



**Off-Base Drinking Water Sample Results,
Combined Level 2 and Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
and the Sample Location Figure, SDG 18-0400**

*Naval Air Station Willow Grove
Willow Grove, Pennsylvania*

August 2019

N00158_000769
WILLOW_GROVE_NAS
SSIC 5000-33c

**LABORATORY DATA PACKAGE, 18-0400, NAWC WARMINSTER NAS
WILLOW GROVE PA**

07/18/2018
BATTELLE

Approved for public release: distribution unlimited.

Naval Air Station Joint Reserve Base Willow Grove,
PA

Project No 100117920-WE04
PFAS in drinking water

DW

Batch 18-0400

Package DP-18-0161

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

It can be done

**Naval Air Station Joint Reserve Base Willow Grove,
PA**

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NELAP Accreditation Number: E87856 (Florida Department of Health)

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141 Longwater Drive Suite 202

Norwell, MA 02061

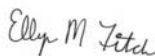
Analyst Approval:



schumitzd@battelle.org

2018.07.18 08:11:04 -04'00'

QC Chemist Approval:



fitche@battelle.org

2018.07.17 17:17:04 -04'00'

Project Manager Approval:



Digitally signed by Jonathan Thorn

Date: 2018.07.18 08:46:35 -04'00'

BATTELLE

It can be done

Naval Air Station Joint Reserve Base Willow Grove, PA

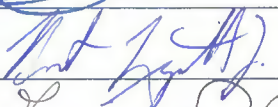
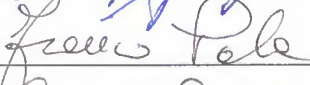
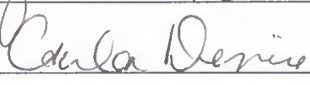
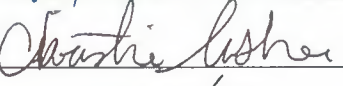
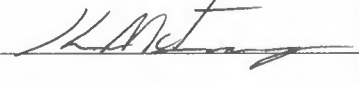
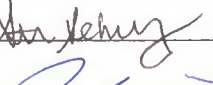
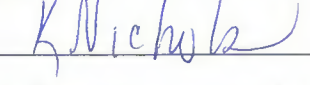
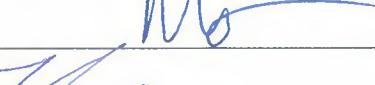
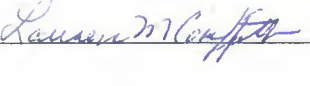
Project No 100117920-WE04 PFAS in drinking water DW

Batch 18-0400

Package DP-18-0161

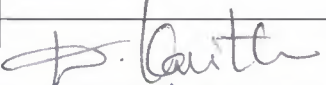
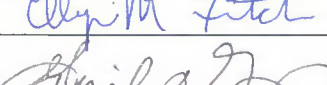
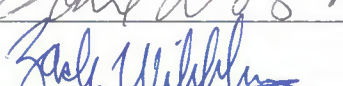
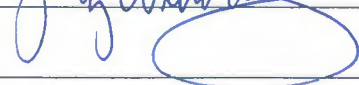
1	<i>Work Plan</i> Laboratory Work Plan, Addendums To Work Plan, Memos From Project Manager, Special Instructions, Chain-of-Custody Reports.	1
2	<i>Tables</i> Analytical Data Tables, Qualifier Definitions.	24
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Battelle 2018 (1 of 2) Signature Page			
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 Schumitz		DNS	4/4/18
Carolus Peummeay		CPM	4/4/2018
Rich Rostucci		RR	4/4/2018
Monica Mena		MM	4/4/2018
Christie Usher		CU	4/4/18
Kevin Matrone		KM	4/4/18
Stephanie Schultz		SAS	4/4/18
Jordan Tower		JT	4/4/18
KRISTEN NICHOLS		KN	4/4/18
Quimiao H Brown		CB	4/4/18
Matt Schumitz		MS	4-4-18
Sam Guimaraes		SG	4-4-18
Lauren Griffith		LG	4.4.18

Signature Page

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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		Trs	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



WORK/QUALITY ASSURANCE PROJECT PLAN

1.0 GENERAL PROJECT INFORMATION

Project Title: WE04 PFAS Analysis
Project Number: 100117920-WE04
Client: Tetra Tech
 661 Anderson Drive Foster Plaza 7
 Pittsburgh, PA 15220
 USA

Client Contact Information: Andrew Frebowitz
 Project Manager
 (610) 382-1170(V)
 NA
 andy.frebowitz@tetrattech.com

Effective Date of QAPP: 5/4/2018
Version Number: 100117920-WE04(L)-01
Project Manager: Thorn, Jonathan
Laboratory Task Manager: Thorn, Jonathan
Deliverable Due Date: 5/22/2018

2.0 SCOPE OF WORK

Overview: Analysis of drinking water samples collected at Naval Air Station Joint Reserve Base Willow Grove.
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: NA

Archiving: Store for six months after delivery of final data. Notify client prior to disposal of samples.
Disposal: Dispose of samples in the proper waste stream.



WORK/QUALITY ASSURANCE PROJECT PLAN

2.1.2 Sample Preparation

Up to 150 field samples and 150 field reagent blanks (FRB) per quarter. FRB samples will only be analyzed if the corresponding sample has detected levels of any PFAS analyte at or above the LOQ.

Samples Expected:	Samples Per Batch:	Batches Expected:
300	20	15

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	Millipore water with Trizma
LCS	Laboratory Control Sample	1 per batch	No	NA	Millipore water with Trizma
MS	Spiked field sample for determining method accuracy in the presence of matrix.	1 per batch	--	NA	MS/MSD indicated on COC
MSD	Spiked field sample for determining method accuracy and precision in the presence of matrix.	1 per batch	--	NA	MS/MSD indicated on COC

2.1.3 Extraction/Preparation

2.1.3.1 Extraction

SOP No.-Rev:	5-371-03
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:	• MQO requirements per SOP 5-371 (EPA Method 537 Version 1.1). • FRB samples will only be analyzed if associated field sample has hits above the LOQ for any individual analyte.

Table 2: SIS and LCS/MS Spiking Level



WORK/QUALITY ASSURANCE PROJECT PLAN

Standard Type	Standard Contents		Spike Amount (ng)	Volume (uL)	Comment
PFAS - 537.1 Surrogate Solution	JV60	SIS	~ 0.100 - 0.40 ng	50 uL	NA
PFAS - 537.1 Second Source LCS/MS Solution	JV41	LCS/MS	~ 2.00 - 2.50	50 uL	LCS samples - vary each batch (50, 75, 100, 150 µL spikes)
PFAS - 537.1 Second Source LCS/MS Solution	JV41	LCS/MS	~ 3.00 - 3.8 ng	75 uL	MS/MSD samples - vary each batch (75, 100, 150 µL spikes)

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:
 - MQO requirements per SOP 5-371 (EPA Method 537 Version 1.1).
 - FRB samples will only be analyzed if associated field sample has hits above the LOQ for any individual analyte.



WORK/QUALITY ASSURANCE PROJECT PLAN

2.2. DELIVERABLES

Deliverables Due:	5/22/2018
LIMS Reports:	Yes
Histograms:	No
Excel Tables:	Yes
EICs:	No
Chromatograms:	No
EDDs:	Yes
Comments:	Each data set will be due 21 days from receipt of samples Full QSM data package showing all aspects of Table B-15 Tetra Tech EDD format

3.0 QUALITY

The Method Quality Objectives are defined in Attachment 3.

4.0 ORGANIZATION AND COMMUNICATION

4.1 ORGANIZATION

The project team is defined in Table 4. Supervisors may make substitutions with Project Manager concurrence.

Table 4: Project Team and Roles

Staff Member	Role	Comment
Jonathan R. Thorn	Project Manager	NA
Stephanie A. Schultz	Sample Preparation	NA
Denise M. Schumitz	LC-MS/MS Analysis	NA
Matt D. Schumitz	Sample Custody	NA
Carla R. Devine	Quality Control Officer	NA
Zachary J. Willenberg	Quality Assurance Officer	NA

4.2 COMMUNICATION

A kick-off meeting will be held to discuss project scope and goals.

5.0 SCHEDULE

The project schedule is presented in Table 5.



WORK/QUALITY ASSURANCE PROJECT PLAN

Table 5. Schedule of Laboratory Activities

Activity:	Start Date:	End Date:	TAT (days):	Comment:
Sample Receipt	05/01/2018	12/31/2018	244	NA
Sample Preparation	05/04/2018	01/31/2019	272	NA
Instrument Analysis	05/07/2018	01/31/2019	269	NA
Quality Control Review	05/14/2018	01/31/2019	262	NA
Final Data Reporting	05/18/2018	01/31/2019	258	NA
Quality Assurance Review	05/21/2018	01/31/2019	255	NA

6.0 BUDGET

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

Table 6. Labor Budget (Laboratory Analytical Task)

Labor Activity:	Hours/ Batch:	Batches:	Total Hours:	Comment:
Sample Receipt	2	1	2	All labor hours are based on a batch of 20 field samples.
Sample Preparation	8	1	8	All labor hours are based on a batch of 20 field samples.
Instrument Analysis	8	1	8	All labor hours are based on a batch of 20 field samples.
Quality Control Review	3	1	3	All labor hours are based on a batch of 20 field samples.
Final Data Reporting	1	1	1	All labor hours are based on a batch of 20 field samples.
Quality Assurance Review	1	1	1	All labor hours are based on a batch of 20 field samples.

7.0 STAFF DEVELOPMENT

None anticipated



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 1: Target Samples

Shipment: SHP-180501-01

Status: Approved

Description: WE04

Range: J5964-J5969

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J5964	WGNA-043018-RW-3103	04/30/2018 10:10 am	DW	R0118 (NA)			MSMSD
2	J5965	WGNA-043018-FRB-3103	04/30/2018 10:05 am	DW	R0118 (NA)			
3	J5966	NAWC-043018-RW-207	04/30/2018 10:40 am	DW	R0118 (NA)			
4	J5967	NAWC-043018-FRB-207	04/30/2018 10:35 am	DW	R0118 (NA)			
5	J5968	WGNA-043018-RW-3409	04/30/2018 1:40 pm	DW	R0118 (NA)			
6	J5969	WGNA-043018-FRB-3409	04/30/2018 1:35 pm	DW	R0118 (NA)			

Shipment: SHP-180502-02

Status: Approved

Description: WE04

Range: J5970-J5977

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J5970	WGNA-050118-RW-3385	05/01/2018 9:10 am	DW	R0118 (NA)			
2	J5971	WGNA-050118-FRB-3385	05/01/2018 9:05 am	DW	R0118 (NA)			
3	J5972	WGNA-050118-RW-3178	05/01/2018 9:40 am	DW	R0118 (NA)			
4	J5973	WGNA-050118-FRB-3178	05/01/2018 9:35 am	DW	R0118 (NA)			
5	J5974	NAWC-050118-RW-304	05/01/2018 10:10 am	DW	R0118 (NA)			
6	J5975	NAWC-050118-FRB-304	05/01/2018 10:05 am	DW	R0118 (NA)			
7	J5976	NAWC-050118-RW-098	05/01/2018 10:40 am	DW	R0118 (NA)			
8	J5977	NAWC-050118-FRB-098	05/01/2018 10:35 am	DW	R0118 (NA)			

Shipment: SHP-180508-02

Status: Approved

Description: WE04

Range: J6148-J6170

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility:	Location:	No:	Comments:
1	J6148	NAWC-050718-RW-316	05/07/2018 10:10 am	DW	R0118 (NA)			
2	J6149	NAWC-050718-FRB-316	05/07/2018 10:05 am	DW	R0118 (NA)			
3	J6150	NAWC-050718-RW-180	05/07/2018 10:40 am	DW	R0118 (NA)			
4	J6151	NAWC-050718-FRB-180	05/07/2018 10:35 am	DW	R0118 (NA)			
5	J6152	NAWC-050718-RW-275	05/07/2018 11:10 am	DW	R0118 (NA)			
6	J6153	NAWC-050718-FRB-275	05/07/2018 11:05 am	DW	R0118 (NA)			
7	J6154	NAWC-050718-RW-145	05/07/2018 12:40 pm	DW	R0118 (NA)			



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180508-02

Status: Approved

Description: WE04

Range: J6148-J6170

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
8	J6155	NAWC-050718-FRB-145	05/07/2018 12:35 pm	DW	R0118 (NA)		
9	J6156	NAWC-050718-RW-357	05/07/2018 1:10 pm	DW	R0118 (NA)		
10	J6157	NAWC-050718-FRB-357	05/07/2018 1:05 pm	DW	R0118 (NA)		
11	J6158	NAWC-050718-RW-162	05/07/2018 1:40 pm	DW	R0118 (NA)		
12	J6159	NAWC-050718-FRB-162	05/07/2018 1:35 pm	DW	R0118 (NA)		
13	J6160	WGNA-050718-RW-0800	05/07/2018 2:10 pm	DW	R0118 (NA)		
14	J6161	WGNA-050718-FRB-0800	05/07/2018 2:05 pm	DW	R0118 (NA)		
15	J6162	WGNA-050718-RW-0335	05/07/2018 2:40 pm	DW	R0118 (NA)		
16	J6163	WGNA-050718-FRB-0335	05/07/2018 2:35 pm	DW	R0118 (NA)		
17	J6164	WGNA-050718-RW-3556	05/07/2018 3:10 pm	DW	R0118 (NA)		
18	J6165	WGNA-050718-FRB-3556	05/07/2018 3:05 pm	DW	R0118 (NA)		
19	J6166	NAWC-050718-RW-356	05/07/2018 3:40 pm	DW	R0118 (NA)		
20	J6167	NAWC-050718-FRB-356	05/07/2018 3:35 pm	DW	R0118 (NA)		
21	J6168	NAWC-050718-RW-289	05/07/2018 4:10 pm	DW	R0118 (NA)		
22	J6169	NAWC-050718-FRB-289	05/07/2018 4:05 pm	DW	R0118 (NA)		
23	J6170	WGNA-050718-DUP-35	05/07/2018 7:00 am	DW	R0118 (NA)		

Shipment: SHP-180511-02

Status: Approved

Description: WE04

Range: J6204-J6212

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6204	NAWC-051018-RW-303	05/10/2018 9:10 am	DW	R0118 (NA)		
2	J6205	NAWC-051018-FRB-303	05/10/2018 9:05 am	DW	R0118 (NA)		
3	J6206	WGNA-051018-RW-3220	05/10/2018 9:40 am	DW	R0118 (NA)		
4	J6207	WGNA-051018-FRB-3220	05/10/2018 9:35 am	DW	R0118 (NA)		
5	J6208	NAWC-051018-RW-177	05/10/2018 10:40 am	DW	R0118 (NA)		
6	J6209	NAWC-051018-FRB-177	05/10/2018 10:35 am	DW	R0118 (NA)		
7	J6210	WGNA-051018-RW-3295	05/10/2018 3:10 pm	DW	R0118 (NA)		
8	J6211	WGNA-051018-FRB-3295	05/10/2018 3:05 pm	DW	R0118 (NA)		
9	J6212	WGNA-051018-DUP-36	05/10/2018 7:00 am	DW	R0118 (NA)		



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180530-01

Status: Approved

Description: WE04

Range: J6258-J6267

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6258	WGNA-052918-RW-3124	05/29/2018 9:40 am	DW	R0118 (NA)		
2	J6259	WGNA-052918-FRB-3124	05/29/2018 9:35 am	DW	R0118 (NA)		
3	J6260	WGNA-052918-RW-3493	05/29/2018 10:10 am	DW	R0118 (NA)		
4	J6261	WGNA-052918-FRB-3493	05/29/2018 10:05 am	DW	R0118 (NA)		
5	J6262	WGNA-052918-RW-3882	05/29/2018 10:25 am	DW	R0118 (NA)		
6	J6263	WGNA-052918-FRB-3882	05/29/2018 10:20 am	DW	R0118 (NA)		
7	J6264	WGNA-052918-RW-3978	05/29/2018 10:40 am	DW	R0118 (NA)		
8	J6265	WGNA-052918-FRB-3978	05/29/2018 10:35 am	DW	R0118 (NA)		
9	J6266	NAWC-052918-RW-161	05/29/2018 11:40 am	DW	R0118 (NA)		
10	J6267	NAWC-052918-FRB-161	05/29/2018 11:35 am	DW	R0118 (NA)		

Shipment: SHP-180531-02

Status: Approved

Description: WE04

Range: J6270-J6288

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6270	WGNA-053018-RW-3876	05/30/2018 8:10 am	DW	R0119 (NA)		
2	J6271	WGNA-053018-FRB-3876	05/30/2018 8:05 am	DW	R0119 (NA)		
3	J6272	WGNA-053018-DUP-37	05/30/2018 7:00 am	DW	R0119 (NA)		
4	J6273	NAWC-053018-RW-231	05/30/2018 8:40 am	DW	R0119 (NA)		
5	J6274	NAWC-053018-FRB-231	05/30/2018 8:35 am	DW	R0119 (NA)		
6	J6275	WGNA-053018-RW-3933	05/30/2018 11:10 am	DW	R0119 (NA)		
7	J6276	WGNA-053018-FRB-3933	05/30/2018 11:05 am	DW	R0119 (NA)		
8	J6277	NAWC-053018-RW-164	05/30/2018 2:10 pm	DW	R0119 (NA)		
9	J6278	NAWC-053018-FRB-164	05/30/2018 2:05 pm	DW	R0119 (NA)		
10	J6279	NAWC-053018-RW-292	05/30/2018 2:40 pm	DW	R0119 (NA)		
11	J6280	NAWC-053018-FRB-292	05/30/2018 2:35 pm	DW	R0119 (NA)		
12	J6281	NAWC-053018-RW-271	05/30/2018 3:10 pm	DW	R0119 (NA)		
13	J6282	NAWC-053018-FRB-271	05/30/2018 3:05 pm	DW	R0119 (NA)		
14	J6283	NAWC-053018-RW-270	05/30/2018 3:20 pm	DW	R0119 (NA)		
15	J6284	NAWC-053018-FRB-270	05/30/2018 3:15 pm	DW	R0119 (NA)		
16	J6285	NAWC-053018-RW-196	05/30/2018 3:40 pm	DW	R0119 (NA)		
17	J6286	NAWC-053018-FRB-196	05/30/2018 3:35 pm	DW	R0119 (NA)		
18	J6287	NAWC-053018-RW-172	05/30/2018 4:10 pm	DW	R0119 (NA)		
19	J6288	NAWC-053018-FRB-172	05/30/2018 4:05 pm	DW	R0119 (NA)		



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180601-02

Status: Approved

Description: WE04

Range: J6290-J6300

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6290	NAWC-053118-RW-256	05/31/2018 8:10 am	DW	R0119 (NA)		
2	J6291	NAWC-053118-FRB-256	05/31/2018 8:05 am	DW	R0119 (NA)		
3	J6292	NAWC-053118-RW-126	05/31/2018 8:40 am	DW	R0119 (NA)		
4	J6293	NAWC-053118-FRB-126	05/31/2018 8:35 am	DW	R0119 (NA)		
5	J6294	WGNA-053118-DUP-38	05/31/2018 7:00 am	DW	R0119 (NA)		
6	J6295	WGNA-053118-RW-4850	05/31/2018 9:40 am	DW	R0119 (NA)		
7	J6296	WGNA-053118-FRB-4850	05/31/2018 9:35 am	DW	R0119 (NA)		
8	J6297	NAWC-053118-RW-311	05/31/2018 12:10 pm	DW	R0119 (NA)		
9	J6298	NAWC-053118-FRB-311	05/31/2018 12:05 pm	DW	R0119 (NA)		
10	J6299	NAWC-053118-RW-265	05/31/2018 4:10 pm	DW	R0119 (NA)		
11	J6300	NAWC-053118-FRB-265	05/31/2018 4:05 pm	DW	R0119 (NA)		

Shipment: SHP-180605-07

Status: Approved

Description: WE04

Range: J6582-J6591

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6582	NAWC-060418-RW-230	06/04/2018 8:10 am	DW	R0119 (NA)		
2	J6583	NAWC-060418-FRB-230	06/04/2018 8:05 am	DW	R0119 (NA)		
3	J6584	NAWC-060418-RW-309	06/04/2018 8:40 am	DW	R0119 (NA)		
4	J6585	NAWC-060418-FRB-309	06/04/2018 8:35 am	DW	R0119 (NA)		
5	J6586	NAWC-060418-RW-293	06/04/2018 9:40 am	DW	R0119 (NA)		
6	J6587	NAWC-060418-FRB-293	06/04/2018 9:35 am	DW	R0119 (NA)		
7	J6588	NAWC-060418-RW-038	06/04/2018 9:55 am	DW	R0119 (NA)		
8	J6589	NAWC-060418-FRB-038	06/04/2018 9:50 am	DW	R0119 (NA)		
9	J6590	NAWC-060418-RW-039	06/04/2018 10:10 am	DW	R0119 (NA)		
10	J6591	NAWC-060418-FRB-039	06/04/2018 10:05 am	DW	R0119 (NA)		

Shipment: SHP-180608-03

Status: Pending

Description: WE04

Range: J6637-J6643

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6637	WGNA-060718-RW-0488	06/07/2018 12:40 pm	DW	R0119 (NA)		
2	J6638	WGNA-060718-FRB-0488	06/07/2018 12:35 pm	DW	R0119 (NA)		
3	J6639	NAWC-060718-RW-175	06/07/2018 1:10 pm	DW	R0119 (NA)		



WORK/QUALITY ASSURANCE PROJECT PLAN

Shipment: SHP-180608-03

Status: Pending

Description: WE04

Range: J6637-J6643

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
4	J6640	NAWC-060718-FRB-175	06/07/2018 1:05 pm	DW	R0119 (NA)		
5	J6641	WGNA-060718-DUP-39	06/07/2018 7:00 am	DW	R0119 (NA)		
6	J6642	WGNA-060718-RW-0626	06/07/2018 2:10 pm	DW	R0119 (NA)		
7	J6643	WGNA-060718-FRB-0626	06/07/2018 2:05 pm	DW	R0119 (NA)		

Shipment: SHP-180613-02

Status: Pending

Description: WE04

Range: J6737-J6746

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6737	WGNA-061118-RW-3073	06/11/2018 11:10 am	DW	R0119 (NA)		
2	J6738	WGNA-061118-FRB-3073	06/11/2018 11:05 am	DW	R0119 (NA)		
3	J6739	WGNA-061118-RW-0437	06/11/2018 11:40 am	DW	R0119 (NA)		
4	J6740	WGNA-061118-FRB-0437	06/11/2018 11:35 am	DW	R0119 (NA)		
5	J6741	WGNA-061218-RW-3283	06/12/2018 9:10 am	DW	R0119 (NA)		
6	J6742	WGNA-061218-FRB-3283	06/12/2018 9:05 am	DW	R0119 (NA)		
7	J6743	WGNA-061218-RW-3382	06/12/2018 9:40 am	DW	R0119 (NA)		
8	J6744	WGNA-061218-FRB-3382	06/12/2018 9:35 am	DW	R0119 (NA)		
9	J6745	NAWC-061218-RW-276	06/12/2018 10:10 am	DW	R0119 (NA)		
10	J6746	NAWC-061218-FRB-276	06/12/2018 10:05 am	DW	R0119 (NA)		

Shipment: SHP-180615-01

Status: Pending

Description: WE04

Range: J6758-J6761

Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6758	NAWC-061418-RW-111	06/14/2018 9:10 am	DW	R0119 (NA)		
2	J6759	NAWC-061418-FRB-111	06/14/2018 9:05 am	DW	R0119 (NA)		
3	J6760	NAWC-061418-RW-056	06/14/2018 9:40 am	DW	R0119 (NA)		
4	J6761	NAWC-061418-FRB-056	06/14/2018 9:35 am	DW	R0119 (NA)		

**WORK/QUALITY ASSURANCE PROJECT PLAN**

Shipment: SHP-180627-01
Status: Pending
Description: WE04
Range: J6816-J6817
Comment: NA

No:	BDO Id:	Client Sample ID:	Collection Date:	Matrix:	Storage Facility: Location:	No:	Comments:
1	J6816	WGNA-062618-RW-3136	06/26/2018 8:40 am	DW	R0119 (NA)		
2	J6817	WGNA-062618-FRB-3136	06/26/2018 8:35 am	DW	R0119 (NA)		



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 2: Test Codes

Project Test Code Name:	Master_371
SOP Reference:	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
Description:	PFAS in drinking water
Matrix:	L - Liquid Samples, like water or sea water, prepared and analyzed under the same class of detection limits.
Detection Limit Study:	5-371
Instrument:	LC-MS/MS
MQO Criteria	Universal_LC
Standard Report:	Standard Result Report

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

No:	Analyte:	Report Name:	Type	RIS	SIS	Hidden:	Graph:
1	Perfluoro-n-hexanoic acid	PFHxA	T	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-hexanesulfonate	PFHxS	T	13C4-PFOS		No	No
14	Perfluoro-1-octanesulfonate	PFOS	T	13C4-PFOS		No	No
1	13C2-PFHxA	13C2-PFHxA	SIS			No	No
2	13C2-PFDA	13C2-PFDA	SIS			No	No

**WORK/QUALITY ASSURANCE PROJECT PLAN****Attachment 2: Test Codes**

Project Test Code Name: Master_371

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

Subtract Peaks:

None

Sum Peaks:

None



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



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

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



WORK/QUALITY ASSURANCE PROJECT PLAN

Attachment 3: Method Quality Objectives

MQO Application	Universal_LC		
MQO:	Acceptance Criteria	Qual:	Corrective Action:
Analytical Triplicate Precision	Organics results less than 30% Relative Standard Deviation (RSD). Analyte concentration must be > 5x MDL. Organics Results in the Original is less than 5 times the MDL	N n	Review with Project Manager; re-analyze or justify reporting results in the project records.
Surrogate Compound Recovery	Recovery results between 50% and 150%.	N	Review with Project Manager; re-analyze or justify reporting results in the project records.
Control Oil	RPD < 30% for at least 90% of analytes	N	Results examined by project manager, task leader, or subcontractor lab manager. Reextraction, reanalysis, or justification documented.
Instrument Calibration	5-371-3: 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

ShpNo SHP-180627-01

Battelle Project No: 7920-WE04

Sample Receipt Form

Approved: ☒ Authorized ☐

Project Number: 112G08005-WE04

Client: Tetra tech

Received by: Schumitz, Matt

Date/Time Received: Wednesday, June 27, 2018 9:30 AM

No. of Shipping Containers: 1

SHIPMENT

Method of Delivery: Commercial Carrier

Tracking Number: Fed Ex

COC Forms: ☒ Shipped with samples ☐ No Forms

Cooler(s) / Box(es)

Cntr	Type	Tracking No.	Seal	Seal	Container	Therm.	Temp C	Smps
1 of 1	Cooler	7725 6862 9688	Custody Seals	Intact	Intact	Therm_1	1.2	2

Samples

Sample Labels: ☒ Sample labels agree with COC forms
☐ Discrepancies (see Sample Custody Corrective Action Form)

Container Seals: ☐ Tape ☐ Custody Seals ☐ Other Seals (See sample Log)
☒ Seals intact for each shipping container
☐ Seals broken (See sample log for impacted samples)

Condition of Samples: ☒ Sample containers intact
☐ Sample containers broken/leaking (See Custody Corrective Action Form)

Temperature upon receipt (°C): 1.2 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: J6816 - J6817

Samples logged in by: Schumitz, Matt Date/Time: 06/27/2018 9:30 AM

Approved By: Nichols, Kristen Approved On: 7/10/2018 4:32:00 PM

Authorized By: _____ Authorized On: _____



It can be done

ShpNo: SHP-180627-01

Battelle Project No: 7920-WE04

Report Corrective Actions

Corrective Action No: 1 of 1

Authorized ☐ **Approved:** ☐

COC Client: Tetra tech

COC Project: WE04

COC Date: 6/27/2018 10:05:00 AM

Description of Problem:		Explanation:
Custody	Jars and C-O-C do not match for time/date	During QC review of the analytical results for this shipment, the collection date for sample WGNA-062618-FRB-3136 was questioned based on the collection date of the field sample. Andy Frebowitz at Tetra Tech was contacted to verify and the collection date was changed to 06/26/18.

Documentation of project manager notification

Sample Custodian Schumitz, Matt **Date:** 7/16/2018 9:15:00 AM

Laboratory Manager: Thorn, Jonathan **Date:** 7/16/2018 9:33:00 AM

Project Manager: Thorn, Jonathan **Date:** 7/16/2018 9:33:00 AM

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

On 13-Jul-18 **I contacted** Frebowitz, Andrew **at** Tetra Tech

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

Updated collection date per client, see email

Date this form was received back to the custodian: _____

Reference Number: _____

Schumitz, Matthew

From: Frebowitz, Andy <Andy.Frebowitz@tetrattech.com>
Sent: Saturday, July 14, 2018 9:48 AM
To: Schumitz, Matthew
Subject: RE: Collection date
Attachments: COC.PDF

Message received from outside the Battelle network. Carefully examine it before you open any links or attachments.

Matthew-

The date should be 6/26. I updated the COC (attached). Thanks

Andy

From: Schumitz, Matthew [mailto:SCHUMITZM@battelle.org]
Sent: Friday, July 13, 2018 4:28 PM
To: Frebowitz, Andy <Andy.Frebowitz@tetrattech.com>
Subject: Collection date

Hi Andy

The FRB on line 2 has a collection date that is different than that of the date in the ID.
Is the date listed correct or should it be 6/26? If so can you update this copy and send it back to me?

Thanks

Matthew Schumitz

Technician - Sample Custodian
Analytical Chemistry Services
Office: 781.681.5588
schumitzm@battelle.org

Battelle

141 Longwater Dr.
Suite 202
Norwell, MA 02061
<http://www.battelle.org>

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It can be done

ShpNo SHP-180627-01

Battelle Project No: 7920-WE04

Sample Receipt Form Details

Approved: ☒ Authorized ☐

Project Number: 112G08005-WE04 Client: Tetra tech

Received by: Schumitz, Matt Date / Time Received: Wednesday, June 27, 2018 9:30 AM

No. of Shipping Containers: 1

BDO Id:	Client Sample ID:	Collection Date:	Login Date:	Ctrs:	Matrix:	Temp:	pH:	TRC:	VOC:	Stored In:	Loc:	No:	Comments:
J6816	WGNA-062618-RW-3136	06/26/18 8:40	06/27/18 10:08	2	DW	1.2	NA	NA	NA	R0119 (NA)			
J6817	WGNA-062618-FRB-3136	06/26/18 8:35	06/27/18 10:09	2	DW	1.2	NA	NA	NA	R0119 (NA)			

Total Samples: 2

Battelle							Chain-of-Custody													
The Business of Innovation																				
Client Contact Information		Project Manager: Jonathan Thorn					Sampling Site: WE04					Site Information: NAS JRB Willow Grove/WGNA Warminster								
Andy Frebowitz 234 Mall Boulevard, Suite 260 King of Prussia, PA 19406 610-382-1170		Sampler Information (print name): Mary Kay Bond Phone: 610-382-1169 Email: mary.bond@tetrattech.com					Preservative Trima					COC #								
Project Name: WE04		Turnaround Time (TAT) Requested: 21 days					Analysis PFAS EPA 537 14 analytes					Page# 1 of 1								
Project No.: 112G08005-WE04		Normal ☒ Priority ☐ RUSH ☐																		
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.														
WGNA-062618-RW-3136 J6816		06/26/2018	08:40	G	DW	2														
WGNA-062618-FRB-3136 J6817		06/26/2018	08:35	G	DW	2	Field Reagent Blank													
Receipt Temperature (°C) 1.2		6/26/18 Samples Intact: (Yes) No					Samples on Ice: (Yes) No					Receipt Comments:								
Relinquished by (Print/Sign) Mary Kay Bond		Company Tetra Tech		Date/Time: 06/26/2018 16:00			Received by (Print/Sign) Matt Schmitt		Company Battelle		Date/Time 6-27-18 9:30									
Relinquished by (Print/Sign)		Company		Date/Time			Received by (Print/Sign)		Company		Date/Time									
Relinquished by (Print/Sign)		Company		Date/Time			Received by (Print/Sign)		Company		Date/Time									
Comments FedEx Tracking # 7725 6862 9688																				

ORIGIN ID: KPDA (610) 382-1530
N. SOMA
TETRA TECH
234 MALL BLVD
SUITE 260
KING OF PRUSSIA, PA 19406
UNITED STATES US

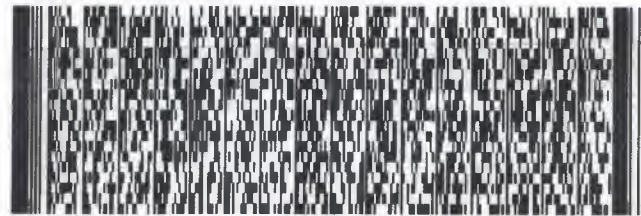
SHIP DATE: 26JUN18
ACTWGT: 20.00 LB
CAD: 111283035/INET3980
DIMS: 18x14x14 IN
BILL SENDER

TO JONATHAN THORN
BATTELLE
141 LONGWATER DRIVE
SUITE 202
NORWELL MA 02061

(781) 681-5565
INV.
PO.

REF: 112508005-WED-LET.WS

DEPT



FedEx
Express



J1511180126114

WED - 27 JUN 10:30A
PRIORITY OVERNIGHT

TRK# 7725 6862 9688
0201

EM XPUA

02061
MA-US BOS



Data Tables



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-RW-3136

Battelle ID	J6816-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/03/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.265			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	10.39	0.21	0.47	2.36
PFHpA	4.60	0.32	0.94	2.36
PFOA	17.78	0.36	0.94	2.36
PFNA	1.47 J	0.35	0.94	2.36
PFDA	0.94 U	0.37	0.94	2.36
PFUnA	0.94 U	0.36	0.94	2.36
PFDoA	0.94 U	0.40	0.94	2.36
PFTTrDA	0.94 U	0.40	0.94	2.36
PFTeDA	1.42 U	0.69	1.42	2.36
NMeFOSAA	0.94 U	0.40	0.94	2.36
NEtFOSAA	0.94 U	0.42	0.94	2.36
PFBS	10.03	0.20	0.47	2.36
PFHxS	5.22	0.32	0.94	2.36
PFOS	9.50	0.28	0.94	2.36

Surrogate Recoveries (%)

13C2-PFHxA	112
13C2-PFDA	73
d5-EtFOSAA	86



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-FRB-3136

Battelle ID	J6817-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/02/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.255			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.49 U	0.22	0.49	2.45
PFHpA	0.98 U	0.33	0.98	2.45
PFOA	0.98 U	0.37	0.98	2.45
PFNA	0.98 U	0.36	0.98	2.45
PFDA	0.98 U	0.38	0.98	2.45
PFUnA	0.98 U	0.37	0.98	2.45
PFDoA	0.98 U	0.41	0.98	2.45
PFTTrDA	0.98 U	0.41	0.98	2.45
PFTeDA	1.47 U	0.72	1.47	2.45
NMeFOSAA	0.98 U	0.41	0.98	2.45
NEtFOSAA	0.98 U	0.43	0.98	2.45
PFBS	0.49 U	0.21	0.49	2.45
PFHxS	0.98 U	0.33	0.98	2.45
PFOS	0.34 J	0.29	0.98	2.45

Surrogate Recoveries (%)

13C2-PFHxA	92
13C2-PFDA	82
d5-EtFOSAA	86



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID	Procedural Blank			
Battelle ID	CR069PB-FS			
Sample Type	PB			
Collection Date	06/29/2018			
Extraction Date	06/29/2018			
Analysis Date	07/03/2018			
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
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	92
13C2-PFDA	92
d5-EtFOSAA	85



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID	Laboratory Control Sample					
Battelle ID	CR070LCS-FS					
Sample Type	LCS					
Collection Date	06/29/2018					
Extraction Date	06/29/2018					
Analysis Date	07/02/2018					
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	23.53	20.20	116		70	130
PFHpA	21.32	20.00	107		70	130
PFOA	21.62	20.00	108		70	130
PFNA	23.82	20.00	119		70	130
PFDA	21.74	20.00	109		70	130
PFUnA	21.41	20.00	107		70	130
PFDoA	20.72	20.00	104		70	130
PFTTrDA	20.50	20.00	103		70	130
PFTeDA	33.25	20.00	166	N	70	130
NMeFOSAA	22.83	20.00	114		70	130
NEtFOSAA	21.60	20.00	108		70	130
PFBS	18.88	20.20	93		70	130
PFHxS	22.26	20.20	110		70	130
PFOS	20.07	20.00	100		70	130
Surrogate Recoveries (%)						
13C2-PFHxA	90					
13C2-PFDA	86					
d5-EtFOSAA	78					



Glossary of Data Qualifiers

Flag: Application:

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

Miscellaneous Documentation

QA/QC Summary
Batch 18-0400

Project:	CTO-WE04 Naval Air Station Joint Reserve Base Willow Grove
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	DW
Data Set:	DP-18-0161
Analytical SOP:	5-371
Method Reference:	USEPA 537 rev. 1.1, QSM 5.1

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
6/26/2018	6/27/2018	1.2

Corrective Actions	The collection date for WGNA-062618-FRB-3136 was updated after discussion with Andy Frebowitz to match the date listed in the sample ID, the original COC listed 6/20/2018 as the collection date.
Sample Storage	The water samples were stored refrigerated until extraction.
Related samples	None, the FRB and field samples were extracted together in one SDG.

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	Samples analyzed on the Sciex 5500. There are no ion ratio exceedences above 50% RPD for any analyte detected above the MDL or the LOQ in this SDG.

Holding Times	Extraction Date(s)	Analysis Date(s)
	6/29/2018	7/2 and 3/2018

QA/QC Summary

Batch 18-0400

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
$\leq 1/3$ 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	One exceedance noted.
	PFTeDA is over-recovered. Where this target is over-recovered and not detected in any of the associated samples, no further corrective action was taken for this SDG, however, a corrective action has been initiated to determine the root cause as the standard checks for this analyte are within control limits.
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 $\leq 30\%$	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 $\leq 20\%$, 50-150% of average area of the ICAL and 70-140% of most recent CCV	One exceedance noted.
	The initial run of samples CR069PB-FS and J6816-FS did not pass the secondary criteria as compared to the most recent CCV. A fresh aliquot of sample extract for each was run with passing criteria for the IS areas with the exception of d3-MeFOSAA in J6816-FS as compared to the previous CCV, the area passes criteria as compared to the average of the calibration as well as the next CCV (injected approximately 10 minutes after J6816-FS) – the second analytical run for both samples was reported.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
R ² >0.99	No exceedances noted.
Target and SIS compounds +/- 30% of true value, Low point 50-150% of true value	No comments.

QA/QC Summary
Batch 18-0400

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: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project Number: 100117920-WE04
 Preparation Batch: 18-0400
 Data Set: DP-18-0161
 Test Code: Master_371

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	1	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	NA	NA
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

Project Title:	Naval Air Station Joint Reserve Base Wi	Data Set Number:	DP-18-0161
Project Number:	100117920-WE04	Prep Batch Number:	18-0400
Entered By:	Denise Schumitz	Entered On:	07/06/2018
Test Code (Matrix Type):	Master_371(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 7/6/2018

JX67 is not being used in method 18-0400_DW for PFOA and PFNA. JX75 is not being used in method 18-0400_DW for PFDoA. There is no impact on the data once this point of the calibration is removed.
DMS 7/6/2018

JX68 is not being used in method 18-0400_DW for PFNA. JX75 is not being used in method 18-0400A_DW for PFNA. There is no impact on the data once this point of the calibration is removed. DMS 7/6/2018

JX67 is not being used in method 18-0400A_DW for PFOA and PFNA. There is no impact on the data once this point of the calibration is removed.
DMS 7/6/2018

JX67 in method 18-0400_DW, has an ion ratio of >50% for NMeFOSAA and NEtFOSAA.
DMS 7/6/2018

JX67 and JX68 in method 18-0400A_DW, has an ion ratio of >50% RPD for NEtFOSAA.
DMS 7/6/2018

CR069PB-FS and J6816-FS do not meet the secondary criteria for the internal standard D3-MeFOSAA and as a result have an N qualifier on the IS area report associated with method 18-0400_DW. A fresh aliquot was taken from these samples and run with a new calibration curve. Sample CR069PB-FS meets the secondary criteria for the internal standard D3-MeFOSAA in method 18-0400A_DW however J6816-FS does not. Both samples are being reported from the rerun.
DMS 7/6/2018

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan Thorn

Date: 2018.07.11 09:15:17 -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: J6816-FS(0)
Client Sample ID: WGNA-062618-RW-3136
Sample Size: 0.265
Units: L
Dilution Factor: 1.000
PIV (L): 0.001
Target Analyte: PFHxA
MRM Transition: 313.0 / 269.0
Data file: 07032018_5-0371.wiff
Result table: 18-0400A_DW
Area: 995,133.88
IS Name: 13C2-PFOA
IS Area: 55,673.35
IS Amount (ng/L): 100
y-intercept: 0.14074
slope: 0.64406

$$\text{Concentration} = \frac{[(995133.88/55673.35) - 0.14074]}{0.64406} * 100 * 0.001 * 1 / 0.265$$

ng/L = 10.39



Project Client: Tetra Tech

Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.: 100117920-WE04

Preparation Batch: 18-0400

Data Set: DP-18-0161

	CR069PB-FS (Procedural Blank)	CR070LCS-FS (Laboratory Control Sample)	J6816-FS (WGNA-062618-RW-3136)	J6817-FS (WGNA-062618-FRB-3136)
PFHxA	-	L	L	-
PFHpA	-	L	L	-
PFOA	-	L	L	-
PFNA	-	L	L	-
PFDA	-	L	-	-
PFUnA	-	L	-	-
PFDoA	-	L	-	-
PFTTrDA	-	L	-	-
PFTeDA	-	L	-	-
NMeFOSAA	-	L	-	-
NEtFOSAA	-	L	-	-
PFBS	-	L	L	-
PFHxS	-	L/Br	L/Br	-
PFOS	-	L/Br	L/Br	L/Br

"L" :Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	13C4-PFOS	228,307.87	-
JX68	L2	7/2/18 9:44	13C4-PFOS	229,395.98	-
JX69	L3	7/2/18 9:53	13C4-PFOS	222,081.65	-
JX70	L4	7/2/18 10:01	13C4-PFOS	233,939.96	-
JX71	L5	7/2/18 10:10	13C4-PFOS	219,992.23	-
JX72	L6	7/2/18 10:19	13C4-PFOS	220,247.15	-
JX73	L7	7/2/18 10:28	13C4-PFOS	220,249.66	-
JX74	L8	7/2/18 10:37	13C4-PFOS	183,941.38	-
JX75	L9	7/2/18 10:46	13C4-PFOS	219,730.99	3.8

PASS

Average Lower Upper
 219,765.21 109,882.61 329,647.82

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	13C4-PFOS	228,307.87	109,882.61	329,647.82		153,994.56	307,989.12	
JX68	L2	7/2/18 9:44	13C4-PFOS	229,395.98	109,882.61	329,647.82		153,994.56	307,989.12	
JX69	L3	7/2/18 9:53	13C4-PFOS	222,081.65	109,882.61	329,647.82		153,994.56	307,989.12	
JX70	L4	7/2/18 10:01	13C4-PFOS	233,939.96	109,882.61	329,647.82		153,994.56	307,989.12	
JX71	L5	7/2/18 10:10	13C4-PFOS	219,992.23	109,882.61	329,647.82		153,994.56	307,989.12	
JX72	L6	7/2/18 10:19	13C4-PFOS	220,247.15	109,882.61	329,647.82		153,994.56	307,989.12	
JX73	L7	7/2/18 10:28	13C4-PFOS	220,249.66	109,882.61	329,647.82		153,994.56	307,989.12	
JX74	L8	7/2/18 10:37	13C4-PFOS	183,941.38	109,882.61	329,647.82		153,994.56	307,989.12	
JX75	L9	7/2/18 10:46	13C4-PFOS	219,730.99	109,882.61	329,647.82		153,994.56	307,989.12	
JX66 ICC	ICC	7/2/18 10:55	13C4-PFOS	201,375.62	109,882.61	329,647.82		153,994.56	307,989.12	
JX73	CCV	7/2/18 11:22	13C4-PFOS	225,795.39	109,882.61	329,647.82		153,994.56	307,989.12	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	13C4-PFOS	161,984.69	109,882.61	329,647.82		158,056.77	316,113.55	
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	13C4-PFOS	167,242.01	109,882.61	329,647.82		158,056.77	316,113.55	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	13C4-PFOS	158,548.78	109,882.61	329,647.82		158,056.77	316,113.55	
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	13C4-PFOS	167,225.23	109,882.61	329,647.82		158,056.77	316,113.55	
JX72	CCV	7/2/18 12:38	13C4-PFOS	207,385.04	109,882.61	329,647.82		158,056.77	316,113.55	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	13C2-PFOA	62,440.06	-
JX68	L2	7/2/18 9:44	13C2-PFOA	55,877.57	-
JX69	L3	7/2/18 9:53	13C2-PFOA	57,703.53	-
JX70	L4	7/2/18 10:01	13C2-PFOA	58,253.21	-
JX71	L5	7/2/18 10:10	13C2-PFOA	57,559.12	-
JX72	L6	7/2/18 10:19	13C2-PFOA	59,952.37	-
JX73	L7	7/2/18 10:28	13C2-PFOA	58,592.96	-
JX74	L8	7/2/18 10:37	13C2-PFOA	51,435.00	-
JX75	L9	7/2/18 10:46	13C2-PFOA	63,191.48	1.2

PASS

Average Lower Upper
 58,333.92 29,166.96 87,500.88

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	13C2-PFOA	62,440.06	29,166.96	87,500.88		40,291.38	80,582.77	
JX68	L2	7/2/18 9:44	13C2-PFOA	55,877.57	29,166.96	87,500.88		40,291.38	80,582.77	
JX69	L3	7/2/18 9:53	13C2-PFOA	57,703.53	29,166.96	87,500.88		40,291.38	80,582.77	
JX70	L4	7/2/18 10:01	13C2-PFOA	58,253.21	29,166.96	87,500.88		40,291.38	80,582.77	
JX71	L5	7/2/18 10:10	13C2-PFOA	57,559.12	29,166.96	87,500.88		40,291.38	80,582.77	
JX72	L6	7/2/18 10:19	13C2-PFOA	59,952.37	29,166.96	87,500.88		40,291.38	80,582.77	
JX73	L7	7/2/18 10:28	13C2-PFOA	58,592.96	29,166.96	87,500.88		40,291.38	80,582.77	
JX74	L8	7/2/18 10:37	13C2-PFOA	51,435.00	29,166.96	87,500.88		40,291.38	80,582.77	
JX75	L9	7/2/18 10:46	13C2-PFOA	63,191.48	29,166.96	87,500.88		40,291.38	80,582.77	
JX66 ICC	ICC	7/2/18 10:55	13C2-PFOA	53,667.60	29,166.96	87,500.88		40,291.38	80,582.77	
JX73	CCV	7/2/18 11:22	13C2-PFOA	57,435.15	29,166.96	87,500.88		40,291.38	80,582.77	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	13C2-PFOA	41,701.98	29,166.96	87,500.88		40,204.61	80,409.21	
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	13C2-PFOA	45,194.46	29,166.96	87,500.88		40,204.61	80,409.21	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	13C2-PFOA	42,278.43	29,166.96	87,500.88		40,204.61	80,409.21	
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	13C2-PFOA	43,098.26	29,166.96	87,500.88		40,204.61	80,409.21	
JX72	CCV	7/2/18 12:38	13C2-PFOA	54,538.44	29,166.96	87,500.88		40,204.61	80,409.21	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	d3-MeFOSAA	19,141.83	-
JX68	L2	7/2/18 9:44	d3-MeFOSAA	19,490.78	-
JX69	L3	7/2/18 9:53	d3-MeFOSAA	18,567.17	-
JX70	L4	7/2/18 10:01	d3-MeFOSAA	19,806.14	-
JX71	L5	7/2/18 10:10	d3-MeFOSAA	20,572.46	-
JX72	L6	7/2/18 10:19	d3-MeFOSAA	19,686.78	-
JX73	L7	7/2/18 10:28	d3-MeFOSAA	19,836.25	-
JX74	L8	7/2/18 10:37	d3-MeFOSAA	16,686.42	-
JX75	L9	7/2/18 10:46	d3-MeFOSAA	20,554.11	7.1

PASS

Average Lower Upper
 19,371.33 9,685.67 29,057.00

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	d3-MeFOSAA	19,141.83	9,685.67	29,057.00		14,400.72	28,801.44	
JX68	L2	7/2/18 9:44	d3-MeFOSAA	19,490.78	9,685.67	29,057.00		14,400.72	28,801.44	
JX69	L3	7/2/18 9:53	d3-MeFOSAA	18,567.17	9,685.67	29,057.00		14,400.72	28,801.44	
JX70	L4	7/2/18 10:01	d3-MeFOSAA	19,806.14	9,685.67	29,057.00		14,400.72	28,801.44	
JX71	L5	7/2/18 10:10	d3-MeFOSAA	20,572.46	9,685.67	29,057.00		14,400.72	28,801.44	
JX72	L6	7/2/18 10:19	d3-MeFOSAA	19,686.78	9,685.67	29,057.00		14,400.72	28,801.44	
JX73	L7	7/2/18 10:28	d3-MeFOSAA	19,836.25	9,685.67	29,057.00		14,400.72	28,801.44	
JX74	L8	7/2/18 10:37	d3-MeFOSAA	16,686.42	9,685.67	29,057.00		14,400.72	28,801.44	
JX75	L9	7/2/18 10:46	d3-MeFOSAA	20,554.11	9,685.67	29,057.00		14,400.72	28,801.44	
JX66 ICC	ICC	7/2/18 10:55	d3-MeFOSAA	17,076.54	9,685.67	29,057.00		14,400.72	28,801.44	
JX73	CCV	7/2/18 11:22	d3-MeFOSAA	20,148.69	9,685.67	29,057.00		14,400.72	28,801.44	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	d3-MeFOSAA	13,949.27	9,685.67	29,057.00		14,104.08	28,208.17	N *
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	d3-MeFOSAA	15,474.33	9,685.67	29,057.00		14,104.08	28,208.17	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	d3-MeFOSAA	12,938.86	9,685.67	29,057.00		14,104.08	28,208.17	N *
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	d3-MeFOSAA	14,365.79	9,685.67	29,057.00		14,104.08	28,208.17	
JX72	CCV	7/2/18 12:38	d3-MeFOSAA	18,673.39	9,685.67	29,057.00		14,104.08	28,208.17	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	13C4-PFOS	227,620.35	-
JX68	L2	7/3/18 16:05	13C4-PFOS	224,024.95	-
JX69	L3	7/3/18 16:14	13C4-PFOS	207,944.48	-
JX70	L4	7/3/18 16:23	13C4-PFOS	218,817.09	-
JX71	L5	7/3/18 16:32	13C4-PFOS	221,668.16	-
JX72	L6	7/3/18 16:41	13C4-PFOS	168,650.41	-
JX73	L7	7/3/18 16:50	13C4-PFOS	184,476.89	-
JX74	L8	7/3/18 16:59	13C4-PFOS	181,051.18	-
JX75	L9	7/3/18 17:08	13C4-PFOS	188,640.06	18.7

PASS

Average Lower Upper
 202,543.73 101,271.87 303,815.60

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	13C4-PFOS	227,620.35	101,271.87	303,815.60		155,167.71	310,335.42	
JX68	L2	7/3/18 16:05	13C4-PFOS	224,024.95	101,271.87	303,815.60		155,167.71	310,335.42	
JX69	L3	7/3/18 16:14	13C4-PFOS	207,944.48	101,271.87	303,815.60		155,167.71	310,335.42	
JX70	L4	7/3/18 16:23	13C4-PFOS	218,817.09	101,271.87	303,815.60		155,167.71	310,335.42	
JX71	L5	7/3/18 16:32	13C4-PFOS	221,668.16	101,271.87	303,815.60		155,167.71	310,335.42	
JX72	L6	7/3/18 16:41	13C4-PFOS	168,650.41	101,271.87	303,815.60		155,167.71	310,335.42	
JX73	L7	7/3/18 16:50	13C4-PFOS	184,476.89	101,271.87	303,815.60		155,167.71	310,335.42	
JX74	L8	7/3/18 16:59	13C4-PFOS	181,051.18	101,271.87	303,815.60		155,167.71	310,335.42	
JX75	L9	7/3/18 17:08	13C4-PFOS	188,640.06	101,271.87	303,815.60		155,167.71	310,335.42	
JX66 ICC	ICC	7/3/18 17:17	13C4-PFOS	203,773.30	101,271.87	303,815.60		155,167.71	310,335.42	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	13C4-PFOS	176,247.31	101,271.87	303,815.60		155,167.71	310,335.42	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	13C4-PFOS	156,744.32	101,271.87	303,815.60		155,167.71	310,335.42	
JX72 CCV	CCV	7/3/18 17:53	13C4-PFOS	167,912.20	101,271.87	303,815.60		155,167.71	310,335.42	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	13C2-PFOA	72,492.43	-
JX68	L2	7/3/18 16:05	13C2-PFOA	70,783.89	-
JX69	L3	7/3/18 16:14	13C2-PFOA	66,451.85	-
JX70	L4	7/3/18 16:23	13C2-PFOA	71,466.46	-
JX71	L5	7/3/18 16:32	13C2-PFOA	70,082.54	-
JX72	L6	7/3/18 16:41	13C2-PFOA	51,495.21	-
JX73	L7	7/3/18 16:50	13C2-PFOA	59,205.92	-
JX74	L8	7/3/18 16:59	13C2-PFOA	65,004.53	-
JX75	L9	7/3/18 17:08	13C2-PFOA	73,515.18	1.4

PASS

Average Lower Upper
 66,722.00 33,361.00 100,083.00

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	13C2-PFOA	72,492.43	33,361.00	100,083.00		49,057.78	98,115.56	
JX68	L2	7/3/18 16:05	13C2-PFOA	70,783.89	33,361.00	100,083.00		49,057.78	98,115.56	
JX69	L3	7/3/18 16:14	13C2-PFOA	66,451.85	33,361.00	100,083.00		49,057.78	98,115.56	
JX70	L4	7/3/18 16:23	13C2-PFOA	71,466.46	33,361.00	100,083.00		49,057.78	98,115.56	
JX71	L5	7/3/18 16:32	13C2-PFOA	70,082.54	33,361.00	100,083.00		49,057.78	98,115.56	
JX72	L6	7/3/18 16:41	13C2-PFOA	51,495.21	33,361.00	100,083.00		49,057.78	98,115.56	
JX73	L7	7/3/18 16:50	13C2-PFOA	59,205.92	33,361.00	100,083.00		49,057.78	98,115.56	
JX74	L8	7/3/18 16:59	13C2-PFOA	65,004.53	33,361.00	100,083.00		49,057.78	98,115.56	
JX75	L9	7/3/18 17:08	13C2-PFOA	73,515.18	33,361.00	100,083.00		49,057.78	98,115.56	
JX66 ICC	ICC	7/3/18 17:17	13C2-PFOA	65,583.85	33,361.00	100,083.00		49,057.78	98,115.56	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	13C2-PFOA	53,288.10	33,361.00	100,083.00		49,057.78	98,115.56	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	13C2-PFOA	55,673.35	33,361.00	100,083.00		49,057.78	98,115.56	
JX72 CCV	CCV	7/3/18 17:53	13C2-PFOA	57,238.83	33,361.00	100,083.00		49,057.78	98,115.56	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	d3-MeFOSAA	30,839.15	-
JX68	L2	7/3/18 16:05	d3-MeFOSAA	30,215.30	-
JX69	L3	7/3/18 16:14	d3-MeFOSAA	26,607.87	-
JX70	L4	7/3/18 16:23	d3-MeFOSAA	30,356.57	-
JX71	L5	7/3/18 16:32	d3-MeFOSAA	30,480.13	-
JX72	L6	7/3/18 16:41	d3-MeFOSAA	21,687.27	-
JX73	L7	7/3/18 16:50	d3-MeFOSAA	25,955.29	-
JX74	L8	7/3/18 16:59	d3-MeFOSAA	27,319.03	-
JX75	L9	7/3/18 17:08	d3-MeFOSAA	30,441.43	1.3

PASS

Average Lower Upper
 28,211.34 14,105.67 42,317.01

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	d3-MeFOSAA	30,839.15	14,105.67	42,317.01		21,336.09	42,672.18	
JX68	L2	7/3/18 16:05	d3-MeFOSAA	30,215.30	14,105.67	42,317.01		21,336.09	42,672.18	
JX69	L3	7/3/18 16:14	d3-MeFOSAA	26,607.87	14,105.67	42,317.01		21,336.09	42,672.18	
JX70	L4	7/3/18 16:23	d3-MeFOSAA	30,356.57	14,105.67	42,317.01		21,336.09	42,672.18	
JX71	L5	7/3/18 16:32	d3-MeFOSAA	30,480.13	14,105.67	42,317.01		21,336.09	42,672.18	
JX72	L6	7/3/18 16:41	d3-MeFOSAA	21,687.27	14,105.67	42,317.01		21,336.09	42,672.18	
JX73	L7	7/3/18 16:50	d3-MeFOSAA	25,955.29	14,105.67	42,317.01		21,336.09	42,672.18	
JX74	L8	7/3/18 16:59	d3-MeFOSAA	27,319.03	14,105.67	42,317.01		21,336.09	42,672.18	
JX75	L9	7/3/18 17:08	d3-MeFOSAA	30,441.43	14,105.67	42,317.01		21,336.09	42,672.18	
JX66 ICC	ICC	7/3/18 17:17	d3-MeFOSAA	28,916.42	14,105.67	42,317.01		21,336.09	42,672.18	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	d3-MeFOSAA	23,508.28	14,105.67	42,317.01		21,336.09	42,672.18	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	d3-MeFOSAA	20,502.61	14,105.67	42,317.01		21,336.09	42,672.18	N *
JX72 CCV	CCV	7/3/18 17:53	d3-MeFOSAA	24,475.50	14,105.67	42,317.01		21,336.09	42,672.18	

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 10:28:45 AM	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.52	1.07	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.81	1.28	0.8 – 1.5

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 4:50:33 PM	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.50	1.03	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.78	1.15	0.8 – 1.5

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 10:28:45 AM	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.52	29	>10
PFBS_2	298.9 / 99.0	1.52	22	>10
PFHxA_1	313.0 / 269.0	1.81	24	>10
PFHxA_2	313.0 / 119.0	1.81	23	>10
PFHpA_1	363.0 / 319.0	2.18	28	>10
PFHpA_2	363.0 / 169.0	2.18	24	>10
PFHxS_1	399.0 / 80.0	2.19	36	>10
PFHxS_2	399.0 / 99.0	2.20	35	>10
PFOA_1	413.0 / 369.0	2.56	38	>10
PFOA_2	413.0 / 169.0	2.56	30	>10
PFNA_1	463.0 / 419.0	2.94	35	>10
PFNA_2	463.0 / 219.0	2.94	26	>10
PFOS_1	499.0 / 80.0	2.93	39	>10
PFOS_2	499.0 / 99.0	2.93	37	>10
PFDA_1	513.0 / 469.0	3.29	30	>10
PFDA_2	513.0 / 219.0	3.29	41	>10
PFUnA_1	563.0 / 519.0	3.62	28	>10
PFUnA_2	563.0 / 269.0	3.62	32	>10
PFDoA_1	613.0 / 569.0	3.90	30	>10
PFDoA_2	613.0 / 319.0	3.90	36	>10
PFTTrDA_1	663.0 / 619.0	4.16	44	>10
PFTTrDA_2	663.0 / 169.0	4.16	34	>10
PFTeDA_1	713.0 / 669.0	4.38	48	>10
PFTeDA_2	713.0 / 169.0	4.38	35	>10
NMeFOSAA_1	570.0 / 419.0	3.44	33	>10
NMeFOSAA_2	570.0 / 512.0	3.44	49	>10
NEtFOSAA_1	584.0 / 419.0	3.60	35	>10
NEtFOSAA_2	584.0 / 483.0	3.60	34	>10
13C2-PFHxA	315.0 / 270.0	1.80	36	>10
13C2-PFDA	515.0 / 470.0	3.28	37	>10
d5-EtFOSAA	589.0 / 419.0	3.60	27	>10

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 4:50:33 PM	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.50	34	>10
PFBS_2	298.9 / 99.0	1.50	35	>10
PFHxA_1	313.0 / 269.0	1.78	24	>10
PFHxA_2	313.0 / 119.0	1.78	20	>10
PFHpA_1	363.0 / 319.0	2.15	34	>10
PFHpA_2	363.0 / 169.0	2.15	28	>10
PFHxS_1	399.0 / 80.0	2.17	48	>10
PFHxS_2	399.0 / 99.0	2.17	30	>10
PFOA_1	413.0 / 369.0	2.53	29	>10
PFOA_2	413.0 / 169.0	2.53	33	>10
PFNA_1	463.0 / 419.0	2.91	28	>10
PFNA_2	463.0 / 219.0	2.91	26	>10
PFOS_1	499.0 / 80.0	2.91	27	>10
PFOS_2	499.0 / 99.0	2.90	35	>10
PFDA_1	513.0 / 469.0	3.25	29	>10
PFDA_2	513.0 / 219.0	3.25	36	>10
PFUnA_1	563.0 / 519.0	3.57	26	>10
PFUnA_2	563.0 / 269.0	3.57	27	>10
PFDoA_1	613.0 / 569.0	3.85	29	>10
PFDoA_2	613.0 / 319.0	3.85	36	>10
PFTTrDA_1	663.0 / 619.0	4.10	36	>10
PFTTrDA_2	663.0 / 169.0	4.09	35	>10
PFTeDA_1	713.0 / 669.0	4.31	52	>10
PFTeDA_2	713.0 / 169.0	4.31	45	>10
NMeFOSAA_1	570.0 / 419.0	3.40	28	>10
NMeFOSAA_2	570.0 / 512.0	3.40	38	>10
NEtFOSAA_1	584.0 / 419.0	3.56	39	>10
NEtFOSAA_2	584.0 / 483.0	3.56	31	>10
13C2-PFHxA	315.0 / 270.0	1.77	29	>10
13C2-PFDA	515.0 / 470.0	3.24	40	>10
d5-EtFOSAA	589.0 / 419.0	3.55	25	>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	10.80	1.13	3.39	11
PFHpA	375-85-9	11.18	1.28	3.84	11
PFOA	335-67-1	11.23	1.23	3.69	11
PFNA	375-95-1	11.07	1.19	3.57	11
PFDA	335-76-2	11.07	1.26	3.78	11
PFUnA	2058-94-8	10.94	1.46	4.38	11
PFDoA	307-55-1	10.66	1.71	5.13	11
PFTTrDA	72629-94-8	10.59	1.66	4.98	11
PFTeDA	376-06-7	11.90	1.38	4.14	11
NMeFOSAA	2355-31-9	10.80	0.92	2.76	11
NEtFOSAA	2991-50-6	10.27	1.03	3.09	11
PFBS	375-73-5	8.92	1.32	3.96	11
PFHxS	355-46-4	10.41	1.33	3.99	11
PFOS	1763-23-1	9.82	1.19	3.57	11

BATTELLE DETECTION LIMITS FOR PFAS IN DRINKING WATER

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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)
PFHxA	307-24-4	0.22	0.5	2.5	2.5
PFHpA	375-85-9	0.34	1.0	2.5	2.5
PFOA	335-67-1	0.38	1.0	2.5	2.5
PFNA	375-95-1	0.37	1.0	2.5	2.5
PFDA	335-76-2	0.39	1.0	2.5	2.5
PFUnA	2058-94-8	0.38	1.0	2.5	2.5
PFDoA	307-55-1	0.42	1.0	2.5	2.5
PFTrDA	72629-94-8	0.42	1.0	2.5	2.5
PFTeDA	376-06-7	0.73	1.5	2.5	2.5
NMeFOSAA	2355-31-9	0.42	1.0	2.5	2.5
NEtFOSAA	2991-50-6	0.44	1.0	2.5	2.5
PFBS	375-73-5	0.21	0.5	2.5	2.5
PFHxS	3871-99-6	0.34	1.0	2.5	2.5
PFOS	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
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFBS	375-73-5	Target	298.9.0 / 80.0	298.9.0 / 99.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
13C2-PFHxA	NA	SIS	315.0 / 270.0	NA
13C2-PFDA	NA	SIS	515.0 / 470.0	NA
d5-EtFOSAA	NA	SIS	589.0 / 419.0	NA
¹³C₂-PFOA	NA	IS	415.0 / 270.0	NA
¹³C₄-PFOS	NA	IS	503.0 / 80.0	NA
d3-MeFOSAA	NA	IS	573.0 / 419.0	NA



Drinking Water Calibration to Sample Equivalents

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

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration

**Zef Scientific Inc.**

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San Diego, CA
USA 92130

1975 Hymus Blvd.
Suite 230
Dorval, QC
Canada H9P 1J8

Phone: 1.866.854.7988

QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

QTRAP 5500 Preventive Maintenance Checklist

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

☒ **PASS**

☐ **FAIL**

Any failure will lead to an automatic Service Call being open to investigate fault.

Preventive Maintenance is performed twice every year unless specified in the Service Contract. It is designed to help maintain optimum system performance and to help diagnose any system deficiencies.

Engineer is required the assigned Request ID for this PM otherwise making this job invalid.

Comments: _____

Performed By: Kaustubh Dhayagude **Date:** 22-Feb-2017

Approved By : _____ **Date:** _____

**Zef Scientific Inc.**

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1975 Hymus Blvd.
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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PRE PM PPG PERFORMANCE EVALUATION:

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

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
☒ CAD 0	0.5	0.4 to 1.1 x10 ⁻⁵ Torr
☒ CAD Low	1.9	Read Only
☒ CAD Medium	2.4	Read Only
☒ CAD High	3.4	Read Only
☒ CAD 12	3.4	2.4 to 4.5 x10 ⁻⁵ Torr

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

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

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

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

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

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

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

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

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

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

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

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

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

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

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

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

PREVENTIVE MAINTENANCE CHECKLIST:

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

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

POST PM PPG PERFORMANCE TESTS:

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

CAD Settings	Vacuum Reading (x 10 ⁻⁵ Torr)	Acceptance Criteria
☒ CAD 0	0.8	0.4 to 1.1 x10 ⁻⁵ Torr
☒ CAD Low	2.1	Read Only
☒ CAD Medium	2.6	Read Only
☒ CAD High	3.7	Read Only
☒ CAD 12	3.7	2.4 to 4.5 x10 ⁻⁵ Torr

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

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

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

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

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

Transmission Efficiency: 16.93% (≥ 10.0%)

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

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LC/MS/MS Detector System

Appendix ZEFPM003-2L

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

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

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

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

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

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

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

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

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

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

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QTRAP 5500

LC/MS/MS Detector System

Appendix ZEFPM003-2L

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

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

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

Mass	Scan Rate (Da/s)	Fragamentation OFF		Fragmentation ON	
		Intensity	Spec	Intensity	Spec
MS3 397.2	1000	3.2 e7	Contains only 397.2	N/A	N/A
☐ 236 OR ☒ 365	1000	1.19 e8	Fragment Intensity	> 4.4 e6	≥1.6x 10 ^{e6}

REVIEW:

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

END OF PREVENTIVE MAINTENANCE CHECKLIST

Document history:

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



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: 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: JV41

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)
180425-04	EPA-537PDS-L (second source)	Neat	~2.00000 0	03/05/23	---	---	500 uL	1	20	~0.0500

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 8:26:00 AM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JV41

Description: PFAS - 537.1 Second Source LCS/MS Solution

Stock Id: 180425-04

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-butanedisulfonate	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-butanedisulfonate	.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:
180425-04	Pipette	B1100330B

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 8:26:00 AM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JV42

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: 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 3:21:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JV42

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-butanefulfonate	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-nonanoic 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
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-butanefulfonate	.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-nonanoic Acid	.05000
Perfluoro-n-octanoic Acid	.05000
Perfluoro-n-tetradecanoic acid	.05000
Perfluoro-n-tridecanoic acid	.05000
Perfluoro-n-undecanoic acid	.05000

Syringes/Pipettes:

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

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 3:21:00 PM



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



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



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: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

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

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

Balance ID: _____

Comment: 80/20 methanol/milli-q water

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

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

Stock Id: 171025-01

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

Final Concentrations:

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

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

Comment: 80/20 methanol/milli-q water

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



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JW44

Description: PFAS - DOD Second Source LCS/MS Solution

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

Syringes/Pipettes:

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

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

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

Comment: 80/20 methanol/milli-q water

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



It can be done

Standard Solution Prep Form II

Approved: ☐

Standard Laboratory ID Number: JX66

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)
JV41	PFAS - 537.1 Second Source LCS/MS Solution	Solution	~0	05/02/19	---	---	200 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: _____ Date: _____

It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JX66

Description: PFAS - 537.1 ICC

Stock Id: JV41

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-butanefluoride	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: 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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100

Solution Prepared By: Schumitz, Denise

Date Prepared:

6/25/2018

Expiration Date:

5/2/2019

Solution Volume

40 mL X

1

Vials

Refrigerator/Freezer No:

LC Laboratory: Refrigerator - R0107

Comment:

96/4 MeOH/MilliQ (RP-180625-2)

Approved By:

Date:



It can be done

Standard Solution Concentrations

Approved: ☐

Standard Laboratory ID Number: JX66

Description: PFAS - 537.1 ICC

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

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107		
Comment: 96/4 MeOH/MilliQ (RP-180625-2)		

Approved By: _____ **Date:** _____

It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX67

Description: PFAS - 537.1 ICAL L1

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV43	PFAS - 537.1 Low ICAL Stock	Solution	~0	05/02/19	---	---	50 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX67

Description: PFAS - 537.1 ICAL L1

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	50	0.01	---	---	1	10	0.00003
N-methylperfluoro-1-octanesulfonamidoacetic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-1-butanedisulfonate	50	0.00	---	---	1	10	0.00002
Perfluoro-1-hexanedisulfonate	50	0.00	---	---	1	10	0.00002
Perfluoro-1-octanedisulfonate	50	0.00	---	---	1	10	0.00002
Perfluoro-n-decanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-dodecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-heptanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-hexanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-nonanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-octanoic Acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-tetradecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-tridecanoic acid	50	0.01	---	---	1	10	0.00003
Perfluoro-n-undecanoic acid	50	0.01	---	---	1	10	0.00003

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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00003

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM

It can be done

Standard Solution ConcentrationsApproved: ☒**Standard Laboratory ID Number:** JX67**Description:** PFAS - 537.1 ICAL L1

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00003
Perfluoro-1-butanefulfonate	.00002
Perfluoro-1-hexanesulfonate	.00002
Perfluoro-1-octanesulfonate	.00002
Perfluoro-n-decanoic Acid	.00003
Perfluoro-n-dodecanoic acid	.00003
Perfluoro-n-heptanoic Acid	.00003
Perfluoro-n-hexanoic acid	.00003
Perfluoro-n-nonanoic Acid	.00003
Perfluoro-n-octanoic Acid	.00003
Perfluoro-n-tetradecanoic acid	.00003
Perfluoro-n-tridecanoic acid	.00003
Perfluoro-n-undecanoic acid	.00003

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 MeOH/MilliQ (RP-180625-2)**Approved By:** Thorn, Jonathan **Date:** 6/29/2018 1:37:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX68

Description: PFAS - 537.1 ICAL L2

Assigned Lab ID (from receipt log)	Chemical Name:	Source	Stock (ug/mL)	Expir. Date	Purity (%)	Density (g/mL)	Amount Taken	Conv. Fact.	Final Vol. (mL)	Std. Conc. (ug/mL)
JV43	PFAS - 537.1 Low ICAL Stock	Solution	~0	05/02/19	---	---	100 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX68

Description: PFAS - 537.1 ICAL L2

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	100	0.01	---	---	1	10	0.00005
N-methylperfluoro-1-octanesulfonamidoacetic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-1-butanefluoride	100	0.00	---	---	1	10	0.00004
Perfluoro-1-hexanesulfonate	100	0.00	---	---	1	10	0.00005
Perfluoro-1-octanesulfonate	100	0.00	---	---	1	10	0.00005
Perfluoro-n-decanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-dodecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-heptanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-hexanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-nonanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-octanoic Acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-tetradecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-tridecanoic acid	100	0.01	---	---	1	10	0.00005
Perfluoro-n-undecanoic acid	100	0.01	---	---	1	10	0.00005

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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00005

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX68

Description: PFAS - 537.1 ICAL L2

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00005
Perfluoro-1-butanefulfonate	.00004
Perfluoro-1-hexanesulfonate	.00005
Perfluoro-1-octanesulfonate	.00005
Perfluoro-n-decanoic Acid	.00005
Perfluoro-n-dodecanoic acid	.00005
Perfluoro-n-heptanoic Acid	.00005
Perfluoro-n-hexanoic acid	.00005
Perfluoro-n-nonanoic Acid	.00005
Perfluoro-n-octanoic Acid	.00005
Perfluoro-n-tetradecanoic acid	.00005
Perfluoro-n-tridecanoic acid	.00005
Perfluoro-n-undecanoic acid	.00005

Syringes/Pipettes:

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX69

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
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

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX69

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-butanedisulfonate	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: 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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00010

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:37:00 PM

It can be done

Standard Solution ConcentrationsApproved: ☒**Standard Laboratory ID Number:** JX69**Description:** PFAS - 537.1 ICAL L3

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00010
Perfluoro-1-butanedisulfonate	.00009
Perfluoro-1-hexanedisulfonate	.00009
Perfluoro-1-octanedisulfonate	.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:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 MeOH/MilliQ (RP-180625-2)**Approved By:** Thorn, Jonathan **Date:** 6/29/2018 1:37:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX70

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
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

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID:

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX70

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-butanedisulfonate	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: 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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00025

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX70

Description: PFAS - 537.1 ICAL L4

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00025
Perfluoro-1-butanedisulfonate	.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:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX71

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
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

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX71

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-butanedisulfonate	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: 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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00050

Solution Prepared By: Schumitz, Denise

Date Prepared:

6/25/2018 Expiration Date:

5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan

Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution ConcentrationsApproved: ☒**Standard Laboratory ID Number:** JX71

Description: PFAS - 537.1 ICAL L5

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:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
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Solution Volume	40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX72

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)
JV42	PFAS - 537.1 High ICAL Stock	Solution	~0	05/02/19	---	---	200 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX72

Description: PFAS - 537.1 ICAL L6

Stock Id: JV42

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-butanedisulfonate	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

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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00100

Solution Prepared By: Schumitz, Denise

Date Prepared:

6/25/2018 Expiration Date:

5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan

Date: 6/29/2018 1:38:00 PM

It can be done

Standard Solution ConcentrationsApproved: ☒**Standard Laboratory ID Number:** JX72

Description: PFAS - 537.1 ICAL L6

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00100
Perfluoro-1-butanefulfonate	.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:

Solution Prepared By: Schumitz, Denise **Date Prepared:** 6/25/2018 **Expiration Date:** 5/2/2019**Solution Volume** 40 mL X 1 **Vials Refrigerator/Freezer No:** LC Laboratory: Refrigerator - R0107**Comment:** 96/4 MeOH/MilliQ (RP-180625-2)**Approved By:** Thorn, Jonathan **Date:** 6/29/2018 1:38:00 PM



It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX73

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)
JV42	PFAS - 537.1 High ICAL Stock	Solution	~0	05/02/19	---	---	500 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
Solution Volume 40 mL X 1 Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107	

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:39:00 PM

It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX73

Description: PFAS - 537.1 ICAL L7

Stock Id: JV42

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-butanedisulfonate	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

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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00250

Solution Prepared By: Schumitz, Denise

Date Prepared:

6/25/2018 Expiration Date:

5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan

Date: 6/29/2018 1:39:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX73

Description: PFAS - 537.1 ICAL L7

N-methylperfluoro-1-octanesulfonamidoacetic acid	.00250
Perfluoro-1-butanefulfonate	.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:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
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Solution Volume 40 mL X 1 Vials Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan	Date: 6/29/2018 1:39:00 PM
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It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX74

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)
JV42	PFAS - 537.1 High ICAL Stock	Solution	~0	05/02/19	---	---	1000 uL	1	10	~0.0000
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

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:41:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX74

Description: PFAS - 537.1 ICAL L8

Stock Id: JV42

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-butanedisulfonate	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

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
N-ethylperfluoro-octanesulfonamidoacetic acid	.00500

Solution Prepared By: Schumitz, Denise

Date Prepared:

6/25/2018 Expiration Date:

5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan

Date: 6/29/2018 1:41:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX74

Description: PFAS - 537.1 ICAL L8

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:

Solution Prepared By: Schumitz, Denise	Date Prepared: 6/25/2018	Expiration Date: 5/2/2019
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Solution Volume	40 mL X 1	Vials	Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107
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Comment:	96/4 MeOH/MilliQ (RP-180625-2)
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Approved By: Thorn, Jonathan	Date: 6/29/2018 1:41:00 PM
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It can be done

Standard Solution Prep Form II

Approved: ☒

Standard Laboratory ID Number: JX75

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)
JV42	PFAS - 537.1 High ICAL Stock	Solution	~0	05/02/19	---	---	1000 uL	1	5	~0.0000
JV61	PFAS - 537.1 Internal Standard Calibration Stock Solution	Solution	~0	05/02/19	---	---	25 uL	1	5	~0.0000
JV62	PFAS - 537.1 Surrogate Calibration Stock Solution	Solution	~0	05/02/19	---	---	50 uL	1	5	~0.0000

Solution Prepared By: Schumitz, Denise

Date Prepared: 6/25/2018

Expiration Date: 5/2/2019

Solution Volume 40 mL X 1 Vials

Refrigerator/Freezer No: LC Laboratory: Refrigerator - R0107

Balance ID: _____

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:40:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX75

Description: PFAS - 537.1 ICAL L9

Stock Id: JV42

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-butanedisulfonate	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

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	25	0.02	---	---	1	5	0.00010
13C4-PFOS	25	0.06	---	---	1	5	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	5	0.00020
13C2-PFHxA	50	0.02	---	---	1	5	0.00020
d5-EtFOSAA	50	0.08	---	---	1	5	0.00080

Final Concentrations:

Analyte:	Conc (ug/mL):
13C2-PFDA	.00020
13C2-PFHxA	.00020
13C2-PFOA	.00010
13C4-PFOS	.00029
d3-MeFOSAA	.00040
d5-EtFOSAA	.00080
N-ethylperfluoro-octanesulfonamidoacetic acid	.01000

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:40:00 PM



It can be done

Standard Solution Concentrations

Approved: ☒

Standard Laboratory ID Number: JX75

Description: PFAS - 537.1 ICAL L9

N-methylperfluoro-1-octanesulfonamidoacetic acid	.01000
Perfluoro-1-butanefulfonate	.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:

Solution Prepared By: Schumitz, Denise Date Prepared: 6/25/2018 Expiration Date: 5/2/2019

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

Comment: 96/4 MeOH/MilliQ (RP-180625-2)

Approved By: Thorn, Jonathan Date: 6/29/2018 1:40:00 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

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	

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

BDO Id: 171025-01

Reagent Receipt Report

Approved: ☐ ☐

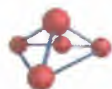
Name: PFOA - 2nd Source **Received:** 10/25/2017
Vendor: ABSOLUTE STANDARDS **Custodian:** Schumitz, Matt
Catalogue No: 99207 **Expires:** 3/22/2022
Type: Solution **Consumed:**
Lot No: 032217 **Stored In:** LC Laboratory - F0111
Quantity: 5 ea ml **% Moisture:**
Description: PFOA-DOD

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

Total Analytes: 24

Notes:

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



Analytical Reference Material ARM



CERTIFIED WEIGHT REPORT

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

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

5E-05 Balance Uncertainty
0.007 Flask Uncertainty

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

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

Note: All assigned values are anion concentrations.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)		
									CAS#	OSHA PEL (TWA)	LD50
1. Perfluoro-n-butyric acid	3670	PFBA0516	0.02	1.00	0.004	50.0	1.00	0.01	375-22-4	N/A	N/A
2. Perfluoro-n-pentanoic acid	3669	PFPeA0617	0.02	1.00	0.004	50.0	1.00	0.01	2706-90-3	N/A	N/A
3. Perfluorohexanoic acid	99199	030617	0.02	1.00	0.004	50.3	1.01	0.01	307-24-4	N/A	N/A
4. Perfluoroheptanoic acid	99197	030517	0.02	1.00	0.004	50.1	1.00	0.01	375-85-9	N/A	N/A
5. Perfluorooctanoic acid	99202	030617	0.02	1.00	0.004	50.2	1.00	0.01	335-67-1	N/A	ipr-rat 189mg/kg
6. Perfluorononanoic acid	99200	030617	0.02	1.00	0.004	50.1	1.00	0.01	375-95-1	N/A	N/A
7. Perfluorodecanoic acid	99195	030617	0.02	1.00	0.004	50.1	1.00	0.01	335-76-2	N/A	ori-rat 57mg/kg
8. Perfluoroundecanoic acid	99205	030617	0.02	1.00	0.004	50.1	1.00	0.01	2058-94-8	N/A	N/A
9. Tricosafuorododecanoic acid	99196	030617	0.02	1.00	0.004	50.1	1.00	0.01	307-55-1	N/A	N/A
10. Perfluorotridecanoic acid	99204	030617	0.02	1.00	0.004	50.1	1.00	0.01	72629-94-8	N/A	N/A
11. Perfluorotetradecanoic acid	99203	030617	0.02	1.00	0.004	50.1	1.00	0.01	376-06-7	N/A	N/A
12. Perfluoro-1-octanesulfonamide	3677	FOSA0916I	0.02	1.00	0.004	50.0	1.00	0.01	754-91-6	N/A	N/A
13. N-Methylperfluoro-1-octanesulfonamidoacetic acid	3667	NMeFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2355-31-9	N/A	N/A
14. N-Ethylperfluoro-1-octanesulfonamidoacetic acid	3664	NEtFOSA0117	0.02	1.00	0.004	50.0	1.00	0.01	2991-50-6	N/A	N/A
15. Perfluorobutanesulfonic acid	99194	031017	0.02	1.00	0.004	50.7	1.01	0.01	375-73-5	N/A	N/A
16. Perfluoro-1-pentanesulfonic acid	3956	LPFPeS0117	0.0214	1.07	0.004	46.9	1.00	0.01	630402-22-1	N/A	N/A
17. Perfluorohexanesulfonic acid (branched)	99198	030617	0.02	1.00	0.004	50.6	1.01	0.01	3871-99-6	N/A	N/A
18. Perfluoro-1-heptanesulfonic acid	3672	LPFHPS0817	0.021	1.05	0.004	47.6	1.00	0.01	375-92-8	N/A	N/A
19. Heptadecafluorooctanesulfonic acid (branched)	99201	030617	0.02	1.00	0.004	50.2	1.00	0.01	1763-23-1	N/A	N/A
20. Perfluoro-1-nonanesulfonic acid	3957	LPFNS0516	0.021	1.05	0.004	48.0	1.01	0.01	98789-57-2	N/A	N/A
21. Perfluoro-1-decanesulfonic acid	3671	LPFDS0217	0.021	1.05	0.004	48.2	1.01	0.01	2806-15-7	N/A	N/A
22. 1H,1H,2H,2H-Perfluorohexane sulfonic acid	3955	42FTS1216	0.0214	1.07	0.004	46.7	1.00	0.01	00-00-0	N/A	N/A
23. 1H,1H,2H,2H-Perfluorooctane sulfonic acid	3661	62FTS0616	0.021	1.05	0.004	47.4	1.00	0.01	27619-97-2	N/A	N/A
24. 1H,1H,2H,2H-Perfluorodecane sulfonic acid	3662	82FTS1216	0.021	1.05	0.004	47.9	1.01	0.01	39108-34-4	N/A	N/A

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



It can be done

BDO Id: 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 Val:	Lower Limit:	Upper Limit:
d3-N-MeFOSAA	BDO-1838	4.0000	100.00	--	--	☐		
M2PFOA	BDO-1842	1.0000	100.00	--	--	☐		
MPFOS	BDO-1840	2.8700	100.00	--	--	☐		

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 (^{13}C) perfluoroalkylcarboxylic acid, a mass-labelled (^{13}C) perfluoroalkylsulfonate, and a mass-labelled (^2H) 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 $\geq 99\%$. The mass-labelled perfluorooctanesulfonamidoacetic acid has a chemical purity of >98% and an isotopic purity of $\geq 98\%$.

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 or contact us directly at 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
Perfluoro-n-[1,2- ¹³ C ₂]octanoic acid	M2PFOA	1000		A
N-methyl-d ₃ -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- ¹³ C ₄]octanesulfonate	MPFOS	3000	2870	B

Certified By:

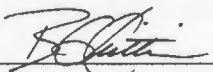
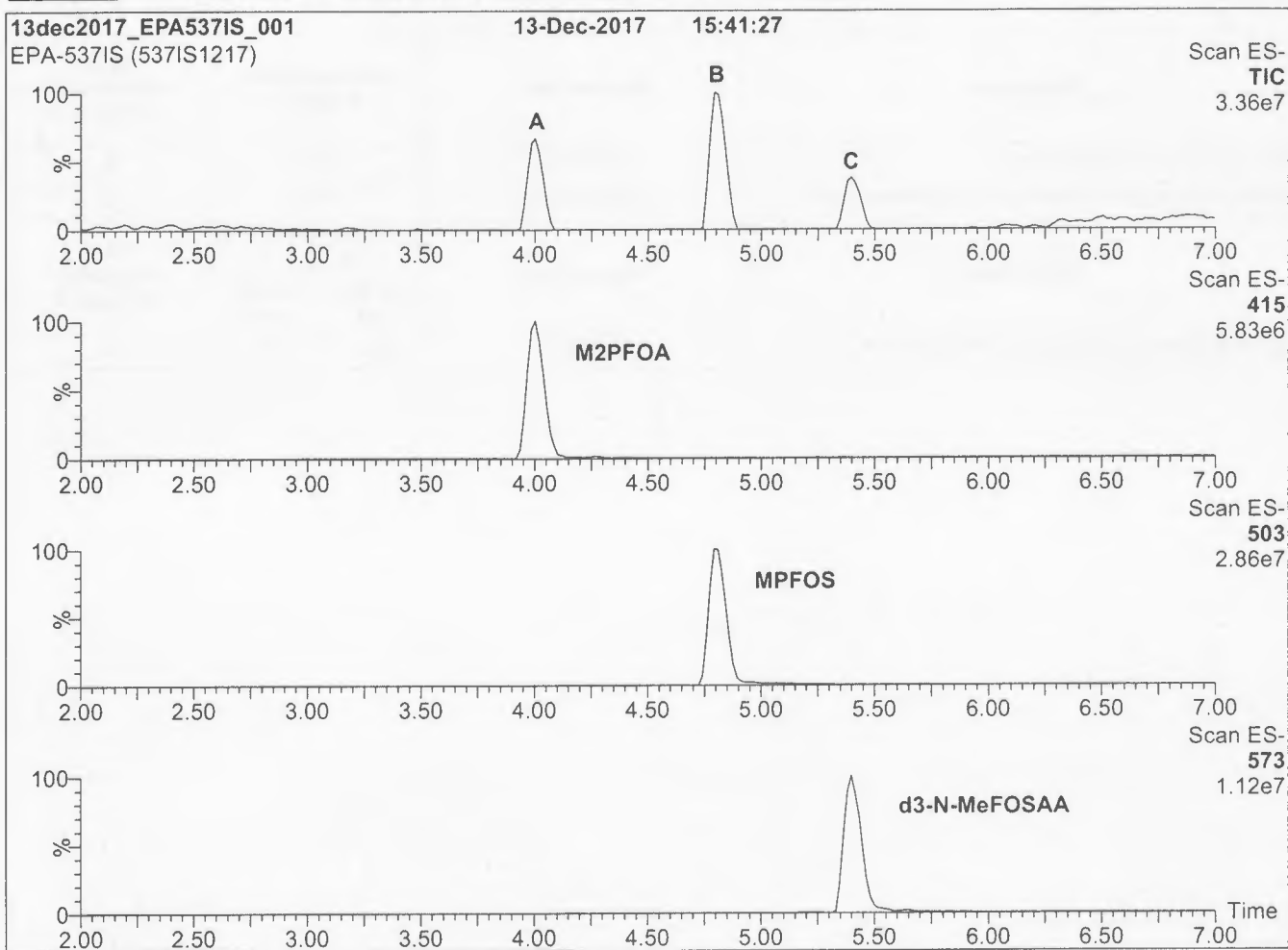

 B.G. Chittim, General Manager
Date: 12/22/2017
(mm/dd/yyyy)

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 RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

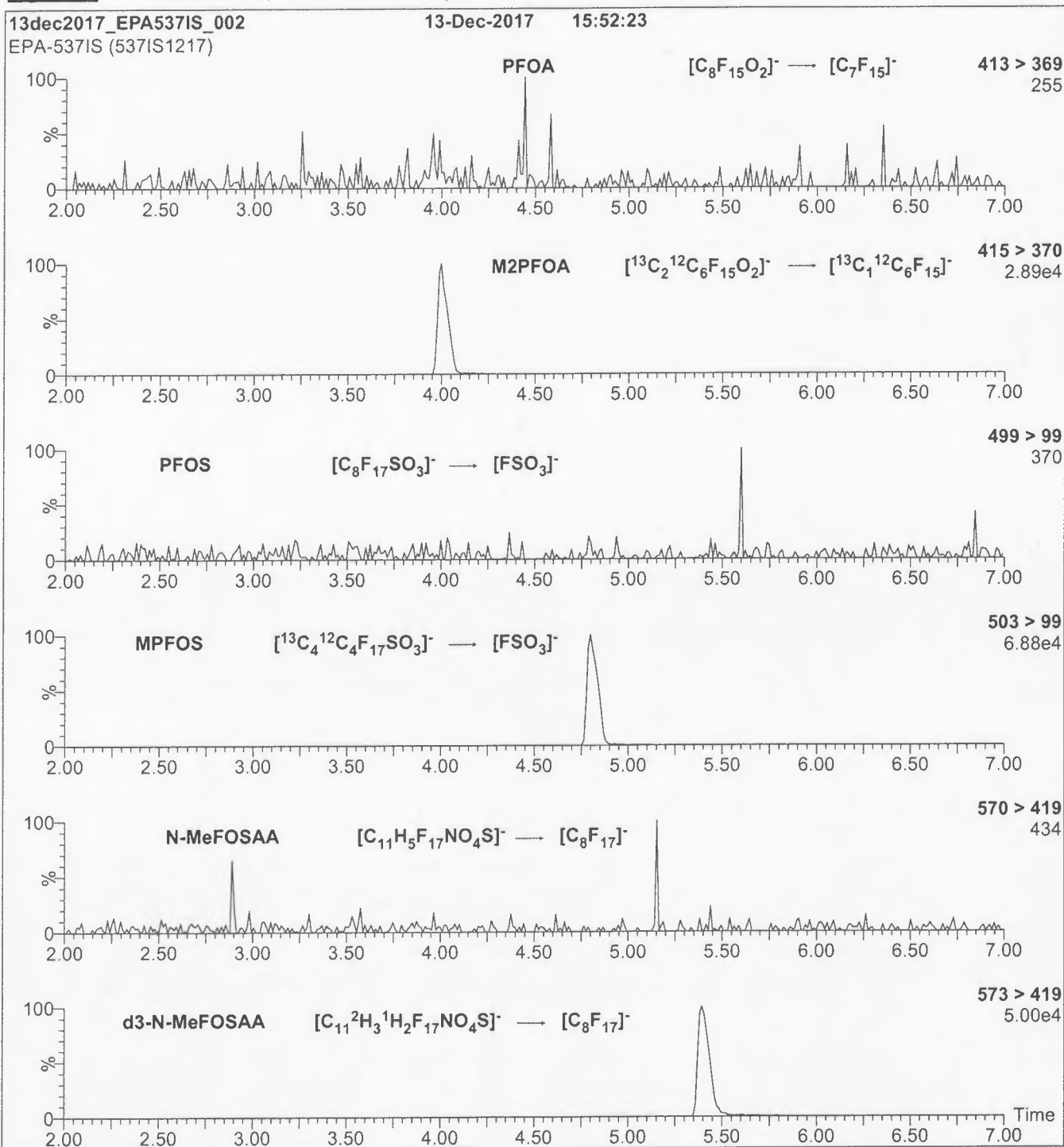
Start: 40% (80:20 MeOH:ACN) / 60% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min
 and hold for 2 min before returning
 to initial conditions in 0.5 min.
 Time: 10 min

Flow: 300 μ 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 μ 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 Val:	Lower Limit:	Upper Limit:
13C2-PFDA	BDO-2110	1.0000	100.00	--	--	☐		
13C2-PFHxA	BDO-2106	1.0000	100.00	--	--	☐		
d5-EtFOSAA	BDO-1839	4.0000	100.00	--	--	☐		

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 (^{13}C) perfluoroalkylcarboxylic acids and a mass-labelled (^2H) 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 $\geq 99\%$. The mass-labelled perfluorooctanesulfonamidoacetic acid has a chemical purity of >98% and an isotopic purity of $\geq 98\%$.

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
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INTENDED USE:

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HAZARDS:

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

SYNTHESIS / CHARACTERIZATION:

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

HOMOGENEITY:

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

UNCERTAINTY:

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

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

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

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

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

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

TRACEABILITY:

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

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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

QUALITY MANAGEMENT:

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



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

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

Compound	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-[1,2- $^{13}\text{C}_2$]hexanoic acid	MPFHxA	1000	A
Perfluoro-n-[1,2- $^{13}\text{C}_2$]decanoic acid	MPFDA	1000	B
N-ethyl-d ₅ -perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	4000	C

Certified By:

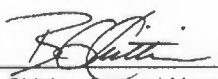
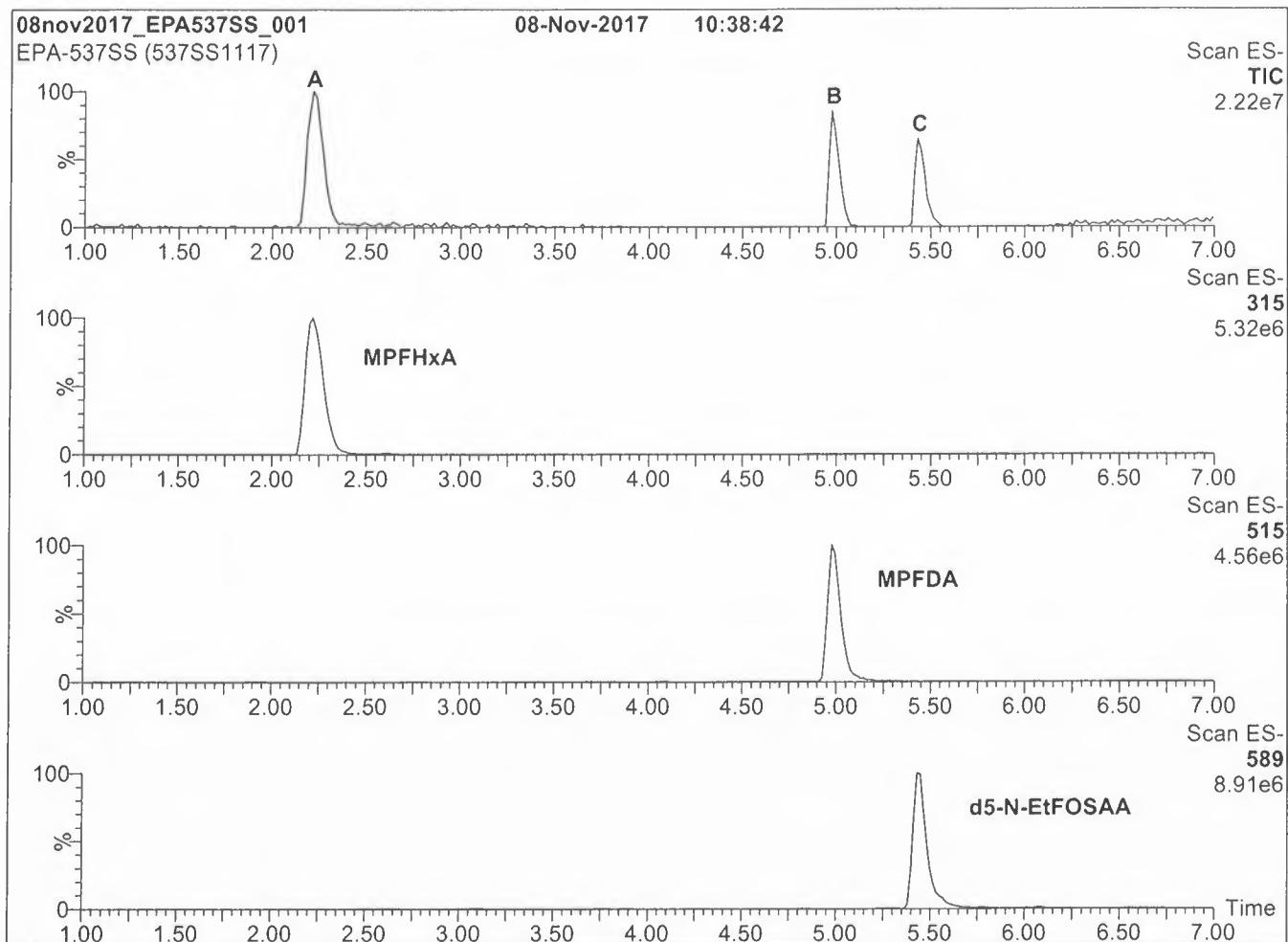

B.G. Chittim, General ManagerDate: 11/13/2017
(mm/dd/yyyy)

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 RP₁₈
 1.7 μ m, 2.1 x 100 mm

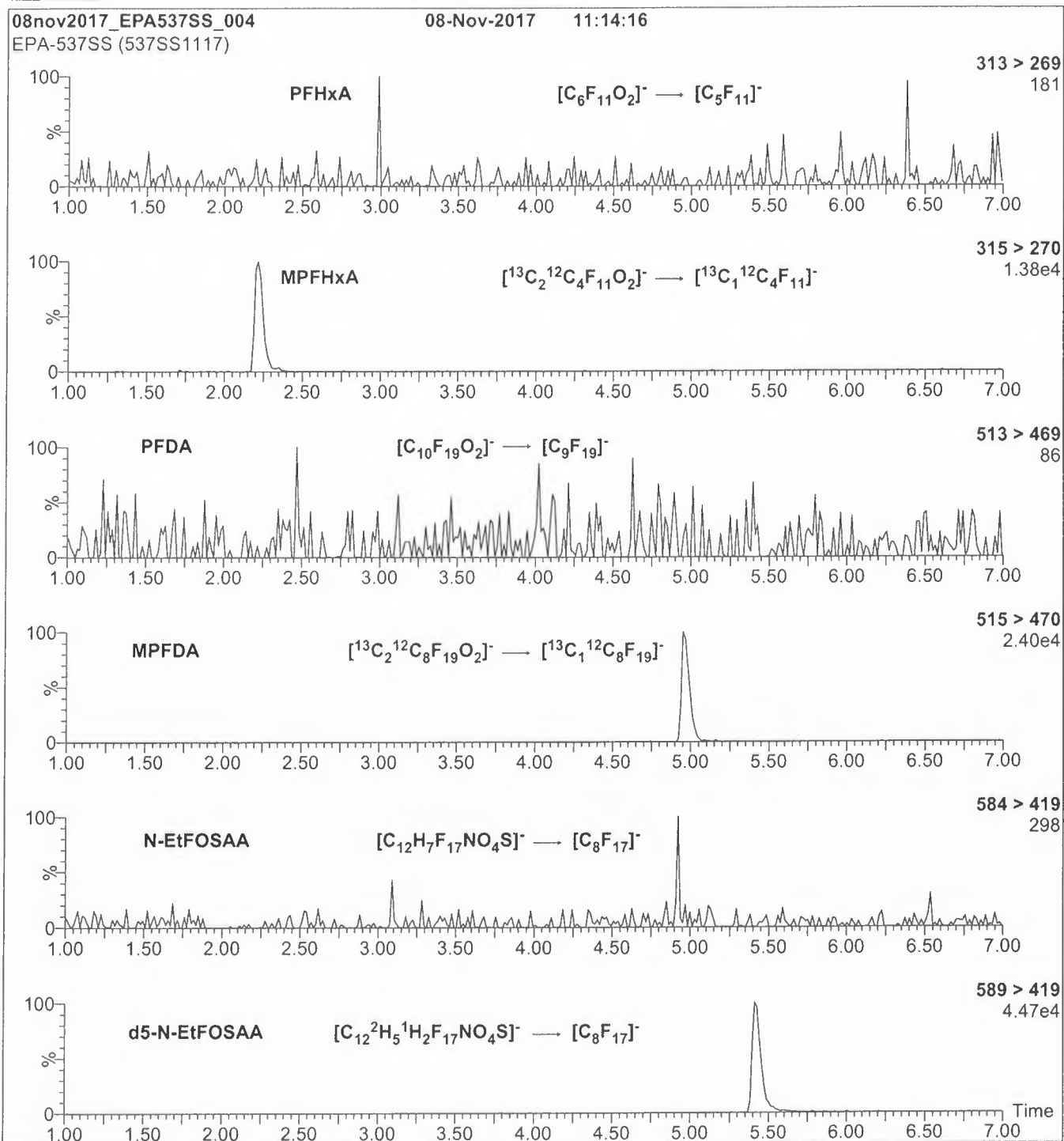
Mobile phase: Gradient
 Start: 45% (80:20 MeOH:ACN) / 55% H₂O
 (both with 10 mM NH₄OAc buffer)
 Ramp to 90% organic over 7 min
 and hold for 2 min before returning
 to initial conditions in 0.5 min.
 Time: 10 min

Flow: 300 μ 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 μ 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 ☐

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

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	--	--	☐			1
N-methylperfluoro-1-octanesulfonami	2355-31-9	2.0000	100.00	--	--	☐			2
Perfluoro-1-butanefulfonate	375-73-5	1.7700	100.00	--	--	☐			3
Perfluoro-1-hexanesulfonate	355-46-4	1.8240	100.00	--	--	☐			4
Perfluoro-1-octanesulfonate	1763-23-1	1.8510	100.00	--	--	☐			5
Perfluoro-n-decanoic Acid	335-76-2	2.0000	100.00	--	--	☐			
Perfluoro-n-dodecanoic acid	307-55-1	2.0000	100.00	--	--	☐			
Perfluoro-n-heptanoic Acid	375-85-9	2.0000	100.00	--	--	☐			
Perfluoro-n-hexanoic acid	307-24-4	2.0000	100.00	--	--	☐			
Perfluoro-n-nonanoic Acid	375-95-1	2.0000	100.00	--	--	☐			
Perfluoro-n-octanoic Acid	335-67-1	2.0000	100.00	--	--	☐			
Perfluoro-n-tetradecanoic acid	376-06-7	2.0000	100.00	--	--	☐			
Perfluoro-n-tridecanoic acid	72629-94-8	2.0000	100.00	--	--	☐			
Perfluoro-n-undecanoic acid	2058-94-8	2.0000	100.00	--	--	☐			

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.

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

**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_6 - C_{14}), three native perfluoroalkylsulfonates (C_4 linear; C_6 and C_8 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.

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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:

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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 or contact us directly at 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
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 ✓	PFTTrDA	2000		Q
Perfluoro-n-tetradecanoic acid ✓	PFTeDA	2000		R
N-methylperfluorooctanesulfonamidoacetic acid ^a ✓	N-MeFOSAA: linear isomer ✓	1520		L
	N-MeFOSAA: Σ branched isomers	480		K
N-ethylperfluorooctanesulfonamidoacetic acid ^b ✓	N-EtFOSAA: linear isomer ✓	1550		N
	N-EtFOSAA: Σ 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 ^c	PFHxSK: linear isomer	1620	1480	E
	PFHxSK: Σ branched isomers	378	344	D
Potassium perfluorooctanesulfonate ^d	PFOSK: linear isomer	1580	1460	I
	PFOSK: Σ branched isomers	422	391	H

^a See Table B for percent composition of linear and branched N-MeFOSAA isomers.

^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^c See Table D for percent composition of linear and branched PFHxSK isomers.

^d 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 ^{19}F -NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR	
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	76.0	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	0.7	24.0
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	2.0	
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	6.0	
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$	14.0	
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$	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 ¹⁹F-NMR)*

Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR	
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_7\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C_2H_5	77.5	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C_2H_5	2.3	22.5
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$\text{CF}_3(\text{CF}_2)_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C_2H_5	2.2	
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$\text{CF}_3\text{CF}_2\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C_2H_5	5.4	
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$\text{CF}_3\underset{\text{CF}_3}{\text{CF}}(\text{CF}_2)_5\text{SO}_2\text{NCH}_2\text{CO}_2\text{H}$ C_2H_5	10.4	
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{C}(\text{CF}_2)_4\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$ C_2H_5	0.3	
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{CF}(\text{CF}_2)_3\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$ C_2H_5	0.3	
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$\begin{array}{c} \text{CF}_3 \\ \\ \text{CF}_3\text{CF}(\text{CF}_2)_2\text{CF}(\text{CF}_2)_2\text{SO}_2\text{NCH}_2\text{CO}_2\text{H} \\ \\ \text{CF}_3 \end{array}$ C_2H_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 ^{19}F -NMR)*

Isomer	Name	Structure	Percent Composition by ^{19}F -NMR	
1	Potassium perfluoro-1-hexanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	81.1	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{SO}_3^-\text{K}^+$	2.9	18.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{SO}_3^-\text{K}^+$	1.4	
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$\text{CF}_3\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	5.0	
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	8.9	
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)_2\text{CF}_2\text{CF}_2\text{SO}_3^-\text{K}^+$	0.2	
7	Other Unidentified Isomers		0.5	

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

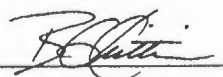
Table E: PFOSK; Isomeric Components and Percent Composition (by ^{19}F -NMR)*

Isomer	Name	Structure	Percent Composition by ^{19}F -NMR	
1	Potassium perfluoro-1-octanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	78.8	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{SO}_3\cdot\text{K}^+$	1.2	21.1
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{SO}_3\cdot\text{K}^+$	0.6	
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	1.9	
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	2.2	
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	4.5	
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	10.0	
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)_2\text{CF}_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	0.2	
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{CF}_2\text{C}(\text{CF}_3)_2\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	0.03	
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	0.4	
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$\text{CF}_3\text{C}(\text{CF}_3)\text{CF}_2\text{C}(\text{CF}_3)\text{CF}_2\text{CF}_2\text{SO}_3\cdot\text{K}^+$	0.07	

* Percent of total perfluorooctanesulfonate isomers only.

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

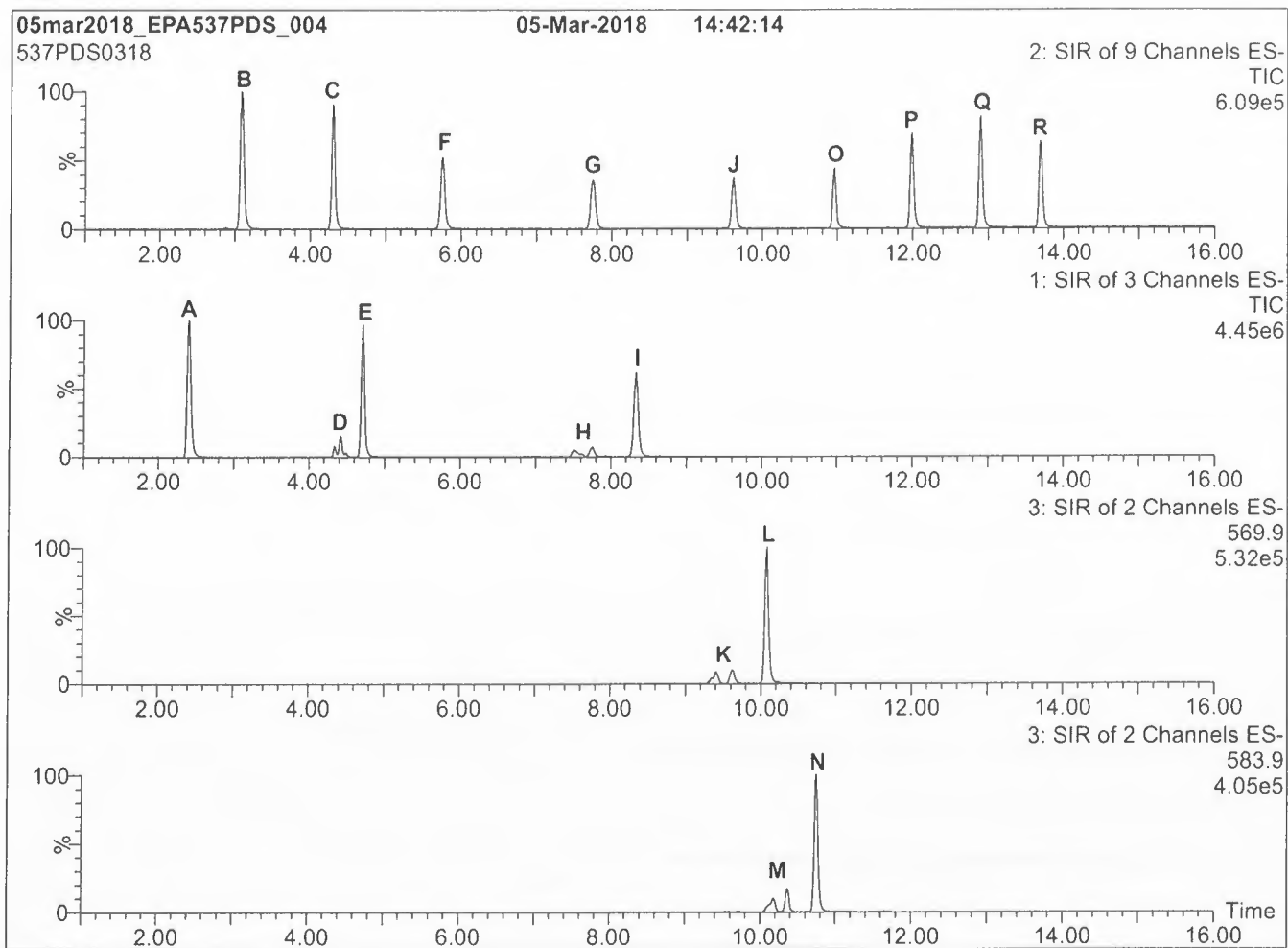
Certified By:



B.G. Chittim, General Manager

Date: 04/02/2018

(mm/dd/yyyy)

Figure 1: EPA537PDS; 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 RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient

Start: 40% (80:20 MeOH:ACN) / 60% H₂O
(both with 10 mM NH₄OAc 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 μ 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

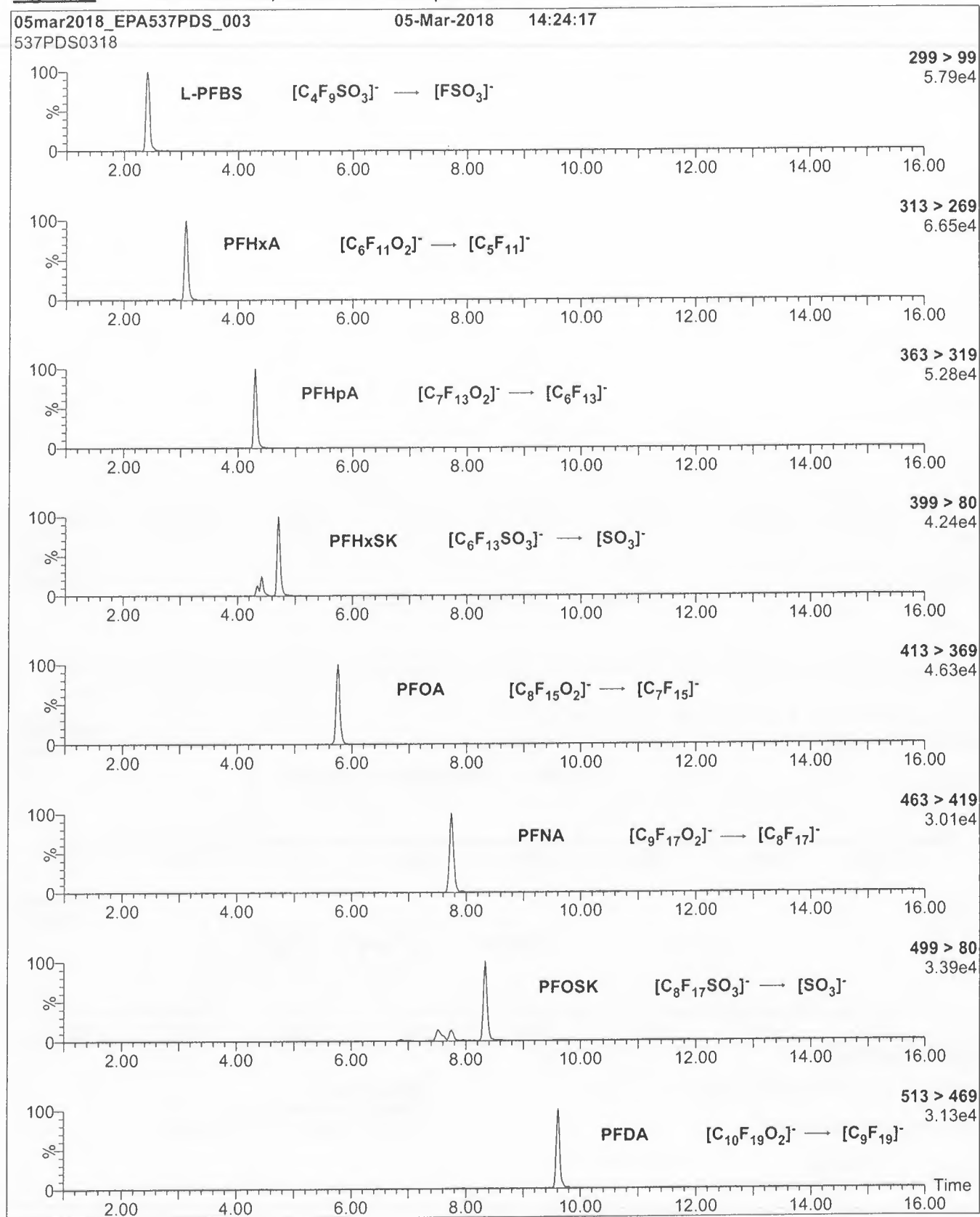
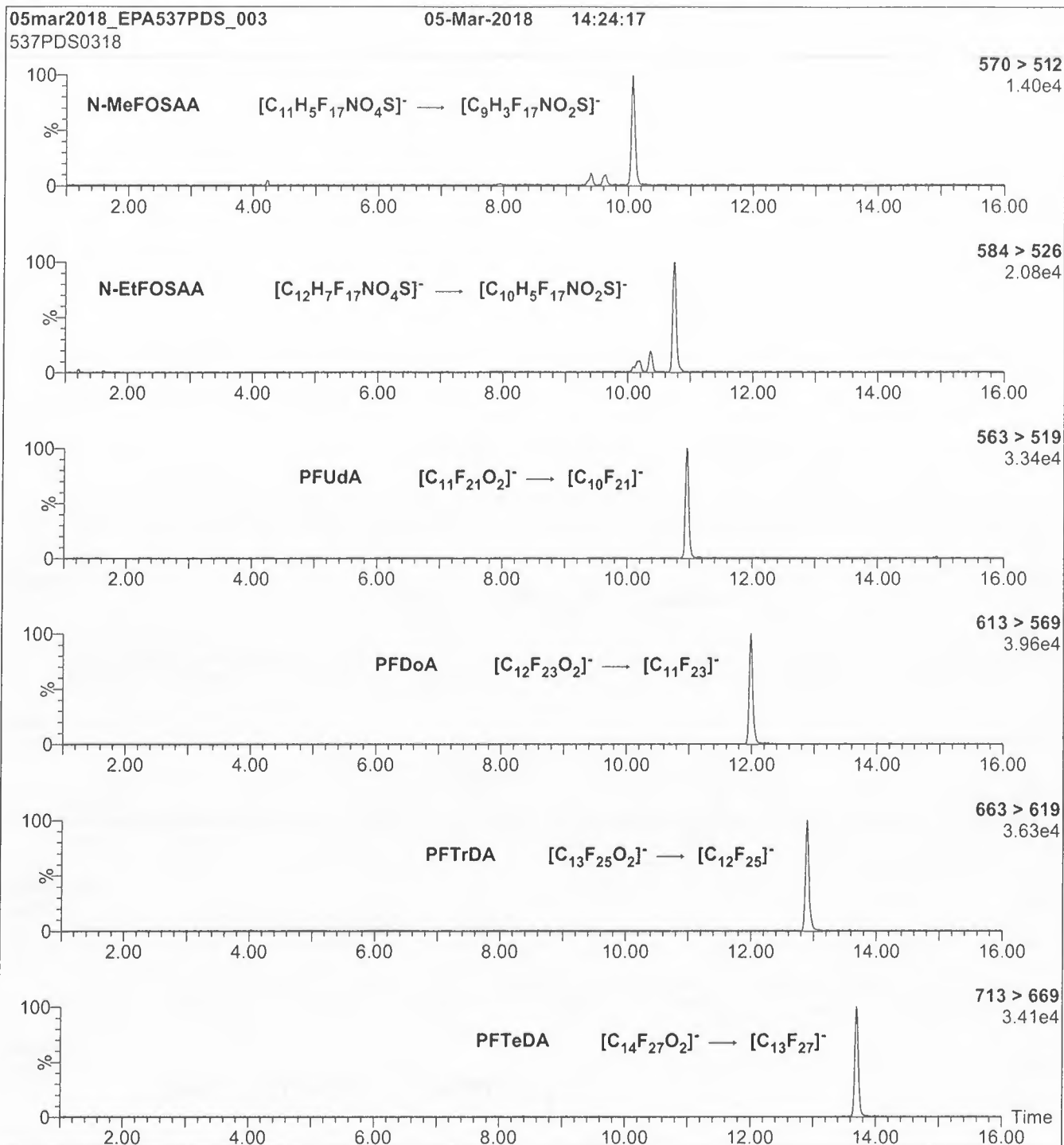
Figure 2: EPA-537PDS; LC/MS/MS Data (Selected MRM Transitions)

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 μ l/min**MS Parameters**

Collision Gas (mbar) = 3.10e-3

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



It can be done

BDO Id: 180425-04

Reagent Receipt Report

Approved: ☐ Authorized ☐

Name: EPA-537PDS-L (second source) **Received:** 4/25/2018
Vendor: Wellington Laboratories **Custodian:** Schumitz, Matt
Catalogue No: EPA-537PDS-L **Expires:** 3/5/2023
Type: Solution **Consumed:** _____
Lot No: 537PDSL0318 **Stored In:** AqChem Laboratory - R0124
Quantity: 1 ea ml **% Moisture:** _____
Description: EPA-537PDS-L

Analyte:	CAS No:	Concentration (ug/mL):	Purity:	Density:	Density Units:	Cert Val:	Lower Limit:	Upper Limit:
N-ethylperfluoro-octanesulfonamidoa	2991-50-6	2.0000	100.00	--	--	☐		
N-methylperfluoro-1-octanesulfonami	2355-31-9	2.0000	100.00	--	--	☐		
Perfluoro-1-butanefulfonic Acid	375-73-5	2.0000	100.00	--	--	☐		1
Perfluoro-n-decanoic Acid	335-76-2	2.0000	100.00	--	--	☐		
Perfluoro-n-dodecanoic acid	307-55-1	2.0000	100.00	--	--	☐		
Perfluoro-n-heptanoic Acid	375-85-9	2.0000	100.00	--	--	☐		
Perfluoro-n-hexanoic acid	307-24-4	2.0000	100.00	--	--	☐		
Perfluoro-n-octanoic Acid	335-67-1	2.0000	100.00	--	--	☐		
Perfluorononanoic Acid	375-95-1	2.0000	100.00	--	--	☐		
Perfluoro-n-tetradecanoic acid	376-06-7	2.0000	100.00	--	--	☐		
Perfluoro-n-tridecanoic acid	72629-94-8	2.0000	100.00	--	--	☐		
Perfluoro-n-undecanoic acid	2058-94-8	2.0000	100.00	--	--	☐		
Sodium perfluoro-1-hexanesulfonate	82382-12-5	1.8900	100.00	--	--	☐		2
Sodium perfluoro-1-octanesulfonate	4021-47-0	1.9100	100.00	--	--	☐		3

Total Analytes: 14

Notes:

Analyte:	Comment:
1 Perfluoro-1-butanefulfonic Acid	2000 ng/ml as the salt, 1770 ng/ml as the anion
2 Sodium perfluoro-1-hexanesulfonate	2000 ng/ml as the salt, 1890 ng/ml as the anion
3 Sodium perfluoro-1-octanesulfonate	2000 ng/ml as the salt, 1910 ng/ml as the anion

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

**WELLINGTON**
LABORATORIES**CERTIFICATE 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_6 - C_{14}), native linear perfluoroalkylsulfonates (C_4 , C_6 , and C_8), 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:

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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.

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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:

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

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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.

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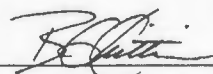


****For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com****

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

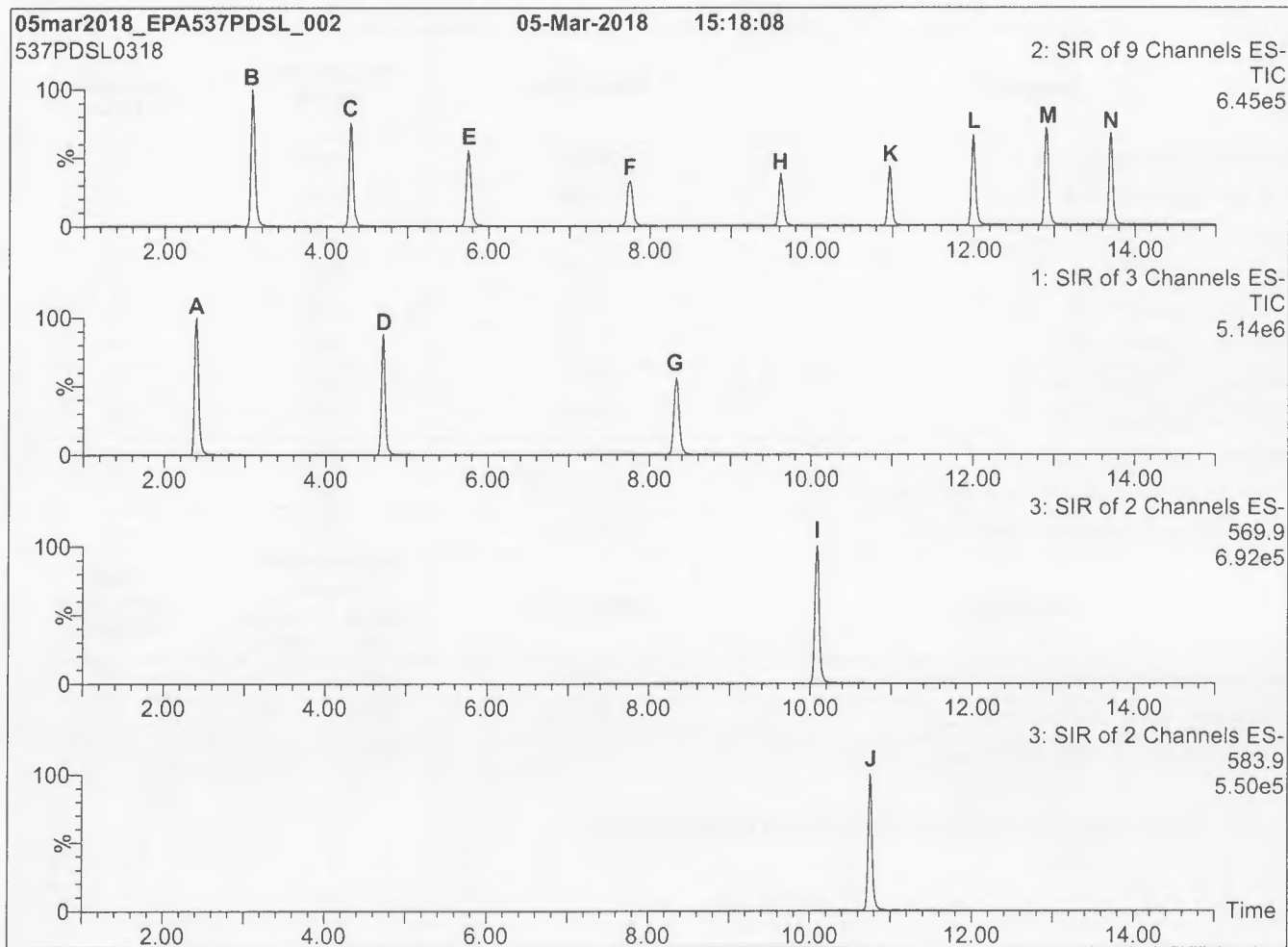
Compound	Abbreviation	Concentration * (ng/ml)		Peak Assignment in Figure 1
Perfluoro-n-hexanoic acid ✓	PFHxA	2000		B
Perfluoro-n-heptanoic acid ✓	PFHpA	2000		C
Perfluoro-n-octanoic acid ✓	PFOA	2000		E
Perfluoro-n-nonanoic acid ✓	PFNA	2000		F
Perfluoro-n-decanoic acid ✓	PFDA	2000		H
Perfluoro-n-undecanoic acid ✓	PFUdA	2000		K
Perfluoro-n-dodecanoic acid ✓	PFDoA	2000		L
Perfluoro-n-tridecanoic acid ✓	PFTDA	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-butanefulfonate ✓	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 RP₁₈
 1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
 Start: 40% (80:20 MeOH:ACN) / 60% H₂O
 (both with 10 mM NH₄OAc 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 μ 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

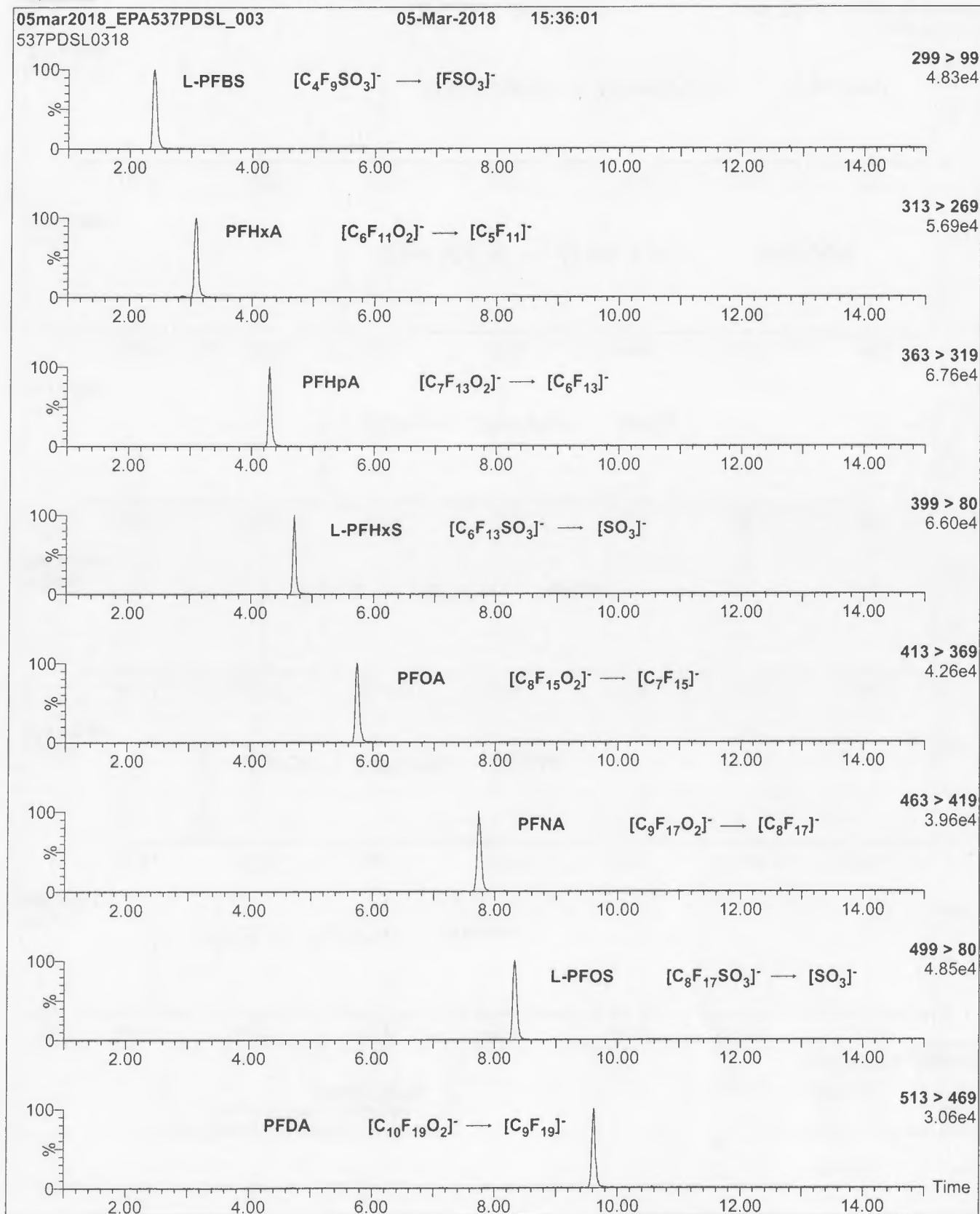
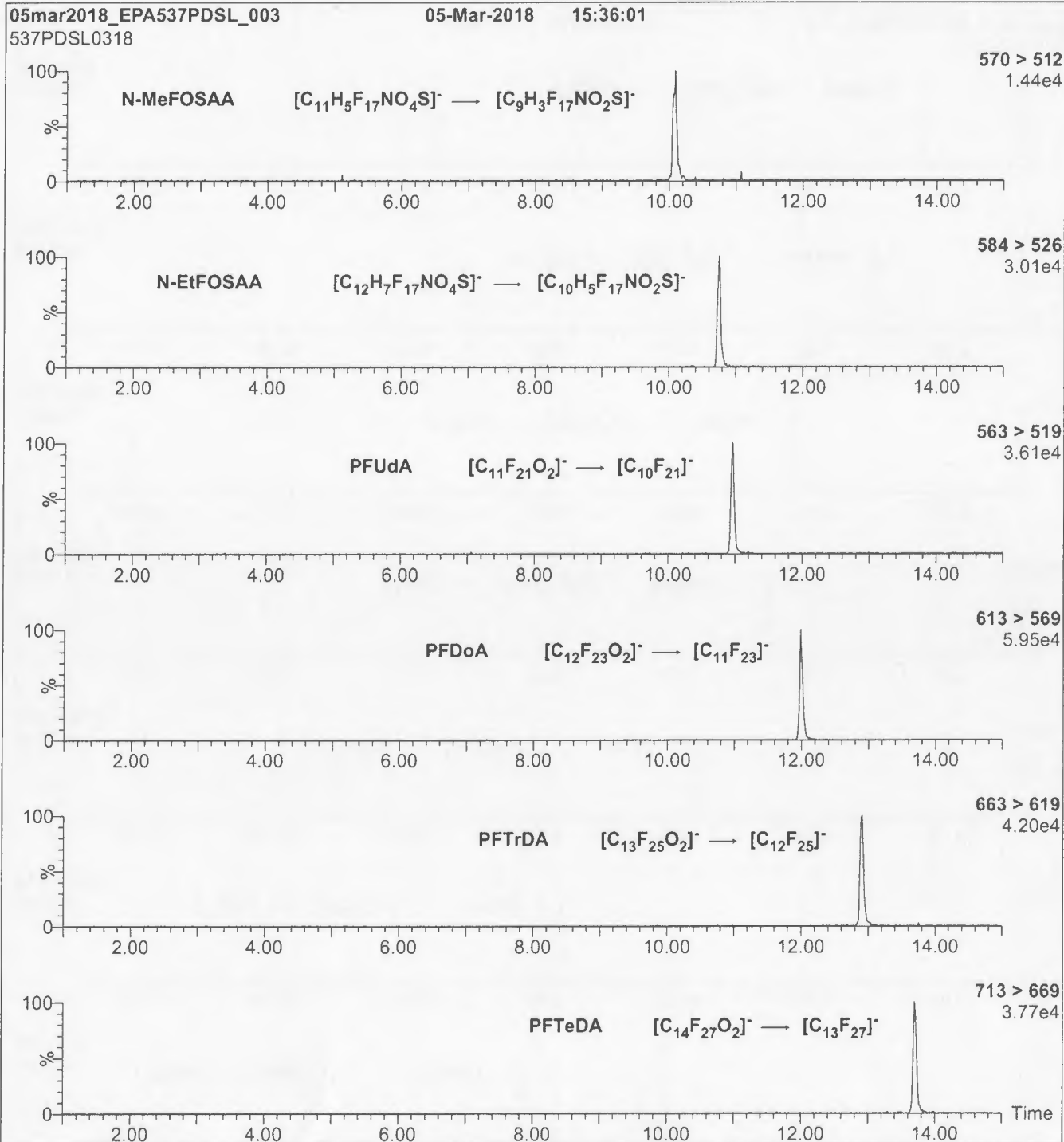
Figure 2: EPA-537PDS-L; LC/MS/MS Data (Selected MRM Transitions)

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 μ 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****Project Title(s)**

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

SOP Numbers (see workplan for modifications)

VOASOP No.

5-371

This Batch Contains The Following Samples:CR069PB-FS
CR070LCS-FS
J6816-FS
J6817-FSLaboratory Preparation Records
COMPLETE AND VALIDATED

Prep Task Leader: Stephanie Schultz

Approved By:	Date	Initials
Denise Schumitz	07/09/2018	DMS

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

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Sample ID	Description
CR069PB-FS	Procedural Blank
CR070LCS-FS	Laboratory Control Sample
J6816-FS	WGNA-062618-RW-3136
J6817-FS	WGNA-062618-FRB-3136

Samples Assigned By:

Jonathan Thorn

Date :

June 27, 2018

Comments:



BATTELLE - NORWELL OPERATIONS SAMPLE CUSTODY LOG

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Requested On/By: 06/29/2018 SAS		Purpose: Sample Preparation	
Relinquished On/By: 06/29/2018 SAS		Last Activity:	Transfer
Accepted On/By: 06/29/2018 SAS Stored In Facility: Sample Preparation Stored Until: 06/29/2018 Stored Comment: NA		Returned On/To: Returned To Facility: Returned Comment: NA	

No.	BDO-ID:	Ctrs	*	Condition:	Custody Comment:
1	J6816	1	C	Consumed	NA
2	J6817	1	C	Consumed	NA
Total Samples		2	* "C" = Consumed Container		



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR069PB-FS	Procedural Blank	250.0	NA	--	06/29/18 SAS
CR070LCS-FS	Laboratory Control Sample	250.0	NA	--	06/29/18 SAS
J6816-FS	WGNA-062618-RW-3136	265.0	1	C	06/29/18 SAS
J6817-FS	WGNA-062618-FRB-3136	255.0	1	C	06/29/18 SAS

Comments:

Sample ID:	Comments:
CR069PB-FS	1.24g Trizma(170526-01) weighed on BAL-009
CR070LCS-FS	1.26g Trizma(170526-01) weighed on BAL-009

Samples Assigned By

Jonathan Thorn

Date :

June 27, 2018

* - "C" = Sample is Consumed



It can be done

BATTELLE - NORWELL OPERATIONS SURROGATE SPIKE FORM

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Sample ID	Standard ID	Type	Vial No.	Vol Added (uL)	Date Spiked/ Spiked By	Witn'd By	Comment
CR069PB-FS	JX76	SIS	1	50	06/29/18 SAS	JCT	NA
CR070LCS-FS	JW44	LCS/MS	1	100	06/29/18 SAS	JCT	NA
CR070LCS-FS	JX76	SIS	1	50	06/29/18 SAS	JCT	NA
J6816-FS	JX76	SIS	1	50	06/29/18 SAS	JCT	NA
J6817-FS	JX76	SIS	1	50	06/29/18 SAS	JCT	NA

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JW44	Pipette	B814659662
JX76	Pipette	B814659662



BATTELLE - NORWELL OPERATIONS SAMPLE EXTRACTION FORM

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Sample ID	1st Extraction	2nd Extraction	3rd Extraction	Conc. ID	Turbo °C	Turbo PSI	KD °C	Comment
CR069PB-FS	06/29/18 SAS	NA	NA	NA	NA	NA	NA	NA
CR070LCS-FS	06/29/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6816-FS	06/29/18 SAS	NA	NA	NA	NA	NA	NA	NA
J6817-FS	06/29/18 SAS	NA	NA	NA	NA	NA	NA	NA

Solvents/Reagent Preparations:

Name	ID	Expires	Lot No	Procedure	Comments
Pre-packed SPE Column	RP-180629-1	06/29/18	S214-0065	Pre-packed SPE Column	

Solvents/Reagents:

Name	Lot No	Comments
Methanol (HPLC) (180531-01)	179315	



It can be done

BATTELLE - NORWELL OPERATIONS INTERNAL STANDARD SPIKING FORM

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW****(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
CR069PB-FS(0)	950	50	JV59	50	1	1000	1.000	07/02/18 SAS	JCT
CR070LCS-FS(0)	950	50	JV59	50	1	1000	1.000	07/02/18 SAS	JCT
J6816-FS(0)	950	50	JV59	50	1	1000	1.000	07/02/18 SAS	JCT
J6817-FS(0)	950	50	JV59	50	1	1000	1.000	07/02/18 SAS	JCT

Syringes/Pipettes Used:

Std ID	Type	Syr/Pip
JV59	Pipette	B814659662

* - 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)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Extract		*	Extract Date	Source		Initial Extract Vol (uL)	Extract Split	Extract Split	Total Dilution	Date/Initials
Name	#			Name	#					
CR069PB-FS	0	--	6/29/2018 10:03:00 AM	NA		NA	NA	1.000	1.000	06/29/18 SAS
CR070LCS-FS	0	--	6/29/2018 10:03:00 AM	NA		NA	NA	1.000	1.000	06/29/18 SAS
J6816-FS	0	--	6/29/2018 10:03:00 AM	NA		NA	NA	1.000	1.000	06/29/18 SAS
J6817-FS	0	--	6/29/2018 10:03:00 AM	NA		NA	NA	1.000	1.000	06/29/18 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)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Purpose: LC-MS/MS TRANSFER		Last Activity: Prep->Inst	
Relinquished On/By: Jul 2 2018 10:21AM SAS		Received On/By: Jul 2 2018 10:21AM LMG	
Relinquished From: Sample Preparation: NA		Received Location: LC Laboratory: NA	
Relinquish Comment: NA		Received Comment: NA	

No.	BDO-ID:	PIV:	DF:	Condition:	Custody Comment:
1	CR069PB-FS(0)	1000	1	Intact	NA
2	CR070LCS-FS(0)	1000	1	Intact	NA
3	J6816-FS(0)	1000	1	Intact	NA
4	J6817-FS(0)	1000	1	Intact	NA

Total Extracts: 4



**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Entered By:

On:

Task Leader Approval:

On:

Supervisor Approval:

On:

PM Approval:

On:



**BATTELLE - NORWELL OPERATIONS
MISCELLANEOUS DOCUMENTATION FORM**

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Task Leader Approval:

On:

Supervisor Approval:

On:

PM Approval:

On:



BATTELLE - NORWELL OPERATIONS SAMPLE SPECIFIC COMMENTS

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Sample ID:	Comment:	Date/Initials:
CR069PB-FS	Sample extraction began at 10:03am for all samples.	06/29/18 SAS
CR069PB-FS	Sample extraction ended at 10:26am	06/29/18 SAS
CR070LCS-FS	Sample extraction ended at 10:25am	06/29/18 SAS
J6816-FS	Sample extraction ended at 10:29am	06/29/18 SAS
J6817-FS	Sample extraction ended at 10:26am	06/29/18 SAS

Analytical Calibrations



Sequence Report

Created with Analyst Reporter
Printed: 06/07/2018 3:38:43 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
2	JX67	L1	7/2/2018 9:35:13 AM	5-0371.dam	5500_07022018_371.wiff
3	JX68	L2	7/2/2018 9:44:07 AM	5-0371.dam	5500_07022018_371.wiff
4	JX69	L3	7/2/2018 9:53:02 AM	5-0371.dam	5500_07022018_371.wiff
5	JX70	L4	7/2/2018 10:01:57 AM	5-0371.dam	5500_07022018_371.wiff
6	JX71	L5	7/2/2018 10:10:53 AM	5-0371.dam	5500_07022018_371.wiff
7	JX72	L6	7/2/2018 10:19:49 AM	5-0371.dam	5500_07022018_371.wiff
8	JX73	L7	7/2/2018 10:28:45 AM	5-0371.dam	5500_07022018_371.wiff
9	JX74	L8	7/2/2018 10:37:42 AM	5-0371.dam	5500_07022018_371.wiff
10	JX75	L9	7/2/2018 10:46:37 AM	5-0371.dam	5500_07022018_371.wiff
11	JX66 ICC	ICC	7/2/2018 10:55:35 AM	5-0371.dam	5500_07022018_371.wiff
1	MEOH		7/2/2018 11:04:33 AM	5-0371.dam	5500_07022018_371.wiff
8	JX73	CCV	7/2/2018 11:22:27 AM	5-0371.dam	5500_07022018_371.wiff
1	MEOH		7/2/2018 11:31:23 AM	5-0371.dam	5500_07022018_371.wiff
13	CR069PB-FS(0)	Procedural Blank	7/2/2018 11:40:20 AM	5-0371.dam	5500_07022018_371.wiff
14	CR070LCS-FS(0)	Laboratory Control Sample	7/2/2018 11:49:17 AM	5-0371.dam	5500_07022018_371.wiff
15	J6816-FS(0)	WGNA-062618-RW-3136	7/2/2018 11:58:13 AM	5-0371.dam	5500_07022018_371.wiff
16	J6817-FS(0)	WGNA-062618-FRB-3136	7/2/2018 12:07:11 PM	5-0371.dam	5500_07022018_371.wiff
7	JX72	CCV	7/2/2018 12:38:15 PM	5-0371.dam	5500_07022018_371.wiff

1

1

1 sample did not meet IS criteria, fresh aliquot taken and run. DMS 7/6/2018

Sequence Report

Created with Analyst Reporter
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Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MEOH		7/3/2018 3:48:03 PM	5-0371.dam	07032018_5-0371.wiff
2	JX67	L1	7/3/2018 3:56:59 PM	5-0371.dam	07032018_5-0371.wiff
3	JX68	L2	7/3/2018 4:05:55 PM	5-0371.dam	07032018_5-0371.wiff
4	JX69	L3	7/3/2018 4:14:50 PM	5-0371.dam	07032018_5-0371.wiff
5	JX70	L4	7/3/2018 4:23:46 PM	5-0371.dam	07032018_5-0371.wiff
6	JX71	L5	7/3/2018 4:32:42 PM	5-0371.dam	07032018_5-0371.wiff
7	JX72	L6	7/3/2018 4:41:38 PM	5-0371.dam	07032018_5-0371.wiff
8	JX73	L7	7/3/2018 4:50:33 PM	5-0371.dam	07032018_5-0371.wiff
9	JX74	L8	7/3/2018 4:59:28 PM	5-0371.dam	07032018_5-0371.wiff
10	JX75	L9	7/3/2018 5:08:24 PM	5-0371.dam	07032018_5-0371.wiff
11	JX66 ICC	ICC	7/3/2018 5:17:19 PM	5-0371.dam	07032018_5-0371.wiff
1	MEOH		7/3/2018 5:26:14 PM	5-0371.dam	07032018_5-0371.wiff
12	CR069PB-FS(0)	Procedural Blank	7/3/2018 5:35:11 PM	5-0371.dam	07032018_5-0371.wiff
13	J6816-FS(0)	WGNA-062618-RW-3136	7/3/2018 5:44:08 PM	5-0371.dam	07032018_5-0371.wiff
7	JX72 CCV	CCV	7/3/2018 5:53:05 PM	5-0371.dam	07032018_5-0371.wiff



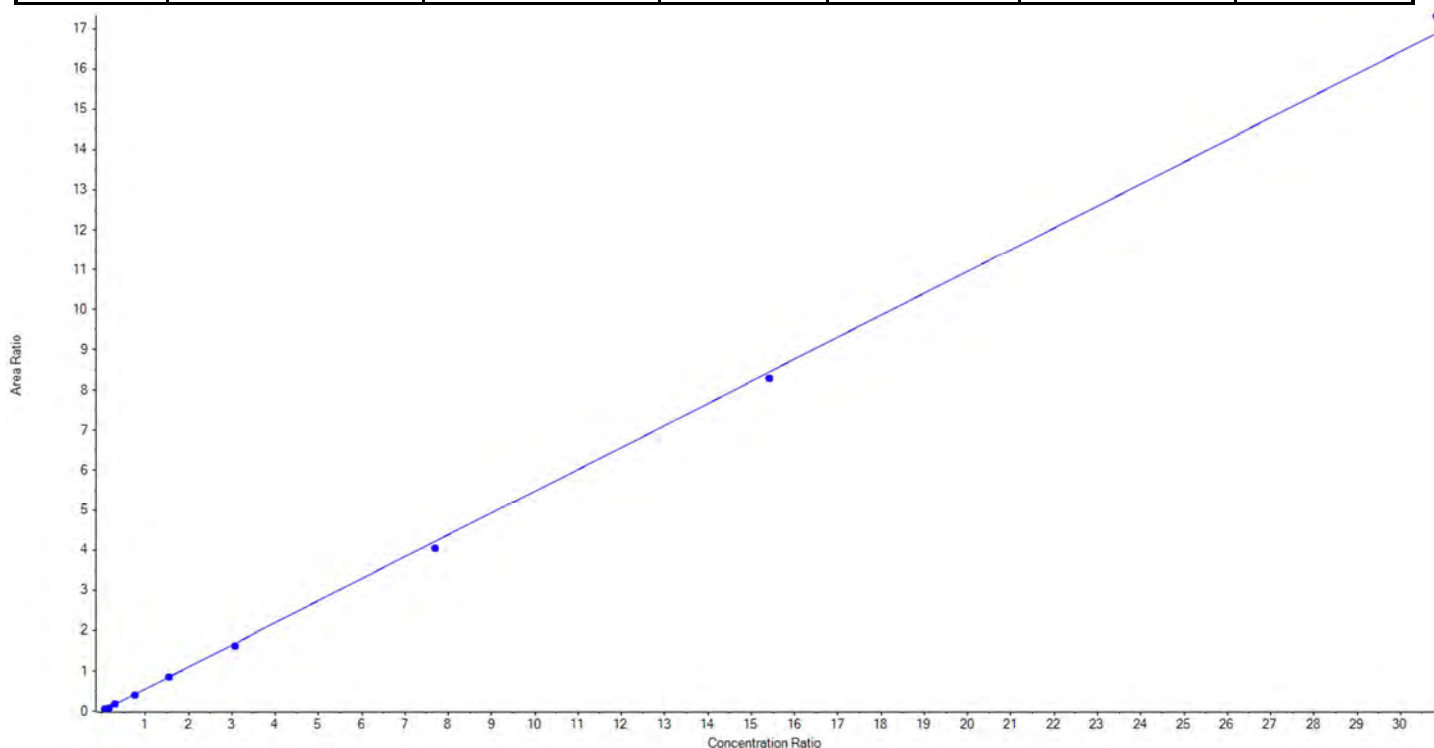
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFBS_1	Data File	5500_07022018_371.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.54761 x + -9.82331e-4$ ($r = 0.99958$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	24.348619	109.9
3	JX68	L2	True	44.30	44.274193	99.9
4	JX69	L3	True	88.60	89.097417	100.6
5	JX70	L4	True	221.50	216.145714	97.6
6	JX71	L5	True	443.00	442.842975	100.0
7	JX72	L6	True	885.00	848.944885	95.9
8	JX73	L7	True	2212.50	2112.792418	95.5
9	JX74	L8	True	4425.00	4339.859302	98.1
10	JX75	L9	True	8850.00	9073.744476	102.5





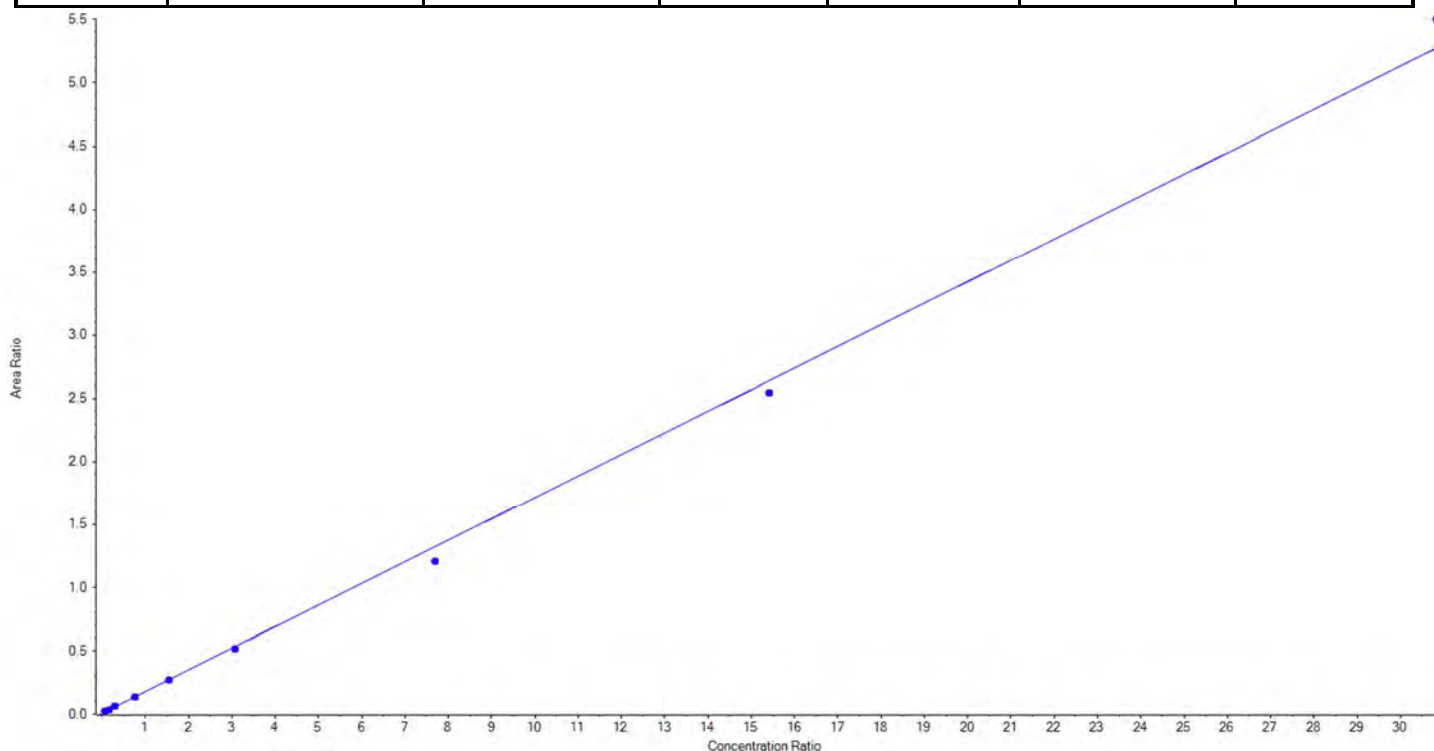
Calibration Summary Report

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Analyte Name	PFBS_2	Data File	5500_07022018_371.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17081x + 0.00687$ ($r = 0.99866$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	23.043361	104.0
3	JX68	L2	True	44.30	43.450812	98.1
4	JX69	L3	True	88.60	100.911234	113.9
5	JX70	L4	True	221.50	212.644552	96.0
6	JX71	L5	True	443.00	443.294416	100.1
7	JX72	L6	True	885.00	850.665326	96.1
8	JX73	L7	True	2212.50	2011.948021	90.9
9	JX74	L8	True	4425.00	4270.369961	96.5
10	JX75	L9	True	8850.00	9235.722318	104.4





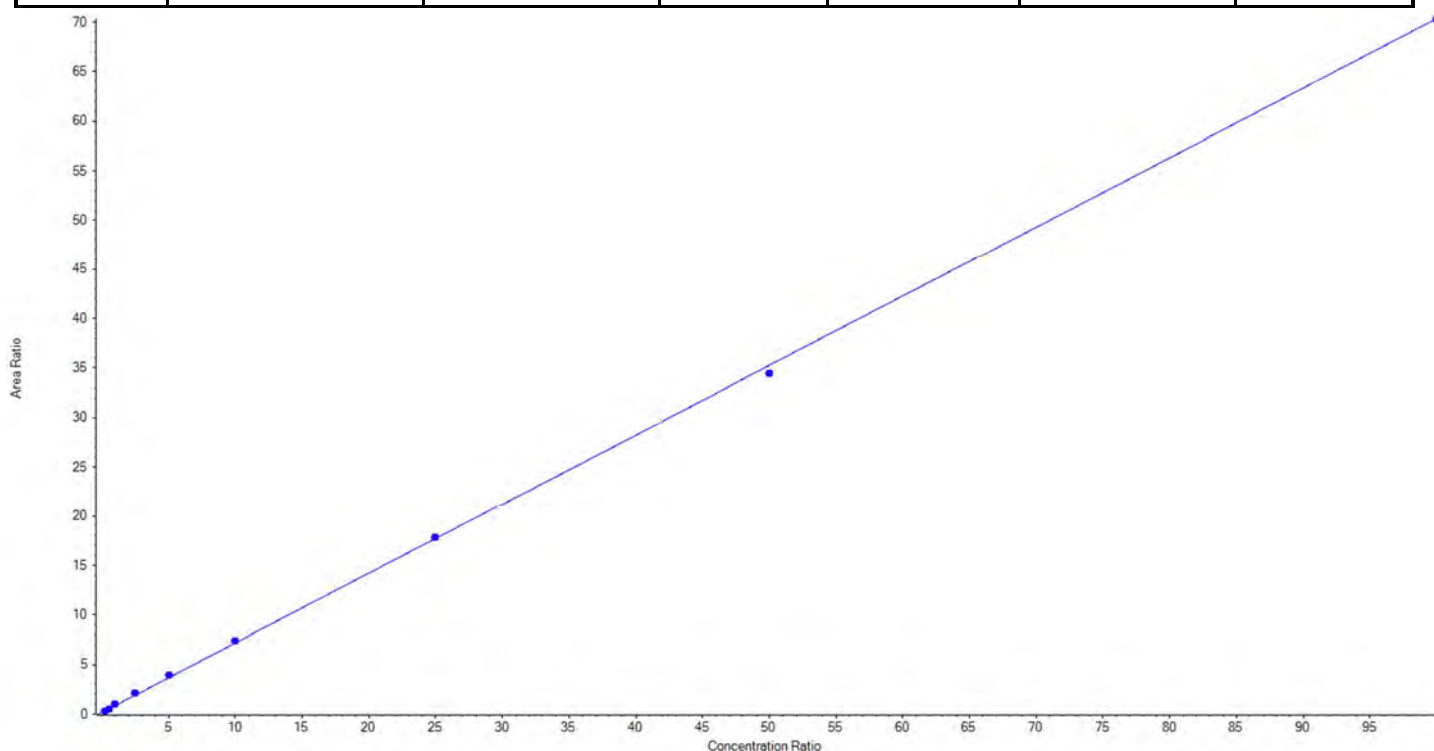
Calibration Summary Report

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Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFHxA_1	Data File	5500_07022018_371.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.70188x + 0.16401$ ($r = 0.99954$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.615487	70.5
3	JX68	L2	True	50.00	44.928358	89.9
4	JX69	L3	True	100.00	117.730939	117.7
5	JX70	L4	True	250.00	280.073118	112.0
6	JX71	L5	True	500.00	543.437656	108.7
7	JX72	L6	True	1000.00	1029.744021	103.0
8	JX73	L7	True	2500.00	2517.811415	100.7
9	JX74	L8	True	5000.00	4881.016908	97.6
10	JX75	L9	True	10000.00	9992.642097	99.9





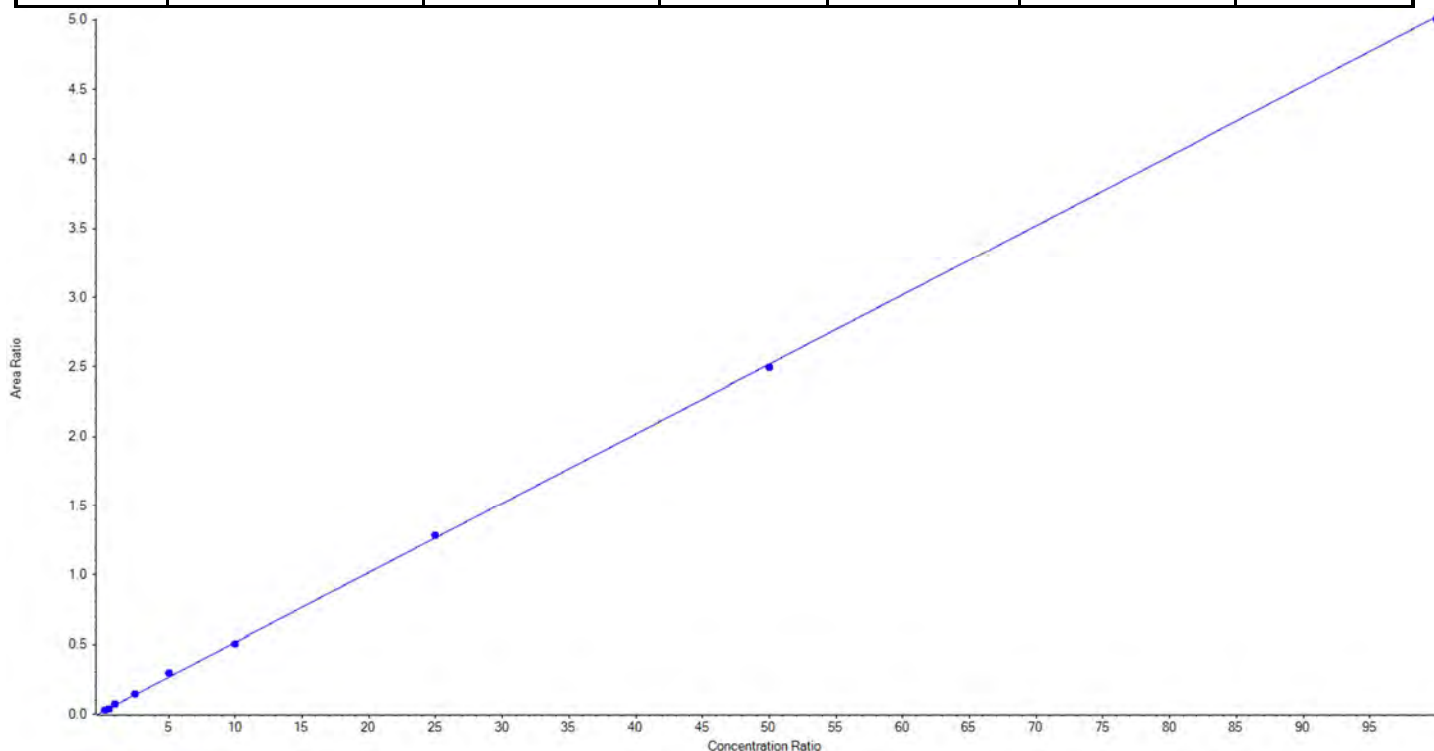
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFHxA_2	Data File	5500_07022018_371.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.05008x + 0.01482$ ($r = 0.99964$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.803967	87.2
3	JX68	L2	True	50.00	43.617833	87.2
4	JX69	L3	True	100.00	112.699286	112.7
5	JX70	L4	True	250.00	255.437185	102.2
6	JX71	L5	True	500.00	566.494586	113.3
7	JX72	L6	True	1000.00	973.493566	97.4
8	JX73	L7	True	2500.00	2531.714131	101.3
9	JX74	L8	True	5000.00	4956.007287	99.1
10	JX75	L9	True	10000.00	9963.732159	99.6





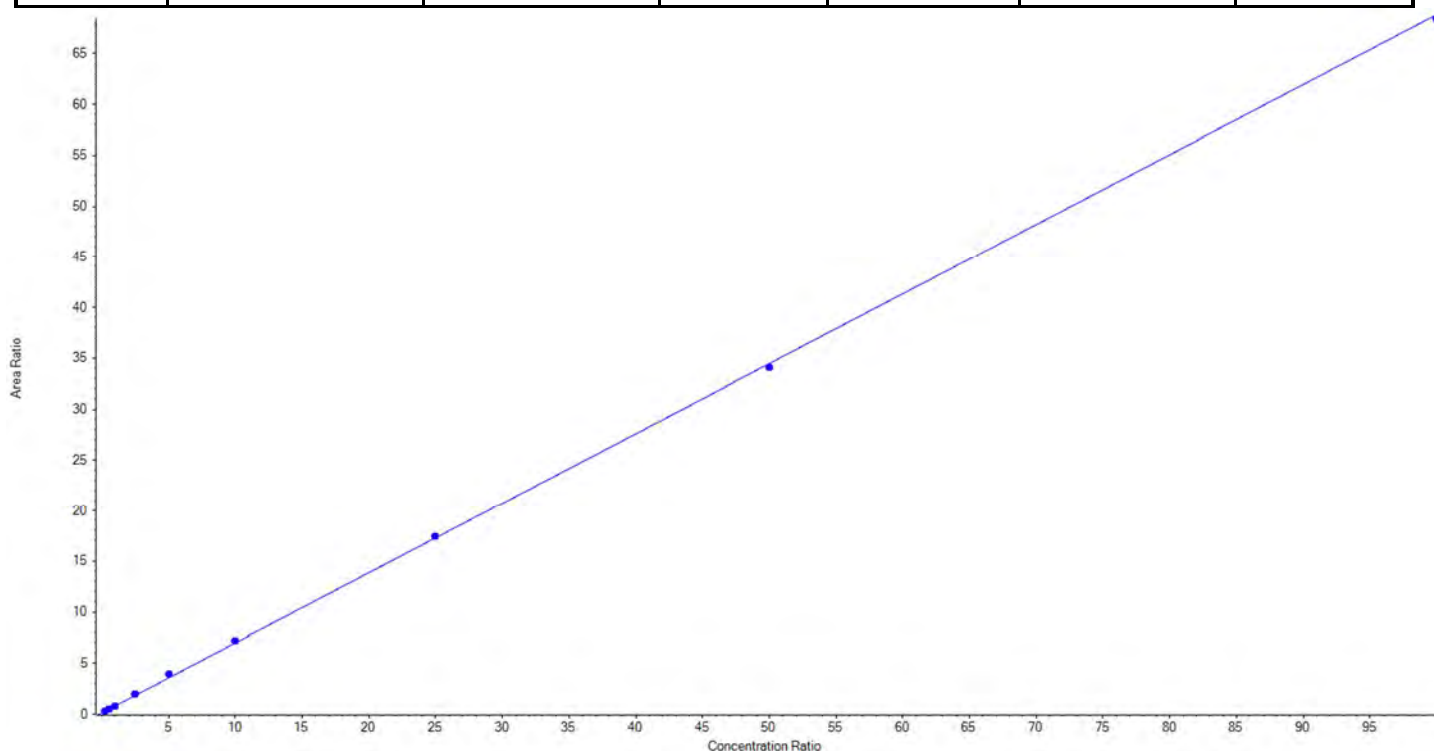
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFHpA_1	Data File	5500_07022018_371.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.68706 x + 0.11902$ ($r = 0.99970$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.596085	82.4
3	JX68	L2	True	50.00	48.400641	96.8
4	JX69	L3	True	100.00	100.433673	100.4
5	JX70	L4	True	250.00	266.409445	106.6
6	JX71	L5	True	500.00	559.191931	111.8
7	JX72	L6	True	1000.00	1029.499547	103.0
8	JX73	L7	True	2500.00	2519.088363	100.8
9	JX74	L8	True	5000.00	4945.124595	98.9
10	JX75	L9	True	10000.00	9936.255720	99.4





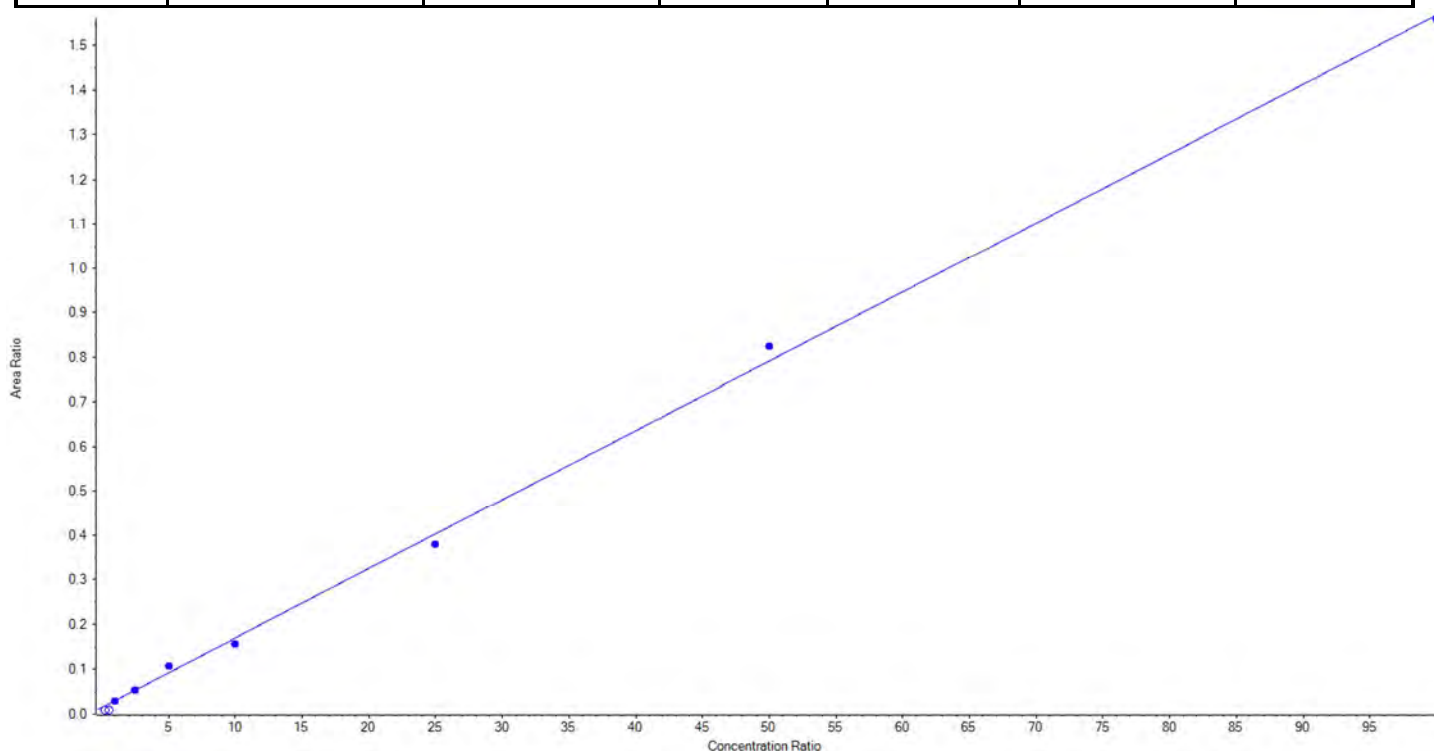
Calibration Summary Report

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Analyte Name	PFHpA_2	Data File	5500_07022018_371.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.01554x + 0.01498$ ($r = 0.99862$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	False	50.00	< 0	N/A
4	JX69	L3	True	100.00	91.536134	91.5
5	JX70	L4	True	250.00	253.139303	101.3
6	JX71	L5	True	500.00	593.301752	118.7
7	JX72	L6	True	1000.00	910.627029	91.1
8	JX73	L7	True	2500.00	2343.377476	93.7
9	JX74	L8	True	5000.00	5216.980964	104.3
10	JX75	L9	True	10000.00	9941.037342	99.4





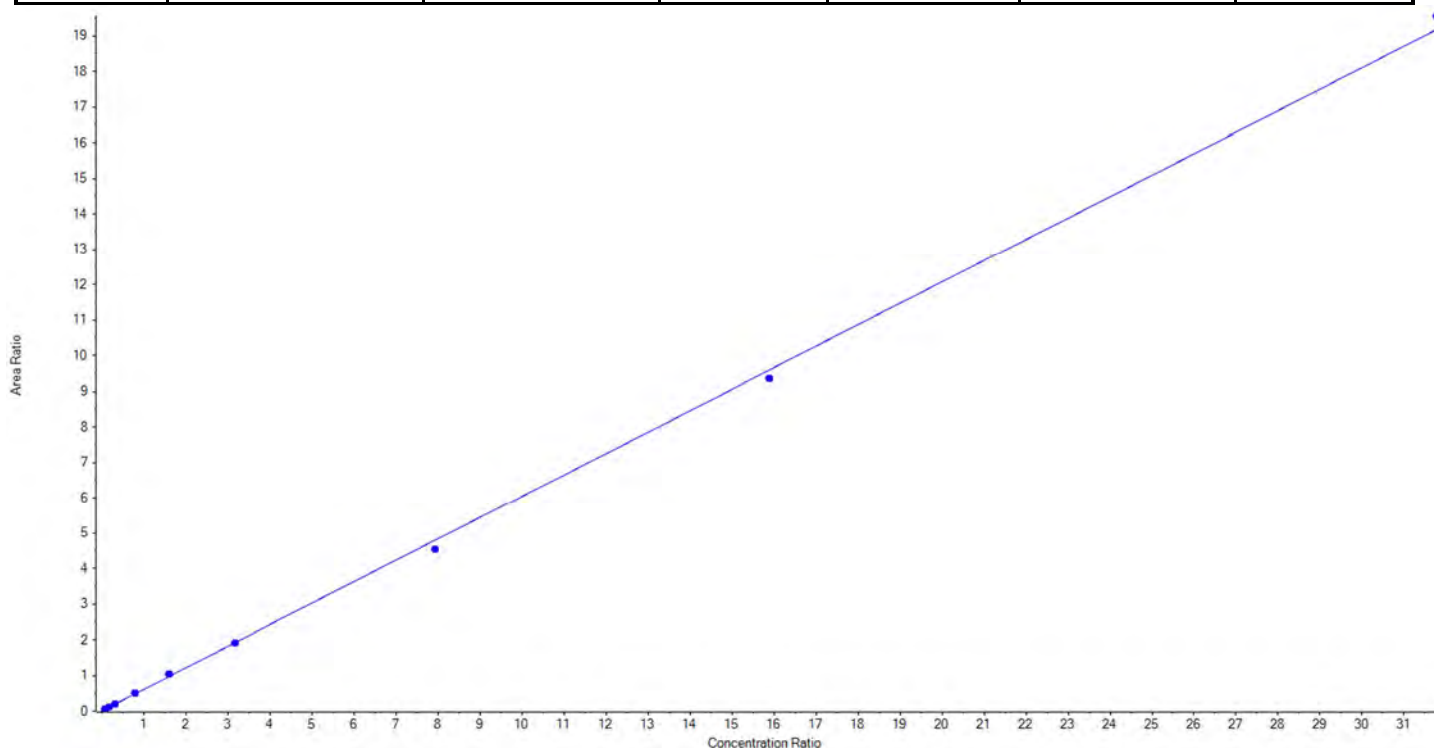
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHxS_1	Data File	5500_07022018_371.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.60305x + 0.00956$ ($r = 0.99951$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	21.544152	94.5
3	JX68	L2	True	45.60	43.242084	94.8
4	JX69	L3	True	91.20	95.795832	105.0
5	JX70	L4	True	228.00	233.540475	102.4
6	JX71	L5	True	456.00	495.569899	108.7
7	JX72	L6	True	912.00	913.645896	100.2
8	JX73	L7	True	2280.00	2160.202123	94.8
9	JX74	L8	True	4560.00	4451.995198	97.6
10	JX75	L9	True	9120.00	9300.064340	102.0





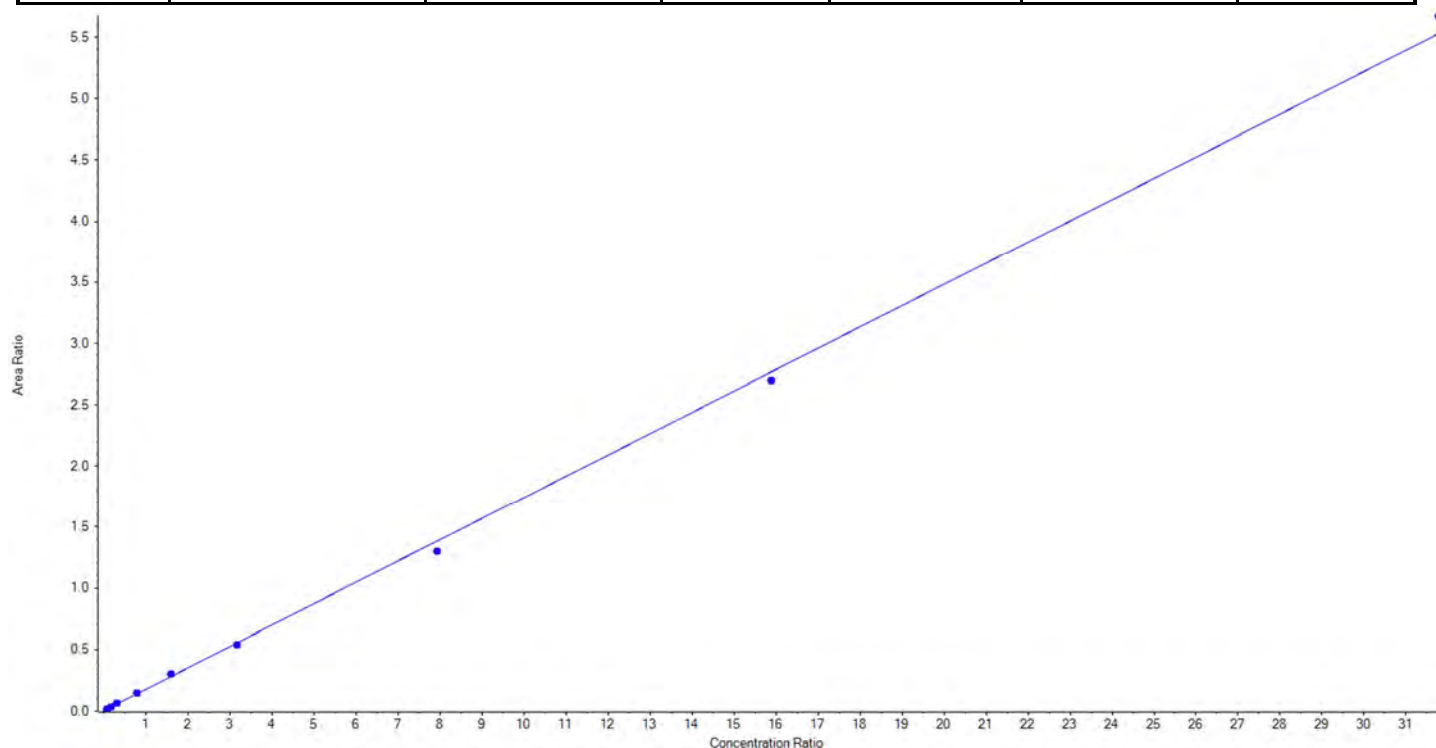
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHxS_2	Data File	5500_07022018_371.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17388x + 0.00406$ ($r = 0.99938$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	21.405512	93.9
3	JX68	L2	True	45.60	44.850301	98.4
4	JX69	L3	True	91.20	95.808275	105.1
5	JX70	L4	True	228.00	239.200252	104.9
6	JX71	L5	True	456.00	486.442895	106.7
7	JX72	L6	True	912.00	885.471915	97.1
8	JX73	L7	True	2280.00	2143.018262	94.0
9	JX74	L8	True	4560.00	4443.844668	97.5
10	JX75	L9	True	9120.00	9355.557920	102.6





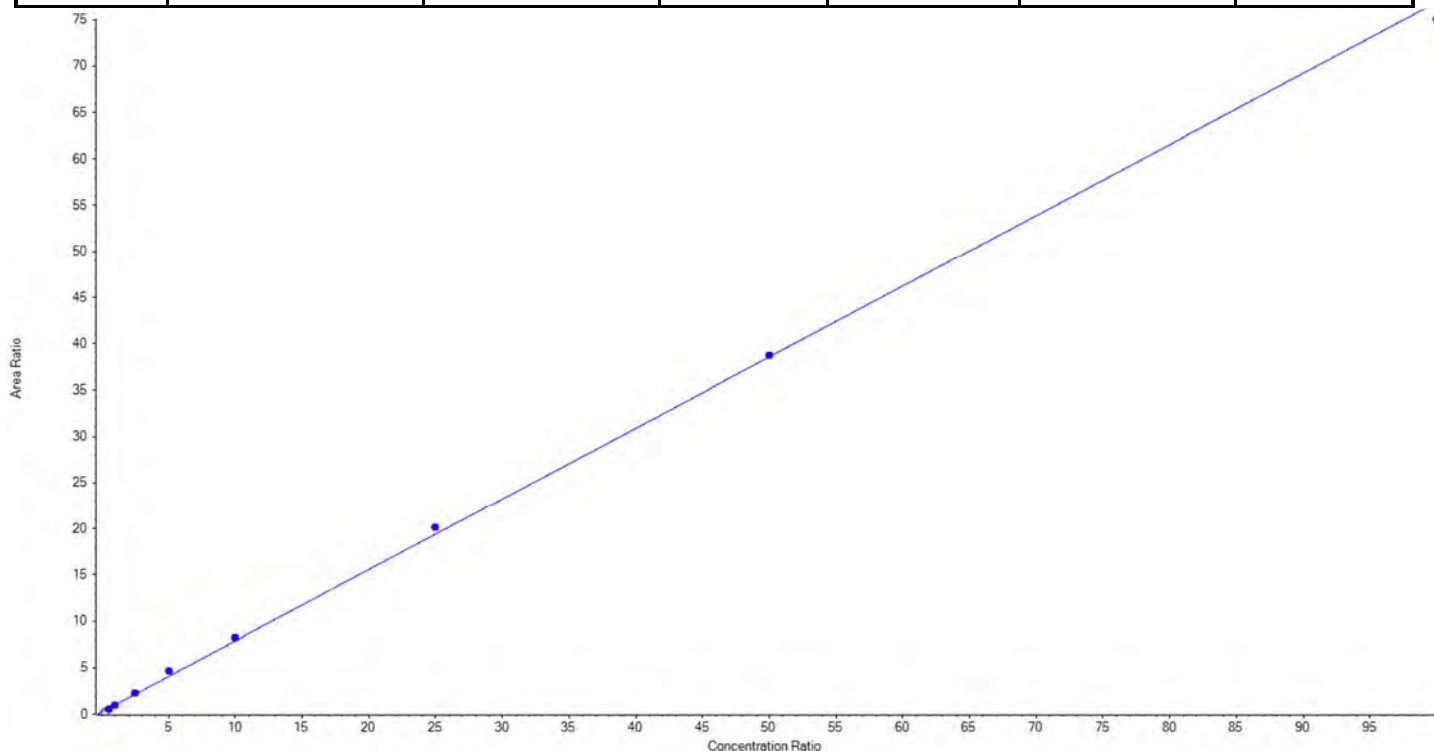
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFOA_1	Data File	5500_07022018_371.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.76642x + 0.23116$ ($r = 0.99920$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	3.296301	13.2
3	JX68	L2	True	50.00	39.908923	79.8
4	JX69	L3	True	100.00	91.394433	91.4
5	JX70	L4	True	250.00	266.565269	106.6
6	JX71	L5	True	500.00	582.510301	116.5
7	JX72	L6	True	1000.00	1037.660123	103.8
8	JX73	L7	True	2500.00	2594.331485	103.8
9	JX74	L8	True	5000.00	5024.398602	100.5
10	JX75	L9	True	10000.00	9763.230863	97.6





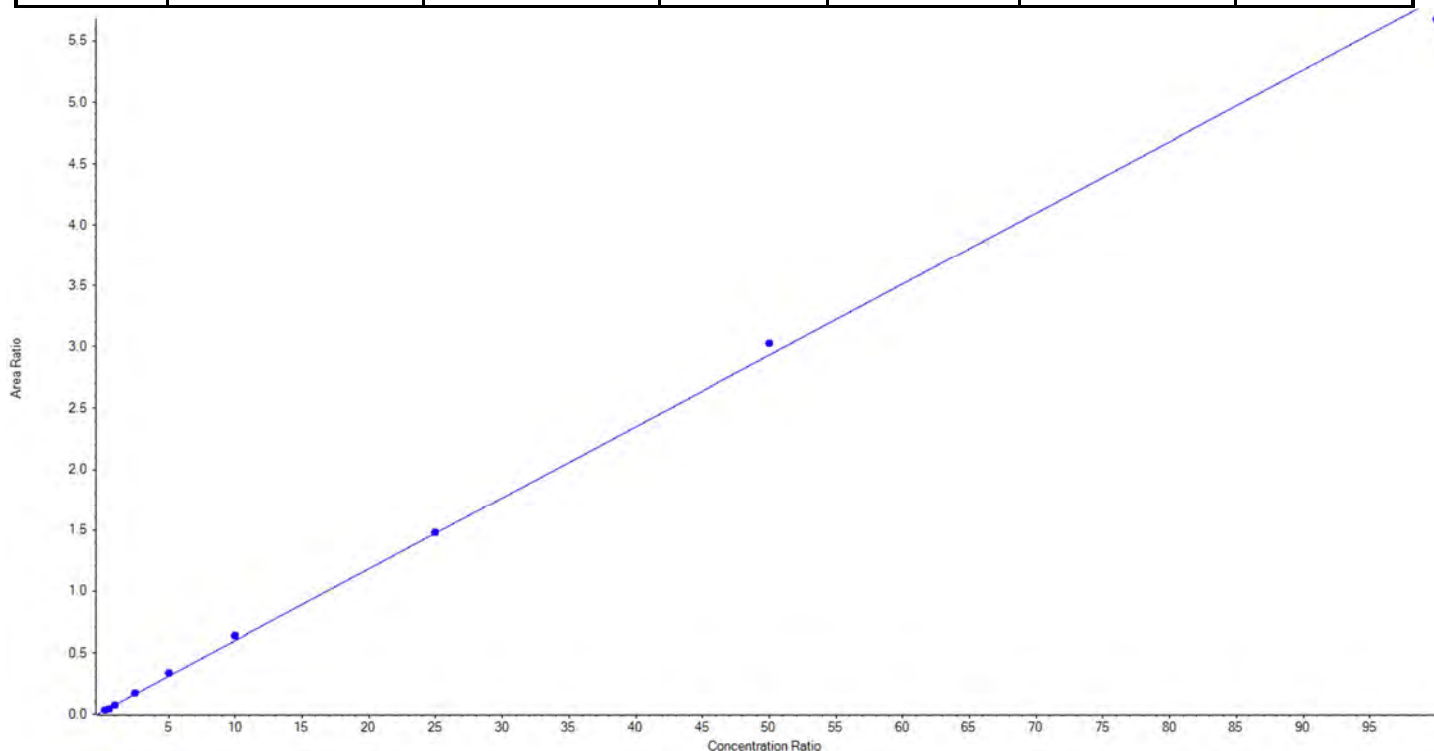
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Analyte Name	PFOA_2	Data File	5500_07022018_371.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.05828x + 0.01731$ ($r = 0.99938$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	23.096983	92.4
3	JX68	L2	True	50.00	46.048621	92.1
4	JX69	L3	True	100.00	94.684246	94.7
5	JX70	L4	True	250.00	261.554627	104.6
6	JX71	L5	True	500.00	546.142995	109.2
7	JX72	L6	True	1000.00	1059.585632	106.0
8	JX73	L7	True	2500.00	2513.802986	100.6
9	JX74	L8	True	5000.00	5166.860566	103.3
10	JX75	L9	True	10000.00	9713.223342	97.1





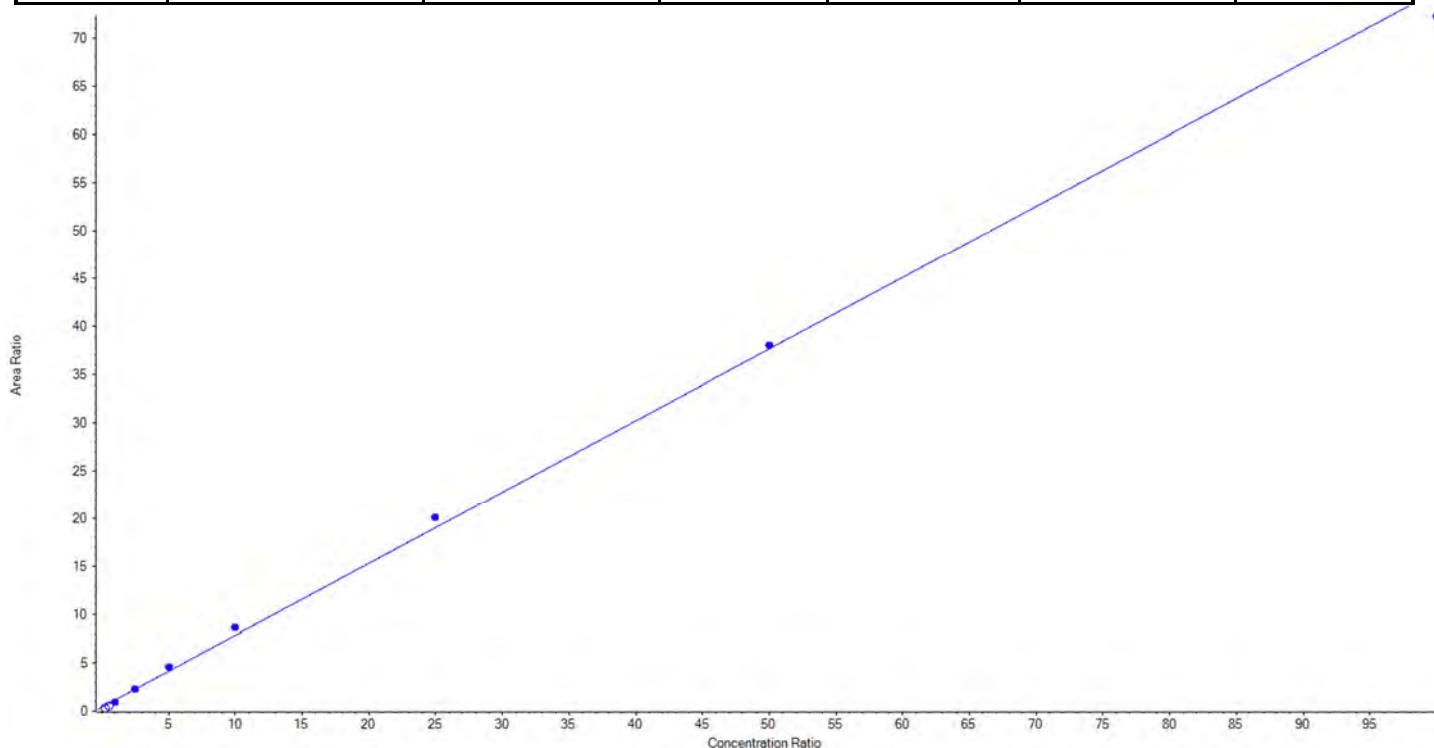
Calibration Summary Report

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Analyte Name	PFNA_1	Data File	5500_07022018_371.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74484x + 0.42033$ ($r = 0.99848$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	False	50.00	11.560228	23.1
4	JX69	L3	True	100.00	70.753729	70.8
5	JX70	L4	True	250.00	255.246988	102.1
6	JX71	L5	True	500.00	563.074555	112.6
7	JX72	L6	True	1000.00	1110.304830	111.0
8	JX73	L7	True	2500.00	2649.440264	106.0
9	JX74	L8	True	5000.00	5051.267523	101.0
10	JX75	L9	True	10000.00	9649.912111	96.5





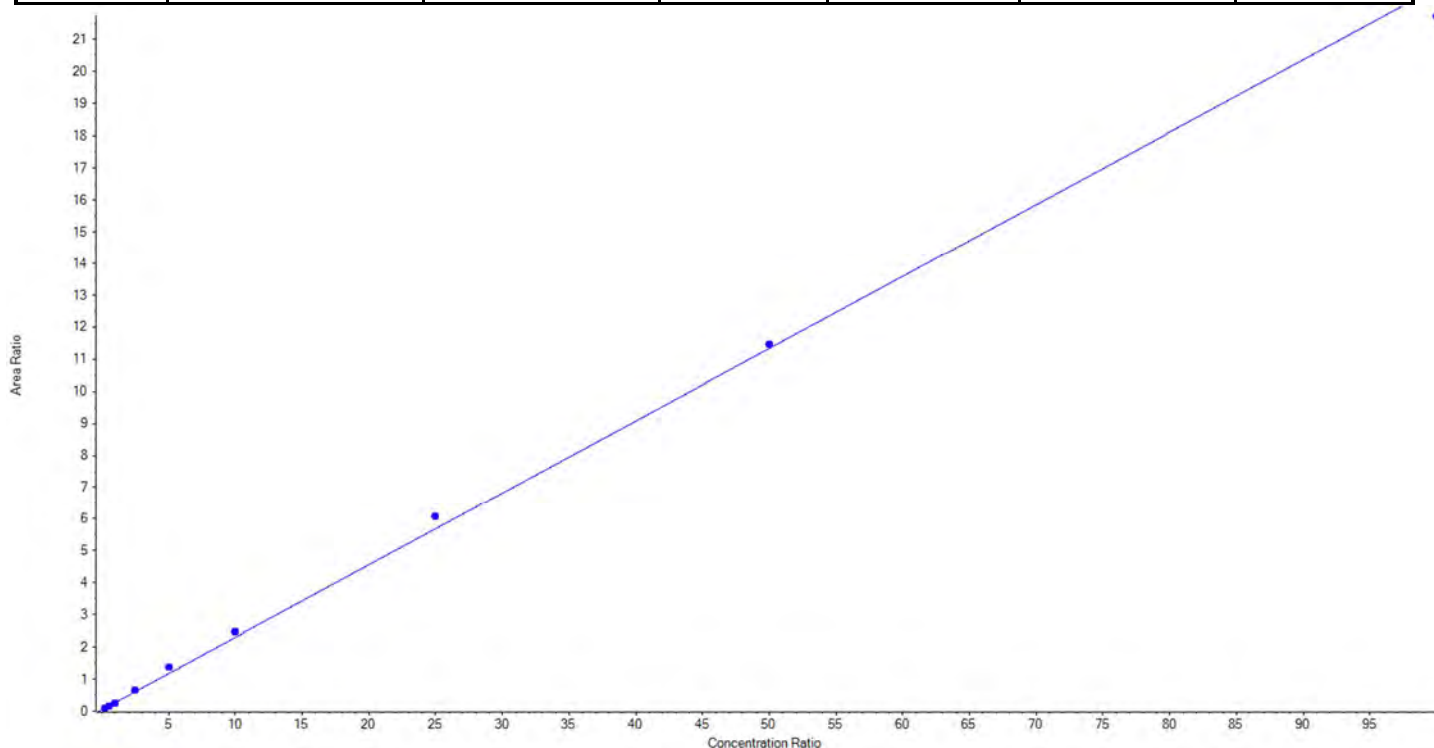
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Analyte Name	PFNA_2	Data File	5500_07022018_371.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.22587x + 0.04252$ ($r = 0.99855$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.038457	72.2
3	JX68	L2	True	50.00	49.154789	98.3
4	JX69	L3	True	100.00	91.830907	91.8
5	JX70	L4	True	250.00	271.441251	108.6
6	JX71	L5	True	500.00	585.356231	117.1
7	JX72	L6	True	1000.00	1081.373683	108.1
8	JX73	L7	True	2500.00	2670.371759	106.8
9	JX74	L8	True	5000.00	5053.137222	101.1
10	JX75	L9	True	10000.00	9604.295700	96.0





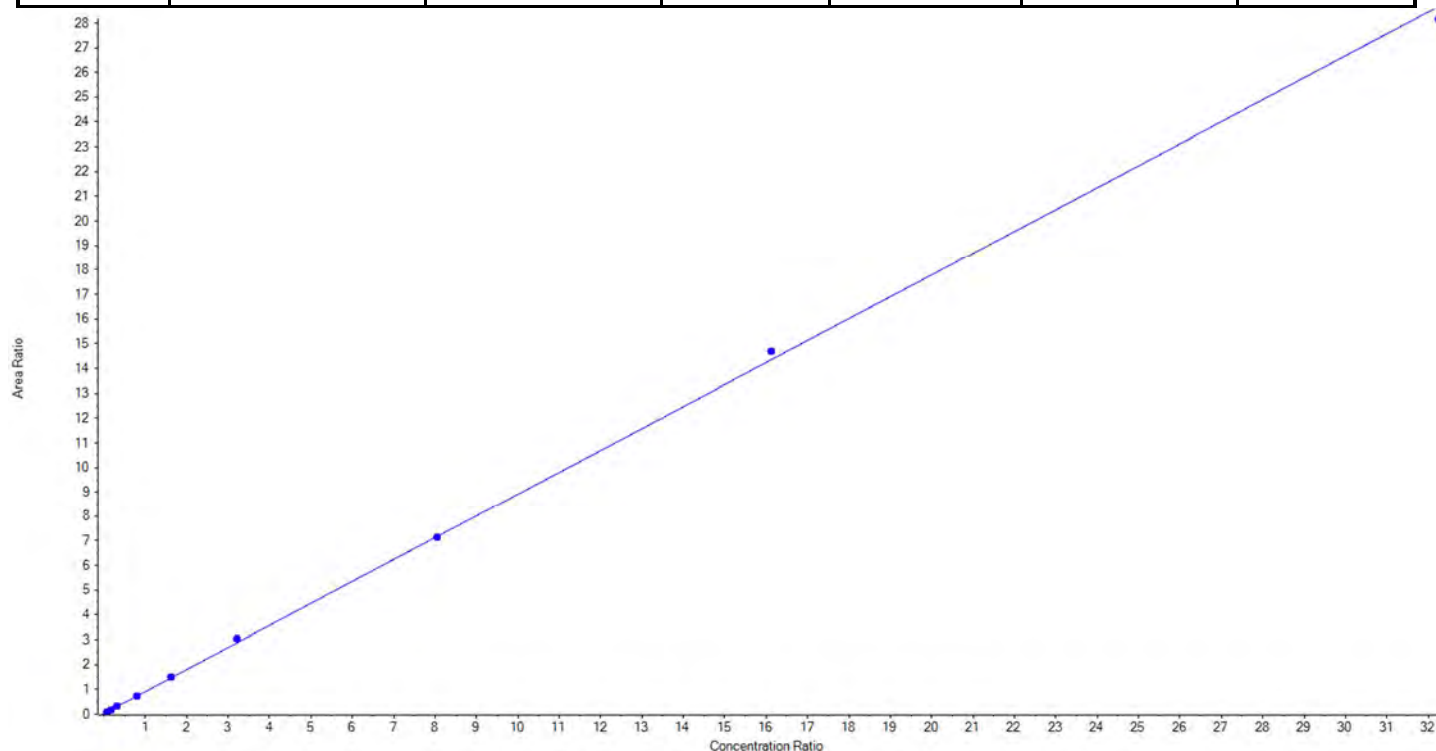
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Analyte Name	PFOS_1	Data File	5500_07022018_371.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.88828x + 0.02403$ ($r = 0.99972$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	21.402585	92.5
3	JX68	L2	True	46.30	42.965528	92.8
4	JX69	L3	True	92.60	97.561781	105.4
5	JX70	L4	True	231.50	232.958262	100.6
6	JX71	L5	True	463.00	477.996772	103.2
7	JX72	L6	True	925.60	975.463169	105.4
8	JX73	L7	True	2314.00	2303.431578	99.5
9	JX74	L8	True	4628.00	4738.467154	102.4
10	JX75	L9	True	9256.00	9089.903170	98.2





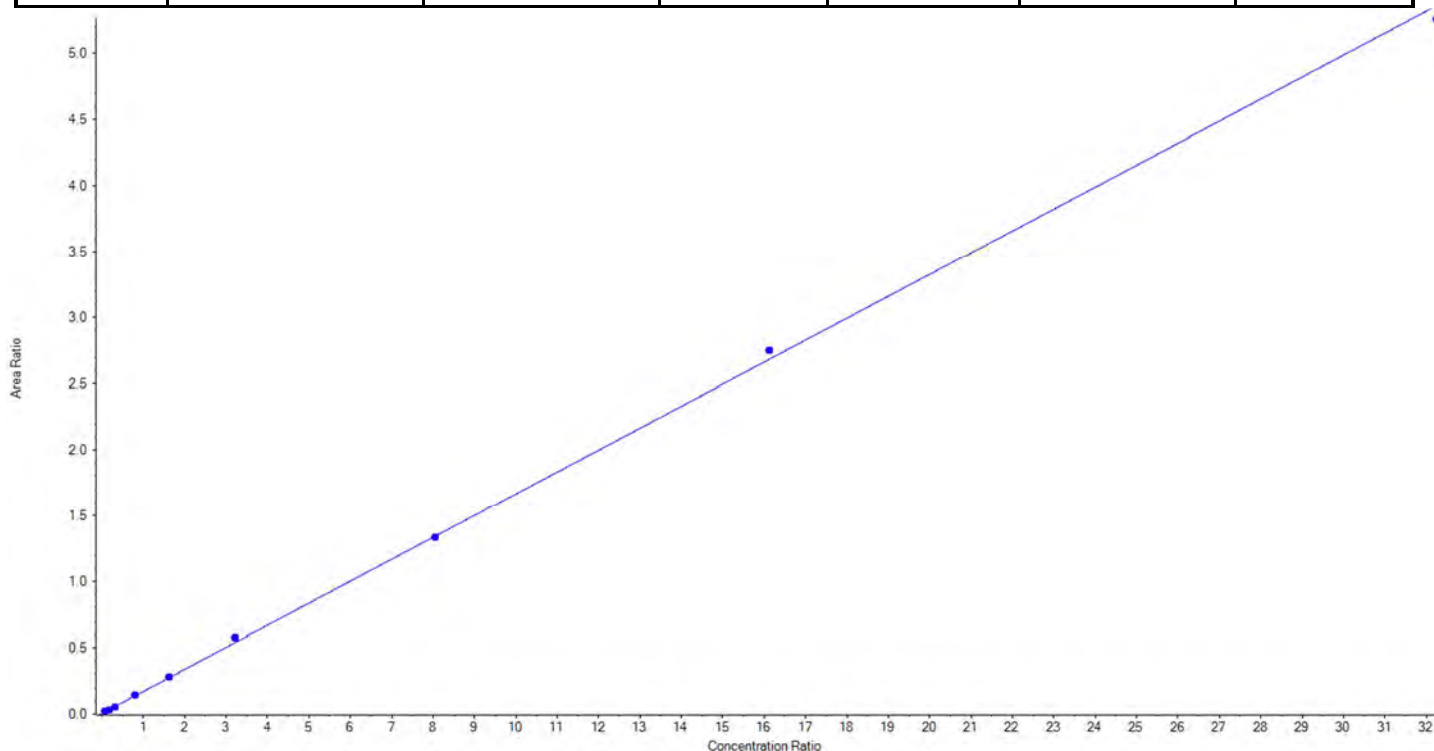
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Analyte Name	PFOS_2	Data File	5500_07022018_371.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.16600 x + 0.00539$ ($r = 0.99959$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	25.595678	110.6
3	JX68	L2	True	46.30	40.224378	86.9
4	JX69	L3	True	92.60	80.783097	87.2
5	JX70	L4	True	231.50	243.163731	105.0
6	JX71	L5	True	463.00	480.211049	103.7
7	JX72	L6	True	925.60	986.515512	106.6
8	JX73	L7	True	2314.00	2299.833376	99.4
9	JX74	L8	True	4628.00	4743.198849	102.5
10	JX75	L9	True	9256.00	9080.624331	98.1





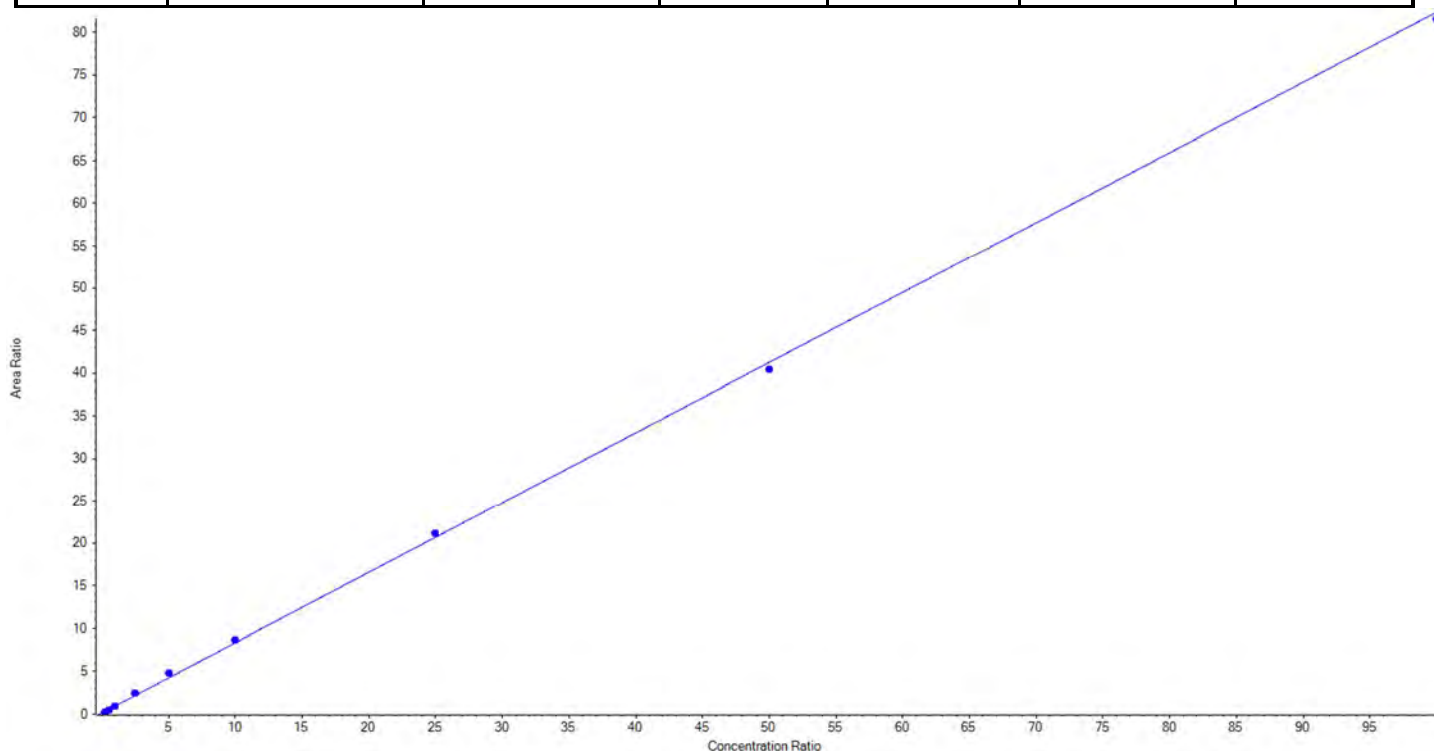
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Analyte Name	PFDA_1	Data File	5500_07022018_371.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.82255x + 0.13346$ ($r = 0.99934$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.954847	71.8
3	JX68	L2	True	50.00	46.470902	92.9
4	JX69	L3	True	100.00	102.660895	102.7
5	JX70	L4	True	250.00	286.283367	114.5
6	JX71	L5	True	500.00	572.291805	114.5
7	JX72	L6	True	1000.00	1043.157797	104.3
8	JX73	L7	True	2500.00	2558.382450	102.3
9	JX74	L8	True	5000.00	4897.714886	98.0
10	JX75	L9	True	10000.00	9900.083051	99.0





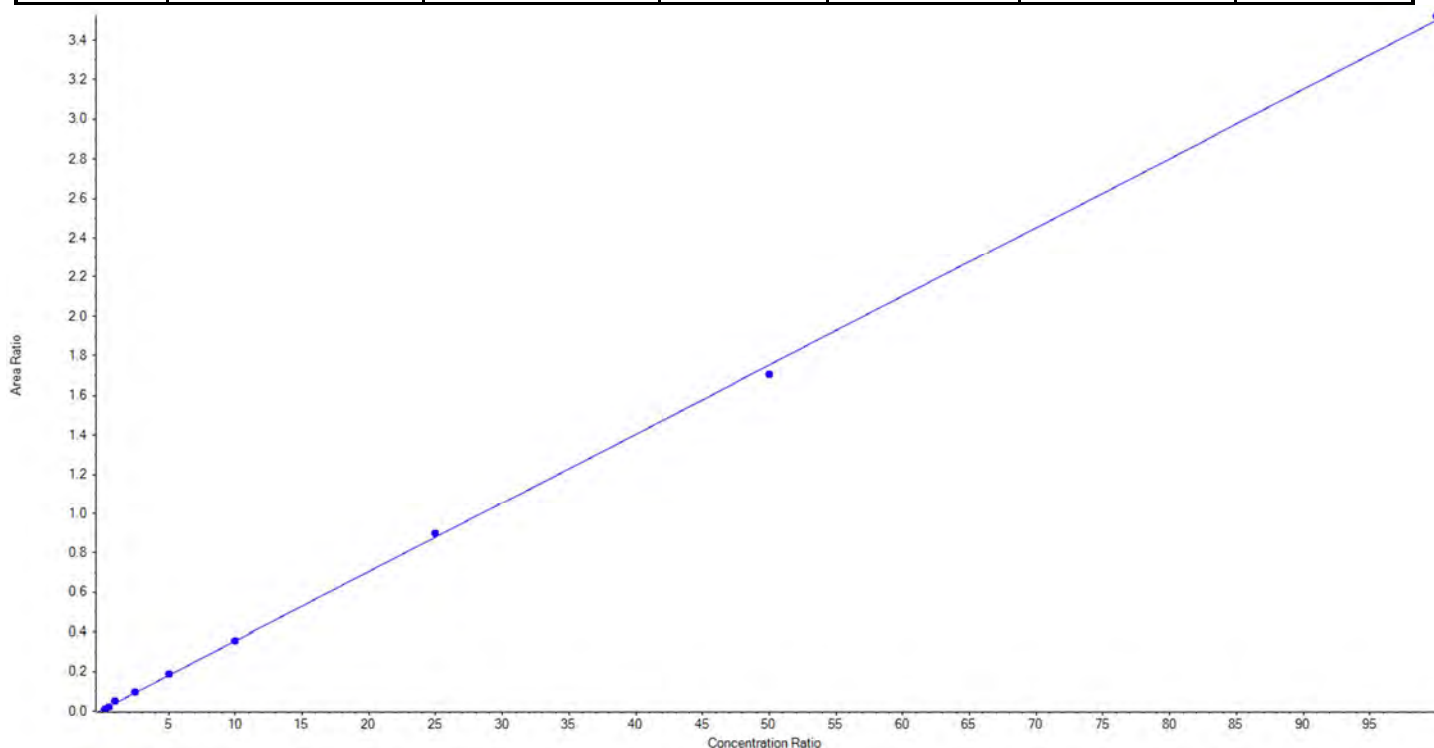
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Analyte Name	PFDA_2	Data File	5500_07022018_371.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03495x + 0.00564$ ($r = 0.99962$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.595652	74.4
3	JX68	L2	True	50.00	48.371550	96.7
4	JX69	L3	True	100.00	124.171117	124.2
5	JX70	L4	True	250.00	253.313488	101.3
6	JX71	L5	True	500.00	522.072010	104.4
7	JX72	L6	True	1000.00	993.095369	99.3
8	JX73	L7	True	2500.00	2547.925565	101.9
9	JX74	L8	True	5000.00	4856.226373	97.1
10	JX75	L9	True	10000.00	10061.228876	100.6





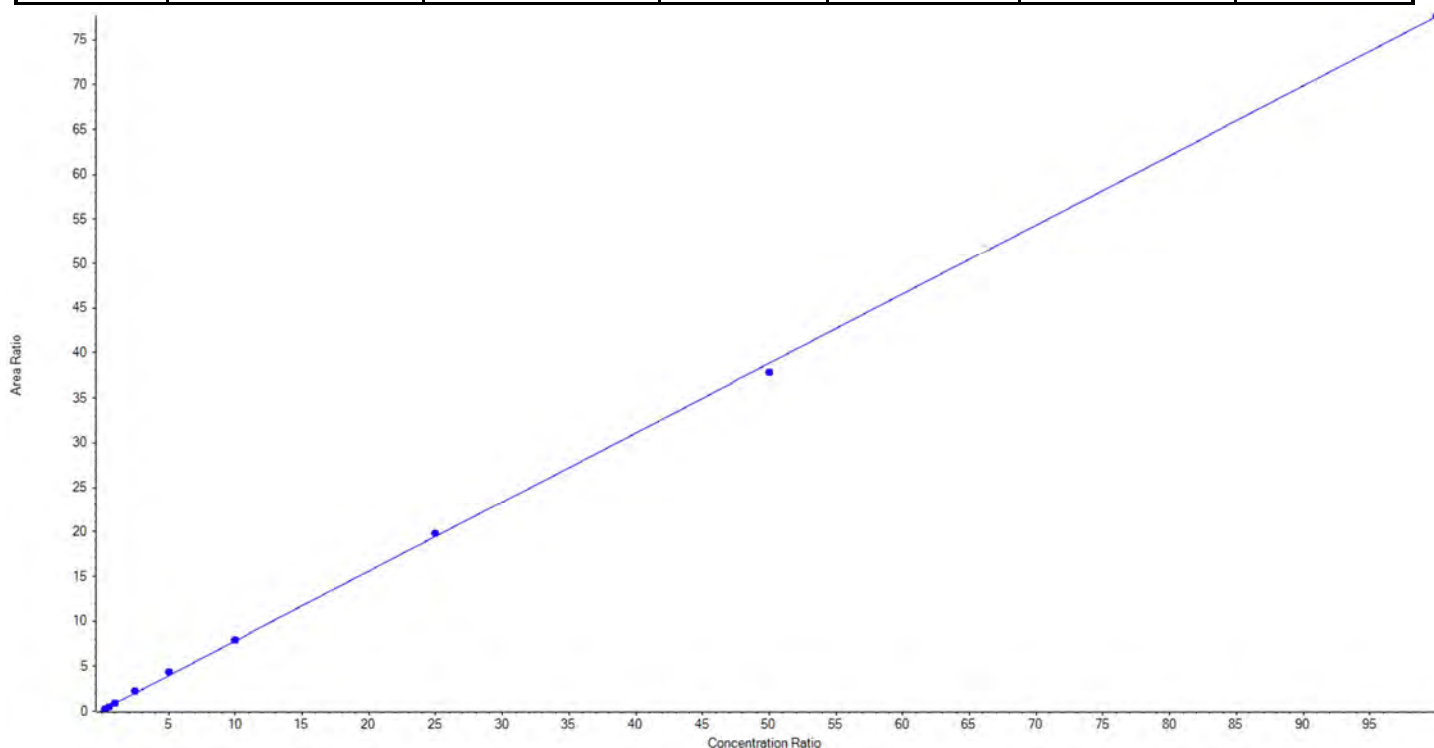
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Analyte Name	PFUnA_1	Data File	5500_07022018_371.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.77517x + 0.08207$ ($r = 0.99962$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.289711	81.2
3	JX68	L2	True	50.00	45.502830	91.0
4	JX69	L3	True	100.00	106.457837	106.5
5	JX70	L4	True	250.00	278.590911	111.4
6	JX71	L5	True	500.00	549.000839	109.8
7	JX72	L6	True	1000.00	1011.446203	101.1
8	JX73	L7	True	2500.00	2538.704243	101.6
9	JX74	L8	True	5000.00	4869.826200	97.4
10	JX75	L9	True	10000.00	10005.181227	100.1





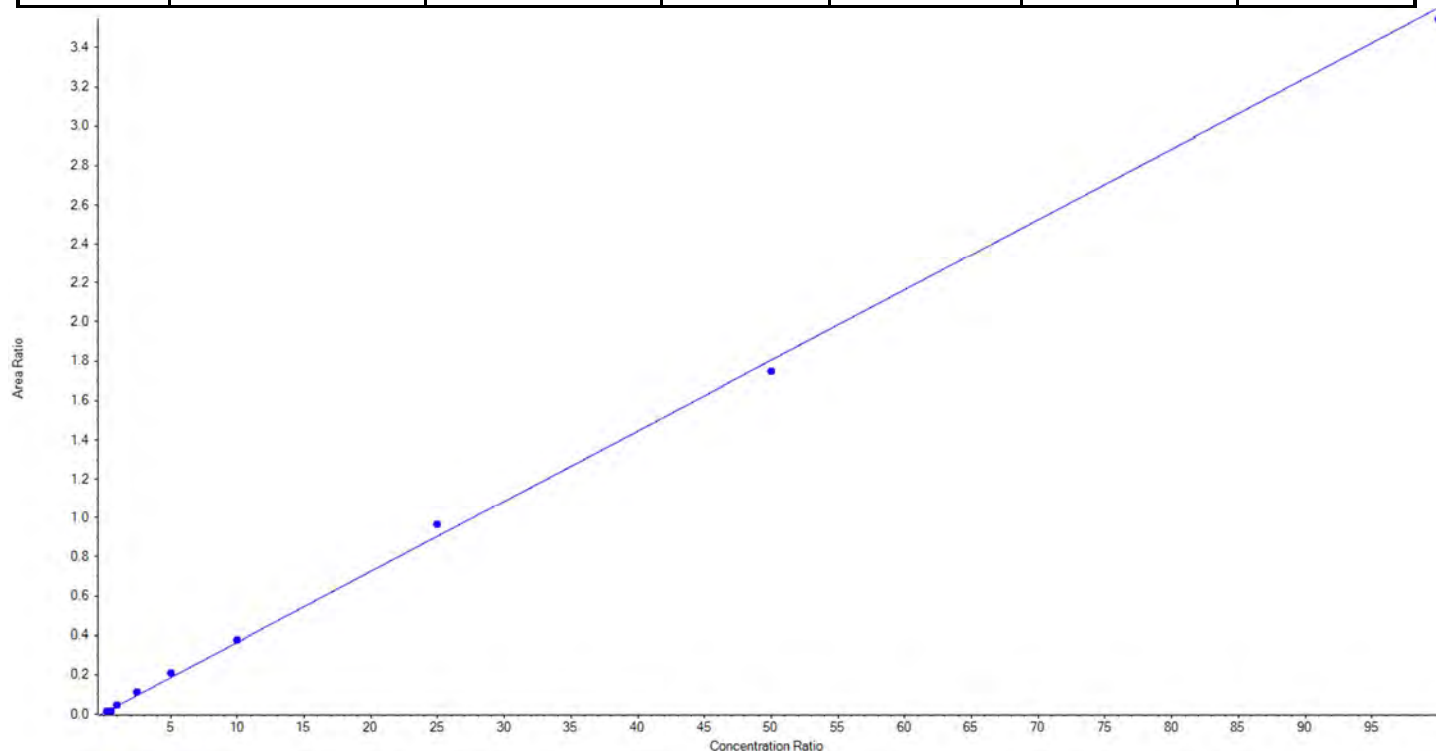
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Analyte Name	PFUnA_2	Data File	5500_07022018_371.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03597 x + 0.00581$ ($r = 0.99867$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.841067	83.4
3	JX68	L2	True	50.00	32.168349	64.3
4	JX69	L3	True	100.00	113.120103	113.1
5	JX70	L4	True	250.00	298.001703	119.2
6	JX71	L5	True	500.00	572.636331	114.5
7	JX72	L6	True	1000.00	1032.565745	103.3
8	JX73	L7	True	2500.00	2673.374421	106.9
9	JX74	L8	True	5000.00	4843.651241	96.9
10	JX75	L9	True	10000.00	9838.641041	98.4





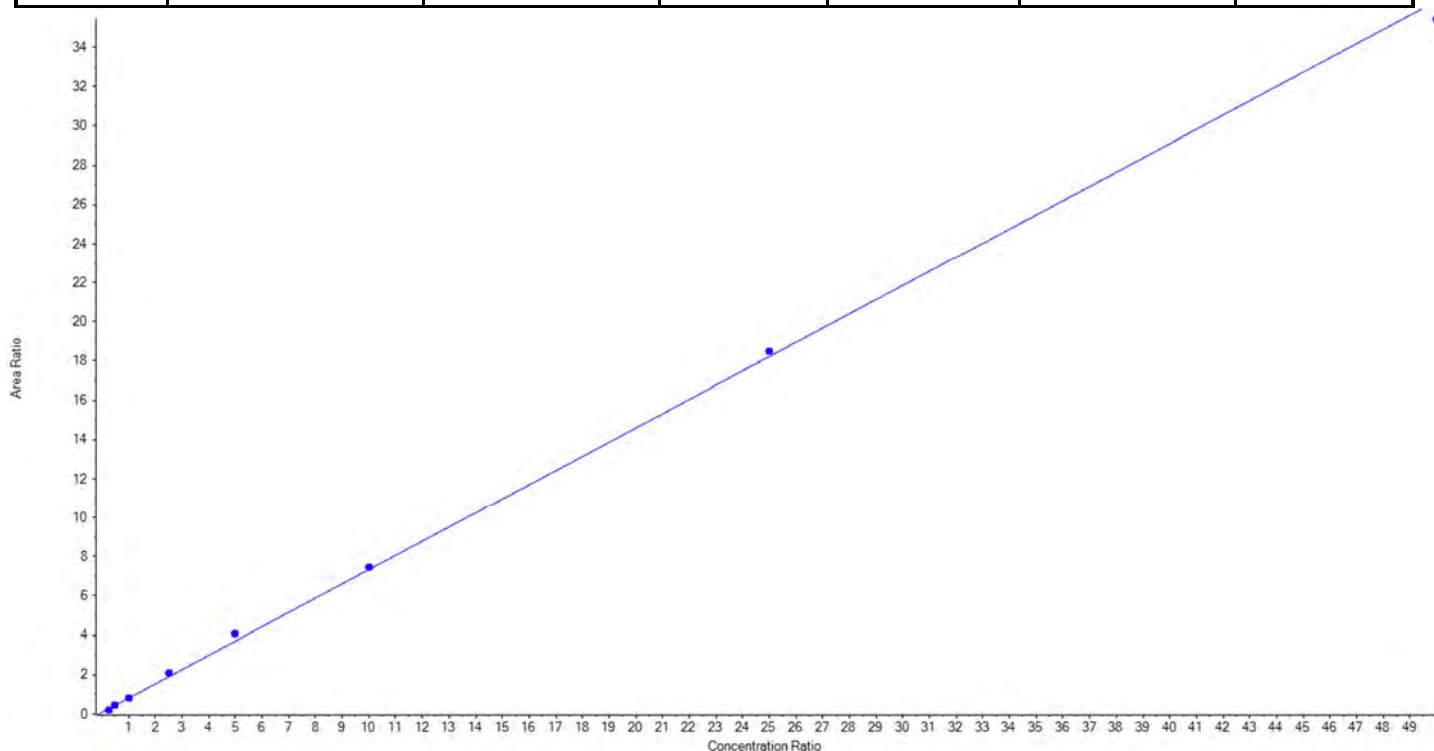
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Analyte Name	PFD _o A_1	Data File	5500_07022018_371.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.72549x + 0.08471$ ($r = 0.99919$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.848894	79.4
3	JX68	L2	True	50.00	48.288869	96.6
4	JX69	L3	True	100.00	101.472581	101.5
5	JX70	L4	True	250.00	279.236278	111.7
6	JX71	L5	True	500.00	552.216889	110.4
7	JX72	L6	True	1000.00	1015.301250	101.5
8	JX73	L7	True	2500.00	2535.669325	101.4
9	JX74	L8	True	5000.00	4872.965914	97.5
10	JX75	L9	False	10000.00	N/A	N/A





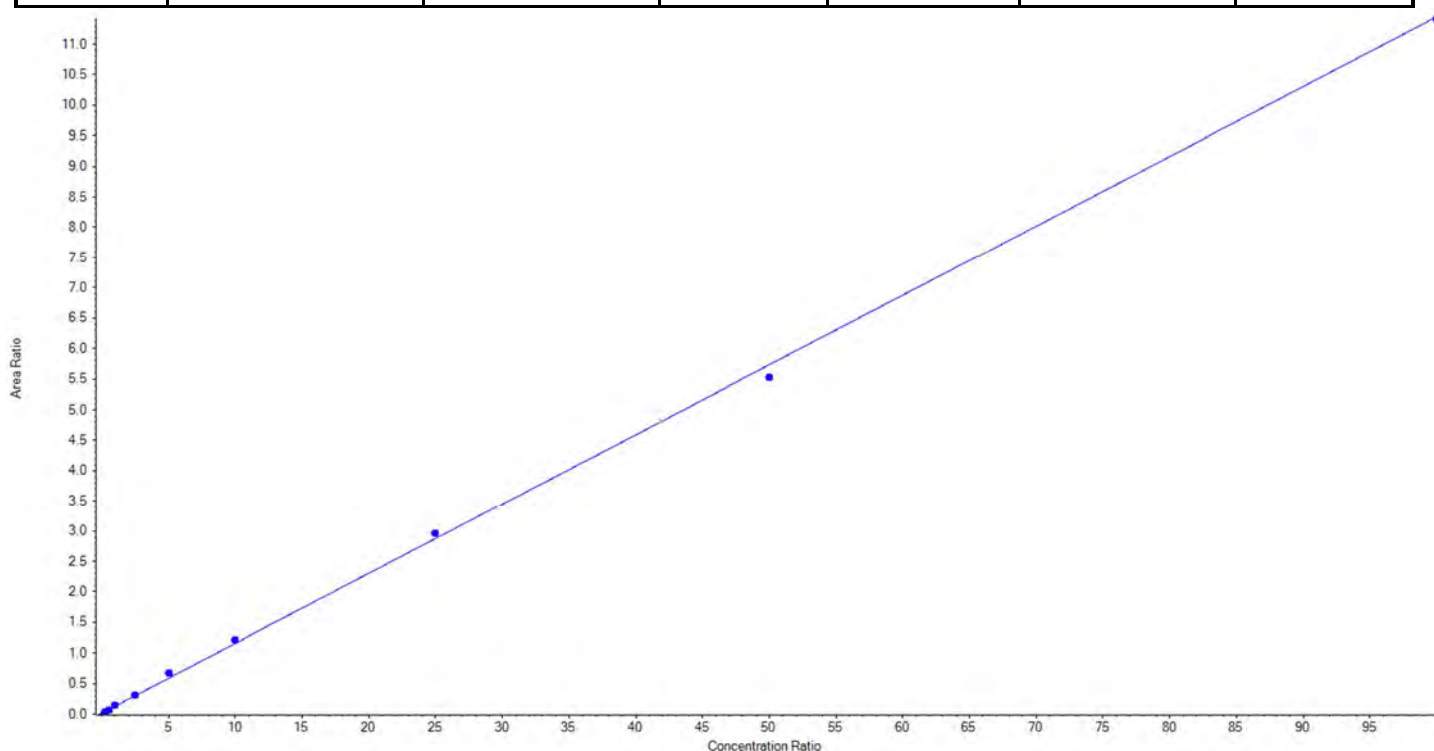
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Analyte Name	PFD _o A_2	Data File	5500_07022018_371.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.11431x + 0.01744$ ($r = 0.99926$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.356735	69.4
3	JX68	L2	True	50.00	46.660483	93.3
4	JX69	L3	True	100.00	115.365405	115.4
5	JX70	L4	True	250.00	258.458944	103.4
6	JX71	L5	True	500.00	571.816072	114.4
7	JX72	L6	True	1000.00	1049.006303	104.9
8	JX73	L7	True	2500.00	2579.665089	103.2
9	JX74	L8	True	5000.00	4818.595248	96.4
10	JX75	L9	True	10000.00	9968.075720	99.7





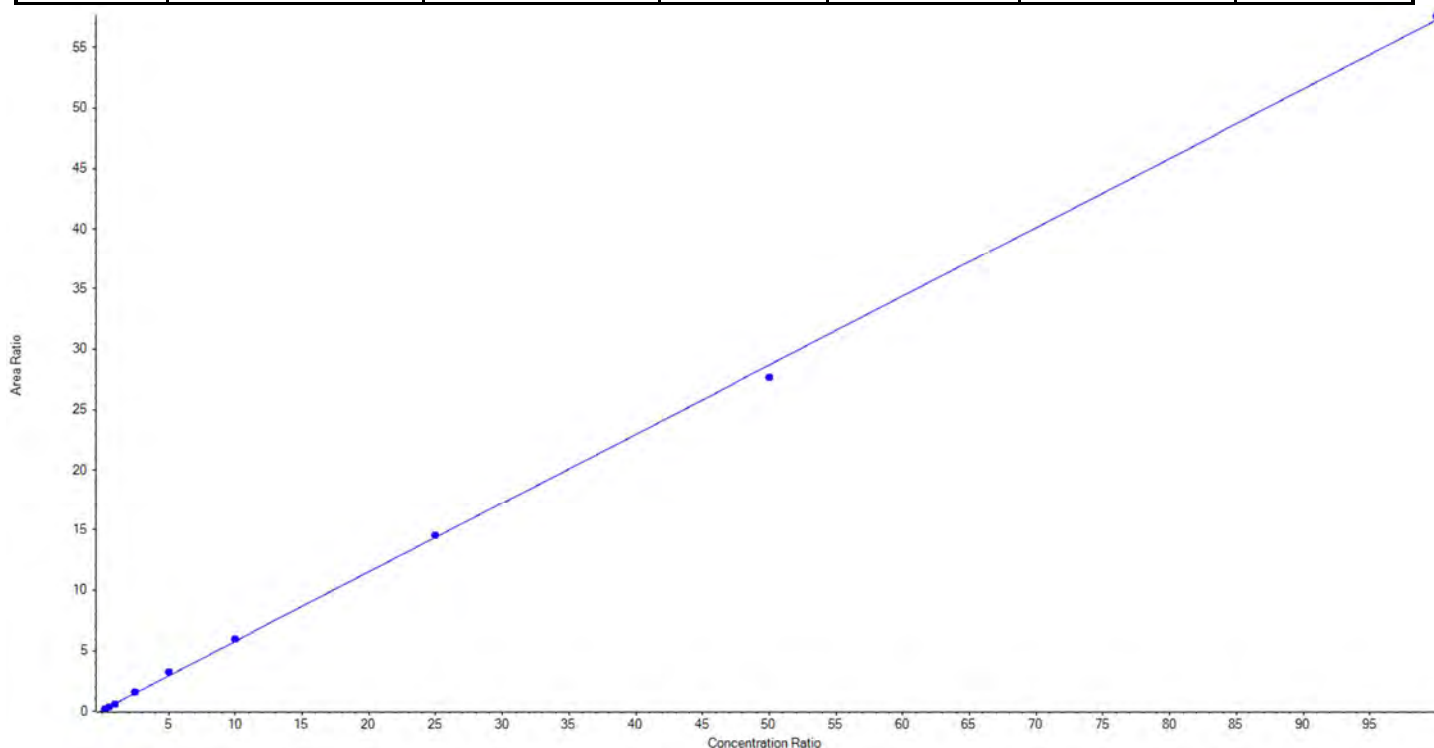
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Analyte Name	PFTTrDA_1	Data File	5500_07022018_371.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.57215x + 0.05921$ ($r = 0.99954$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.118807	80.5
3	JX68	L2	True	50.00	51.586072	103.2
4	JX69	L3	True	100.00	96.680100	96.7
5	JX70	L4	True	250.00	268.571204	107.4
6	JX71	L5	True	500.00	552.622058	110.5
7	JX72	L6	True	1000.00	1038.276379	103.8
8	JX73	L7	True	2500.00	2525.562602	101.0
9	JX74	L8	True	5000.00	4815.366268	96.3
10	JX75	L9	True	10000.00	10056.216508	100.6





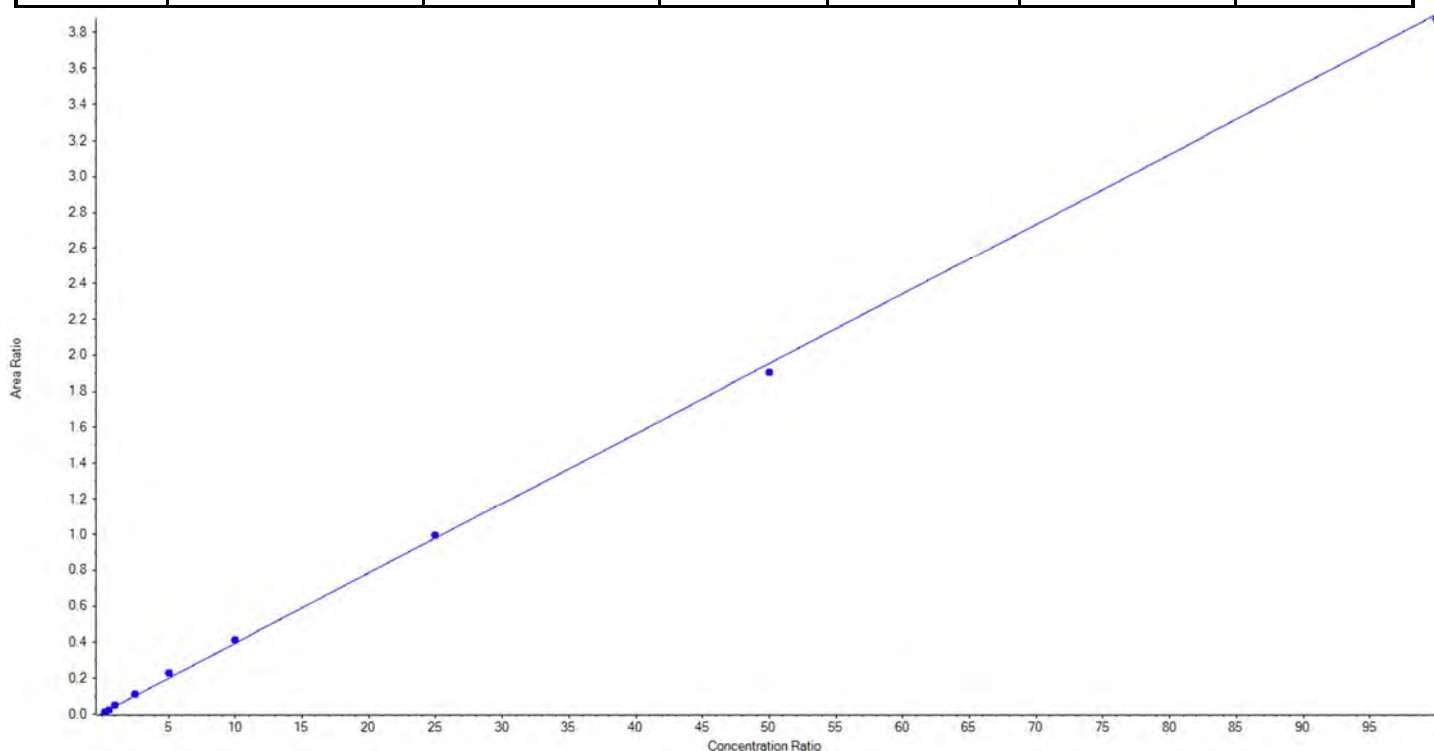
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFTTrDA_2	Data File	5500_07022018_371.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03897 x + 0.00508$ ($r = 0.99928$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.148913	72.6
3	JX68	L2	True	50.00	42.140994	84.3
4	JX69	L3	True	100.00	112.290886	112.3
5	JX70	L4	True	250.00	280.667273	112.3
6	JX71	L5	True	500.00	578.011453	115.6
7	JX72	L6	True	1000.00	1045.802277	104.6
8	JX73	L7	True	2500.00	2536.715181	101.5
9	JX74	L8	True	5000.00	4880.120740	97.6
10	JX75	L9	True	10000.00	9931.102282	99.3





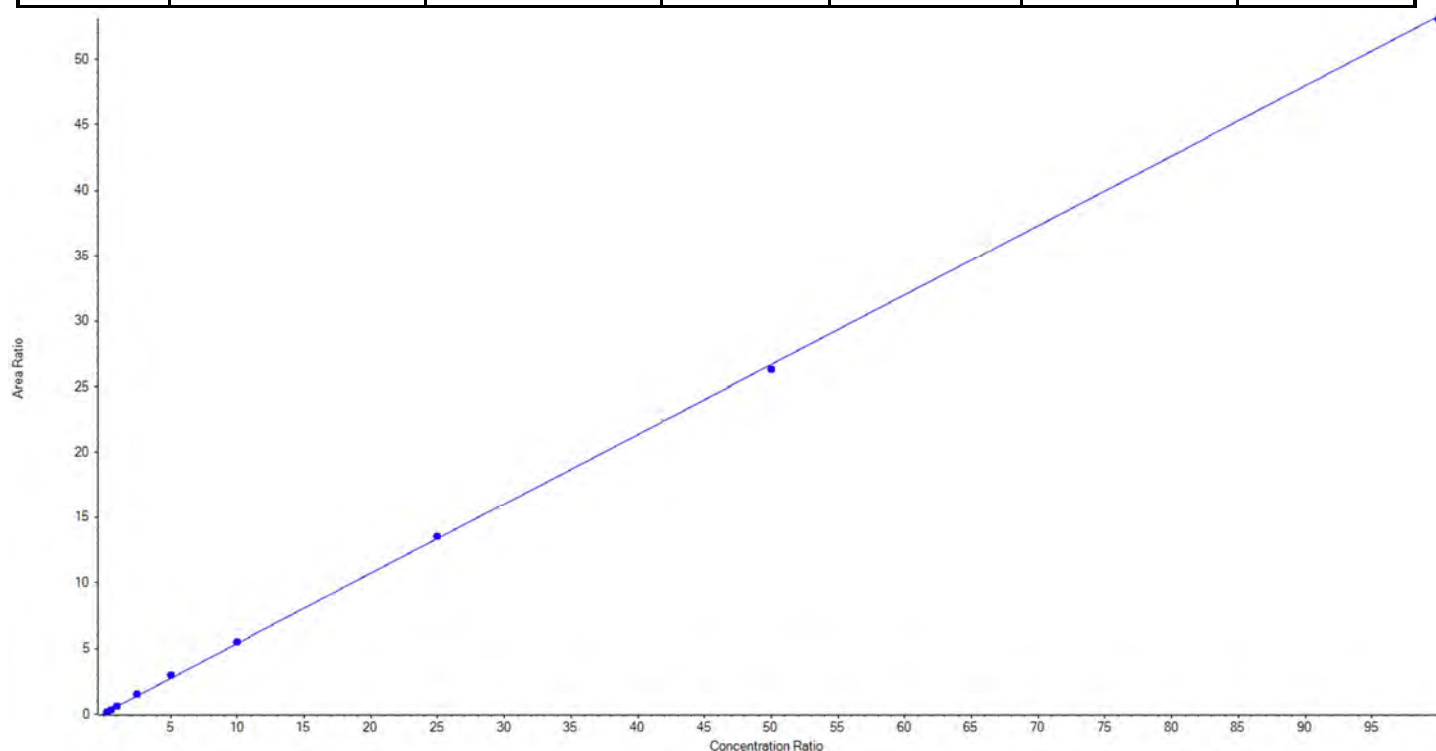
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTeDA_1	Data File	5500_07022018_371.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.53230 x + 0.06529$ ($r = 0.99974$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.692328	86.8
3	JX68	L2	True	50.00	45.047159	90.1
4	JX69	L3	True	100.00	103.718870	103.7
5	JX70	L4	True	250.00	270.309155	108.1
6	JX71	L5	True	500.00	550.653271	110.1
7	JX72	L6	True	1000.00	1019.904002	102.0
8	JX73	L7	True	2500.00	2523.188014	100.9
9	JX74	L8	True	5000.00	4934.039142	98.7
10	JX75	L9	True	10000.00	9956.448059	99.6





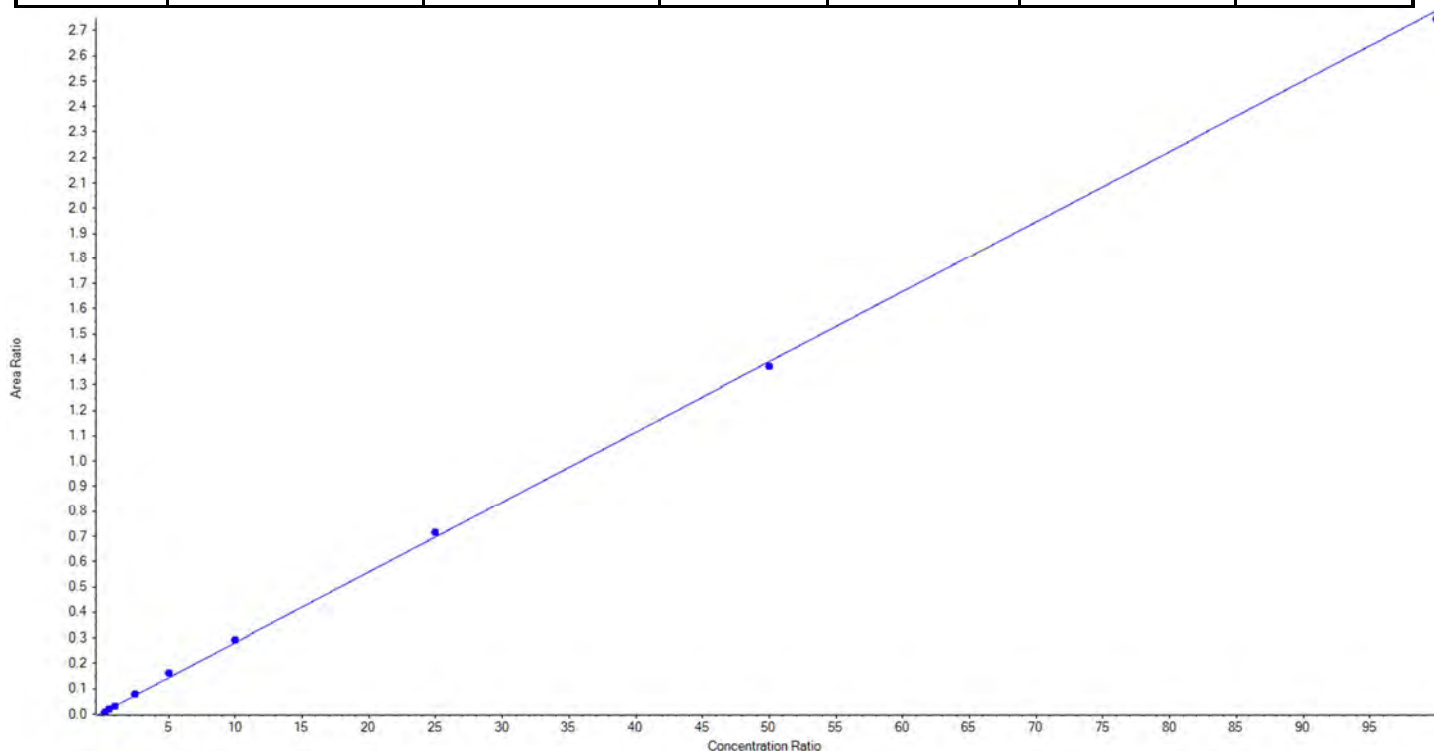
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Analyte Name	PFTeDA_2	Data File	5500_07022018_371.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.02773x + 0.00453$ ($r = 0.99949$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.876315	75.5
3	JX68	L2	True	50.00	49.363679	98.7
4	JX69	L3	True	100.00	98.965087	99.0
5	JX70	L4	True	250.00	271.867573	108.8
6	JX71	L5	True	500.00	568.272737	113.7
7	JX72	L6	True	1000.00	1044.043096	104.4
8	JX73	L7	True	2500.00	2566.244806	102.7
9	JX74	L8	True	5000.00	4927.294809	98.6
10	JX75	L9	True	10000.00	9880.071897	98.8





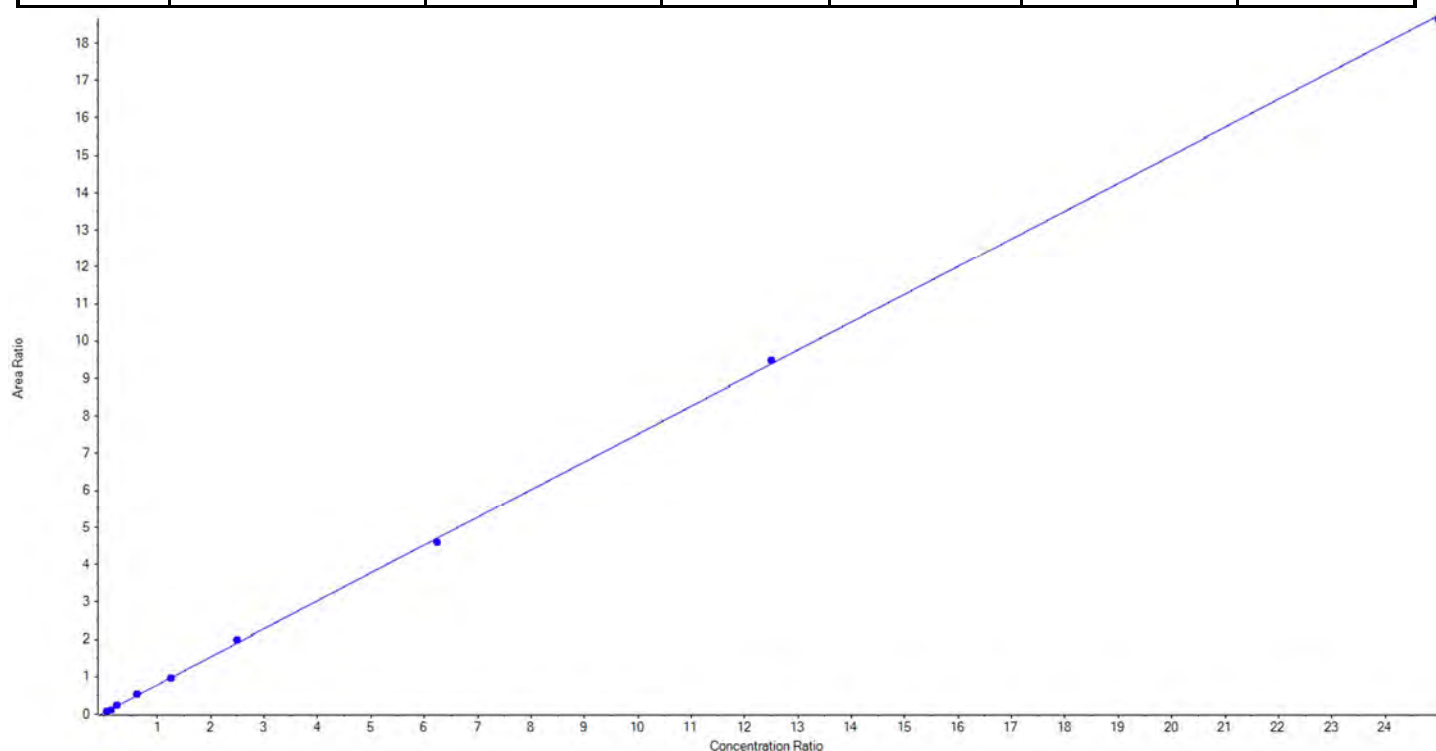
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Analyte Name	NMeFOSAA_1	Data File	5500_07022018_371.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74839x + 0.03327$ ($r = 0.99972$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	26.625122	106.5
3	JX68	L2	True	50.00	37.929833	75.9
4	JX69	L3	True	100.00	104.523576	104.5
5	JX70	L4	True	250.00	276.412673	110.6
6	JX71	L5	True	500.00	503.367761	100.7
7	JX72	L6	True	1000.00	1039.943552	104.0
8	JX73	L7	True	2500.00	2431.663249	97.3
9	JX74	L8	True	5000.00	5057.142096	101.1
10	JX75	L9	True	10000.00	9947.392138	99.5





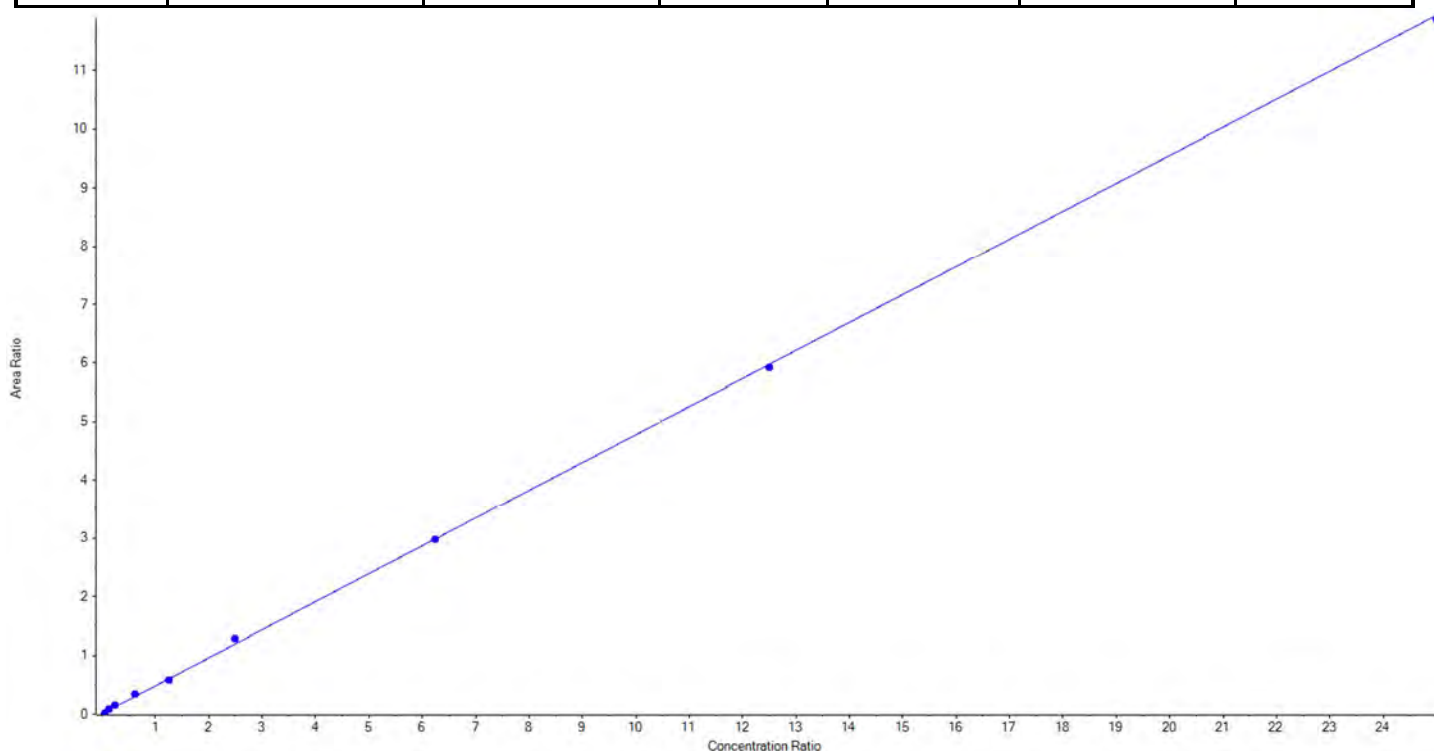
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Analyte Name	NMeFOSAA_2	Data File	5500_07022018_371.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.47762 x + 0.00282$ ($r = 0.99903$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	6.822048	27.3
3	JX68	L2	True	50.00	64.643929	129.3
4	JX69	L3	True	100.00	126.438295	126.4
5	JX70	L4	True	250.00	287.302328	114.9
6	JX71	L5	True	500.00	486.894180	97.4
7	JX72	L6	True	1000.00	1066.258085	106.6
8	JX73	L7	True	2500.00	2488.678587	99.6
9	JX74	L8	True	5000.00	4953.331129	99.1
10	JX75	L9	True	10000.00	9944.631419	99.5





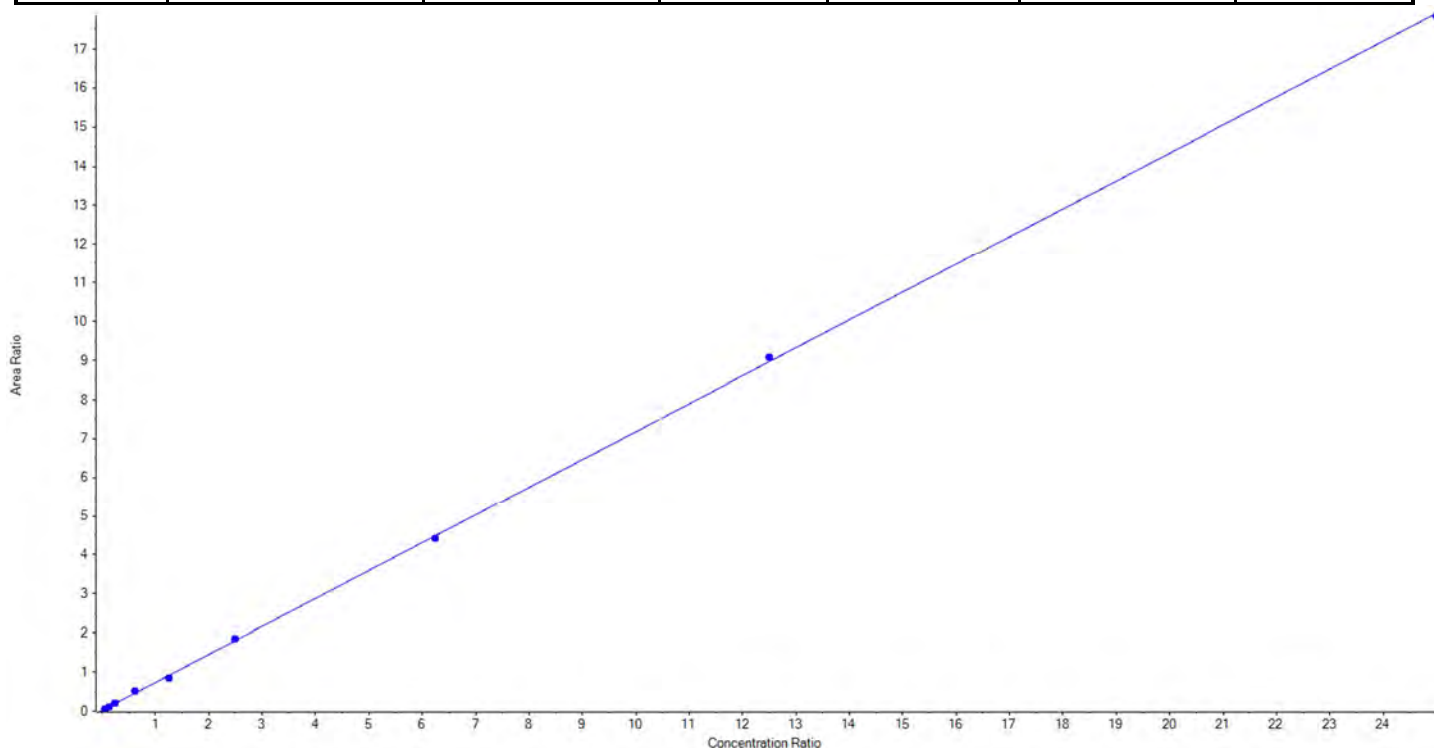
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Analyte Name	NEtFOSAA_1	Data File	5500_07022018_371.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.71616x + 0.01703$ ($r = 0.99978$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.055884	84.2
3	JX68	L2	True	50.00	51.589818	103.2
4	JX69	L3	True	100.00	108.471949	108.5
5	JX70	L4	True	250.00	273.834518	109.5
6	JX71	L5	True	500.00	465.568995	93.1
7	JX72	L6	True	1000.00	1021.697296	102.2
8	JX73	L7	True	2500.00	2461.979633	98.5
9	JX74	L8	True	5000.00	5062.033851	101.2
10	JX75	L9	True	10000.00	9958.768055	99.6





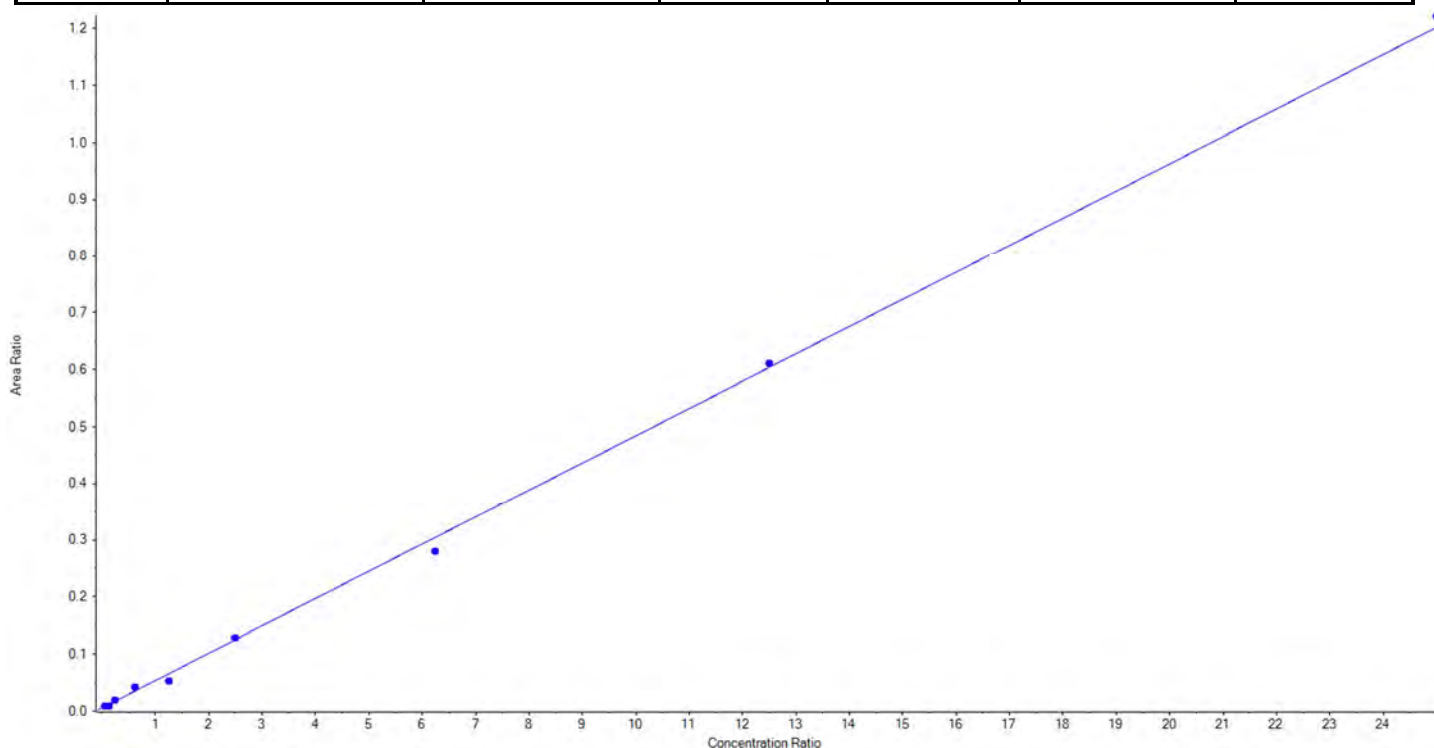
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Analyte Name	NEtFOSAA_2	Data File	5500_07022018_371.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04786 x + 0.00569$ ($r = 0.99817$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	29.524085	118.1
3	JX68	L2	True	50.00	32.304123	64.6
4	JX69	L3	True	100.00	118.956147	119.0
5	JX70	L4	True	250.00	306.031810	122.4
6	JX71	L5	True	500.00	393.712102	78.7
7	JX72	L6	True	1000.00	1026.346535	102.6
8	JX73	L7	True	2500.00	2290.949762	91.6
9	JX74	L8	True	5000.00	5063.972497	101.3
10	JX75	L9	True	10000.00	10163.202939	101.6





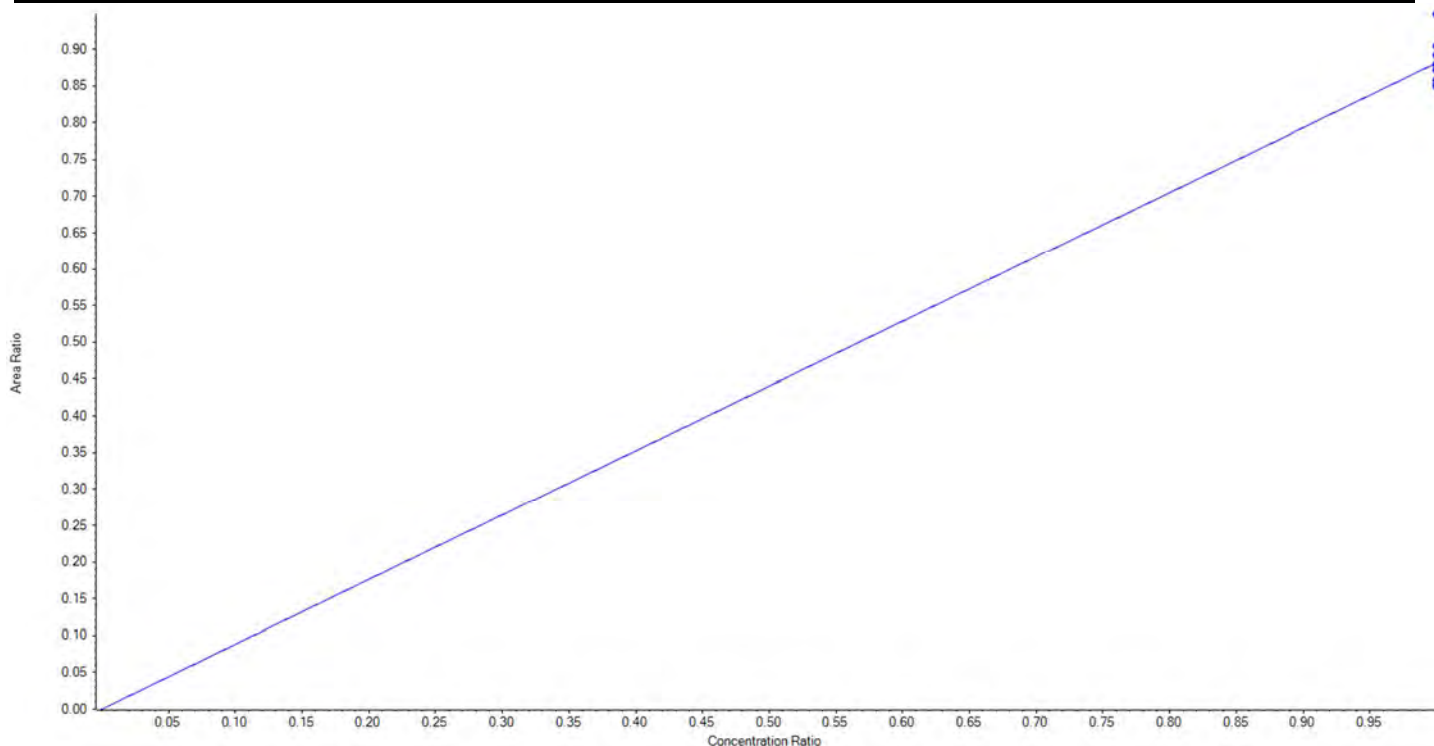
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Analyte Name	13C2-PFHxA	Data File	5500_07022018_371.wiff
MRM Transition	315.0 / 270.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.88123 x$ (std. dev. = 0.03078) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	97.237923	97.2
3	JX68	L2	True	100.00	102.626872	102.6
4	JX69	L3	True	100.00	96.699421	96.7
5	JX70	L4	True	100.00	101.121495	101.1
6	JX71	L5	True	100.00	107.537701	107.5
7	JX72	L6	True	100.00	96.432540	96.4
8	JX73	L7	True	100.00	98.892988	98.9
9	JX74	L8	True	100.00	99.697104	99.7
10	JX75	L9	True	100.00	99.753955	99.8





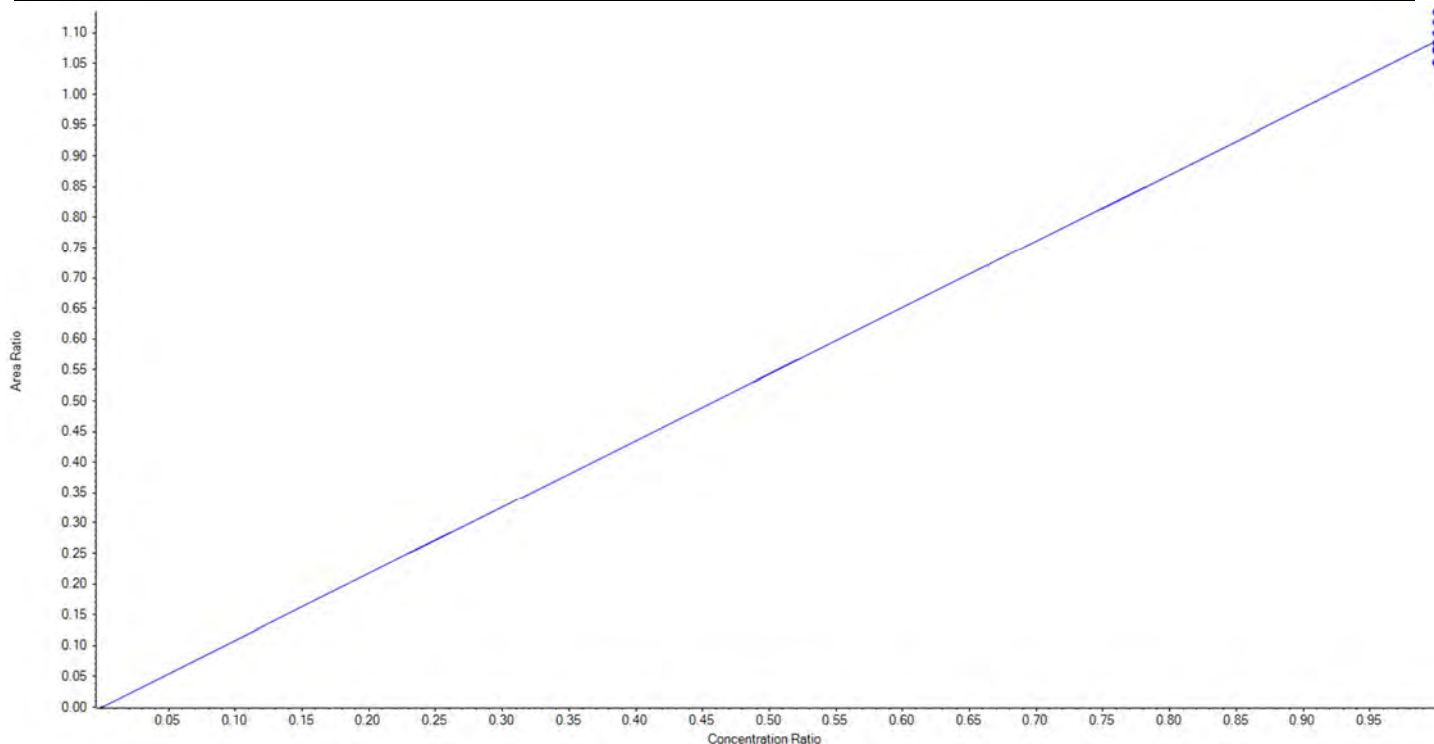
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Analyte Name	13C2-PFDA	Data File	5500_07022018_371.wiff
MRM Transition	515.0 / 470.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.08683 x$ (std. dev. = 0.02845) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	98.825503	98.8
3	JX68	L2	True	100.00	104.348391	104.4
4	JX69	L3	True	100.00	96.795736	96.8
5	JX70	L4	True	100.00	101.178237	101.2
6	JX71	L5	True	100.00	102.830960	102.8
7	JX72	L6	True	100.00	96.652505	96.7
8	JX73	L7	True	100.00	101.161484	101.2
9	JX74	L8	True	100.00	98.518249	98.5
10	JX75	L9	True	100.00	99.688935	99.7





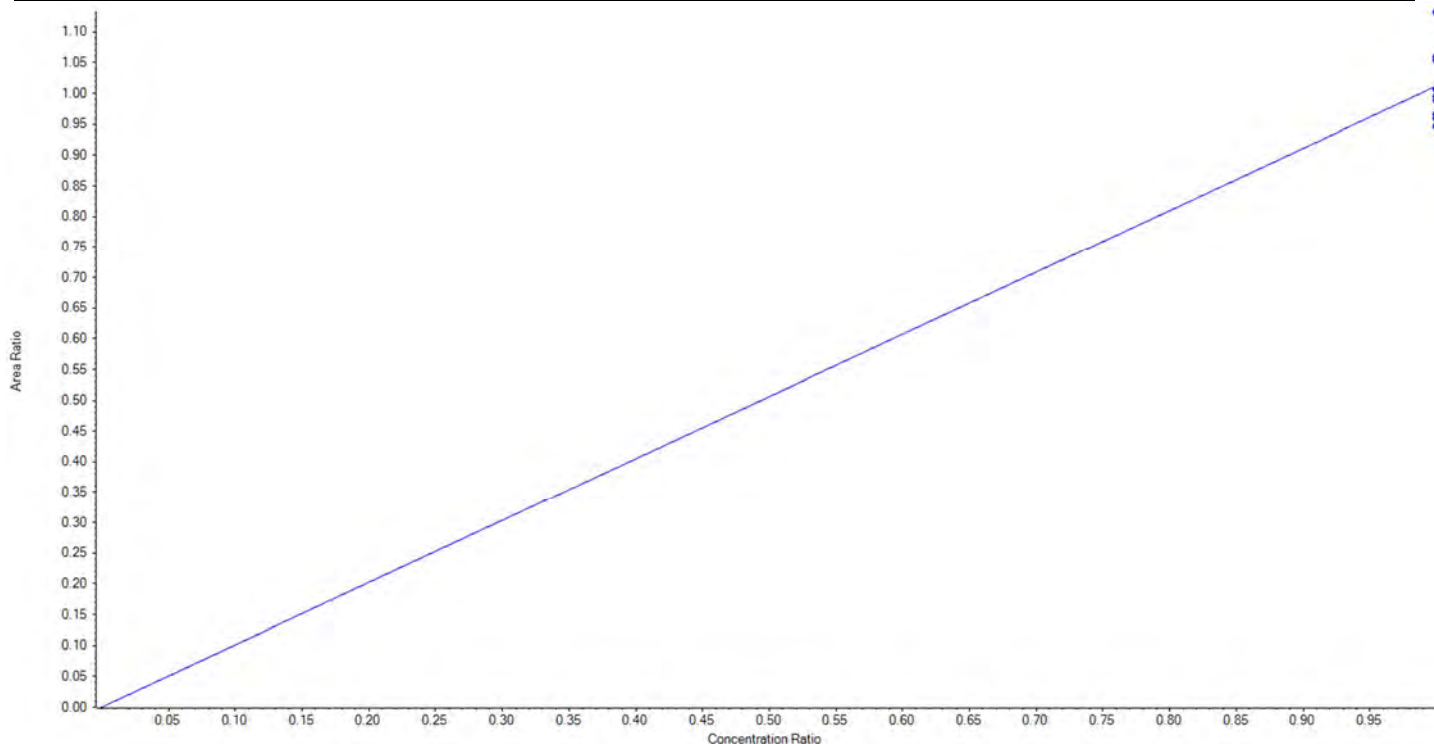
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Analyte Name	d5-EtFOSAA	Data File	5500_07022018_371.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.01215 x$ (std. dev. = 0.05958) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	400.00	447.485544	111.9
3	JX68	L2	True	400.00	382.031418	95.5
4	JX69	L3	True	400.00	416.235263	104.1
5	JX70	L4	True	400.00	391.026841	97.8
6	JX71	L5	True	400.00	393.608980	98.4
7	JX72	L6	True	400.00	378.828905	94.7
8	JX73	L7	True	400.00	374.038313	93.5
9	JX74	L8	True	400.00	398.138305	99.5
10	JX75	L9	True	400.00	418.606431	104.7





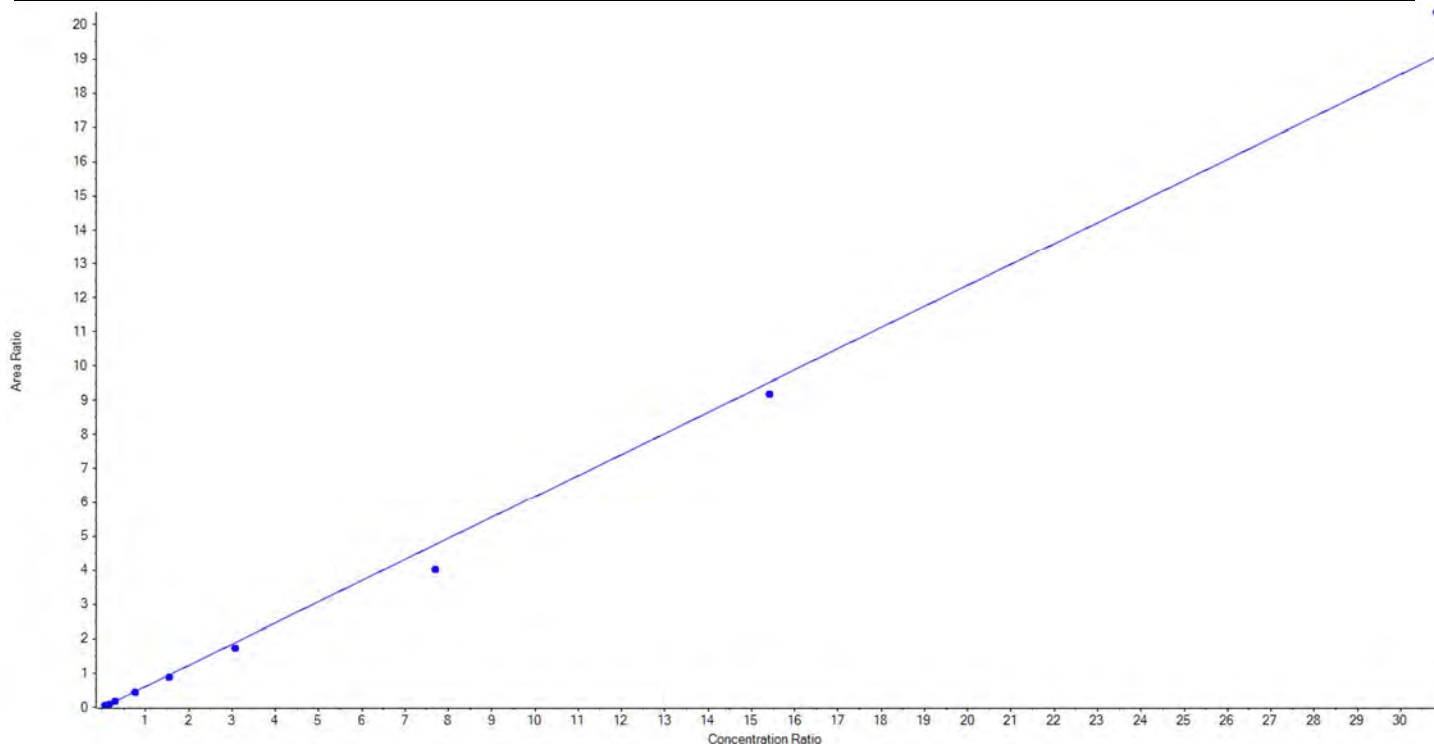
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Analyte Name	PFBS_1	Data File	07032018_5-0371.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.61856x + -0.01223$ ($r = 0.99660$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	27.393553	123.7
3	JX68	L2	True	44.30	46.889529	105.9
4	JX69	L3	True	88.60	92.026138	103.9
5	JX70	L4	True	221.50	207.211248	93.6
6	JX71	L5	True	443.00	418.262717	94.4
7	JX72	L6	True	885.00	803.434167	90.8
8	JX73	L7	True	2212.50	1868.537473	84.5
9	JX74	L8	True	4425.00	4273.703237	96.6
10	JX75	L9	True	8850.00	9454.591938	106.8





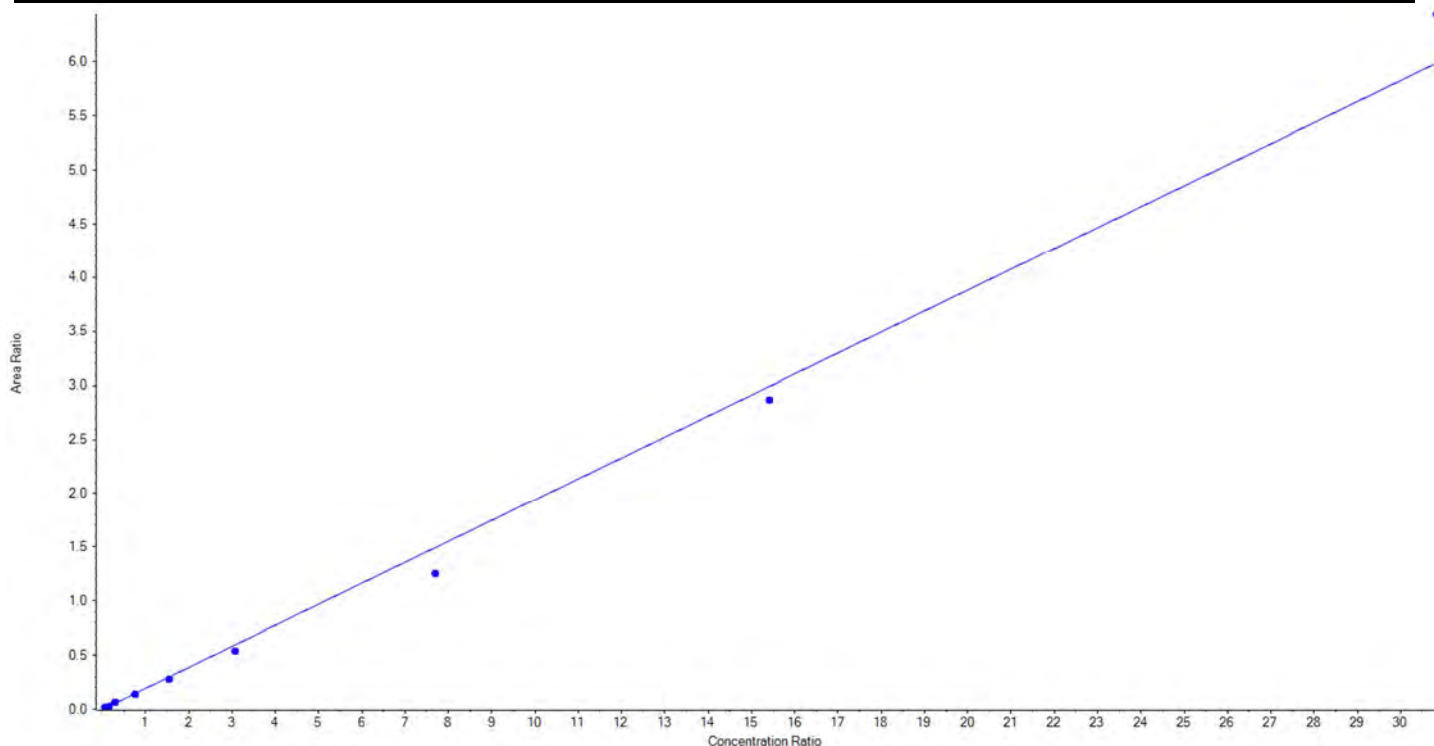
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Analyte Name	PFBS_2	Data File	07032018_5-0371.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.19424 x + -0.00195$ ($r = 0.99601$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	27.020600	122.0
3	JX68	L2	True	44.30	47.117302	106.4
4	JX69	L3	True	88.60	94.696119	106.9
5	JX70	L4	True	221.50	208.158286	94.0
6	JX71	L5	True	443.00	415.892130	93.9
7	JX72	L6	True	885.00	796.913918	90.1
8	JX73	L7	True	2212.50	1849.902141	83.6
9	JX74	L8	True	4425.00	4235.724968	95.7
10	JX75	L9	True	8850.00	9516.624535	107.5





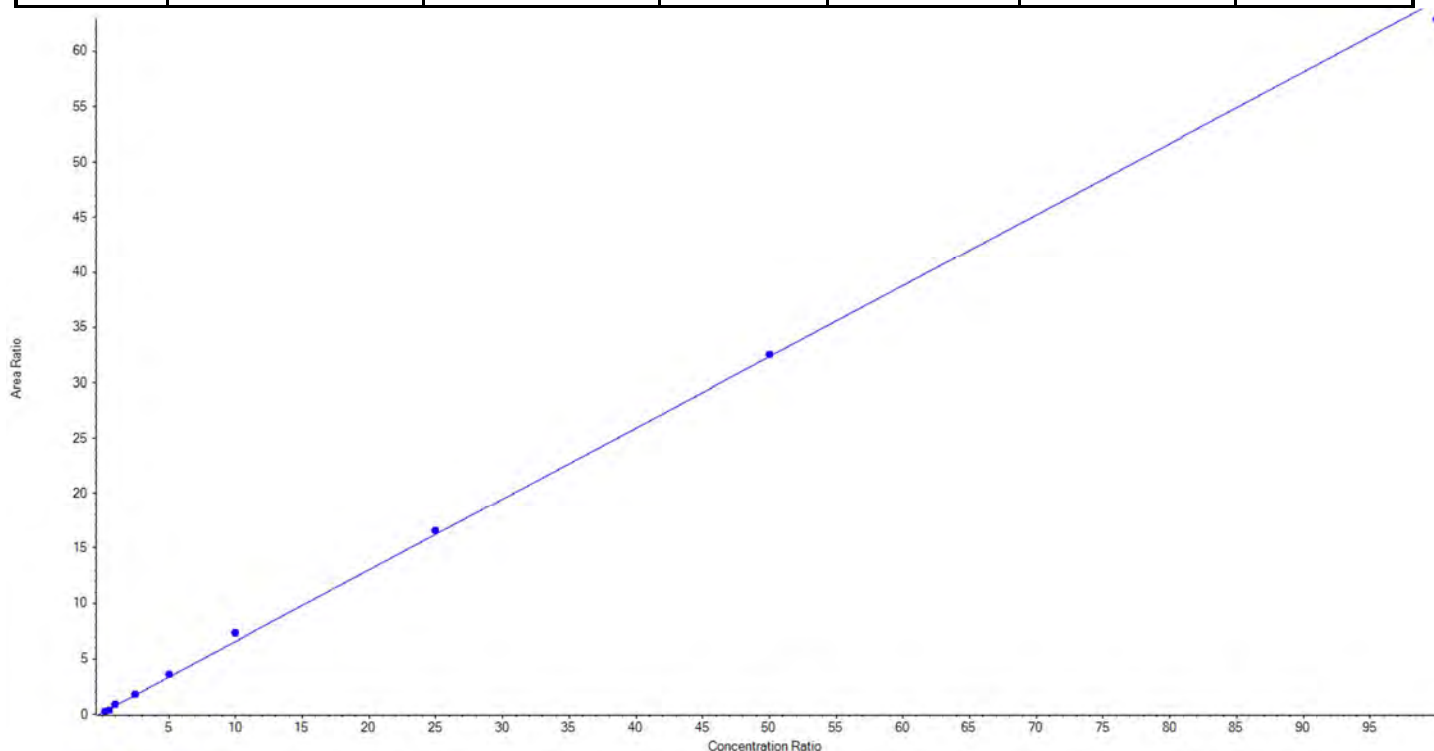
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Analyte Name	PFHxA_1	Data File	07032018_5-0371.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.64406 x + 0.14074$ ($r = 0.99912$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.480693	77.9
3	JX68	L2	True	50.00	41.390112	82.8
4	JX69	L3	True	100.00	113.158846	113.2
5	JX70	L4	True	250.00	261.379863	104.6
6	JX71	L5	True	500.00	546.021431	109.2
7	JX72	L6	True	1000.00	1122.311224	112.2
8	JX73	L7	True	2500.00	2557.128036	102.3
9	JX74	L8	True	5000.00	5022.438395	100.5
10	JX75	L9	True	10000.00	9741.691400	97.4





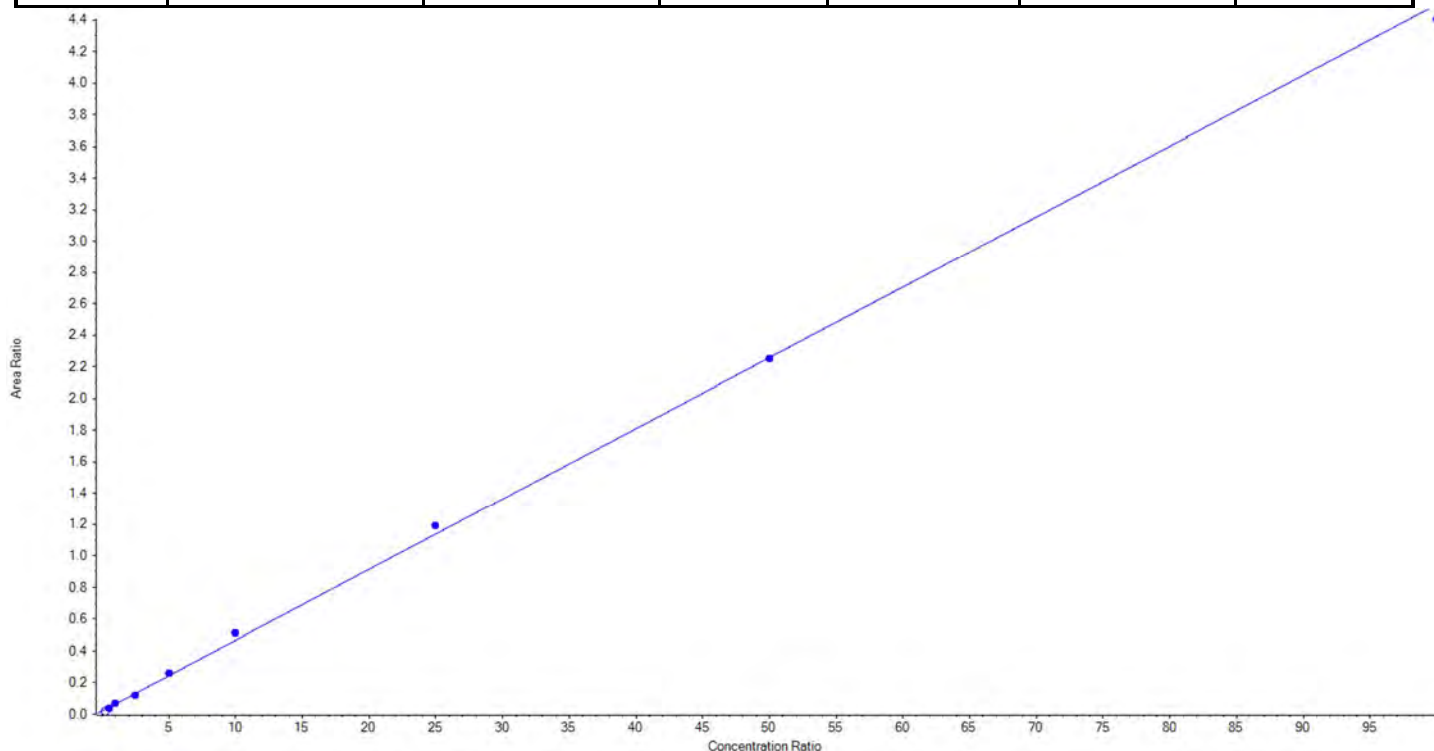
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Analyte Name	PFHxA_2	Data File	07032018_5-0371.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04477x + 0.02012$ ($r = 0.99917$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	True	50.00	38.146773	76.3
4	JX69	L3	True	100.00	115.585376	115.6
5	JX70	L4	True	250.00	224.411850	89.8
6	JX71	L5	True	500.00	531.730828	106.4
7	JX72	L6	True	1000.00	1096.892416	109.7
8	JX73	L7	True	2500.00	2618.162982	104.7
9	JX74	L8	True	5000.00	4984.371407	99.7
10	JX75	L9	True	10000.00	9790.698368	97.9





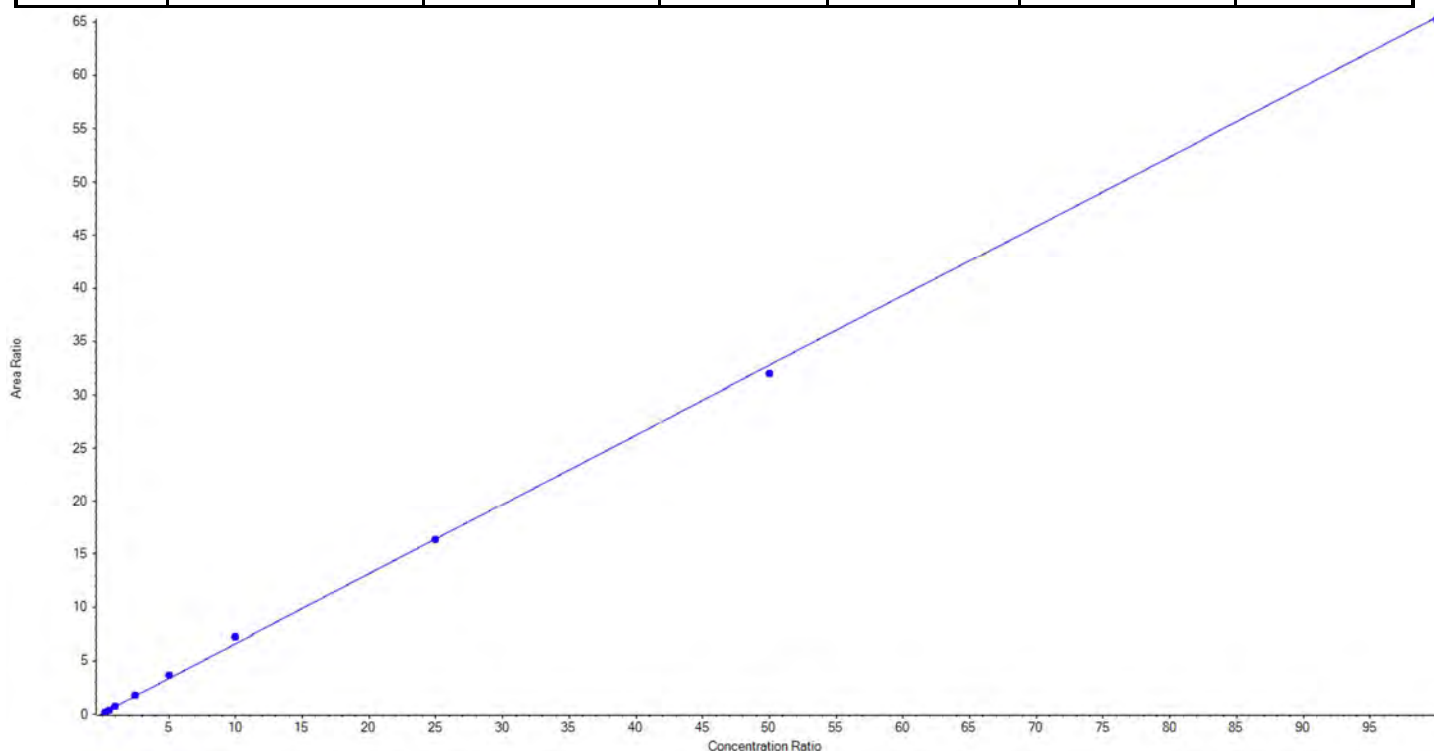
Calibration Summary Report

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Analyte Name	PFHpA_1	Data File	07032018_5-0371.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.65371x + 0.07644$ ($r = 0.99946$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.698129	74.8
3	JX68	L2	True	50.00	47.505803	95.0
4	JX69	L3	True	100.00	108.942235	108.9
5	JX70	L4	True	250.00	261.525150	104.6
6	JX71	L5	True	500.00	551.200119	110.2
7	JX72	L6	True	1000.00	1092.752698	109.3
8	JX73	L7	True	2500.00	2496.496803	99.9
9	JX74	L8	True	5000.00	4878.962862	97.6
10	JX75	L9	True	10000.00	9968.916203	99.7





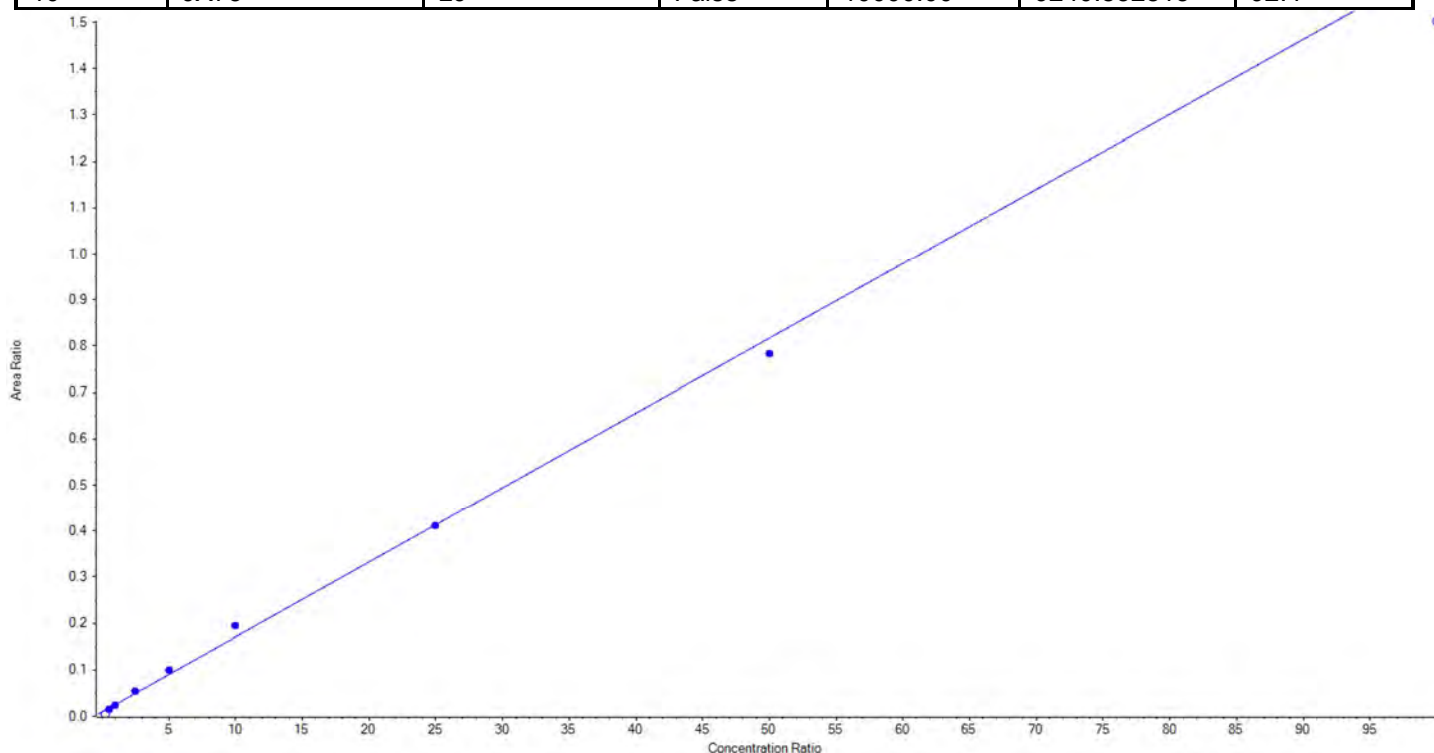
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	PFHpA_2	Data File	07032018_5-0371.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.01616x + 0.00932$ ($r = 0.99739$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	True	50.00	35.744773	71.5
4	JX69	L3	True	100.00	95.780326	95.8
5	JX70	L4	True	250.00	278.194720	111.3
6	JX71	L5	True	500.00	557.974571	111.6
7	JX72	L6	True	1000.00	1141.990615	114.2
8	JX73	L7	True	2500.00	2492.598199	99.7
9	JX74	L8	True	5000.00	4797.716795	96.0
10	JX75	L9	False	10000.00	9240.832815	92.4





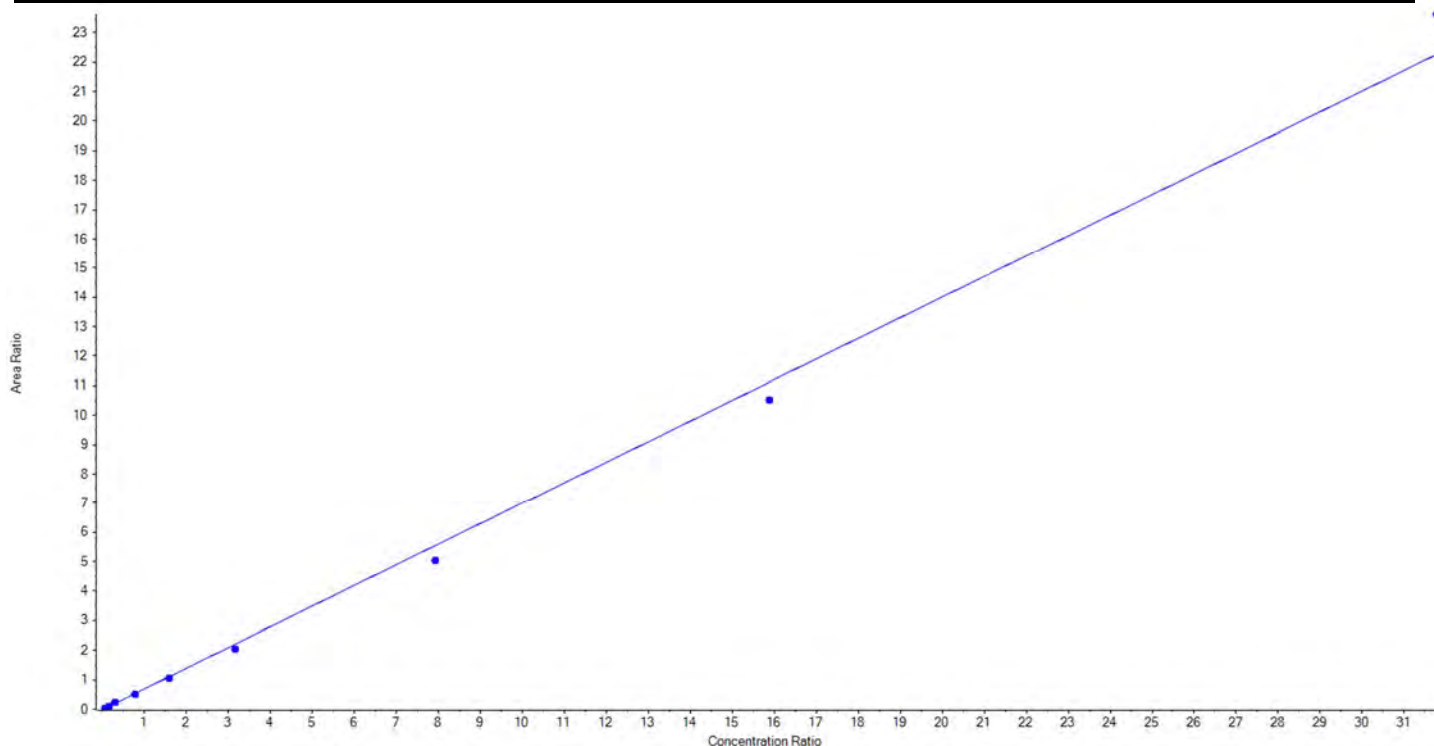
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHxS_1	Data File	07032018_5-0371.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.70102x + -0.01384$ ($r = 0.99772$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	26.152103	114.7
3	JX68	L2	True	45.60	46.382466	101.7
4	JX69	L3	True	91.20	100.440506	110.1
5	JX70	L4	True	228.00	216.499780	95.0
6	JX71	L5	True	456.00	432.653436	94.9
7	JX72	L6	True	912.00	843.585082	92.5
8	JX73	L7	True	2280.00	2063.920447	90.5
9	JX74	L8	True	4560.00	4308.056168	94.5
10	JX75	L9	True	9120.00	9677.910011	106.1





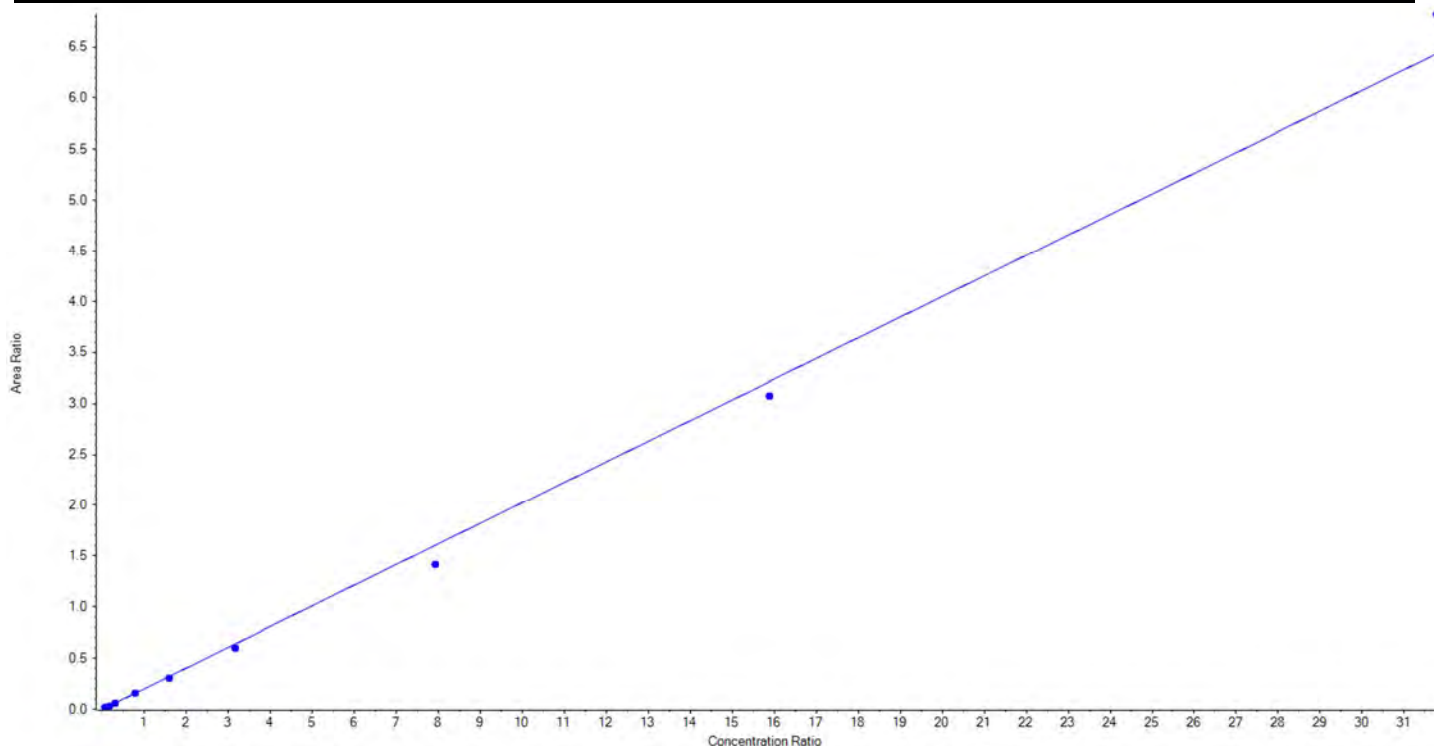
Calibration Summary Report

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Analyte Name	PFHxS_2	Data File	07032018_5-0371.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.20255x + -0.00222$ ($r = 0.99764$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	28.118093	123.3
3	JX68	L2	True	45.60	45.336831	99.4
4	JX69	L3	True	91.20	92.416366	101.3
5	JX70	L4	True	228.00	219.623752	96.3
6	JX71	L5	True	456.00	439.488641	96.4
7	JX72	L6	True	912.00	852.064854	93.4
8	JX73	L7	True	2280.00	2008.629735	88.1
9	JX74	L8	True	4560.00	4363.948051	95.7
10	JX75	L9	True	9120.00	9665.973677	106.0





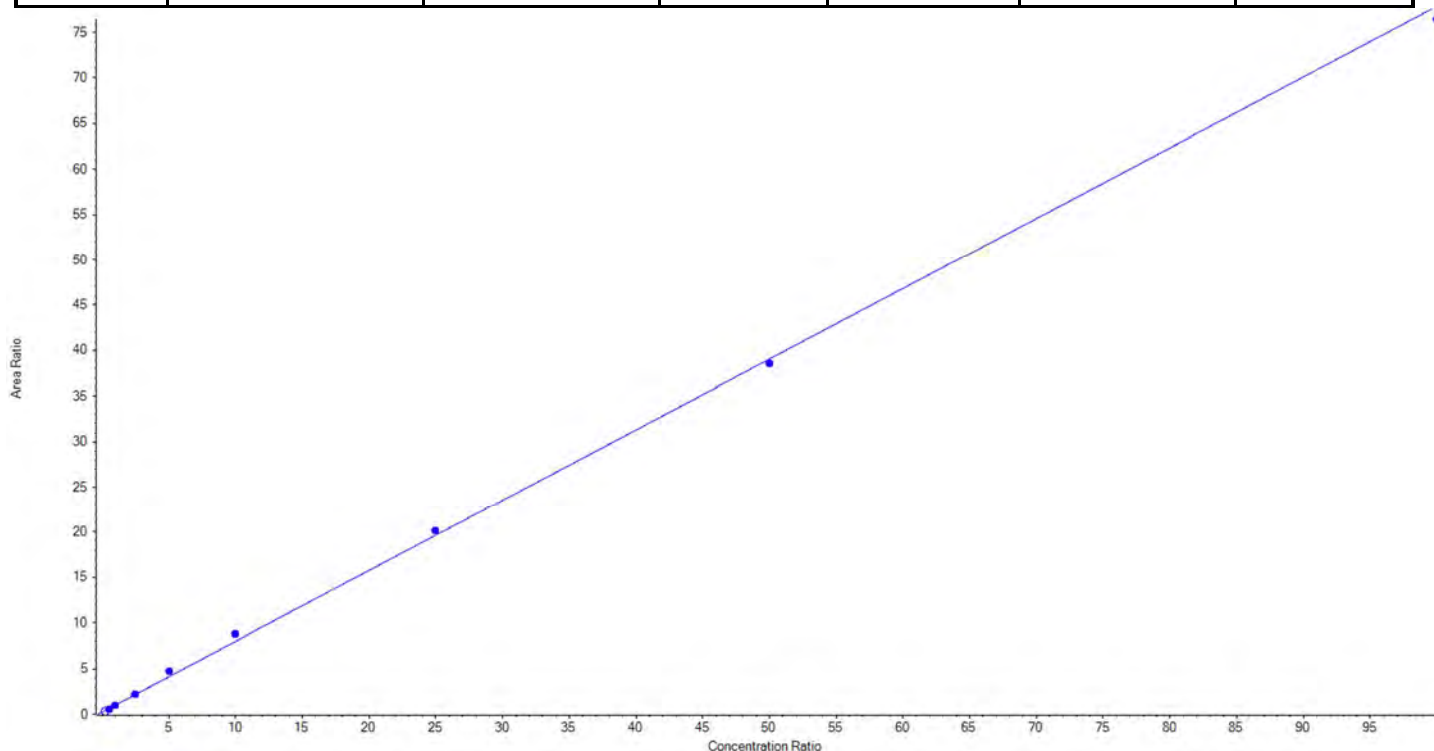
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFOA_1	Data File	07032018_5-0371.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.77615x + 0.24188$ ($r = 0.99899$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	4.517900	18.1
3	JX68	L2	True	50.00	35.484677	71.0
4	JX69	L3	True	100.00	100.655428	100.7
5	JX70	L4	True	250.00	253.534108	101.4
6	JX71	L5	True	500.00	582.827884	116.6
7	JX72	L6	True	1000.00	1109.849942	111.0
8	JX73	L7	True	2500.00	2561.329576	102.5
9	JX74	L8	True	5000.00	4939.463705	98.8
10	JX75	L9	True	10000.00	9816.854681	98.2





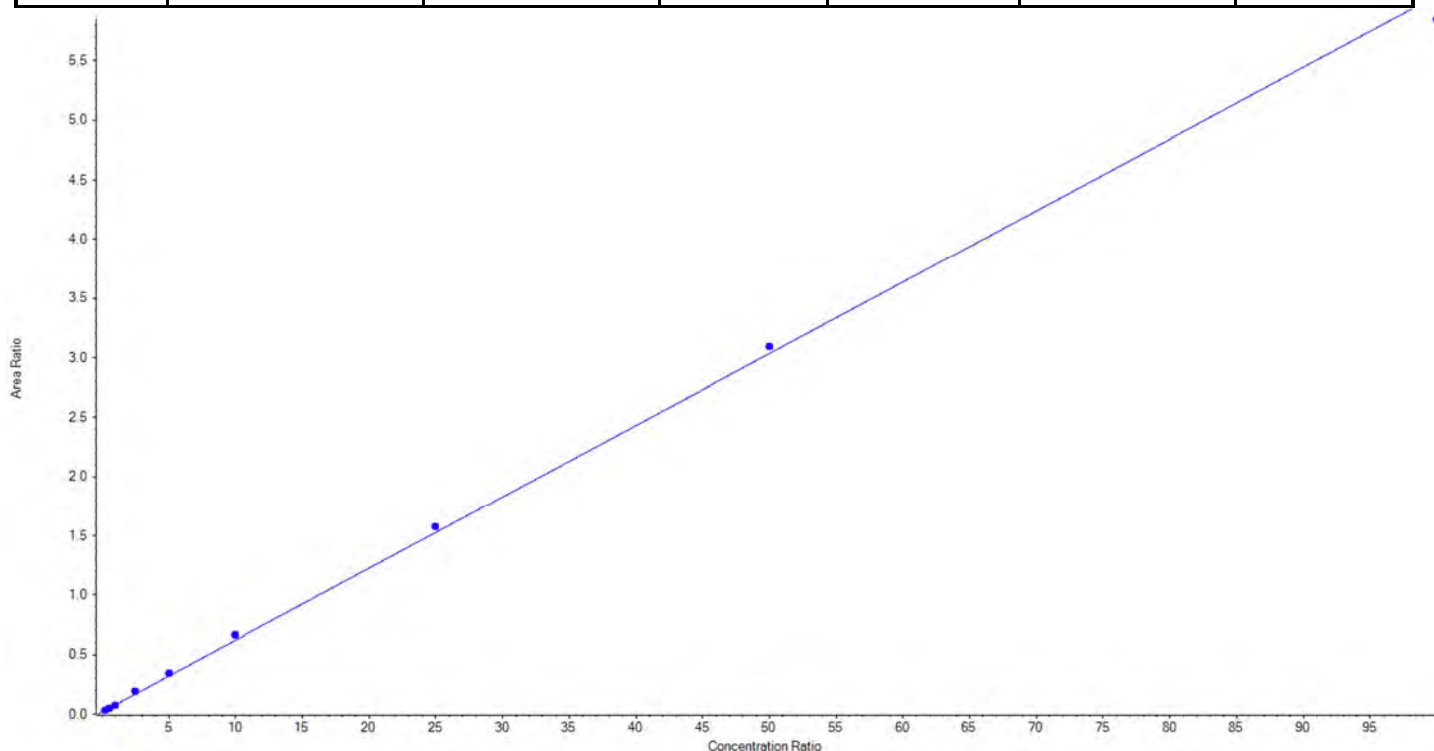
Calibration Summary Report

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Analyte Name	PFOA_2	Data File	07032018_5-0371.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.06028x + 0.01975$ ($r = 0.99908$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.842198	79.4
3	JX68	L2	True	50.00	47.227734	94.5
4	JX69	L3	True	100.00	91.399213	91.4
5	JX70	L4	True	250.00	290.422369	116.2
6	JX71	L5	True	500.00	545.941574	109.2
7	JX72	L6	True	1000.00	1071.967441	107.2
8	JX73	L7	True	2500.00	2587.129532	103.5
9	JX74	L8	True	5000.00	5102.663940	102.1
10	JX75	L9	True	10000.00	9668.406000	96.7





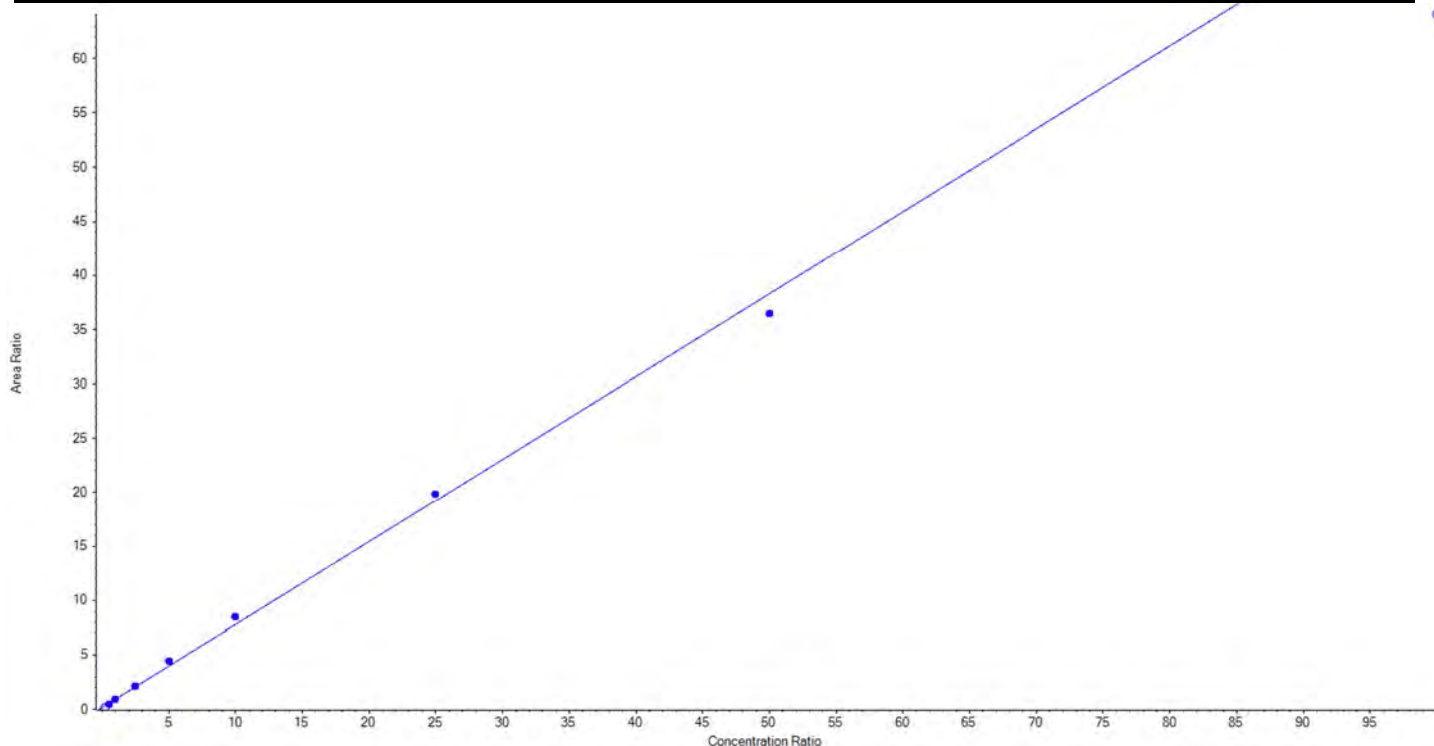
Calibration Summary Report

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Analyte Name	PFNA_1	Data File	07032018_5-0371.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.76245x + 0.16499$ ($r = 0.99788$) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	8.045870	32.2
3	JX68	L2	True	50.00	37.056095	74.1
4	JX69	L3	True	100.00	101.955471	102.0
5	JX70	L4	True	250.00	258.818237	103.5
6	JX71	L5	True	500.00	561.137352	112.2
7	JX72	L6	True	1000.00	1096.574071	109.7
8	JX73	L7	True	2500.00	2581.549586	103.3
9	JX74	L8	True	5000.00	4762.909189	95.3
10	JX75	L9	False	10000.00	8381.580322	83.8





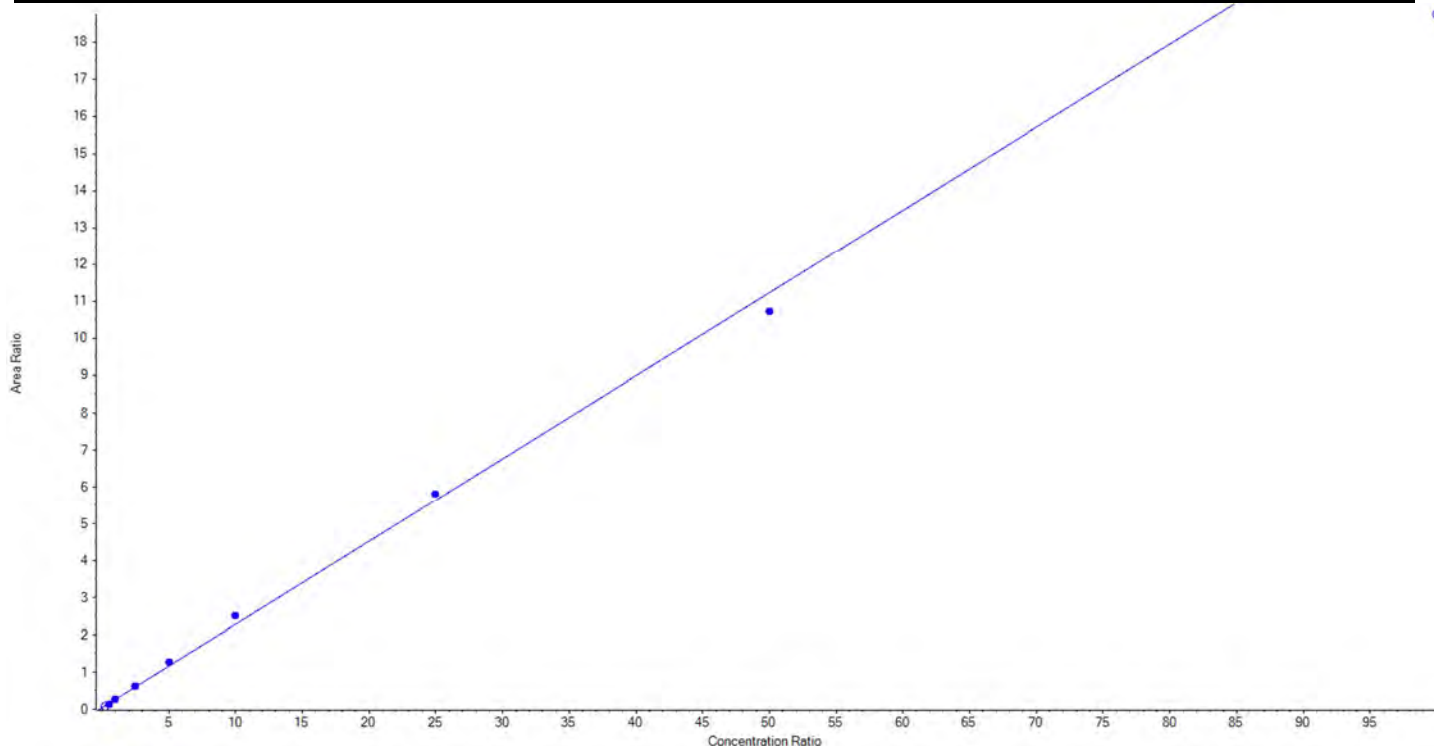
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Analyte Name	PFNA_2	Data File	07032018_5-0371.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.22380x + 0.04445$ ($r = 0.99801$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	11.817119	47.3
3	JX68	L2	True	50.00	38.251517	76.5
4	JX69	L3	True	100.00	101.105745	101.1
5	JX70	L4	True	250.00	258.883038	103.6
6	JX71	L5	True	500.00	547.865959	109.6
7	JX72	L6	True	1000.00	1108.174450	110.8
8	JX73	L7	True	2500.00	2576.649125	103.1
9	JX74	L8	True	5000.00	4769.070166	95.4
10	JX75	L9	False	10000.00	8358.130767	83.6





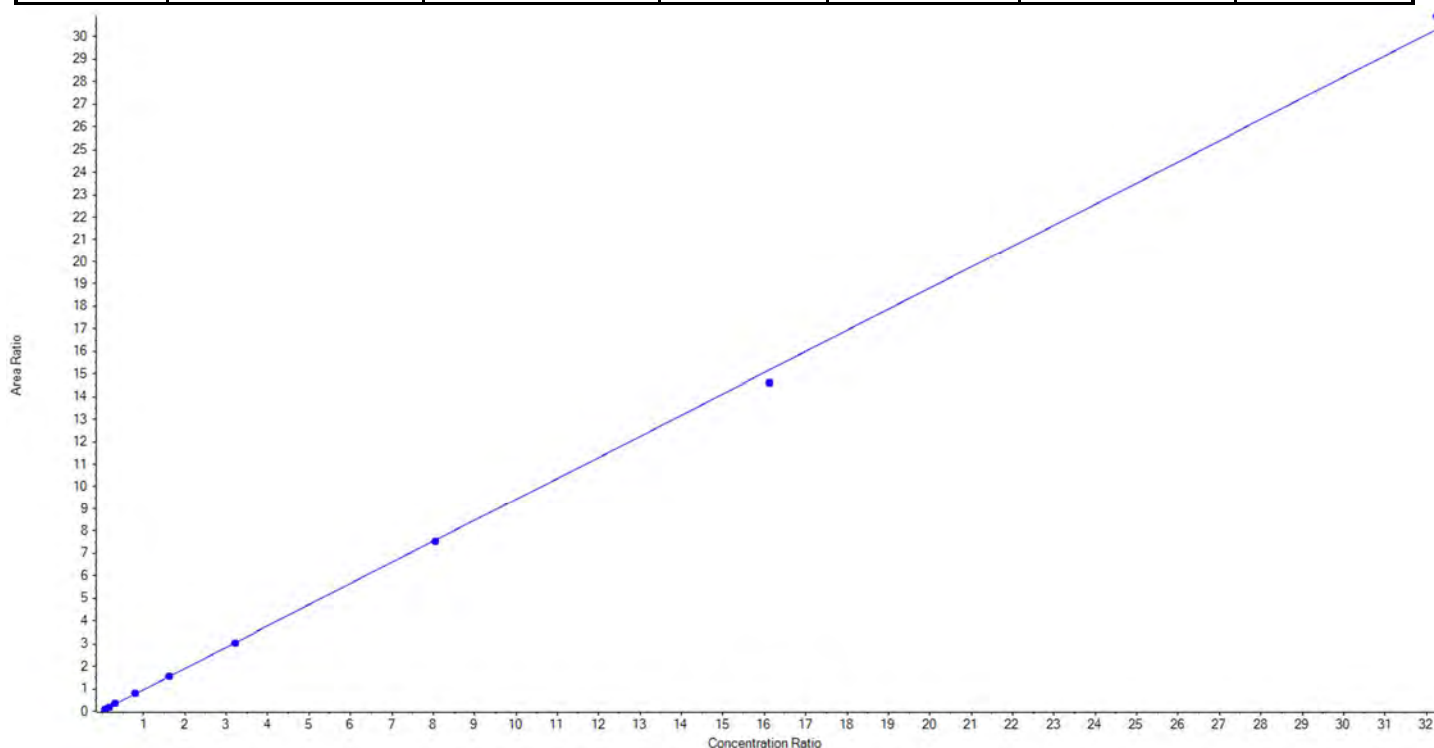
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Analyte Name	PFOS_1	Data File	07032018_5-0371.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.93978x + 0.01910$ ($r = 0.99967$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	20.755059	89.7
3	JX68	L2	True	46.30	46.706486	100.9
4	JX69	L3	True	92.60	98.924604	106.8
5	JX70	L4	True	231.50	241.599926	104.4
6	JX71	L5	True	463.00	469.092652	101.3
7	JX72	L6	True	925.60	924.512216	99.9
8	JX73	L7	True	2314.00	2286.664140	98.8
9	JX74	L8	True	4628.00	4458.817002	96.3
10	JX75	L9	True	9256.00	9433.077917	101.9





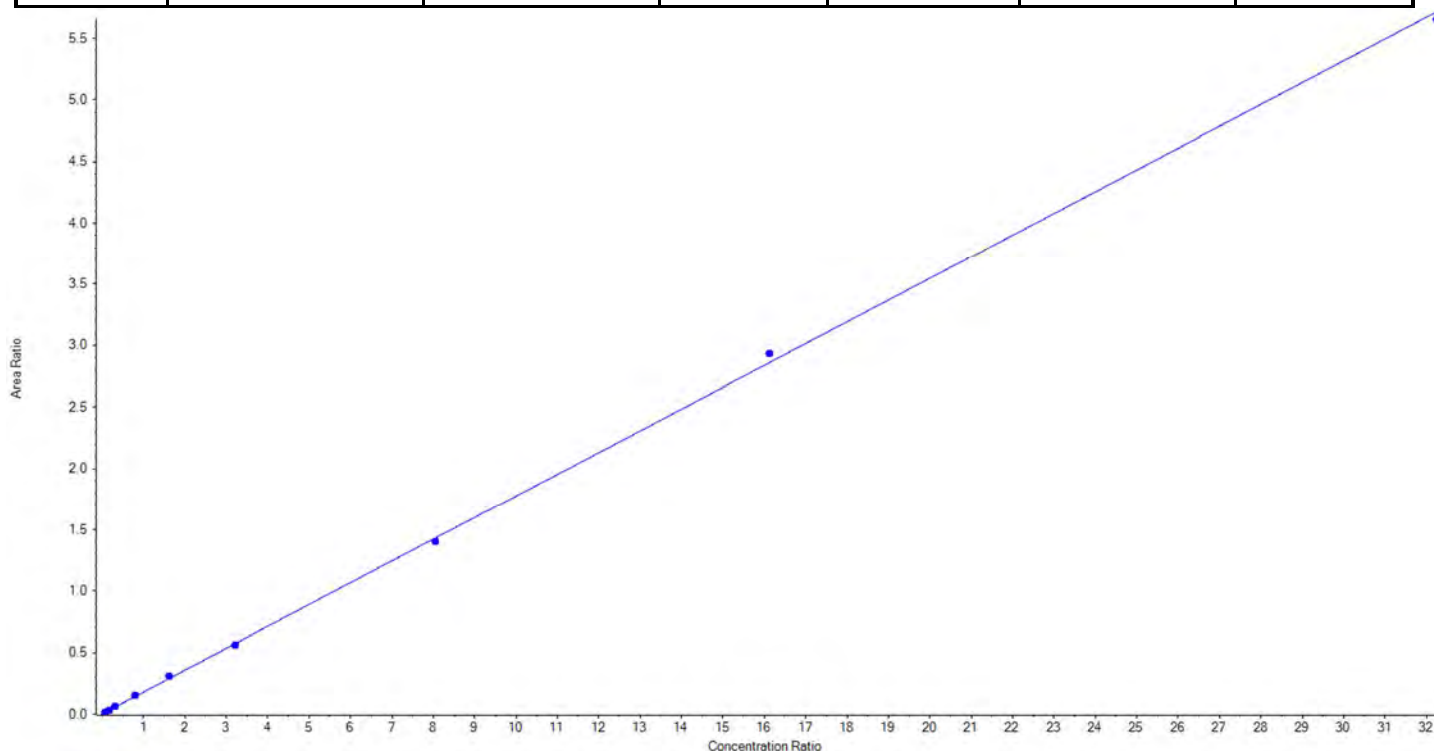
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Analyte Name	PFOS_2	Data File	07032018_5-0371.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17714x + 0.00380$ ($r = 0.99973$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	20.312327	87.7
3	JX68	L2	True	46.30	46.519382	100.5
4	JX69	L3	True	92.60	93.503763	101.0
5	JX70	L4	True	231.50	246.605018	106.5
6	JX71	L5	True	463.00	494.624228	106.8
7	JX72	L6	True	925.60	907.068587	98.0
8	JX73	L7	True	2314.00	2265.442093	97.9
9	JX74	L8	True	4628.00	4749.704462	102.6
10	JX75	L9	True	9256.00	9156.370140	98.9





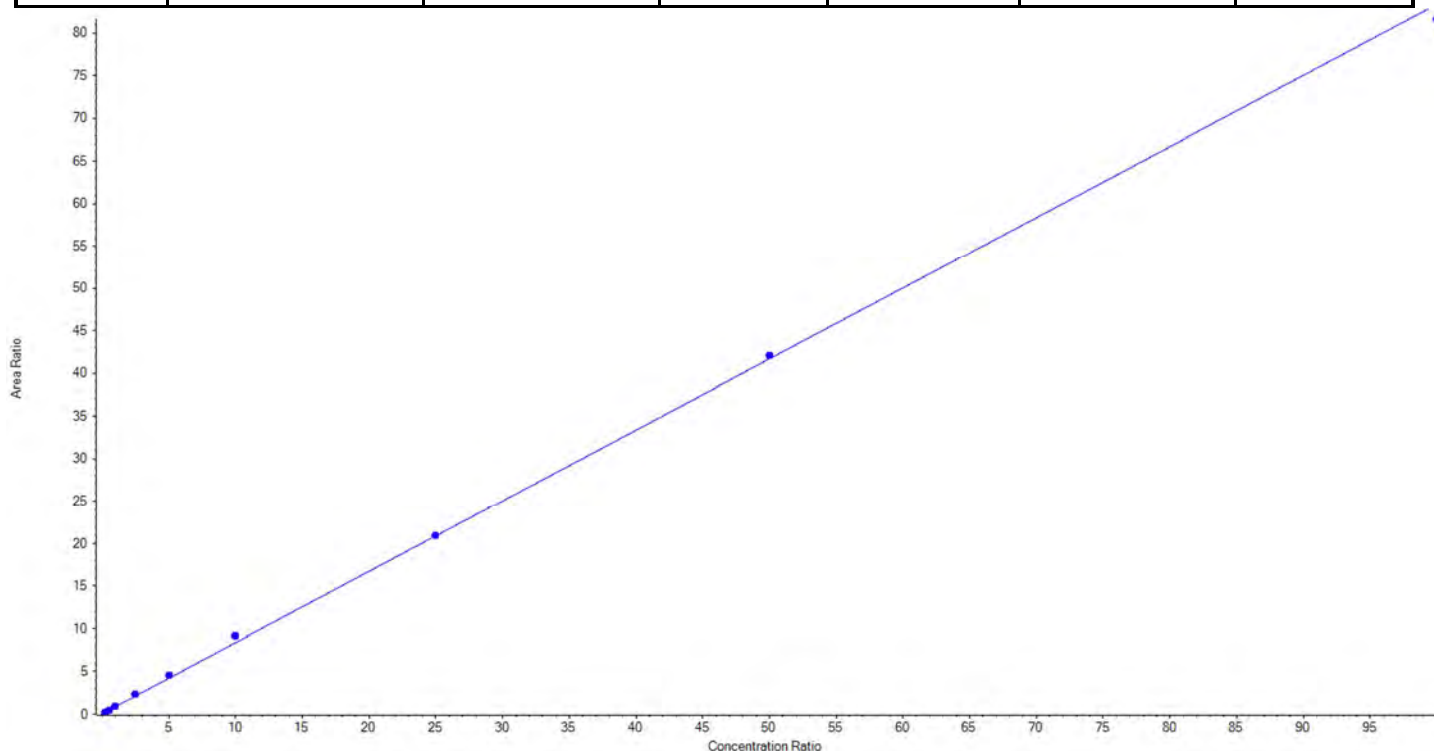
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Analyte Name	PFDA_1	Data File	07032018_5-0371.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.83295x + 0.06360$ ($r = 0.99943$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	22.062765	88.3
3	JX68	L2	True	50.00	42.327099	84.7
4	JX69	L3	True	100.00	102.109095	102.1
5	JX70	L4	True	250.00	268.719365	107.5
6	JX71	L5	True	500.00	542.438364	108.5
7	JX72	L6	True	1000.00	1096.741658	109.7
8	JX73	L7	True	2500.00	2510.858769	100.4
9	JX74	L8	True	5000.00	5050.428162	101.0
10	JX75	L9	True	10000.00	9789.314721	97.9





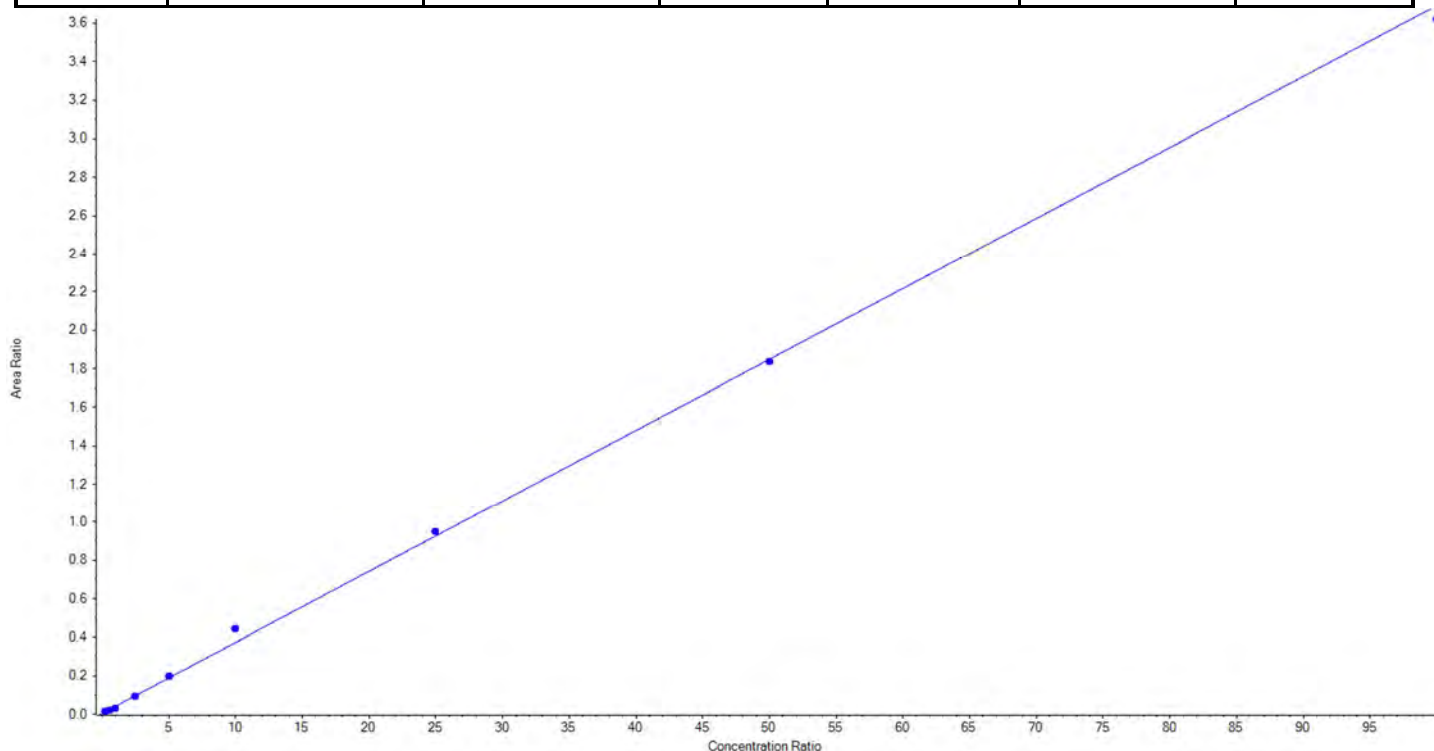
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Analyte Name	PFDA_2	Data File	07032018_5-0371.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03687x + 0.00474$ ($r = 0.99867$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	27.754301	111.0
3	JX68	L2	True	50.00	49.570496	99.1
4	JX69	L3	True	100.00	72.688978	72.7
5	JX70	L4	True	250.00	234.791248	93.9
6	JX71	L5	True	500.00	525.887334	105.2
7	JX72	L6	True	1000.00	1183.782780	118.4
8	JX73	L7	True	2500.00	2556.441014	102.3
9	JX74	L8	True	5000.00	4968.210316	99.4
10	JX75	L9	True	10000.00	9805.873534	98.1





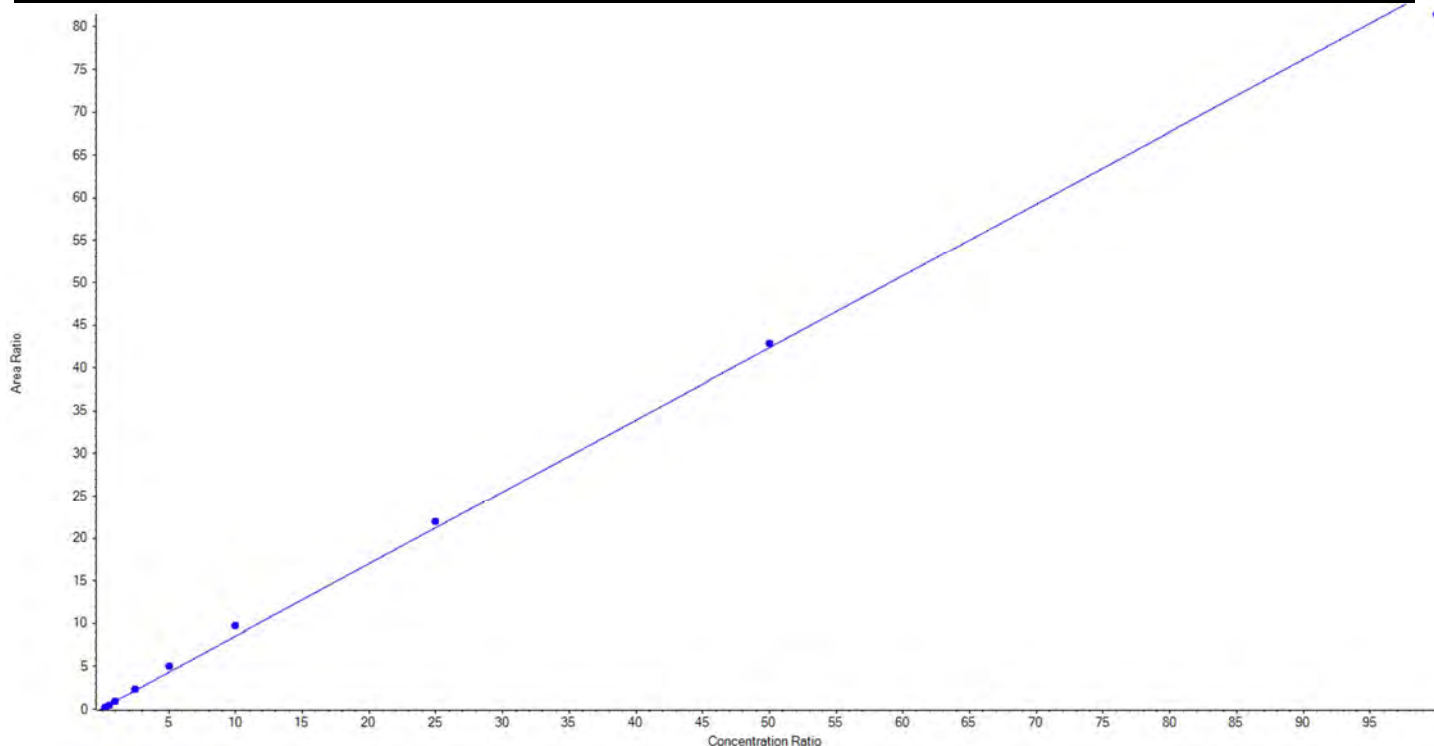
Calibration Summary Report

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Analyte Name	PFUnA_1	Data File	07032018_5-0371.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.84509x + 0.10264$ ($r = 0.99848$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.687486	70.8
3	JX68	L2	True	50.00	43.751104	87.5
4	JX69	L3	True	100.00	104.544704	104.5
5	JX70	L4	True	250.00	261.766860	104.7
6	JX71	L5	True	500.00	589.639341	117.9
7	JX72	L6	True	1000.00	1135.794662	113.6
8	JX73	L7	True	2500.00	2590.937164	103.6
9	JX74	L8	True	5000.00	5054.279289	101.1
10	JX75	L9	True	10000.00	9626.599391	96.3





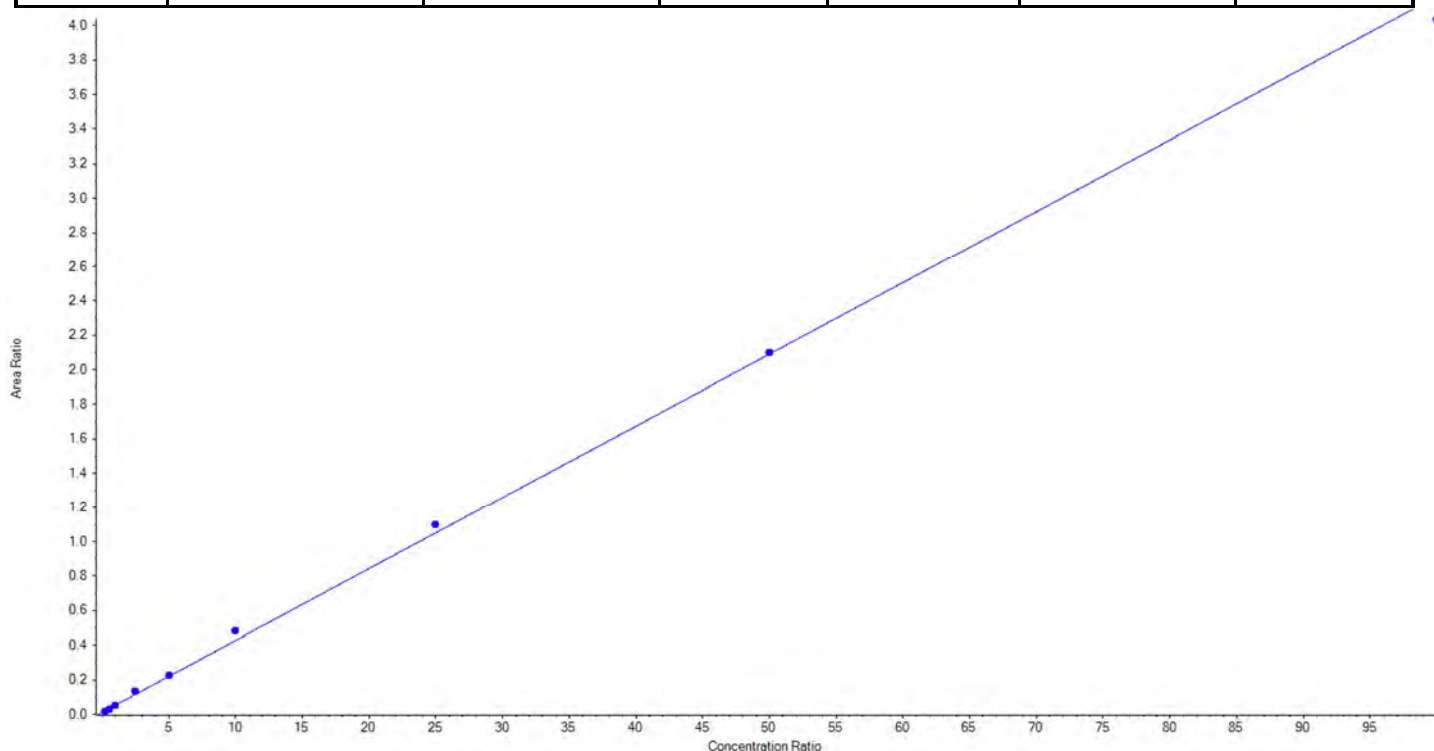
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Analyte Name	PFUnA_2	Data File	07032018_5-0371.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04157x + 0.01156$ ($r = 0.99880$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.548120	74.2
3	JX68	L2	True	50.00	46.257419	92.5
4	JX69	L3	True	100.00	97.130141	97.1
5	JX70	L4	True	250.00	291.566044	116.6
6	JX71	L5	True	500.00	520.256771	104.1
7	JX72	L6	True	1000.00	1137.107009	113.7
8	JX73	L7	True	2500.00	2614.435537	104.6
9	JX74	L8	True	5000.00	5019.965874	100.4
10	JX75	L9	True	10000.00	9679.733084	96.8





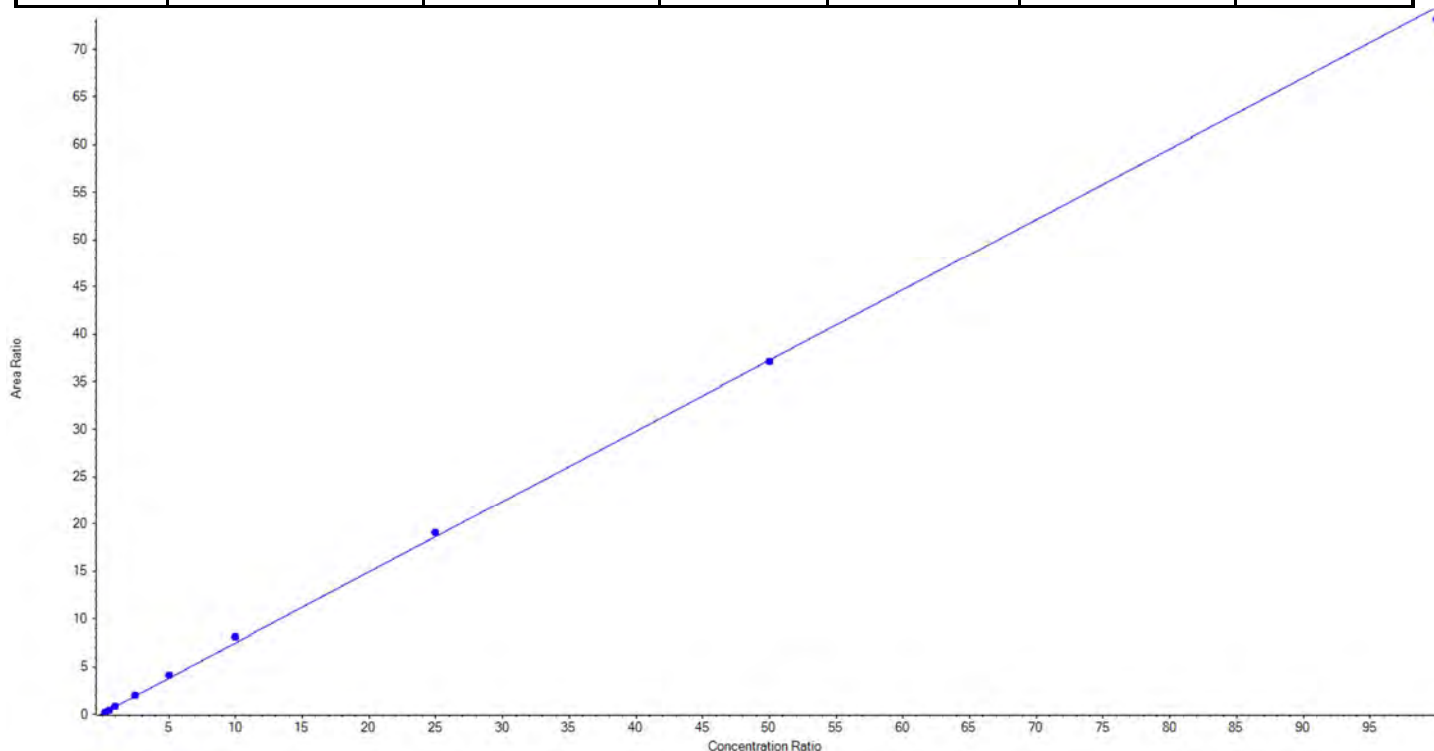
Calibration Summary Report

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Analyte Name	PFD _o A_1	Data File	07032018_5-0371.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74368x + 0.06580$ ($r = 0.99953$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.565065	78.3
3	JX68	L2	True	50.00	49.202957	98.4
4	JX69	L3	True	100.00	100.350072	100.4
5	JX70	L4	True	250.00	265.391345	106.2
6	JX71	L5	True	500.00	540.382789	108.1
7	JX72	L6	True	1000.00	1086.563703	108.7
8	JX73	L7	True	2500.00	2555.438081	102.2
9	JX74	L8	True	5000.00	4979.570411	99.6
10	JX75	L9	True	10000.00	9828.535576	98.3





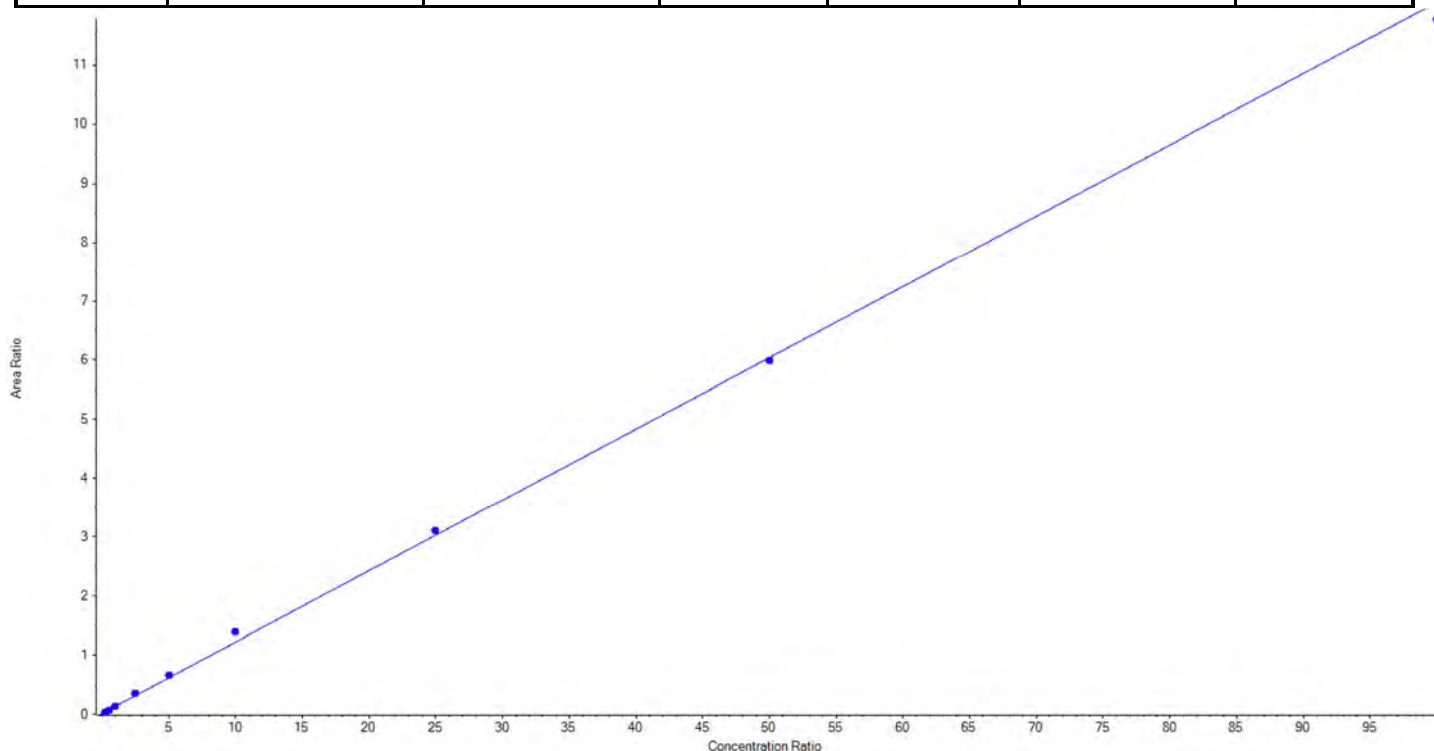
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Analyte Name	PFDaA_2	Data File	07032018_5-0371.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.12049x + 0.01607$ ($r = 0.99899$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.924870	71.7
3	JX68	L2	True	50.00	45.899881	91.8
4	JX69	L3	True	100.00	103.284389	103.3
5	JX70	L4	True	250.00	277.333863	110.9
6	JX71	L5	True	500.00	541.645374	108.3
7	JX72	L6	True	1000.00	1142.641663	114.3
8	JX73	L7	True	2500.00	2569.218739	102.8
9	JX74	L8	True	5000.00	4965.032102	99.3
10	JX75	L9	True	10000.00	9762.019119	97.6





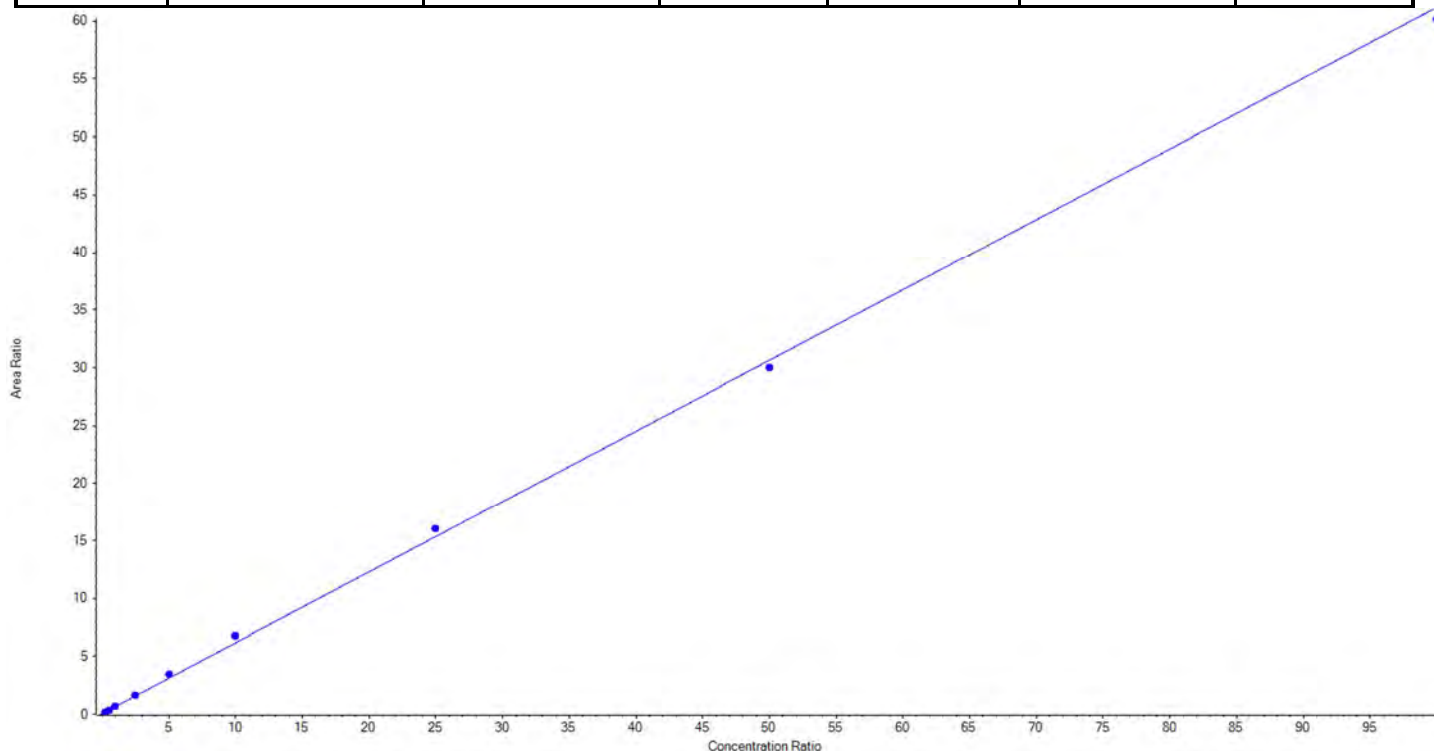
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Analyte Name	PFTTrDA_1	Data File	07032018_5-0371.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.61126x + 0.06100$ ($r = 0.99928$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.004559	80.0
3	JX68	L2	True	50.00	44.721020	89.4
4	JX69	L3	True	100.00	105.568996	105.6
5	JX70	L4	True	250.00	261.015102	104.4
6	JX71	L5	True	500.00	551.802422	110.4
7	JX72	L6	True	1000.00	1091.763760	109.2
8	JX73	L7	True	2500.00	2616.880238	104.7
9	JX74	L8	True	5000.00	4902.017993	98.0
10	JX75	L9	True	10000.00	9831.225911	98.3





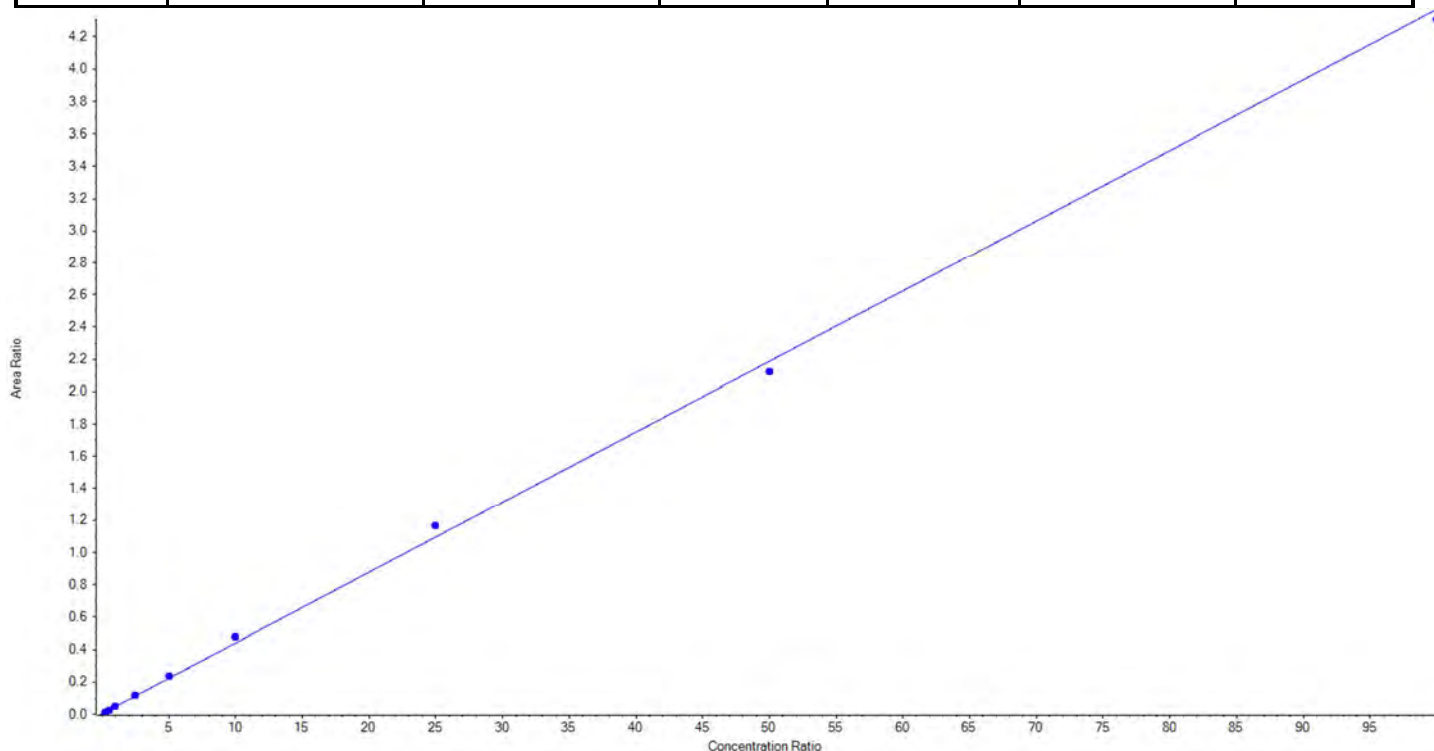
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	PFTTrDA_2	Data File	07032018_5-0371.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04366x + 0.00423$ ($r = 0.99922$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.301091	73.2
3	JX68	L2	True	50.00	50.114132	100.2
4	JX69	L3	True	100.00	104.886431	104.9
5	JX70	L4	True	250.00	262.940554	105.2
6	JX71	L5	True	500.00	530.506778	106.1
7	JX72	L6	True	1000.00	1080.697381	108.1
8	JX73	L7	True	2500.00	2667.910720	106.7
9	JX74	L8	True	5000.00	4852.076904	97.0
10	JX75	L9	True	10000.00	9857.566010	98.6





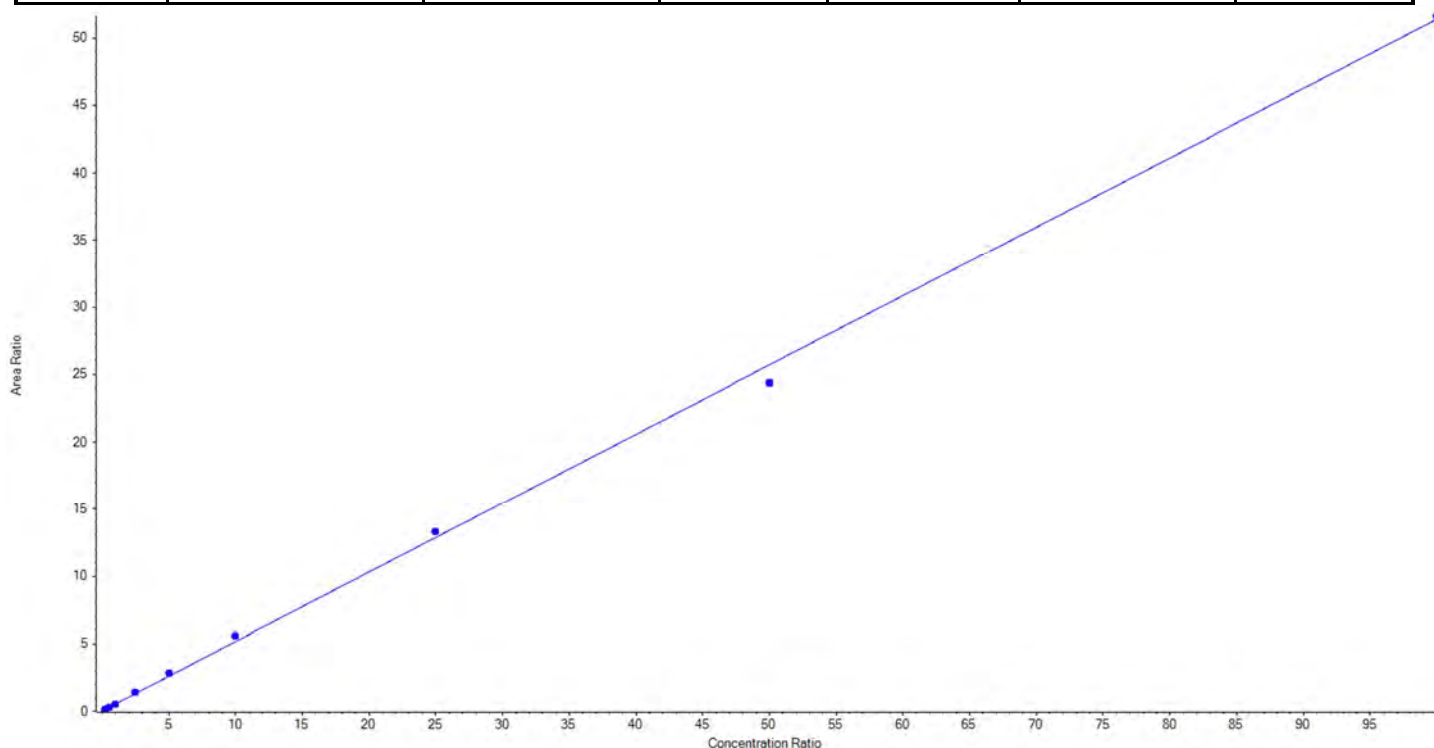
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTeDA_1	Data File	07032018_5-0371.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.51359x + 0.03231$ ($r = 0.99921$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.826692	87.3
3	JX68	L2	True	50.00	45.573571	91.2
4	JX69	L3	True	100.00	100.019332	100.0
5	JX70	L4	True	250.00	265.602258	106.2
6	JX71	L5	True	500.00	540.830859	108.2
7	JX72	L6	True	1000.00	1085.444497	108.5
8	JX73	L7	True	2500.00	2584.126579	103.4
9	JX74	L8	True	5000.00	4739.440475	94.8
10	JX75	L9	True	10000.00	10042.135736	100.4





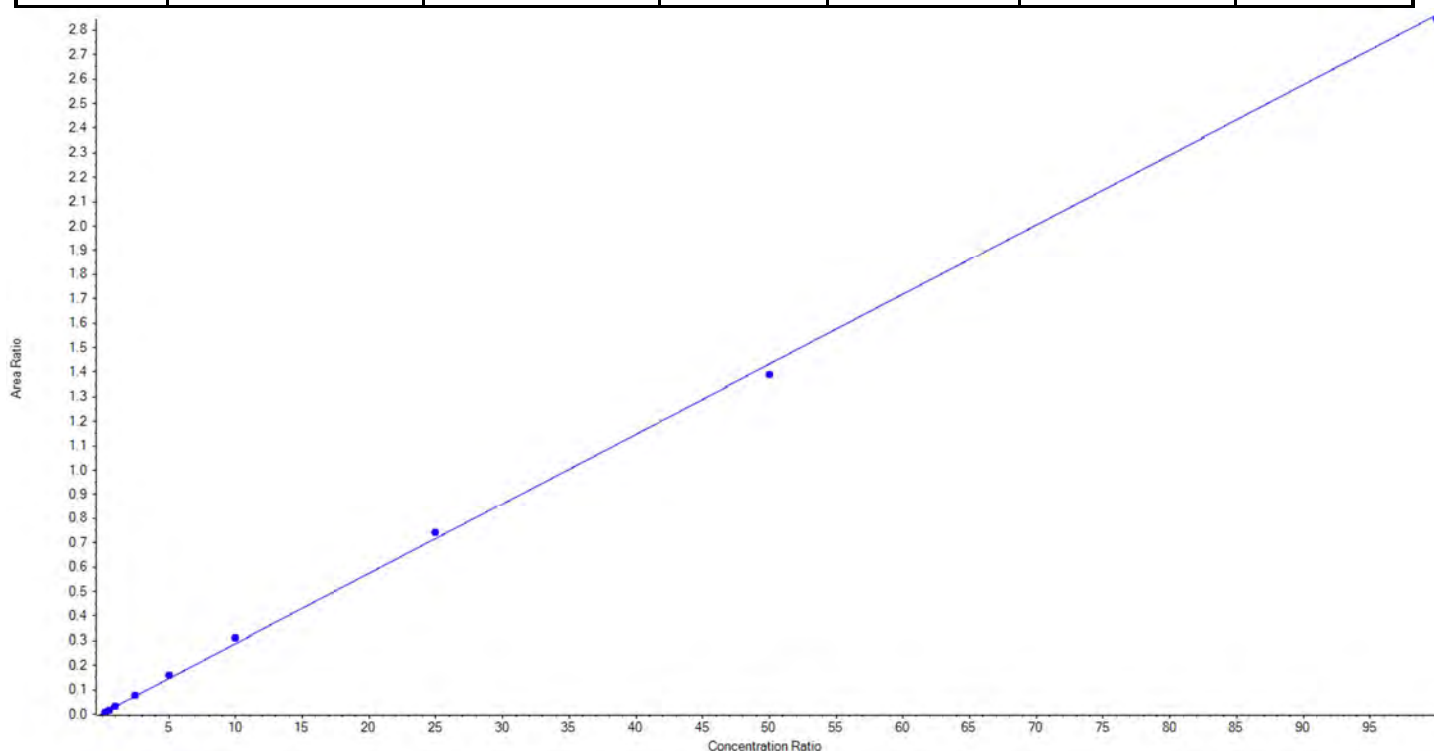
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFTeDA_2	Data File	07032018_5-0371.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.02859x + 0.00271$ ($r = 0.99939$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.774312	75.1
3	JX68	L2	True	50.00	51.182568	102.4
4	JX69	L3	True	100.00	99.560809	99.6
5	JX70	L4	True	250.00	262.365354	105.0
6	JX71	L5	True	500.00	551.238107	110.3
7	JX72	L6	True	1000.00	1084.270173	108.4
8	JX73	L7	True	2500.00	2578.415032	103.1
9	JX74	L8	True	5000.00	4842.748976	96.9
10	JX75	L9	True	10000.00	9936.444669	99.4





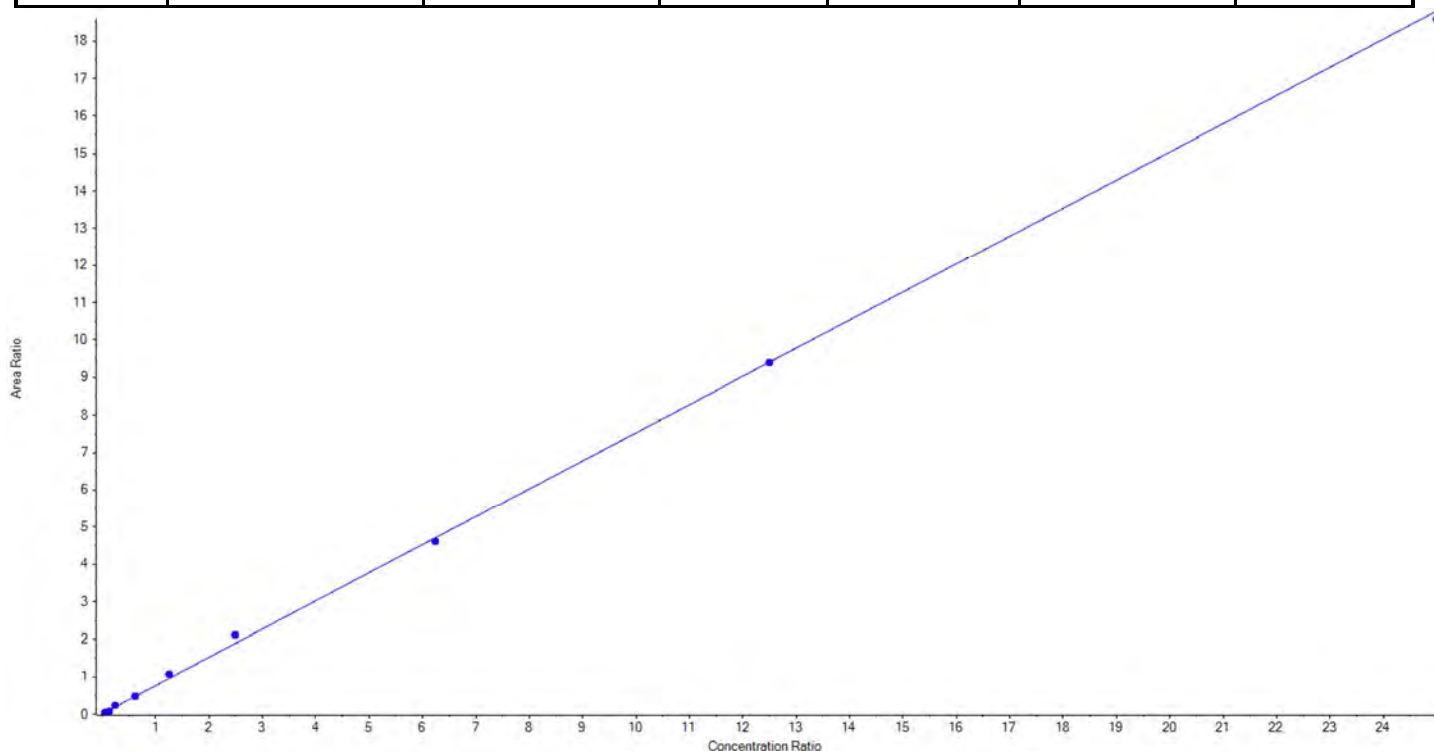
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NMeFOSAA_1	Data File	07032018_5-0371.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.75144 x + 0.01445$ ($r = 0.99908$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.242779	85.0
3	JX68	L2	True	50.00	37.864410	75.7
4	JX69	L3	True	100.00	121.195386	121.2
5	JX70	L4	True	250.00	241.984085	96.8
6	JX71	L5	True	500.00	563.247797	112.7
7	JX72	L6	True	1000.00	1122.220851	112.2
8	JX73	L7	True	2500.00	2445.812515	97.8
9	JX74	L8	True	5000.00	4989.257664	99.8
10	JX75	L9	True	10000.00	9882.174514	98.8





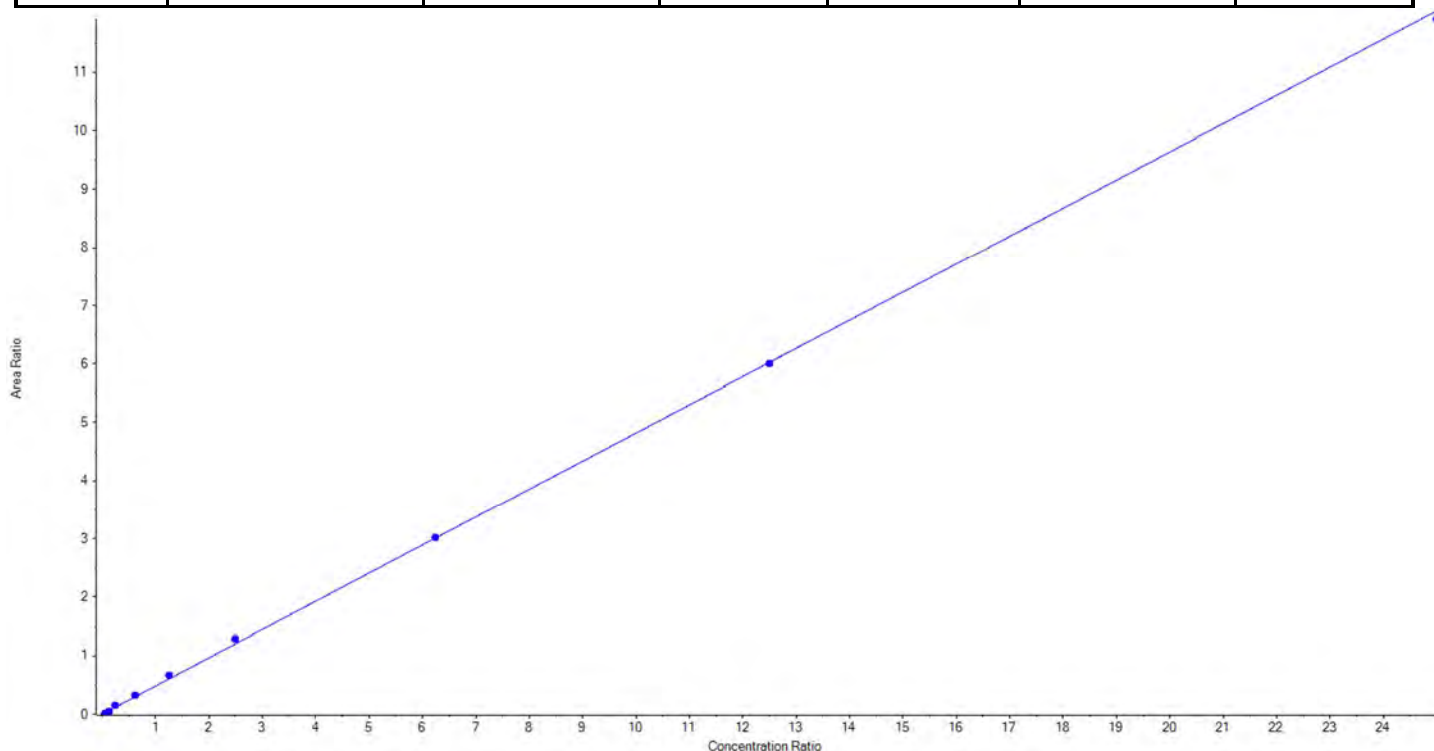
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NMeFOSAA_2	Data File	07032018_5-0371.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.48193x + 5.26215e-4$ ($r = 0.99941$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.274522	77.1
3	JX68	L2	True	50.00	39.129265	78.3
4	JX69	L3	True	100.00	122.730950	122.7
5	JX70	L4	True	250.00	264.451910	105.8
6	JX71	L5	True	500.00	558.370243	111.7
7	JX72	L6	True	1000.00	1060.318355	106.0
8	JX73	L7	True	2500.00	2500.506083	100.0
9	JX74	L8	True	5000.00	4980.335647	99.6
10	JX75	L9	True	10000.00	9879.883026	98.8





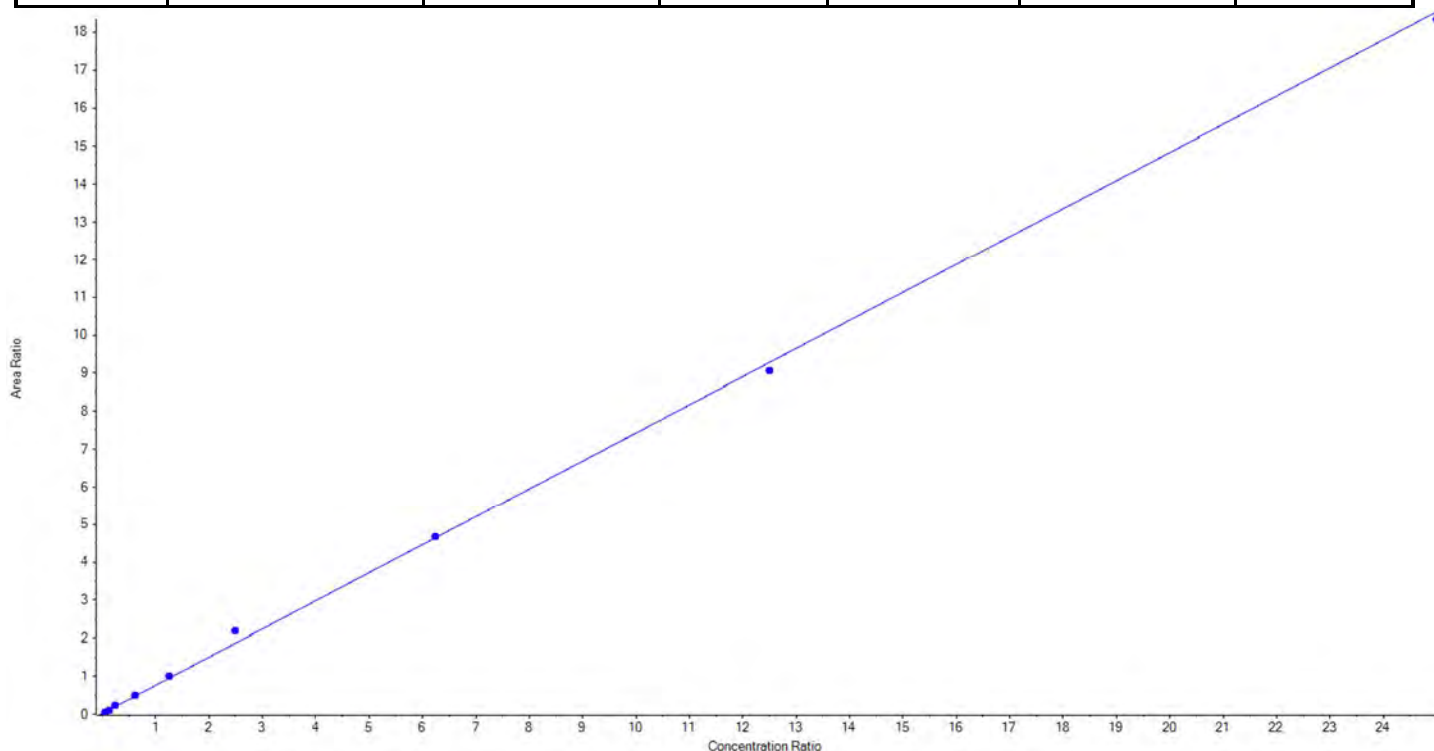
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	NEtFOSAA_1	Data File	07032018_5-0371.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74080x + 0.01972$ ($r = 0.99881$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.030119	72.1
3	JX68	L2	True	50.00	40.926887	81.9
4	JX69	L3	True	100.00	119.782658	119.8
5	JX70	L4	True	250.00	266.379026	106.6
6	JX71	L5	True	500.00	528.390912	105.7
7	JX72	L6	True	1000.00	1171.418171	117.1
8	JX73	L7	True	2500.00	2509.641043	100.4
9	JX74	L8	True	5000.00	4878.152696	97.6
10	JX75	L9	True	10000.00	9892.278487	98.9





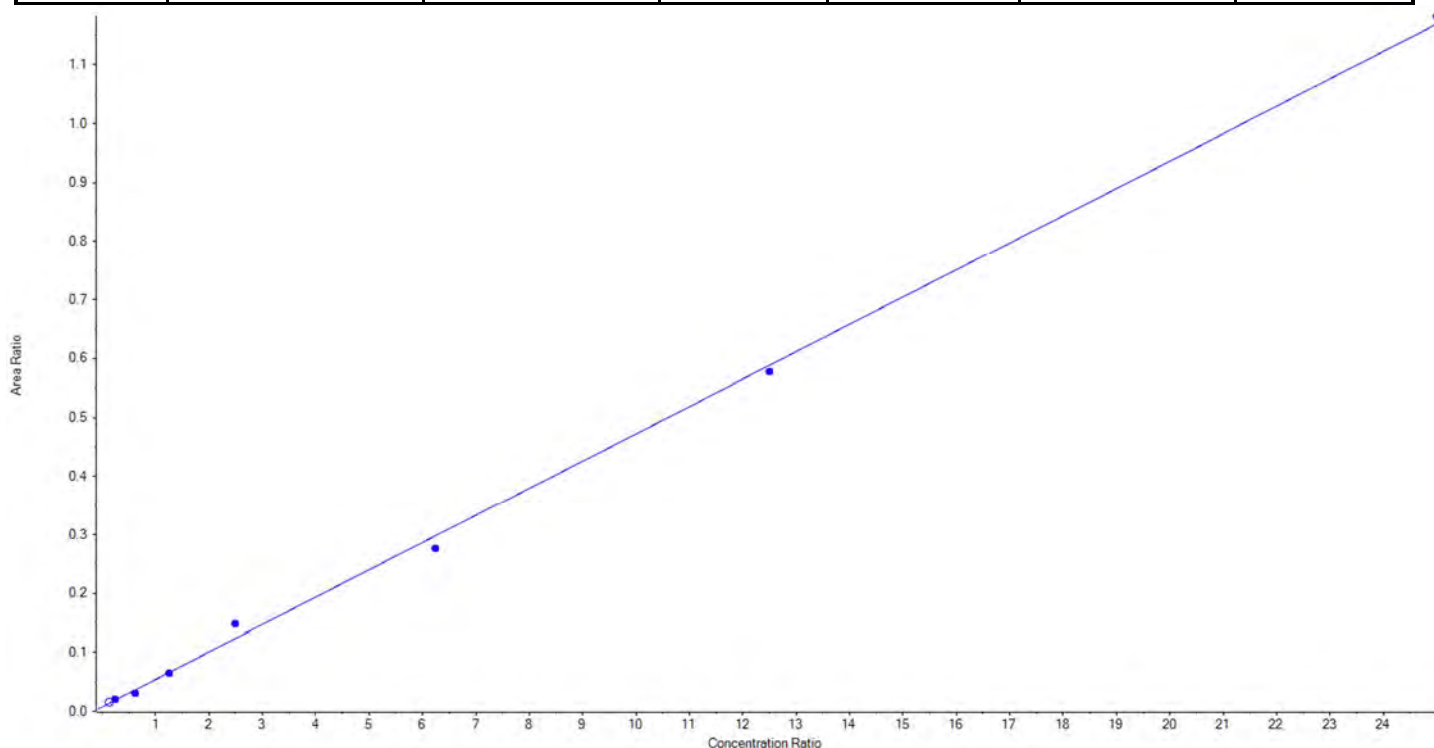
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	NEtFOSAA_2	Data File	07032018_5-0371.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04646 x + 0.00754$ ($r = 0.99775$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	N/A	N/A
3	JX68	L2	False	50.00	63.492345	127.0
4	JX69	L3	True	100.00	109.915328	109.9
5	JX70	L4	True	250.00	198.472491	79.4
6	JX71	L5	True	500.00	486.200743	97.2
7	JX72	L6	True	1000.00	1215.028952	121.5
8	JX73	L7	True	2500.00	2314.741428	92.6
9	JX74	L8	True	5000.00	4910.656437	98.2
10	JX75	L9	True	10000.00	10114.984621	101.2





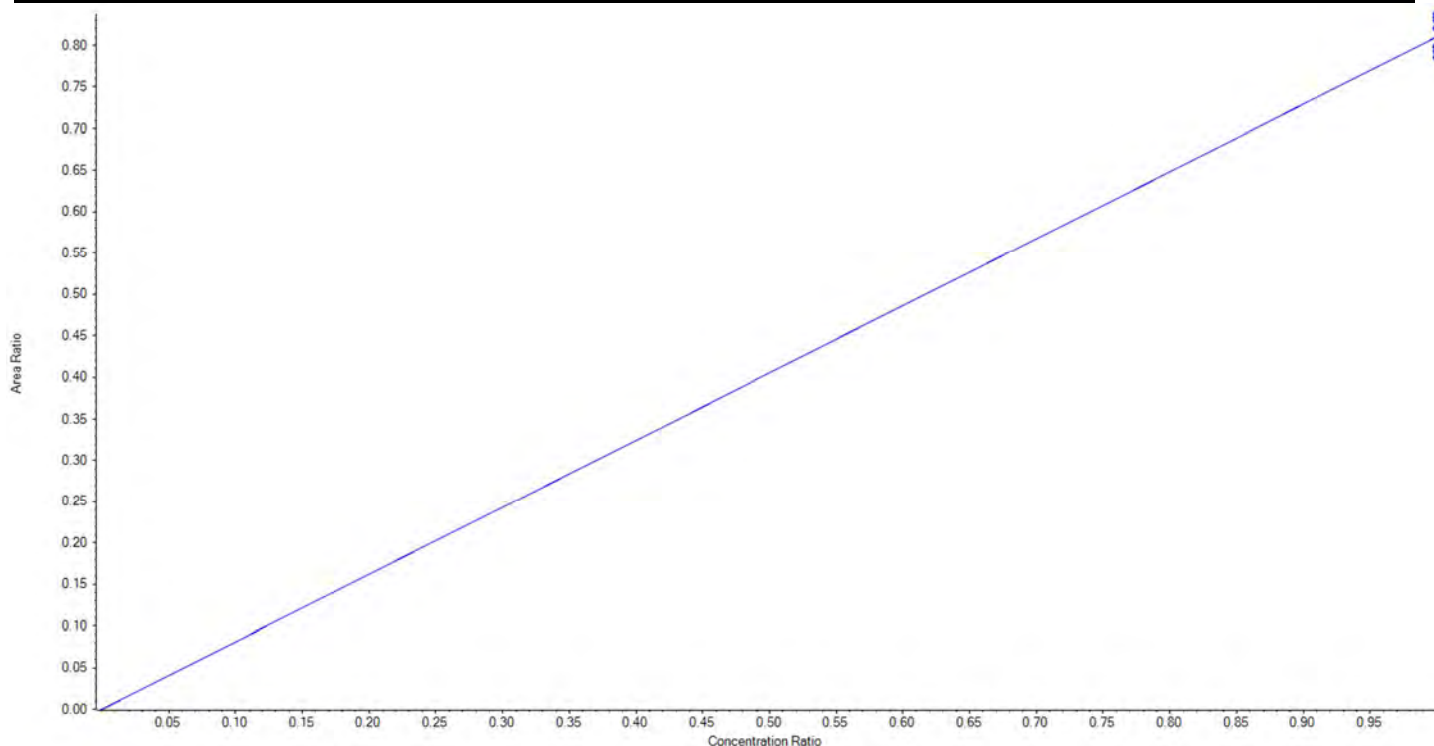
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C2-PFHxA	Data File	07032018_5-0371.wiff
MRM Transition	315.0 / 270.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.81031 x$ (std. dev. = 0.01996) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	98.532640	98.5
3	JX68	L2	True	100.00	98.382487	98.4
4	JX69	L3	True	100.00	98.365048	98.4
5	JX70	L4	True	100.00	96.927288	96.9
6	JX71	L5	True	100.00	102.849459	102.9
7	JX72	L6	True	100.00	102.517521	102.5
8	JX73	L7	True	100.00	103.346932	103.4
9	JX74	L8	True	100.00	101.209894	101.2
10	JX75	L9	True	100.00	97.868730	97.9





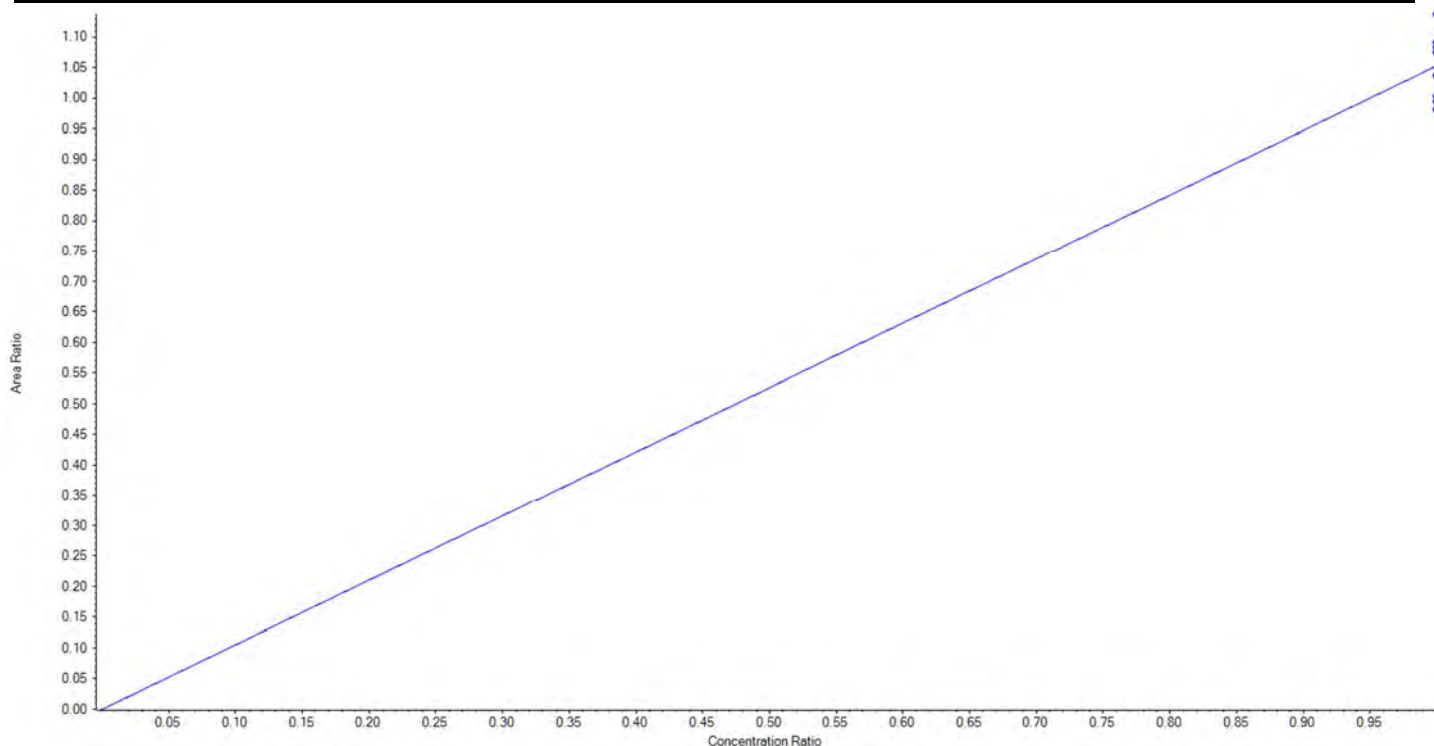
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	13C2-PFDA	Data File	07032018_5-0371.wiff
MRM Transition	515.0 / 470.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.05296 x$ (std. dev. = 0.05206) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	93.243494	93.2
3	JX68	L2	True	100.00	95.200736	95.2
4	JX69	L3	True	100.00	94.438285	94.4
5	JX70	L4	True	100.00	98.546817	98.6
6	JX71	L5	True	100.00	103.615029	103.6
7	JX72	L6	True	100.00	102.822498	102.8
8	JX73	L7	True	100.00	108.021359	108.0
9	JX74	L8	True	100.00	102.064564	102.1
10	JX75	L9	True	100.00	102.047219	102.1





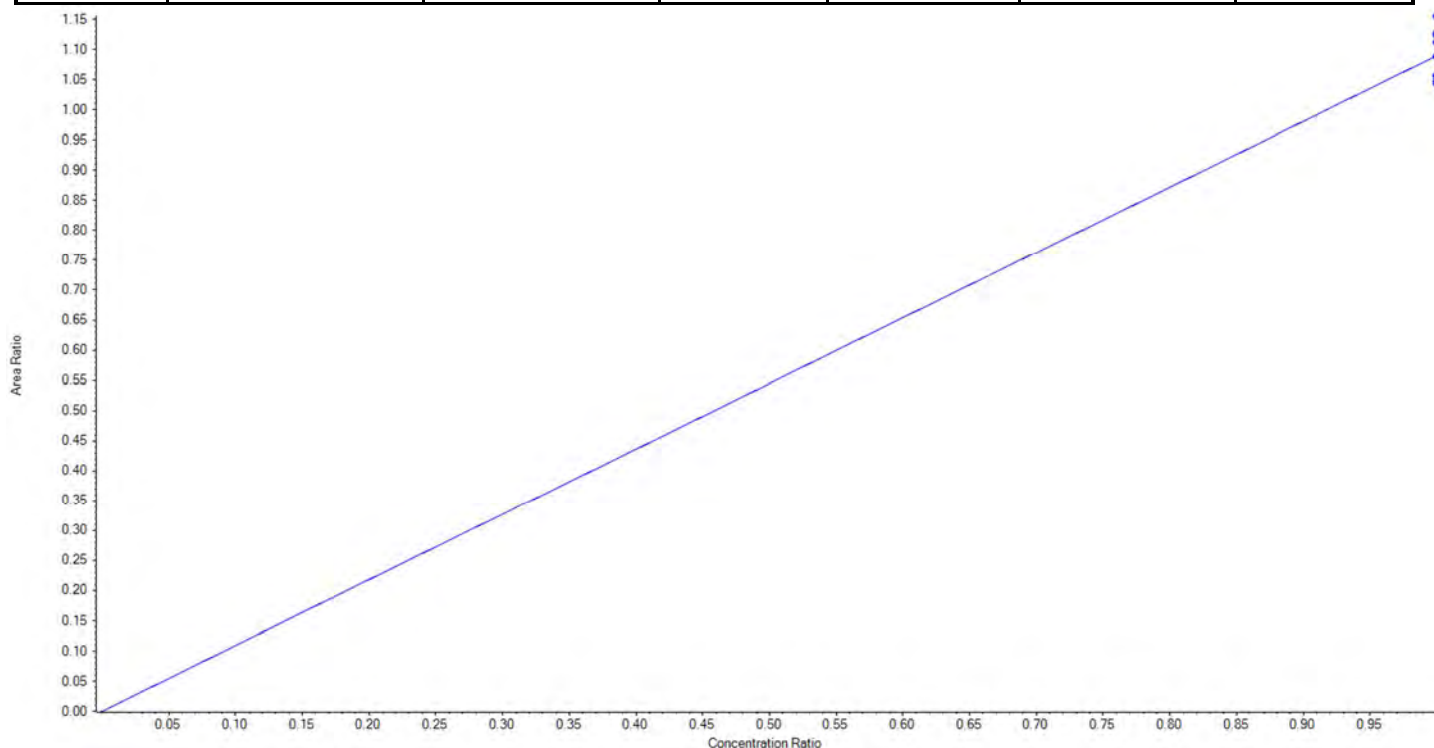
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	d5-EtFOSAA	Data File	07032018_5-0371.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.08994 x$ (std. dev. = 0.04104) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	400.00	408.078198	102.0
3	JX68	L2	True	400.00	387.157877	96.8
4	JX69	L3	True	400.00	413.614992	103.4
5	JX70	L4	True	400.00	399.315291	99.8
6	JX71	L5	True	400.00	388.103778	97.0
7	JX72	L6	True	400.00	423.973567	106.0
8	JX73	L7	True	400.00	384.282664	96.1
9	JX74	L8	True	400.00	383.153165	95.8
10	JX75	L9	True	400.00	412.320469	103.1



[illegible]

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:35:13	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_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	10382.59	24.348619	118.3	true
PFBS_2	298.9 / 99.0	1.51	4699.72	23.043361	86.3	true
PFHxA_1	313.0 / 269.0	1.82	17960.69	17.615487	35.8	true
PFHxA_2	313.0 / 119.0	1.80	1606.97	21.803967	18.0	false
PFHpA_1	363.0 / 319.0	2.20	16267.13	20.596085	53.0	false
PFHpA_2	363.0 / 169.0	2.20	579.34	< 0	24.3	false
PFHxS_1	399.0 / 80.0	2.21	12517.16	21.544152	158.4	false
PFHxS_2	399.0 / 99.0	2.21	3888.21	21.405512	77.9	false
PFOA_1	413.0 / 369.0	2.57	16011.21	3.296301	38.9	true
PFOA_2	413.0 / 169.0	2.57	1921.16	23.096983	34.1	true
PFNA_1	463.0 / 419.0	2.96	18134.07	< 0	47.0	false
PFNA_2	463.0 / 219.0	2.96	5199.11	18.038457	34.0	false
PFOS_1	499.0 / 80.0	2.95	20609.64	21.402585	85.0	true
PFOS_2	499.0 / 99.0	2.95	4609.79	25.595678	64.7	true
PFDA_1	513.0 / 469.0	3.31	17555.04	17.954847	106.3	false
PFDA_2	513.0 / 219.0	3.31	758.12	18.595652	70.9	false
PFUnA_1	563.0 / 519.0	3.64	14945.23	20.289711	127.3	false
PFUnA_2	563.0 / 269.0	3.64	831.08	20.841067	43.1	false
PFDaA_1	613.0 / 569.0	3.93	14280.80	19.848894	162.8	false
PFDaA_2	613.0 / 319.0	3.93	2327.83	17.356735	145.0	false
PFTTrDA_1	663.0 / 619.0	4.19	10884.82	20.118807	214.9	false
PFTTrDA_2	663.0 / 169.0	4.19	758.80	18.148913	111.3	false
PFTeDA_1	713.0 / 669.0	4.41	11286.73	21.692328	344.3	false
PFTeDA_2	713.0 / 169.0	4.41	609.59	18.876315	107.5	false
NMeFOSAA_1	570.0 / 419.0	3.46	1590.38	26.625122	388.1	false
NMeFOSAA_2	570.0 / 512.0	3.33	209.86	6.822048	29.9	true
NEtFOSAA_1	584.0 / 419.0	3.61	1047.60	21.055884	85.0	false
NEtFOSAA_2	584.0 / 483.0	3.62	176.55	29.524085	27.0	true
13C2-PFHxA	315.0 / 270.0	1.81	53503.94	97.237923	967.3	false
13C2-PFDA	515.0 / 470.0	3.30	67064.89	98.825503	826.7	false
d5-EtFOSAA	589.0 / 419.0	3.62	21674.33	447.485544	343.1	false

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:44:07	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	19153.51	44.274193	248.9	false
PFBS_2	298.9 / 99.0	1.52	7508.22	43.450812	112.8	false
PFHxA_1	313.0 / 269.0	1.82	26785.01	44.928358	47.7	false
PFHxA_2	313.0 / 119.0	1.82	2048.53	43.617833	20.6	false
PFHpA_1	363.0 / 319.0	2.19	25231.91	48.400641	65.0	false
PFHpA_2	363.0 / 169.0	2.18	507.96	< 0	24.9	false
PFHxS_1	399.0 / 80.0	2.21	23035.45	43.242084	199.1	false
PFHxS_2	399.0 / 99.0	2.20	7165.03	44.850301	108.9	false
PFOA_1	413.0 / 369.0	2.57	30008.06	39.908923	61.3	false
PFOA_2	413.0 / 169.0	2.57	2466.73	46.048621	46.5	false
PFNA_1	463.0 / 419.0	2.95	28298.13	11.560228	71.8	false
PFNA_2	463.0 / 219.0	2.95	8579.89	49.154789	49.3	false
PFOS_1	499.0 / 80.0	2.94	36017.48	42.965528	126.5	false
PFOS_2	499.0 / 99.0	2.95	6572.75	40.224378	105.6	false
PFDA_1	513.0 / 469.0	3.31	28816.57	46.470902	160.0	false
PFDA_2	513.0 / 219.0	3.30	1259.90	48.371550	99.9	false
PFUnA_1	563.0 / 519.0	3.64	24295.41	45.502830	132.7	false
PFUnA_2	563.0 / 269.0	3.64	971.42	32.168349	45.7	false
PFDaA_1	613.0 / 569.0	3.93	24309.01	48.288869	224.7	false
PFDaA_2	613.0 / 319.0	3.92	3954.88	46.660483	262.5	false
PFTTrDA_1	663.0 / 619.0	4.18	19801.00	51.586072	326.5	false
PFTTrDA_2	663.0 / 169.0	4.18	1201.47	42.140994	113.2	false
PFTeDA_1	713.0 / 669.0	4.41	17047.11	45.047159	397.8	false
PFTeDA_2	713.0 / 169.0	4.40	1018.00	49.363679	232.4	false
NMeFOSAA_1	570.0 / 419.0	3.46	2031.61	37.929833	181.9	false
NMeFOSAA_2	570.0 / 512.0	3.46	1559.36	64.643929	1029.5	false
NEtFOSAA_1	584.0 / 419.0	3.63	2132.22	51.589818	171.0	false
NEtFOSAA_2	584.0 / 483.0	3.59	186.25	32.304123	24.0	false
13C2-PFHxA	315.0 / 270.0	1.81	50534.20	102.626872	829.3	false
13C2-PFDA	515.0 / 470.0	3.30	63370.35	104.348391	3206.3	false
d5-EtFOSAA	589.0 / 419.0	3.62	18841.33	382.031418	323.1	false

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:53:02	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	37536.41	89.097417	352.9	false
PFBS_2	298.9 / 99.0	1.51	14863.41	100.911234	178.0	false
PFHxA_1	313.0 / 269.0	1.81	57146.23	117.730939	61.8	false
PFHxA_2	313.0 / 119.0	1.81	4111.86	112.699286	41.2	false
PFHpA_1	363.0 / 319.0	2.19	46685.23	100.433673	103.9	false
PFHpA_2	363.0 / 169.0	2.19	1685.27	91.536134	61.9	false
PFHxS_1	399.0 / 80.0	2.20	46824.73	95.795832	326.7	false
PFHxS_2	399.0 / 99.0	2.20	13792.77	95.808275	153.1	false
PFOA_1	413.0 / 369.0	2.57	53758.24	91.394433	90.2	false
PFOA_2	413.0 / 169.0	2.57	4183.07	94.684246	61.6	false
PFNA_1	463.0 / 419.0	2.95	54664.00	70.753729	106.4	false
PFNA_2	463.0 / 219.0	2.95	14422.44	91.830907	56.7	false
PFOS_1	499.0 / 80.0	2.94	72396.22	97.561781	177.3	false
PFOS_2	499.0 / 99.0	2.94	11573.08	80.783097	125.9	false
PFDA_1	513.0 / 469.0	3.30	56428.28	102.660895	205.4	false
PFDA_2	513.0 / 219.0	3.31	2829.62	124.171117	237.7	false
PFUnA_1	563.0 / 519.0	3.63	52354.46	106.457837	274.5	false
PFUnA_2	563.0 / 269.0	3.63	2683.53	113.120103	97.6	false
PFDaA_1	613.0 / 569.0	3.92	47367.76	101.472581	287.1	false
PFDaA_2	613.0 / 319.0	3.92	8615.90	115.365405	266.5	false
PFTTrDA_1	663.0 / 619.0	4.17	35335.86	96.680100	337.3	false
PFTTrDA_2	663.0 / 169.0	4.17	2818.14	112.290886	255.0	false
PFTeDA_1	713.0 / 669.0	4.40	35625.66	103.718870	563.3	false
PFTeDA_2	713.0 / 169.0	4.40	1845.08	98.965087	310.3	false
NMeFOSAA_1	570.0 / 419.0	3.46	4248.72	104.523576	1201.4	false
NMeFOSAA_2	570.0 / 512.0	3.46	2855.45	126.438295	356.0	false
NEtFOSAA_1	584.0 / 419.0	3.62	3922.09	108.471949	256.6	false
NEtFOSAA_2	584.0 / 483.0	3.61	369.92	118.956147	66.9	false
13C2-PFHxA	315.0 / 270.0	1.80	49171.46	96.699421	1092.2	false
13C2-PFDA	515.0 / 470.0	3.29	60704.58	96.795736	1760.6	false
d5-EtFOSAA	589.0 / 419.0	3.61	19555.45	416.235263	341.2	false

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:01:57	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	96251.39	216.145714	861.3	false
PFBS_2	298.9 / 99.0	1.51	31213.49	212.644552	287.5	false
PFHxA_1	313.0 / 269.0	1.81	124067.51	280.073118	91.7	false
PFHxA_2	313.0 / 119.0	1.81	8315.31	255.437185	65.3	false
PFHpA_1	363.0 / 319.0	2.18	113558.83	266.409445	140.8	false
PFHpA_2	363.0 / 169.0	2.19	3163.95	253.139303	105.4	false
PFHxS_1	399.0 / 80.0	2.20	117034.54	233.540475	373.0	false
PFHxS_2	399.0 / 99.0	2.20	34852.25	239.200252	210.1	false
PFOA_1	413.0 / 369.0	2.57	132478.00	266.565269	166.2	false
PFOA_2	413.0 / 169.0	2.57	9888.64	261.554627	130.9	false
PFNA_1	463.0 / 419.0	2.95	135234.61	255.246988	193.2	false
PFNA_2	463.0 / 219.0	2.95	38192.30	271.441251	137.6	false
PFOS_1	499.0 / 80.0	2.94	174297.10	232.958262	218.2	false
PFOS_2	499.0 / 99.0	2.94	34163.11	243.163731	266.6	false
PFDA_1	513.0 / 469.0	3.30	144950.69	286.283367	310.1	false
PFDA_2	513.0 / 219.0	3.30	5485.64	253.313488	401.2	false
PFUnA_1	563.0 / 519.0	3.63	130581.61	278.590911	338.3	false
PFUnA_2	563.0 / 269.0	3.63	6583.34	298.001703	233.4	false
PFDaA_1	613.0 / 569.0	3.92	122945.39	279.236278	493.6	false
PFDaA_2	613.0 / 319.0	3.92	18226.34	258.458944	402.8	false
PFTTrDA_1	663.0 / 619.0	4.17	92962.97	268.571204	471.2	false
PFTTrDA_2	663.0 / 169.0	4.17	6667.21	280.667273	408.1	false
PFTeDA_1	713.0 / 669.0	4.39	87622.00	270.309155	794.8	false
PFTeDA_2	713.0 / 169.0	4.39	4656.13	271.867573	557.1	false
NMeFOSAA_1	570.0 / 419.0	3.45	10901.87	276.412673	408.8	false
NMeFOSAA_2	570.0 / 512.0	3.45	6850.32	287.302328	412.9	false
NEtFOSAA_1	584.0 / 419.0	3.62	10047.70	273.834518	391.5	false
NEtFOSAA_2	584.0 / 483.0	3.59	837.92	306.031810	321.1	false
13C2-PFHxA	315.0 / 270.0	1.80	51909.89	101.121495	929.6	false
13C2-PFDA	515.0 / 470.0	3.29	64057.47	101.178237	1408.9	false
d5-EtFOSAA	589.0 / 419.0	3.61	19597.00	391.026841	355.6	false

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:10:53	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	185670.78	442.842975	1361.4	false
PFBS_2	298.9 / 99.0	1.52	59550.87	443.294416	451.9	false
PFHxA_1	313.0 / 269.0	1.81	228988.20	543.437656	110.4	false
PFHxA_2	313.0 / 119.0	1.81	17182.99	566.494586	111.4	false
PFHpA_1	363.0 / 319.0	2.18	227990.61	559.191931	237.1	false
PFHpA_2	363.0 / 169.0	2.18	6168.28	593.301752	153.1	false
PFHxS_1	399.0 / 80.0	2.20	231180.27	495.569899	519.5	false
PFHxS_2	399.0 / 99.0	2.20	65726.89	486.442895	266.2	false
PFOA_1	413.0 / 369.0	2.56	270277.27	582.510301	242.6	false
PFOA_2	413.0 / 169.0	2.56	19318.25	546.142995	204.8	false
PFNA_1	463.0 / 419.0	2.95	265595.38	563.074555	300.3	false
PFNA_2	463.0 / 219.0	2.94	78548.89	585.356231	213.4	false
PFOS_1	499.0 / 80.0	2.94	330749.84	477.996772	306.4	false
PFOS_2	499.0 / 99.0	2.94	62289.30	480.211049	265.3	false
PFDA_1	513.0 / 469.0	3.30	278635.07	572.291805	479.8	false
PFDA_2	513.0 / 219.0	3.30	10826.44	522.072010	272.2	false
PFUnA_1	563.0 / 519.0	3.62	249677.18	549.000839	398.3	false
PFUnA_2	563.0 / 269.0	3.62	12191.38	572.636331	249.2	false
PFDaA_1	613.0 / 569.0	3.91	235472.85	552.216889	456.8	false
PFDaA_2	613.0 / 319.0	3.91	38626.49	571.816072	528.8	false
PFTTrDA_1	663.0 / 619.0	4.16	185400.13	552.622058	644.7	false
PFTTrDA_2	663.0 / 169.0	4.16	13257.21	578.011453	512.2	false
PFTeDA_1	713.0 / 669.0	4.39	172472.43	550.653271	935.9	false
PFTeDA_2	713.0 / 169.0	4.39	9332.42	568.272737	791.8	false
NMeFOSAA_1	570.0 / 419.0	3.45	20059.28	503.367761	643.6	false
NMeFOSAA_2	570.0 / 512.0	3.45	12018.21	486.894180	545.0	false
NEtFOSAA_1	584.0 / 419.0	3.61	17498.58	465.568995	652.3	false
NEtFOSAA_2	584.0 / 483.0	3.59	1086.16	393.712102	887.6	false
13C2-PFHxA	315.0 / 270.0	1.80	54545.85	107.537701	1025.2	false
13C2-PFDA	515.0 / 470.0	3.29	64328.13	102.830960	1354.6	false
d5-EtFOSAA	589.0 / 419.0	3.61	20489.65	393.608980	368.2	false

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:19:49	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	356548.00	848.944885	2260.0	false
PFBS_2	298.9 / 99.0	1.52	113017.65	850.665326	695.3	false
PFHxA_1	313.0 / 269.0	1.81	443145.39	1029.744021	158.2	false
PFHxA_2	313.0 / 119.0	1.81	30117.70	973.493566	119.6	false
PFHpA_1	363.0 / 319.0	2.18	431193.05	1029.499547	306.5	false
PFHpA_2	363.0 / 169.0	2.18	9380.55	910.627029	195.2	false
PFHxS_1	399.0 / 80.0	2.20	424928.27	913.645896	687.3	false
PFHxS_2	399.0 / 99.0	2.20	119047.37	885.471915	358.0	false
PFOA_1	413.0 / 369.0	2.56	490650.96	1037.660123	342.6	false
PFOA_2	413.0 / 169.0	2.56	38062.78	1059.585632	248.5	false
PFNA_1	463.0 / 419.0	2.94	521002.38	1110.304830	482.6	false
PFNA_2	463.0 / 219.0	2.94	148982.70	1081.373683	331.4	false
PFOS_1	499.0 / 80.0	2.94	670245.98	975.463169	412.1	false
PFOS_2	499.0 / 99.0	2.94	126860.70	986.515512	454.0	false
PFDA_1	513.0 / 469.0	3.30	522422.53	1043.157797	652.3	false
PFDA_2	513.0 / 219.0	3.29	21145.32	993.095369	418.1	false
PFUnA_1	563.0 / 519.0	3.62	474971.44	1011.446203	622.9	false
PFUnA_2	563.0 / 269.0	3.62	22617.38	1032.565745	317.7	false
PFDaA_1	613.0 / 569.0	3.91	446680.62	1015.301250	580.6	false
PFDaA_2	613.0 / 319.0	3.91	72934.70	1049.006303	620.8	false
PFTTrDA_1	663.0 / 619.0	4.16	359696.63	1038.276379	657.1	false
PFTTrDA_2	663.0 / 169.0	4.16	24737.26	1045.802277	707.0	false
PFTeDA_1	713.0 / 669.0	4.38	329395.03	1019.904002	1238.9	false
PFTeDA_2	713.0 / 169.0	4.38	17631.38	1044.043096	1098.3	false
NMeFOSAA_1	570.0 / 419.0	3.45	38959.60	1039.943552	1155.8	false
NMeFOSAA_2	570.0 / 512.0	3.44	25119.81	1066.258085	793.7	false
NEtFOSAA_1	584.0 / 419.0	3.61	36347.17	1021.697296	587.2	false
NEtFOSAA_2	584.0 / 483.0	3.61	2529.52	1026.346535	533.1	false
13C2-PFHxA	315.0 / 270.0	1.80	50946.79	96.432540	917.7	false
13C2-PFDA	515.0 / 470.0	3.29	62977.06	96.652505	1816.8	false
d5-EtFOSAA	589.0 / 419.0	3.60	18871.27	378.828905	350.3	false

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:28:45	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	887683.00	2112.792418	4541.4	false
PFBS_2	298.9 / 99.0	1.52	265240.45	2011.948021	1037.2	false
PFHxA_1	313.0 / 269.0	1.81	1045072.39	2517.811415	210.1	false
PFHxA_2	313.0 / 119.0	1.81	75159.93	2531.714131	197.3	false
PFHpA_1	363.0 / 319.0	2.18	1021074.59	2519.088363	438.9	false
PFHpA_2	363.0 / 169.0	2.18	22210.90	2343.377476	266.4	false
PFHxS_1	399.0 / 80.0	2.19	1001829.65	2160.202123	899.3	false
PFHxS_2	399.0 / 99.0	2.20	286850.97	2143.018262	516.8	false
PFOA_1	413.0 / 369.0	2.56	1178578.40	2594.331485	400.7	false
PFOA_2	413.0 / 169.0	2.56	86862.40	2513.802986	334.5	false
PFNA_1	463.0 / 419.0	2.94	1180899.98	2649.440264	853.3	false
PFNA_2	463.0 / 219.0	2.94	355898.45	2670.371759	610.1	false
PFOS_1	499.0 / 80.0	2.93	1575513.43	2303.431578	465.2	false
PFOS_2	499.0 / 99.0	2.93	294170.49	2299.833376	516.0	false
PFDA_1	513.0 / 469.0	3.29	1240848.97	2558.382450	708.4	false
PFDA_2	513.0 / 219.0	3.29	52503.48	2547.925565	630.8	false
PFUnA_1	563.0 / 519.0	3.62	1157872.54	2538.704243	754.1	false
PFUnA_2	563.0 / 269.0	3.62	56688.73	2673.374421	433.4	false
PFDaA_1	613.0 / 569.0	3.90	1082836.89	2535.669325	790.6	false
PFDaA_2	613.0 / 319.0	3.90	173799.41	2579.665089	844.9	false
PFTTrDA_1	663.0 / 619.0	4.16	850137.23	2525.562602	929.2	false
PFTTrDA_2	663.0 / 169.0	4.16	58218.19	2536.715181	802.6	false
PFTeDA_1	713.0 / 669.0	4.38	790788.97	2523.188014	1813.8	false
PFTeDA_2	713.0 / 169.0	4.38	41968.26	2566.244806	1522.8	false
NMeFOSAA_1	570.0 / 419.0	3.44	90906.31	2431.663249	1170.6	false
NMeFOSAA_2	570.0 / 512.0	3.44	59000.96	2488.678587	1213.3	false
NEtFOSAA_1	584.0 / 419.0	3.60	87774.38	2461.979633	797.7	false
NEtFOSAA_2	584.0 / 483.0	3.60	5550.03	2290.949762	667.6	false
13C2-PFHxA	315.0 / 270.0	1.80	51061.99	98.892988	1282.2	false
13C2-PFDA	515.0 / 470.0	3.28	64420.41	101.161484	1241.5	false
d5-EtFOSAA	589.0 / 419.0	3.60	18774.09	374.038313	392.7	false

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:37:42	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.52	1522983.60	4339.859302	4603.9	false
PFBS_2	298.9 / 99.0	1.52	468748.93	4270.369961	1330.2	false
PFHxA_1	313.0 / 269.0	1.81	1770553.53	4881.016908	253.0	false
PFHxA_2	313.0 / 119.0	1.81	128426.97	4956.007287	243.4	false
PFHpA_1	363.0 / 319.0	2.18	1753666.81	4945.124595	489.2	false
PFHpA_2	363.0 / 169.0	2.18	42461.61	5216.980964	356.3	false
PFHxS_1	399.0 / 80.0	2.19	1722457.01	4451.995198	1051.1	false
PFHxS_2	399.0 / 99.0	2.20	495965.65	4443.844668	720.3	false
PFOA_1	413.0 / 369.0	2.56	1992552.63	5024.398602	480.4	false
PFOA_2	413.0 / 169.0	2.56	155786.42	5166.860566	411.9	false
PFNA_1	463.0 / 419.0	2.94	1956791.30	5051.267523	1036.9	false
PFNA_2	463.0 / 219.0	2.94	589240.79	5053.137222	768.4	false
PFOS_1	499.0 / 80.0	2.94	2702082.02	4738.467154	497.4	false
PFOS_2	499.0 / 99.0	2.94	505632.61	4743.198849	639.3	false
PFDA_1	513.0 / 469.0	3.29	2078983.56	4897.714886	960.1	false
PFDA_2	513.0 / 219.0	3.29	87581.37	4856.226373	708.7	false
PFUnA_1	563.0 / 519.0	3.62	1945858.12	4869.826200	845.5	false
PFUnA_2	563.0 / 269.0	3.62	89919.20	4843.651241	535.7	false
PFDaA_1	613.0 / 569.0	3.90	1822725.49	4872.965914	754.1	false
PFDaA_2	613.0 / 319.0	3.90	284204.30	4818.595248	830.4	false
PFTTrDA_1	663.0 / 619.0	4.16	1420135.97	4815.366268	868.3	false
PFTTrDA_2	663.0 / 169.0	4.15	98076.14	4880.120740	1121.9	false
PFTeDA_1	713.0 / 669.0	4.38	1354250.88	4934.039142	1785.0	false
PFTeDA_2	713.0 / 169.0	4.37	70522.45	4927.294809	1760.8	false
NMeFOSAA_1	570.0 / 419.0	3.44	158438.03	5057.142096	1145.6	false
NMeFOSAA_2	570.0 / 512.0	3.44	98738.48	4953.331129	924.5	false
NEtFOSAA_1	584.0 / 419.0	3.60	151513.93	5062.033851	841.0	false
NEtFOSAA_2	584.0 / 483.0	3.59	10204.93	5063.972497	802.6	false
13C2-PFHxA	315.0 / 270.0	1.80	45188.52	99.697104	1028.3	false
13C2-PFDA	515.0 / 470.0	3.28	55072.95	98.518249	27301.1	false
d5-EtFOSAA	589.0 / 419.0	3.60	16810.49	398.138305	417.3	false

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:46:37	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	3804038.19	9073.744476	8394.5	false
PFBS_2	298.9 / 99.0	1.51	1209281.87	9235.722318	2893.3	false
PFHxA_1	313.0 / 269.0	1.80	4442414.65	9992.642097	409.3	false
PFHxA_2	313.0 / 119.0	1.80	316263.41	9963.732159	425.3	false
PFHpA_1	363.0 / 319.0	2.17	4321456.78	9936.255720	797.8	false
PFHpA_2	363.0 / 169.0	2.17	98547.71	9941.037342	565.2	false
PFHxS_1	399.0 / 80.0	2.19	4295961.75	9300.064340	1209.2	false
PFHxS_2	399.0 / 99.0	2.19	1246323.10	9355.557920	859.3	false
PFOA_1	413.0 / 369.0	2.56	4743068.15	9763.230863	798.1	false
PFOA_2	413.0 / 169.0	2.55	358841.74	9713.223342	526.5	false
PFNA_1	463.0 / 419.0	2.94	4568510.31	9649.912111	1663.7	false
PFNA_2	463.0 / 219.0	2.93	1373511.96	9604.295700	1191.0	false
PFOS_1	499.0 / 80.0	2.93	6187163.17	9089.903170	659.3	false
PFOS_2	499.0 / 99.0	2.93	1155273.05	9080.624331	669.6	false
PFDA_1	513.0 / 469.0	3.29	5154315.11	9900.083051	916.5	false
PFDA_2	513.0 / 219.0	3.29	222545.27	10061.228876	1300.8	false
PFUnA_1	563.0 / 519.0	3.61	4906124.48	10005.181227	942.2	false
PFUnA_2	563.0 / 269.0	3.61	224016.84	9838.641041	1210.5	false
PFDaA_1	613.0 / 569.0	N/A	N/A	N/A	N/A	true
PFDaA_2	613.0 / 319.0	3.90	721128.31	9968.075720	902.2	false
PFTTrDA_1	663.0 / 619.0	4.15	3639563.44	10056.216508	1266.4	false
PFTTrDA_2	663.0 / 169.0	4.15	244873.13	9931.102282	1219.7	false
PFTeDA_1	713.0 / 669.0	4.37	3353181.97	9956.448059	2083.0	false
PFTeDA_2	713.0 / 169.0	4.37	173443.98	9880.071897	2295.5	false
NMeFOSAA_1	570.0 / 419.0	3.44	383221.95	9947.392138	1280.8	false
NMeFOSAA_2	570.0 / 512.0	3.44	244123.49	9944.631419	2965.8	false
NEtFOSAA_1	584.0 / 419.0	3.60	366832.70	9958.768055	838.6	false
NEtFOSAA_2	584.0 / 483.0	3.59	25110.34	10163.202939	753.4	false
13C2-PFHxA	315.0 / 270.0	1.79	55548.90	99.753955	861.1	false
13C2-PFDA	515.0 / 470.0	3.28	68464.96	99.688935	2578.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	21771.47	418.606431	314.4	false

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T15:56:59	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	10655.31	27.393553	229.8	false
PFBS_2	298.9 / 99.0	1.49	3719.24	27.020600	112.9	true
PFHxA_1	313.0 / 269.0	1.79	19298.24	19.480693	35.3	true
PFHxA_2	313.0 / 119.0	1.78	1266.78	< 0	18.1	true
PFHpA_1	363.0 / 319.0	2.15	14402.29	18.698129	46.2	false
PFHpA_2	363.0 / 169.0	2.17	388.69	< 0	17.3	true
PFHxS_1	399.0 / 80.0	2.16	11389.64	26.152103	133.5	false
PFHxS_2	399.0 / 99.0	2.16	4012.14	28.118093	97.3	false
PFOA_1	413.0 / 369.0	2.53	20076.17	4.517900	45.7	false
PFOA_2	413.0 / 169.0	2.53	2299.11	19.842198	38.7	true
PFNA_1	463.0 / 419.0	2.91	16407.40	8.045870	59.4	true
PFNA_2	463.0 / 219.0	2.90	5139.49	11.817119	45.8	false
PFOS_1	499.0 / 80.0	2.90	19816.52	20.755059	79.3	true
PFOS_2	499.0 / 99.0	2.90	3719.45	20.312327	53.7	true
PFDA_1	513.0 / 469.0	3.25	17932.26	22.062765	158.0	false
PFDA_2	513.0 / 219.0	3.25	1085.32	27.754301	68.2	false
PFUnA_1	563.0 / 519.0	3.57	18276.33	17.687486	122.6	false
PFUnA_2	563.0 / 269.0	3.57	1396.98	18.548120	60.2	true
PFDaA_1	613.0 / 569.0	3.86	15318.14	19.565065	127.0	false
PFDaA_2	613.0 / 319.0	3.86	2730.73	17.924870	137.6	true
PFTTrDA_1	663.0 / 619.0	4.10	13286.34	20.004559	283.5	false
PFTTrDA_2	663.0 / 169.0	4.10	886.14	18.301091	80.5	false
PFTeDA_1	713.0 / 669.0	4.32	10468.69	21.826692	283.1	false
PFTeDA_2	713.0 / 169.0	4.32	585.37	18.774312	101.1	false
NMeFOSAA_1	570.0 / 419.0	3.41	1676.30	21.242779	173.1	false
NMeFOSAA_2	570.0 / 512.0	3.41	732.38	19.274522	401.0	false
NEtFOSAA_1	584.0 / 419.0	3.57	1637.93	18.030119	160.0	false
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true
13C2-PFHxA	315.0 / 270.0	1.77	57879.61	98.532640	932.2	false
13C2-PFDA	515.0 / 470.0	3.24	71174.27	93.243494	2115.7	false
d5-EtFOSAA	589.0 / 419.0	3.55	34291.75	408.078198	438.7	false

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:05:55	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	19900.32	46.889529	373.5	false
PFBS_2	298.9 / 99.0	1.49	6707.47	47.117302	181.2	true
PFHxA_1	313.0 / 269.0	1.78	28831.72	41.390112	43.8	false
PFHxA_2	313.0 / 119.0	1.78	2633.08	38.146773	27.3	true
PFHpA_1	363.0 / 319.0	2.15	27392.80	47.505803	74.8	false
PFHpA_2	363.0 / 169.0	2.14	1068.42	35.744773	41.3	true
PFHxS_1	399.0 / 80.0	2.17	22279.82	46.382466	214.1	false
PFHxS_2	399.0 / 99.0	2.16	6671.17	45.336831	139.4	false
PFOA_1	413.0 / 369.0	2.53	36615.76	35.484677	71.5	false
PFOA_2	413.0 / 169.0	2.52	3413.43	47.227734	49.2	false
PFNA_1	463.0 / 419.0	2.91	31677.37	37.056095	102.0	false
PFNA_2	463.0 / 219.0	2.91	9205.88	38.251517	79.2	false
PFOS_1	499.0 / 80.0	2.91	38540.70	46.706486	106.1	true
PFOS_2	499.0 / 99.0	2.90	7284.31	46.519382	107.7	false
PFDA_1	513.0 / 469.0	3.26	29457.32	42.327099	187.7	false
PFDA_2	513.0 / 219.0	3.25	1629.08	49.570496	182.3	false
PFUnA_1	563.0 / 519.0	3.57	33436.44	43.751104	185.9	false
PFUnA_2	563.0 / 269.0	3.57	2179.48	46.257419	81.4	false
PFDaA_1	613.0 / 569.0	3.86	30558.71	49.202957	163.4	false
PFDaA_2	613.0 / 319.0	3.86	5052.25	45.899881	236.5	false
PFTTrDA_1	663.0 / 619.0	4.10	23667.34	44.721020	264.6	false
PFTTrDA_2	663.0 / 169.0	4.10	1848.51	50.114132	142.2	false
PFTeDA_1	713.0 / 669.0	4.32	18854.80	45.573571	430.0	false
PFTeDA_2	713.0 / 169.0	4.32	1227.51	51.182568	164.4	false
NMeFOSAA_1	570.0 / 419.0	3.41	2585.88	37.864410	248.4	false
NMeFOSAA_2	570.0 / 512.0	3.40	1440.36	39.129265	666.8	false
NEtFOSAA_1	584.0 / 419.0	3.57	2886.07	40.926887	3204.7	false
NEtFOSAA_2	584.0 / 483.0	3.55	450.52	63.492345	14556.9	false
13C2-PFHxA	315.0 / 270.0	1.77	56429.36	98.382487	783.2	false
13C2-PFDA	515.0 / 470.0	3.25	70955.59	95.200736	2545.4	false
d5-EtFOSAA	589.0 / 419.0	3.55	31875.63	387.157877	398.9	false

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:14:50	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	38701.02	92.026138	522.9	false
PFBS_2	298.9 / 99.0	1.49	12921.91	94.696119	260.9	false
PFHxA_1	313.0 / 269.0	1.78	57783.49	113.158846	55.9	false
PFHxA_2	313.0 / 119.0	1.78	4775.80	115.585376	39.4	false
PFHpA_1	363.0 / 319.0	2.15	52404.50	108.942235	95.7	false
PFHpA_2	363.0 / 169.0	2.14	1647.55	95.780326	47.2	false
PFHxS_1	399.0 / 80.0	2.17	48137.91	100.440506	267.5	false
PFHxS_2	399.0 / 99.0	2.17	13101.60	92.416366	167.2	false
PFOA_1	413.0 / 369.0	2.53	67987.58	100.655428	99.1	false
PFOA_2	413.0 / 169.0	2.53	4973.91	91.399213	63.3	false
PFNA_1	463.0 / 419.0	2.91	62620.91	101.955471	162.1	false
PFNA_2	463.0 / 219.0	2.91	17989.94	101.105745	102.0	false
PFOS_1	499.0 / 80.0	2.91	71330.33	98.924604	137.7	true
PFOS_2	499.0 / 99.0	2.91	12791.61	93.503763	185.2	false
PFDA_1	513.0 / 469.0	3.26	60744.36	102.109095	305.7	false
PFDA_2	513.0 / 219.0	3.26	2095.78	72.688978	143.3	false
PFUnA_1	563.0 / 519.0	3.57	65530.26	104.544704	251.9	false
PFUnA_2	563.0 / 269.0	3.57	3451.56	97.130141	138.9	false
PFDaA_1	613.0 / 569.0	3.86	53964.92	100.350072	249.4	false
PFDaA_2	613.0 / 319.0	3.86	9337.61	103.284389	229.0	false
PFTTrDA_1	663.0 / 619.0	4.11	46934.88	105.568996	499.4	false
PFTTrDA_2	663.0 / 169.0	4.11	3324.63	104.886431	165.3	false
PFTeDA_1	713.0 / 669.0	4.32	36282.50	100.019332	545.3	false
PFTeDA_2	713.0 / 169.0	4.32	2071.61	99.560809	202.5	false
NMeFOSAA_1	570.0 / 419.0	3.41	6442.51	121.195386	1779.0	false
NMeFOSAA_2	570.0 / 512.0	3.41	3948.46	122.730950	1222.4	false
NEtFOSAA_1	584.0 / 419.0	3.57	6427.33	119.782658	1786.3	false
NEtFOSAA_2	584.0 / 483.0	3.57	540.21	109.915328	76.6	false
13C2-PFHxA	315.0 / 270.0	1.77	52966.44	98.365048	783.0	false
13C2-PFDA	515.0 / 470.0	3.25	66079.54	94.438285	4006.6	false
d5-EtFOSAA	589.0 / 419.0	3.56	29988.19	413.614992	294.6	false

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:23:46	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	95046.91	207.211248	1205.5	false
PFBS_2	298.9 / 99.0	1.49	30400.30	208.158286	377.8	false
PFHxA_1	313.0 / 269.0	1.78	130368.19	261.379863	91.0	false
PFHxA_2	313.0 / 119.0	1.78	8618.21	224.411850	66.9	false
PFHpA_1	363.0 / 319.0	2.15	127643.36	261.525150	171.3	false
PFHpA_2	363.0 / 169.0	2.15	3878.01	278.194720	119.9	false
PFHxS_1	399.0 / 80.0	2.17	112686.29	216.499780	490.9	false
PFHxS_2	399.0 / 99.0	2.16	33431.42	219.623752	307.2	false
PFOA_1	413.0 / 369.0	2.53	157917.59	253.534108	141.2	false
PFOA_2	413.0 / 169.0	2.53	13923.20	290.422369	112.4	false
PFNA_1	463.0 / 419.0	2.91	152820.78	258.818237	246.9	false
PFNA_2	463.0 / 219.0	2.91	44582.26	258.883038	226.4	false
PFOS_1	499.0 / 80.0	2.91	177289.19	241.599926	201.7	true
PFOS_2	499.0 / 99.0	2.90	34137.44	246.605018	267.8	true
PFDA_1	513.0 / 469.0	3.25	164507.63	268.719365	394.2	false
PFDA_2	513.0 / 219.0	3.25	6525.09	234.791248	218.1	false
PFUnA_1	563.0 / 519.0	3.57	165430.09	261.766860	397.3	false
PFUnA_2	563.0 / 269.0	3.57	9489.05	291.566044	231.8	false
PFDaA_1	613.0 / 569.0	3.85	145753.93	265.391345	311.9	false
PFDaA_2	613.0 / 319.0	3.85	25029.34	277.333863	519.7	false
PFTTrDA_1	663.0 / 619.0	4.10	118382.53	261.015102	556.1	false
PFTTrDA_2	663.0 / 169.0	4.09	8507.64	262.940554	287.2	false
PFTeDA_1	713.0 / 669.0	4.31	99796.24	265.602258	928.0	false
PFTeDA_2	713.0 / 169.0	4.31	5554.80	262.365354	380.3	false
NMeFOSAA_1	570.0 / 419.0	3.40	14238.52	241.984085	319.8	false
NMeFOSAA_2	570.0 / 512.0	3.40	9688.07	264.451910	1542.4	false
NEtFOSAA_1	584.0 / 419.0	3.56	15574.54	266.379026	1166.9	false
NEtFOSAA_2	584.0 / 483.0	3.55	928.58	198.472491	414.9	false
13C2-PFHxA	315.0 / 270.0	1.77	56130.80	96.927288	889.0	false
13C2-PFDA	515.0 / 470.0	3.24	74157.78	98.546817	1678.6	false
d5-EtFOSAA	589.0 / 419.0	3.55	33030.30	399.315291	443.0	false

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:32:42	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	197116.01	418.262717	1403.8	false
PFBS_2	298.9 / 99.0	1.49	61960.78	415.892130	615.6	false
PFHxA_1	313.0 / 269.0	1.78	256323.41	546.021431	124.8	false
PFHxA_2	313.0 / 119.0	1.78	18093.90	531.730828	105.9	false
PFHpA_1	363.0 / 319.0	2.15	257882.47	551.200119	217.5	false
PFHpA_2	363.0 / 169.0	2.14	6970.66	557.974571	133.0	false
PFHxS_1	399.0 / 80.0	2.16	231189.76	432.653436	676.4	false
PFHxS_2	399.0 / 99.0	2.16	68263.42	439.488641	496.8	false
PFOA_1	413.0 / 369.0	2.52	333976.86	582.827884	206.5	false
PFOA_2	413.0 / 169.0	2.52	24448.22	545.941574	165.7	false
PFNA_1	463.0 / 419.0	2.90	311404.82	561.137352	436.7	false
PFNA_2	463.0 / 219.0	2.90	89043.58	547.865959	304.4	false
PFOS_1	499.0 / 80.0	2.90	344725.39	469.092652	242.0	true
PFOS_2	499.0 / 99.0	2.90	68514.79	494.624228	404.7	false
PFDA_1	513.0 / 469.0	3.25	321105.56	542.438364	539.9	false
PFDA_2	513.0 / 219.0	3.25	13920.18	525.887334	323.0	false
PFUnA_1	563.0 / 519.0	3.57	356411.53	589.639341	463.3	false
PFUnA_2	563.0 / 269.0	3.57	15968.53	520.256771	383.1	false
PFDaA_1	613.0 / 569.0	3.85	286254.63	540.382789	443.6	false
PFDaA_2	613.0 / 319.0	3.85	46863.34	541.645374	445.9	false
PFTTrDA_1	663.0 / 619.0	4.10	240659.20	551.802422	706.3	false
PFTTrDA_2	663.0 / 169.0	4.10	16530.70	530.506778	436.7	false
PFTeDA_1	713.0 / 669.0	4.32	196927.79	540.830859	906.6	false
PFTeDA_2	713.0 / 169.0	4.32	11235.95	551.238107	695.7	false
NMeFOSAA_1	570.0 / 419.0	3.40	32692.07	563.247797	1243.1	false
NMeFOSAA_2	570.0 / 512.0	3.40	20521.05	558.370243	928.5	false
NEtFOSAA_1	584.0 / 419.0	3.56	30428.25	528.390912	640.1	false
NEtFOSAA_2	584.0 / 483.0	3.55	1951.04	486.200743	114.6	false
13C2-PFHxA	315.0 / 270.0	1.77	58406.97	102.849459	1034.6	false
13C2-PFDA	515.0 / 470.0	3.24	76461.78	103.615029	1887.0	false
d5-EtFOSAA	589.0 / 419.0	3.55	32233.57	388.103778	432.9	false

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:41:38	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	289975.23	803.434167	1782.2	false
PFBS_2	298.9 / 99.0	1.50	90630.82	796.913918	706.9	false
PFHxA_1	313.0 / 269.0	1.79	379473.59	1122.311224	117.9	false
PFHxA_2	313.0 / 119.0	1.79	26324.70	1096.892416	113.6	false
PFHpA_1	363.0 / 319.0	2.16	371789.47	1092.752698	222.3	false
PFHpA_2	363.0 / 169.0	2.16	9980.55	1141.990615	187.7	false
PFHxS_1	399.0 / 80.0	2.17	345175.46	843.585082	858.8	false
PFHxS_2	399.0 / 99.0	2.17	101043.65	852.064854	515.6	false
PFOA_1	413.0 / 369.0	2.53	456038.83	1109.849942	255.7	false
PFOA_2	413.0 / 169.0	2.53	34292.64	1071.967441	175.0	false
PFNA_1	463.0 / 419.0	2.91	439040.95	1096.574071	431.1	false
PFNA_2	463.0 / 219.0	2.91	129999.72	1108.174450	269.7	false
PFOS_1	499.0 / 80.0	2.91	513778.90	924.512216	296.1	false
PFOS_2	499.0 / 99.0	2.91	95059.63	907.068587	418.8	false
PFDA_1	513.0 / 469.0	3.25	473697.84	1096.741658	503.5	false
PFDA_2	513.0 / 219.0	3.25	22718.73	1183.782780	496.1	false
PFUnA_1	563.0 / 519.0	3.57	499559.00	1135.794662	407.6	false
PFUnA_2	563.0 / 269.0	3.57	24939.39	1137.107009	423.5	false
PFDaA_1	613.0 / 569.0	3.85	419499.88	1086.563703	618.5	false
PFDaA_2	613.0 / 319.0	3.85	71723.25	1142.641663	525.7	false
PFTTrDA_1	663.0 / 619.0	4.10	346794.49	1091.763760	683.4	false
PFTTrDA_2	663.0 / 169.0	4.10	24517.46	1080.697381	501.2	false
PFTeDA_1	713.0 / 669.0	4.32	288733.51	1085.444497	1077.1	false
PFTeDA_2	713.0 / 169.0	4.31	16104.43	1084.270173	902.8	false
NMeFOSAA_1	570.0 / 419.0	3.40	46034.71	1122.220851	696.8	false
NMeFOSAA_2	570.0 / 512.0	3.40	27716.67	1060.318355	1048.9	false
NEtFOSAA_1	584.0 / 419.0	3.56	47477.39	1171.418171	787.2	false
NEtFOSAA_2	584.0 / 483.0	3.56	3224.20	1215.028952	70901.8	false
13C2-PFHxA	315.0 / 270.0	1.78	42777.74	102.517521	843.3	false
13C2-PFDA	515.0 / 470.0	3.25	55752.82	102.822498	2019.8	false
d5-EtFOSAA	589.0 / 419.0	3.55	25054.60	423.973567	473.7	false

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:50:33	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	740668.89	1868.537473	2303.8	false
PFBS_2	298.9 / 99.0	1.50	230601.80	1849.902141	997.8	false
PFHxA_1	313.0 / 269.0	1.78	983421.52	2557.128036	185.6	false
PFHxA_2	313.0 / 119.0	1.78	70590.63	2618.162982	170.3	false
PFHpA_1	363.0 / 319.0	2.15	970758.66	2496.496803	380.9	false
PFHpA_2	363.0 / 169.0	2.15	24393.67	2492.598199	284.1	false
PFHxS_1	399.0 / 80.0	2.17	927452.40	2063.920447	851.8	false
PFHxS_2	399.0 / 99.0	2.17	261105.26	2008.629735	613.8	false
PFOA_1	413.0 / 369.0	2.53	1191315.77	2561.329576	354.5	false
PFOA_2	413.0 / 169.0	2.53	93502.79	2587.129532	317.3	false
PFNA_1	463.0 / 419.0	2.91	1175125.86	2581.549586	742.8	false
PFNA_2	463.0 / 219.0	2.91	344039.01	2576.649125	568.3	false
PFOS_1	499.0 / 80.0	2.91	1384827.82	2286.664140	440.5	true
PFOS_2	499.0 / 99.0	2.90	258644.14	2265.442093	567.4	false
PFDA_1	513.0 / 469.0	3.25	1242004.90	2510.858769	717.2	false
PFDA_2	513.0 / 219.0	3.25	56083.35	2556.441014	570.0	false
PFUnA_1	563.0 / 519.0	3.57	1302428.15	2590.937164	794.0	false
PFUnA_2	563.0 / 269.0	3.57	65037.46	2614.435537	520.6	false
PFDaA_1	613.0 / 569.0	3.85	1129065.36	2555.438081	702.0	false
PFDaA_2	613.0 / 319.0	3.85	184228.87	2569.218739	920.6	false
PFTTrDA_1	663.0 / 619.0	4.10	950663.83	2616.880238	926.0	false
PFTTrDA_2	663.0 / 169.0	4.09	69220.97	2667.910720	753.2	false
PFTeDA_1	713.0 / 669.0	4.31	787676.15	2584.126579	1581.4	false
PFTeDA_2	713.0 / 169.0	4.31	43810.21	2578.415032	1056.2	false
NMeFOSAA_1	570.0 / 419.0	3.40	119632.26	2445.812515	1008.4	false
NMeFOSAA_2	570.0 / 512.0	3.40	78207.89	2500.506083	2113.0	false
NEtFOSAA_1	584.0 / 419.0	3.56	121148.02	2509.641043	752.1	false
NEtFOSAA_2	584.0 / 483.0	3.56	7174.19	2314.741428	491.3	false
13C2-PFHxA	315.0 / 270.0	1.77	49581.03	103.346932	871.0	false
13C2-PFDA	515.0 / 470.0	3.24	67342.09	108.021359	1600.0	false
d5-EtFOSAA	589.0 / 419.0	3.55	27178.19	384.282664	347.3	false

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:59:28	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	1665443.21	4273.703237	4649.3	false
PFBS_2	298.9 / 99.0	1.49	518659.08	4235.724968	1504.1	false
PFHxA_1	313.0 / 269.0	1.78	2111885.14	5022.438395	276.2	false
PFHxA_2	313.0 / 119.0	1.78	146367.99	4984.371407	246.5	false
PFHpA_1	363.0 / 319.0	2.15	2078243.67	4878.962862	590.5	false
PFHpA_2	363.0 / 169.0	2.15	50990.89	4797.716795	417.4	false
PFHxS_1	399.0 / 80.0	2.17	1902662.68	4308.056168	1028.2	false
PFHxS_2	399.0 / 99.0	2.16	557213.80	4363.948051	978.4	false
PFOA_1	413.0 / 369.0	2.53	2507835.17	4939.463705	527.8	false
PFOA_2	413.0 / 169.0	2.52	201231.30	5102.663940	505.3	false
PFNA_1	463.0 / 419.0	2.91	2371363.98	4762.909189	1078.3	false
PFNA_2	463.0 / 219.0	2.91	696682.18	4769.070166	823.5	false
PFOS_1	499.0 / 80.0	2.90	2646877.66	4458.817002	543.6	true
PFOS_2	499.0 / 99.0	2.90	531445.76	4749.704462	724.8	false
PFDA_1	513.0 / 469.0	3.25	2738704.60	5050.428162	973.0	false
PFDA_2	513.0 / 219.0	3.25	119377.01	4968.210316	768.6	false
PFUnA_1	563.0 / 519.0	3.57	2783209.79	5054.279289	895.8	false
PFUnA_2	563.0 / 269.0	3.57	136417.30	5019.965874	851.3	false
PFDaA_1	613.0 / 569.0	3.85	2411537.19	4979.570411	835.8	false
PFDaA_2	613.0 / 319.0	3.85	389918.14	4965.032102	806.5	false
PFTTrDA_1	663.0 / 619.0	4.10	1951761.57	4902.017993	1095.4	false
PFTTrDA_2	663.0 / 169.0	4.10	137995.29	4852.076904	1061.1	false
PFTeDA_1	713.0 / 669.0	4.32	1584380.79	4739.440475	1562.2	false
PFTeDA_2	713.0 / 169.0	4.31	90188.17	4842.748976	1609.7	false
NMeFOSAA_1	570.0 / 419.0	3.40	256451.85	4989.257664	977.3	false
NMeFOSAA_2	570.0 / 512.0	3.40	163939.23	4980.335647	917.3	false
NEtFOSAA_1	584.0 / 419.0	3.56	247347.58	4878.152696	992.5	false
NEtFOSAA_2	584.0 / 483.0	3.56	15788.66	4910.656437	407.8	false
13C2-PFHxA	315.0 / 270.0	1.77	53311.32	101.209894	952.4	false
13C2-PFDA	515.0 / 470.0	3.24	69860.30	102.064564	1344.1	false
d5-EtFOSAA	589.0 / 419.0	3.55	28522.10	383.153165	362.9	false

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:08:24	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	3841643.67	9454.591938	7497.6	false
PFBS_2	298.9 / 99.0	1.49	1214600.71	9516.624535	1991.4	false
PFHxA_1	313.0 / 269.0	1.77	4622863.02	9741.691400	327.9	false
PFHxA_2	313.0 / 119.0	1.77	323722.94	9790.698368	288.0	false
PFHpA_1	363.0 / 319.0	2.14	4796448.25	9968.916203	738.3	false
PFHpA_2	363.0 / 169.0	2.14	110436.98	9240.832815	539.0	false
PFHxS_1	399.0 / 80.0	2.16	4456684.09	9677.910011	1465.6	false
PFHxS_2	399.0 / 99.0	2.16	1286447.64	9665.973677	1255.6	false
PFOA_1	413.0 / 369.0	2.52	5619141.90	9816.854681	727.1	false
PFOA_2	413.0 / 169.0	2.52	429908.58	9668.406000	546.1	false
PFNA_1	463.0 / 419.0	2.90	4710167.58	8381.580322	1202.6	false
PFNA_2	463.0 / 219.0	2.90	1378381.27	8358.130767	775.9	false
PFOS_1	499.0 / 80.0	2.90	5830434.95	9433.077917	715.9	true
PFOS_2	499.0 / 99.0	2.90	1066786.07	9156.370140	1109.9	false
PFDA_1	513.0 / 469.0	3.25	5999087.38	9789.314721	1058.9	false
PFDA_2	513.0 / 219.0	3.25	266125.90	9805.873534	890.1	false
PFUnA_1	563.0 / 519.0	3.56	5988226.27	9626.599391	1096.8	false
PFUnA_2	563.0 / 269.0	3.56	296696.43	9679.733084	1120.7	false
PFDaA_1	613.0 / 569.0	3.85	5378287.86	9828.535576	1107.6	false
PFDaA_2	613.0 / 319.0	3.84	865869.05	9762.019119	1020.7	false
PFTTrDA_1	663.0 / 619.0	4.09	4422321.38	9831.225911	1322.2	false
PFTTrDA_2	663.0 / 169.0	4.09	316737.66	9857.566010	1276.6	false
PFTeDA_1	713.0 / 669.0	4.31	3793916.99	10042.135736	1688.2	false
PFTeDA_2	713.0 / 169.0	4.30	209067.94	9936.444669	1530.0	false
NMeFOSAA_1	570.0 / 419.0	3.39	565576.12	9882.174514	2049.6	false
NMeFOSAA_2	570.0 / 512.0	3.39	362373.93	9879.883026	1770.4	false
NEtFOSAA_1	584.0 / 419.0	3.55	558301.30	9892.278487	1255.6	false
NEtFOSAA_2	584.0 / 483.0	3.55	35995.43	10114.984621	768.6	false
13C2-PFHxA	315.0 / 270.0	1.77	58300.71	97.868730	1001.8	false
13C2-PFDA	515.0 / 470.0	3.23	78993.26	102.047219	3081.3	false
d5-EtFOSAA	589.0 / 419.0	3.54	34201.39	412.320469	522.1	false

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:35:13	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.450	0.348	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.090	0.074	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.310	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.120	0.081	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.220	0.189	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.060	0.048	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.19	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.19	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.33	NMeFOSAA	0.130	0.595	
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.170	0.085	
13C2-PFHxA	315.0 / 270.0	1.81				
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	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:44:07	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.390	0.348	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.82	PFHxA	0.080	0.074	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.310	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.180	0.189	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.040	0.048	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.18	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.18	PFTTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	PFTeDA	0.060	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.770	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.090	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.81				
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	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:53:02	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.400	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.260	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.160	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.050	0.042	ü
PFUnA_1	563.0 / 519.0	3.63	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.92	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.180	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.17	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.17	PFTTrDA	0.080	0.070	ü
PFTeDA_1	713.0 / 669.0	4.40	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.670	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.090	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:01:57	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.300	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.280	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.200	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.63	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.92	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.150	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.17	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.17	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.630	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.080	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:10:53	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.080	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.91	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.600	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:19:49	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.91	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.640	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
13C2-PFDA	515.0 / 470.0	3.29		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.60		N/A	N/A	ü

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:28:45	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.300	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.650	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:37:42	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.620	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:46:37	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	N/A	0.162	
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.640	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T15:56:59	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.349	0.323	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.066	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.352	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.115	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.313	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.188	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.061	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.076	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.178	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.067	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.437	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.066	
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:05:55	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.337	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.091	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.039	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.299	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.093	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.291	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.189	0.189	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.055	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.065	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.165	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.078	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.065	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.557	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.156	0.066	
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:14:50	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.334	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.083	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.031	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.272	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.073	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.287	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.179	0.189	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.035	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.053	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.173	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.11	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.11	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.613	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.084	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.56		N/A	N/A	ü

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:23:46	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.320	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.066	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.030	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.297	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.088	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.292	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.193	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.057	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.172	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.680	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.060	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:32:42	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.314	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.071	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.295	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.073	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.286	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.199	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.043	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.045	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.164	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.069	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.628	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.064	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:41:38	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.313	0.323	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.293	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.075	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.296	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.185	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.048	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.171	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.602	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.068	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.78				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:50:33	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.311	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.072	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.282	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.079	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.293	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.187	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.045	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.163	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.073	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.654	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.059	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:59:28	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.311	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.293	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.080	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.294	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.201	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.049	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.162	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.639	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.064	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:08:24	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.316	0.323	ü
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.14	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.023	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.289	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.077	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.293	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.183	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.56	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.161	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.055	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.39	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.641	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.065	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.23		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.54		N/A	N/A	ü

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:35:13	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.53	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFHxA_1	313.0 / 269.0	1.82	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFHxA_2	313.0 / 119.0	1.80	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFHpA_1	363.0 / 319.0	2.20	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFHpA_2	363.0 / 169.0	2.20	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFHxS_1	399.0 / 80.0	2.21	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFHxS_2	399.0 / 99.0	2.21	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFOA_2	413.0 / 169.0	2.57	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFNA_1	463.0 / 419.0	2.96	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFNA_2	463.0 / 219.0	2.96	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFOS_1	499.0 / 80.0	2.95	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	228307.87	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFDaA_2	613.0 / 319.0	3.93	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFTDA_1	663.0 / 619.0	4.19	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFTDA_2	663.0 / 169.0	4.19	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFTeDA_1	713.0 / 669.0	4.41	13C2-PFOA	415.0 / 370.0	62440.06	100.00
PFTeDA_2	713.0 / 169.0	4.41	13C2-PFOA	415.0 / 370.0	62440.06	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	19141.83	400.00
NMeFOSAA_2	570.0 / 512.0	3.33	d3-MeFOSAA	573.0 / 419.0	19141.83	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	19141.83	400.00
NEtFOSAA_2	584.0 / 483.0	3.62	d3-MeFOSAA	573.0 / 419.0	19141.83	400.00
13C2-PFHxA	315.0 / 270.0	1.81	13C2-PFOA	415.0 / 370.0	62440.06	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	62440.06	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	19141.83	400.00

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:44:07	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFBS_2	298.9 / 99.0	1.52	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFHxA_1	313.0 / 269.0	1.82	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFHxA_2	313.0 / 119.0	1.82	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFHpA_1	363.0 / 319.0	2.19	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFHxS_1	399.0 / 80.0	2.21	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFOA_2	413.0 / 169.0	2.57	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFNA_1	463.0 / 419.0	2.95	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFNA_2	463.0 / 219.0	2.95	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFOS_2	499.0 / 99.0	2.95	13C4-PFOS	503.0 / 80.0	229395.98	287.00
PFDA_1	513.0 / 469.0	3.31	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFDA_2	513.0 / 219.0	3.30	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFUnA_1	563.0 / 519.0	3.64	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFUnA_2	563.0 / 269.0	3.64	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFDaA_1	613.0 / 569.0	3.93	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFDaA_2	613.0 / 319.0	3.92	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFTDA_1	663.0 / 619.0	4.18	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFTDA_2	663.0 / 169.0	4.18	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFTeDA_1	713.0 / 669.0	4.41	13C2-PFOA	415.0 / 370.0	55877.57	100.00
PFTeDA_2	713.0 / 169.0	4.40	13C2-PFOA	415.0 / 370.0	55877.57	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	19490.78	400.00
NMeFOSAA_2	570.0 / 512.0	3.46	d3-MeFOSAA	573.0 / 419.0	19490.78	400.00
NEtFOSAA_1	584.0 / 419.0	3.63	d3-MeFOSAA	573.0 / 419.0	19490.78	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	19490.78	400.00
13C2-PFHxA	315.0 / 270.0	1.81	13C2-PFOA	415.0 / 370.0	55877.57	100.00
13C2-PFDA	515.0 / 470.0	3.30	13C2-PFOA	415.0 / 370.0	55877.57	100.00
d5-EtFOSAA	589.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	19490.78	400.00

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:53:02	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFHpA_1	363.0 / 319.0	2.19	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFHpA_2	363.0 / 169.0	2.19	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFOA_2	413.0 / 169.0	2.57	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFNA_1	463.0 / 419.0	2.95	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFNA_2	463.0 / 219.0	2.95	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFOS_2	499.0 / 99.0	2.94	13C4-PFOS	503.0 / 80.0	222081.65	287.00
PFDA_1	513.0 / 469.0	3.30	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFDA_2	513.0 / 219.0	3.31	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFUnA_1	563.0 / 519.0	3.63	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFUnA_2	563.0 / 269.0	3.63	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFDaA_1	613.0 / 569.0	3.92	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFDaA_2	613.0 / 319.0	3.92	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFTTrDA_1	663.0 / 619.0	4.17	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFTTrDA_2	663.0 / 169.0	4.17	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFTeDA_1	713.0 / 669.0	4.40	13C2-PFOA	415.0 / 370.0	57703.53	100.00
PFTeDA_2	713.0 / 169.0	4.40	13C2-PFOA	415.0 / 370.0	57703.53	100.00
NMeFOSAA_1	570.0 / 419.0	3.46	d3-MeFOSAA	573.0 / 419.0	18567.17	400.00
NMeFOSAA_2	570.0 / 512.0	3.46	d3-MeFOSAA	573.0 / 419.0	18567.17	400.00
NEtFOSAA_1	584.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	18567.17	400.00
NEtFOSAA_2	584.0 / 483.0	3.61	d3-MeFOSAA	573.0 / 419.0	18567.17	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	57703.53	100.00
13C2-PFDA	515.0 / 470.0	3.29	13C2-PFOA	415.0 / 370.0	57703.53	100.00
d5-EtFOSAA	589.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	18567.17	400.00

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:01:57	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFHpA_2	363.0 / 169.0	2.19	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFOA_1	413.0 / 369.0	2.57	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFOA_2	413.0 / 169.0	2.57	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFNA_1	463.0 / 419.0	2.95	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFNA_2	463.0 / 219.0	2.95	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFOS_2	499.0 / 99.0	2.94	13C4-PFOS	503.0 / 80.0	233939.96	287.00
PFDA_1	513.0 / 469.0	3.30	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFDA_2	513.0 / 219.0	3.30	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFUnA_1	563.0 / 519.0	3.63	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFUnA_2	563.0 / 269.0	3.63	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFDaA_1	613.0 / 569.0	3.92	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFDaA_2	613.0 / 319.0	3.92	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFTDA_1	663.0 / 619.0	4.17	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFTDA_2	663.0 / 169.0	4.17	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFTeDA_1	713.0 / 669.0	4.39	13C2-PFOA	415.0 / 370.0	58253.21	100.00
PFTeDA_2	713.0 / 169.0	4.39	13C2-PFOA	415.0 / 370.0	58253.21	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	19806.14	400.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	19806.14	400.00
NEtFOSAA_1	584.0 / 419.0	3.62	d3-MeFOSAA	573.0 / 419.0	19806.14	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	19806.14	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	58253.21	100.00
13C2-PFDA	515.0 / 470.0	3.29	13C2-PFOA	415.0 / 370.0	58253.21	100.00
d5-EtFOSAA	589.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	19806.14	400.00

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:10:53	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFBS_2	298.9 / 99.0	1.52	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFNA_1	463.0 / 419.0	2.95	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFOS_2	499.0 / 99.0	2.94	13C4-PFOS	503.0 / 80.0	219992.23	287.00
PFDA_1	513.0 / 469.0	3.30	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFDA_2	513.0 / 219.0	3.30	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFUnA_1	563.0 / 519.0	3.62	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFUnA_2	563.0 / 269.0	3.62	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFDaA_1	613.0 / 569.0	3.91	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFDaA_2	613.0 / 319.0	3.91	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFTTrDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFTTrDA_2	663.0 / 169.0	4.16	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFTeDA_1	713.0 / 669.0	4.39	13C2-PFOA	415.0 / 370.0	57559.12	100.00
PFTeDA_2	713.0 / 169.0	4.39	13C2-PFOA	415.0 / 370.0	57559.12	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	20572.46	400.00
NMeFOSAA_2	570.0 / 512.0	3.45	d3-MeFOSAA	573.0 / 419.0	20572.46	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	20572.46	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	20572.46	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	57559.12	100.00
13C2-PFDA	515.0 / 470.0	3.29	13C2-PFOA	415.0 / 370.0	57559.12	100.00
d5-EtFOSAA	589.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	20572.46	400.00

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:19:49	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFBS_2	298.9 / 99.0	1.52	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFOS_2	499.0 / 99.0	2.94	13C4-PFOS	503.0 / 80.0	220247.15	287.00
PFDA_1	513.0 / 469.0	3.30	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFUnA_1	563.0 / 519.0	3.62	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFUnA_2	563.0 / 269.0	3.62	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFDaA_1	613.0 / 569.0	3.91	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFDaA_2	613.0 / 319.0	3.91	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFTTrDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFTTrDA_2	663.0 / 169.0	4.16	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFOA	415.0 / 370.0	59952.37	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFOA	415.0 / 370.0	59952.37	100.00
NMeFOSAA_1	570.0 / 419.0	3.45	d3-MeFOSAA	573.0 / 419.0	19686.78	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	19686.78	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	19686.78	400.00
NEtFOSAA_2	584.0 / 483.0	3.61	d3-MeFOSAA	573.0 / 419.0	19686.78	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	59952.37	100.00
13C2-PFDA	515.0 / 470.0	3.29	13C2-PFOA	415.0 / 370.0	59952.37	100.00
d5-EtFOSAA	589.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	19686.78	400.00

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:28:45	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFBS_2	298.9 / 99.0	1.52	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	220249.66	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFUnA_1	563.0 / 519.0	3.62	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFUnA_2	563.0 / 269.0	3.62	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFTDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFTDA_2	663.0 / 169.0	4.16	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFOA	415.0 / 370.0	58592.96	100.00
PFTeDA_2	713.0 / 169.0	4.38	13C2-PFOA	415.0 / 370.0	58592.96	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	19836.25	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	19836.25	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	19836.25	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	19836.25	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	58592.96	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	58592.96	100.00
d5-EtFOSAA	589.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	19836.25	400.00

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:37:42	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.52	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFBS_2	298.9 / 99.0	1.52	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFHxA_1	313.0 / 269.0	1.81	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFHxA_2	313.0 / 119.0	1.81	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFHpA_2	363.0 / 169.0	2.18	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFOS_1	499.0 / 80.0	2.94	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFOS_2	499.0 / 99.0	2.94	13C4-PFOS	503.0 / 80.0	183941.38	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFUnA_1	563.0 / 519.0	3.62	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFUnA_2	563.0 / 269.0	3.62	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFTDA_1	663.0 / 619.0	4.16	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFTDA_2	663.0 / 169.0	4.15	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFTeDA_1	713.0 / 669.0	4.38	13C2-PFOA	415.0 / 370.0	51435.00	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFOA	415.0 / 370.0	51435.00	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	16686.42	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	16686.42	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	16686.42	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	16686.42	400.00
13C2-PFHxA	315.0 / 270.0	1.80	13C2-PFOA	415.0 / 370.0	51435.00	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	51435.00	100.00
d5-EtFOSAA	589.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	16686.42	400.00

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:46:37	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFHxA_1	313.0 / 269.0	1.80	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFHxA_2	313.0 / 119.0	1.80	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFHpA_1	363.0 / 319.0	2.17	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFHxS_2	399.0 / 99.0	2.19	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFNA_2	463.0 / 219.0	2.93	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	219730.99	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFDaA_1	613.0 / 569.0	N/A	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFTDA_1	663.0 / 619.0	4.15	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFTDA_2	663.0 / 169.0	4.15	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFOA	415.0 / 370.0	63191.48	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFOA	415.0 / 370.0	63191.48	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	20554.11	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	20554.11	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	20554.11	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	20554.11	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	63191.48	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	63191.48	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	20554.11	400.00

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T15:56:59	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFHxA_1	313.0 / 269.0	1.79	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	227620.35	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFDaA_1	613.0 / 569.0	3.86	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFDaA_2	613.0 / 319.0	3.86	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFTDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFTDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	72492.43	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	72492.43	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	30839.15	400.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	30839.15	400.00
NEtFOSAA_1	584.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	30839.15	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	30839.15	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	72492.43	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	72492.43	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	30839.15	400.00

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:05:55	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFHpA_2	363.0 / 169.0	2.14	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	224024.95	287.00
PFDA_1	513.0 / 469.0	3.26	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFDaA_1	613.0 / 569.0	3.86	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFDaA_2	613.0 / 319.0	3.86	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFTDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFTDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	70783.89	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	70783.89	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	30215.30	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	30215.30	400.00
NEtFOSAA_1	584.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	30215.30	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	30215.30	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	70783.89	100.00
13C2-PFDA	515.0 / 470.0	3.25	13C2-PFOA	415.0 / 370.0	70783.89	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	30215.30	400.00

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:14:50	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFHpA_2	363.0 / 169.0	2.14	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFHxS_2	399.0 / 99.0	2.17	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	207944.48	287.00
PFDA_1	513.0 / 469.0	3.26	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFDA_2	513.0 / 219.0	3.26	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFDaA_1	613.0 / 569.0	3.86	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFDaA_2	613.0 / 319.0	3.86	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFTTrDA_1	663.0 / 619.0	4.11	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFTTrDA_2	663.0 / 169.0	4.11	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	66451.85	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	66451.85	100.00
NMeFOSAA_1	570.0 / 419.0	3.41	d3-MeFOSAA	573.0 / 419.0	26607.87	400.00
NMeFOSAA_2	570.0 / 512.0	3.41	d3-MeFOSAA	573.0 / 419.0	26607.87	400.00
NEtFOSAA_1	584.0 / 419.0	3.57	d3-MeFOSAA	573.0 / 419.0	26607.87	400.00
NEtFOSAA_2	584.0 / 483.0	3.57	d3-MeFOSAA	573.0 / 419.0	26607.87	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	66451.85	100.00
13C2-PFDA	515.0 / 470.0	3.25	13C2-PFOA	415.0 / 370.0	66451.85	100.00
d5-EtFOSAA	589.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	26607.87	400.00

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:23:46	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFHpA_2	363.0 / 169.0	2.15	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	218817.09	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFDaA_2	613.0 / 319.0	3.85	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFTTrDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFTTrDA_2	663.0 / 169.0	4.09	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	71466.46	100.00
PFTeDA_2	713.0 / 169.0	4.31	13C2-PFOA	415.0 / 370.0	71466.46	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	30356.57	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	30356.57	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	30356.57	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	30356.57	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	71466.46	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	71466.46	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	30356.57	400.00

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:32:42	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFHpA_2	363.0 / 169.0	2.14	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFNA_1	463.0 / 419.0	2.90	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	221668.16	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFDaA_2	613.0 / 319.0	3.85	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFTTrDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFTTrDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	70082.54	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	70082.54	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	30480.13	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	30480.13	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	30480.13	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	30480.13	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	70082.54	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	70082.54	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	30480.13	400.00

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:41:38	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFBS_2	298.9 / 99.0	1.50	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFHxA_1	313.0 / 269.0	1.79	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFHxA_2	313.0 / 119.0	1.79	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFHpA_1	363.0 / 319.0	2.16	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFHpA_2	363.0 / 169.0	2.16	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFHxS_2	399.0 / 99.0	2.17	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFOS_2	499.0 / 99.0	2.91	13C4-PFOS	503.0 / 80.0	168650.41	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFDaA_2	613.0 / 319.0	3.85	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFTDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFTDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	51495.21	100.00
PFTeDA_2	713.0 / 169.0	4.31	13C2-PFOA	415.0 / 370.0	51495.21	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	21687.27	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	21687.27	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	21687.27	400.00
NEtFOSAA_2	584.0 / 483.0	3.56	d3-MeFOSAA	573.0 / 419.0	21687.27	400.00
13C2-PFHxA	315.0 / 270.0	1.78	13C2-PFOA	415.0 / 370.0	51495.21	100.00
13C2-PFDA	515.0 / 470.0	3.25	13C2-PFOA	415.0 / 370.0	51495.21	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	21687.27	400.00

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:50:33	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFBS_2	298.9 / 99.0	1.50	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFHpA_2	363.0 / 169.0	2.15	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFHxS_2	399.0 / 99.0	2.17	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFOA_2	413.0 / 169.0	2.53	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFOS_1	499.0 / 80.0	2.91	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	184476.89	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFDaA_2	613.0 / 319.0	3.85	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFTDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFTDA_2	663.0 / 169.0	4.09	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	59205.92	100.00
PFTeDA_2	713.0 / 169.0	4.31	13C2-PFOA	415.0 / 370.0	59205.92	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	25955.29	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	25955.29	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	25955.29	400.00
NEtFOSAA_2	584.0 / 483.0	3.56	d3-MeFOSAA	573.0 / 419.0	25955.29	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	59205.92	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	59205.92	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	25955.29	400.00

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:59:28	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFHpA_2	363.0 / 169.0	2.15	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFHxS_1	399.0 / 80.0	2.17	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFOA_1	413.0 / 369.0	2.53	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFNA_2	463.0 / 219.0	2.91	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	181051.18	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFUnA_2	563.0 / 269.0	3.57	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFDaA_2	613.0 / 319.0	3.85	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFTDA_1	663.0 / 619.0	4.10	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFTDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFTeDA_1	713.0 / 669.0	4.32	13C2-PFOA	415.0 / 370.0	65004.53	100.00
PFTeDA_2	713.0 / 169.0	4.31	13C2-PFOA	415.0 / 370.0	65004.53	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	27319.03	400.00
NMeFOSAA_2	570.0 / 512.0	3.40	d3-MeFOSAA	573.0 / 419.0	27319.03	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	27319.03	400.00
NEtFOSAA_2	584.0 / 483.0	3.56	d3-MeFOSAA	573.0 / 419.0	27319.03	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	65004.53	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	65004.53	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	27319.03	400.00

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:08:24	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFHxA_1	313.0 / 269.0	1.77	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFHxA_2	313.0 / 119.0	1.77	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFHpA_1	363.0 / 319.0	2.14	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFHpA_2	363.0 / 169.0	2.14	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFNA_1	463.0 / 419.0	2.90	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	188640.06	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFUnA_1	563.0 / 519.0	3.56	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFUnA_2	563.0 / 269.0	3.56	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFDaA_2	613.0 / 319.0	3.84	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFTTrDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFTTrDA_2	663.0 / 169.0	4.09	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	73515.18	100.00
PFTeDA_2	713.0 / 169.0	4.30	13C2-PFOA	415.0 / 370.0	73515.18	100.00
NMeFOSAA_1	570.0 / 419.0	3.39	d3-MeFOSAA	573.0 / 419.0	30441.43	400.00
NMeFOSAA_2	570.0 / 512.0	3.39	d3-MeFOSAA	573.0 / 419.0	30441.43	400.00
NEtFOSAA_1	584.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	30441.43	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	30441.43	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	73515.18	100.00
13C2-PFDA	515.0 / 470.0	3.23	13C2-PFOA	415.0 / 370.0	73515.18	100.00
d5-EtFOSAA	589.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	30441.43	400.00

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	793.574603	885.00	89.67
PFBS_2	298.9 / 99.0	1.51	769.642119	885.00	86.97
PFHxA_1	313.0 / 269.0	1.80	1018.100502	1000.00	101.81
PFHxA_2	313.0 / 119.0	1.80	1012.319222	1000.00	101.23
PFHpA_1	363.0 / 319.0	2.18	959.155957	1000.00	95.92
PFHpA_2	363.0 / 169.0	2.17	1113.702054	1000.00	111.37
PFHxS_1	399.0 / 80.0	2.20	881.597901	912.00	96.67
PFHxS_2	399.0 / 99.0	2.20	866.398530	912.00	95.00
PFOA_1	413.0 / 369.0	2.56	1037.547517	1000.00	103.75
PFOA_2	413.0 / 169.0	2.56	1036.611126	1000.00	103.66
PFNA_1	463.0 / 419.0	2.94	1074.057416	1000.00	107.41
PFNA_2	463.0 / 219.0	2.94	1060.884614	1000.00	106.09
PFOS_1	499.0 / 80.0	2.93	880.871247	925.60	95.17
PFOS_2	499.0 / 99.0	2.93	1045.190764	925.60	112.92
PFDA_1	513.0 / 469.0	3.29	1010.012373	1000.00	101.00
PFDA_2	513.0 / 219.0	3.29	987.298399	1000.00	98.73
PFUnA_1	563.0 / 519.0	3.61	1013.665796	1000.00	101.37
PFUnA_2	563.0 / 269.0	3.61	922.037253	1000.00	92.20
PFDoA_1	613.0 / 569.0	3.90	958.212573	1000.00	95.82
PFDoA_2	613.0 / 319.0	3.90	1027.078353	1000.00	102.71
PFTTrDA_1	663.0 / 619.0	4.15	988.442892	1000.00	98.84
PFTTrDA_2	663.0 / 169.0	4.15	1021.107818	1000.00	102.11
PFTeDA_1	713.0 / 669.0	4.37	973.989052	1000.00	97.40
PFTeDA_2	713.0 / 169.0	4.37	999.759291	1000.00	99.98
NMeFOSAA_1	570.0 / 419.0	3.44	1153.811224	1000.00	115.38
NMeFOSAA_2	570.0 / 512.0	3.44	992.349594	1000.00	99.23
NEtFOSAA_1	584.0 / 419.0	3.61	1207.482264	1000.00	120.75
NEtFOSAA_2	584.0 / 483.0	3.61	1009.438632	1000.00	100.94
13C2-PFHxA	315.0 / 270.0	1.79	98.371105	100.00	98.37
13C2-PFDA	515.0 / 470.0	3.28	100.036860	100.00	100.04
d5-EtFOSAA	589.0 / 419.0	3.59	427.962128	400.00	106.99

Sample Name	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	2044.026438	2212.50	92.39
PFBS_2	298.9 / 99.0	1.51	2007.699514	2212.50	90.74
PFHxA_1	313.0 / 269.0	1.80	2585.686617	2500.00	103.43
PFHxA_2	313.0 / 119.0	1.80	2579.596147	2500.00	103.18
PFHpA_1	363.0 / 319.0	2.17	2500.705265	2500.00	100.03
PFHpA_2	363.0 / 169.0	2.17	2581.334746	2500.00	103.25
PFHxS_1	399.0 / 80.0	2.19	2023.096588	2280.00	88.73
PFHxS_2	399.0 / 99.0	2.19	1993.294941	2280.00	87.43
PFOA_1	413.0 / 369.0	2.55	2634.727678	2500.00	105.39
PFOA_2	413.0 / 169.0	2.55	2617.108947	2500.00	104.68
PFNA_1	463.0 / 419.0	2.93	2740.049145	2500.00	109.60
PFNA_2	463.0 / 219.0	2.93	2650.247172	2500.00	106.01
PFOS_1	499.0 / 80.0	2.93	2254.828613	2314.00	97.44
PFOS_2	499.0 / 99.0	2.93	2300.286107	2314.00	99.41
PFDA_1	513.0 / 469.0	3.29	2566.796033	2500.00	102.67
PFDA_2	513.0 / 219.0	3.29	2736.385085	2500.00	109.46
PFUnA_1	563.0 / 519.0	3.61	2636.595000	2500.00	105.46
PFUnA_2	563.0 / 269.0	3.61	2849.125002	2500.00	113.97
PFDoA_1	613.0 / 569.0	3.90	2603.869561	2500.00	104.15
PFDoA_2	613.0 / 319.0	3.89	2714.964393	2500.00	108.60
PFTTrDA_1	663.0 / 619.0	4.14	2540.342780	2500.00	101.61
PFTTrDA_2	663.0 / 169.0	4.14	2574.955448	2500.00	103.00
PFTeDA_1	713.0 / 669.0	4.37	2505.555739	2500.00	100.22
PFTeDA_2	713.0 / 169.0	4.36	2552.179486	2500.00	102.09
NMeFOSAA_1	570.0 / 419.0	3.43	2375.421810	2500.00	95.02
NMeFOSAA_2	570.0 / 512.0	3.43	2502.487825	2500.00	100.10
NEtFOSAA_1	584.0 / 419.0	3.60	2388.734008	2500.00	95.55
NEtFOSAA_2	584.0 / 483.0	3.59	2452.696595	2500.00	98.11
13C2-PFHxA	315.0 / 270.0	1.79	105.976898	100.00	105.98
13C2-PFDA	515.0 / 470.0	3.27	103.265553	100.00	103.27
d5-EtFOSAA	589.0 / 419.0	3.59	403.061356	400.00	100.77

Sample Name	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	848.666902	885.00	95.89
PFBS_2	298.9 / 99.0	1.51	819.191395	885.00	92.56
PFHxA_1	313.0 / 269.0	1.80	1073.500856	1000.00	107.35
PFHxA_2	313.0 / 119.0	1.80	1032.139668	1000.00	103.21
PFHpA_1	363.0 / 319.0	2.18	1039.505680	1000.00	103.95
PFHpA_2	363.0 / 169.0	2.17	1034.172136	1000.00	103.42
PFHxS_1	399.0 / 80.0	2.19	899.571302	912.00	98.64
PFHxS_2	399.0 / 99.0	2.19	889.349531	912.00	97.52
PFOA_1	413.0 / 369.0	2.56	1076.085208	1000.00	107.61
PFOA_2	413.0 / 169.0	2.55	1109.451713	1000.00	110.95
PFNA_1	463.0 / 419.0	2.94	1137.170707	1000.00	113.72
PFNA_2	463.0 / 219.0	2.94	1112.099827	1000.00	111.21
PFOS_1	499.0 / 80.0	2.93	921.458055	925.60	99.55
PFOS_2	499.0 / 99.0	2.93	930.752209	925.60	100.56
PFDA_1	513.0 / 469.0	3.29	1046.885844	1000.00	104.69
PFDA_2	513.0 / 219.0	3.29	1022.353524	1000.00	102.24
PFUnA_1	563.0 / 519.0	3.61	1056.715112	1000.00	105.67
PFUnA_2	563.0 / 269.0	3.61	1140.932472	1000.00	114.09
PFDoA_1	613.0 / 569.0	3.89	1043.116204	1000.00	104.31
PFDoA_2	613.0 / 319.0	3.89	1040.113473	1000.00	104.01
PFTTrDA_1	663.0 / 619.0	4.14	1031.482373	1000.00	103.15
PFTTrDA_2	663.0 / 169.0	4.14	1118.351408	1000.00	111.84
PFTeDA_1	713.0 / 669.0	4.36	975.694994	1000.00	97.57
PFTeDA_2	713.0 / 169.0	4.36	1010.428168	1000.00	101.04
NMeFOSAA_1	570.0 / 419.0	3.44	1008.970789	1000.00	100.90
NMeFOSAA_2	570.0 / 512.0	3.43	1001.676048	1000.00	100.17
NEtFOSAA_1	584.0 / 419.0	3.60	1018.431712	1000.00	101.84
NEtFOSAA_2	584.0 / 483.0	3.60	802.707296	1000.00	80.27
13C2-PFHxA	315.0 / 270.0	1.79	98.713291	100.00	98.71
13C2-PFDA	515.0 / 470.0	3.28	92.390472	100.00	92.39
d5-EtFOSAA	589.0 / 419.0	3.59	341.843149	400.00	85.46

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.49	764.195433	885.00	86.35
PFBS_2	298.9 / 99.0	1.49	768.129853	885.00	86.79
PFHxA_1	313.0 / 269.0	1.78	1039.974979	1000.00	104.00
PFHxA_2	313.0 / 119.0	1.78	1014.186821	1000.00	101.42
PFHpA_1	363.0 / 319.0	2.15	984.651673	1000.00	98.47
PFHpA_2	363.0 / 169.0	2.15	981.250449	1000.00	98.13
PFHxS_1	399.0 / 80.0	2.16	843.678598	912.00	92.51
PFHxS_2	399.0 / 99.0	2.16	840.590435	912.00	92.17
PFOA_1	413.0 / 369.0	2.52	1026.485448	1000.00	102.65
PFOA_2	413.0 / 169.0	2.52	1063.646029	1000.00	106.36
PFNA_1	463.0 / 419.0	2.91	1007.157655	1000.00	100.72
PFNA_2	463.0 / 219.0	2.90	992.270751	1000.00	99.23
PFOS_1	499.0 / 80.0	2.90	838.041622	925.60	90.54
PFOS_2	499.0 / 99.0	2.90	942.152450	925.60	101.79
PFDA_1	513.0 / 469.0	3.25	1011.749278	1000.00	101.17
PFDA_2	513.0 / 219.0	3.25	995.539967	1000.00	99.55
PFUnA_1	563.0 / 519.0	3.57	995.783257	1000.00	99.58
PFUnA_2	563.0 / 269.0	3.56	1003.286043	1000.00	100.33
PFDoA_1	613.0 / 569.0	3.84	1011.645081	1000.00	101.16
PFDoA_2	613.0 / 319.0	3.84	1008.446784	1000.00	100.84
PFTTrDA_1	663.0 / 619.0	4.09	1014.244161	1000.00	101.42
PFTTrDA_2	663.0 / 169.0	4.09	1025.531189	1000.00	102.55
PFTeDA_1	713.0 / 669.0	4.31	1023.764271	1000.00	102.38
PFTeDA_2	713.0 / 169.0	4.30	1017.861539	1000.00	101.79
NMeFOSAA_1	570.0 / 419.0	3.40	1052.530789	1000.00	105.25
NMeFOSAA_2	570.0 / 512.0	3.39	958.683231	1000.00	95.87
NEtFOSAA_1	584.0 / 419.0	3.55	1115.703629	1000.00	111.57
NEtFOSAA_2	584.0 / 483.0	3.55	711.649311	1000.00	71.16
13C2-PFHxA	315.0 / 270.0	1.77	103.248424	100.00	103.25
13C2-PFDA	515.0 / 470.0	3.24	104.452092	100.00	104.45
d5-EtFOSAA	589.0 / 419.0	3.55	407.621625	400.00	101.91

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.50	859.548636	885.00	97.12
PFBS_2	298.9 / 99.0	1.50	864.819233	885.00	97.72
PFHxA_1	313.0 / 269.0	1.78	1074.695217	1000.00	107.47
PFHxA_2	313.0 / 119.0	1.78	1064.303882	1000.00	106.43
PFHpA_1	363.0 / 319.0	2.15	1044.962368	1000.00	104.50
PFHpA_2	363.0 / 169.0	2.15	1004.606377	1000.00	100.46
PFHxS_1	399.0 / 80.0	2.16	884.985404	912.00	97.04
PFHxS_2	399.0 / 99.0	2.16	847.138055	912.00	92.89
PFOA_1	413.0 / 369.0	2.52	1032.121467	1000.00	103.21
PFOA_2	413.0 / 169.0	2.52	1084.285333	1000.00	108.43
PFNA_1	463.0 / 419.0	2.90	1014.733483	1000.00	101.47
PFNA_2	463.0 / 219.0	2.90	1009.872349	1000.00	100.99
PFOS_1	499.0 / 80.0	2.90	930.895837	925.60	100.57
PFOS_2	499.0 / 99.0	2.90	958.065161	925.60	103.51
PFDA_1	513.0 / 469.0	3.24	1047.007376	1000.00	104.70
PFDA_2	513.0 / 219.0	3.24	1049.109767	1000.00	104.91
PFUnA_1	563.0 / 519.0	3.56	1047.457868	1000.00	104.75
PFUnA_2	563.0 / 269.0	3.56	1028.793183	1000.00	102.88
PFDoA_1	613.0 / 569.0	3.84	1039.542751	1000.00	103.95
PFDoA_2	613.0 / 319.0	3.84	1023.993208	1000.00	102.40
PFTTrDA_1	663.0 / 619.0	4.09	1093.978515	1000.00	109.40
PFTTrDA_2	663.0 / 169.0	4.09	1091.794361	1000.00	109.18
PFTeDA_1	713.0 / 669.0	4.30	1054.652936	1000.00	105.47
PFTeDA_2	713.0 / 169.0	4.30	1068.686879	1000.00	106.87
NMeFOSAA_1	570.0 / 419.0	3.39	1057.043804	1000.00	105.70
NMeFOSAA_2	570.0 / 512.0	3.39	1015.585330	1000.00	101.56
NEtFOSAA_1	584.0 / 419.0	3.55	1038.252708	1000.00	103.83
NEtFOSAA_2	584.0 / 483.0	3.55	904.965761	1000.00	90.50
13C2-PFHxA	315.0 / 270.0	1.77	101.690626	100.00	101.69
13C2-PFDA	515.0 / 470.0	3.23	94.532972	100.00	94.53
d5-EtFOSAA	589.0 / 419.0	3.54	398.862360	400.00	99.72

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	304722.47	793.574603	1739.4	false
PFBS_2	298.9 / 99.0	1.51	93623.47	769.642119	643.1	false
PFHxA_1	313.0 / 269.0	1.80	392304.78	1018.100502	146.2	false
PFHxA_2	313.0 / 119.0	1.80	28004.03	1012.319222	116.0	false
PFHpA_1	363.0 / 319.0	2.18	360053.78	959.155957	240.7	false
PFHpA_2	363.0 / 169.0	2.17	10090.48	1113.702054	213.7	false
PFHxS_1	399.0 / 80.0	2.20	374958.38	881.597901	696.9	false
PFHxS_2	399.0 / 99.0	2.20	106520.01	866.398530	429.3	false
PFOA_1	413.0 / 369.0	2.56	439169.99	1037.547517	257.6	false
PFOA_2	413.0 / 169.0	2.56	33354.04	1036.611126	215.1	false
PFNA_1	463.0 / 419.0	2.94	451896.64	1074.057416	495.0	false
PFNA_2	463.0 / 219.0	2.94	130881.27	1060.884614	296.2	false
PFOS_1	499.0 / 80.0	2.93	553860.60	880.871247	631.5	false
PFOS_2	499.0 / 99.0	2.93	122825.15	1045.190764	612.8	false
PFDA_1	513.0 / 469.0	3.29	453025.46	1010.012373	528.5	false
PFDA_2	513.0 / 219.0	3.29	18819.94	987.298399	562.8	false
PFUnA_1	563.0 / 519.0	3.61	426103.84	1013.665796	654.6	false
PFUnA_2	563.0 / 269.0	3.61	18112.58	922.037253	353.8	false
PFDaA_1	613.0 / 569.0	3.90	377627.79	958.212573	540.7	false
PFDaA_2	613.0 / 319.0	3.90	63943.79	1027.078353	542.4	false
PFTTrDA_1	663.0 / 619.0	4.15	306688.03	988.442892	691.7	false
PFTTrDA_2	663.0 / 169.0	4.15	21627.61	1021.107818	666.0	false
PFTeDA_1	713.0 / 669.0	4.37	281748.01	973.989052	1204.1	false
PFTeDA_2	713.0 / 169.0	4.37	15123.95	999.759291	1018.0	false
NMeFOSAA_1	570.0 / 419.0	3.44	37432.03	1153.811224	684.1	false
NMeFOSAA_2	570.0 / 512.0	3.44	20282.21	992.349594	653.2	false
NEtFOSAA_1	584.0 / 419.0	3.61	37208.09	1207.482264	958.2	false
NEtFOSAA_2	584.0 / 483.0	3.61	2159.59	1009.438632	809.6	false
13C2-PFHxA	315.0 / 270.0	1.79	46522.88	98.371105	895.9	false
13C2-PFDA	515.0 / 470.0	3.28	58349.23	100.036860	1731.0	false
d5-EtFOSAA	589.0 / 419.0	3.59	18492.19	427.962128	346.4	false

Sample Name	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	880407.72	2044.026438	3431.0	false
PFBS_2	298.9 / 99.0	1.51	271348.10	2007.699514	1068.0	false
PFHxA_1	313.0 / 269.0	1.80	1051784.08	2585.686617	233.4	false
PFHxA_2	313.0 / 119.0	1.80	75052.07	2579.596147	186.6	false
PFHpA_1	363.0 / 319.0	2.17	993643.85	2500.705265	421.0	false
PFHpA_2	363.0 / 169.0	2.17	23895.45	2581.334746	313.8	false
PFHxS_1	399.0 / 80.0	2.19	962005.97	2023.096588	993.3	false
PFHxS_2	399.0 / 99.0	2.19	273592.11	1993.294941	552.4	false
PFOA_1	413.0 / 369.0	2.55	1173071.77	2634.727678	382.4	false
PFOA_2	413.0 / 169.0	2.55	88604.25	2617.108947	334.5	false
PFNA_1	463.0 / 419.0	2.93	1196327.51	2740.049145	826.9	false
PFNA_2	463.0 / 219.0	2.93	346255.12	2650.247172	492.9	false
PFOS_1	499.0 / 80.0	2.93	1581217.45	2254.828613	480.0	false
PFOS_2	499.0 / 99.0	2.93	301636.62	2300.286107	486.0	false
PFDA_1	513.0 / 469.0	3.29	1220304.51	2566.796033	687.9	false
PFDA_2	513.0 / 219.0	3.29	55248.76	2736.385085	990.7	false
PFUnA_1	563.0 / 519.0	3.61	1178575.65	2636.595000	822.1	false
PFUnA_2	563.0 / 269.0	3.61	59199.74	2849.125002	742.1	false
PFDaA_1	613.0 / 569.0	3.90	1089857.90	2603.869561	806.3	false
PFDaA_2	613.0 / 319.0	3.89	179247.95	2714.964393	572.8	false
PFTTrDA_1	663.0 / 619.0	4.14	838195.40	2540.342780	829.8	false
PFTTrDA_2	663.0 / 169.0	4.14	57923.67	2574.955448	820.4	false
PFTeDA_1	713.0 / 669.0	4.37	769772.18	2505.555739	1252.1	false
PFTeDA_2	713.0 / 169.0	4.36	40914.91	2552.179486	1507.7	false
NMeFOSAA_1	570.0 / 419.0	3.43	90218.02	2375.421810	710.2	false
NMeFOSAA_2	570.0 / 512.0	3.43	60262.52	2502.487825	1506.4	false
NEtFOSAA_1	584.0 / 419.0	3.60	86514.65	2388.734008	890.1	false
NEtFOSAA_2	584.0 / 483.0	3.59	6027.37	2452.696595	610.6	false
13C2-PFHxA	315.0 / 270.0	1.79	53638.40	105.976898	871.6	false
13C2-PFDA	515.0 / 470.0	3.27	64460.87	103.265553	1298.1	false
d5-EtFOSAA	589.0 / 419.0	3.59	20549.50	403.061356	373.1	false

Sample Name	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	335616.11	848.666902	2127.1	false
PFBS_2	298.9 / 99.0	1.51	102532.94	819.191395	741.0	false
PFHxA_1	313.0 / 269.0	1.80	419877.64	1073.500856	151.6	false
PFHxA_2	313.0 / 119.0	1.80	28999.81	1032.139668	134.1	false
PFHpA_1	363.0 / 319.0	2.18	396004.06	1039.505680	239.5	false
PFHpA_2	363.0 / 169.0	2.17	9580.32	1034.172136	160.0	false
PFHxS_1	399.0 / 80.0	2.19	393979.92	899.571302	722.7	false
PFHxS_2	399.0 / 99.0	2.19	112582.37	889.349531	367.8	false
PFOA_1	413.0 / 369.0	2.56	462404.76	1076.085208	238.0	false
PFOA_2	413.0 / 169.0	2.55	36210.69	1109.451713	198.4	false
PFNA_1	463.0 / 419.0	2.94	484867.36	1137.170707	483.4	false
PFNA_2	463.0 / 219.0	2.94	139314.01	1112.099827	331.7	false
PFOS_1	499.0 / 80.0	2.93	596440.29	921.458055	295.4	false
PFOS_2	499.0 / 99.0	2.93	112763.27	930.752209	368.4	false
PFDA_1	513.0 / 469.0	3.29	476918.18	1046.885844	476.9	false
PFDA_2	513.0 / 219.0	3.29	19793.47	1022.353524	467.5	false
PFUnA_1	563.0 / 519.0	3.61	451217.77	1056.715112	591.3	false
PFUnA_2	563.0 / 269.0	3.61	22700.99	1140.932472	406.4	false
PFDaA_1	613.0 / 569.0	3.89	417349.17	1043.116204	583.4	false
PFDaA_2	613.0 / 319.0	3.89	65794.01	1040.113473	474.2	false
PFTTrDA_1	663.0 / 619.0	4.14	325094.63	1031.482373	672.4	false
PFTTrDA_2	663.0 / 169.0	4.14	24045.27	1118.351408	683.1	false
PFTeDA_1	713.0 / 669.0	4.36	286815.07	975.694994	1079.0	false
PFTeDA_2	713.0 / 169.0	4.36	15530.74	1010.428168	1102.8	false
NMeFOSAA_1	570.0 / 419.0	3.44	35872.00	1008.970789	902.9	false
NMeFOSAA_2	570.0 / 512.0	3.43	22386.77	1001.676048	794.5	false
NEtFOSAA_1	584.0 / 419.0	3.60	34366.98	1018.431712	755.5	false
NEtFOSAA_2	584.0 / 483.0	3.60	1899.66	802.707296	288.5	false
13C2-PFHxA	315.0 / 270.0	1.79	47442.24	98.713291	915.1	false
13C2-PFDA	515.0 / 470.0	3.28	54763.70	92.390472	1057.3	false
d5-EtFOSAA	589.0 / 419.0	3.59	16152.25	341.843149	256.7	false

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	333131.95	764.195433	2041.0	false
PFBS_2	298.9 / 99.0	1.49	105535.85	768.129853	816.7	false
PFHxA_1	313.0 / 269.0	1.78	448515.41	1039.974979	147.5	false
PFHxA_2	313.0 / 119.0	1.78	31098.47	1014.186821	112.6	false
PFHpA_1	363.0 / 319.0	2.15	427161.76	984.651673	261.2	false
PFHpA_2	363.0 / 169.0	2.15	11008.02	981.250449	156.4	false
PFHxS_1	399.0 / 80.0	2.16	417107.75	843.678598	980.8	false
PFHxS_2	399.0 / 99.0	2.16	120436.68	840.590435	627.9	false
PFOA_1	413.0 / 369.0	2.52	538372.22	1026.485448	250.4	false
PFOA_2	413.0 / 169.0	2.52	43345.82	1063.646029	198.6	false
PFNA_1	463.0 / 419.0	2.91	514446.29	1007.157655	593.4	false
PFNA_2	463.0 / 219.0	2.90	148554.84	992.270751	361.2	false
PFOS_1	499.0 / 80.0	2.90	563079.74	838.041622	462.2	false
PFOS_2	499.0 / 99.0	2.90	119269.09	942.152450	509.6	false
PFDA_1	513.0 / 469.0	3.25	556867.86	1011.749278	594.1	false
PFDA_2	513.0 / 219.0	3.25	24382.71	995.539967	477.1	false
PFUnA_1	563.0 / 519.0	3.57	558634.04	995.783257	569.5	false
PFUnA_2	563.0 / 269.0	3.56	28113.81	1003.286043	449.9	false
PFDoA_1	613.0 / 569.0	3.84	497730.87	1011.645081	578.7	false
PFDoA_2	613.0 / 319.0	3.84	80741.96	1008.446784	579.7	false
PFTTrDA_1	663.0 / 619.0	4.09	410597.80	1014.244161	705.0	false
PFTTrDA_2	663.0 / 169.0	4.09	29645.44	1025.531189	543.1	false
PFTeDA_1	713.0 / 669.0	4.31	346952.75	1023.764271	937.2	false
PFTeDA_2	713.0 / 169.0	4.30	19265.12	1017.861539	685.7	false
NMeFOSAA_1	570.0 / 419.0	3.40	57593.99	1052.530789	845.1	false
NMeFOSAA_2	570.0 / 512.0	3.39	33414.77	958.683231	1389.6	false
NEtFOSAA_1	584.0 / 419.0	3.55	60319.63	1115.703629	840.6	false
NEtFOSAA_2	584.0 / 483.0	3.55	2608.19	711.649311	325.1	false
13C2-PFHxA	315.0 / 270.0	1.77	54869.77	103.248424	1039.6	false
13C2-PFDA	515.0 / 470.0	3.24	72131.65	104.452092	1702.0	false
d5-EtFOSAA	589.0 / 419.0	3.55	32117.79	407.621625	503.8	false

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.50	309013.55	859.548636	1500.9	false
PFBS_2	298.9 / 99.0	1.50	97950.86	864.819233	683.5	false
PFHxA_1	313.0 / 269.0	1.78	404245.15	1074.695217	143.7	false
PFHxA_2	313.0 / 119.0	1.78	28425.75	1064.303882	120.0	false
PFHpA_1	363.0 / 319.0	2.15	395375.72	1044.962368	254.3	false
PFHpA_2	363.0 / 169.0	2.15	9823.31	1004.606377	205.8	false
PFHxS_1	399.0 / 80.0	2.16	360644.54	884.985404	719.7	false
PFHxS_2	399.0 / 99.0	2.16	100017.52	847.138055	532.6	false
PFOA_1	413.0 / 369.0	2.52	472372.55	1032.121467	256.0	false
PFOA_2	413.0 / 169.0	2.52	38542.55	1084.285333	204.5	false
PFNA_1	463.0 / 419.0	2.90	452293.40	1014.733483	476.1	false
PFNA_2	463.0 / 219.0	2.90	131907.17	1009.872349	295.2	false
PFOS_1	499.0 / 80.0	2.90	515039.93	930.895837	341.6	true
PFOS_2	499.0 / 99.0	2.90	99928.62	958.065161	621.1	false
PFDA_1	513.0 / 469.0	3.24	502820.90	1047.007376	679.3	false
PFDA_2	513.0 / 219.0	3.24	22410.69	1049.109767	422.4	false
PFUnA_1	563.0 / 519.0	3.56	512548.27	1047.457868	560.3	false
PFUnA_2	563.0 / 269.0	3.56	25143.54	1028.793183	458.5	false
PFDaA_1	613.0 / 569.0	3.84	446273.98	1039.542751	507.2	false
PFDaA_2	613.0 / 319.0	3.84	71540.37	1023.993208	496.2	false
PFTDA_1	663.0 / 619.0	4.09	386249.79	1093.978515	678.9	false
PFTDA_2	663.0 / 169.0	4.09	27529.40	1091.794361	583.9	false
PFTeDA_1	713.0 / 669.0	4.30	311886.17	1054.652936	1058.6	false
PFTeDA_2	713.0 / 169.0	4.30	17645.63	1068.686879	780.9	false
NMeFOSAA_1	570.0 / 419.0	3.39	48956.34	1057.043804	1001.9	false
NMeFOSAA_2	570.0 / 512.0	3.39	29960.95	1015.585330	1446.5	false
NEtFOSAA_1	584.0 / 419.0	3.55	47545.13	1038.252708	902.2	false
NEtFOSAA_2	584.0 / 483.0	3.55	2757.22	904.965761	4583.4	false
13C2-PFHxA	315.0 / 270.0	1.77	47165.51	101.690626	772.4	false
13C2-PFDA	515.0 / 470.0	3.23	56975.21	94.532972	946.1	false
d5-EtFOSAA	589.0 / 419.0	3.54	26601.03	398.862360	369.5	false

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.220	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.040	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.170	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.540	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.050	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.670	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.620	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.317	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.026	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.289	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.081	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.289	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.212	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.84	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.162	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.580	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.043	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.317	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.277	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.082	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.292	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.194	0.189	ü
PFDA_1	513.0 / 469.0	3.24	PFDA			
PFDA_2	513.0 / 219.0	3.24	PFDA	0.045	0.046	ü
PFUnA_1	563.0 / 519.0	3.56	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.049	0.055	ü
PFDaA_1	613.0 / 569.0	3.84	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.160	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.30	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.39	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.612	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.058	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.23		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.54		N/A	N/A	ü

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFHxA_1	313.0 / 269.0	1.80	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFHxA_2	313.0 / 119.0	1.80	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFHxS_1	399.0 / 80.0	2.20	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFHxS_2	399.0 / 99.0	2.20	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFOA_2	413.0 / 169.0	2.56	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	201375.62	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFDaA_2	613.0 / 319.0	3.90	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFTDA_1	663.0 / 619.0	4.15	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFTDA_2	663.0 / 169.0	4.15	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFOA	415.0 / 370.0	53667.60	100.00
PFTeDA_2	713.0 / 169.0	4.37	13C2-PFOA	415.0 / 370.0	53667.60	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	17076.54	400.00
NMeFOSAA_2	570.0 / 512.0	3.44	d3-MeFOSAA	573.0 / 419.0	17076.54	400.00
NEtFOSAA_1	584.0 / 419.0	3.61	d3-MeFOSAA	573.0 / 419.0	17076.54	400.00
NEtFOSAA_2	584.0 / 483.0	3.61	d3-MeFOSAA	573.0 / 419.0	17076.54	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	53667.60	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	53667.60	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	17076.54	400.00

Sample Name	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFHxA_1	313.0 / 269.0	1.80	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFHxA_2	313.0 / 119.0	1.80	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFHpA_1	363.0 / 319.0	2.17	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFHxS_2	399.0 / 99.0	2.19	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFNA_1	463.0 / 419.0	2.93	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFNA_2	463.0 / 219.0	2.93	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	225795.39	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFDaA_1	613.0 / 569.0	3.90	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFDaA_2	613.0 / 319.0	3.89	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFTDA_1	663.0 / 619.0	4.14	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFTDA_2	663.0 / 169.0	4.14	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFTeDA_1	713.0 / 669.0	4.37	13C2-PFOA	415.0 / 370.0	57435.15	100.00
PFTeDA_2	713.0 / 169.0	4.36	13C2-PFOA	415.0 / 370.0	57435.15	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	20148.69	400.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	20148.69	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	20148.69	400.00
NEtFOSAA_2	584.0 / 483.0	3.59	d3-MeFOSAA	573.0 / 419.0	20148.69	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	57435.15	100.00
13C2-PFDA	515.0 / 470.0	3.27	13C2-PFOA	415.0 / 370.0	57435.15	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	20148.69	400.00

Sample Name	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFHxA_1	313.0 / 269.0	1.80	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFHxA_2	313.0 / 119.0	1.80	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFHpA_1	363.0 / 319.0	2.18	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFHxS_2	399.0 / 99.0	2.19	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFNA_1	463.0 / 419.0	2.94	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFNA_2	463.0 / 219.0	2.94	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	207385.04	287.00
PFDA_1	513.0 / 469.0	3.29	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFDA_2	513.0 / 219.0	3.29	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFUnA_1	563.0 / 519.0	3.61	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFUnA_2	563.0 / 269.0	3.61	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFDaA_2	613.0 / 319.0	3.89	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFTDA_1	663.0 / 619.0	4.14	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFTDA_2	663.0 / 169.0	4.14	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFOA	415.0 / 370.0	54538.44	100.00
PFTeDA_2	713.0 / 169.0	4.36	13C2-PFOA	415.0 / 370.0	54538.44	100.00
NMeFOSAA_1	570.0 / 419.0	3.44	d3-MeFOSAA	573.0 / 419.0	18673.39	400.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	18673.39	400.00
NEtFOSAA_1	584.0 / 419.0	3.60	d3-MeFOSAA	573.0 / 419.0	18673.39	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	18673.39	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	54538.44	100.00
13C2-PFDA	515.0 / 470.0	3.28	13C2-PFOA	415.0 / 370.0	54538.44	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	18673.39	400.00

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFHpA_2	363.0 / 169.0	2.15	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFNA_1	463.0 / 419.0	2.91	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	203773.30	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFDA_2	513.0 / 219.0	3.25	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFUnA_1	563.0 / 519.0	3.57	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFUnA_2	563.0 / 269.0	3.56	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFDaA_1	613.0 / 569.0	3.84	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFDaA_2	613.0 / 319.0	3.84	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFTTrDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFTTrDA_2	663.0 / 169.0	4.09	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	65583.85	100.00
PFTeDA_2	713.0 / 169.0	4.30	13C2-PFOA	415.0 / 370.0	65583.85	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	28916.42	400.00
NMeFOSAA_2	570.0 / 512.0	3.39	d3-MeFOSAA	573.0 / 419.0	28916.42	400.00
NEtFOSAA_1	584.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	28916.42	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	28916.42	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	65583.85	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	65583.85	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	28916.42	400.00

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.50	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFBS_2	298.9 / 99.0	1.50	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFHxA_1	313.0 / 269.0	1.78	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFHxA_2	313.0 / 119.0	1.78	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFHpA_1	363.0 / 319.0	2.15	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFHpA_2	363.0 / 169.0	2.15	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFOA_2	413.0 / 169.0	2.52	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFNA_1	463.0 / 419.0	2.90	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	167912.20	287.00
PFDA_1	513.0 / 469.0	3.24	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFDA_2	513.0 / 219.0	3.24	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFUnA_1	563.0 / 519.0	3.56	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFUnA_2	563.0 / 269.0	3.56	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFDaA_1	613.0 / 569.0	3.84	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFDaA_2	613.0 / 319.0	3.84	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFTDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFTDA_2	663.0 / 169.0	4.09	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFTeDA_1	713.0 / 669.0	4.30	13C2-PFOA	415.0 / 370.0	57238.83	100.00
PFTeDA_2	713.0 / 169.0	4.30	13C2-PFOA	415.0 / 370.0	57238.83	100.00
NMeFOSAA_1	570.0 / 419.0	3.39	d3-MeFOSAA	573.0 / 419.0	24475.50	400.00
NMeFOSAA_2	570.0 / 512.0	3.39	d3-MeFOSAA	573.0 / 419.0	24475.50	400.00
NEtFOSAA_1	584.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	24475.50	400.00
NEtFOSAA_2	584.0 / 483.0	3.55	d3-MeFOSAA	573.0 / 419.0	24475.50	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	57238.83	100.00
13C2-PFDA	515.0 / 470.0	3.23	13C2-PFOA	415.0 / 370.0	57238.83	100.00
d5-EtFOSAA	589.0 / 419.0	3.54	d3-MeFOSAA	573.0 / 419.0	24475.50	400.00

Raw Analytical Data

Sample Name	CR070LCS-FS(0)	Injection Vial	14
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:49:17	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	1506408.36	4721.206849	3864.8	false
PFBS_2	298.9 / 99.0	1.51	461874.01	4628.853944	1018.4	false
PFHxA_1	313.0 / 269.0	1.80	1873511.46	5882.795031	283.4	false
PFHxA_2	313.0 / 119.0	1.79	135821.21	5971.112353	279.5	false
PFHpA_1	363.0 / 319.0	2.17	1660725.30	5331.032471	511.2	false
PFHpA_2	363.0 / 169.0	2.17	38018.39	5317.895643	297.2	false
PFHxS_1	399.0 / 80.0	2.19	1957217.49	5565.037491	1151.2	false
PFHxS_2	399.0 / 99.0	2.18	553035.87	5451.494536	725.8	false
PFOA_1	413.0 / 369.0	2.55	1882939.15	5405.888725	503.7	false
PFOA_2	413.0 / 169.0	2.55	152560.57	5761.949162	487.0	false
PFNA_1	463.0 / 419.0	2.93	2023410.54	5954.453480	970.6	false
PFNA_2	463.0 / 219.0	2.93	598896.78	5848.076680	633.1	false
PFOS_1	499.0 / 80.0	2.92	2601085.36	5017.270102	477.7	false
PFOS_2	499.0 / 99.0	2.92	463062.44	4777.668417	554.7	false
PFDA_1	513.0 / 469.0	3.28	2026924.86	5436.204391	981.5	false
PFDA_2	513.0 / 219.0	3.28	92831.84	5861.444654	613.4	false
PFUnA_1	563.0 / 519.0	3.60	1879146.41	5353.300491	600.5	false
PFUnA_2	563.0 / 269.0	3.60	101418.93	6222.044351	559.9	false
PFDaA_1	613.0 / 569.0	3.89	1702512.12	5180.809474	739.9	false
PFDaA_2	613.0 / 319.0	3.89	276363.38	5334.287902	716.8	false
PFTTrDA_1	663.0 / 619.0	4.14	1327907.56	5125.038555	779.1	false
PFTTrDA_2	663.0 / 169.0	4.13	93065.88	5271.293421	908.0	false
PFTeDA_1	713.0 / 669.0	4.36	2002509.87	8311.695354	2101.6	false
PFTeDA_2	713.0 / 169.0	4.35	109498.08	8719.376059	1637.1	false
NMeFOSAA_1	570.0 / 419.0	3.43	165740.71	5706.889613	1134.3	false
NMeFOSAA_2	570.0 / 512.0	3.43	89701.67	4852.420145	1247.5	false
NEtFOSAA_1	584.0 / 419.0	3.59	149880.73	5400.333505	782.9	false
NEtFOSAA_2	584.0 / 483.0	3.60	8639.95	4619.073177	503.5	false
13C2-PFHxA	315.0 / 270.0	1.79	35918.58	90.187670	639.9	false
13C2-PFDA	515.0 / 470.0	3.27	42411.70	86.345084	2289.1	false
d5-EtFOSAA	589.0 / 419.0	3.58	12162.53	310.619564	279.5	false

Sample Name	J6817-FS(0)	Injection Vial	16
Sample ID	WGNA-062618-FRB-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:07:11	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.51	2483.48	8.298198	40.8	true
PFBS_2	298.9 / 99.0	1.51	1714.36	5.680844	30.9	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	2.17	3432.30	< 0	17.4	true
PFHpA_2	363.0 / 169.0	N/A	N/A	N/A	N/A	true
PFHxS_1	399.0 / 80.0	2.18	5246.15	10.382024	95.7	false
PFHxS_2	399.0 / 99.0	2.17	2092.34	13.947438	42.2	false
PFOA_1	413.0 / 369.0	2.56	4710.96	< 0	17.9	true
PFOA_2	413.0 / 169.0	2.54	505.89	< 0	17.1	true
PFNA_1	463.0 / 419.0	2.93	3238.43	< 0	17.1	true
PFNA_2	463.0 / 219.0	2.92	1116.19	< 0	13.6	true
PFOS_1	499.0 / 80.0	2.93	48772.04	86.468515	107.4	false
PFOS_2	499.0 / 99.0	2.93	8851.15	82.196791	87.7	false
PFDA_1	513.0 / 469.0	3.28	1783.98	< 0	22.0	true
PFDA_2	513.0 / 219.0	N/A	N/A	N/A	N/A	true
PFUnA_1	563.0 / 519.0	3.62	1131.50	< 0	15.7	false
PFUnA_2	563.0 / 269.0	N/A	N/A	N/A	N/A	true
PFDaA_1	613.0 / 569.0	3.89	500.00	< 0	19.7	true
PFDaA_2	613.0 / 319.0	3.88	200.79	< 0	17.8	false
PFTTrDA_1	663.0 / 619.0	4.14	922.12	< 0	42.1	false
PFTTrDA_2	663.0 / 169.0	4.12	92.62	< 0	12.1	true
PFTeDA_1	713.0 / 669.0	4.36	668.57	< 0	25.1	true
PFTeDA_2	713.0 / 169.0	4.35	66.06	< 0	11.8	true
NMeFOSAA_1	570.0 / 419.0	3.42	46.24	< 0	16.3	true
NMeFOSAA_2	570.0 / 512.0	3.55	86.25	2.668155	135.4	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	34765.25	91.537428	812.6	false
13C2-PFDA	515.0 / 470.0	3.27	38354.12	81.882185	1019.3	false
d5-EtFOSAA	589.0 / 419.0	3.59	12437.76	342.160351	364.7	false

Sample Name	CR069PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:35:11	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	1613.71	9.922014	53.3	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	2.90	20206.34	29.180190	59.6	true
PFOS_2	499.0 / 99.0	2.90	3927.52	29.942167	46.5	true
PFDA_1	513.0 / 469.0	3.25	3142.85	< 0	40.5	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
PFDaA_1	613.0 / 569.0	3.84	2644.25	< 0	40.4	true
PFDaA_2	613.0 / 319.0	3.84	523.95	< 0	36.9	true
PFTTrDA_1	663.0 / 619.0	4.09	2008.50	< 0	76.7	true
PFTTrDA_2	663.0 / 169.0	4.08	232.03	0.277945	16.8	false
PFTeDA_1	713.0 / 669.0	4.30	3237.66	5.538628	65.6	false
PFTeDA_2	713.0 / 169.0	4.31	178.05	2.219307	21.5	true
NMeFOSAA_1	570.0 / 419.0	3.40	1247.65	20.559556	172.8	false
NMeFOSAA_2	570.0 / 512.0	3.39	584.38	20.195867	2474.4	false
NEtFOSAA_1	584.0 / 419.0	3.56	2677.96	50.861605	120.9	false
NEtFOSAA_2	584.0 / 483.0	N/A	N/A	N/A	N/A	true
13C2-PFHxA	315.0 / 270.0	1.77	39606.93	91.725073	766.9	false
13C2-PFDA	515.0 / 470.0	3.24	51563.67	91.897080	1710.0	false
d5-EtFOSAA	589.0 / 419.0	3.55	21676.31	338.392495	315.0	false

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	896383.75	2659.063831	618.0	true
PFBS_2	298.9 / 99.0	1.49	273622.40	2582.236570	871.6	false
PFHxA_1	313.0 / 269.0	1.77	995133.88	2753.432524	155.7	false
PFHxA_2	313.0 / 119.0	1.77	69590.98	2747.035194	161.3	false
PFHpA_1	363.0 / 319.0	2.14	447799.25	1218.717774	138.5	false
PFHpA_2	363.0 / 169.0	2.12	14809.44	1588.837010	203.5	false
PFHxS_1	399.0 / 80.0	2.16	527760.52	1384.127187	305.8	false
PFHxS_2	399.0 / 99.0	2.16	149912.71	1358.309755	463.7	false
PFOA_1	413.0 / 369.0	2.52	2049074.77	4710.887904	405.0	false
PFOA_2	413.0 / 169.0	2.51	227660.28	6750.906577	323.4	false
PFNA_1	463.0 / 419.0	2.90	174046.32	388.379926	194.2	false
PFNA_2	463.0 / 219.0	2.90	50079.01	382.073000	206.7	false
PFOS_1	499.0 / 80.0	2.85	1294674.98	2516.624823	238.5	true
PFOS_2	499.0 / 99.0	2.90	190335.09	1961.266675	387.0	true
PFDA_1	513.0 / 469.0	3.25	38597.44	75.597561	130.1	false
PFDA_2	513.0 / 219.0	3.24	1913.16	80.353490	55.9	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
PFDaA_1	613.0 / 569.0	3.85	794.54	< 0	18.9	true
PFDaA_2	613.0 / 319.0	3.88	226.75	< 0	12.3	true
PFTTrDA_1	663.0 / 619.0	4.09	1294.52	< 0	54.1	true
PFTTrDA_2	663.0 / 169.0	4.10	54.67	< 0	6.5	true
PFTeDA_1	713.0 / 669.0	4.31	894.75	< 0	26.1	true
PFTeDA_2	713.0 / 169.0	4.32	78.91	< 0	9.4	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	1.77	50710.30	112.407659	657.6	false
13C2-PFDA	515.0 / 470.0	3.24	42625.46	72.712637	879.8	false
d5-EtFOSAA	589.0 / 419.0	3.55	19295.49	345.384540	347.1	false

Sample Name	CR070LCS-FS(0)	Injection Vial	14
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:49:17	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.18	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.92	PFOS			
PFOS_2	499.0 / 99.0	2.92	PFOS	0.180	0.189	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	3.28	PFDA	0.050	0.042	ü
PFUnA_1	563.0 / 519.0	3.60	PFUnA			
PFUnA_2	563.0 / 269.0	3.60	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.13	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.540	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.59	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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

Sample Name	J6817-FS(0)	Injection Vial	16
Sample ID	WGNA-062618-FRB-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:07:11	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.690	0.348	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.026	
PFHxS_1	399.0 / 80.0	2.18	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.400	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.54	PFOA	0.110	0.081	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.92	PFNA	0.340	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.180	0.189	ü
PFDA_1	513.0 / 469.0	3.28	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.042	
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.048	
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.88	PFDaA	0.400	0.162	
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.12	PFTTrDA	0.100	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.35	PFTeDA	0.100	0.054	
NMeFOSAA_1	570.0 / 419.0	3.42	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.55	NMeFOSAA	1.870	0.595	
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	CR069PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:35:11	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	N/A	PFBS	N/A	0.323	
PFHxA_1	313.0 / 269.0	N/A	PFHxA			
PFHxA_2	313.0 / 119.0	N/A	PFHxA	N/A	0.074	ü
PFHpA_1	363.0 / 319.0	N/A	PFHpA			
PFHpA_2	363.0 / 169.0	N/A	PFHpA	N/A	0.029	ü
PFHxS_1	399.0 / 80.0	N/A	PFHxS			
PFHxS_2	399.0 / 99.0	N/A	PFHxS	N/A	0.297	ü
PFOA_1	413.0 / 369.0	N/A	PFOA			
PFOA_2	413.0 / 169.0	N/A	PFOA	N/A	0.084	ü
PFNA_1	463.0 / 419.0	N/A	PFNA			
PFNA_2	463.0 / 219.0	N/A	PFNA	N/A	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.194	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	N/A	PFDA	N/A	0.046	
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.055	ü
PFDaA_1	613.0 / 569.0	3.84	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.198	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.08	PFTTrDA	0.116	0.071	
PFTeDA_1	713.0 / 669.0	4.30	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.055	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.468	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.066	
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.305	0.323	ü
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.14	PFHpA			
PFHpA_2	363.0 / 169.0	2.12	PFHpA	0.033	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.284	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.51	PFOA	0.111	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.288	0.291	ü
PFOS_1	499.0 / 80.0	2.85	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.147	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.24	PFDA	0.050	0.046	ü
PFUnA_1	563.0 / 519.0	N/A	PFUnA			
PFUnA_2	563.0 / 269.0	N/A	PFUnA	N/A	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.88	PFDaA	0.285	0.168	
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.042	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.088	0.057	
NMeFOSAA_1	570.0 / 419.0	N/A	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	N/A	NMeFOSAA	N/A	0.606	ü
NEtFOSAA_1	584.0 / 419.0	N/A	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	CR070LCS-FS(0)	Injection Vial	14
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:49:17	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFHxA_1	313.0 / 269.0	1.80	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFHxA_2	313.0 / 119.0	1.79	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFHpA_1	363.0 / 319.0	2.17	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFHpA_2	363.0 / 169.0	2.17	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFHxS_1	399.0 / 80.0	2.19	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFHxS_2	399.0 / 99.0	2.18	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFOA_1	413.0 / 369.0	2.55	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFOA_2	413.0 / 169.0	2.55	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFNA_1	463.0 / 419.0	2.93	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFNA_2	463.0 / 219.0	2.93	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFOS_1	499.0 / 80.0	2.92	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFOS_2	499.0 / 99.0	2.92	13C4-PFOS	503.0 / 80.0	167242.01	287.00
PFDA_1	513.0 / 469.0	3.28	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFDA_2	513.0 / 219.0	3.28	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFUnA_1	563.0 / 519.0	3.60	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFUnA_2	563.0 / 269.0	3.60	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFDaA_2	613.0 / 319.0	3.89	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFTTrDA_1	663.0 / 619.0	4.14	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFTTrDA_2	663.0 / 169.0	4.13	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFOA	415.0 / 370.0	45194.46	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFOA	415.0 / 370.0	45194.46	100.00
NMeFOSAA_1	570.0 / 419.0	3.43	d3-MeFOSAA	573.0 / 419.0	15474.33	400.00
NMeFOSAA_2	570.0 / 512.0	3.43	d3-MeFOSAA	573.0 / 419.0	15474.33	400.00
NEtFOSAA_1	584.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	15474.33	400.00
NEtFOSAA_2	584.0 / 483.0	3.60	d3-MeFOSAA	573.0 / 419.0	15474.33	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	45194.46	100.00
13C2-PFDA	515.0 / 470.0	3.27	13C2-PFOA	415.0 / 370.0	45194.46	100.00
d5-EtFOSAA	589.0 / 419.0	3.58	d3-MeFOSAA	573.0 / 419.0	15474.33	400.00

Sample Name	J6817-FS(0)	Injection Vial	16
Sample ID	WGNA-062618-FRB-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:07:11	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.51	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFBS_2	298.9 / 99.0	1.51	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFHxA_1	313.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFHxA_2	313.0 / 119.0	N/A	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFHpA_1	363.0 / 319.0	2.17	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFHpA_2	363.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFHxS_1	399.0 / 80.0	2.18	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFHxS_2	399.0 / 99.0	2.17	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFOA_1	413.0 / 369.0	2.56	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFOA_2	413.0 / 169.0	2.54	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFNA_1	463.0 / 419.0	2.93	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFNA_2	463.0 / 219.0	2.92	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFOS_1	499.0 / 80.0	2.93	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFOS_2	499.0 / 99.0	2.93	13C4-PFOS	503.0 / 80.0	167225.23	287.00
PFDA_1	513.0 / 469.0	3.28	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFUnA_1	563.0 / 519.0	3.62	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFDaA_1	613.0 / 569.0	3.89	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFDaA_2	613.0 / 319.0	3.88	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFTTrDA_1	663.0 / 619.0	4.14	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFTTrDA_2	663.0 / 169.0	4.12	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFTeDA_1	713.0 / 669.0	4.36	13C2-PFOA	415.0 / 370.0	43098.26	100.00
PFTeDA_2	713.0 / 169.0	4.35	13C2-PFOA	415.0 / 370.0	43098.26	100.00
NMeFOSAA_1	570.0 / 419.0	3.42	d3-MeFOSAA	573.0 / 419.0	14365.79	400.00
NMeFOSAA_2	570.0 / 512.0	3.55	d3-MeFOSAA	573.0 / 419.0	14365.79	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	14365.79	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	14365.79	400.00
13C2-PFHxA	315.0 / 270.0	1.79	13C2-PFOA	415.0 / 370.0	43098.26	100.00
13C2-PFDA	515.0 / 470.0	3.27	13C2-PFOA	415.0 / 370.0	43098.26	100.00
d5-EtFOSAA	589.0 / 419.0	3.59	d3-MeFOSAA	573.0 / 419.0	14365.79	400.00

Sample Name	CR069PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:35:11	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFBS_2	298.9 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFHxA_1	313.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFHxA_2	313.0 / 119.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFHpA_1	363.0 / 319.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFHpA_2	363.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFHxS_1	399.0 / 80.0	N/A	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFHxS_2	399.0 / 99.0	N/A	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFOA_1	413.0 / 369.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFOA_2	413.0 / 169.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFNA_1	463.0 / 419.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFNA_2	463.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFOS_1	499.0 / 80.0	2.90	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	176247.31	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFDA_2	513.0 / 219.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFDoA_1	613.0 / 569.0	3.84	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFDoA_2	613.0 / 319.0	3.84	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFTTrDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFTTrDA_2	663.0 / 169.0	4.08	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFTeDA_1	713.0 / 669.0	4.30	13C2-PFOA	415.0 / 370.0	53288.10	100.00
PFTeDA_2	713.0 / 169.0	4.31	13C2-PFOA	415.0 / 370.0	53288.10	100.00
NMeFOSAA_1	570.0 / 419.0	3.40	d3-MeFOSAA	573.0 / 419.0	23508.28	400.00
NMeFOSAA_2	570.0 / 512.0	3.39	d3-MeFOSAA	573.0 / 419.0	23508.28	400.00
NEtFOSAA_1	584.0 / 419.0	3.56	d3-MeFOSAA	573.0 / 419.0	23508.28	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	23508.28	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	53288.10	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	53288.10	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	23508.28	400.00

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

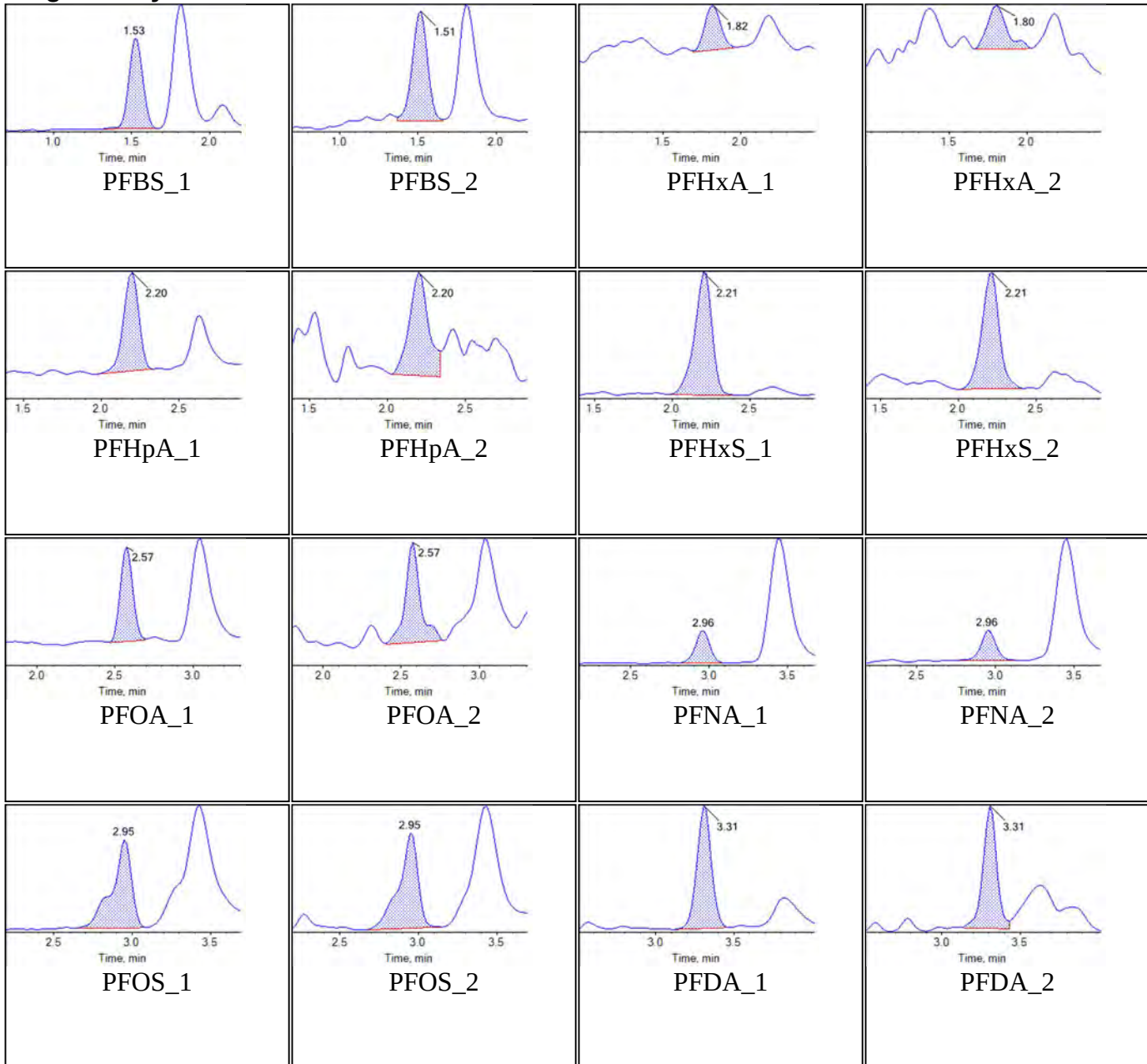
Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFHxA_1	313.0 / 269.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHxA_2	313.0 / 119.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHpA_1	363.0 / 319.0	2.14	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHpA_2	363.0 / 169.0	2.12	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFOA_2	413.0 / 169.0	2.51	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFNA_1	463.0 / 419.0	2.90	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFOS_1	499.0 / 80.0	2.85	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDA_2	513.0 / 219.0	3.24	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDoA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDoA_2	613.0 / 319.0	3.88	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTTrDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTTrDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	55673.35	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	55673.35	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00

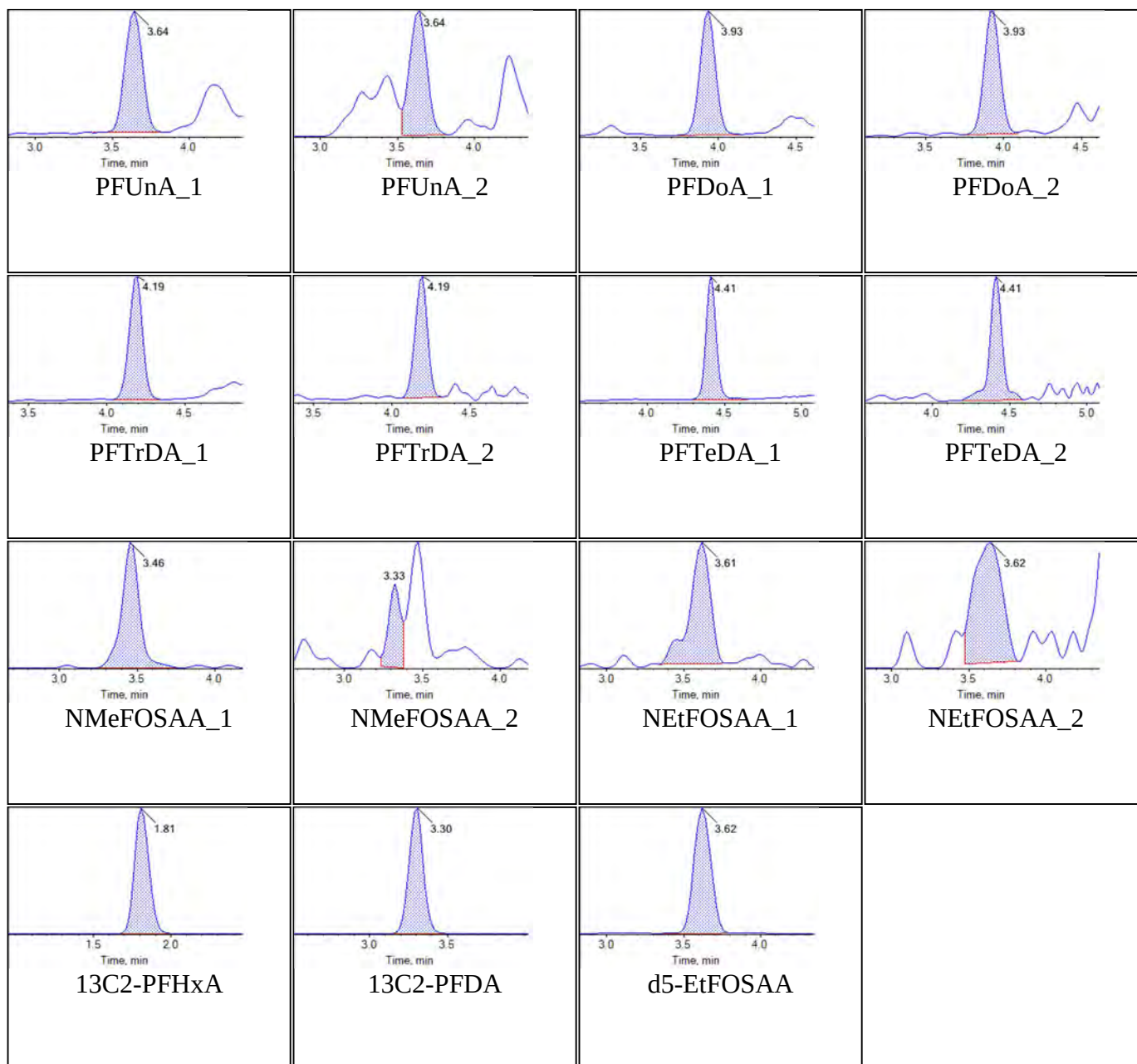
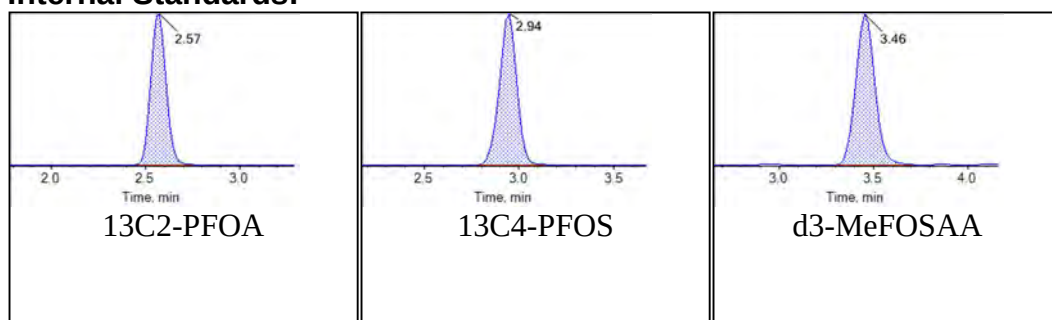
Chromatograms

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:35:13	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

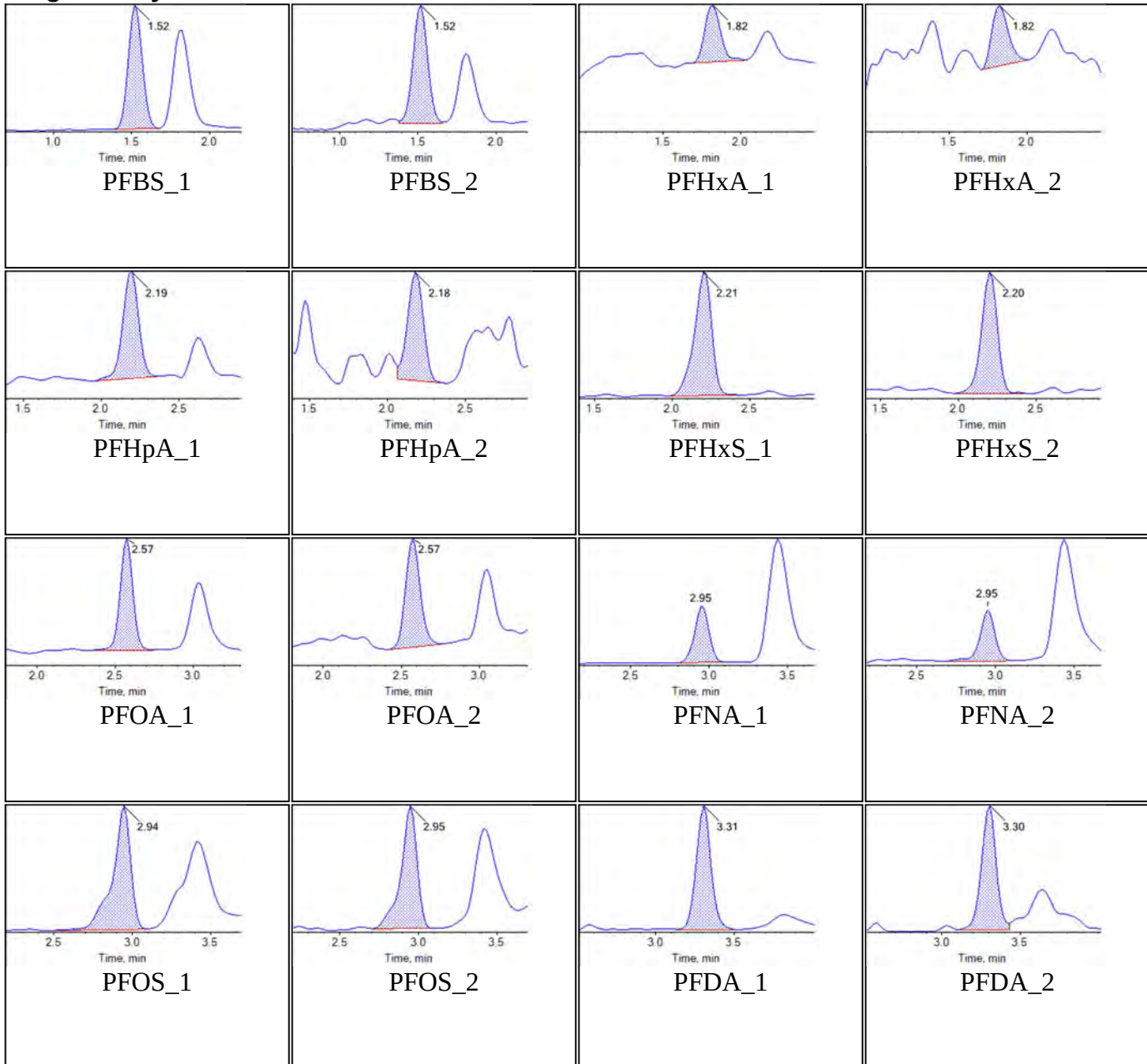


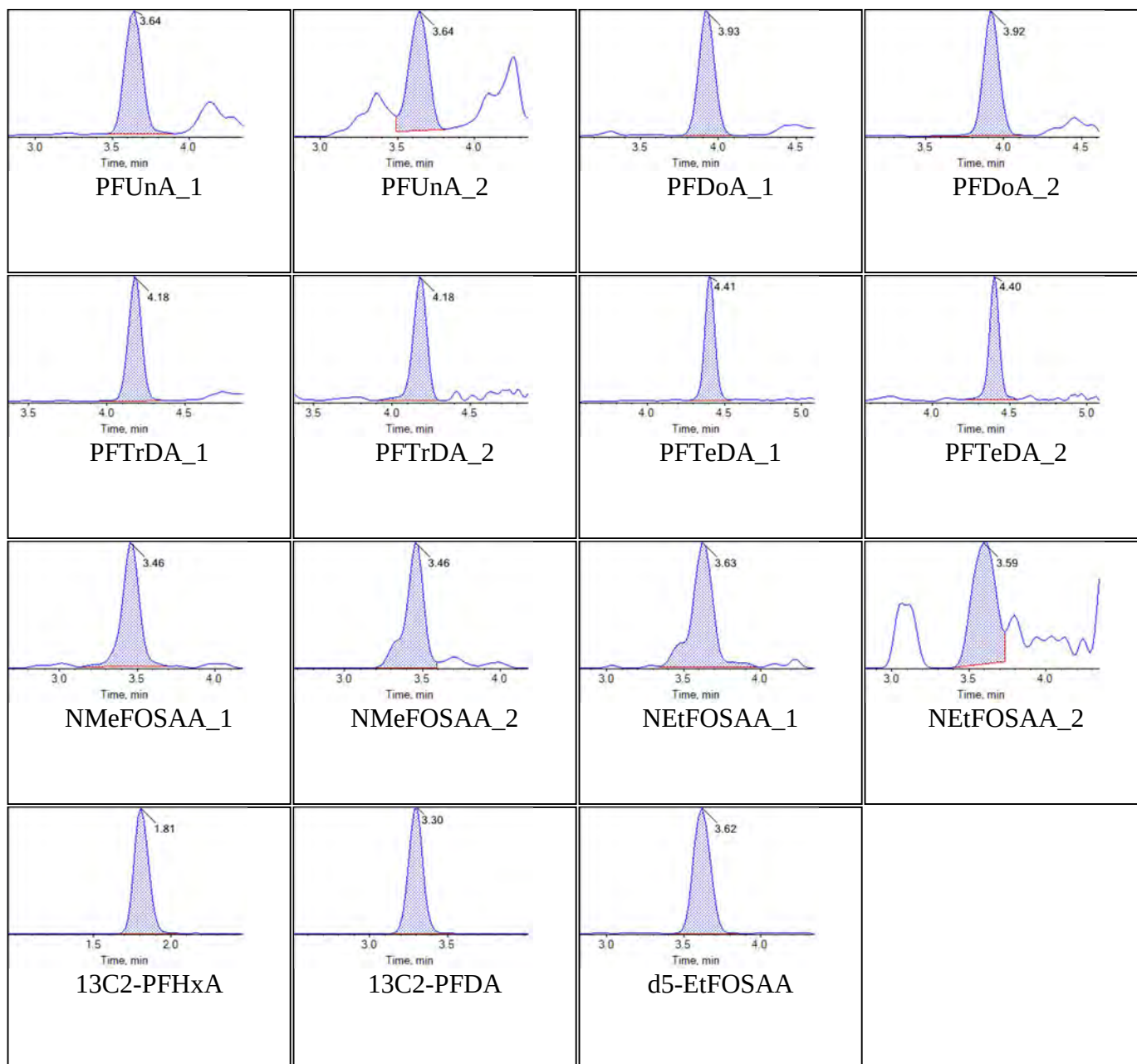
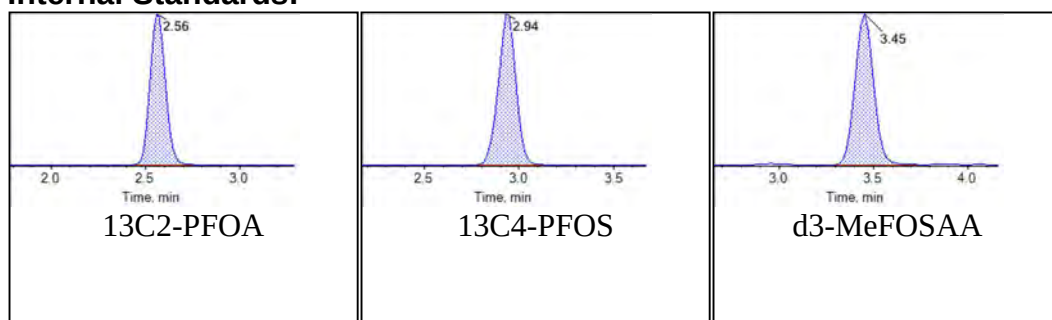
**Internal Standards:**

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:44:07	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

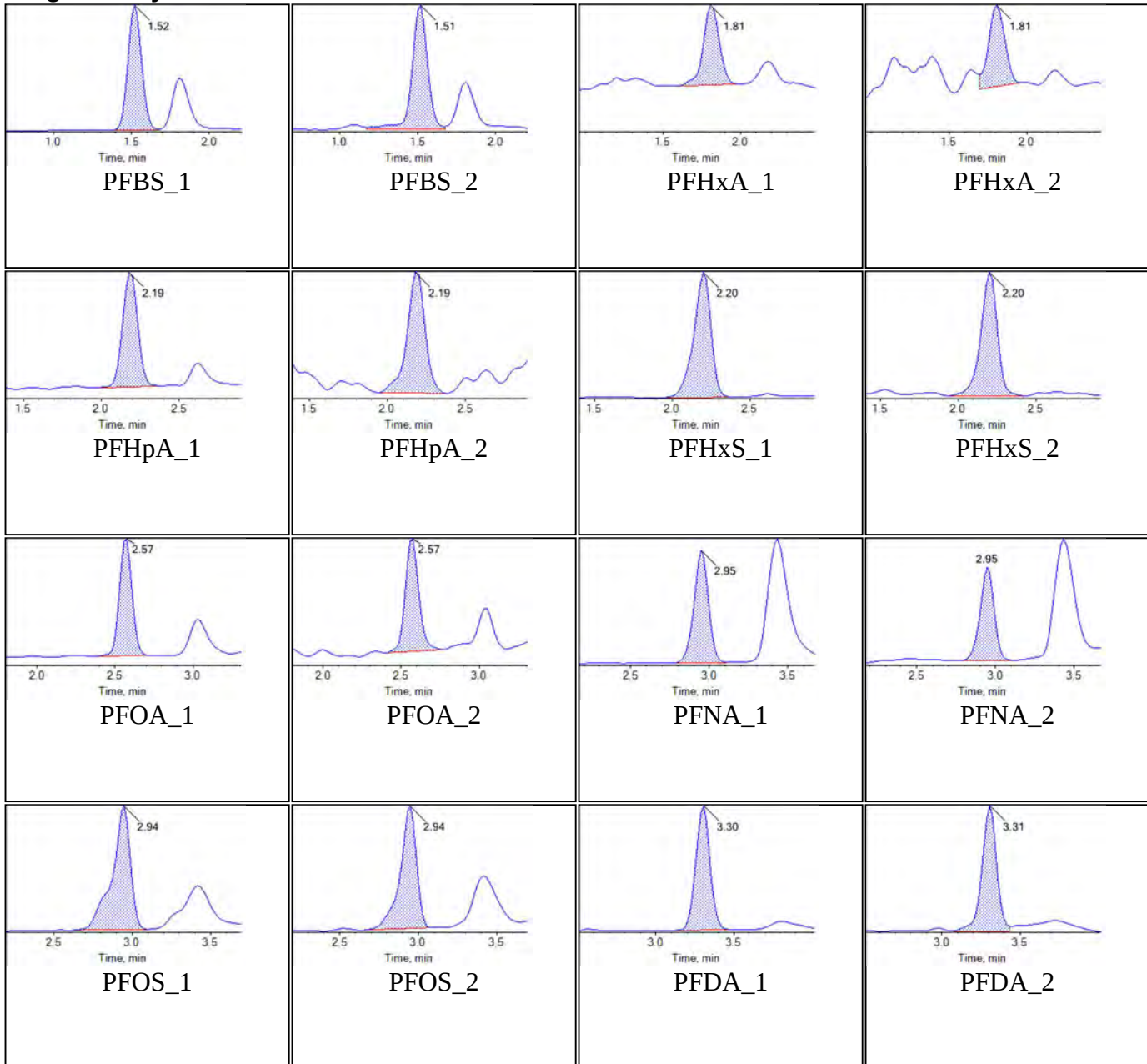


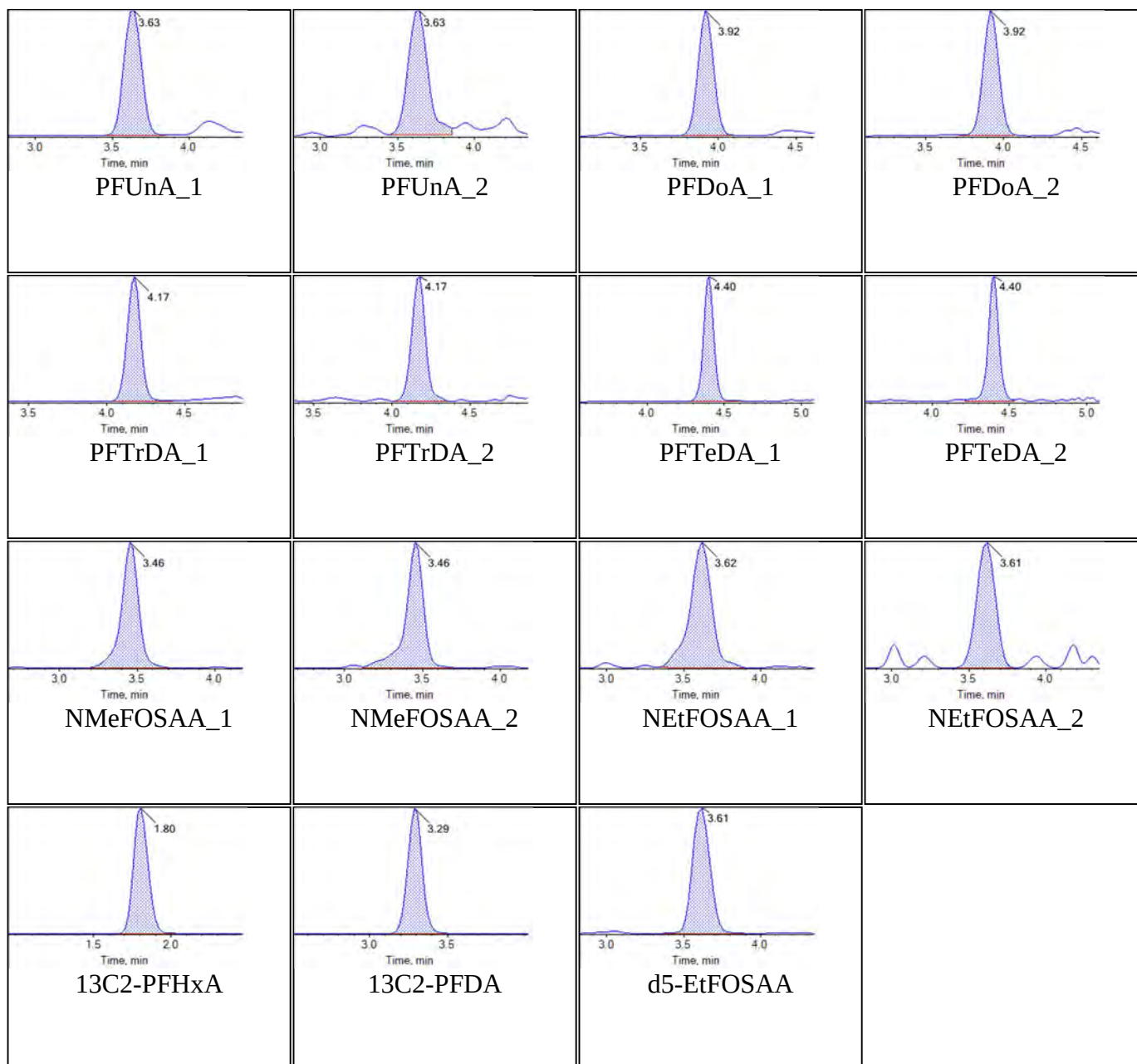
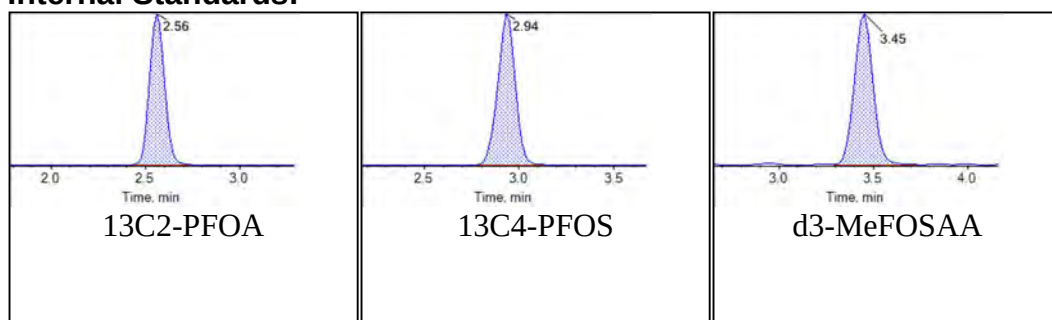
**Internal Standards:**

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:53:02	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

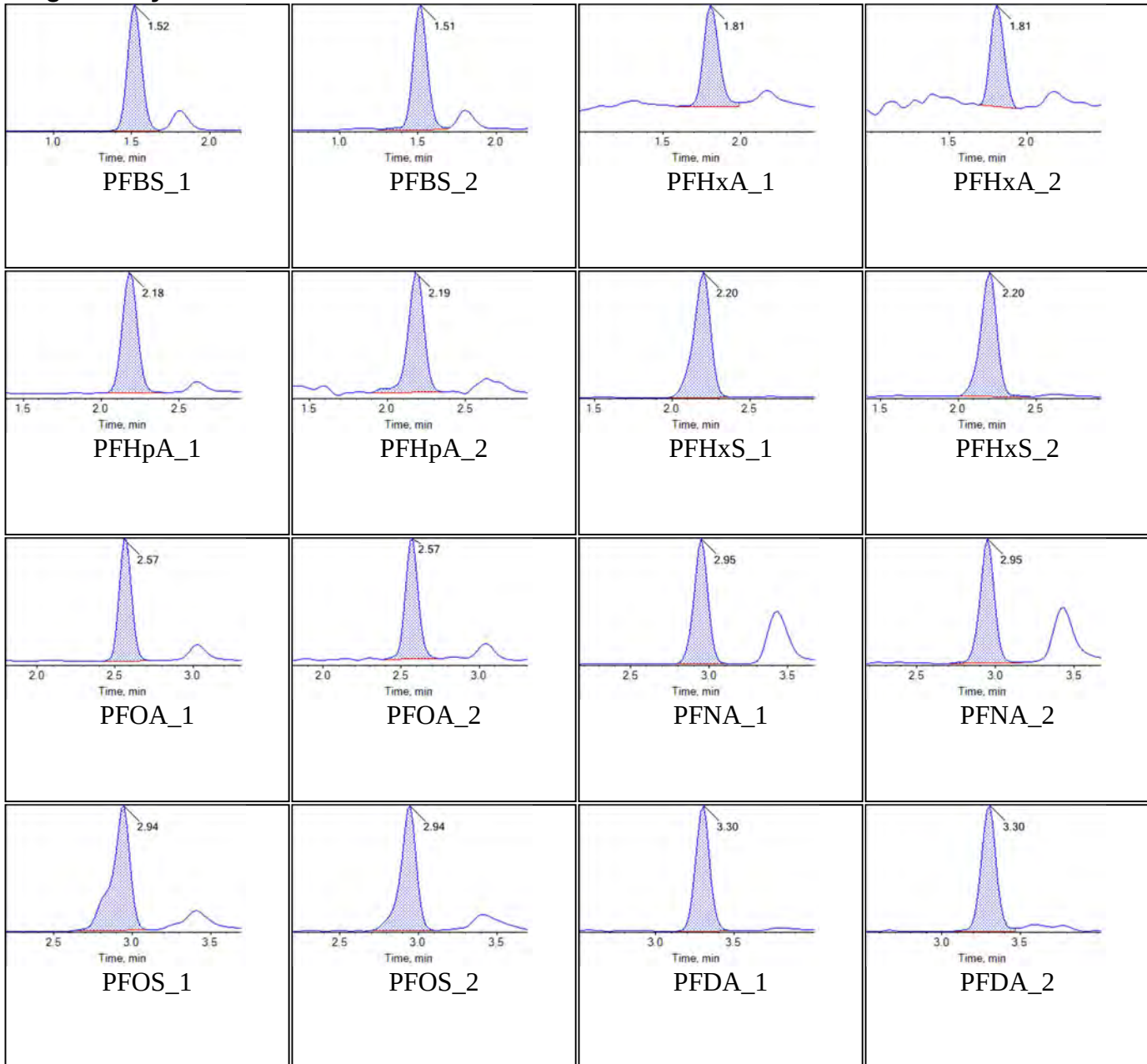


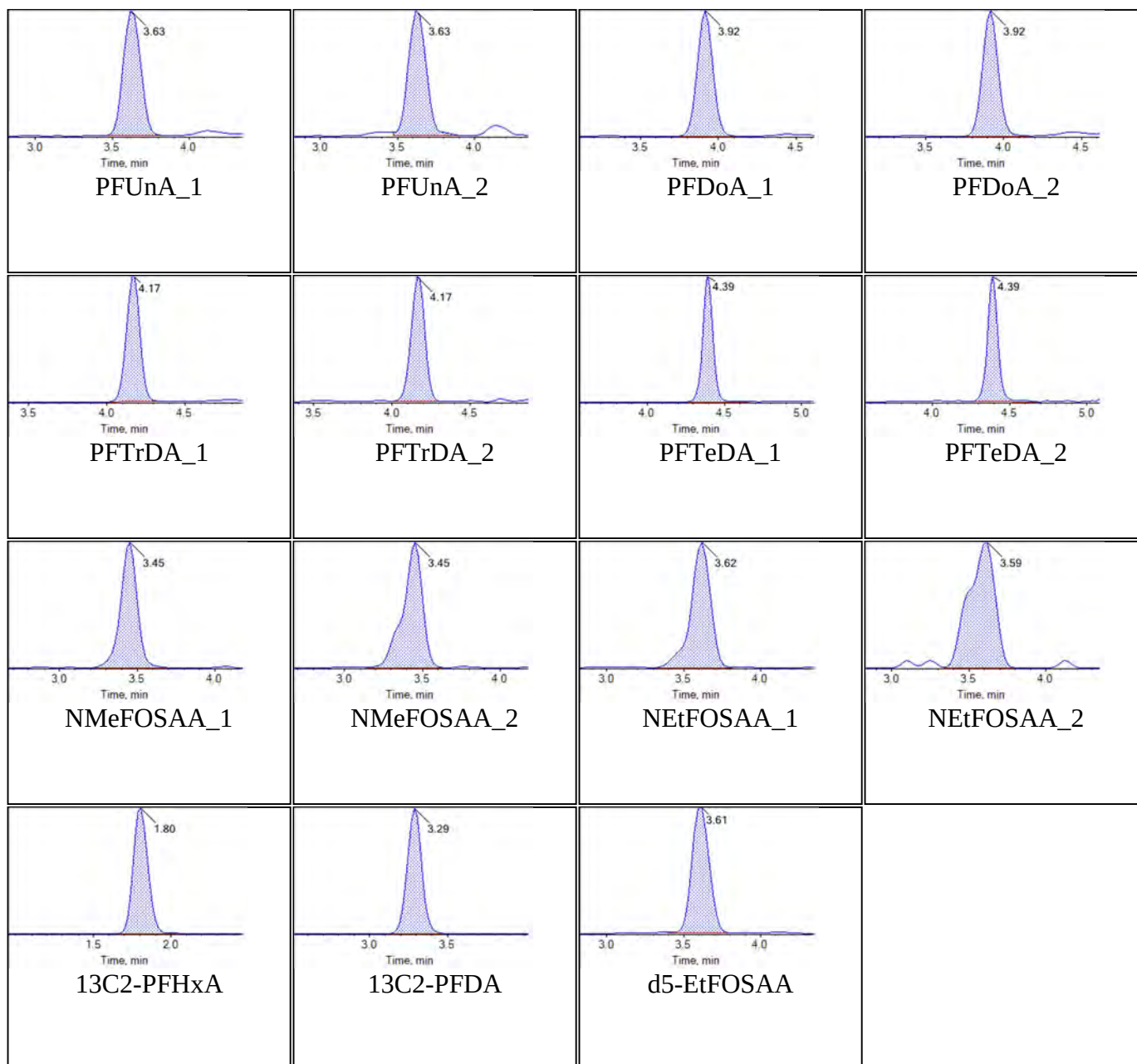
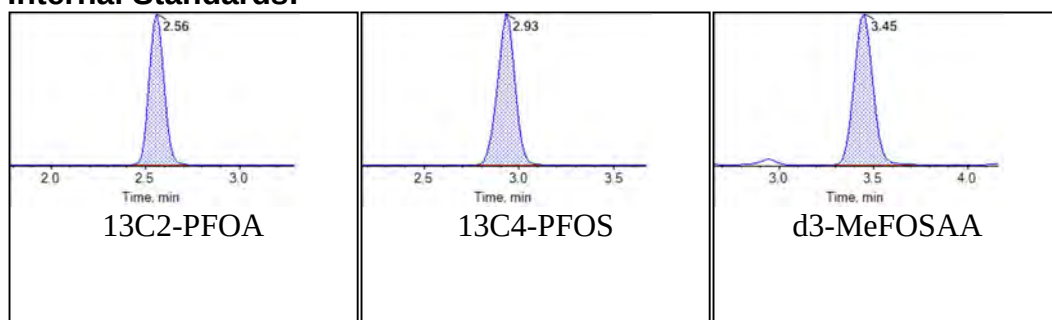
**Internal Standards:**

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:01:57	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

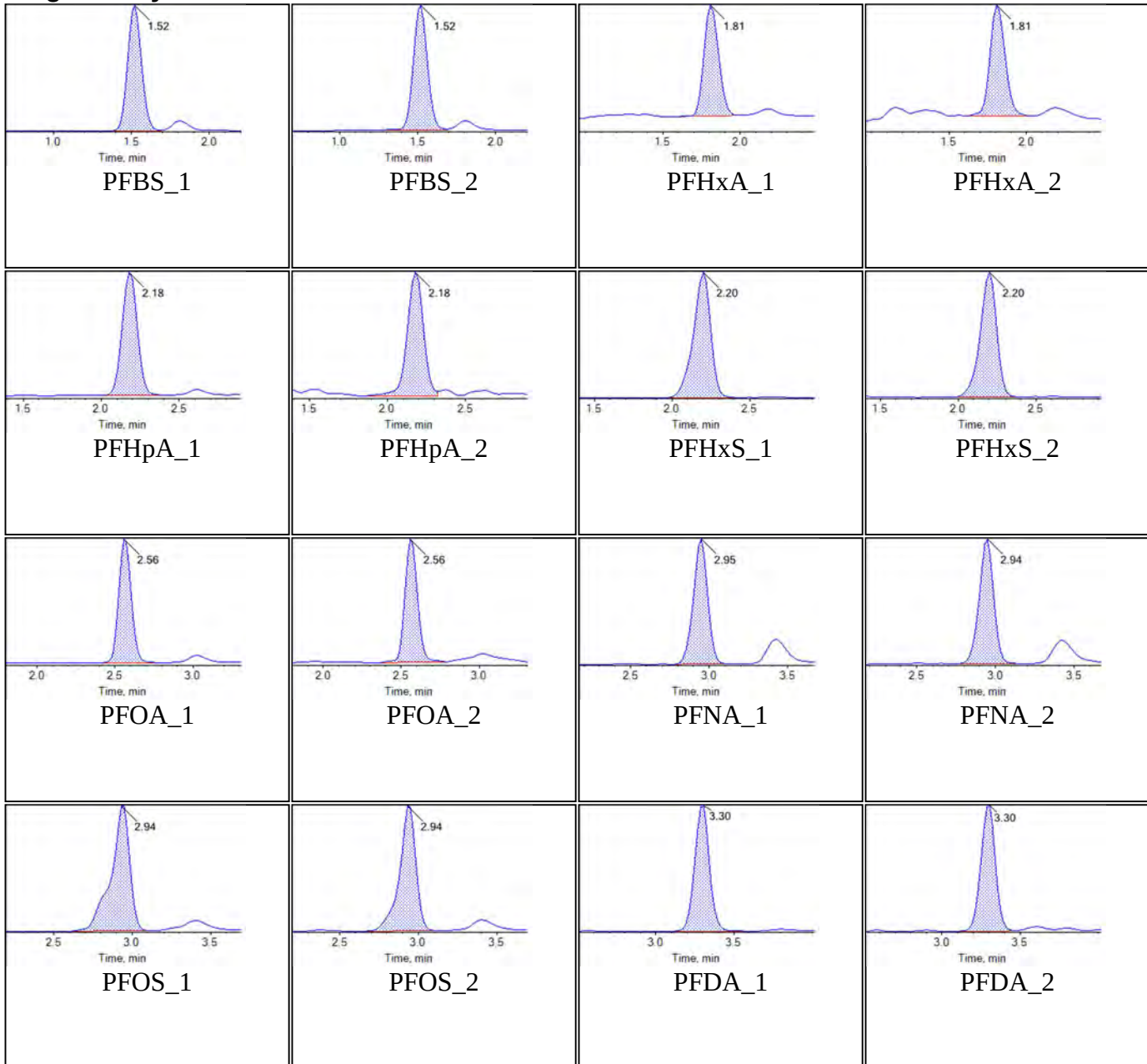


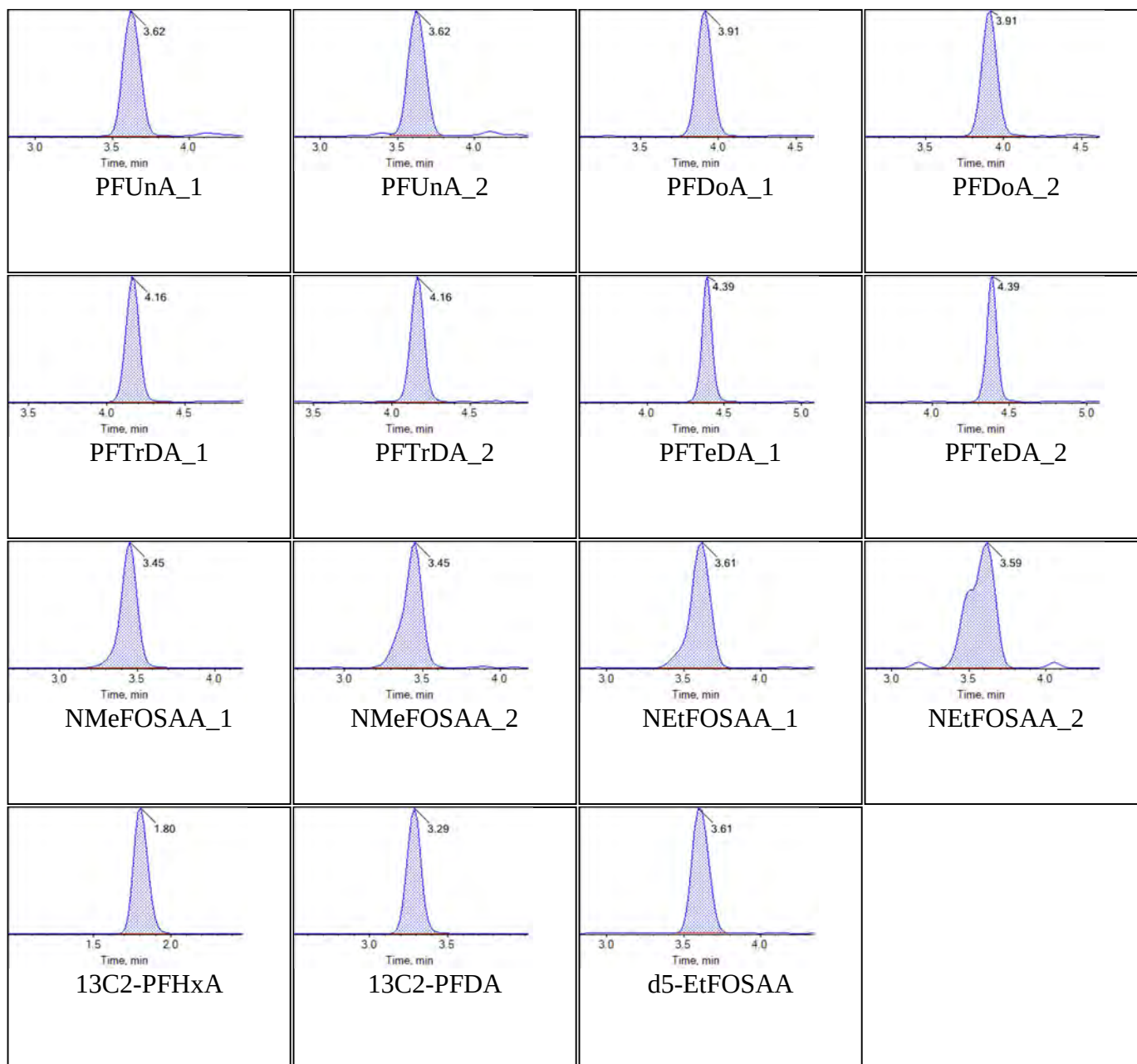
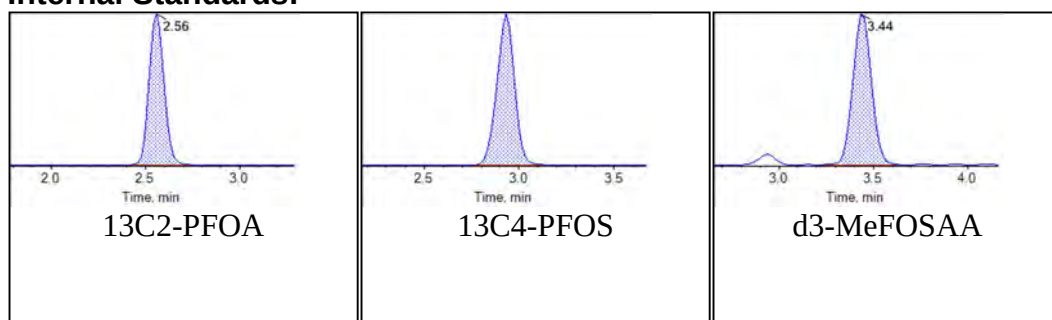
**Internal Standards:**

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:10:53	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

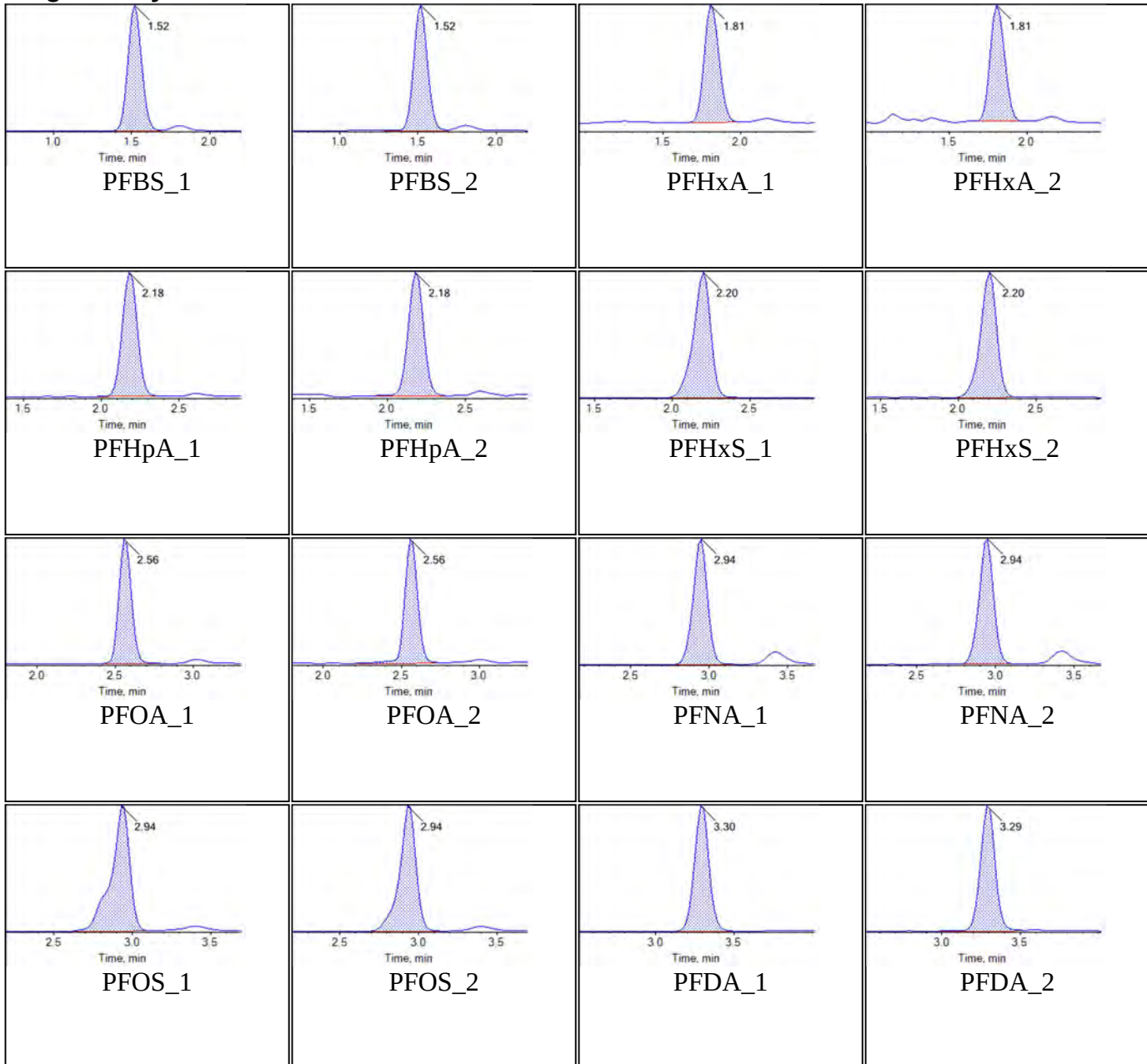


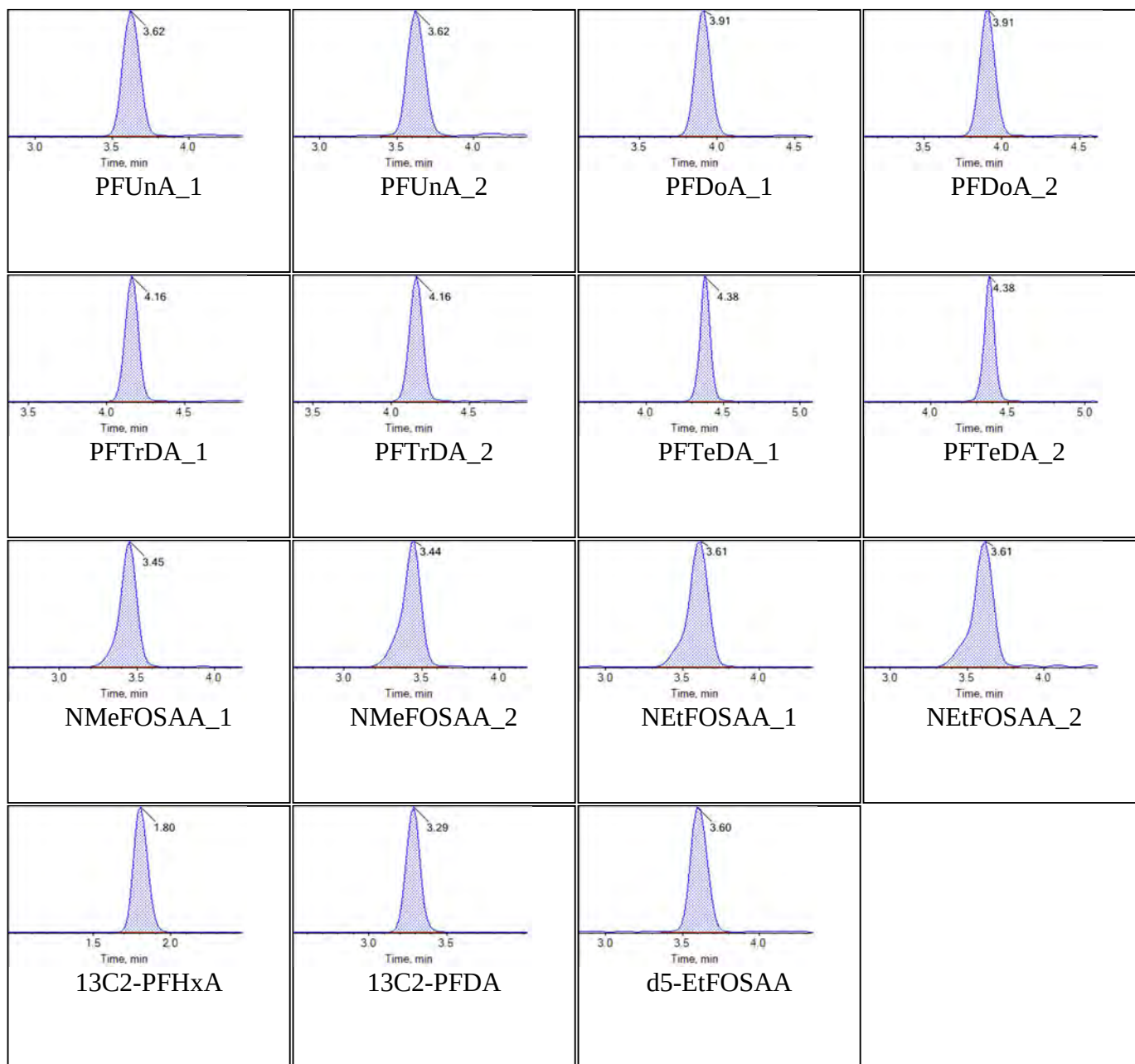
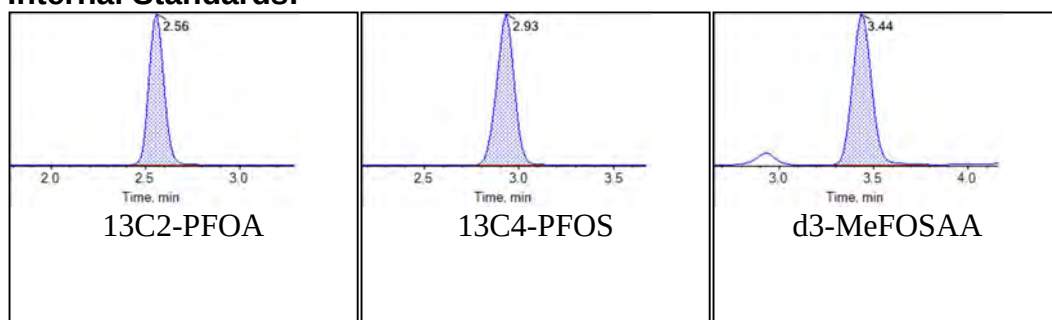
**Internal Standards:**

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:19:49	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

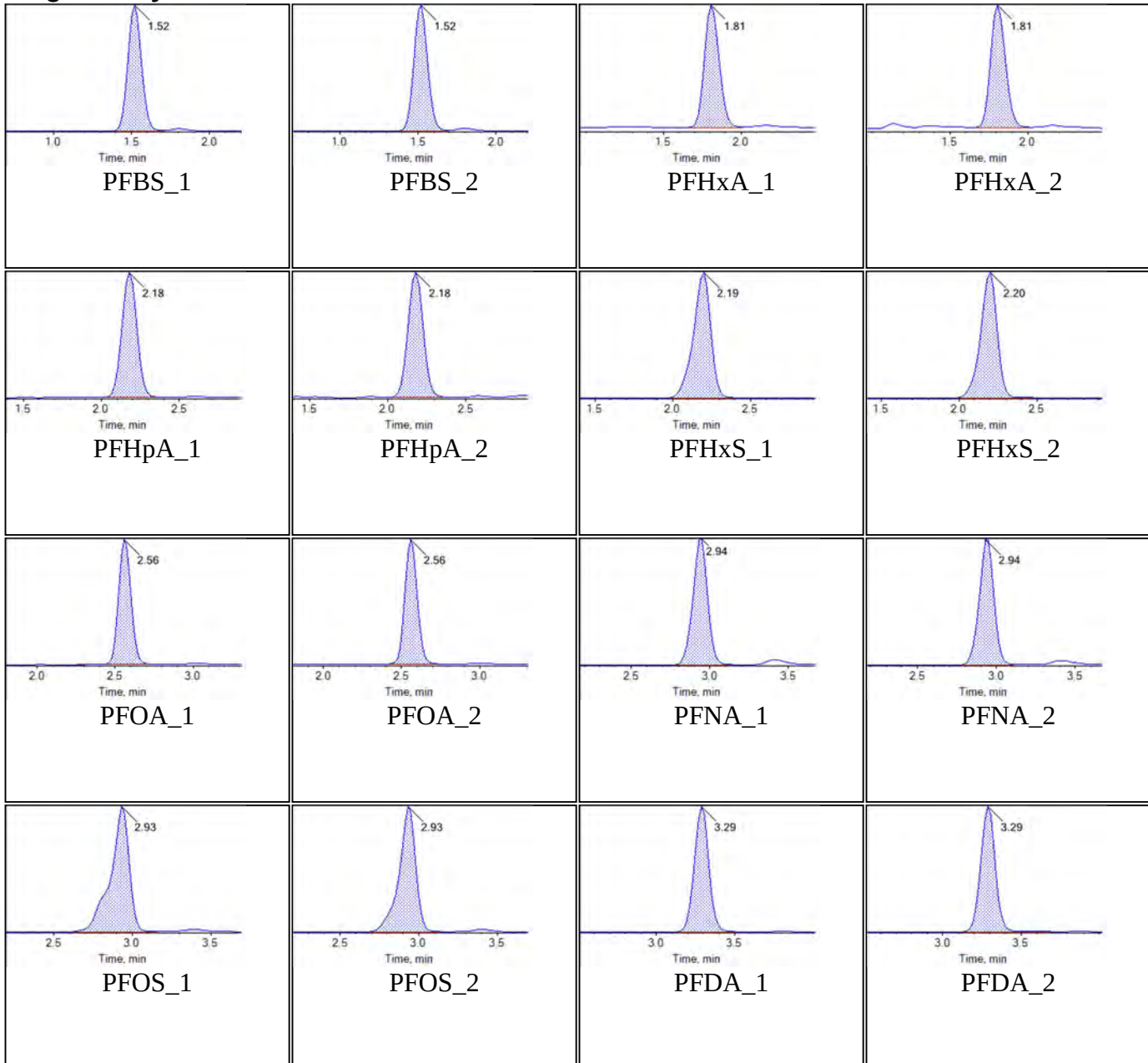


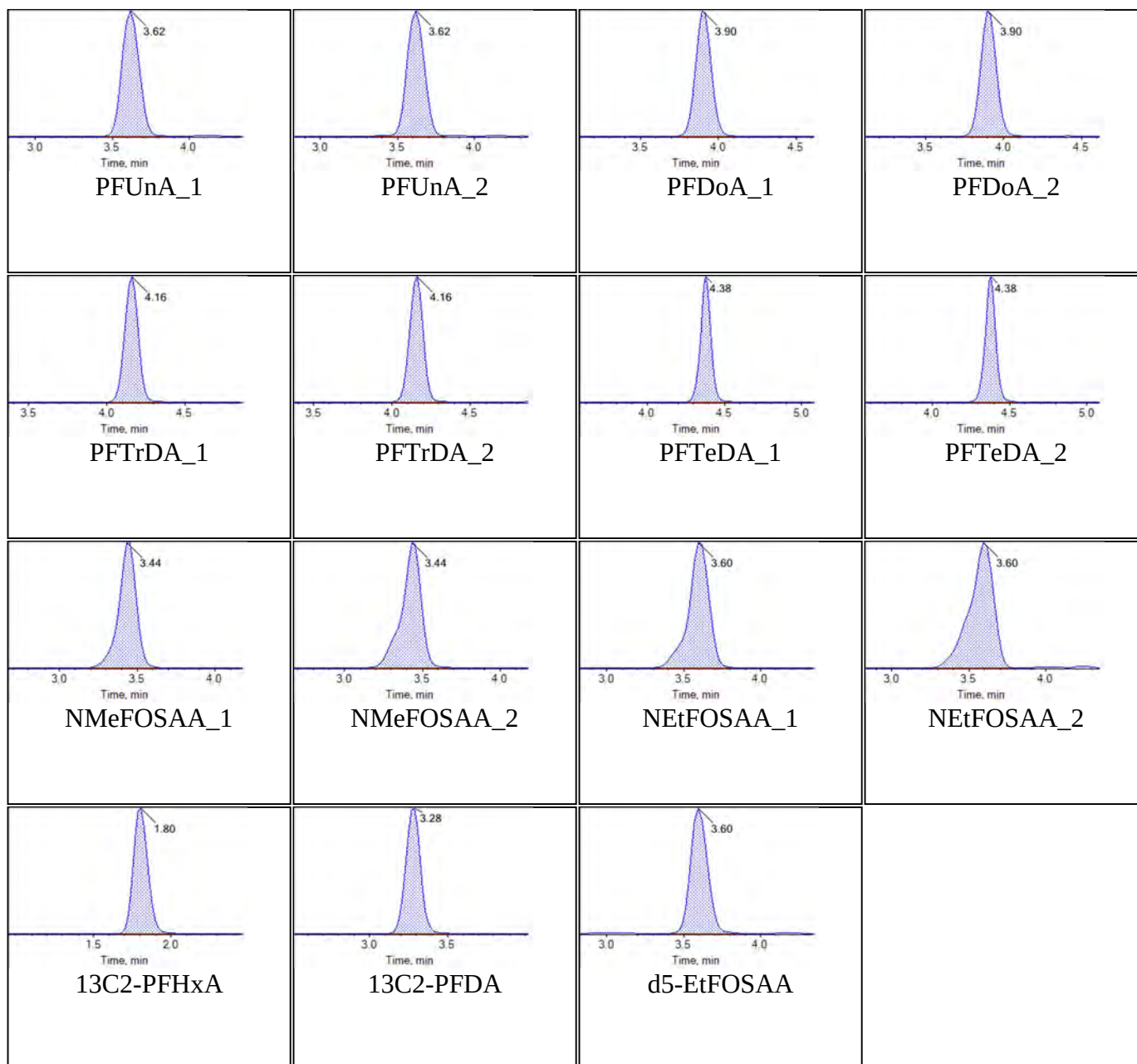
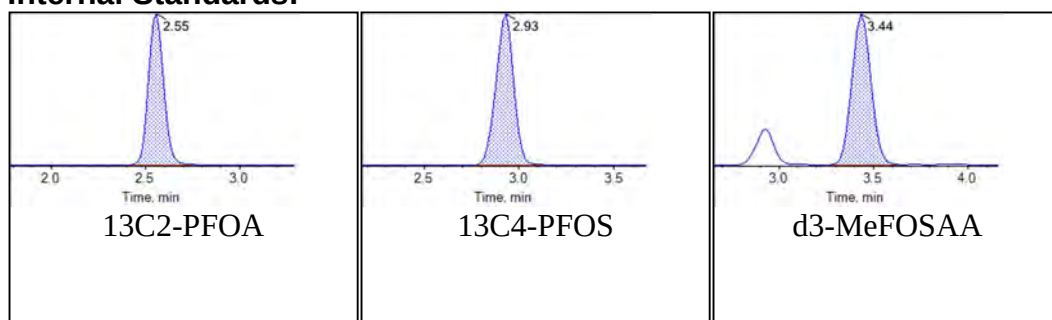
**Internal Standards:**

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:28:45	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

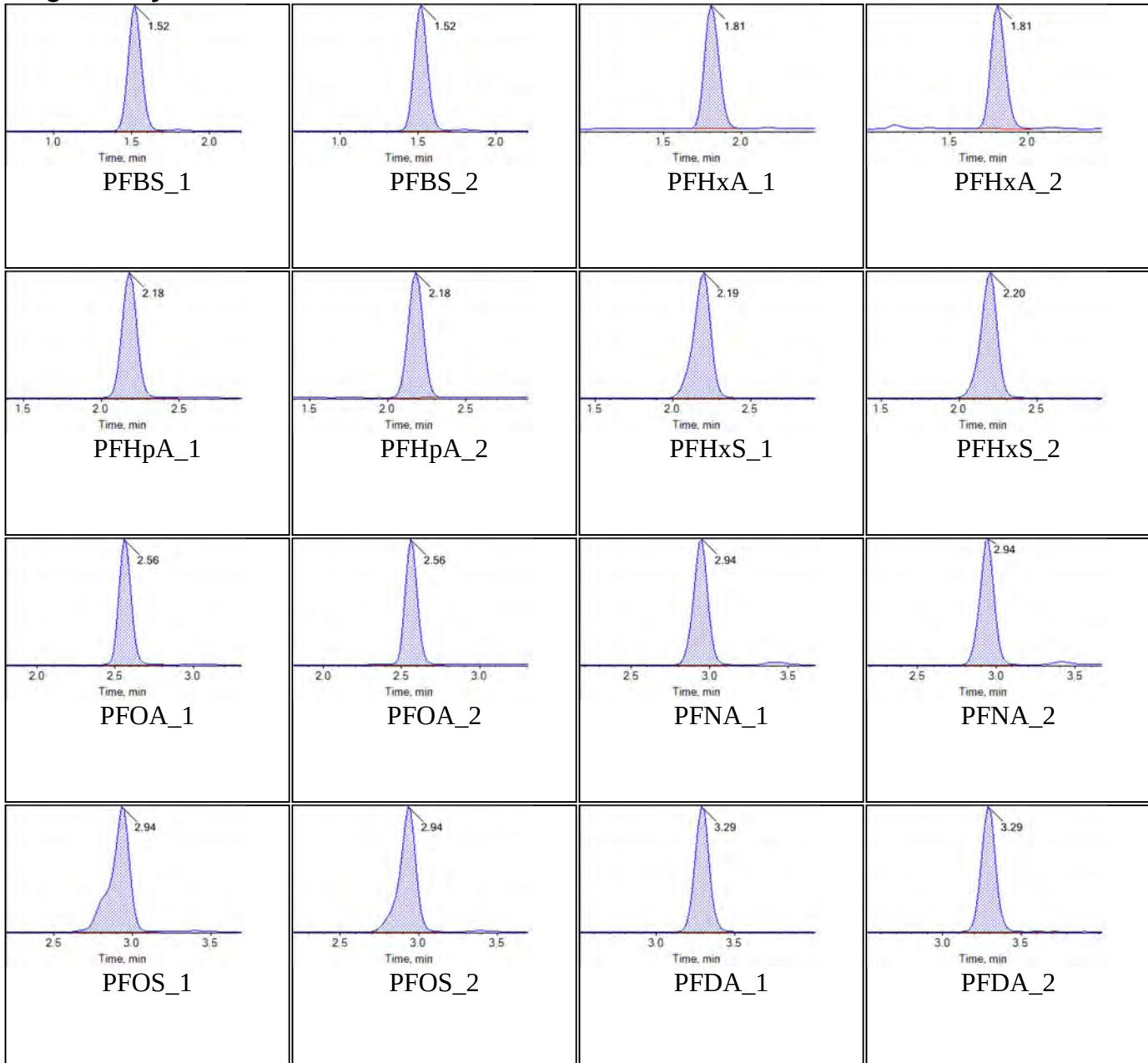


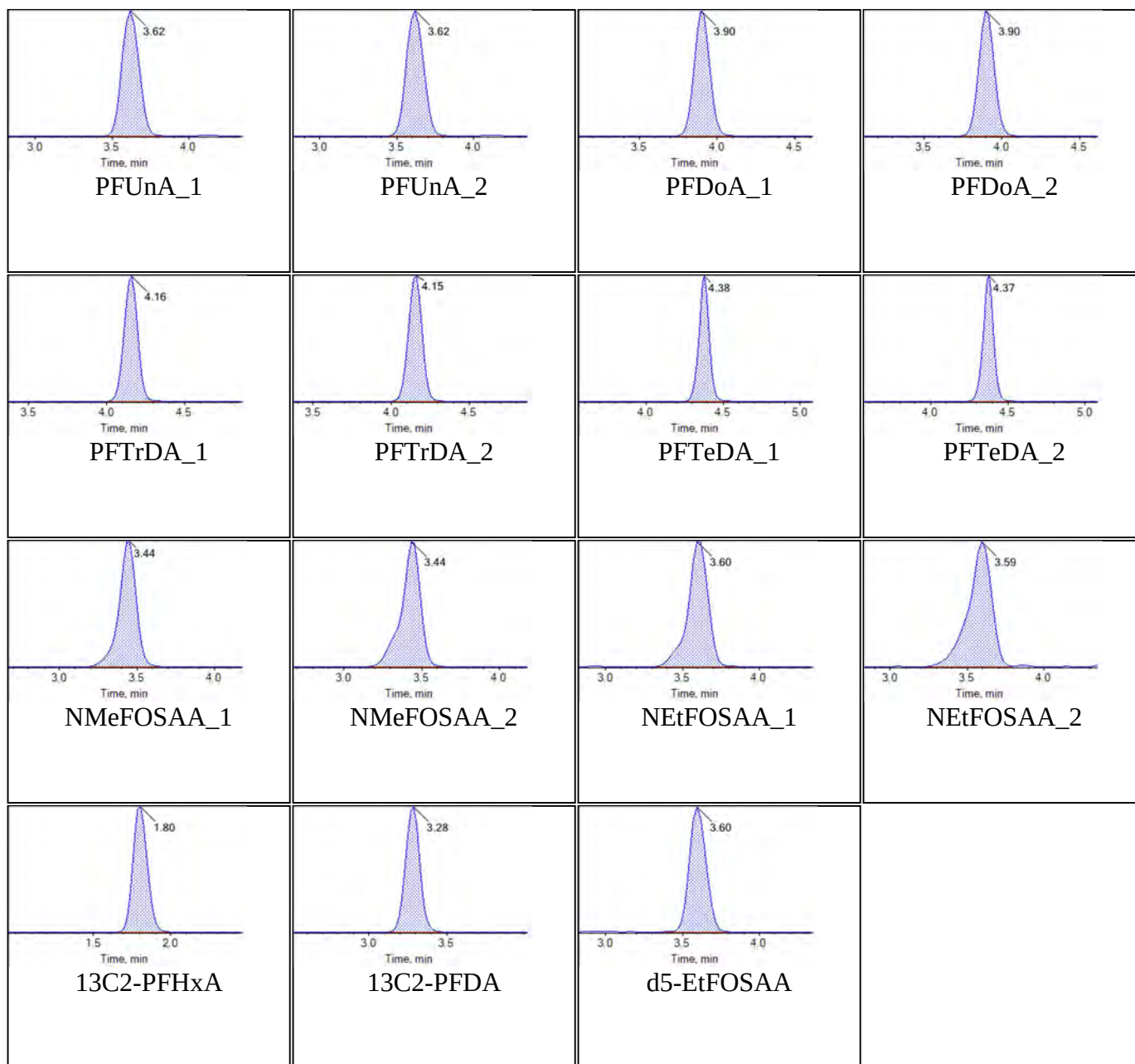
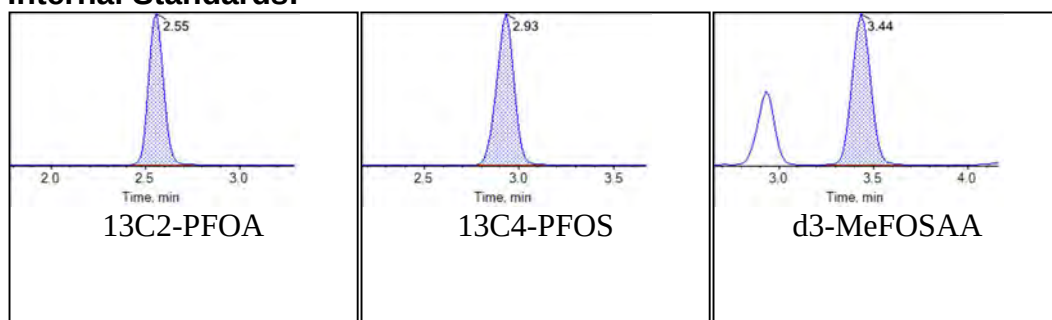
**Internal Standards:**

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:37:42	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

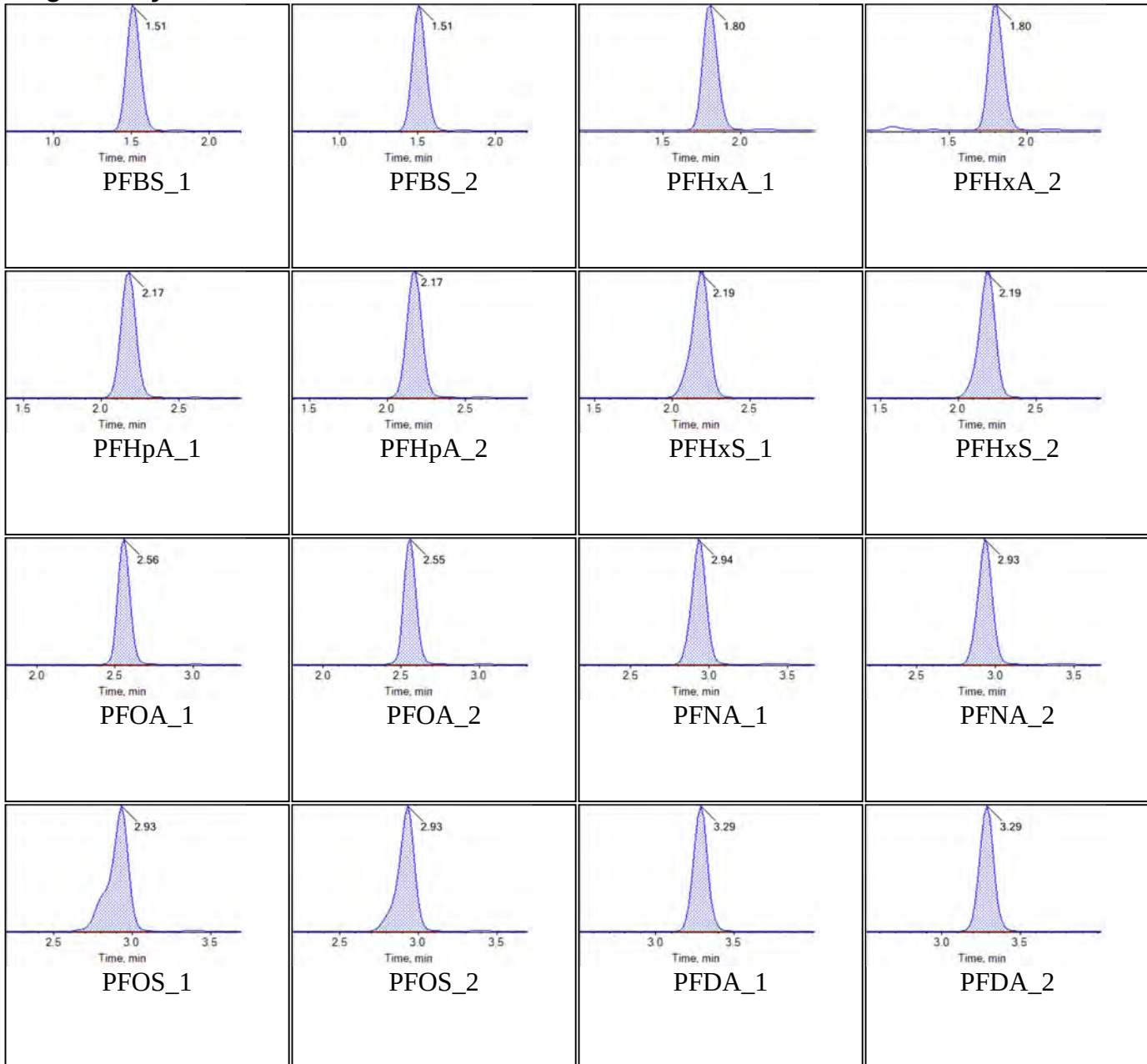


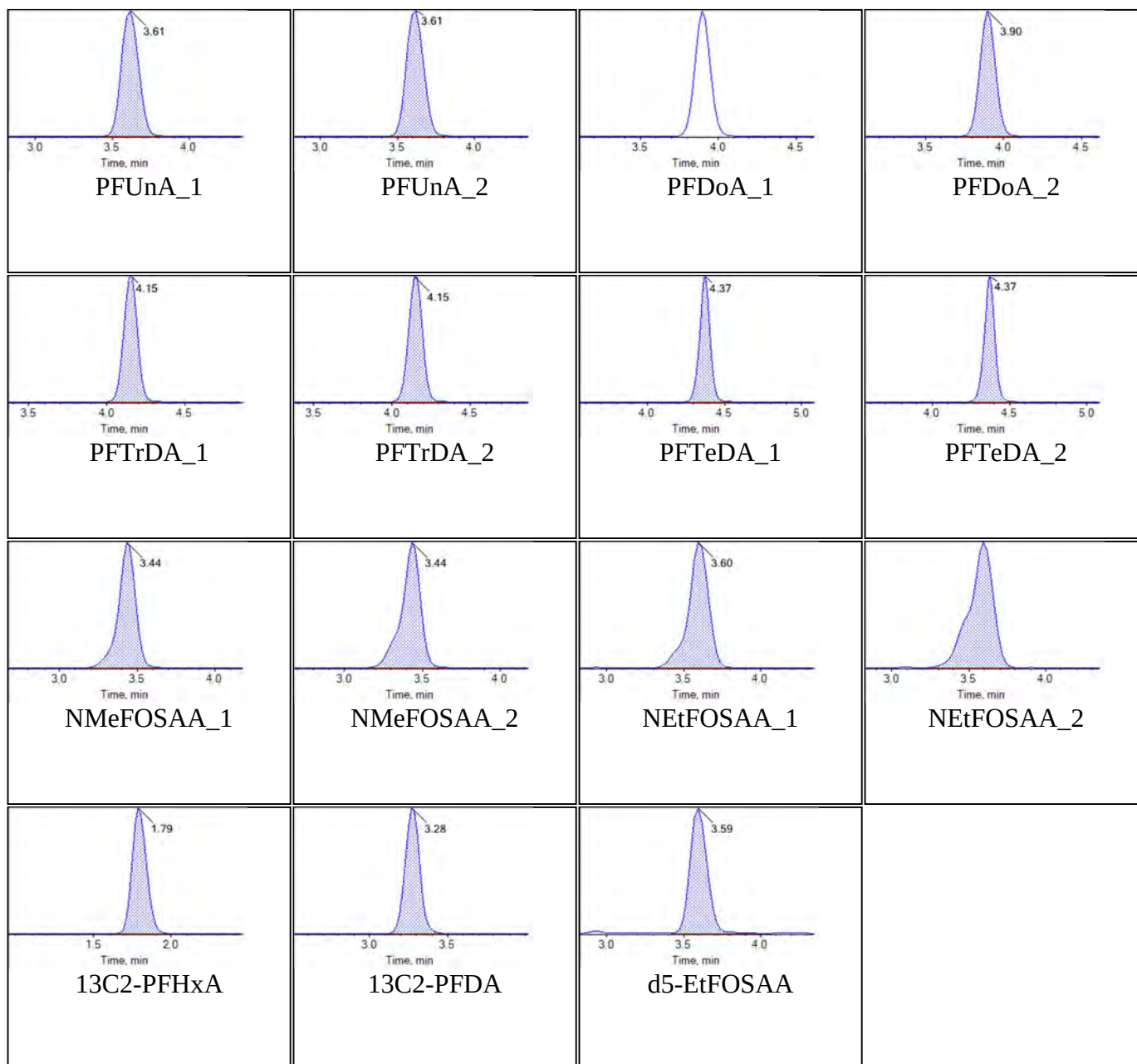
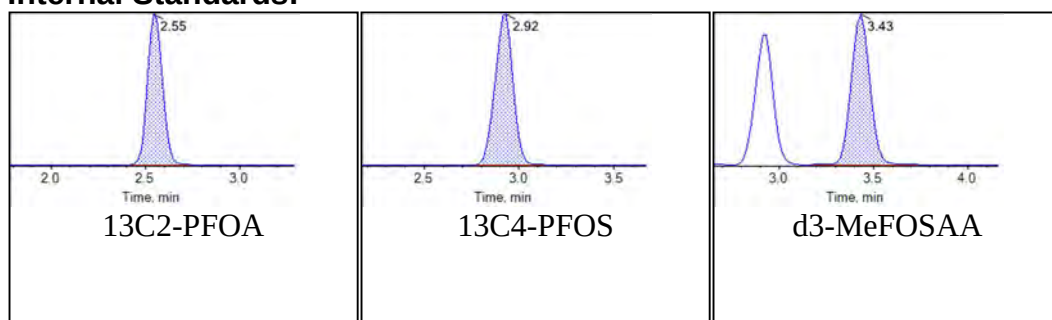
**Internal Standards:**

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:46:37	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

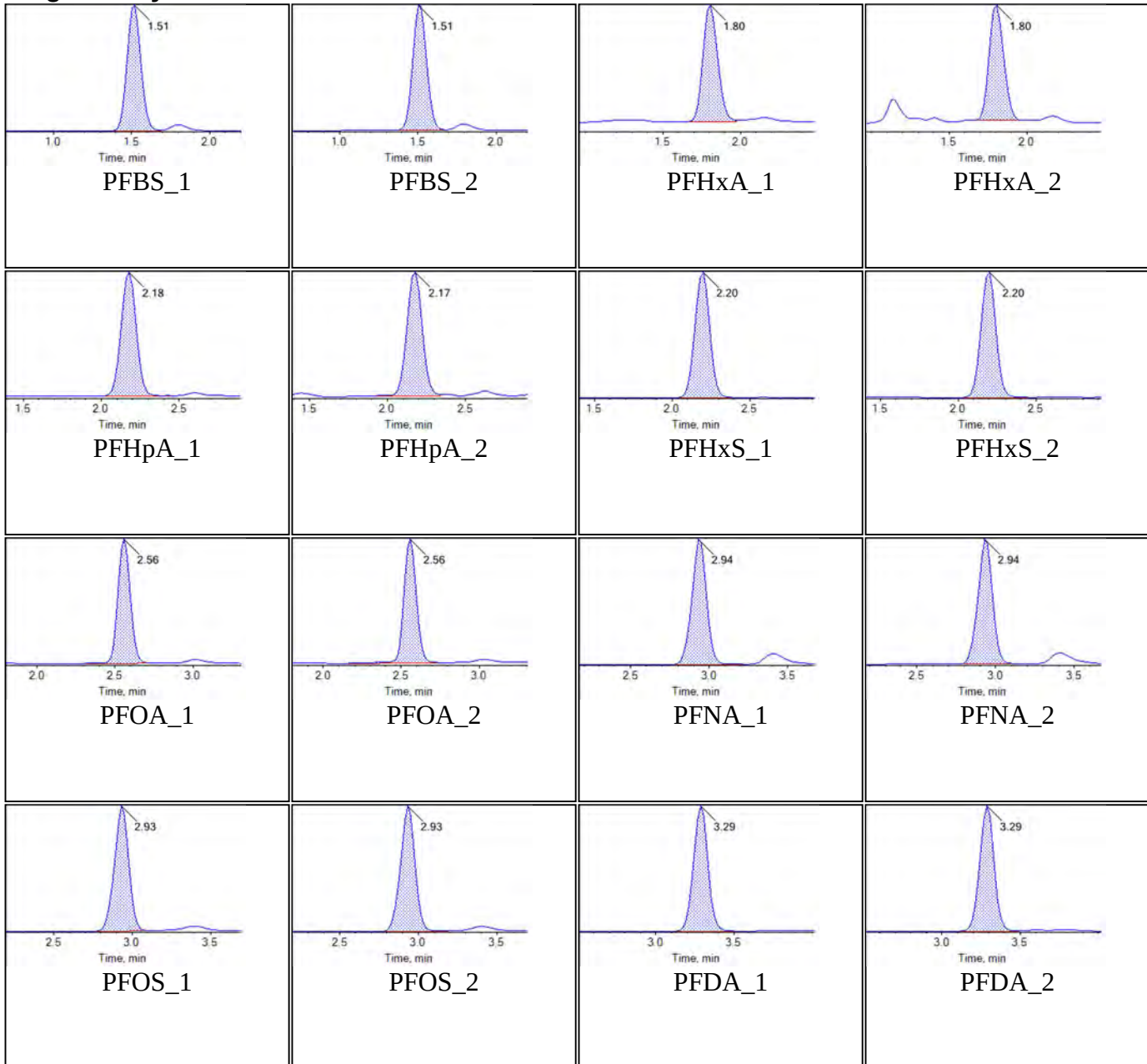


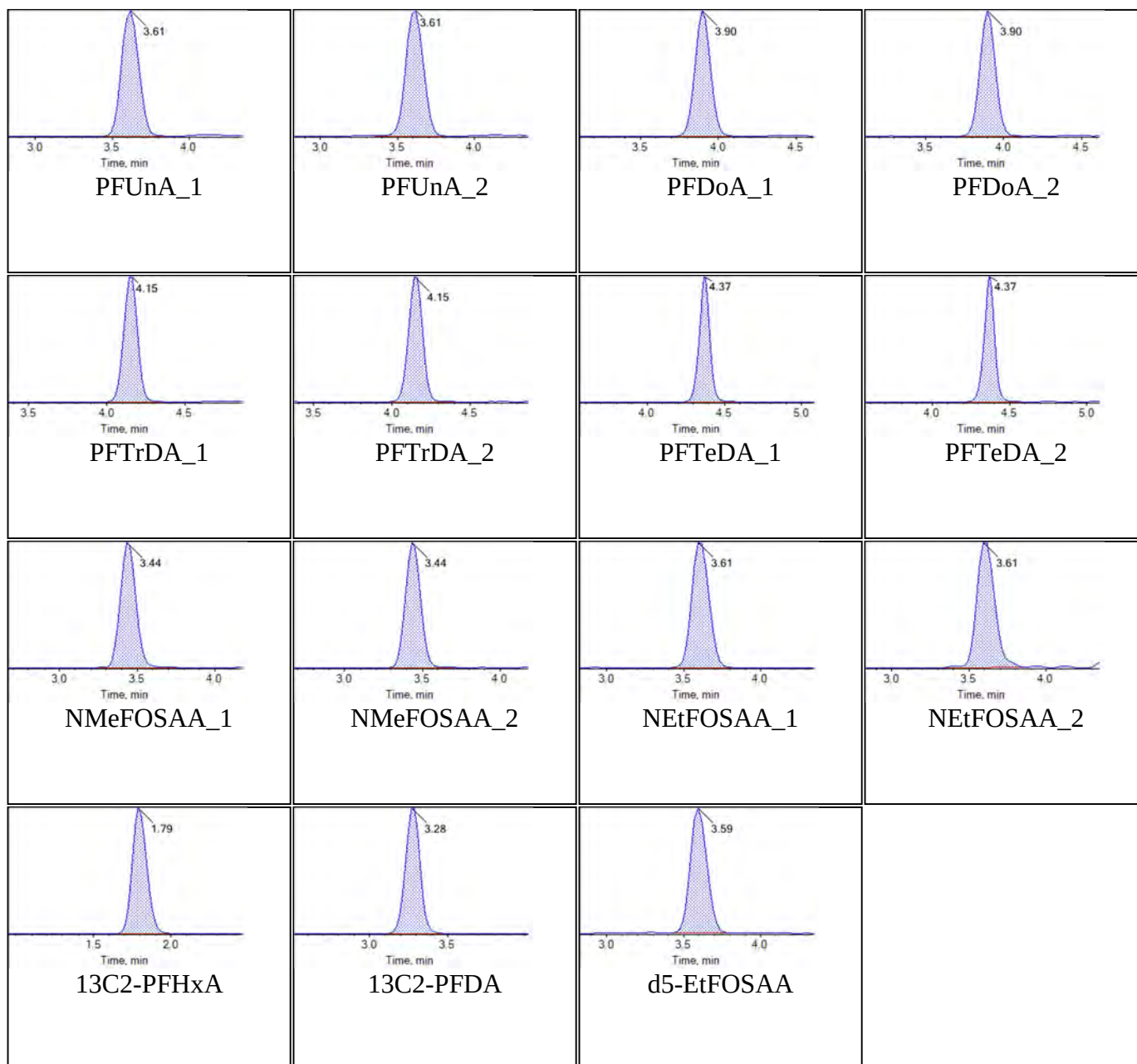
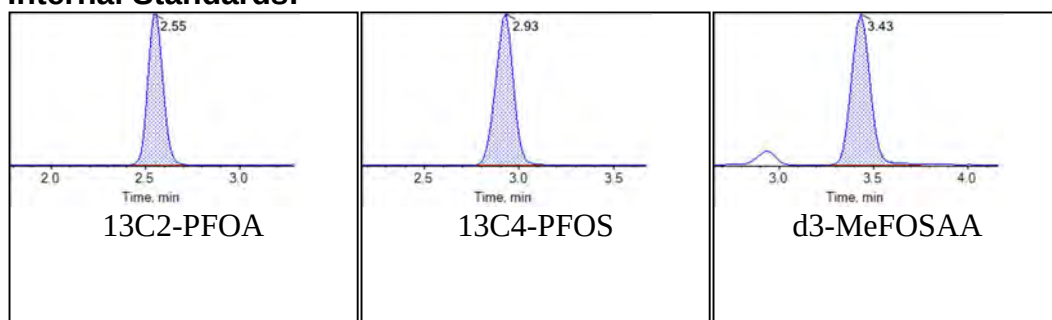
**Internal Standards:**

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

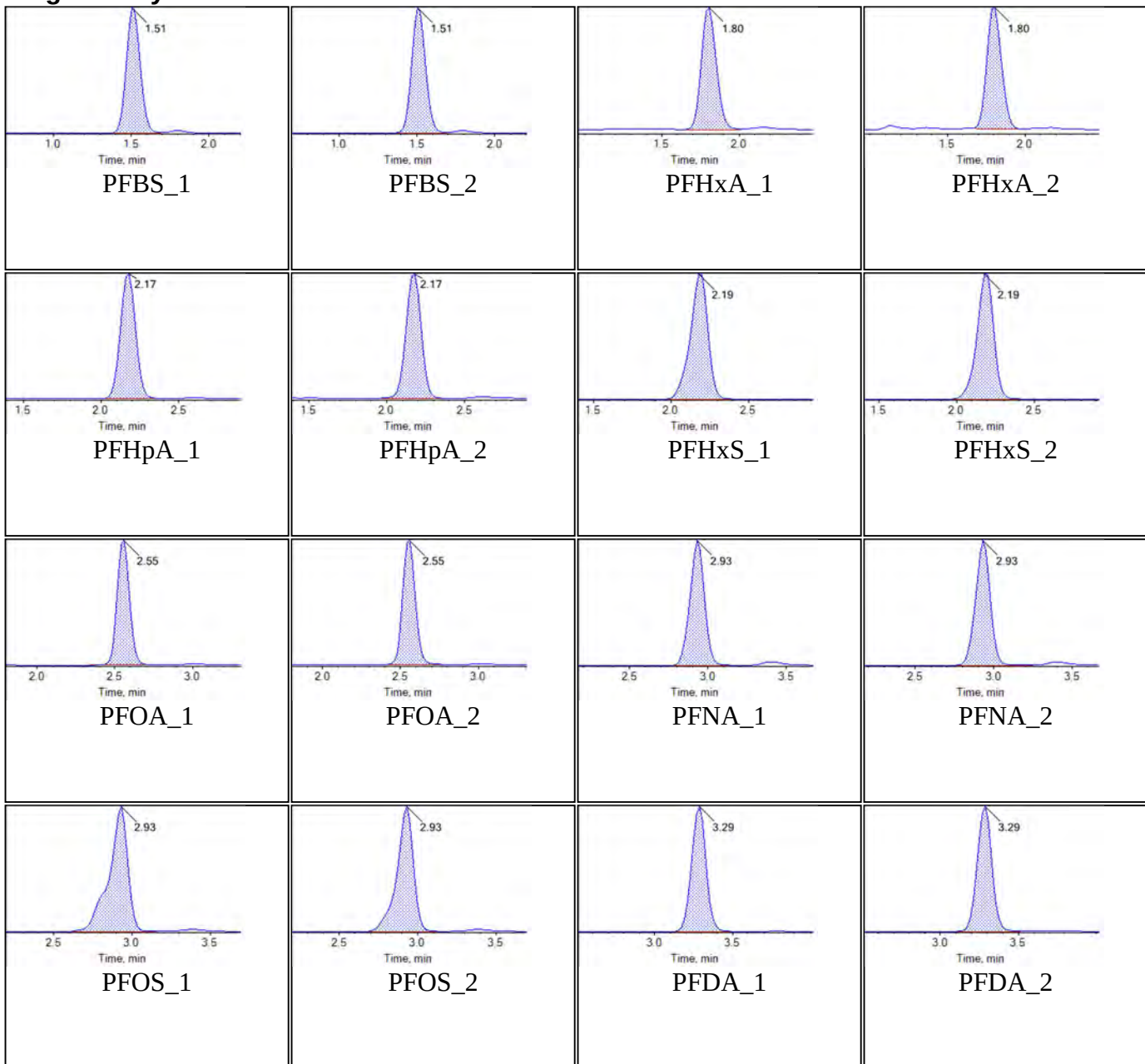


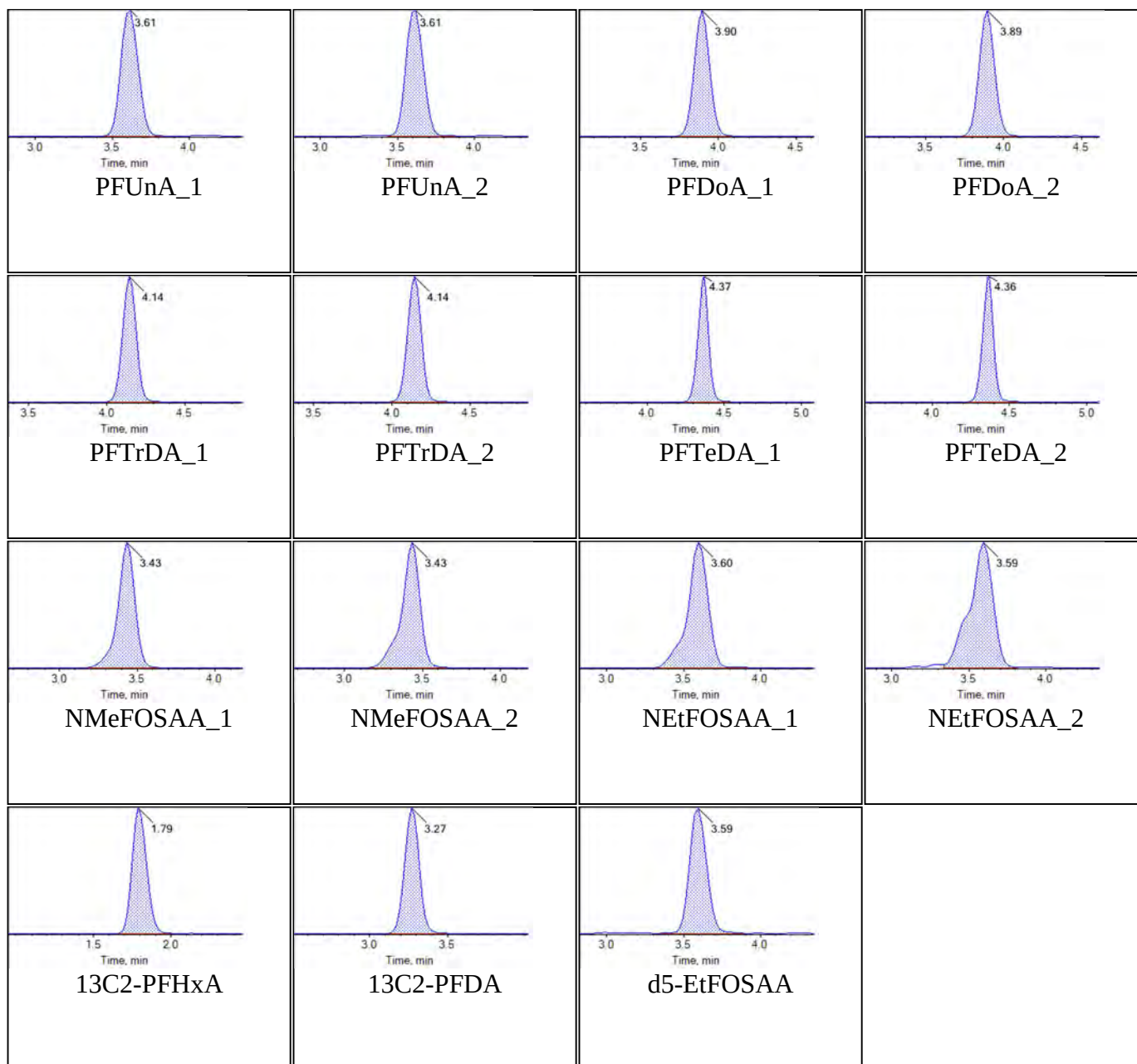
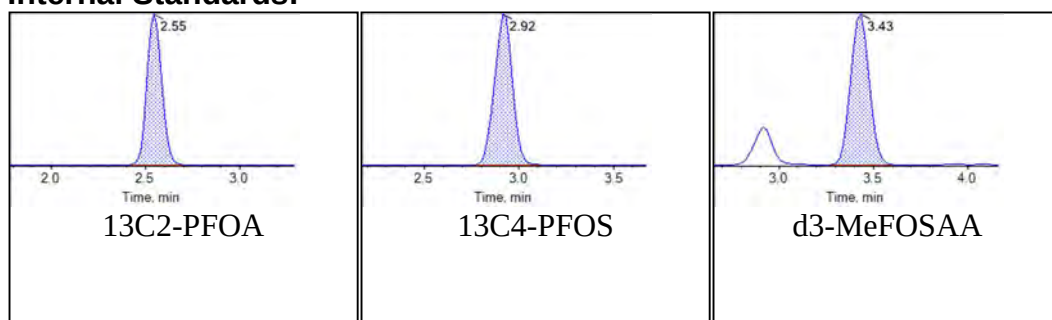
**Internal Standards:**

Sample Name	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

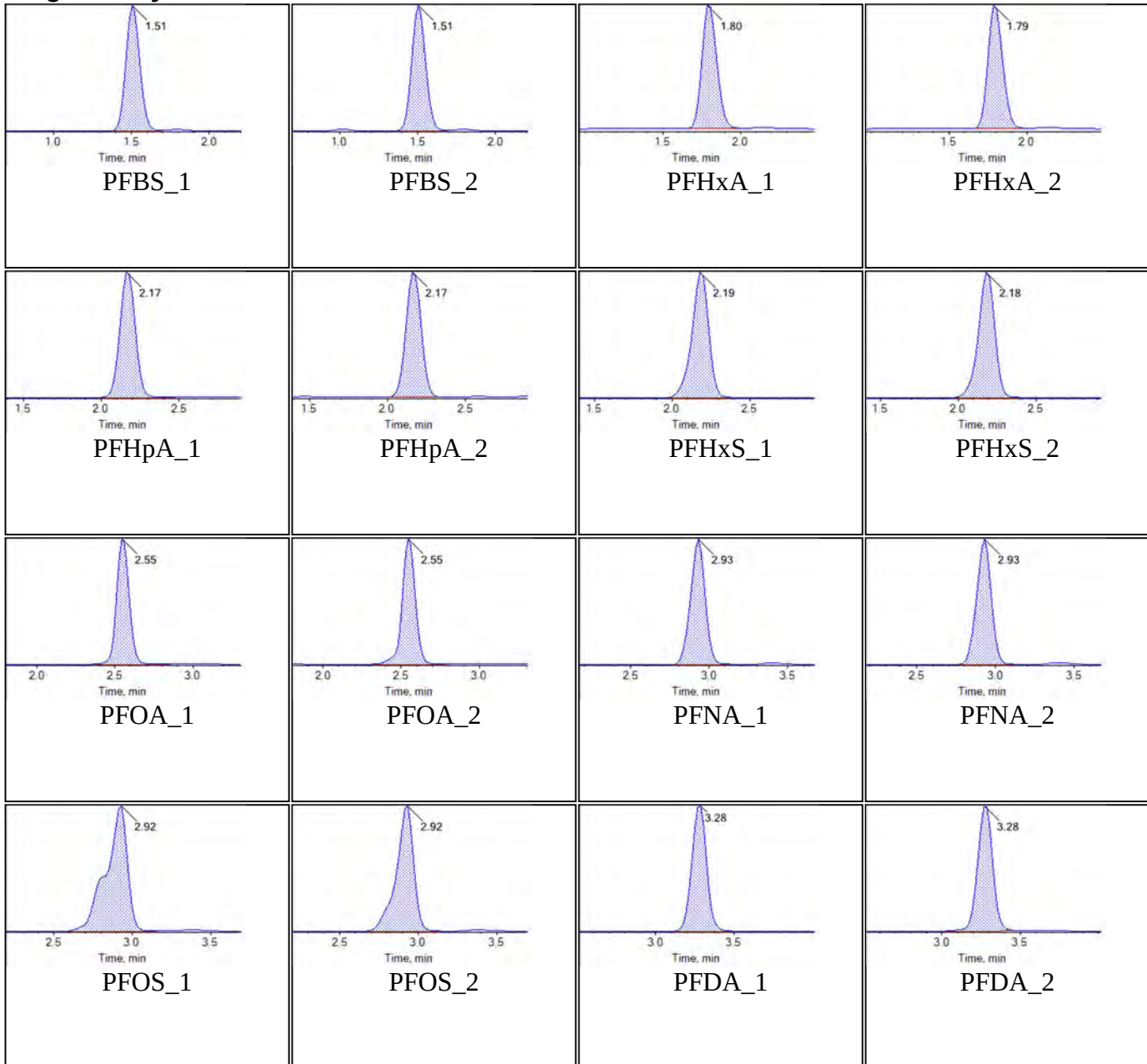


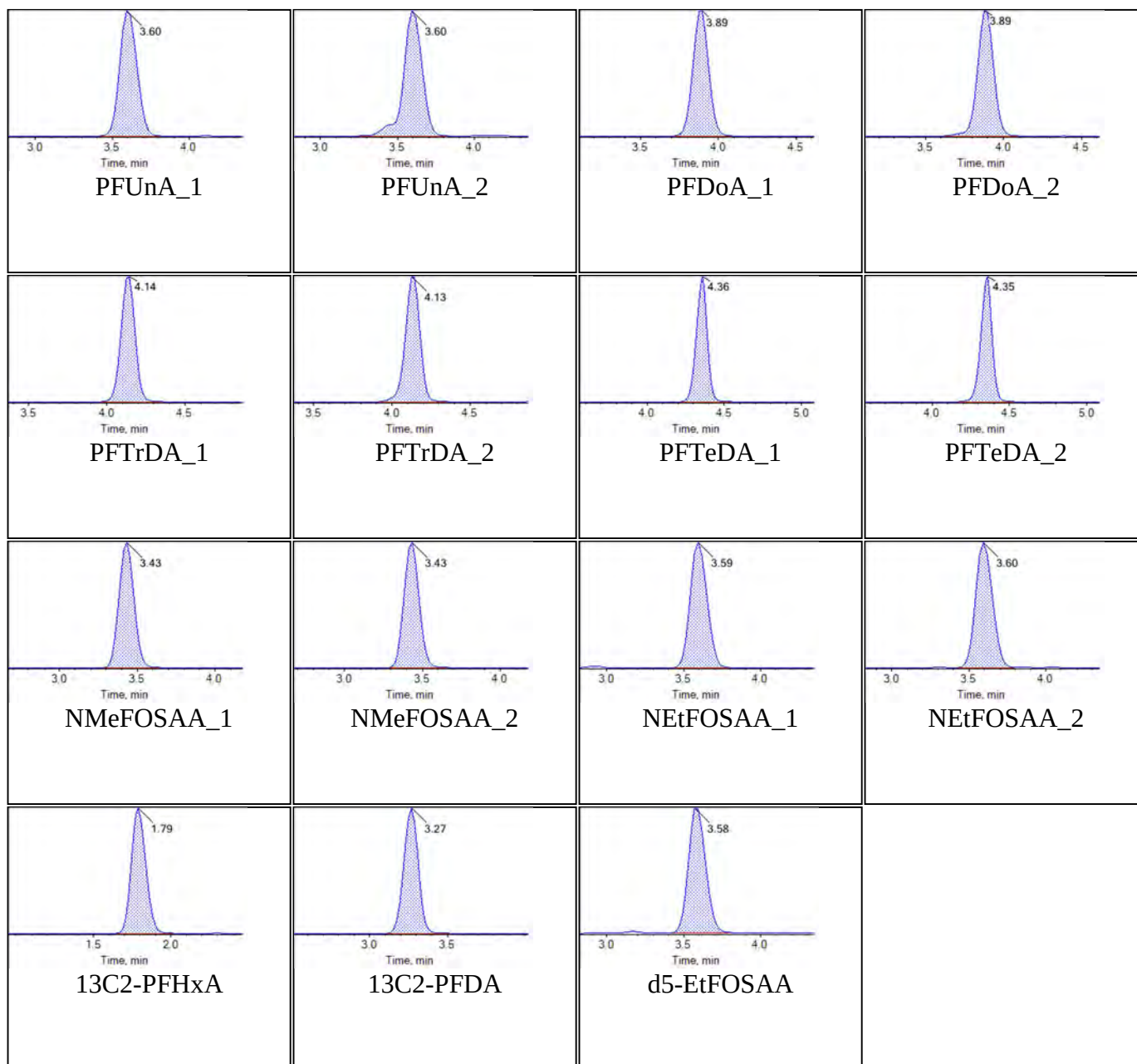
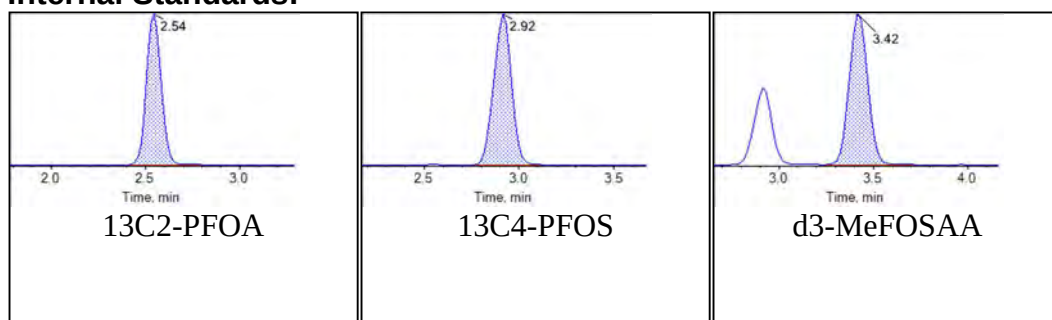
**Internal Standards:**

Sample Name	CR070LCS-FS(0)	Injection Vial	14
Sample ID	Laboratory Control Sample	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:49:17	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

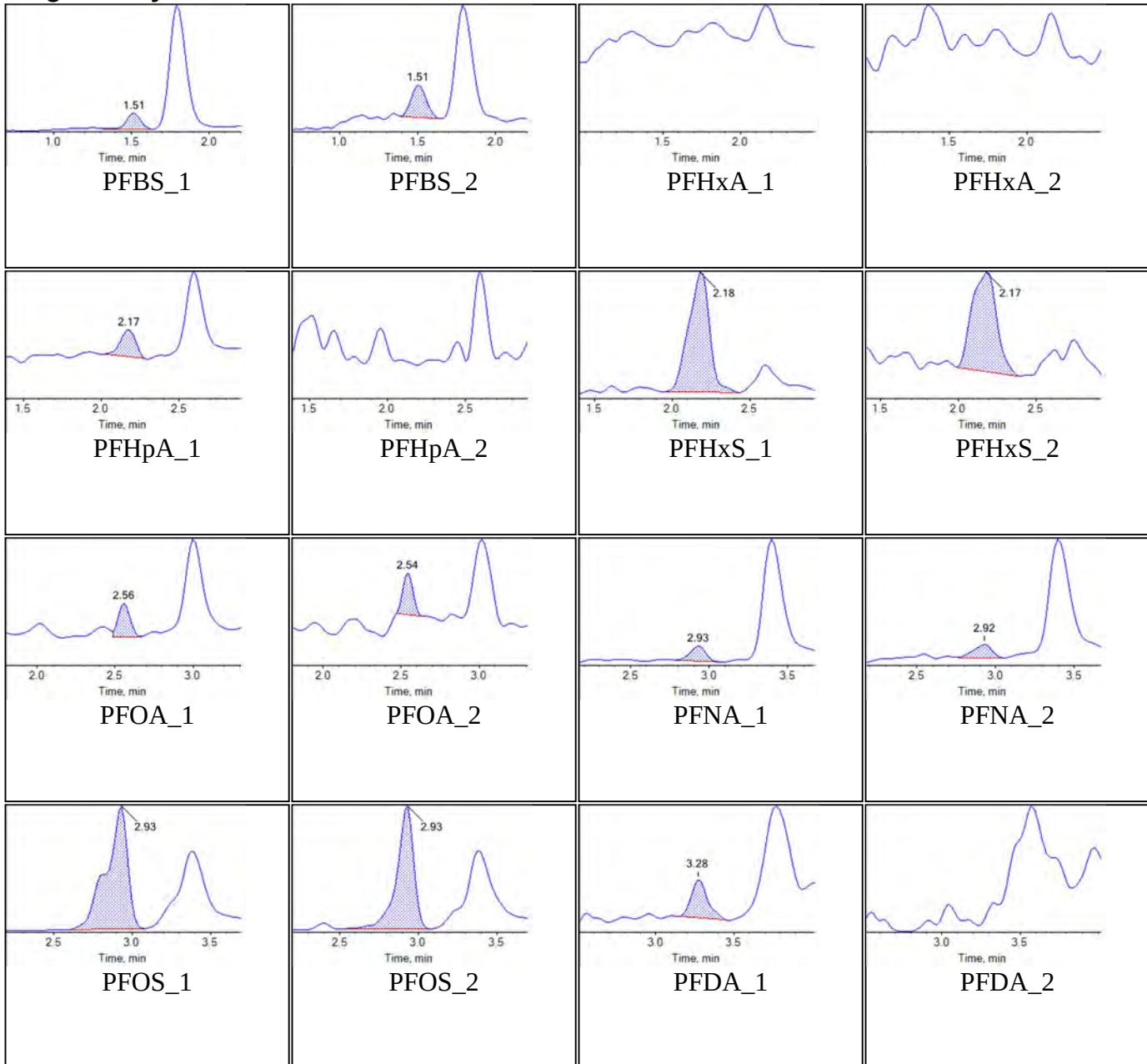


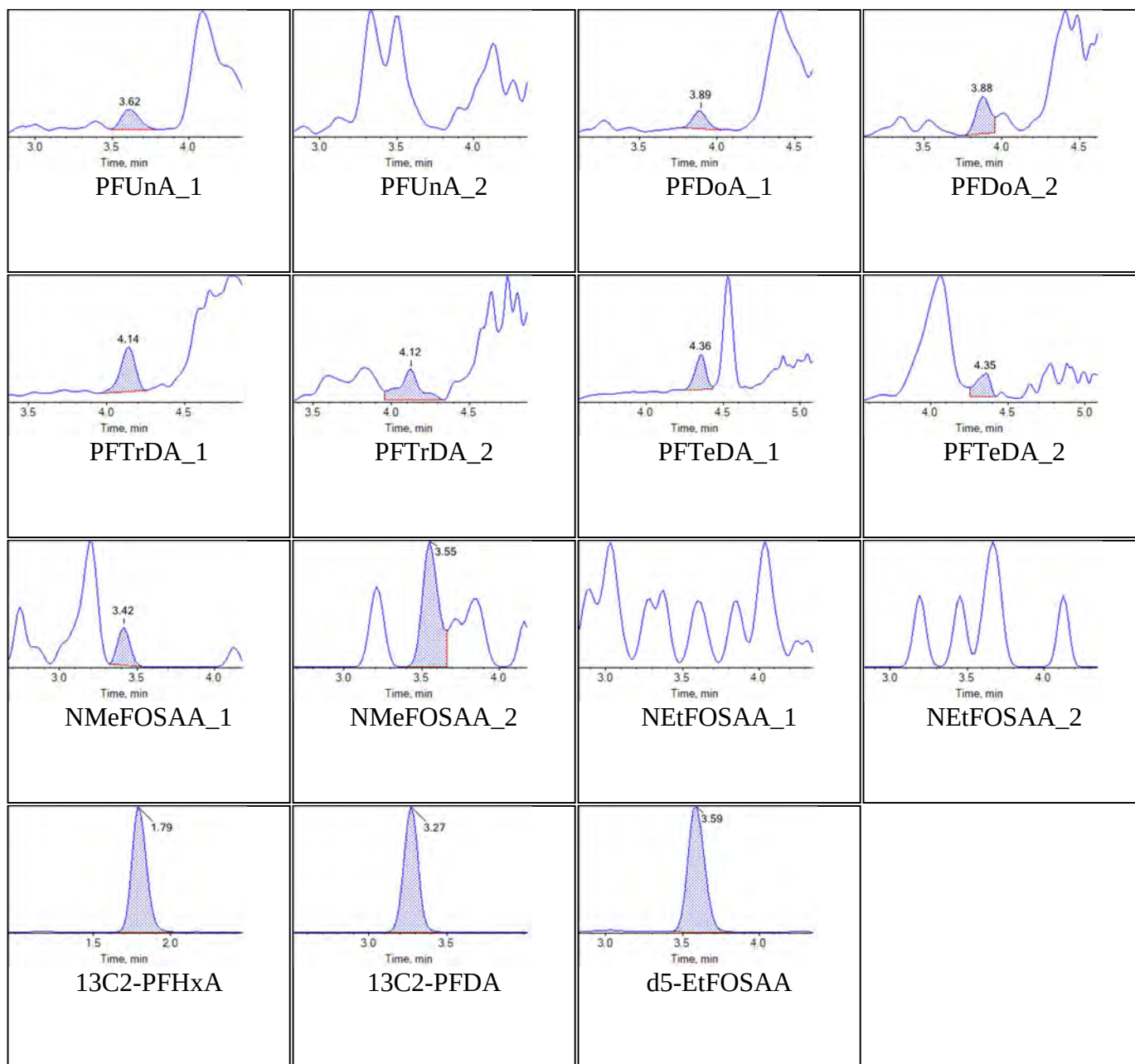
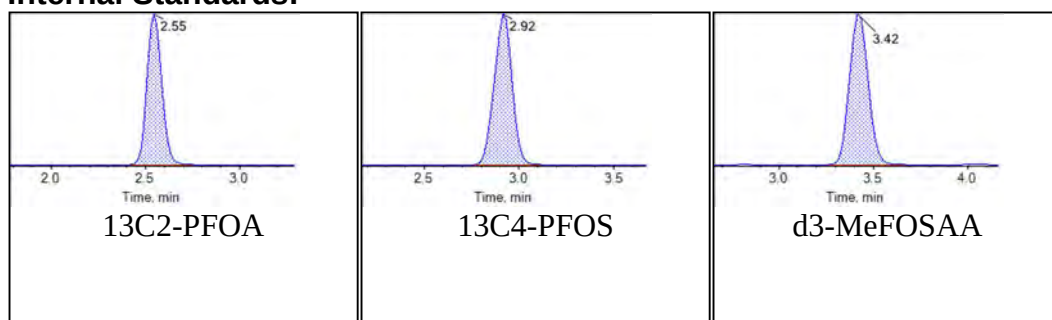
**Internal Standards:**

Sample Name	J6817-FS(0)	Injection Vial	16
Sample ID	WGNA-062618-FRB-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:07:11	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

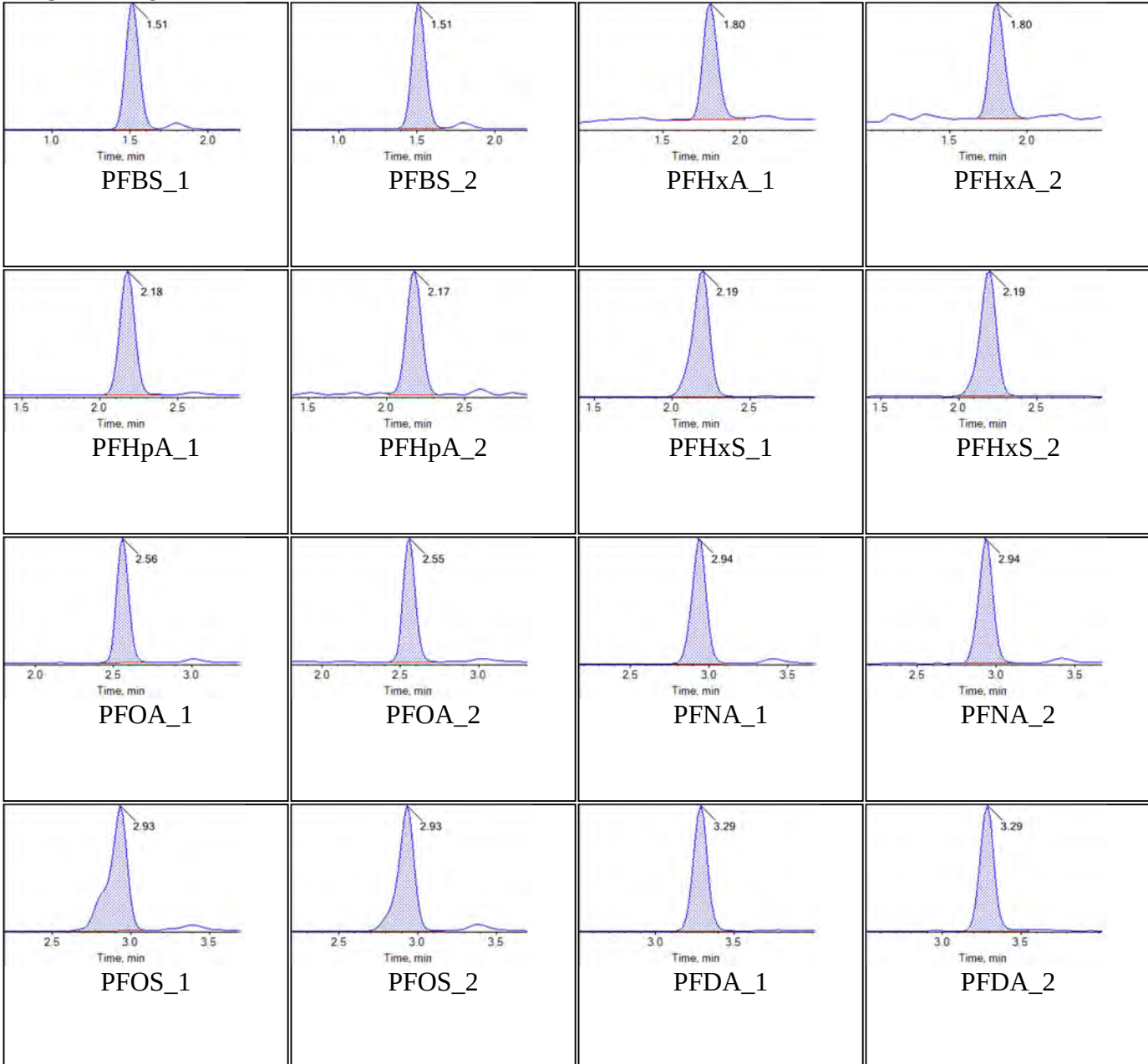


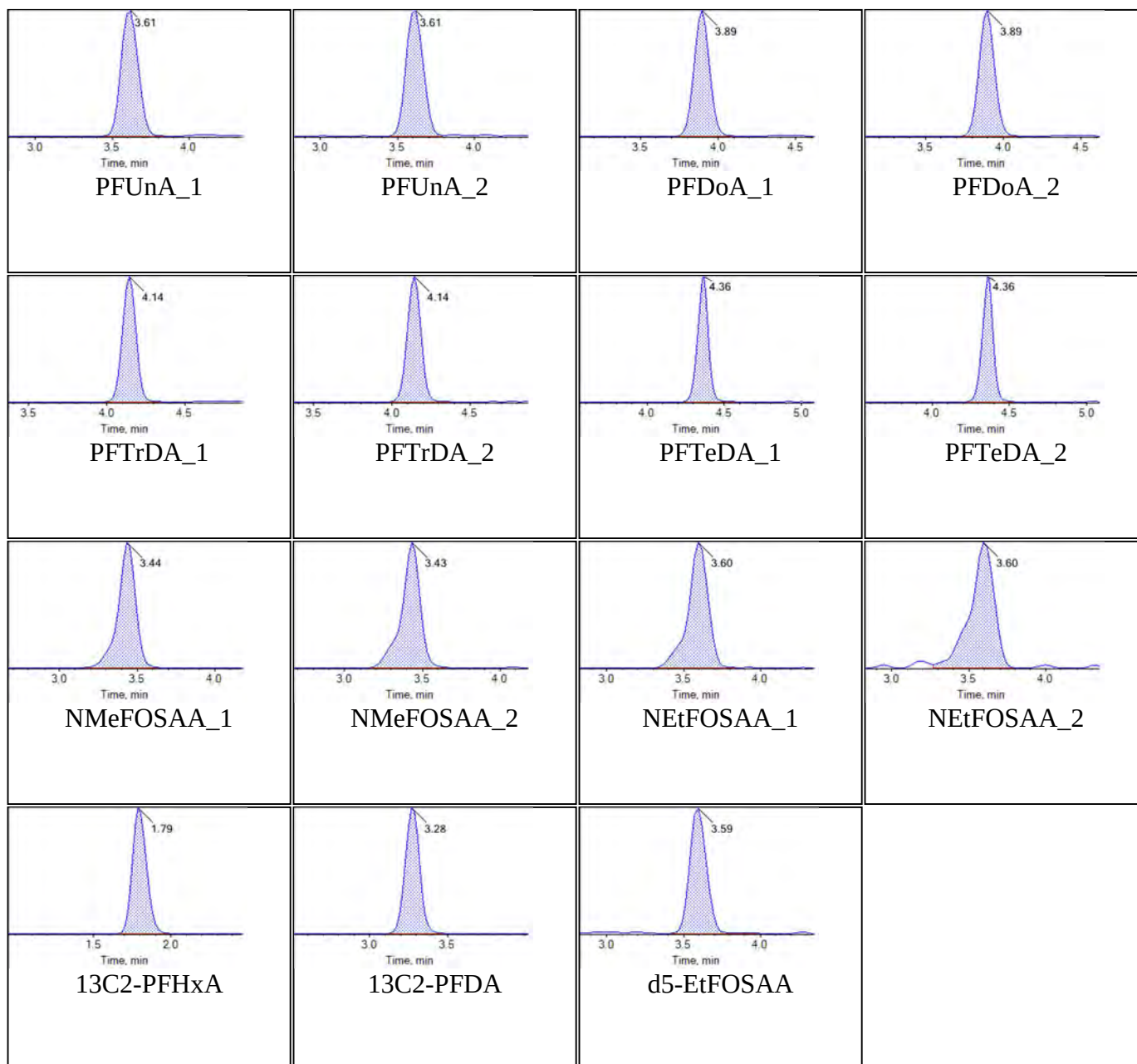
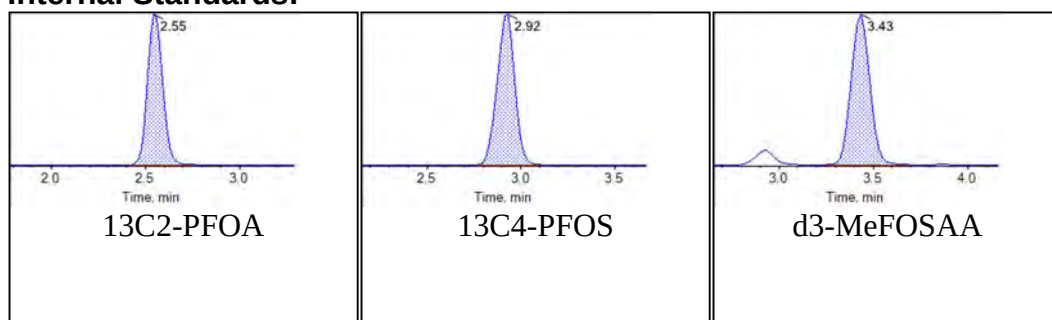
**Internal Standards:**

Sample Name	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Chromatograms

Target Analytes:

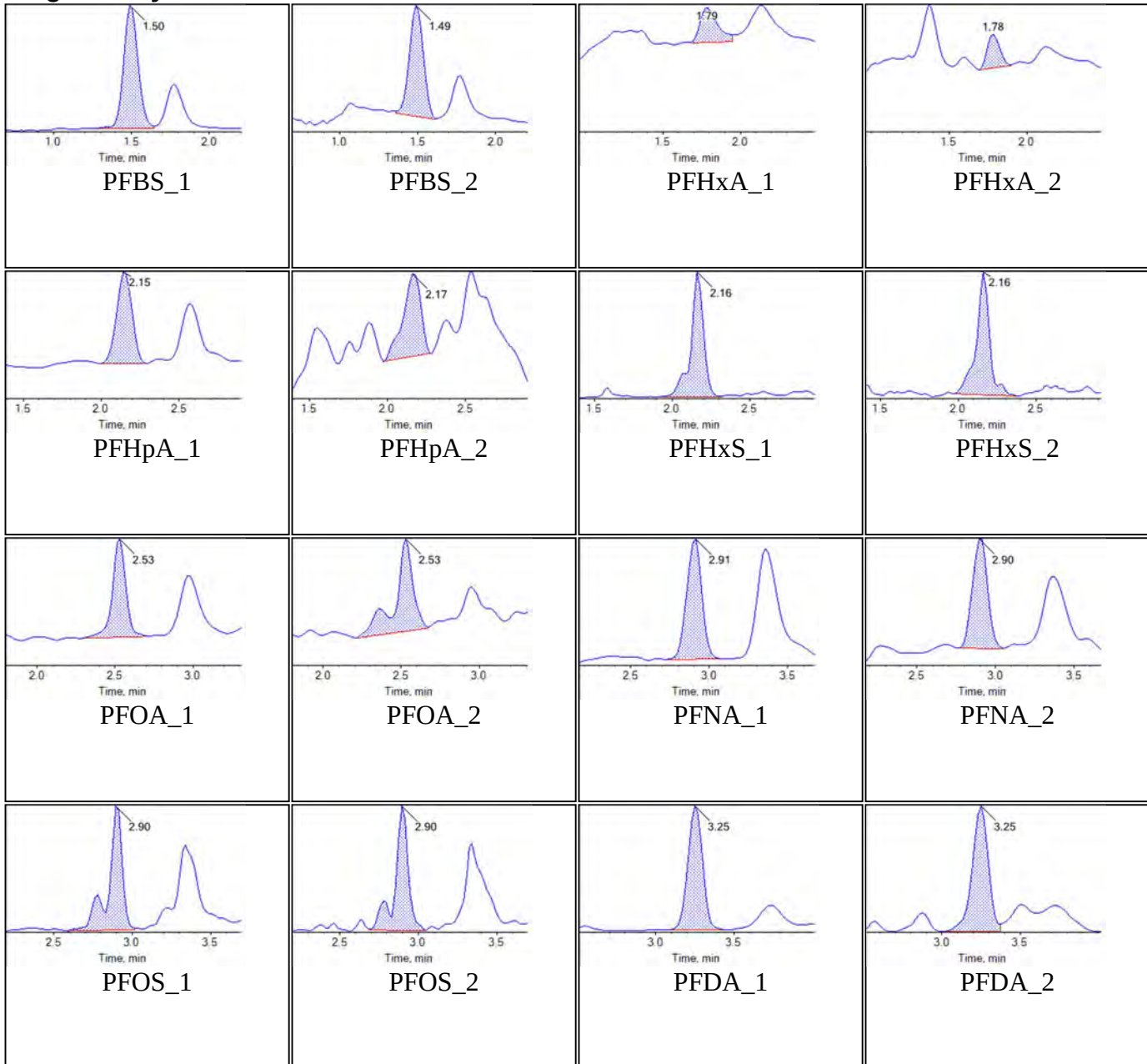


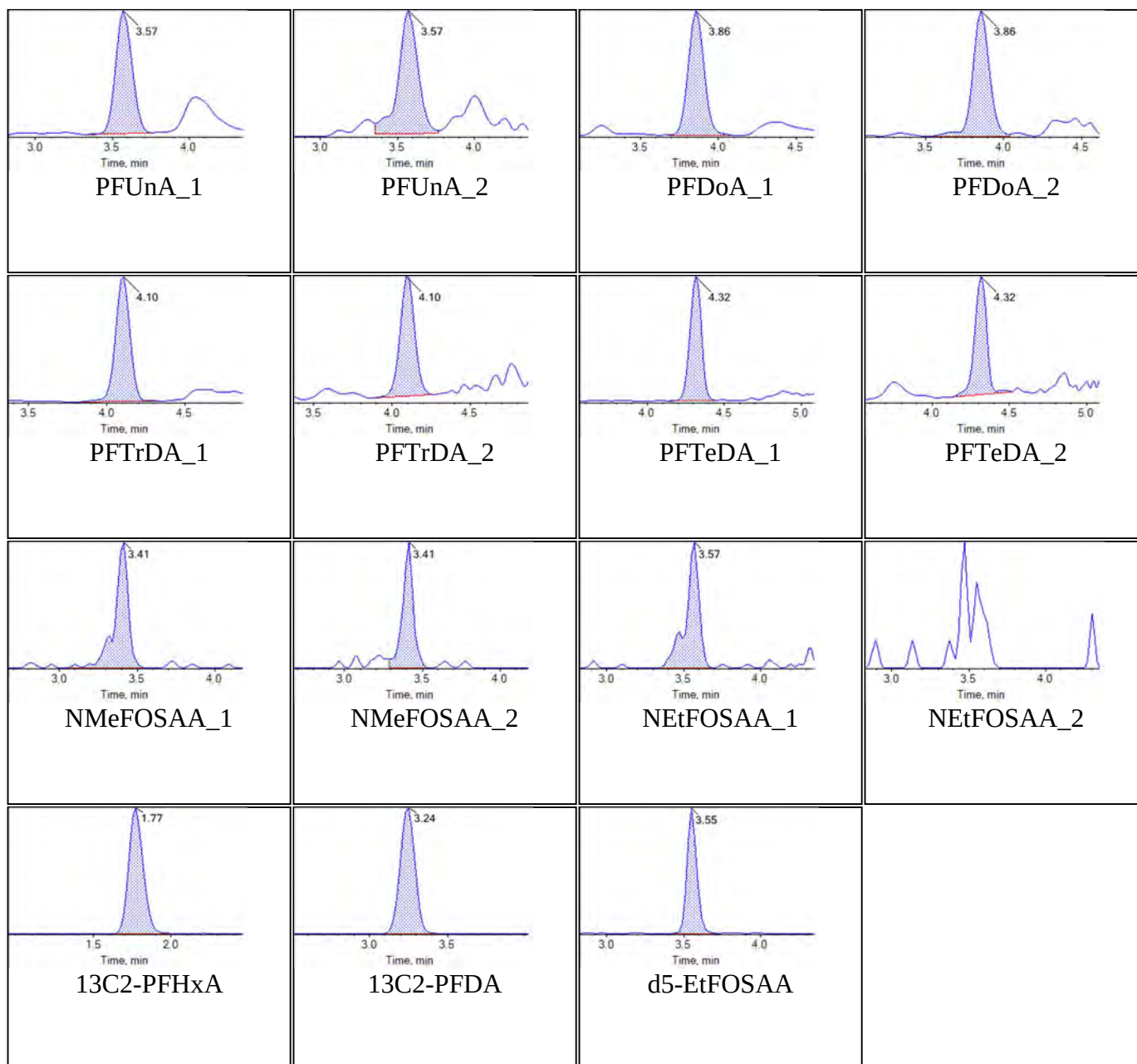
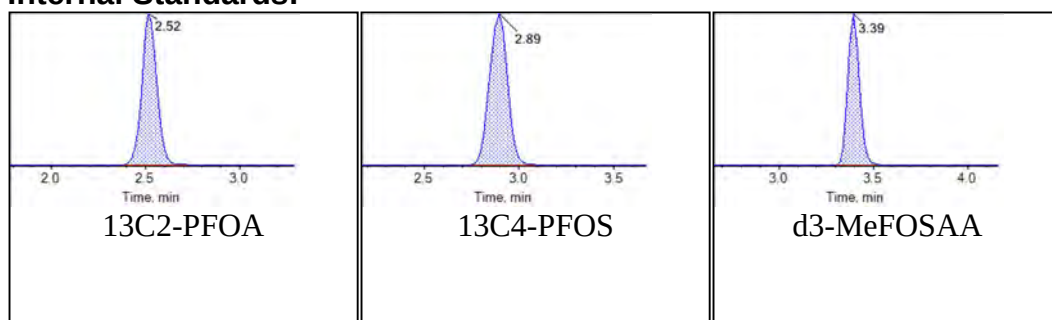
**Internal Standards:**

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T15:56:59	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

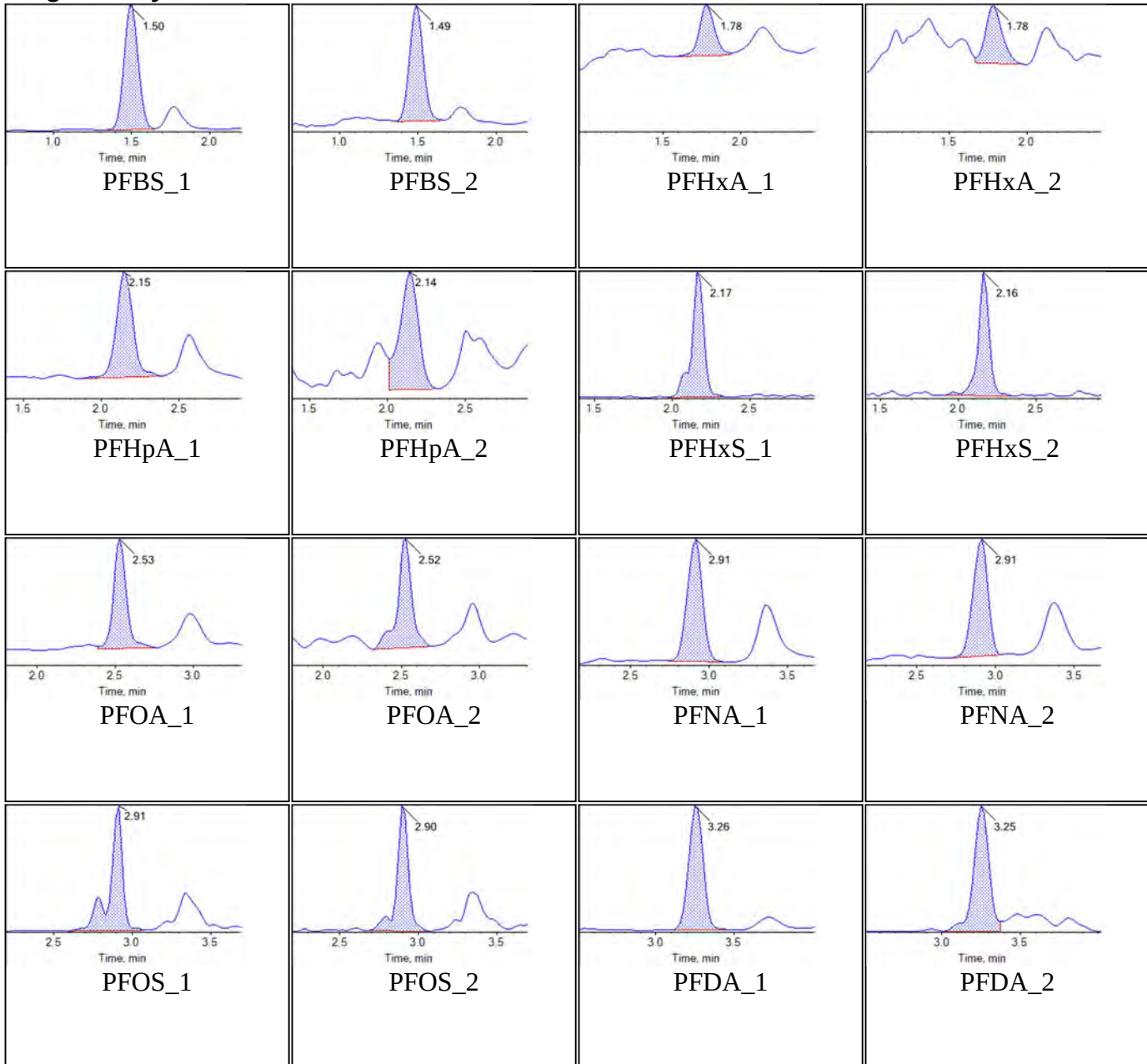


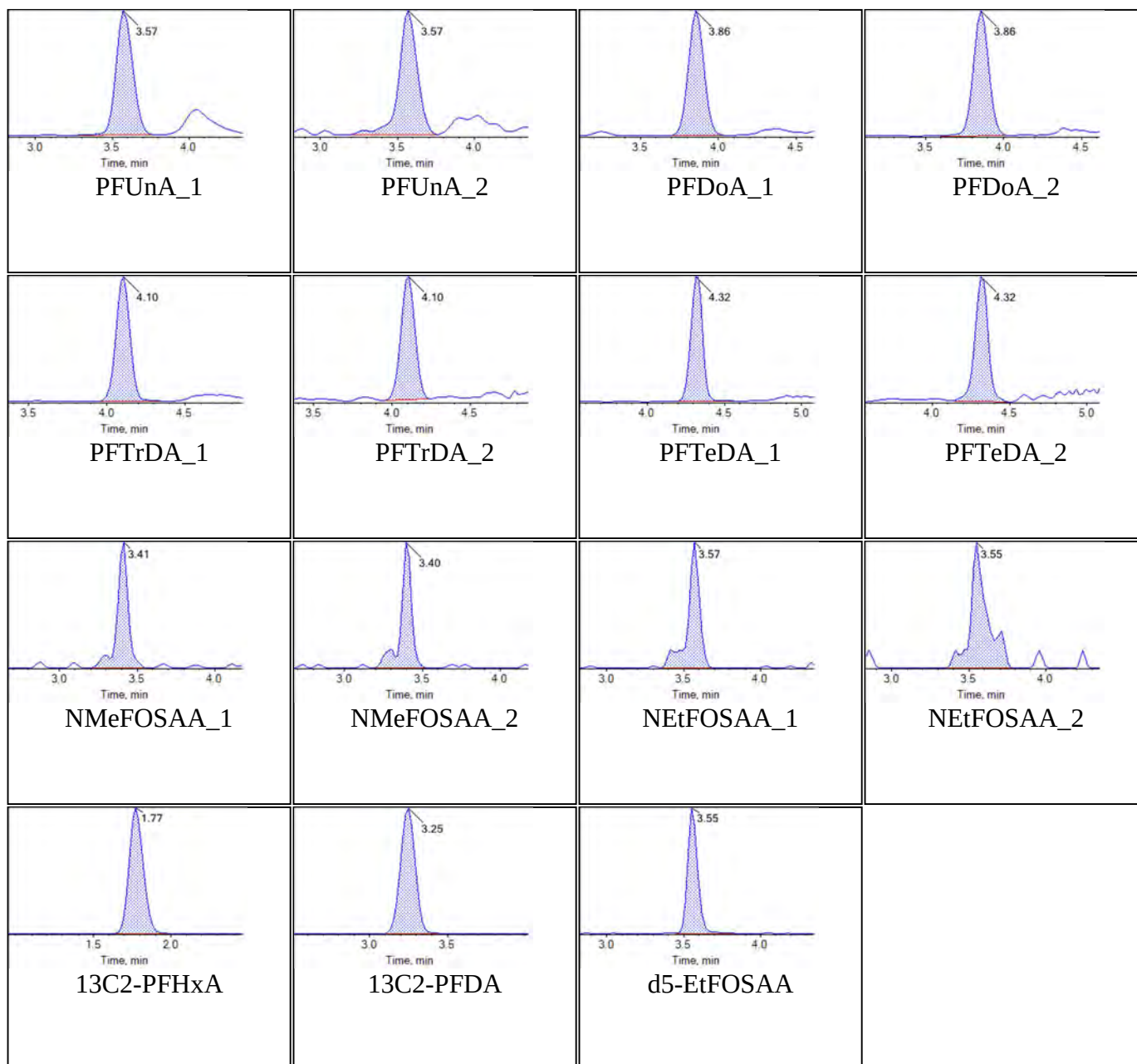
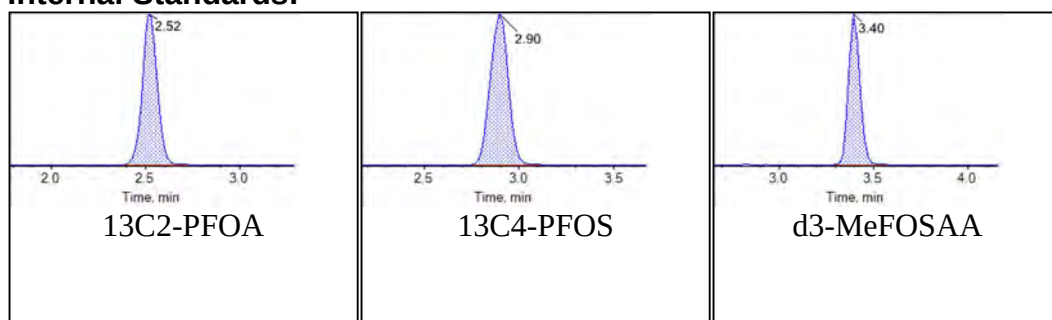
**Internal Standards:**

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:05:55	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

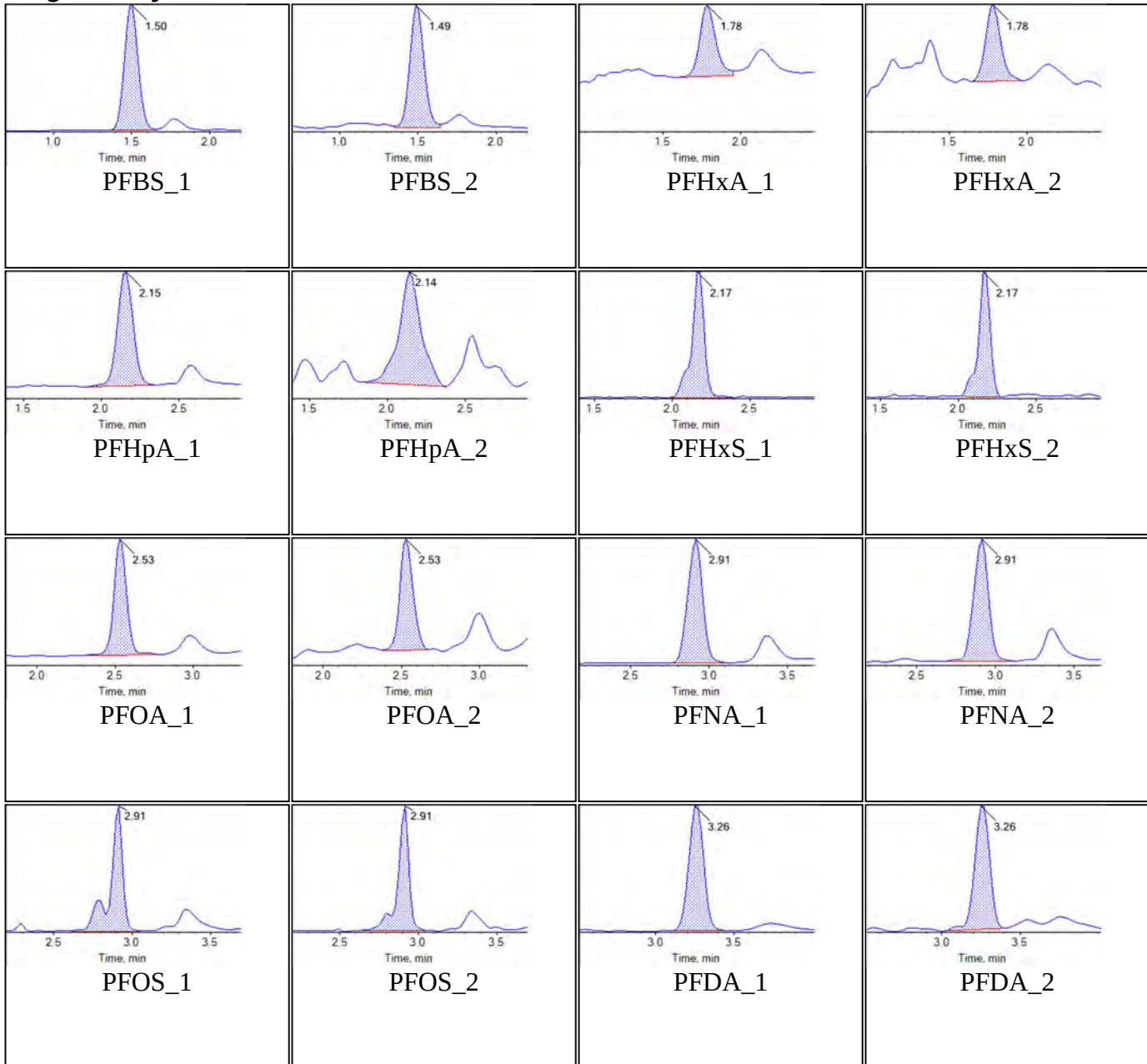


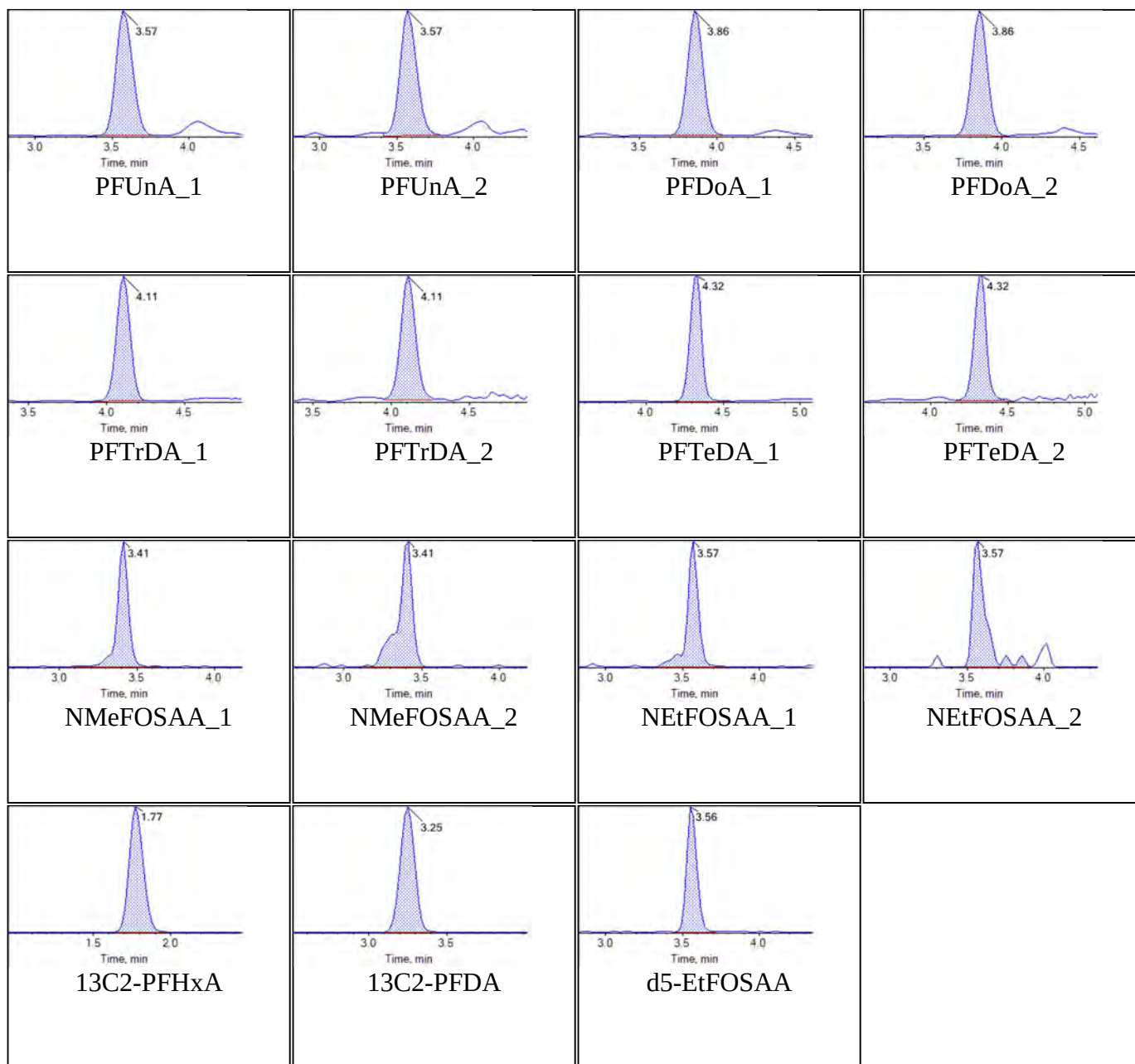
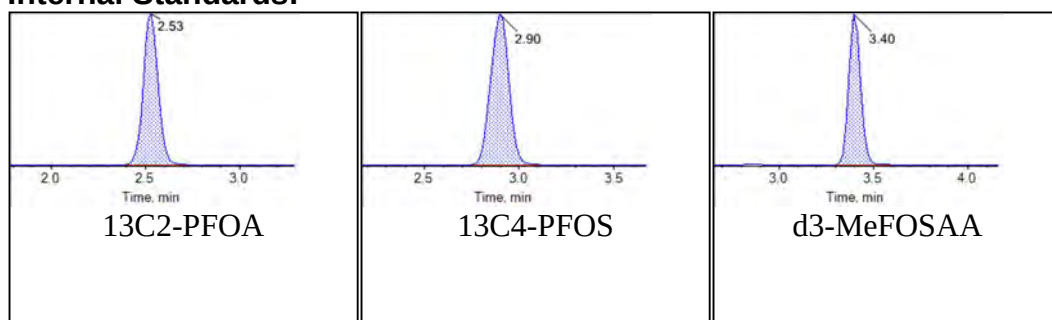
**Internal Standards:**

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:14:50	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

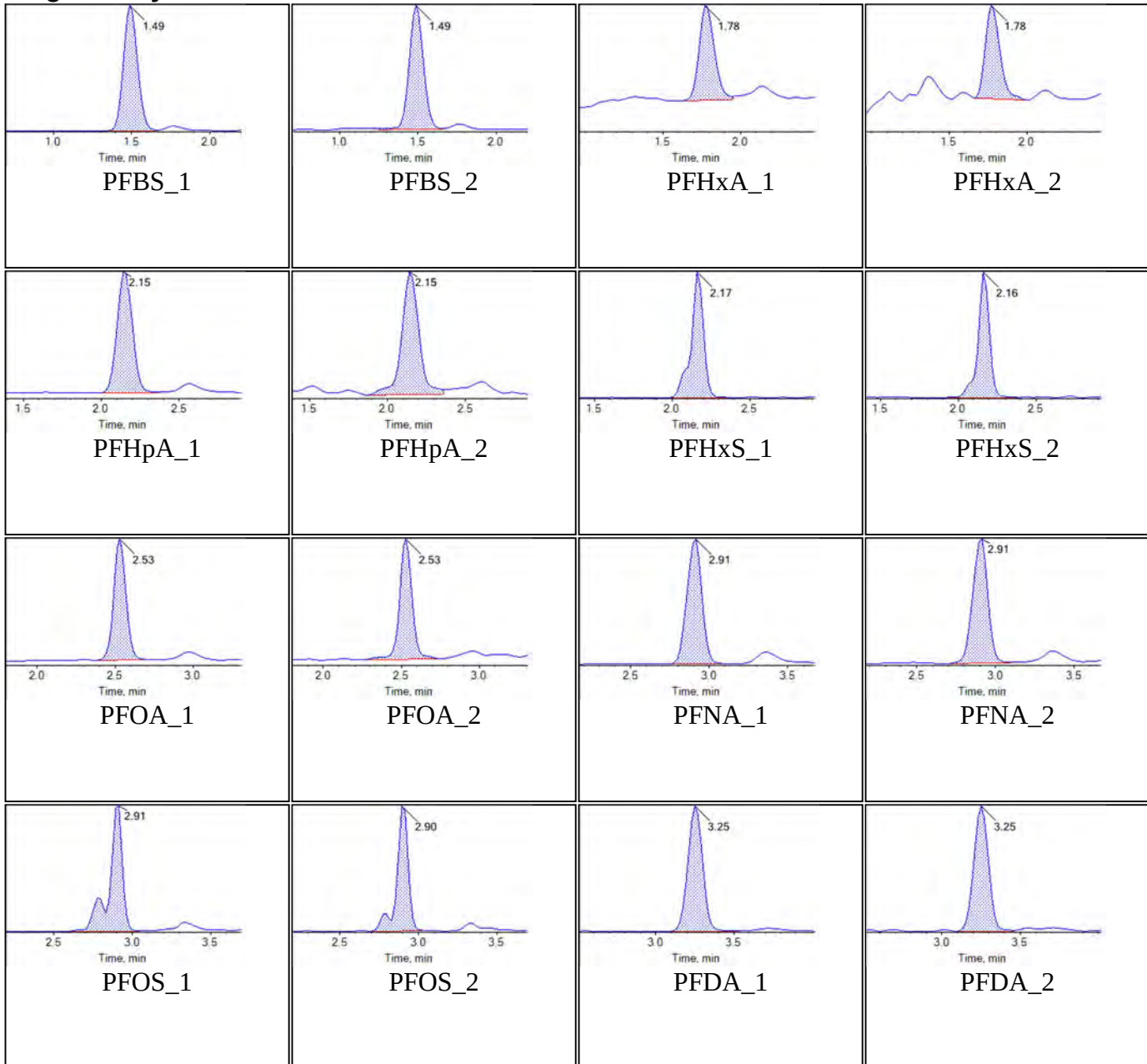


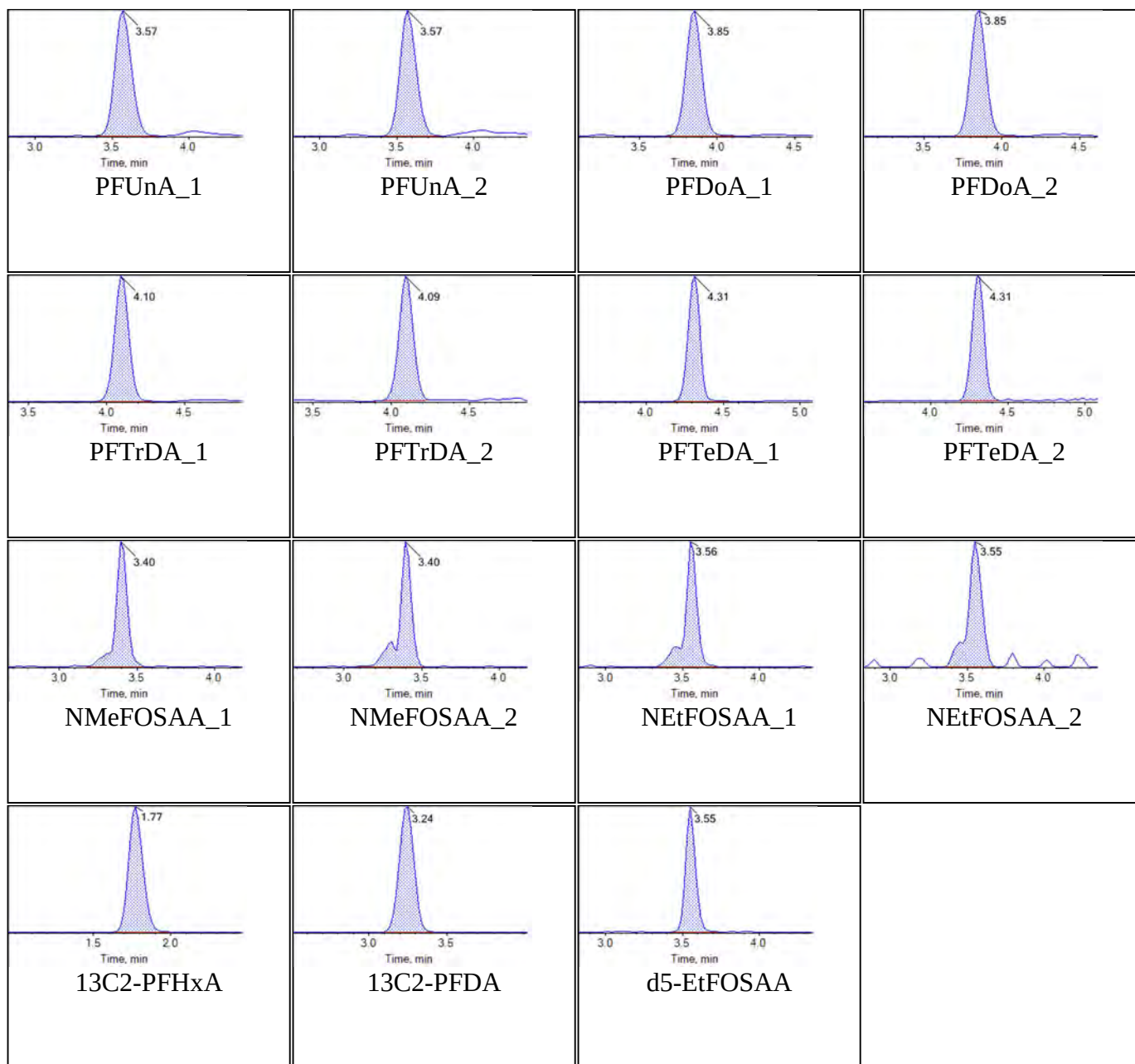
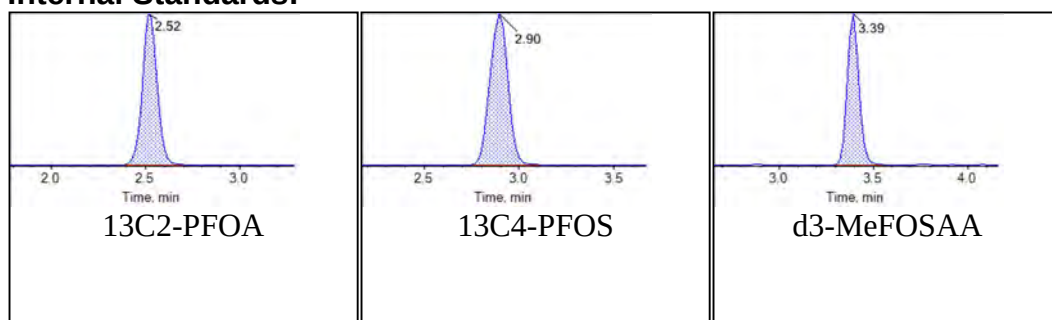
**Internal Standards:**

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:23:46	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

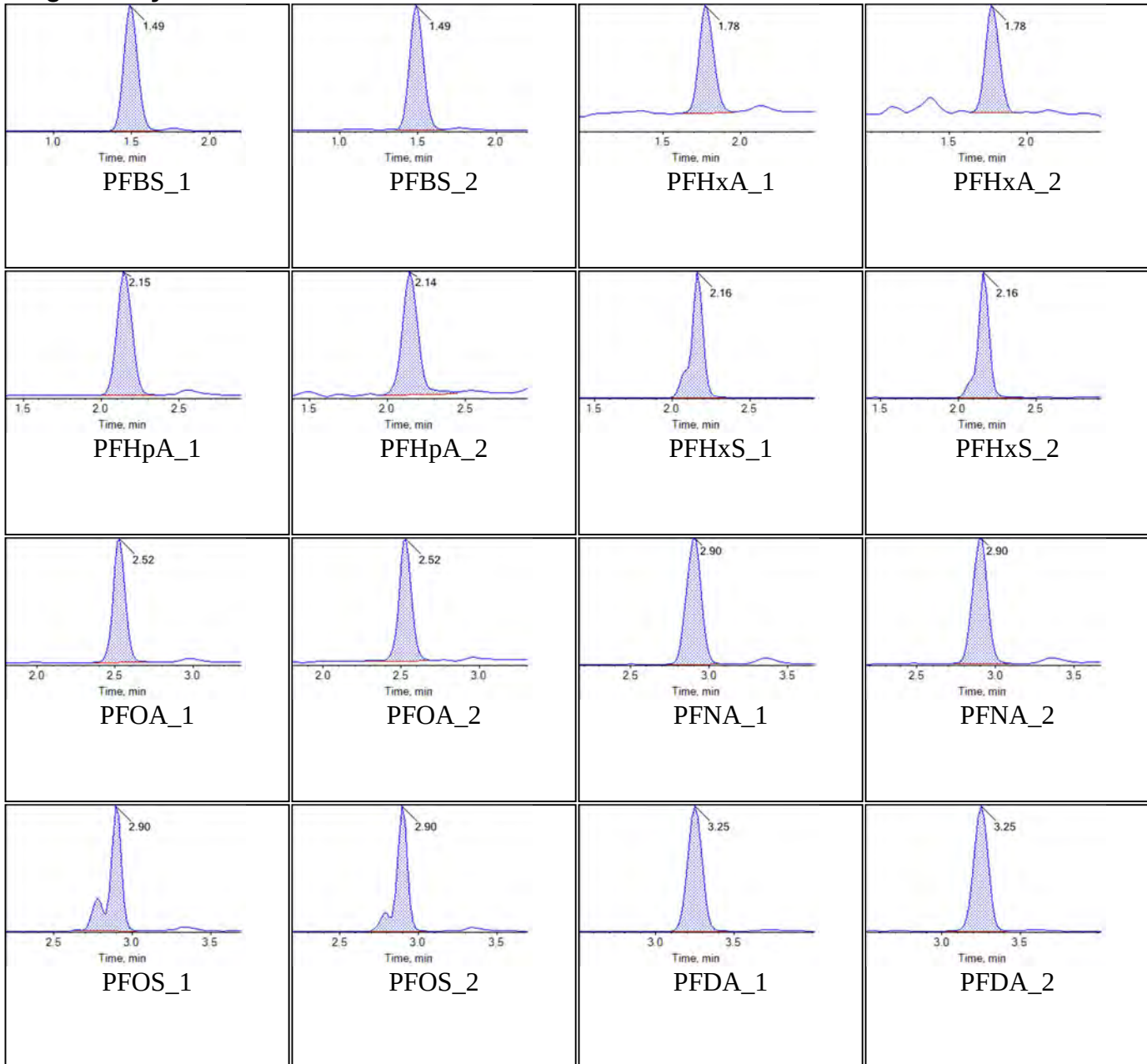


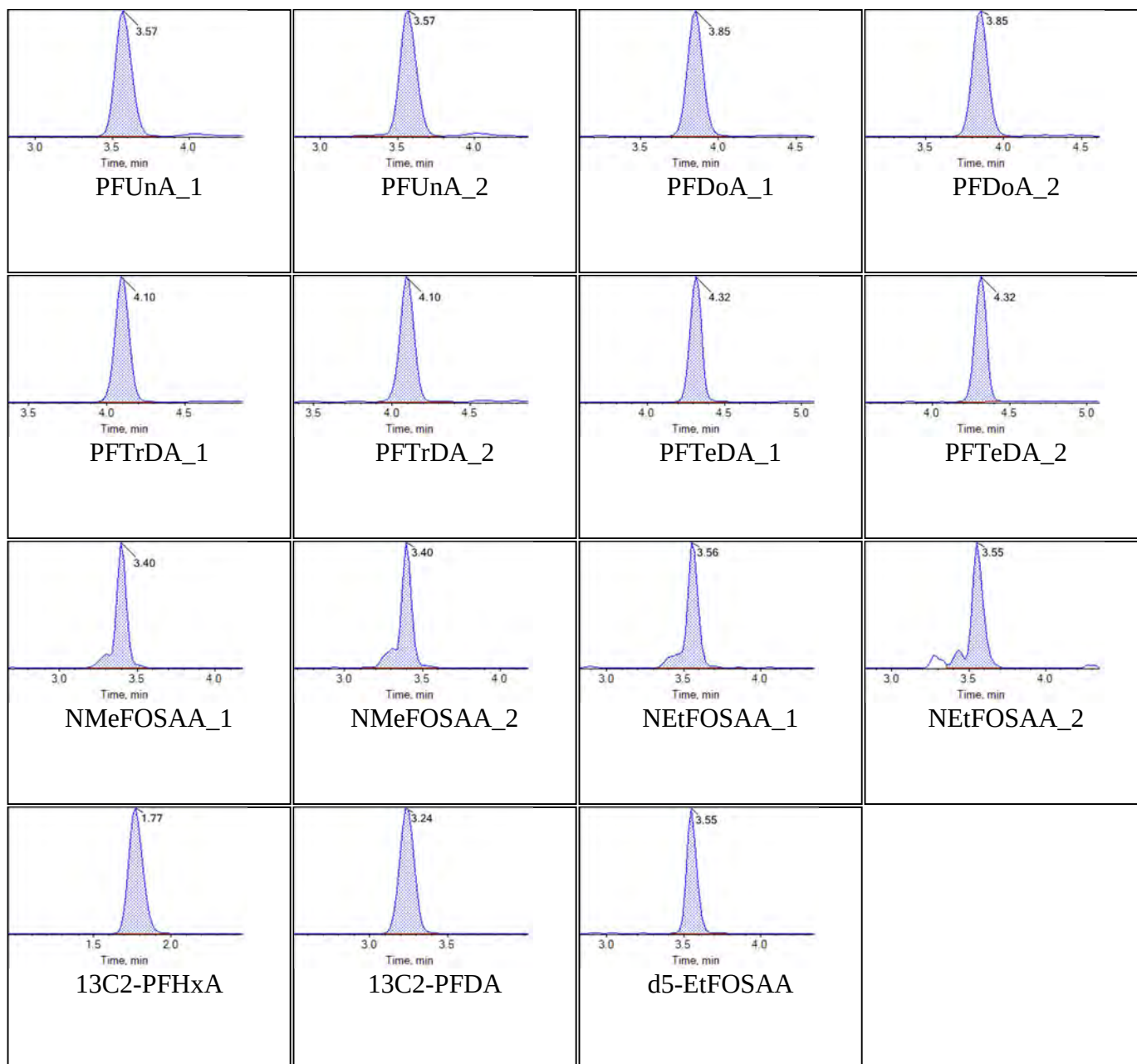
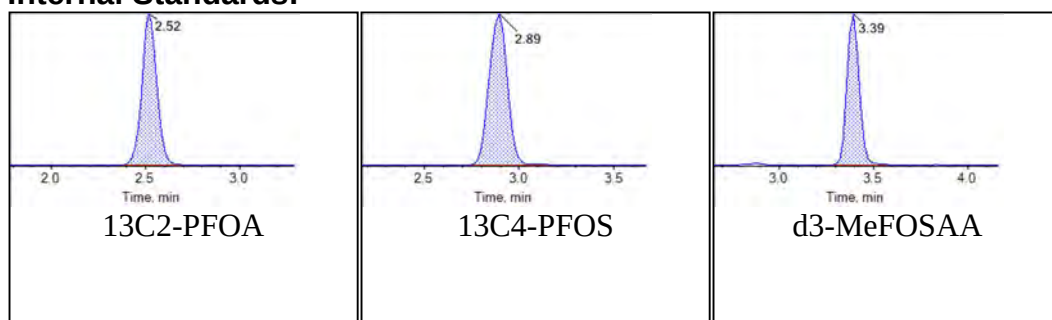
**Internal Standards:**

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:32:42	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

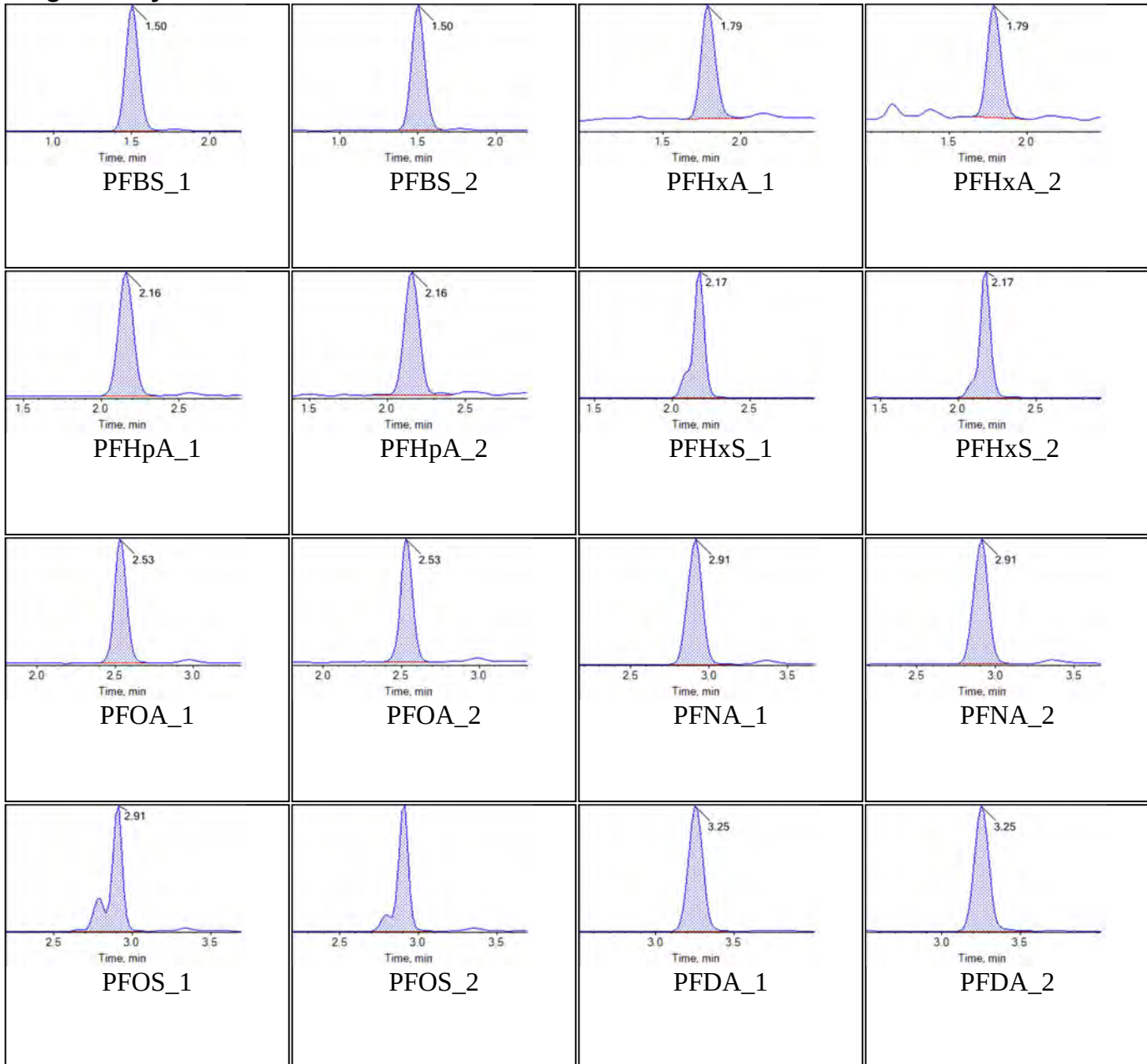


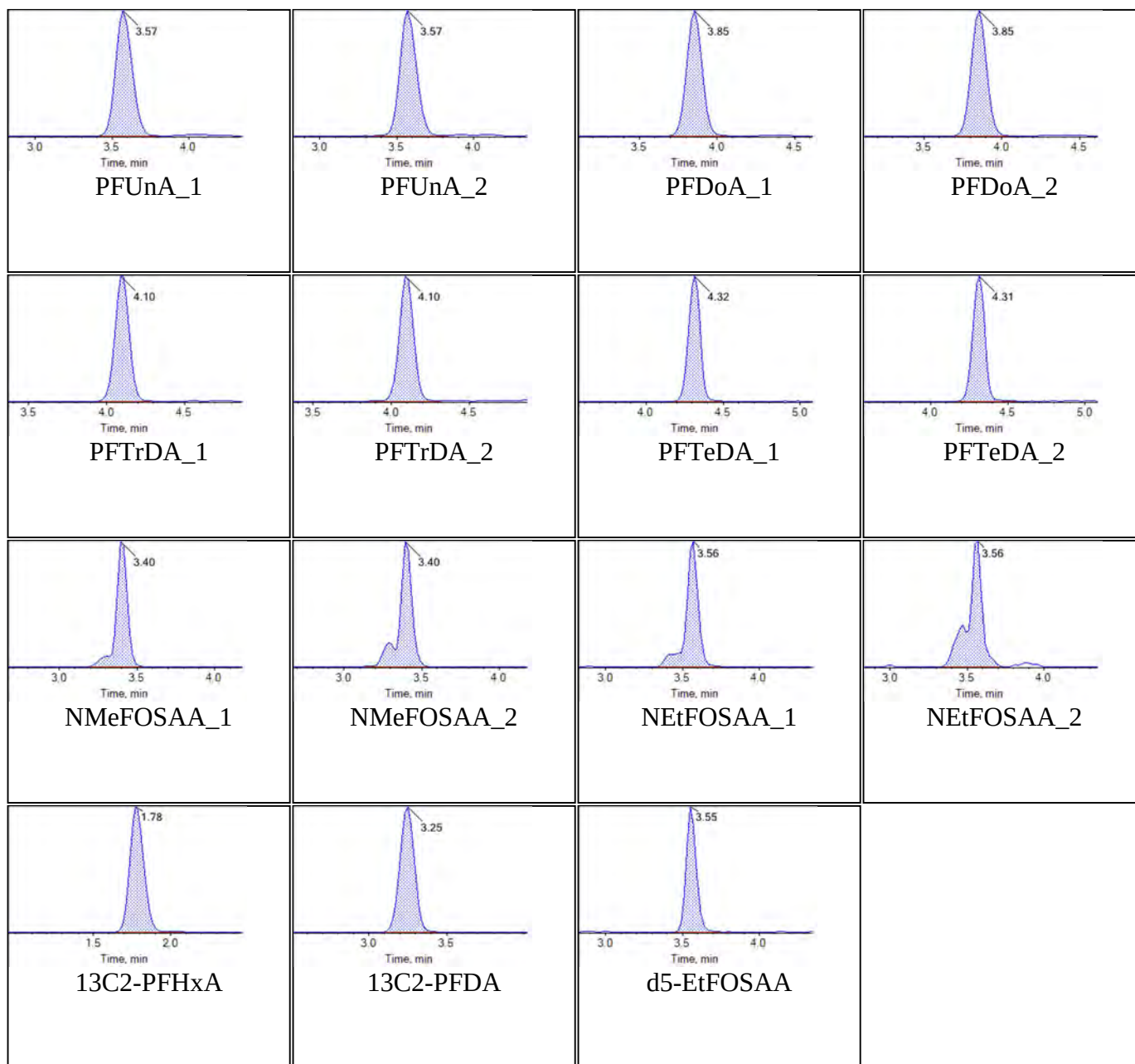
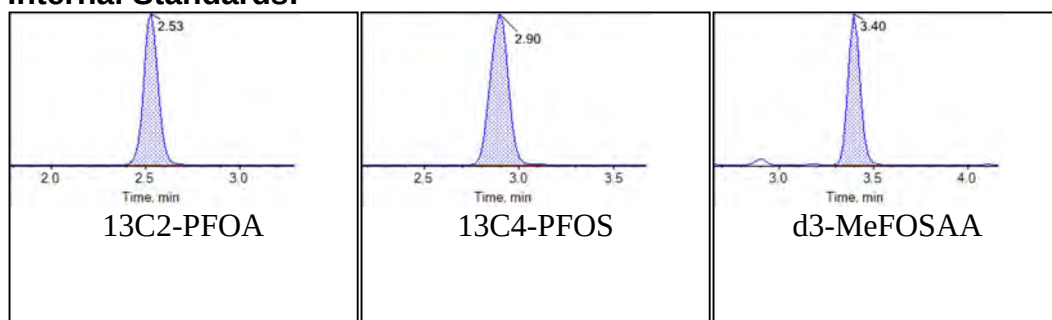
**Internal Standards:**

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:41:38	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

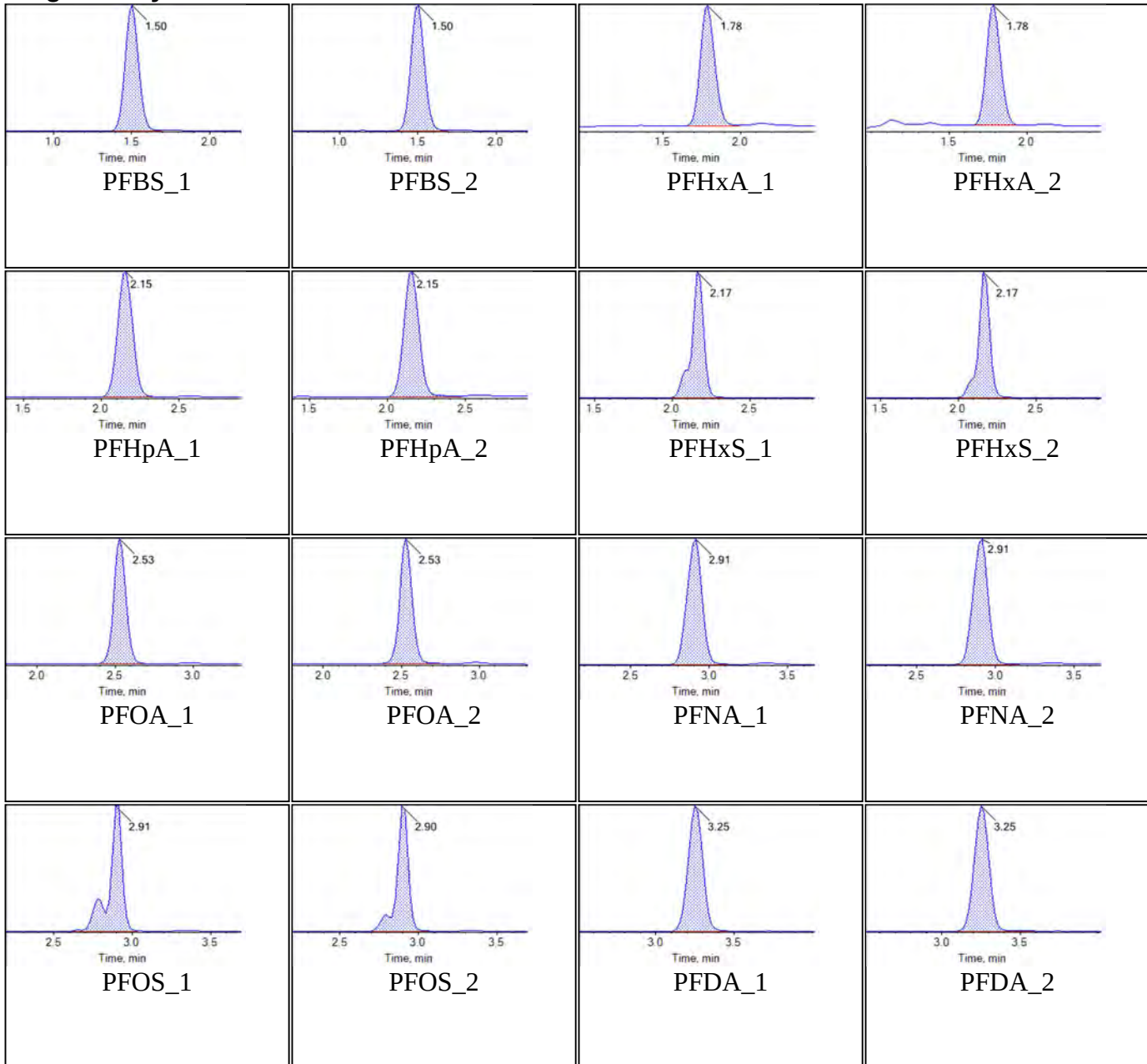


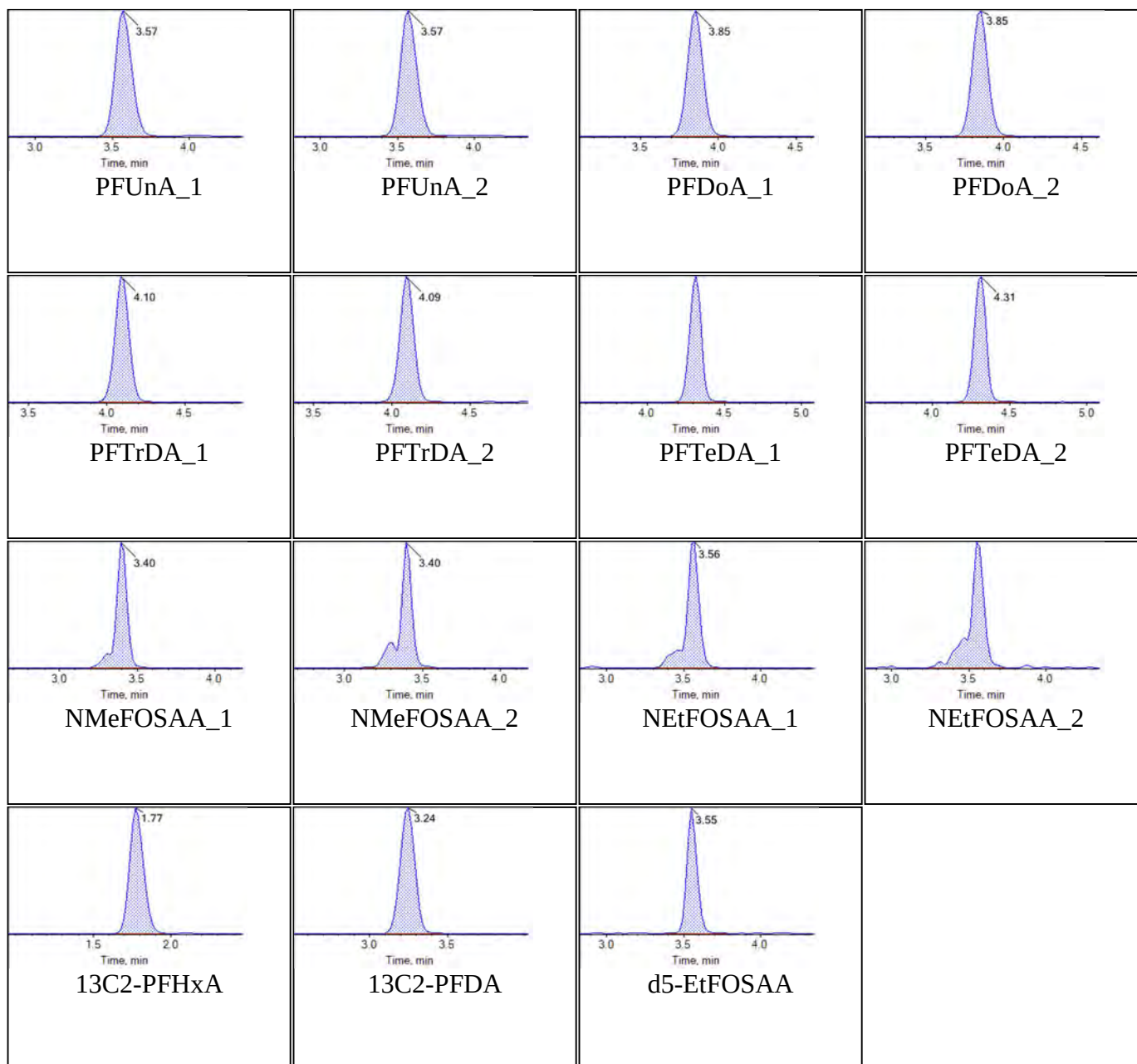
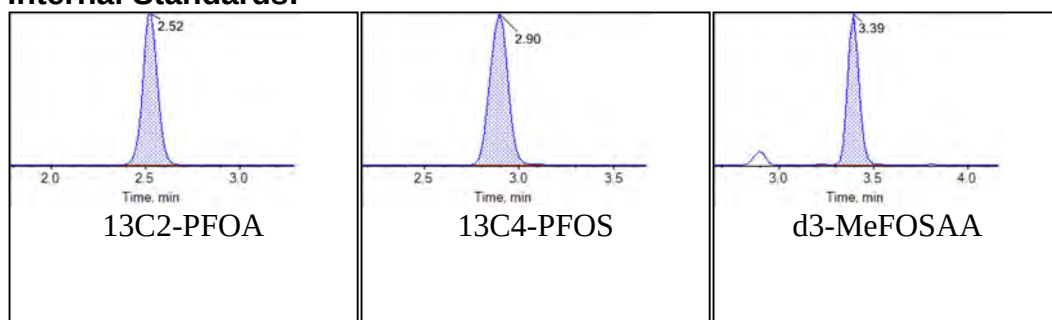
**Internal Standards:**

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:50:33	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

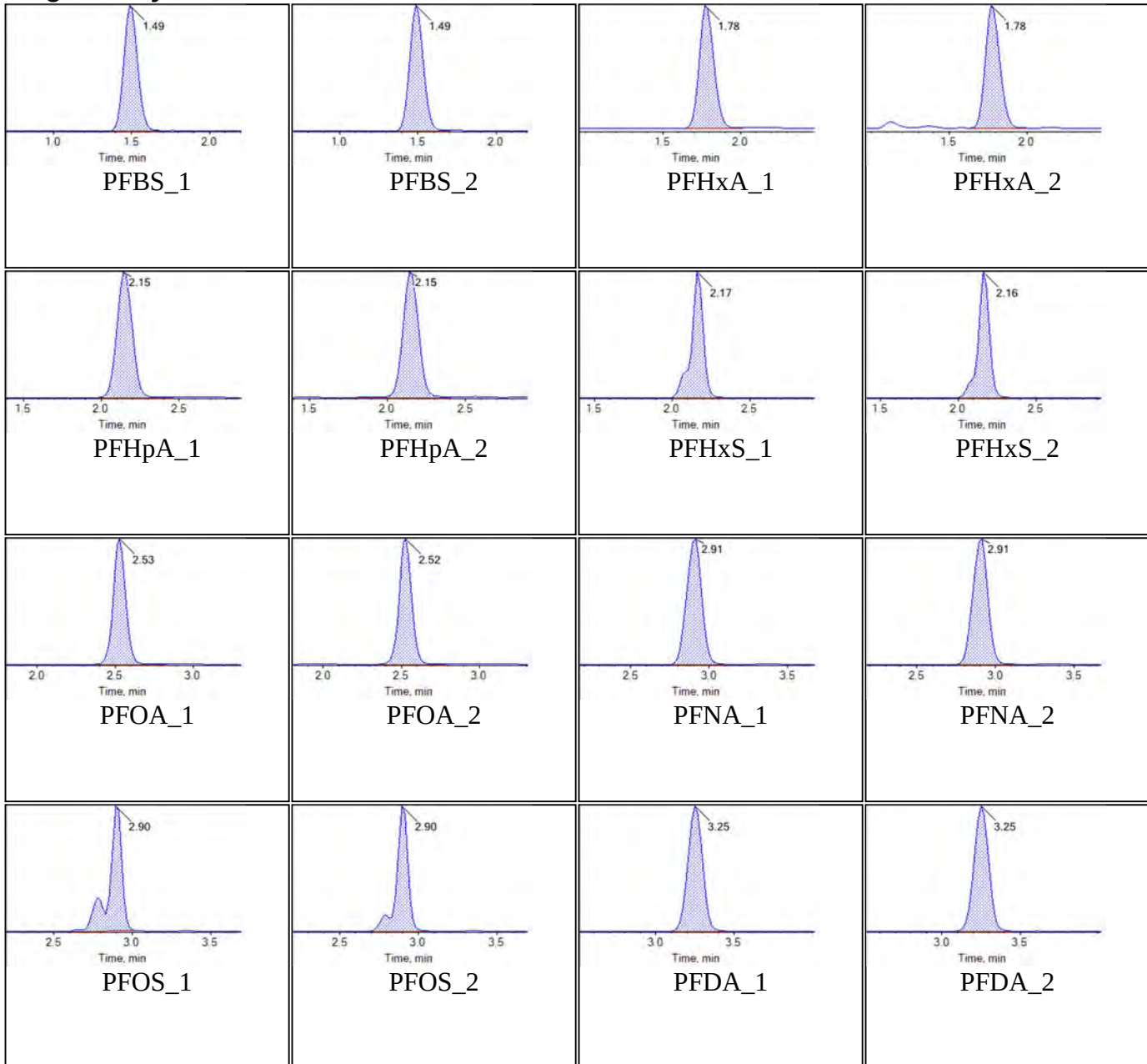


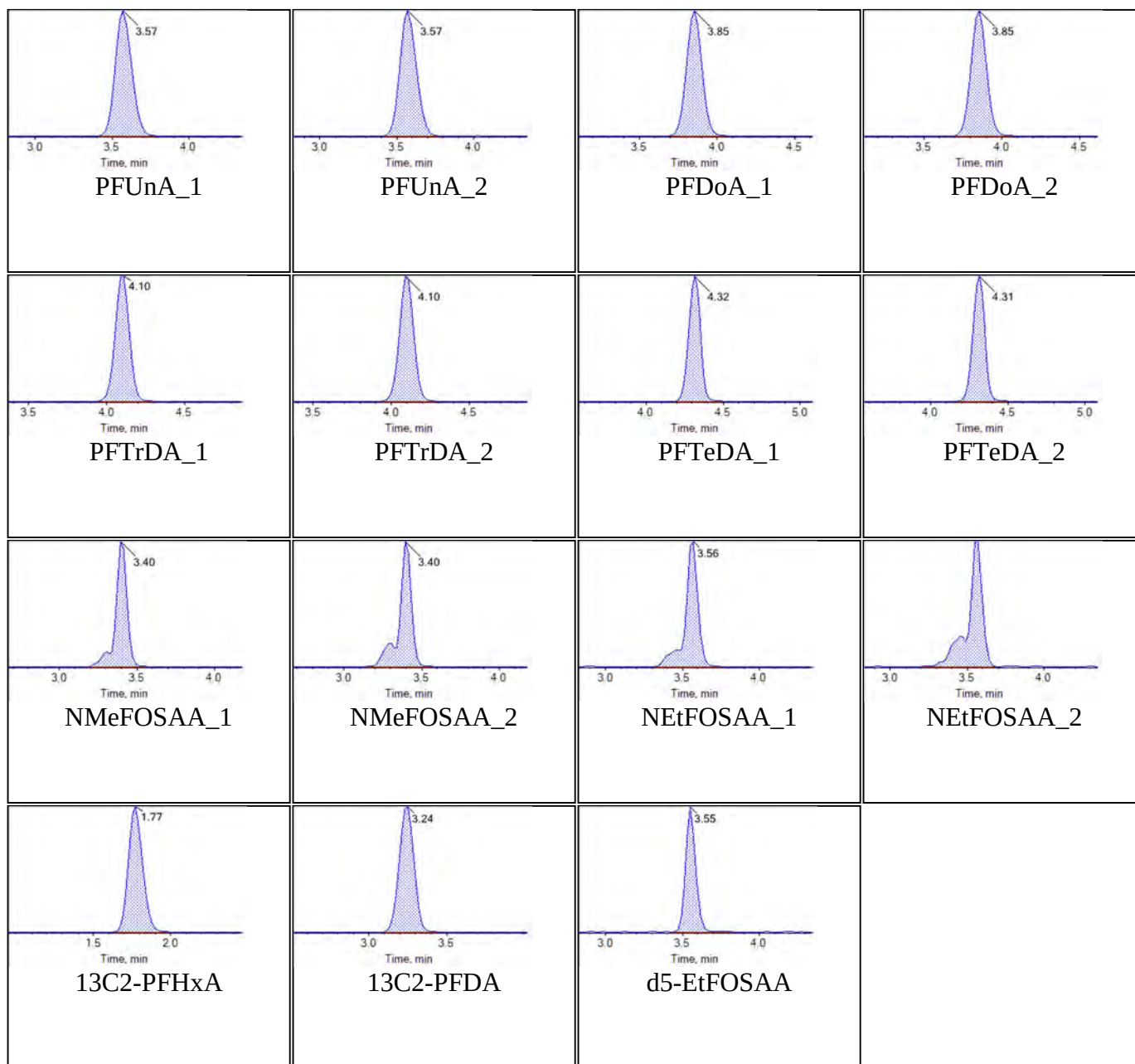
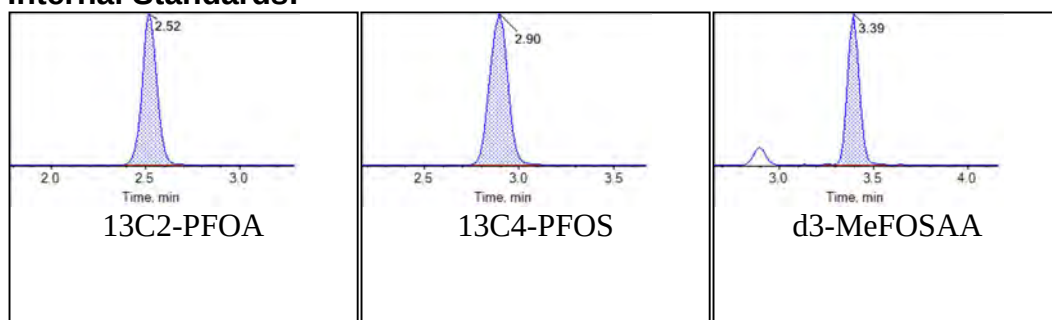
**Internal Standards:**

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:59:28	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

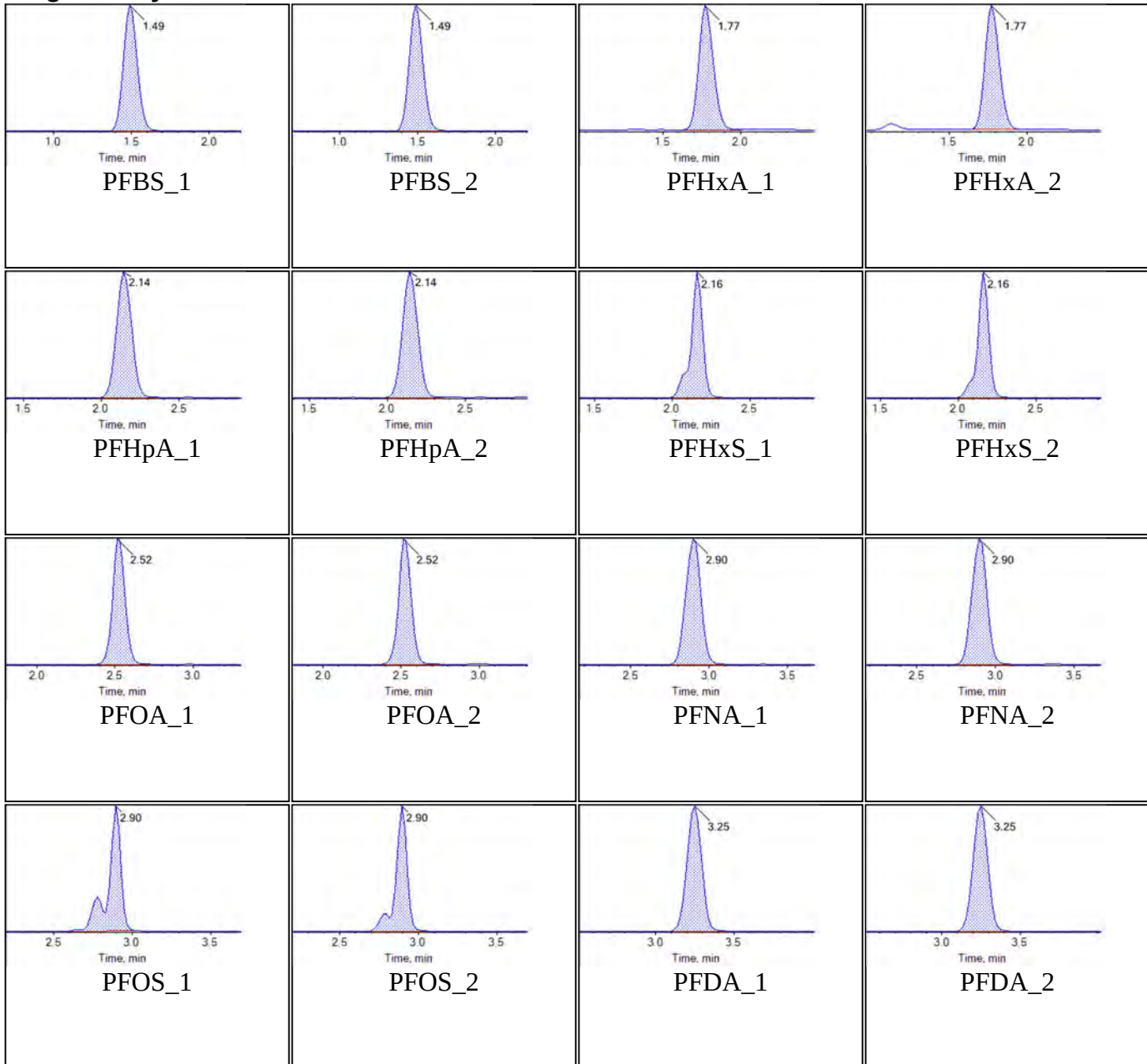


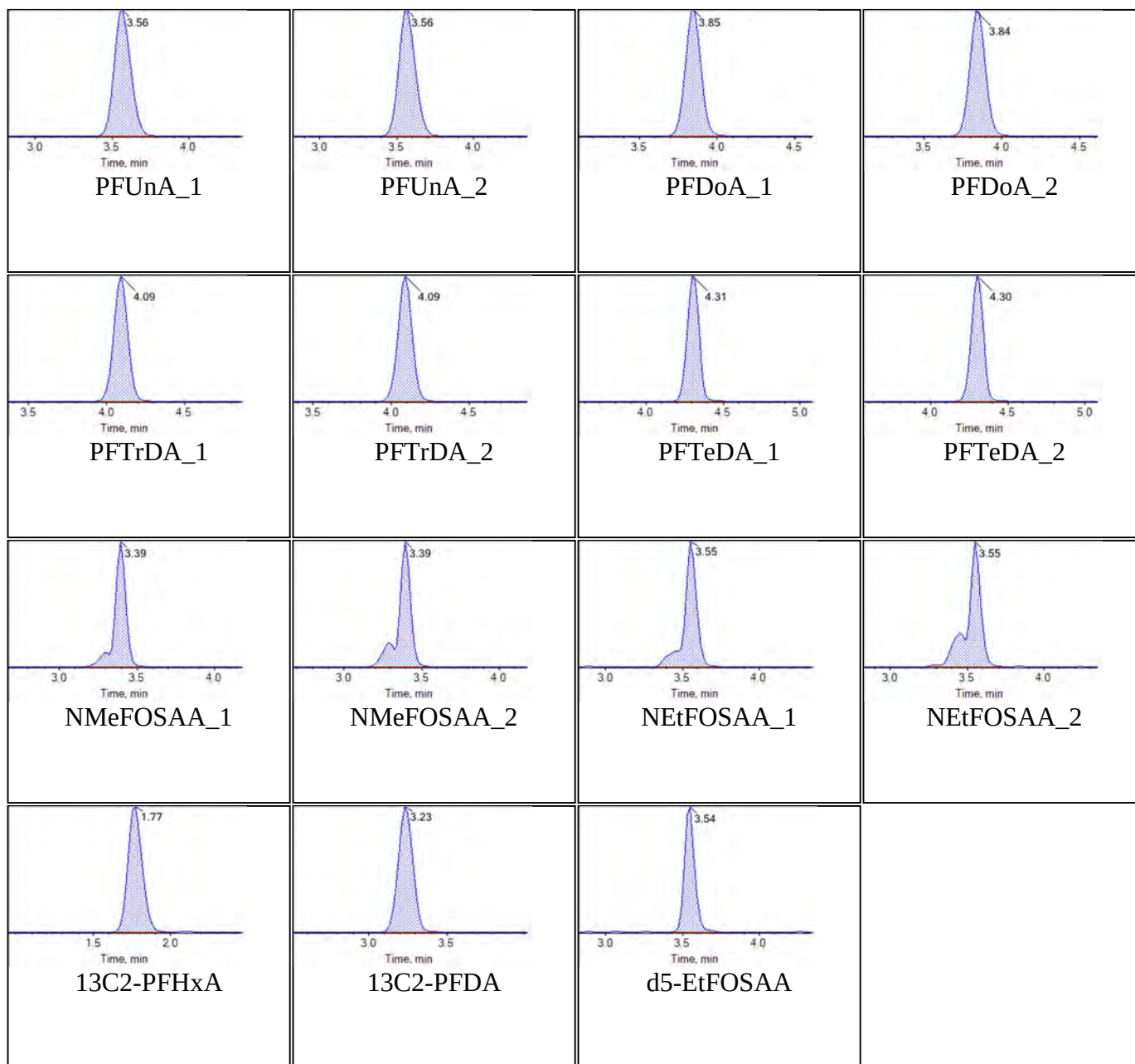
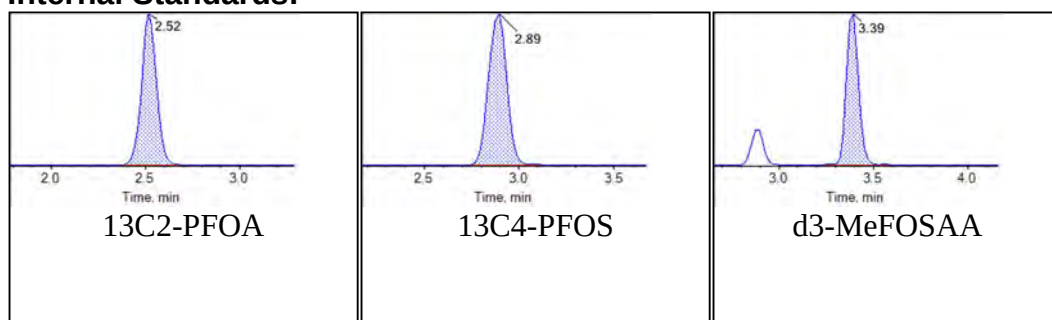
**Internal Standards:**

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:08:24	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

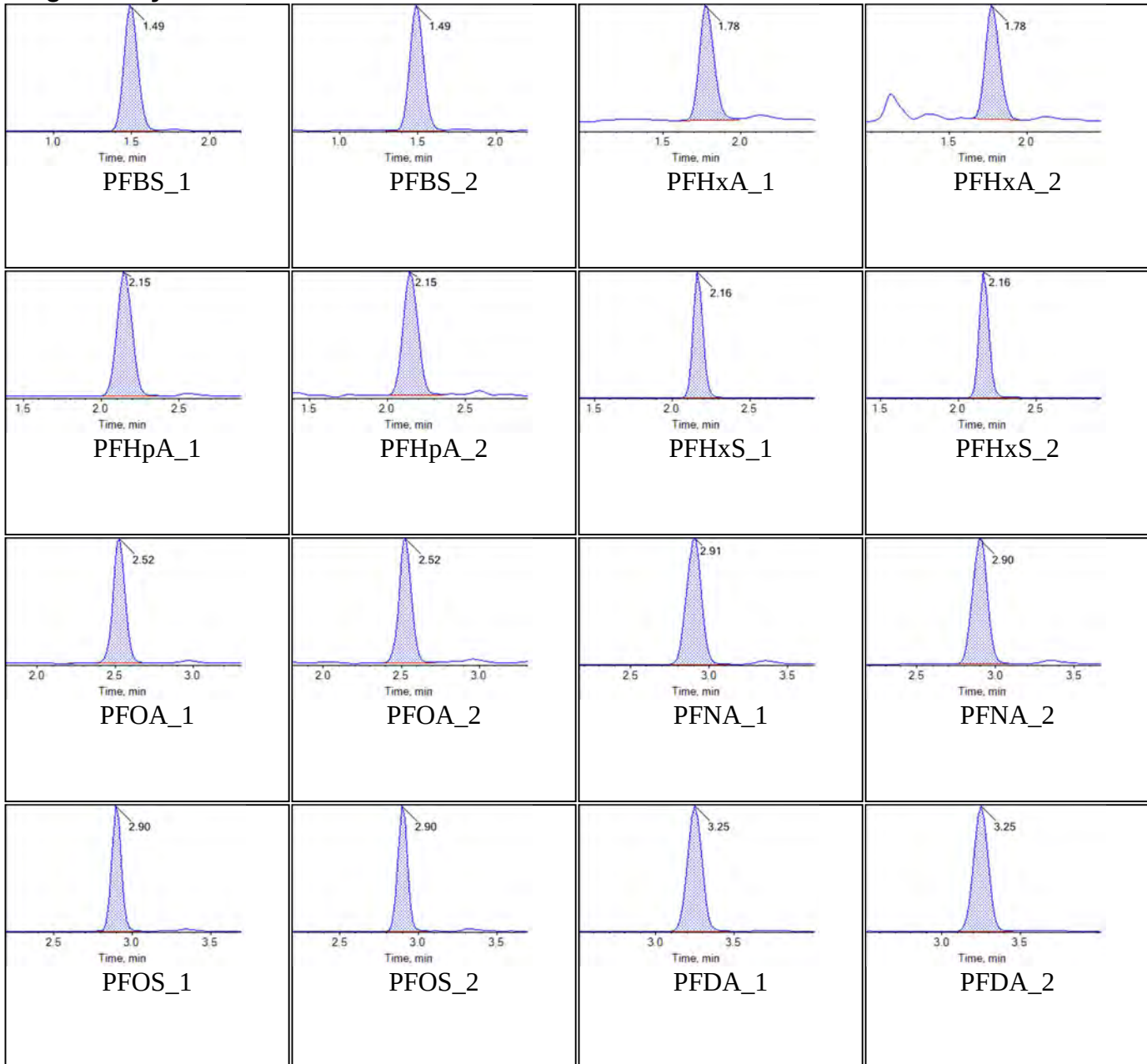


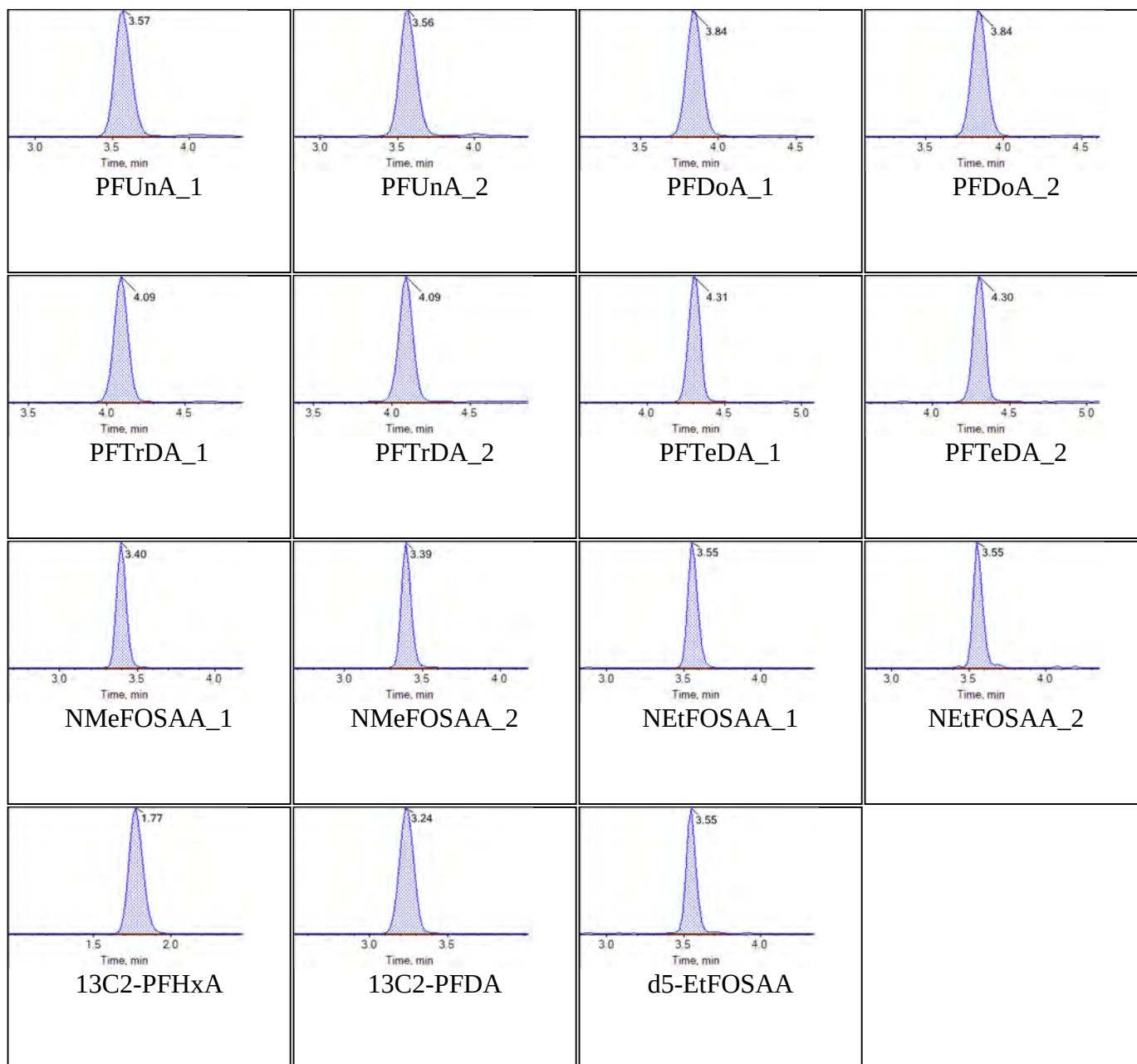
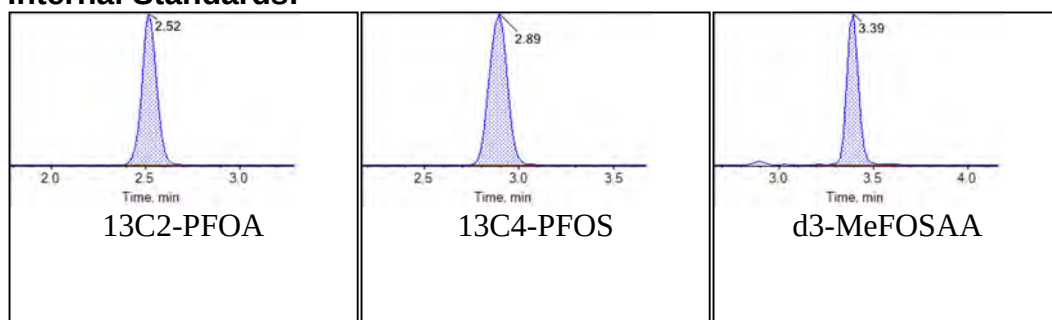
**Internal Standards:**

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

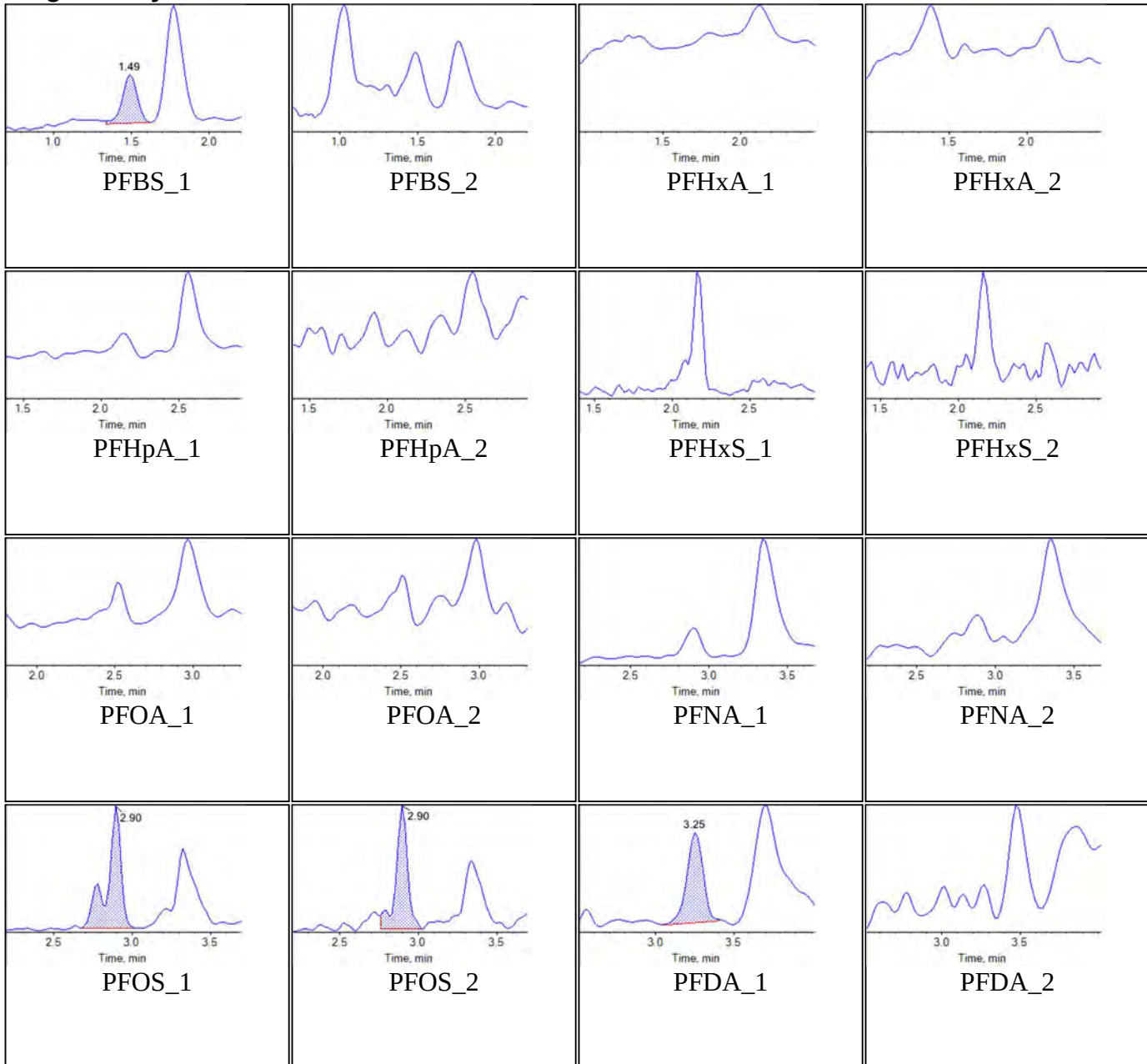


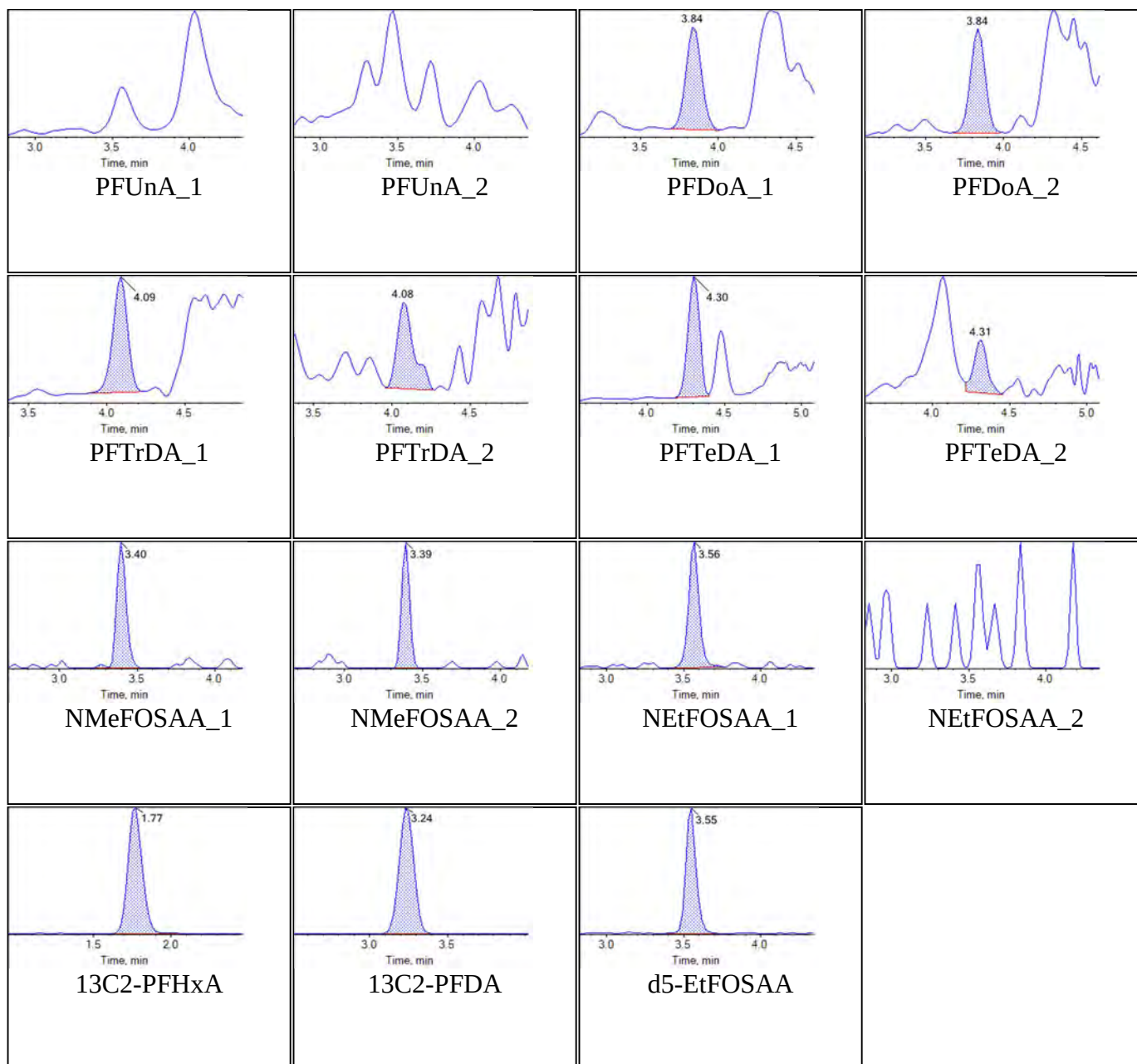
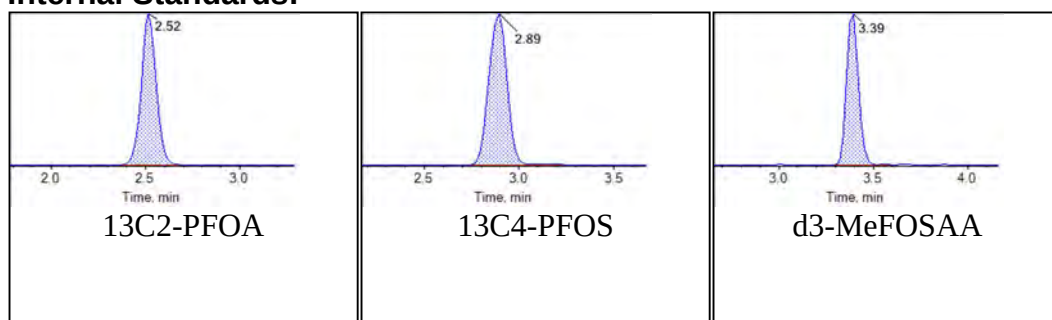
**Internal Standards:**

Sample Name	CR069PB-FS(0)	Injection Vial	12
Sample ID	Procedural Blank	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:35:11	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

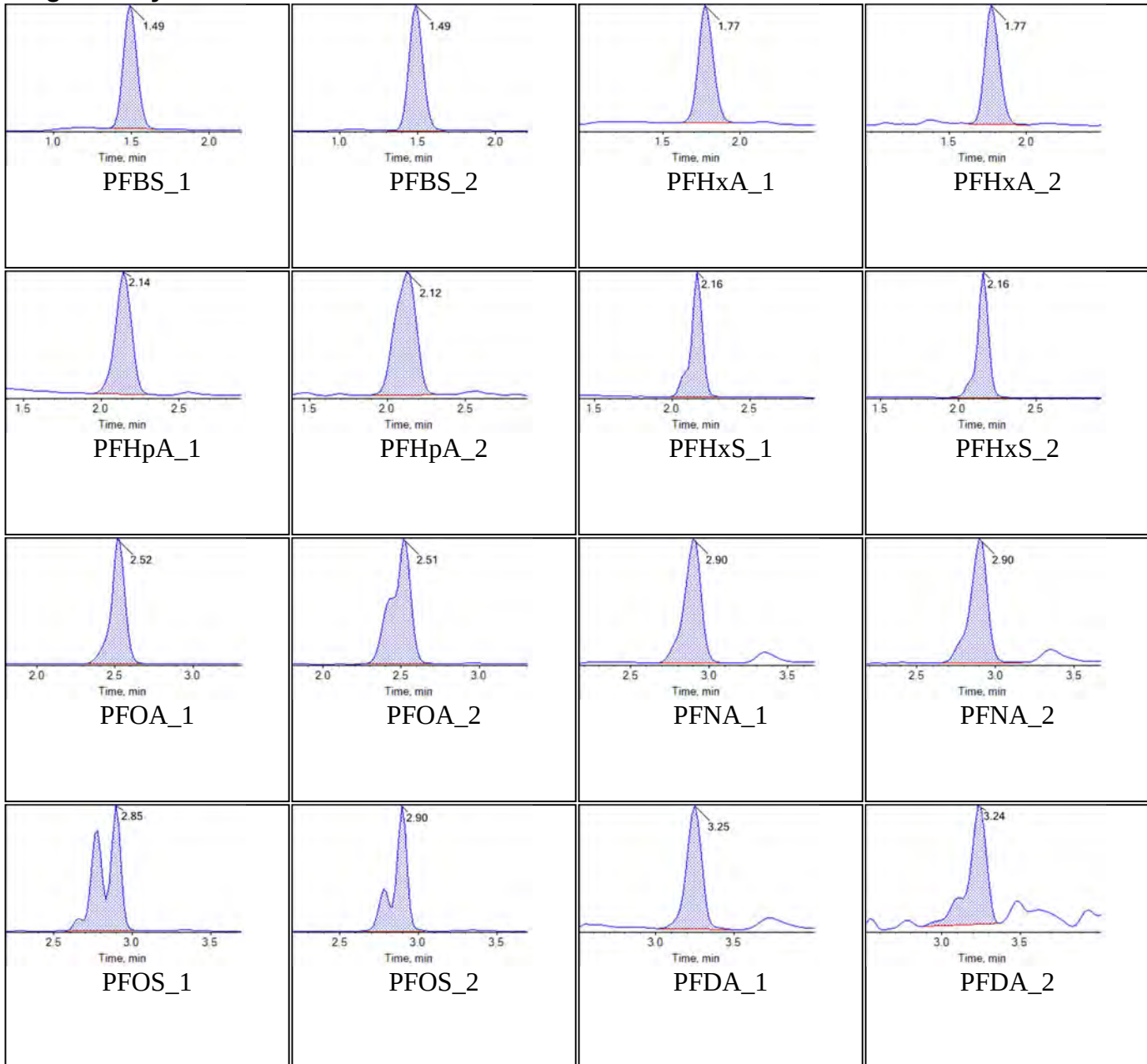


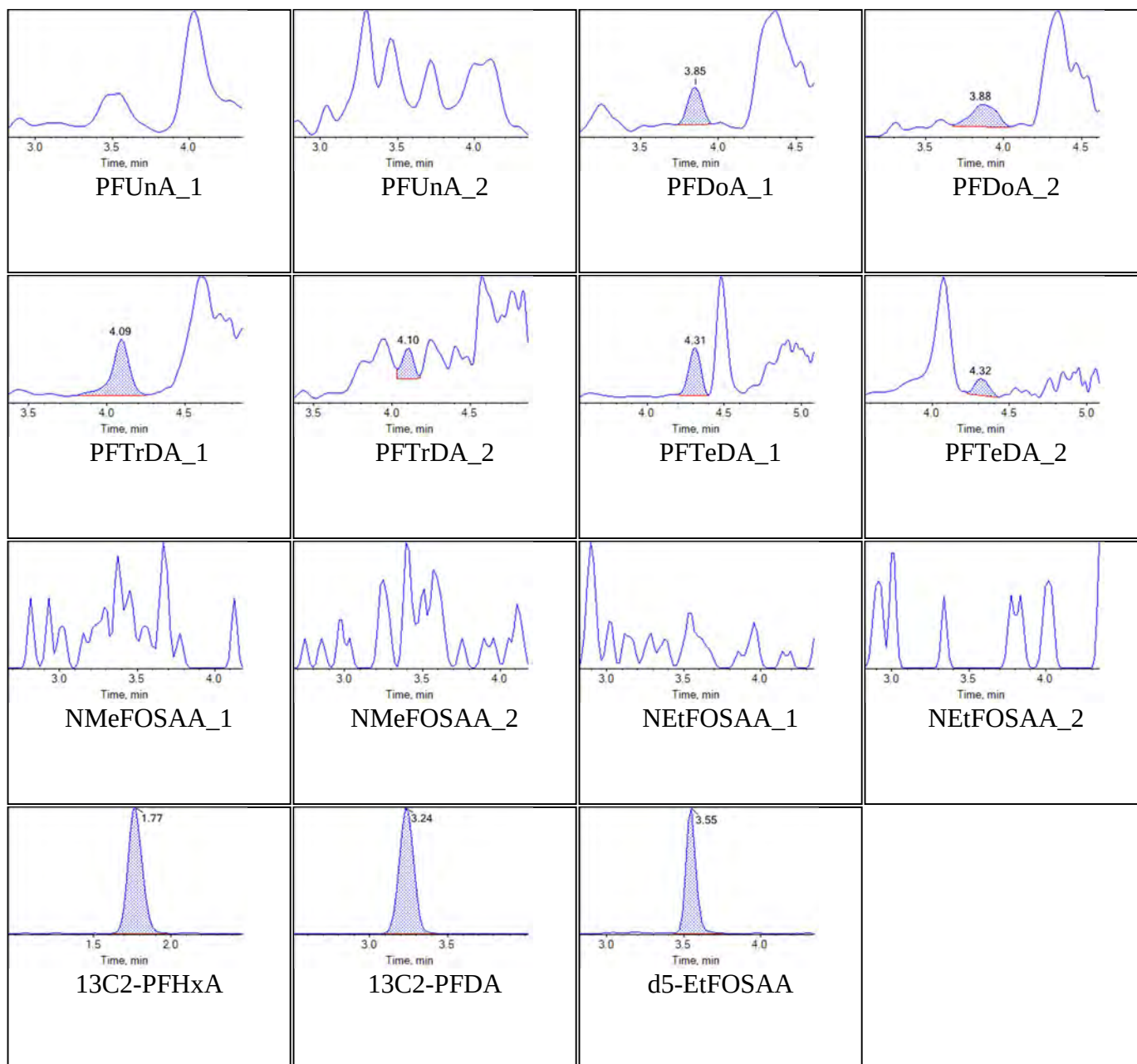
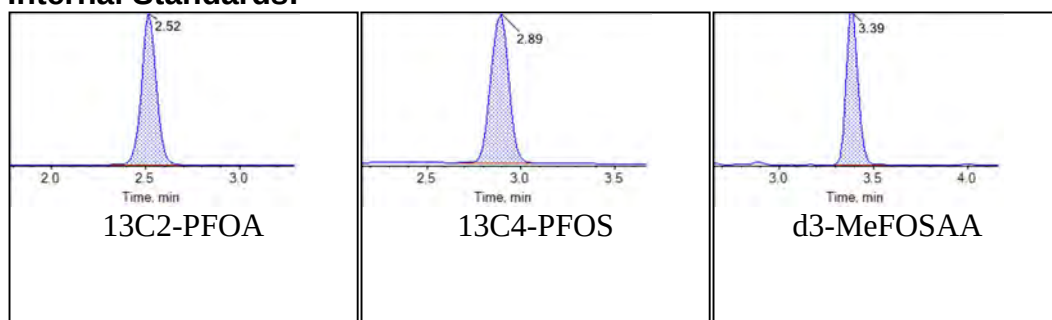
**Internal Standards:**

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:

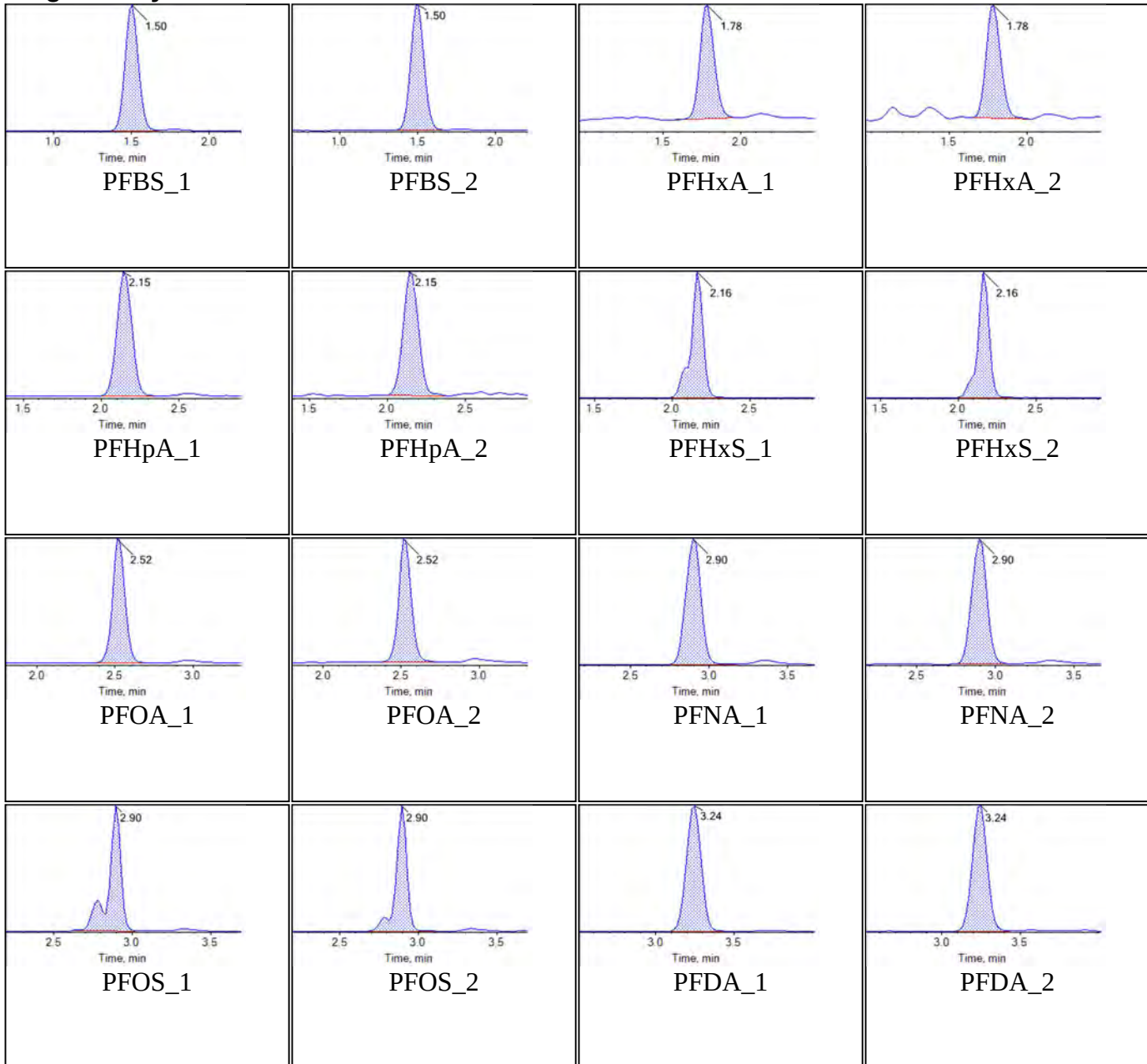


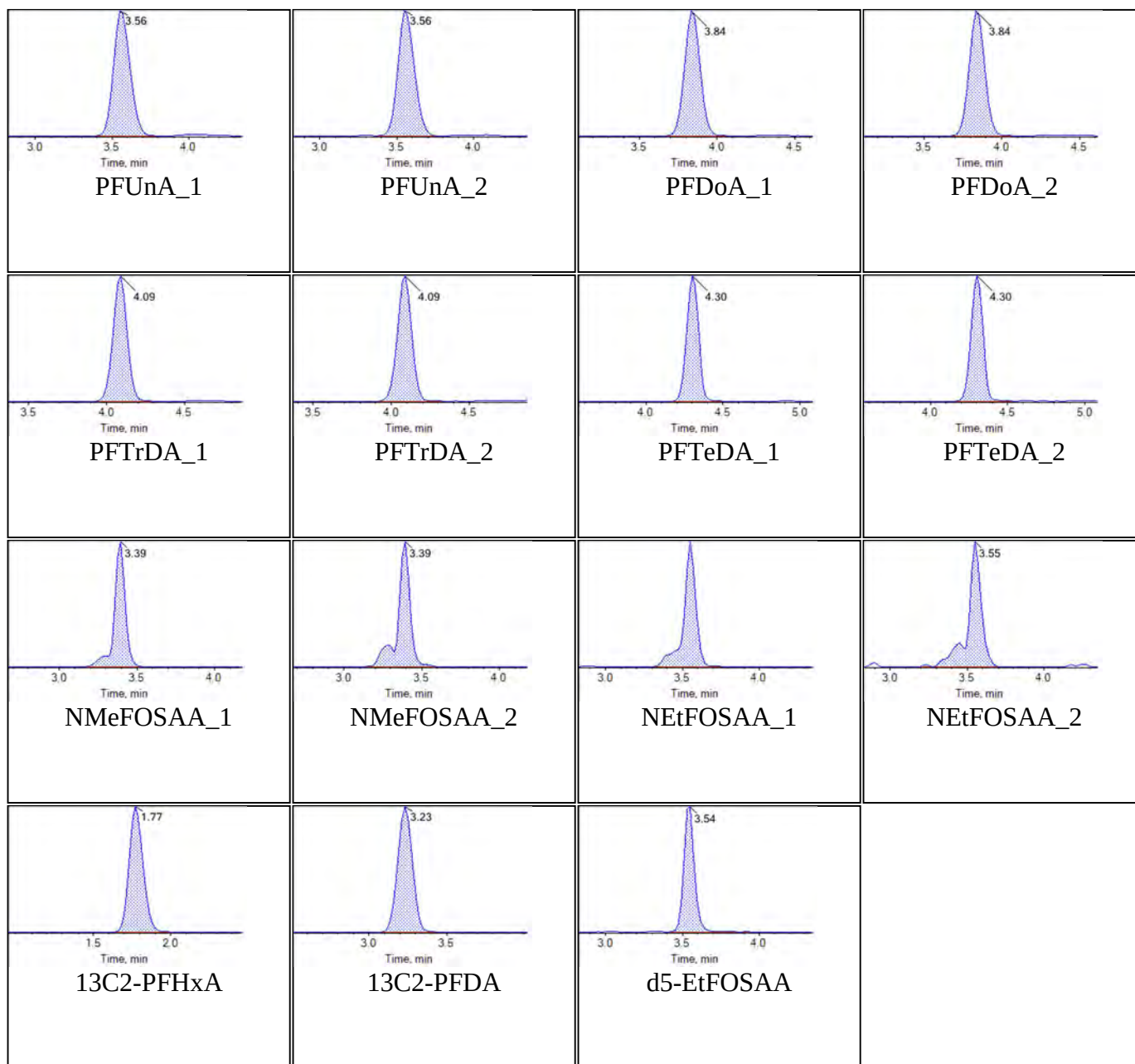
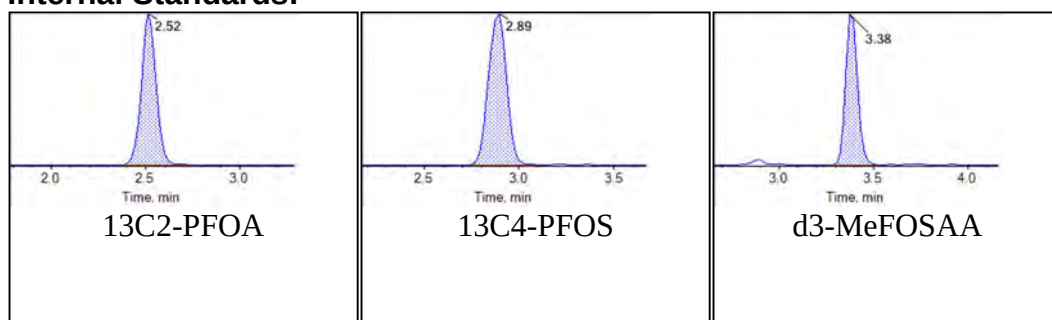
**Internal Standards:**

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Chromatograms

Target Analytes:



**Internal Standards:**

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"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","375-85-9","PFHpA","1.000000","ng/L","U",".34","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","335-67-1","PFOA","1.000000","ng/L","U",".38","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","375-95-1","PFNA","1.000000","ng/L","U",".37","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","335-76-2","PFDA","1.000000","ng/L","U",".39","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","2058-94-8","PFUnA","1.000000","ng/L","U",".38","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","307-55-1","PFDaA","1.000000","ng/L","U",".42","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","72629-94-8","PFTTrDA","1.000000","ng/L","U",".42","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","376-06-7","PFTeDA","1.500000","ng/L","U",".73","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.50",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","2355-31-9","NMeFOSAA","1.000000","ng/L","U",".42","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","2991-50-6","NEtFOSAA","1.000000","ng/L","U",".44","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

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"CR069PB-FS","SOP 5-369","Initial","CR069PB-FS","BNO","355-46-4","PFHxS","1.000000","ng/L","U",".34","MDL","","T","","","2.50","LOQ","YES","-99.000000","",".250000",".000500","1.00",""

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"CR070LCS-FS","SOP 5-369","Initial","CR070LCS-FS","BNO","307-24-4","PFHxA","23.530000","ng/L","",".22","MDL","","T","116.00","","2.50","LOQ","YES","20.200000","",".250000",".

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9","NMeFOSAA","22.830000","ng/L","",".42","MDL","","T","114.00","","2.50","LOQ","YES","20.000000","",".250000",".000500","1.00",""
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"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "2355-31-9", "NMeFOSAA", ".940000", "ng/L", "U", ".40", "MDL", "", "T", "", "", "2.36", "LOQ", "YES", "-99.000000", "", ".265000", ".000500", ".94", ""
"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "2991-50-6", "NEtFOSAA", ".940000", "ng/L", "U", ".42", "MDL", "", "T", "", "", "2.36", "LOQ", "YES", "-99.000000", "", ".265000", ".000500", ".94", ""
"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "375-73-5", "PFBS", "10.030000", "ng/L", "", ".20", "MDL", "", "T", "", "", "2.36", "LOQ", "YES", "-99.000000", "", ".265000", ".000500", ".47", ""
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"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "1763-23-1", "PFOS", "9.500000", "ng/L", "", ".28", "MDL", "", "T", "", "", "2.36", "LOQ", "YES", "-99.000000", "", ".265000", ".000500", ".94", ""
"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "BDO-2106", "13C2-PFHxA", ".420000", "ng/L", "", "-99.00", "NA", "", "SIS", "112.00", "", "-99.00", "NA", "YES", ".380000", "", ".265000", ".000500", ".50", ""
"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "BDO-2110", "13C2-PFDA", ".270000", "ng/L", "", "-99.00", "NA", "", "SIS", "73.00", "", "-99.00", "NA", "YES", ".380000", "", ".265000", ".000500", ".50", ""
"WGNA-062618-RW-3136", "SOP 5-369", "Initial", "J6816-FS", "BNO", "BDO-1839", "d5-EtFOSAA", "1.300000", "ng/L", "", "-99.00", "NA", "", "SIS", "86.00", "", "-99.00", "NA", "YES", "1.510000", "", ".265000", ".000500", ".50", ""
"WGNA-062618-FRB-3136", "SOP 5-369", "Initial", "J6817-FS", "BNO", "307-24-4", "PFHxA", ".490000", "ng/L", "U", ".22", "MDL", "", "T", "", "", "2.45", "LOQ", "YES", "-99.000000", "", ".255000", ".000500", ".49", ""
"WGNA-062618-FRB-3136", "SOP 5-369", "Initial", "J6817-FS", "BNO", "375-85-9", "PFHpA", ".980000", "ng/L", "U", ".33", "MDL", "", "T", "", "", "2.45", "LOQ", "YES", "-99.000000", "", ".255000", ".000500", ".98", ""
"WGNA-062618-FRB-3136", "SOP 5-369", "Initial", "J6817-FS", "BNO", "335-67-1", "PFOA", ".980000", "ng/L", "U", ".37", "MDL", "", "T", "", "", "2.45", "LOQ", "YES", "-99.000000", "", ".255000", ".000500

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"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","375-95-1","PFNA",".980000","ng/L","U",".36","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","335-76-2","PFDA",".980000","ng/L","U",".38","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","2058-94-8","PFUnA",".980000","ng/L","U",".37","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","307-55-1","PFDaA",".980000","ng/L","U",".41","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","72629-94-8","PFTTrDA",".980000","ng/L","U",".41","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","376-06-7","PFTeDA","1.470000","ng/L","U",".72","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500","1.47", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","2355-31-9","NMeFOSAA",".980000","ng/L","U",".41","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","2991-50-6","NEtFOSAA",".980000","ng/L","U",".43","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","375-73-5","PFBS",".490000","ng/L","U",".21","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".49", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","355-46-4","PFHxS",".980000","ng/L","U",".33","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","1763-23-1","PFOS",".340000","ng/L","J",".29","MDL","","T","","","2.45","LOQ","YES","-99.000000","",".255000",".000500",".98", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","BDO-2106","13C2-PFHxA",".360000","ng/L","","-99.00","NA","","SIS","92.00","","-99.00","NA","YES",".390000","",".255000",".000500",".50", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","BDO-2110","13C2-PFDA",".320000","ng/L","","-99.00","NA","","SIS","82.00","","-99.00","NA","YES",".390000","",".255000",".000500",".50", ""
"WGNA-062618-FRB-3136","SOP 5-369","Initial","J6817-FS","BNO","BDO-1839","d5-EtFOSAA","1.340000","ng/L","","-99.00","NA","","SIS","86.00","","-99.00","NA","YES","1.570000","",".255000",".000500",".50", ""
"112G08005-WE04","WE04 NAS Willow Grove","CR069PB-FS","","WATER","CR069PB-FS","Method Bla","","-99.000000","SOP 5-369","Gen Prep","Initial","06/29/2018 10:03","07/03/2018 17:35","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0400","18-0400","DP-18-0161","DP-18-0161","18-0400","06/29/2018 10:03","07/18/2018 08:15", ""
"112G08005-WE04","WE04 NAS Willow Grove","CR070LCS-FS","","WATER","CR070LCS-FS","LCS","","-99.000000","SOP 5-369","Gen Prep","Initial","06/29/2018 10:03","07/02/2018 11:49","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0400","18-0400","DP-18-0161","DP-18-0161","18-0400","06/29/2018 10:03","07/18/2018 08:15", ""
"112G08005-WE04","WE04 NAS Willow Grove","WGNA-062618-RW-3136","06/26/2018 08:40","DW","J6816-FS","NM","SHP-180627-01","1.200000","SOP 5-369","Gen Prep","Initial","06/29/2018 10:03","07/03/2018 17:44","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0400","18-0400","DP-18-0161","DP-18-

0161","18-0400","06/27/2018 09:30","07/18/2018 08:15",""
"112G08005-WE04","WE04 NAS Willow Grove","WGNA-062618-FRB-3136","06/26/2018 08:35","DW","J6817-
FS","NM","SHP-180627-01","1.200000","SOP 5-369","Gen Prep","Initial","06/29/2018 10:03","07/02/2018
12:07","BNO","COA","NA","T","1.000","NA","NA","","100.000000","18-0400","18-0400","DP-18-0161","DP-18-
0161","18-0400","06/27/2018 09:30","07/18/2018 08:15",""



INTERNAL CORRESPONDENCE

TO:	A. FREBOWITZ	DATE:	AUGUST 6, 2018
FROM:	TERRI L. SOLOMON	COPIES:	DV FILE
SUBJECT:	ORGANIC DATA VALIDATION –POLYFLUOROALKYL SUBSTANCES (PFAS) NAS JRB WILLOW GROVE SAMPLE DELIVERY GROUPS (SDG) 18-0400		
SAMPLES:	1/Drinking Water WGNA-062618-RW-3136 1/Field Reagent Blank (FRB) WGNA-062618-FRB-3136		

Overview

The sample set for NAS JRB Willow Grove, SDG 18-0400, consisted of one (1) drinking water sample and one (1) FRB sample. All samples were analyzed for select perfluorinated alkyl acids including pentadecafluorooctanoic acid (PFOA), perfluorobutane sulfonic acid (PFBS), perfluoroheptanoic acid (PFHpA), perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctane sulfonic acid (PFOS), N-ethylperfluorooctane sulfonamidoacetate (NMeFOSA), N-methylperfluorooctane sulfonamidoacetate (NEtFOSA), perfluorodecanoic acid (PFDA), perfluorododecanoic acid (PFDoA), perfluorohexanoic acid (PFHxA), perfluorotetradecanoic acid (PFTeDA), perfluorotridecanoic acid (PFTrDA) and perfluoroundecanoic acid (PFUnA). No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech on June 26, 2018 and analyzed by Battelle Norwell Operations. All sample 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, holding times, mass calibration, mass spectral acquisition rate, tune check, instrument sensitivity check, initial/continuing calibrations, ion transition check, laboratory method/FRBs, surrogate spike recoveries (extracted internal standard recoveries), laboratory control sample results, injected internal standard areas and recoveries, chromatographic resolution, analyte identification, analyte quantitation, and detection limits. Areas of concern are listed below.

Major

None.

Minor

The internal standard recovery for N-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-NMeFOSAA) was below the continuing calibration lower limit for sample WGNA-062618-RW-3136. The compounds affected were NMeFOSA and NEtFOSA. The laboratory reanalyzed the sample with similar results. The nondetected results reported for the aforementioned compounds from the reanalyses were qualified as estimated (UJ).

Detected results reported below the limit of quantitation (LOQ) but above the detection limit (DL) were qualified as estimated (J).

Notes

The laboratory uses a primary transition for the quantitation of each analyte and a secondary transition for confirmation.

Sample WGNA-062618-FRB-3136 had a detected result reported for PFOS of 0.34 ng/L. The detected result was < 1/3 the LOQ. No validation actions were required as the PFOS result reported in the associated drinking water sample was reported above the LOQ.

The laboratory control sample had a percent recovery for PFTeDA that was above the quality control limit. No validation actions were required as all sample results were nondetects.

Samples with detections and their associated FRBs are summarized below.

<u>Sample</u>	<u>Associated FRB</u>
WGNA-062618-RW-3136	WGNA-062618-FRB-3136

Non-detected results were reported to the Limit of Detection (LOD).

The buffering agent Trizma was added to all drinking water samples.

Executive Summary

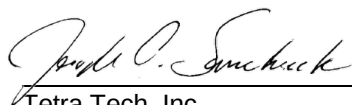
Laboratory Performance: One internal standard recovery was outside the quality control limits.

Other Factors Affecting Data Quality: Results below the RL were estimated.

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.



Tetra Tech, Inc.
Terri L. Solomon
Chemist/Data Validator



Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

TO: A. FREBOWITZ
SDGS: 18-0400

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Attachments:

Appendix A – Qualified Analytical Results

Appendix B – Results as Reported by the Laboratory

Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Appendix A

Qualified Analytical Results

Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (i.e., base-time drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $<$ CRQL for organics)
- Q = Other problems (can encompass a number of issues; i.e. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = RPD between columns/detectors $>40\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $<30\%$
- Z = Uncertainty at 2 standard deviations is greater than sample activity
- Z1 = Tentatively Identified Compound considered presumptively present
- Z2 = Tentatively Identified Compound column bleed
- Z3 = Tentatively Identified Compound aldol condensate
- Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
- Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-WE04 SDG: 18-0400 FRACTION: PFAS MEDIA: WATER	NSAMPLE	WGNA-062618-FRB-3136			WGNA-062618-RW-3136		
	LAB_ID	J6817-FS			J6816-FS		
	SAMP_DATE	6/26/2018			6/26/2018		
	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)		0.98	U		0.94	UJ	N
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		0.98	U		0.94	UJ	N
PENTADEC AFLUOROOCTANOIC ACID (PFOA)		0.98	U		17.78		
PERFLUOROBUTANESULFONIC ACID (PFBS)		0.49	U		10.03		
PERFLUORODECANOIC ACID (PFDA)		0.98	U		0.94	U	
PERFLUORODODECANOIC ACID (PFDOA)		0.98	U		0.94	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		0.98	U		4.6		
PERFLUOROHEXANESULFONIC ACID (PFHXS)		0.98	U		5.22		
PERFLUOROHEXANOIC ACID (PFHXA)		0.49	U		10.39		
PERFLUORONONANOIC ACID (PFNA)		0.98	U		1.47	J	P
PERFLUOROOCTANESULFONIC ACID (PFOS)		0.34	J	P	9.5		
PERFLUOROTETRADECANOIC ACID (PFTEA)		1.47	U		1.42	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		0.98	U		0.94	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		0.98	U		0.94	U	



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-RW-3136

Battelle ID	J6816-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/03/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.265			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	10.39	0.21	0.47	2.36
PFHpA	4.60	0.32	0.94	2.36
PFOA	17.78	0.36	0.94	2.36
PFNA	1.47 J	0.35	0.94	2.36
PFDA	0.94 U	0.37	0.94	2.36
PFUnA	0.94 U	0.36	0.94	2.36
PFDaA	0.94 U	0.40	0.94	2.36
PFTTrDA	0.94 U	0.40	0.94	2.36
PFTeDA	1.42 U	0.69	1.42	2.36
NMeFOSAA	0.94 U	0.40	0.94	2.36
NEtFOSAA	0.94 U	0.42	0.94	2.36
PFBS	10.03	0.20	0.47	2.36
PFHxS	5.22	0.32	0.94	2.36
PFOS	9.50	0.28	0.94	2.36

Surrogate Recoveries (%)

13C2-PFHxA	112
13C2-PFDA	73
d5-EtFOSAA	86

Steve L. Selman
 08/07/2018



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-FRB-3136

Battelle ID	J6817-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/02/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.255			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.49 U	0.22	0.49	2.45
PFHpA	0.98 U	0.33	0.98	2.45
PFOA	0.98 U	0.37	0.98	2.45
PFNA	0.98 U	0.36	0.98	2.45
PFDA	0.98 U	0.38	0.98	2.45
PFUnA	0.98 U	0.37	0.98	2.45
PFDaA	0.98 U	0.41	0.98	2.45
PFTTrDA	0.98 U	0.41	0.98	2.45
PFTeDA	1.47 U	0.72	1.47	2.45
NMeFOSAA	0.98 U - UJ	0.41	0.98	2.45
NEtFOSAA	0.98 U - UJ	0.43	0.98	2.45
PFBS	0.49 U	0.21	0.49	2.45
PFHxS	0.98 U	0.33	0.98	2.45
PFOS	0.34 J	0.29	0.98	2.45

Surrogate Recoveries (%)

13C2-PFHxA	92
13C2-PFDA	82
d5-EtFOSAA	86

Wesley L. Salomon
 08/07/2018

Appendix B

Results as Reported by the Laboratory



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-RW-3136

Battelle ID	J6816-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/03/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.265			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	10.39	0.21	0.47	2.36
PFHpA	4.60	0.32	0.94	2.36
PFOA	17.78	0.36	0.94	2.36
PFNA	1.47 J	0.35	0.94	2.36
PFDA	0.94 U	0.37	0.94	2.36
PFUnA	0.94 U	0.36	0.94	2.36
PFDoA	0.94 U	0.40	0.94	2.36
PFTTrDA	0.94 U	0.40	0.94	2.36
PFTeDA	1.42 U	0.69	1.42	2.36
NMeFOSAA	0.94 U	0.40	0.94	2.36
NEtFOSAA	0.94 U	0.42	0.94	2.36
PFBS	10.03	0.20	0.47	2.36
PFHxS	5.22	0.32	0.94	2.36
PFOS	9.50	0.28	0.94	2.36

Surrogate Recoveries (%)

13C2-PFHxA	112
13C2-PFDA	73
d5-EtFOSAA	86



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID WGNA-062618-FRB-3136

Battelle ID	J6817-FS			
Sample Type	SA			
Collection Date	06/26/2018			
Extraction Date	06/29/2018			
Analysis Date	07/02/2018			
Analytical Instrument	Sciex 5500 LC/MS/MS			
% Moisture	NA			
Matrix	DW			
Sample Size	0.255			
Size Unit-Basis	L			
Units	ng/L	MDL	LOD	LOQ
PFHxA	0.49 U	0.22	0.49	2.45
PFHpA	0.98 U	0.33	0.98	2.45
PFOA	0.98 U	0.37	0.98	2.45
PFNA	0.98 U	0.36	0.98	2.45
PFDA	0.98 U	0.38	0.98	2.45
PFUnA	0.98 U	0.37	0.98	2.45
PFDoA	0.98 U	0.41	0.98	2.45
PFTTrDA	0.98 U	0.41	0.98	2.45
PFTeDA	1.47 U	0.72	1.47	2.45
NMeFOSAA	0.98 U	0.41	0.98	2.45
NEtFOSAA	0.98 U	0.43	0.98	2.45
PFBS	0.49 U	0.21	0.49	2.45
PFHxS	0.98 U	0.33	0.98	2.45
PFOS	0.34 J	0.29	0.98	2.45

Surrogate Recoveries (%)

13C2-PFHxA	92
13C2-PFDA	82
d5-EtFOSAA	86

Appendix C

Support Documentation

Battelle		Chain-of-Custody									
The Business of Innovation											
Client Contact Information		Project Manager: Jonathan Thorn				Sampling Site: WE04				Site Information: NAS JRB Willow Grove/WGNA Warminster	
Andy Frebowitz 234 Mall Boulevard, Suite 260 King of Prussia, PA 19406 610-382-1170		Sampler Information (print name): Mary Kay Bond Phone: 610-382-1169 Email: mary.bond@tetrattech.com				Preservative: Trima				COC #	
Project Name: WE04		Turnaround Time (TAT) Requested: 21 days				Analysis: PFAS EPA 537 14 analytes				Page# 1 of 1	
Project No.: 112G08005-WE04		Normal ☒ Priority ☐ RUSH ☐									
Time Zone: Eastern											
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.						
WGNA-062618-RW-3136 J6816	06/26/2018	08:40	G	DW	2	X					
WGNA-062618-FRB-3136 J6817	06/26/2018	08:35	G	DW	2	X					
Receipt Temperature: (°C) 1.2		6/26/18 Samples Intact: Yes No				Samples on Ice: Yes No				Receipt Comments	
Relinquished by (Print/Sign) Mary Kay Bond	Company Tetra Tech	Date/Time: 06/26/2018 16:00		Received by (Print/Sign) Matt Schmitt		Company Battelle		Date/Time: 6-27-18 9:30			
Relinquished by (Print/Sign)	Company	Date/Time		Received by (Print/Sign)		Company		Date/Time			
Relinquished by (Print/Sign)	Company	Date/Time		Received by (Print/Sign)		Company		Date/Time			
Comments: FedEx Tracking # 7725 6862 9688											

QA/QC Summary
Batch 18-0400

Project:	CTO-WE04 Naval Air Station Joint Reserve Base Willow Grove
Parameters:	PFAS
Laboratory:	Battelle, Norwell, MA
Matrix:	DW
Data Set:	DP-18-0161
Analytical SOP:	5-371
Method Reference:	USEPA 537 rev. 1.1, QSM 5.1

Sample Custody		
Collection Date	Receipt Date	Temp (°C)
6/26/2018	6/27/2018	1.2

Corrective Actions	The collection date for WGNA-062618-FRB-3136 was updated after discussion with Andy Frebowitz to match the date listed in the sample ID, the original COC listed 6/20/2018 as the collection date.
Sample Storage	The water samples were stored refrigerated until extraction.
Related samples	None, the FRB and field samples were extracted together in one SDG.

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	Samples analyzed on the Sciex 5500. There are no ion ratio exceedences above 50% RPD for any analyte detected above the MDL or the LOQ in this SDG.

Holding Times	Extraction Date(s)	Analysis Date(s)
	6/29/2018	7/2 and 3/2018

QA/QC Summary

Batch 18-0400

Procedural Blank (PB)	A PB was prepared with this analytical batch to ensure the sample extraction and analysis methods are free of contamination.
$\leq 1/3$ 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	One exceedance noted.
	PFTeDA is over-recovered. Where this target is over-recovered and not detected in any of the associated samples, no further corrective action was taken for this SDG, however, a corrective action has been initiated to determine the root cause as the standard checks for this analyte are within control limits.
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 $\leq 30\%$	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 $\leq 20\%$, 50-150% of average area of the ICAL and 70-140% of most recent CCV	One exceedance noted.
	The initial run of samples CR069PB-FS and J6816-FS did not pass the secondary criteria as compared to the most recent CCV. A fresh aliquot of sample extract for each was run with passing criteria for the IS areas with the exception of d3-MeFOSAA in J6816-FS as compared to the previous CCV, the area passes criteria as compared to the average of the calibration as well as the next CCV (injected approximately 10 minutes after J6816-FS) – the second analytical run for both samples was reported.
Initial Calibration (ICAL)	The LC-MS/MS was calibrated with multi-level calibration curve for all compounds using linear or quadratic curve fitting.
R ² >0.99	No exceedances noted.
Target and SIS compounds +/- 30% of true value, Low point 50-150% of true value	No comments.

QA/QC Summary
Batch 18-0400

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: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project Number: 100117920-WE04
 Preparation Batch: 18-0400
 Data Set: DP-18-0161
 Test Code: Master_371

QC Parameter:	Exceed:	Justification:
Procedural Blank	0	None
PB Measurement Quality Objective	0	None
Laboratory Control Sample	1	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	NA	NA
Independent Calibration Check	0	None
Continuing Calibration Verification	0	None



It can be done

BATTELLE - NORWELL OPERATIONS MISCELLANEOUS DOCUMENTATION FORM

Project Title:	Naval Air Station Joint Reserve Base Wi	Data Set Number:	DP-18-0161
Project Number:	100117920-WE04	Prep Batch Number:	18-0400
Entered By:	Denise Schumitz	Entered On:	07/06/2018
Test Code (Matrix Type):	Master_371(L)		

Samples that were manually integrated are noted on the quant reports with the comment (TRUE).
DMS 7/6/2018

JX67 is not being used in method 18-0400_DW for PFOA and PFNA. JX75 is not being used in method 18-0400_DW for PFDoA. There is no impact on the data once this point of the calibration is removed.
DMS 7/6/2018

JX68 is not being used in method 18-0400_DW for PFNA. JX75 is not being used in method 18-0400A_DW for PFNA. There is no impact on the data once this point of the calibration is removed. DMS 7/6/2018

JX67 is not being used in method 18-0400A_DW for PFOA and PFNA. There is no impact on the data once this point of the calibration is removed.
DMS 7/6/2018

JX67 in method 18-0400_DW, has an ion ratio of >50% for NMeFOSAA and NEtFOSAA.
DMS 7/6/2018

JX67 and JX68 in method 18-0400A_DW, has an ion ratio of >50% RPD for NEtFOSAA.
DMS 7/6/2018

CR069PB-FS and J6816-FS do not meet the secondary criteria for the internal standard D3-MeFOSAA and as a result have an N qualifier on the IS area report associated with method 18-0400_DW. A fresh aliquot was taken from these samples and run with a new calibration curve. Sample CR069PB-FS meets the secondary criteria for the internal standard D3-MeFOSAA in method 18-0400A_DW however J6816-FS does not. Both samples are being reported from the rerun.
DMS 7/6/2018

Task Leader Approval:

Supervisor Approval:

PM Approval:

Digitally signed by Jonathan Thorn

Date: 2018.07.11 09:15:17 -04'00'



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID	Procedural Blank			
Battelle ID	CR069PB-FS			
Sample Type	PB			
Collection Date	06/29/2018			
Extraction Date	06/29/2018			
Analysis Date	07/03/2018			
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
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	92
13C2-PFDA	92
d5-EtFOSAA	85



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04

Client ID Laboratory Control Sample

Battelle ID CR070LCS-FS
 Sample Type LCS
 Collection Date 06/29/2018
 Extraction Date 06/29/2018
 Analysis Date 07/02/2018
 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	23.53	20.20	116		70	130
PFHpA	21.32	20.00	107		70	130
PFOA	21.62	20.00	108		70	130
PFNA	23.82	20.00	119		70	130
PFDA	21.74	20.00	109		70	130
PFUnA	21.41	20.00	107		70	130
PFDoA	20.72	20.00	104		70	130
PFTTrDA	20.50	20.00	103		70	130
PFTeDA	33.25	20.00	166	N	70	130
NMeFOSAA	22.83	20.00	114		70	130
NEtFOSAA	21.60	20.00	108		70	130
PFBS	18.88	20.20	93		70	130
PFHxS	22.26	20.20	110		70	130
PFOS	20.07	20.00	100		70	130

Surrogate Recoveries (%)

13C2-PFHxA	90
13C2-PFDA	86
d5-EtFOSAA	78



Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04
 Preparation Batch: 18-0400
 Data Set: DP-18-0161

	CR069PB-FS (Procedural Blank)	CR070LCS-FS (Laboratory Control Sample)	J6816-FS (WGNA-062618-RW-3136)	J6817-FS (WGNA-062618-FRB-3136)
PFHxA	-	L	L	-
PFHpA	-	L	L	-
PFOA	-	L	L	-
PFNA	-	L	L	-
PFDA	-	L	-	-
PFUnA	-	L	-	-
PFDoA	-	L	-	-
PFTTrDA	-	L	-	-
PFTeDA	-	L	-	-
NMeFOSAA	-	L	-	-
NEtFOSAA	-	L	-	-
PFBS	-	L	L	-
PFHxS	-	L/Br	L/Br	-
PFOS	-	L/Br	L/Br	L/Br

"L": Linear

"Br": branched

"L/Br": Linear/Branched

"-": Not detected

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	13C4-PFOS	228,307.87	-
JX68	L2	7/2/18 9:44	13C4-PFOS	229,395.98	-
JX69	L3	7/2/18 9:53	13C4-PFOS	222,081.65	-
JX70	L4	7/2/18 10:01	13C4-PFOS	233,939.96	-
JX71	L5	7/2/18 10:10	13C4-PFOS	219,992.23	-
JX72	L6	7/2/18 10:19	13C4-PFOS	220,247.15	-
JX73	L7	7/2/18 10:28	13C4-PFOS	220,249.66	-
JX74	L8	7/2/18 10:37	13C4-PFOS	183,941.38	-
JX75	L9	7/2/18 10:46	13C4-PFOS	219,730.99	3.8

PASS

Average Lower Upper
 219,765.21 109,882.61 329,647.82

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	13C4-PFOS	228,307.87	109,882.61	329,647.82		153,994.56	307,989.12	
JX68	L2	7/2/18 9:44	13C4-PFOS	229,395.98	109,882.61	329,647.82		153,994.56	307,989.12	
JX69	L3	7/2/18 9:53	13C4-PFOS	222,081.65	109,882.61	329,647.82		153,994.56	307,989.12	
JX70	L4	7/2/18 10:01	13C4-PFOS	233,939.96	109,882.61	329,647.82		153,994.56	307,989.12	
JX71	L5	7/2/18 10:10	13C4-PFOS	219,992.23	109,882.61	329,647.82		153,994.56	307,989.12	
JX72	L6	7/2/18 10:19	13C4-PFOS	220,247.15	109,882.61	329,647.82		153,994.56	307,989.12	
JX73	L7	7/2/18 10:28	13C4-PFOS	220,249.66	109,882.61	329,647.82		153,994.56	307,989.12	
JX74	L8	7/2/18 10:37	13C4-PFOS	183,941.38	109,882.61	329,647.82		153,994.56	307,989.12	
JX75	L9	7/2/18 10:46	13C4-PFOS	219,730.99	109,882.61	329,647.82		153,994.56	307,989.12	
JX66 ICC	ICC	7/2/18 10:55	13C4-PFOS	201,375.62	109,882.61	329,647.82		153,994.56	307,989.12	
JX73	CCV	7/2/18 11:22	13C4-PFOS	225,795.39	109,882.61	329,647.82		153,994.56	307,989.12	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	13C4-PFOS	161,984.69	109,882.61	329,647.82		158,056.77	316,113.55	
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	13C4-PFOS	167,242.01	109,882.61	329,647.82		158,056.77	316,113.55	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	13C4-PFOS	158,548.78	109,882.61	329,647.82		158,056.77	316,113.55	
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	13C4-PFOS	167,225.23	109,882.61	329,647.82		158,056.77	316,113.55	
JX72	CCV	7/2/18 12:38	13C4-PFOS	207,385.04	109,882.61	329,647.82		158,056.77	316,113.55	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	13C2-PFOA	62,440.06	-
JX68	L2	7/2/18 9:44	13C2-PFOA	55,877.57	-
JX69	L3	7/2/18 9:53	13C2-PFOA	57,703.53	-
JX70	L4	7/2/18 10:01	13C2-PFOA	58,253.21	-
JX71	L5	7/2/18 10:10	13C2-PFOA	57,559.12	-
JX72	L6	7/2/18 10:19	13C2-PFOA	59,952.37	-
JX73	L7	7/2/18 10:28	13C2-PFOA	58,592.96	-
JX74	L8	7/2/18 10:37	13C2-PFOA	51,435.00	-
JX75	L9	7/2/18 10:46	13C2-PFOA	63,191.48	1.2

PASS

Average Lower Upper
 58,333.92 29,166.96 87,500.88

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	13C2-PFOA	62,440.06	29,166.96	87,500.88		40,291.38	80,582.77	
JX68	L2	7/2/18 9:44	13C2-PFOA	55,877.57	29,166.96	87,500.88		40,291.38	80,582.77	
JX69	L3	7/2/18 9:53	13C2-PFOA	57,703.53	29,166.96	87,500.88		40,291.38	80,582.77	
JX70	L4	7/2/18 10:01	13C2-PFOA	58,253.21	29,166.96	87,500.88		40,291.38	80,582.77	
JX71	L5	7/2/18 10:10	13C2-PFOA	57,559.12	29,166.96	87,500.88		40,291.38	80,582.77	
JX72	L6	7/2/18 10:19	13C2-PFOA	59,952.37	29,166.96	87,500.88		40,291.38	80,582.77	
JX73	L7	7/2/18 10:28	13C2-PFOA	58,592.96	29,166.96	87,500.88		40,291.38	80,582.77	
JX74	L8	7/2/18 10:37	13C2-PFOA	51,435.00	29,166.96	87,500.88		40,291.38	80,582.77	
JX75	L9	7/2/18 10:46	13C2-PFOA	63,191.48	29,166.96	87,500.88		40,291.38	80,582.77	
JX66 ICC	ICC	7/2/18 10:55	13C2-PFOA	53,667.60	29,166.96	87,500.88		40,291.38	80,582.77	
JX73	CCV	7/2/18 11:22	13C2-PFOA	57,435.15	29,166.96	87,500.88		40,291.38	80,582.77	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	13C2-PFOA	41,701.98	29,166.96	87,500.88		40,204.61	80,409.21	
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	13C2-PFOA	45,194.46	29,166.96	87,500.88		40,204.61	80,409.21	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	13C2-PFOA	42,278.43	29,166.96	87,500.88		40,204.61	80,409.21	
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	13C2-PFOA	43,098.26	29,166.96	87,500.88		40,204.61	80,409.21	
JX72	CCV	7/2/18 12:38	13C2-PFOA	54,538.44	29,166.96	87,500.88		40,204.61	80,409.21	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/2/18 9:35	d3-MeFOSAA	19,141.83	-
JX68	L2	7/2/18 9:44	d3-MeFOSAA	19,490.78	-
JX69	L3	7/2/18 9:53	d3-MeFOSAA	18,567.17	-
JX70	L4	7/2/18 10:01	d3-MeFOSAA	19,806.14	-
JX71	L5	7/2/18 10:10	d3-MeFOSAA	20,572.46	-
JX72	L6	7/2/18 10:19	d3-MeFOSAA	19,686.78	-
JX73	L7	7/2/18 10:28	d3-MeFOSAA	19,836.25	-
JX74	L8	7/2/18 10:37	d3-MeFOSAA	16,686.42	-
JX75	L9	7/2/18 10:46	d3-MeFOSAA	20,554.11	7.1

PASS

Average 19,371.33 Lower 9,685.67 Upper 29,057.00

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/2/18 9:35	d3-MeFOSAA	19,141.83	9,685.67	29,057.00		14,400.72	28,801.44	
JX68	L2	7/2/18 9:44	d3-MeFOSAA	19,490.78	9,685.67	29,057.00		14,400.72	28,801.44	
JX69	L3	7/2/18 9:53	d3-MeFOSAA	18,567.17	9,685.67	29,057.00		14,400.72	28,801.44	
JX70	L4	7/2/18 10:01	d3-MeFOSAA	19,806.14	9,685.67	29,057.00		14,400.72	28,801.44	
JX71	L5	7/2/18 10:10	d3-MeFOSAA	20,572.46	9,685.67	29,057.00		14,400.72	28,801.44	
JX72	L6	7/2/18 10:19	d3-MeFOSAA	19,686.78	9,685.67	29,057.00		14,400.72	28,801.44	
JX73	L7	7/2/18 10:28	d3-MeFOSAA	19,836.25	9,685.67	29,057.00		14,400.72	28,801.44	
JX74	L8	7/2/18 10:37	d3-MeFOSAA	16,686.42	9,685.67	29,057.00		14,400.72	28,801.44	
JX75	L9	7/2/18 10:46	d3-MeFOSAA	20,554.11	9,685.67	29,057.00		14,400.72	28,801.44	
JX66 ICC	ICC	7/2/18 10:55	d3-MeFOSAA	17,076.54	9,685.67	29,057.00		14,400.72	28,801.44	
JX73	CCV	7/2/18 11:22	d3-MeFOSAA	20,148.69	9,685.67	29,057.00		14,400.72	28,801.44	
CR069PB-FS(0)	Procedural Blank	7/2/18 11:40	d3-MeFOSAA	13,949.27	9,685.67	29,057.00		14,104.08	28,208.17	N *
CR070LCS-FS(0)	Laboratory Control Sample	7/2/18 11:49	d3-MeFOSAA	15,474.33	9,685.67	29,057.00		14,104.08	28,208.17	
J6816-FS(0)	WGNA-062618-RW-3136	7/2/18 11:58	d3-MeFOSAA	12,938.86	9,685.67	29,057.00		14,104.08	28,208.17	N *
J6817-FS(0)	WGNA-062618-FRB-3136	7/2/18 12:07	d3-MeFOSAA	14,365.79	9,685.67	29,057.00		14,104.08	28,208.17	
JX72	CCV	7/2/18 12:38	d3-MeFOSAA	18,673.39	9,685.67	29,057.00		14,104.08	28,208.17	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	13C4-PFOS	227,620.35	-
JX68	L2	7/3/18 16:05	13C4-PFOS	224,024.95	-
JX69	L3	7/3/18 16:14	13C4-PFOS	207,944.48	-
JX70	L4	7/3/18 16:23	13C4-PFOS	218,817.09	-
JX71	L5	7/3/18 16:32	13C4-PFOS	221,668.16	-
JX72	L6	7/3/18 16:41	13C4-PFOS	168,650.41	-
JX73	L7	7/3/18 16:50	13C4-PFOS	184,476.89	-
JX74	L8	7/3/18 16:59	13C4-PFOS	181,051.18	-
JX75	L9	7/3/18 17:08	13C4-PFOS	188,640.06	18.7

PASS

Average Lower Upper
 202,543.73 101,271.87 303,815.60

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	13C4-PFOS	227,620.35	101,271.87	303,815.60		155,167.71	310,335.42	
JX68	L2	7/3/18 16:05	13C4-PFOS	224,024.95	101,271.87	303,815.60		155,167.71	310,335.42	
JX69	L3	7/3/18 16:14	13C4-PFOS	207,944.48	101,271.87	303,815.60		155,167.71	310,335.42	
JX70	L4	7/3/18 16:23	13C4-PFOS	218,817.09	101,271.87	303,815.60		155,167.71	310,335.42	
JX71	L5	7/3/18 16:32	13C4-PFOS	221,668.16	101,271.87	303,815.60		155,167.71	310,335.42	
JX72	L6	7/3/18 16:41	13C4-PFOS	168,650.41	101,271.87	303,815.60		155,167.71	310,335.42	
JX73	L7	7/3/18 16:50	13C4-PFOS	184,476.89	101,271.87	303,815.60		155,167.71	310,335.42	
JX74	L8	7/3/18 16:59	13C4-PFOS	181,051.18	101,271.87	303,815.60		155,167.71	310,335.42	
JX75	L9	7/3/18 17:08	13C4-PFOS	188,640.06	101,271.87	303,815.60		155,167.71	310,335.42	
JX66 ICC	ICC	7/3/18 17:17	13C4-PFOS	203,773.30	101,271.87	303,815.60		155,167.71	310,335.42	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	13C4-PFOS	176,247.31	101,271.87	303,815.60		155,167.71	310,335.42	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	13C4-PFOS	156,744.32	101,271.87	303,815.60		155,167.71	310,335.42	
JX72 CCV	CCV	7/3/18 17:53	13C4-PFOS	167,912.20	101,271.87	303,815.60		155,167.71	310,335.42	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	13C2-PFOA	72,492.43	-
JX68	L2	7/3/18 16:05	13C2-PFOA	70,783.89	-
JX69	L3	7/3/18 16:14	13C2-PFOA	66,451.85	-
JX70	L4	7/3/18 16:23	13C2-PFOA	71,466.46	-
JX71	L5	7/3/18 16:32	13C2-PFOA	70,082.54	-
JX72	L6	7/3/18 16:41	13C2-PFOA	51,495.21	-
JX73	L7	7/3/18 16:50	13C2-PFOA	59,205.92	-
JX74	L8	7/3/18 16:59	13C2-PFOA	65,004.53	-
JX75	L9	7/3/18 17:08	13C2-PFOA	73,515.18	1.4

PASS

Average Lower Upper
 66,722.00 33,361.00 100,083.00

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	13C2-PFOA	72,492.43	33,361.00	100,083.00		49,057.78	98,115.56	
JX68	L2	7/3/18 16:05	13C2-PFOA	70,783.89	33,361.00	100,083.00		49,057.78	98,115.56	
JX69	L3	7/3/18 16:14	13C2-PFOA	66,451.85	33,361.00	100,083.00		49,057.78	98,115.56	
JX70	L4	7/3/18 16:23	13C2-PFOA	71,466.46	33,361.00	100,083.00		49,057.78	98,115.56	
JX71	L5	7/3/18 16:32	13C2-PFOA	70,082.54	33,361.00	100,083.00		49,057.78	98,115.56	
JX72	L6	7/3/18 16:41	13C2-PFOA	51,495.21	33,361.00	100,083.00		49,057.78	98,115.56	
JX73	L7	7/3/18 16:50	13C2-PFOA	59,205.92	33,361.00	100,083.00		49,057.78	98,115.56	
JX74	L8	7/3/18 16:59	13C2-PFOA	65,004.53	33,361.00	100,083.00		49,057.78	98,115.56	
JX75	L9	7/3/18 17:08	13C2-PFOA	73,515.18	33,361.00	100,083.00		49,057.78	98,115.56	
JX66 ICC	ICC	7/3/18 17:17	13C2-PFOA	65,583.85	33,361.00	100,083.00		49,057.78	98,115.56	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	13C2-PFOA	53,288.10	33,361.00	100,083.00		49,057.78	98,115.56	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	13C2-PFOA	55,673.35	33,361.00	100,083.00		49,057.78	98,115.56	
JX72 CCV	CCV	7/3/18 17:53	13C2-PFOA	57,238.83	33,361.00	100,083.00		49,057.78	98,115.56	

Project Client: Tetra Tech
 Project Name: Naval Air Station Joint Reserve Base Willow Grove, PA
 Project No.: 100117920-WE04



Sample Name	Sample ID	Analysis Date	Analyte	Area	RPD (L1/L9)
JX67	L1	7/3/18 15:56	d3-MeFOSAA	30,839.15	-
JX68	L2	7/3/18 16:05	d3-MeFOSAA	30,215.30	-
JX69	L3	7/3/18 16:14	d3-MeFOSAA	26,607.87	-
JX70	L4	7/3/18 16:23	d3-MeFOSAA	30,356.57	-
JX71	L5	7/3/18 16:32	d3-MeFOSAA	30,480.13	-
JX72	L6	7/3/18 16:41	d3-MeFOSAA	21,687.27	-
JX73	L7	7/3/18 16:50	d3-MeFOSAA	25,955.29	-
JX74	L8	7/3/18 16:59	d3-MeFOSAA	27,319.03	-
JX75	L9	7/3/18 17:08	d3-MeFOSAA	30,441.43	1.3

PASS

Average Lower Upper
 28,211.34 14,105.67 42,317.01

Sample Name	Sample ID	Analysis Date	Analyte	Area	Lower	Upper	Qualifier	CCV Lower	CCV Upper	Qualifier
JX67	L1	7/3/18 15:56	d3-MeFOSAA	30,839.15	14,105.67	42,317.01		21,336.09	42,672.18	
JX68	L2	7/3/18 16:05	d3-MeFOSAA	30,215.30	14,105.67	42,317.01		21,336.09	42,672.18	
JX69	L3	7/3/18 16:14	d3-MeFOSAA	26,607.87	14,105.67	42,317.01		21,336.09	42,672.18	
JX70	L4	7/3/18 16:23	d3-MeFOSAA	30,356.57	14,105.67	42,317.01		21,336.09	42,672.18	
JX71	L5	7/3/18 16:32	d3-MeFOSAA	30,480.13	14,105.67	42,317.01		21,336.09	42,672.18	
JX72	L6	7/3/18 16:41	d3-MeFOSAA	21,687.27	14,105.67	42,317.01		21,336.09	42,672.18	
JX73	L7	7/3/18 16:50	d3-MeFOSAA	25,955.29	14,105.67	42,317.01		21,336.09	42,672.18	
JX74	L8	7/3/18 16:59	d3-MeFOSAA	27,319.03	14,105.67	42,317.01		21,336.09	42,672.18	
JX75	L9	7/3/18 17:08	d3-MeFOSAA	30,441.43	14,105.67	42,317.01		21,336.09	42,672.18	
JX66 ICC	ICC	7/3/18 17:17	d3-MeFOSAA	28,916.42	14,105.67	42,317.01		21,336.09	42,672.18	
CR069PB-FS(0)	Procedural Blank	7/3/18 17:35	d3-MeFOSAA	23,508.28	14,105.67	42,317.01		21,336.09	42,672.18	
J6816-FS(0)	WGNA-062618-RW-3136	7/3/18 17:44	d3-MeFOSAA	20,502.61	14,105.67	42,317.01		21,336.09	42,672.18	N *
JX72 CCV	CCV	7/3/18 17:53	d3-MeFOSAA	24,475.50	14,105.67	42,317.01		21,336.09	42,672.18	

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 10:28:45 AM	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.52	1.07	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.81	1.28	0.8 – 1.5

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 4:50:33 PM	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Asymmetry Factor	Passing Range
PFBS_1	298.9 / 80.0	1.50	1.03	0.8 – 1.5
PFHxA_1	313.0 / 269.0	1.78	1.15	0.8 – 1.5

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 10:28:45 AM	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.52	29	>10
PFBS_2	298.9 / 99.0	1.52	22	>10
PFHxA_1	313.0 / 269.0	1.81	24	>10
PFHxA_2	313.0 / 119.0	1.81	23	>10
PFHpA_1	363.0 / 319.0	2.18	28	>10
PFHpA_2	363.0 / 169.0	2.18	24	>10
PFHxS_1	399.0 / 80.0	2.19	36	>10
PFHxS_2	399.0 / 99.0	2.20	35	>10
PFOA_1	413.0 / 369.0	2.56	38	>10
PFOA_2	413.0 / 169.0	2.56	30	>10
PFNA_1	463.0 / 419.0	2.94	35	>10
PFNA_2	463.0 / 219.0	2.94	26	>10
PFOS_1	499.0 / 80.0	2.93	39	>10
PFOS_2	499.0 / 99.0	2.93	37	>10
PFDA_1	513.0 / 469.0	3.29	30	>10
PFDA_2	513.0 / 219.0	3.29	41	>10
PFUnA_1	563.0 / 519.0	3.62	28	>10
PFUnA_2	563.0 / 269.0	3.62	32	>10
PFDoA_1	613.0 / 569.0	3.90	30	>10
PFDoA_2	613.0 / 319.0	3.90	36	>10
PFTTrDA_1	663.0 / 619.0	4.16	44	>10
PFTTrDA_2	663.0 / 169.0	4.16	34	>10
PFTeDA_1	713.0 / 669.0	4.38	48	>10
PFTeDA_2	713.0 / 169.0	4.38	35	>10
NMeFOSAA_1	570.0 / 419.0	3.44	33	>10
NMeFOSAA_2	570.0 / 512.0	3.44	49	>10
NEtFOSAA_1	584.0 / 419.0	3.60	35	>10
NEtFOSAA_2	584.0 / 483.0	3.60	34	>10
13C2-PFHxA	315.0 / 270.0	1.80	36	>10
13C2-PFDA	515.0 / 470.0	3.28	37	>10
d5-EtFOSAA	589.0 / 419.0	3.60	27	>10

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 4:50:33 PM	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Spectra Acquisition Rate	Passing Range
PFBS_1	298.9 / 80.0	1.50	34	>10
PFBS_2	298.9 / 99.0	1.50	35	>10
PFHxA_1	313.0 / 269.0	1.78	24	>10
PFHxA_2	313.0 / 119.0	1.78	20	>10
PFHpA_1	363.0 / 319.0	2.15	34	>10
PFHpA_2	363.0 / 169.0	2.15	28	>10
PFHxS_1	399.0 / 80.0	2.17	48	>10
PFHxS_2	399.0 / 99.0	2.17	30	>10
PFOA_1	413.0 / 369.0	2.53	29	>10
PFOA_2	413.0 / 169.0	2.53	33	>10
PFNA_1	463.0 / 419.0	2.91	28	>10
PFNA_2	463.0 / 219.0	2.91	26	>10
PFOS_1	499.0 / 80.0	2.91	27	>10
PFOS_2	499.0 / 99.0	2.90	35	>10
PFDA_1	513.0 / 469.0	3.25	29	>10
PFDA_2	513.0 / 219.0	3.25	36	>10
PFUnA_1	563.0 / 519.0	3.57	26	>10
PFUnA_2	563.0 / 269.0	3.57	27	>10
PFDoA_1	613.0 / 569.0	3.85	29	>10
PFDoA_2	613.0 / 319.0	3.85	36	>10
PFTTrDA_1	663.0 / 619.0	4.10	36	>10
PFTTrDA_2	663.0 / 169.0	4.09	35	>10
PFTeDA_1	713.0 / 669.0	4.31	52	>10
PFTeDA_2	713.0 / 169.0	4.31	45	>10
NMeFOSAA_1	570.0 / 419.0	3.40	28	>10
NMeFOSAA_2	570.0 / 512.0	3.40	38	>10
NEtFOSAA_1	584.0 / 419.0	3.56	39	>10
NEtFOSAA_2	584.0 / 483.0	3.56	31	>10
13C2-PFHxA	315.0 / 270.0	1.77	29	>10
13C2-PFDA	515.0 / 470.0	3.24	40	>10
d5-EtFOSAA	589.0 / 419.0	3.55	25	>10

BATTELLE DETECTION LIMITS FOR PFAS IN DRINKING WATER

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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)
PFHxA	307-24-4	0.22	0.5	2.5	2.5
PFHpA	375-85-9	0.34	1.0	2.5	2.5
PFOA	335-67-1	0.38	1.0	2.5	2.5
PFNA	375-95-1	0.37	1.0	2.5	2.5
PFDA	335-76-2	0.39	1.0	2.5	2.5
PFUnA	2058-94-8	0.38	1.0	2.5	2.5
PFDoA	307-55-1	0.42	1.0	2.5	2.5
PFTTrDA	72629-94-8	0.42	1.0	2.5	2.5
PFTeDA	376-06-7	0.73	1.5	2.5	2.5
NMeFOSAA	2355-31-9	0.42	1.0	2.5	2.5
NEtFOSAA	2991-50-6	0.44	1.0	2.5	2.5
PFBS	375-73-5	0.21	0.5	2.5	2.5
PFHxS	3871-99-6	0.34	1.0	2.5	2.5
PFOS	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
PFHxA	307-24-4	Target	313.0 / 269.0	313.0 / 119.0
PFHpA	375-85-9	Target	363.0 / 319.0	363.0 / 169.0
PFOA	335-67-1	Target	413.0 / 369.0	413.0 / 169.0
PFNA	375-95-1	Target	463.0 / 419.0	463.0 / 219.0
PFDA	335-76-2	Target	513.0 / 469.0	513.0 / 219.0
PFUnA	2058-94-8	Target	563.0 / 519.0	563.0 / 269.0
PFDoA	307-55-1	Target	613.0 / 569.0	613.0 / 319.0
PFTTrDA	72629-94-8	Target	663.0 / 619.0	663.0 / 169.0
PFTeDA	376-06-7	Target	713.0 / 669.0	713.0 / 169.0
NMeFOSAA	2355-31-9	Target	570.0 / 419.0	570.0 / 512.0
NEtFOSAA	2991-50-6	Target	584.0 / 419.0	584.0 / 483.0
PFBS	375-73-5	Target	298.9.0 / 80.0	298.9.0 / 99.0
PFHxS	355-46-4	Target	399.0 / 80.0	399.0 / 99.0
PFOS	1763-23-1	Target	499.0 / 80.0	499.0 / 99.0
13C2-PFHxA	NA	SIS	315.0 / 270.0	NA
13C2-PFDA	NA	SIS	515.0 / 470.0	NA
d5-EtFOSAA	NA	SIS	589.0 / 419.0	NA
¹³C₂-PFOA	NA	IS	415.0 / 270.0	NA
¹³C₄-PFOS	NA	IS	503.0 / 80.0	NA
d3-MeFOSAA	NA	IS	573.0 / 419.0	NA



Drinking Water Calibration to Sample Equivalents

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

¹ - base level dilution as part of the extraction procedure

² - calculated equivalent of a sample based on the ICAL concentration



It can be done

**BATTELLE - NORWELL OPERATIONS
SAMPLE IDENTIFICATION PAGE**

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)

100117920-
WE04

18-0400

WE04 PFAS Analysis

DW

Sample ID	Description
CR069PB-FS	Procedural Blank
CR070LCS-FS	Laboratory Control Sample
J6816-FS	WGNA-062618-RW-3136
J6817-FS	WGNA-062618-FRB-3136

Samples Assigned By:

Jonathan Thorn

Date :

June 27, 2018

Comments:



It can be done

BATTELLE - NORWELL OPERATIONS LIQUID SAMPLE ID FORM

Project Title(s)

Naval Air Station Joint Reserve Base Willow Grove, PA

Project No.(s)100117920-
WE04**18-0400****WE04 PFAS Analysis****DW**

Sample ID	Description	Volume (mL)	Bottles	*	Date Initials
CR069PB-FS	Procedural Blank	250.0	NA	--	06/29/18 SAS
CR070LCS-FS	Laboratory Control Sample	250.0	NA	--	06/29/18 SAS
J6816-FS	WGNA-062618-RW-3136	265.0	1	C	06/29/18 SAS
J6817-FS	WGNA-062618-FRB-3136	255.0	1	C	06/29/18 SAS

Comments:

Sample ID:	Comments:
CR069PB-FS	1.24g Trizma(170526-01) weighed on BAL-009
CR070LCS-FS	1.26g Trizma(170526-01) weighed on BAL-009

Samples Assigned By

Jonathan Thorn

Date :

June 27, 2018

* - "C" = Sample is Consumed



Sequence Report

Created with Analyst Reporter
Printed: 06/07/2018 3:38:43 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
2	JX67	L1	7/2/2018 9:35:13 AM	5-0371.dam	5500_07022018_371.wiff
3	JX68	L2	7/2/2018 9:44:07 AM	5-0371.dam	5500_07022018_371.wiff
4	JX69	L3	7/2/2018 9:53:02 AM	5-0371.dam	5500_07022018_371.wiff
5	JX70	L4	7/2/2018 10:01:57 AM	5-0371.dam	5500_07022018_371.wiff
6	JX71	L5	7/2/2018 10:10:53 AM	5-0371.dam	5500_07022018_371.wiff
7	JX72	L6	7/2/2018 10:19:49 AM	5-0371.dam	5500_07022018_371.wiff
8	JX73	L7	7/2/2018 10:28:45 AM	5-0371.dam	5500_07022018_371.wiff
9	JX74	L8	7/2/2018 10:37:42 AM	5-0371.dam	5500_07022018_371.wiff
10	JX75	L9	7/2/2018 10:46:37 AM	5-0371.dam	5500_07022018_371.wiff
11	JX66 ICC	ICC	7/2/2018 10:55:35 AM	5-0371.dam	5500_07022018_371.wiff
1	MEOH		7/2/2018 11:04:33 AM	5-0371.dam	5500_07022018_371.wiff
8	JX73	CCV	7/2/2018 11:22:27 AM	5-0371.dam	5500_07022018_371.wiff
1	MEOH		7/2/2018 11:31:23 AM	5-0371.dam	5500_07022018_371.wiff
13	CR069PB-FS(0)	Procedural Blank	7/2/2018 11:40:20 AM	5-0371.dam	5500_07022018_371.wiff
14	CR070LCS-FS(0)	Laboratory Control Sample	7/2/2018 11:49:17 AM	5-0371.dam	5500_07022018_371.wiff
15	J6816-FS(0)	WGNA-062618-RW-3136	7/2/2018 11:58:13 AM	5-0371.dam	5500_07022018_371.wiff
16	J6817-FS(0)	WGNA-062618-FRB-3136	7/2/2018 12:07:11 PM	5-0371.dam	5500_07022018_371.wiff
7	JX72	CCV	7/2/2018 12:38:15 PM	5-0371.dam	5500_07022018_371.wiff

1

1

1 sample did not meet IS criteria, fresh aliquot taken and run. DMS 7/6/2018

Sequence Report

Created with Analyst Reporter
Printed: 06/07/2018 3:38:04 PM

Vial	Laboratory Sample ID	Client Sample ID	Acquisition Date	Acquisition Method	Data File
1	MEOH		7/3/2018 3:48:03 PM	5-0371.dam	07032018_5-0371.wiff
2	JX67	L1	7/3/2018 3:56:59 PM	5-0371.dam	07032018_5-0371.wiff
3	JX68	L2	7/3/2018 4:05:55 PM	5-0371.dam	07032018_5-0371.wiff
4	JX69	L3	7/3/2018 4:14:50 PM	5-0371.dam	07032018_5-0371.wiff
5	JX70	L4	7/3/2018 4:23:46 PM	5-0371.dam	07032018_5-0371.wiff
6	JX71	L5	7/3/2018 4:32:42 PM	5-0371.dam	07032018_5-0371.wiff
7	JX72	L6	7/3/2018 4:41:38 PM	5-0371.dam	07032018_5-0371.wiff
8	JX73	L7	7/3/2018 4:50:33 PM	5-0371.dam	07032018_5-0371.wiff
9	JX74	L8	7/3/2018 4:59:28 PM	5-0371.dam	07032018_5-0371.wiff
10	JX75	L9	7/3/2018 5:08:24 PM	5-0371.dam	07032018_5-0371.wiff
11	JX66 ICC	ICC	7/3/2018 5:17:19 PM	5-0371.dam	07032018_5-0371.wiff
1	MEOH		7/3/2018 5:26:14 PM	5-0371.dam	07032018_5-0371.wiff
12	CR069PB-FS(0)	Procedural Blank	7/3/2018 5:35:11 PM	5-0371.dam	07032018_5-0371.wiff
13	J6816-FS(0)	WGNA-062618-RW-3136	7/3/2018 5:44:08 PM	5-0371.dam	07032018_5-0371.wiff
7	JX72 CCV	CCV	7/3/2018 5:53:05 PM	5-0371.dam	07032018_5-0371.wiff



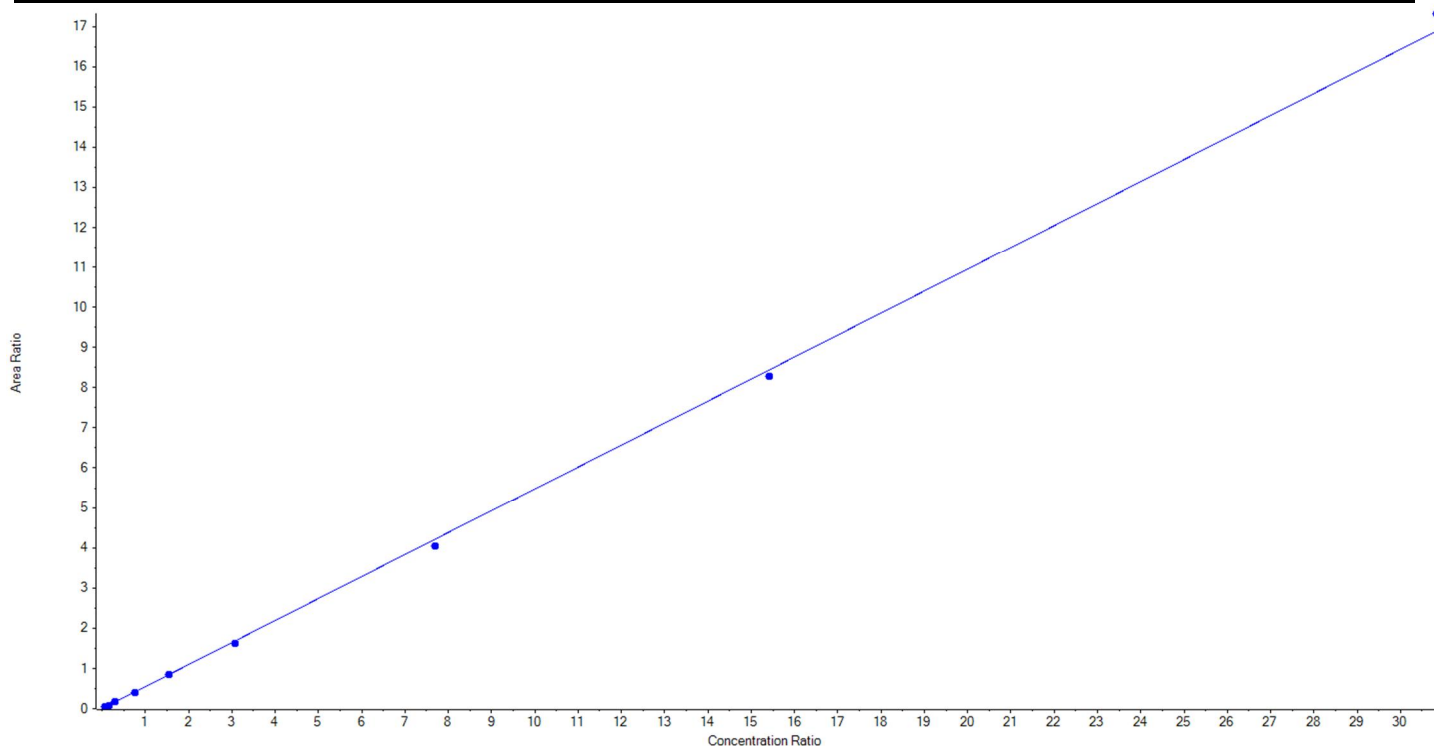
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFBS_1	Data File	5500_07022018_371.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.54761 x + -9.82331e-4$ ($r = 0.99958$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	24.348619	109.9
3	JX68	L2	True	44.30	44.274193	99.9
4	JX69	L3	True	88.60	89.097417	100.6
5	JX70	L4	True	221.50	216.145714	97.6
6	JX71	L5	True	443.00	442.842975	100.0
7	JX72	L6	True	885.00	848.944885	95.9
8	JX73	L7	True	2212.50	2112.792418	95.5
9	JX74	L8	True	4425.00	4339.859302	98.1
10	JX75	L9	True	8850.00	9073.744476	102.5





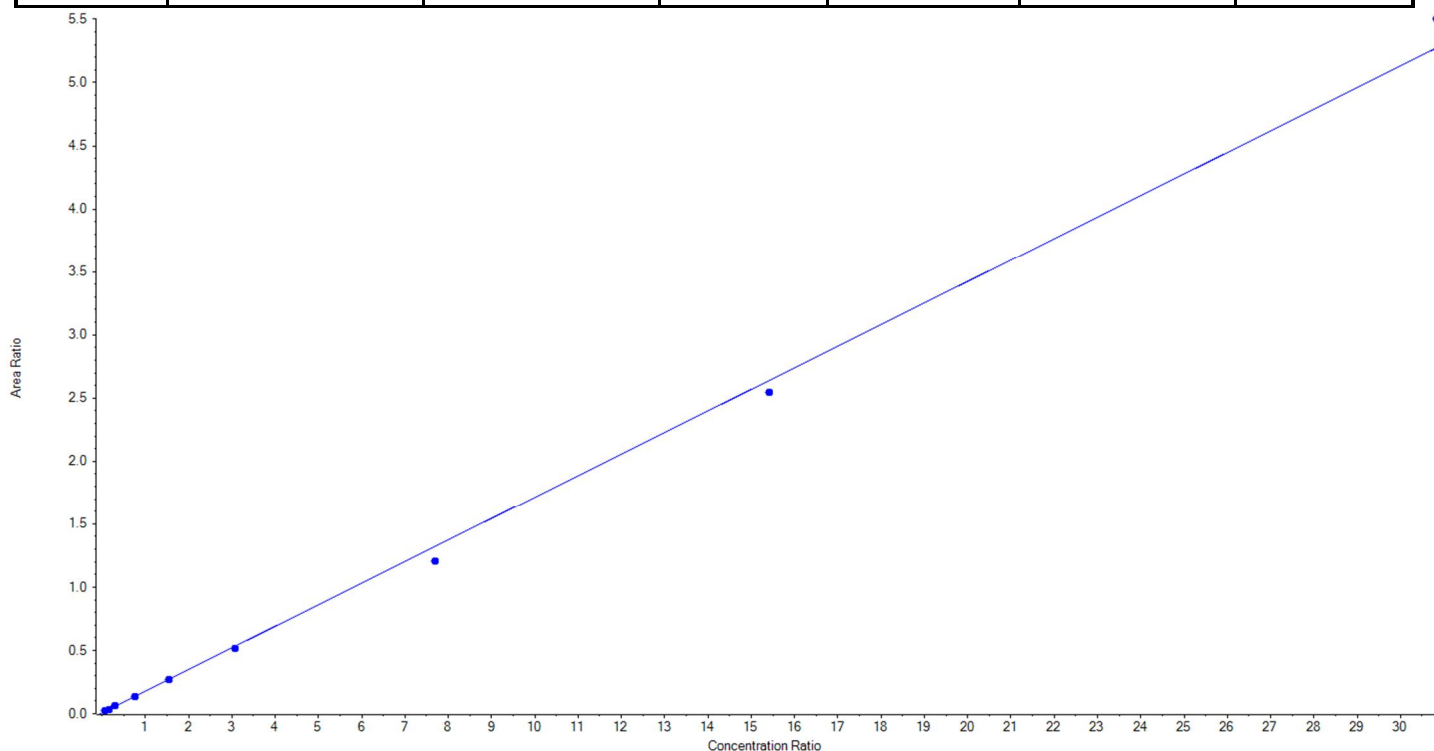
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFBS_2	Data File	5500_07022018_371.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17081x + 0.00687$ ($r = 0.99866$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	23.043361	104.0
3	JX68	L2	True	44.30	43.450812	98.1
4	JX69	L3	True	88.60	100.911234	113.9
5	JX70	L4	True	221.50	212.644552	96.0
6	JX71	L5	True	443.00	443.294416	100.1
7	JX72	L6	True	885.00	850.665326	96.1
8	JX73	L7	True	2212.50	2011.948021	90.9
9	JX74	L8	True	4425.00	4270.369961	96.5
10	JX75	L9	True	8850.00	9235.722318	104.4





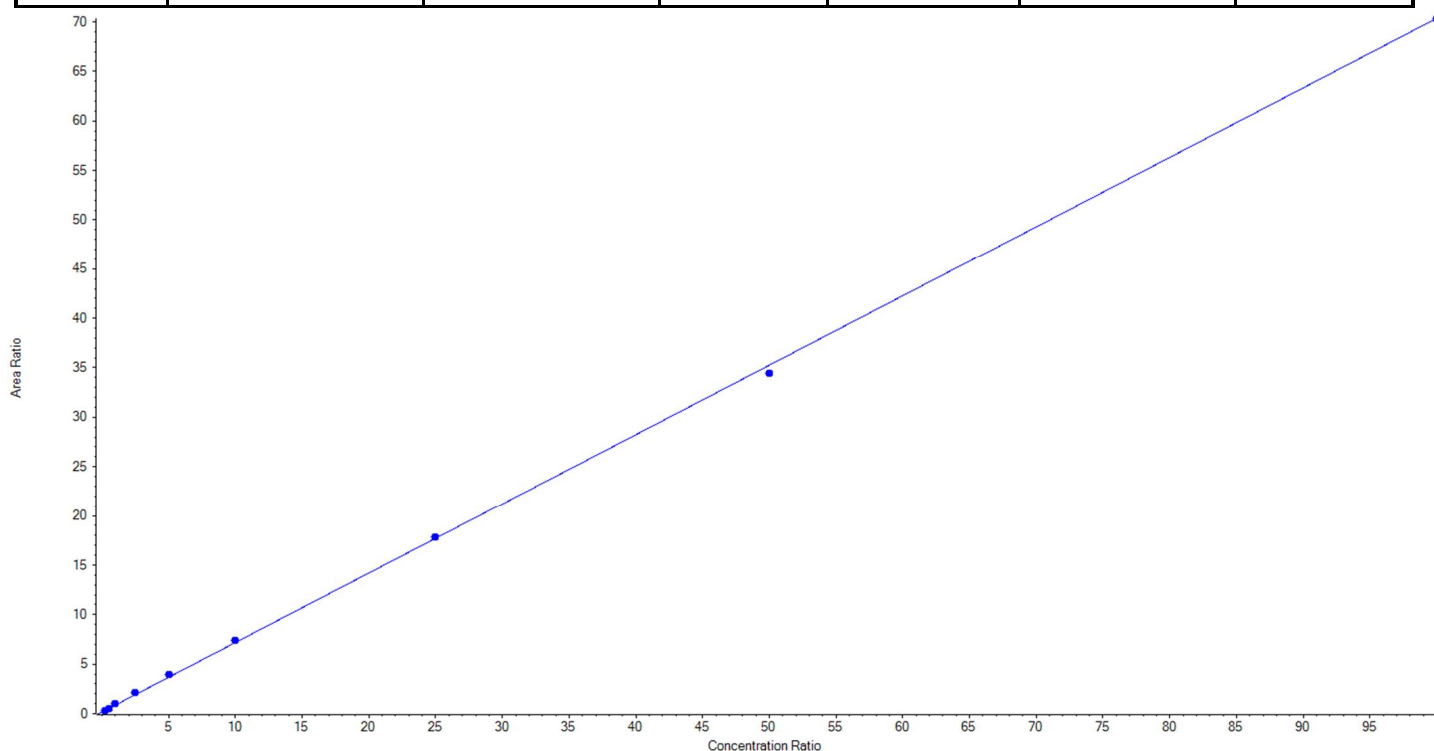
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFHxA_1	Data File	5500_07022018_371.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.70188x + 0.16401$ ($r = 0.99954$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.615487	70.5
3	JX68	L2	True	50.00	44.928358	89.9
4	JX69	L3	True	100.00	117.730939	117.7
5	JX70	L4	True	250.00	280.073118	112.0
6	JX71	L5	True	500.00	543.437656	108.7
7	JX72	L6	True	1000.00	1029.744021	103.0
8	JX73	L7	True	2500.00	2517.811415	100.7
9	JX74	L8	True	5000.00	4881.016908	97.6
10	JX75	L9	True	10000.00	9992.642097	99.9





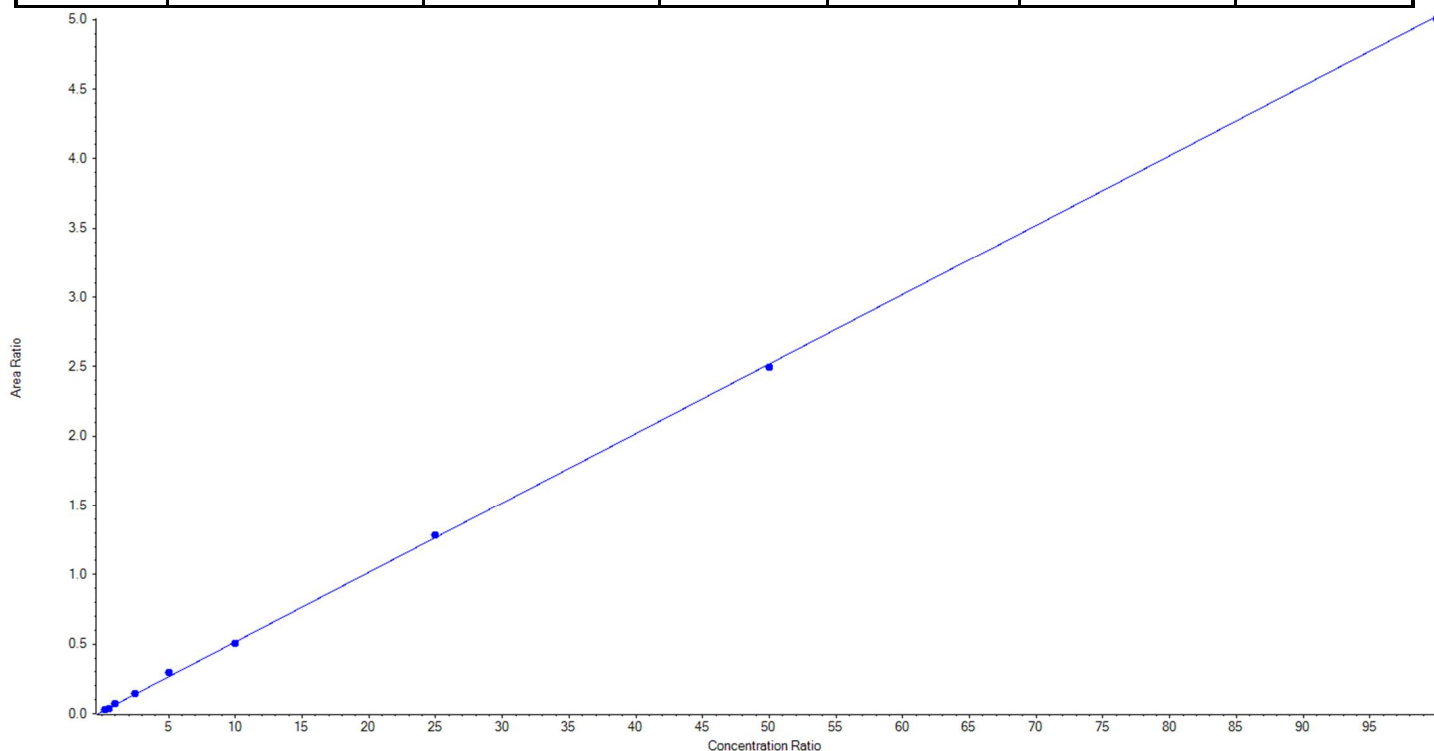
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHxA_2	Data File	5500_07022018_371.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.05008x + 0.01482$ ($r = 0.99964$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.803967	87.2
3	JX68	L2	True	50.00	43.617833	87.2
4	JX69	L3	True	100.00	112.699286	112.7
5	JX70	L4	True	250.00	255.437185	102.2
6	JX71	L5	True	500.00	566.494586	113.3
7	JX72	L6	True	1000.00	973.493566	97.4
8	JX73	L7	True	2500.00	2531.714131	101.3
9	JX74	L8	True	5000.00	4956.007287	99.1
10	JX75	L9	True	10000.00	9963.732159	99.6





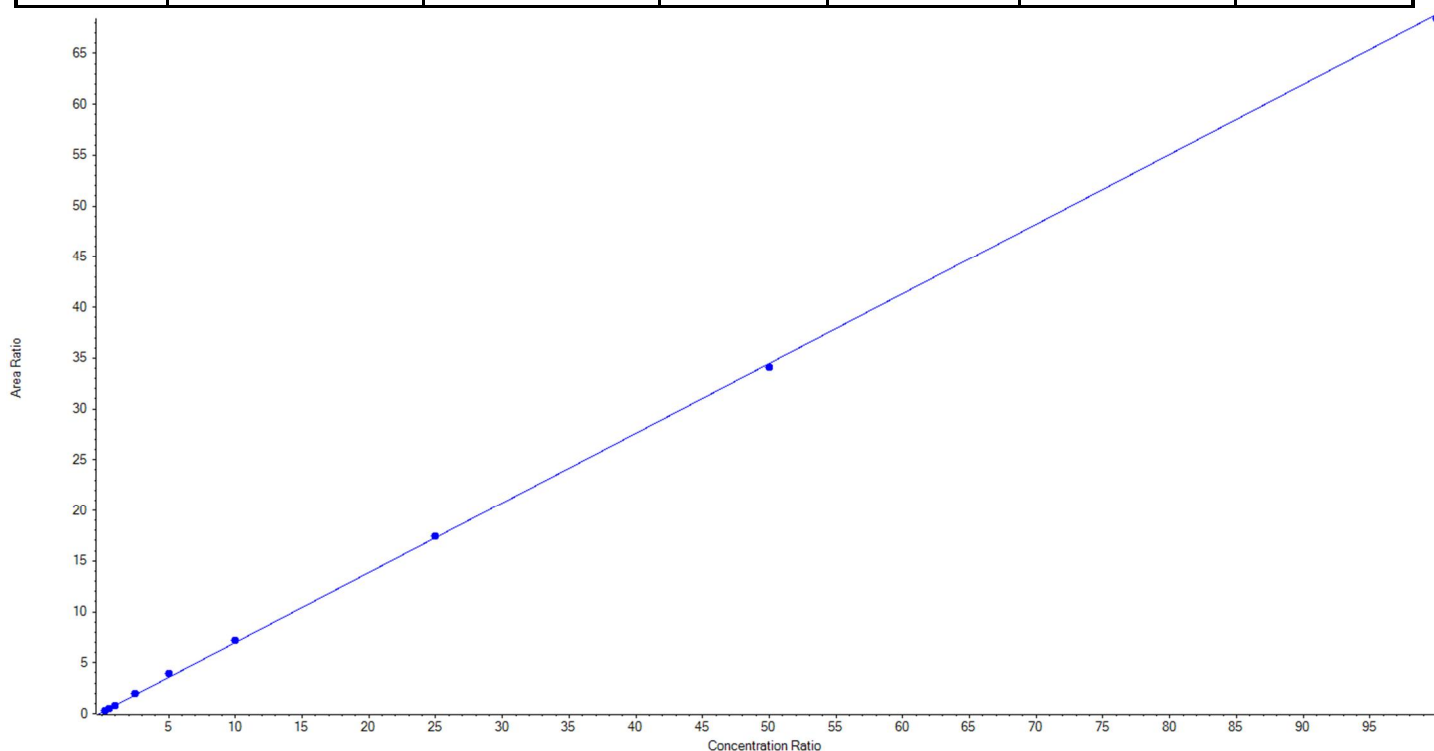
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFHpA_1	Data File	5500_07022018_371.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.68706 x + 0.11902$ ($r = 0.99970$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.596085	82.4
3	JX68	L2	True	50.00	48.400641	96.8
4	JX69	L3	True	100.00	100.433673	100.4
5	JX70	L4	True	250.00	266.409445	106.6
6	JX71	L5	True	500.00	559.191931	111.8
7	JX72	L6	True	1000.00	1029.499547	103.0
8	JX73	L7	True	2500.00	2519.088363	100.8
9	JX74	L8	True	5000.00	4945.124595	98.9
10	JX75	L9	True	10000.00	9936.255720	99.4





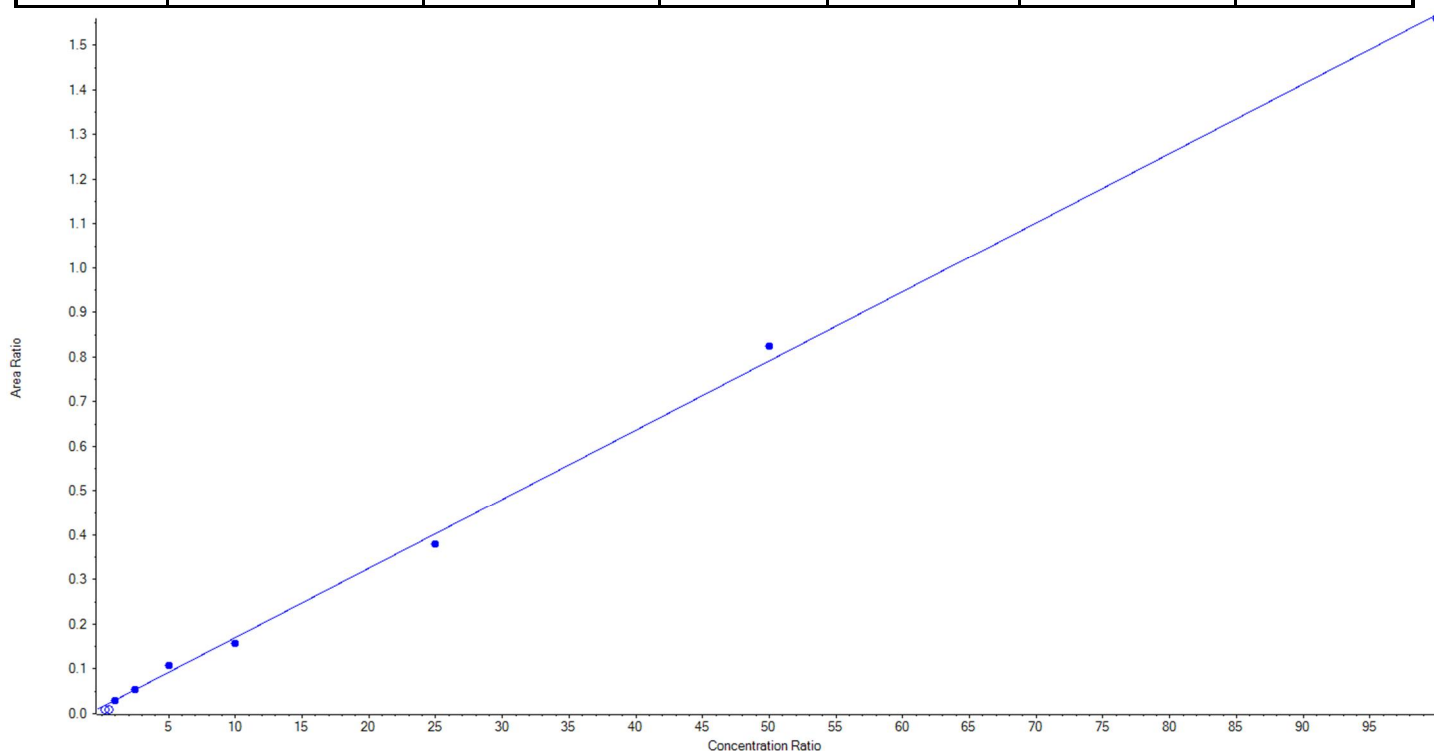
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFHpA_2	Data File	5500_07022018_371.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.01554x + 0.01498$ ($r = 0.99862$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	False	50.00	< 0	N/A
4	JX69	L3	True	100.00	91.536134	91.5
5	JX70	L4	True	250.00	253.139303	101.3
6	JX71	L5	True	500.00	593.301752	118.7
7	JX72	L6	True	1000.00	910.627029	91.1
8	JX73	L7	True	2500.00	2343.377476	93.7
9	JX74	L8	True	5000.00	5216.980964	104.3
10	JX75	L9	True	10000.00	9941.037342	99.4





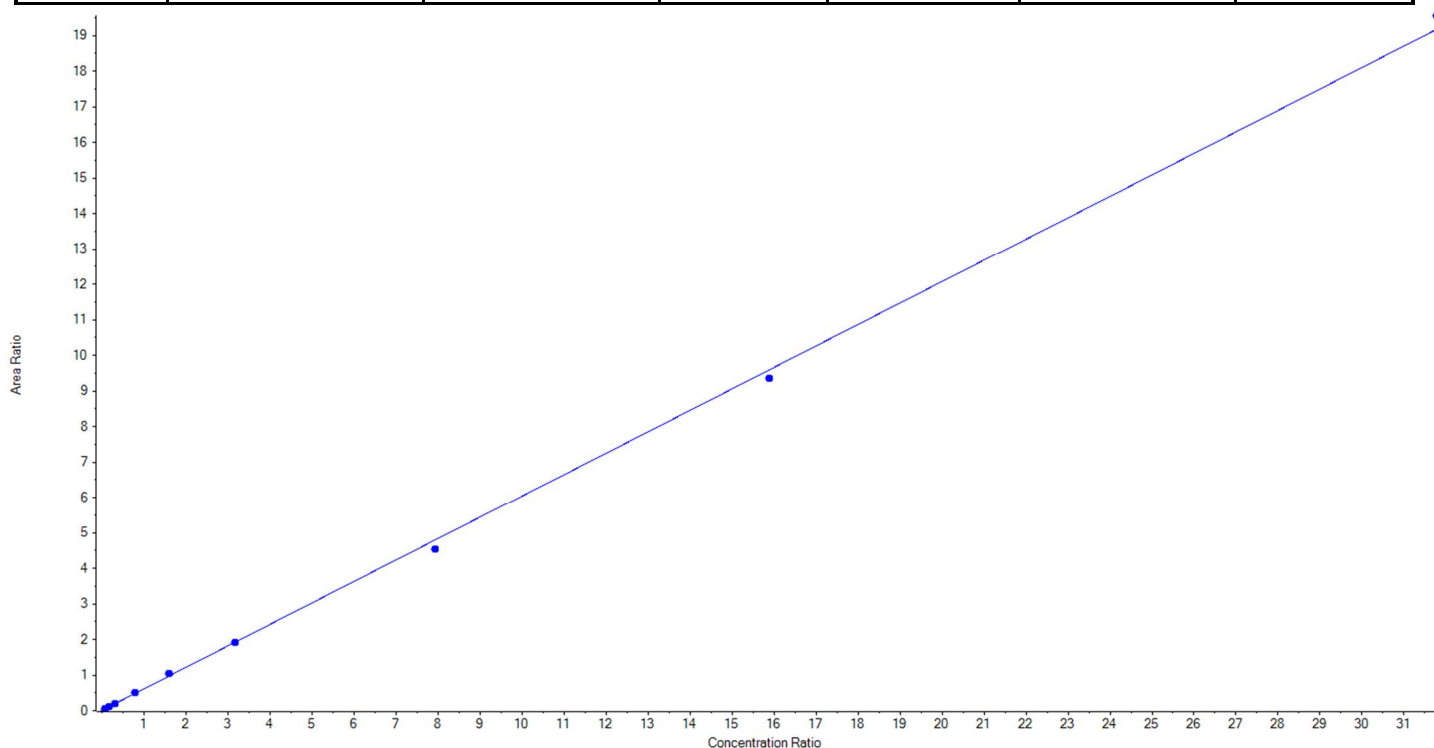
Calibration Summary Report

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Analyte Name	PFHxS_1	Data File	5500_07022018_371.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.60305x + 0.00956$ ($r = 0.99951$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	21.544152	94.5
3	JX68	L2	True	45.60	43.242084	94.8
4	JX69	L3	True	91.20	95.795832	105.0
5	JX70	L4	True	228.00	233.540475	102.4
6	JX71	L5	True	456.00	495.569899	108.7
7	JX72	L6	True	912.00	913.645896	100.2
8	JX73	L7	True	2280.00	2160.202123	94.8
9	JX74	L8	True	4560.00	4451.995198	97.6
10	JX75	L9	True	9120.00	9300.064340	102.0





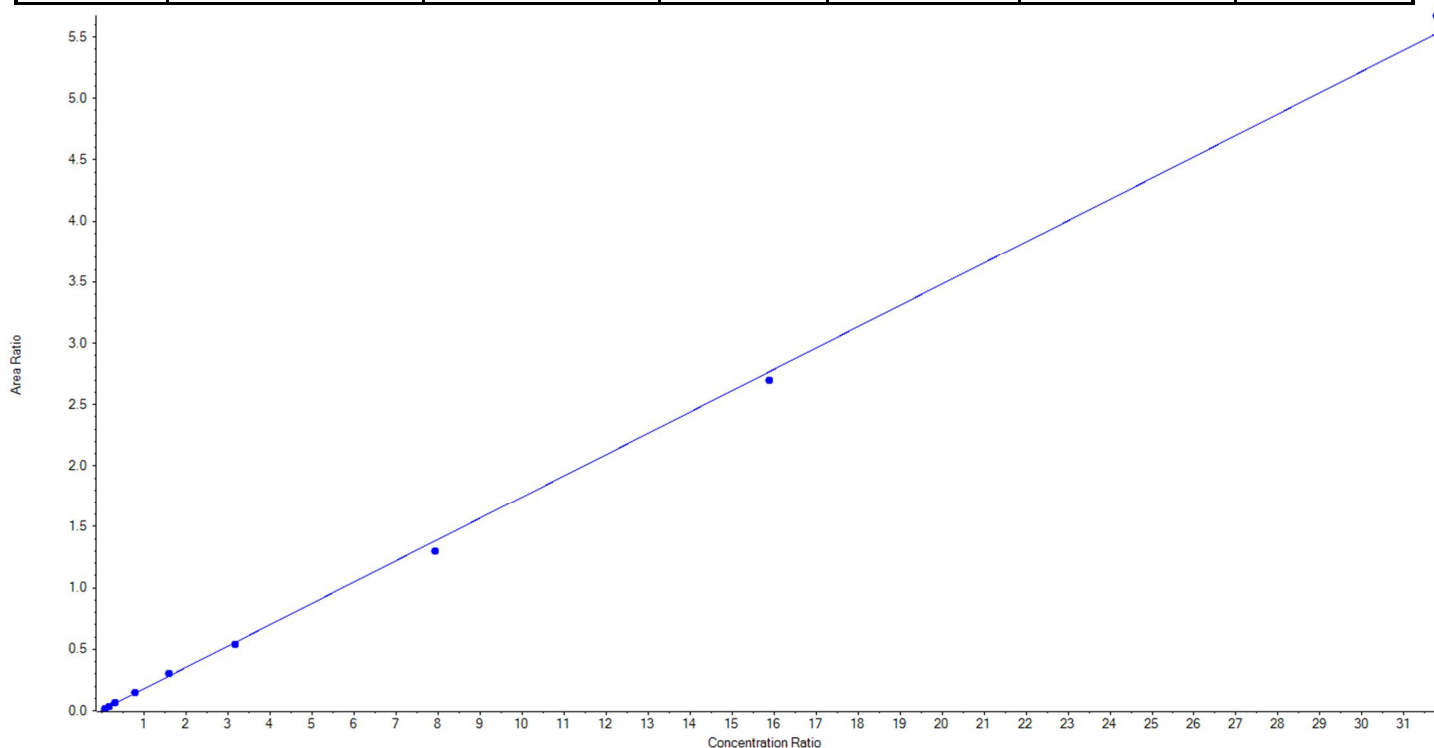
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Analyte Name	PFHxS_2	Data File	5500_07022018_371.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17388x + 0.00406$ ($r = 0.99938$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	21.405512	93.9
3	JX68	L2	True	45.60	44.850301	98.4
4	JX69	L3	True	91.20	95.808275	105.1
5	JX70	L4	True	228.00	239.200252	104.9
6	JX71	L5	True	456.00	486.442895	106.7
7	JX72	L6	True	912.00	885.471915	97.1
8	JX73	L7	True	2280.00	2143.018262	94.0
9	JX74	L8	True	4560.00	4443.844668	97.5
10	JX75	L9	True	9120.00	9355.557920	102.6





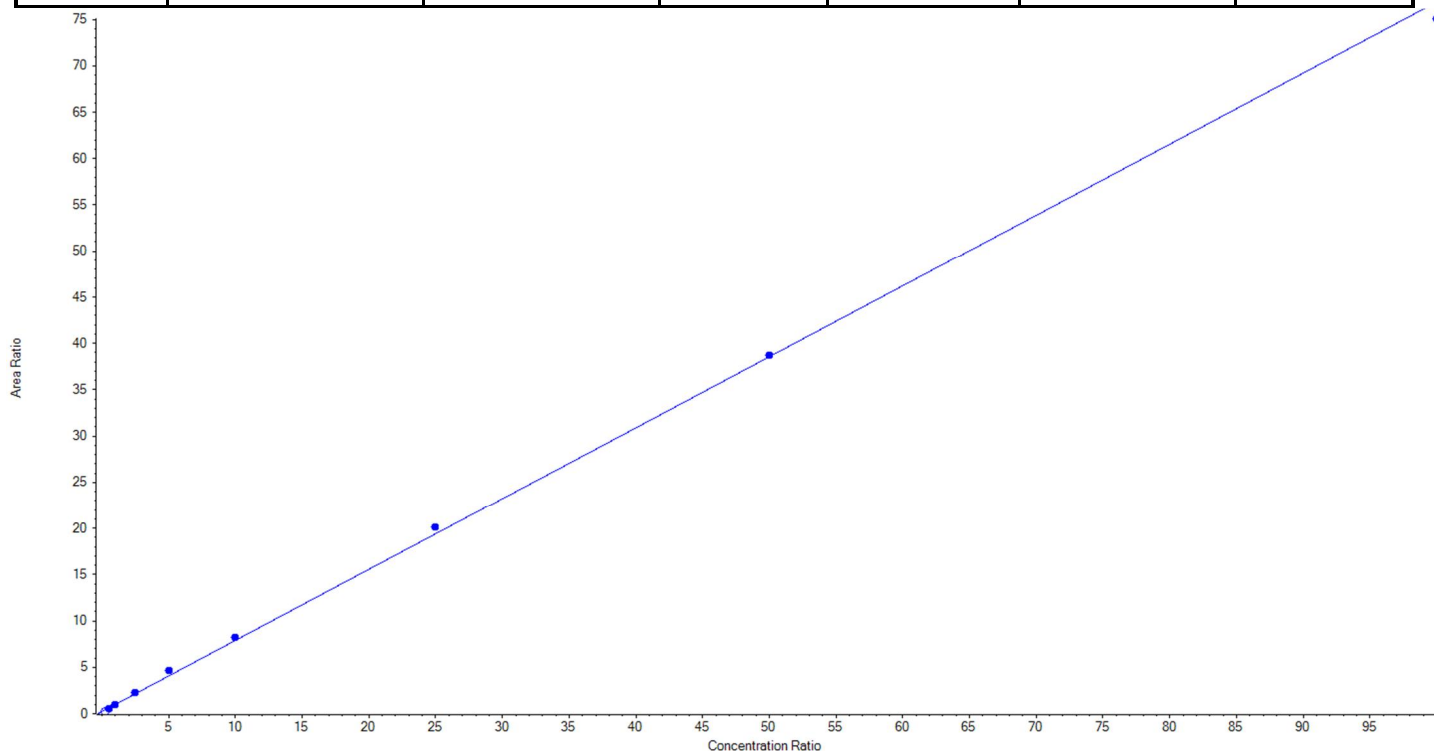
Calibration Summary Report

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Analyte Name	PFOA_1	Data File	5500_07022018_371.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.76642x + 0.23116$ ($r = 0.99920$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	3.296301	13.2
3	JX68	L2	True	50.00	39.908923	79.8
4	JX69	L3	True	100.00	91.394433	91.4
5	JX70	L4	True	250.00	266.565269	106.6
6	JX71	L5	True	500.00	582.510301	116.5
7	JX72	L6	True	1000.00	1037.660123	103.8
8	JX73	L7	True	2500.00	2594.331485	103.8
9	JX74	L8	True	5000.00	5024.398602	100.5
10	JX75	L9	True	10000.00	9763.230863	97.6





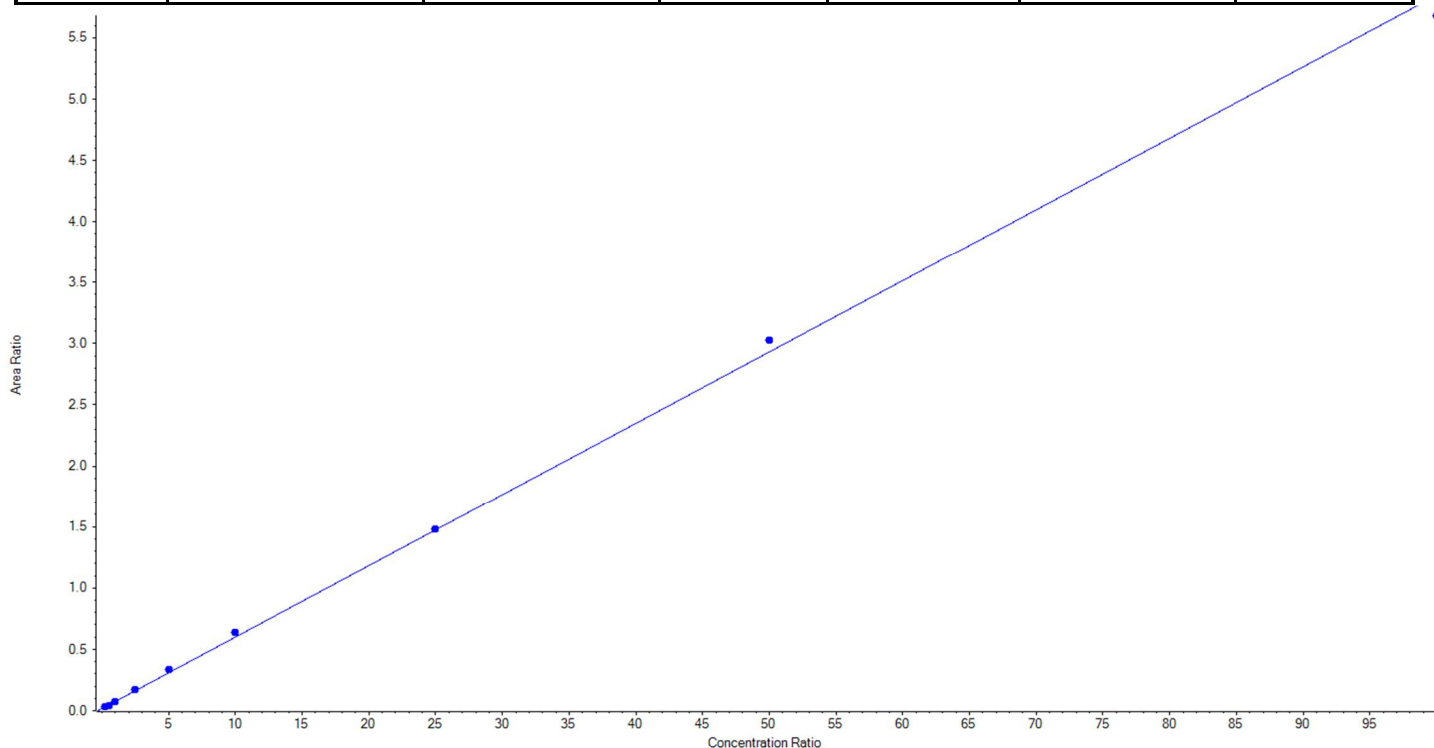
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Analyte Name	PFOA_2	Data File	5500_07022018_371.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.05828 x + 0.01731$ ($r = 0.99938$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	23.096983	92.4
3	JX68	L2	True	50.00	46.048621	92.1
4	JX69	L3	True	100.00	94.684246	94.7
5	JX70	L4	True	250.00	261.554627	104.6
6	JX71	L5	True	500.00	546.142995	109.2
7	JX72	L6	True	1000.00	1059.585632	106.0
8	JX73	L7	True	2500.00	2513.802986	100.6
9	JX74	L8	True	5000.00	5166.860566	103.3
10	JX75	L9	True	10000.00	9713.223342	97.1





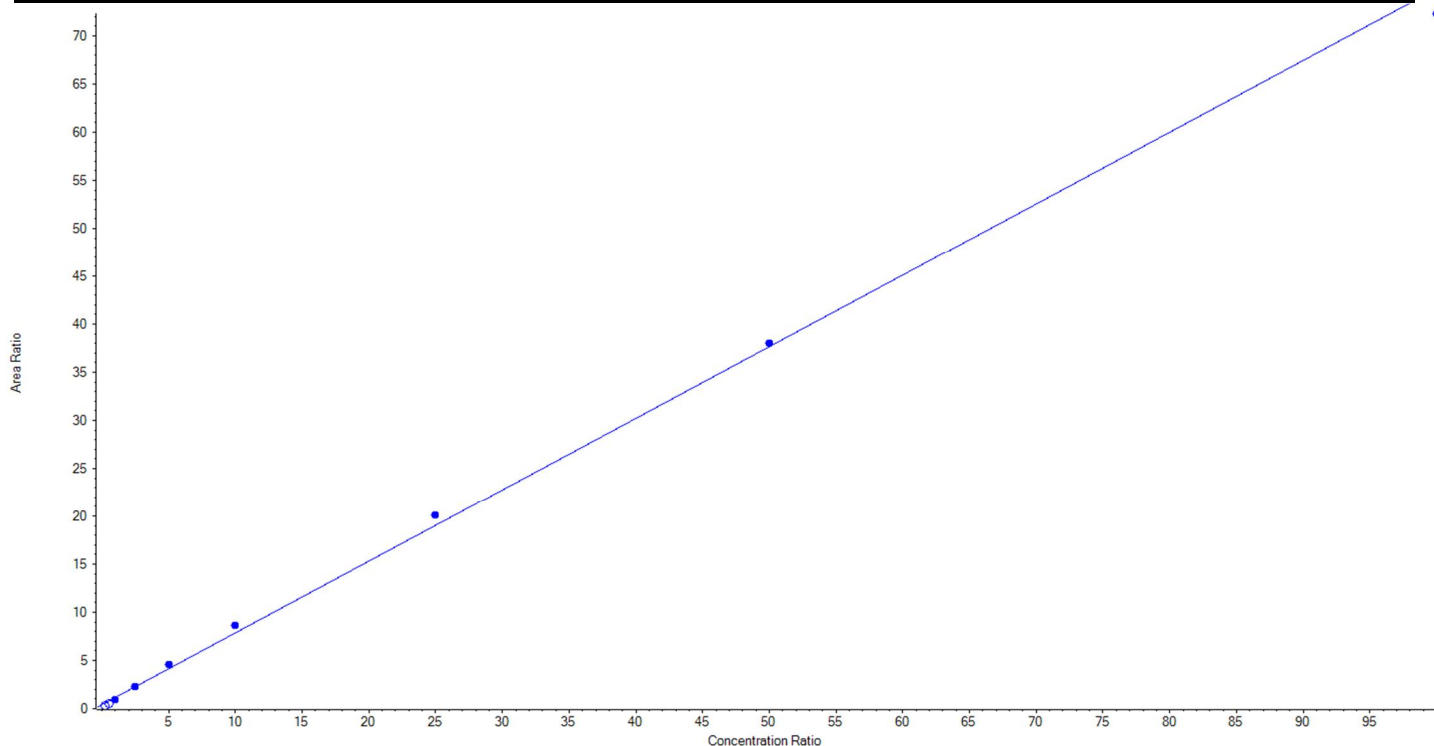
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Analyte Name	PFNA_1	Data File	5500_07022018_371.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74484x + 0.42033$ ($r = 0.99848$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	False	50.00	11.560228	23.1
4	JX69	L3	True	100.00	70.753729	70.8
5	JX70	L4	True	250.00	255.246988	102.1
6	JX71	L5	True	500.00	563.074555	112.6
7	JX72	L6	True	1000.00	1110.304830	111.0
8	JX73	L7	True	2500.00	2649.440264	106.0
9	JX74	L8	True	5000.00	5051.267523	101.0
10	JX75	L9	True	10000.00	9649.912111	96.5





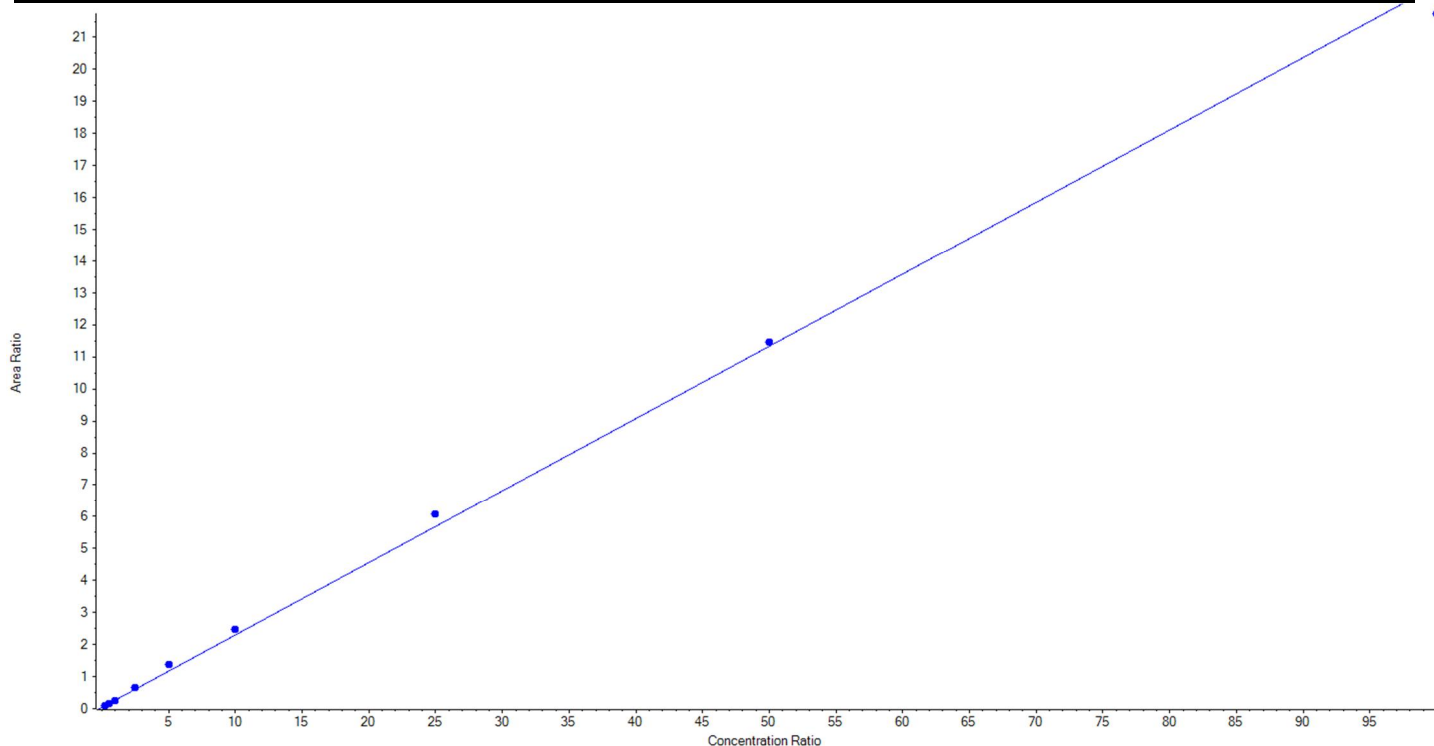
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Analyte Name	PFNA_2	Data File	5500_07022018_371.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.22587x + 0.04252$ ($r = 0.99855$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.038457	72.2
3	JX68	L2	True	50.00	49.154789	98.3
4	JX69	L3	True	100.00	91.830907	91.8
5	JX70	L4	True	250.00	271.441251	108.6
6	JX71	L5	True	500.00	585.356231	117.1
7	JX72	L6	True	1000.00	1081.373683	108.1
8	JX73	L7	True	2500.00	2670.371759	106.8
9	JX74	L8	True	5000.00	5053.137222	101.1
10	JX75	L9	True	10000.00	9604.295700	96.0





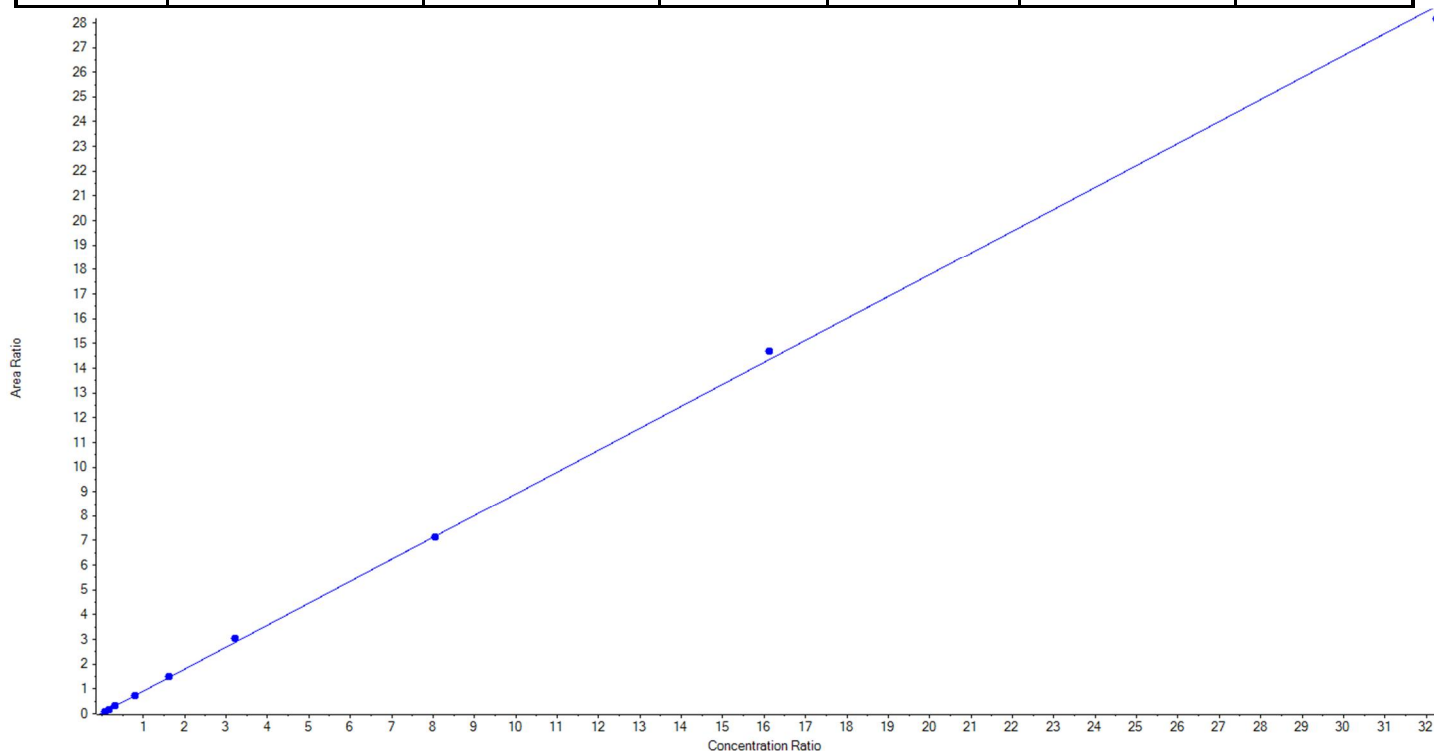
Calibration Summary Report

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Analyte Name	PFOS_1	Data File	5500_07022018_371.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.88828x + 0.02403$ ($r = 0.99972$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	21.402585	92.5
3	JX68	L2	True	46.30	42.965528	92.8
4	JX69	L3	True	92.60	97.561781	105.4
5	JX70	L4	True	231.50	232.958262	100.6
6	JX71	L5	True	463.00	477.996772	103.2
7	JX72	L6	True	925.60	975.463169	105.4
8	JX73	L7	True	2314.00	2303.431578	99.5
9	JX74	L8	True	4628.00	4738.467154	102.4
10	JX75	L9	True	9256.00	9089.903170	98.2





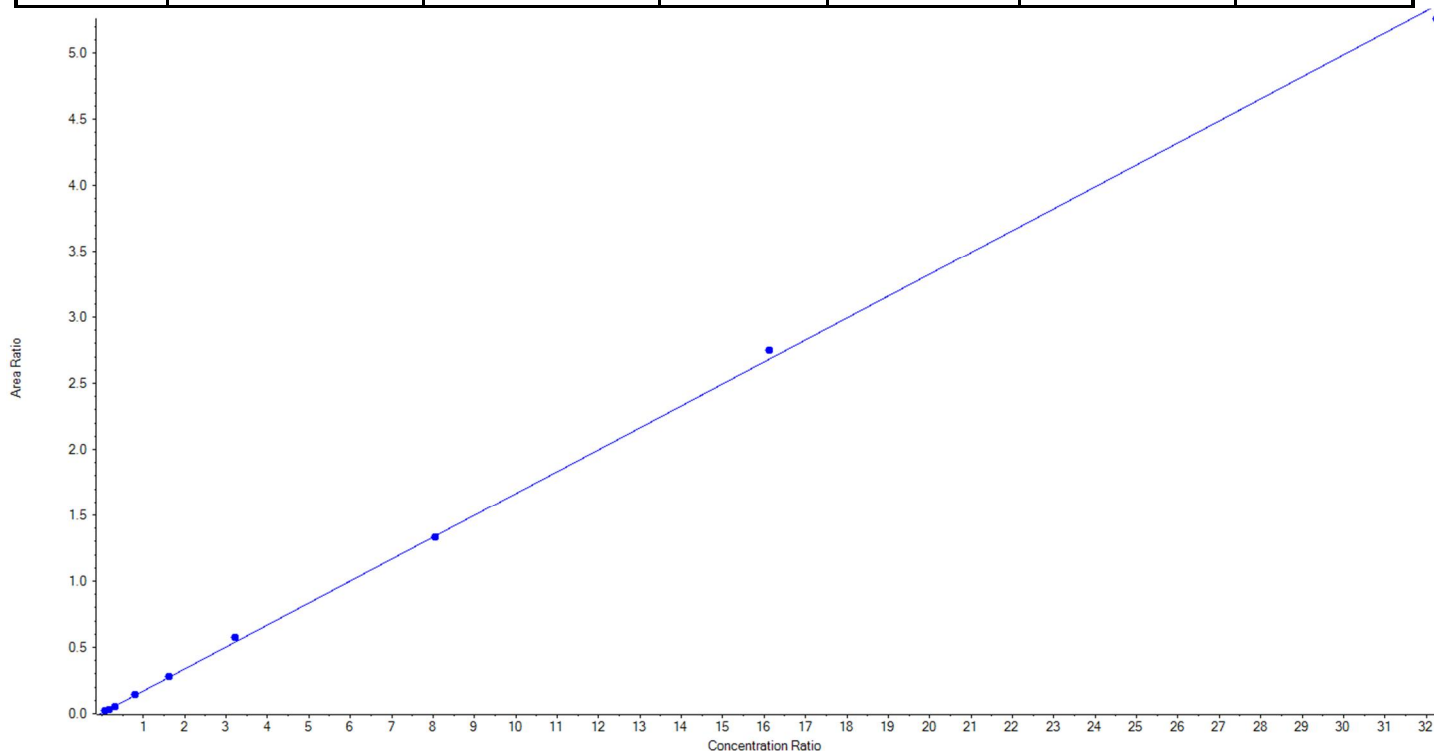
Calibration Summary Report

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Printed: 12/07/2018 1:34:41 PM

Analyte Name	PFOS_2	Data File	5500_07022018_371.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0400_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.16600 x + 0.00539$ ($r = 0.99959$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	25.595678	110.6
3	JX68	L2	True	46.30	40.224378	86.9
4	JX69	L3	True	92.60	80.783097	87.2
5	JX70	L4	True	231.50	243.163731	105.0
6	JX71	L5	True	463.00	480.211049	103.7
7	JX72	L6	True	925.60	986.515512	106.6
8	JX73	L7	True	2314.00	2299.833376	99.4
9	JX74	L8	True	4628.00	4743.198849	102.5
10	JX75	L9	True	9256.00	9080.624331	98.1





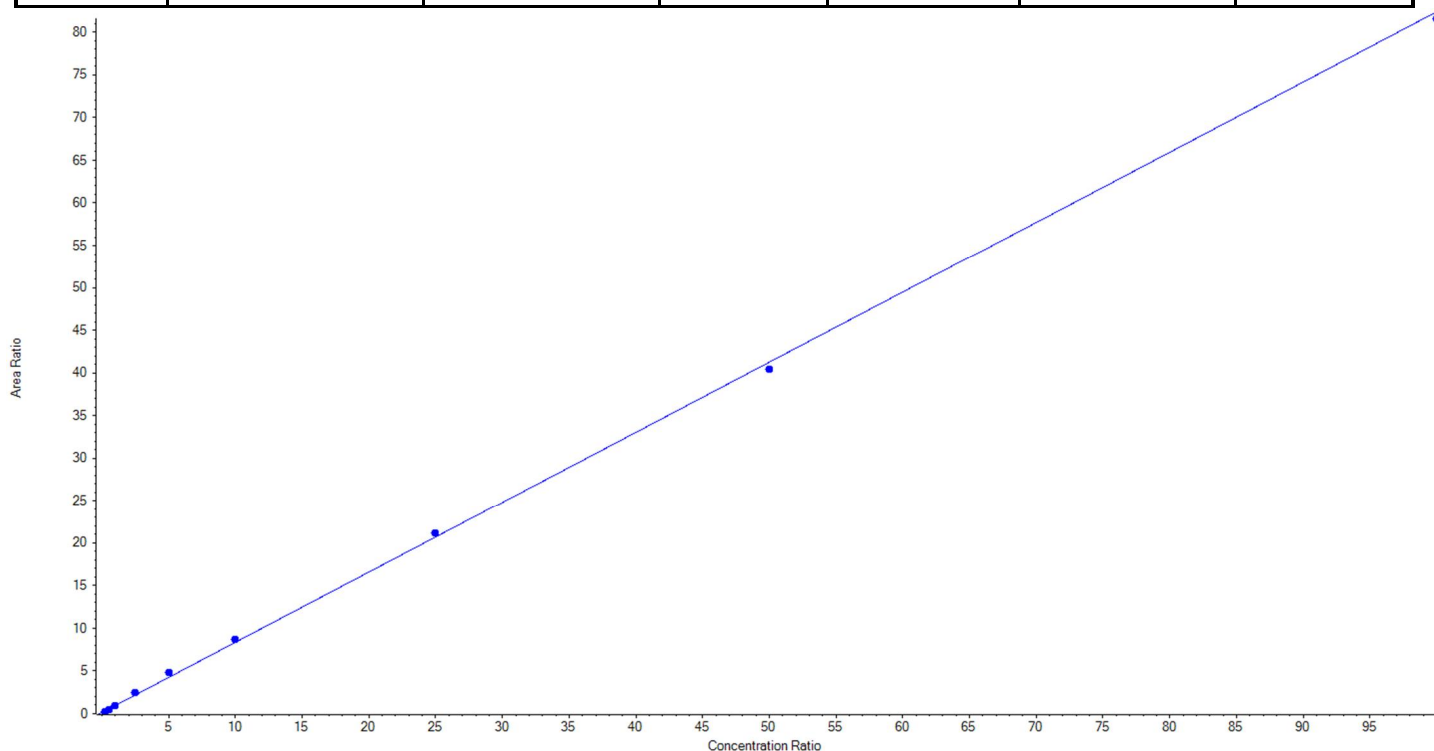
Calibration Summary Report

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Analyte Name	PFDA_1	Data File	5500_07022018_371.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.82255x + 0.13346$ ($r = 0.99934$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.954847	71.8
3	JX68	L2	True	50.00	46.470902	92.9
4	JX69	L3	True	100.00	102.660895	102.7
5	JX70	L4	True	250.00	286.283367	114.5
6	JX71	L5	True	500.00	572.291805	114.5
7	JX72	L6	True	1000.00	1043.157797	104.3
8	JX73	L7	True	2500.00	2558.382450	102.3
9	JX74	L8	True	5000.00	4897.714886	98.0
10	JX75	L9	True	10000.00	9900.083051	99.0





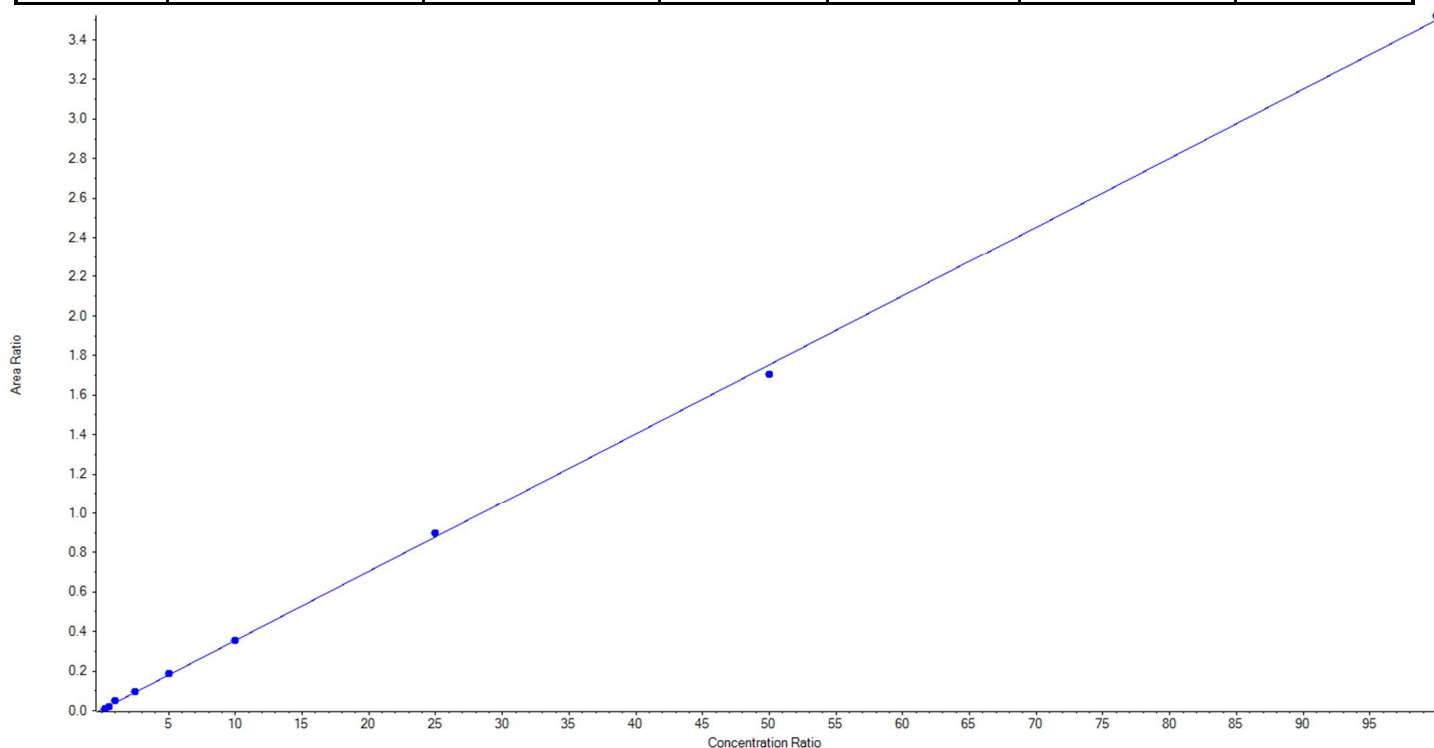
Calibration Summary Report

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Analyte Name	PFDA_2	Data File	5500_07022018_371.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03495x + 0.00564$ ($r = 0.99962$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.595652	74.4
3	JX68	L2	True	50.00	48.371550	96.7
4	JX69	L3	True	100.00	124.171117	124.2
5	JX70	L4	True	250.00	253.313488	101.3
6	JX71	L5	True	500.00	522.072010	104.4
7	JX72	L6	True	1000.00	993.095369	99.3
8	JX73	L7	True	2500.00	2547.925565	101.9
9	JX74	L8	True	5000.00	4856.226373	97.1
10	JX75	L9	True	10000.00	10061.228876	100.6





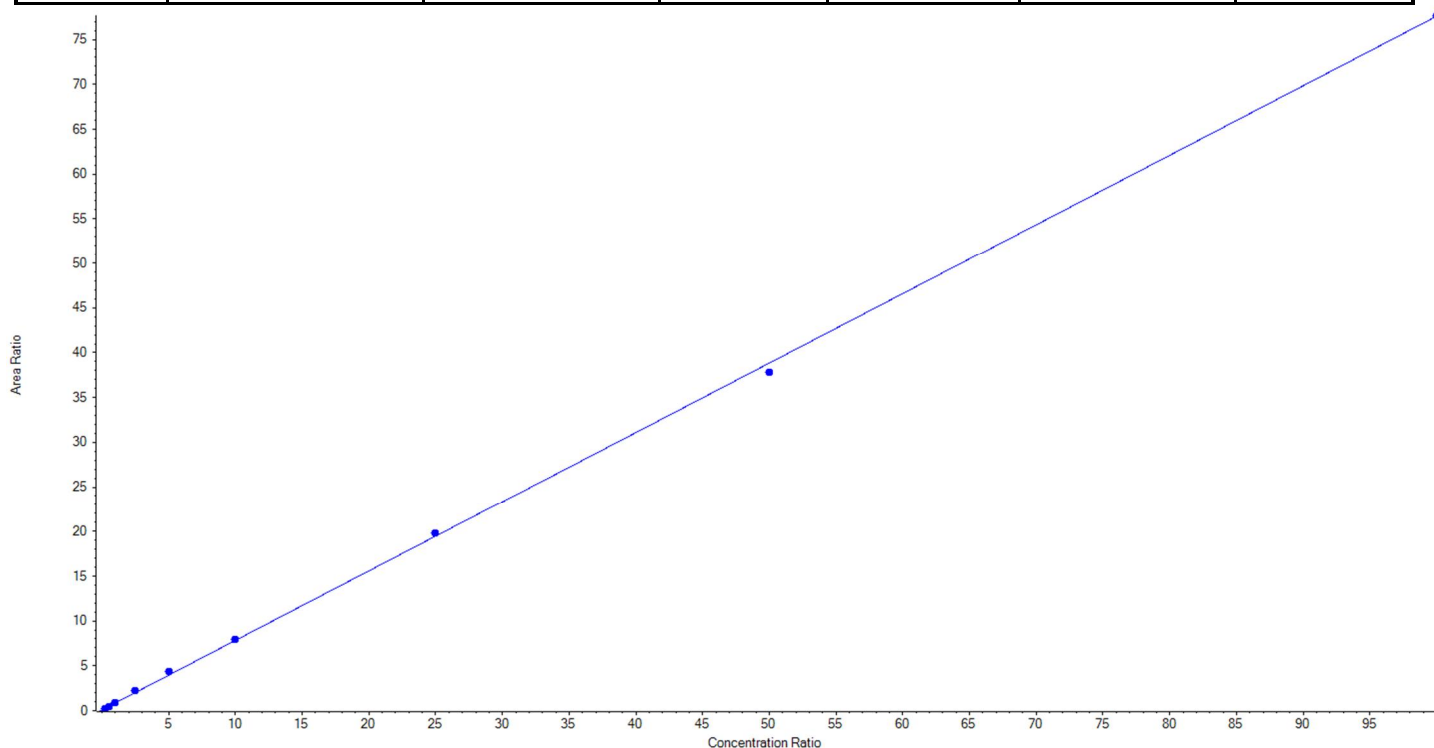
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFUnA_1	Data File	5500_07022018_371.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.77517x + 0.08207$ ($r = 0.99962$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.289711	81.2
3	JX68	L2	True	50.00	45.502830	91.0
4	JX69	L3	True	100.00	106.457837	106.5
5	JX70	L4	True	250.00	278.590911	111.4
6	JX71	L5	True	500.00	549.000839	109.8
7	JX72	L6	True	1000.00	1011.446203	101.1
8	JX73	L7	True	2500.00	2538.704243	101.6
9	JX74	L8	True	5000.00	4869.826200	97.4
10	JX75	L9	True	10000.00	10005.181227	100.1





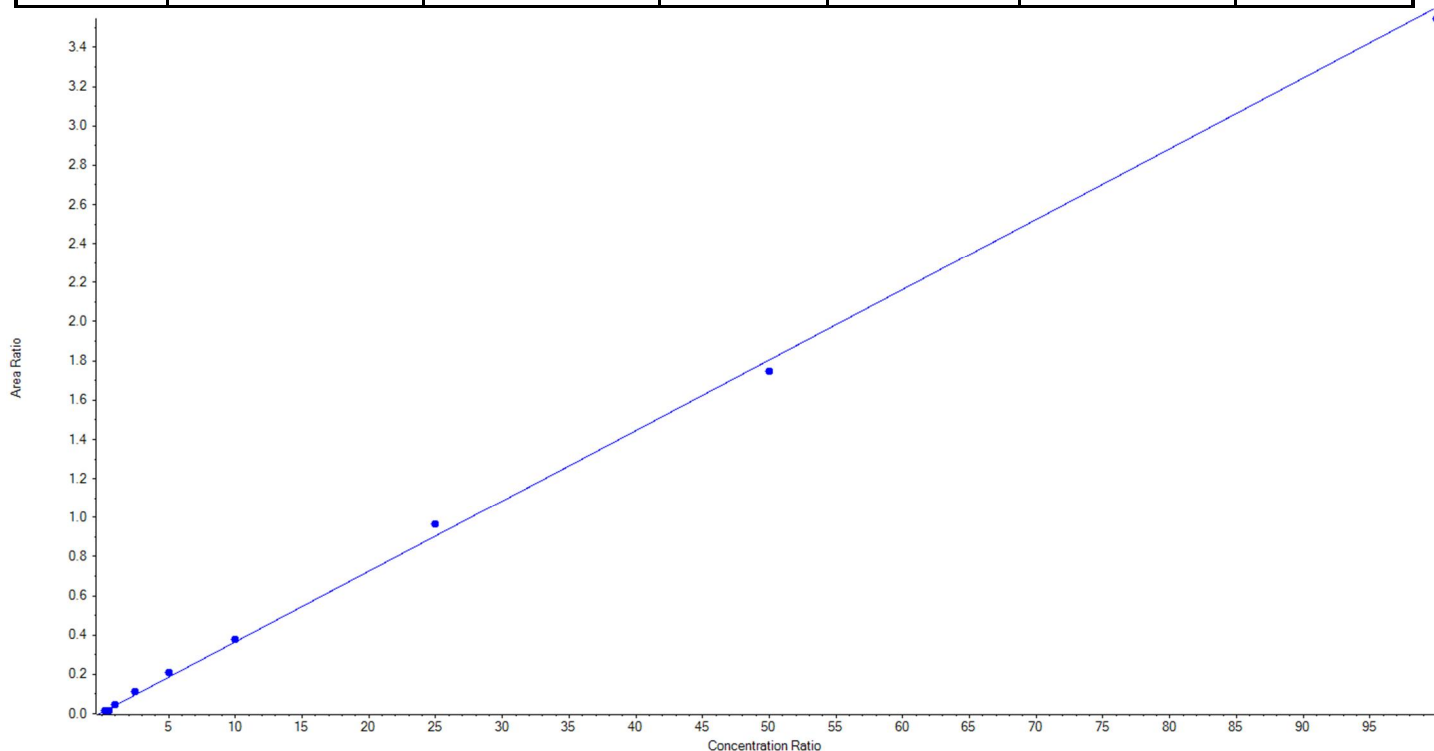
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Analyte Name	PFUnA_2	Data File	5500_07022018_371.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03597x + 0.00581$ ($r = 0.99867$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.841067	83.4
3	JX68	L2	True	50.00	32.168349	64.3
4	JX69	L3	True	100.00	113.120103	113.1
5	JX70	L4	True	250.00	298.001703	119.2
6	JX71	L5	True	500.00	572.636331	114.5
7	JX72	L6	True	1000.00	1032.565745	103.3
8	JX73	L7	True	2500.00	2673.374421	106.9
9	JX74	L8	True	5000.00	4843.651241	96.9
10	JX75	L9	True	10000.00	9838.641041	98.4





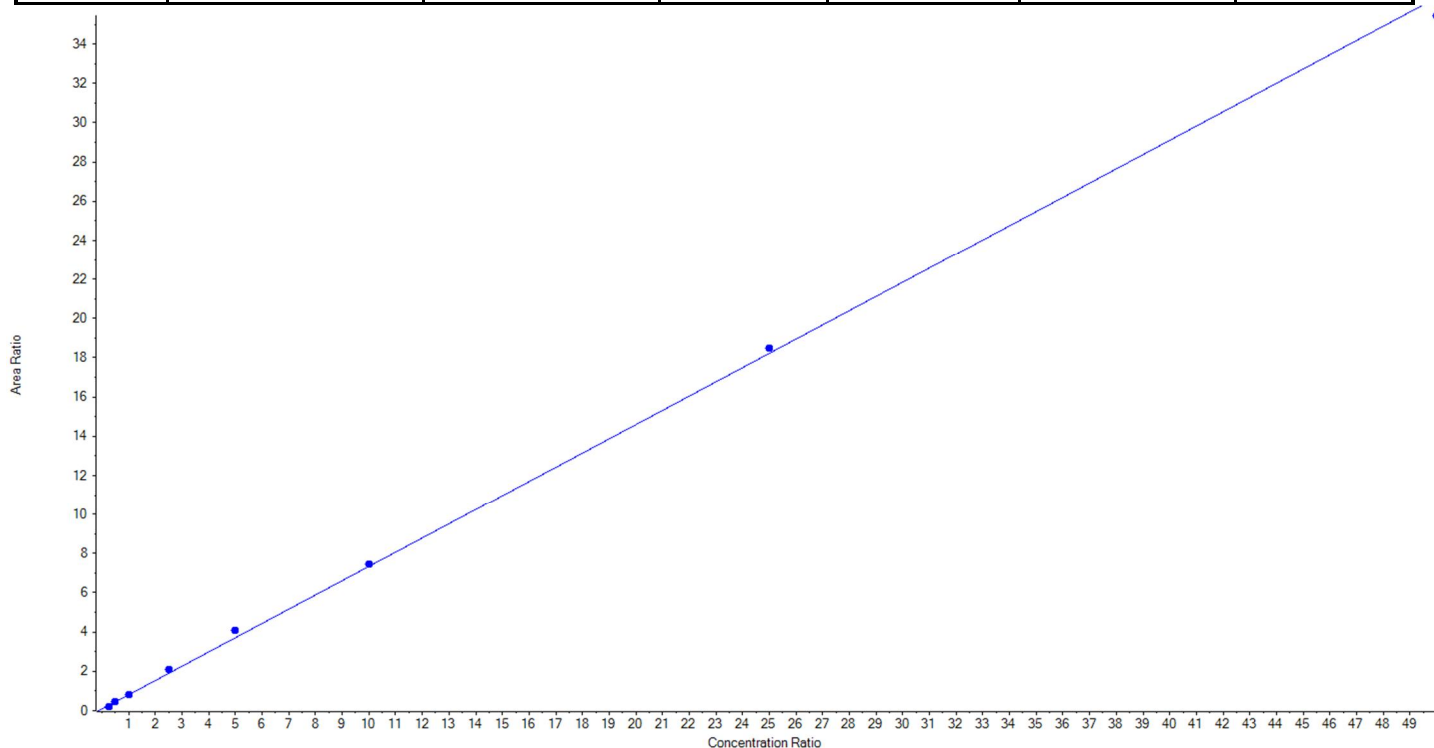
Calibration Summary Report

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Analyte Name	PFD _o A_1	Data File	5500_07022018_371.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.72549x + 0.08471$ ($r = 0.99919$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.848894	79.4
3	JX68	L2	True	50.00	48.288869	96.6
4	JX69	L3	True	100.00	101.472581	101.5
5	JX70	L4	True	250.00	279.236278	111.7
6	JX71	L5	True	500.00	552.216889	110.4
7	JX72	L6	True	1000.00	1015.301250	101.5
8	JX73	L7	True	2500.00	2535.669325	101.4
9	JX74	L8	True	5000.00	4872.965914	97.5
10	JX75	L9	False	10000.00	N/A	N/A





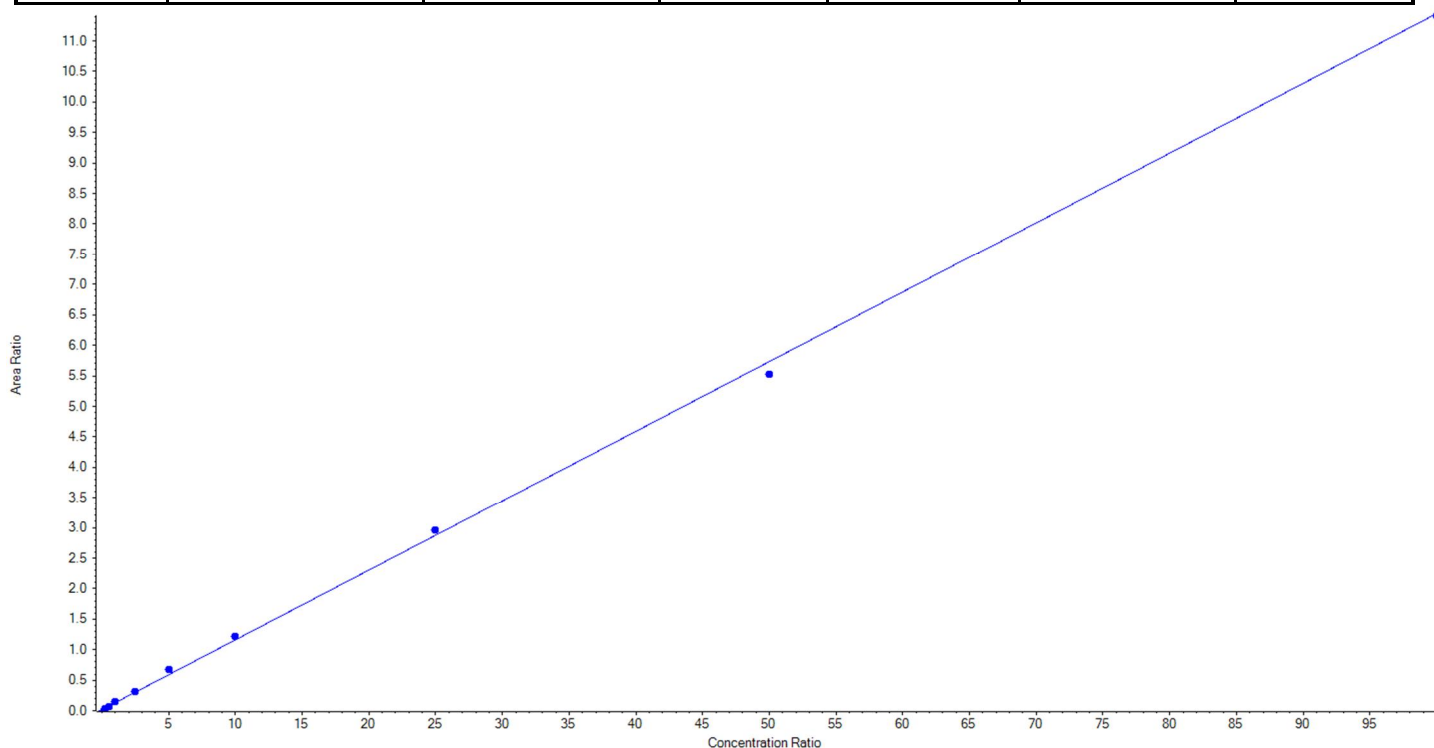
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Analyte Name	PFDaA_2	Data File	5500_07022018_371.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.11431 x + 0.01744$ ($r = 0.99926$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.356735	69.4
3	JX68	L2	True	50.00	46.660483	93.3
4	JX69	L3	True	100.00	115.365405	115.4
5	JX70	L4	True	250.00	258.458944	103.4
6	JX71	L5	True	500.00	571.816072	114.4
7	JX72	L6	True	1000.00	1049.006303	104.9
8	JX73	L7	True	2500.00	2579.665089	103.2
9	JX74	L8	True	5000.00	4818.595248	96.4
10	JX75	L9	True	10000.00	9968.075720	99.7





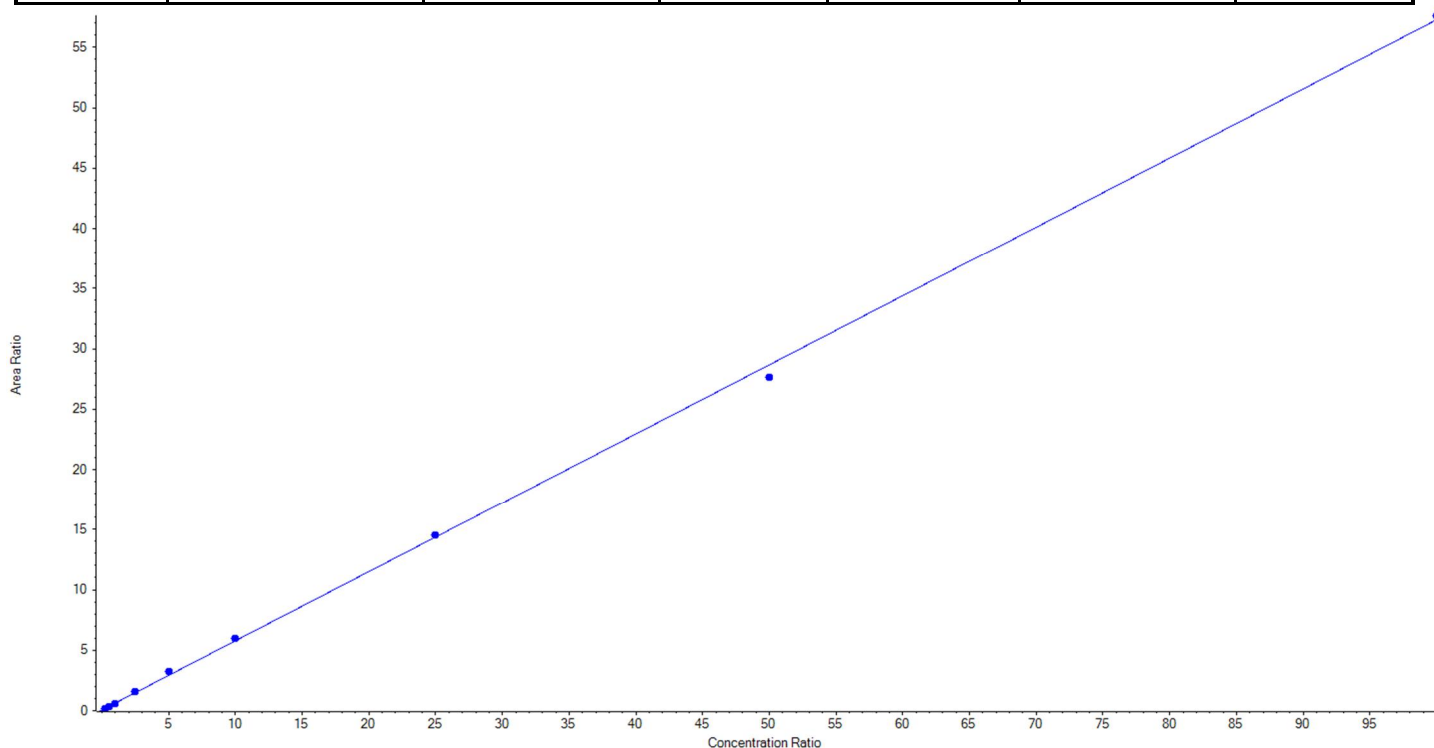
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Analyte Name	PFTTrDA_1	Data File	5500_07022018_371.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.57215x + 0.05921$ ($r = 0.99954$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.118807	80.5
3	JX68	L2	True	50.00	51.586072	103.2
4	JX69	L3	True	100.00	96.680100	96.7
5	JX70	L4	True	250.00	268.571204	107.4
6	JX71	L5	True	500.00	552.622058	110.5
7	JX72	L6	True	1000.00	1038.276379	103.8
8	JX73	L7	True	2500.00	2525.562602	101.0
9	JX74	L8	True	5000.00	4815.366268	96.3
10	JX75	L9	True	10000.00	10056.216508	100.6





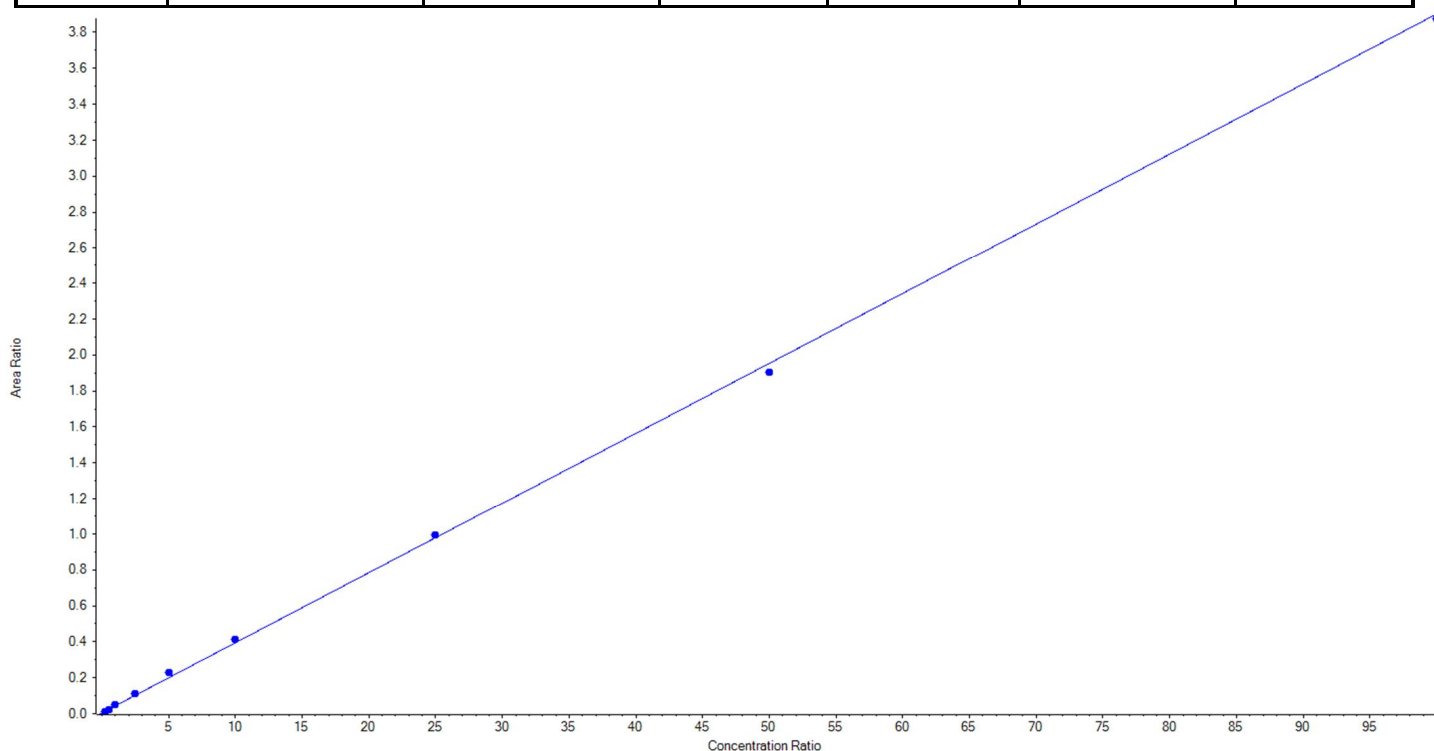
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Analyte Name	PFTTrDA_2	Data File	5500_07022018_371.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03897 x + 0.00508$ ($r = 0.99928$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.148913	72.6
3	JX68	L2	True	50.00	42.140994	84.3
4	JX69	L3	True	100.00	112.290886	112.3
5	JX70	L4	True	250.00	280.667273	112.3
6	JX71	L5	True	500.00	578.011453	115.6
7	JX72	L6	True	1000.00	1045.802277	104.6
8	JX73	L7	True	2500.00	2536.715181	101.5
9	JX74	L8	True	5000.00	4880.120740	97.6
10	JX75	L9	True	10000.00	9931.102282	99.3





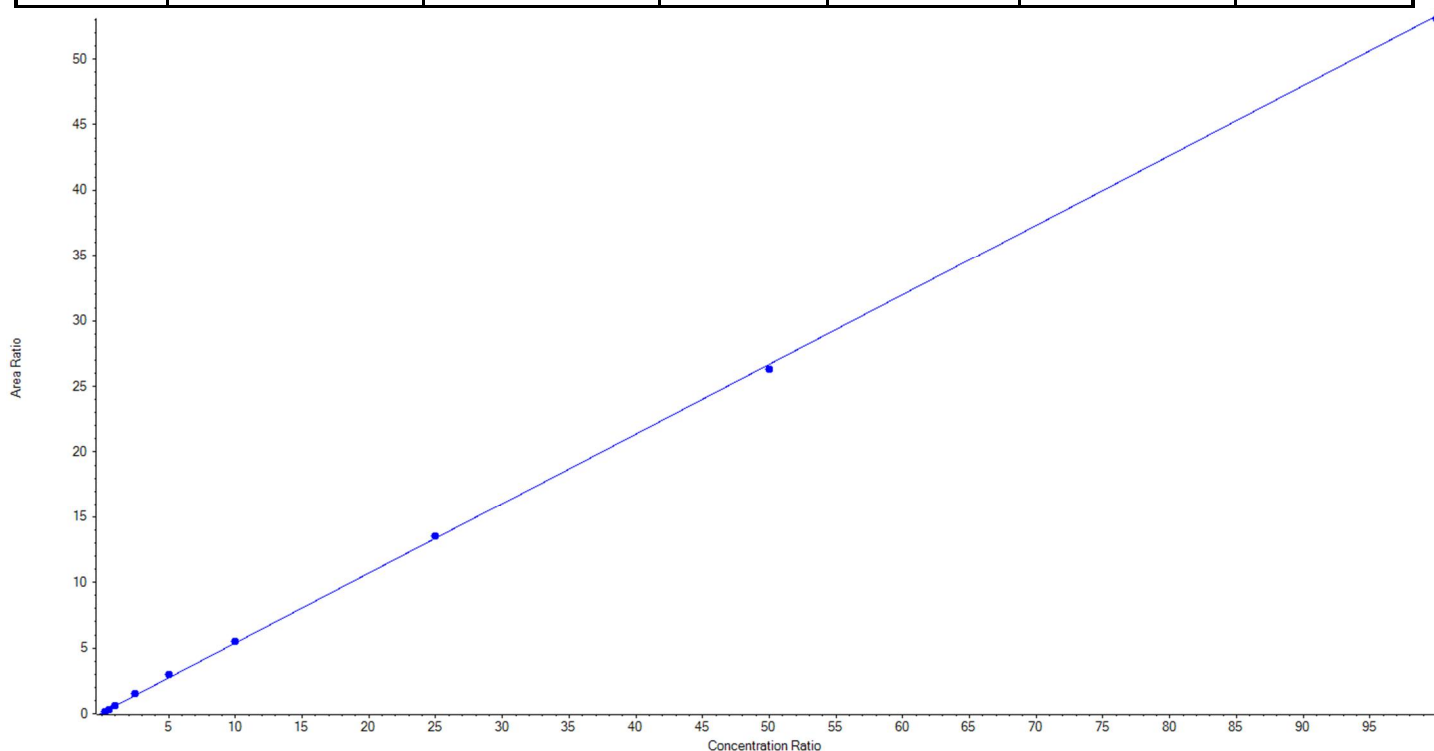
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Analyte Name	PFTeDA_1	Data File	5500_07022018_371.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.53230 x + 0.06529$ ($r = 0.99974$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.692328	86.8
3	JX68	L2	True	50.00	45.047159	90.1
4	JX69	L3	True	100.00	103.718870	103.7
5	JX70	L4	True	250.00	270.309155	108.1
6	JX71	L5	True	500.00	550.653271	110.1
7	JX72	L6	True	1000.00	1019.904002	102.0
8	JX73	L7	True	2500.00	2523.188014	100.9
9	JX74	L8	True	5000.00	4934.039142	98.7
10	JX75	L9	True	10000.00	9956.448059	99.6





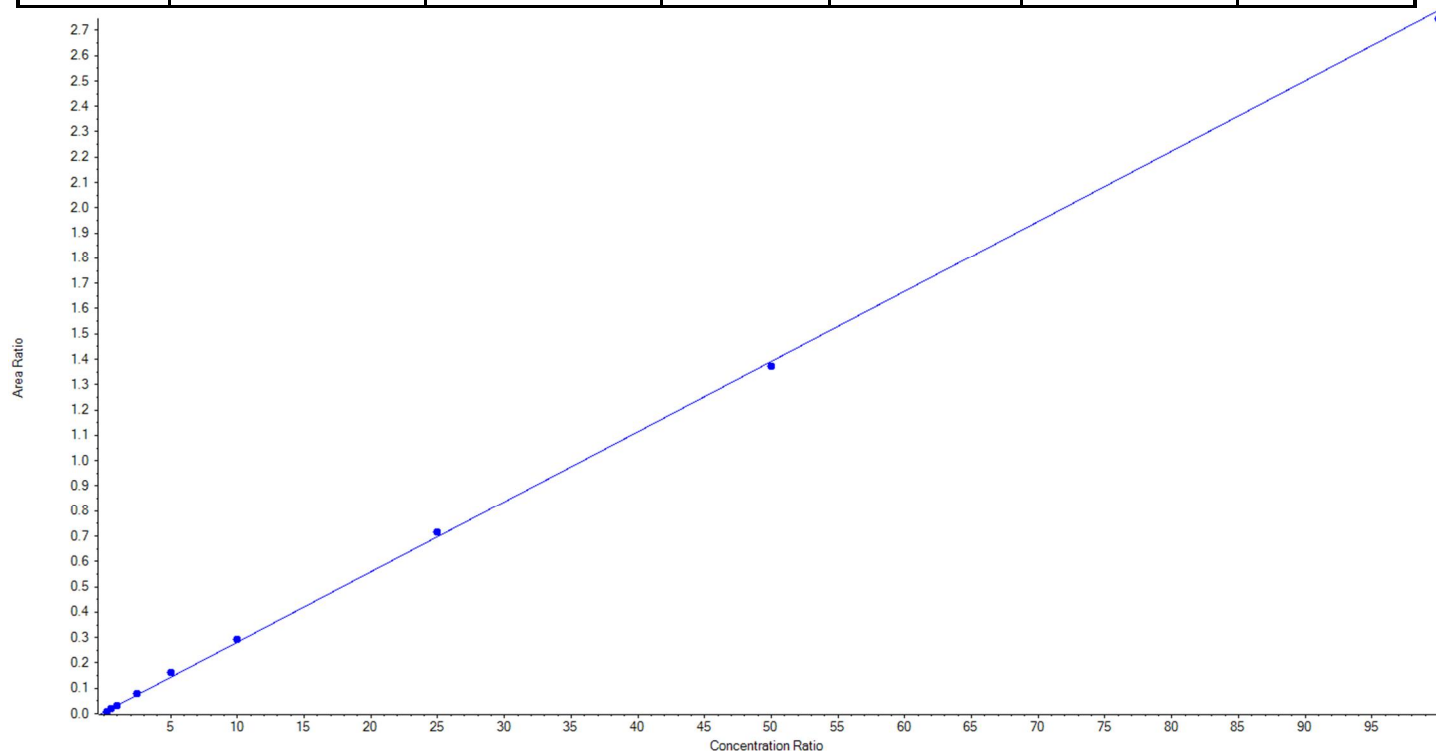
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Analyte Name	PFTeDA_2	Data File	5500_07022018_371.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.02773x + 0.00453$ ($r = 0.99949$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.876315	75.5
3	JX68	L2	True	50.00	49.363679	98.7
4	JX69	L3	True	100.00	98.965087	99.0
5	JX70	L4	True	250.00	271.867573	108.8
6	JX71	L5	True	500.00	568.272737	113.7
7	JX72	L6	True	1000.00	1044.043096	104.4
8	JX73	L7	True	2500.00	2566.244806	102.7
9	JX74	L8	True	5000.00	4927.294809	98.6
10	JX75	L9	True	10000.00	9880.071897	98.8





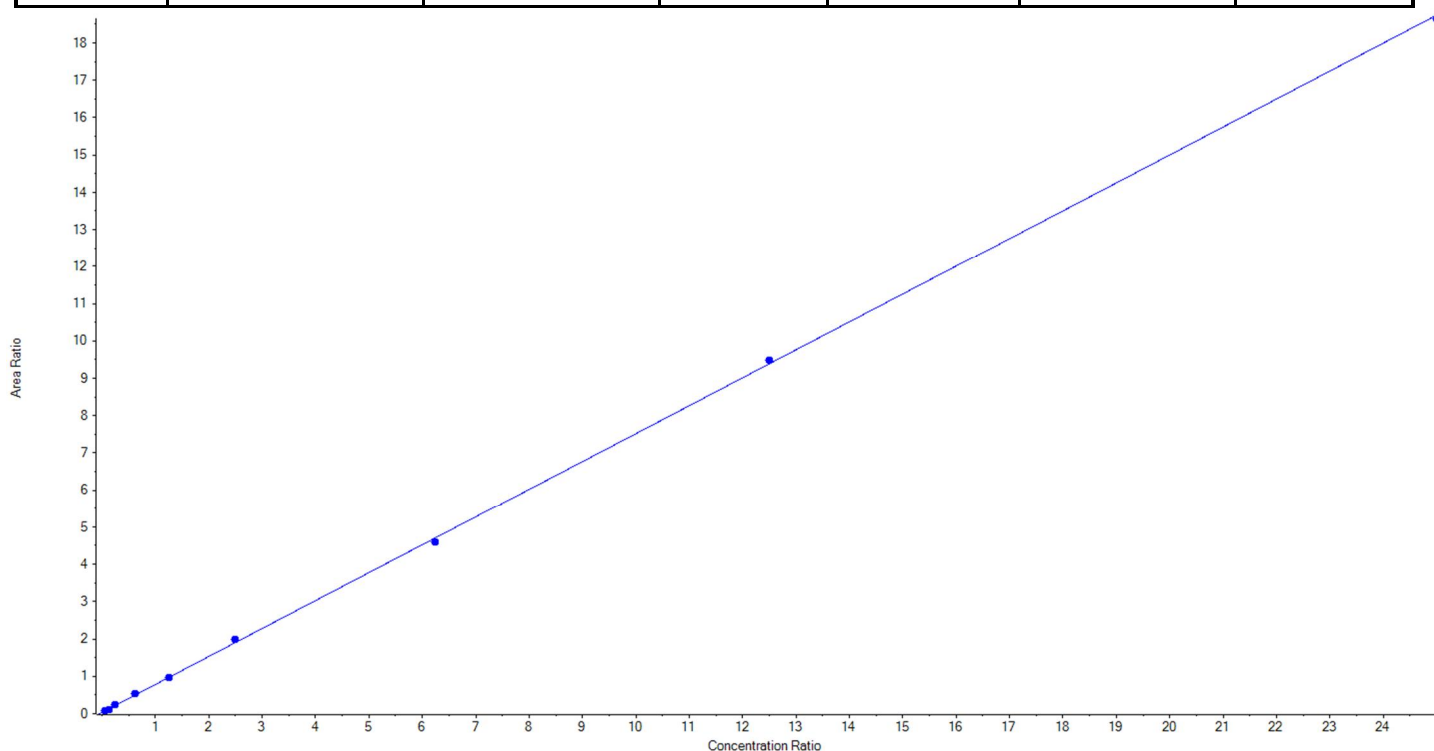
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Analyte Name	NMeFOSAA_1	Data File	5500_07022018_371.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74839x + 0.03327$ ($r = 0.99972$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	26.625122	106.5
3	JX68	L2	True	50.00	37.929833	75.9
4	JX69	L3	True	100.00	104.523576	104.5
5	JX70	L4	True	250.00	276.412673	110.6
6	JX71	L5	True	500.00	503.367761	100.7
7	JX72	L6	True	1000.00	1039.943552	104.0
8	JX73	L7	True	2500.00	2431.663249	97.3
9	JX74	L8	True	5000.00	5057.142096	101.1
10	JX75	L9	True	10000.00	9947.392138	99.5





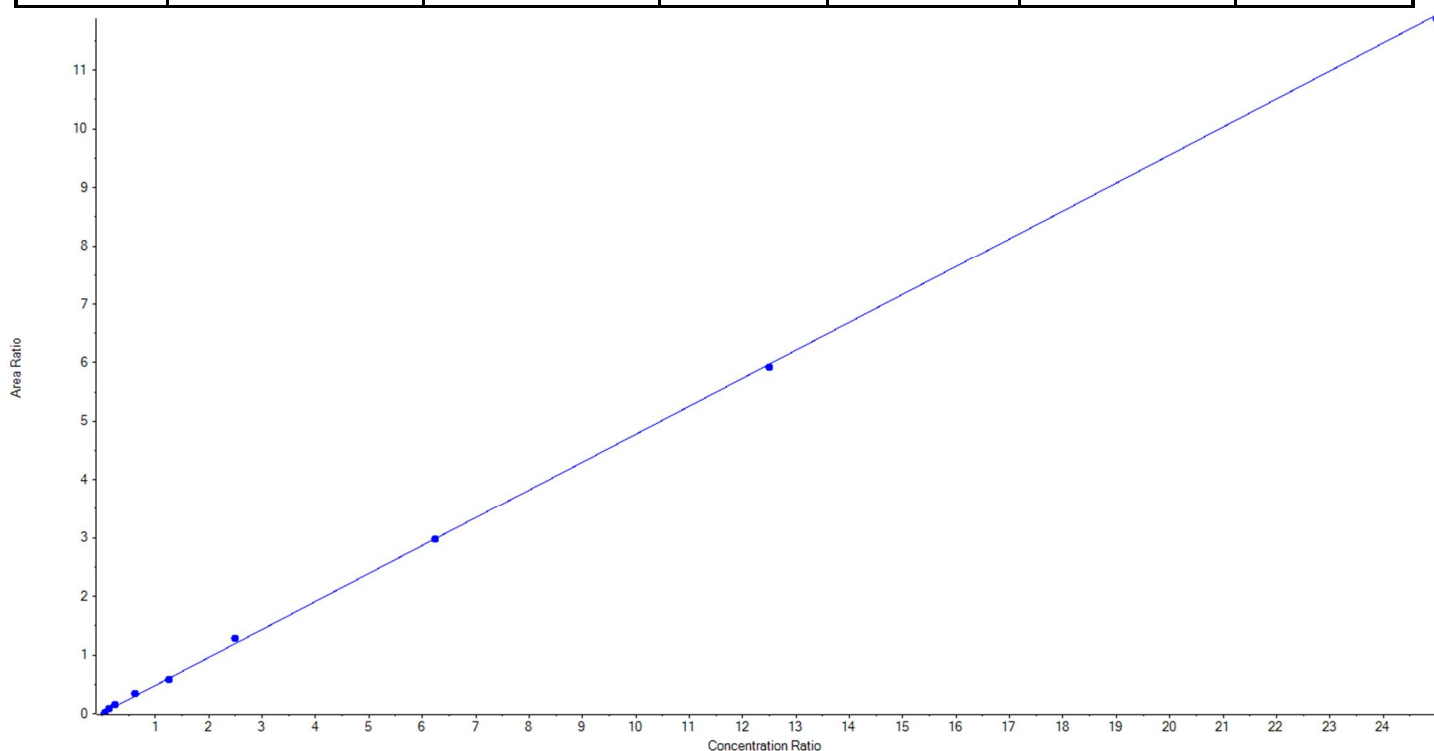
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Analyte Name	NMeFOSAA_2	Data File	5500_07022018_371.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.47762x + 0.00282$ ($r = 0.99903$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	6.822048	27.3
3	JX68	L2	True	50.00	64.643929	129.3
4	JX69	L3	True	100.00	126.438295	126.4
5	JX70	L4	True	250.00	287.302328	114.9
6	JX71	L5	True	500.00	486.894180	97.4
7	JX72	L6	True	1000.00	1066.258085	106.6
8	JX73	L7	True	2500.00	2488.678587	99.6
9	JX74	L8	True	5000.00	4953.331129	99.1
10	JX75	L9	True	10000.00	9944.631419	99.5





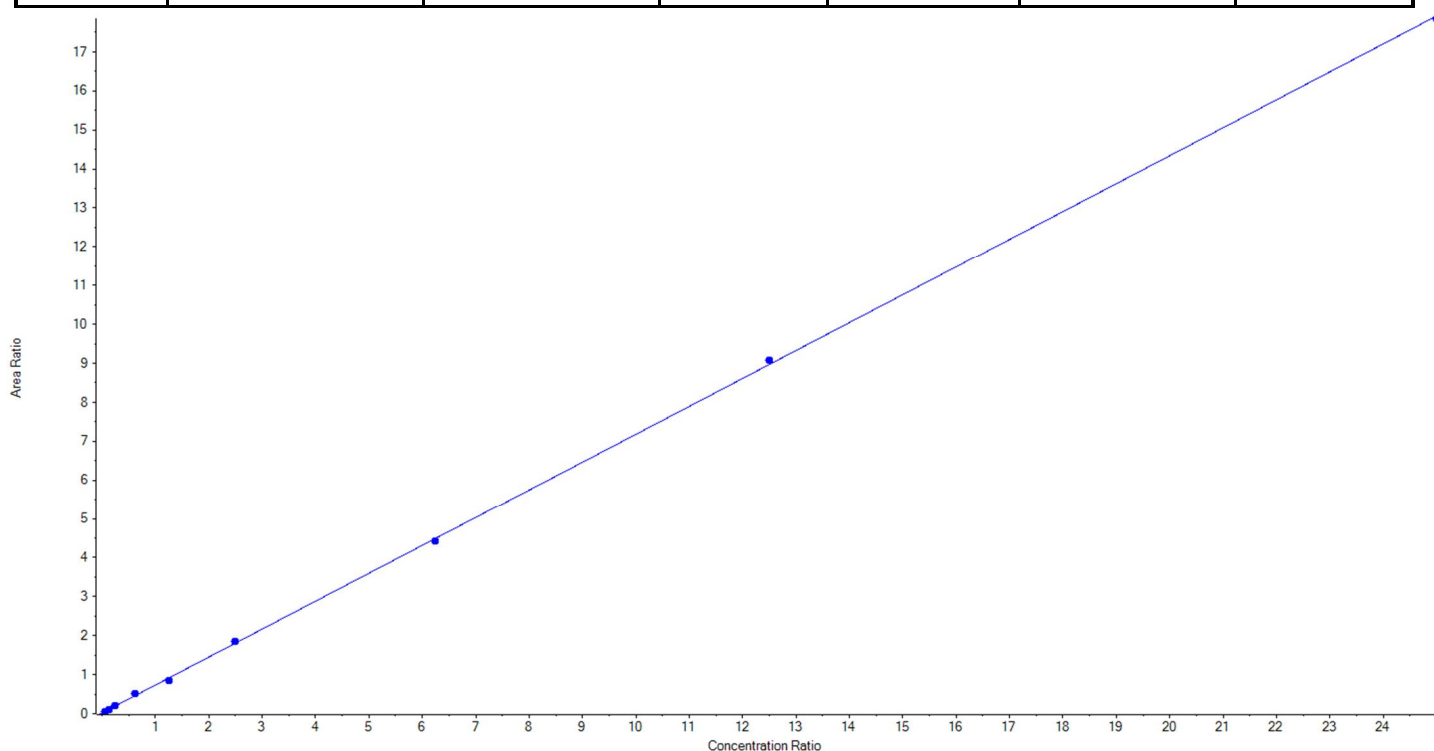
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Analyte Name	NEtFOSAA_1	Data File	5500_07022018_371.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.71616x + 0.01703$ ($r = 0.99978$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.055884	84.2
3	JX68	L2	True	50.00	51.589818	103.2
4	JX69	L3	True	100.00	108.471949	108.5
5	JX70	L4	True	250.00	273.834518	109.5
6	JX71	L5	True	500.00	465.568995	93.1
7	JX72	L6	True	1000.00	1021.697296	102.2
8	JX73	L7	True	2500.00	2461.979633	98.5
9	JX74	L8	True	5000.00	5062.033851	101.2
10	JX75	L9	True	10000.00	9958.768055	99.6





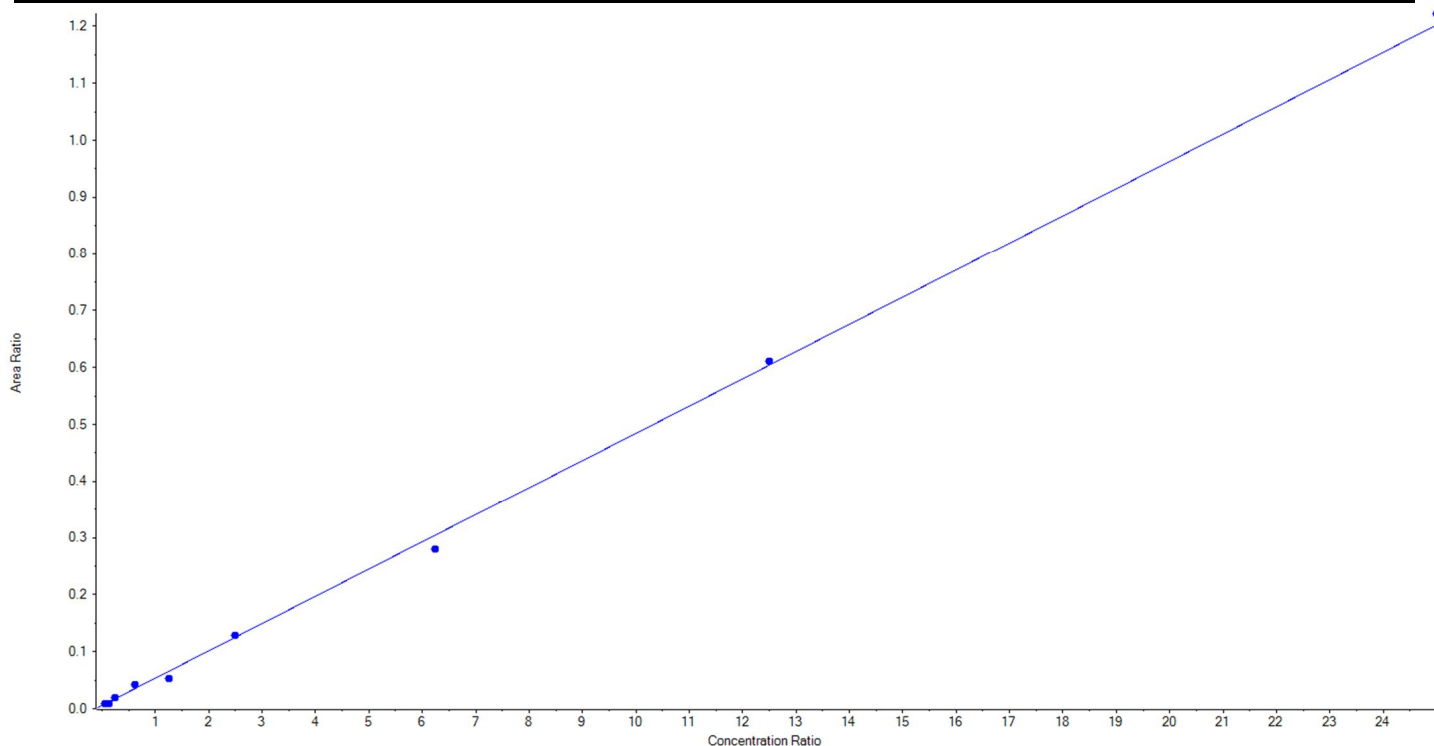
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Analyte Name	NEtFOSAA_2	Data File	5500_07022018_371.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04786x + 0.00569$ ($r = 0.99817$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	29.524085	118.1
3	JX68	L2	True	50.00	32.304123	64.6
4	JX69	L3	True	100.00	118.956147	119.0
5	JX70	L4	True	250.00	306.031810	122.4
6	JX71	L5	True	500.00	393.712102	78.7
7	JX72	L6	True	1000.00	1026.346535	102.6
8	JX73	L7	True	2500.00	2290.949762	91.6
9	JX74	L8	True	5000.00	5063.972497	101.3
10	JX75	L9	True	10000.00	10163.202939	101.6





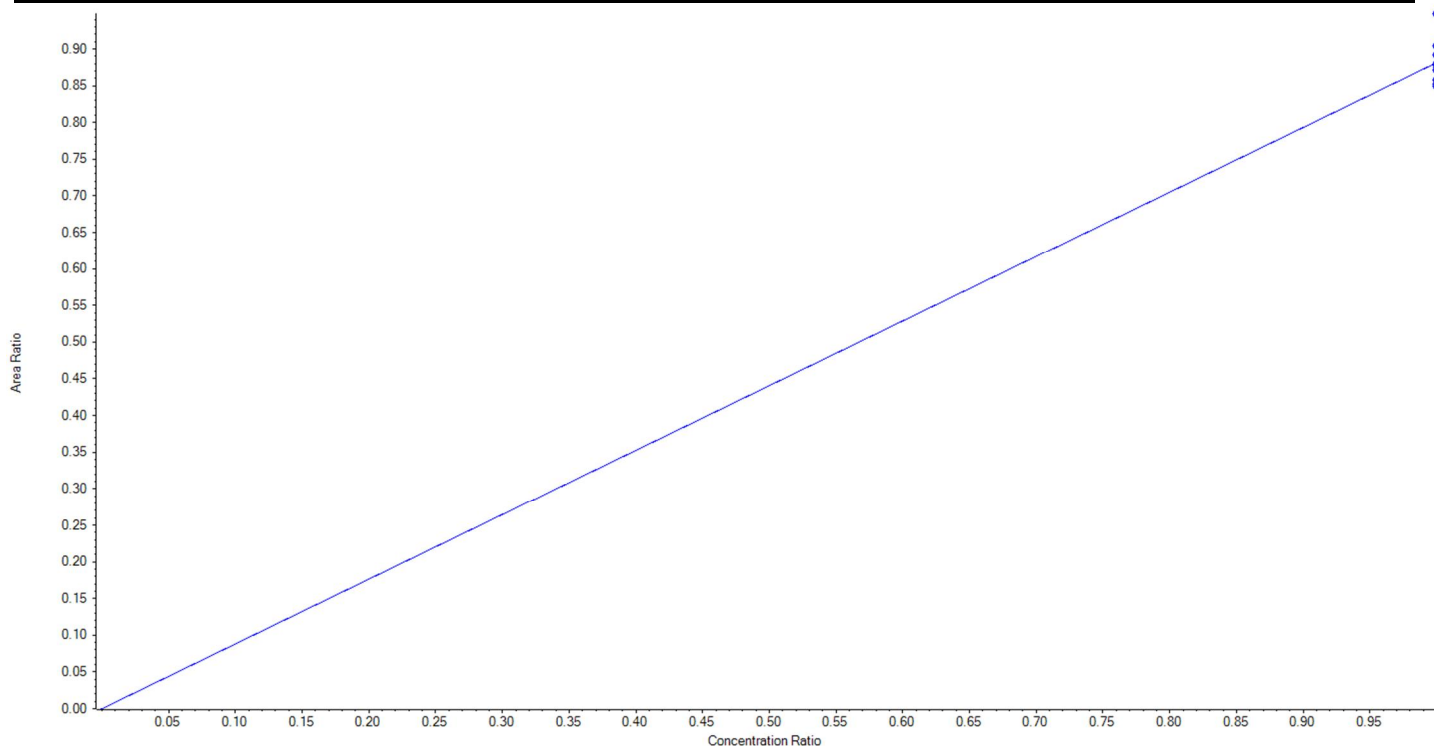
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Analyte Name	13C2-PFHxA	Data File	5500_07022018_371.wiff
MRM Transition	315.0 / 270.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.88123 x$ (std. dev. = 0.03078) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	97.237923	97.2
3	JX68	L2	True	100.00	102.626872	102.6
4	JX69	L3	True	100.00	96.699421	96.7
5	JX70	L4	True	100.00	101.121495	101.1
6	JX71	L5	True	100.00	107.537701	107.5
7	JX72	L6	True	100.00	96.432540	96.4
8	JX73	L7	True	100.00	98.892988	98.9
9	JX74	L8	True	100.00	99.697104	99.7
10	JX75	L9	True	100.00	99.753955	99.8





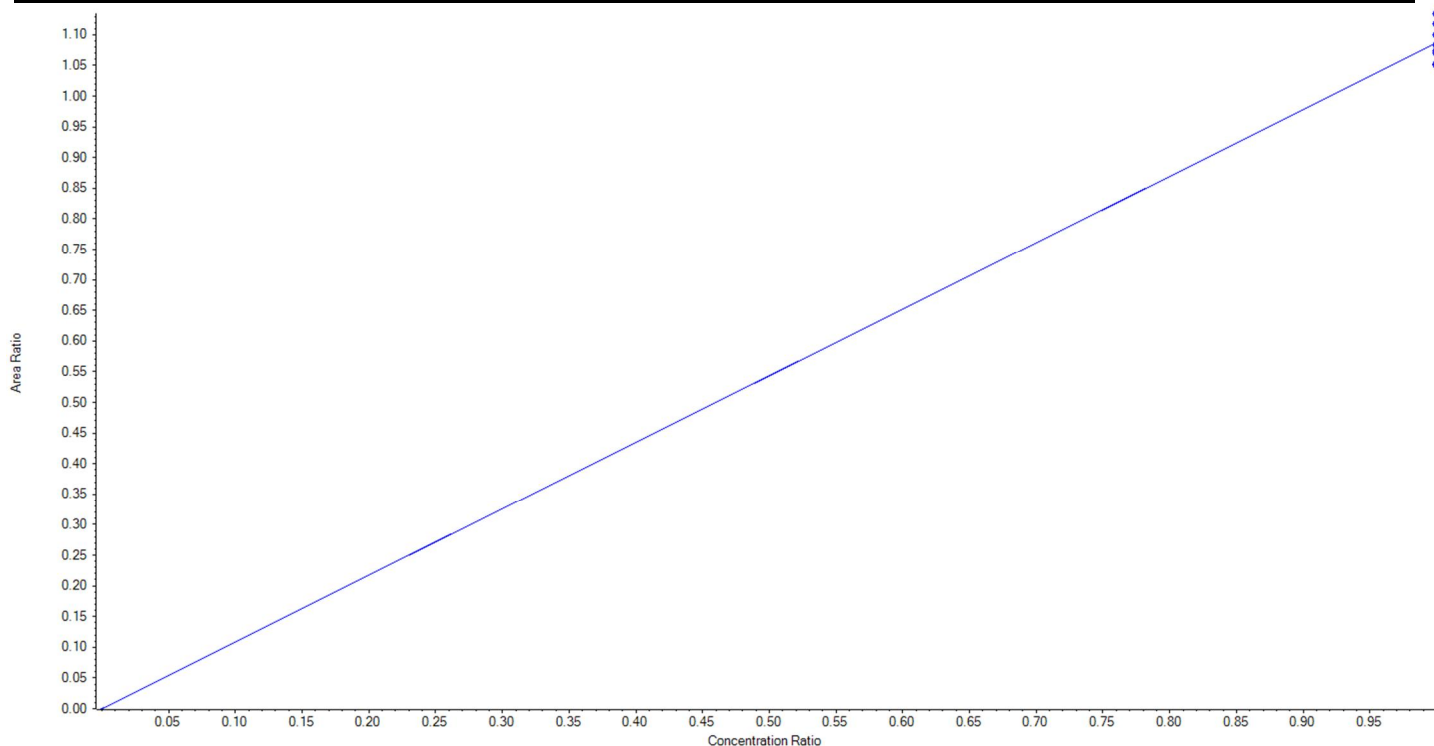
Calibration Summary Report

Created with Analyst Reporter
Printed: 12/07/2018 1:34:41 PM

Analyte Name	13C2-PFDA	Data File	5500_07022018_371.wiff
MRM Transition	515.0 / 470.0	Result Table	18-0400_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.08683 x$ (std. dev. = 0.02845) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	98.825503	98.8
3	JX68	L2	True	100.00	104.348391	104.4
4	JX69	L3	True	100.00	96.795736	96.8
5	JX70	L4	True	100.00	101.178237	101.2
6	JX71	L5	True	100.00	102.830960	102.8
7	JX72	L6	True	100.00	96.652505	96.7
8	JX73	L7	True	100.00	101.161484	101.2
9	JX74	L8	True	100.00	98.518249	98.5
10	JX75	L9	True	100.00	99.688935	99.7





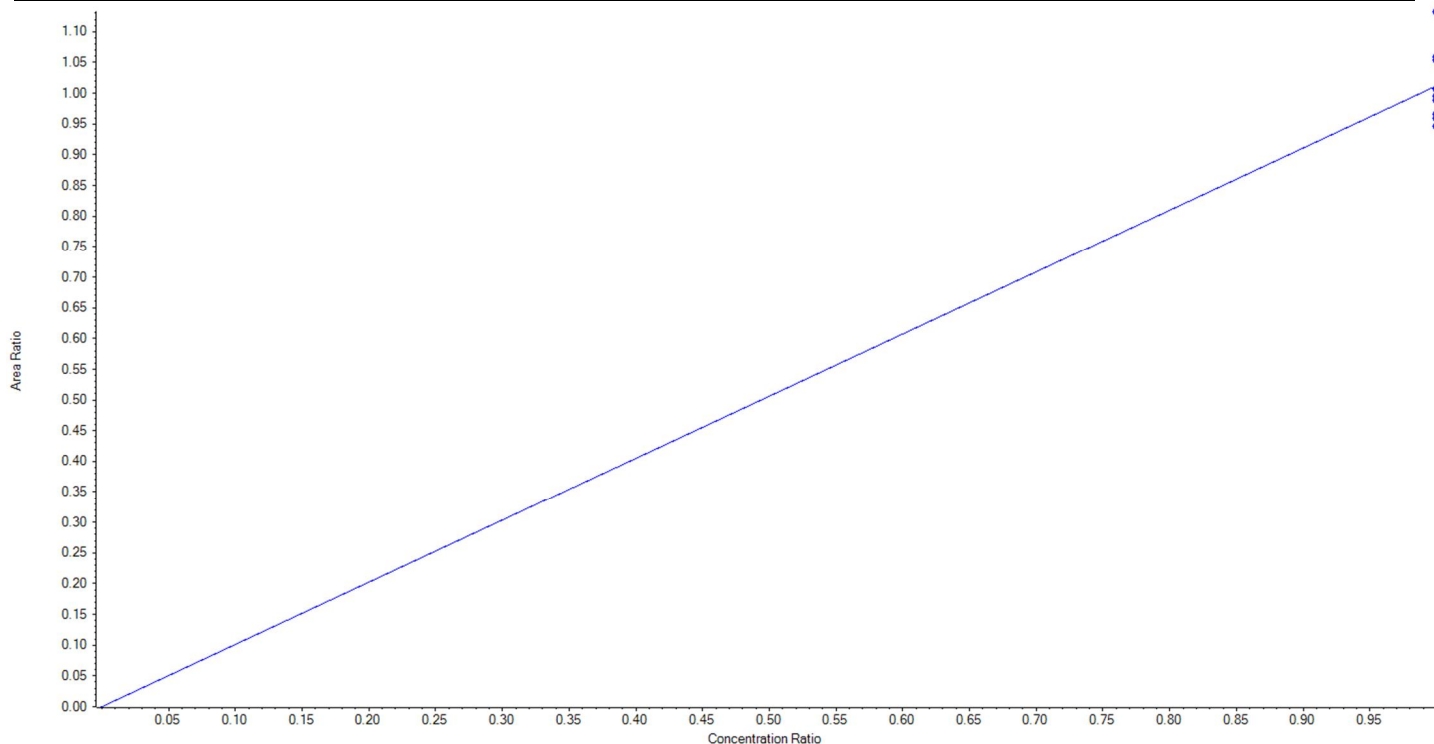
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	d5-EtFOSAA	Data File	5500_07022018_371.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0400_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/2/2018 9:35:13 AM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.01215 x$ (std. dev. = 0.05958) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	400.00	447.485544	111.9
3	JX68	L2	True	400.00	382.031418	95.5
4	JX69	L3	True	400.00	416.235263	104.1
5	JX70	L4	True	400.00	391.026841	97.8
6	JX71	L5	True	400.00	393.608980	98.4
7	JX72	L6	True	400.00	378.828905	94.7
8	JX73	L7	True	400.00	374.038313	93.5
9	JX74	L8	True	400.00	398.138305	99.5
10	JX75	L9	True	400.00	418.606431	104.7





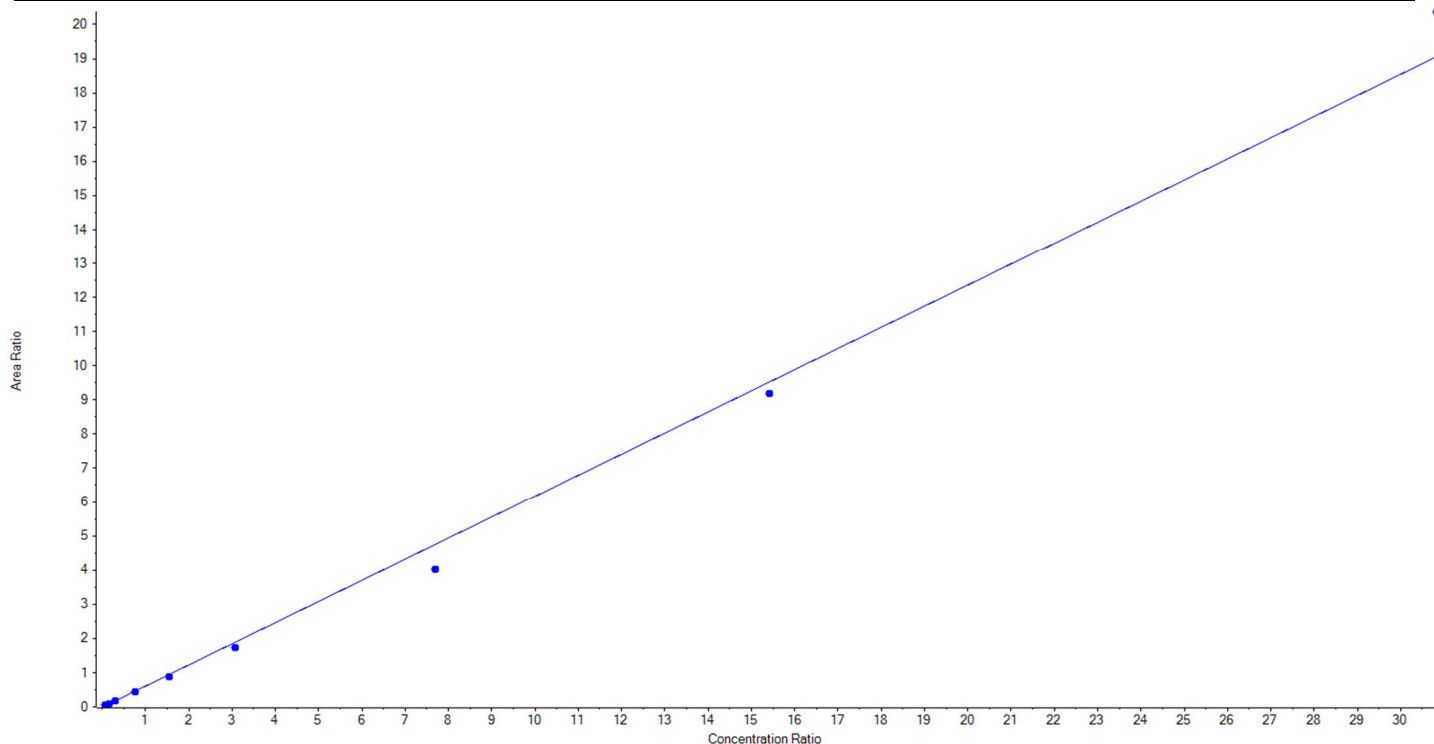
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	PFBS_1	Data File	07032018_5-0371.wiff
MRM Transition	298.9 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.61856x + -0.01223$ ($r = 0.99660$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	27.393553	123.7
3	JX68	L2	True	44.30	46.889529	105.9
4	JX69	L3	True	88.60	92.026138	103.9
5	JX70	L4	True	221.50	207.211248	93.6
6	JX71	L5	True	443.00	418.262717	94.4
7	JX72	L6	True	885.00	803.434167	90.8
8	JX73	L7	True	2212.50	1868.537473	84.5
9	JX74	L8	True	4425.00	4273.703237	96.6
10	JX75	L9	True	8850.00	9454.591938	106.8





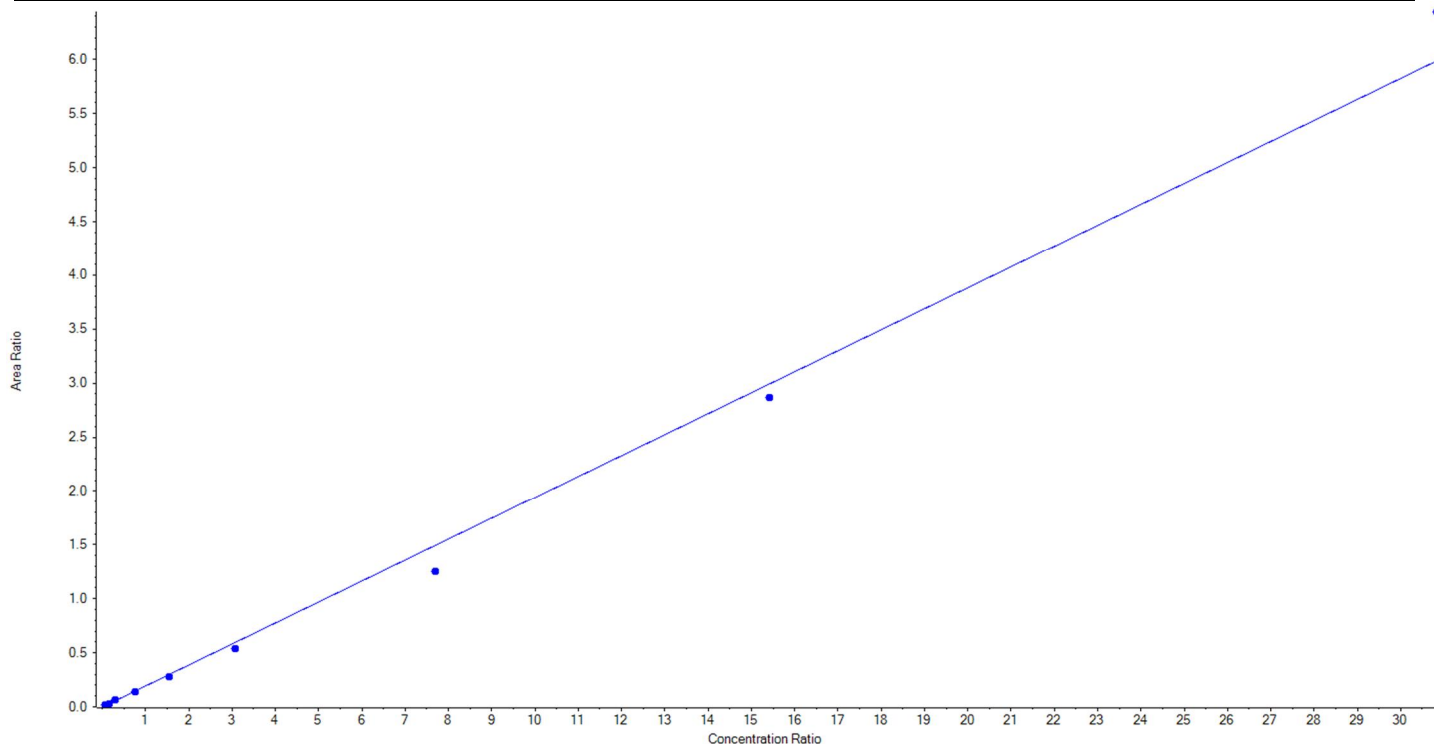
Calibration Summary Report

Created with Analyst Reporter
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Analyte Name	PFBS_2	Data File	07032018_5-0371.wiff
MRM Transition	298.9 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.19424 x + -0.00195$ ($r = 0.99601$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.15	27.020600	122.0
3	JX68	L2	True	44.30	47.117302	106.4
4	JX69	L3	True	88.60	94.696119	106.9
5	JX70	L4	True	221.50	208.158286	94.0
6	JX71	L5	True	443.00	415.892130	93.9
7	JX72	L6	True	885.00	796.913918	90.1
8	JX73	L7	True	2212.50	1849.902141	83.6
9	JX74	L8	True	4425.00	4235.724968	95.7
10	JX75	L9	True	8850.00	9516.624535	107.5





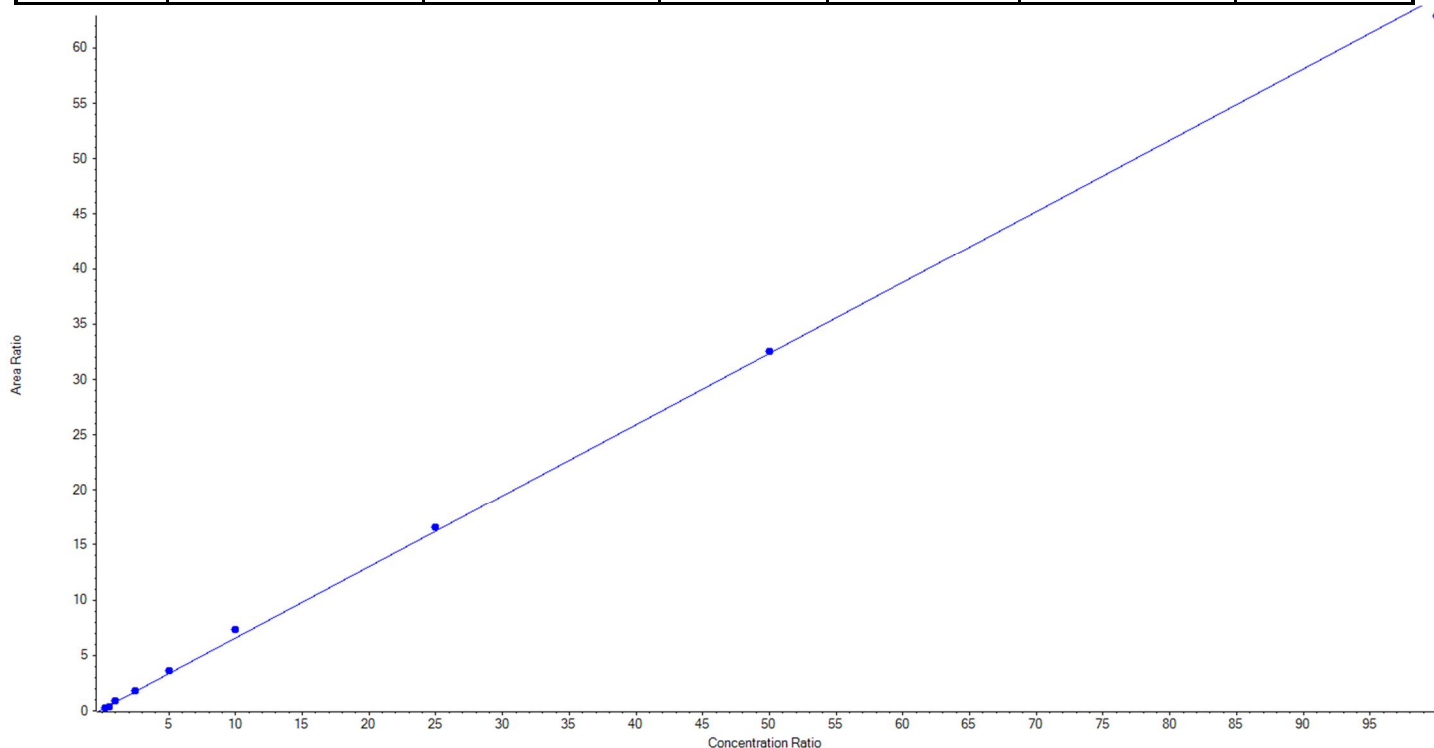
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Analyte Name	PFHxA_1	Data File	07032018_5-0371.wiff
MRM Transition	313.0 / 269.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.64406 x + 0.14074$ ($r = 0.99912$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.480693	77.9
3	JX68	L2	True	50.00	41.390112	82.8
4	JX69	L3	True	100.00	113.158846	113.2
5	JX70	L4	True	250.00	261.379863	104.6
6	JX71	L5	True	500.00	546.021431	109.2
7	JX72	L6	True	1000.00	1122.311224	112.2
8	JX73	L7	True	2500.00	2557.128036	102.3
9	JX74	L8	True	5000.00	5022.438395	100.5
10	JX75	L9	True	10000.00	9741.691400	97.4





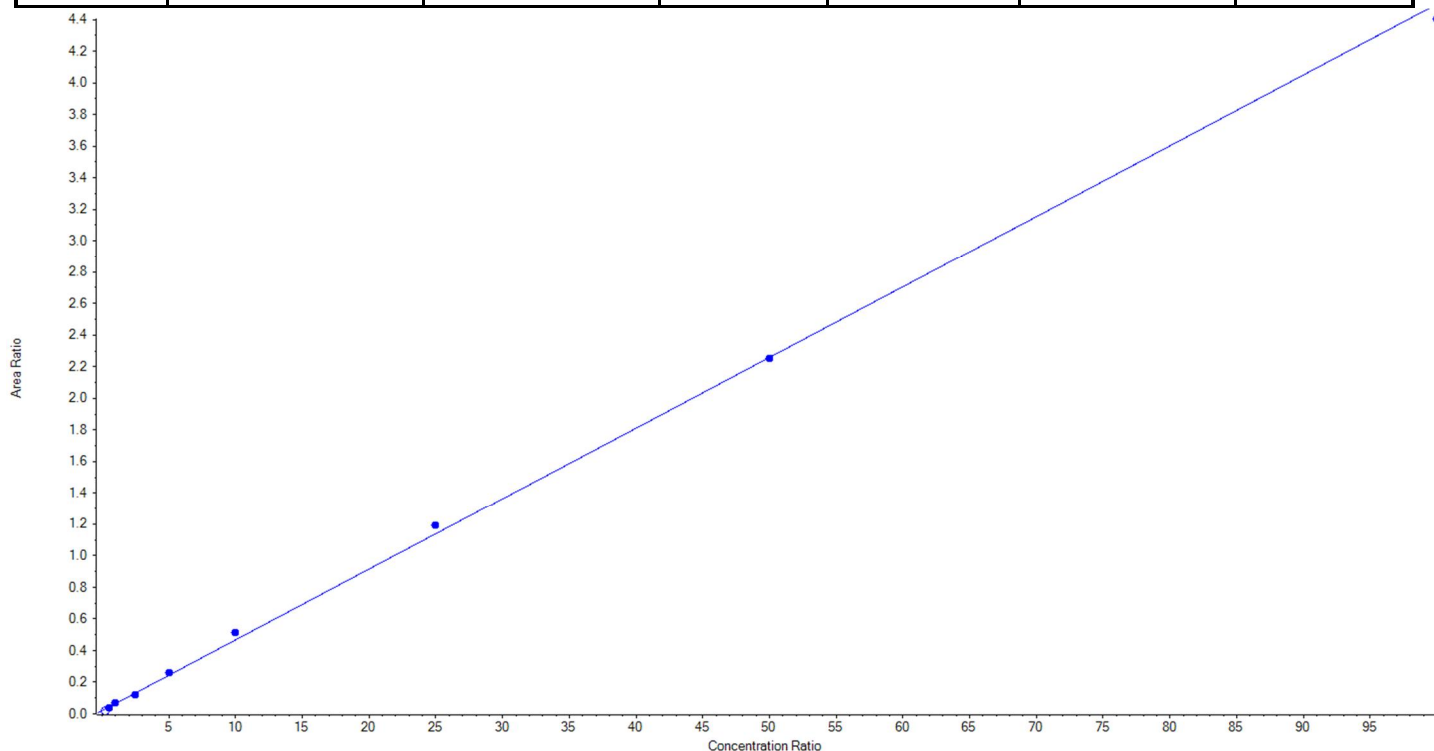
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Analyte Name	PFHxA_2	Data File	07032018_5-0371.wiff
MRM Transition	313.0 / 119.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04477x + 0.02012$ ($r = 0.99917$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	True	50.00	38.146773	76.3
4	JX69	L3	True	100.00	115.585376	115.6
5	JX70	L4	True	250.00	224.411850	89.8
6	JX71	L5	True	500.00	531.730828	106.4
7	JX72	L6	True	1000.00	1096.892416	109.7
8	JX73	L7	True	2500.00	2618.162982	104.7
9	JX74	L8	True	5000.00	4984.371407	99.7
10	JX75	L9	True	10000.00	9790.698368	97.9





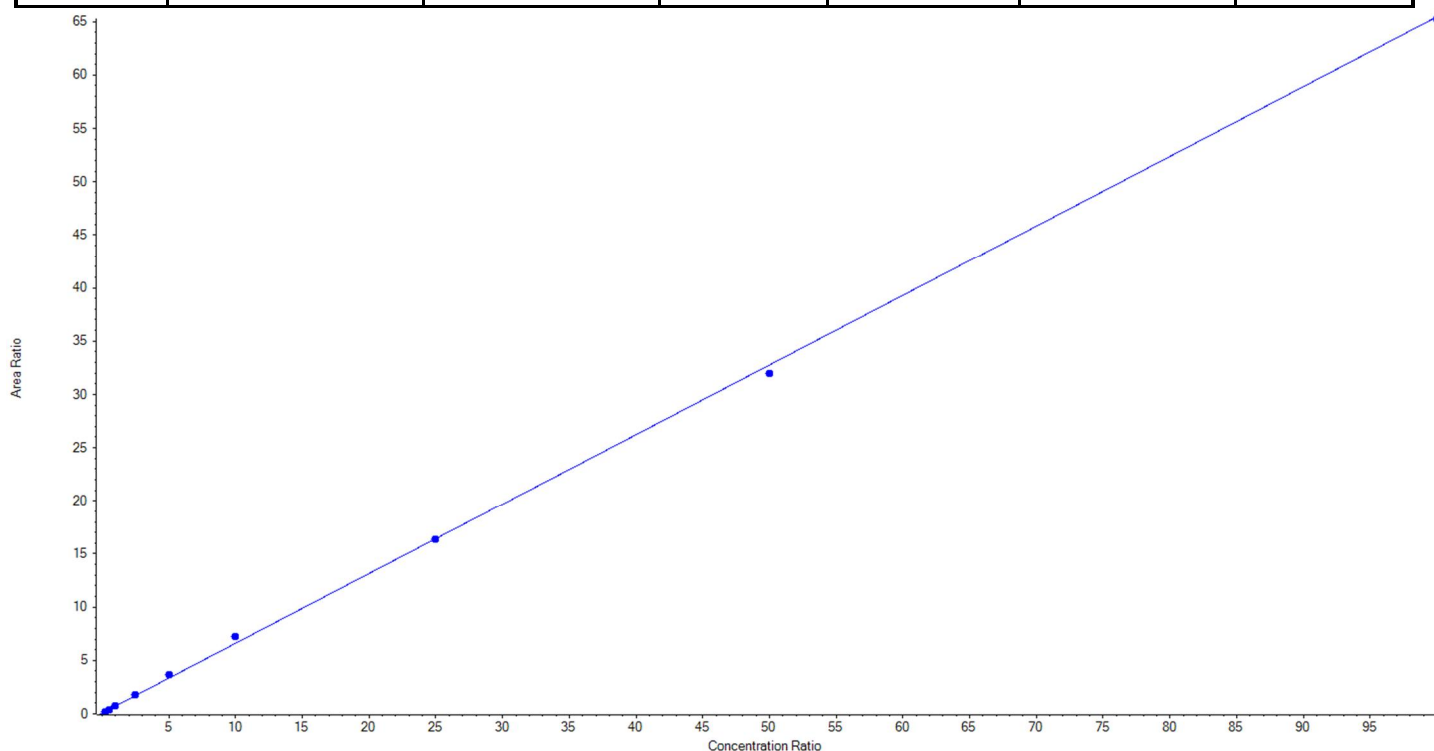
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Analyte Name	PFHpA_1	Data File	07032018_5-0371.wiff
MRM Transition	363.0 / 319.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.65371 x + 0.07644$ ($r = 0.99946$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.698129	74.8
3	JX68	L2	True	50.00	47.505803	95.0
4	JX69	L3	True	100.00	108.942235	108.9
5	JX70	L4	True	250.00	261.525150	104.6
6	JX71	L5	True	500.00	551.200119	110.2
7	JX72	L6	True	1000.00	1092.752698	109.3
8	JX73	L7	True	2500.00	2496.496803	99.9
9	JX74	L8	True	5000.00	4878.962862	97.6
10	JX75	L9	True	10000.00	9968.916203	99.7





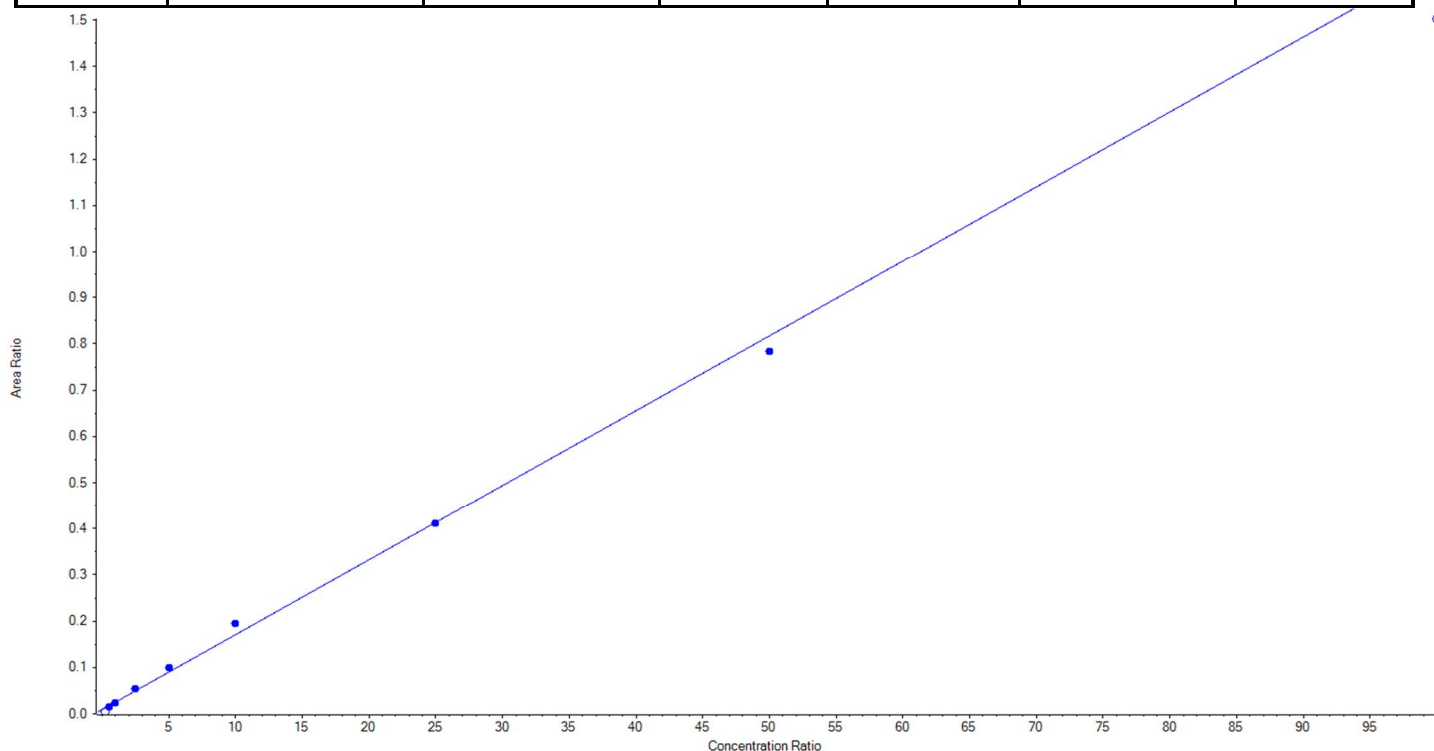
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Analyte Name	PFHpA_2	Data File	07032018_5-0371.wiff
MRM Transition	363.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.01616x + 0.00932$ ($r = 0.99739$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	< 0	N/A
3	JX68	L2	True	50.00	35.744773	71.5
4	JX69	L3	True	100.00	95.780326	95.8
5	JX70	L4	True	250.00	278.194720	111.3
6	JX71	L5	True	500.00	557.974571	111.6
7	JX72	L6	True	1000.00	1141.990615	114.2
8	JX73	L7	True	2500.00	2492.598199	99.7
9	JX74	L8	True	5000.00	4797.716795	96.0
10	JX75	L9	False	10000.00	9240.832815	92.4





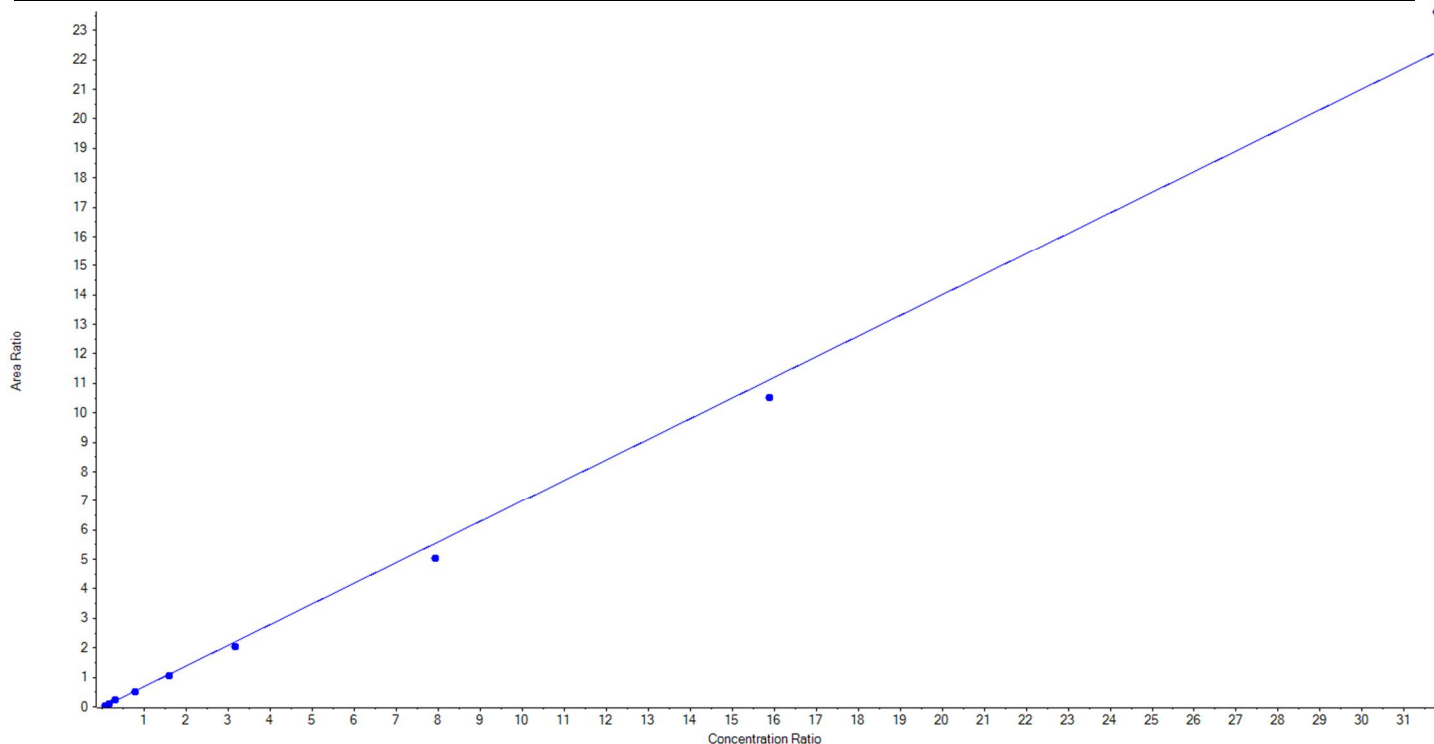
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Analyte Name	PFHxS_1	Data File	07032018_5-0371.wiff
MRM Transition	399.0 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.70102x + -0.01384$ ($r = 0.99772$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	26.152103	114.7
3	JX68	L2	True	45.60	46.382466	101.7
4	JX69	L3	True	91.20	100.440506	110.1
5	JX70	L4	True	228.00	216.499780	95.0
6	JX71	L5	True	456.00	432.653436	94.9
7	JX72	L6	True	912.00	843.585082	92.5
8	JX73	L7	True	2280.00	2063.920447	90.5
9	JX74	L8	True	4560.00	4308.056168	94.5
10	JX75	L9	True	9120.00	9677.910011	106.1





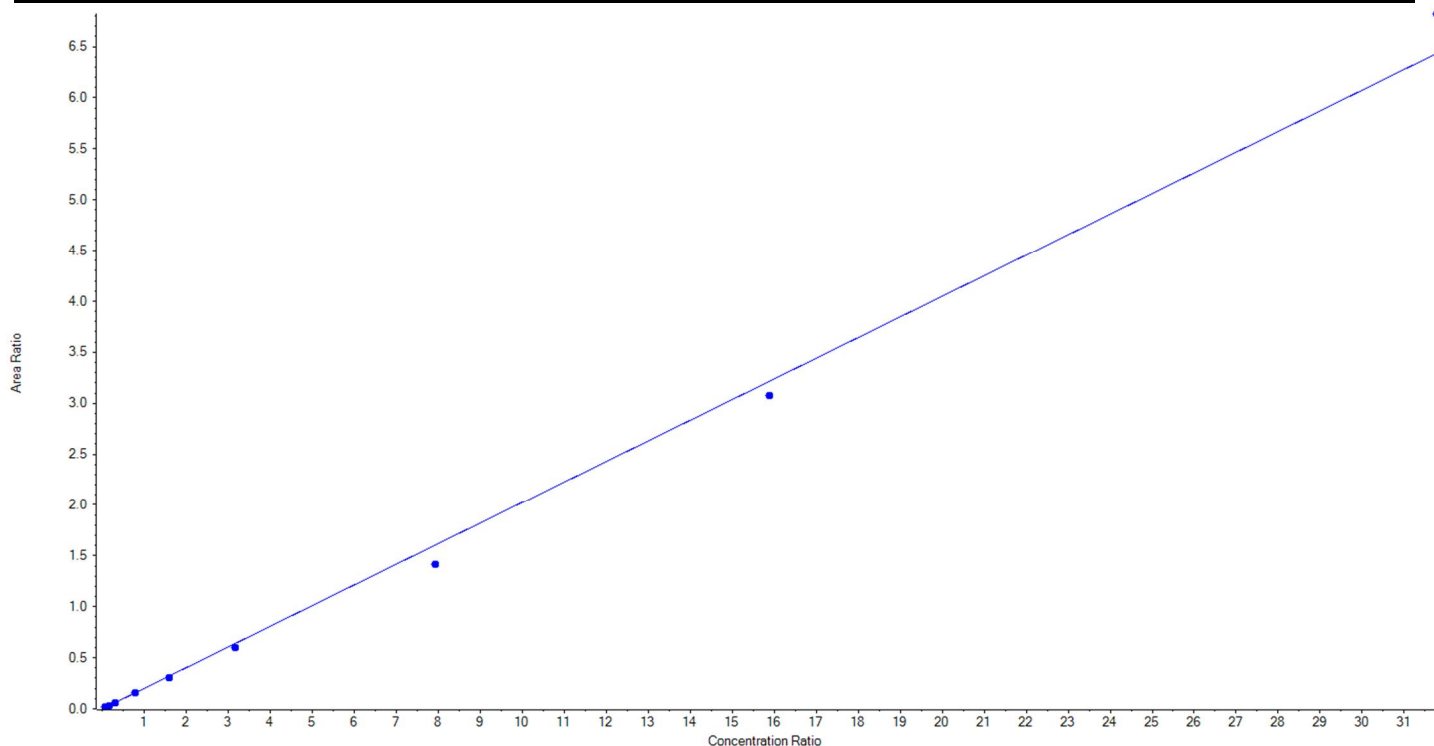
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Analyte Name	PFHxS_2	Data File	07032018_5-0371.wiff
MRM Transition	399.0 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.20255x + -0.00222$ ($r = 0.99764$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	22.80	28.118093	123.3
3	JX68	L2	True	45.60	45.336831	99.4
4	JX69	L3	True	91.20	92.416366	101.3
5	JX70	L4	True	228.00	219.623752	96.3
6	JX71	L5	True	456.00	439.488641	96.4
7	JX72	L6	True	912.00	852.064854	93.4
8	JX73	L7	True	2280.00	2008.629735	88.1
9	JX74	L8	True	4560.00	4363.948051	95.7
10	JX75	L9	True	9120.00	9665.973677	106.0





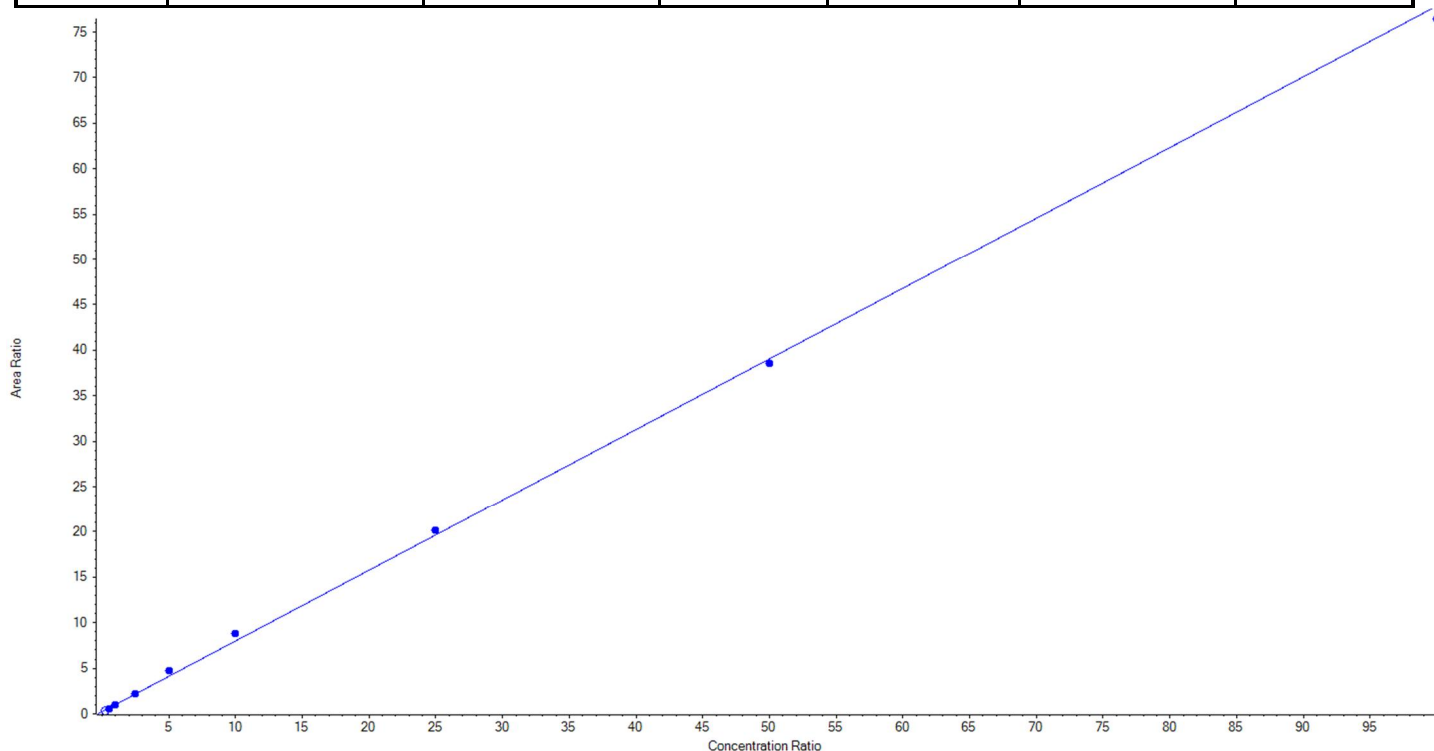
Calibration Summary Report

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Analyte Name	PFOA_1	Data File	07032018_5-0371.wiff
MRM Transition	413.0 / 369.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.77615x + 0.24188$ ($r = 0.99899$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	4.517900	18.1
3	JX68	L2	True	50.00	35.484677	71.0
4	JX69	L3	True	100.00	100.655428	100.7
5	JX70	L4	True	250.00	253.534108	101.4
6	JX71	L5	True	500.00	582.827884	116.6
7	JX72	L6	True	1000.00	1109.849942	111.0
8	JX73	L7	True	2500.00	2561.329576	102.5
9	JX74	L8	True	5000.00	4939.463705	98.8
10	JX75	L9	True	10000.00	9816.854681	98.2





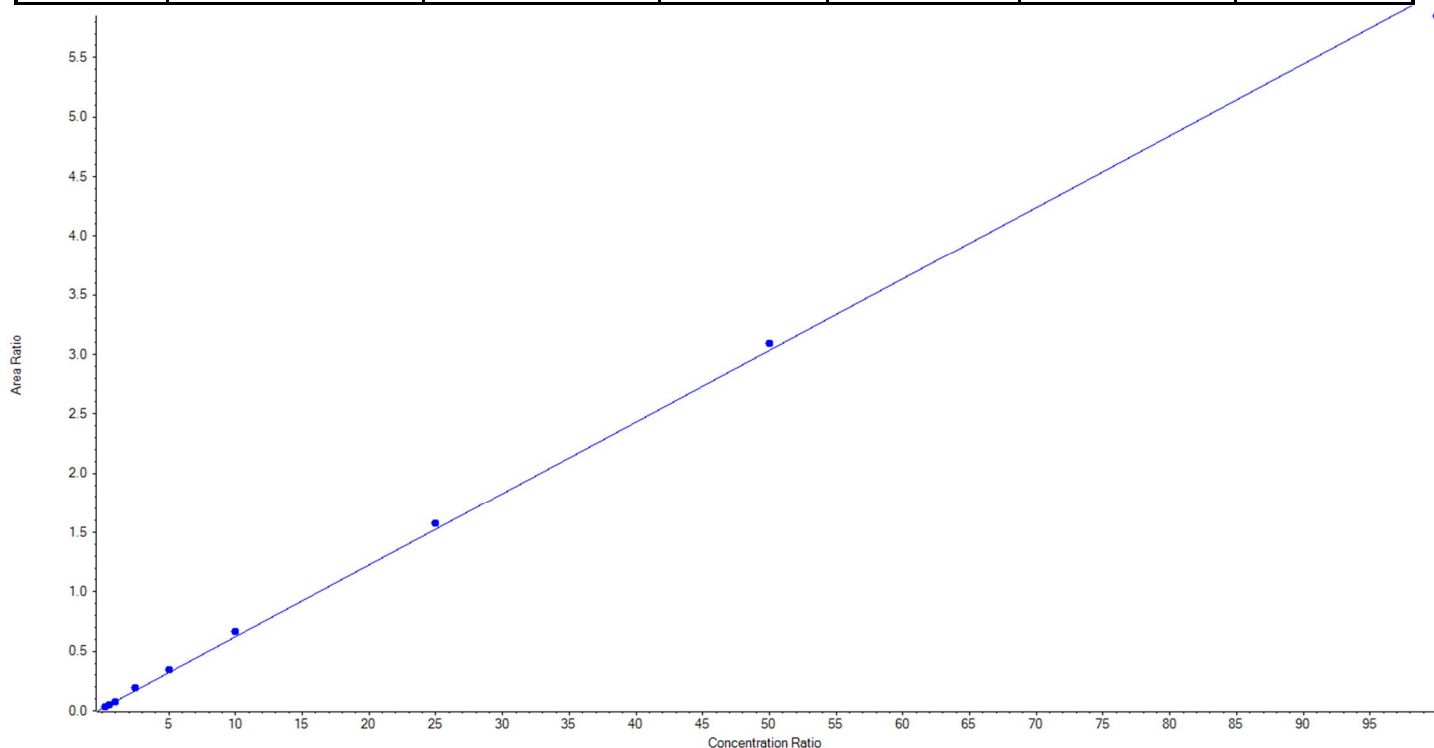
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Analyte Name	PFOA_2	Data File	07032018_5-0371.wiff
MRM Transition	413.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.06028x + 0.01975$ ($r = 0.99908$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.842198	79.4
3	JX68	L2	True	50.00	47.227734	94.5
4	JX69	L3	True	100.00	91.399213	91.4
5	JX70	L4	True	250.00	290.422369	116.2
6	JX71	L5	True	500.00	545.941574	109.2
7	JX72	L6	True	1000.00	1071.967441	107.2
8	JX73	L7	True	2500.00	2587.129532	103.5
9	JX74	L8	True	5000.00	5102.663940	102.1
10	JX75	L9	True	10000.00	9668.406000	96.7





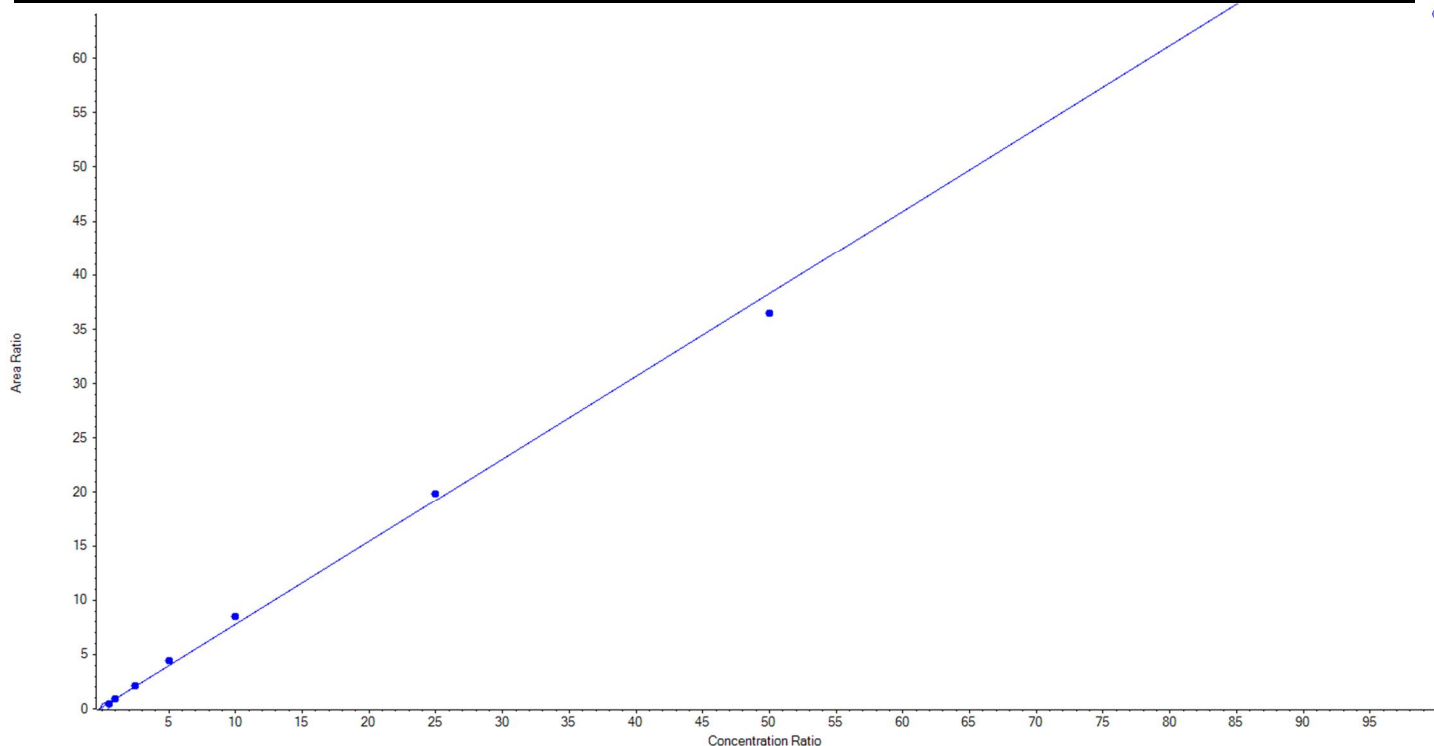
Calibration Summary Report

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Analyte Name	PFNA_1	Data File	07032018_5-0371.wiff
MRM Transition	463.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.76245x + 0.16499$ ($r = 0.99788$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	8.045870	32.2
3	JX68	L2	True	50.00	37.056095	74.1
4	JX69	L3	True	100.00	101.955471	102.0
5	JX70	L4	True	250.00	258.818237	103.5
6	JX71	L5	True	500.00	561.137352	112.2
7	JX72	L6	True	1000.00	1096.574071	109.7
8	JX73	L7	True	2500.00	2581.549586	103.3
9	JX74	L8	True	5000.00	4762.909189	95.3
10	JX75	L9	False	10000.00	8381.580322	83.8





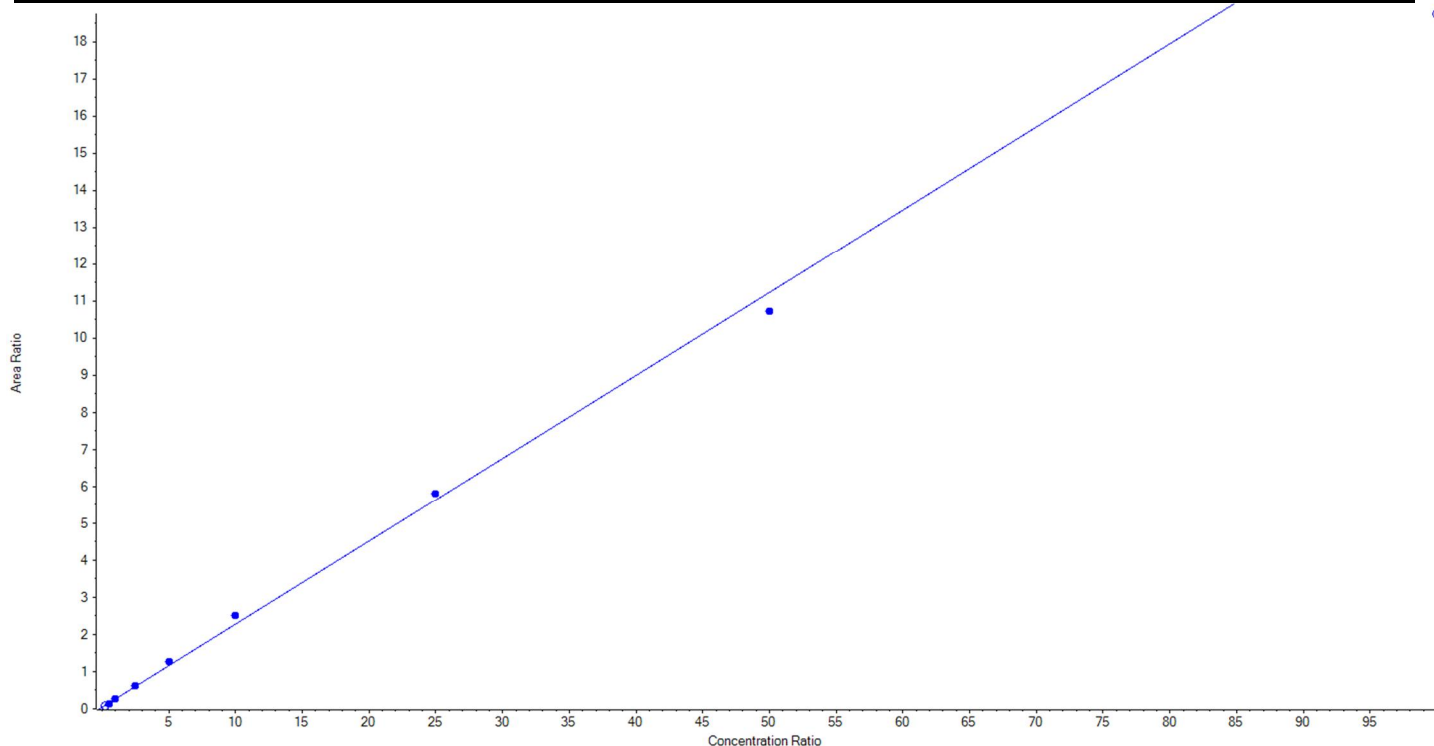
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Analyte Name	PFNA_2	Data File	07032018_5-0371.wiff
MRM Transition	463.0 / 219.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.22380x + 0.04445$ ($r = 0.99801$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	11.817119	47.3
3	JX68	L2	True	50.00	38.251517	76.5
4	JX69	L3	True	100.00	101.105745	101.1
5	JX70	L4	True	250.00	258.883038	103.6
6	JX71	L5	True	500.00	547.865959	109.6
7	JX72	L6	True	1000.00	1108.174450	110.8
8	JX73	L7	True	2500.00	2576.649125	103.1
9	JX74	L8	True	5000.00	4769.070166	95.4
10	JX75	L9	False	10000.00	8358.130767	83.6





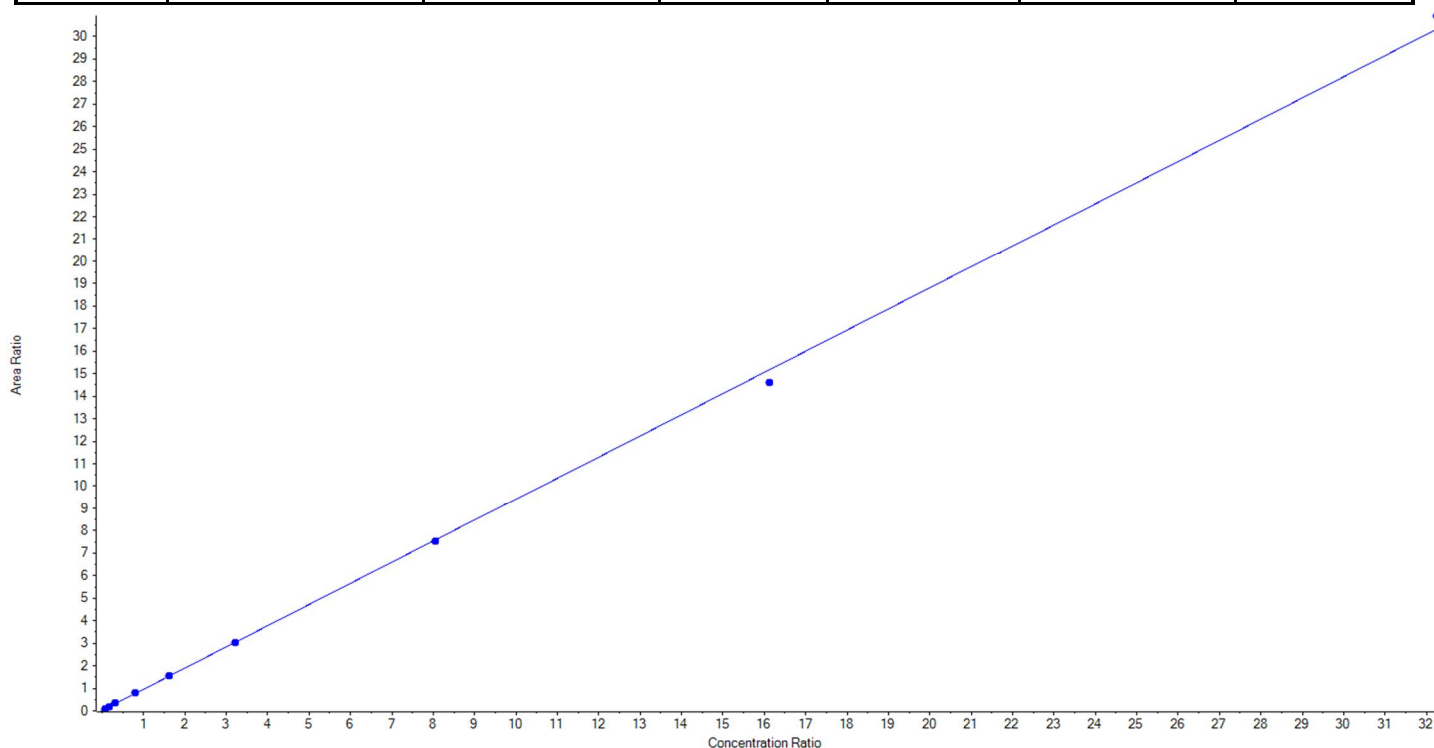
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Analyte Name	PFOS_1	Data File	07032018_5-0371.wiff
MRM Transition	499.0 / 80.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.93978x + 0.01910$ ($r = 0.99967$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	20.755059	89.7
3	JX68	L2	True	46.30	46.706486	100.9
4	JX69	L3	True	92.60	98.924604	106.8
5	JX70	L4	True	231.50	241.599926	104.4
6	JX71	L5	True	463.00	469.092652	101.3
7	JX72	L6	True	925.60	924.512216	99.9
8	JX73	L7	True	2314.00	2286.664140	98.8
9	JX74	L8	True	4628.00	4458.817002	96.3
10	JX75	L9	True	9256.00	9433.077917	101.9





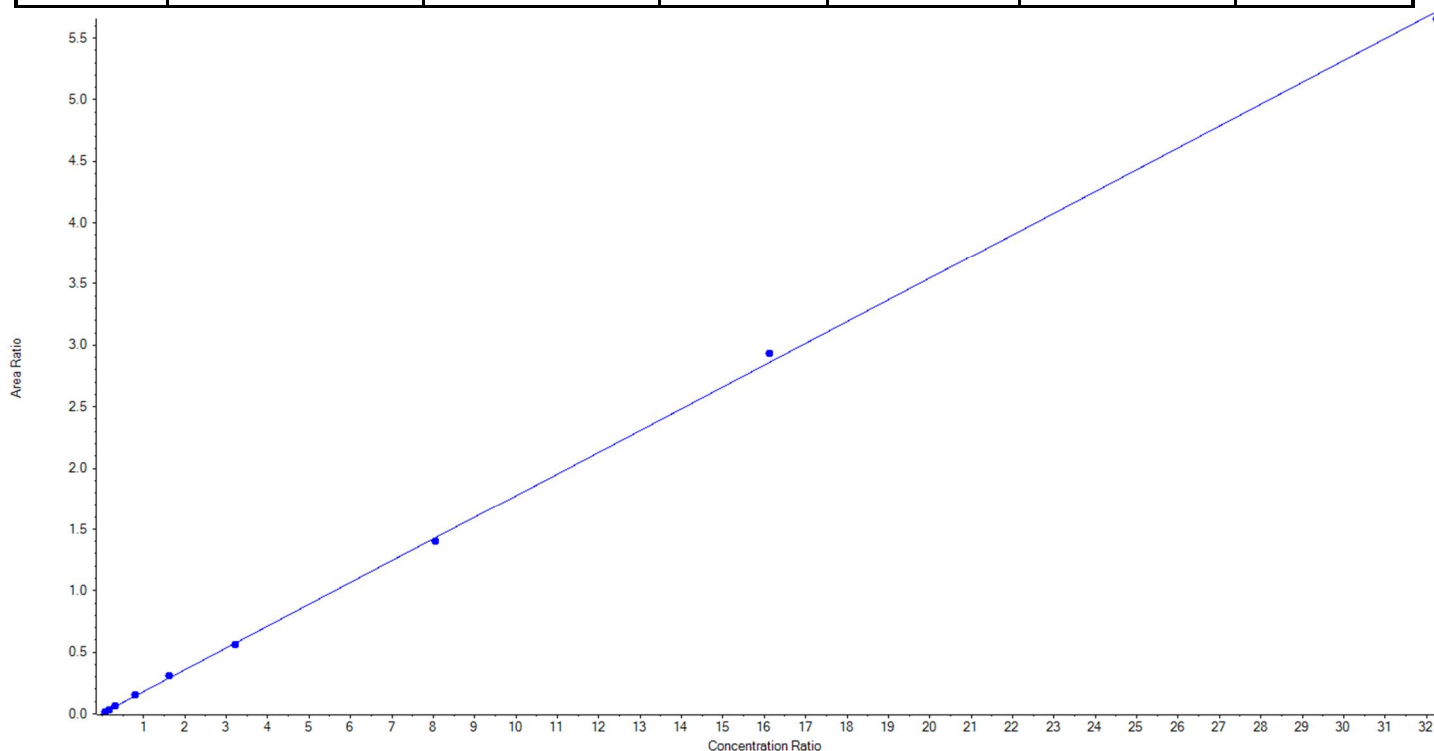
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Analyte Name	PFOS_2	Data File	07032018_5-0371.wiff
MRM Transition	499.0 / 99.0	Result Table	18-0400A_DW
Internal Standard	13C4-PFOS	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.17714x + 0.00380$ ($r = 0.99973$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	23.15	20.312327	87.7
3	JX68	L2	True	46.30	46.519382	100.5
4	JX69	L3	True	92.60	93.503763	101.0
5	JX70	L4	True	231.50	246.605018	106.5
6	JX71	L5	True	463.00	494.624228	106.8
7	JX72	L6	True	925.60	907.068587	98.0
8	JX73	L7	True	2314.00	2265.442093	97.9
9	JX74	L8	True	4628.00	4749.704462	102.6
10	JX75	L9	True	9256.00	9156.370140	98.9





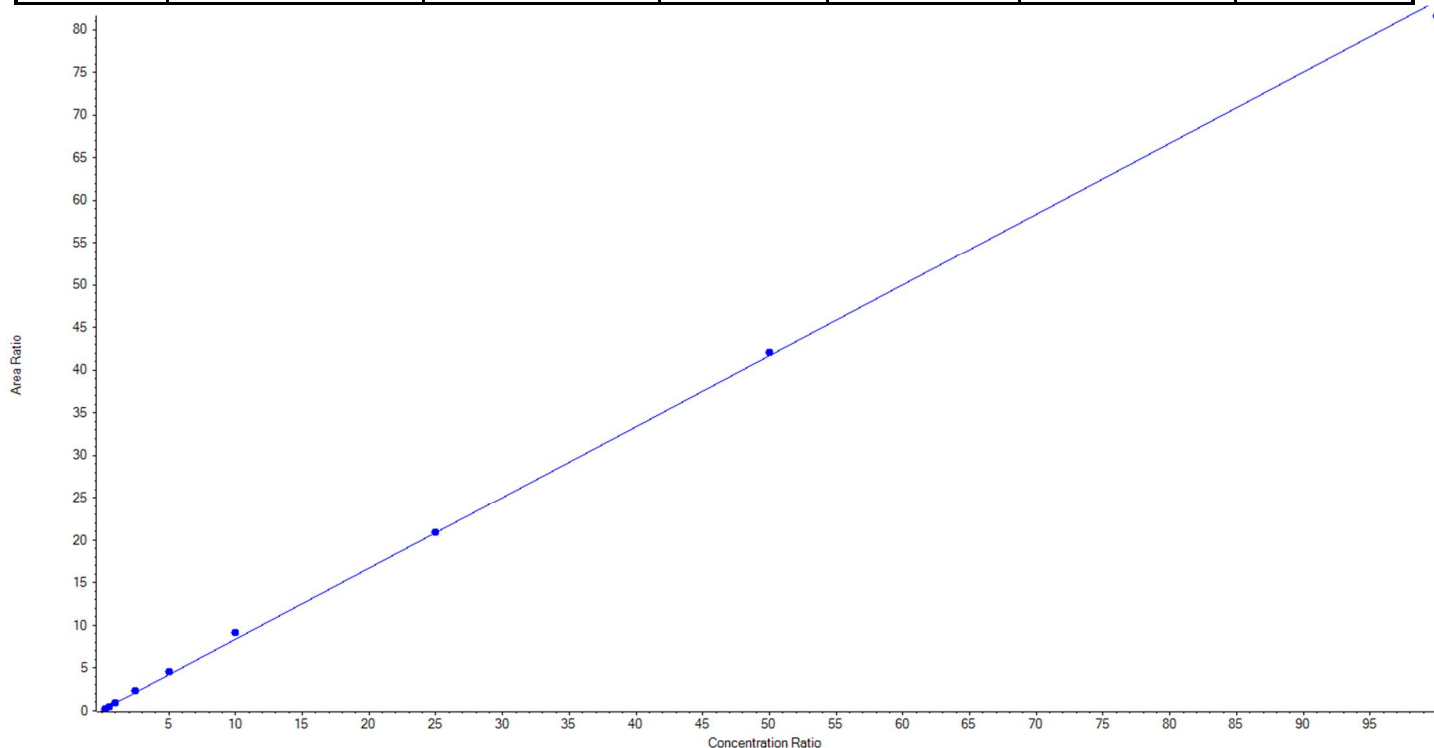
Calibration Summary Report

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Printed: 06/07/2018 3:59:41 PM

Analyte Name	PFDA_1	Data File	07032018_5-0371.wiff
MRM Transition	513.0 / 469.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.83295x + 0.06360$ ($r = 0.99943$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	22.062765	88.3
3	JX68	L2	True	50.00	42.327099	84.7
4	JX69	L3	True	100.00	102.109095	102.1
5	JX70	L4	True	250.00	268.719365	107.5
6	JX71	L5	True	500.00	542.438364	108.5
7	JX72	L6	True	1000.00	1096.741658	109.7
8	JX73	L7	True	2500.00	2510.858769	100.4
9	JX74	L8	True	5000.00	5050.428162	101.0
10	JX75	L9	True	10000.00	9789.314721	97.9





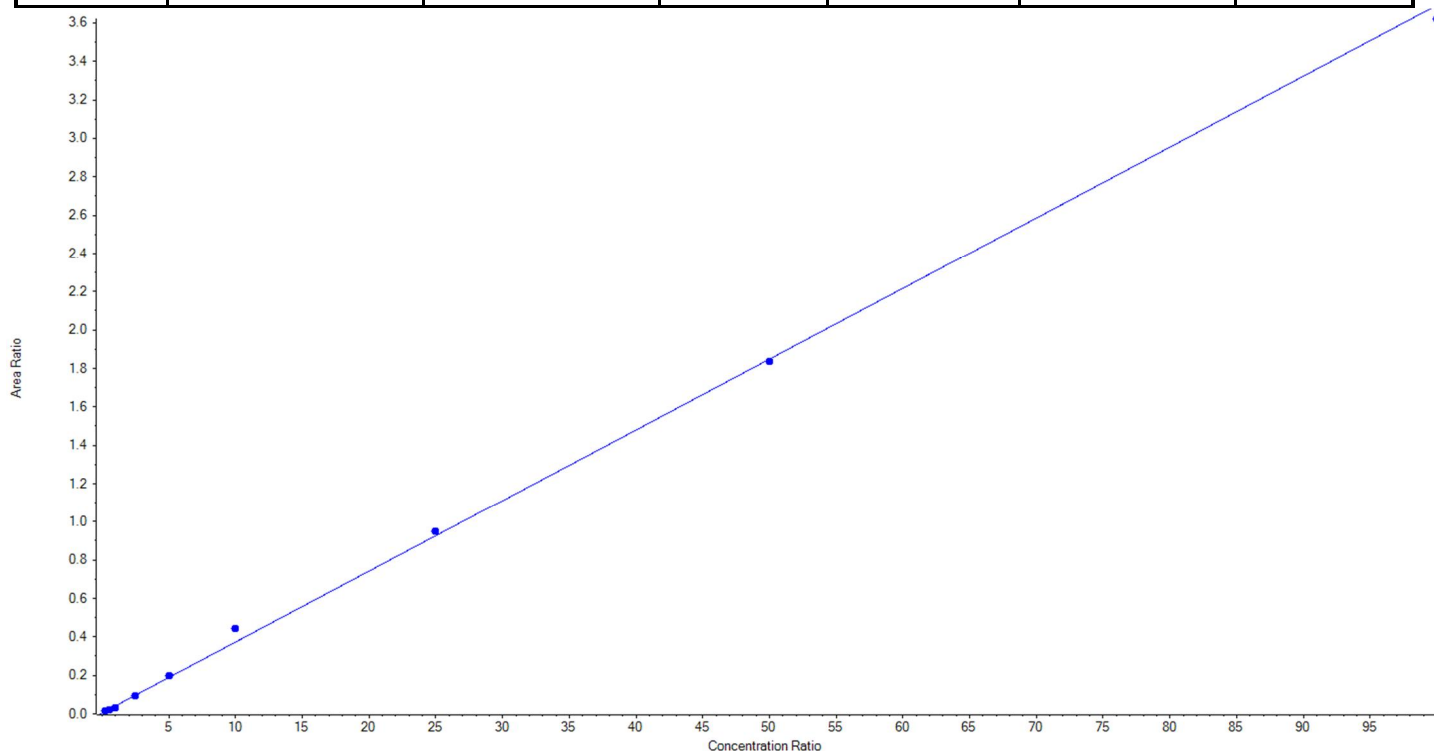
Calibration Summary Report

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Analyte Name	PFDA_2	Data File	07032018_5-0371.wiff
MRM Transition	513.0 / 219.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.03687x + 0.00474$ ($r = 0.99867$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	27.754301	111.0
3	JX68	L2	True	50.00	49.570496	99.1
4	JX69	L3	True	100.00	72.688978	72.7
5	JX70	L4	True	250.00	234.791248	93.9
6	JX71	L5	True	500.00	525.887334	105.2
7	JX72	L6	True	1000.00	1183.782780	118.4
8	JX73	L7	True	2500.00	2556.441014	102.3
9	JX74	L8	True	5000.00	4968.210316	99.4
10	JX75	L9	True	10000.00	9805.873534	98.1





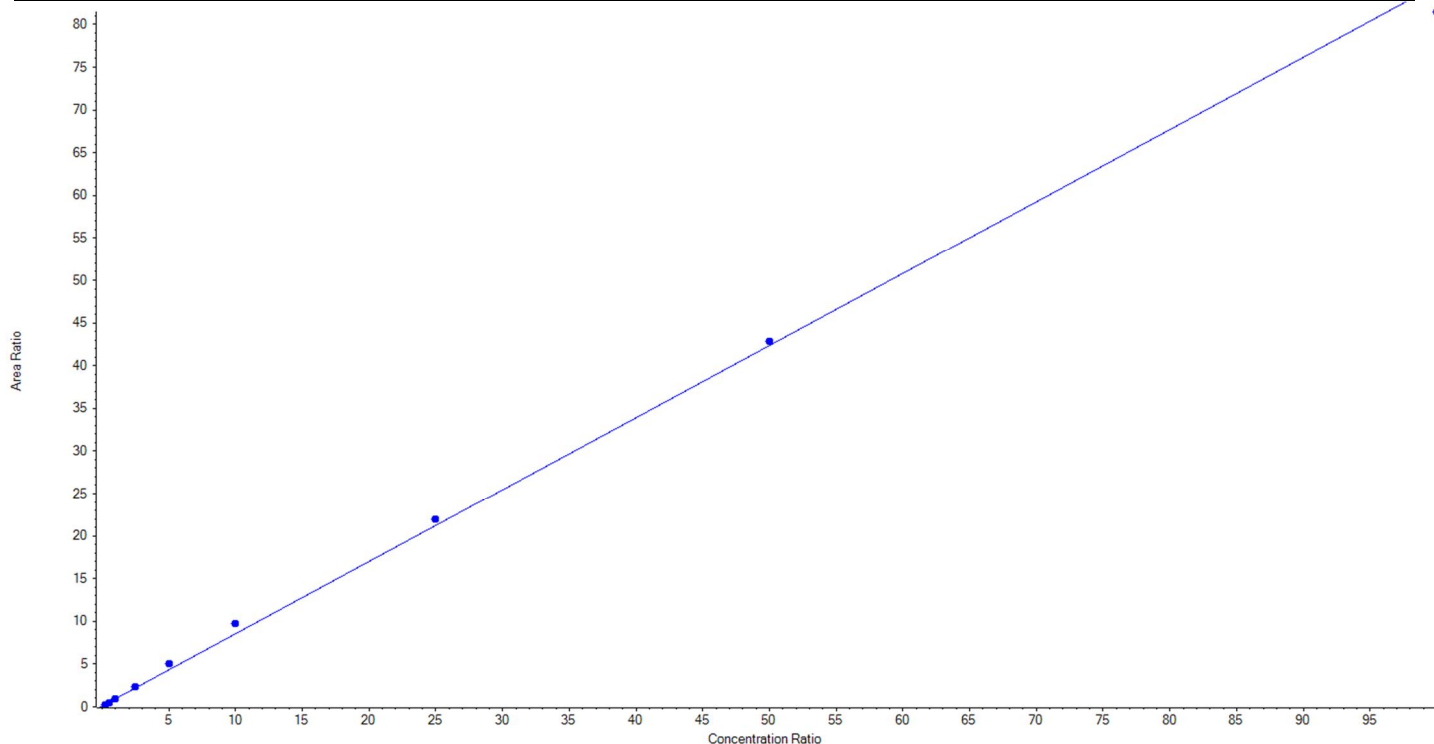
Calibration Summary Report

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Analyte Name	PFUnA_1	Data File	07032018_5-0371.wiff
MRM Transition	563.0 / 519.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.84509x + 0.10264$ ($r = 0.99848$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.687486	70.8
3	JX68	L2	True	50.00	43.751104	87.5
4	JX69	L3	True	100.00	104.544704	104.5
5	JX70	L4	True	250.00	261.766860	104.7
6	JX71	L5	True	500.00	589.639341	117.9
7	JX72	L6	True	1000.00	1135.794662	113.6
8	JX73	L7	True	2500.00	2590.937164	103.6
9	JX74	L8	True	5000.00	5054.279289	101.1
10	JX75	L9	True	10000.00	9626.599391	96.3





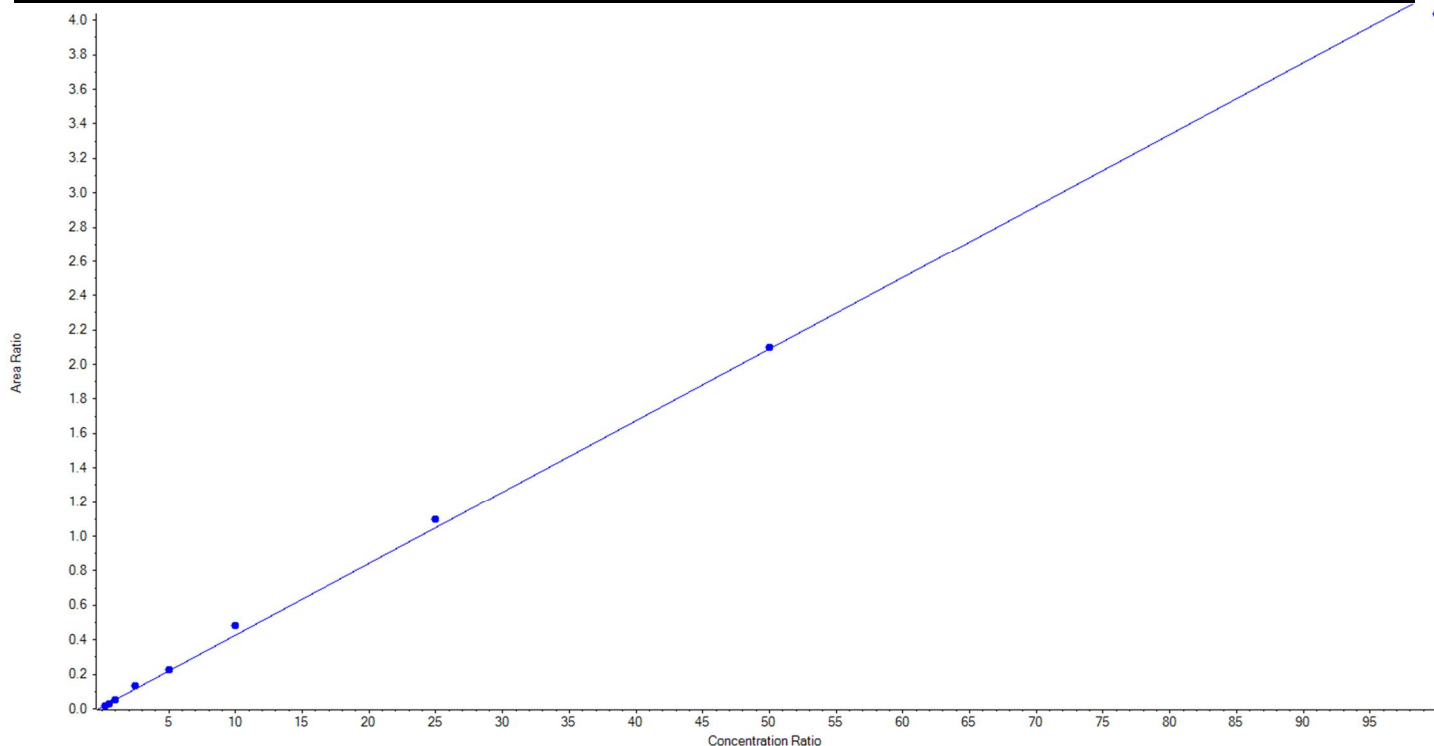
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Analyte Name	PFUnA_2	Data File	07032018_5-0371.wiff
MRM Transition	563.0 / 269.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04157x + 0.01156$ ($r = 0.99880$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.548120	74.2
3	JX68	L2	True	50.00	46.257419	92.5
4	JX69	L3	True	100.00	97.130141	97.1
5	JX70	L4	True	250.00	291.566044	116.6
6	JX71	L5	True	500.00	520.256771	104.1
7	JX72	L6	True	1000.00	1137.107009	113.7
8	JX73	L7	True	2500.00	2614.435537	104.6
9	JX74	L8	True	5000.00	5019.965874	100.4
10	JX75	L9	True	10000.00	9679.733084	96.8





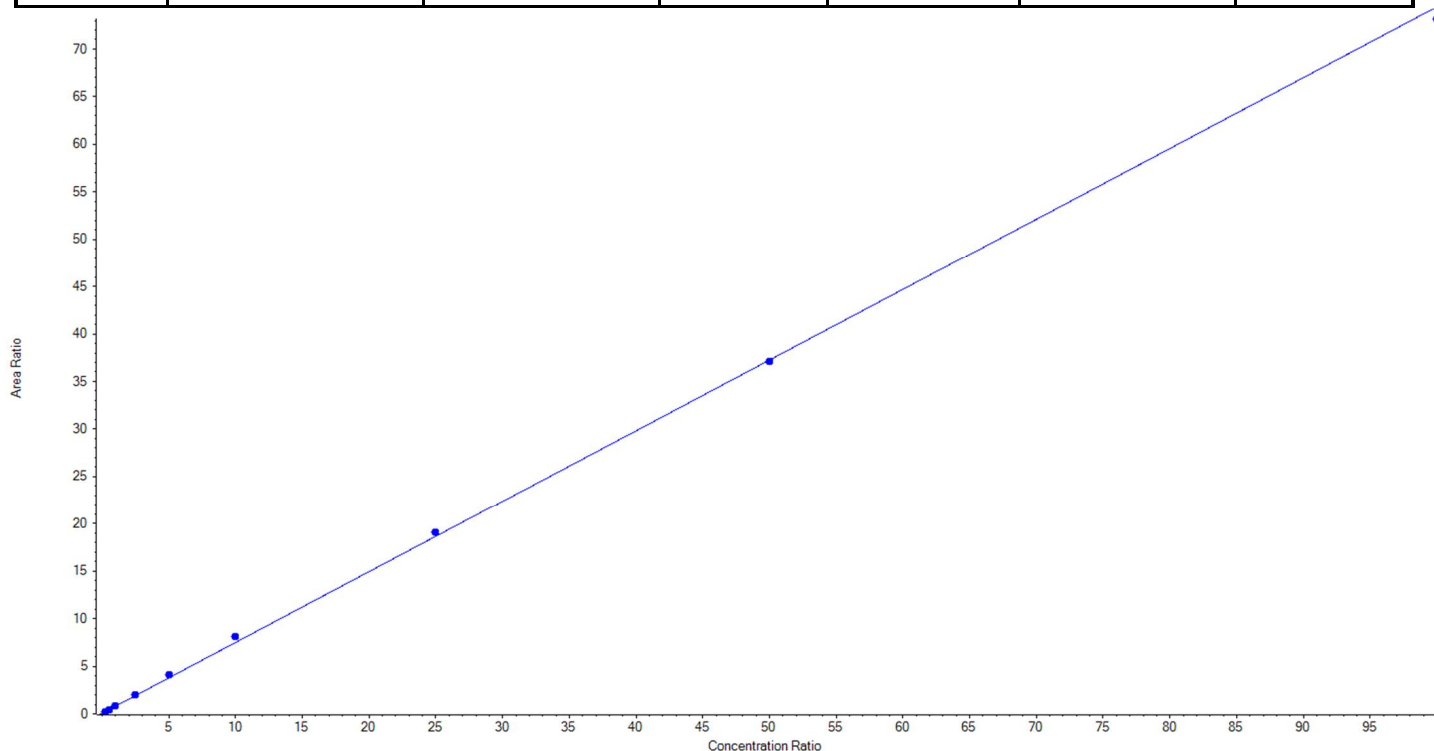
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Analyte Name	PFD _o A_1	Data File	07032018_5-0371.wiff
MRM Transition	613.0 / 569.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74368x + 0.06580$ ($r = 0.99953$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.565065	78.3
3	JX68	L2	True	50.00	49.202957	98.4
4	JX69	L3	True	100.00	100.350072	100.4
5	JX70	L4	True	250.00	265.391345	106.2
6	JX71	L5	True	500.00	540.382789	108.1
7	JX72	L6	True	1000.00	1086.563703	108.7
8	JX73	L7	True	2500.00	2555.438081	102.2
9	JX74	L8	True	5000.00	4979.570411	99.6
10	JX75	L9	True	10000.00	9828.535576	98.3





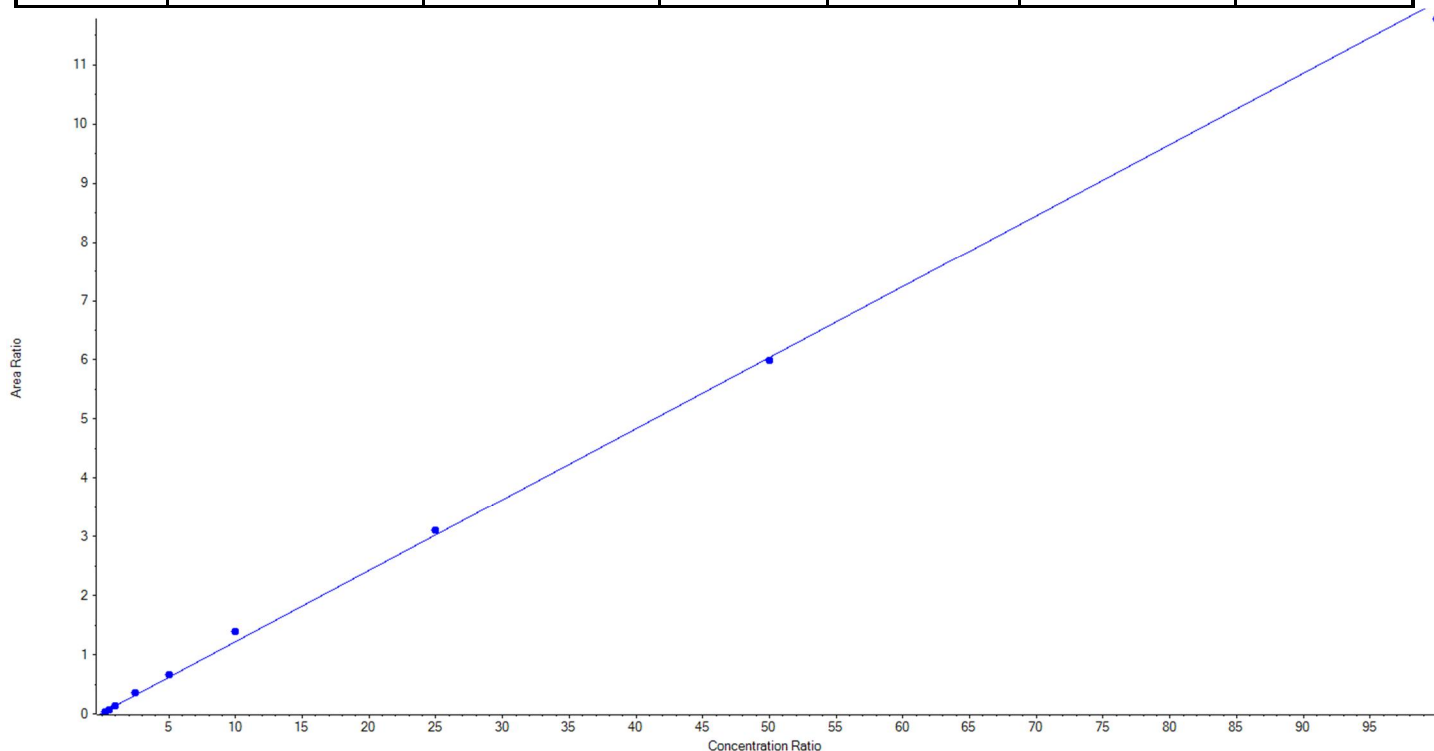
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Analyte Name	PFDaA_2	Data File	07032018_5-0371.wiff
MRM Transition	613.0 / 319.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.12049x + 0.01607$ ($r = 0.99899$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	17.924870	71.7
3	JX68	L2	True	50.00	45.899881	91.8
4	JX69	L3	True	100.00	103.284389	103.3
5	JX70	L4	True	250.00	277.333863	110.9
6	JX71	L5	True	500.00	541.645374	108.3
7	JX72	L6	True	1000.00	1142.641663	114.3
8	JX73	L7	True	2500.00	2569.218739	102.8
9	JX74	L8	True	5000.00	4965.032102	99.3
10	JX75	L9	True	10000.00	9762.019119	97.6





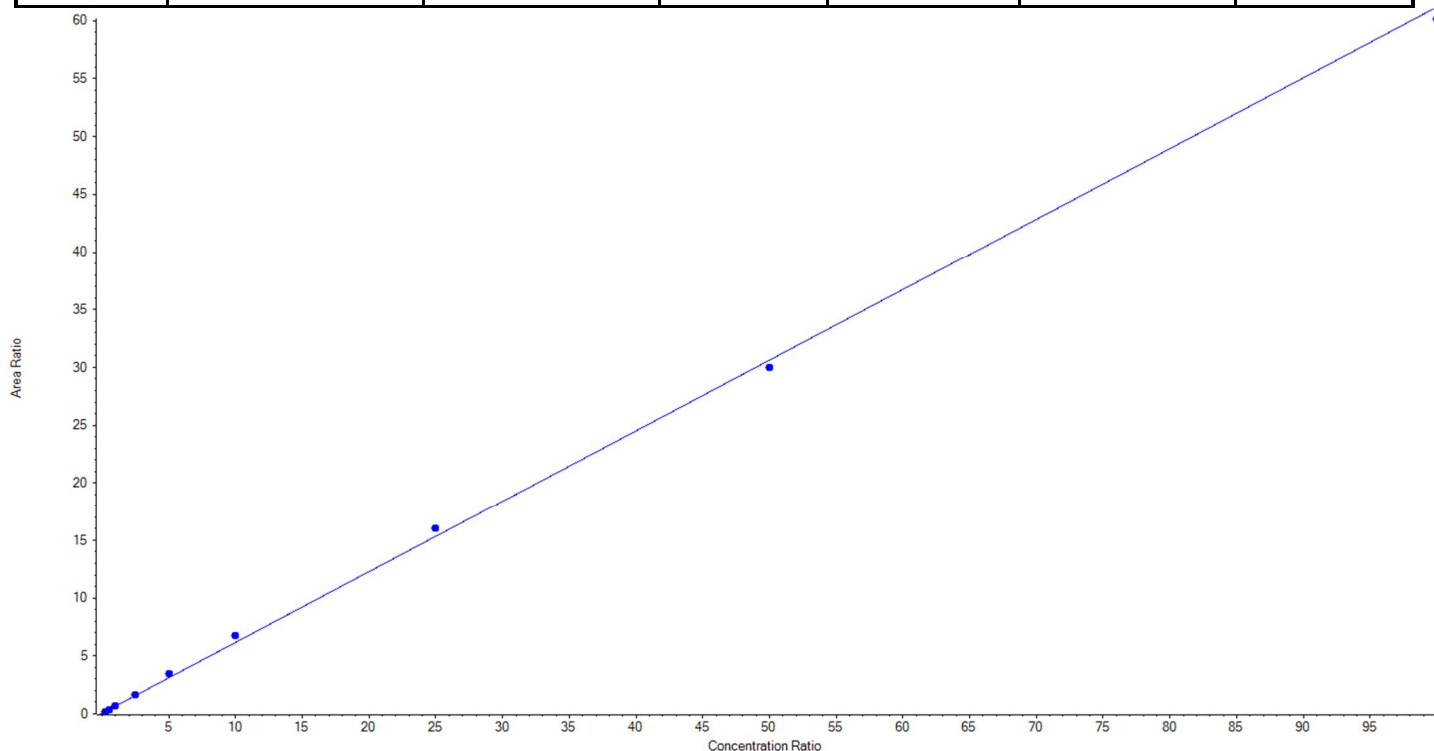
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Analyte Name	PFTTrDA_1	Data File	07032018_5-0371.wiff
MRM Transition	663.0 / 619.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.61126x + 0.06100$ ($r = 0.99928$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	20.004559	80.0
3	JX68	L2	True	50.00	44.721020	89.4
4	JX69	L3	True	100.00	105.568996	105.6
5	JX70	L4	True	250.00	261.015102	104.4
6	JX71	L5	True	500.00	551.802422	110.4
7	JX72	L6	True	1000.00	1091.763760	109.2
8	JX73	L7	True	2500.00	2616.880238	104.7
9	JX74	L8	True	5000.00	4902.017993	98.0
10	JX75	L9	True	10000.00	9831.225911	98.3





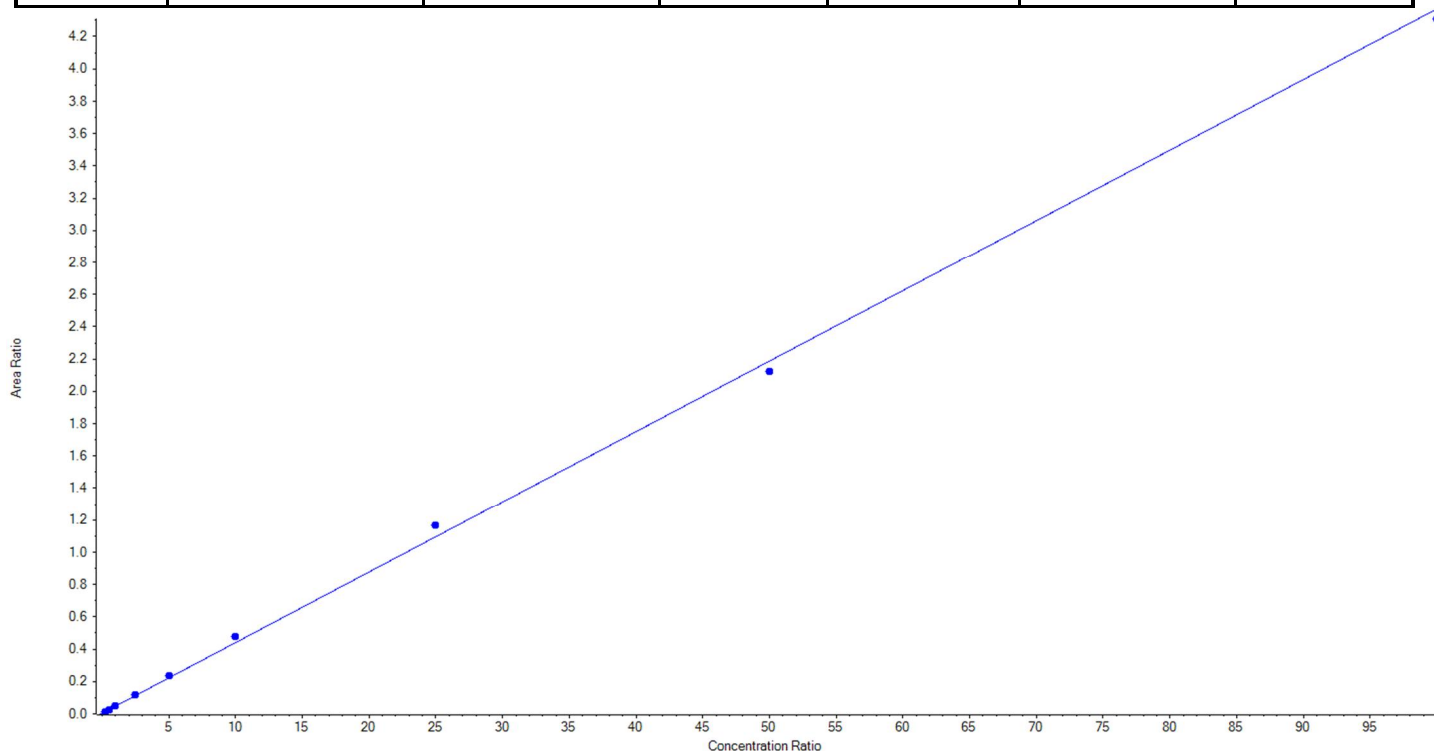
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Analyte Name	PFTTrDA_2	Data File	07032018_5-0371.wiff
MRM Transition	663.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04366x + 0.00423$ ($r = 0.99922$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.301091	73.2
3	JX68	L2	True	50.00	50.114132	100.2
4	JX69	L3	True	100.00	104.886431	104.9
5	JX70	L4	True	250.00	262.940554	105.2
6	JX71	L5	True	500.00	530.506778	106.1
7	JX72	L6	True	1000.00	1080.697381	108.1
8	JX73	L7	True	2500.00	2667.910720	106.7
9	JX74	L8	True	5000.00	4852.076904	97.0
10	JX75	L9	True	10000.00	9857.566010	98.6





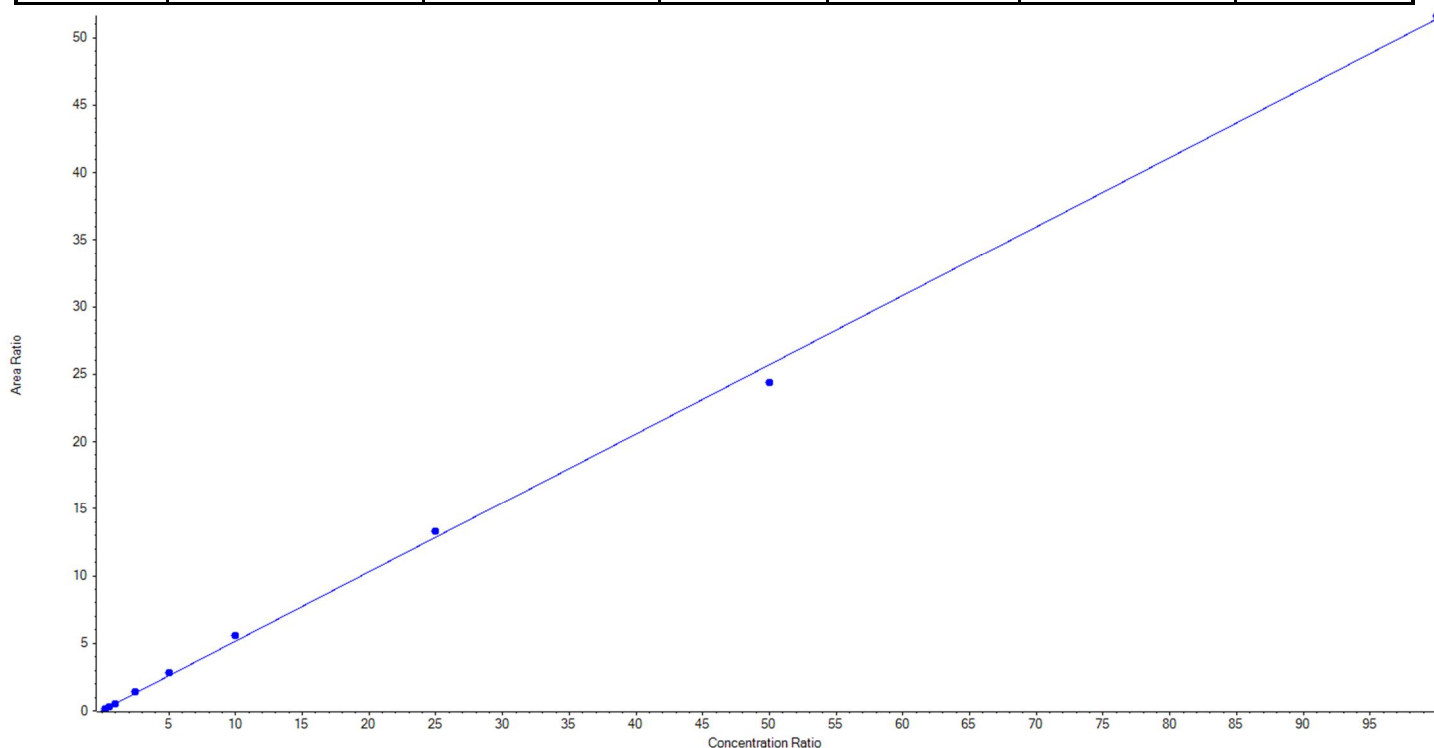
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Analyte Name	PFTeDA_1	Data File	07032018_5-0371.wiff
MRM Transition	713.0 / 669.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.51359x + 0.03231$ ($r = 0.99921$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.826692	87.3
3	JX68	L2	True	50.00	45.573571	91.2
4	JX69	L3	True	100.00	100.019332	100.0
5	JX70	L4	True	250.00	265.602258	106.2
6	JX71	L5	True	500.00	540.830859	108.2
7	JX72	L6	True	1000.00	1085.444497	108.5
8	JX73	L7	True	2500.00	2584.126579	103.4
9	JX74	L8	True	5000.00	4739.440475	94.8
10	JX75	L9	True	10000.00	10042.135736	100.4





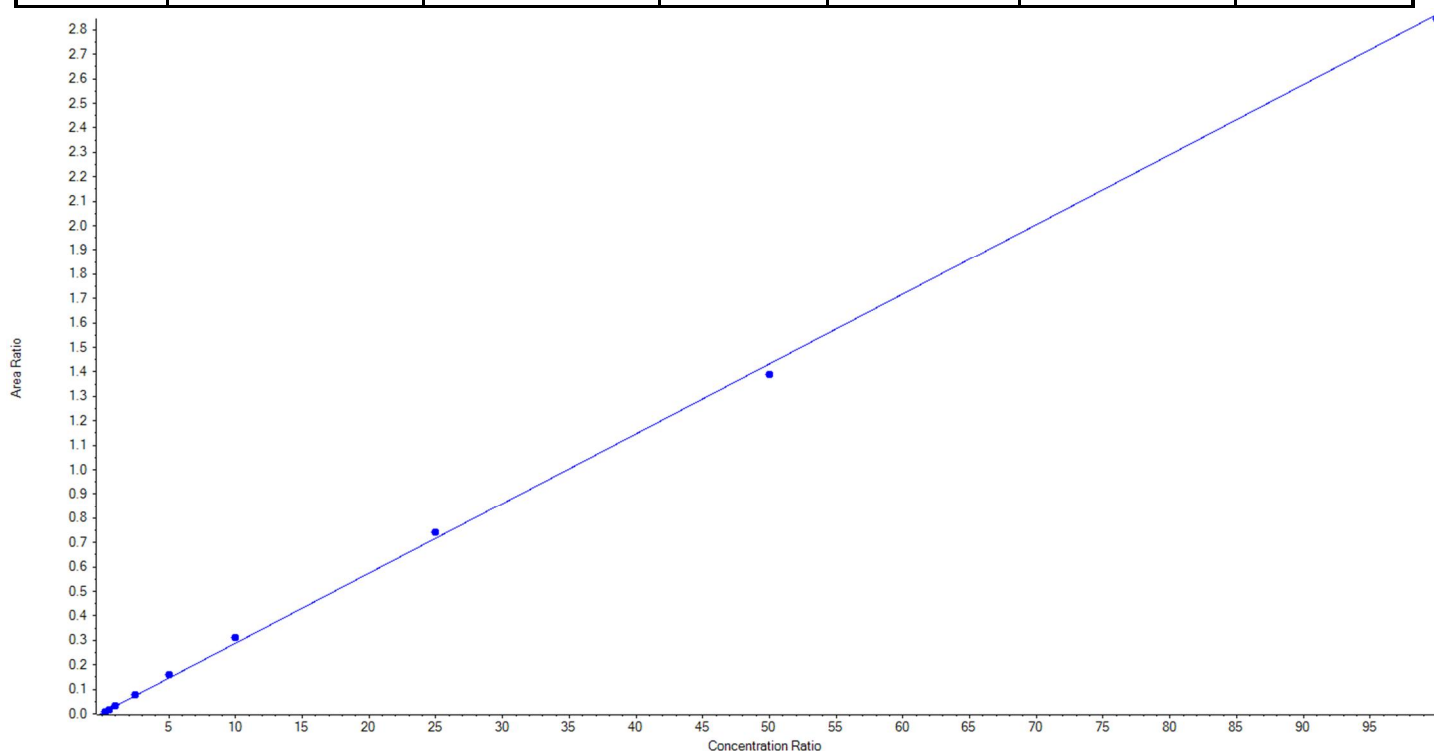
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Analyte Name	PFTeDA_2	Data File	07032018_5-0371.wiff
MRM Transition	713.0 / 169.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.02859x + 0.00271$ ($r = 0.99939$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.774312	75.1
3	JX68	L2	True	50.00	51.182568	102.4
4	JX69	L3	True	100.00	99.560809	99.6
5	JX70	L4	True	250.00	262.365354	105.0
6	JX71	L5	True	500.00	551.238107	110.3
7	JX72	L6	True	1000.00	1084.270173	108.4
8	JX73	L7	True	2500.00	2578.415032	103.1
9	JX74	L8	True	5000.00	4842.748976	96.9
10	JX75	L9	True	10000.00	9936.444669	99.4





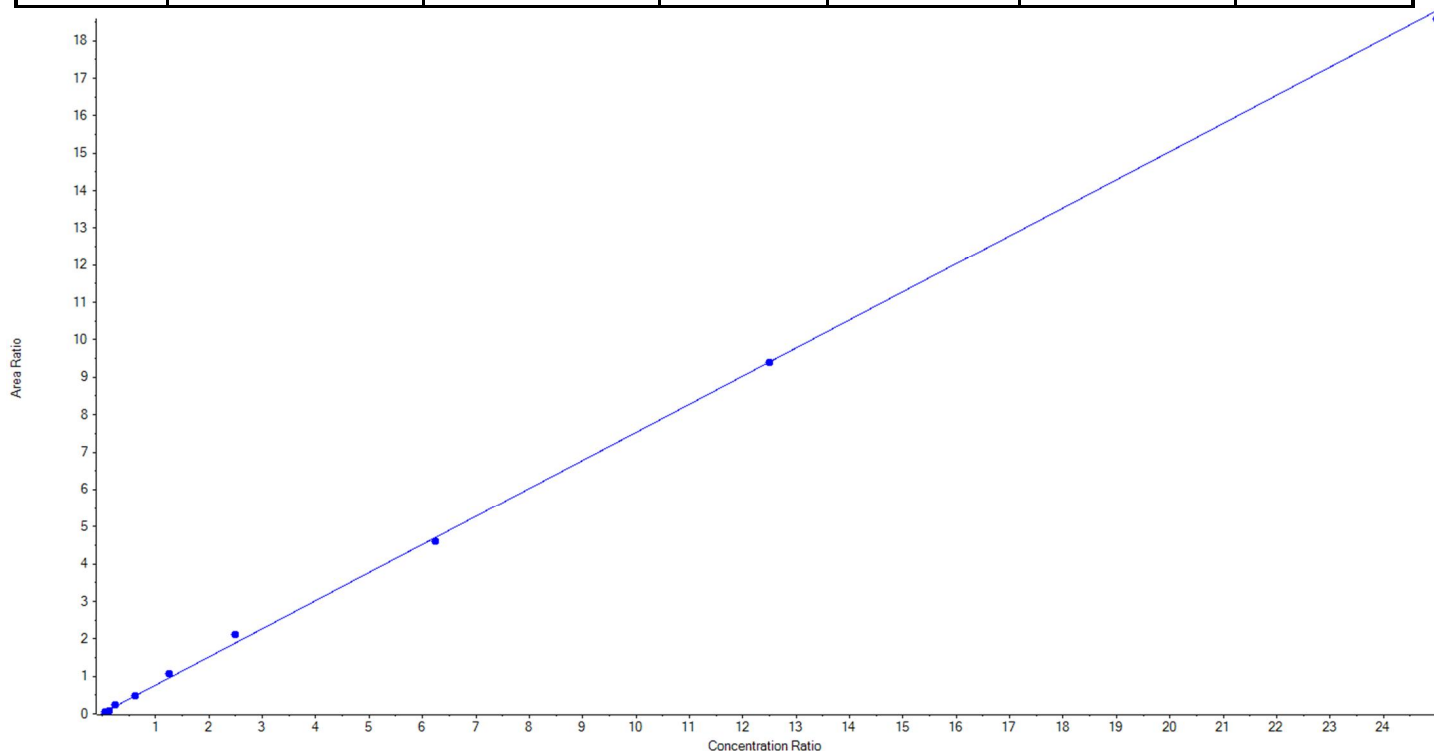
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Analyte Name	NMeFOSAA_1	Data File	07032018_5-0371.wiff
MRM Transition	570.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.75144x + 0.01445$ ($r = 0.99908$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	21.242779	85.0
3	JX68	L2	True	50.00	37.864410	75.7
4	JX69	L3	True	100.00	121.195386	121.2
5	JX70	L4	True	250.00	241.984085	96.8
6	JX71	L5	True	500.00	563.247797	112.7
7	JX72	L6	True	1000.00	1122.220851	112.2
8	JX73	L7	True	2500.00	2445.812515	97.8
9	JX74	L8	True	5000.00	4989.257664	99.8
10	JX75	L9	True	10000.00	9882.174514	98.8





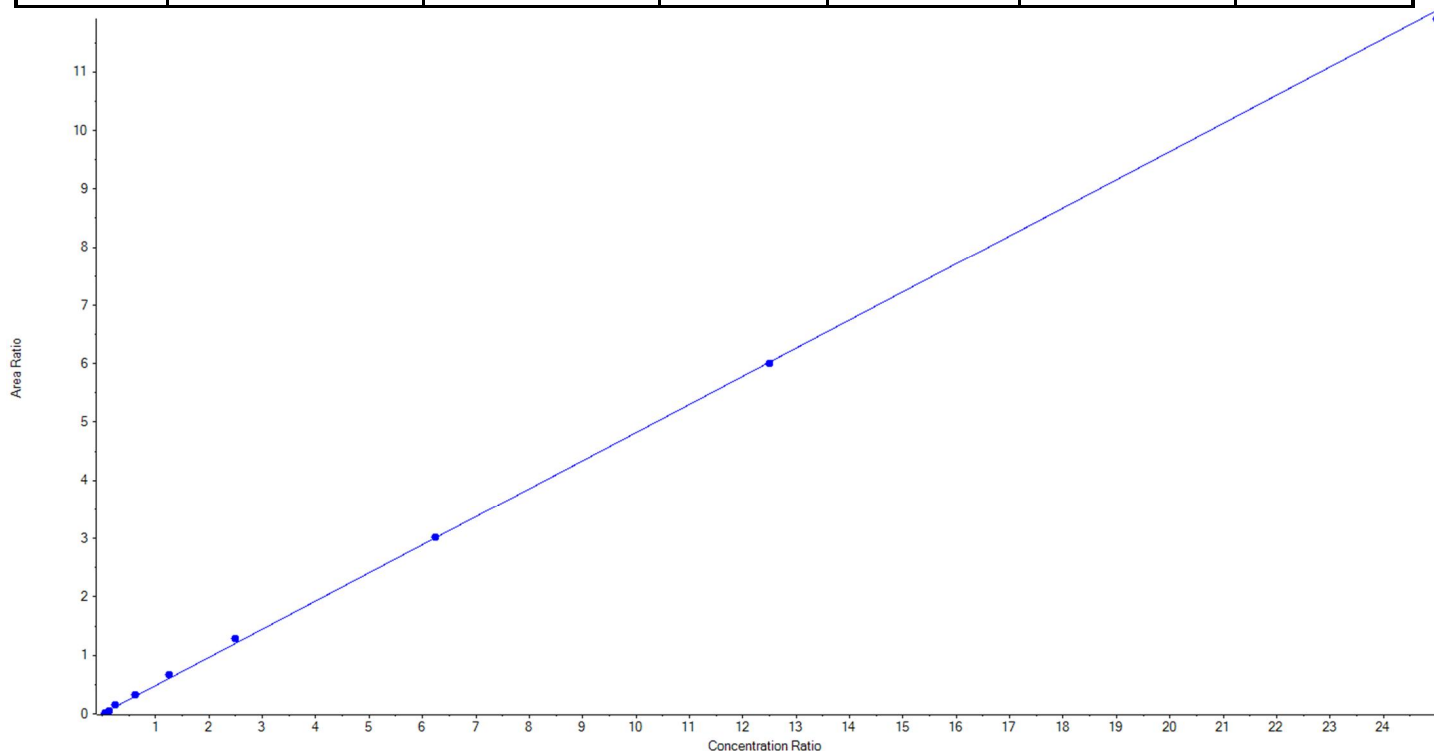
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Analyte Name	NMeFOSAA_2	Data File	07032018_5-0371.wiff
MRM Transition	570.0 / 512.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.48193x + 5.26215e-4$ ($r = 0.99941$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	19.274522	77.1
3	JX68	L2	True	50.00	39.129265	78.3
4	JX69	L3	True	100.00	122.730950	122.7
5	JX70	L4	True	250.00	264.451910	105.8
6	JX71	L5	True	500.00	558.370243	111.7
7	JX72	L6	True	1000.00	1060.318355	106.0
8	JX73	L7	True	2500.00	2500.506083	100.0
9	JX74	L8	True	5000.00	4980.335647	99.6
10	JX75	L9	True	10000.00	9879.883026	98.8





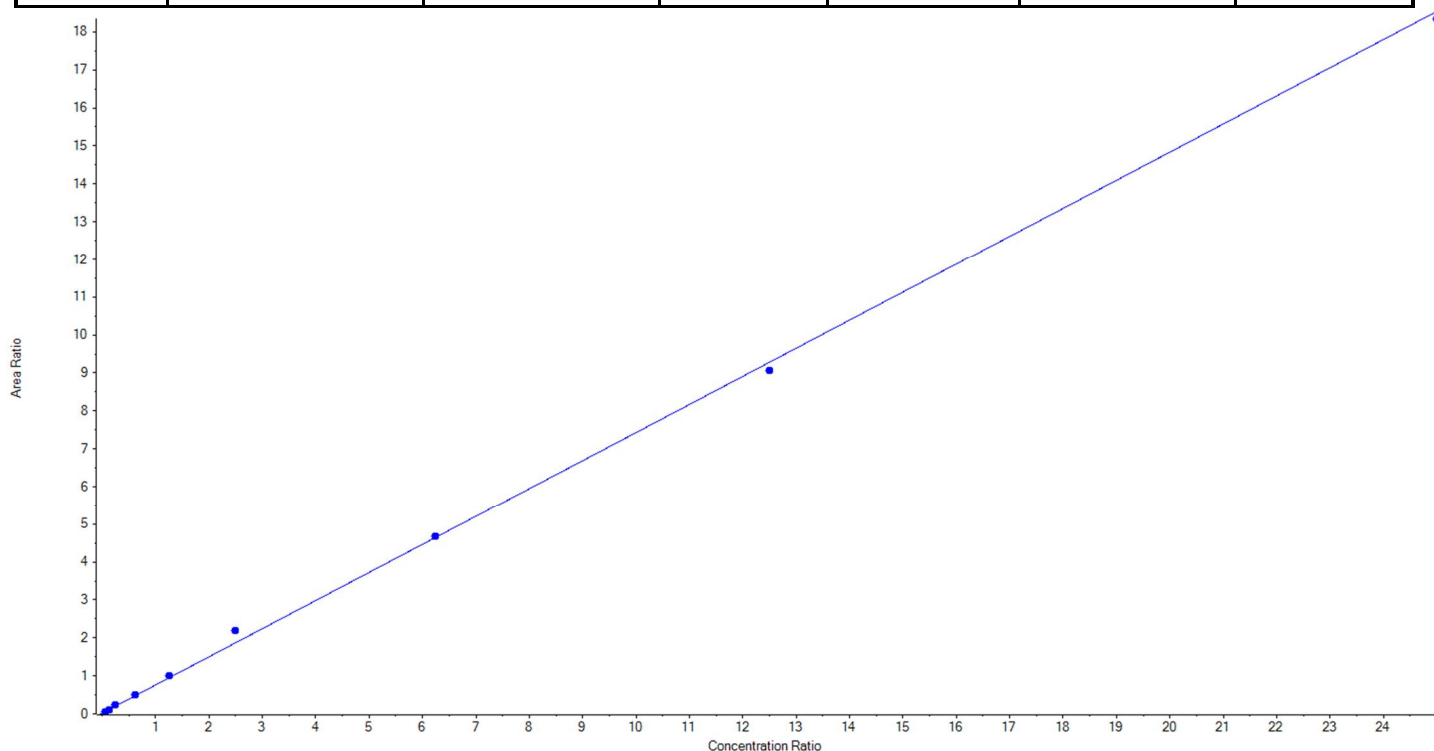
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Analyte Name	NEtFOSAA_1	Data File	07032018_5-0371.wiff
MRM Transition	584.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.74080x + 0.01972$ ($r = 0.99881$) (weighting: $1/x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	25.00	18.030119	72.1
3	JX68	L2	True	50.00	40.926887	81.9
4	JX69	L3	True	100.00	119.782658	119.8
5	JX70	L4	True	250.00	266.379026	106.6
6	JX71	L5	True	500.00	528.390912	105.7
7	JX72	L6	True	1000.00	1171.418171	117.1
8	JX73	L7	True	2500.00	2509.641043	100.4
9	JX74	L8	True	5000.00	4878.152696	97.6
10	JX75	L9	True	10000.00	9892.278487	98.9





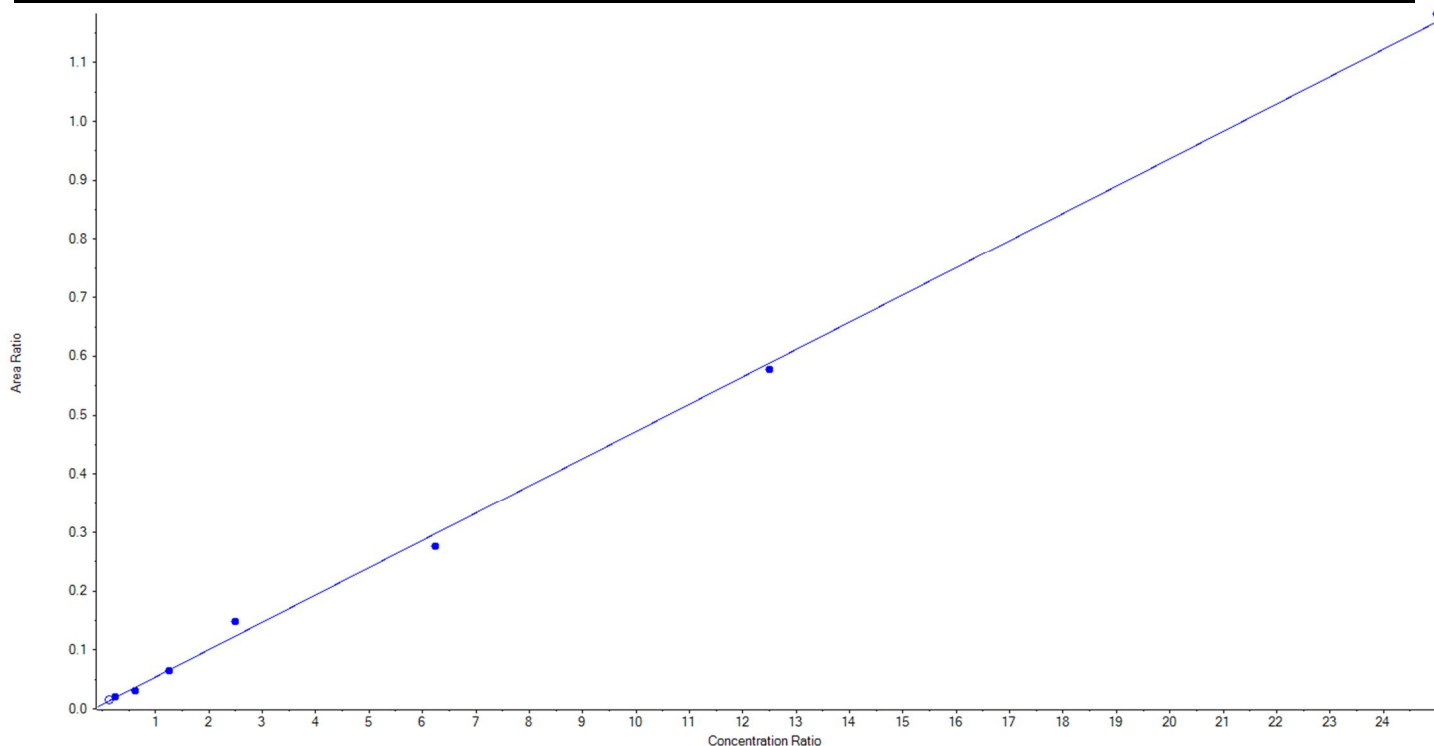
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Analyte Name	NEtFOSAA_2	Data File	07032018_5-0371.wiff
MRM Transition	584.0 / 483.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.04646 x + 0.00754$ ($r = 0.99775$) (weighting: $1 / x$)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	False	25.00	N/A	N/A
3	JX68	L2	False	50.00	63.492345	127.0
4	JX69	L3	True	100.00	109.915328	109.9
5	JX70	L4	True	250.00	198.472491	79.4
6	JX71	L5	True	500.00	486.200743	97.2
7	JX72	L6	True	1000.00	1215.028952	121.5
8	JX73	L7	True	2500.00	2314.741428	92.6
9	JX74	L8	True	5000.00	4910.656437	98.2
10	JX75	L9	True	10000.00	10114.984621	101.2





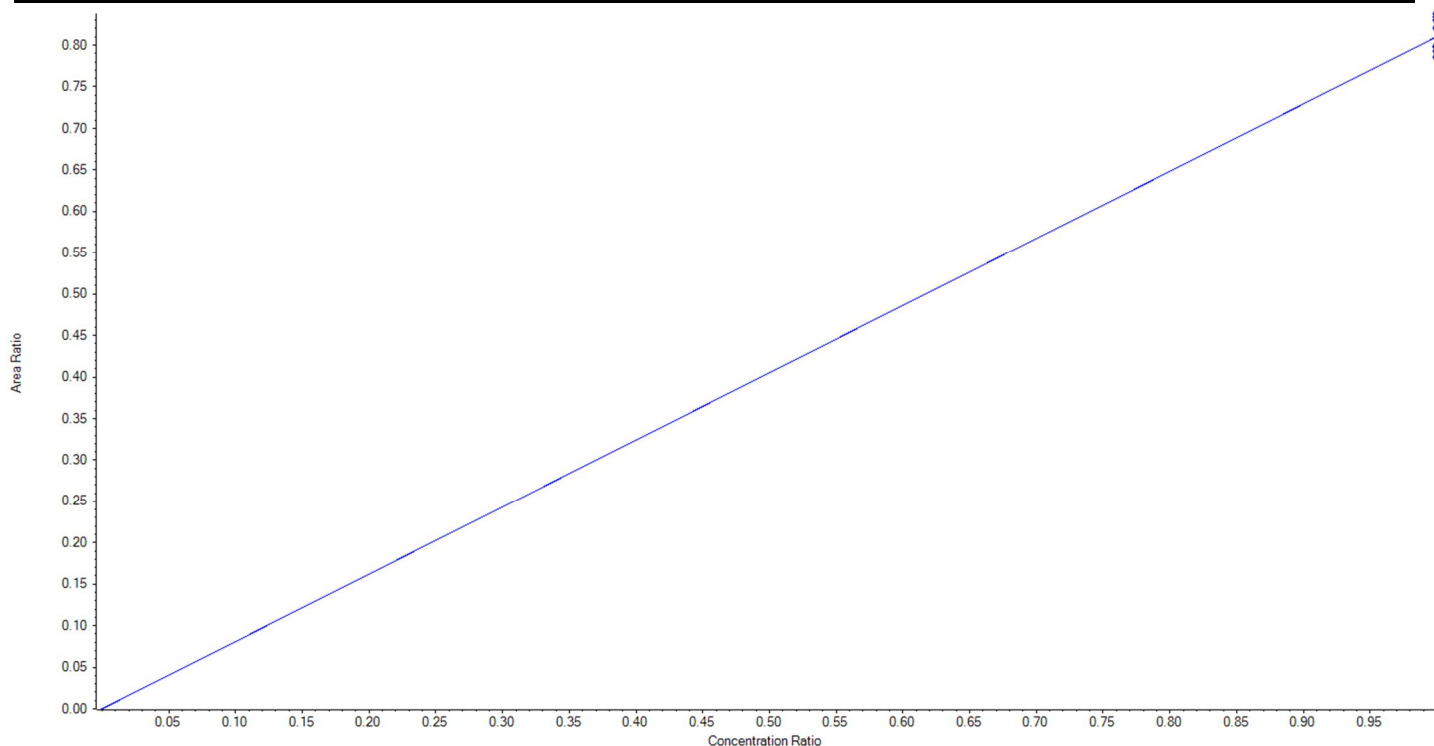
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Analyte Name	13C2-PFHxA	Data File	07032018_5-0371.wiff
MRM Transition	315.0 / 270.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 0.81031 x$ (std. dev. = 0.01996) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	98.532640	98.5
3	JX68	L2	True	100.00	98.382487	98.4
4	JX69	L3	True	100.00	98.365048	98.4
5	JX70	L4	True	100.00	96.927288	96.9
6	JX71	L5	True	100.00	102.849459	102.9
7	JX72	L6	True	100.00	102.517521	102.5
8	JX73	L7	True	100.00	103.346932	103.4
9	JX74	L8	True	100.00	101.209894	101.2
10	JX75	L9	True	100.00	97.868730	97.9





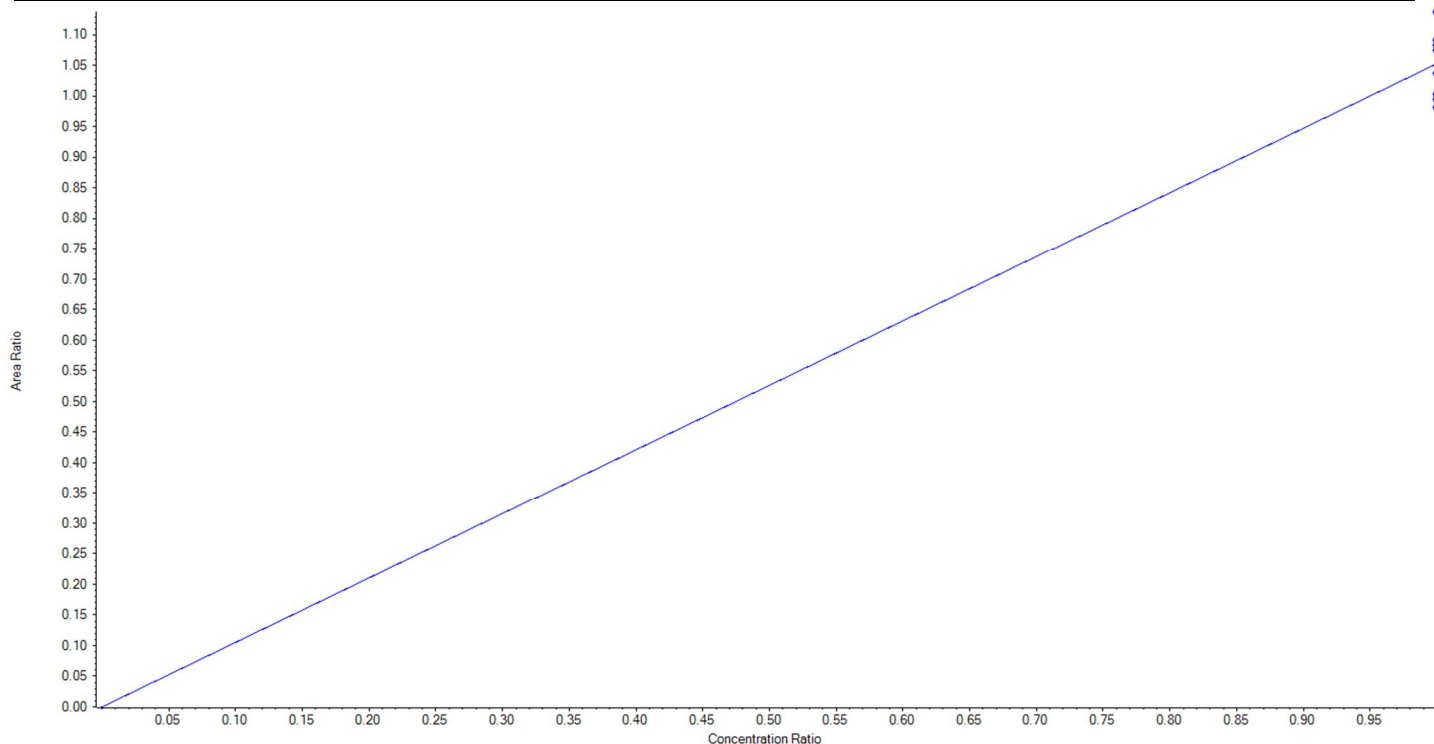
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	13C2-PFDA	Data File	07032018_5-0371.wiff
MRM Transition	515.0 / 470.0	Result Table	18-0400A_DW
Internal Standard	13C2-PFOA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.05296 x$ (std. dev. = 0.05206) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	100.00	93.243494	93.2
3	JX68	L2	True	100.00	95.200736	95.2
4	JX69	L3	True	100.00	94.438285	94.4
5	JX70	L4	True	100.00	98.546817	98.6
6	JX71	L5	True	100.00	103.615029	103.6
7	JX72	L6	True	100.00	102.822498	102.8
8	JX73	L7	True	100.00	108.021359	108.0
9	JX74	L8	True	100.00	102.064564	102.1
10	JX75	L9	True	100.00	102.047219	102.1





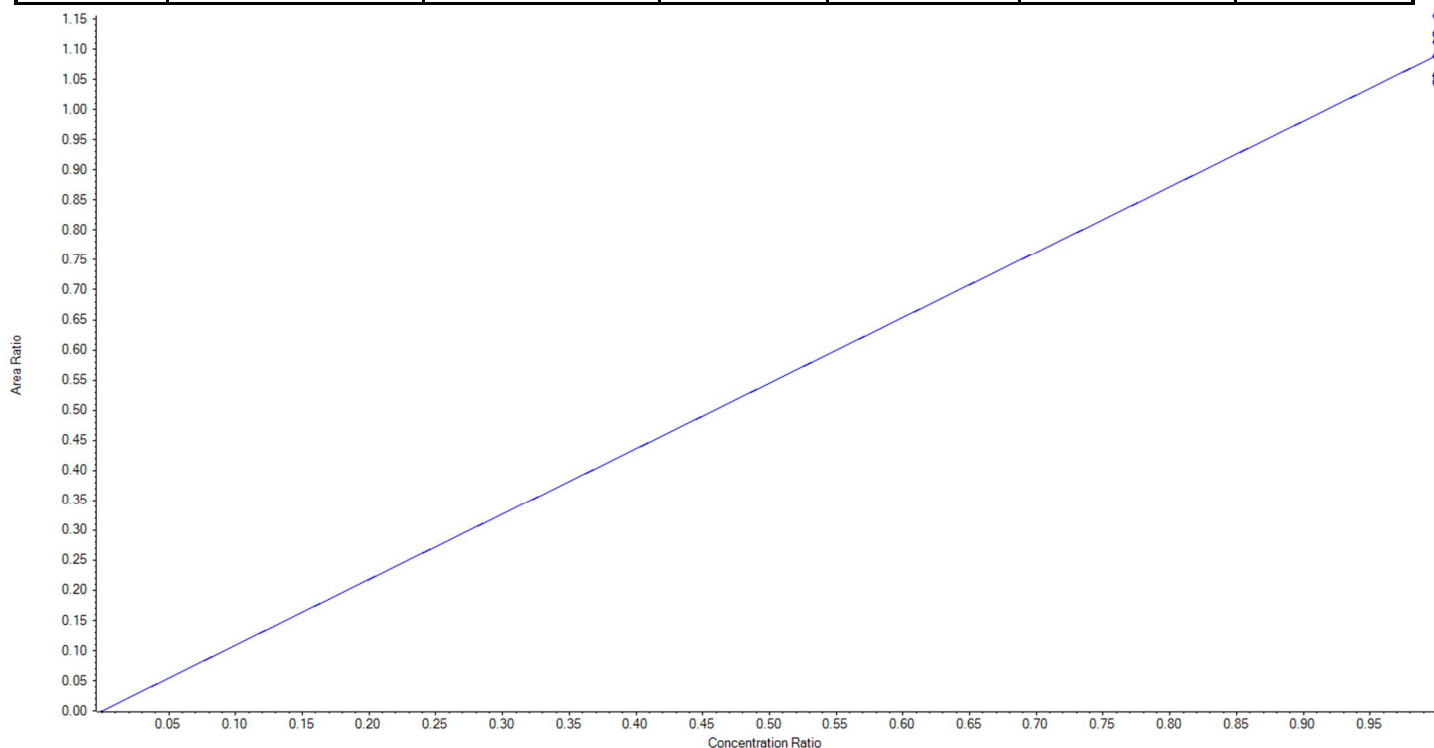
Calibration Summary Report

Created with Analyst Reporter
Printed: 06/07/2018 3:59:41 PM

Analyte Name	d5-EtFOSAA	Data File	07032018_5-0371.wiff
MRM Transition	589.0 / 419.0	Result Table	18-0400A_DW
Internal Standard	d3-MeFOSAA	Instrument Name	QTRAP 5500
Acquisition Date	7/3/2018 3:48:03 PM	Acquisition Method	5-0371.dam

Regression Equation: $y = 1.08994 x$ (std. dev. = 0.04104) (weighting: 1 / x)

Vial	Sample Name	Sample ID	Used for ICAL	Target Conc. (ng/L)	Calculated Conc. (ng/L)	Recovery (%)
2	JX67	L1	True	400.00	408.078198	102.0
3	JX68	L2	True	400.00	387.157877	96.8
4	JX69	L3	True	400.00	413.614992	103.4
5	JX70	L4	True	400.00	399.315291	99.8
6	JX71	L5	True	400.00	388.103778	97.0
7	JX72	L6	True	400.00	423.973567	106.0
8	JX73	L7	True	400.00	384.282664	96.1
9	JX74	L8	True	400.00	383.153165	95.8
10	JX75	L9	True	400.00	412.320469	103.1



[illegible]

Sample Name	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:35:13	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.53	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.450	0.348	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.090	0.074	ü
PFHpA_1	363.0 / 319.0	2.20	PFHpA			
PFHpA_2	363.0 / 169.0	2.20	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.21	PFHxS	0.310	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.120	0.081	ü
PFNA_1	463.0 / 419.0	2.96	PFNA			
PFNA_2	463.0 / 219.0	2.96	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.95	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.220	0.189	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.060	0.048	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.93	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.19	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.19	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.41	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.33	NMeFOSAA	0.130	0.595	
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.62	NEtFOSAA	0.170	0.085	
13C2-PFHxA	315.0 / 270.0	1.81				
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	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:44:07	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.390	0.348	ü
PFHxA_1	313.0 / 269.0	1.82	PFHxA			
PFHxA_2	313.0 / 119.0	1.82	PFHxA	0.080	0.074	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.21	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.310	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.95	PFOS	0.180	0.189	ü
PFDA_1	513.0 / 469.0	3.31	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.64	PFUnA			
PFUnA_2	563.0 / 269.0	3.64	PFUnA	0.040	0.048	ü
PFDaA_1	613.0 / 569.0	3.93	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.18	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.18	PFTTrDA	0.060	0.070	ü
PFTeDA_1	713.0 / 669.0	4.41	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	PFTeDA	0.060	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.770	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.63	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.090	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.81				
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	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T09:53:02	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.400	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.19	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.040	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.260	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.160	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.31	PFDA	0.050	0.042	ü
PFUnA_1	563.0 / 519.0	3.63	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.92	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.180	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.17	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.17	PFTTrDA	0.080	0.070	ü
PFTeDA_1	713.0 / 669.0	4.40	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.40	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.46	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.46	NMeFOSAA	0.670	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.090	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:01:57	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.19	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.300	0.294	ü
PFOA_1	413.0 / 369.0	2.57	PFOA			
PFOA_2	413.0 / 169.0	2.57	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.95	PFNA	0.280	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.200	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.63	PFUnA			
PFUnA_2	563.0 / 269.0	3.63	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.92	PFDaA			
PFDaA_2	613.0 / 319.0	3.92	PFDaA	0.150	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.17	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.17	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.630	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.62	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.080	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:10:53	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.080	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.95	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.30	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.91	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.39	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.39	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.45	NMeFOSAA	0.600	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:19:49	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.30	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.91	PFDaA			
PFDaA_2	613.0 / 319.0	3.91	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.45	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.640	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
13C2-PFDA	515.0 / 470.0	3.29		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.60		N/A	N/A	ü

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:28:45	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.300	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.070	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.16	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.38	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.650	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:37:42	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.52	PFBS			
PFBS_2	298.9 / 99.0	1.52	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.81	PFHxA			
PFHxA_2	313.0 / 119.0	1.81	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.18	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.94	PFOS			
PFOS_2	499.0 / 99.0	2.94	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.62	PFUnA			
PFUnA_2	563.0 / 269.0	3.62	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.16	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.38	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.620	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.80				
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

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:46:37	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.320	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.300	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	N/A	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	N/A	0.162	
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.640	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX67	Injection Vial	2
Sample ID	L1	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T15:56:59	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.349	0.323	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.066	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.352	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.115	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.313	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.188	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.061	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.076	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.178	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.067	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.437	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	N/A	NEtFOSAA	N/A	0.066	
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX68	Injection Vial	3
Sample ID	L2	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:05:55	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.337	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.091	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.039	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.299	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.093	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.291	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.189	0.189	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.055	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.065	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.165	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.078	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.065	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.557	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.156	0.066	
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX69	Injection Vial	4
Sample ID	L3	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:14:50	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.334	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.083	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.031	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.272	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.073	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.287	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.179	0.189	ü
PFDA_1	513.0 / 469.0	3.26	PFDA			
PFDA_2	513.0 / 219.0	3.26	PFDA	0.035	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.053	0.055	ü
PFDaA_1	613.0 / 569.0	3.86	PFDaA			
PFDaA_2	613.0 / 319.0	3.86	PFDaA	0.173	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.11	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.11	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.41	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.41	NMeFOSAA	0.613	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.57	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.57	NEtFOSAA	0.084	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.56		N/A	N/A	ü

Sample Name	JX70	Injection Vial	5
Sample ID	L4	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:23:46	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.320	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.066	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.030	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.297	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.088	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.292	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.193	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.040	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.057	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.172	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.680	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.060	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX71	Injection Vial	6
Sample ID	L5	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:32:42	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.314	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.071	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.295	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.073	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.286	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.199	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.043	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.045	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.164	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.069	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.32	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.628	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.064	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX72	Injection Vial	7
Sample ID	L6	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:41:38	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.313	0.323	ü
PFHxA_1	313.0 / 269.0	1.79	PFHxA			
PFHxA_2	313.0 / 119.0	1.79	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.16	PFHpA			
PFHpA_2	363.0 / 169.0	2.16	PFHpA	0.027	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.293	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.075	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.296	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.91	PFOS	0.185	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.048	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.171	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.602	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.068	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.78				
13C2-PFDA	515.0 / 470.0	3.25		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX73	Injection Vial	8
Sample ID	L7	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:50:33	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.311	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.072	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.17	PFHxS	0.282	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.53	PFOA	0.079	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.293	0.291	ü
PFOS_1	499.0 / 80.0	2.91	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.187	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.045	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.163	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.073	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.654	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.059	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX74	Injection Vial	9
Sample ID	L8	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T16:59:28	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.311	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.17	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.293	0.297	ü
PFOA_1	413.0 / 369.0	2.53	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.080	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.91	PFNA	0.294	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.201	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.57	PFUnA	0.049	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.85	PFDaA	0.162	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.10	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.10	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.32	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.31	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.40	NMeFOSAA	0.639	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.56	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.56	NEtFOSAA	0.064	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX75	Injection Vial	10
Sample ID	L9	Injection Volume	10.00
Sample Type	Standard	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:08:24	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.316	0.323	ü
PFHxA_1	313.0 / 269.0	1.77	PFHxA			
PFHxA_2	313.0 / 119.0	1.77	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.14	PFHpA			
PFHpA_2	363.0 / 169.0	2.14	PFHpA	0.023	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.289	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.077	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.293	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.183	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.56	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.85	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.161	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.055	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.39	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.641	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.065	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.23		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.54		N/A	N/A	ü

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.030	0.026	ü
PFHxS_1	399.0 / 80.0	2.20	PFHxS			
PFHxS_2	399.0 / 99.0	2.20	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.56	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.220	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.040	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.90	PFDaA	0.170	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.15	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.15	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.37	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.44	NMeFOSAA	0.540	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.61	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.61	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.17	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.280	0.294	ü
PFOA_1	413.0 / 369.0	2.55	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.93	PFNA			
PFNA_2	463.0 / 219.0	2.93	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.050	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.90	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.37	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.43	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.670	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.59	NEtFOSAA	0.070	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.51	PFBS			
PFBS_2	298.9 / 99.0	1.51	PFBS	0.310	0.348	ü
PFHxA_1	313.0 / 269.0	1.80	PFHxA			
PFHxA_2	313.0 / 119.0	1.80	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.18	PFHpA			
PFHpA_2	363.0 / 169.0	2.17	PFHpA	0.020	0.026	ü
PFHxS_1	399.0 / 80.0	2.19	PFHxS			
PFHxS_2	399.0 / 99.0	2.19	PFHxS	0.290	0.294	ü
PFOA_1	413.0 / 369.0	2.56	PFOA			
PFOA_2	413.0 / 169.0	2.55	PFOA	0.080	0.081	ü
PFNA_1	463.0 / 419.0	2.94	PFNA			
PFNA_2	463.0 / 219.0	2.94	PFNA	0.290	0.291	ü
PFOS_1	499.0 / 80.0	2.93	PFOS			
PFOS_2	499.0 / 99.0	2.93	PFOS	0.190	0.189	ü
PFDA_1	513.0 / 469.0	3.29	PFDA			
PFDA_2	513.0 / 219.0	3.29	PFDA	0.040	0.042	ü
PFUnA_1	563.0 / 519.0	3.61	PFUnA			
PFUnA_2	563.0 / 269.0	3.61	PFUnA	0.050	0.048	ü
PFDaA_1	613.0 / 569.0	3.89	PFDaA			
PFDaA_2	613.0 / 319.0	3.89	PFDaA	0.160	0.162	ü
PFTTrDA_1	663.0 / 619.0	4.14	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.14	PFTTrDA	0.070	0.070	ü
PFTeDA_1	713.0 / 669.0	4.36	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.36	PFTeDA	0.050	0.054	ü
NMeFOSAA_1	570.0 / 419.0	3.44	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.43	NMeFOSAA	0.620	0.595	ü
NEtFOSAA_1	584.0 / 419.0	3.60	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.60	NEtFOSAA	0.060	0.085	ü
13C2-PFHxA	315.0 / 270.0	1.79				
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	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.49	PFBS			
PFBS_2	298.9 / 99.0	1.49	PFBS	0.317	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.069	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.026	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.289	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.081	0.084	ü
PFNA_1	463.0 / 419.0	2.91	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.289	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.212	0.189	ü
PFDA_1	513.0 / 469.0	3.25	PFDA			
PFDA_2	513.0 / 219.0	3.25	PFDA	0.044	0.046	ü
PFUnA_1	563.0 / 519.0	3.57	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.050	0.055	ü
PFDaA_1	613.0 / 569.0	3.84	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.162	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.072	0.071	ü
PFTeDA_1	713.0 / 669.0	4.31	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.056	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.40	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.580	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.043	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.24		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.55		N/A	N/A	ü

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Ratio Group	Calculated Ion ratio	Expected Ion Ratio	Ratio OK
PFBS_1	298.9 / 80.0	1.50	PFBS			
PFBS_2	298.9 / 99.0	1.50	PFBS	0.317	0.323	ü
PFHxA_1	313.0 / 269.0	1.78	PFHxA			
PFHxA_2	313.0 / 119.0	1.78	PFHxA	0.070	0.074	ü
PFHpA_1	363.0 / 319.0	2.15	PFHpA			
PFHpA_2	363.0 / 169.0	2.15	PFHpA	0.025	0.029	ü
PFHxS_1	399.0 / 80.0	2.16	PFHxS			
PFHxS_2	399.0 / 99.0	2.16	PFHxS	0.277	0.297	ü
PFOA_1	413.0 / 369.0	2.52	PFOA			
PFOA_2	413.0 / 169.0	2.52	PFOA	0.082	0.084	ü
PFNA_1	463.0 / 419.0	2.90	PFNA			
PFNA_2	463.0 / 219.0	2.90	PFNA	0.292	0.291	ü
PFOS_1	499.0 / 80.0	2.90	PFOS			
PFOS_2	499.0 / 99.0	2.90	PFOS	0.194	0.189	ü
PFDA_1	513.0 / 469.0	3.24	PFDA			
PFDA_2	513.0 / 219.0	3.24	PFDA	0.045	0.046	ü
PFUnA_1	563.0 / 519.0	3.56	PFUnA			
PFUnA_2	563.0 / 269.0	3.56	PFUnA	0.049	0.055	ü
PFDaA_1	613.0 / 569.0	3.84	PFDaA			
PFDaA_2	613.0 / 319.0	3.84	PFDaA	0.160	0.168	ü
PFTTrDA_1	663.0 / 619.0	4.09	PFTTrDA			
PFTTrDA_2	663.0 / 169.0	4.09	PFTTrDA	0.071	0.071	ü
PFTeDA_1	713.0 / 669.0	4.30	PFTeDA			
PFTeDA_2	713.0 / 169.0	4.30	PFTeDA	0.057	0.057	ü
NMeFOSAA_1	570.0 / 419.0	3.39	NMeFOSAA			
NMeFOSAA_2	570.0 / 512.0	3.39	NMeFOSAA	0.612	0.606	ü
NEtFOSAA_1	584.0 / 419.0	3.55	NEtFOSAA			
NEtFOSAA_2	584.0 / 483.0	3.55	NEtFOSAA	0.058	0.066	ü
13C2-PFHxA	315.0 / 270.0	1.77				
13C2-PFDA	515.0 / 470.0	3.23		N/A	N/A	ü
d5-EtFOSAA	589.0 / 419.0	3.54		N/A	N/A	ü

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T10:55:35	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	793.574603	885.00	89.67
PFBS_2	298.9 / 99.0	1.51	769.642119	885.00	86.97
PFHxA_1	313.0 / 269.0	1.80	1018.100502	1000.00	101.81
PFHxA_2	313.0 / 119.0	1.80	1012.319222	1000.00	101.23
PFHpA_1	363.0 / 319.0	2.18	959.155957	1000.00	95.92
PFHpA_2	363.0 / 169.0	2.17	1113.702054	1000.00	111.37
PFHxS_1	399.0 / 80.0	2.20	881.597901	912.00	96.67
PFHxS_2	399.0 / 99.0	2.20	866.398530	912.00	95.00
PFOA_1	413.0 / 369.0	2.56	1037.547517	1000.00	103.75
PFOA_2	413.0 / 169.0	2.56	1036.611126	1000.00	103.66
PFNA_1	463.0 / 419.0	2.94	1074.057416	1000.00	107.41
PFNA_2	463.0 / 219.0	2.94	1060.884614	1000.00	106.09
PFOS_1	499.0 / 80.0	2.93	880.871247	925.60	95.17
PFOS_2	499.0 / 99.0	2.93	1045.190764	925.60	112.92
PFDA_1	513.0 / 469.0	3.29	1010.012373	1000.00	101.00
PFDA_2	513.0 / 219.0	3.29	987.298399	1000.00	98.73
PFUnA_1	563.0 / 519.0	3.61	1013.665796	1000.00	101.37
PFUnA_2	563.0 / 269.0	3.61	922.037253	1000.00	92.20
PFDoA_1	613.0 / 569.0	3.90	958.212573	1000.00	95.82
PFDoA_2	613.0 / 319.0	3.90	1027.078353	1000.00	102.71
PFTTrDA_1	663.0 / 619.0	4.15	988.442892	1000.00	98.84
PFTTrDA_2	663.0 / 169.0	4.15	1021.107818	1000.00	102.11
PFTeDA_1	713.0 / 669.0	4.37	973.989052	1000.00	97.40
PFTeDA_2	713.0 / 169.0	4.37	999.759291	1000.00	99.98
NMeFOSAA_1	570.0 / 419.0	3.44	1153.811224	1000.00	115.38
NMeFOSAA_2	570.0 / 512.0	3.44	992.349594	1000.00	99.23
NEtFOSAA_1	584.0 / 419.0	3.61	1207.482264	1000.00	120.75
NEtFOSAA_2	584.0 / 483.0	3.61	1009.438632	1000.00	100.94
13C2-PFHxA	315.0 / 270.0	1.79	98.371105	100.00	98.37
13C2-PFDA	515.0 / 470.0	3.28	100.036860	100.00	100.04
d5-EtFOSAA	589.0 / 419.0	3.59	427.962128	400.00	106.99

Sample Name	JX73	Injection Vial	8
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T11:22:27	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	2044.026438	2212.50	92.39
PFBS_2	298.9 / 99.0	1.51	2007.699514	2212.50	90.74
PFHxA_1	313.0 / 269.0	1.80	2585.686617	2500.00	103.43
PFHxA_2	313.0 / 119.0	1.80	2579.596147	2500.00	103.18
PFHpA_1	363.0 / 319.0	2.17	2500.705265	2500.00	100.03
PFHpA_2	363.0 / 169.0	2.17	2581.334746	2500.00	103.25
PFHxS_1	399.0 / 80.0	2.19	2023.096588	2280.00	88.73
PFHxS_2	399.0 / 99.0	2.19	1993.294941	2280.00	87.43
PFOA_1	413.0 / 369.0	2.55	2634.727678	2500.00	105.39
PFOA_2	413.0 / 169.0	2.55	2617.108947	2500.00	104.68
PFNA_1	463.0 / 419.0	2.93	2740.049145	2500.00	109.60
PFNA_2	463.0 / 219.0	2.93	2650.247172	2500.00	106.01
PFOS_1	499.0 / 80.0	2.93	2254.828613	2314.00	97.44
PFOS_2	499.0 / 99.0	2.93	2300.286107	2314.00	99.41
PFDA_1	513.0 / 469.0	3.29	2566.796033	2500.00	102.67
PFDA_2	513.0 / 219.0	3.29	2736.385085	2500.00	109.46
PFUnA_1	563.0 / 519.0	3.61	2636.595000	2500.00	105.46
PFUnA_2	563.0 / 269.0	3.61	2849.125002	2500.00	113.97
PFDaA_1	613.0 / 569.0	3.90	2603.869561	2500.00	104.15
PFDaA_2	613.0 / 319.0	3.89	2714.964393	2500.00	108.60
PFTTrDA_1	663.0 / 619.0	4.14	2540.342780	2500.00	101.61
PFTTrDA_2	663.0 / 169.0	4.14	2574.955448	2500.00	103.00
PFTeDA_1	713.0 / 669.0	4.37	2505.555739	2500.00	100.22
PFTeDA_2	713.0 / 169.0	4.36	2552.179486	2500.00	102.09
NMeFOSAA_1	570.0 / 419.0	3.43	2375.421810	2500.00	95.02
NMeFOSAA_2	570.0 / 512.0	3.43	2502.487825	2500.00	100.10
NEtFOSAA_1	584.0 / 419.0	3.60	2388.734008	2500.00	95.55
NEtFOSAA_2	584.0 / 483.0	3.59	2452.696595	2500.00	98.11
13C2-PFHxA	315.0 / 270.0	1.79	105.976898	100.00	105.98
13C2-PFDA	515.0 / 470.0	3.27	103.265553	100.00	103.27
d5-EtFOSAA	589.0 / 419.0	3.59	403.061356	400.00	100.77

Sample Name	JX72	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-02T12:38:15	Data File	5500_07022018_371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.51	848.666902	885.00	95.89
PFBS_2	298.9 / 99.0	1.51	819.191395	885.00	92.56
PFHxA_1	313.0 / 269.0	1.80	1073.500856	1000.00	107.35
PFHxA_2	313.0 / 119.0	1.80	1032.139668	1000.00	103.21
PFHpA_1	363.0 / 319.0	2.18	1039.505680	1000.00	103.95
PFHpA_2	363.0 / 169.0	2.17	1034.172136	1000.00	103.42
PFHxS_1	399.0 / 80.0	2.19	899.571302	912.00	98.64
PFHxS_2	399.0 / 99.0	2.19	889.349531	912.00	97.52
PFOA_1	413.0 / 369.0	2.56	1076.085208	1000.00	107.61
PFOA_2	413.0 / 169.0	2.55	1109.451713	1000.00	110.95
PFNA_1	463.0 / 419.0	2.94	1137.170707	1000.00	113.72
PFNA_2	463.0 / 219.0	2.94	1112.099827	1000.00	111.21
PFOS_1	499.0 / 80.0	2.93	921.458055	925.60	99.55
PFOS_2	499.0 / 99.0	2.93	930.752209	925.60	100.56
PFDA_1	513.0 / 469.0	3.29	1046.885844	1000.00	104.69
PFDA_2	513.0 / 219.0	3.29	1022.353524	1000.00	102.24
PFUnA_1	563.0 / 519.0	3.61	1056.715112	1000.00	105.67
PFUnA_2	563.0 / 269.0	3.61	1140.932472	1000.00	114.09
PFDoA_1	613.0 / 569.0	3.89	1043.116204	1000.00	104.31
PFDoA_2	613.0 / 319.0	3.89	1040.113473	1000.00	104.01
PFTTrDA_1	663.0 / 619.0	4.14	1031.482373	1000.00	103.15
PFTTrDA_2	663.0 / 169.0	4.14	1118.351408	1000.00	111.84
PFTeDA_1	713.0 / 669.0	4.36	975.694994	1000.00	97.57
PFTeDA_2	713.0 / 169.0	4.36	1010.428168	1000.00	101.04
NMeFOSAA_1	570.0 / 419.0	3.44	1008.970789	1000.00	100.90
NMeFOSAA_2	570.0 / 512.0	3.43	1001.676048	1000.00	100.17
NEtFOSAA_1	584.0 / 419.0	3.60	1018.431712	1000.00	101.84
NEtFOSAA_2	584.0 / 483.0	3.60	802.707296	1000.00	80.27
13C2-PFHxA	315.0 / 270.0	1.79	98.713291	100.00	98.71
13C2-PFDA	515.0 / 470.0	3.28	92.390472	100.00	92.39
d5-EtFOSAA	589.0 / 419.0	3.59	341.843149	400.00	85.46

Sample Name	JX66 ICC	Injection Vial	11
Sample ID	ICC	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:17:19	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.49	764.195433	885.00	86.35
PFBS_2	298.9 / 99.0	1.49	768.129853	885.00	86.79
PFHxA_1	313.0 / 269.0	1.78	1039.974979	1000.00	104.00
PFHxA_2	313.0 / 119.0	1.78	1014.186821	1000.00	101.42
PFHpA_1	363.0 / 319.0	2.15	984.651673	1000.00	98.47
PFHpA_2	363.0 / 169.0	2.15	981.250449	1000.00	98.13
PFHxS_1	399.0 / 80.0	2.16	843.678598	912.00	92.51
PFHxS_2	399.0 / 99.0	2.16	840.590435	912.00	92.17
PFOA_1	413.0 / 369.0	2.52	1026.485448	1000.00	102.65
PFOA_2	413.0 / 169.0	2.52	1063.646029	1000.00	106.36
PFNA_1	463.0 / 419.0	2.91	1007.157655	1000.00	100.72
PFNA_2	463.0 / 219.0	2.90	992.270751	1000.00	99.23
PFOS_1	499.0 / 80.0	2.90	838.041622	925.60	90.54
PFOS_2	499.0 / 99.0	2.90	942.152450	925.60	101.79
PFDA_1	513.0 / 469.0	3.25	1011.749278	1000.00	101.17
PFDA_2	513.0 / 219.0	3.25	995.539967	1000.00	99.55
PFUnA_1	563.0 / 519.0	3.57	995.783257	1000.00	99.58
PFUnA_2	563.0 / 269.0	3.56	1003.286043	1000.00	100.33
PFDoA_1	613.0 / 569.0	3.84	1011.645081	1000.00	101.16
PFDoA_2	613.0 / 319.0	3.84	1008.446784	1000.00	100.84
PFTTrDA_1	663.0 / 619.0	4.09	1014.244161	1000.00	101.42
PFTTrDA_2	663.0 / 169.0	4.09	1025.531189	1000.00	102.55
PFTeDA_1	713.0 / 669.0	4.31	1023.764271	1000.00	102.38
PFTeDA_2	713.0 / 169.0	4.30	1017.861539	1000.00	101.79
NMeFOSAA_1	570.0 / 419.0	3.40	1052.530789	1000.00	105.25
NMeFOSAA_2	570.0 / 512.0	3.39	958.683231	1000.00	95.87
NEtFOSAA_1	584.0 / 419.0	3.55	1115.703629	1000.00	111.57
NEtFOSAA_2	584.0 / 483.0	3.55	711.649311	1000.00	71.16
13C2-PFHxA	315.0 / 270.0	1.77	103.248424	100.00	103.25
13C2-PFDA	515.0 / 470.0	3.24	104.452092	100.00	104.45
d5-EtFOSAA	589.0 / 419.0	3.55	407.621625	400.00	101.91

Sample Name	JX72 CCV	Injection Vial	7
Sample ID	CCV	Injection Volume	10.00
Sample Type	Quality Control	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:53:05	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Conc. (ng/L)	Target Conc. (ng/L)	Recovery (%)
PFBS_1	298.9 / 80.0	1.50	859.548636	885.00	97.12
PFBS_2	298.9 / 99.0	1.50	864.819233	885.00	97.72
PFHxA_1	313.0 / 269.0	1.78	1074.695217	1000.00	107.47
PFHxA_2	313.0 / 119.0	1.78	1064.303882	1000.00	106.43
PFHpA_1	363.0 / 319.0	2.15	1044.962368	1000.00	104.50
PFHpA_2	363.0 / 169.0	2.15	1004.606377	1000.00	100.46
PFHxS_1	399.0 / 80.0	2.16	884.985404	912.00	97.04
PFHxS_2	399.0 / 99.0	2.16	847.138055	912.00	92.89
PFOA_1	413.0 / 369.0	2.52	1032.121467	1000.00	103.21
PFOA_2	413.0 / 169.0	2.52	1084.285333	1000.00	108.43
PFNA_1	463.0 / 419.0	2.90	1014.733483	1000.00	101.47
PFNA_2	463.0 / 219.0	2.90	1009.872349	1000.00	100.99
PFOS_1	499.0 / 80.0	2.90	930.895837	925.60	100.57
PFOS_2	499.0 / 99.0	2.90	958.065161	925.60	103.51
PFDA_1	513.0 / 469.0	3.24	1047.007376	1000.00	104.70
PFDA_2	513.0 / 219.0	3.24	1049.109767	1000.00	104.91
PFUnA_1	563.0 / 519.0	3.56	1047.457868	1000.00	104.75
PFUnA_2	563.0 / 269.0	3.56	1028.793183	1000.00	102.88
PFDoA_1	613.0 / 569.0	3.84	1039.542751	1000.00	103.95
PFDoA_2	613.0 / 319.0	3.84	1023.993208	1000.00	102.40
PFTTrDA_1	663.0 / 619.0	4.09	1093.978515	1000.00	109.40
PFTTrDA_2	663.0 / 169.0	4.09	1091.794361	1000.00	109.18
PFTeDA_1	713.0 / 669.0	4.30	1054.652936	1000.00	105.47
PFTeDA_2	713.0 / 169.0	4.30	1068.686879	1000.00	106.87
NMeFOSAA_1	570.0 / 419.0	3.39	1057.043804	1000.00	105.70
NMeFOSAA_2	570.0 / 512.0	3.39	1015.585330	1000.00	101.56
NEtFOSAA_1	584.0 / 419.0	3.55	1038.252708	1000.00	103.83
NEtFOSAA_2	584.0 / 483.0	3.55	904.965761	1000.00	90.50
13C2-PFHxA	315.0 / 270.0	1.77	101.690626	100.00	101.69
13C2-PFDA	515.0 / 470.0	3.23	94.532972	100.00	94.53
d5-EtFOSAA	589.0 / 419.0	3.54	398.862360	400.00	99.72

SAMPLE CALCULATION

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	Area	Conc. (ng/L)	Signal/Noise Ratio	Modified
PFBS_1	298.9 / 80.0	1.49	896383.75	2659.063831	618.0	true
PFBS_2	298.9 / 99.0	1.49	273622.40	2582.236570	871.6	false
PFHxA_1	313.0 / 269.0	1.77	995133.88	2753.432524	155.7	false
PFHxA_2	313.0 / 119.0	1.77	69590.98	2747.035194	161.3	false
PFHpA_1	363.0 / 319.0	2.14	447799.25	1218.717774	138.5	false
PFHpA_2	363.0 / 169.0	2.12	14809.44	1588.837010	203.5	false
PFHxS_1	399.0 / 80.0	2.16	527760.52	1384.127187	305.8	false
PFHxS_2	399.0 / 99.0	2.16	149912.71	1358.309755	463.7	false
PFOA_1	413.0 / 369.0	2.52	2049074.77	4710.887904	405.0	false
PFOA_2	413.0 / 169.0	2.51	227660.28	6750.906577	323.4	false
PFNA_1	463.0 / 419.0	2.90	174046.32	388.379926	194.2	false
PFNA_2	463.0 / 219.0	2.90	50079.01	382.073000	206.7	false
PFOS_1	499.0 / 80.0	2.85	1294674.98	2516.624823	238.5	true
PFOS_2	499.0 / 99.0	2.90	190335.09	1961.266675	387.0	true
PFDA_1	513.0 / 469.0	3.25	38597.44	75.597561	130.1	false
PFDA_2	513.0 / 219.0	3.24	1913.16	80.353490	55.9	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	3.85	794.54	< 0	18.9	true
PFDoA_2	613.0 / 319.0	3.88	226.75	< 0	12.3	true
PFTTrDA_1	663.0 / 619.0	4.09	1294.52	< 0	54.1	true
PFTTrDA_2	663.0 / 169.0	4.10	54.67	< 0	6.5	true
PFTeDA_1	713.0 / 669.0	4.31	894.75	< 0	26.1	true
PFTeDA_2	713.0 / 169.0	4.32	78.91	< 0	9.4	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	1.77	50710.30	112.407659	657.6	false
13C2-PFDA	515.0 / 470.0	3.24	42625.46	72.712637	879.8	false
d5-EtFOSAA	589.0 / 419.0	3.55	19295.49	345.384540	347.1	false

PFOA 17.78 ng/L
 $y=0.77615x + 0.24188$

$((2049074.77 / 55673.35) - (0.24188 / 0.77615)) * 100 * 0.001 / 0.265 = 17.78 \text{ ng/L}$

LCS PFOA 108% $21.62/20*100=108.1\%$

Sample Name	J6816-FS(0)	Injection Vial	13
Sample ID	WGNA-062618-RW-3136	Injection Volume	10.00
Sample Type	Unknown	Instrument Name	QTRAP 5500
Acquisition Date	2018-07-03T17:44:08	Data File	07032018_5-0371.wiff
Acquisition Method	5-0371.dam	Result Table	18-0400A_DW
Sample Comment			

Results Summary

Analyte	MRM Transition	RT	IS	IS MRM Transition	IS Area	IS Conc. (ng/L)
PFBS_1	298.9 / 80.0	1.49	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFBS_2	298.9 / 99.0	1.49	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFHxA_1	313.0 / 269.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHxA_2	313.0 / 119.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHpA_1	363.0 / 319.0	2.14	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHpA_2	363.0 / 169.0	2.12	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFHxS_1	399.0 / 80.0	2.16	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFHxS_2	399.0 / 99.0	2.16	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFOA_1	413.0 / 369.0	2.52	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFOA_2	413.0 / 169.0	2.51	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFNA_1	463.0 / 419.0	2.90	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFNA_2	463.0 / 219.0	2.90	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFOS_1	499.0 / 80.0	2.85	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFOS_2	499.0 / 99.0	2.90	13C4-PFOS	503.0 / 80.0	156744.32	287.00
PFDA_1	513.0 / 469.0	3.25	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDA_2	513.0 / 219.0	3.24	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFUnA_1	563.0 / 519.0	N/A	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFUnA_2	563.0 / 269.0	N/A	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDaA_1	613.0 / 569.0	3.85	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFDaA_2	613.0 / 319.0	3.88	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTTrDA_1	663.0 / 619.0	4.09	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTTrDA_2	663.0 / 169.0	4.10	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTeDA_1	713.0 / 669.0	4.31	13C2-PFOA	415.0 / 370.0	55673.35	100.00
PFTeDA_2	713.0 / 169.0	4.32	13C2-PFOA	415.0 / 370.0	55673.35	100.00
NMeFOSAA_1	570.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NMeFOSAA_2	570.0 / 512.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NEtFOSAA_1	584.0 / 419.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
NEtFOSAA_2	584.0 / 483.0	N/A	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00
13C2-PFHxA	315.0 / 270.0	1.77	13C2-PFOA	415.0 / 370.0	55673.35	100.00
13C2-PFDA	515.0 / 470.0	3.24	13C2-PFOA	415.0 / 370.0	55673.35	100.00
d5-EtFOSAA	589.0 / 419.0	3.55	d3-MeFOSAA	573.0 / 419.0	20502.61	400.00

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