383.981366	83.8

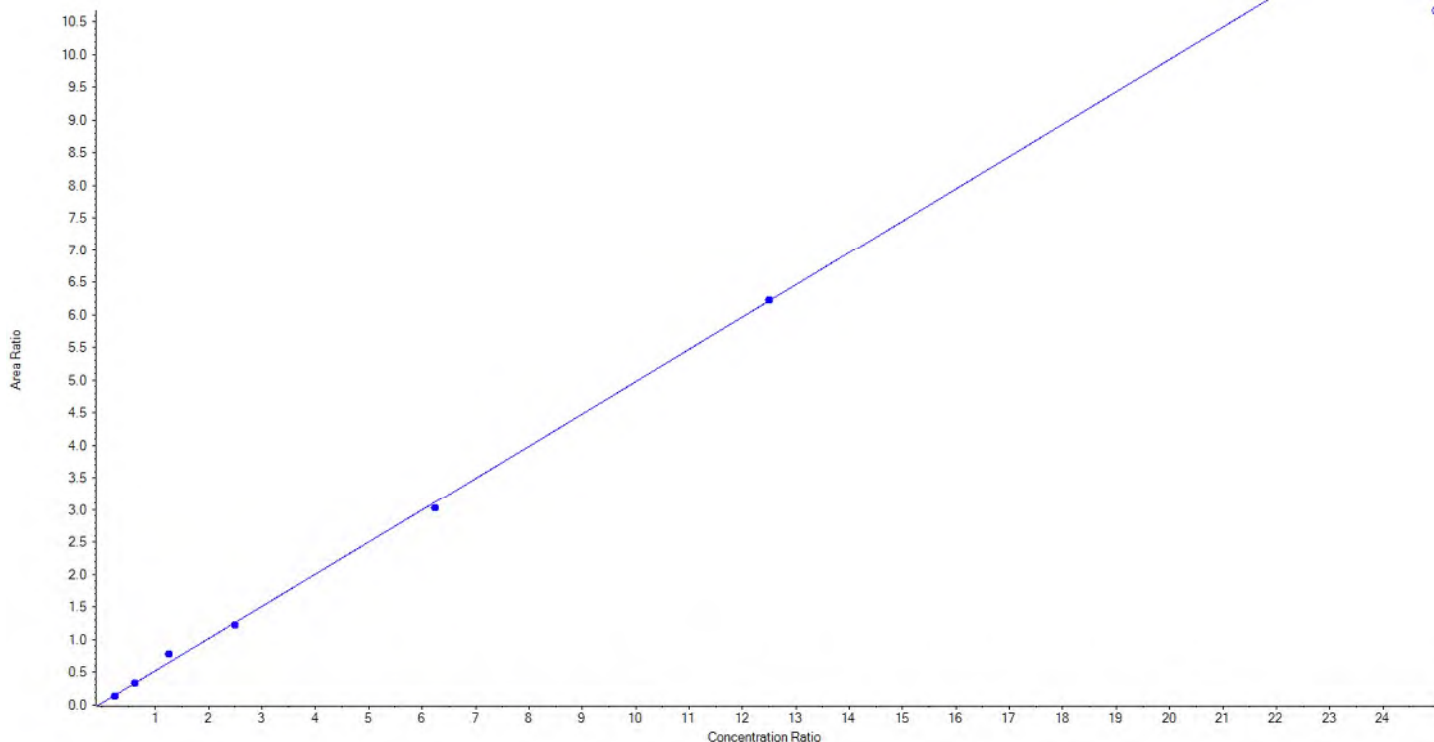




<b>Analyte Name</b>	NMeFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 512.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.49493x + 0.03076$  (r = 0.99787) (weighting: 1 / x)

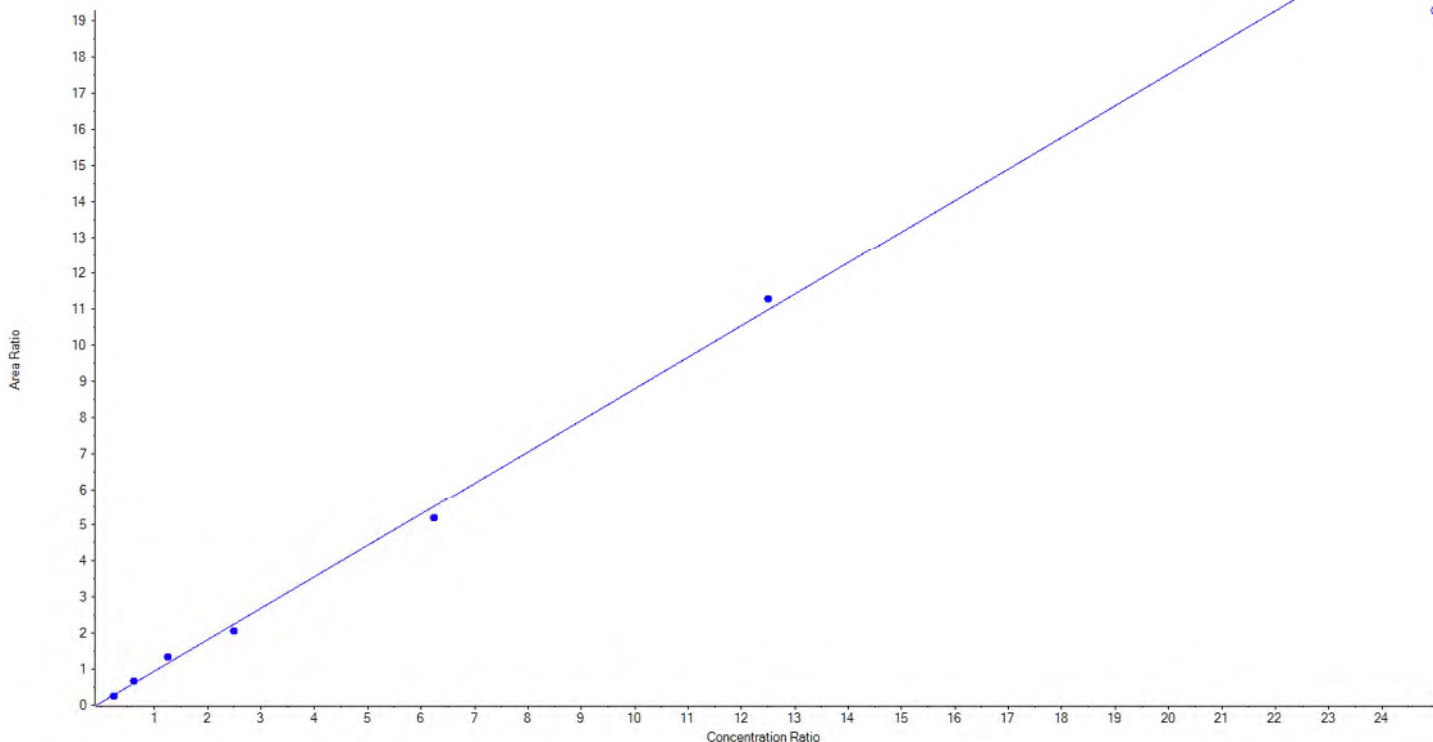
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	83.849866	83.9
5	JZ81	L4	True	250.00	249.432489	99.8
6	JZ82	L5	True	500.00	612.660544	122.5
7	JZ83	L6	True	1000.00	964.777836	96.5
8	JZ84	L7	True	2500.00	2429.083037	97.2
9	JZ85	L8	True	5000.00	5010.196228	100.2
10	JZ86	L9	False	10000.00	8603.598683	86.0



<b>Analyte Name</b>	NEtFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.87347 x + 0.06627$  (r = 0.99734) (weighting: 1 / x)

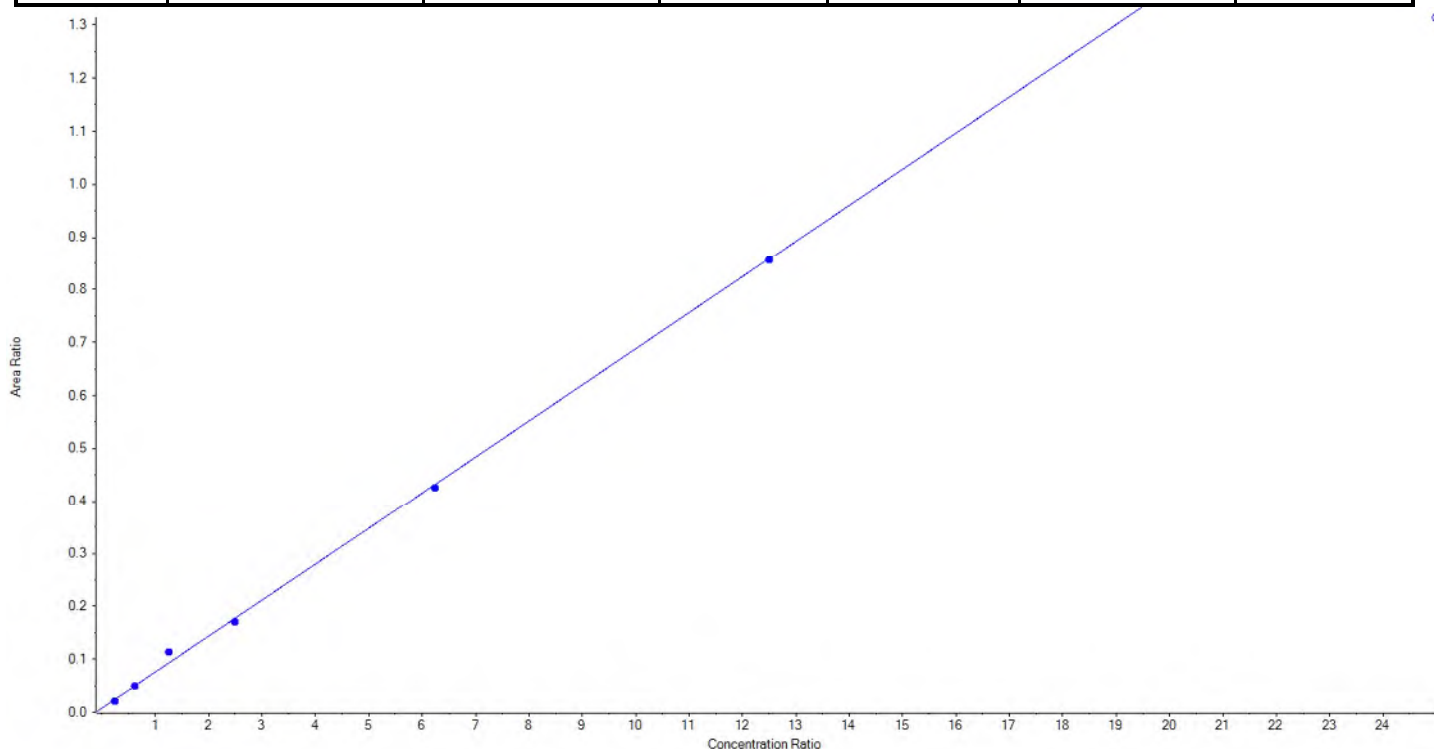
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	84.758563	84.8
5	JZ81	L4	True	250.00	275.112837	110.1
6	JZ82	L5	True	500.00	583.472638	116.7
7	JZ83	L6	True	1000.00	917.942369	91.8
8	JZ84	L7	True	2500.00	2346.663317	93.9
9	JZ85	L8	True	5000.00	5142.050277	102.8
10	JZ86	L9	False	10000.00	8804.104625	88.0



<b>Analyte Name</b>	NEtFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 483.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06807 x + 0.00743$  (r = 0.99771) (weighting: 1 / x)

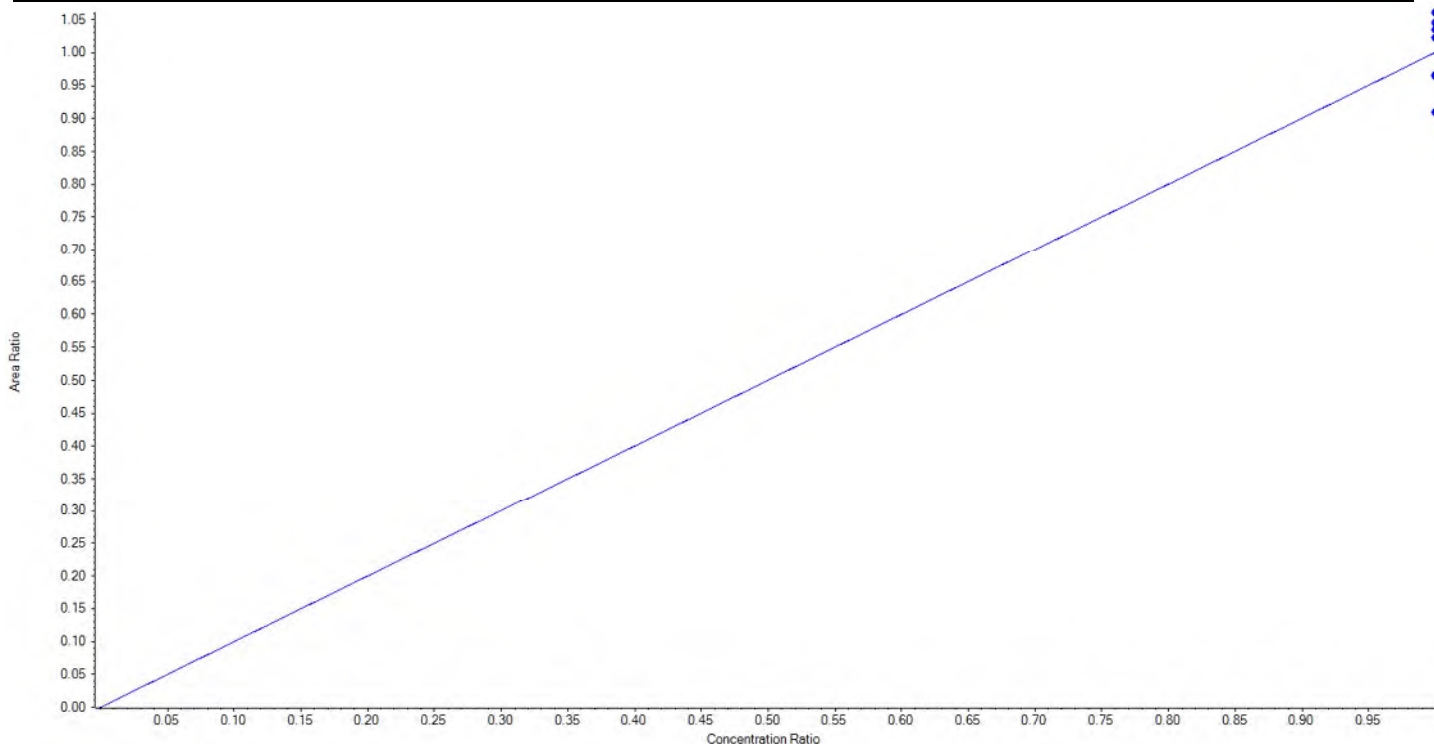
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.387514	82.4
5	JZ81	L4	True	250.00	249.755816	99.9
6	JZ82	L5	True	500.00	618.499663	123.7
7	JZ83	L6	True	1000.00	961.057859	96.1
8	JZ84	L7	True	2500.00	2456.922918	98.3
9	JZ85	L8	True	5000.00	4981.376230	99.6
10	JZ86	L9	False	10000.00	7676.823562	76.8



<b>Analyte Name</b>	13C2-PFHxA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	315.0 / 270.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.00047 x$  (std. dev. = 0.05493) (weighting: 1 / x)

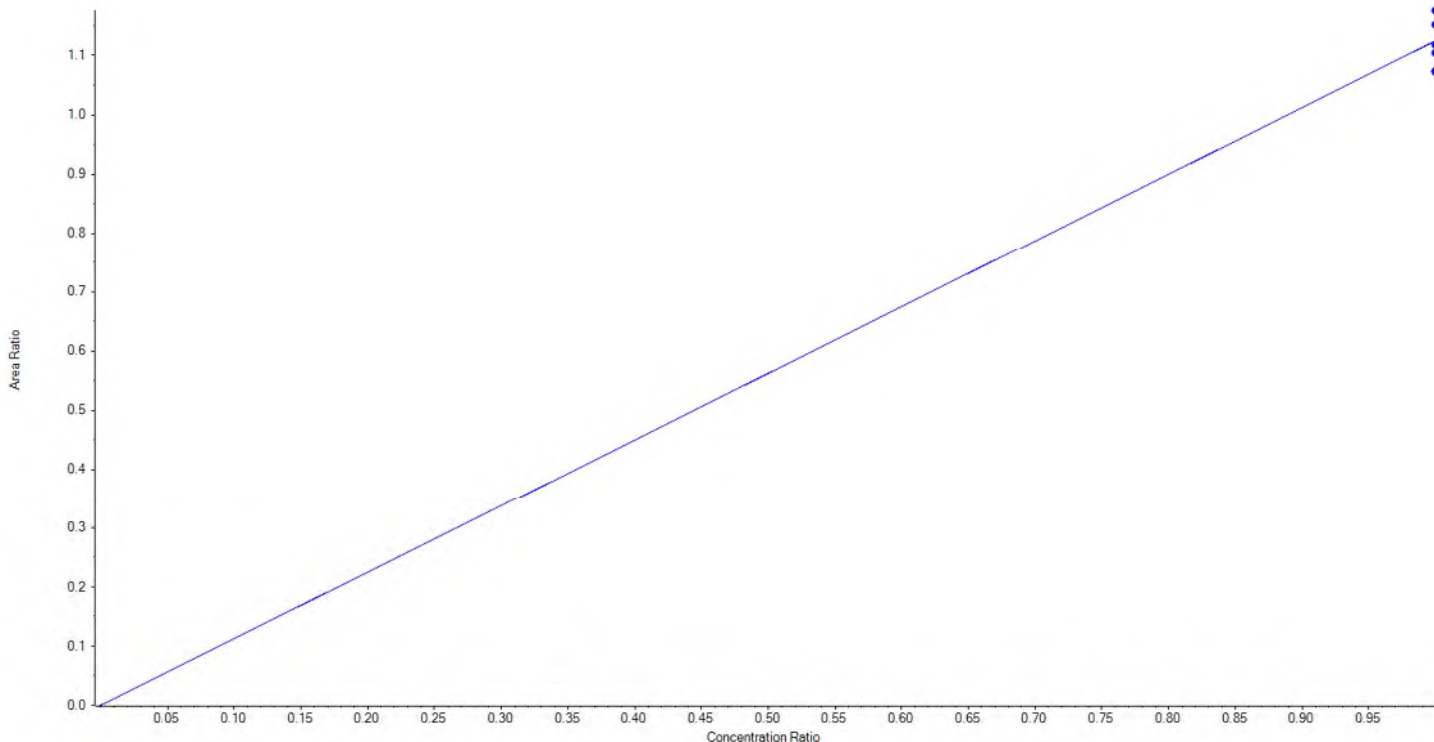
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	96.439494	96.4
5	JZ81	L4	True	100.00	96.506267	96.5
6	JZ82	L5	True	100.00	104.533761	104.5
7	JZ83	L6	True	100.00	103.436575	103.4
8	JZ84	L7	True	100.00	102.139355	102.1
9	JZ85	L8	True	100.00	106.033981	106.0
10	JZ86	L9	True	100.00	90.910566	90.9



<b>Analyte Name</b>	13C2-PFDA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	515.0 / 470.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.12453 x$  (std. dev. = 0.04396) (weighting: 1 / x)

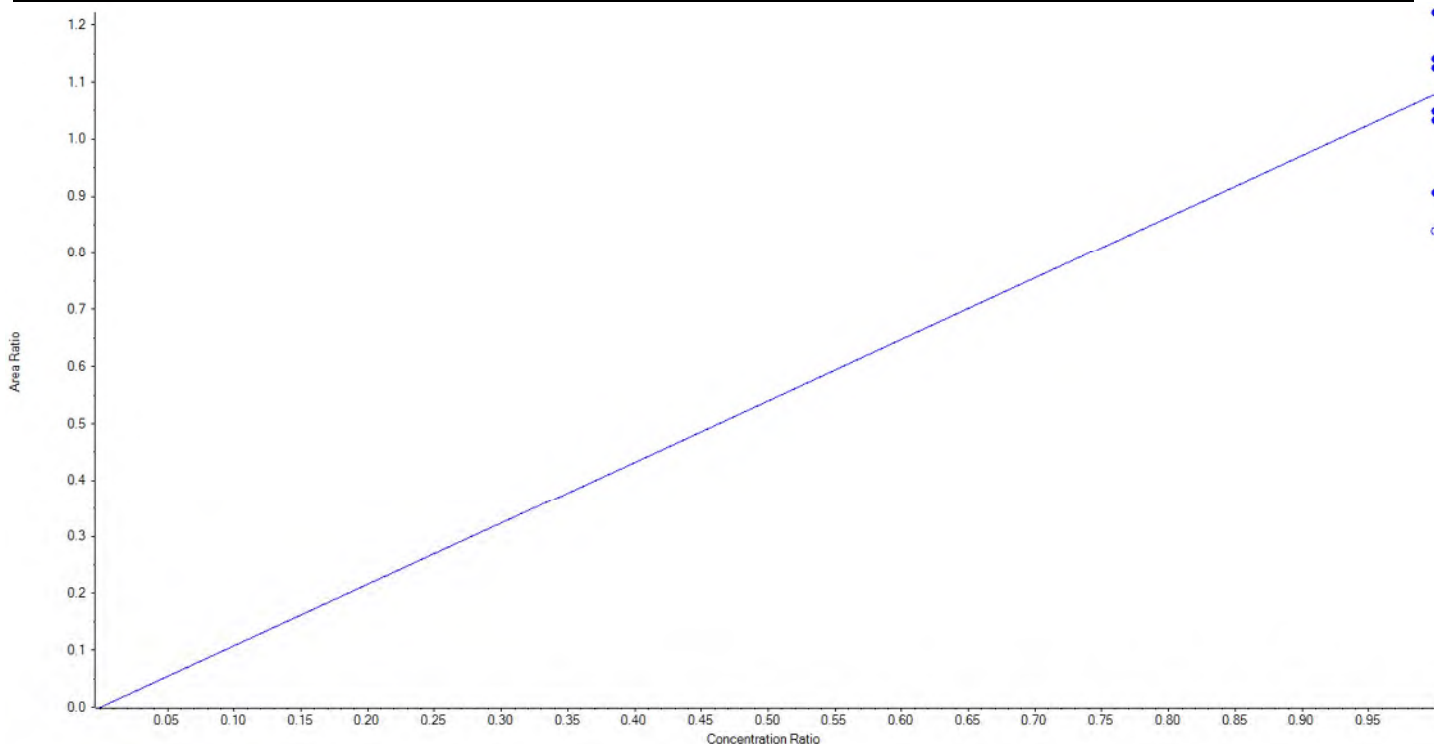
Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	104.516087	104.5
5	JZ81	L4	True	100.00	98.256587	98.3
6	JZ82	L5	True	100.00	95.457273	95.5
7	JZ83	L6	True	100.00	102.404610	102.4
8	JZ84	L7	True	100.00	104.507065	104.5
9	JZ85	L8	True	100.00	99.466561	99.5
10	JZ86	L9	True	100.00	95.391818	95.4



<b>Analyte Name</b>	d5-EtFOSAA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	589.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.07933 x$  (std. dev. = 0.10858) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	400.00	336.154687	84.0
5	JZ81	L4	True	400.00	382.599033	95.7
6	JZ82	L5	True	400.00	452.712991	113.2
7	JZ83	L6	True	400.00	416.933912	104.2
8	JZ84	L7	True	400.00	388.706932	97.2
9	JZ85	L8	True	400.00	422.892445	105.7
10	JZ86	L9	False	400.00	311.251208	77.8





<b>Sample Name</b>	JZ80	<b>Injection Vial</b>	4
<b>Sample ID</b>	L3	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T14:59:21	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.295	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.083	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.24	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.315	0.292	ü
PFOA_1	413.0 / 369.0	2.60	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.377	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.191	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.067	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.087	0.056	
PFDaA_1	613.0 / 569.0	3.95	PFDaA			
PFDaA_2	613.0 / 319.0	3.95	PFDaA	0.149	0.161	ü
PFTrDA_1	663.0 / 619.0	4.21	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.21	PFTrDA	0.066	0.062	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.48	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.48	NMeFOSAA	0.683	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.085	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.85				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.64		N/A	N/A	ü



<b>Sample Name</b>	JZ81	<b>Injection Vial</b>	5
<b>Sample ID</b>	L4	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:08:18	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.289	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.074	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.280	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.077	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.292	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.205	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.051	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.060	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.173	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.057	0.062	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.591	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.65	NEtFOSAA	0.075	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ82	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:17:14	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.284	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.023	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.301	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.067	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.322	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.208	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.042	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.045	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.158	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.061	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.589	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.084	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ83	<b>Injection Vial</b>	7
<b>Sample ID</b>	L6	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:26:11	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.293	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.078	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.311	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.188	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.21	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.066	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.629	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.083	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:35:06	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.081	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.022	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.285	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.314	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.184	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.046	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.052	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.600	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.082	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ85	<b>Injection Vial</b>	9
<b>Sample ID</b>	L8	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:44:02	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.287	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.064	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.193	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.041	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.162	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.581	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.076	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	JZ86	<b>Injection Vial</b>	10
<b>Sample ID</b>	L9	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:52:58	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.288	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.294	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.182	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.044	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.047	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.164	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.060	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.604	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.068	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	841.565895	885.00	95.09
PFBS_2	298.9 / 99.0	1.56	874.300913	885.00	98.79
PFHxA_1	313.0 / 269.0	1.85	1062.726354	1000.00	106.27
PFHxA_2	313.0 / 119.0	1.85	1018.158141	1000.00	101.82
PFHpA_1	363.0 / 319.0	2.21	1060.501779	1000.00	106.05
PFHpA_2	363.0 / 169.0	2.21	1078.405828	1000.00	107.84
PFHxS_1	399.0 / 80.0	2.23	937.846931	912.00	102.83
PFHxS_2	399.0 / 99.0	2.23	897.714357	912.00	98.43
PFOA_1	413.0 / 369.0	2.58	1062.648816	1000.00	106.26
PFOA_2	413.0 / 169.0	2.58	968.370040	1000.00	96.84
PFNA_1	463.0 / 419.0	2.96	1090.862692	1000.00	109.09
PFNA_2	463.0 / 219.0	2.96	1044.682874	1000.00	104.47
PFOS_1	499.0 / 80.0	2.95	872.255529	925.60	94.24
PFOS_2	499.0 / 99.0	2.95	980.456621	925.60	105.93
PFDA_1	513.0 / 469.0	3.31	1013.511468	1000.00	101.35
PFDA_2	513.0 / 219.0	3.31	1123.488192	1000.00	112.35
PFUnA_1	563.0 / 519.0	3.64	1013.728757	1000.00	101.37
PFUnA_2	563.0 / 269.0	3.64	1114.846944	1000.00	111.48
PFDoA_1	613.0 / 569.0	3.93	1083.332675	1000.00	108.33
PFDoA_2	613.0 / 319.0	3.93	1098.130149	1000.00	109.81
PFTTrDA_1	663.0 / 619.0	4.19	1075.423268	1000.00	107.54
PFTTrDA_2	663.0 / 169.0	4.18	1017.730417	1000.00	101.77
PFTeDA_1	713.0 / 669.0	4.41	1061.391737	1000.00	106.14
PFTeDA_2	713.0 / 169.0	4.41	1023.088379	1000.00	102.31
NMeFOSAA_1	570.0 / 419.0	3.46	1163.312391	1000.00	116.33
NMeFOSAA_2	570.0 / 512.0	3.46	1026.080779	1000.00	102.61
NEtFOSAA_1	584.0 / 419.0	3.63	1147.648798	1000.00	114.76
NEtFOSAA_2	584.0 / 483.0	3.62	753.328653	1000.00	75.33
13C2-PFHxA	315.0 / 270.0	1.84	104.596106	100.00	104.60
13C2-PFDA	515.0 / 470.0	3.30	100.438626	100.00	100.44
d5-EtFOSAA	589.0 / 419.0	3.62	417.249639	400.00	104.31

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	463.050394	443.00	104.53
PFBS_2	298.9 / 99.0	1.55	464.689741	443.00	104.90
PFHxA_1	313.0 / 269.0	1.84	555.081360	500.00	111.02
PFHxA_2	313.0 / 119.0	1.83	528.853214	500.00	105.77
PFHpA_1	363.0 / 319.0	2.20	523.851662	500.00	104.77
PFHpA_2	363.0 / 169.0	2.20	499.244467	500.00	99.85
PFHxS_1	399.0 / 80.0	2.21	494.099907	456.00	108.36
PFHxS_2	399.0 / 99.0	2.21	479.221760	456.00	105.09
PFOA_1	413.0 / 369.0	2.57	529.305895	500.00	105.86
PFOA_2	413.0 / 169.0	2.56	416.724418	500.00	83.34
PFNA_1	463.0 / 419.0	2.94	530.586304	500.00	106.12
PFNA_2	463.0 / 219.0	2.94	582.821691	500.00	116.56
PFOS_1	499.0 / 80.0	2.93	500.061742	500.00	100.01
PFOS_2	499.0 / 99.0	2.93	518.148049	463.00	111.91
PFDA_1	513.0 / 469.0	3.29	498.895860	500.00	99.78
PFDA_2	513.0 / 219.0	3.29	401.168403	500.00	80.23
PFUnA_1	563.0 / 519.0	3.61	548.758552	500.00	109.75
PFUnA_2	563.0 / 269.0	3.61	534.019511	500.00	106.80
PFDoA_1	613.0 / 569.0	3.90	548.652897	500.00	109.73
PFDoA_2	613.0 / 319.0	3.90	557.341014	500.00	111.47
PFTrDA_1	663.0 / 619.0	4.16	525.313165	500.00	105.06
PFTrDA_2	663.0 / 169.0	4.16	560.828526	500.00	112.17
PFTeDA_1	713.0 / 669.0	4.39	550.815384	500.00	110.16
PFTeDA_2	713.0 / 169.0	4.39	579.750348	500.00	115.95
NMeFOSAA_1	570.0 / 419.0	3.44	617.452878	500.00	123.49
NMeFOSAA_2	570.0 / 512.0	3.44	602.145222	500.00	120.43
NEtFOSAA_1	584.0 / 419.0	3.61	616.062597	500.00	123.21
NEtFOSAA_2	584.0 / 483.0	3.60	562.508946	500.00	112.50
13C2-PFHxA	315.0 / 270.0	1.83	107.031807	100.00	107.03
13C2-PFDA	515.0 / 470.0	3.28	93.376073	100.00	93.38
d5-EtFOSAA	589.0 / 419.0	3.59	457.896528	400.00	114.47



Sample Name	JZ83 CCV	Injection Vial	31
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T19:00:42	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	806.231398	885.00	91.10
PFBS_2	298.9 / 99.0	1.54	810.369744	885.00	91.57
PFHxA_1	313.0 / 269.0	1.83	1035.206375	1000.00	103.52
PFHxA_2	313.0 / 119.0	1.83	982.603081	1000.00	98.26
PFHpA_1	363.0 / 319.0	2.18	998.626779	1000.00	99.86
PFHpA_2	363.0 / 169.0	2.18	980.458516	1000.00	98.05
PFHxS_1	399.0 / 80.0	2.20	823.362936	912.00	90.28
PFHxS_2	399.0 / 99.0	2.20	806.399314	912.00	88.42
PFOA_1	413.0 / 369.0	2.55	1004.497885	1000.00	100.45
PFOA_2	413.0 / 169.0	2.55	887.966537	1000.00	88.80
PFNA_1	463.0 / 419.0	2.92	1025.361386	1000.00	102.54
PFNA_2	463.0 / 219.0	2.92	972.973976	1000.00	97.30
PFOS_1	499.0 / 80.0	2.91	870.901288	925.60	94.09
PFOS_2	499.0 / 99.0	2.91	856.448928	925.60	92.53
PFDA_1	513.0 / 469.0	3.26	919.567747	1000.00	91.96
PFDA_2	513.0 / 219.0	3.26	865.392365	1000.00	86.54
PFUnA_1	563.0 / 519.0	3.58	1053.504804	1000.00	105.35
PFUnA_2	563.0 / 269.0	3.58	1249.574105	1000.00	124.96
PFDoA_1	613.0 / 569.0	3.87	993.640967	1000.00	99.36
PFDoA_2	613.0 / 319.0	3.87	990.814427	1000.00	99.08
PFTrDA_1	663.0 / 619.0	4.13	989.387819	1000.00	98.94
PFTrDA_2	663.0 / 169.0	4.13	962.771293	1000.00	96.28
PFTeDA_1	713.0 / 669.0	4.36	976.895780	1000.00	97.69
PFTeDA_2	713.0 / 169.0	4.36	1006.984838	1000.00	100.70
NMeFOSAA_1	570.0 / 419.0	3.41	982.124418	1000.00	98.21
NMeFOSAA_2	570.0 / 512.0	3.41	990.955253	1000.00	99.10
NEtFOSAA_1	584.0 / 419.0	3.57	889.224584	1000.00	88.92
NEtFOSAA_2	584.0 / 483.0	3.57	713.329571	1000.00	71.33
13C2-PFHxA	315.0 / 270.0	1.82	105.043945	100.00	105.04
13C2-PFDA	515.0 / 470.0	3.25	97.833171	100.00	97.83
d5-EtFOSAA	589.0 / 419.0	3.57	402.491028	400.00	100.62



Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.301	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.279	0.292	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.315	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.211	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.047	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.054	0.056	ü
PFDoA_1	613.0 / 569.0	3.93	PFDoA			
PFDoA_2	613.0 / 319.0	3.93	PFDoA	0.165	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.19	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.18	PFTTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.526	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.053	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	JZ82 CCV	<b>Injection Vial</b>	21
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:31:16	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.356	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.198	0.193	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.051	0.056	ü
PFDoA_1	613.0 / 569.0	3.90	PFDoA			
PFDoA_2	613.0 / 319.0	3.90	PFDoA	0.164	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.068	0.062	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.586	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.073	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.59		N/A	N/A	ü

<b>Sample Name</b>	JZ83 CCV	<b>Injection Vial</b>	31
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T19:00:42	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.075	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.285	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.065	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.312	0.320	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.185	0.193	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.041	0.047	ü
PFUnA_1	563.0 / 519.0	3.58	PFUnA			
PFUnA_2	563.0 / 269.0	3.58	PFUnA	0.058	0.056	ü
PFDoA_1	613.0 / 569.0	3.87	PFDoA			
PFDoA_2	613.0 / 319.0	3.87	PFDoA	0.162	0.161	ü
PFTrDA_1	663.0 / 619.0	4.13	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.13	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.601	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.064	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü

<b>Sample Name</b>	JZ10 IB	<b>Injection Vial</b>	11
<b>Sample ID</b>	Instrument Blank	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:01:53	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.106	0.066	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

Sample Name	CR573PB-FS(0)	Injection Vial	23
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:49:10	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.111	0.066	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.297	0.193	
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.27		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

<b>Sample Name</b>	CR574LCS-FS(0)	<b>Injection Vial</b>	24
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:58:06	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.082	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.066	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.319	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.212	0.193	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	3.28	PFDA	0.046	0.047	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.056	ü
PFDoA_1	613.0 / 569.0	3.90	PFDoA			
PFDoA_2	613.0 / 319.0	3.90	PFDoA	0.158	0.161	ü
PFTrDA_1	663.0 / 619.0	4.15	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.15	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.536	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.062	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.27		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.59		N/A	N/A	ü

Sample Name	J7403-FS(2)	Injection Vial	25
Sample ID	JAX-RES-08132018-0945-27	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:07:03	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.205	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.078	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.025	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.094	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.373	0.320	ü
PFOS_1	499.0 / 80.0	2.86	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.107	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.085	0.047	
PFUnA_1	563.0 / 519.0	3.59	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	
PFDoA_1	613.0 / 569.0	3.89	PFDoA			
PFDoA_2	613.0 / 319.0	3.89	PFDoA	0.196	0.161	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.059	0.062	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.063	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.42	NMeFOSAA	0.682	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.58	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.199	0.081	
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü



Sample Name	J7405-FS(2)	Injection Vial	26
Sample ID	JAX-RES-08132018-1100-30	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:15:58	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.244	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.072	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.291	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.093	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.358	0.320	ü
PFOS_1	499.0 / 80.0	2.86	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.106	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	3.27	PFDA	0.089	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü

Sample Name	J7407-FS(2)	Injection Vial	27
Sample ID	JAX-RES-08132018-1145-32	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:24:56	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.266	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.075	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.023	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.297	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.091	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.286	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.114	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü



Sample Name	J7409-FS(2)	Injection Vial	28
Sample ID	JAX-RES-08132018-1445-16	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:33:52	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

Sample Name	J7411-FS(2)	Injection Vial	29
Sample ID	JAX-RES-08132018-1600-13	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:42:49	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.236	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.097	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.026	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.279	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.50	PFOA	0.095	0.066	ü
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.373	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.153	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.58		N/A	N/A	ü

Sample Name	J7413-FS(2)	Injection Vial	30
Sample ID	JAX-RES-08132018-1700-31	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T18:51:46	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.54	PFBS	0.265	0.290	ü
PFHxA_1	313.0 / 269.0	1.83	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.085	0.079	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.302	0.292	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.101	0.066	
PFNA_1	463.0 / 419.0	2.92	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.341	0.320	ü
PFOS_1	499.0 / 80.0	2.88	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.147	0.193	ü
PFDA_1	513.0 / 469.0	3.27	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDoA_1	613.0 / 569.0	N/A	PFDoA			
PFDoA_2	613.0 / 319.0	N/A	PFDoA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.82				
13C2-PFDA	515.0 / 470.0	3.26		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.57		N/A	N/A	ü



### Chain-of-Custody

<b>Client Contact Information</b> Tetra Tech		Project Manager: <u>Mark Peterson</u> Sampler Information (print name): <u>DAVID SIEFKEN</u> Phone: <u>904.334.7260</u> Email: _____ Turnaround Time (TAT) Requested: _____			Sampling Site: <u>NAS JAX</u>		Site Information: <u>Residential</u>			
Project Name: <u>NAS JAX PFAS Eval.</u>		Normal <input checked="" type="checkbox"/> <del>Priority</del> Priority <input type="checkbox"/> RUSH <input type="checkbox"/>			Preservative: <u>PFAS</u>		COC # <u>001</u>			
Project No.: <u>112608005-5E0375</u>		Time Zone: _____					Page# _____			
Sample Identification		2018	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Analysis: <u>PFAS-537</u>	Bottles#	
J7403	JAX-RES-08132018-0945-27	8-13	0945	W			2	2	Bottles 55# 56#	
04	JAX-RES-08132018-0945-27-FRB	8-13	0945	W			1	1	21#	
05	JAX-RES-08132018-1100-30	8-13	1100	W			2	2	85# 86#	
06	JAX-RES-08132018-1100-30-FRB	8-13	1100	W			1	1	7#	
07	JAX-RES-08132018-1145-32	8-13	1145	W			2	2	89# 90#	
08	JAX-RES-08132018-1145-32-FRB	8-13	1145	W			1	1	16#	
09	JAX-RES-08132018-1445-16	8-13	1445	W			2	2	59# 60#	
10	JAX-RES-08132018-1445-16-FRB	8-13	1445	W			1	1	8#	
11	JAX-RES-08132018-1600-13	8-13	1600	W			2	2	49# 50#	
12	JAX-RES-08132018-1600-13-FRB	8-13	1600	W			1	1	22#	
13	JAX-RES-08132018-1700-31	8-13	1700	W			2	2	65# 66#	
J7414	JAX-RES-08132018-1700-31-FRB	8-13	1700	W			1	1	9#	
Receipt Temperature: (°C)		Samples Intact: Yes - No			Samples on Ice: Yes - No			Receipt Comments:		
Relinquished by (Print/Sign): <u>[Signature]</u>		Company: <u>Tetra Tech</u>		Date/Time: <u>8/13/18 1800</u>		Received by (Print/Sign): <u>[Signature]</u>		Company: _____		
Relinquished by (Print/Sign): _____		Company: _____		Date/Time: _____		Received by (Print/Sign): <u>[Signature]</u>		Company: <u>Battelle</u>		
Relinquished by (Print/Sign): _____		Company: _____		Date/Time: _____		Received by (Print/Sign): _____		Company: _____		
Comments: <u>cool 4°C</u> <u>W= potable water</u>										

It can be done

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

**Sample Receipt Form**Approved:  Authorized 

**Project Number:** 112608005-SE0375 **Client:** Tetra Tech  
**Received by:** Schumitz, Matt **Date/Time Received:** Tuesday, August 14, 2018 10:00 AM  
**No. of Shipping Containers:** 1

**SHIPMENT**

**Method of Delivery:** Commercial Carrier **Tracking Number:** 7822 8334 8390  
**COC Forms:**  **Shipped with samples**  **No Forms**

**Cooler(s)/Box(es)**

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smgs
1 of 1	Cooler	7822 8334 8390	Custody Seal	Intact	Intact	Therm_2	0.7	12

**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:** J7403 - J7414

**Samples logged in by:** Schumitz, Matt **Date/Time:** 08/14/2018 10:00 AM

**Approved By:** \_\_\_\_\_ **Approved On:** \_\_\_\_\_

**Authorized By:** \_\_\_\_\_ **Authorized On:** \_\_\_\_\_



It can be done

ShpNo SHP-180814-01

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

Sample Receipt Form Details

Approved:  Authorized

Project Number: 112608005-SE0375 Client: Tetra Tech

Received by: Schumitz, Matt Date/Time Received: Tuesday, August 14, 2018 10:00 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J7403	JAX-RES-08132018-0945-27	08/13/18 9:45	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7404	JAX-RES-08132018-0945-27-FRB	08/13/18 9:45	08/14/18 10:19	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7405	JAX-RES-08132018-1100-30	08/13/18 11:00	08/14/18 10:19	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7406	JAX-RES-08132018-1100-30-FRB	08/13/18 11:00	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7407	JAX-RES-08132018-1145-32	08/13/18 11:45	08/14/18 10:20	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7408	JAX-RES-08132018-1145-32-FRB	08/13/18 11:45	08/14/18 10:20	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7409	JAX-RES-08132018-1445-16	08/13/18 14:45	08/14/18 10:21	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7410	JAX-RES-08132018-1445-16-FRB	08/13/18 14:45	08/14/18 10:21	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7411	JAX-RES-08132018-1600-13	08/13/18 16:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7412	JAX-RES-08132018-1600-13-FRB	08/13/18 16:00	08/14/18 10:22	1	W	0.7	NA	NA	NA	R0119 (NA)			
J7413	JAX-RES-08132018-1700-31	08/13/18 17:00	08/14/18 10:22	2	W	0.7	NA	NA	NA	R0119 (NA)			
J7414	JAX-RES-08132018-1700-31-FRB	08/13/18 17:00	08/14/18 10:23	1	W	0.7	NA	NA	NA	R0119 (NA)			

Total Samples: 12



**QA/QC Summary  
Batch 18-0512**

Project:	CTO-SE0375: Naval Air Station (NAS) Jacksonville
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	W
Data Set:	DP-18-0226
Analytical SOP:	5-371
Method Reference:	USEPA 537 rev. 1.1, QSM 5.1

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
08/13/2018	08/14/2018	0.7

Corrective Actions	None.
Sample Storage	The water samples were stored refrigerated until extraction.
Related samples	The field samples associated with these FRB samples are reported in SDG 18-0505.

METHOD SUMMARIES	
Sample Preparation	Water samples were spiked with surrogates in the original sample container from the field. The water was extracted using a solid phase extraction (SPE) cartridge and eluted from the SPE with methanol. Extracts were concentrated to dryness under nitrogen with a water bath set between 60 °C and 65 °C, reconstituted with 96:4 methanol/water (V/V) and fortified with internal standard. Extracts were transferred for LC-MS/MS analysis.
Prep comments	None.
Analysis	PFAS were measured by liquid chromatography tandem mass spectrometry (LC-MS/MS) in the multiple reaction monitoring (MRM). An initial calibration consisting of representative target analytes, labelled analogs, and internal standards was analyzed prior to analysis to demonstrate the linear range of analysis. Calibration verification was performed at the beginning and end of 10 injections and at the end of each sequence. Target PFAS were quantified using the isotope dilution method. Samples are reported in ng/L concentrations.
Analysis Comments	<p>Samples analyzed on the Sciex 5500.</p> <p>There are no ion ratio exceedences above 50% RPD for any analyte detected above the MDL or the LOQ in this SDG.</p> <p>Samples were originally run on 8/17/2018 and re-run as the calibration did not pass selected criteria. Quant reports for the initial analysis can be found in the unused data section of the data package.</p>

Holding Times	Extraction Date(s)	Analysis Date(s)
	8/17/2018	8/20/2018

**QA/QC Summary**  
**Batch 18-0512**

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
≤ 1/3 the MRL	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.
70-130% of true value	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.
70-130% of true value, RPD ≤ 30%	Not applicable. MS/MSD samples were not prepared with this batch of samples.
Surrogates Standard Analytes	Labelled surrogate compounds were added prior to extraction. The recoveries are calculated to measure extraction efficiency.
70-130% of true value	No exceedances noted. No comments.
Internal Standard Analytes	Labelled analog compounds were added prior to analysis.
ICAL high and low points RPD ≤ 20%, 50-150% of average area of the ICAL and 70-140% of most recent CCV	Two exceedances noted. The secondary criteria for samples JAX-RES-08132018-0945-27-FRB and JAX-RES-08132018-1145-32-FRB were outside the 70-140% as compared to the previous CCV. The IS area criteria passes as compared to the average of the initial calibration.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
R <sup>2</sup> > 0.99 Target and SIS compounds +/- 30% of true value, Low point 50-150% of true value	No exceedances noted. No comments.

**QA/QC Summary**  
**Batch 18-0512**

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.
Target and SIS compounds +/- 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.
Target and SIS compounds +/- 30% of true value Low point 50-150% of true value	No exceedances noted.
	No comments.



Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project Number: 100119154-SE0375  
 Preparation Batch: 18-0512  
 Data Set: DP-18-0226  
 Test Code: Master\_371

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



## BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

<b>Project Title:</b>	CTO-SE0375: Naval Air Station Jackson	<b>Data Set Number:</b>	DP-18-0226
<b>Project Number:</b>	100119154-SE0375	<b>Prep Batch Number:</b>	18-0512
<b>Entered By:</b>	Denise Schumitz	<b>Entered On:</b>	08/20/2018
<b>Test Code (Matrix Type):</b>	Master_371(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).  
DMS 8/21/2018

JZ86 is not being used in method 18-0512DW for NMeFOSAA, PFDA, PFUnA, d5-EtFOSAA and NEtFOSAA. There is no impact on the data once this p calibration is removed.  
DMS 8/21/2018

Samples J7404 and J7408 have an exceedance for the secondary IS criteria for d3-MeFOSAA. All other IS areas pass both the primary and secondary criteria for these samples and there were no natives found in the samples.  
DMS 8/21/2018

18-0512 was initially analyzed on 08/17/2018, however the calibration did not meet passing criteria. The calibration curve was remade on 08/20/2018 and a fresh aliquot of each sample was analyzed with the new calibration curve and reported on 8/20/2018 (date of analysis). The initial data from 08/17/2018 can be found in the unused data section of this data package.  
DMS 8/21/2018

**Task Leader Approval:**

**Supervisor Approval:**

Digitally signed by Jonathan  
Thorn

**PM Approval:**

Date: 2018.08.21 09:48:07 -04'00'



## Glossary of Data Qualifiers

Flag:      Application:

---

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



## Example Calculation for PFAS

Calculation of final concentration from area:

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

Where:

- PA = Area of target / area of internal standard
- b = y intercept from calibration curve
- CIS = concentration of internal standard (ng/L)
- m = slope of calibration
- DF = dilution factor
- S = Sample Size
- PIV = Pre-injection volume (L)

Sample ID: CR613LCS-FS(0)  
 Client Sample ID: Laboratory Control Sample  
 Sample Size: 0.25  
 Units: L  
 Dilution Factor: 1.000  
 PIV (L): 0.001  
 Target Analyte: NMeFOSAA  
 MRM Transition: 570.0 / 419.0  
 Data file: DW\_08202018.wiff  
 Result table: 18-0512DW  
 Area: 142,588.93  
 IS Name: d3-MeFOSAA  
 IS Area: 29,399.21  
 IS Amount (ng/L): 400  
 y-intercept: 0.02369  
 slope: 0.84277

$$\text{Concentration} = \frac{[(142588.93/29399.21) - 0.02369]}{0.84277} * 400 * 0.001 * 1 / 0.25$$

$$\text{ng/L} = 9.16$$



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

Client ID	JZ10 IB			
Battelle ID	JZ10 IB_08/20/2018			
Sample Type	IB			
Collection Date	NA			
Extraction Date	NA			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	NA			
Sample Size	0.250			
Size Unit-Basis	NA			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50
<b>Surrogate Recoveries (%)</b>				
13C2-PFHxA	91			
13C2-PFDA	89			
d5-EtFOSAA	98			





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

Client ID	Procedural Blank			
Battelle ID	CR612PB-FS			
Sample Type	PB			
Collection Date	08/17/2018			
Extraction Date	08/17/2018			
Analysis Date	08/20/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	WATER			
Sample Size	0.250			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.50 U	0.22	0.50	2.50
PFHpA	1.00 U	0.34	1.00	2.50
PFOA	1.00 U	0.38	1.00	2.50
PFNA	1.00 U	0.37	1.00	2.50
PFDA	1.00 U	0.39	1.00	2.50
PFUnA	1.00 U	0.38	1.00	2.50
PFDaA	1.00 U	0.42	1.00	2.50
PFTTrDA	1.00 U	0.42	1.00	2.50
PFTeDA	1.50 U	0.73	1.50	2.50
NMeFOSAA	1.00 U	0.42	1.00	2.50
NEtFOSAA	1.00 U	0.44	1.00	2.50
PFBS	0.50 U	0.21	0.50	2.50
PFHxS	1.00 U	0.34	1.00	2.50
PFOS	1.00 U	0.30	1.00	2.50

**Surrogate Recoveries (%)**

13C2-PFHxA	86
13C2-PFDA	75
d5-EtFOSAA	83



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

Client ID	Laboratory Control Sample					
Battelle ID	CR613LCS-FS					
Sample Type	LCS					
Collection Date	08/17/2018					
Extraction Date	08/17/2018					
Analysis Date	08/20/2018					
Analytical Instrument	Sciex 5500 LC/MS/MS					
% Moisture	NA					
Matrix	WATER					
Sample Size	0.250					
Size Unit-Basis	L					
Units	ng/L	Target	Recovery	Qual	Control Limits	
					Lower	Upper
PFHxA	8.28	10.00	83		70	130
PFHpA	8.15	10.00	82		70	130
PFOA	8.17	10.00	82		70	130
PFNA	8.31	10.00	83		70	130
PFDA	7.23	10.00	72		70	130
PFUnA	7.16	10.00	72		70	130
PFDoA	7.82	10.00	78		70	130
PFTTrDA	7.43	10.00	74		70	130
PFTeDA	7.52	10.00	75		70	130
NMeFOSAA	9.16	10.00	92		70	130
NEtFOSAA	8.74	10.00	87		70	130
PFBS	6.73	8.85	76		70	130
PFHxS	7.32	9.45	77		70	130
PFOS	6.75	9.55	71		70	130
<b>Surrogate Recoveries (%)</b>						
13C2-PFHxA			74			
13C2-PFDA			71			
d5-EtFOSAA			75			



Project Client: Tetra Tech  
 Project Name: CTO-SE0375: Naval Air Station Jacksonville  
 Project No.: 100119154-SE0375  
 Preparation Batch: 18-0512  
 Data Set: DP-18-0226

	CR612PB-FS (Procedural Blank)	CR613LCS-FS (Laboratory Control Sample)	J7404-FS (JAX-RES-08132018-0945-27-FRB)	J7406-FS (JAX-RES-08132018-1100-30-FRB)	J7408-FS (JAX-RES-08132018-1145-32-FRB)	J7412-FS (JAX-RES-08132018-1600-13-FRB)
PFHxA	-	L	-	-	-	-
PFHpA	-	L	-	-	-	-
PFOA	-	L	-	-	-	-
PFNA	-	L	-	-	-	-
PFDA	-	L	-	-	-	-
PFUnA	-	L	-	-	-	-
PFDoA	-	L	-	-	-	-
PFTTrDA	-	L	-	-	-	-
PFTeDA	-	L	-	-	-	-
NMeFOSAA	-	L	-	-	-	-
NEtFOSAA	-	L	-	-	-	-
PFBS	-	L	-	-	-	-
PFHxS	-	L	-	-	-	-
PFOS	-	L	-	-	-	-

"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  
 Preparation Batch: 18-0512  
 Data Set: DP-18-0226

	J7414-FS (JAX-RES-08132018-1700-31-FRB)
PFHxA	-
PFHpA	-
PFOA	-
PFNA	-
PFDA	-
PFUnA	-
PFDoA	-
PFTTrDA	-
PFTeDA	-
NMeFOSAA	-
NEtFOSAA	-
PFBS	-
PFHxS	-
PFOS	-

"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	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	-	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	-	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	-	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	-	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	-	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	-	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	5.2	
					PASS	
				Average	Lower	Upper
				149,617.65	74,808.83	224,426.48

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C4-PFOS	142,888.22	74,808.83	224,426.48		113,622.95	227,245.90	
JZ81	L4	8/20/18 15:08	13C4-PFOS	155,034.01	74,808.83	224,426.48		113,622.95	227,245.90	
JZ82	L5	8/20/18 15:17	13C4-PFOS	162,318.50	74,808.83	224,426.48		113,622.95	227,245.90	
JZ83	L6	8/20/18 15:26	13C4-PFOS	156,398.53	74,808.83	224,426.48		113,622.95	227,245.90	
JZ84	L7	8/20/18 15:35	13C4-PFOS	154,347.92	74,808.83	224,426.48		113,622.95	227,245.90	
JZ85	L8	8/20/18 15:44	13C4-PFOS	140,656.25	74,808.83	224,426.48		113,622.95	227,245.90	
JZ86	L9	8/20/18 15:52	13C4-PFOS	135,680.11	74,808.83	224,426.48		113,622.95	227,245.90	
JZ20 IB	Instrument Blank	8/20/18 16:01	13C4-PFOS	183,690.52	74,808.83	224,426.48		113,622.95	227,245.90	
JZ77 ICC	ICC	8/20/18 16:10	13C4-PFOS	134,938.50	74,808.83	224,426.48		113,622.95	227,245.90	
CR612PB-FS(0)	Procedural Blank	8/20/18 16:28	13C4-PFOS	197,182.84	74,808.83	224,426.48		113,622.95	227,245.90	
CR613LCS-FS(0)	Laboratory Control Sample	8/20/18 16:37	13C4-PFOS	174,249.79	74,808.83	224,426.48		113,622.95	227,245.90	
J7404-FS(0)	JAX-RES-08132018-0945-27-FRB	8/20/18 16:46	13C4-PFOS	219,197.16	74,808.83	224,426.48		113,622.95	227,245.90	
J7406-FS(0)	JAX-RES-08132018-1100-30-FRB	8/20/18 16:55	13C4-PFOS	187,434.10	74,808.83	224,426.48		113,622.95	227,245.90	
J7408-FS(0)	JAX-RES-08132018-1145-32-FRB	8/20/18 17:04	13C4-PFOS	223,234.67	74,808.83	224,426.48		113,622.95	227,245.90	
J7412-FS(0)	JAX-RES-08132018-1600-13-FRB	8/20/18 17:13	13C4-PFOS	183,005.66	74,808.83	224,426.48		113,622.95	227,245.90	
J7414-FS(0)	JAX-RES-08132018-1700-31-FRB	8/20/18 17:22	13C4-PFOS	218,292.59	74,808.83	224,426.48		113,622.95	227,245.90	
JZ82 CCV	CCV	8/20/18 17:31	13C4-PFOS	133,101.08	74,808.83	224,426.48		113,622.95	227,245.90	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	-	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	-	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	-	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	-	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	-	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	-	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	5.6	
					PASS	
				Average	Lower	Upper
				33,429.26	16,714.63	50,143.89

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	13C2-PFOA	32,082.74	16,714.63	50,143.89		24,426.78	48,853.56	
JZ81	L4	8/20/18 15:08	13C2-PFOA	33,991.28	16,714.63	50,143.89		24,426.78	48,853.56	
JZ82	L5	8/20/18 15:17	13C2-PFOA	34,895.40	16,714.63	50,143.89		24,426.78	48,853.56	
JZ83	L6	8/20/18 15:26	13C2-PFOA	33,573.48	16,714.63	50,143.89		24,426.78	48,853.56	
JZ84	L7	8/20/18 15:35	13C2-PFOA	33,686.21	16,714.63	50,143.89		24,426.78	48,853.56	
JZ85	L8	8/20/18 15:44	13C2-PFOA	31,838.05	16,714.63	50,143.89		24,426.78	48,853.56	
JZ86	L9	8/20/18 15:52	13C2-PFOA	33,937.64	16,714.63	50,143.89		24,426.78	48,853.56	
JZ20 IB	Instrument Blank	8/20/18 16:01	13C2-PFOA	43,290.28	16,714.63	50,143.89		24,426.78	48,853.56	
JZ77 ICC	ICC	8/20/18 16:10	13C2-PFOA	28,769.08	16,714.63	50,143.89		24,426.78	48,853.56	
CR612PB-FS(0)	Procedural Blank	8/20/18 16:28	13C2-PFOA	41,031.66	16,714.63	50,143.89		24,426.78	48,853.56	
CR613LCS-FS(0)	Laboratory Control Sample	8/20/18 16:37	13C2-PFOA	40,196.65	16,714.63	50,143.89		24,426.78	48,853.56	
J7404-FS(0)	JAX-RES-08132018-0945-27-FRB	8/20/18 16:46	13C2-PFOA	46,874.58	16,714.63	50,143.89		24,426.78	48,853.56	
J7406-FS(0)	JAX-RES-08132018-1100-30-FRB	8/20/18 16:55	13C2-PFOA	38,100.90	16,714.63	50,143.89		24,426.78	48,853.56	
J7408-FS(0)	JAX-RES-08132018-1145-32-FRB	8/20/18 17:04	13C2-PFOA	46,243.39	16,714.63	50,143.89		24,426.78	48,853.56	
J7412-FS(0)	JAX-RES-08132018-1600-13-FRB	8/20/18 17:13	13C2-PFOA	38,003.68	16,714.63	50,143.89		24,426.78	48,853.56	
J7414-FS(0)	JAX-RES-08132018-1700-31-FRB	8/20/18 17:22	13C2-PFOA	42,573.28	16,714.63	50,143.89		24,426.78	48,853.56	
JZ82 CCV	CCV	8/20/18 17:31	13C2-PFOA	28,790.47	16,714.63	50,143.89		24,426.78	48,853.56	

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



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)	
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	-	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	-	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	-	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	-	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	-	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	-	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	4.9	
Average					Lower	Upper
26,748.70					13,374.35	40,123.05

PASS

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JZ80	L3	8/20/18 14:59	d3-MeFOSAA	28,996.86	13,374.35	40,123.05		17,605.69	35,211.39	
JZ81	L4	8/20/18 15:08	d3-MeFOSAA	26,627.99	13,374.35	40,123.05		17,605.69	35,211.39	
JZ82	L5	8/20/18 15:17	d3-MeFOSAA	25,150.99	13,374.35	40,123.05		17,605.69	35,211.39	
JZ83	L6	8/20/18 15:26	d3-MeFOSAA	26,516.87	13,374.35	40,123.05		17,605.69	35,211.39	
JZ84	L7	8/20/18 15:35	d3-MeFOSAA	28,023.21	13,374.35	40,123.05		17,605.69	35,211.39	
JZ85	L8	8/20/18 15:44	d3-MeFOSAA	24,307.22	13,374.35	40,123.05		17,605.69	35,211.39	
JZ86	L9	8/20/18 15:52	d3-MeFOSAA	27,617.78	13,374.35	40,123.05		17,605.69	35,211.39	
JZ20 IB	Instrument Blank	8/20/18 16:01	d3-MeFOSAA	31,459.20	13,374.35	40,123.05		17,605.69	35,211.39	
JZ77 ICC	ICC	8/20/18 16:10	d3-MeFOSAA	22,841.71	13,374.35	40,123.05		17,605.69	35,211.39	
CR612PB-FS(0)	Procedural Blank	8/20/18 16:28	d3-MeFOSAA	31,838.95	13,374.35	40,123.05		17,605.69	35,211.39	
CR613LCS-FS(0)	Laboratory Control Sample	8/20/18 16:37	d3-MeFOSAA	29,399.21	13,374.35	40,123.05		17,605.69	35,211.39	
J7404-FS(0)	JAX-RES-08132018-0945-27-FRB	8/20/18 16:46	d3-MeFOSAA	35,976.61	13,374.35	40,123.05		17,605.69	35,211.39	N
J7406-FS(0)	JAX-RES-08132018-1100-30-FRB	8/20/18 16:55	d3-MeFOSAA	29,847.87	13,374.35	40,123.05		17,605.69	35,211.39	
J7408-FS(0)	JAX-RES-08132018-1145-32-FRB	8/20/18 17:04	d3-MeFOSAA	37,551.97	13,374.35	40,123.05		17,605.69	35,211.39	N
J7412-FS(0)	JAX-RES-08132018-1600-13-FRB	8/20/18 17:13	d3-MeFOSAA	30,350.78	13,374.35	40,123.05		17,605.69	35,211.39	
J7414-FS(0)	JAX-RES-08132018-1700-31-FRB	8/20/18 17:22	d3-MeFOSAA	33,932.00	13,374.35	40,123.05		17,605.69	35,211.39	
JZ82 CCV	CCV	8/20/18 17:31	d3-MeFOSAA	19,786.67	13,374.35	40,123.05		17,605.69	35,211.39	

<b>Sample Name</b>	JZ84	<b>Injection Vial</b>	8
<b>Sample ID</b>	L7	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 3:35:06 PM	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

**Results Summary**

<b>Analyte</b>	<b>MRM Transition</b>	<b>RT</b>	<b>Asymmetry Factor</b>	<b>Passing Range</b>
PFBS_1	298.9 / 80.0	1.56	0.98	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.85	1.39	0.8 – 1.5



Sample Name	JZ84	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	8/20/2018 3:35:06 PM	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.56	29	>10
PFBS_2	298.9 / 99.0	1.56	27	>10
PFHxA_1	313.0 / 269.0	1.85	47	>10
PFHxA_2	313.0 / 119.0	1.85	40	>10
PFHpA_1	363.0 / 319.0	2.22	43	>10
PFHpA_2	363.0 / 169.0	2.22	32	>10
PFHxS_1	399.0 / 80.0	2.23	41	>10
PFHxS_2	399.0 / 99.0	2.23	40	>10
PFOA_1	413.0 / 369.0	2.59	36	>10
PFOA_2	413.0 / 169.0	2.59	33	>10
PFNA_1	463.0 / 419.0	2.97	36	>10
PFNA_2	463.0 / 219.0	2.96	34	>10
PFOS_1	499.0 / 80.0	2.96	61	>10
PFOS_2	499.0 / 99.0	2.96	33	>10
PFDA_1	513.0 / 469.0	3.31	30	>10
PFDA_2	513.0 / 219.0	3.31	43	>10
PFUnA_1	563.0 / 519.0	3.65	27	>10
PFUnA_2	563.0 / 269.0	3.65	46	>10
PFDaA_1	613.0 / 569.0	3.94	41	>10
PFDaA_2	613.0 / 319.0	3.94	31	>10
PFTrDA_1	663.0 / 619.0	4.20	53	>10
PFTrDA_2	663.0 / 169.0	4.19	35	>10
PFTeDA_1	713.0 / 669.0	4.43	69	>10
PFTeDA_2	713.0 / 169.0	4.42	45	>10
NMeFOSAA_1	570.0 / 419.0	3.47	37	>10
NMeFOSAA_2	570.0 / 512.0	3.47	34	>10
NEtFOSAA_1	584.0 / 419.0	3.64	31	>10
NEtFOSAA_2	584.0 / 483.0	3.63	49	>10
13C2-PFHxA	315.0 / 270.0	1.84	47	>10
13C2-PFDA	515.0 / 470.0	3.30	31	>10
d5-EtFOSAA	589.0 / 419.0	3.63	26	>10



## Precision and Bias at the LOQ for PFAS in Drinking Water

Analyte	CAS No.	Average (ng/L)	ST DEV	3 Sigma	n
PFHxA	307-24-4	10.71	1.21	3.63	15
PFHpA	375-85-9	10.91	1.35	4.05	15
PFOA	335-67-1	10.82	1.38	4.14	15
PFNA	375-95-1	10.74	1.26	3.78	15
PFDA	335-76-2	10.82	1.33	3.99	15
PFUnA	2058-94-8	10.52	1.54	4.62	15
PFDoA	307-55-1	10.34	1.62	4.86	15
PFTTrDA	72629-94-8	10.56	1.70	5.10	15
PFTeDA	376-06-7	11.95	2.21	6.63	15
NMeFOSAA	2355-31-9	10.67	1.00	3.00	15
NEtFOSAA	2991-50-6	10.27	1.22	3.66	15
PFBS	375-73-5	8.89	1.24	3.72	15
PFHxS	355-46-4	10.11	1.37	4.11	15
PFOS	1763-23-1	9.75	1.36	4.08	15

# BATTELLE DETECTION LIMITS FOR PFAS IN DRINKING WATER

Battelle SOP 5-371 (EPA Method 537 Version 1.1)

Analyte	CAS No.	MDL (ng/L)	LOD (ng/L)	LOQ (ng/L)	MRL (ng/L)
<b>PFHxA</b>	307-24-4	0.22	0.5	2.5	2.5
<b>PFHpA</b>	375-85-9	0.34	1.0	2.5	2.5
<b>PFOA</b>	335-67-1	0.38	1.0	2.5	2.5
<b>PFNA</b>	375-95-1	0.37	1.0	2.5	2.5
<b>PFDA</b>	335-76-2	0.39	1.0	2.5	2.5
<b>PFUnA</b>	2058-94-8	0.38	1.0	2.5	2.5
<b>PFDoA</b>	307-55-1	0.42	1.0	2.5	2.5
<b>PFTTrDA</b>	72629-94-8	0.42	1.0	2.5	2.5
<b>PFTeDA</b>	376-06-7	0.73	1.5	2.5	2.5
<b>NMeFOSAA</b>	2355-31-9	0.42	1.0	2.5	2.5
<b>NEtFOSAA</b>	2991-50-6	0.44	1.0	2.5	2.5
<b>PFBS</b>	375-73-5	0.21	0.5	2.5	2.5
<b>PFHxS</b>	3871-99-6	0.34	1.0	2.5	2.5
<b>PFOS</b>	1763-23-1	0.30	1.0	2.5	2.5

*Analytes on NELAP and ELAP QSM 5.1 Scope of accreditation*

## Analytical Transitions for PFAS in drinking water

SOP 5-371 (EPA 537 Version 1.1)

Analyte	CAS No.	Type	Primary Transition	Secondary Transition
<b>PFHxA</b>	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
<b>PFHpA</b>	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
<b>PFOA</b>	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
<b>PFNA</b>	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
<b>PFDA</b>	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
<b>PFUnA</b>	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
<b>PFDoA</b>	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
<b>PFTTrDA</b>	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
<b>PFTeDA</b>	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
<b>NMeFOSAA</b>	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
<b>NEtFOSAA</b>	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
<b>PFBS</b>	375-73-5	Target	299.0 / 80.0	299.0 / 99.0
<b>PFHxS</b>	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
<b>PFOS</b>	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
<b><sup>13</sup>C<sub>2</sub>-PFHxA</b>	NA	SIS	315.0 / 270.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFDA</b>	NA	SIS	515.0 / 470.0	NA
<b>d<sub>5</sub>-EtFOSAA</b>	NA	SIS	589.0 / 419.0	NA
<b><sup>13</sup>C<sub>2</sub>-PFOA</b>	NA	IS	415.0 / 270.0	NA
<b><sup>13</sup>C<sub>4</sub>-PFOS</b>	NA	IS	503.0 / 80.0	NA
<b>d<sub>3</sub>-MeFOSAA</b>	NA	IS	573.0 / 419.0	NA



## Drinking Water Calibration to Sample Equivalents

ICAL (ng/L)	PIV (mL)	DF <sup>1</sup>	Sample Size (L)	Sample Equivalent (ng/L) <sup>2</sup>
25	1	1	0.250	0.1
50	1	1	0.250	0.2
100	1	1	0.250	0.4
250	1	1	0.250	1.0
500	1	1	0.250	2.0
1,000	1	1	0.250	4.0
2,500	1	1	0.250	10.0
5,000	1	1	0.250	20.0
10,000	1	1	0.250	40.0

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

<sup>2</sup> - calculated equivalent of a sample based on the ICAL concentration



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# QTRAP 5500

**LC/MS/MS Detector System**

Appendix ZEFPM003-2L

## QTRAP 5500 Preventive Maintenance Checklist

<b>Preventive Maintenance Date:</b>	22-Feb-2017
<b>Request ID:</b>	3683
<b>Company Name:</b>	Battelle Memorial Institute
<b>Instrument ID:</b>	X60666
<b>Instrument Model:</b>	QTRAP 5500
<b>Instrument Serial Number:</b>	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 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.5	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	1.9	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.4	Read Only
<input checked="" type="checkbox"/> CAD High	3.4	Read Only
<input checked="" type="checkbox"/> CAD 12	3.4	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

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

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 175.133	1.64 e6	Read Only	0.8095	Read Only
Q1 500.380	2.40 e7	Read Only	0.8592	Read Only
Q1 906.673	2.86 e7	Read Only	0.9633	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 175.133	1.26 e6	Read Only	0.6252	Read Only
Q3 500.380	2.19 e7	Read Only	0.7275	Read Only
Q3 906.673	3.02 e7	Read Only	0.7662	Read Only

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

Appendix ZEFPM003-2L

Perform MSMS POS in Product Ion scan with 609.3 parent and record daughter 195.1 using Reserpine 0.167 pmol/ul at the scan rate of 10 Da/s for 10 MCA. Calculate transmission efficiency comparing Q1POS 609 intensity. Transmission Efficiency: : 19.51% (Read Only)

Mass	MSMS Intensity		MSMS Width Value	Width Specs
	Value	Spec		
Q1 609.3	7.43 e7	Read Only	0.9981	Read Only
MS/MS 195.1	1.45 e7	Read Only	0.6582	Read Only

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Q1 933.636	1.43 e7	Read Only	0.7330	Read Only

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Q3 933.636	2.22 e7	Read Only	0.8138	Read Only

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

Mass	Scan Rate	MCA	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.35 e6	Read Only	0.6495	Read Only



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Phone: 1.866.854.7988

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

Appendix ZEFPM003-2L

**PREVENTIVE MAINTENANCE CHECKLIST:**

- Check Cooling Fans for Turbo Pumps while MS is ON.
- Check QJet and QPS tuning voltage for reference.
- Record AC input Voltage while MS is OFF: \_\_\_\_\_(200-240VAC).  
If Out-of-Range, notify customer.
  
- Clean Interface
  - Curtain Plate
  - Orifice Plate
  - QJet
  - Q0 Rods.
  
- Replace Roughing Pump Oil.
- Inspect Oil Exhaust Filter, if Applicable.  N/A
- Clean and inspect built-in divert valve if used.  N/A
- Check Multiplier Voltage, optimize if necessary.
- Replace four Air Filters at the bottom of the mass spectrometer.
  
- Pump down overnight if possible.  N/A
  
- Perform Maintenance on Turbo V source.
  
- Replace Electrode, if necessary.  N/A
- Check Turbo heaters resistances.
- Check if Temperature is reached at 500C with TIS Probe installed.
- Check if Temperature is reached at 500C with APCI Probe installed.  N/A

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

Appendix ZEFPM003-2L

**POST PM PPG PERFORMANCE TESTS:**

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

CAD Settings	Vacuum Reading ( x 10 <sup>-5</sup> Torr)	Acceptance Criteria
<input checked="" type="checkbox"/> CAD 0	0.8	0.4 to 1.1 x10 <sup>-5</sup> Torr
<input checked="" type="checkbox"/> CAD Low	2.1	Read Only
<input checked="" type="checkbox"/> CAD Medium	2.6	Read Only
<input checked="" type="checkbox"/> CAD High	3.7	Read Only
<input checked="" type="checkbox"/> CAD 12	3.7	2.4 to 4.5 x10 <sup>-5</sup> Torr

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

Mass	Q1 Intensity		Q1 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q1 175.133	5.94 e6	≥1.2 <sup>e6</sup>	0.6933	0.6 to 0.8
Q1 500.380	2.25 e7	≥9.0 <sup>e6</sup>	0.7444	0.6 to 0.8
Q1 906.673	2.74 e7	≥1.4 <sup>e7</sup>	0.7347	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q1 906.673	1.33 e8	≥6.8 <sup>e7</sup>	0.7656	0.6 to 0.8

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

Mass	Q3 Intensity		Q3 Width Value	Width Specs
	Value	Spec		
Scan Rate 10 Da/s Record 10 mca				
Q3 175.133	4.54 e6	≥1.2 <sup>e6</sup>	0.6390	0.6 to 0.8
Q3 500.380	2.13 e7	≥9.0 <sup>e6</sup>	0.7008	0.6 to 0.8
Q3 906.673	3.04 e7	≥1.4 <sup>e7</sup>	0.7683	0.6 to 0.8
Scan Rate 1000 Da/s Record 50 mca				
Q3 906.673	1.51 e8	≥6.8 <sup>e7</sup>	0.7118	0.6 to 0.8

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

Transmission Efficiency: 16.93% (≥ 10.0%)

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

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

Appendix ZEFPM003-2L

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

Mass	Scan Rate	Mca	Q1 Intensity		Q1 Width Value	Width Specs
			Value	Spec		
Q1 933.636	10	10	1.31 e7	$\geq 1.0^{e7}$	0.6895	0.6 to 0.8
Q1 933.636	1000	50	6.32 e7	$\geq 4.0^{e7}$	0.6740	0.6 to 0.8

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

Mass	Scan Rate	Mca	Q3 Intensity		Q3 Width Value	Width Specs
			Value	Spec		
Q3 933.636	10	10	1.70 e7	$\geq 8.0^{e6}$	0.7665	0.6 to 0.8
Q3 933.636	1000	50	7.41 e7	$\geq 4.0^{e7}$	0.7292	0.6 to 0.8

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

Mass	Scan Rate	Mca	MSMS Intensity		MSMS Width Value	Width Specs
			Value	Spec		
MSMS 45	10	10	3.33 e6	Read Only	0.6387	Read Only

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 118.087	0.05	8.08 e6	$\geq 7.2^{e6}$	0.1302	<0.35
ER 922.010	0.05	3.89 e7	$\geq 2.8^{e6}$	0.2603	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 118.087	0.05	2.55 e7	$\geq 2.4^{e7}$	0.3740	<0.65
ER 922.010	0.05	2.37 e8	$\geq 6.8^{e7}$	0.5407	<0.65

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

Mass	Fill Time (ms)	ER Intensity		ER Width Value	Width Specs
		Value	Spec		
ScanRate : 1000 Da/s ; 50 Mca					
ER 431.982	0.05	1.05 e8	$\geq 4.4^{e7}$	0.1840	<0.35
ER 601.978	0.05	7.74 e7	$\geq 5.6^{e7}$	0.1849	<0.35
ScanRate : 10000 Da/s ; 50 Mca					
ER 431.982	0.05	3.43 e8	$\geq 1.2^{e8}$	0.4382	<0.65
ER 601.978	0.05	2.55 e8	$\geq 1.6^{e8}$	0.6205	<0.65

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

Appendix ZEFPM003-2L

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

Mass	Scan Rate (Da/s)	Q0 Trapping OFF		Q0 Trapping ON	
		Intensity	Spec	Intensity	Spec
EPI 397.2	10000	> 3.5 e6	≥2.0 e6	> 4.0 e7	≥6.4 e6

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

Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	3.2 e7	Contains only 397.2	N/A	N/A
<input type="checkbox"/> 236 OR <input checked="" type="checkbox"/> 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 <sup>e6</sup>

**REVIEW:**

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

**END OF PREVENTIVE MAINTENANCE CHECKLIST****Document history:**

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



It can be done

**BATTELLE - NORWELL OPERATIONS  
SAMPLE PREPARATION RECORDS**

<b><u>Project Title(s)</u></b>	<b><u>Project No.(s)</u></b>
CTO-SE0375: Naval Air Station Jacksonville	100119154- SE0375
<b>18-0512</b>	
<b>CTO-SE0375: Drinking Water Analysis</b>	
<b>W</b>	
SOP Numbers (see workplan for modifications)	
VOASOP No.	5-371

<b>This Batch Contains The Following Samples:</b>	
CR612PB-FS	J7414-FS
CR613LCS-FS	
J7404-FS	
J7406-FS	
J7408-FS	
J7412-FS	

Laboratory Preparation Records  
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	08/20/2018	DMS



It can be done

## BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0512****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR612PB-FS	Procedural Blank	250.0	NA	--	08/17/18 SAS
CR613LCS-FS	Laboratory Control Sample	250.0	NA	--	08/17/18 SAS
J7404-FS	JAX-RES-08132018-0945-27-FRB	250.0	1	C	08/17/18 SAS
J7406-FS	JAX-RES-08132018-1100-30-FRB	250.0	1	C	08/17/18 SAS
J7408-FS	JAX-RES-08132018-1145-32-FRB	250.0	1	C	08/17/18 SAS
J7412-FS	JAX-RES-08132018-1600-13-FRB	250.0	1	C	08/17/18 SAS
J7414-FS	JAX-RES-08132018-1700-31-FRB	250.0	1	C	08/17/18 SAS

**Comments:**

Sample ID:	Comments:
CR612PB-FS	1.26g Trizma(180502-01) weighed on BAL-009
CR613LCS-FS	1.24g Trizma(180502-01) weighed on BAL-009

Samples Assigned By

Jonathan Thorn

Date : August 17, 2018

\* - "C" = Sample is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0512****CTO-SE0375: Drinking Water Analysis****W**

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR612PB-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
CR613LCS-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
CR613LCS-FS	JZ28	LCS/MS	1	50	08/17/18 SAS	SG	NA
J7404-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
J7406-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
J7408-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
J7412-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA
J7414-FS	JX76	SIS	1	50	08/17/18 SAS	SG	NA

**Syringes/Pipettes Used:**

Std ID	Type	Syr/Pip
JX76	Pipette	B814659662
JZ28	Pipette	B814659662



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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**18-0512****CTO-SE0375: Drinking Water Analysis****W****(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
CR612PB-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
CR613LCS-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
J7404-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
J7406-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
J7408-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
J7412-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG
J7414-FS(0)	950	50	JV59	50	1	1000	1.000	08/17/18 SAS	LMG

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV59	Pipette	B814659662

Extract Id:	Comments:
CR612PB-FS	Samples reconstituted in 96/4 methanol/milli-q water (RP-180815-2)

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

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





It can be done

## BATTELLE - NORWELL OPERATIONS PREPARATION EXTRACT SPLIT FORM

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0512****CTO-SE0375: Drinking Water Analysis****W**

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR612PB-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
CR613LCS-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
J7404-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
J7406-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
J7408-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
J7412-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS
J7414-FS	0	--	8/17/2018 10:38:00 AM	NA		NA	NA	1.000	1.000	08/17/18 SAS

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

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

\* - "C" = Extract is Consumed



It can be done

## BATTELLE - NORWELL OPERATIONS EXTRACT - INSTRUMENT FACILITY CUSTODY PAGE

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0512****CTO-SE0375: Drinking Water Analysis****W**

<b>Purpose:</b>	LC-MS/MS TRANSFER	<b>Last Activity:</b>	Prep->Inst
<b>Relinquished On/By:</b>	Aug 17 2018 3:01PM SAS	<b>Received On/By:</b>	Aug 17 2018 3:02PM LMG
<b>Relinquished From:</b>	Sample Preparation: NA	<b>Received Location:</b>	LC Laboratory: NA
<b>Relinquish Comment:</b>	NA	<b>Received Comment:</b>	NA

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR612PB-FS(0)	1000	1	Intact	NA
2	CR613LCS-FS(0)	1000	1	Intact	NA
3	J7404-FS(0)	1000	1	Intact	NA
4	J7406-FS(0)	1000	1	Intact	NA
5	J7408-FS(0)	1000	1	Intact	NA
6	J7412-FS(0)	1000	1	Intact	NA
7	J7414-FS(0)	1000	1	Intact	NA

**Total Extracts:** 7



It can be done

## BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

**Project Title(s)**

CTO-SE0375: Naval Air Station Jacksonville

**Project No.(s)**100119154-  
SE0375**18-0512****CTO-SE0375: Drinking Water Analysis****W**

Sample ID:	Comment:	Date/Initials:
CR612PB-FS	Extraction for all samples began at 10:38am	08/17/18 SAS
CR612PB-FS	Sample extraction ended at 11:03am	08/17/18 SAS
CR613LCS-FS	Sample extraction ended at 11:05am	08/17/18 SAS
J7404-FS	Sample extraction ended at 11:05am	08/17/18 SAS
J7406-FS	Sample extraction ended at 11:07am	08/17/18 SAS
J7408-FS	Sample extraction ended at 11:09am	08/17/18 SAS
J7412-FS	Sample extraction ended at 11:09am	08/17/18 SAS
J7414-FS	Sample extraction ended at 11:11am	08/17/18 SAS

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MeOH		8/20/2018 2:32:30 PM	5-0371.dam	DW_08202018.wiff
4	JZ80	L3	8/20/2018 2:59:21 PM	5-0371.dam	DW_08202018.wiff
5	JZ81	L4	8/20/2018 3:08:18 PM	5-0371.dam	DW_08202018.wiff
6	JZ82	L5	8/20/2018 3:17:14 PM	5-0371.dam	DW_08202018.wiff
7	JZ83	L6	8/20/2018 3:26:11 PM	5-0371.dam	DW_08202018.wiff
8	JZ84	L7	8/20/2018 3:35:06 PM	5-0371.dam	DW_08202018.wiff
9	JZ85	L8	8/20/2018 3:44:02 PM	5-0371.dam	DW_08202018.wiff
10	JZ86	L9	8/20/2018 3:52:58 PM	5-0371.dam	DW_08202018.wiff
11	JZ10 IB	Instrument Blank	8/20/2018 4:01:53 PM	5-0371.dam	DW_08202018.wiff
12	JZ77 ICC	ICC	8/20/2018 4:10:51 PM	5-0371.dam	DW_08202018.wiff
13	MeOH		8/20/2018 4:19:47 PM	5-0371.dam	DW_08202018.wiff
14	CR612PB-FS(0)	Procedural Blank	8/20/2018 4:28:42 PM	5-0371.dam	DW_08202018.wiff
15	CR613LCS-FS(0)	Laboratory Control Sample	8/20/2018 4:37:39 PM	5-0371.dam	DW_08202018.wiff
16	J7404-FS(0)	JAX-RES-08132018-0945-27-FRB	8/20/2018 4:46:36 PM	5-0371.dam	DW_08202018.wiff
17	J7406-FS(0)	JAX-RES-08132018-1100-30-FRB	8/20/2018 4:55:32 PM	5-0371.dam	DW_08202018.wiff
18	J7408-FS(0)	JAX-RES-08132018-1145-32-FRB	8/20/2018 5:04:27 PM	5-0371.dam	DW_08202018.wiff
19	J7412-FS(0)	JAX-RES-08132018-1600-13-FRB	8/20/2018 5:13:23 PM	5-0371.dam	DW_08202018.wiff
20	J7414-FS(0)	JAX-RES-08132018-1700-31-FRB	8/20/2018 5:22:20 PM	5-0371.dam	DW_08202018.wiff
21	JZ82 CCV	CCV	8/20/2018 5:31:16 PM	5-0371.dam	DW_08202018.wiff



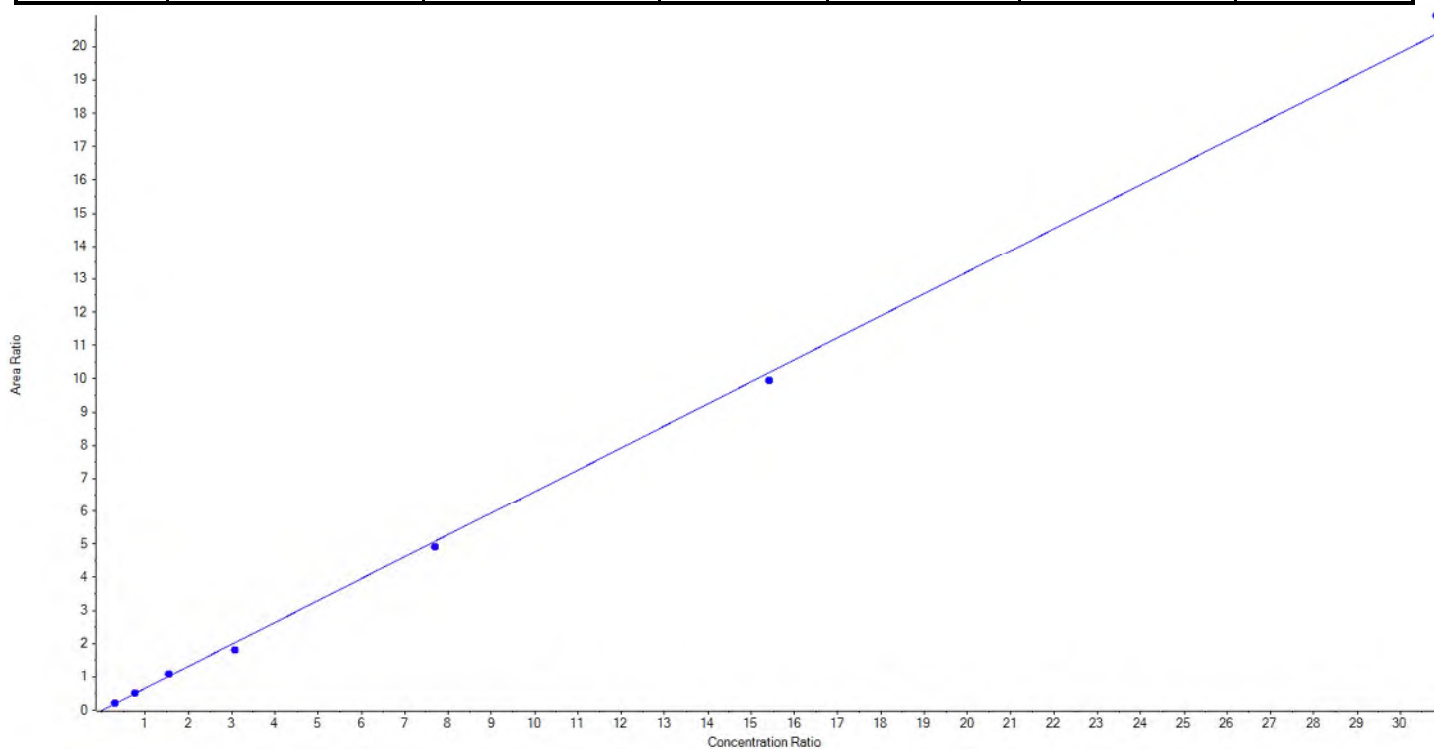
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFBS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.66086 x + -0.00678$  ( $r = 0.99915$ ) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	92.373246	104.3
5	JZ81	L4	True	221.50	228.227234	103.0
6	JZ82	L5	True	443.00	473.621611	106.9
7	JZ83	L6	True	885.00	787.235152	89.0
8	JZ84	L7	True	2212.50	2136.140902	96.6
9	JZ85	L8	True	4425.00	4317.657703	97.6
10	JZ86	L9	True	8850.00	9090.344152	102.7





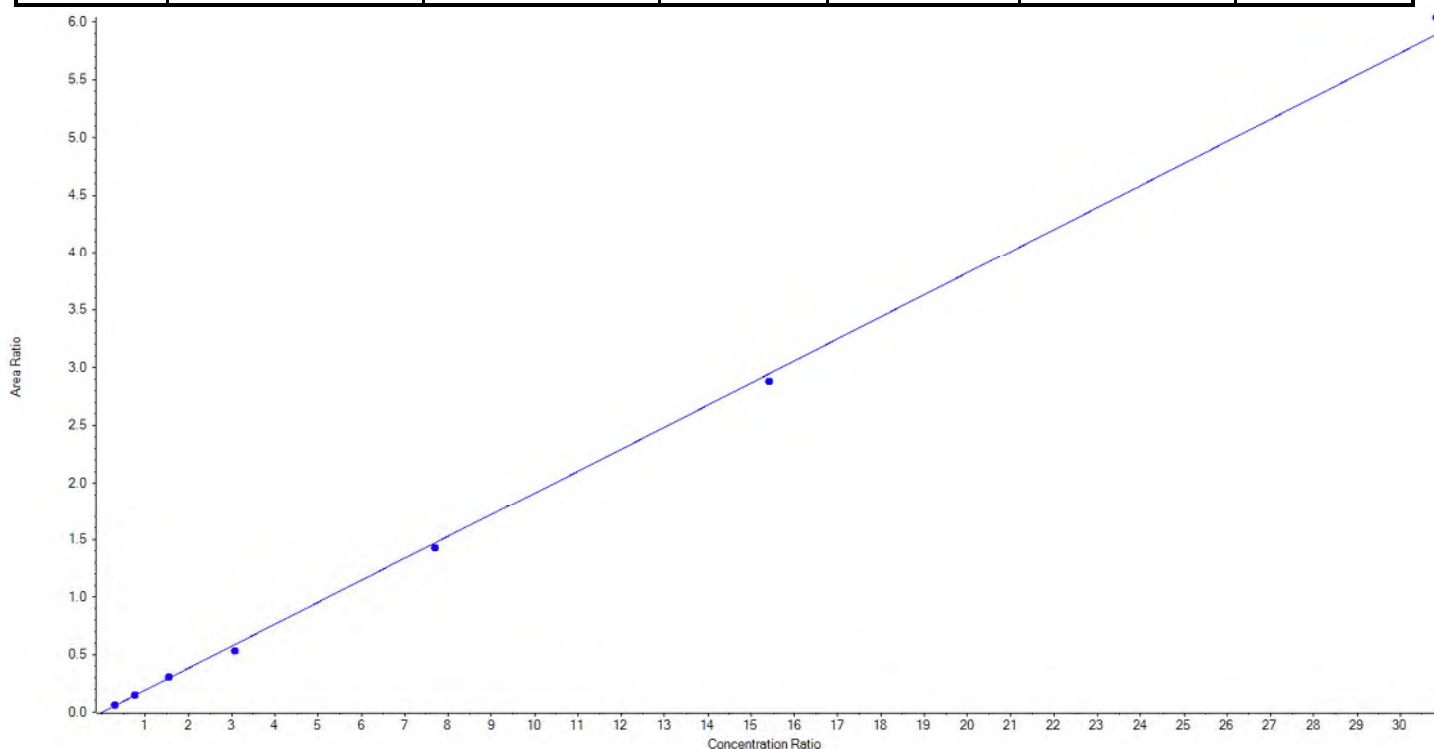
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFBS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	298.9 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.19104 x + -0.00133$  (r = 0.99933) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	88.60	93.214828	105.2
5	JZ81	L4	True	221.50	227.341080	102.6
6	JZ82	L5	True	443.00	463.948422	104.7
7	JZ83	L6	True	885.00	796.949611	90.1
8	JZ84	L7	True	2212.50	2149.034279	97.1
9	JZ85	L8	True	4425.00	4326.418052	97.8
10	JZ86	L9	True	8850.00	9068.693729	102.5





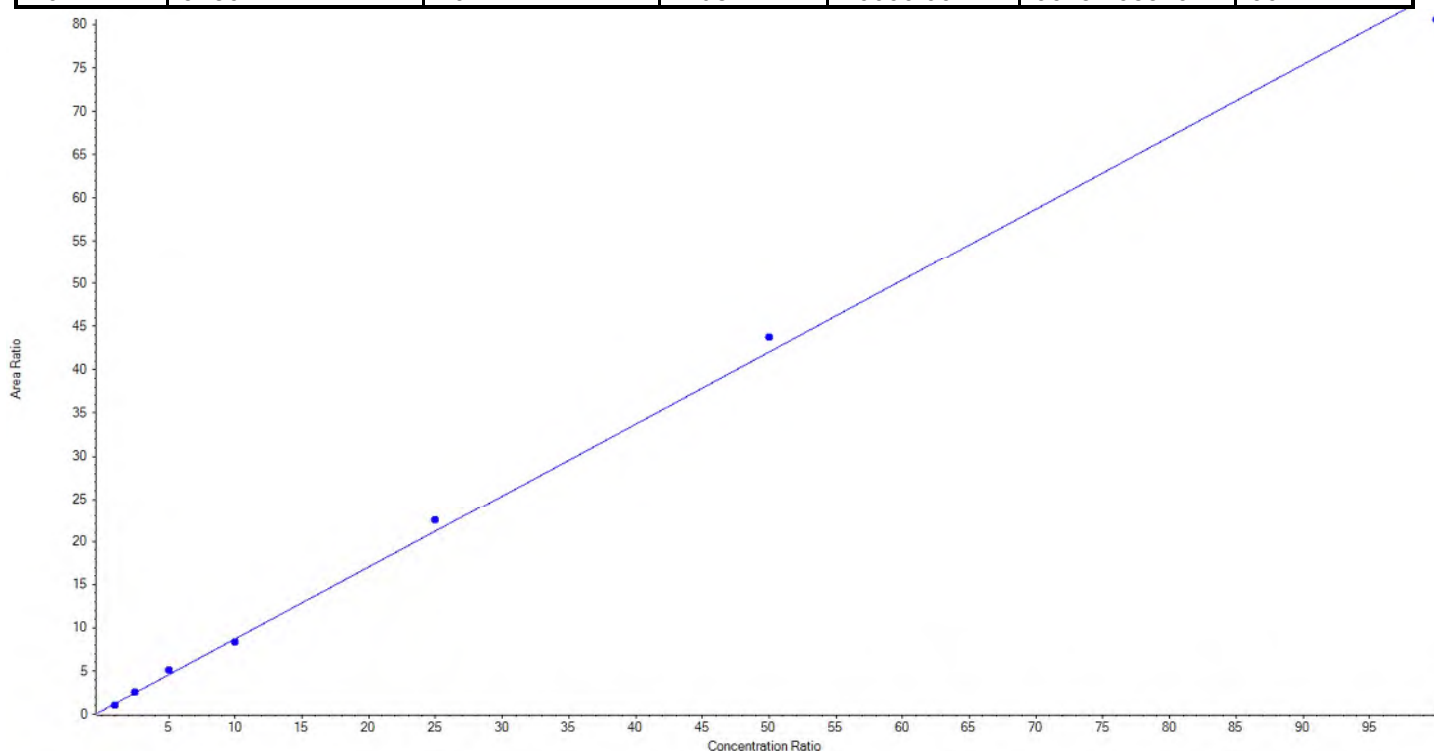
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHxA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.83313x + 0.38835$  ( $r = 0.99851$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	78.044303	78.0
5	JZ81	L4	True	250.00	265.769546	106.3
6	JZ82	L5	True	500.00	568.874261	113.8
7	JZ83	L6	True	1000.00	954.283032	95.4
8	JZ84	L7	True	2500.00	2650.811567	106.0
9	JZ85	L8	True	5000.00	5209.008771	104.2
10	JZ86	L9	True	10000.00	9623.208520	96.2





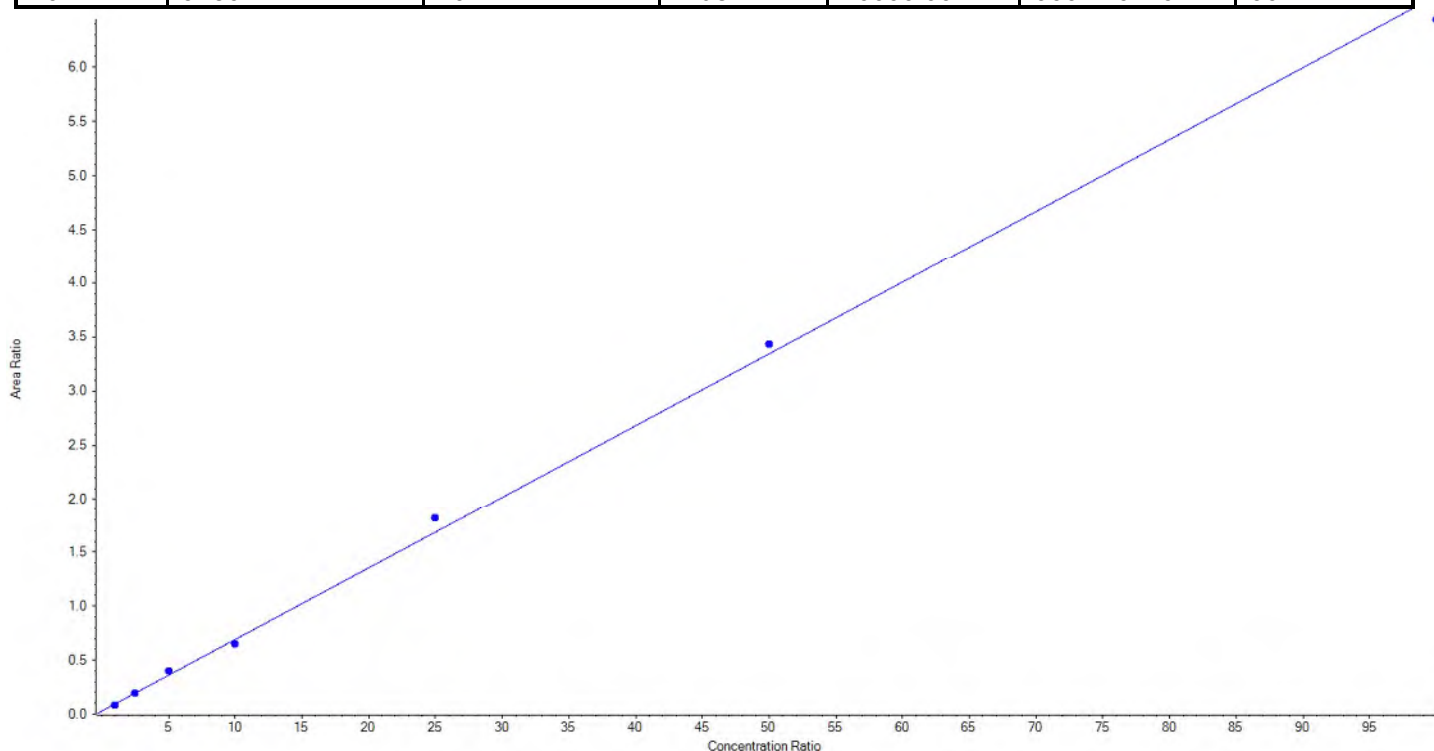
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHxA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	313.0 / 119.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06630 x + 0.02846$  ( $r = 0.99864$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	86.317867	86.3
5	JZ81	L4	True	250.00	247.710359	99.1
6	JZ82	L5	True	500.00	564.939492	113.0
7	JZ83	L6	True	1000.00	940.194006	94.0
8	JZ84	L7	True	2500.00	2702.578330	108.1
9	JZ85	L8	True	5000.00	5140.495784	102.8
10	JZ86	L9	True	10000.00	9667.764162	96.7







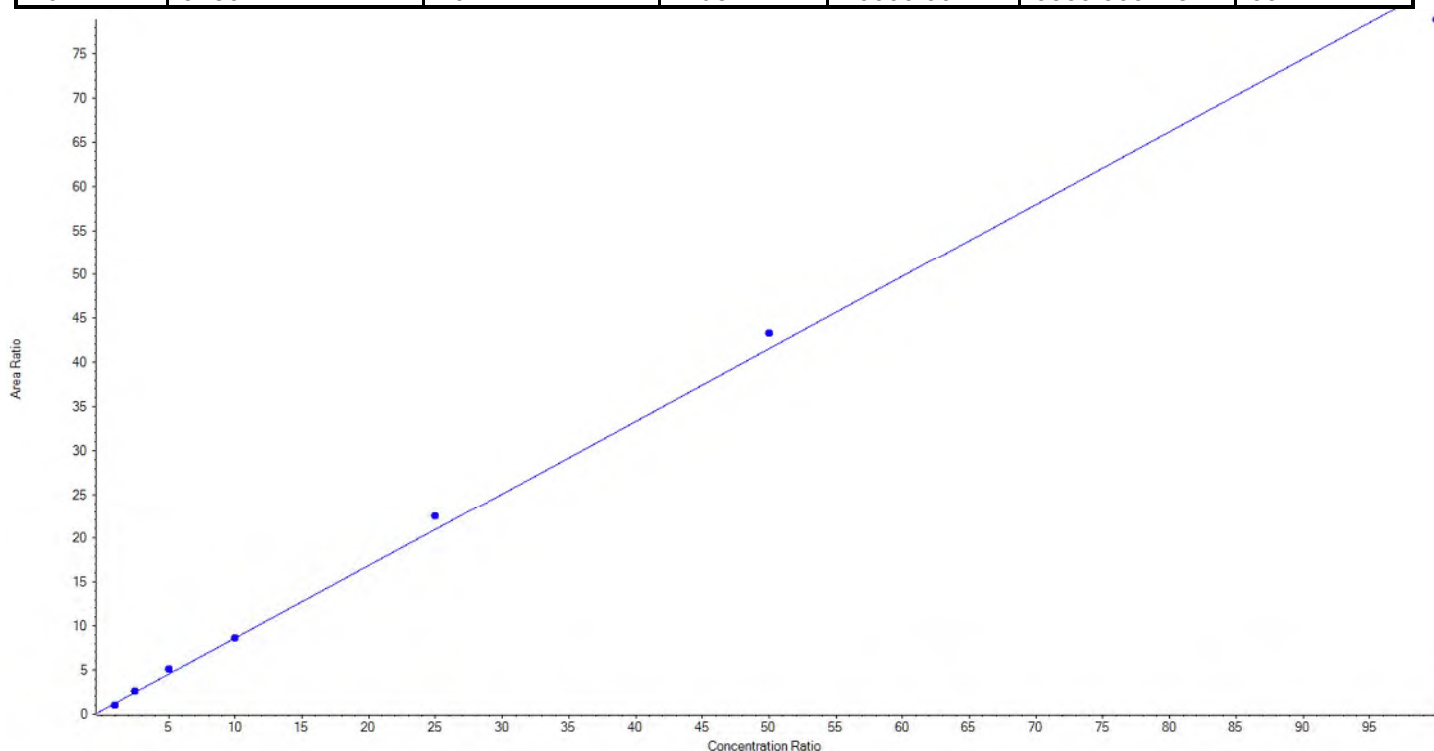
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHpA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.82233x + 0.41213$  ( $r = 0.99811$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.016068	73.0
5	JZ81	L4	True	250.00	261.130318	104.5
6	JZ82	L5	True	500.00	574.230055	114.9
7	JZ83	L6	True	1000.00	1005.928310	100.6
8	JZ84	L7	True	2500.00	2688.604760	107.5
9	JZ85	L8	True	5000.00	5207.786711	104.2
10	JZ86	L9	True	10000.00	9539.303778	95.4





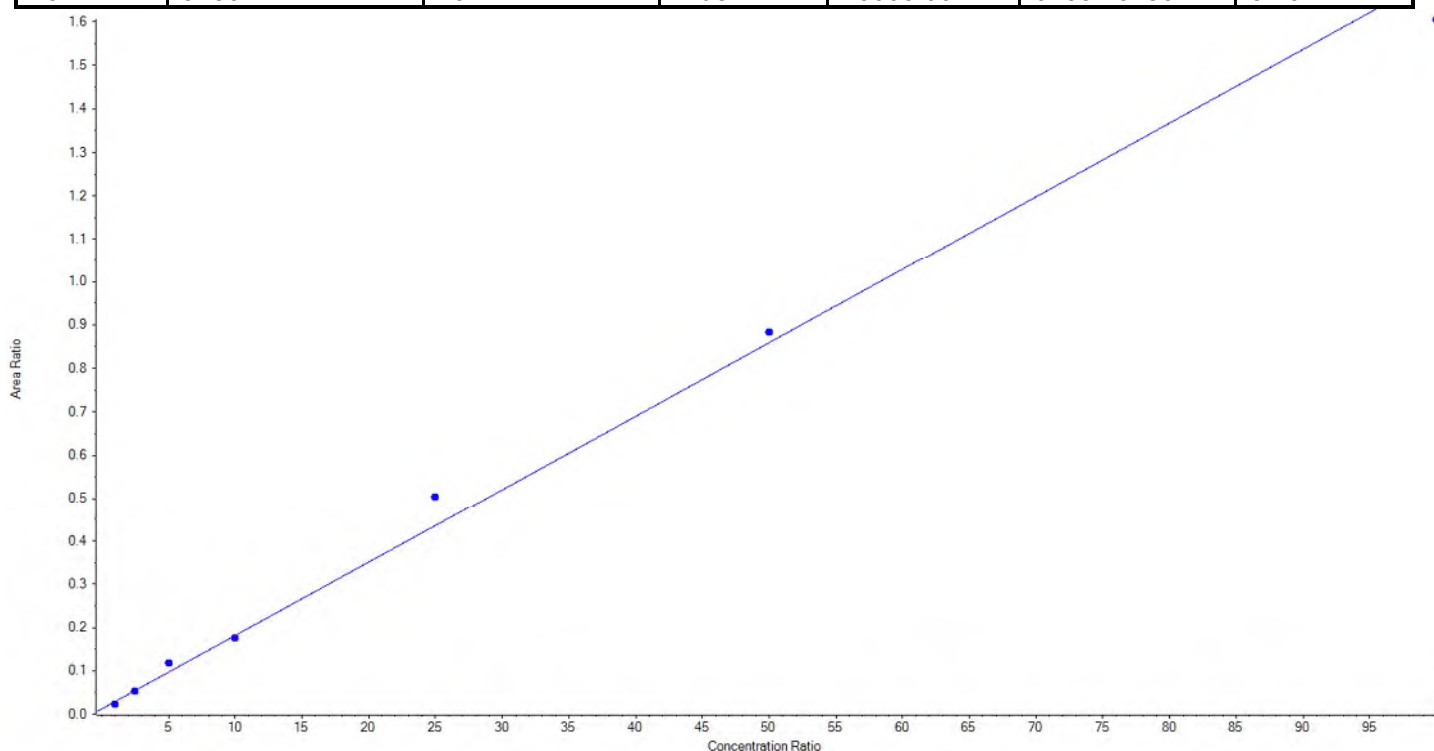
## Calibration Summary Report

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Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHpA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	363.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.01694 x + 0.01216$  ( $r = 0.99569$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.272325	70.3
5	JZ81	L4	True	250.00	239.260354	95.7
6	JZ82	L5	True	500.00	619.165193	123.8
7	JZ83	L6	True	1000.00	971.164630	97.1
8	JZ84	L7	True	2500.00	2905.414878	116.2
9	JZ85	L8	True	5000.00	5141.021060	102.8
10	JZ86	L9	True	10000.00	9403.701561	94.0





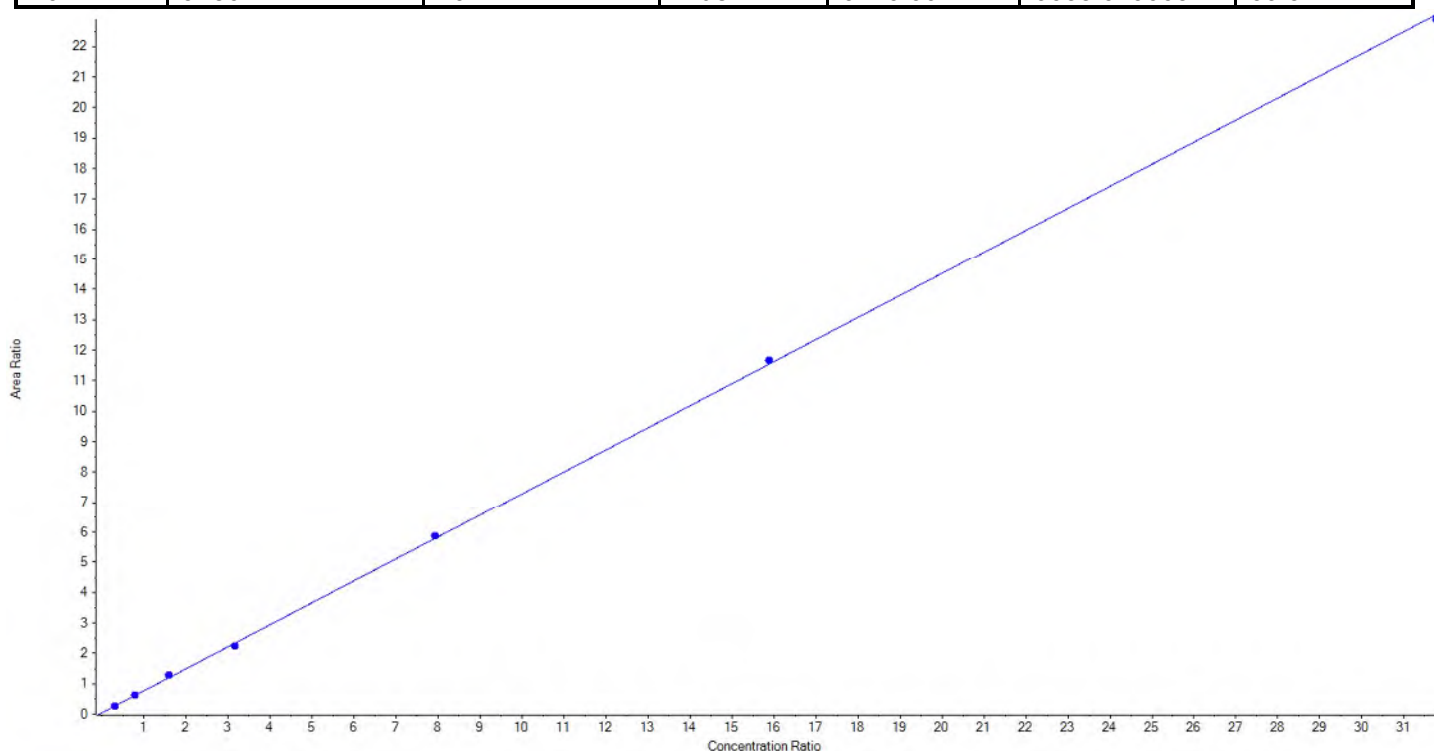
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHxS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.72416x + 0.03976$  ( $r = 0.99978$ ) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	83.545773	91.6
5	JZ81	L4	True	228.00	236.640313	103.8
6	JZ82	L5	True	456.00	490.800076	107.6
7	JZ83	L6	True	912.00	872.158270	95.6
8	JZ84	L7	True	2280.00	2303.866920	101.1
9	JZ85	L8	True	4560.00	4606.569585	101.0
10	JZ86	L9	True	9120.00	9053.619063	99.3





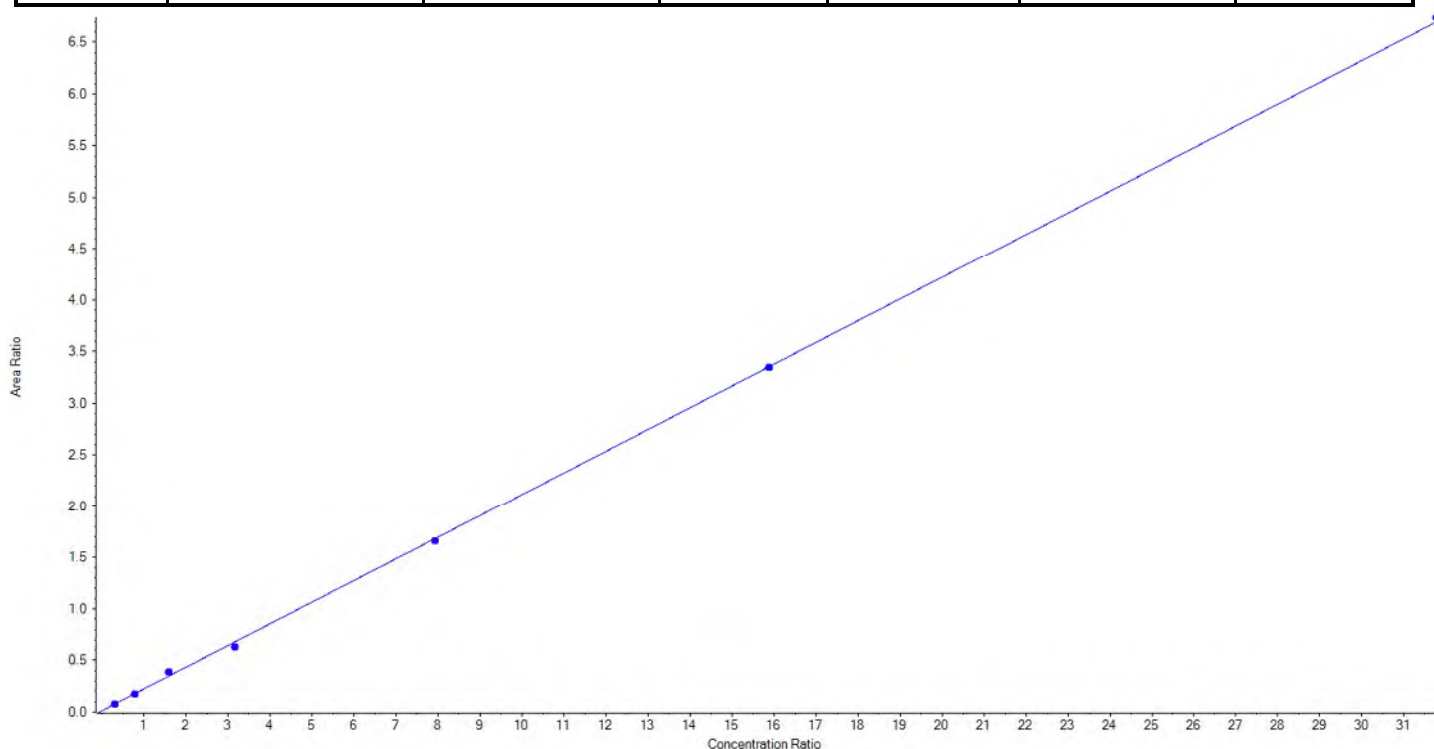
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFHxS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	399.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.21033x + 0.01337$  ( $r = 0.99964$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	91.20	89.539693	98.2
5	JZ81	L4	True	228.00	224.603434	98.5
6	JZ82	L5	True	456.00	506.958424	111.2
7	JZ83	L6	True	912.00	847.353462	92.9
8	JZ84	L7	True	2280.00	2253.455709	98.8
9	JZ85	L8	True	4560.00	4550.078070	99.8
10	JZ86	L9	True	9120.00	9175.211206	100.6





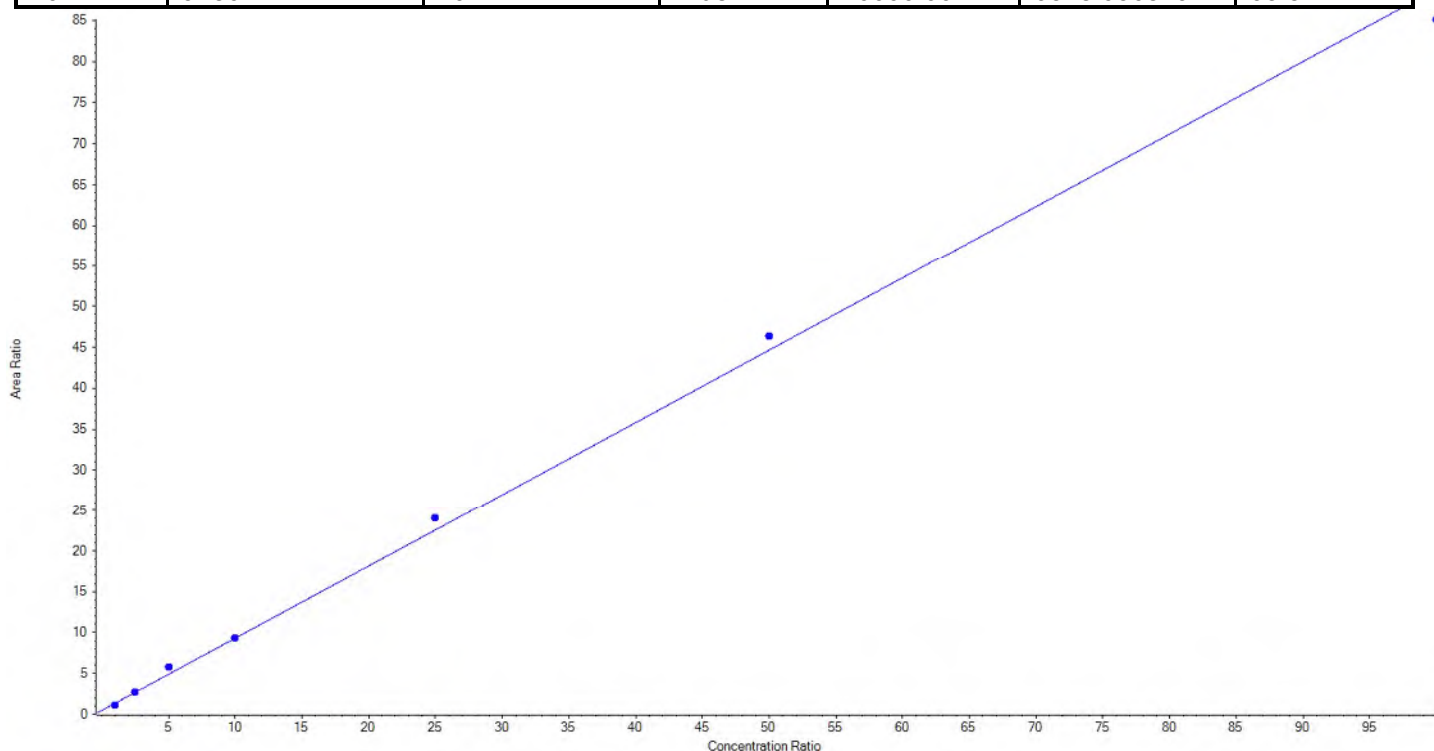
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFOA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 369.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.88380 x + 0.45664$  ( $r = 0.99819$ ) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.344758	75.3
5	JZ81	L4	True	250.00	248.563445	99.4
6	JZ82	L5	True	500.00	595.816684	119.2
7	JZ83	L6	True	1000.00	999.884858	100.0
8	JZ84	L7	True	2500.00	2662.530234	106.5
9	JZ85	L8	True	5000.00	5189.823202	103.8
10	JZ86	L9	True	10000.00	9578.036819	95.8





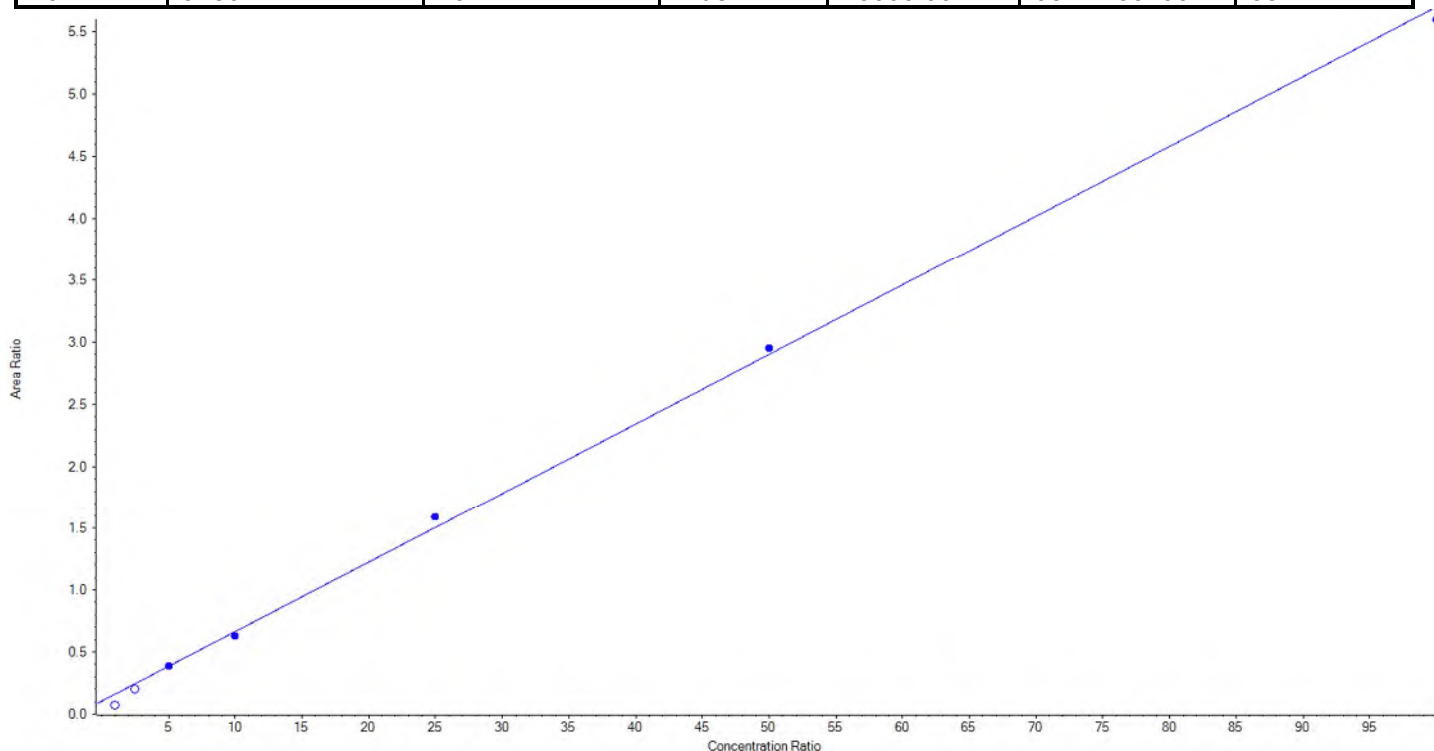
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFOA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	413.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.05595x + 0.10513$  ( $r = 0.99926$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	False	100.00	< 0	N/A
5	JZ81	L4	False	250.00	175.390457	70.2
6	JZ82	L5	True	500.00	501.263267	100.3
7	JZ83	L6	True	1000.00	937.002604	93.7
8	JZ84	L7	True	2500.00	2649.237787	106.0
9	JZ85	L8	True	5000.00	5095.261135	101.9
10	JZ86	L9	True	10000.00	9817.235206	98.2





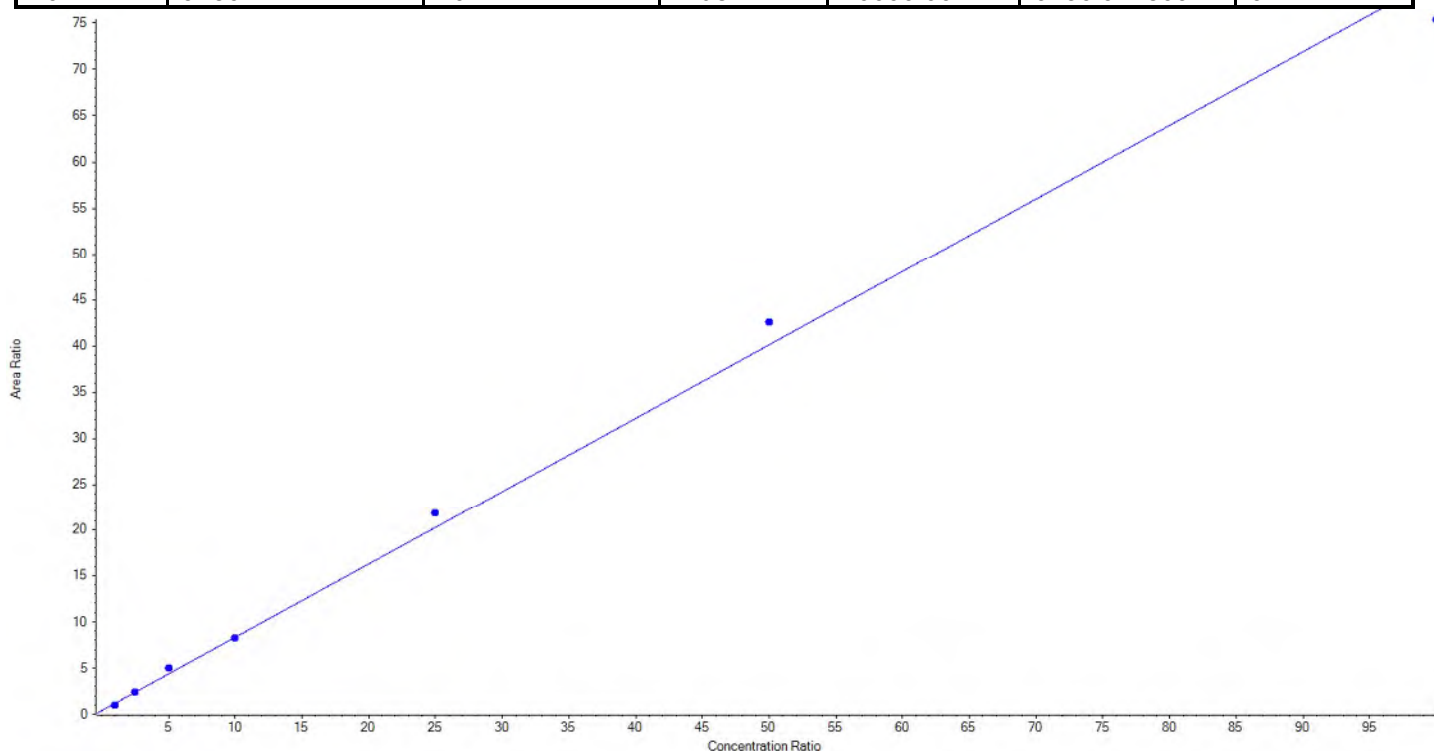
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFNA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.79456 x + 0.38579$  (r = 0.99739) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	73.842400	73.8
5	JZ81	L4	True	250.00	253.735140	101.5
6	JZ82	L5	True	500.00	583.193244	116.6
7	JZ83	L6	True	1000.00	996.921572	99.7
8	JZ84	L7	True	2500.00	2692.800630	107.7
9	JZ85	L8	True	5000.00	5312.564204	106.3
10	JZ86	L9	True	10000.00	9436.942809	94.4





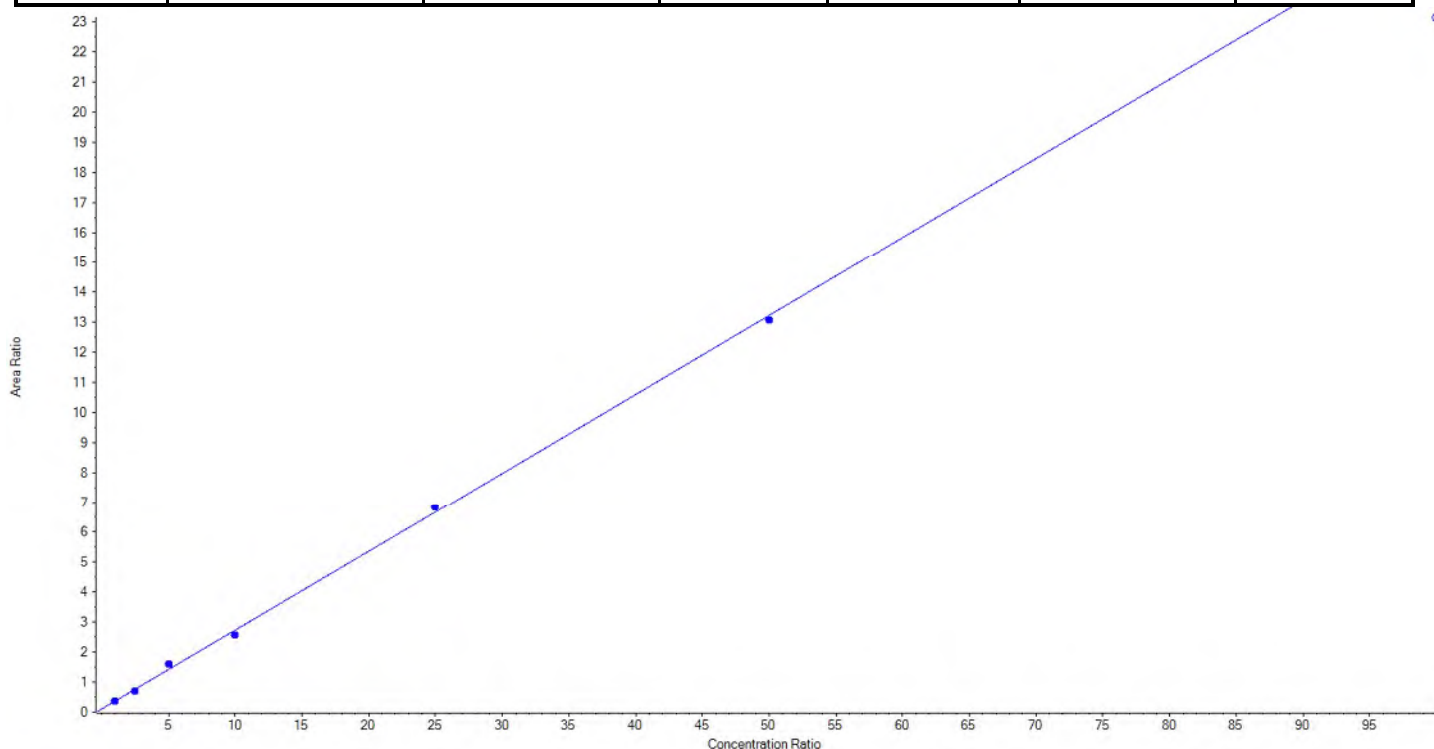
## Calibration Summary Report

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<b>Analyte Name</b>	PFNA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	463.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.26245x + 0.10725$  ( $r = 0.99871$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	98.915434	98.9
5	JZ81	L4	True	250.00	225.999392	90.4
6	JZ82	L5	True	500.00	574.910926	115.0
7	JZ83	L6	True	1000.00	943.227550	94.3
8	JZ84	L7	True	2500.00	2562.046738	102.5
9	JZ85	L8	True	5000.00	4944.899960	98.9
10	JZ86	L9	False	10000.00	8779.689356	87.8







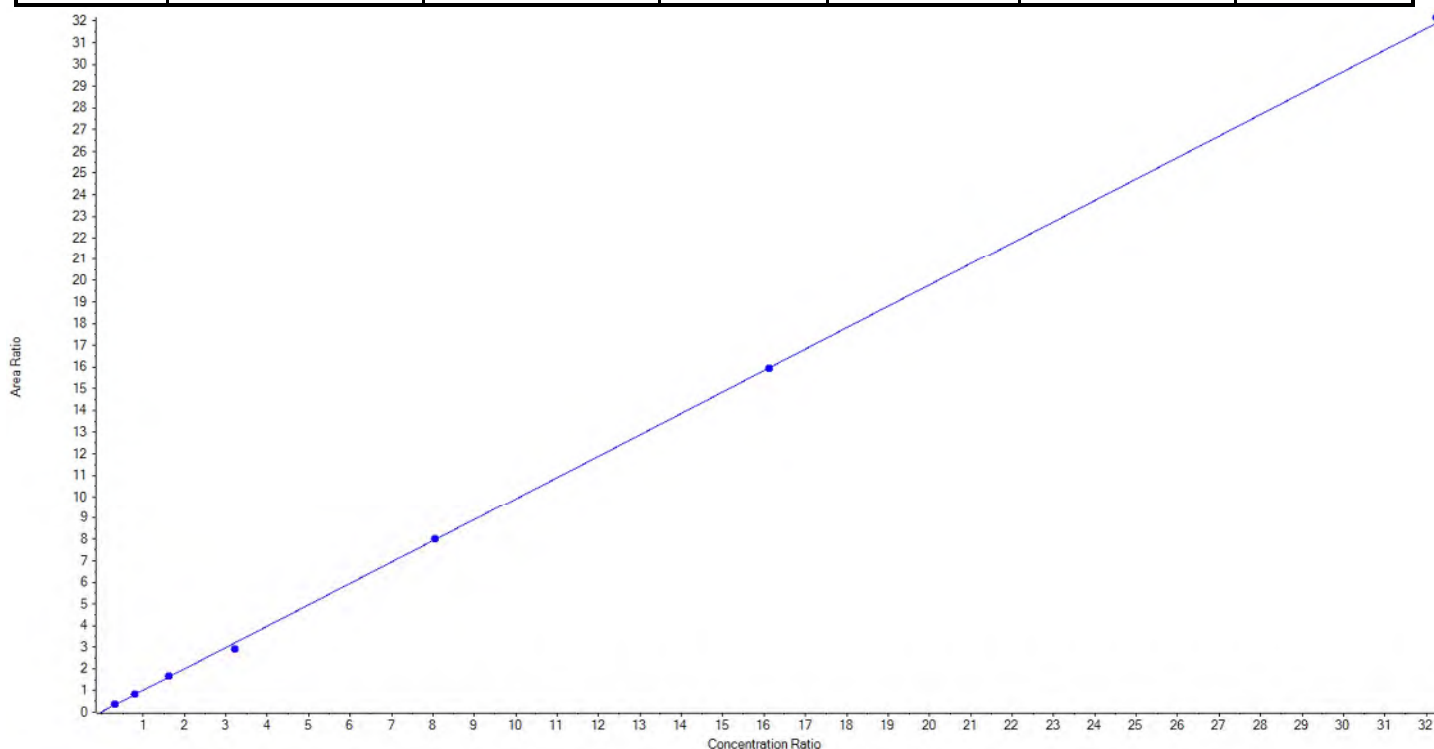
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFOS_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 80.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98838x + 0.02218$  ( $r = 0.99967$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	97.996148	105.8
5	JZ81	L4	True	231.50	229.918802	99.3
6	JZ82	L5	True	463.00	480.701559	103.8
7	JZ83	L6	True	925.60	836.163976	90.3
8	JZ84	L7	True	2314.00	2315.988544	100.1
9	JZ85	L8	True	4628.00	4618.435786	99.8
10	JZ86	L9	True	9256.00	9331.495186	100.8





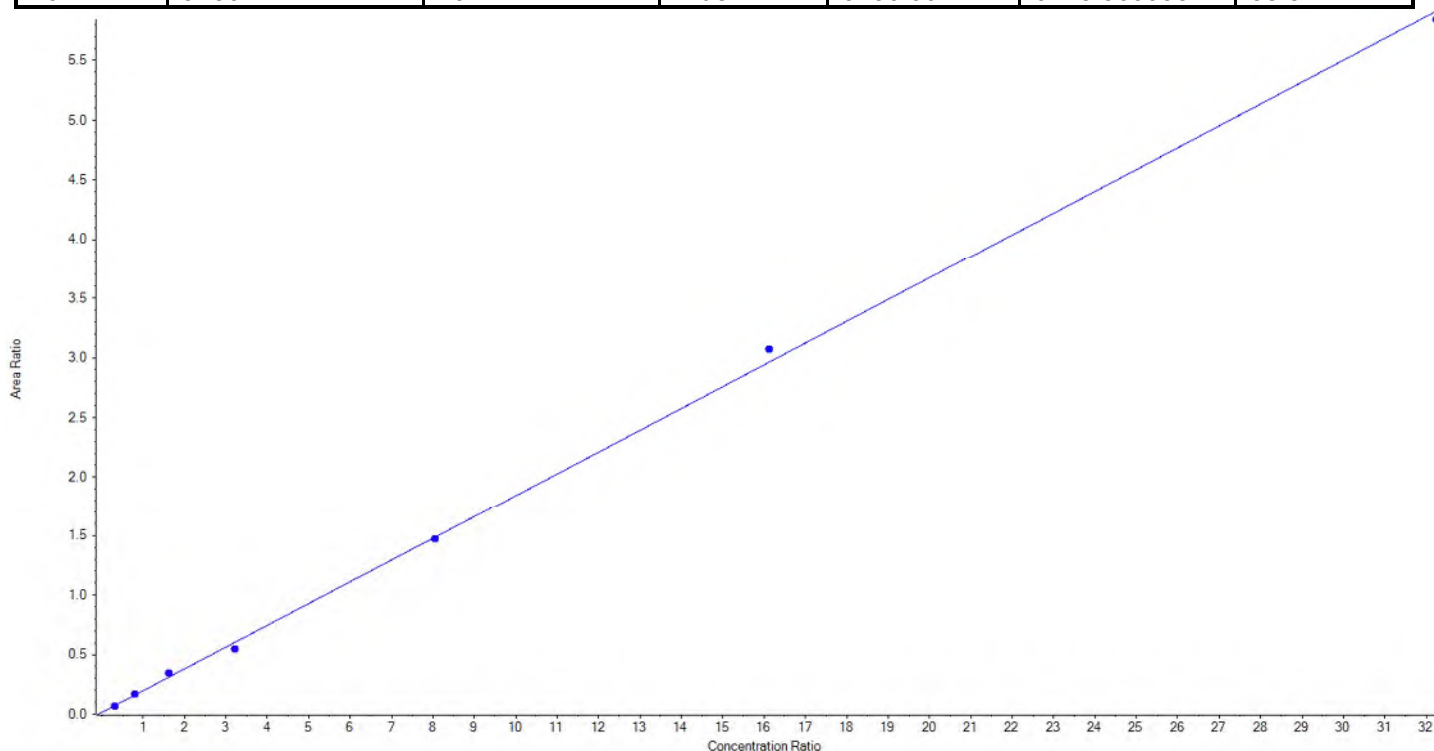
## Calibration Summary Report

Created with Analyst Reporter  
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<b>Analyte Name</b>	PFOS_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	499.0 / 99.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C4-PFOS	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.18289x + 0.01429$  ( $r = 0.99916$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	92.60	85.330602	92.2
5	JZ81	L4	True	231.50	239.054912	103.3
6	JZ82	L5	True	463.00	523.798062	113.1
7	JZ83	L6	True	925.60	835.646773	90.3
8	JZ84	L7	True	2314.00	2283.143402	98.7
9	JZ85	L8	True	4628.00	4800.356255	103.7
10	JZ86	L9	True	9256.00	9143.369993	98.8





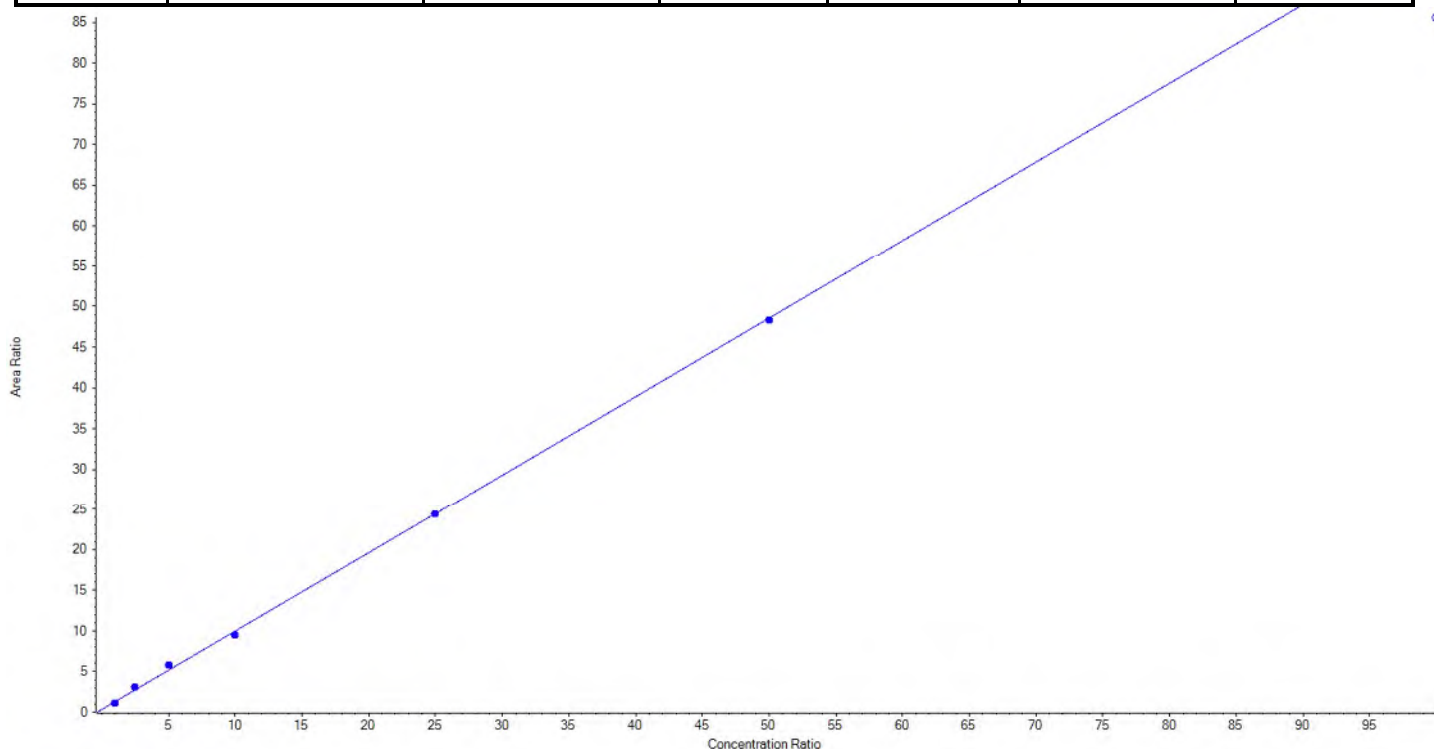
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 469.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96480x + 0.33130$  ( $r = 0.99876$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	80.106807	80.1
5	JZ81	L4	True	250.00	280.729423	112.3
6	JZ82	L5	True	500.00	563.698304	112.7
7	JZ83	L6	True	1000.00	954.476766	95.5
8	JZ84	L7	True	2500.00	2499.715620	100.0
9	JZ85	L8	True	5000.00	4971.273080	99.4
10	JZ86	L9	False	10000.00	8834.017081	88.3





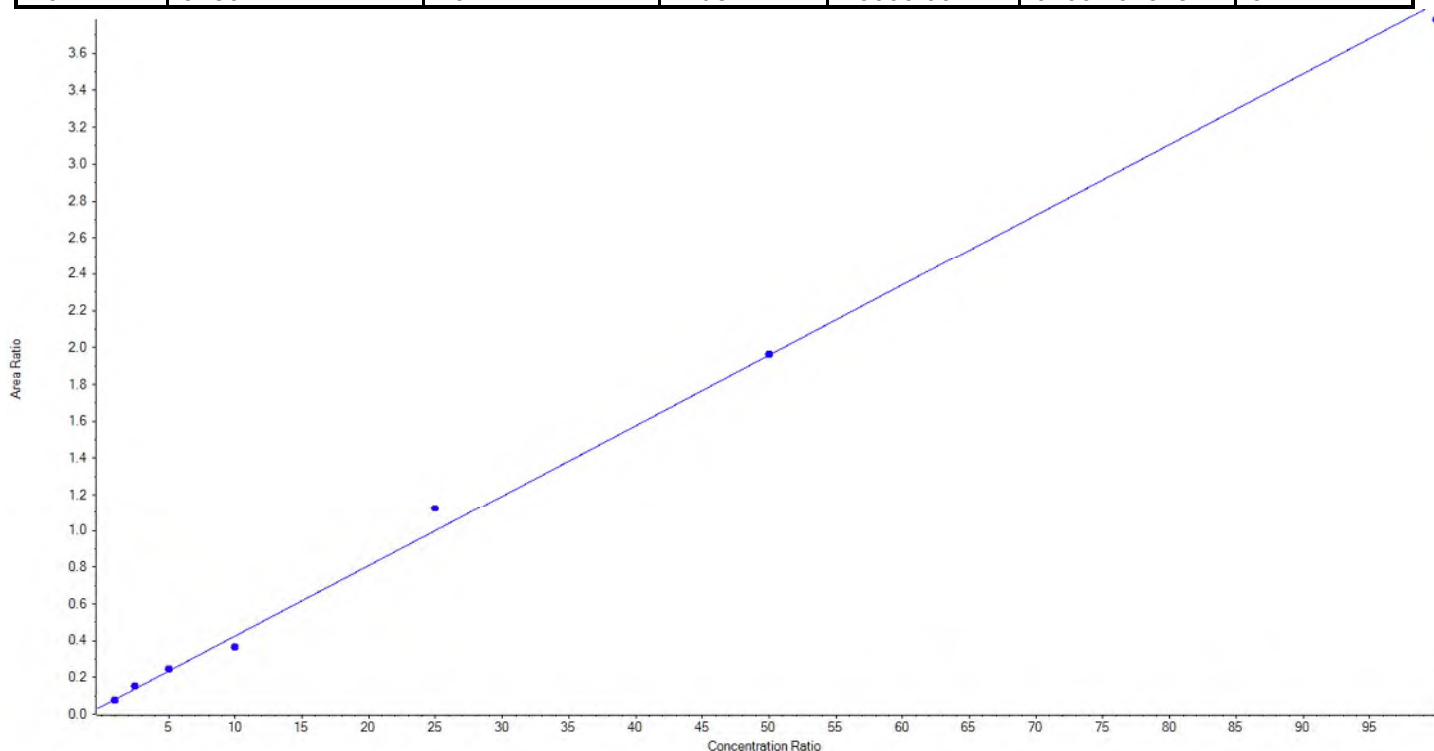
## Calibration Summary Report

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<b>Analyte Name</b>	PFDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	513.0 / 219.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.03832 x + 0.04215$  ( $r = 0.99749$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.659189	82.7
5	JZ81	L4	True	250.00	291.516310	116.6
6	JZ82	L5	True	500.00	526.038890	105.2
7	JZ83	L6	True	1000.00	845.483275	84.6
8	JZ84	L7	True	2500.00	2828.003878	113.1
9	JZ85	L8	True	5000.00	5009.504139	100.2
10	JZ86	L9	True	10000.00	9766.794318	97.7





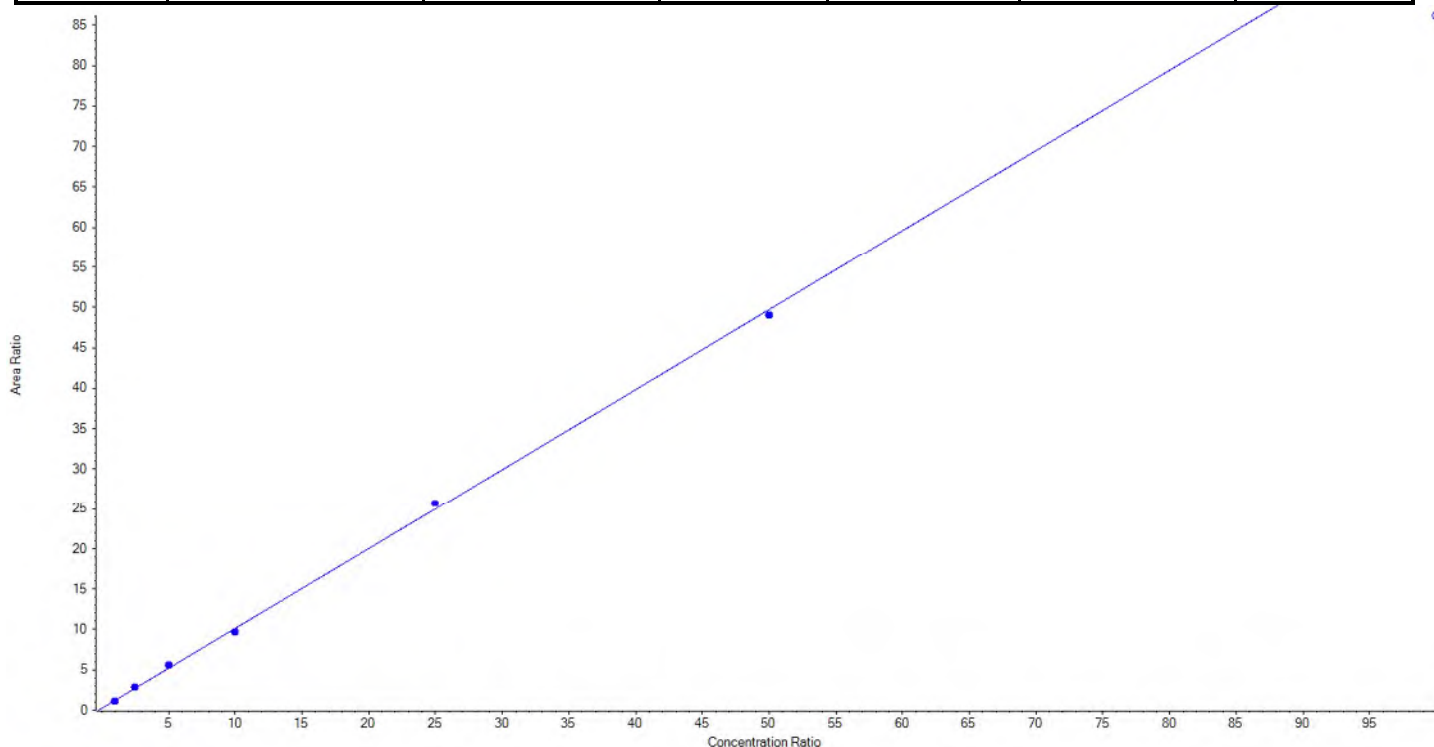
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFUnA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 519.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.98972 x + 0.23163$  ( $r = 0.99936$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	90.745593	90.8
5	JZ81	L4	True	250.00	261.466823	104.6
6	JZ82	L5	True	500.00	537.055487	107.4
7	JZ83	L6	True	1000.00	956.627338	95.7
8	JZ84	L7	True	2500.00	2575.587569	103.0
9	JZ85	L8	True	5000.00	4928.517189	98.6
10	JZ86	L9	False	10000.00	8681.593682	86.8





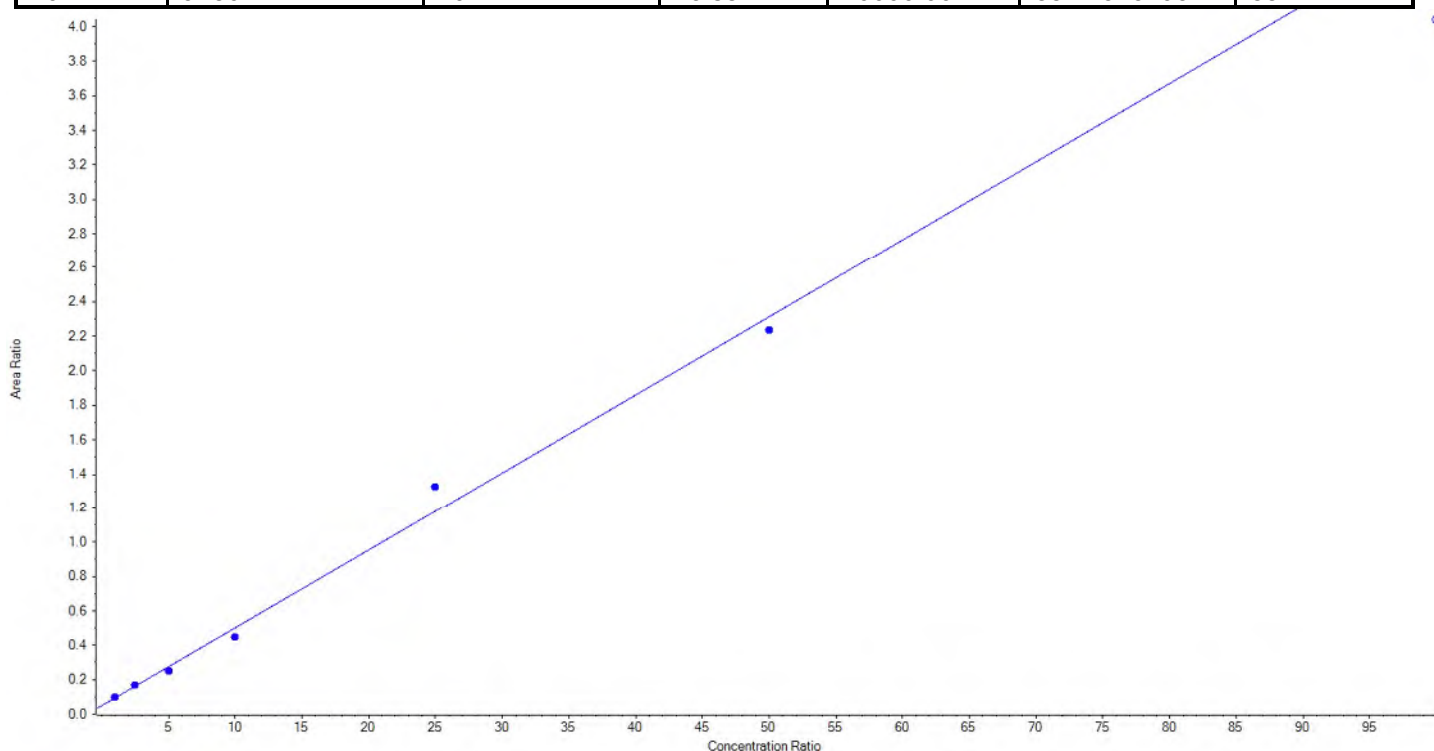
## Calibration Summary Report

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Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFUnA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	563.0 / 269.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04526 x + 0.04900$  ( $r = 0.99522$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	108.896169	108.9
5	JZ81	L4	True	250.00	263.189166	105.3
6	JZ82	L5	True	500.00	440.534454	88.1
7	JZ83	L6	True	1000.00	881.098760	88.1
8	JZ84	L7	True	2500.00	2824.288451	113.0
9	JZ85	L8	True	5000.00	4831.993000	96.6
10	JZ86	L9	False	10000.00	8817.375193	88.2





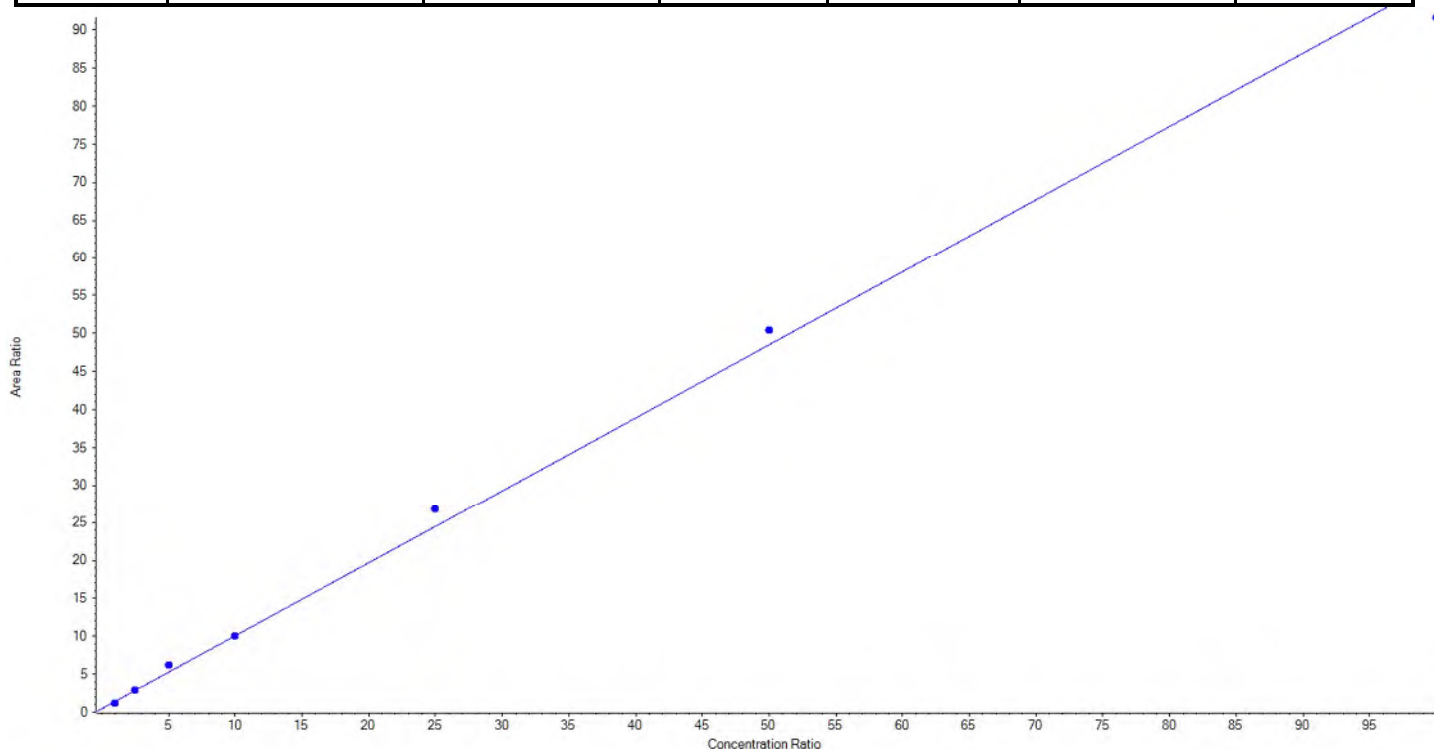
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFD <sub>o</sub> A_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 569.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.96118x + 0.45533$  ( $r = 0.99745$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	70.165430	70.2
5	JZ81	L4	True	250.00	255.545507	102.2
6	JZ82	L5	True	500.00	595.482174	119.1
7	JZ83	L6	True	1000.00	999.847927	100.0
8	JZ84	L7	True	2500.00	2741.086918	109.6
9	JZ85	L8	True	5000.00	5201.294237	104.0
10	JZ86	L9	True	10000.00	9486.577807	94.9





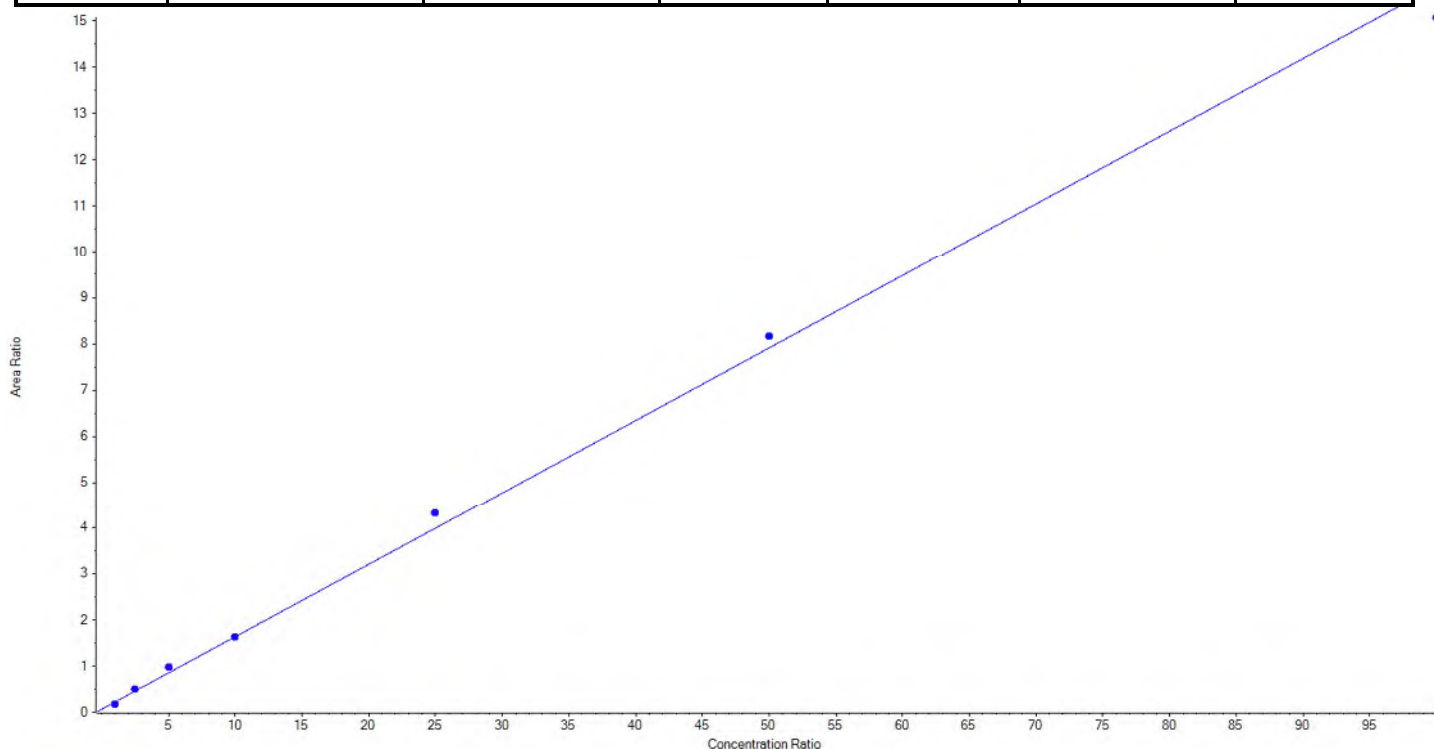
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFDaA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	613.0 / 319.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.15690x + 0.06506$  ( $r = 0.99787$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	65.429332	65.4
5	JZ81	L4	True	250.00	279.451874	111.8
6	JZ82	L5	True	500.00	582.305679	116.5
7	JZ83	L6	True	1000.00	991.062905	99.1
8	JZ84	L7	True	2500.00	2710.804043	108.4
9	JZ85	L8	True	5000.00	5158.086891	103.2
10	JZ86	L9	True	10000.00	9562.859276	95.6







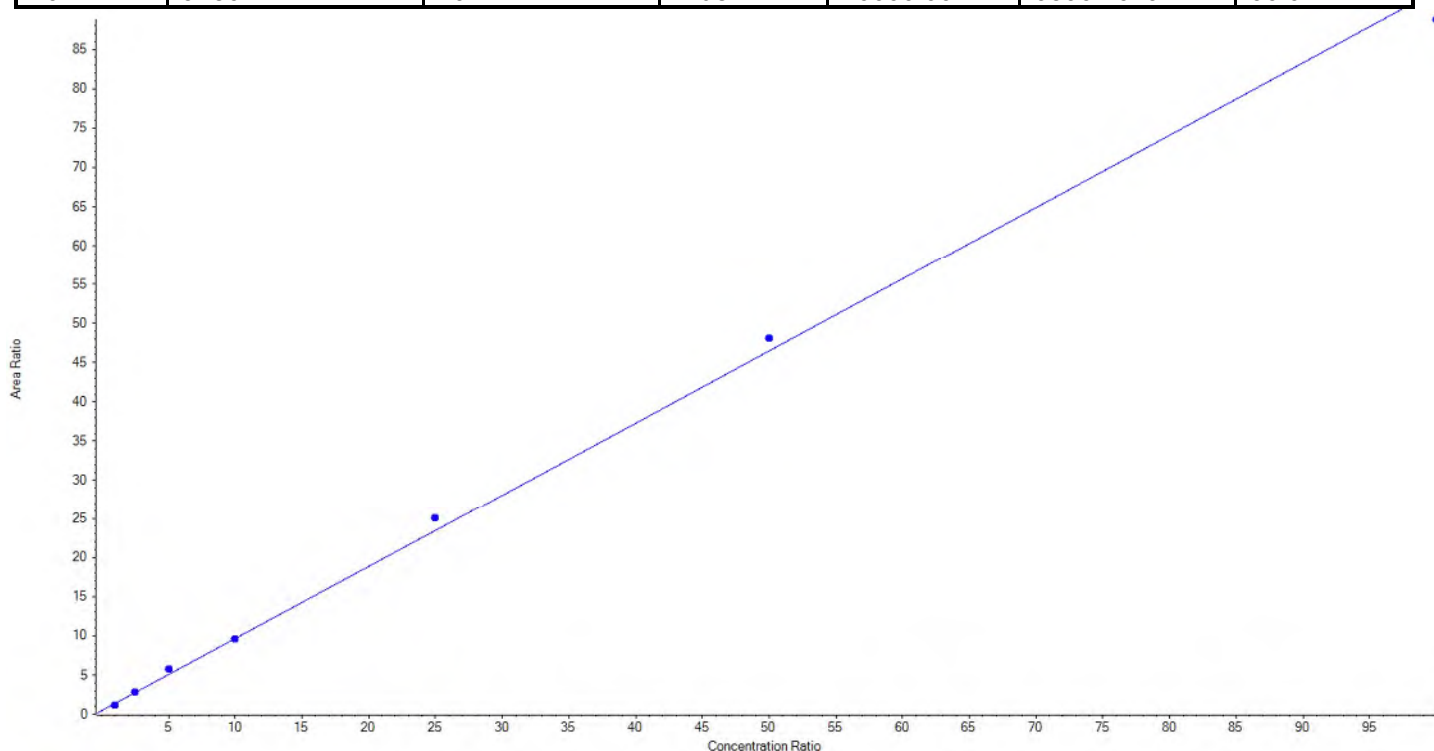
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFTTrDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 619.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92044 x + 0.45193$  ( $r = 0.99838$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	75.193967	75.2
5	JZ81	L4	True	250.00	256.669564	102.7
6	JZ82	L5	True	500.00	582.232667	116.5
7	JZ83	L6	True	1000.00	994.209819	99.4
8	JZ84	L7	True	2500.00	2670.073088	106.8
9	JZ85	L8	True	5000.00	5175.155953	103.5
10	JZ86	L9	True	10000.00	9596.464942	96.0





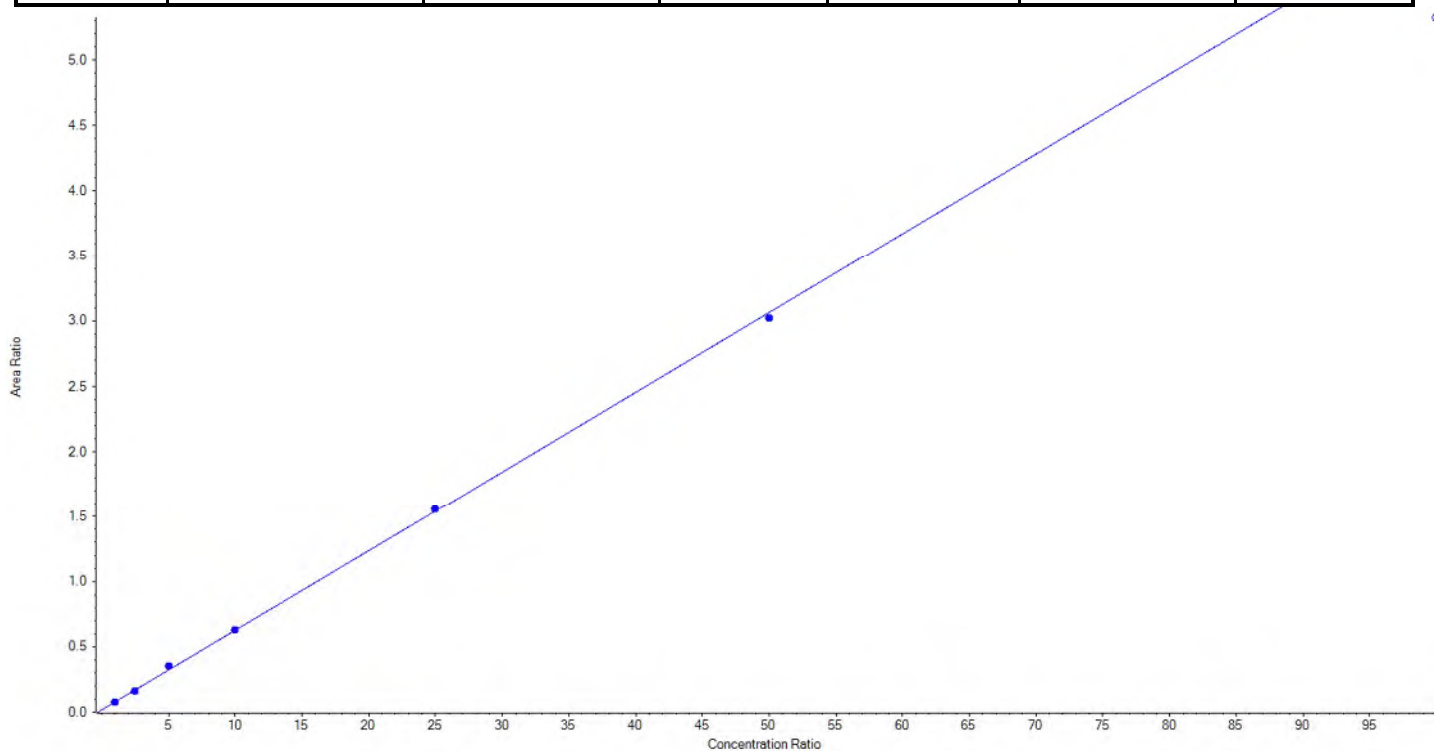
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFTrDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	663.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06093x + 0.01745$  ( $r = 0.99946$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	94.956102	95.0
5	JZ81	L4	True	250.00	235.261163	94.1
6	JZ82	L5	True	500.00	552.992832	110.6
7	JZ83	L6	True	1000.00	1005.695204	100.6
8	JZ84	L7	True	2500.00	2527.472597	101.1
9	JZ85	L8	True	5000.00	4933.622102	98.7
10	JZ86	L9	False	10000.00	8706.882200	87.1





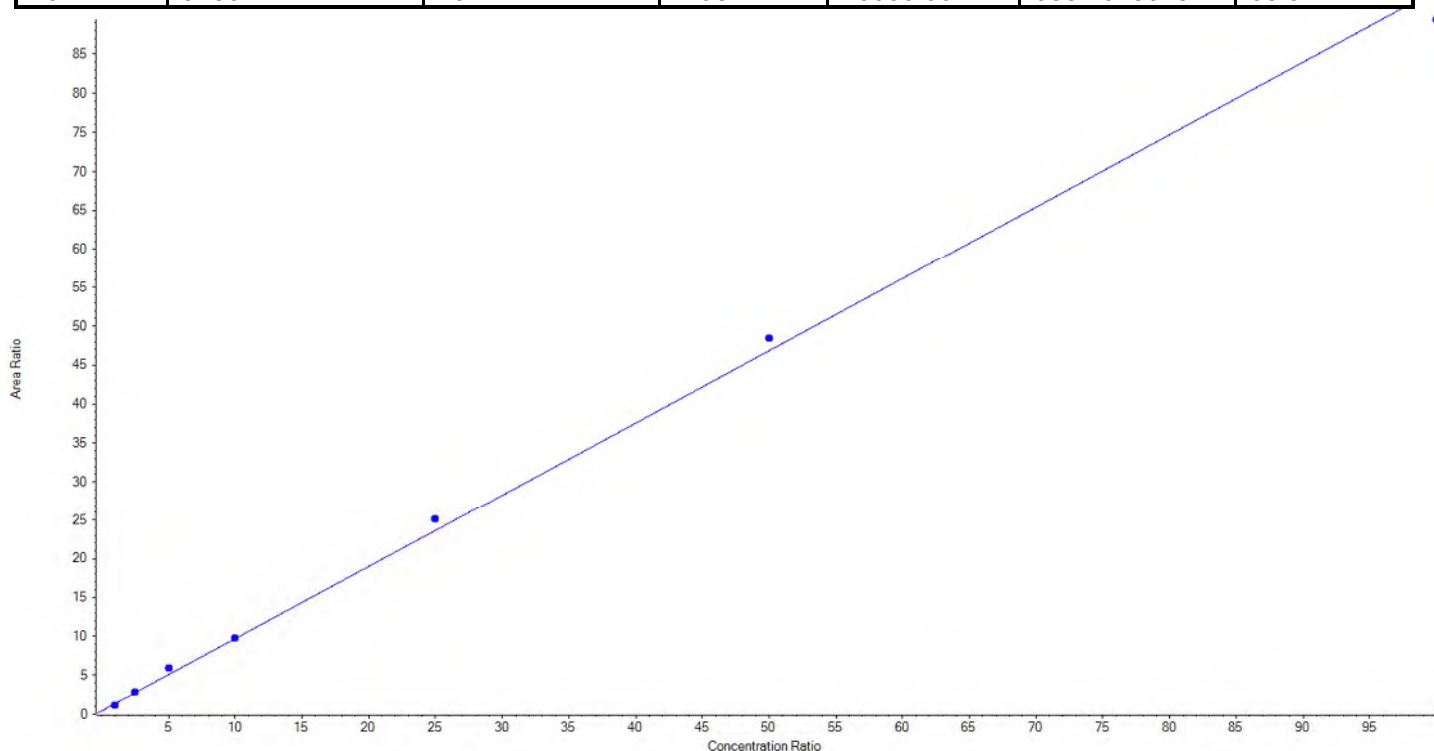
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFTeDA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 669.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.92843x + 0.43240$  ( $r = 0.99832$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	74.139371	74.1
5	JZ81	L4	True	250.00	252.243928	100.9
6	JZ82	L5	True	500.00	588.041720	117.6
7	JZ83	L6	True	1000.00	1015.343392	101.5
8	JZ84	L7	True	2500.00	2664.593960	106.6
9	JZ85	L8	True	5000.00	5168.023982	103.4
10	JZ86	L9	True	10000.00	9587.613648	95.9





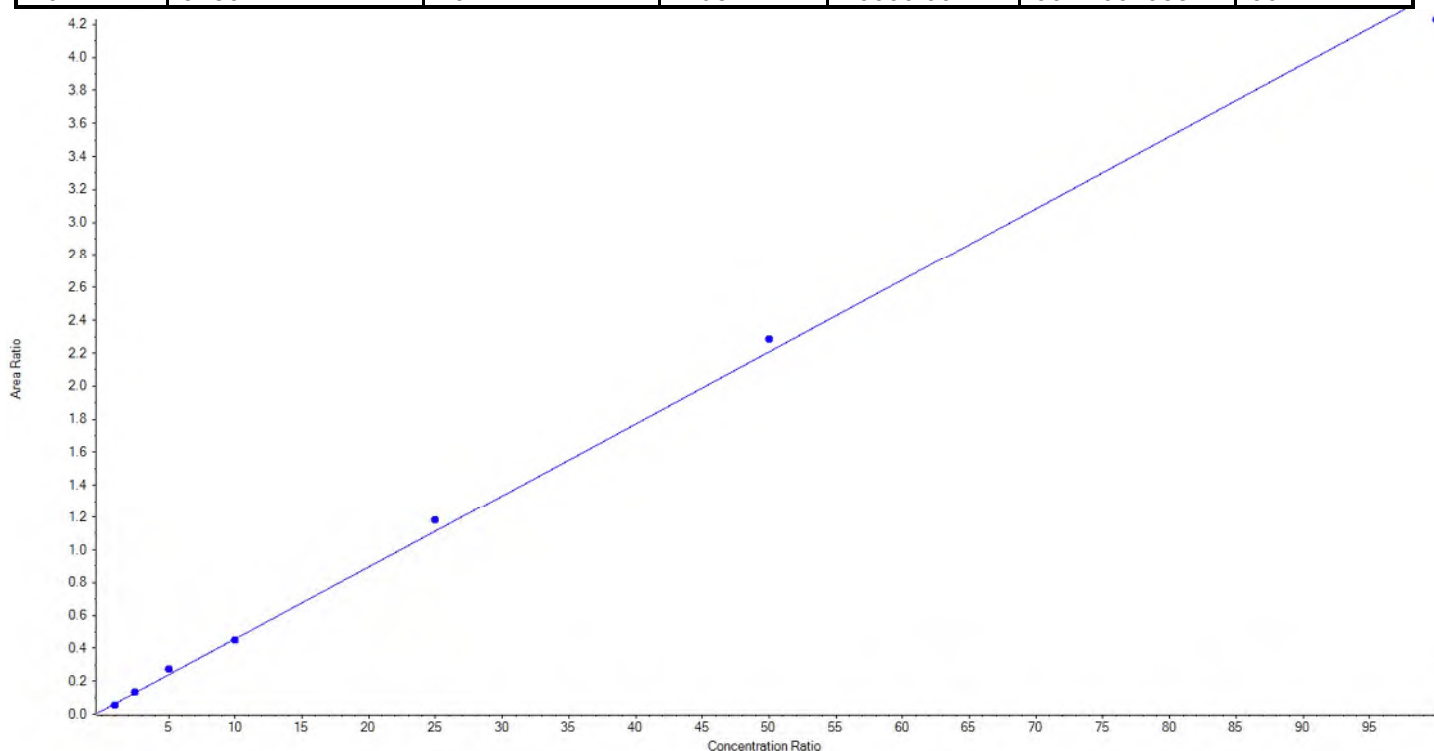
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	PFTeDA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	713.0 / 169.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.04376 x + 0.01999$  ( $r = 0.99850$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	76.152455	76.2
5	JZ81	L4	True	250.00	259.120924	103.7
6	JZ82	L5	True	500.00	579.712333	115.9
7	JZ83	L6	True	1000.00	982.560002	98.3
8	JZ84	L7	True	2500.00	2656.578647	106.3
9	JZ85	L8	True	5000.00	5177.880651	103.6
10	JZ86	L9	True	10000.00	9617.994988	96.2





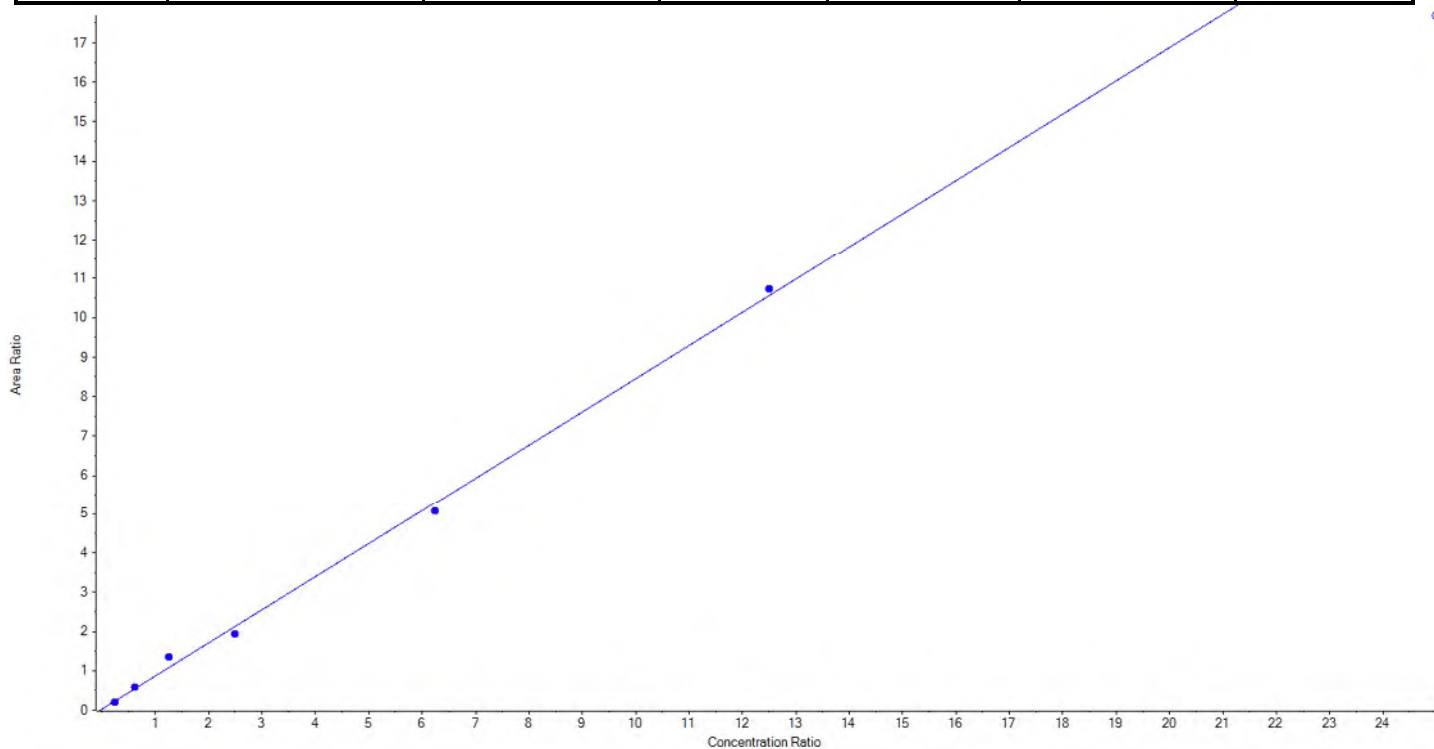
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	NMeFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.84277 x + 0.02369$  ( $r = 0.99674$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.204585	82.2
5	JZ81	L4	True	250.00	261.230549	104.5
6	JZ82	L5	True	500.00	623.939609	124.8
7	JZ83	L6	True	1000.00	912.649748	91.3
8	JZ84	L7	True	2500.00	2392.539451	95.7
9	JZ85	L8	True	5000.00	5077.436058	101.6
10	JZ86	L9	False	10000.00	8383.981366	83.8





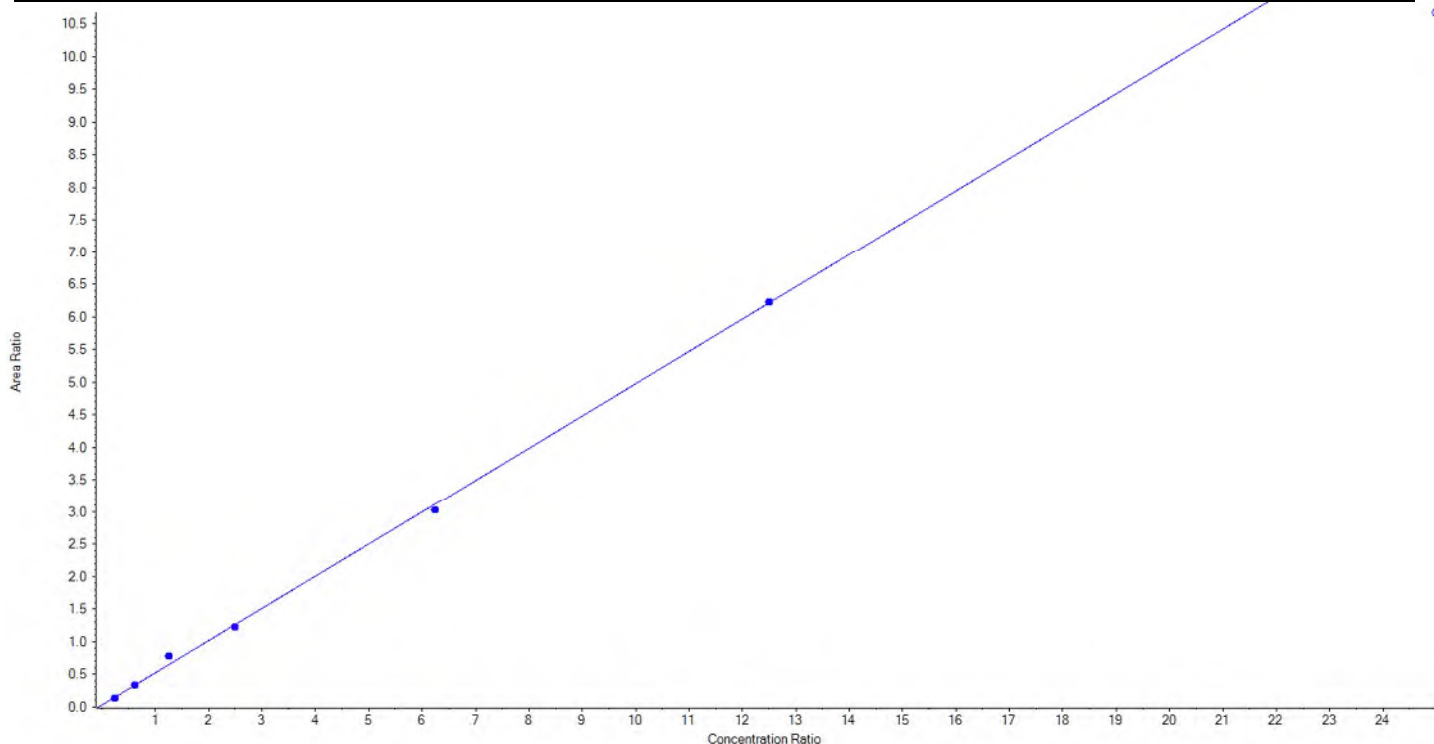
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	NMeFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	570.0 / 512.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.49493x + 0.03076$  ( $r = 0.99787$ ) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	83.849866	83.9
5	JZ81	L4	True	250.00	249.432489	99.8
6	JZ82	L5	True	500.00	612.660544	122.5
7	JZ83	L6	True	1000.00	964.777836	96.5
8	JZ84	L7	True	2500.00	2429.083037	97.2
9	JZ85	L8	True	5000.00	5010.196228	100.2
10	JZ86	L9	False	10000.00	8603.598683	86.0





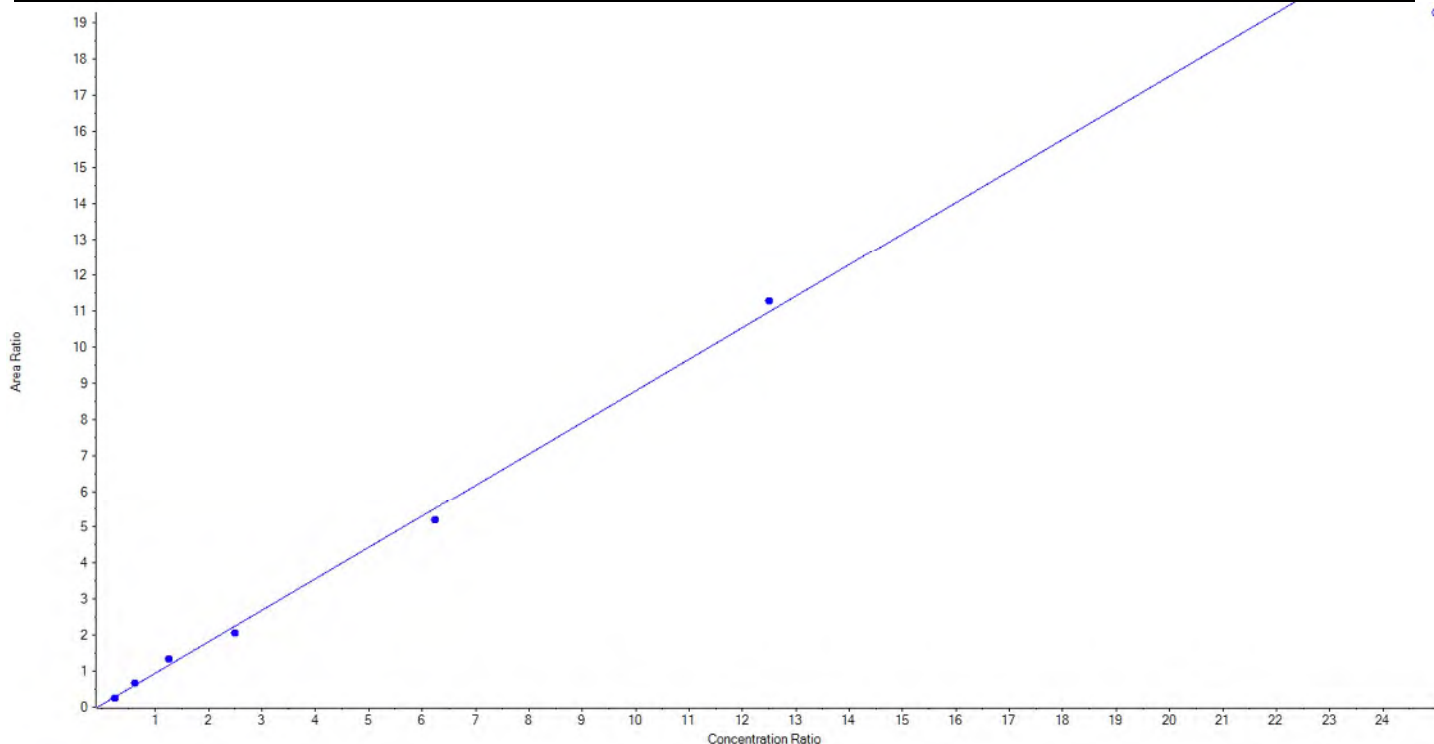
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	NEtFOSAA_1	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.87347x + 0.06627$  ( $r = 0.99734$ ) (weighting:  $1/x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	84.758563	84.8
5	JZ81	L4	True	250.00	275.112837	110.1
6	JZ82	L5	True	500.00	583.472638	116.7
7	JZ83	L6	True	1000.00	917.942369	91.8
8	JZ84	L7	True	2500.00	2346.663317	93.9
9	JZ85	L8	True	5000.00	5142.050277	102.8
10	JZ86	L9	False	10000.00	8804.104625	88.0





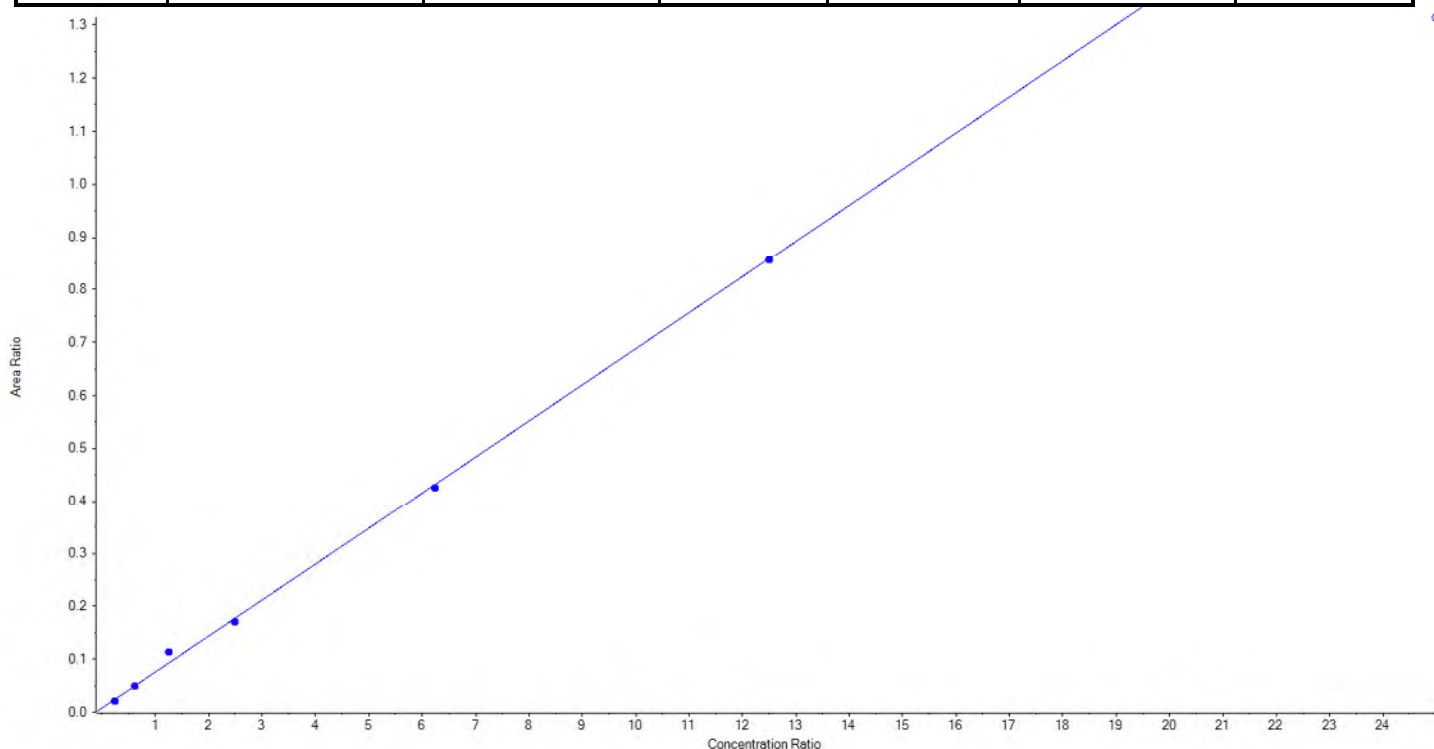
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	NEtFOSAA_2	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	584.0 / 483.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 0.06807 x + 0.00743$  ( $r = 0.99771$ ) (weighting:  $1 / x$ )

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	82.387514	82.4
5	JZ81	L4	True	250.00	249.755816	99.9
6	JZ82	L5	True	500.00	618.499663	123.7
7	JZ83	L6	True	1000.00	961.057859	96.1
8	JZ84	L7	True	2500.00	2456.922918	98.3
9	JZ85	L8	True	5000.00	4981.376230	99.6
10	JZ86	L9	False	10000.00	7676.823562	76.8







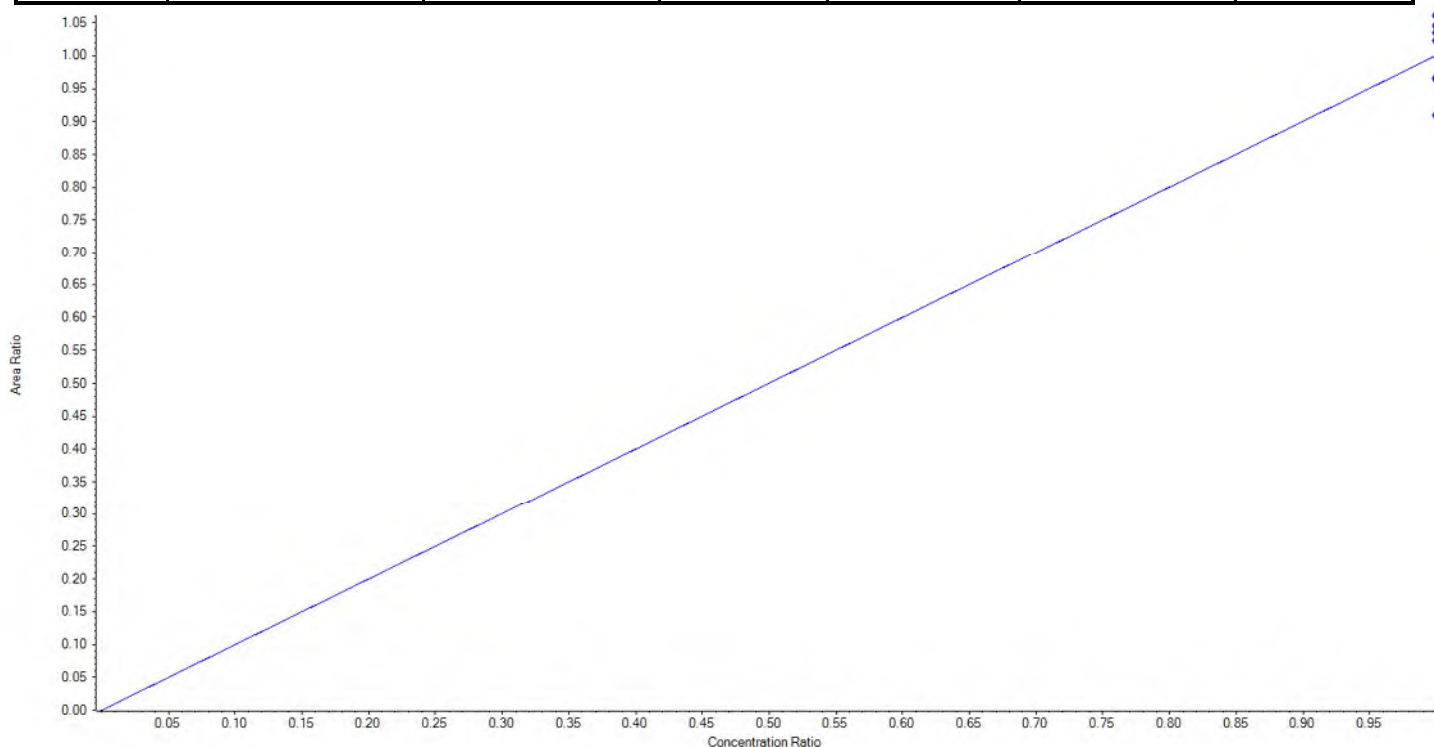
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	13C2-PFHxA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	315.0 / 270.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.00047 x$  (std. dev. = 0.05493) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	96.439494	96.4
5	JZ81	L4	True	100.00	96.506267	96.5
6	JZ82	L5	True	100.00	104.533761	104.5
7	JZ83	L6	True	100.00	103.436575	103.4
8	JZ84	L7	True	100.00	102.139355	102.1
9	JZ85	L8	True	100.00	106.033981	106.0
10	JZ86	L9	True	100.00	90.910566	90.9





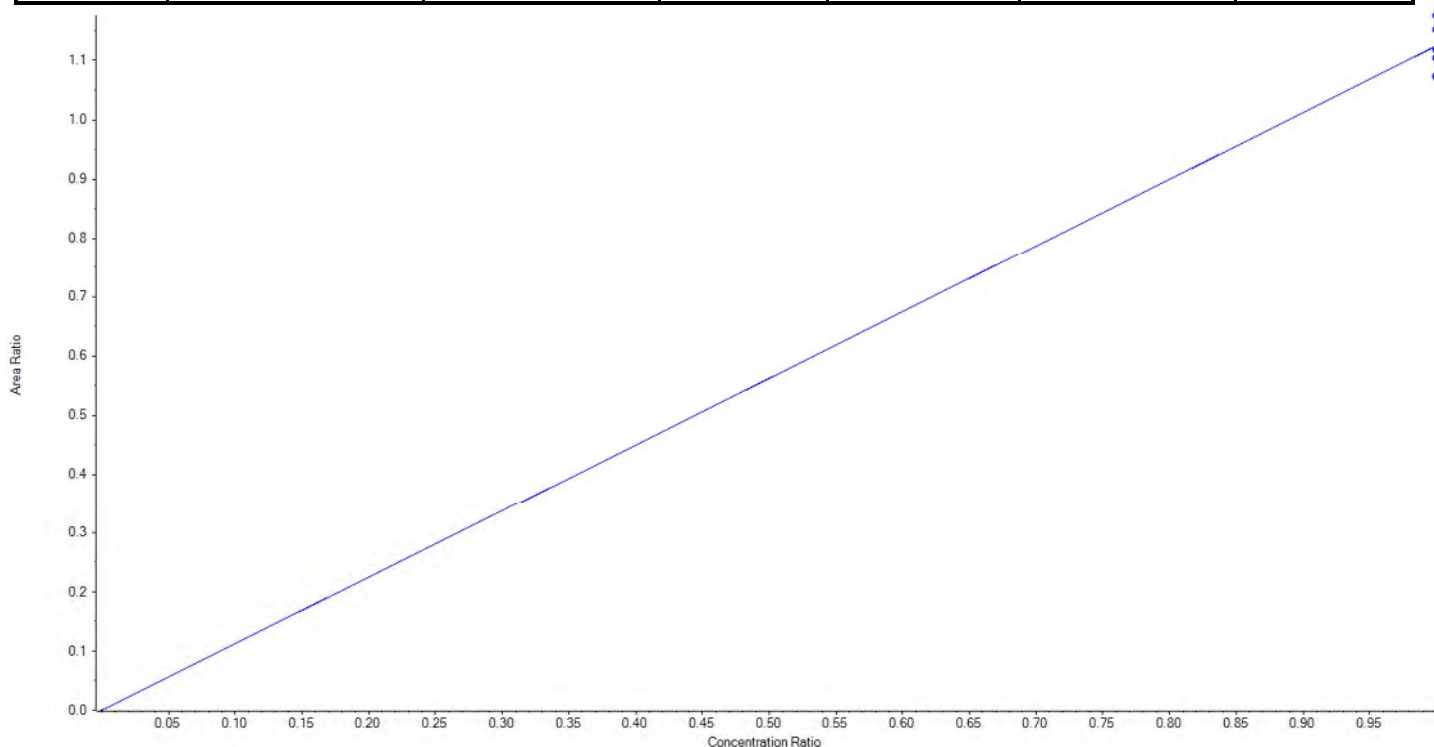
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	13C2-PFDA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	515.0 / 470.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	13C2-PFOA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.12453 x$  (std. dev. = 0.04396) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	100.00	104.516087	104.5
5	JZ81	L4	True	100.00	98.256587	98.3
6	JZ82	L5	True	100.00	95.457273	95.5
7	JZ83	L6	True	100.00	102.404610	102.4
8	JZ84	L7	True	100.00	104.507065	104.5
9	JZ85	L8	True	100.00	99.466561	99.5
10	JZ86	L9	True	100.00	95.391818	95.4





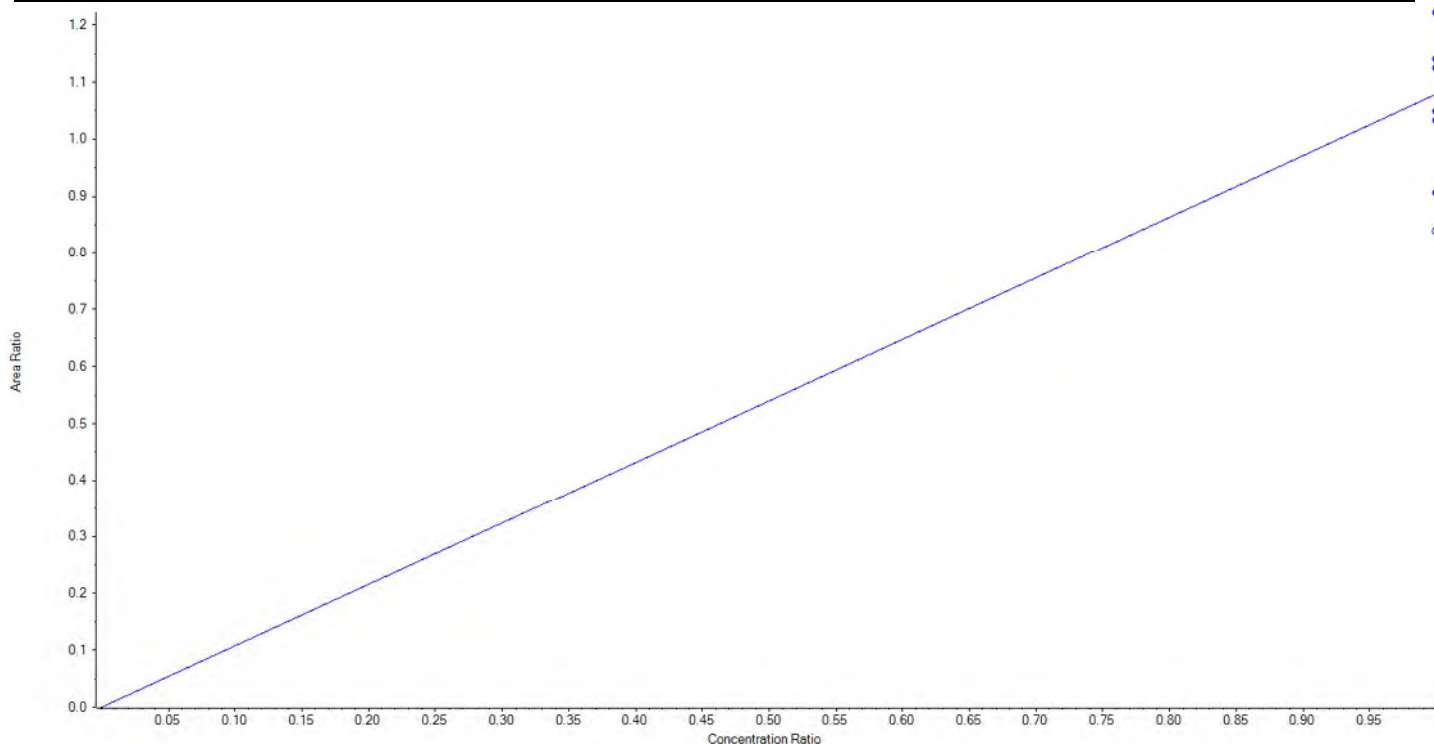
## Calibration Summary Report

Created with Analyst Reporter  
Printed: 21/08/2018 8:10:03 AM

<b>Analyte Name</b>	d5-EtFOSAA	<b>Data File</b>	DW_08202018.wiff
<b>MRM Transition</b>	589.0 / 419.0	<b>Result Table</b>	18-0512DW
<b>Internal Standard</b>	d3-MeFOSAA	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	8/20/2018 2:32:30 PM	<b>Acquisition Method</b>	5-0371.dam

Regression Equation:  $y = 1.07933 x$  (std. dev. = 0.10858) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
4	JZ80	L3	True	400.00	336.154687	84.0
5	JZ81	L4	True	400.00	382.599033	95.7
6	JZ82	L5	True	400.00	452.712991	113.2
7	JZ83	L6	True	400.00	416.933912	104.2
8	JZ84	L7	True	400.00	388.706932	97.2
9	JZ85	L8	True	400.00	422.892445	105.7
10	JZ86	L9	False	400.00	311.251208	77.8





<b>Sample Name</b>	JZ80	<b>Injection Vial</b>	4
<b>Sample ID</b>	L3	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T14:59:21	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.57	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.295	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.083	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.024	0.022	ü
PFHxS_1	399.0 / 80.0	2.24	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.315	0.292	ü
PFOA_1	413.0 / 369.0	2.60	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.377	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.191	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.067	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.087	0.056	
PFDaA_1	613.0 / 569.0	3.95	PFDaA			
PFDaA_2	613.0 / 319.0	3.95	PFDaA	0.149	0.161	ü
PFTrDA_1	663.0 / 619.0	4.21	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.21	PFTrDA	0.066	0.062	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.48	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.48	NMeFOSAA	0.683	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.085	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.85				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.64		N/A	N/A	ü

Sample Name	JZ81	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T15:08:18	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.289	0.290	ü
PFHxA_1	313.0 / 269.0	1.86	PFHxA			
PFHxA_2	313.0 / 119.0	1.86	PFHxA	0.074	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.23	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.280	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.077	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.292	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.205	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.33	PFDA	0.051	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.060	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.173	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.057	0.062	ü
PFTeDA_1	713.0 / 669.0	4.44	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.048	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.591	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.65	NEtFOSAA	0.075	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ82	<b>Injection Vial</b>	6
<b>Sample ID</b>	L5	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:17:14	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.284	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.023	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.301	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.067	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.322	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.208	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.042	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.045	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.158	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.061	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.589	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.084	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ83	<b>Injection Vial</b>	7
<b>Sample ID</b>	L6	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:26:11	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.293	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.078	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.97	PFNA	0.311	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.188	0.193	ü
PFDA_1	513.0 / 469.0	3.32	PFDA			
PFDA_2	513.0 / 219.0	3.32	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.21	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.20	PFTrDA	0.066	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.43	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.629	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.64	NEtFOSAA	0.083	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.31		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü



<b>Sample Name</b>	JZ84	<b>Injection Vial</b>	8
<b>Sample ID</b>	L7	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:35:06	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.081	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.022	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.285	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.97	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.314	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.96	PFOS	0.184	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.046	0.047	ü
PFUnA_1	563.0 / 519.0	3.65	PFUnA			
PFUnA_2	563.0 / 269.0	3.65	PFUnA	0.052	0.056	ü
PFDaA_1	613.0 / 569.0	3.94	PFDaA			
PFDaA_2	613.0 / 319.0	3.94	PFDaA	0.161	0.161	ü
PFTrDA_1	663.0 / 619.0	4.20	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.43	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.600	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.64	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.082	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.63		N/A	N/A	ü

<b>Sample Name</b>	JZ85	<b>Injection Vial</b>	9
<b>Sample ID</b>	L8	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:44:02	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.290	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.079	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.287	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.59	PFOA	0.064	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.96	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.193	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.041	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.046	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.162	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.063	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.47	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.47	NMeFOSAA	0.581	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.076	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	JZ86	<b>Injection Vial</b>	10
<b>Sample ID</b>	L9	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Standard	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T15:52:58	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.288	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.080	0.079	ü
PFHpA_1	363.0 / 319.0	2.22	PFHpA			
PFHpA_2	363.0 / 169.0	2.22	PFHpA	0.020	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.294	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.307	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.182	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.044	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.047	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.164	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.19	PFTrDA	0.060	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.42	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.604	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.63	NEtFOSAA	0.068	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.56	841.565895	885.00	95.09
PFBS_2	298.9 / 99.0	1.56	874.300913	885.00	98.79
PFHxA_1	313.0 / 269.0	1.85	1062.726354	1000.00	106.27
PFHxA_2	313.0 / 119.0	1.85	1018.158141	1000.00	101.82
PFHpA_1	363.0 / 319.0	2.21	1060.501779	1000.00	106.05
PFHpA_2	363.0 / 169.0	2.21	1078.405828	1000.00	107.84
PFHxS_1	399.0 / 80.0	2.23	937.846931	912.00	102.83
PFHxS_2	399.0 / 99.0	2.23	897.714357	912.00	98.43
PFOA_1	413.0 / 369.0	2.58	1062.648816	1000.00	106.26
PFOA_2	413.0 / 169.0	2.58	968.370040	1000.00	96.84
PFNA_1	463.0 / 419.0	2.96	1090.862692	1000.00	109.09
PFNA_2	463.0 / 219.0	2.96	1044.682874	1000.00	104.47
PFOS_1	499.0 / 80.0	2.95	872.255529	925.60	94.24
PFOS_2	499.0 / 99.0	2.95	980.456621	925.60	105.93
PFDA_1	513.0 / 469.0	3.31	1013.511468	1000.00	101.35
PFDA_2	513.0 / 219.0	3.31	1123.488192	1000.00	112.35
PFUnA_1	563.0 / 519.0	3.64	1013.728757	1000.00	101.37
PFUnA_2	563.0 / 269.0	3.64	1114.846944	1000.00	111.48
PFDoA_1	613.0 / 569.0	3.93	1083.332675	1000.00	108.33
PFDoA_2	613.0 / 319.0	3.93	1098.130149	1000.00	109.81
PFTTrDA_1	663.0 / 619.0	4.19	1075.423268	1000.00	107.54
PFTTrDA_2	663.0 / 169.0	4.18	1017.730417	1000.00	101.77
PFTeDA_1	713.0 / 669.0	4.41	1061.391737	1000.00	106.14
PFTeDA_2	713.0 / 169.0	4.41	1023.088379	1000.00	102.31
NMeFOSAA_1	570.0 / 419.0	3.46	1163.312391	1000.00	116.33
NMeFOSAA_2	570.0 / 512.0	3.46	1026.080779	1000.00	102.61
NEtFOSAA_1	584.0 / 419.0	3.63	1147.648798	1000.00	114.76
NEtFOSAA_2	584.0 / 483.0	3.62	753.328653	1000.00	75.33
13C2-PFHxA	315.0 / 270.0	1.84	104.596106	100.00	104.60
13C2-PFDA	515.0 / 470.0	3.30	100.438626	100.00	100.44
d5-EtFOSAA	589.0 / 419.0	3.62	417.249639	400.00	104.31

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.55	463.050394	443.00	104.53
PFBS_2	298.9 / 99.0	1.55	464.689741	443.00	104.90
PFHxA_1	313.0 / 269.0	1.84	555.081360	500.00	111.02
PFHxA_2	313.0 / 119.0	1.83	528.853214	500.00	105.77
PFHpA_1	363.0 / 319.0	2.20	523.851662	500.00	104.77
PFHpA_2	363.0 / 169.0	2.20	499.244467	500.00	99.85
PFHxS_1	399.0 / 80.0	2.21	494.099907	456.00	108.36
PFHxS_2	399.0 / 99.0	2.21	479.221760	456.00	105.09
PFOA_1	413.0 / 369.0	2.57	529.305895	500.00	105.86
PFOA_2	413.0 / 169.0	2.56	416.724418	500.00	83.34
PFNA_1	463.0 / 419.0	2.94	530.586304	500.00	106.12
PFNA_2	463.0 / 219.0	2.94	582.821691	500.00	116.56
PFOS_1	499.0 / 80.0	2.93	500.061742	500.00	100.01
PFOS_2	499.0 / 99.0	2.93	518.148049	463.00	111.91
PFDA_1	513.0 / 469.0	3.29	498.895860	500.00	99.78
PFDA_2	513.0 / 219.0	3.29	401.168403	500.00	80.23
PFUnA_1	563.0 / 519.0	3.61	548.758552	500.00	109.75
PFUnA_2	563.0 / 269.0	3.61	534.019511	500.00	106.80
PFDoA_1	613.0 / 569.0	3.90	548.652897	500.00	109.73
PFDoA_2	613.0 / 319.0	3.90	557.341014	500.00	111.47
PFTrDA_1	663.0 / 619.0	4.16	525.313165	500.00	105.06
PFTrDA_2	663.0 / 169.0	4.16	560.828526	500.00	112.17
PFTeDA_1	713.0 / 669.0	4.39	550.815384	500.00	110.16
PFTeDA_2	713.0 / 169.0	4.39	579.750348	500.00	115.95
NMeFOSAA_1	570.0 / 419.0	3.44	617.452878	500.00	123.49
NMeFOSAA_2	570.0 / 512.0	3.44	602.145222	500.00	120.43
NEtFOSAA_1	584.0 / 419.0	3.61	616.062597	500.00	123.21
NEtFOSAA_2	584.0 / 483.0	3.60	562.508946	500.00	112.50
13C2-PFHxA	315.0 / 270.0	1.83	107.031807	100.00	107.03
13C2-PFDA	515.0 / 470.0	3.28	93.376073	100.00	93.38
d5-EtFOSAA	589.0 / 419.0	3.59	457.896528	400.00	114.47

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.56	260572.70	841.565895	1179.8	false
PFBS_2	298.9 / 99.0	1.56	78353.61	874.300913	744.4	false
PFHxA_1	313.0 / 269.0	1.85	265891.04	1062.726354	235.4	false
PFHxA_2	313.0 / 119.0	1.85	20238.67	1018.158141	196.8	false
PFHpA_1	363.0 / 319.0	2.21	262746.16	1060.501779	294.7	false
PFHpA_2	363.0 / 169.0	2.21	5605.38	1078.405828	172.8	false
PFHxS_1	399.0 / 80.0	2.23	324679.46	937.846931	228.8	false
PFHxS_2	399.0 / 99.0	2.23	90581.10	897.714357	337.9	false
PFOA_1	413.0 / 369.0	2.58	283327.67	1062.648816	291.3	false
PFOA_2	413.0 / 169.0	2.58	18611.28	968.370040	232.6	false
PFNA_1	463.0 / 419.0	2.96	260455.47	1090.862692	351.3	false
PFNA_2	463.0 / 219.0	2.96	81962.62	1044.682874	327.6	false
PFOS_1	499.0 / 80.0	2.95	408335.60	872.255529	282.2	false
PFOS_2	499.0 / 99.0	2.95	86235.36	980.456621	506.6	false
PFDA_1	513.0 / 469.0	3.31	290847.01	1013.511468	401.0	false
PFDA_2	513.0 / 219.0	3.31	13596.76	1123.488192	230.0	false
PFUnA_1	563.0 / 519.0	3.64	295307.35	1013.728757	346.6	false
PFUnA_2	563.0 / 269.0	3.64	15927.48	1114.846944	114.2	false
PFDoA_1	613.0 / 569.0	3.93	312665.39	1083.332675	324.4	false
PFDoA_2	613.0 / 319.0	3.93	51439.96	1098.130149	270.1	false
PFTrDA_1	663.0 / 619.0	4.19	297777.05	1075.423268	556.3	false
PFTrDA_2	663.0 / 169.0	4.18	18340.33	1017.730417	286.0	false
PFTeDA_1	713.0 / 669.0	4.41	295937.54	1061.391737	1020.0	false
PFTeDA_2	713.0 / 169.0	4.41	13455.55	1023.088379	518.7	false
NMeFOSAA_1	570.0 / 419.0	3.46	56526.31	1163.312391	793.1	false
NMeFOSAA_2	570.0 / 512.0	3.46	29702.66	1026.080779	426.8	false
NEtFOSAA_1	584.0 / 419.0	3.63	58757.08	1147.648798	535.3	false
NEtFOSAA_2	584.0 / 483.0	3.62	3097.77	753.328653	106.5	false
13C2-PFHxA	315.0 / 270.0	1.84	30105.45	104.596106	1000.6	false
13C2-PFDA	515.0 / 470.0	3.30	32493.72	100.438626	741.1	false
d5-EtFOSAA	589.0 / 419.0	3.62	25716.98	417.249639	221.4	false

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.55	141015.13	463.050394	665.4	false
PFBS_2	298.9 / 99.0	1.55	40995.05	464.689741	577.6	false
PFHxA_1	313.0 / 269.0	1.84	144323.87	555.081360	180.8	false
PFHxA_2	313.0 / 119.0	1.83	10914.02	528.853214	157.8	false
PFHpA_1	363.0 / 319.0	2.20	135888.43	523.851662	208.7	false
PFHpA_2	363.0 / 169.0	2.20	2784.92	499.244467	105.4	false
PFHxS_1	399.0 / 80.0	2.21	171230.75	494.099907	237.2	false
PFHxS_2	399.0 / 99.0	2.21	48525.41	479.221760	326.9	false
PFOA_1	413.0 / 369.0	2.57	147829.03	529.305895	220.6	false
PFOA_2	413.0 / 169.0	2.56	9739.32	416.724418	163.2	false
PFNA_1	463.0 / 419.0	2.94	132482.20	530.586304	240.1	false
PFNA_2	463.0 / 219.0	2.94	47125.59	582.821691	274.9	false
PFOS_1	499.0 / 80.0	2.93	232169.91	500.061742	120.5	false
PFOS_2	499.0 / 99.0	2.93	45849.86	518.148049	314.4	false
PFDA_1	513.0 / 469.0	3.29	148117.55	498.895860	299.6	false
PFDA_2	513.0 / 219.0	3.29	5638.80	401.168403	107.3	false
PFUnA_1	563.0 / 519.0	3.61	163035.44	548.758552	271.7	false
PFUnA_2	563.0 / 269.0	3.61	8370.00	534.019511	97.4	true
PFDoA_1	613.0 / 569.0	3.90	164936.97	548.652897	277.4	false
PFDoA_2	613.0 / 319.0	3.90	27049.49	557.341014	219.0	false
PFTrDA_1	663.0 / 619.0	4.16	152219.28	525.313165	339.6	false
PFTrDA_2	663.0 / 169.0	4.16	10339.63	560.828526	227.3	false
PFTeDA_1	713.0 / 669.0	4.39	159681.21	550.815384	733.2	false
PFTeDA_2	713.0 / 169.0	4.39	7879.91	579.750348	377.7	false
NMeFOSAA_1	570.0 / 419.0	3.44	26209.67	617.452878	419.2	true
NMeFOSAA_2	570.0 / 512.0	3.44	15350.86	602.145222	201.2	false
NEtFOSAA_1	584.0 / 419.0	3.61	27929.81	616.062597	407.9	false
NEtFOSAA_2	584.0 / 483.0	3.60	2040.97	562.508946	202.0	false
13C2-PFHxA	315.0 / 270.0	1.83	30829.42	107.031807	951.4	false
13C2-PFDA	515.0 / 470.0	3.28	30231.33	93.376073	1120.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	24447.57	457.896528	241.3	false

<b>Sample Name</b>	JZ77 ICC	<b>Injection Vial</b>	12
<b>Sample ID</b>	ICC	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:10:51	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.56	PFBS	0.301	0.290	ü
PFHxA_1	313.0 / 269.0	1.85	PFHxA			
PFHxA_2	313.0 / 119.0	1.85	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.21	PFHpA			
PFHpA_2	363.0 / 169.0	2.21	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.23	PFHxS			
PFHxS_2	399.0 / 99.0	2.23	PFHxS	0.279	0.292	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.58	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.315	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.211	0.193	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.047	0.047	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.054	0.056	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.165	0.161	ü
PFTrDA_1	663.0 / 619.0	4.19	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.18	PFTrDA	0.062	0.062	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	PFTeDA	0.046	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.526	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.053	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü



<b>Sample Name</b>	JZ82 CCV	<b>Injection Vial</b>	21
<b>Sample ID</b>	CCV	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Quality Control	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:31:16	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.55	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.291	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.83	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.283	0.292	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.066	0.066	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.356	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.198	0.193	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.038	0.047	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.051	0.056	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.164	0.161	ü
PFTrDA_1	663.0 / 619.0	4.16	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.16	PFTrDA	0.068	0.062	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.586	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.073	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.59		N/A	N/A	ü

Sample Name	JZ77 ICC	Injection Vial	12
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:10:51	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.56	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFBS_2	298.9 / 99.0	1.56	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFHxA_1	313.0 / 269.0	1.85	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHxA_2	313.0 / 119.0	1.85	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHpA_1	363.0 / 319.0	2.21	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHpA_2	363.0 / 169.0	2.21	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFHxS_1	399.0 / 80.0	2.23	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFHxS_2	399.0 / 99.0	2.23	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFOA_1	413.0 / 369.0	2.58	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFOA_2	413.0 / 169.0	2.58	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFNA_1	463.0 / 419.0	2.96	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFOS_1	499.0 / 80.0	2.95	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	134938.50	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFDaA_2	613.0 / 319.0	3.93	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTrDA_1	663.0 / 619.0	4.19	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTrDA_2	663.0 / 169.0	4.18	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTeDA_1	713.0 / 669.0	4.41	13C2-PFOA	415.0 / 370.0	28769.08	100.00
PFTeDA_2	713.0 / 169.0	4.41	13C2-PFOA	415.0 / 370.0	28769.08	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NMeFOSAA_2	570.0 / 512.0	3.46	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NEtFOSAA_1	584.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
NEtFOSAA_2	584.0 / 483.0	3.62	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00
13C2-PFHxA	315.0 / 270.0	1.84	13C2-PFOA	415.0 / 370.0	28769.08	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	28769.08	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	22841.71	400.00

Sample Name	JZ82 CCV	Injection Vial	21
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T17:31:16	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

### Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.55	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFBS_2	298.9 / 99.0	1.55	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFHxA_1	313.0 / 269.0	1.84	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHxA_2	313.0 / 119.0	1.83	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHpA_1	363.0 / 319.0	2.20	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHpA_2	363.0 / 169.0	2.20	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFHxS_1	399.0 / 80.0	2.21	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFHxS_2	399.0 / 99.0	2.21	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	133101.08	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTrDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTTrDA_2	663.0 / 169.0	4.16	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTeDA_1	713.0 / 669.0	4.39	13C2-PFOA	415.0 / 370.0	28790.47	100.00
PFTeDA_2	713.0 / 169.0	4.39	13C2-PFOA	415.0 / 370.0	28790.47	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00
13C2-PFHxA	315.0 / 270.0	1.83	13C2-PFOA	415.0 / 370.0	28790.47	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	28790.47	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	19786.67	400.00

<b>Sample Name</b>	JZ10 IB	<b>Injection Vial</b>	11
<b>Sample ID</b>	Instrument Blank	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:01:53	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	2.59	PFOA			
PFOA_2	413.0 / 169.0	2.60	PFOA	0.106	0.066	
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	4.42	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.44	PFTeDA	0.049	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	CR612PB-FS(0)	<b>Injection Vial</b>	14
<b>Sample ID</b>	Procedural Blank	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:28:42	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.260	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.84				
13C2-PFDA	515.0 / 470.0	3.30		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.62		N/A	N/A	ü

<b>Sample Name</b>	CR613LCS-FS(0)	<b>Injection Vial</b>	15
<b>Sample ID</b>	Laboratory Control Sample	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:37:39	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.56	PFBS			
PFBS_2	298.9 / 99.0	1.55	PFBS	0.292	0.290	ü
PFHxA_1	313.0 / 269.0	1.84	PFHxA			
PFHxA_2	313.0 / 119.0	1.84	PFHxA	0.076	0.079	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.021	0.022	ü
PFHxS_1	399.0 / 80.0	2.22	PFHxS			
PFHxS_2	399.0 / 99.0	2.22	PFHxS	0.282	0.292	ü
PFOA_1	413.0 / 369.0	2.58	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.068	0.066	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.300	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.212	0.193	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.043	0.047	ü
PFUnA_1	563.0 / 519.0	3.63	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.047	0.056	ü
PFDaA_1	613.0 / 569.0	3.92	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.159	0.161	ü
PFTrDA_1	663.0 / 619.0	4.18	PFTrDA			
PFTrDA_2	663.0 / 169.0	4.18	PFTrDA	0.064	0.062	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	PFTeDA	0.047	0.047	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.540	0.612	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.059	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.29		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.61		N/A	N/A	ü

<b>Sample Name</b>	J7404-FS(0)	<b>Injection Vial</b>	16
<b>Sample ID</b>	JAX-RES-08132018-0945-27-FRB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T16:46:36	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.189	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.29		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.61		N/A	N/A	ü

Sample Name	J7406-FS(0)	Injection Vial	17
Sample ID	JAX-RES-08132018-1100-30-FRB	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-08-20T16:55:32	Data File	DW_08202018.wiff
Acquisition Method	5-0371.dam	Result Table	18-0512DW
Sample Comment			

## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	N/A	PFOS			
PFOS_2	499.0 / 99.0	N/A	PFOS	N/A	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.29		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.61		N/A	N/A	ü



<b>Sample Name</b>	J7408-FS(0)	<b>Injection Vial</b>	18
<b>Sample ID</b>	JAX-RES-08132018-1145-32-FRB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:04:27	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

### Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.143	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.60		N/A	N/A	ü

<b>Sample Name</b>	J7412-FS(0)	<b>Injection Vial</b>	19
<b>Sample ID</b>	JAX-RES-08132018-1600-13-FRB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:13:23	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

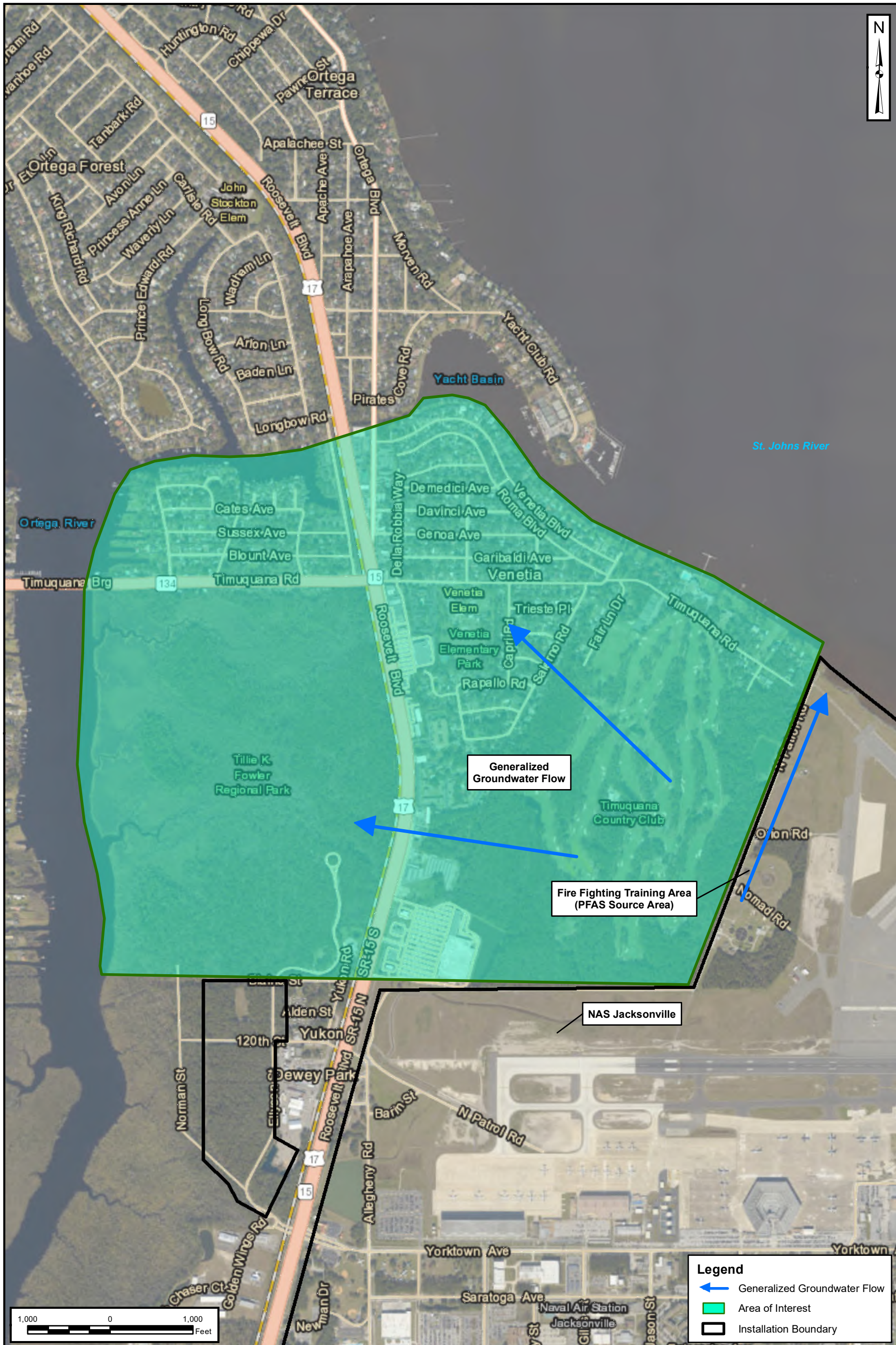
## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.206	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	N/A	0.161	ü
PFTTrDA_1	663.0 / 619.0	N/A	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	N/A	PFTTrDA	N/A	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.60		N/A	N/A	ü

<b>Sample Name</b>	J7414-FS(0)	<b>Injection Vial</b>	20
<b>Sample ID</b>	JAX-RES-08132018-1700-31-FRB	<b>Injection Volume</b>	10.00
<b>Sample Type</b>	Unknown	<b>Instrument Name</b>	QTRAP 5500
<b>Acquisition Date</b>	2018-08-20T17:22:20	<b>Data File</b>	DW_08202018.wiff
<b>Acquisition Method</b>	5-0371.dam	<b>Result Table</b>	18-0512DW
<b>Sample Comment</b>			

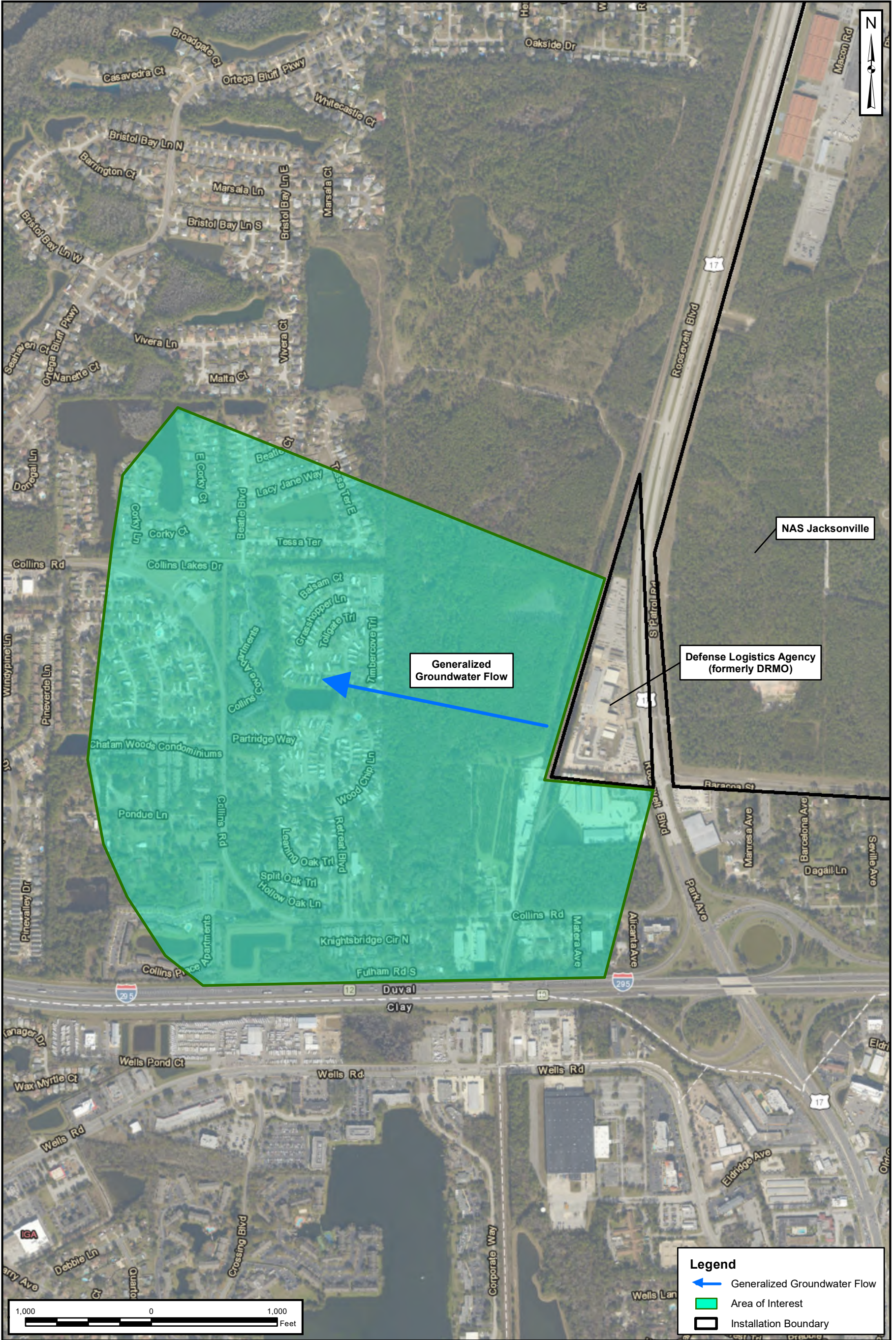
## Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	N/A	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.290	ü
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.079	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.022	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.292	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.066	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.320	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.101	0.193	ü
PFDA_1	513.0 / 469.0	N/A	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.047	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.056	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	N/A	PFDaA	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	0.062	ü
PFTeDA_1	713.0 / 669.0	N/A	PFTeDA			
PFTeDA_2	713.0 / 169.0	N/A	PFTeDA	N/A	0.047	ü
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.612	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.081	ü
13C2-PFHxA	315.0 / 270.0	1.83				
13C2-PFDA	515.0 / 470.0	3.28		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.60		N/A	N/A	ü



AREA OF INTEREST FOR PUBLIC/PRIVATE SHALLOW DRINKING WATER WELL SAMPLING  
 NAS JACKSONVILLE & SURROUNDING AREA  
 JACKSONVILLE, FLORIDA

CTO	
DRAWN BY	DATE
J.MADDEN	01/16/19
CHECKED BY	DATE
M.GRZEGOREK	01/16/19
FIGURE NUMBER	
1-4	



AREA OF INTEREST FOR PUBLIC/PRIVATE SHALLOW DRINKING WATER WELL SAMPLING  
 NAS JACKSONVILLE & SURROUNDING AREA  
 JACKSONVILLE, FLORIDA

CTO	
DRAWN BY	DATE
J.MADDEN	01/16/19
CHECKED BY	DATE
M.GRZEGOREK	01/16/19
FIGURE NUMBER	
1-5	